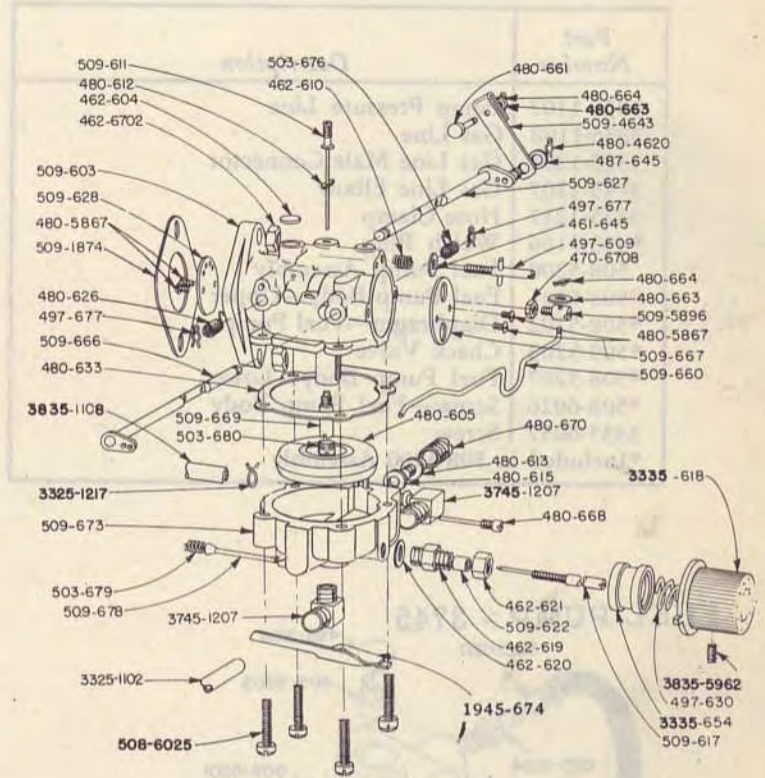


(187 - 2 - 352 - 212 91M J10)

Part Number	Description
3945-601	Carburetor Complete
509-603	Carburetor Body
462-604	Welch Plug—Body Channel
480-605	Float
497-609	Idle Adjustment Screw Assembly
462-610	Idle Adjustment Screw Spring
509-611	Idle Tube
480-612	Gasket—Idle Tube
480-613	Inlet Needle, Seat and Gasket
480-615	Inlet Seat Gasket
509-617	Main Adjustment Screw
3335-618	Carburetor Main Adjustment Knob
462-619	Main Adjustment Gland
462-620	Gasket—Main Adjustment Screw Gland
462-621	Main Adjustment Packing Nut
509-622	Main Adjustment Nut Packing
480-626	Throttle Shutter Return Spring
509-627	Throttle Shaft and Lever Assembly
509-628	Throttle Shutter
497-630	Choke Spring
480-633	Body Gasket
461-645	Washer—Idle Adjustment Screw Spring
487-645	Washer Throttle Lever Pin
3335-654	Control Knob Body
509-660	Choke Lever
480-661	Throttle Link Pivot Pin
480-663	Washer—Choke Lever Pivot Pin
480-664	Hairpin Cotter
509-666	Choke Shaft and Lever
509-667	Choke Shutter
480-668	Float Pinion Screw
509-669	Main Nozzle
480-670	Fuel Bowl Plug Screw
509-673	Fuel Bowl
1945-674	Main Adjustment Knob Stop
503-676	Choke Return Spring
497-677	Spring Cotter
509-678	Drain Valve
503-679	Drain Valve Spring
503-680	Channel Plug Screw
3325-1102	Tube
3835-1108	Gas Line
3745-1207	Gas Line Elbow
3325-1217	Hose Clamp
509-1874	Carburetor Flange Gasket

CARBURETOR - 3945



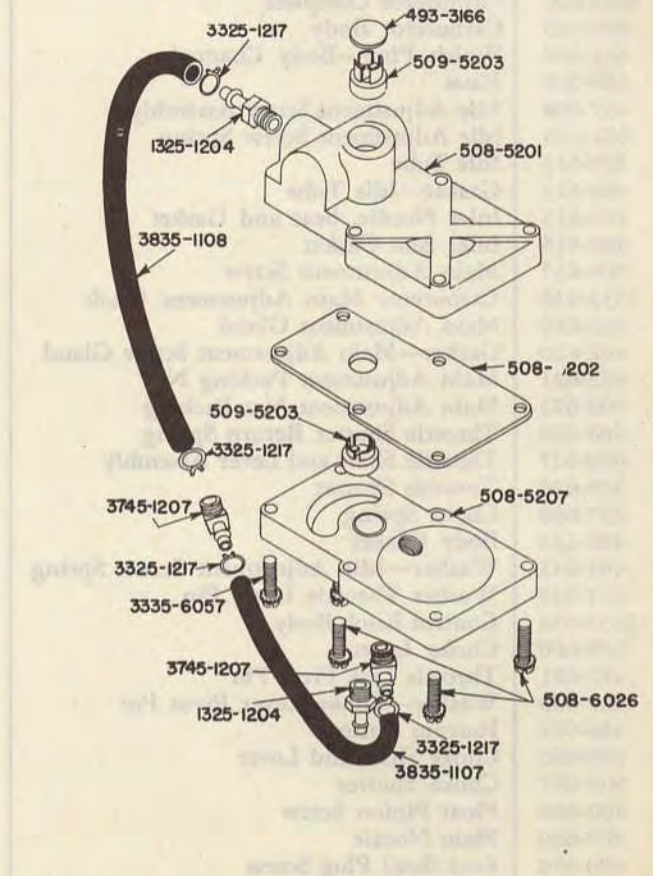
Part Number	Description
480-4620	Hair Pin—Throttle Lever Pin
509-4643	Link—Throttle Actuator
480-5867	Choke and Throttle Shutter Screw
509-5896	Choke Pivot Screw
3835-5962	Screw
508-6025	Screw
462-6702	Nut—Carburetor Flange Stud
470-6708	Nut—Choke Pivot Screw

(FUEL PUMP 3945 - Sect. F - P61)

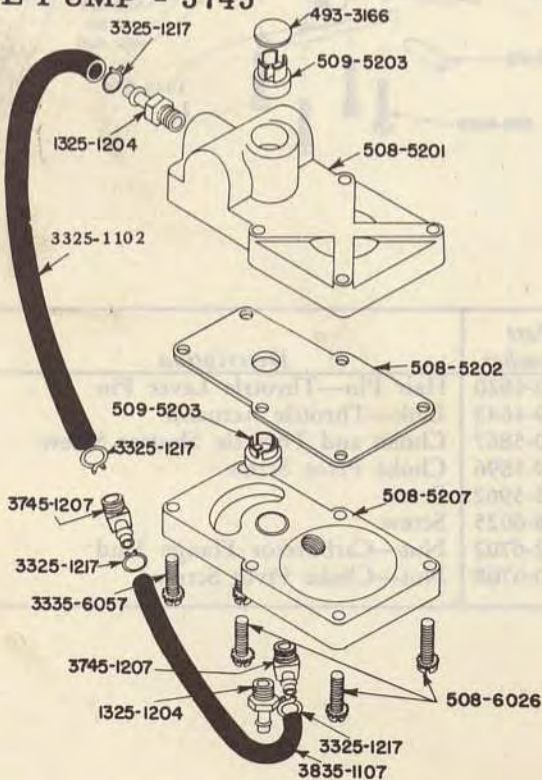
CARBURETOR - 3945

FUEL PUMP - 3345, 3845

Part Number	Description
3835-1107	Pump Pressure Line
3835-1108	Gas Line
1325-1204	Gas Line Male Connector
3745-1207	Gas Line Elbow
3325-1217	Hose Clamp
*493-3166	Welch Plug
508-5200	Fuel Pump Assembly
*508-5201	Fuel Pump Body—Upper
*508-5202	Diaphragm—Fuel Pump
*509-5203	Check Valve
*508-5207	Fuel Pump Body—Lower
*508-6026	Screw—Fuel Pump Body
3335-6057	Screw
*Included in 508-5200 Assembly	



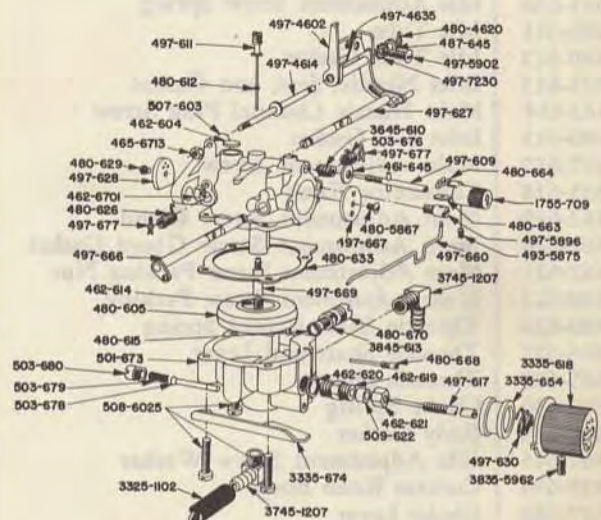
FUEL PUMP - 3745



Part Number	Description
3325-1102	Gas Line
3835-1107	Pump Pressure Line
1325-1204	Gas Line Male Connector
3745-1207	Gas Line Elbow
3325-1217	Hose Clamp
*493-3166	Welch Plug
508-5200	Fuel Pump Assembly
*508-5201	Fuel Pump Body—Upper
*508-5202	Diaphragm—Fuel Pump
*509-5203	Check Valve
*508-5207	Fuel Pump Body—Lower
*508-6026	Screw—Fuel Pump Body
3335-6057	Screw
*Included in 508-5200 Assembly	

CARBURETOR — 3755

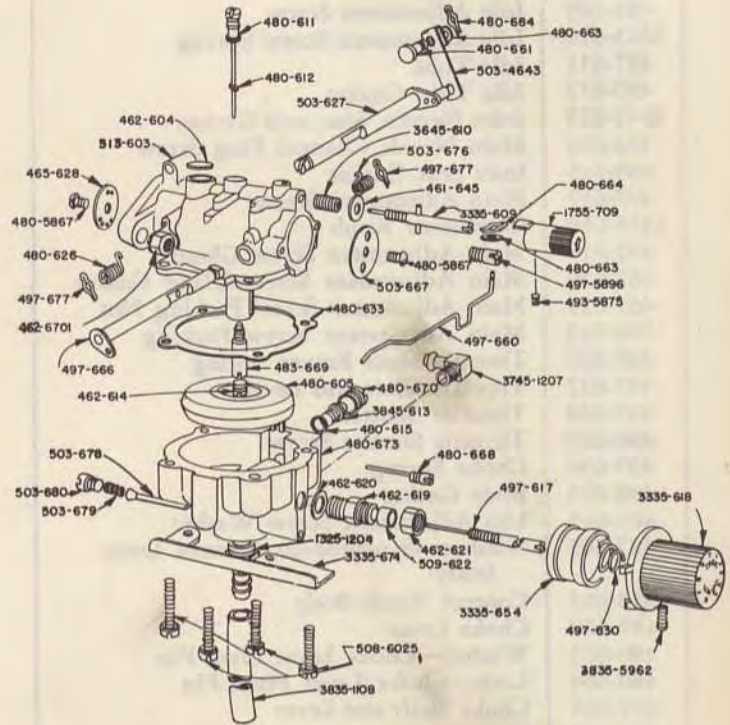
Part Number	Description
3745-601	Carburetor (Less Knob, Choke Control, etc.)
507-603	Carburetor Body
462-604	Body, Channel Welch Plug
480-605	Float
497-609	Idle Adjustment Screw
3645-610	Idle Adjustment Screw Spring
497-611	Idle Tube
480-612	Idle Tube Gasket
3845-613	Inlet Needle, Seat, and Gasket
462-614	Main Nozzle Channel Plug Screw
480-615	Inlet Seat Gasket
497-617	Main Adjustment Screw
3335-618	Carburetor Knob
462-619	Main Adjustment Screw Gland
462-620	Main Adjustment Screw Gland Gasket
462-621	Main Adjustment Screw Packing Nut
509-622	Main Adjustment Screw Packing
480-626	Throttle Shaft Return Spring
497-627	Throttle Shaft and Lever
497-628	Throttle Shutter
480-629	Throttle Shutter Screw
497-630	Choke Spring
480-633	Body Gasket
461-645	Idle Adjustment Screw Washer
487-645	Washer—Synchronous Control Lever Shaft
3335-654	Control Knob Body
497-660	Choke Lever
480-663	Washer—Choke Lever Pivot Pin
480-664	Lock—Choke Lever Pivot Pin
497-666	Choke Shaft and Lever
497-667	Choke Shutter
480-668	Float Pinion Screw
497-669	Main Nozzle
480-670	Fuel Bowl Plug Screw
3745-672	Repair Parts Kit
501-673	Fuel Bowl
3335-674	Carburetor Knob Stop
503-676	Choke Return Spring
497-677	Spring Cotter
503-678	Drain Valve
503-679	Drain Valve Spring
503-680	Drain Valve Plug
1755-709	Knob
3325-1102	Tube—Bowl Drain
3745-1207	Gas Line Elbow
497-4602	Follower Assembly
497-4614	Shaft—Synchronous Control Follower
480-4620	Lock—Synchronous Control Shaft
497-4635	Spring—Synchronous Control
480-5867	Choke Shutter Screw
493-5875	Screw



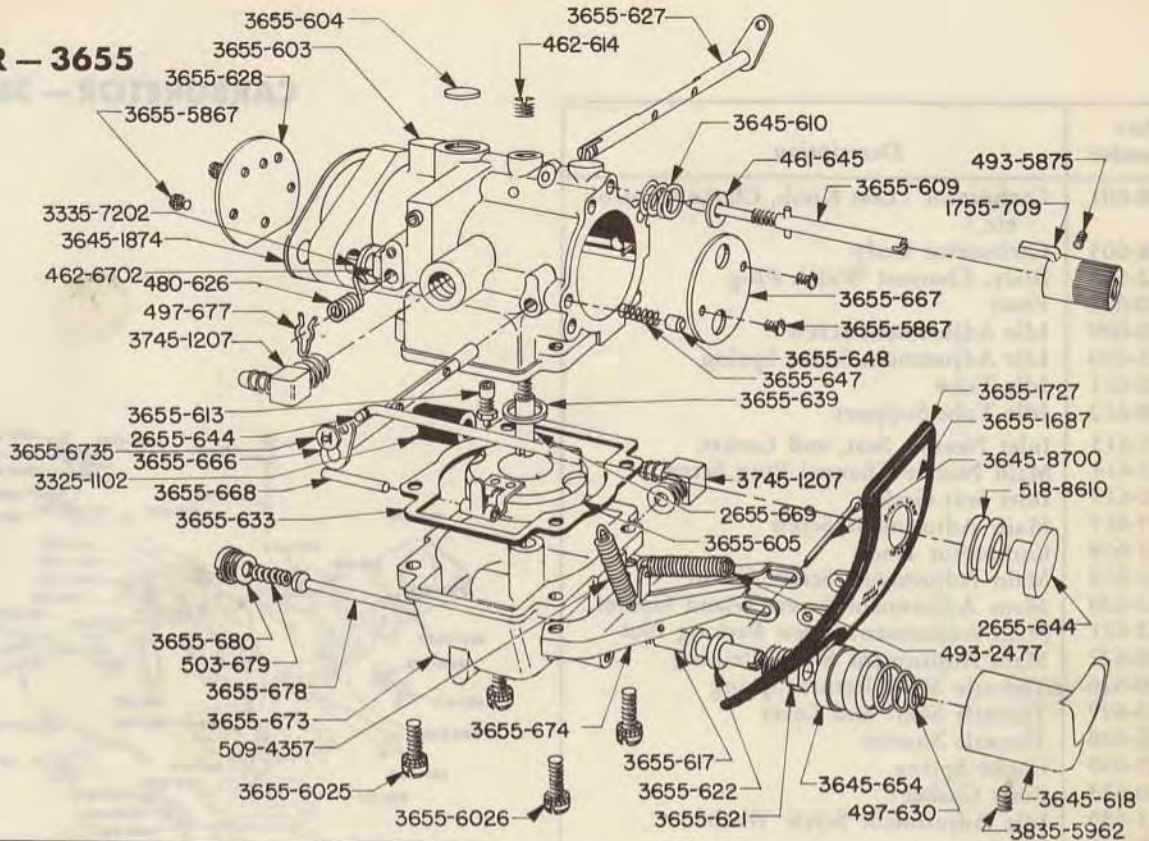
Part Number	Description
497-5896	Choke Pivot Screw
497-5902	Adjusting Screw—Synchronous Control Follower
3835-5962	Set Screw
508-6025	Screw
462-6701	Nut
465-6713	Nut—Synchronous Control Shaft
497-7230	L.W.—Synchronous Control Follower

CARBURETOR — 3355

Part Number	Description
3335-601	Carburetor (Less Knob, Choke Control, etc.)
513-603	Carburetor Body
462-604	Body, Channel Welch Plug
480-605	Float
3335-609	Idle Adjustment Screw
3645-610	Idle Adjustment Screw Spring
480-611	Idle Tube
480-612	Idle Tube Gasket
3845-613	Inlet Needle, Seat, and Gasket.
462-614	Main Nozzle Channel Plug Screw
480-615	Inlet Seat Gasket
497-617	Main Adjustment Screw
3335-618	Carburetor Knob
462-619	Main Adjustment Screw Gland
462-620	Main Adjustment Screw Gland Gasket
462-621	Main Adjustment Screw Packing Nut
509-622	Main Adjustment Screw Packing
480-626	Throttle Shaft Return Spring
503-627	Throttle Shaft and Lever
465-628	Throttle Shutter
497-630	Choke Spring
480-633	Body Gasket
461-645	Idle Adjustment Screw Washer
3335-654	Control Knob Body
497-660	Choke Lever
480-661	Throttle Actuator Pivot Pin
480-663	Washer—Choke Lever Pivot Pin
480-664	Hair Pin Cotter
497-666	Choke Shaft and Lever
503-667	Choke Shutter
480-668	Float Pinion Screw
483-669	Main Nozzle
480-670	Fuel Bowl Plug Screw
513-672	Repair Parts Kit
501-673	Fuel Bowl
3335-674	Carburetor Knob Stop
503-676	Choke Return Spring
497-677	Spring Cotter
503-678	Drain Valve
503-679	Drain Valve Spring
503-680	Drain Valve Plug
1755-709	Knob—Idle Adj.
3835-1108	Tube—Bowl Drain
1325-1204	Drain Fitting
3745-1207	Gas Line Elbow
503-4643	Link—Throttle Actuator
480-5867	Choke & Throttle Shutter Screw
493-5875	Screw
497-5896	Choke Pivot Screw
3835-5962	Set Screw—Control Knob
508-6025	Body Retaining Screw
462-6701	Nut Carburetor Flange Stud



CARBURETOR — 3655

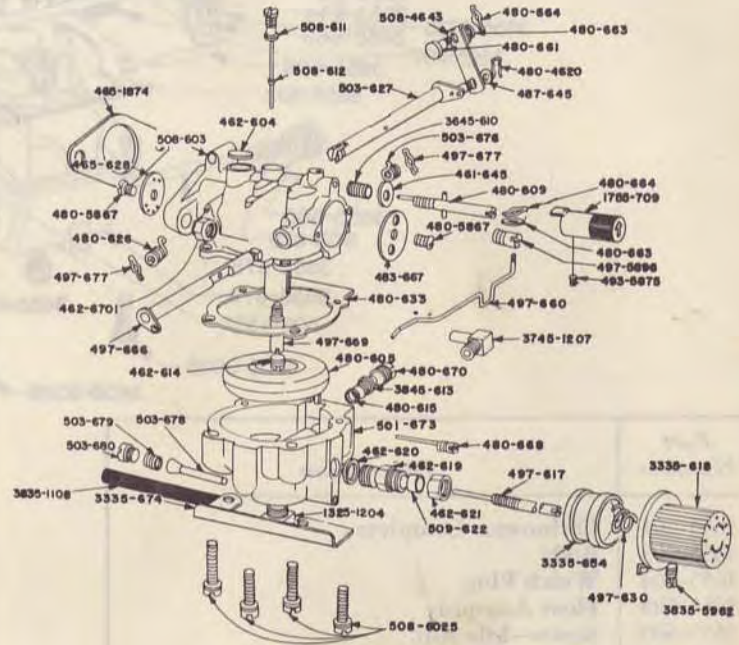


Part Number	Description
3655-601	Carburetor Complete
3655-603	Body
3655-604	Welch Plug
3655-605	Float Assembly
3655-609	Screw—Idle Adj.
3645-610	Spring
3655-613	Inlet Needle Seat and Gasket
462-614	Plug Screw
3655-617	Screw—Main Adj.
3655-618	Knob—Main Adj.
3655-621	Nut—Packing Screw
3655-622	Packing
480-626	Return Spring
3655-627	Throttle Shaft and Lever
3655-628	Throttle Shutter
497-630	Spring
3655-633	Gasket
3655-639	Gasket—Nozzle Boss
2655-644	Shaft and Knob Assy.
461-645	Washer—Idle Adj. Sc.
3655-647	Spacer—Pick-up Lever
3655-648	Pick-up Lever
3645-654	Knob Body
3655-666	Choke Shaft Lever
3655-667	Choke Shutter
3655-668	Pin—Fulcrum
3655-669	Nozzle

Part Number	Description
3655-671	Gasket and Packing Set
3655-672	Repair Kit
3655-673	Bowl
3655-674	Bracket and Stop Assembly
3655-676	Spring
497-677	Cotter Pin
3655-678	Drain Valve
503-679	Spring
3655-680	Plug—Drain Valve
1755-709	Knob—Idle Adj.
3325-1102	Tube—Bowl Drain
3745-1207	Fitting—Gas Line
3655-1687	Panel—Carb. Cont.
3655-1727	Grommet—Panel
3645-1874	Gasket—Carb. Flange
493-2477	Spring—Bkt. to Panel
509-4357	Spring
3655-5867	Screw—Shutter
493-5875	Screw—Idle Adj. Knob
3835-5962	Set Screw—Main Knob
3655-6025	Screw—Body
3655-6026	Screw—Body
462-6702	Nut
3655-6735	Speed Nut
3335-7202	Lockwasher
518-8610	Grommet—Choke Lever
3645-8700	Cotter Pin

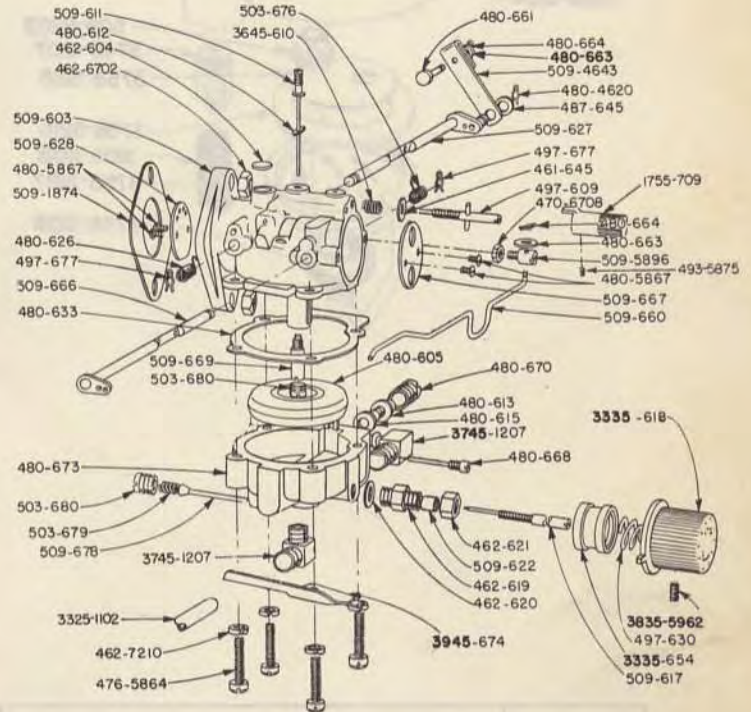
CARBURETOR — 3855

Part Number	Description
508-601	Carburetor (Less Knob, Choke Control, etc.)
508-603	Carburetor Body
462-604	Body, Channel Welch Plug
480-605	Float
480-609	Idle Adjustment Screw
3645-610	Idle Adjustment Screw Spring
508-611	Idle Tube
508-612	Idle Tube Support
3845-613	Inlet Needle, Seat, and Gasket
462-614	Main Nozzle Channel Plug Screw
480-615	Inlet Seat Gasket
497-617	Main Adjustment Screw
3335-618	Carburetor Knob
462-619	Main Adjustment Screw Gland
462-620	Main Adjustment Screw Gland Gasket
462-621	Main Adjustment Screw Packing Nut
509-622	Main Adjustment Screw Packing
480-626	Throttle Shaft Return Spring
503-627	Throttle Shaft and Lever
465-628	Throttle Shutter
497-630	Choke Spring
480-633	Body Gasket
461-645	Idle Adjustment Screw Washer
487-645	Washer
3335-654	Control Knob Body
497-660	Choke Lever
480-661	Throttle Actuator Pivot Pin
480-663	Washer—Choke Lever Pivot Pin
480-664	Hair Pin Cotter
497-666	Choke Shaft and Lever
483-667	Choke Shutter
480-668	Float Pinion Screw
497-669	Main Nozzle
480-670	Fuel Bowl Plug Screw
508-672	Repair Parts Kit
501-673	Fuel Bowl
3335-674	Carburetor Knob Stop
503-676	Choke Return Spring
497-677	Spring Cotter
503-678	Drain Valve
503-679	Drain Valve Spring
503-680	Drain Valve Plug
1755-709	Knob
3835-1108	Tube—Bowl Drain
1325-1204	Drain Fitting
3745-1207	Gas Line Elbow
465-1874	Gasket
480-4620	Lock Pin
508-4643	Link—Throttle Actuator
480-5867	Choke & Throttle Shutter Screw
493-5875	Screw
497-5896	Choke Pivot Screw
3835-5962	Set Screw—Control Knob
508-6025	Body Retaining Screw
462-6701	Nut Carburetor Flange Stud



CARBURETOR - 3955

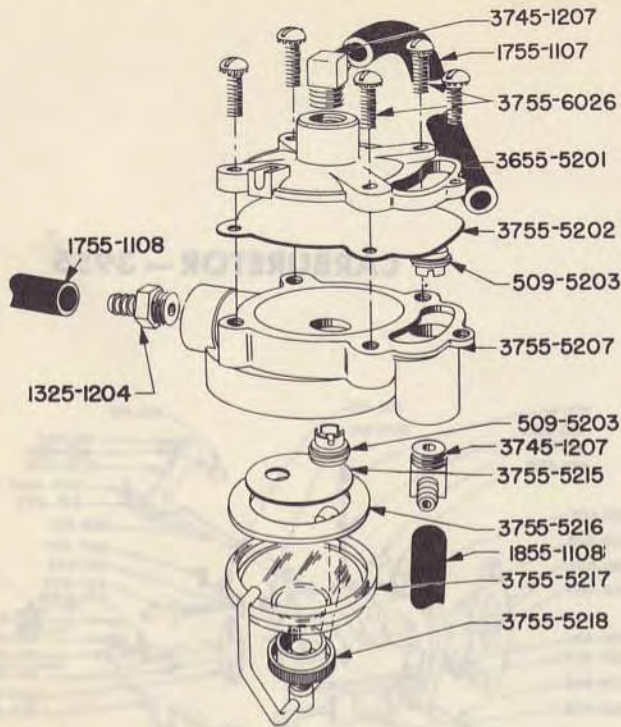
Part Number	Description
3945-601	Carburetor Complete
509-603	Carburetor Body
462-604	Welch Plug—Body Channel
480-605	Float
497-609	Idle Adjustment Screw Assembly
3645-610	Idle Adjustment Screw Spring
509-611	Idle Tube
480-612	Gasket—Idle Tube
480-613	Inlet Needle, Seat and Gasket
480-615	Inlet Seat Gasket
509-617	Main Adjustment Screw
3335-618	Carburetor Main Adjustment Knob
462-619	Main Adjustment Gland
462-620	Gasket—Main Adjustment Screw Gland
462-621	Main Adjustment Packing Nut
509-622	Main Adjustment Nut Packing
480-626	Throttle Shutter Return Spring
509-627	Throttle Shaft and Lever Assembly
509-628	Throttle Shutter
497-630	Choke Spring
480-633	Body Gasket
461-645	Washer—Idle Adjustment Screw Spring
487-645	Washer Throttle Lever Pin
3335-654	Control Knob Body
509-660	Choke Lever
480-661	Throttle Link Pivot Pin
480-663	Washer—Choke Lever Pivot Pin
480-664	Hairpin Cotter
509-666	Choke Shaft and Lever
509-667	Choke Shutter
480-668	Float Pinion Screw
509-669	Main Nozzle
480-670	Fuel Bowl Plug Screw
509-673	Fuel Bowl
3945-674	Main Adjustment Knob Stop
503-676	Choke Return Spring
497-677	Spring Cotter
509-678	Drain Valve
503-679	Drain Valve Spring
503-680	Channel Plug Screw
1755-709	Knob—Idle Adjust
3325-1102	Tube
3745-1207	Gas Line Elbow
509-1874	Carburetor Flange Gasket



Part Number	Description
480-4620	Hair Pin—Throttle Lever Pin
509-4643	Link—Throttle Actuator
476-5864	Screw
480-5867	Choke and Throttle Shutter Screw
493-5875	Screw
509-5896	Choke Pivot Screw
3835-5962	Screw
462-6702	Nut—Carburetor Flange Stud
470-6708	Nut—Choke Pivot Screw
462-7210	Lockwasher

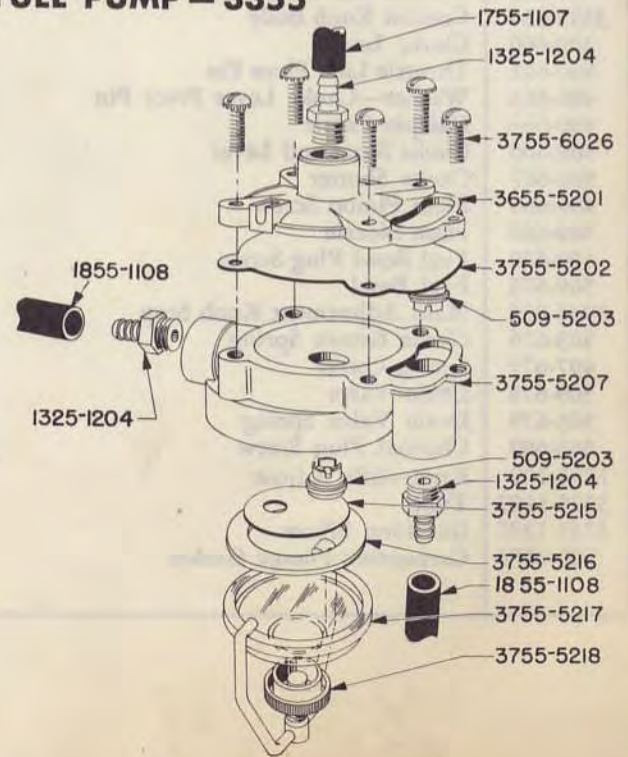
FUEL PUMP — 3755

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Part Number	Description
1755-1107	Pressure Line
1755-1108	Gas Line—Pump to Carburetor
1855-1108	Gas Line Inlet
1325-1204	Fitting—Outlet
3745-1207	Fitting—Inlet and Pressure Line
3755-5200	Fuel Pump Assembly
3655-5201	Body—Upper
3755-5202	Diaphragm
509-5203	Check Valve
3755-5207	Body—Lower
3755-5215	Filter Screen
3755-5216	Gasket
3755-5217	Sediment Bowl
3755-5218	Clamp Spring Assembly
3755-6026	Screw

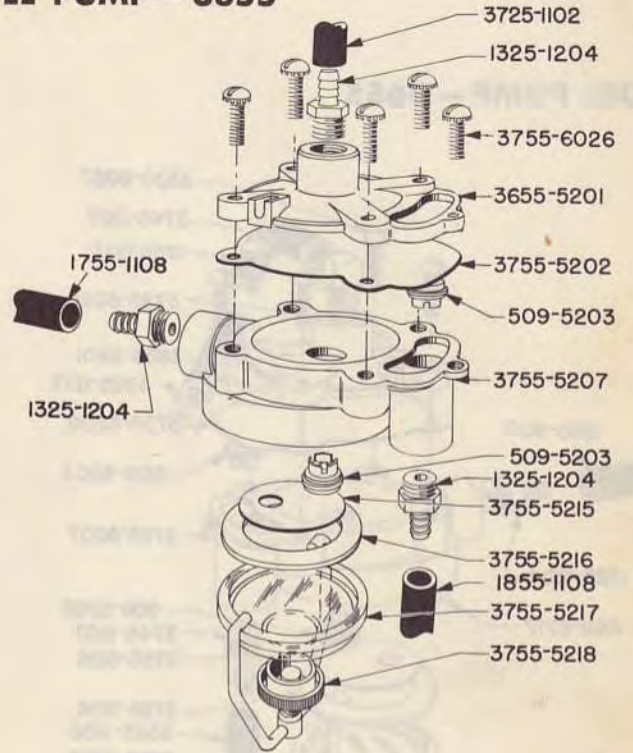
FUEL PUMP — 3355



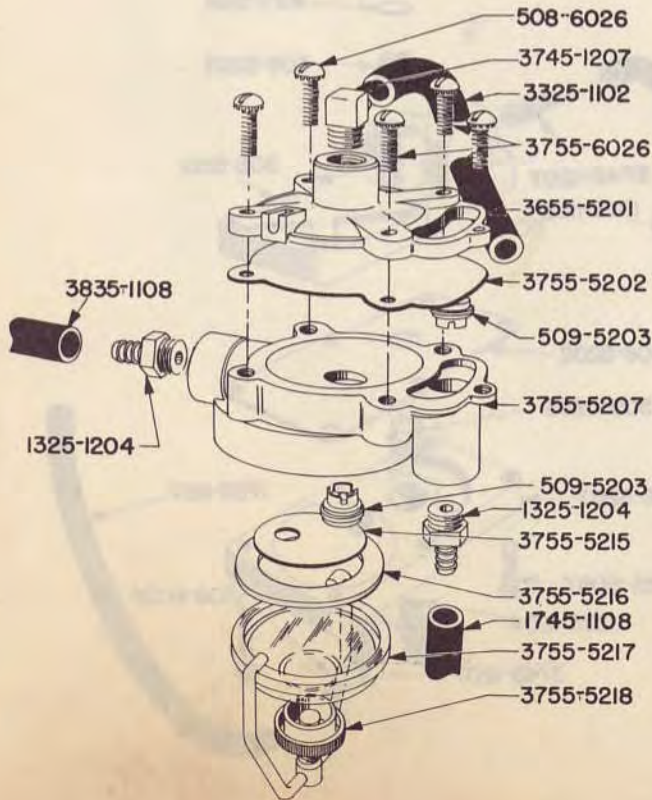
Part Number	Description
1755-1107	Pressure Line
1855-1108	Gas Line
3835-1108	Gas Line Inlet
1325-1204	Fitting
3755-5200	Fuel Pump Assembly
3655-5201	Body—Upper
3755-5202	Diaphragm
509-5203	Check Valve
3755-5207	Body—Lower
3755-5215	Filter Screen
3755-5216	Gasket
3755-5217	Sediment Bowl
3755-5218	Clamp Spring Assembly
3755-6026	Screw

FUEL PUMP - 3855

Part Number	Description
3725-1102	Pressure Line
1755-1108	Gas Line—Pump to Carburetor
1855-1108	Gas Line Inlet
1325-1204	Fitting
3755-5200	Fuel Pump Assembly
3655-5201	Body—Upper
3755-5202	Diaphragm
509-5203	Check Valve
3755-5207	Body—Lower
3755-5215	Filter Screen
3755-5216	Gasket
3755-5217	Sediment Bowl
3755-5218	Clamp Spring Assembly
3755-6026	Screw

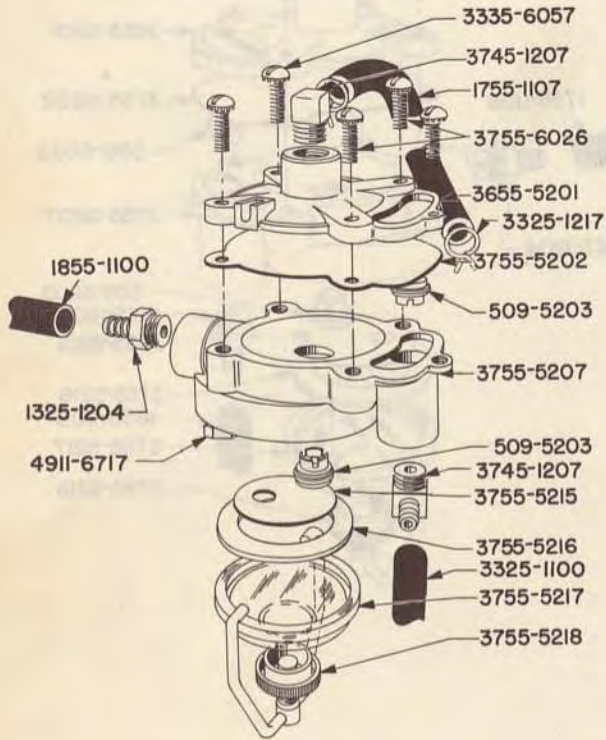


FUEL PUMP - 3955



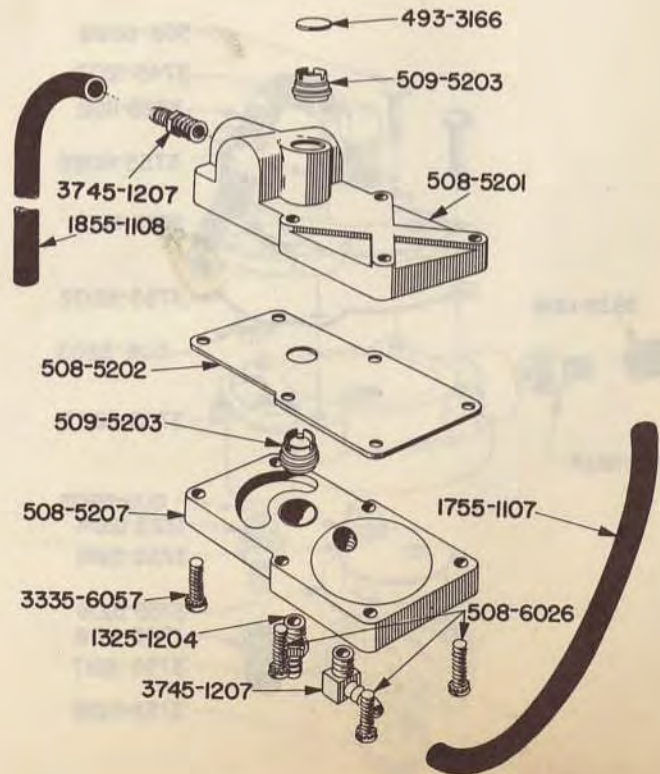
Part Number	Description
3325-1102	Pressure Line
1745-1108	Gas Line
3835-1108	Gas Line—Pump to Carburetor
1325-1204	Fitting—Inlet and Outlet
3745-1207	Fitting—Pressure Line
3955-5200	Fuel Pump Assembly
3655-5201	Body—Upper Half
3755-5202	Diaphragm
509-5203	Check Valve
3755-5207	Body—Lower Half
3755-5215	Filter Screen
3755-5216	Gasket
3755-5217	Sediment Bowl
3755-5218	Clamp Spring Assembly
508-6026	Screw—Pump to Bracket
3755-6026	Screw—Pump Body

FUEL PUMP - 3655



Part Number	Description
1855-1100	Outlet Line
3325-1100	Inlet Line
1755-1107	Pressure Line
1325-1204	Fitting—Outlet Line
3745-1207	Fitting—Pressure and Inlet
3325-1217	Clamp
3655-5200	Fuel Pump Assembly
3655-5201	Pump Body—Upper
3755-5202	Diaphragm
509-5203	Check Valve
3755-5207	Body—Lower
3755-5215	Filter Screen
3755-5216	Gasket
3755-5217	Sediment Bowl
3755-5218	Clamp Spring Assembly
3335-6057	Screw
3755-6026	Screw
4911-6717	Nut

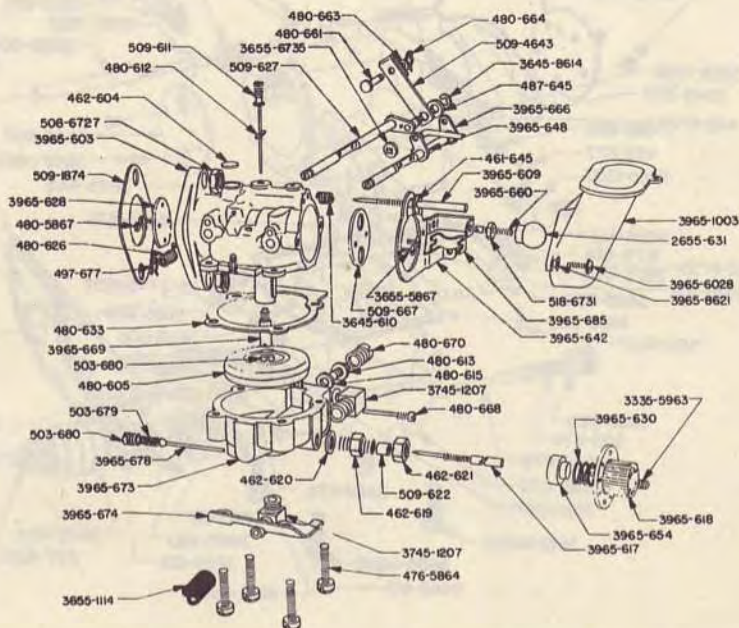
SCAVENGER PUMP - 3655



Part Number	Description
1755-1107	Pressure Line
1855-1108	Outlet Line
1325-1204	Fitting—Scavenger Line
3745-1207	Fitting—Outlet and Pressure
493-3166	Welch Plug
508-5200	Pump Assembly
508-5201	Pump Body—Upper
508-5202	Diaphragm
509-5203	Check Valve
508-5207	Body—Lower
508-6026	Screw—Pump Body
3335-6057	Screw—Pump Body

(Carburetor 3065-P23)
 (Carburetor 3765-P29)
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 (Carburetor 3365-P30)
 (Carburetor 3865-P32)

CARBURETOR-3965

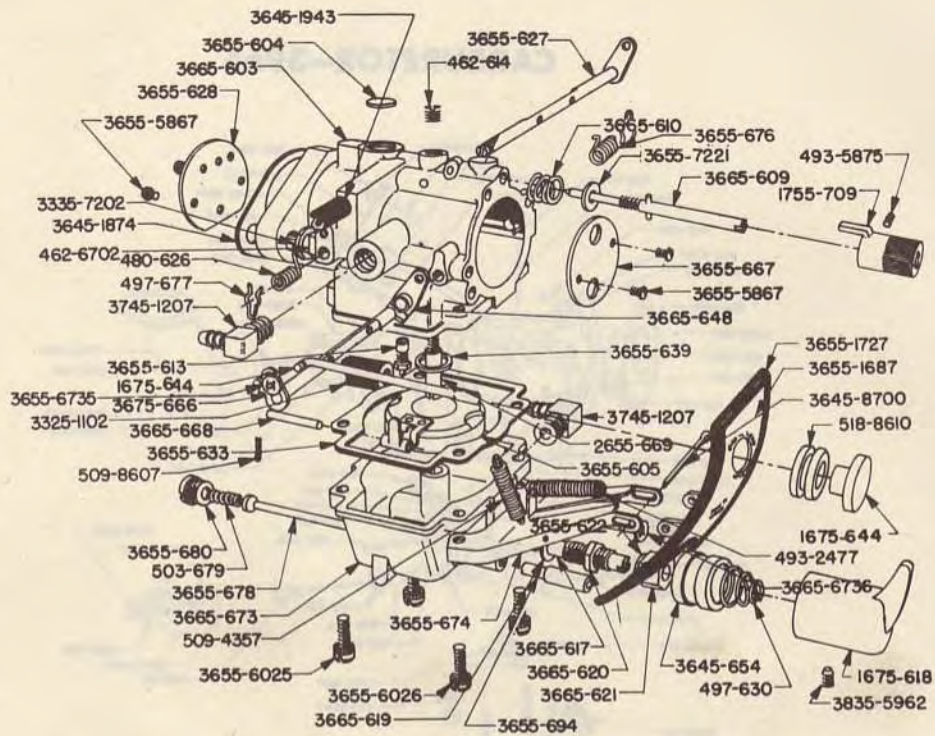


Part Number	Description
3965-601	Carburetor Complete
3965-603	Carburetor Body
462-604	Welch Plug—Body Channel
480-605	Float
3965-609	Idle Adjustment Screw Assembly
3645-610	Idle Adjustment Screw Spring
509-611	Idle Tube
480-612	Gasket—Idle Tube
480-613	Inlet Needle, Seat and Gasket
480-615	Inlet Seat Gasket
3965-617	Main Adjustment Screw
3965-618	Carburetor Main Adjustment Knob
462-619	Main Adjustment Gland
462-620	Gasket—Main Adjustment Screw Gland
462-621	Main Adjustment Packing Nut
509-622	Main Adjustment Nut Packing
480-626	Throttle Shutter Return Spring
509-627	Throttle Shaft and Lever Assembly
3965-628	Throttle Shutter
3965-630	Choke Spring
2655-631	Knob—Choke
480-633	Body Gasket
3965-642	Bracket
461-645	Washer—Idle Adjustment Screw Spring
487-645	Washer Throttle Lever Pin
3965-648	Lever—Pickup
3965-654	Control Knob Body
3965-660	Choke Lever
480-661	Throttle Link Pivot Pin
480-663	Washer—Choke Lever Pivot Pin

Part Number	Description
480-664	Hairpin Cotter
3965-666	Choke Shaft and Lever
509-667	Choke Shutter
480-668	Float Pinion Screw
3965-669	Main Nozzle
480-670	Fuel Bowl Plug Screw
509-671	Gasket Set
3965-673	Fuel Bowl
3965-674	Main Adjustment Knob Stop
497-677	Spring Cotter
3965-678	Drain Valve
503-679	Drain Valve Spring
503-680	Channel Plug Screw
3965-685	Spring
3965-1003	Adaptor
3655-1114	Drain Line
3745-1207	Gas Line Elbow
509-1874	Carburetor Flange Gasket
509-4643	Link—Throttle Actuator
476-5864	Screw
480-5867	Throttle Shutter Screw
3655-5867	Choke Shutter Screw
3335-5963	Screw
3965-6028	Screw Adaptor
508-6727	Nut—Carburetor Flange Stud
518-6731	Nut
3655-6735	Nut
3645-8614	Nut
3965-8621	Eyelet

CARBURETOR-3665

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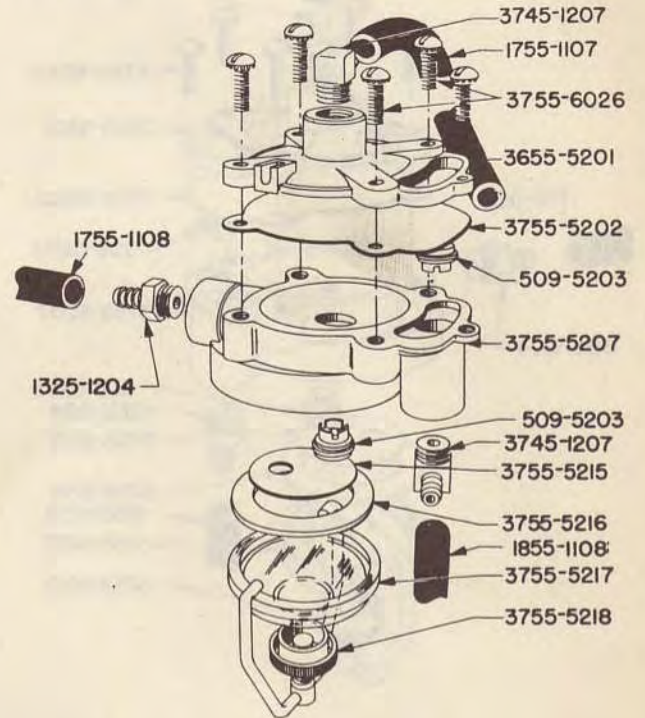


Part Number	Description
3665-601	Carburetor Complete
3665-603	Body
3655-604	Welch Plug
3655-605	Float Assembly
3665-609	Screw—Idle Adj.
3665-610	Spring
3655-613	Inlet Needle Seat and Gasket
462-614	Plug Screw
3665-617	Screw—Main Adj.
1675-618	Knob—Main Adj.
3665-619	Gasket
3665-620	Nut
3665-621	Nut—Packing Screw
3655-622	Packing
480-626	Return Spring
3655-627	Throttle Shaft and Lever
3655-628	Throttle Shutter
497-630	Spring
3655-633	Gasket
3655-639	Gasket—Nozzle Boss
1675-644	Shaft and Knob Assy.
3665-648	Pick-up Lever
3645-654	Knob Body
3675-666	Choke Shaft Lever
3655-667	Choke Shutter
3665-668	Pin—Fulcrum
2655-669	Nozzle
3665-671	Gasket and Packing Set
3665-672	Repair Kit

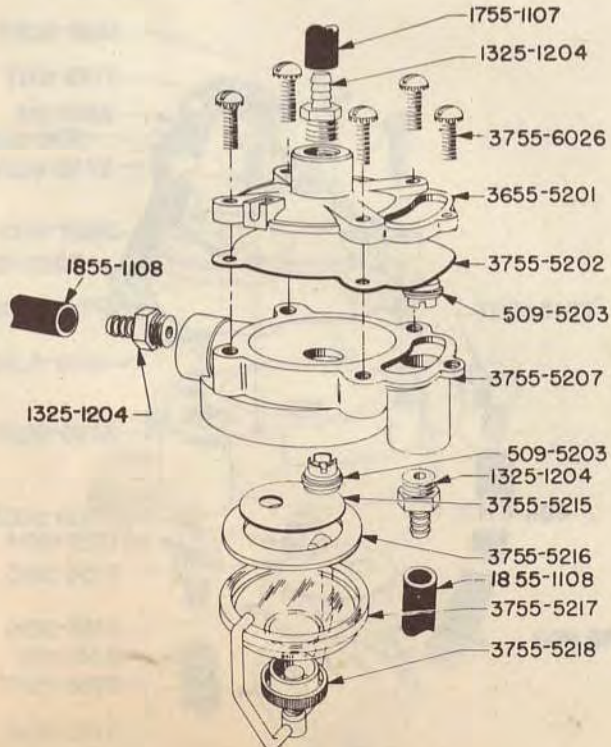
Part Number	Description
3665-673	Bowl
3655-674	Bracket and Stop Assembly
3655-676	Spring
497-677	Cotter Pin
3655-678	Drain Valve
503-679	Spring
3655-680	Plug—Drain Valve
3655-694	Sleeve
1755-709	Knob—Idle Adj.
3325-1102	Tube—Bowl Drain
3745-1207	Fitting—Gas Line
3655-1687	Panel—Carb. Cont.
3655-1727	Grommet—Panel
3645-1874	Gasket—Carb. Flange
3645-1943	Tube—Drain
493-2477	Spring—Bkt. to Panel
509-4357	Spring
3655-5867	Screw—Shutter
493-5875	Screw—Idle Adj. Knob
3835-5962	Set Screw—Main Knob
3655-6025	Screw—Body
3655-6026	Screw—Body
462-6702	Nut
3655-6735	Speed Nut
3665-6736	Speed Nut
3335-7202	Lockwasher
3655-7221	Washer
509-8607	Cotter Pin
518-8610	Grommet—Choke Lever
3645-8700	Cotter Pin

FUEL PUMP-3765

Part Number	Description
1755-1107	Pressure Line
1755-1108	Gas Line—Pump to Carburetor
1855-1108	Gas Line Inlet
1325-1204	Fitting—Outlet
3745-1207	Fitting—Inlet and Pressure Line
3755-5200	Fuel Pump Assembly
3655-5201	Body—Upper
3755-5202	Diaphragm
509-5203	Check Valve
3755-5207	Body—Lower
3755-5215	Filter Screen
3755-5216	Gasket
3755-5217	Sediment Bowl
3755-5218	Clamp Spring Assembly
3755-6026	Screw

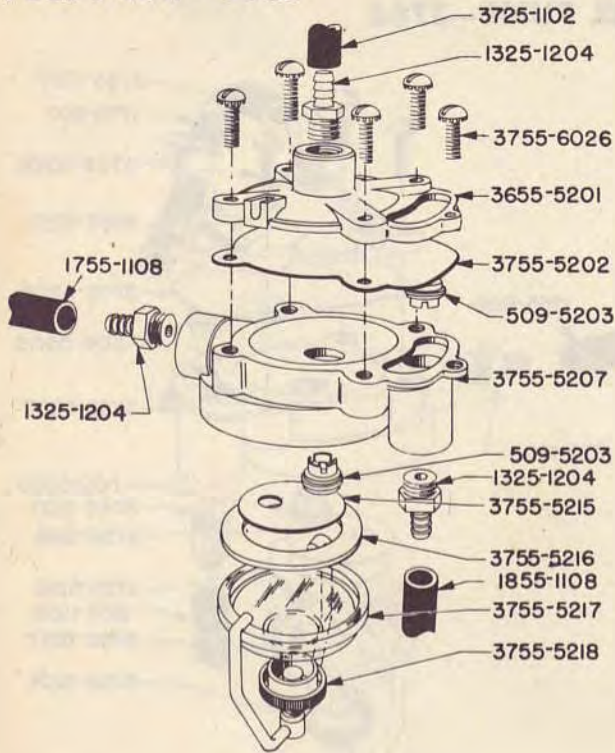


FUEL PUMP-3365



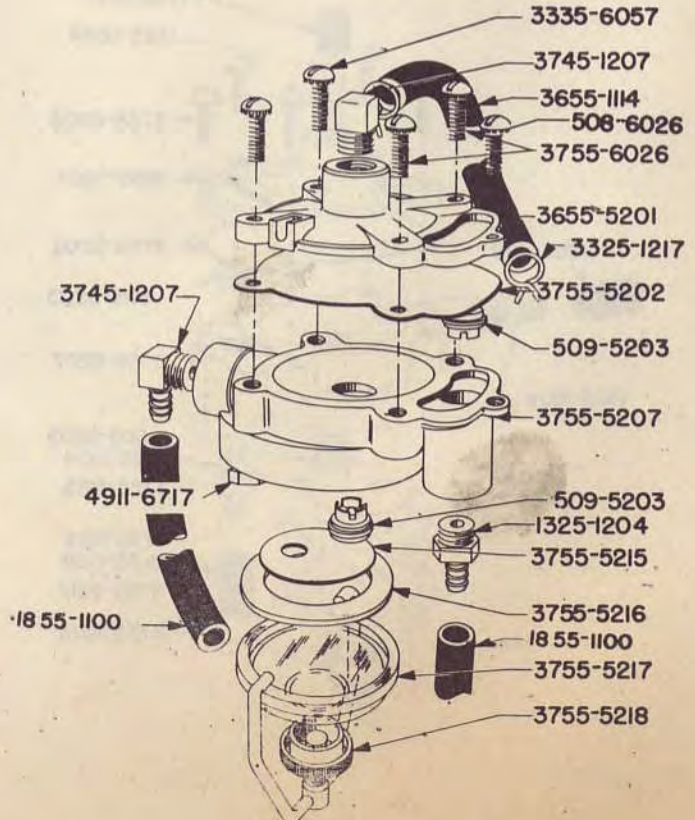
Part Number	Description
1755-1107	Pressure Line
1855-1108	Gas Line
1325-1204	Fitting
3755-5200	Fuel Pump Assembly
3655-5201	Body—Upper
3755-5202	Diaphragm
509-5203	Check Valve
3755-5207	Body—Lower
3755-5215	Filter Screen
3755-5216	Gasket
3755-5217	Sediment Bowl
3755-5218	Clamp Spring Assembly
3755-6026	Screw

FUEL PUMP-3865



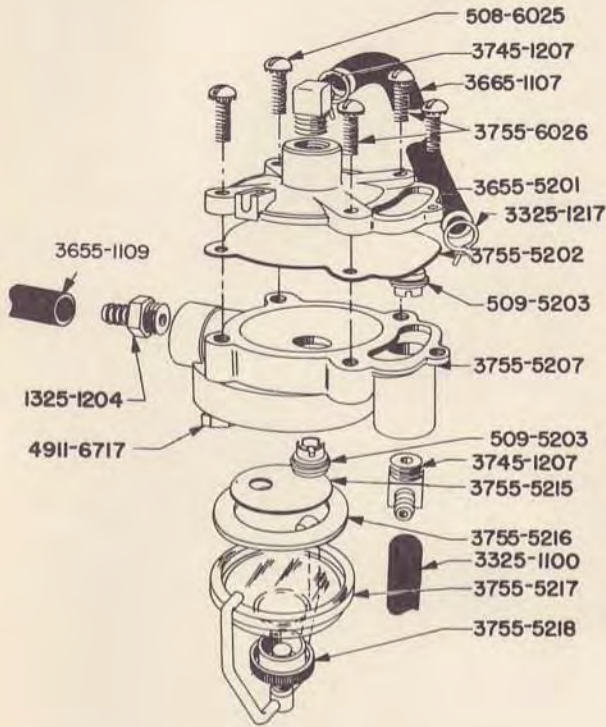
Part Number	Description
3725-1102	Pressure Line
1755-1108	Gas Line—Pump to Carburetor
1855-1108	Gas Line Inlet
1325-1204	Fitting
3755-5200	Fuel Pump Assembly
3655-5201	Body—Upper
3755-5202	Diaphragm
509-5203	Check Valve
3755-5207	Body—Lower
3755-5215	Filter Screen
3755-5216	Gasket
3755-5217	Sediment Bowl
3755-5218	Clamp Spring Assembly
3755-6026	Screw

FUEL PUMP-3965



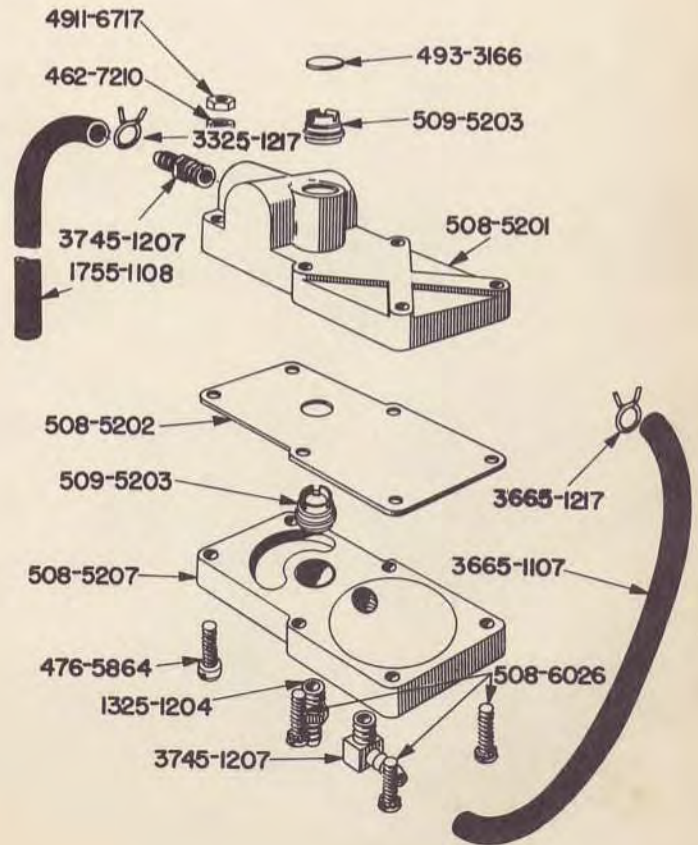
Part Number	Description
1855-1100	Gas Line Inlet
3655-1114	Pressure Line
3325-1100	Gas Line—Pump to Carburetor
1325-1204	Fitting
3745-1207	Fitting
3325-1217	Clamp
3655-5200	Fuel Pump Assembly
3655-5201	Body—Upper
3755-5202	Diaphragm
509-5203	Check Valve
3755-5207	Body—Lower
3755-5215	Filter Screen
3755-5216	Gasket
3755-5217	Sediment Bowl
3755-5218	Clamp Spring Assembly
508-6026	Screw—Pump to Bracket
3755-6026	Screw
3335-6057	Screw
4911-6717	Nut

FUEL PUMP—3665



Part Number	Description
3325-1100	Inlet Line
3665-1107	Pressure Line
3655-1109	Outlet Line
1325-1204	Fitting—Outlet Line
3745-1207	Fitting—Pressure and Inlet
3325-1217	Clamp
3655-5200	Fuel Pump Assembly
3655-5201	Pump Body—Upper
3755-5202	Diaphragm
509-5203	Check Valve
3755-5207	Body—Lower
3755-5215	Filter Screen
3755-5216	Gasket
3755-5217	Sediment Bowl
3755-5218	Clamp Spring Assembly
508-6025	Screw
3755-6026	Screw
4911-6717	Nut

SCAVENGER PUMP—3665



Part Number	Description
3665-1107	Pressure Line
1755-1108	Outlet Line
1325-1204	Fitting — Scavenger Line
3745-1207	Fitting — Outlet and Pressure
3325-1217	Clamp
493-3166	Welch Plug
508-5200	Pump Assembly
508-5201	Pump Body — Upper
508-5202	Diaphragm
509-5203	Check Valve
508-5207	Body — Lower
476-5864	Screw
508-6026	Screw — Pump Body
4911-6717	Nut
462-7210	Lockwasher

SCOTT-ATWATER SERVICE MANUAL

SECTION E - IGNITION

CONTENTS

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IGNITION

MAGNETO

All models are equipped with Wico, Splitdorf, Eisemann or Phelon magnetos. Examine the serial number stamped on the nameplate to determine which magneto the motor has. An "E" following the number indicates Eisemann; a "P", Phelon. Use the corresponding parts list when ordering parts.

The magneto used on the twin consists of two complete coils, condensers and breaker point sets which means that there is virtually a separate magneto for each cylinder. The failure of one magneto unit will not affect the operation of the other and the motor will continue to run on one cylinder. The coil, condenser and breaker contact sets are interchangeable between the two units and between the twin and single cylinder magnetos.

MAGNETO TESTING

To test the magneto, remove a lead wire and with the tip of the wire held about 1/8" from some part of the motor, pull the motor over with a starting rope. If the arc across the gap is a strong bluish-white spark, the magneto is in good condition and need not be serviced. However, a poor spark or no spark at all indicates that the magneto is not functioning properly.



If you do a great deal of service work it is advisable to invest in a magneto testing set that will determine the condition of the coils and condensers.

DISASSEMBLY

After the gas tank has been removed, the magneto rotor can be pulled by removing the flywheel nut and starter ratchet pulley. If the rotor does not come off easily, use the flywheel puller, Part No. SK 1680, which will fit all magnetos on Scott-Atwater motors. The stator plate can be removed after loosening the tension screw underneath the plate. Slide the cam off the crankshaft and remove the key.



Magneto testing set.

If it appears that oil is leaking past the top main bearing on the 7 1/2 hp twin, insert an oil seal, Part No. 465-1899, before replacing the key and cam. This oil seal is a service part only and should not be used unless oil is actually leaking past the bearing (the seal needs lubrication and will not stand up if the bearing isn't leaking). Insert this seal with the metal face outward.

The coils are held on the iron core with wedges or by a clip. To remove a coil, remove the core from the stator plate. Work the wedges loose (or bend the clip down) and pull the coil unit off. Be sure the cores are replaced in exactly the same position, as an undue misplacement will cause them to rub on the flywheel. The clearance (air gap) between the cores and the flywheel is .010''.

In replacing the cam, be sure to place it on the shaft with the arrow on the top side. The placement of this cam and the point setting are the only things that will affect the timing of the motor.

16HP MAGNETO

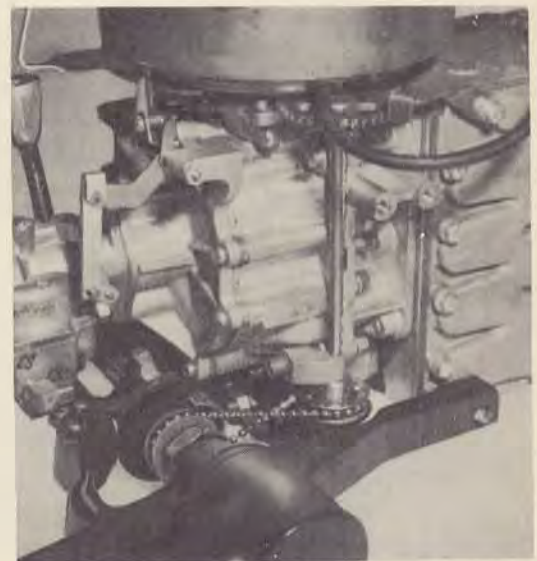
The stator plate is fastened to the gear by two screws which must be removed in order to take the stator plate off. Pull the flywheel and remove the screw alongside each of the cam followers.

To replace the gear drive, slide the stator plate gear over the magneto mount; slide the pinion gear in position, engaging the stator plate gear; and replace the mounting ring over the gear. You need not be concerned about the relative positions of these gears when assembling since the adjustment is made on the bead chain pulley. Lubricate all working parts when assembling. Slide the stator plate over the magneto mount, line up the holes in the plate and gear, and replace the two screws.

When ordering parts for any magneto, be sure you are using the right parts lists. Some models are manufactured with more than one magneto. Compare the breaker points and coils with the drawings to be sure you have the right parts list.



Using flywheel puller and home made holder.

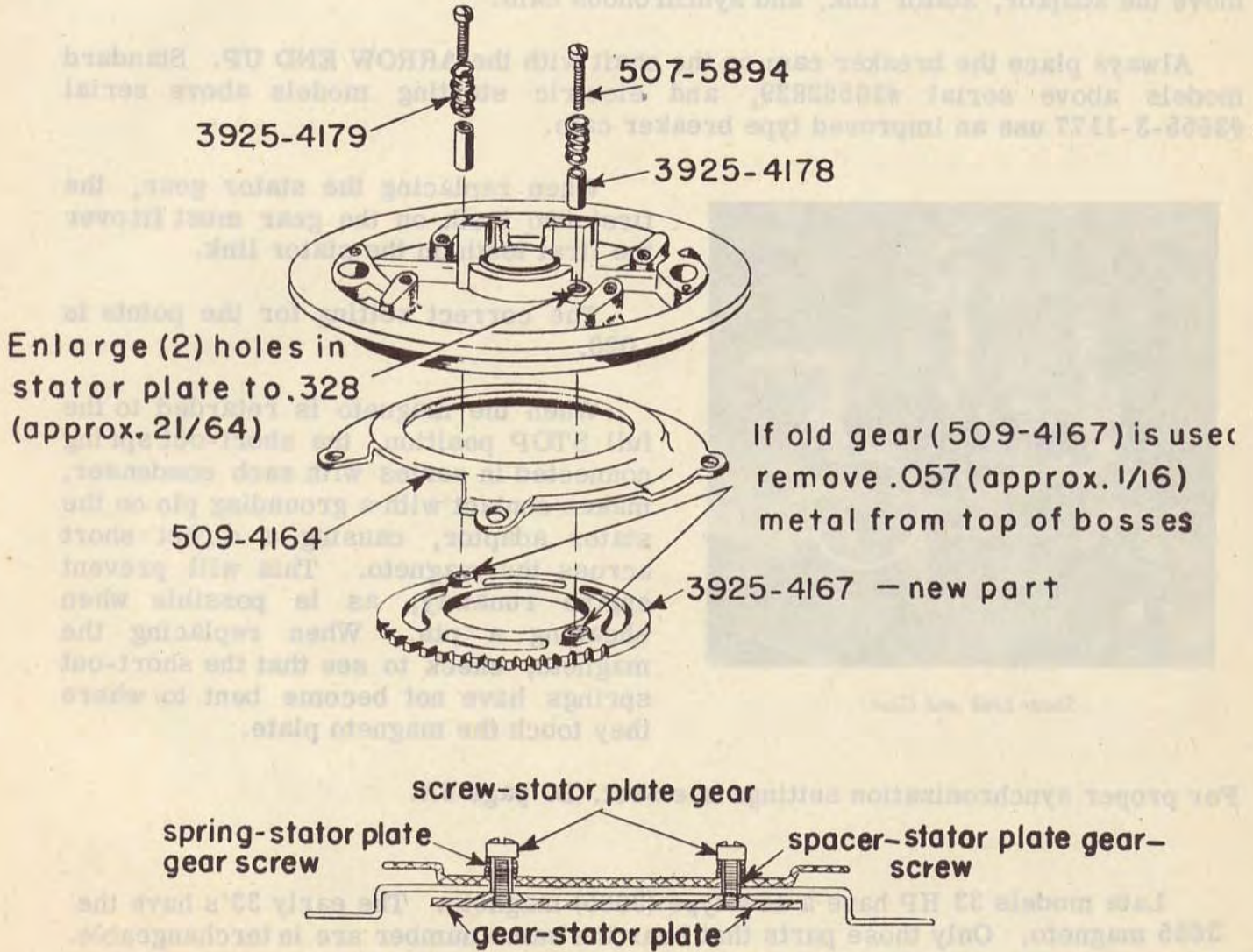


Linkage for stator plate control.

16 HP STATOR PLATE MODIFICATION

www.powersportsupply.co

Excessive play in the stator plate bearing on the Model 509 and 519 can be corrected by making the installation shown below. This modification will stop any stator plate wobble which makes it difficult to set the breaker points accurately.



New parts req. (See illustration for placement)

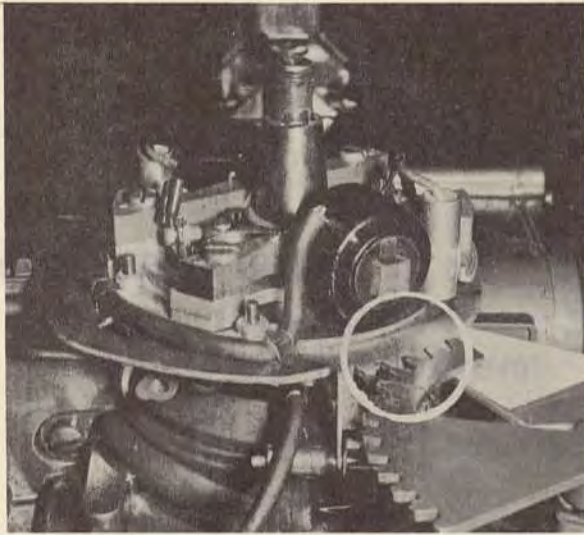
- 3925-4178 Spacer— Stator Plate Gear Screw
- 3925-4179 Spring— " " " "
- 3925-4167 Gear— Stator Plate
- 507-5894 Screw— Stator Plate Gear

30 & 33 HP MAGNETO

The 30 and 33 HP Magneto is similar in construction to those of the other models. For easy access remove the recoil starter and flywheel. The standard flywheel puller (SK-1680) fits all models.

The magneto is fastened to the stator link and synchronous control cam with four screws, nuts and washers (pointing upward). Remove the nuts and washers, and lift the magneto off. Loosen the four stator adaptor mounting screws, and remove the adaptor, stator link, and synchronous cam.

Always place the breaker cam on the shaft with the **ARROW END UP**. Standard models above serial #36552829, and electric starting models above serial #3655-3-1177 use an improved type breaker cam.



Stator Link and Gear

When replacing the stator gear, the first two teeth on the gear must fit over the first tooth on the stator link.

The correct setting for the points is .020.

When the magneto is retarded to the full STOP position, the short-out spring connected in series with each condenser, makes contact with a grounding pin on the stator adaptor, causing a direct short across the magneto. This will prevent engine runaway, as is possible when shearing a pin. When replacing the magneto, check to see that the short-out springs have not become bent to where they touch the magneto plate.

For proper synchronization settings see Sect. B. page 5A.

Late models 33 HP have a new type (3665) magneto. The early 33's have the 3655 magneto. Only those parts that bear the same number are interchangeable. An exception is the 3655-134 Coil which replaces the 1355-134 Coil in the 3655 Magneto group. The 3665 Magneto is used on manual starting 33 HP motors above serial number 3665-3317, and on electric starting motors above serial number 3665-3-3127.

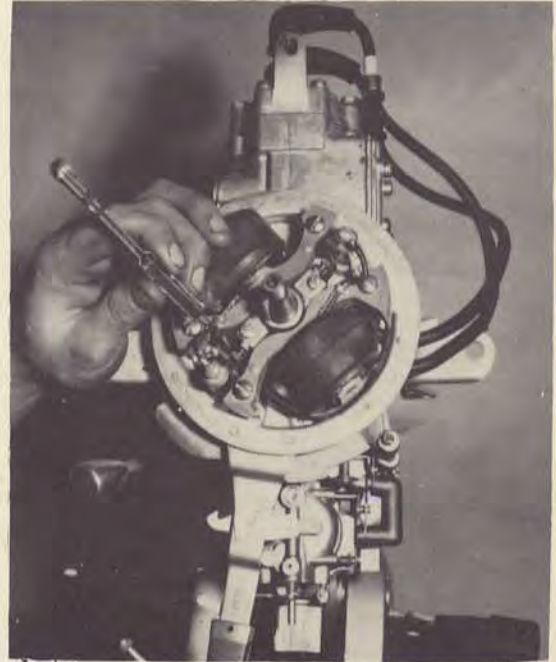
CLEANING AND ADJUSTING BREAKER POINTS

Clean the points by drawing a piece of clean paper partially through the points; open the points and remove the paper. Filing or sanding the contact points, if necessary, is recommended; but it must be done carefully. If the points are badly pitted, they should be replaced and the condenser should be checked. A defective condenser will allow a spark to arc across the points as they open and cause pitting.

Set the breaker points at .020 when the cam follower which opens the points is directly over the key and the speed control lever is approximately in the middle position.

LEAD WIRE GROUP

Care should be taken when replacing the lead wires to the plugs on the twin cylinder models to see that the proper wire is connected to the top plug. This wire has a "top" marker around the insulation near the clip end and is connected to the coil on the starboard side of the magneto. The lead wires are connected to the coil by winding the wire on the coil terminal or by means of a friction type plug. Never solder these wires to the coil; the heat of soldering may damage the coil insulation. Check the lead wires and spark plug hoods for undue wear or breaks in the insulation.



Checking breaker point gap.

SPARKY'S

Eliminate starting troubles caused by condensation or water on the spark plugs, by using Sparkys. Made of tight fitting - moistureproof neoprene rubber, it fits onto the lead wire and firmly over the spark plugs.



PLUGS

Spark plug trouble in outboard motors is probably one of the most common causes of poor performance. Luckily enough, correcting this difficulty is one of the easiest service operations. The reason for spark plug trouble can usually be traced either to the fuel mixture used or to the carburetor adjustment.

**NEW, CLEAN, EFFICIENT
SPARK PLUGS**



**OILY, DIRTY, WORN-OUT
SPARK PLUGS**



Heavily leaded gasolines, or lubricating oils that contain detergent additives, cause abnormal carbon and oxide deposits in the cylinder resulting in fouled plugs. Setting the carburetor adjustment too rich will have the same effect. If an owner brings a motor in that is "hard on plugs", question him about these things. Diplomatically showing him where he can improve the operation of his motor will go far in promoting good will.

We recommend and use the Champion H-10J spark plugs, which are of the proper heat range for use on Scott-Atwater 3.6, 4, 5, 7-1/2 and 10 HP motors. If another plug is used, it should be checked periodically to see if it is of the proper heat range. If the center electrode and insulator is black and greasy, the plug is too cold, if chalky white, it is too hot. Proper insulator color is that of coffee with cream. Use Champion J6J plugs in 30 and 33 HP motors.



Plugs should be checked periodically. Cracked or loose insulators or badly burned and corroded terminals necessitate replacement of the plug. The electrode gap is the heart of the combustion process. Corroded or oxide coated electrodes vitally affect the efficiency of the spark.

Carefully remove all deposits of carbon and oxides with a wire brush or a sharp knife. Then clean and dress the electrode surfaces with a small file of the distributor point type. File the gap area so as to secure positively flat parallel surfaces on both center and side electrodes. Using a feeler gauge, gap the plug at the recommended setting. If a motor has a tendency to foul out on one plug, set that plug gap a little greater.

Before replacing a plug, check the gasket to see that it is not damaged or compressed out of shape. Replace the gasket whenever possible. Recommended torque readings for 14 mm. plugs in aluminum heads are: 23-27 ft. - lbs. or 280-324 in. - lbs. For 18 mm plugs, 28-34 ft. - lbs. or 336-408 ins. - lbs.

If a torque wrench is not available, screw the plug in finger tight and then tighten with a wrench, 3/4 turn when using a new gasket and 1/4 turn when using an old gasket.

If a motor is known to be hard on spark plugs, you might try a trick used by some of the old timers. Put a mark on the outside body of the plug to show where the outside electrode attaches to the body. Then screw in the plug so that the mark is downward. It may be necessary to use a new gasket or an old compressed gasket before the plug will be properly positioned within reasonable limits of tightness. Using this method results in the outside electrode pointing upward, which allows any oil or gas in the gap to run down the outside electrode, leaving the gap open and free of carbon deposits that would otherwise appear.



Dressing the gap.



“J” TYPE



REGULAR

SPARK PLUG RECOMMENDATIONS

MODEL	MAKE	GAP
3.6 and 4 HP	Champion H-10J	0.035
5 HP	Champion H-10J	0.035
7 1/2 HP	Champion H-10J	0.035
10 HP	Champion HT-10J	0.035
16 HP	Champion 5MJ	0.035
30 HP	Champion J-6J	0.025
33 HP	Champion J-6J	*0.030

Formerly, H-10 plugs were recommended for all motors up to 7 1/2 HP. The “J” type plugs, recommended above are the same as the regular type except that the ground electrode is cut back to the center line of the plug. The resulting greater spark exposure encourages easier starting, gives better idling performance and lessens the tendency to foul the gap, in 2 cycle engines.

The HT-10J plug, recommended for the 10 HP, is a new plug that has a shorter external porcelain. If any other plug is used, be sure there is enough clearance between the head and the skirts to prevent binding or shorting.

*Gap @ 0.025 if 3655 Magneto is used.

SIZE	RANGE	CHAMPION	A C	AUTO-LITE
18mm	HOT ↑ COLD ↓	J1-15.....	87M, 86M	B9.....
		6M.....	85M	B7X.....
		5M, 5MJ.....	84M	B5X.....
		R-7.....	83M
		R-11S.....	82M
14mm	HOT ↑ COLD ↓	J-12J.....	46M.....	A11.....
		J-11J.....	46M.....	A9.....
		J-8J.....	245, 45M.....	A7X.....
		H-10J.....	46L-M.....	AL7X.....
		J-7J.....	44M.....	A6X.....
		J-6J.....	43M.....
		J-3.....	A5X.....

Note: When Marine Engines are operated in extremely cold water it may be desirable to use a Hotter Type Spark Plug to avoid fouling.

MAGNETO STOP

On all 30 and 33 HP motors being repaired in your service department the following modifications should be made.

First, make certain the first tooth on the magneto stator gear is located between the first and second tooth on pinion gear. Then drill .125 hole (1/8" drill) 7/16 deep and press in 3335-3662 pin, when the 38° arrow on control cam (3645-4618) is in this position. (See Figure 1). If there isn't a 38° mark on cam, measure 3/4" from end of cam to front side of Limit Beam Guide. (See Figure 2).

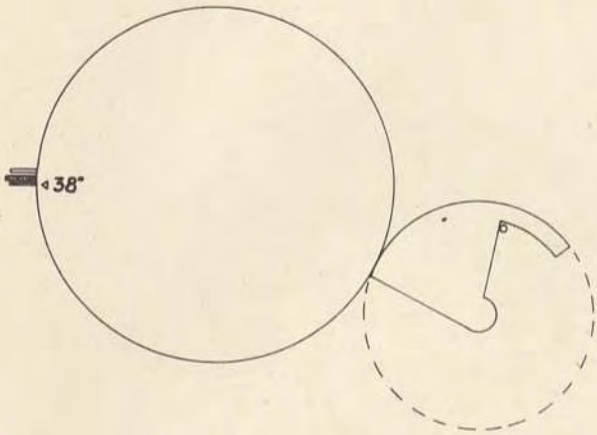


Fig. # 1

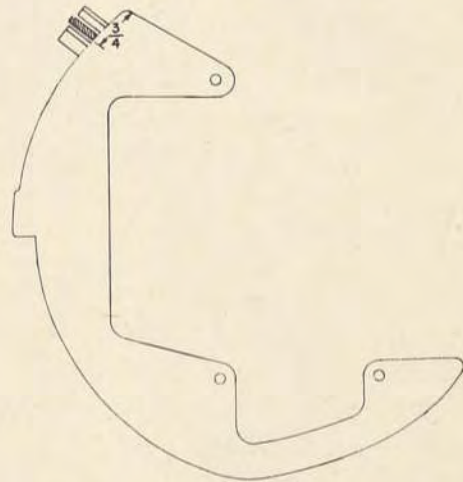
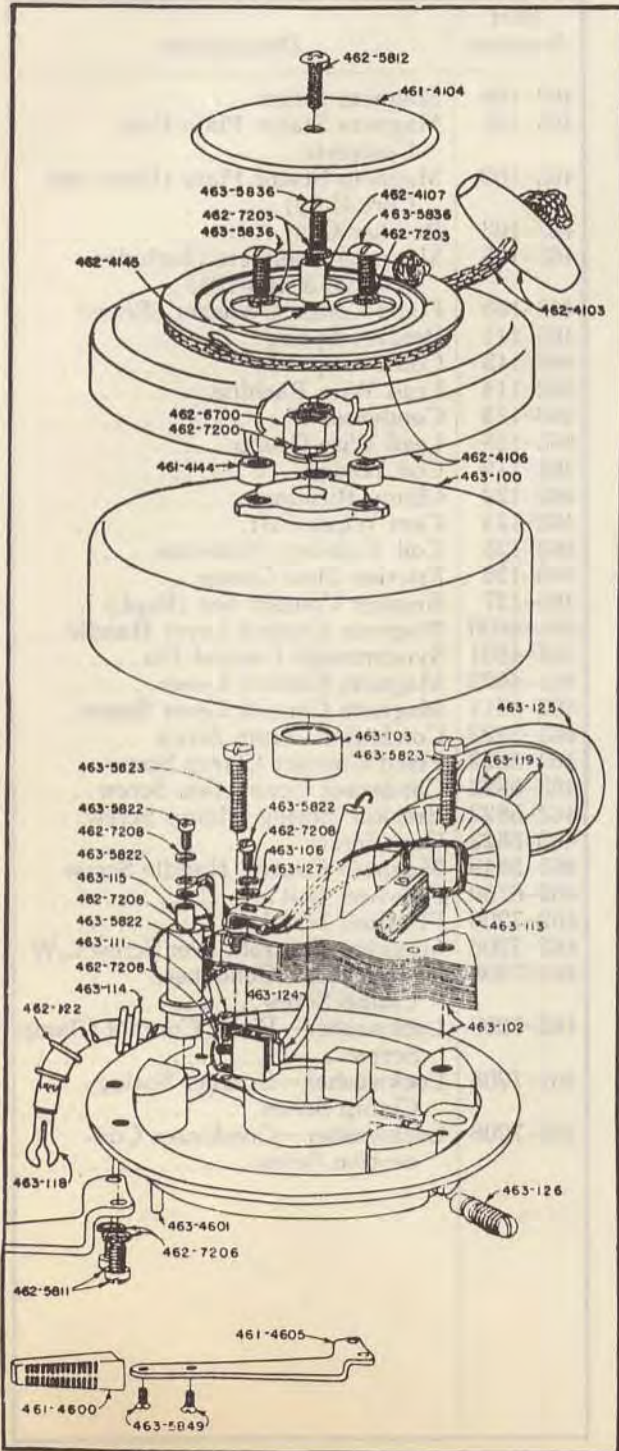


Fig. # 2

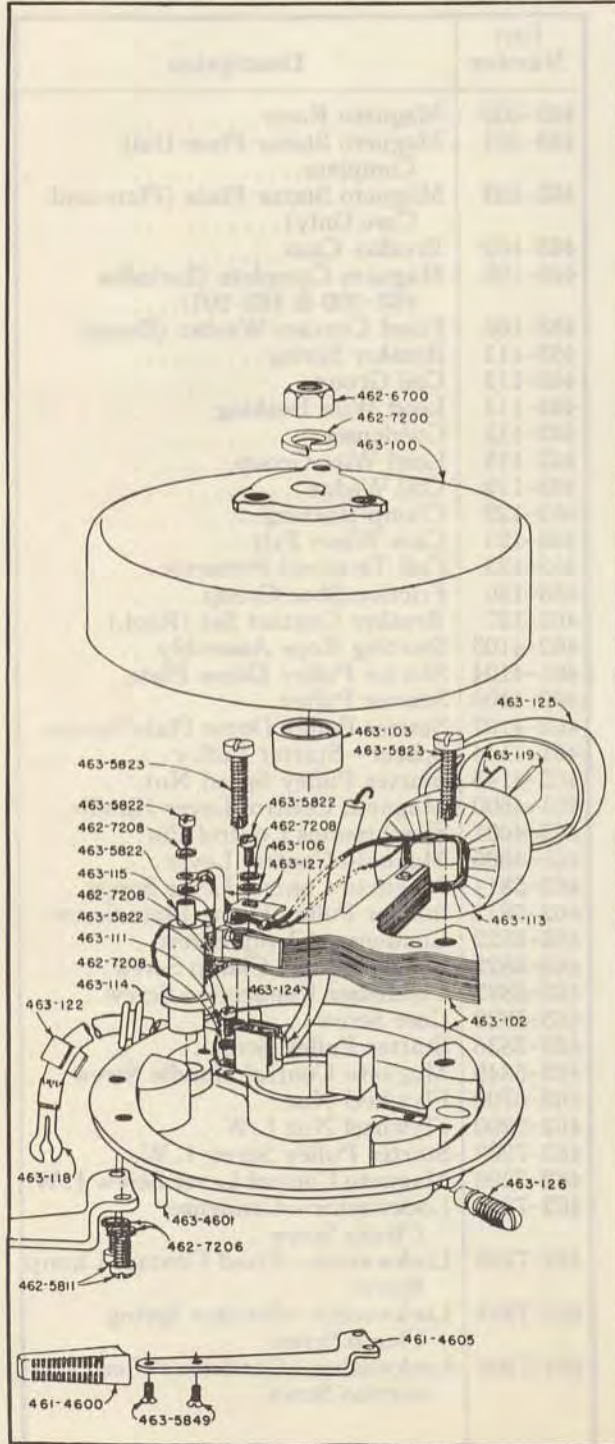
This modification prevents over advancement of the spark which results in the piston overheating.

WICO MAGNETO MODEL 461



Part Number	Description
463-100	Magneto Rotor.....
463-101	Magneto Stator Plate Unit Complete.....
463-102	Magneto Stator Plate (Plate and Core Only).....
463-103	Breaker Cam.....
463-105	Magneto Complete (Includes 463-100 & 463-101).....
463-106	Fixed Contact Washer (Brass).....
463-111	Breaker Spring.....
463-113	Coil Group.....
463-114	Lead Wire Bushing.....
463-115	Condenser.....
463-118	Lead Wire Group.....
463-119	Coil Wedge.....
462-122	Clamp Bushing.....
463-124	Cam Wiper Felt.....
463-125	Coil Terminal Protector.....
463-126	Friction Shoe Group.....
463-127	Breaker Contact Set (Repl.).....
462-4103	Starting Rope Assembly.....
461-4104	Starter Pulley Dome Plate.....
462-4106	Starter Pulley.....
462-4107	Starter Pulley Dome Plate Spacer.....
461-4144	Spacer—Starter Pulley.....
462-4145	Starter Pulley Speed Nut.....
461-4600	Magneto Control Lever Handle.....
463-4601	Synchronous Control Pin.....
461-4605	Magneto Control Lever.....
462-5811	Magneto Control Lever Screw.....
462-5812	Starter Pulley Dome Plate Screw.....
463-5822	Condenser Clamp Screw.....
463-5822	Fixed Contact Clamp Screw.....
463-5822	Condenser Connection Screw.....
463-5823	Core Screw.....
463-5836	Starter Pulley Screw.....
463-5849	Magneto Control Handle Screw.....
462-6700	Flywheel Nut.....
462-7200	Flywheel Nut L.W.....
462-7203	Starter Pulley Screw L.W.....
462-7206	Magneto Control Lever Screw L.W.....
462-7208	Lockwasher—Condenser Clamp Screw.....
462-7208	Lockwasher—Fixed Contact Clamp Screw.....
462-7208	Lockwasher—Breaker Spring Clamp Screw.....
462-7208	Lockwasher—Condenser Connection Screw.....

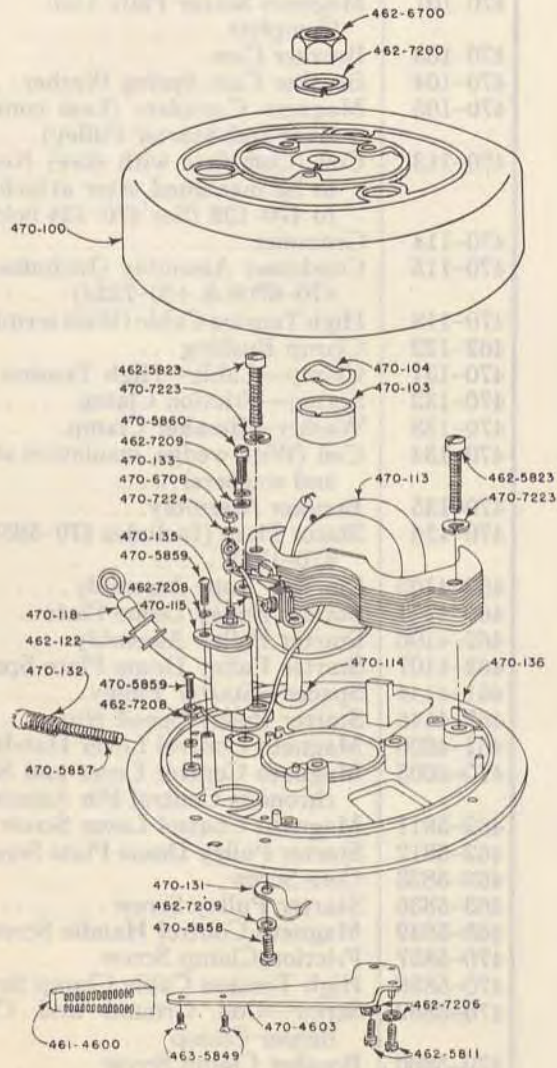
WICO MAGNETO MODEL 467



Part Number	Description
463-100	Magneto Rotor
463-101	Magneto Stator Plate Unit Complete
463-102	Magneto Stator Plate (Plate and Core Only)
463-103	Breaker Cam
463-105	Magneto Complete (Includes 463-100 & 463-101)
463-106	Fixed Contact Washer (Brass)
463-111	Breaker Spring
463-113	Coil Group
463-114	Lead Wire Bushing
463-115	Condenser
463-118	Lead Wire Group
463-119	Coil Wedge
462-122	Clamp Bushing
463-124	Cam Wiper Felt
463-125	Coil Terminal Protector
463-126	Friction Shoe Group
463-127	Breaker Contact Set (Repl.)
461-4600	Magneto Control Lever Handle
463-4601	Synchronous Control Pin
461-4605	Magneto Control Lever
462-5811	Magneto Control Lever Screw
463-5822	Condenser Clamp Screw
463-5822	Fixed Contact Clamp Screw
463-5822	Condenser Connection Screw
463-5822	Breaker Spring Clamp Screw
463-5823	Core Screw
463-5849	Magneto Control Handle Screw
462-6700	Flywheel Nut
462-7200	Flywheel Nut L.W.
462-7206	Magneto Control Lever Screw L.W.
462-7208	Lockwasher—Condenser Clamp Screw
462-7208	Lockwasher—Fixed Contact Clamp Screw
462-7208	Lockwasher—Breaker Spring Clamp Screw
462-7208	Lockwasher—Condenser Connection Screw

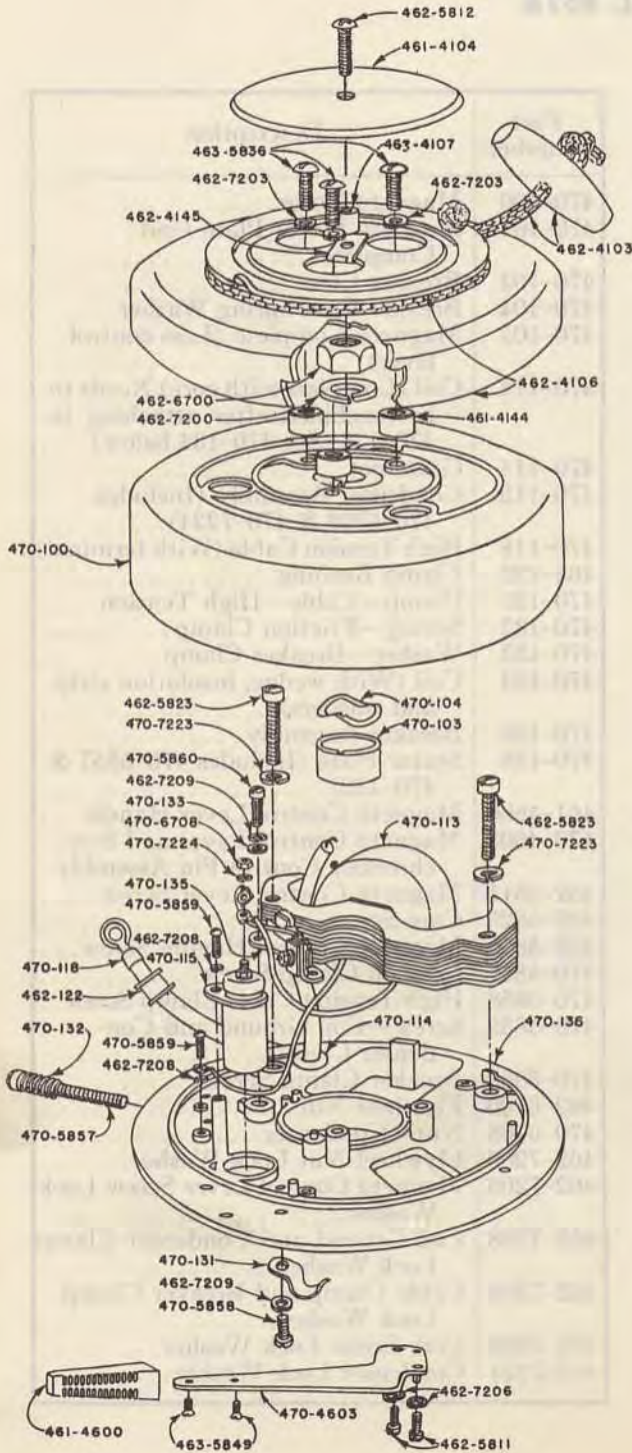
EISEMAN MAGNETO
MODEL 470

**EISEMAN MAGNETO
MODEL 467E**



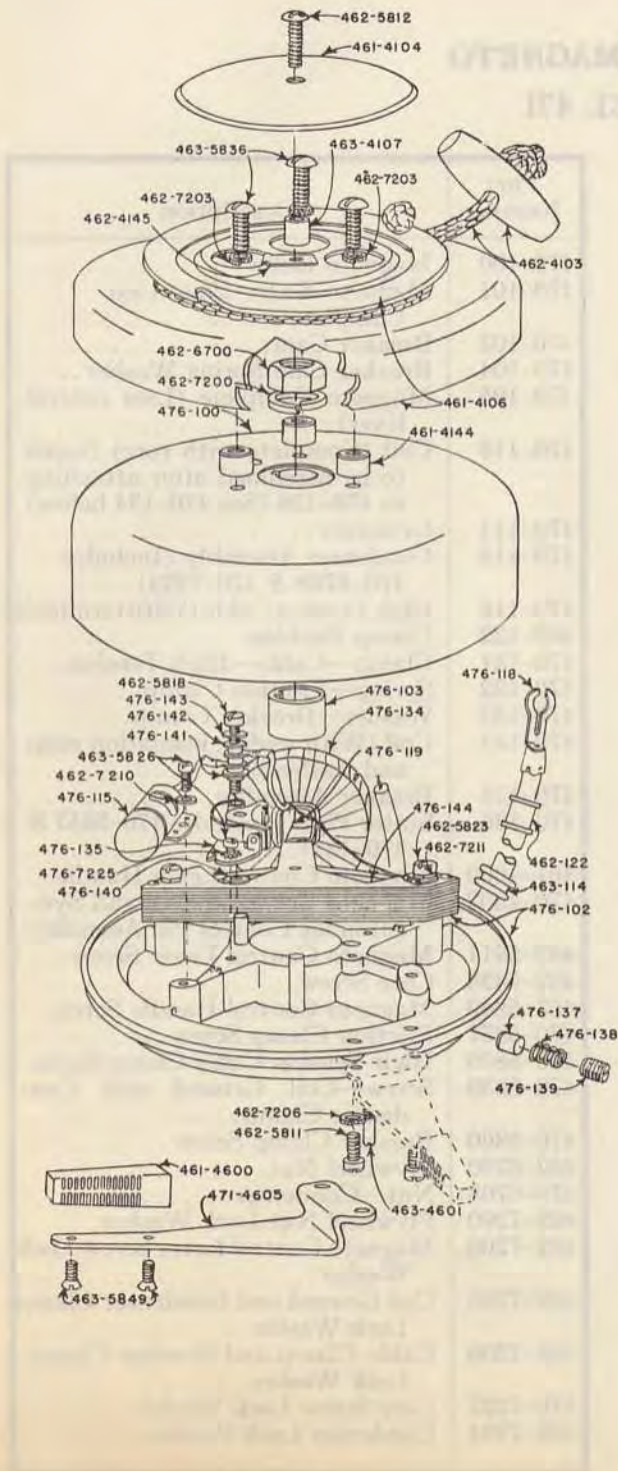
Part Number	Description
470-100	Magneto Rotor.....
470-101	Magneto Stator Plate Unit Complete.....
470-103	Breaker Cam.....
470-104	Breaker Cam Spring Washer.....
470-105	Magneto Complete (Less control lever).....
470-113	Coil (Complete with core) Needs to be machined after attaching to 470-136 (See 470-134 below).....
470-114	Grommet.....
470-115	Condenser Assembly (Includes 470-6708 & 470-7224).....
470-118	High Tension Cable (With terminal) Clamp Bushing.....
462-122	Clamp—Cable—High Tension.....
470-131	Spring—Friction Clamp.....
470-132	Washer—Breaker Clamp.....
470-133	Coil (With wedge, insulation strip and washers).....
470-134	Breaker Assembly.....
470-135	Stator Plate (Includes 470-5857 & 470-132).....
470-136	Magneto Control Lever Handle...
461-4600	Magneto Control Lever and Synchronous Control Pin Assembly
470-4603	Magneto Control Lever Screw.....
462-5811	Core Screw.....
462-5823	Magneto Control Handle Screw...
463-5849	Friction Clamp Screw.....
470-5857	High Tension Cable Clamp Screw...
470-5858	Screw—Coil Ground and Condenser Clamp.....
470-5859	Breaker Clamp Screw.....
470-5860	Flywheel Nut.....
462-6700	Nut—Condenser.....
470-6708	Flywheel Nut Lock Washer.....
462-7200	Magneto Control Lever Screw Lock Washer.....
462-7206	Coil Ground and Condenser Clamp Lock Washer.....
462-7208	Cable Clamp and Breaker Clamp Lock Washer.....
462-7209	Core Screw Lock Washer.....
470-7223	Condenser Lock Washer.....
470-7224	

EISEMAN MAGNETO MODEL 470



Part Number	Description
470-100	Magneto Rotor
470-101	Magneto Stator Plate Unit Complete
470-103	Breaker Cam
470-104	Breaker Cam Spring Washer
470-105	Magneto Complete (Less control lever and Starter Pulley)
470-113	Coil (Complete with core) Needs to be machined after attaching to 470-136 (See 470-134 below)
470-114	Grommet
470-115	Condenser Assembly (Includes 470-6708 & 470-7224)
470-118	High Tension Cable (With terminal)
462-122	Clamp Bushing
470-131	Clamp—Cable—High Tension
470-132	Spring—Friction Clamp
470-133	Washer—Breaker Clamp
470-134	Coil (With wedge, insulation strip and washers)
470-135	Breaker Assembly
470-136	Stator Plate (Includes 470-5857 & 470-132)
462-4103	Starting Rope Assembly
461-4104	Starter Pulley Dome Plate
462-4106	Starter Pulley Assembly
463-4107	Starter Pulley Dome Plate Spacer
461-4144	Spacer—Starter Pulley
462-4145	Starter Pulley Speed Nut
461-4600	Magneto Control Lever Handle
470-4603	Magneto Control Lever and Synchronous Control Pin Assembly
462-5811	Magneto Control Lever Screw
462-5812	Starter Pulley Dome Plate Screw
462-5823	Core Screw
463-5836	Starter Pulley Screw
463-5849	Magneto Control Handle Screw
470-5857	Friction Clamp Screw
470-5858	High Tension Cable Clamp Screw
470-5859	Screw—Coil Ground and Condenser Clamp
470-5860	Breaker Clamp Screw
462-6700	Flywheel Nut
470-6708	Nut—Condenser
462-7200	Flywheel Nut Lock Washer
462-7203	Starter Pulley Screw Lock Washer
462-7206	Magneto Control Lever Screw Lock Washer
462-7208	Coil Ground and Condenser Clamp Lock Washer
462-7209	Cable Clamp and Breaker Clamp Lock Washer
470-7223	Core Screw Lock Washer
470-7224	Condenser Lock Washer

PHELON MAGNETO MODEL 470P

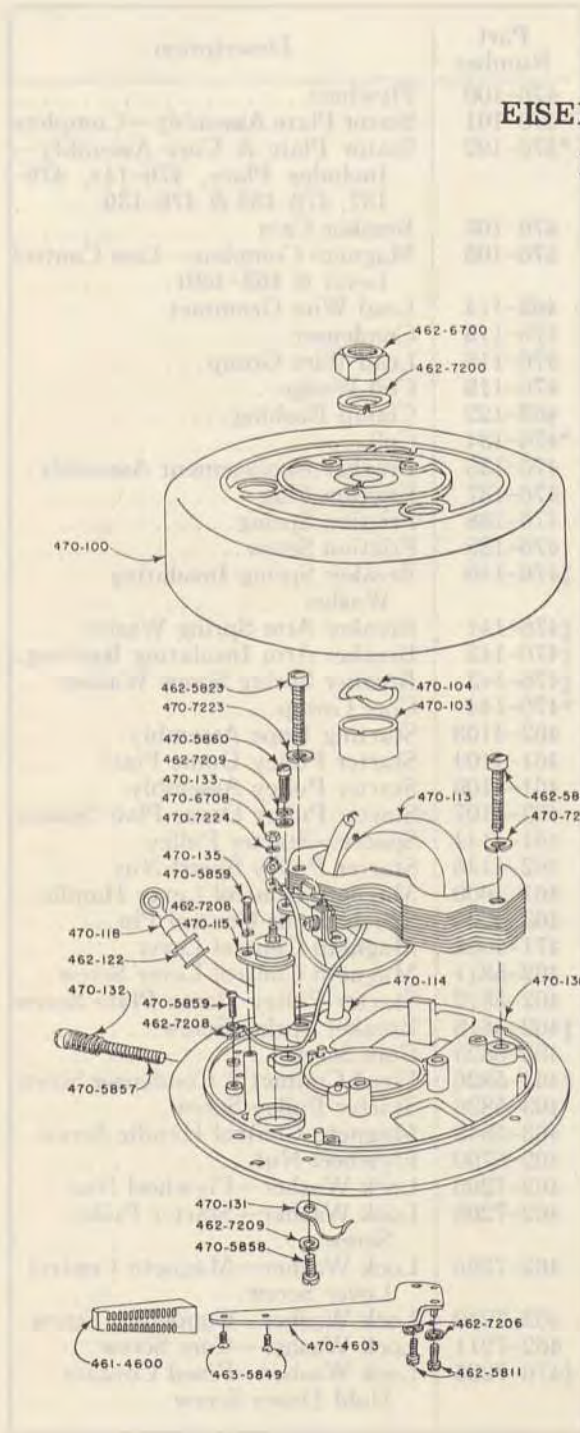


Part Number	Description
476-100	Flywheel.....
476-101	Stator Plate Assembly—Complete
*476-102	Stator Plate & Core Assembly— Includes Plate, 476-144, 476- 137, 476-138 & 476-139
476-103	Breaker Cam.....
476-105	Magneto Complete—Less Control Lever & 463-4601.....
463-114	Lead Wire Grommet.....
476-115	Condenser.....
476-118	Lead Wire Group.....
476-119	Coil Wedge.....
462-122	Clamp Bushing.....
*476-134	Coil.....
476-135	Breaker Replacement Assembly..
476-137	Friction Plug.....
476-138	Friction Spring.....
476-139	Friction Screw.....
‡476-140	Breaker Spring Insulating Washer.....
‡476-141	Breaker Arm Spring Washer.....
‡476-142	Breaker Arm Insulating Bushing..
‡476-143	Breaker Spring Screw Washer...
*476-144	Core Group.....
462-4103	Starting Rope Assembly.....
461-4104	Starter Pulley Dome Plate.....
461-4106	Starter Pulley Assembly.....
463-4107	Starter Pulley Dome Plate Spacer
461-4144	Spacer—Starter Pulley.....
462-4145	Starter Pulley Speed Nut.....
461-4600	Magneto Control Lever Handle..
463-4601	Synchronous Control Pin.....
471-4605	Magneto Control Lever.....
462-5811	Magneto Control Lever Screw...
462-5812	Starter Pulley Dome Plate Screw
‡462-5818	Breaker Spring Screw.....
462-5823	Core Screw.....
‡463-5826	Fixed Contact & Condenser Screw
463-5836	Starter Pulley Screw.....
463-5849	Magneto Control Handle Screw..
462-6700	Flywheel Nut.....
462-7200	Lock Washer—Flywheel Nut....
462-7203	Lock Washer—Starter Pulley Screw.....
462-7206	Lock Washer—Magneto Control Lever Screw.....
462-7210	Lock Washer—Condenser Screw..
462-7211	Lock Washer—Core Screw.....
‡476-7225	Lock Washer—Fixed Contact Hold Down Screw.....

*Alignment fixture required for locating Core on Stator Plate when replacing Core or Coil.

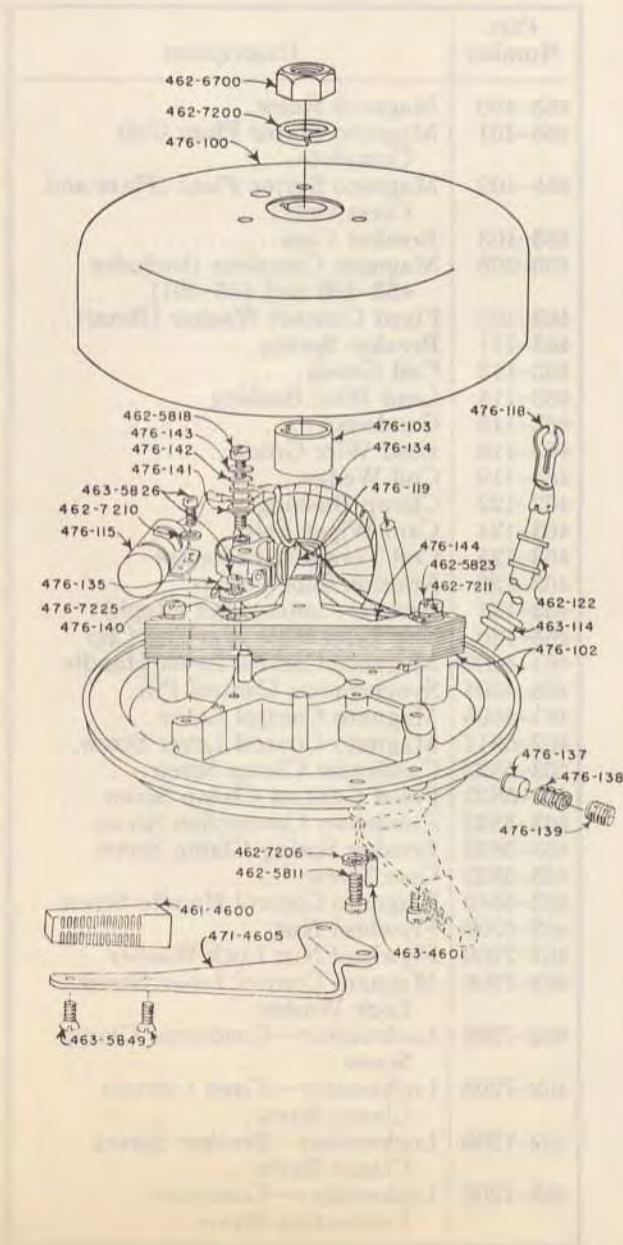
‡Included in 476-135.

EISEMAN MAGNETO
MODEL 471



Part Number	Description
470-100	Magneto Rotor
470-101	Magneto Stator Plate Unit Complete
470-103	Breaker Cam
470-104	Breaker Cam Spring Washer
470-105	Magneto Complete (Less control lever)
470-113	Coil (Complete with core) Needs to be machined after attaching to 470-136 (See 470-134 below)
470-114	Grommet
470-115	Condenser Assembly (Includes 470-6708 & 470-7224)
470-118	High Tension Cable (With terminal)
462-122	Clamp Bushing
470-131	Clamp-Cable-High Tension
470-132	Spring-Friction Clamp
470-133	Washer-Breaker Clamp
470-134	Coil (With wedge, insulation strip and washers)
470-135	Breaker Assembly
470-136	Stator Plate (Includes 470-5857 & 470-132)
461-4600	Magneto Control Lever Handle
470-4603	Magneto Control Lever and Synchronous Control Pin Assembly
462-5811	Magneto Control Lever Screw
462-5823	Core Screw
463-5849	Magneto Control Handle Screw
470-5857	Friction Clamp Screw
470-5858	High Tension Cable Clamp Screw
470-5859	Screw-Coil Ground and Condenser Clamp
470-5860	Breaker Clamp Screw
462-6700	Flywheel Nut
470-6708	Nut-Condenser
462-7200	Flywheel Nut Lock Washer
462-7206	Magneto Control Lever Screw Lock Washer
462-7208	Coil Ground and Condenser Clamp Lock Washer
462-7209	Cable Clamp and Breaker Clamp Lock Washer
470-7223	Core Screw Lock Washer
470-7224	Condenser Lock Washer

PHELON MAGNETO MODEL 471P

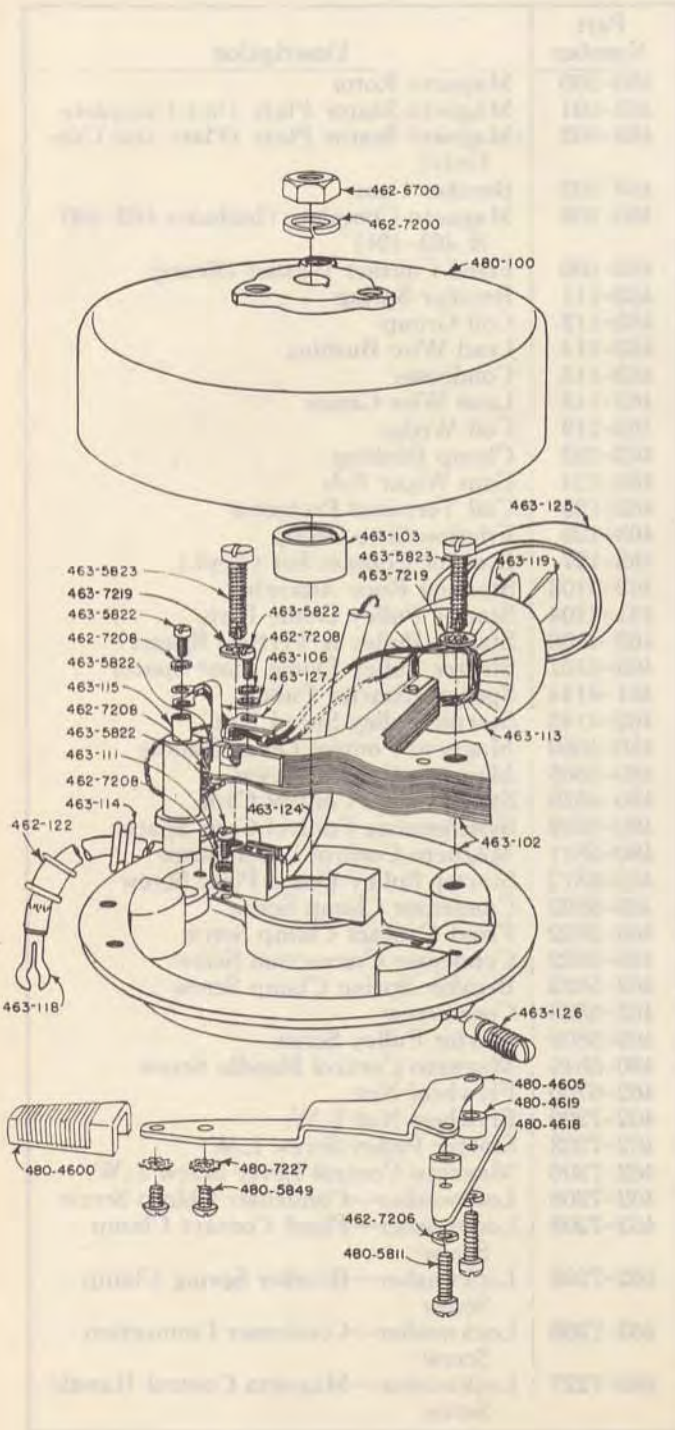


Part Number	Description
476-100	Flywheel.....
476-101	Stator Plate Assembly—Complete.
*476-102	Stator Plate and Core Assembly— Includes Plate, 476-144, 476-137, 476-138 and 476-139.....
476-103	Breaker Cam.....
476-105	Magneto Complete—Less Control Lever and 463-4601.....
463-114	Lead Wire Grommet.....
476-115	Condenser.....
476-118	Lead Wire Group.....
476-119	Coil Wedge.....
462-122	Clamp Bushing.....
*476-134	Coil.....
476-135	Breaker Replacement Assembly...
476-137	Friction Plug.....
476-138	Friction Spring.....
476-139	Friction Screw.....
†476-140	Breaker Spring Insulating Washer.
†476-141	Breaker Arm Spring Washer.....
†476-142	Breaker Arm Insulating Bushing...
†476-143	Breaker Spring Screw Washer.....
*476-144	Core Group.....
461-4600	Magneto Control Lever Handle...
463-4601	Synchronous Control Pin.....
471-4605	Magneto Control Lever.....
462-5811	Magneto Control Lever Screw.....
†462-5818	Breaker Spring Screw.....
462-5823	Core Screw.....
†463-5826	Fixed Contact and Condenser Screw.....
463-5849	Magneto Control Handle Screw...
462-6700	Flywheel Nut.....
462-7200	Lock Washer—Flywheel Nut.....
462-7206	Lock Washer—Magneto Control Lever Screw.....
462-7210	Lock Washer—Condenser Screw...
462-7211	Lock Washer—Core Screw.....
476-7225	Lock Washer—Fixed Contact Hold Down Screw.....

*Alignment fixture is required for locating Core on Stator Plate when replacing Core or Coil.

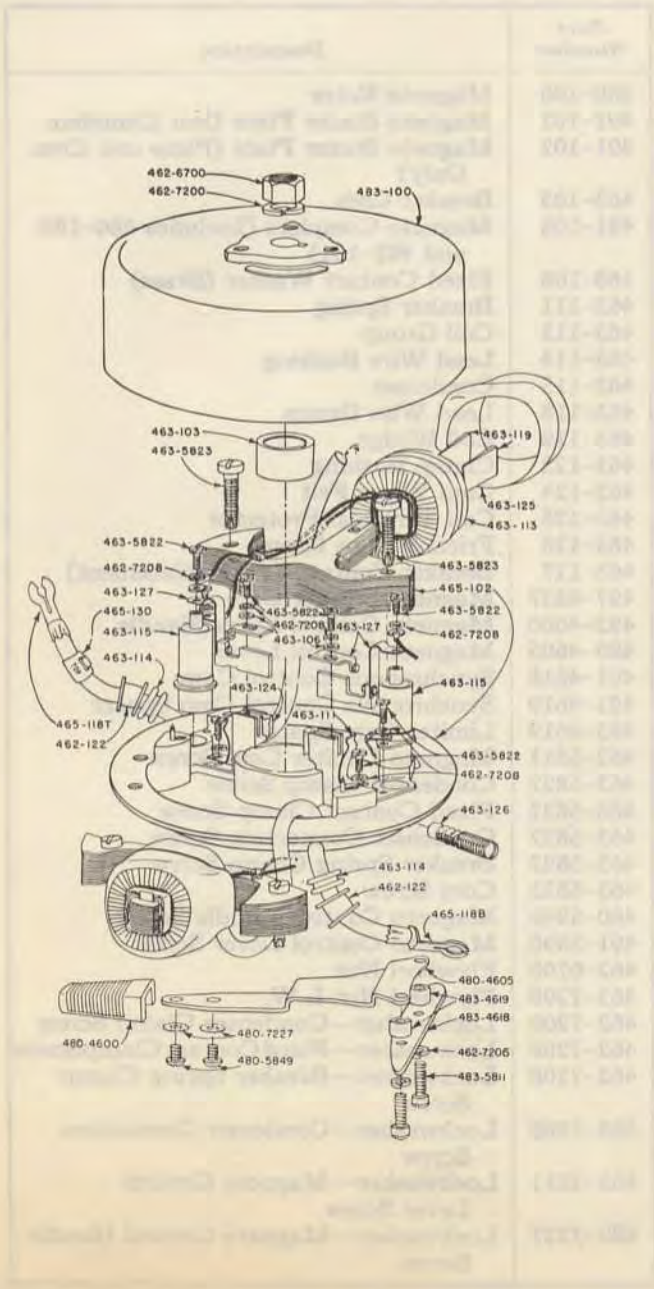
†Included in 476-135.

WICO MAGNETO MODEL 481



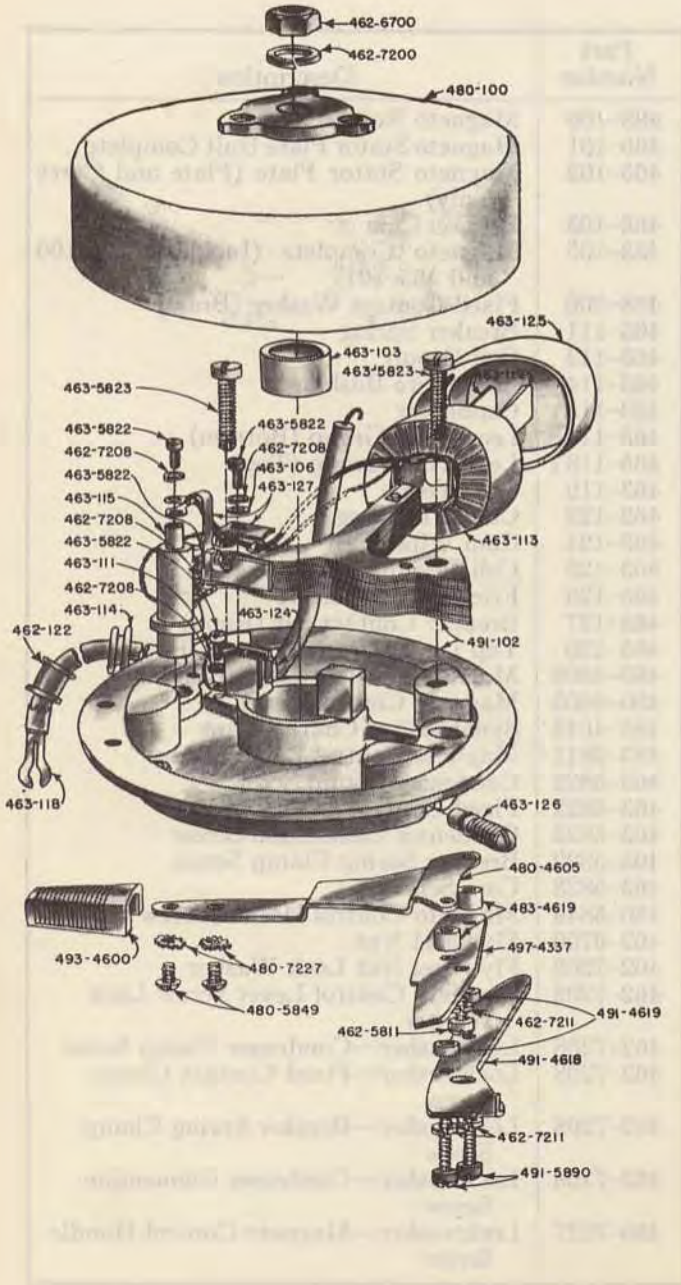
Part Number	Description
480-100	Magneto Rotor
463-101	Magneto Stator Plate Unit Complete
463-102	Magneto Stator Plate (Plate and Core Only)
463-103	Breaker Cam
480-105	Magneto Complete (Includes 463-100 & 463-101)
463-106	Fixed Contact Washer (Brass)
463-111	Breaker Spring
463-113	Coil Group
463-114	Lead Wire Bushing
463-115	Condenser
463-118	Lead Wire Group
463-119	Coil Wedge
462-122	Clamp Bushing
463-124	Cam Wiper Felt
463-125	Coil Terminal Protector
463-126	Friction Shoe Group
463-127	Breaker Contact Set (Repl.)
480-4600	Magneto Control Lever Handle
480-4605	Magneto Control Lever
480-4618	Synchronous Control Cam
480-4619	Synchronous Control Cam Spacer
480-5811	Magneto Control Lever Screw
463-5822	Condenser Clamp Screw
463-5822	Fixed Contact Clamp Screw
463-5822	Condenser Connection Screw
463-5822	Breaker Spring Clamp Screw
463-5823	Core Screw
462-5808	Starter Pulley Screw
480-5849	Magneto Control Handle Screw
462-6700	Flywheel Nut
462-7200	Flywheel Nut L.W.
462-7206	Magneto Control Lever Screw L.W.
462-7208	Lockwasher—Condenser Clamp Screw
462-7208	Lockwasher—Fixed Contact Clamp Screw
462-7208	Lockwasher—Breaker Spring Clamp Screw
462-7208	Lockwasher—Condenser Connection Screw
463-7219	Lockwasher—Core Screw
480-7227	Lockwasher—Magneto Control Handle Screw

WICO MAGNETO MODEL 483



Part Number	Description
483-100	Magneto Rotor
465-101	Magneto Stator Plate Unit Complete
465-102	Magneto Stator Plate (Plate and Cores Only)
463-103	Breaker Cam
483-105	Magneto Complete (Includes 483-100 and 465-101)
463-106	Fixed Contact Washer (Brass)
463-111	Breaker Spring
463-113	Coil Group
463-114	Lead Wire Bushing
463-115	Condenser
465-118B	Lead Wire Group (Bottom)
465-118T	Lead Wire Group (Top)
463-119	Coil Wedge
462-122	Clamp Bushing
463-124	Cam Wiper Felt
463-125	Coil Terminal Protector
463-126	Friction Shoe Group
463-127	Breaker Contact Set (Repl.)
465-130	Top Lead Wire Marking Clip
480-4600	Magneto Control Lever Handle
480-4605	Magneto Control Lever
483-4618	Synchronous Control Cam
483-5811	Magneto Control Lever Screw
463-5822	Condenser Clamp Screw
463-5822	Fixed Contact Clamp Screw
463-5822	Condenser Connection Screw
463-5822	Breaker Spring Clamp Screw
463-5823	Core Screw
480-5849	Magneto Control Handle Screw
462-6700	Flywheel Nut
462-7200	Flywheel Nut Lock Washer
462-7206	Magneto Control Lever Screw Lock Washer
462-7208	Lockwasher—Condenser Clamp Screw
462-7208	Lockwasher—Fixed Contact Clamp Screw
462-7208	Lockwasher—Breaker Spring Clamp Screw
462-7208	Lockwasher—Condenser Connection Screw
480-7227	Lockwasher—Magneto Control Handle Screw

WICO MAGNETO MODEL 491

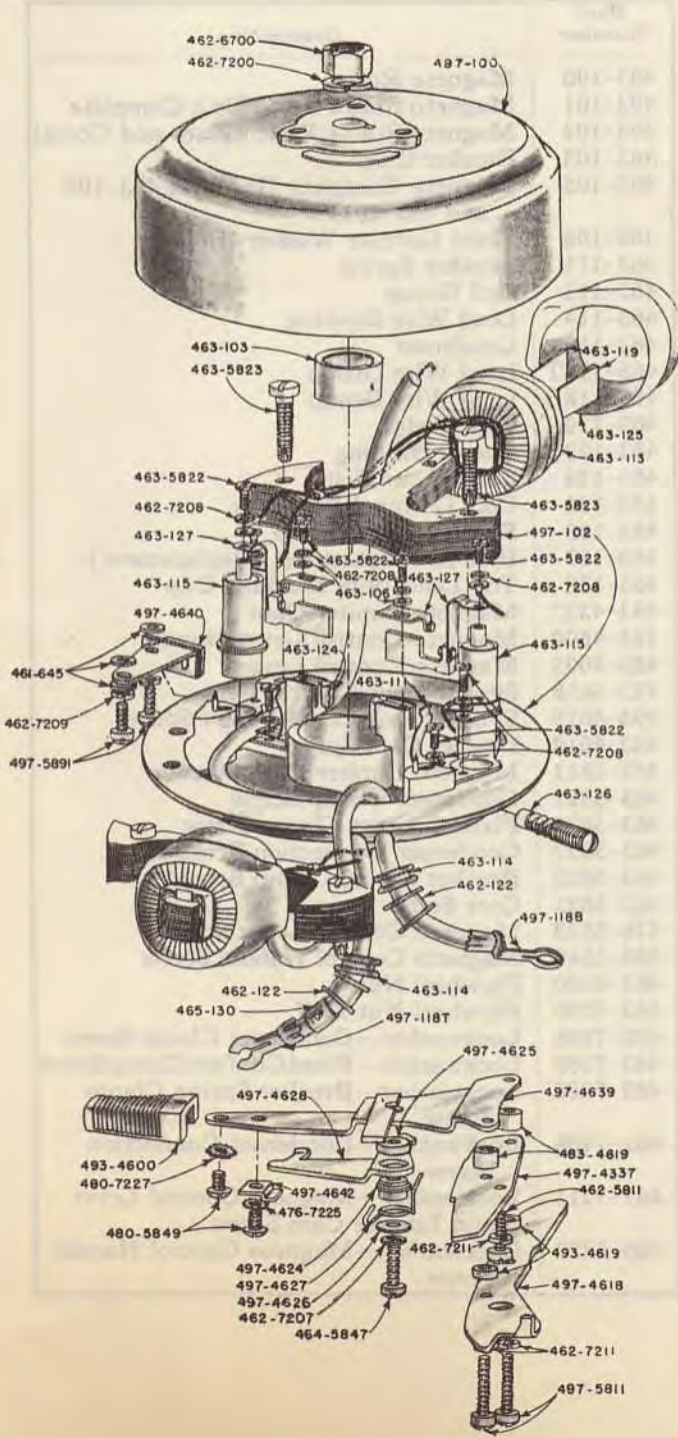


Part Number	Description
480-100	Magneto Rotor
491-101	Magneto Stator Plate Unit Complete
491-102	Magneto Stator Plate (Plate and Core Only)
463-103	Breaker Cam
491-105	Magneto Complete (Includes 480-100 and 491-101)
463-106	Fixed Contact Washer (Brass)
463-111	Breaker Spring
463-113	Coil Group
463-114	Lead Wire Bushing
463-115	Condenser
463-118	Lead Wire Group
463-119	Coil Wedge
462-122	Clamp Bushing
463-124	Cam Wiper Felt
463-125	Coil Terminal Protector
463-126	Friction Shoe Group
463-127	Breaker Contact Set (Replacement)
497-4337	Magneto Limiter Cam
493-4600	Magneto Control Lever Handle
480-4605	Magneto Control Lever
491-4618	Synchronous Control Cam
491-4619	Synchronous Control Cam Spacer
483-4619	Limiter Cam Spacer
462-5811	Magneto Limiter Cam Screw
463-5822	Condenser Clamp Screw
463-5822	Fixed Contact Clamp Screw
463-5822	Condenser Connection Screw
463-5822	Breaker Spring Clamp Screw
463-5823	Core Screw
480-5849	Magneto Control Handle Screw
491-5890	Magneto Control Lever Screw
462-6700	Flywheel Nut
462-7200	Flywheel Nut L.W.
462-7208	Lockwasher—Condenser Clamp Screw
462-7208	Lockwasher—Fixed Contact Clamp Screw
462-7208	Lockwasher—Breaker Spring Clamp Screw
462-7208	Lockwasher—Condenser Connection Screw
462-7211	Lockwasher—Magneto Control Lever Screw
480-7227	Lockwasher—Magneto Control Handle Screw

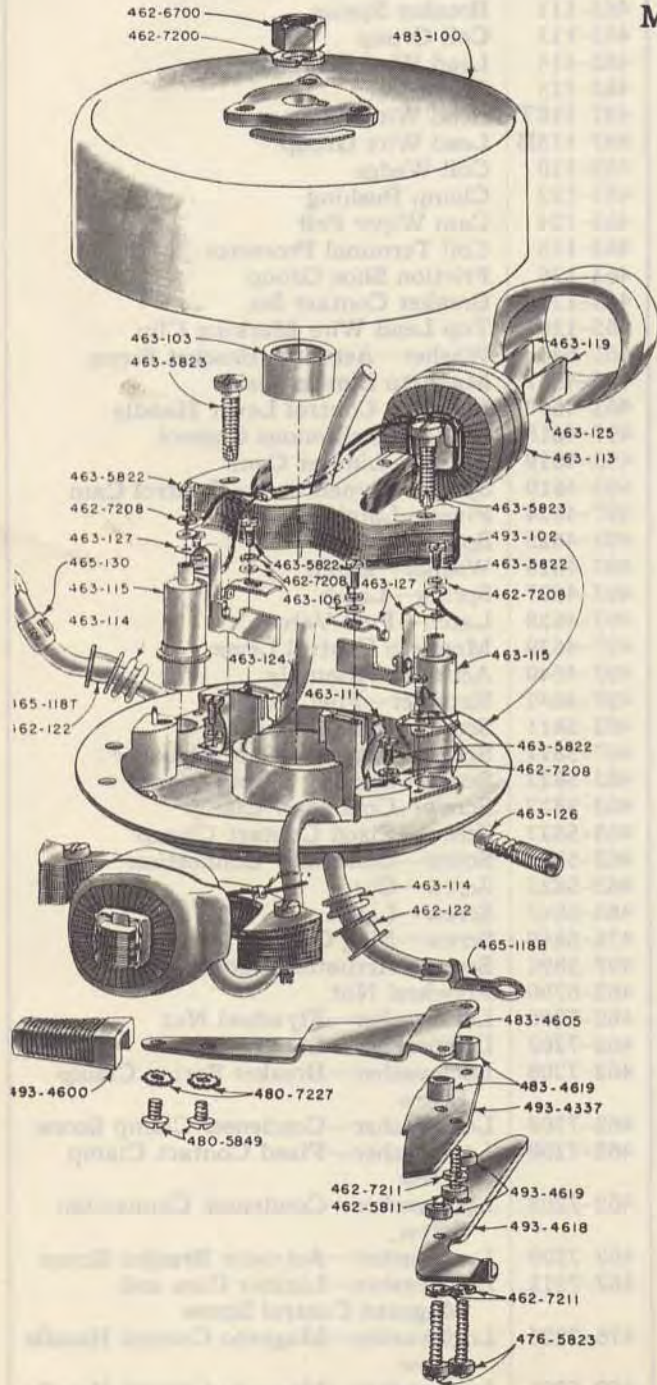
WICO MAGNETO MODEL 497

Part Number	Description
497-100	Magneto Rotor
497-101	Magneto Stator Plate Unit Complete
497-102	Magneto Stator Plate (Plate & Cores)
463-103	Breaker Cam

Part Number	Description
497-105	Magneto Complete (includes 497-100 and 497-101)
463-106	Fixed Contact Washer
463-111	Breaker Spring
463-113	Coil Group
463-114	Lead Wire Bushing
463-115	Condenser
497-118T	Lead Wire Group
497-118B	Lead Wire Group
463-119	Coil Wedge
462-122	Clamp Bushing
463-124	Cam Wiper Felt
463-125	Coil Terminal Protector
463-126	Friction Shoe Group
463-127	Breaker Contact Set
465-130	Top Lead Wire Marking Clip
461-645	Washer—Actuator Bracket Screw
497-4337	Magneto Limiter Cam
463-4600	Magneto Control Lever Handle
497-4618	Cam—Synchronous Control
483-4619	Spacer—Limiter Cam
493-4619	Spacer—Synchronous Control Cam
497-4624	Pivot—Latch
497-4625	Spacer—Latch
497-4626	Washer—Latch
497-4627	Spring—Latch
497-4628	Latch—Fuel Valve
497-4639	Magneto Control Lever
497-4640	Actuator Assembly
497-4642	Retainer—Fuel Latch
462-5811	Screw—Limiter Cam
497-5811	Screw—Magneto Control Lever
463-5822	Screw—Breaker Spring Clamp
463-5822	Screw—Condenser Clamp
463-5822	Screw—Fixed Contact Clamp
463-5822	Screw—Condenser Connection
463-5823	Screw—Core
464-5847	Screw—Latch
476-5849	Screw—Mag Control Handle
497-5891	Screw—Actuator Bracket
462-6700	Flywheel Nut
462-7200	Lockwasher—Flywheel Nut
462-7207	Lockwasher—Latch
462-7208	Lockwasher—Breaker Spring Clamp Screw
462-7208	Lockwasher—Condenser Clamp Screw
462-7208	Lockwasher—Fixed Contact Clamp Screw
462-7208	Lockwasher—Condenser Connection Screw
462-7209	Lockwasher—Actuator Bracket Screw
462-7211	Lockwasher—Limiter Cam and Magneto Control Screw
476-7225	Lockwasher—Magneto Control Handle Screw
480-7227	Lockwasher—Magneto Control Handle Screw

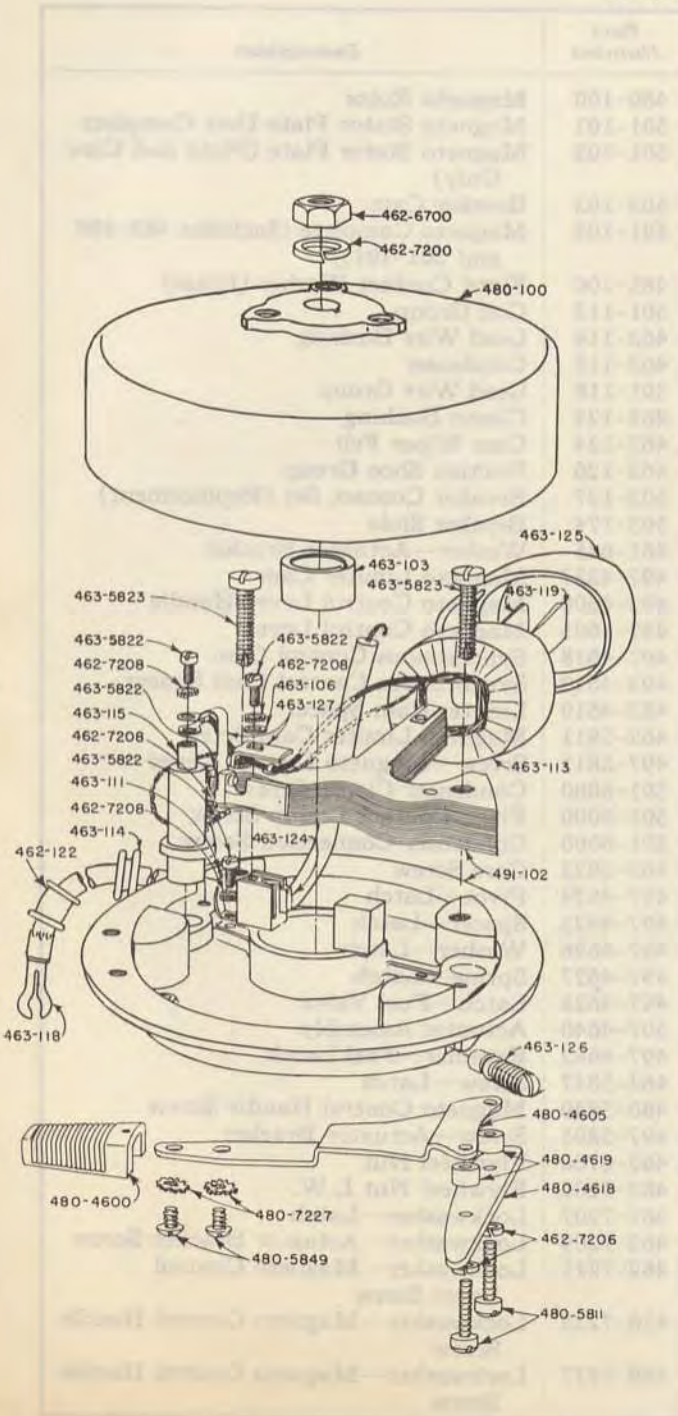


WICO MAGNETO MODEL 493



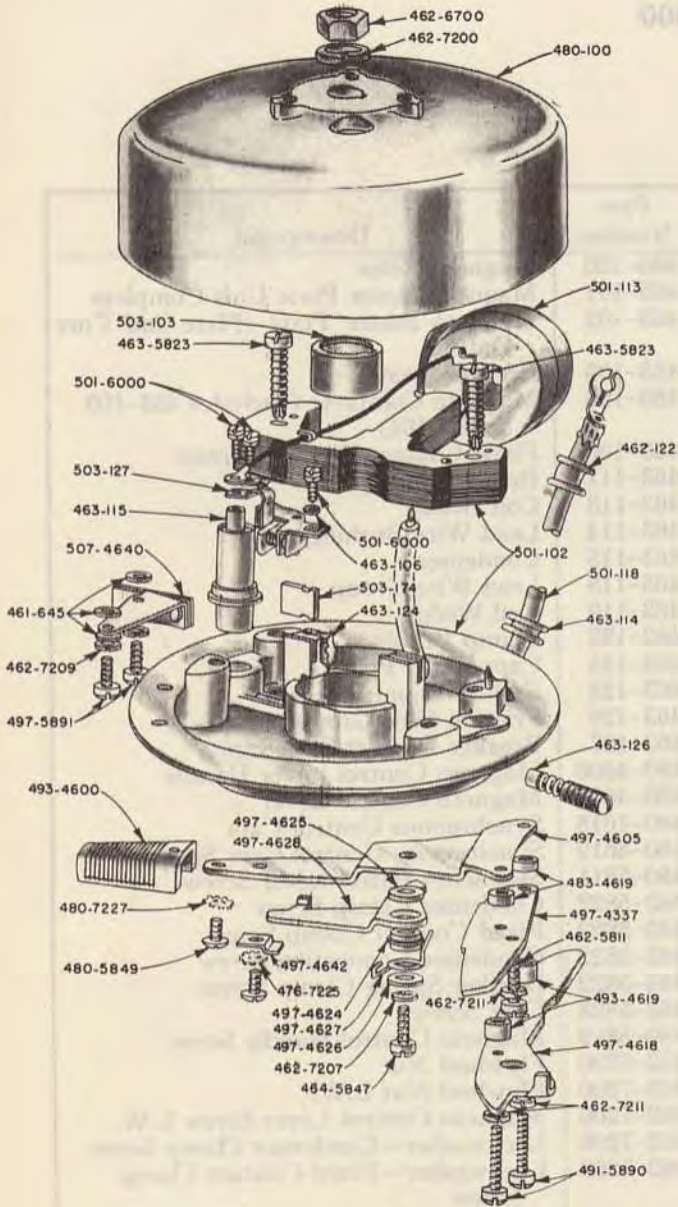
Part Number	Description
483-100	Magneto Rotor
493-101	Magneto Stator Plate Unit Complete
493-102	Magneto Stator Plate (Plate and Cores)
463-103	Breaker Cam
493-105	Magneto Complete (Includes 483-100 and 493-101)
463-106	Fixed Contact Washer (Brass)
463-111	Breaker Spring
463-113	Coil Group
463-114	Lead Wire Bushing
463-115	Condenser
465-118T	Lead Wire Group
465-118B	Lead Wire Group
463-119	Coil Wedge
462-122	Clamp Bushing
463-124	Cam Wiper Felt
463-125	Coil Terminal Protector
463-126	Friction Shoe Group
463-127	Breaker Contact Set (Replacement)
465-130	Top Lead Wire Marking Clip
493-4337	Magneto Limiter Cam
493-4600	Magneto Control Lever Handle
483-4605	Magneto Control Lever
493-4618	Synchronous Control Cam
493-4619	Synchronous Control Cam Spacer
483-4619	Limiter Cam Spacer
462-5811	Magneto Limiter Cam Screw
463-5822	Condenser Clamp Screw
463-5822	Fixed Contact Clamp Screw
463-5822	Condenser Connection Screw
463-5822	Breaker Spring Clamp Screw
463-5823	Core Screw
476-5823	Magneto Control Lever Screw
480-5849	Magneto Control Handle Screw
462-6700	Flywheel Nut
462-7200	Flywheel Nut L.W.
462-7208	Lockwasher—Condenser Clamp Screw
462-7208	Lockwasher—Fixed Contact Clamp Screw
462-7208	Lockwasher—Breaker Spring Clamp Screw
462-7208	Lockwasher—Condenser Connection Screw
462-7211	Lockwasher—Magneto Control Lever and Limiter Cam Screw
480-7227	Lockwasher—Magneto Control Handle Screw

WICO MAGNETO MODEL 500



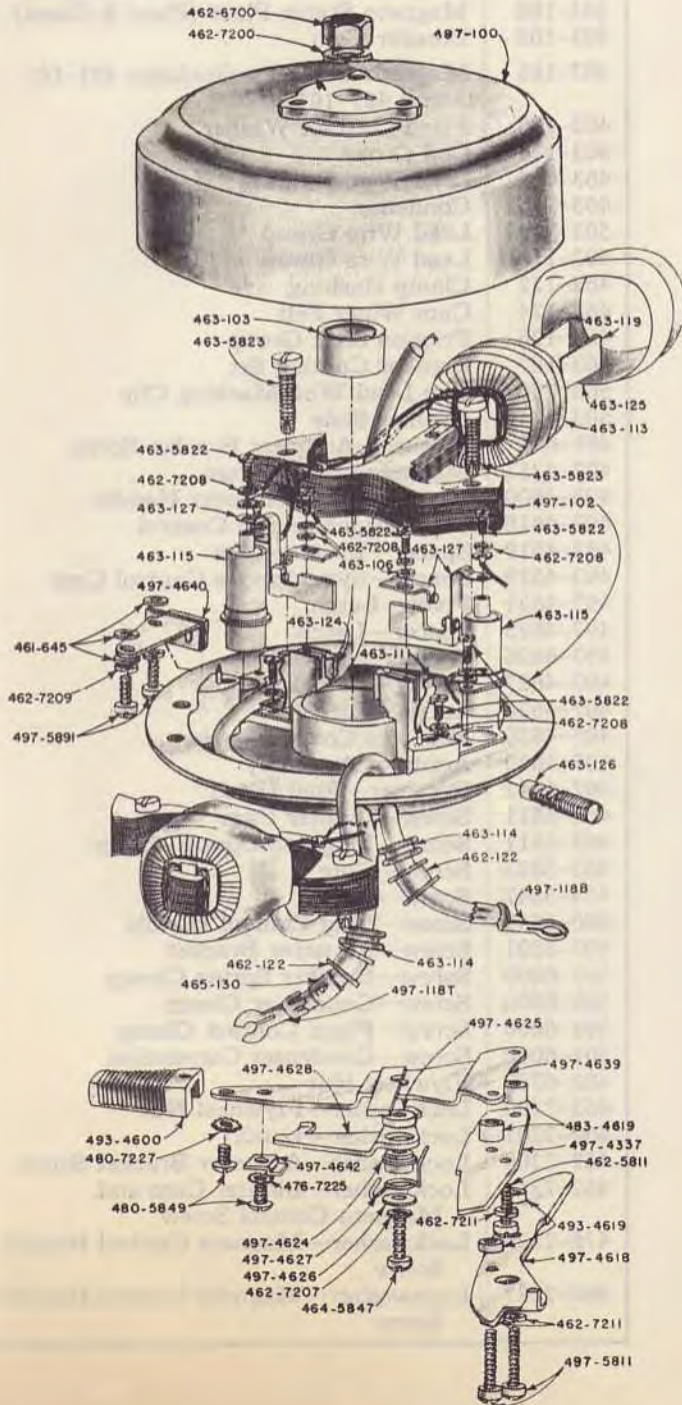
Part Number	Description
480-100	Magneto Rotor
463-101	Magneto Stator Plate Unit Complete
463-102	Magneto Stator Plate (Plate and Core Only)
463-103	Breaker Cam
480-105	Magneto Complete (Includes 463-100 & 463-101)
463-106	Fixed Contact Washer (Brass)
463-111	Breaker Spring
463-113	Coil Group
463-114	Lead Wire Bushing
463-115	Condenser
463-118	Lead Wire Group
463-119	Coil Wedge
462-122	Clamp Bushing
463-124	Cam Wiper Felt
463-125	Coil Terminal Protector
463-126	Friction Shoe Group
463-127	Breaker Contact Set (Repl.)
480-4600	Magneto Control Lever Handle
480-4605	Magneto Control Lever
480-4618	Synchronous Control Cam
480-4619	Synchronous Control Cam Spacer
480-5811	Magneto Control Lever Screw
463-5822	Condenser Clamp Screw
463-5822	Fixed Contact Clamp Screw
463-5822	Condenser Connection Screw
463-5822	Breaker Spring Clamp Screw
463-5823	Core Screw
480-5849	Magneto Control Handle Screw
462-6700	Flywheel Nut
462-7200	Flywheel Nut L.W.
462-7206	Magneto Control Lever Screw L.W.
462-7208	Lockwasher—Condenser Clamp Screw
462-7208	Lockwasher—Fixed Contact Clamp Screw
462-7208	Lockwasher—Breaker Spring Clamp Screw
462-7208	Lockwasher—Condenser Connection Screw
463-7219	Lockwasher—Core Screw
480-7227	Lockwasher—Magneto Control Handle Screw

WICO MAGNETO MODEL 501



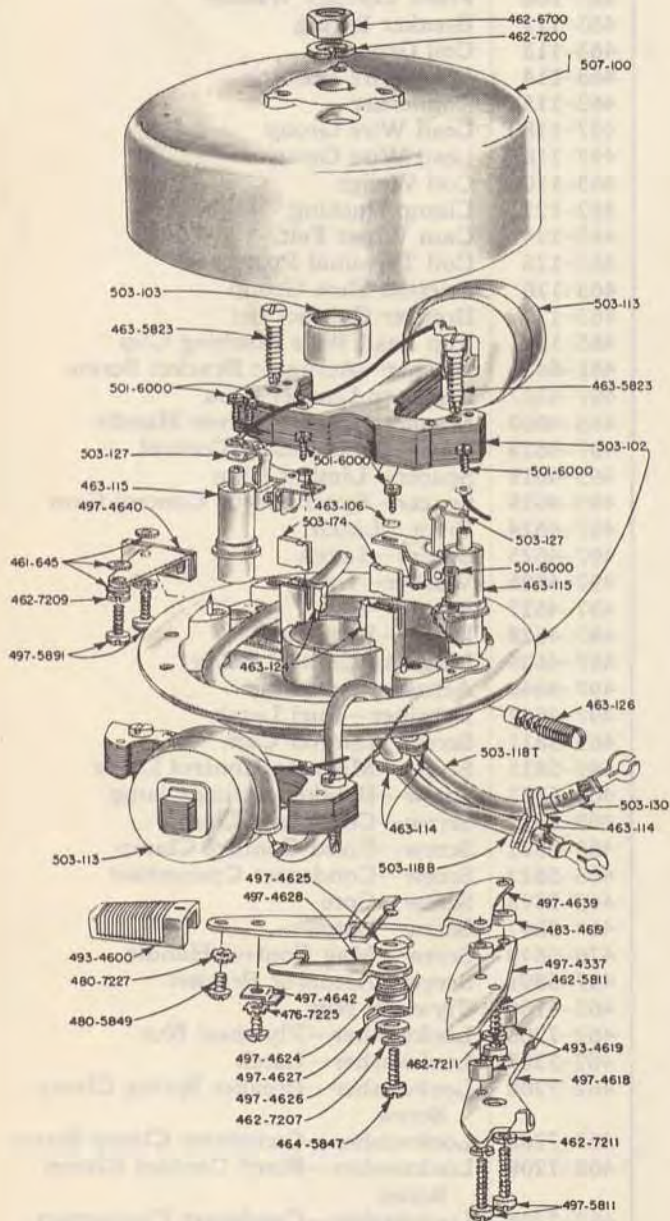
Part Number	Description
480-100	Magneto Rotor
501-101	Magneto Stator Plate Unit Complete
501-102	Magneto Stator Plate (Plate and Core Only)
503-103	Breaker Cam
501-105	Magneto Complete (Includes 480-100 and 501-101);
463-106	Fixed Contact Washer (Brass)
501-113	Coil Group
463-114	Lead Wire Bushing
463-115	Condenser
501-118	Lead Wire Group
462-122	Clamp Bushing
463-124	Cam Wiper Felt
463-126	Friction Shoe Group
503-127	Breaker Contact Set (Replacement)
503-174	Breaker Slide
461-645	Washer—Actuator Bracket
497-4337	Magneto Limiter Cam
493-4600	Magneto Control Lever Handle
497-4605	Magneto Control Lever
497-4618	Synchronous Control Cam
493-4619	Synchronous Control Cam Spacer
483-4619	Limiter Cam Spacer
462-5811	Magneto Limiter Cam Screw
497-5811	Screw—Magneto Control Lever
501-6000	Condenser Clamp Screw
501-6000	Fixed Contact Clamp Screw
501-6000	Condenser Connection Screw
463-5823	Core Screw
497-4624	Pivot—Latch
497-4625	Spacer—Latch
497-4626	Washer—Latch
497-4627	Spring—Latch
497-4628	Latch—Fuel Valve
507-4640	Actuator Assembly
497-4642	Retainer—Fuel Latch
464-5847	Screw—Latch
480-5849	Magneto Control Handle Screw
497-5891	Screw—Actuator Bracket
462-6700	Flywheel Nut
462-7200	Flywheel Nut L.W.
462-7207	Lockwasher—Latch
462-7209	Lockwasher—Actuator Bracket Screw
462-7211	Lockwasher—Magneto Control Lever Screw
476-7225	Lockwasher—Magneto Control Handle Screw
480-7227	Lockwasher—Magneto Control Handle Screw

**WICO MAGNETO
MODEL 507
(Early models)**



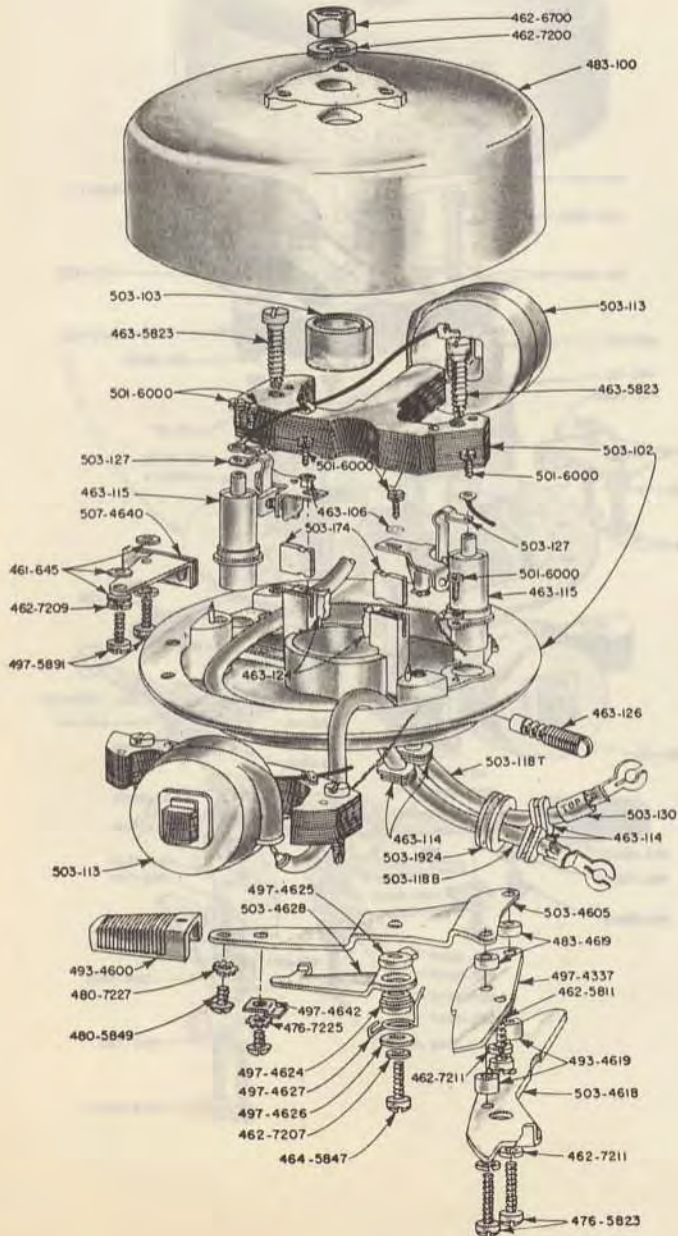
Part Number	Description
497-100	Magneto Rotor
497-101	Magneto Stator Plate Unit Complete
497-102	Magneto Stator Plate (Plate & Cores)
463-103	Breaker Cam
497-105	Magneto Complete (includes 497-100 and 497-101)
463-106	Fixed Contact Washer
463-111	Breaker Spring
463-113	Coil Group
463-114	Lead Wire Bushing
463-115	Condenser
497-118T	Lead Wire Group
497-118B	Lead Wire Group
463-119	Coil Wedge
462-122	Clamp Bushing
463-124	Cam Wiper Felt
463-125	Coil Terminal Protector
463-126	Friction Shoe Group
463-127	Breaker Contact Set
465-130	Top Lead Wire Marking Clip
461-645	Washer—Actuator Bracket Screw
497-4337	Magneto Limiter Cam
463-4600	Magneto Control Lever Handle
497-4618	Cam—Synchronous Control
483-4619	Spacer—Limiter Cam
493-4619	Spacer—Synchronous Control Cam
497-4624	Pivot—Latch
497-4625	Spacer—Latch
497-4626	Washer—Latch
497-4627	Spring—Latch
497-4628	Latch—Fuel Valve
497-4639	Magneto Control Lever
497-4640	Actuator Assembly
497-4642	Retainer—Fuel Latch
462-5811	Screw—Limiter Cam
497-5811	Screw—Magneto Control Lever
463-5822	Screw—Breaker Spring Clamp
463-5822	Screw—Condenser Clamp
463-5822	Screw—Fixed Contact Clamp
463-5822	Screw—Condenser Connection
463-5823	Screw—Core
464-5847	Screw—Latch
476-5849	Screw—Mag Control Handle
497-5891	Screw—Actuator Bracket
462-6700	Flywheel Nut
462-7200	Lockwasher—Flywheel Nut
462-7207	Lockwasher—Latch
462-7208	Lockwasher—Breaker Spring Clamp Screw
462-7208	Lockwasher—Condenser Clamp Screw
462-7208	Lockwasher—Fixed Contact Clamp Screw
462-7208	Lockwasher—Condenser Connection Screw
462-7209	Lockwasher—Actuator Bracket Screw
462-7211	Lockwasher—Limiter Cam and Magneto Control Screw
476-7225	Lockwasher—Magneto Control Handle Screw
480-7227	Lockwasher—Magneto Control Handle Screw

WICO MAGNETO MODEL 507



Part Number	Description
507-100	Magneto Rotor
503-101	Magneto Stator Plate Unit Complete
503-102	Magneto Stator Plate (Plate & Cores)
503-103	Breaker Cam
507-105	Magneto Complete (includes 497-100 and 497-101)
463-106	Fixed Contact Washer
503-113	Coil Group
463-114	Lead Wire Bushing
463-115	Condenser
503-118T	Lead Wire Group
503-118B	Lead Wire Group
462-122	Clamp Bushing
463-124	Cam Wiper Felt
463-126	Friction Shoe Group
503-127	Breaker Contact Set
503-130	Top Lead Wire Marking Clip
503-174	Breaker Slide
461-645	Washer—Actuator Bracket Screw
497-4337	Magneto Limiter Cam
493-4600	Magneto Control Lever Handle
497-4618	Cam—Synchronous Control
483-4619	Spacer—Limiter Cam
493-4619	Spacer—Synchronous Control Cam
497-4624	Pivot—Latch
497-4625	Spacer—Latch
497-4626	Washer—Latch
497-4627	Spring—Latch
497-4628	Latch—Fuel Valve
497-4639	Magneto Control Lever
497-4640	Actuator Assembly
497-4642	Retainer—Fuel Latch
462-5811	Screw—Limiter Cam
497-5811	Screw—Magneto Control Lever
463-5823	Screw—Core
464-5847	Screw—Latch
480-5849	Screw—Mag Control Handle
497-5891	Screw—Actuator Bracket
501-6000	Screw—Breaker Spring Clamp
501-6000	Screw—Condenser Clamp
501-6000	Screw—Fixed Contact Clamp
501-6000	Screw—Condenser Connection
462-6700	Flywheel Nut
462-7200	Lockwasher—Flywheel Nut
462-7207	Lockwasher—Latch
462-7209	Lockwasher—Actuator Bracket Screw
462-7211	Lockwasher—Limiter Cam and Magneto Control Screw
476-7225	Lockwasher—Magneto Control Handle Screw
480-7227	Lockwasher—Magneto Control Handle Screw

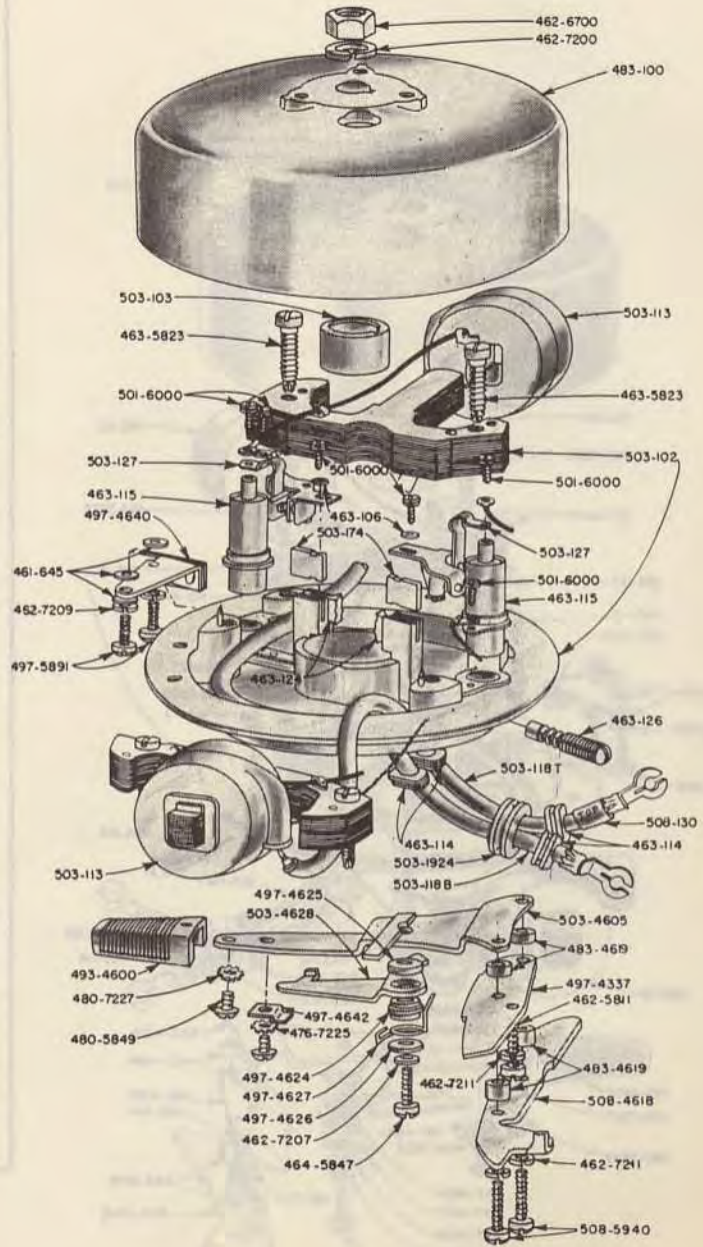
WICO MAGNETO MODEL 503



Part Number	Description
483-100	Magneto Rotor
503-101	Magneto Stator Plate Unit Complete
503-102	Magneto Stator Plate (Plate & Cores)
503-103	Breaker Cam
503-105	Magneto Complete (includes 483-100 and 503-101)
463-106	Fixed Contact Washer
503-113	Coil Group
463-114	Lead Wire Bushing
463-115	Condenser
503-118T	Lead Wire Group
503-118B	Lead Wire Groups
463-124	Cam Wiper Felt
463-126	Friction Shoe Group
503-127	Breaker Contact Set
503-130	Top Lead Wire Marking Clip
503-174	Breaker Slide
461-645	Washer—Actuator Bracket Screw
503-1924	Grommet—Gas Tank Bracket
497-4337	Magneto Limiter Cam
493-4600	Magneto Control Lever Handle
503-4605	Magneto Control Lever
503-4618	Cam—Synchronous Control
483-4619	Spacer—Limiter Cam
493-4619	Spacer—Synchronous Control Cam
497-4624	Pivot—Latch
497-4625	Spacer—Latch
497-4626	Washer—Latch
497-4627	Spring—Latch
503-4628	Latch—Fuel Valve
507-4640	Actuator Assembly
497-4642	Retainer—Fuel Latch
462-5811	Screw—Limiter Cam
501-6000	Screw—Breaker Spring Clamp
501-6000	Screw—Condenser Clamp
501-6000	Screw—Condenser Connection
463-5823	Screw—Core
476-5823	Screw—Magneto Control Lever
464-5847	Screw—Latch
480-5849	Screw—Mag. Control Handle
497-5891	Screw—Actuator Bracket
462-6700	Flywheel Nut
462-7200	Lockwasher—Flywheel Nut
462-7207	Lockwasher—Latch
462-7209	Lockwasher—Actuator Bracket Screw
462-7211	Lockwasher—Limiter Cam and Magneto Control Screw
476-7225	Lockwasher—Magneto Control Handle Screw
480-7227	Lockwasher—Magneto Control Handle Screw

WICO MAGNETO MODEL 518

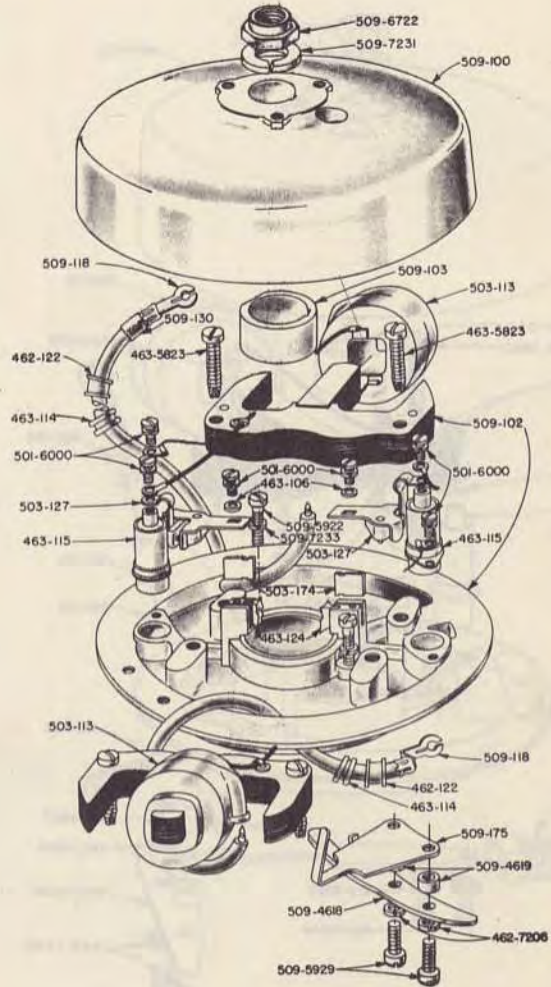
Part Number	Description
483-100	Magneto Rotor
503-101	Magneto Stator Plate Unit Complete
503-102	Magneto Stator Plate (Plate & Cores)
503-103	Breaker Cam
508-105	Magneto Complete (includes 483-100 and 503-101)
463-106	Fixed Contact Washer
503-113	Coil Group
463-114	Lead Wire Bushing
463-115	Condenser
503-118T	Lead Wire Group
503-118B	Lead Wire Groups
463-124	Cam Wiper Felt
463-126	Friction Shoe Group
503-127	Breaker Contact Set
508-130	Top Lead Wire Marking Clip
503-174	Breaker Slide
461-645	Washer—Actuator Bracket Screw
503-1924	Grommet—Gas Tank Bracket
497-4337	Magneto Limiter Cam
493-4600	Magneto Control Lever Handle
503-4605	Magneto Control Lever
508-4618	Cam—Synchronous Control
483-4619	Spacer—Limiter Cam
483-4619	Spacer—Synchronous Control Cam
497-4624	Pivot—Latch
497-4625	Spacer—Latch
497-4626	Washer—Latch
497-4627	Spring—Latch
503-4628	Latch—Fuel Valve
507-4640	Actuator Assembly
497-4642	Retainer—Fuel Latch
462-5811	Screw—Limiter Cam
463-4823	Screw—Core
464-5847	Screw—Latch
480-5849	Screw—Mag. Control Handle
497-5891	Screw—Actuator Bracket
508-5940	Screw—Magneto Control Lever
501-6000	Screw—Breaker Spring Clamp
501-6000	Screw—Condenser Clamp
501-6000	Screw—Condenser Connection
462-6700	Flywheel Nut
462-7200	Lockwasher—Flywheel Nut
462-7207	Lockwasher—Latch
462-7209	Lockwasher—Actuator Bracket Screw
462-7211	Lockwasher—Limiter Cam and Magneto Control Screw
476-7225	Lockwasher—Magneto Control Handle Screw
480-7227	Lockwasher—Magneto Control Handle Screw



WICO MAGNETO
510

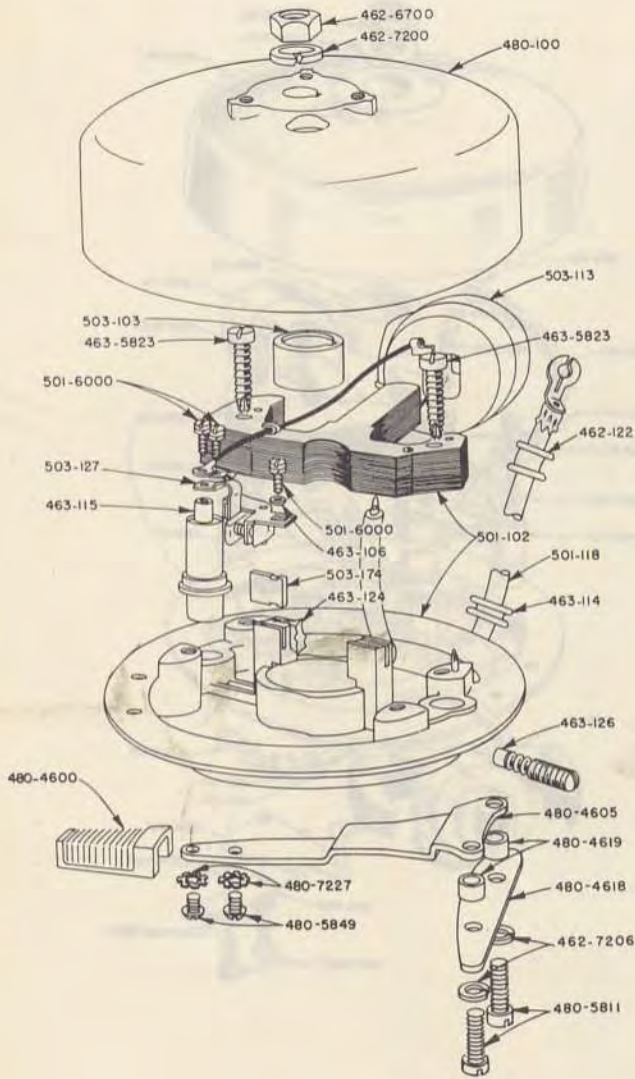
**WICO MAGNETO
MODEL 509**

Part Number	Description
509-100	Magneto Rotor
509-101	Magneto Stator Plate Unit Complete
509-102	Magneto Stator Plate (Plate & Cores)
509-103	Breaker Cam
509-105	Magneto Complete
463-106	Fixed Contact Washer
503-113	Coil Group
463-114	Lead Wire Bushing
463-115	Condenser
509-118	Lead Wire Group
462-122	Clamp Bushing
463-124	Cam Wiper Felt
503-127	Breaker Contact Set
509-130	Top Lead Wire Marking Band
503-174	Breaker Slide
509-175	Indicator—Stator Plate
509-4618	Synchronous Control Cam
509-4619	Spacer—Synchronous Control Cam
463-5823	Screw—Core
509-5922	Screw—Stator Plate Gear
509-5929	Screw—Indicator
501-6000	Screw—Fixed Contact Clamp
501-6000	Screw—Condenser Clamp
501-6000	Screw—Condenser Connection
509-6722	Nut—Flywheel
462-7206	Lockwasher—Indicator Screw
509-7231	Lockwasher—Flywheel Nut
509-7233	Lockwasher—Stator Plate Gear Screw



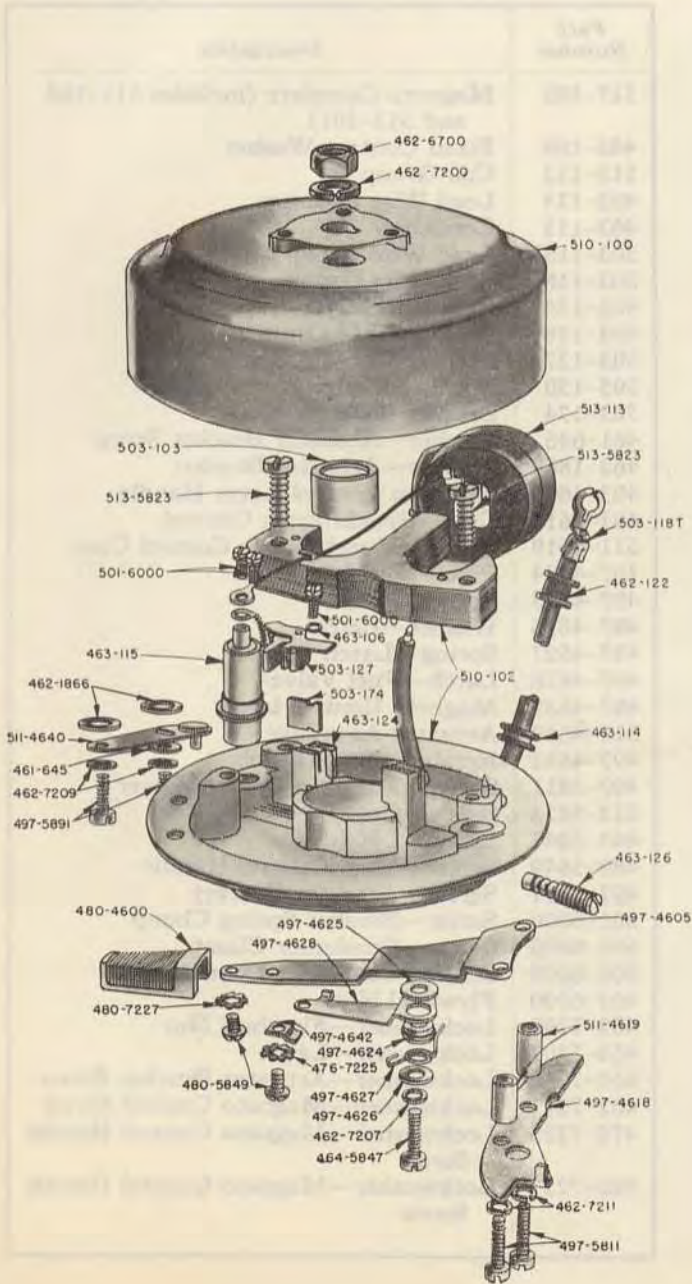
WICO MAGNETO 510

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Part Number	Description
480-100	Magneto Rotor
501-101	Magneto Stator Plate Unit Complete
501-102	Magneto Stator Plate (Plate and Core Only)
503-103	Breaker Cam
501-105	Magneto Complete (Includes 480-100 & 501-101)
463-106	Fixed Contact Washer (Brass)
503-113	Coil Group
463-114	Lead Wire Bushing
463-115	Condenser
501-118	Lead Wire Group
462-122	Clamp Bushing
463-124	Cam Wiper Felt
463-126	Friction Shoe Group
503-127	Breaker Contact Set (Repl.)
503-174	Breaker Slide
480-4600	Magneto Control Lever Handle
480-4605	Magneto Control Lever
480-4618	Synchronous Control Cam
480-4619	Synchronous Control Cam Spacer
480-5811	Magneto Control Lever Screw
501-6000	Condenser Clamp Screw
501-6000	Fixed Contact Clamp Screw
501-6000	Condenser Connection Screw
501-6000	Breaker Spring Clamp Screw
463-5823	Core Screw
480-5849	Magneto Control Handle Screw
462-6700	Flywheel Nut
462-7200	Flywheel Nut L.W.
462-7206	Magneto Control Lever Screw L.W.
480-7227	Lockwasher—Magneto Control Handle Screw

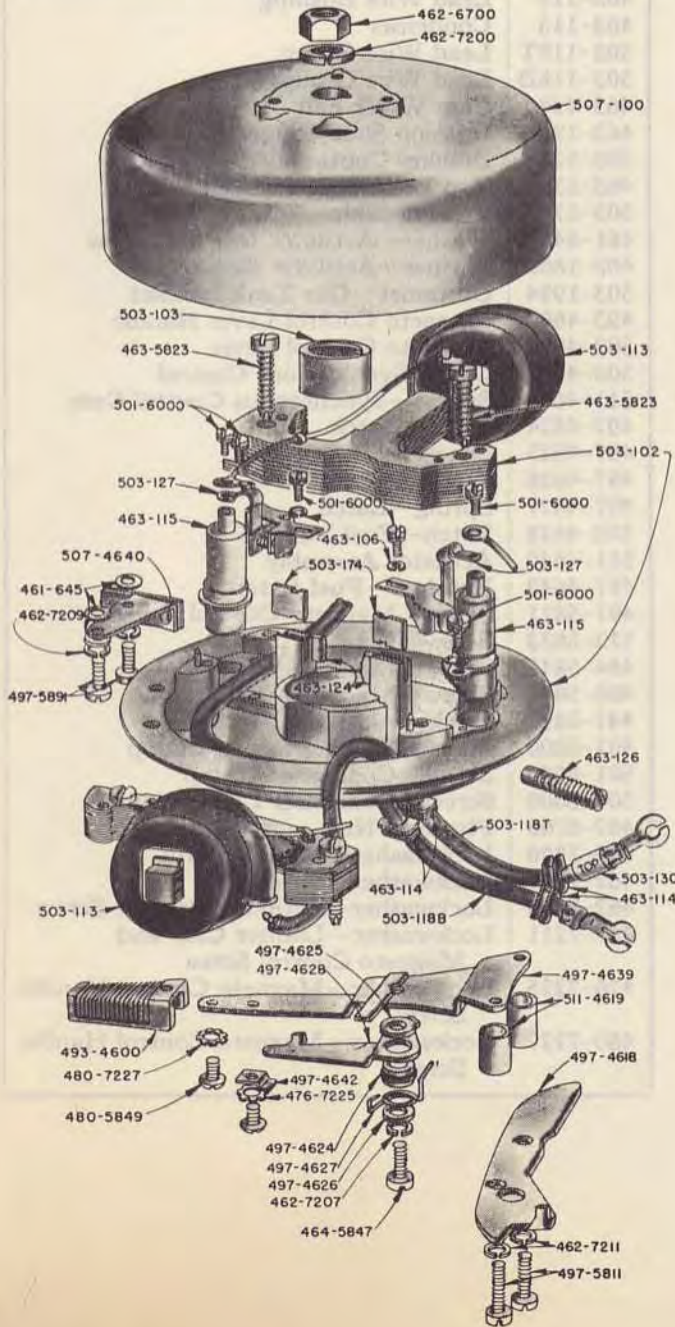
WICO MAGNETO 511



Part Number	Description
510-100	Magneto Rotor
510-101	Magneto Stator Plate Unit Complete
510-102	Magneto Stator Plate (Plate & Cores)
503-103	Breaker Cam
510-105	Magneto Complete (includes 510-100 and 510-101)
463-106	Fixed Contact Washer
513-113	Coil Group
463-114	Lead Wire Bushing
463-115	Condenser
503-118T	Lead Wire Group
462-122	Clamp Bushing
463-124	Cam Wiper Felt
463-126	Friction Shoe Group
503-127	Breaker Contact Set
503-174	Breaker Slide
461-645	Washer—Actuator Bracket Screw
462-1866	Washer—Actuator Bracket
480-4600	Magneto Control Lever Handle
497-4605	Magneto Control Lever
497-4618	Cam—Synchronous Control
511-4619	Spacer—Synchronous Control Cam
497-4624	Pivot—Latch
497-4625	Spacer—Latch
497-4626	Washer—Latch
497-4627	Spring—Latch
497-4628	Latch—Fuel Valve
511-4640	Actuator Assembly
497-4642	Retainer—Fuel Latch
497-5811	Screw—Magneto Control Lever
513-5823	Screw—Core
464-5847	Screw—Latch
480-5849	Screw—Mag. Control Handle
497-5891	Screw—Actuator Bracket
501-6000	Screw—Breaker Spring Clamp
501-6000	Screw—Condenser Clamp
501-6000	Screw—Condenser Connection
462-6700	Flywheel Nut
462-7200	Lockwasher—Flywheel Nut
462-7207	Lockwasher—Latch
462-7209	Lockwasher—Actuator Bracket Screw
462-7211	Lockwasher—Magneto Control Screw
476-7225	Lockwasher—Magneto Control Handle Screw
480-7227	Lockwasher—Magneto Control Handle Screw

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WICO MAGNETO
517
(Early Models)

Part Number	Description
507-100	Magneto Rotor
503-101	Magneto Stator Plate Unit Complete
503-102	Magneto Stator Plate (Plate & Cores)
503-103	Breaker Cam

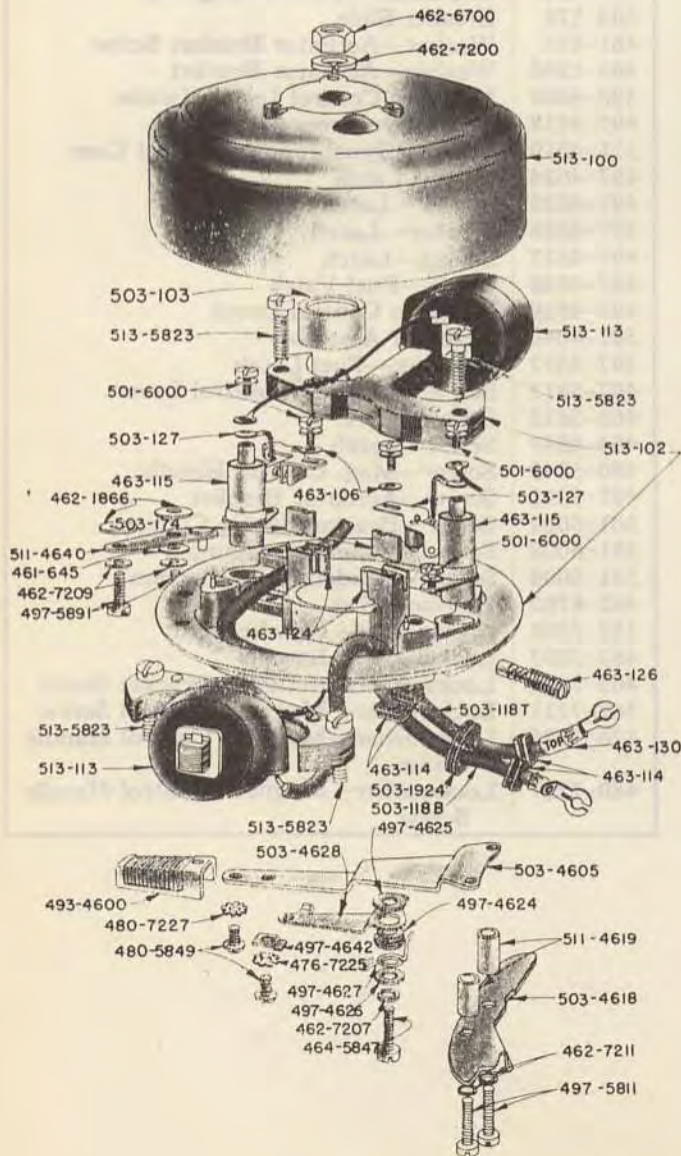


Part Number	Description
507-105	Magneto Complete (includes 507-100 and 503-101)
463-106	Fixed Contact Washer
503-113	Coil Group
463-114	Lead Wire Bushing
463-115	Condenser
503-118T	Lead Wire Group
503-118B	Lead Wire Group
463-124	Cam Wiper Felt
463-126	Friction Shoe Group
503-127	Breaker Contact Set
503-130	Top Lead Wire Marking Clip
503-174	Breaker Slide
461-645	Washer—Actuator Bracket Screw
462-1866	Washer—Actuator Bracket
493-4600	Magneto Control Lever Handle
497-4618	Cam—Synchronous Control
511-4619	Spacer—Synchronous Control Cam
497-4624	Pivot—Latch
497-4625	Spacer—Latch
497-4626	Washer—Latch
497-4627	Spring—Latch
497-4628	Latch—Fuel Valve
497-4639	Magneto Control Lever
507-4640	Actuator Assembly
497-4642	Retainer—Fuel Latch
497-5811	Screw—Magneto Control Lever
463-5823	Screw—Core
464-5847	Screw—Latch
480-5849	Screw—Mag. Control Handle
497-5891	Screw—Actuator Bracket
501-6000	Screw—Breaker Spring Clamp
501-6000	Screw—Condenser Clamp
501-6000	Screw—Condenser Connection
462-6700	Flywheel Nut
462-7200	Lockwasher—Flywheel Nut
462-7207	Lockwasher—Latch
462-7209	Lockwasher—Actuator Bracket Screw
462-7211	Lockwasher—Magneto Control Screw
476-7225	Lockwasher—Magneto Control Handle Screw
480-7227	Lockwasher—Magneto Control Handle Screw

WICO MAGNETO 513

(See next page for Magneto used on early models)

Part Number	Description
513-100	Magneto Rotor
513-101	Magneto Stator Plate Unit Complete
513-102	Magneto Stator Plate (Plate & Cores)
503-103	Breaker Cam

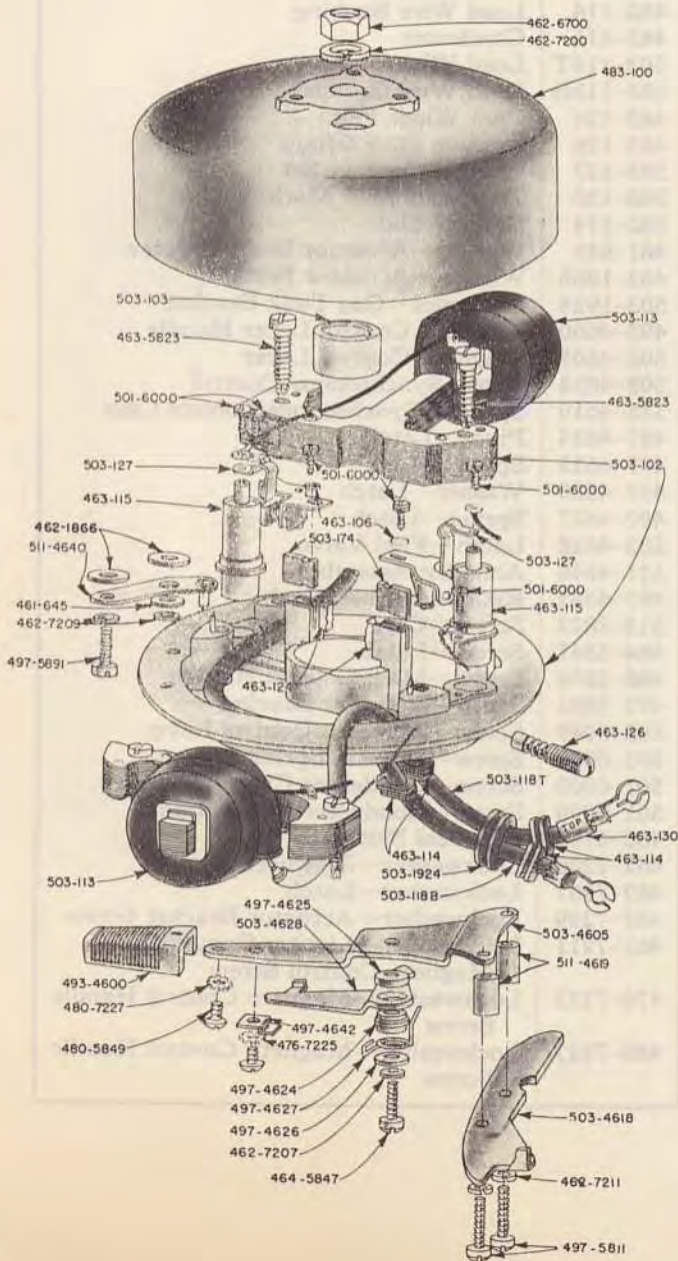


Part Number	Description
513-105	Magneto Complete (includes 513-100 and 513-101)
463-106	Fixed Contact Washer
513-113	Coil Group
463-114	Lead Wire Bushing
463-115	Condenser
503-118T	Lead Wire Group
503-118B	Lead Wire Groups
463-124	Cam Wiper Felt
463-126	Friction Shoe Group
503-127	Breaker Contact Set
463-130	Top Lead Wire Marking Clip
503-174	Breaker Slide
461-645	Washer—Actuator Bracket Screw
462-1866	Washer—Actuator Bracket
503-1924	Grommet—Gas Tank Bracket
493-4600	Magneto Control Lever Handle
503-4605	Magneto Control Lever
503-4618	Cam—Synchronous Control
511-4619	Spacer—Synchronous Control Cam
497-4624	Pivot—Latch
497-4625	Spacer—Latch
497-4626	Washer—Latch
497-4627	Spring—Latch
503-4628	Latch—Fuel Valve
511-4640	Actuator Assembly
497-4642	Retainer—Fuel Latch
497-5811	Screw—Magneto Control Lever
513-5823	Screw—Core
464-5847	Screw—Latch
480-5849	Screw—Mag. Control Handle
497-5891	Screw—Actuator Bracket
501-6000	Screw—Breaker Spring Clamp
501-6000	Screw—Condenser Clamp
501-6000	Screw—Condenser Connection
462-6700	Flywheel Nut
462-7200	Lockwasher—Flywheel Nut
462-7207	Lockwasher—Latch
462-7209	Lockwasher—Actuator Bracket Screw
462-7211	Lockwasher—Limiter Cam and Magneto Control Screw
476-7225	Lockwasher—Magneto Control Handle Screw
480-7227	Lockwasher—Magneto Control Handle Screw

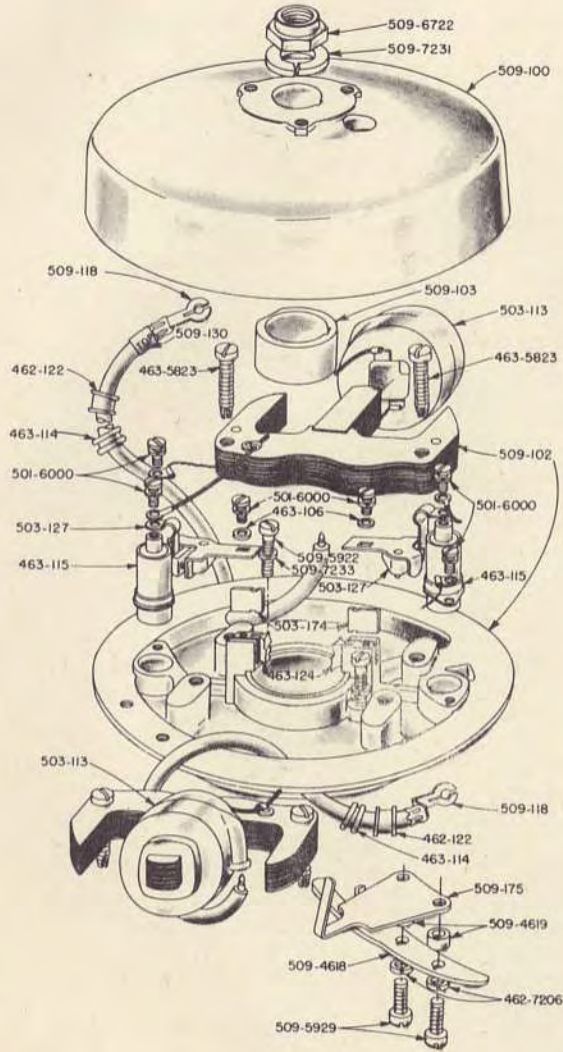
WICO MAGNETO 513 (Early Models)

Part Number	Description
483-100	Magneto Rotor
503-101	Magneto Stator Plate Unit Complete
503-102	Magneto Stator Plate (Plate & Cores)
503-103	Breaker Cam

Part Number	Description
503-105	Magneto Complete (includes 483-100 and 503-101)
463-106	Fixed Contact Washer
503-113	Coil Group
463-114	Lead Wire Bushing
463-115	Condenser
503-118T	Lead Wire Group
503-118B	Lead Wire Groups
463-124	Cam Wiper Felt
463-126	Friction Shoe Group
503-127	Breaker Contact Set
463-130	Top Lead Wire Marking Clip
503-174	Breaker Slide
461-645	Washer—Actuator Bracket Screw
462-1866	Washer—Actuator Bracket
503-1924	Grommet—Gas Tank Bracket
493-4600	Magneto Control Lever Handle
503-4605	Magneto Control Lever
503-4618	Cam—Synchronous Control
511-4619	Spacer—Synchronous Control Cam
497-4624	Pivot—Latch
497-4625	Spacer—Latch
497-4626	Washer—Latch
497-4627	Spring—Latch
503-4628	Latch—Fuel Valve
511-4640	Actuator Assembly
497-4642	Retainer—Fuel Latch
497-5811	Screw—Magneto Control Lever
463-5823	Screw—Core
464-5847	Screw—Latch
480-5849	Screw—Mag. Control Handle
497-5891	Screw—Actuator Bracket
501-6000	Screw—Breaker Spring Clamp
501-6000	Screw—Condenser Clamp
501-6000	Screw—Condenser Connection
462-6700	Flywheel Nut
462-7200	Lockwasher—Flywheel Nut
462-7207	Lockwasher—Latch
462-7209	Lockwasher—Actuator Bracket Screw
462-7211	Lockwasher—Limiter Cam and Magneto Control Screw
476-7225	Lockwasher—Magneto Control Handle Screw
480-7227	Lockwasher—Magneto Control Handle Screw



WICO MAGNETO 519



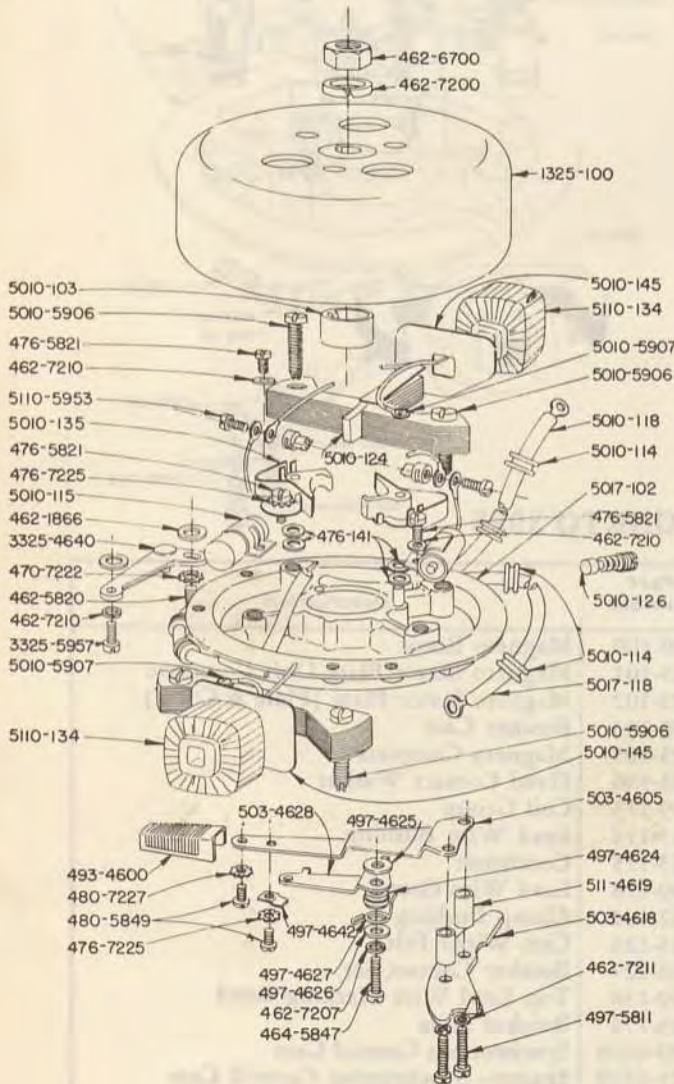
<i>Part Number</i>	<i>Description</i>
509-100	Magneto Rotor
509-101	Magneto Stator Plate Unit Complete
509-102	Magneto Stator Plate (Plate & Cores)
509-103	Breaker Cam
509-105	Magneto Complete
463-106	Fixed Contact Washer
503-113	Coil Group
463-114	Lead Wire Bushing
463-115	Condenser
509-118	Lead Wire Group
462-122	Clamp Bushing
463-124	Cam Wiper Felt
503-127	Breaker Contact Set
509-130	Top Lead Wire Marking Band
503-174	Breaker Slide
509-175	Indicator—Stator Plate
509-4618	Synchronous Control Cam
509-4619	Spacer—Synchronous Control Cam
463-5823	Screw—Core
509-5922	Screw—Stator Plate Gear
509-5929	Screw—Indicator
501-6000	Screw—Fixed Contact Clamp
501-6000	Screw—Condenser Clamp
501-6000	Screw—Condenser Connection
509-6722	Nut—Flywheel
462-7206	Lockwasher—Indicator Screw
509-7231	Lockwasher—Flywheel Nut
509-7233	Lockwasher—Stator Plate Gear Screw

MAGNETO 3725 - See Page P23

MAGNETO 3825 - See Page P27

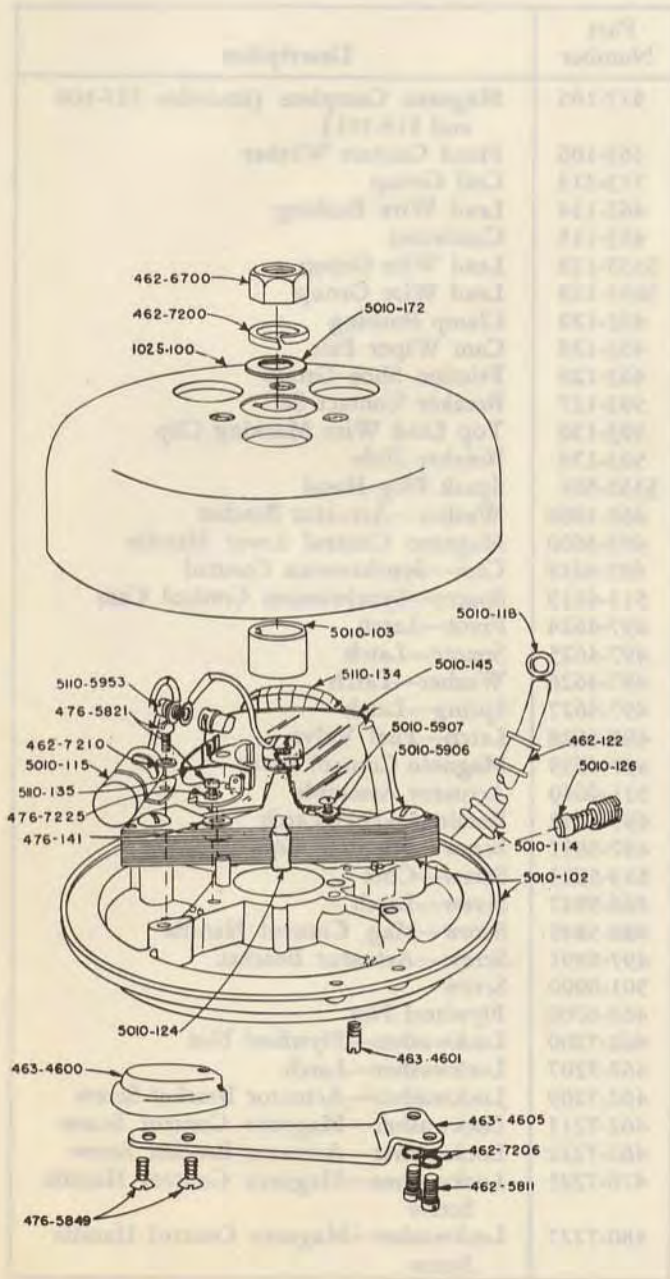
MAGNETO 3325

Part Number	Description
1325-100	Magneto Rotor
1325-101	Magneto Stator Plate Unit Complete
5017-102	Magneto Stator Plate (Plate & Cores)
5010-103	Breaker Cam



Part Number	Description
1325-105	Magneto Complete (includes 1325-100 and 1325-101)
5010-114	Lead Wire Grommet
5010-115	Condenser Group
5010-118	Lead Wire Group—Top
5017-118	Lead Wire Group—Bottom
5010-124	Cam Wiper Felt
5010-126	Friction Plug Assembly
5110-134	Coil
5110-135	Breaker Replacement Assembly
476-141	Breaker Arm Spring Washer
5010-145	Insulating Shield
462-1866	Washer—Actuator Bracket
493-4600	Magneto Control Lever Handle
503-4605	Magneto Control Lever
503-4618	Cam—Synchronous Control
511-4619	Spacer—Synchronous Control Cam
497-4624	Pivot—Latch
497-4625	Spacer—Latch
497-4626	Washer—Latch
497-4627	Spring—Latch
503-4628	Latch—Fuel Valve
3325-4640	Actuator Assembly
497-4642	Retainer—Fuel Latch
497-5811	Screw—Magneto Control Lever
462-5820	Screw—Actuator Bracket
476-5821	Fixed Contact and Condenser Screw
464-5847	Screw—Latch
480-5849	Screw—Mag. Control Handle
5010-5906	Core Screw
5010-5907	Ground Terminal Screw
5110-5953	Breaker Connection Screw
3325-5957	Screw—Actuator Bracket
462-6700	Flywheel Nut
462-7200	Lockwasher—Flywheel Nut
462-7207	Lockwasher—Latch
462-7210	Lock washer—Condenser—Actuator Bracket Screw
462-7211	Lockwasher—Magneto Control Screw
467-7222	Lockwasher—Actuator Bracket Screw
476-7225	Lockwasher—Magneto Control Handle Fixed Hold Down Screw
480-7227	Lockwasher—Magneto Control Handle Screw

MAGNETO 3035

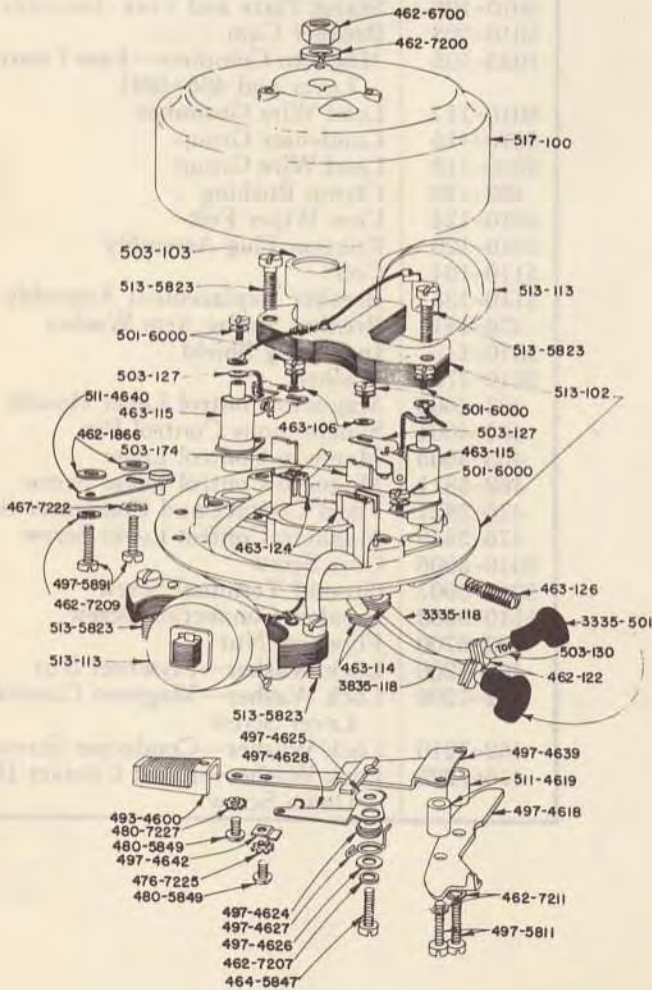


Part Number	Description
1025-100	Flywheel
5110-101	Stator Plate Assembly—Complete
5010-102	Stator Plate and Core Assembly
5010-103	Breaker Cam
1025-105	Magneto Complete—Less Control Lever and 465-4601
5010-114	Lead Wire Grommet
5010-115	Condenser Group
5010-118	Lead Wire Group
462-122	Clamp Bushing
5010-124	Cam Wiper Felt
5010-126	Friction Plug Assembly
5110-134	Coil
5110-135	Breaker Replacement Assembly
476-141	Breaker Spring Arm Washer
5010-145	Insulating Shield
5010-172	Washer
463-4600	Magneto Control Lever Handle
463-4601	Synchronous Control Pin
463-4605	Magneto Control Lever
462-5811	Magneto Control Lever Screw
476-5821	Fixed Contact and Condenser Screw
476-5849	Magneto Control Lever Screw
5010-5906	Core Screw
5010-5907	Ground Terminal Screw
5110-5953	Breaker Connection Screw
462-6700	Flywheel Nut
462-7200	Lock Washer—Flywheel Nut
462-7206	Lock Washer—Magneto Control Lever Screw
462-7210	Lock Washer—Condenser Screw
476-7225	Lock Washer—Fixed Contact Hold Down Screw

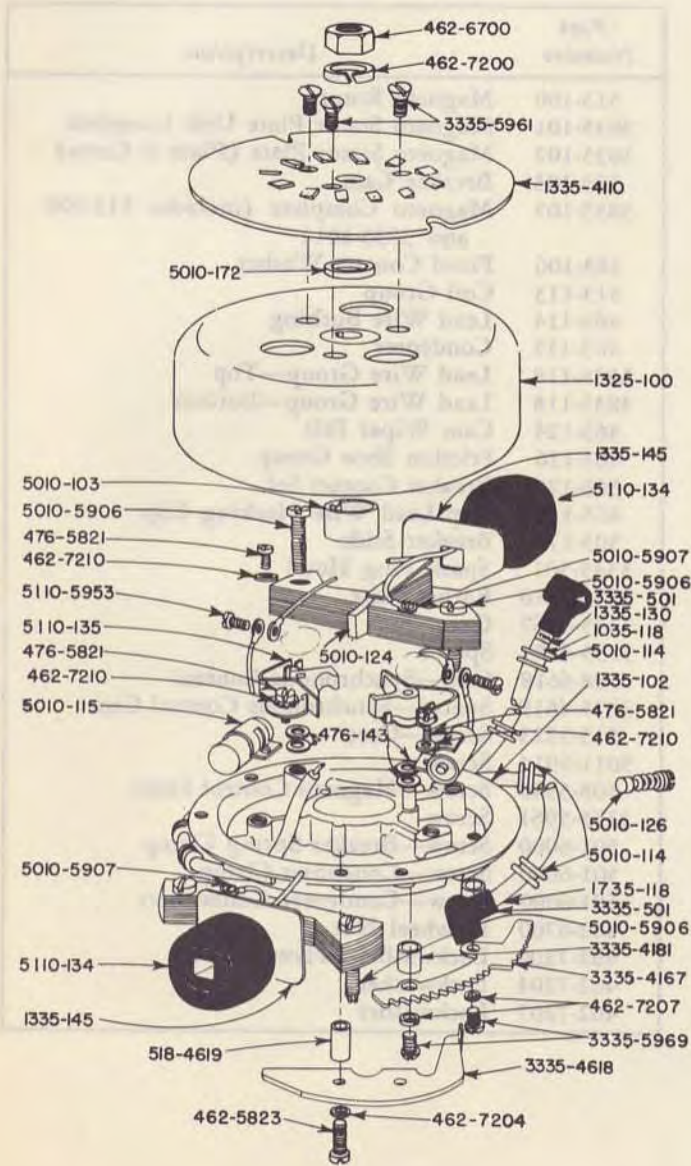
MAGNETO 3735

Part Number	Description
517-100	Magneto Rotor
513-101	Magneto Stator Plate Unit Complete
513-102	Magneto Stator Plate (Plate & Cores)
503-103	Breaker Cam

Part Number	Description
517-105	Magneto Complete (includes 517-100 and 513-101)
463-106	Fixed Contact Washer
513-113	Coil Group
463-114	Lead Wire Bushing
463-115	Condenser
3335-118	Lead Wire Group
3835-118	Lead Wire Group
462-122	Clamp Bushing
463-124	Cam Wiper Felt
463-126	Friction Shoe Group
503-127	Breaker Contact Set
503-130	Top Lead Wire Marking Clip
503-174	Breaker Slide
3335-501	Spark Plug Hood
462-1866	Washer—Actuator Bracket
493-4600	Magneto Control Lever Handle
497-4618	Cam—Synchronous Control
511-4619	Spacer—Synchronous Control Cam
497-4624	Pivot—Latch
497-4625	Spacer—Latch
497-4626	Washer—Latch
497-4627	Spring—Latch
497-4628	Latch—Fuel Valve
497-4639	Magneto Control Lever
511-4640	Actuator Assembly
497-4642	Retainer—Fuel Latch
497-5811	Screw—Magneto Control Lever
513-5823	Screw—Core
464-5847	Screw—Latch
480-5849	Screw—Mag. Control Handle
497-5891	Screw—Actuator Bracket
501-6000	Screw
462-6700	Flywheel Nut
462-7200	Lockwasher—Flywheel Nut
462-7207	Lockwasher—Latch
462-7209	Lockwasher—Actuator Bracket Screw
462-7211	Lockwasher—Magneto Control Screw
462-7222	Lockwasher—Actuator Bracket Screw
476-7225	Lockwasher—Magneto Control Handle Screw
480-7227	Lockwasher—Magneto Control Handle Screw

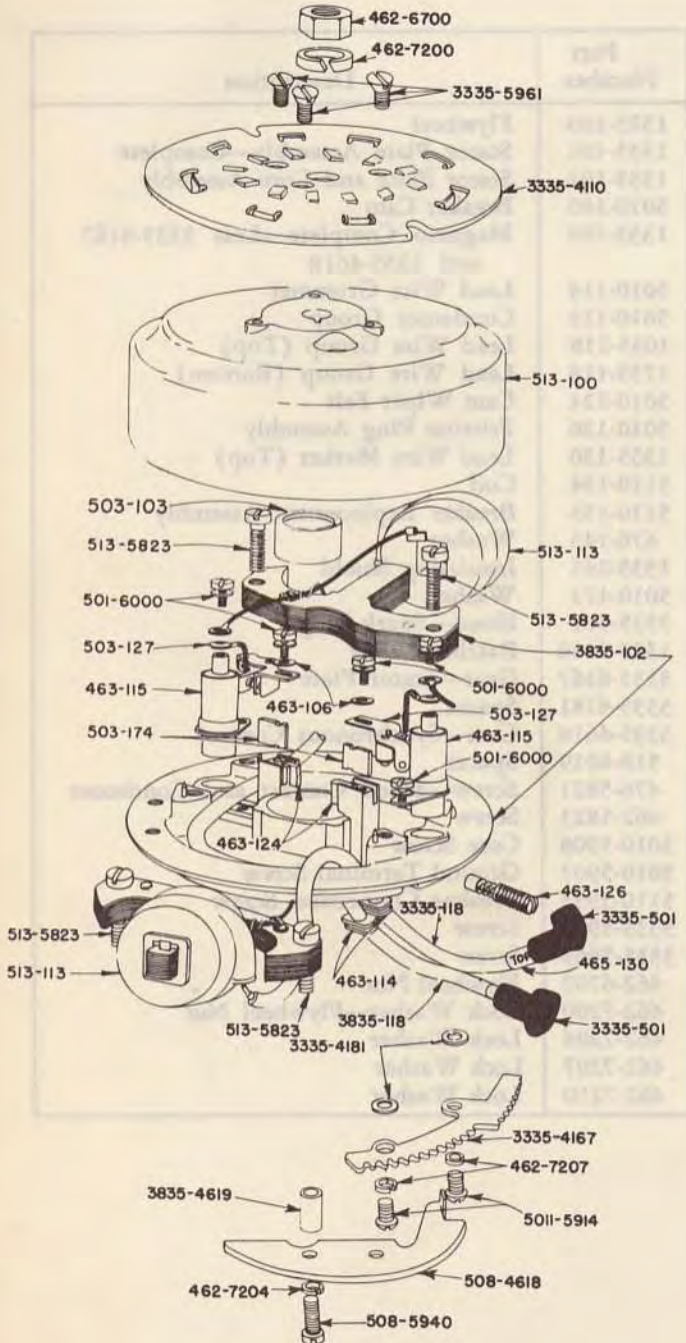


MAGNETO 3335



Part Number	Description
1325-100	Flywheel
1335-101	Stator Plate Assembly—Complete
1335-102	Stator Plate and Core Assembly
5010-103	Breaker Cam
1335-105	Magneto Complete—Less 3335-4167 and 3335-4618
5010-114	Lead Wire Grommet
5010-115	Condenser Group
1035-118	Lead Wire Group (Top)
1735-118	Lead Wire Group (Bottom)
5010-124	Cam Wiper Felt
5010-126	Friction Plug Assembly
1335-130	Lead Wire Marker (Top)
5110-134	Coil
5110-135	Breaker Replacement Assembly
476-143	Washer
1335-145	Insulating Shield
5010-172	Washer
3335-501	Hood—Spark Plug
1335-4110	Ratchet Pulley
3335-4167	Gear—Stator Plate
3335-4181	Spacer
3335-4618	Cam—Synchronous Control
518-4619	Spacer
476-5821	Screw—Fixed Contact and Condenser
462-5823	Screw
5010-5906	Core Screw
5010-5907	Ground Terminal Screw
5110-5953	Breaker Connection Screw
3335-5961	Screw
3335-5969	Screw
462-6700	Flywheel Nut
462-7200	Lock Washer—Flywheel Nut
462-7204	Lock Washer
462-7207	Lock Washer
462-7210	Lock Washer

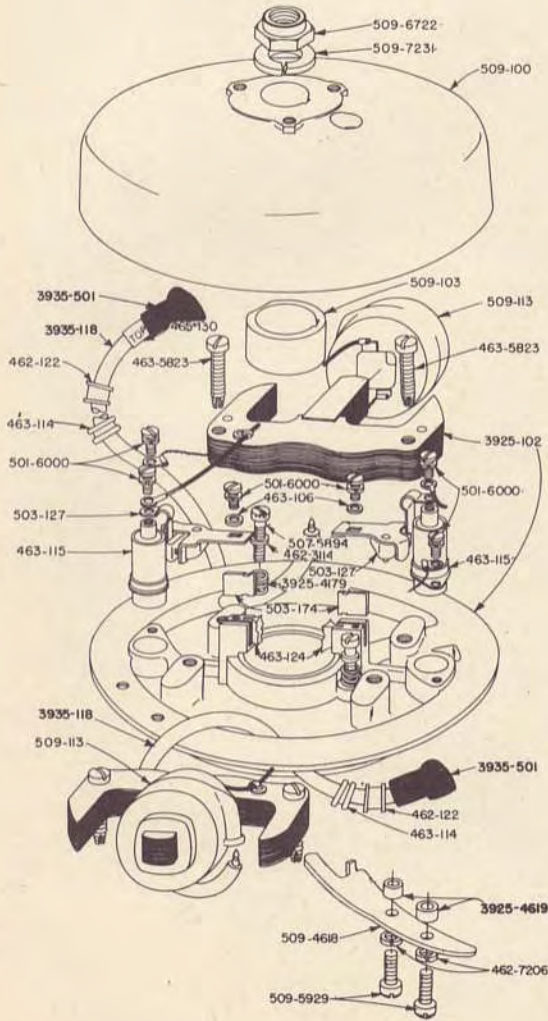
MAGNETO 3835



Part Number	Description
513-100	Magneto Rotor
3835-101	Magneto Stator Plate Unit Complete
3835-102	Magneto Stator Plate (Plate & Cores)
503-103	Breaker Cam
3835-105	Magneto Complete (includes 513-100 and 3835-101)
463-106	Fixed Contact Washer
513-113	Coil Group
463-114	Lead Wire Bushing
463-115	Condenser
3335-118	Lead Wire Group—Top
3835-118	Lead Wire Group—Bottom
463-124	Cam Wiper Felt
463-126	Friction Shoe Group
503-127	Breaker Contact Set
465-130	Top Lead Wire Marking Clip
503-174	Breaker Slide
3335-501	Spark Plug Hood
3335-4110	Ratchet Plate
3335-4167	Gear
3335-4181	Spacer
508-4618	Cam—Synchronous Control
3835-4619	Spacer—Synchronous Control Cam
513-5823	Screw—Core
5011-5914	Screw
508-5940	Screw—Magneto Control Lever
3335-5961	Screw
501-6000	Screw—Breaker Spring Clamp
501-6000	Screw—Condenser Clamp
501-6000	Screw—Condenser Connection
462-6700	Flywheel Nut
462-7200	Lockwasher—Flywheel Nut
462-7204	Lockwasher
462-7207	Lockwasher

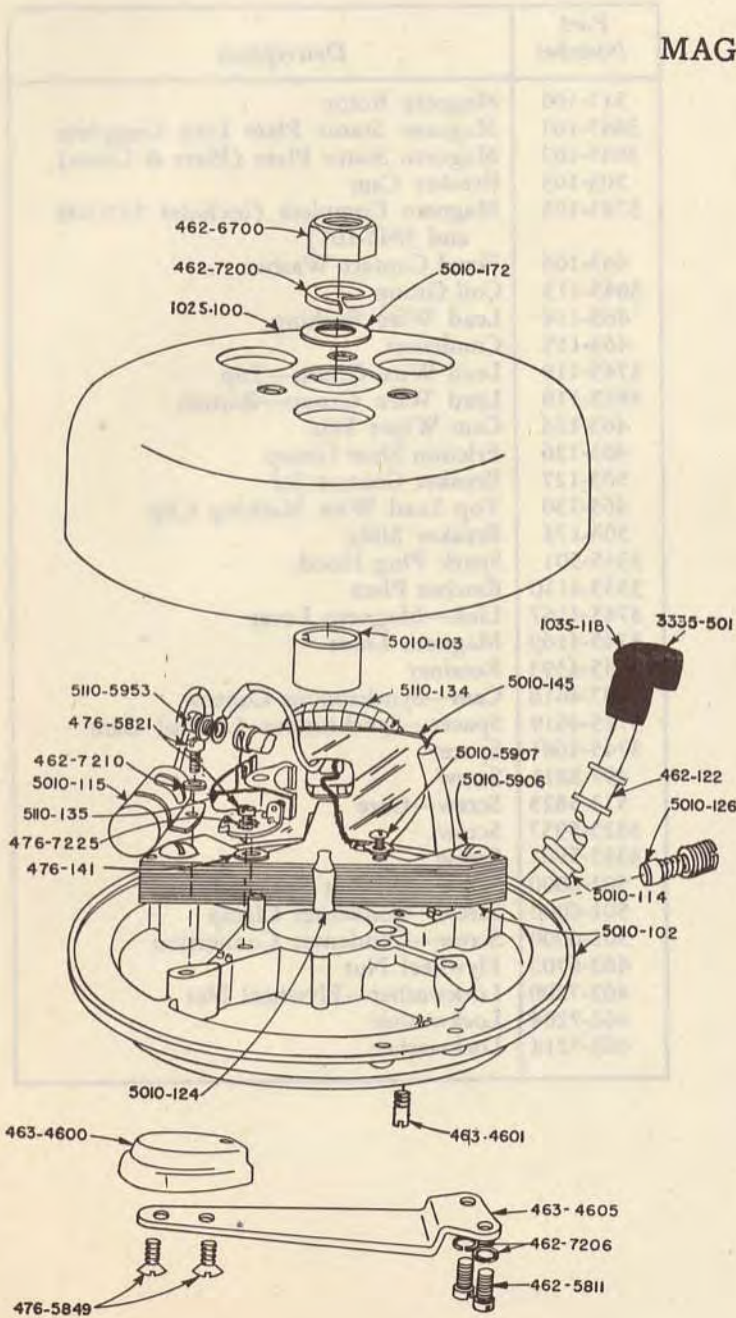
EARLY MODELS SAME AS 3925

MAGNETO A3935



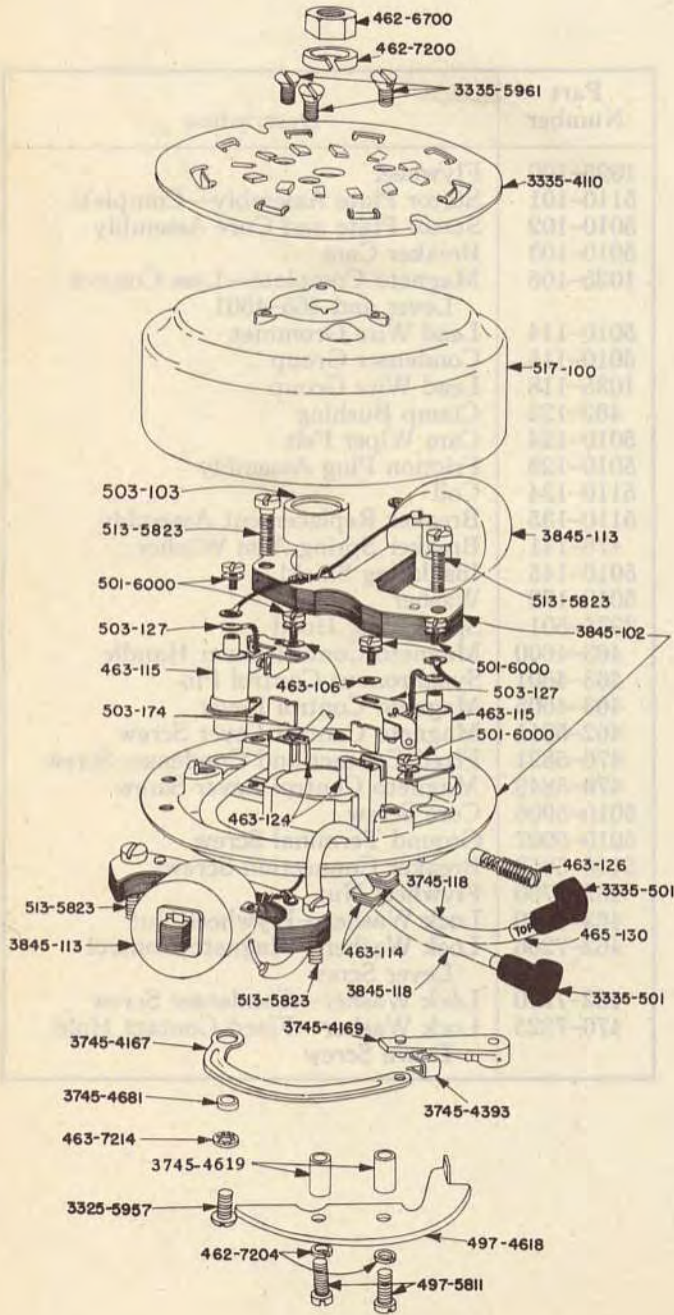
Part Number	Description
509-100	Magneto Rotor
3925-101	Magneto Stator Plate Unit Complete
3925-102	Magneto Stator Plate (Plate & Cores)
509-103	Breaker Cam
3925-105	Magneto Complete
463-106	Fixed Contact Washer
509-113	Coil Group
463-114	Lead Wire Bushing
463-115	Condenser
3935-118	Lead Wire Group
462-122	Clamp Bushing
463-124	Cam Wiper Felt
503-127	Breaker Contact Set
465-130	Top Lead Wire Marking Band
503-174	Breaker Slide
3935-501	Spark Plug Hood
462-3114	Washer—Stator Plate Gear Screw
3925-4179	Spring
509-4618	Synchronous Control Cam
3925-4619	Spacer—Synchronous Control Cam
463-5823	Screw—Core
507-5894	Screw—Stator Plate Gear
509-5929	Screw
501-6000	Screw—Fixed Contact Clamp
501-6000	Screw—Condenser Clamp
501-6000	Screw—Condenser Connection
509-6722	Nut Flywheel
462-7206	Lockwasher
509-7231	Lockwasher—Flywheel Nut

MAGNETO - 3045



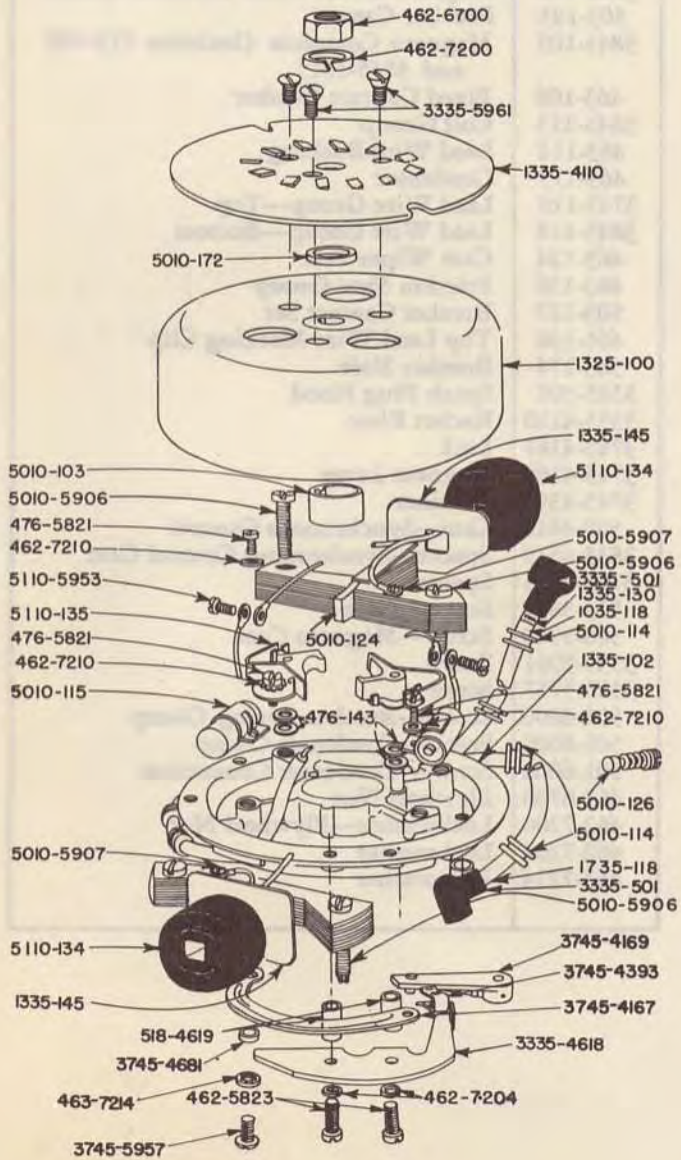
Part Number	Description
1025-100	Flywheel
5110-101	Stator Plate Assembly—Complete
5010-102	Stator Plate and Core Assembly
5010-103	Breaker Cam
1025-105	Magneto Complete—Less Control Lever and 465-4601
5010-114	Lead Wire Grommet
5010-115	Condenser Group
1035-118	Lead Wire Group
462-122	Clamp Bushing
5010-124	Cam Wiper Felt
5010-126	Friction Plug Assembly
5110-134	Coil
5110-135	Breaker Replacement Assembly
476-141	Breaker Spring Arm Washer
5010-145	Insulating Shield
5010-172	Washer
3335-501	Spark Plug Hood
463-4600	Magneto Control Lever Handle
463-4601	Synchronous Control Pin
463-4605	Magneto Control Lever
462-5811	Magneto Control Lever Screw
476-5821	Fixed Contact and Condenser Screw
476-5849	Magneto Control Lever Screw
5010-5906	Core Screw
5010-5907	Ground Terminal Screw
5110-5953	Breaker Connection Screw
462-6700	Flywheel Nut
462-7200	Lock Washer—Flywheel Nut
462-7206	Lock Washer—Magneto Control Lever Screw
462-7210	Lock Washer—Condenser Screw
476-7225	Lock Washer—Fixed Contact Hold Down Screw

MAGNETO - 3745



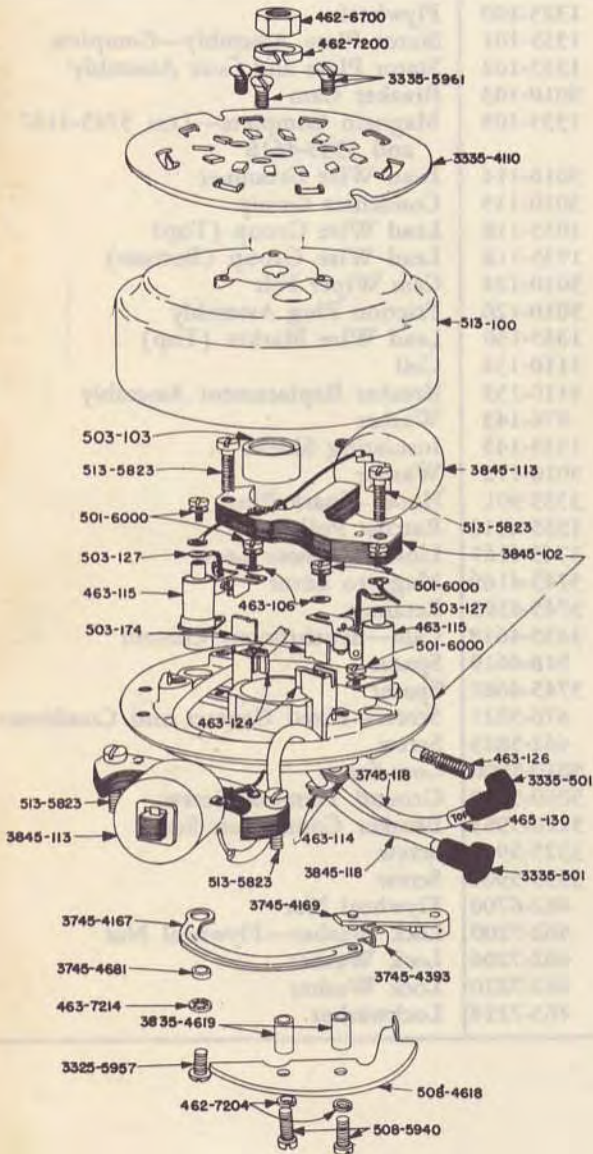
Part Number	Description
517-100	Magneto Rotor
3845-101	Magneto Stator Plate Unit Complete
3845-102	Magneto Stator Plate (Plate & Cores)
503-103	Breaker Cam
3745-105	Magneto Complete (includes 517-100 and 3845-101)
463-106	Fixed Contact Washer
3845-113	Coil Group
463-114	Lead Wire Bushing
463-115	Condenser
3745-118	Lead Wire Group—Top
3845-118	Lead Wire Group—Bottom
463-124	Cam Wiper Felt
463-126	Friction Shoe Group
503-127	Breaker Contact Set
465-130	Top Lead Wire Marking Clip
503-174	Breaker Slide
3335-501	Spark Plug Hood
3335-4110	Ratchet Plate
3745-4167	Link—Magneto Lever
3745-4169	Magneto Lever
3745-4393	Retainer
497-4618	Cam—Synchronous Control
3745-4619	Spacer—Synchronous Control Cam
3745-4681	Spacer
497-5811	Screw
513-5823	Screw—Core
3325-5957	Screw
3335-5961	Screw
501-6000	Screw—Breaker Spring Clamp
501-6000	Screw—Condenser Clamp
501-6000	Screw—Condenser Connection
462-6700	Flywheel Nut
462-7200	Lockwasher—Flywheel Nut
462-7204	Lockwasher
463-7214	Lockwasher

MAGNETO - 3345



Part Number	Description
1325-100	Flywheel
1335-101	Stator Plate Assembly—Complete
1335-102	Stator Plate and Core Assembly
5010-103	Breaker Cam
1335-105	Magneto Complete—Less 3745-4167 and 3335-4618
5010-114	Lead Wire Grommet
5010-115	Condenser Group
1035-118	Lead Wire Group (Top)
1735-118	Lead Wire Group (Bottom)
5010-124	Cam Wiper Felt
5010-126	Friction Plug Assembly
1335-130	Lead Wire Marker (Top)
5110-134	Coil
5110-135	Breaker Replacement Assembly
476-143	Washer
1335-145	Insulating Shield
5010-172	Washer
3335-501	Hood—Spark Plug
1335-4110	Ratchet Pulley
3745-4167	Link—Magneto Lever
3745-4169	Magneto Lever
3745-4393	Retainer
3335-4618	Cam—Synchronous Control
518-4619	Spacer
3745-4681	Spacer
476-5821	Screw—Fixed Contact and Condenser
462-5823	Screw
5010-5906	Core Screw
5010-5907	Ground Terminal Screw
5110-5953	Breaker Connection Screw
3325-5957	Screw
3335-5961	Screw
462-6700	Flywheel Nut
462-7200	Lock Washer—Flywheel Nut
462-7204	Lock Washer
462-7210	Lock Washer
463-7214	Lockwasher

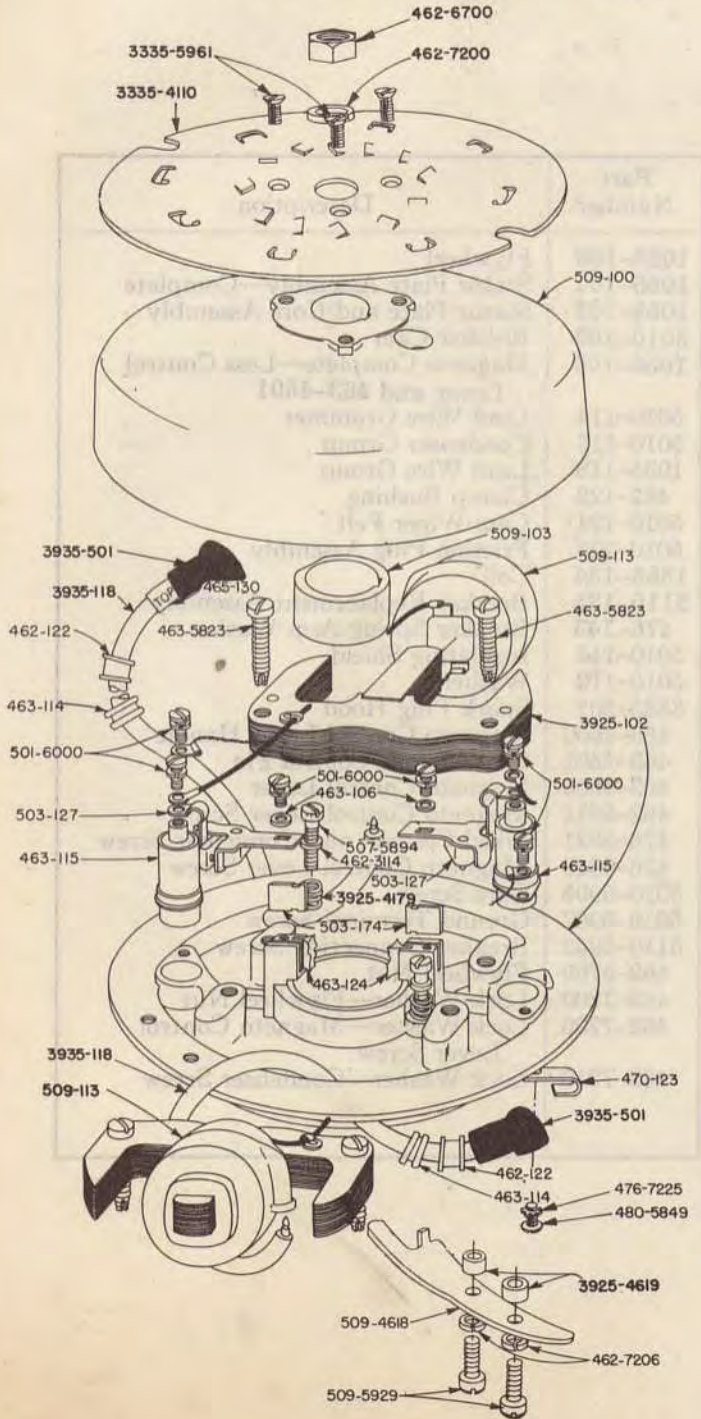
MAGNETO - 3845



Part Number	Description
513-100	Magneto Rotor
3845-101	Magneto Stator Plate Unit Complete
3845-102	Magneto Stator Plate (Plate & Cores)
503-103	Breaker Cams
3845-105	Magneto Complete (includes 513-100 and 3845-101)
463-106	Fixed Contact Washer
3845-113	Coil Group
463-114	Lead Wire Bushing
463-115	Condenser
3745-118	Lead Wire Group—Top
3845-118	Lead Wire Group—Bottom
463-124	Cam Wiper Felt
463-126	Friction Shoe Group
503-127	Breaker Contact Set
465-130	Top Lead Wire Marking Clip
503-174	Breaker Slide
3335-501	Spark Plug Hood
3335-4110	Ratchet Plate
3745-4167	Link
3745-4169	Magneto Lever
3745-4393	Retainer
508-4618	Cam—Synchronous Control
3835-4619	Spacer—Synchronous Control Cam
3745-4681	Spacer
513-5823	Screw—Core
508-5940	Screw—Magneto Cam
3335-5961	Screw
3325-5957	Screw
501-6000	Screw—Breaker Spring Clamp
501-6000	Screw—Condenser Clamp
501-6000	Screw—Condenser Connection
462-6700	Flywheel Nut
462-7200	Lockwasher—Flywheel Nut
462-7204	Lockwasher
463-7214	Lockwasher

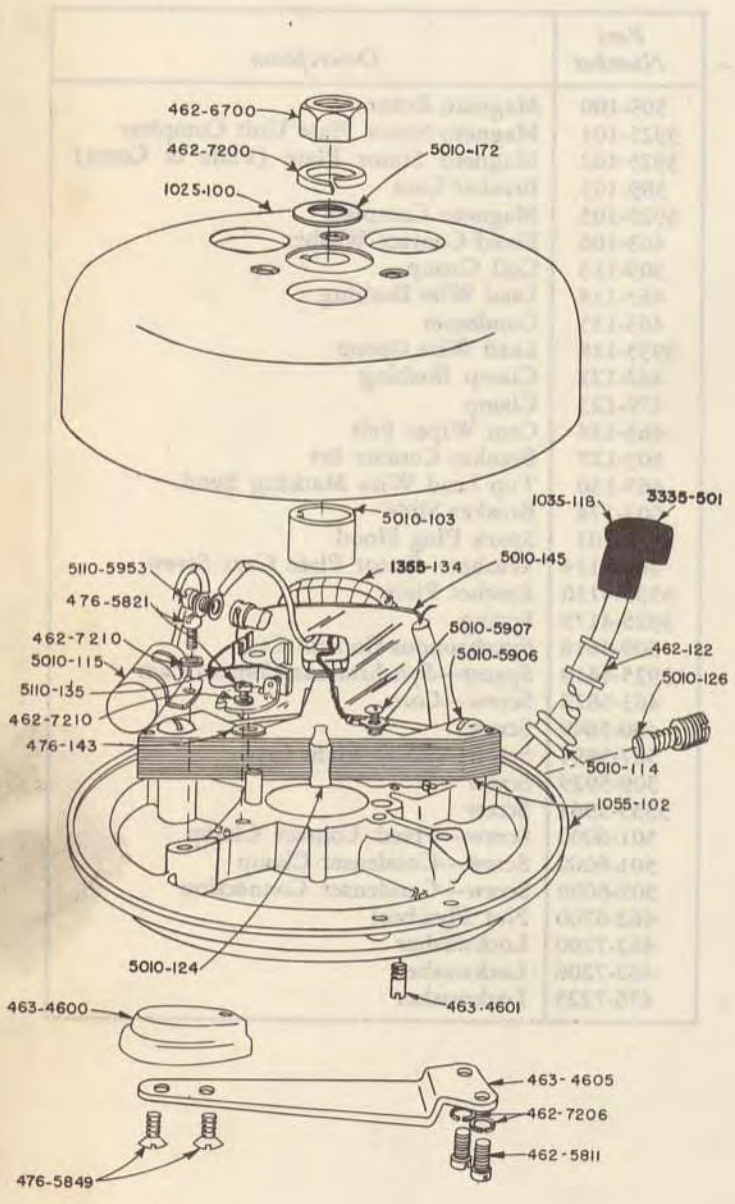
MAGNETO - 3945

MAGNETO - 3945



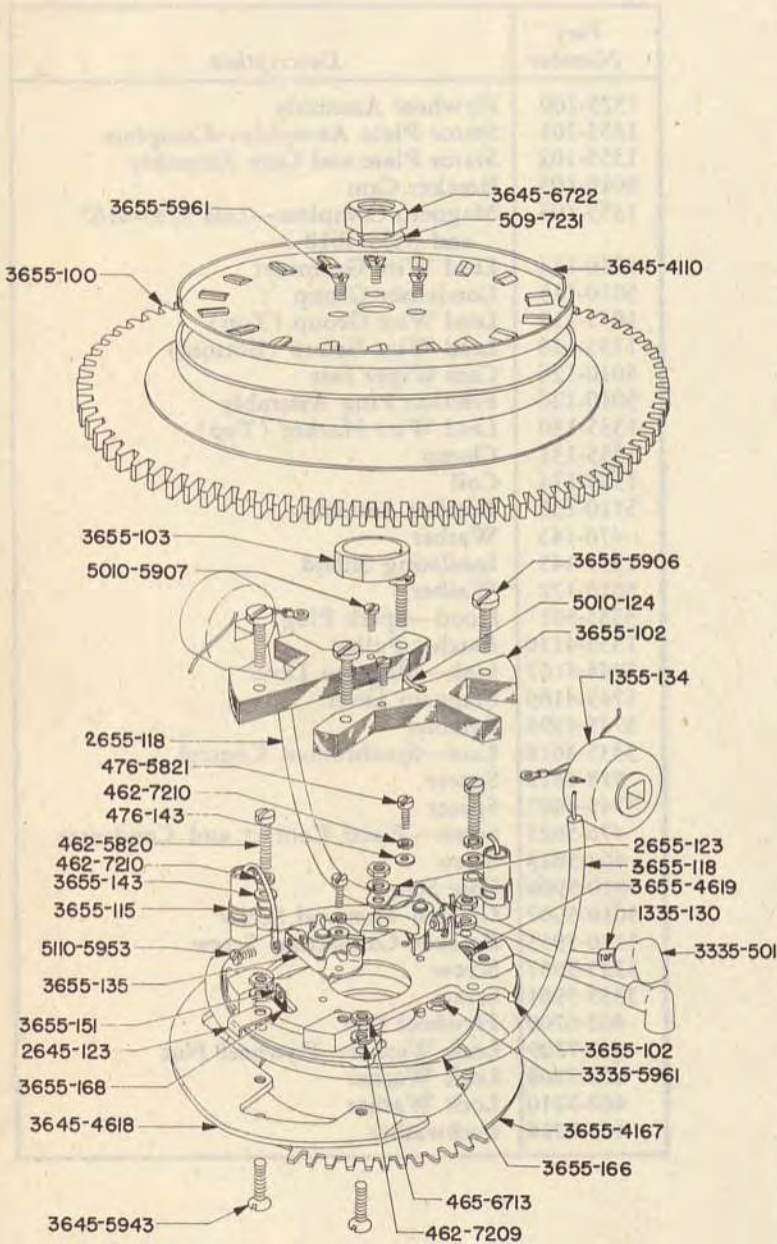
Part Number	Description
509-100	Magneto Rotor
3925-101	Magneto Stator Plate Unit Complete
3925-102	Magneto Stator Plate (Plate & Cores)
509-103	Breaker Cam
3925-105	Magneto Complete
463-106	Fixed Contact Washer
509-113	Coil Group
463-114	Lead Wire Bushing
463-115	Condenser
3935-118	Lead Wire Group
462-122	Clamp Bushing
470-123	Clamp
463-124	Cam Wiper Felt
503-127	Breaker Contact Set
465-130	Top Lead Wire Marking Band
503-174	Breaker Slide
3935-501	Spark Plug Hood
462-3114	Washer—Stator Plate Gear Screw
3335-4110	Ratchet Plate
3925-4179	Spring
509-4618	Synchronous Control Cam
3925-4619	Spacer—Synchronous Control Cam
463-5823	Screw—Core
480-5849	Screw
507-5894	Screw—Stator Plate Gear
509-5929	Screw
3335-5961	Screw
501-6000	Screw—Fixed Contact Clamp
501-6000	Screw—Condenser Clamp
501-6000	Screw—Condenser Connection
462-6700	Nut Flywheel
462-7200	Lockwasher
462-7206	Lockwasher
476-7225	Lockwasher

MAGNETO - 3055



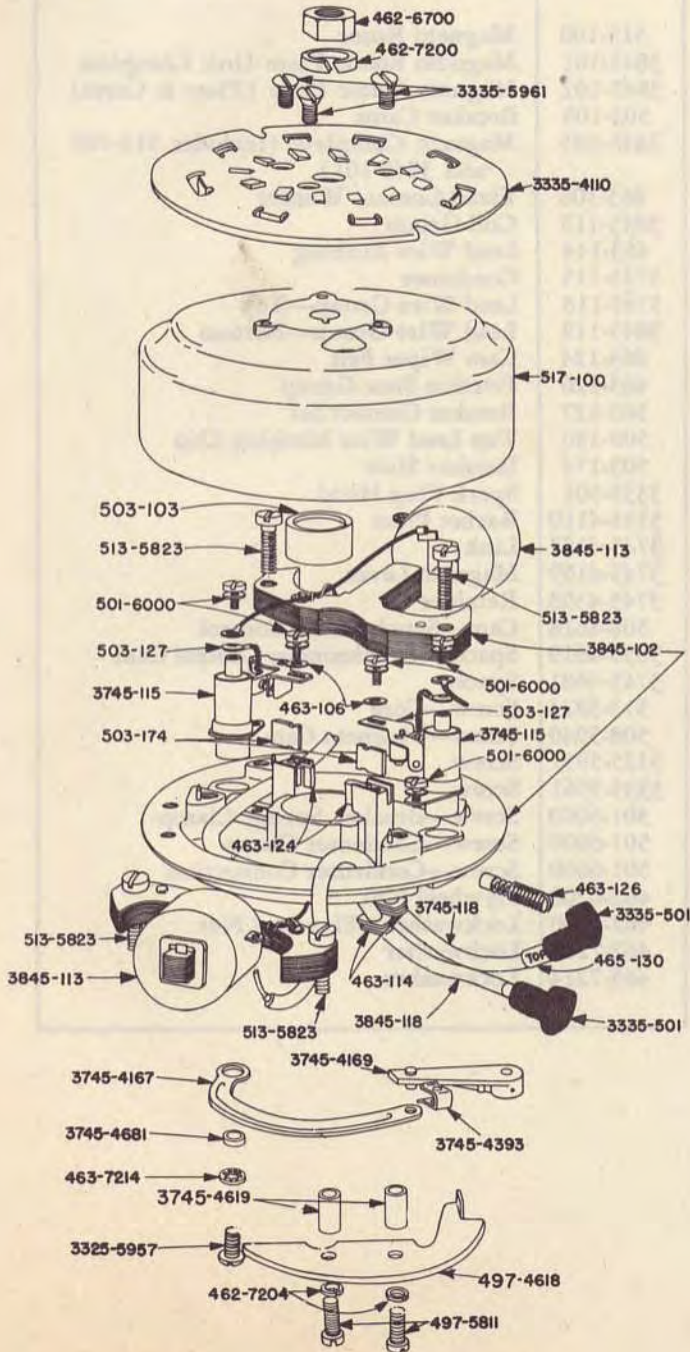
Part Number	Description
1025-100	Flywheel
1055-101	Stator Plate Assembly—Complete
1055-102	Stator Plate and Core Assembly
5010-103	Breaker Cam
1055-105	Magneto Complete—Less Control Lever and 463-4601
5010-114	Lead Wire Grommet
5010-115	Condenser Group
1035-118	Lead Wire Group
462-122	Clamp Bushing
5010-124	Cam Wiper Felt
5010-126	Friction Plug Assembly
1355-134	Coil
5110-135	Breaker Replacement Assembly
476-143	Breaker Spring Arm Washer
5010-145	Insulating Shield
5010-172	Washer
3335-501	Spark Plug Hood
463-4600	Magneto Control Lever Handle
463-4601	Synchronous Control Pin
463-4605	Magneto Control Lever
462-5811	Magneto Control Lever Screw
476-5821	Fixed Contact and Condenser Screw
476-5849	Magneto Control Lever Screw
5010-5906	Core Screw
5010-5907	Ground Terminal Screw
5110-5953	Breaker Connection Screw
462-6700	Flywheel Nut
462-7200	Lock Washer—Flywheel Nut
462-7206	Lock Washer—Magneto Control Lever Screw
462-7210	Lock Washer—Condenser Screw

MAGNETO — 3655



Part Number	Description
3655-100	Flywheel Assembly
3655-101	Stator Plate Complete
3655-102	Plate and Cone Assembly
3655-103	Breaker Cam
3655-105	Magneto Complete
3655-115	Condenser Group
2655-118	Lead Wire Group
3655-118	Lead Wire Group
2645-123	Bracket
2655-123	Retainer
5010-124	Felt—Cam Wiper
1335-130	Marker
1355-134	Coil Assembly
3655-135	Breaker Point Assembly
476-143	Washer—Fixed Cont. Sc.
3655-143	Washer—Condenser Screw
3655-151	Spring—Short Out.
3655-166	Adaptor—Mag. Stator
3655-168	Insulator
3335-501	Hood—Spark Plug
3645-4110	Ratchet Plate
3655-4167	Stator Link
3645-4618	Sync. Control Cam
3655-4619	Spacer—Stator Plate
462-5820	Screw—Condenser
476-5821	Screw—Fixed Cont.
3655-5906	Screw—Cone
5010-5907	Screw—Gnd. Term.
3645-5943	Screw
5110-5953	Screw—Breaker Connection
3335-5961	Screw—Stator Adaptor
3655-5961	Screw
465-6713	Nut
3645-6722	Nut—Flywheel
462-7209	Lockwasher
462-7210	Lockwasher
509-7231	Lockwasher—Flywheel Nut

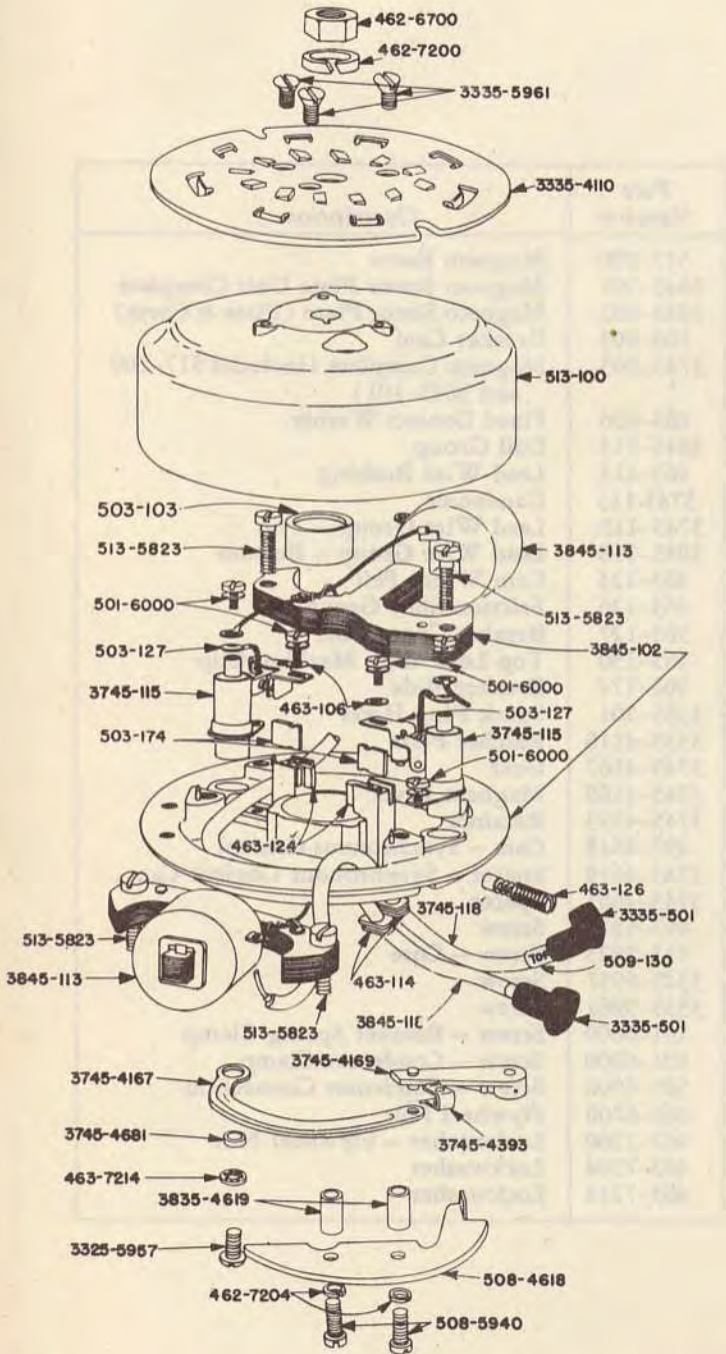
MAGNETO - 3755



Part Number	Description
517-100	Magneto Rotor
3845-101	Magneto Stator Plate Unit Complete
3845-102	Magneto Stator Plate (Plate & Cores)
503-103	Breaker Cam
3745-105	Magneto Complete (includes 517-100 and 3845-101)
463-106	Fixed Contact Washer
3845-113	Coil Group
463-114	Lead Wire Bushing
3745-115	Condenser
3745-118	Lead Wire Group - Top
3845-118	Lead Wire Group - Bottom
463-124	Cam Wiper Felt
463-126	Friction Shoe Group
503-127	Breaker Contact Set
465-130	Top Lead Wire Marking Clip
503-174	Breaker Slide
3335-501	Spark Plug Hood
3335-4110	Ratchet Plate
3745-4167	Gear
3745-4169	Magneto Lever
3745-4393	Retainer
497-4618	Cam - Synchronous Control
3745-4619	Spacer - Synchronous Control Cam
3745-4681	Spacer
497-5811	Screw
513-5823	Screw - Core
3325-5957	Screw
3335-5961	Screw
501-6000	Screw - Breaker Spring Clamp
501-6000	Screw - Condenser Clamp
501-6000	Screw - Condenser Connection
462-6700	Flywheel Nut
462-7200	Lockwasher - Flywheel Nut
462-7204	Lockwasher
463-7214	Lockwasher

(MAGNETO — 3955 P40)

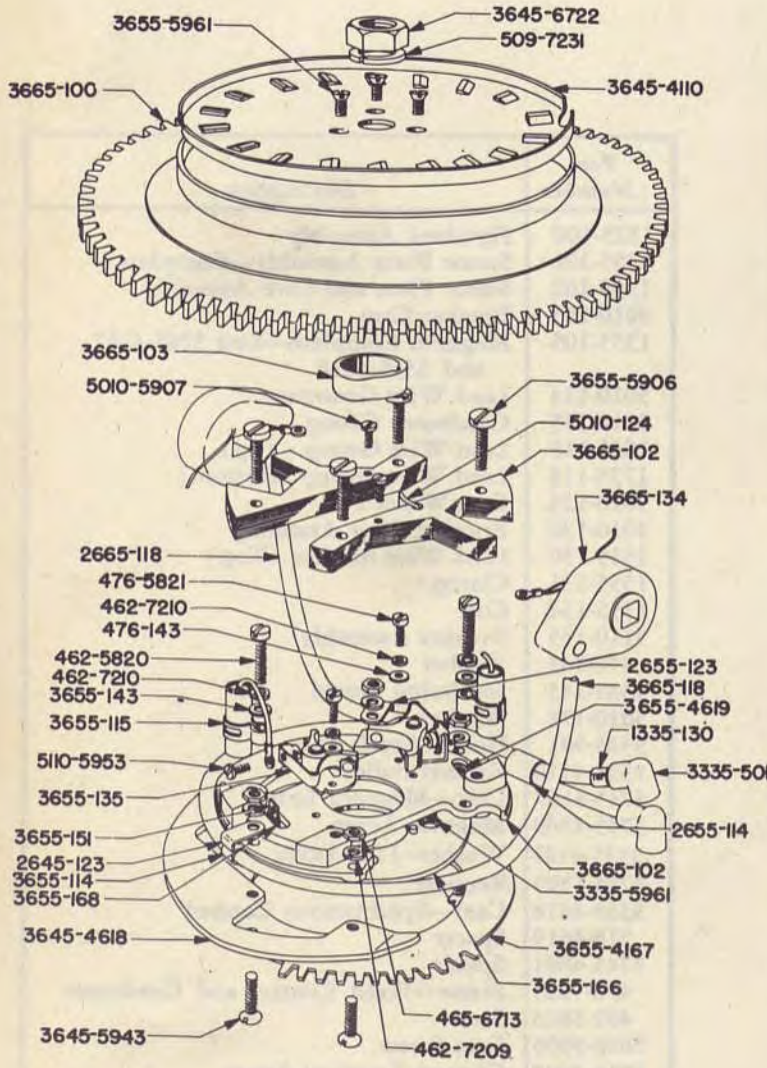
MAGNETO — 3855



Part Number	Description
513-100	Magneto Rotor
3845-101	Magneto Stator Plate Unit Complete
3845-102	Magneto Stator Plate (Plate & Cores)
503-103	Breaker Cams
3845-105	Magneto Complete (includes 513-100 and 3845-101)
463-106	Fixed Contact Washer
3845-113	Coil Group
463-114	Lead Wire Bushing
3745-115	Condenser
3745-118	Lead Wire Group—Top
3845-118	Lead Wire Group—Bottom
463-124	Cam Wiper Felt
463-126	Friction Shoe Group
503-127	Breaker Contact Set
509-130	Top Lead Wire Marking Clip
503-174	Breaker Slide
3335-501	Spark Plug Hood
3335-4110	Ratchet Plate
3745-4167	Link
3745-4169	Magneto Lever
3745-4393	Retainer
508-4618	Cam—Synchronous Control
3835-4619	Spacer—Synchronous Control Cam
3745-4681	Spacer
513-5823	Screw—Core
508-5940	Screw—Magneto Cam
3325-5957	Screw
3335-5961	Screw
501-6000	Screw—Breaker Spring Clamp
501-6000	Screw—Condenser Clamp
501-6000	Screw—Condenser Connection
462-6700	Flywheel Nut
462-7200	Lockwasher—Flywheel Nut
462-7204	Lockwasher
463-7214	Lockwasher

MAGNETO-3665

This Magneto is used on Scott-Atwater 33HP Motors above Serial Number 36653317 Manual Starting Models, and Serial Number 3665-3-3127 Electric Starting Models.

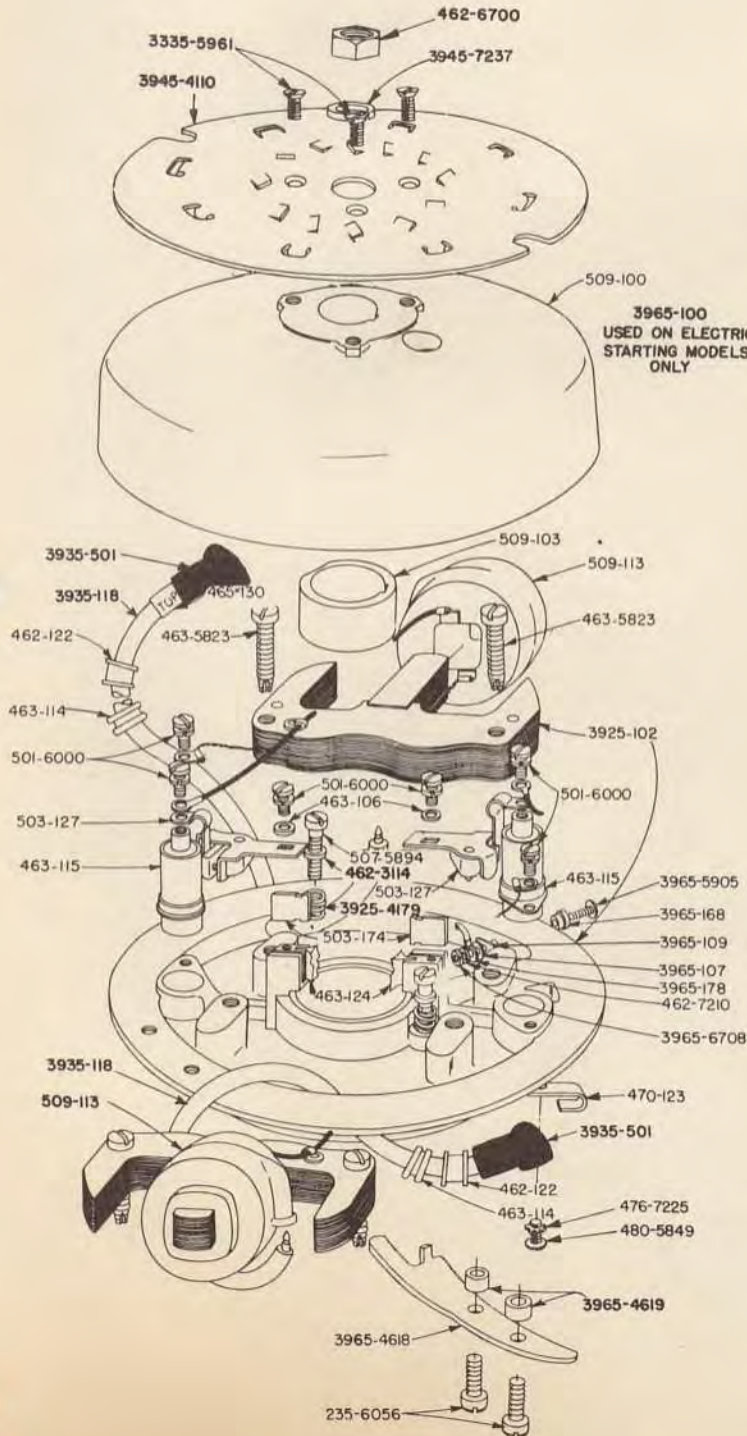


Part Number	Description
3665-100	Flywheel Assembly
3665-101	Stator Plate Complete
3665-102	Plate and Core Assembly
3665-103	Breaker Cam
3665-105	Magneto Complete
2655-114	Insulator
3655-114	Insulator
3655-115	Condenser Group
2665-118	Lead Wire Group—Short
3665-118	Lead Wire Group—Long
2645-123	Bracket
2655-123	Retainer
5010-124	Felt — Cam Wiper
1335-130	Marker
3665-134	Coil Assembly
3655-135	Breaker Point Assembly
476-143	Washer — Fixed Cont. Sc.
3655-143	Washer — Condenser Screw
3655-151	Spring — Short Out.
3655-166	Adaptor — Mag. Stator
3655-168	Insulator
3335-501	Hood — Spark Plug
3645-4110	Ratchet Plate
3655-4167	Stator Link
3645-4618	Sync. Control Cam
3655-4619	Spacer — Stator Plate
462-5820	Screw — Condenser
476-5821	Screw — Fixed Cont.
3655-5906	Screw — Core
5010-5907	Screw — Gnd. Term.
3645-5943	Screw
5110-5953	Screw — Breaker Connection
3335-5961	Screw — Stator Adaptor
3655-5961	Screw
465-6713	Nut
3645-6722	Nut — Flywheel
462-7209	Lockwasher
462-7210	Lockwasher
509-7231	Lockwasher — Flywheel Nut

Early 3665 models use 3655 Magneto with 3655-134 Coil Assy

(Magneto - 3865 P44)
 (Magneto - 3865 P45)

MAGNETO-3965



Part Number	Description
509-100	Magneto Rotor
*3965-100	Magneto Rotor
3925-101	Magneto Stator Plate Unit Complete
*3965-101	Magneto Stator Plate Unit Complete
3925-102	Magneto Stator Plate (Plate and Cores)
509-103	Breaker Cam
3925-105	Magneto Complete (Manual Start)
3965-105	Magneto Complete (Electric Start)
463-106	Fixed Contact Washer
*3965-107	Insulating Washer—Small
*3965-109	Insulating Shield
509-113	Coil Group
463-114	Lead Wire Bushing
463-115	Condenser
3935-118	Lead Wire Group
462-122	Clamp Bushing
470-123	Clamp
463-124	Cam Wiper Felt
503-127	Breaker Contact Set
465-130	Top Lead Wire Marking Band
*3965-168	Insulating Washer Large
503-174	Breaker Slide
*3965-178	Ground Lead
3935-501	Spark Plug Hood
462-3114	Washer—Stator Plate Gear Screw
3945-4110	Ratchet Plate
3925-4179	Spring
3965-4618	Synchronous Control Cam
3965-4619	Spacer—Synchronous Control Cam
463-5823	Screw—Core
480-5849	Screw
507-5894	Screw—Stator Plate Gear
*3965-5905	Screw—Ground
3335-5961	Screw
501-6000	Screw
235-6056	Screw
462-6700	Nut—Flywheel
*3965-6708	Nut—Ground Screw
462-7210	Lockwasher
476-7225	Lockwasher
3945-7237	Lockwasher
	*Used on Electric Starting Model Only

SCOTT-ATWATER SERVICE MANUAL

SECTION F - POWERHEAD

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POWERHEAD

This section explains the step by step assembly of each of the horsepower sizes. The basic steps will not change from year to year except in minor details. When specific instructions for disassembly are necessary, they are given: otherwise, reverse the order when taking the powerhead apart.

The method given is in the easiest and most foolproof order. Follow this order and you will greatly reduce the possibility of damage to parts. Use extreme care if the order is changed. For example, if you attach the piston to the rod after the rod is on the crankshaft, you will greatly increase the possibility of bending the rod.

GENERAL INFORMATION

Service of the powerhead is simplified by clamping a stub of a driveshaft in a vice and placing the powerhead on the shaft. This will allow you to turn the powerhead around to work on any part. When assembling the motor, always use new gaskets and replace screws and bolts that appear damaged.

Pistons and pins are matched to give a "special interference" fit and must not be mixed. When either must be replaced, the matched pair must be replaced. If the piston pin hole becomes enlarged so that there is no longer a proper fit, replace the piston and pin.

Rings are positioned on the piston so that the gaps will be on opposite sides. This reduces compression loss and prevents the rings from rotating to a point where the sharp ends will catch on the port openings. The ring gap should be between .004 and .012.

Connecting rods and caps are sold as a complete unit. One side of the rod and cap are marked to indicate proper assembly. Do not attempt to interchange caps and always replace them so that the marks correspond.

Hold the needles in place when assembling by coating the bearing surfaces with a grease the consistency of cup grease and laying the needles in place in the grease. This heavy grease will dissolve as soon as the motor is run. The needle rollers should always be put back on the same connecting rod and the same crankpin. When it is necessary to replace one or more rollers, replace the entire set.

Crankcase halves are matched and must be replaced as a pair. Particular care must be taken in reassembling the twin crankcase to see that the halves are properly aligned to prevent an offset between the split bearings on the shaft.

Cylinder Blocks on all models except the 461 and 467 have iron cylinder liners cast into them. These liners are not replaceable, and if damaged, the entire block must be replaced.



KEEP CLEAN —

DON'T assemble bearings in a dirty place. Don't take bearings out of wrapping until you use them. Dirt and bearings don't mix.

DO leave bearings in original wrappings until actually ready to use. That is one way to stop damage of bearings from dirt and moisture.



LUBRICANT

DON'T try to wipe or wash the lubricant out of needle bearings. It is a tough, tricky job and is not necessary.

DO install bearings with original lubricant left in them —more can be added after installation.



3.6 HP AND 4 HP SINGLE CYLINDER

The single cylinder crankcase halves are matched. The bronze sleeve bearings are pressed in place from the inside and the halves assembled and bored so the bearings are in line.

ASSEMBLY

1. Fasten the piston to the connecting rod. Use the Piston Pin Inserter and a light hammer, being careful not to let the rod cock, jamming the pin. Drive the pin in until it is about 1/8" beyond the inside boss, then put the rod in place and drive the pin in the rest of the way until both piston pin locks can be pushed in place. A long-nose pliers will aid in removing these locks. If the piston pin locks do not fit tightly, remove and spread them. A loose piston pin lock will rapidly enlarge the groove. A correct fit between the rod and wrist pin will allow the piston to teeter of own weight.



Attaching piston to rod.



2. Fasten the connecting rod to the crankshaft. Coat the rod and cap bearing surfaces with a layer of grease and lay 12 needles in each half. Place the rod on the crankshaft with the piston baffle facing the flywheel end of the shaft. Place the cap in position over the rod so that the marks on the cap and rod are on the same side. Properly installed, the weight of the piston will hold the rod down when the shaft is rotated. Note: On connecting rods identified by a white mark on the web, 23 special needles are required. (See parts list.) Lay 12 in the rod and 11 in the cap when assembling.

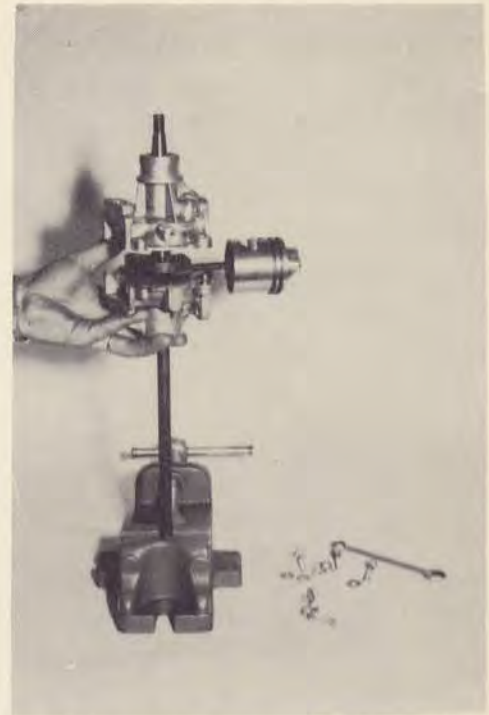
Fastening the connecting rod to the crankshaft.

3. Place the upper and the lower halves of the crankcase in position on the shaft. Use a new gasket on each side and bolt the halves together.

4. Install rings on piston. Use a ring expander and place the inside beveled edge of the ring facing the head.



Replacing block.



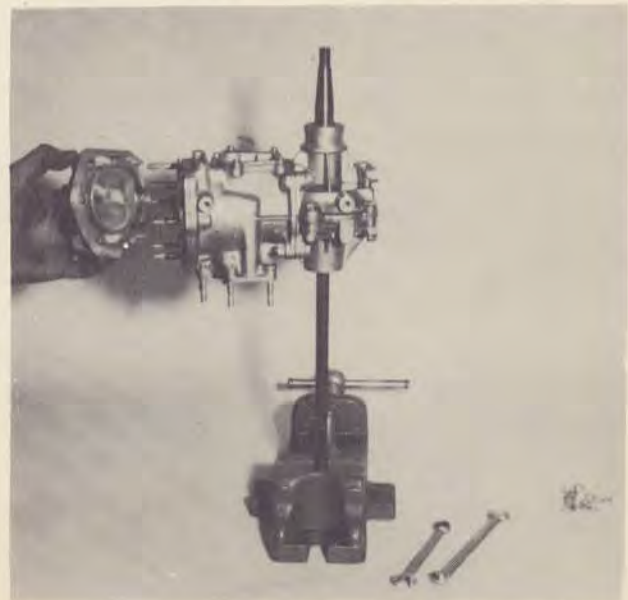
Installing the crankcase.

5. Slide the cylinder block over the piston with a new gasket in place. Use care in positioning the rings and compressing them over the pins. The beveled edge of the cylinder liner will help to compress the rings, eliminating the necessity of a ring compressor. Bolt the cylinder block in place.

6. Bolt the head on over a new gasket. Replace the necessary brackets according to the exploded views on the parts pages. Draw up all headnuts to a reasonable tightness and then tighten them individually to a torque reading of 80 to 120 inch-pounds.

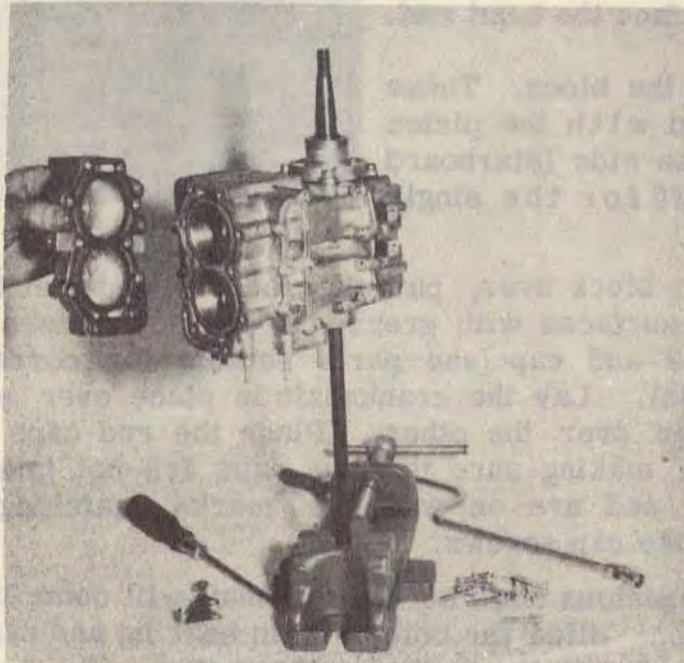
7. The intake cover plate can be removed or replaced at any time. Use a new gasket if it is removed. The 461 and 467 have a cast iron cylinder block and do not have an intake cover plate.

8. Replace all tank and skirt brackets or clips as shown in the parts pages of this section.

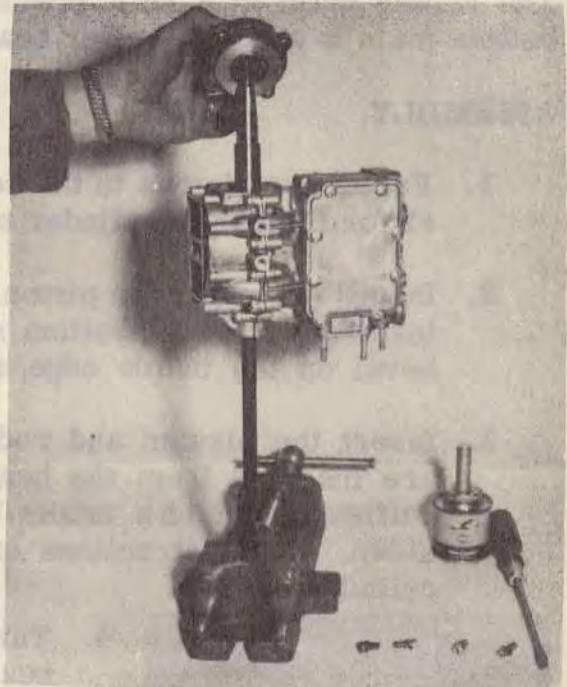


Replacing head.

8. Replace the upper main bearing assembly. Use a new gasket and apply a layer of permatex on the sealing surfaces. Tighten it down and check to see that the grease seal is in position with the metal face outward. When removing, turn the bearing cage until two screw drivers can be used to pry up on the screw hole flange.



Replacing head.



Installing top main bearing.

9. Replace the head over a new gasket. Replace the lead wire clip, draw up all head screws to reasonable tightness, and then tighten them to a torque reading of 80 to 120 inch-pounds.
10. The intake and exhaust cover plates can be removed or replaced at any time. Use a new gasket when replacing.

11. Replace all tank and skirt brackets or clips as shown in the parts pages of this section.

A new type Crankcase and Block Assembly (3745-1860) along with Magneto Mount Bearing (3745-1911) is used on the '54 model.

When replacing the powerhead on the lower motor casing, use a new cover plate gasket and be sure that the pivot tube seal ring is in place. The water line must be guided into the water inlet opening in the bottom of the block.

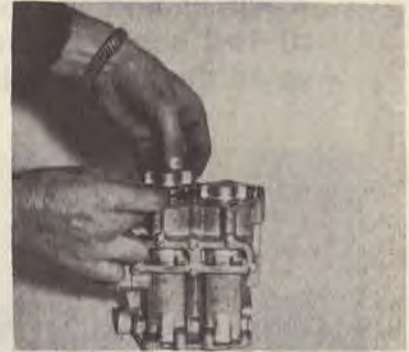
5 HP TWIN CYLINDER

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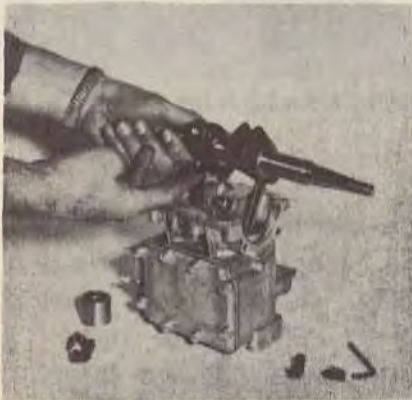
The 5 HP twin has one half of the crankcase integral with the block. Crankcase and block assembly must be replaced as a unit; however, all bearings are replaceable. The top main consists of two needle roller bearings held in a cage. The center main is a split precision bronze insert held in place with a pin. The bottom main is a needle roller bearing held in a cage.

ASSEMBLY

1. Fasten the pistons to the connecting rods. Follow instructions given under #1 for the single cylinder models.
2. Install the rings on piston. Use a ring expander, installing first the bottom ring, then the top. The bevel on the inside edge must face the head end.
3. Insert the pistons and rods in the block. These are inserted from the head end with the piston baffles facing the intake bypass side (Starboard side). See instructions under #5 for the single cylinder models.

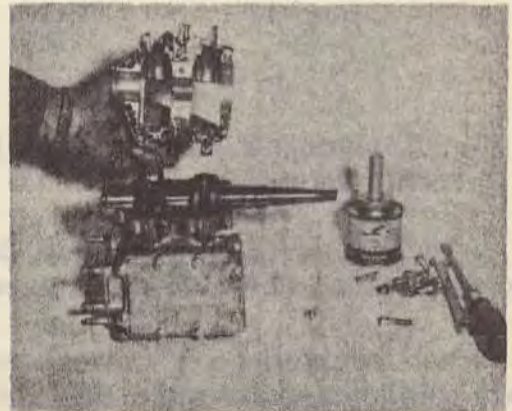


Sliding pistons in block.



Installing crankshaft.

4. Turn the block over, pull the rods up and coat the bearing surfaces with grease. Place the rollers in each rod and cap (see parts section for correct quantities). Lay the crankshaft in place over one rod, then over the other. Place the rod caps in position, making sure that the caps are not interchanged and are on with the marks matching. Tighten the cap screws.
5. Push the pistons down so that the shaft will come into position. Slide the bottom main bearing and cage on the shaft with the grease seal outward. The positioning pin in the crankcase must engage the hole in the bearing cage. The shaft will then be in position, held by the bottom main and one half of the center main.
6. Coat the crankcase parting surfaces with a thin layer of aviation grade permatex, being careful to keep it away from the bearings.
7. Replace the front half of the crankcase and fasten it in position. Check to see that the crankcase is properly aligned and does not bind the crankshaft.



Replacing crankcase half.

7 1/2 HP TWIN CYLINDER

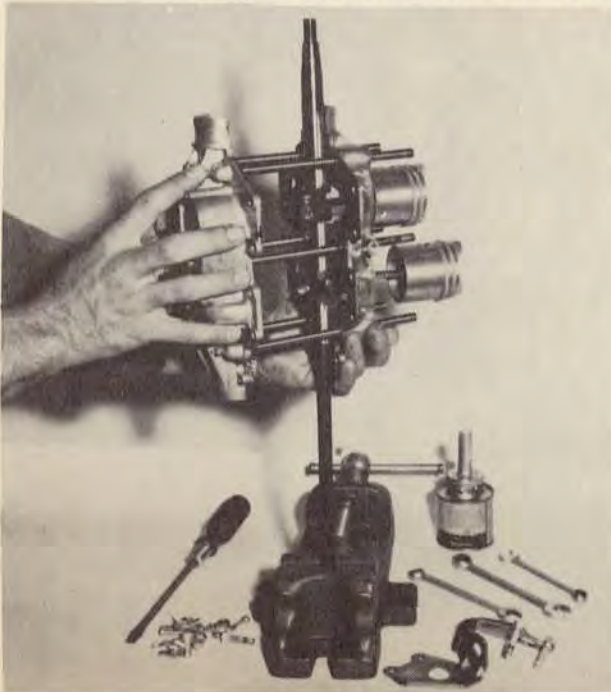
The 7 1/2 HP twin has a split crankcase that is matched and must be replaced as a unit. The main bearings are made of bronze and are an intergral part of the crankcase. If the bearings are worn or damaged, the entire crankcase must be replaced.

ASSEMBLY

1. Fasten the pistons on the connecting rods. See instructions given under #1 for the single cylinder models.
2. Install the rings on the pistons. See instructions under #2 for the 5 HP twin.
3. Coat the bearing surfaces with grease and place 12 rollers in each rod and cap. Hold the back half of the crankcase in place on the crankshaft while inserting the top rod through the crankcase and in position on the shaft. The piston baffles must face the intake or starboard side. Replace that cap and do the same for the bottom rod. Cap screws should be tightened to a torque reading of 120 to 140 inch-pounds.



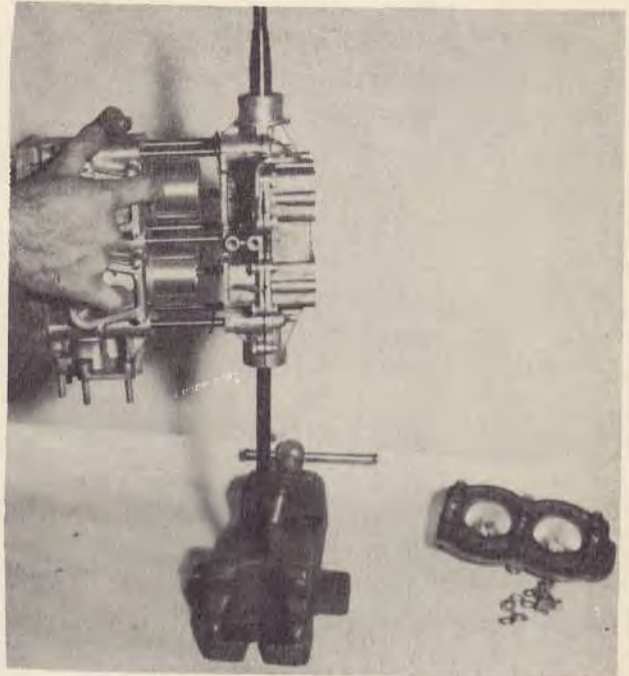
Attaching rods to crankshaft.



Assembling the crankcase halves.

4. Apply a thin layer of aviation grade permatex on the crankcase parting surfaces being careful to keep it away from the bearings. Place the other half of the crankcase (with the long studs in place) over the shaft and bolt in place. Be sure the two halves are properly aligned. If in doubt, consult the exploded views of the powerhead to see how the tank brackets are clamped on.

5. Slide the cylinder block on over the pistons with a new gasket in place. See instructions under #5 for the single cylinder models.
6. Replace the head over a new gasket. Draw up all nuts to reasonable tightness, then tighten them to a torque reading of 150 to 175 inch-pounds.
7. The intake and exhaust cover plates can be removed or replaced at any time. Use new gaskets if they are being replaced.



Replacing block.

A top bearing oil seal was not used on early model 7 1/2 HP motors. A seal (465-1899) should be installed when the top bearing shows signs of leaking. The seal cavity in the crankcase should be perfectly clean. Apply a small amount of aviation permatex #3 around the seal and install with the sealing surface down.

10 HP TWIN CYLINDER

The 10 HP engine is set up very much like the 5 HP except that the crankcase is entirely separate from the block. The upper and lower main bearings are needle rollers and there are loose needles on the connecting rod. The center main is a replaceable bronze insert, either half of which may be replaced.

The connecting rod on this motor and the 16 HP are different from smaller models in that the cap is broken off rather than sawed off. In the machining operations, the rod is hardened at the points where the screws hold the cap on, then an expanding plug is used to break the cap loose from the rod. This results in an uneven parting surface that will fit back together only one way. Be sure that the cap is in position before tightening down the cap screws

As with other models, the recommended order of assembly is given so that you can use the easiest way possible and still avoid methods that might cause damage to parts. If you were to install a new piston, it would hardly be necessary to disassemble the entire motor so that the given order could be followed to assemble. In such a case, remove the head, pull the block off and drive the wrist pin out. You have to be careful to absorb the shock of the hammer blow by holding the piston in your hand and apply pressure against the direction of the shock.

You may find other short-cuts of this nature, or you may find it easier to assemble parts in a different order. In any case, be very careful not to damage parts or get them out of alignment.

The 508 block is obsolete. The 3825 block should be used along with the following parts: 3825-1898 gasket, 3825-1897 cover plate, 3825-1917 cover plate and 3825-1918 gasket.

Notes:

ASSEMBLY

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1. Fasten the pistons to the connecting rods. See Instructions given under #1 for the single cylinder model.

2. Install the center main inserts. The half with the oil groove goes into the back half of the crankcase so that the groove follows the direction of rotation of the crankshaft. The other insert goes in the front half of the case with the beveled edge on the left hand side of the crankcase half when looking into this part. Correctly assembled, oil will enter the bearing from the hole in the back half of the case, follow the shaft around to the parting surface and spread out across the bearing in the level.

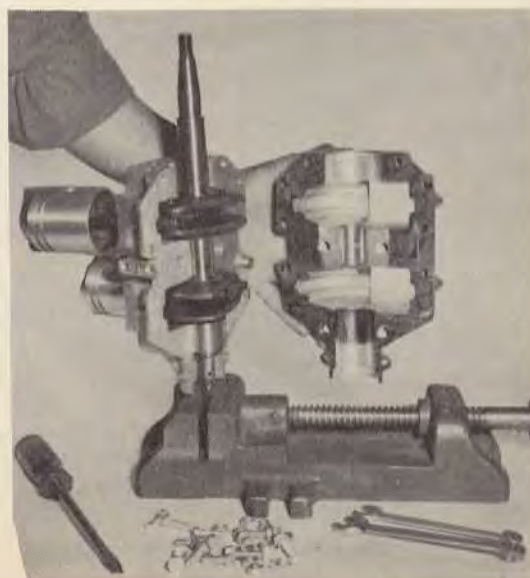
3. Coat the rods and caps with grease and lay 14 needles in each of the halves. If you are using the same needles, remember to put the needles back on the same rod and install the rod on the same crank pin. Place the back half of the case in position on the crankshaft and install the piston-rod assembly with the piston baffle facing the intake side. Replace the caps and tighten the cap screws to a torque reading of 70-80 inch pounds.



Installing rods on crankshaft.

4. Coat the parting surfaces of the crankcase and the area covered by the lower main cage with a thin layer of aviation grade permatex being careful to keep it away from bearings and oil holes.

5. Slide the bottom main on the shaft, with the grease seal outward, so that the locating pin engages the hole in the lower main bearing cage. Bolt the two halves of the crankcase together, but do not tighten them down until after the top main bearing cage is in position.



Assembling crankcase halves.

CAUTION: When installing the bearing cages, be very careful not to distort the grease seal. You may find it helpful to use a small screwdriver to work the seal around the shaft. The seal can also be expanded by inserting a cylindrical shaped strip of cardboard between the shaft and the seal. After the bearing is in position, the cardboard can be removed.

6. Apply a thin layer of permatex on both sides of the gasket and slide the top main bearing cage on the shaft being careful not to damage the grease seal. Tighten down the bearing cage and the bolts in the crankcase. Check to see that the crankshaft is free and turns easily.

7. Install the two rings on each piston with the bevel on the inside facing the top of the piston.

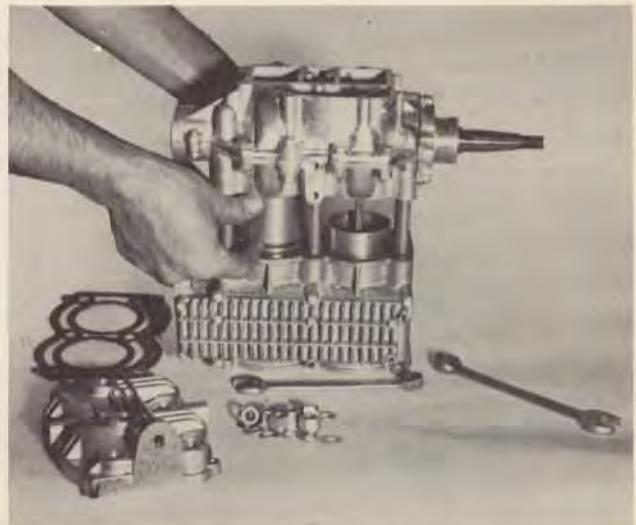
8. Screw the long studs into the crankcase and slide the "O" rings over the four bottom studs. Place a new gasket over the studs.

9. Slide the block on the studs and start the two pistons in. Compress the rings over the locating pins and slide one piston at a time into the block. Install the head over a new gasket and replace the special washers. Tighten the nuts reasonably snug, then draw them all up to a torque reading of 250 inch pounds. After the motor has been warmed up on a test tank, tighten them again.

10. Replace brackets according to the drawings in the parts page of this section.

11. The intake and exhaust cover plates can be removed and replaced at any time.

12. Bolt the power head on the lower motor casing using a new exhaust flange gasket.



Compressing rings in block.

THINGS TO WATCH FOR

Water In Cylinders. The head gasket on early model 518's was later replaced with one that has a copper grommet around the cylinder. If you find that a head gasket has blown, or if you are disassembling the 10 HP engine, install this new type gasket. The earlier gaskets can be used if you apply permatex on both sides, tighten the head nuts, then tighten them again after the motor has been warmed up on a test tank.

Frayed Or Broken Reeds. The reed valve plate was improved for 1951 production by bridging the slots in the plate with a small bar. The reeds on the new plate have also been improved. Replace old style reed valve plate assembly when working on this model. See Section D-4

Water Leaks Around Head Bolts. Replace the special washers under the head nuts and smooth out any irregularities around the holes in the head. These washers must form a water-tight seal. The soft aluminum washers used on early production have been replaced with a steel washer.

16 HP TWIN CYLINDER

The 16 HP engine is designed so that you can service it as quickly, and economically as possible. All bearings are replaceable at minimum cost, the crankcase is separate from the block and the head is removable. All of these points make it possible for you to service this powerhead without undue replacements.

The top main bearing consists of two needle roller bearings held in a cage, the center main has loose needles and the bottom main is a needle roller bearing held in a cage. These bearings can be replaced individually.

The connecting rods have two rows of loose needles on the crankpin and two needle bearing assemblies on the wrist pin. The connecting rod cap is fractured like the rod on the 10 HP so that it will always fit on the rod perfectly.

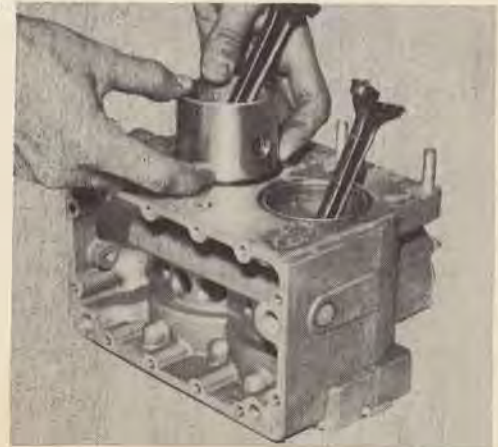
The 509-1852 rod is obsolete and superseded by 3925-1852.

The type of center main bearing has changed from time to time with the use of a different crankcase. 509 and 519 models use a 509-1932 center main bearing with the 509-1860 crankcase. The same assemblies are used on the early '52 models (Thru Serial #39251500). 3925-1860 crankcase assembly with cast in center bearing was used on late '52 models (Serial #39241501 through 39252000) and on early '53 models (Serial #39351001 through 39351500). The late '53 and all '54 models use a 3935-1860 crankcase assembly with a 3935-1932 center bearing assembly. This crankcase has a cast-in bronze seal about 1/2" lg and a step to a larger bore for inserting the roller bearings and retainer.

Either 3925 or 3935-1851 crankshaft can be used with 3935-1860 crankcase and 3935-1932 bearing assembly. The only difference between these two crankshafts is the method of connecting to the driveshaft. (3925-1851 drives with a flat key and slot in the bottom of the crankshaft, 3935-1851 drives through a spline).

ASSEMBLY

1. Fasten the pistons to the connecting rods. Follow instructions under #1 for the single cylinder. Be especially careful that the rod does not cock, allowing the wrist pin to force the needle bearings out of position.
2. Install the three rings on the piston. The type of positioning pin was changed on the model 519 so be sure to use the proper rings.
3. Insert the pistons in the block from the crankcase end with the piston baffle facing the intake side. Be sure that the rings are properly positioned on the pins.



Compressing rings in block.

4. Apply Form-a-Gasket #2 around the water jacket on both the block and crankcase half and bolt the back half of the crankcase on the block. Grind down the walls of a 1/2" box end wrench so that it will fit around the nuts.

NOTE: You can save considerable time by leaving the back half of the crankcase on the block when disassembling, which eliminates the necessity of removing the exhaust cover plate. In this case, the pistons have to be inserted from the head end.



Replacing back half of crankcase.

5. Push the pistons into the block so that only the ends of the rod are exposed. Coat the bearing surface with grease and lay two rows of 14 needles in each cap and each rod. It is advisable to lay out and count the 56 needles for each rod so that you can be sure none of the needles are dropped and left loose in the block.

6. Coat the bearing race for the center main and lay 14 needles in one half, 13 in the other half. Install this bearing on the crankshaft with the narrow land on top facing the flywheel, and slip the band over the race. The center main needle bearing race cannot be replaced except in complete assembly 509-1932, which includes 509-1863 Retainer, 509-1905 Needle Bearing Race, 509-1906 Race Band.



Installing Center main race.

7. Replace the two halves of the bronze bearing retainer so that the race is held in position by the locating pin. The shoulder on the retainer goes up. Tighten the two Phillips head screws as tight as possible.

13. If the exhaust cover plate is removed, be sure that the gasket with the enlarged holes goes next to the block. The other gasket without the enlarged holes goes between the water cover plate and the exhaust cover plate.

14. Before installing the powerhead on the lower motor casing, check to see that the "O" ring and water line sleeve are in position in the bottom of the block. Use care installing the powerhead to see that the water line enters the proper opening in the block.

THINGS TO WATCH FOR

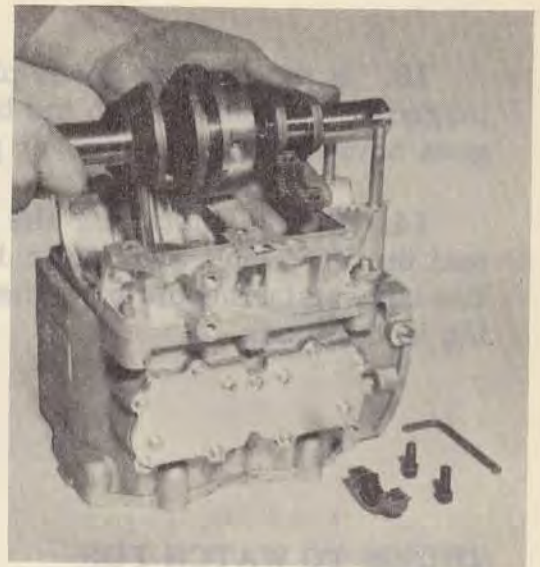
Water In the Lower Cylinder. On the model 509, check to see that the lower motor casing has been modified by drilling drain holes as explained on page 3 of Section H. This could also be caused by a porous spot in the crankcase. Check especially to see that water cannot enter the oil passage drilled to the lower main bearing.

Water in the Upper Cylinder. Check first to see that the proper gaskets are in place on the exhaust cover plate. You may find the wrong gasket next to the block. Check for porous castings. If you do find water in either cylinder, it is best to disassemble the powerhead and replace those parts that are rusted. Be sure that the bearings and the bottom main grease seal are in good condition.

Rings Worn Badly Around the Gap. If the rings are not held in position by the pins, they will wear rapidly. Be sure that the positioning pins have not been pushed too far into the ring groove.

The rings used on the model 519 are positioned by a pin on the side of the groove instead of in the bottom. Be sure to use the proper rings.

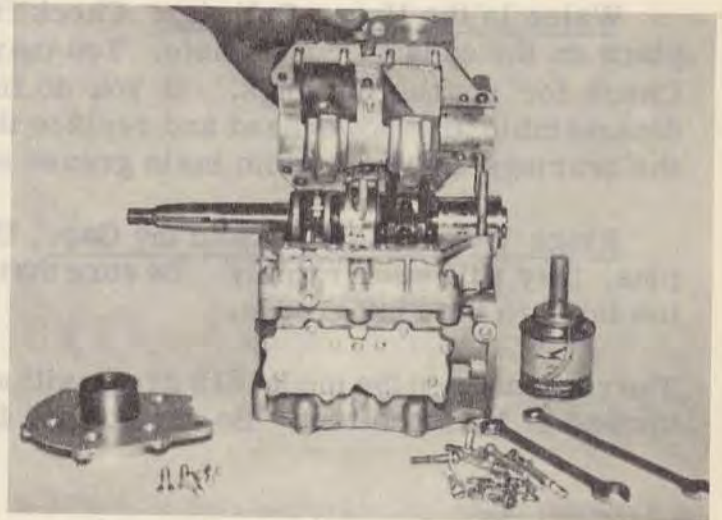
8. Lay the crankshaft in position over one of the rods, replace that cap, then lay the shaft over the other rod and replace the second cap. Tighten the Bristol cap screws to a torque reading of 140-160 inch pounds.



Laying Crankshaft over rods.

9. Slide the bottom main over the shaft and push the shaft down into position so that the bottom main is engaged by the locating pin. See instructions under #5 for the 10 HP engine for hints on preventing damage to the grease seal.

10. Apply Permatex to the parting surface of the crankcase half and around the bottom main, being careful that it will not ooze out into the bearings or oil holes. Replace the crankcase half and screw the nuts up lightly.



Replacing front crankcase half.

11. With the "O" ring in position, replace the top main bearing cage and draw the screws up lightly. Make sure that the crankcase halves are lined up, then tighten down the crankcase and the top main. If the shaft binds, loosen the case and re-align. (When disassembling, it is usually necessary to loosen the crankcase halves before removing the top main bearing cage). Early 519's, stamped with an S on the side of the crankcase, have a 0.060 shim under the top main bearing cage. Be sure this gasket is put back in when assembling.

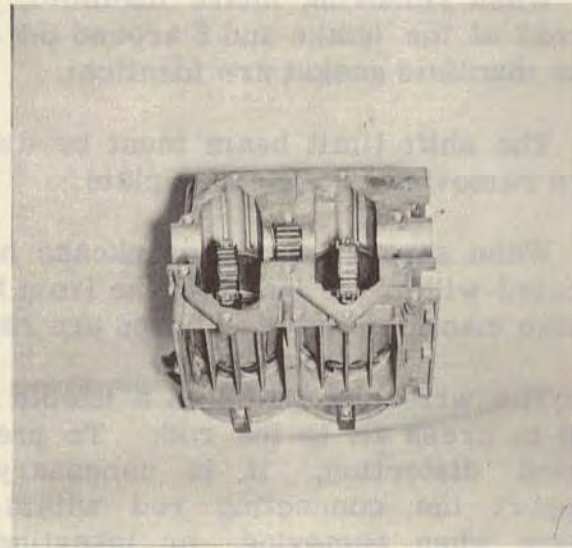
12. Replace the head over a new gasket and tighten the head bolts to a torque reading of 225 inch pounds. The early 509 head that has one expansion plug uses two head gaskets while the later head with three expansion plugs uses only one.

ASSEMBLY

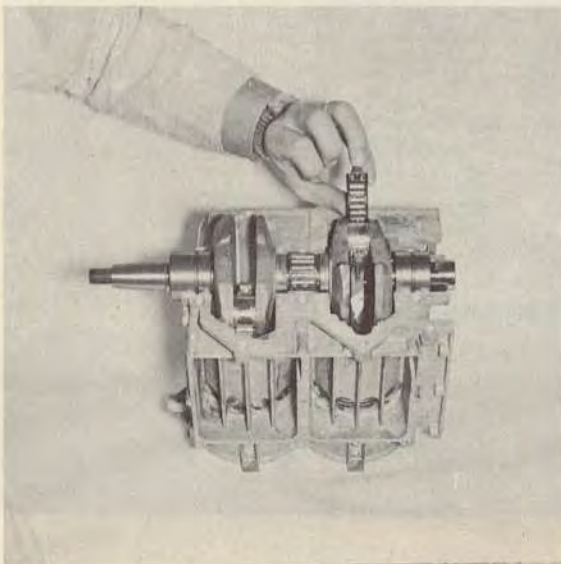
1. With the rings on the pistons, compress the rings and fit pistons into the block with the baffle to the intake side of the block.
2. Set center main race, rollers, and cage in place. The rollers fit on the underside of the cage, or between cage and race - (16 rollers per center bearing assembly).
3. Assemble rod bearings in cage, and place on the rods (17 or 18 rollers per assy, depending on type of cage). There is one roller per slat, with size determined by slat size. Do not interchange rollers and cages.
4. Slide the upper and lower main bearings onto the crankshaft with the oil seals to the outside. It is advisable to use a thin, smooth guide (such as shim stock) wrapped around the shaft. This will prevent any possible damage to the bearing seals.



Inserting Piston in Block



Center Main and Rod Bearings



Assemble Rod Caps and Mains

5. Set the crankshaft in place on the block, seating the upper and lower mains on the dowel pins. Assemble center main and rod cap bearings. Always check closely to see that no needles have fallen into the block.

Construction of the 30 and 33 HP motors permits simplified access throughout for powerhead maintenance. Remove the complete powerhead simply by removing the 13 screws attaching the lower motor casing to the powerhead, the vertical speed control shaft, and the gas inlet line.

The upper and lower main bearings, and wrist pin bearings are caged rollers. The center-main and rod bearings are needle-roller bearings held in a cage. The bearing assemblies can be replaced individually.

The connecting rod caps are fractured for perfect fit, with each rod and cap a matched pair.

The crankcase and block are a matched set, and both must be replaced if damage occurs to either part.

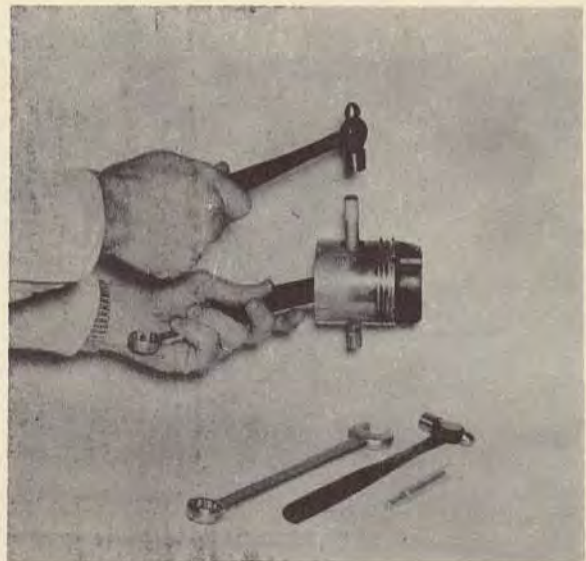
TIPS FOR DISASSEMBLY

When removing intake manifold, there is 1 concealed screw located within the throat of the intake and 8 around the outside. The reed-valve plate gasket and intake manifold gasket are identical.

The shift limit beam must be disconnected at it's center pivoting location before removing intake cover plate.

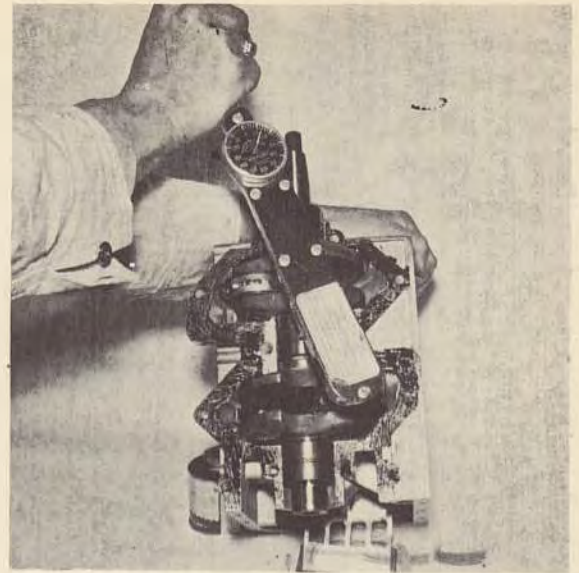
When separating the crankcase halves, the 2 center main bearing screws are located within the intake in the front half of the case. These are exposed when the intake manifold and reed boxes are removed.

The wrist-pin floats in a needle bearing assembly in each side of the piston, and is press fit to the rod. To prevent piston distortion, it is necessary to support the connecting rod within the piston when removing, or inserting the wrist-pin. Place a 13/16" open end wrench around the pin on the under side of the rod - hold wrench and rod firmly, or clamp wrench in a vice - Insert punch into pin -- tap wrist-pin out or in with a hammer.



6. Torque set the rod-cap www.powersportsupply.co 160 lbs. The bearings and cages on the rods must rotate freely even after tightening.

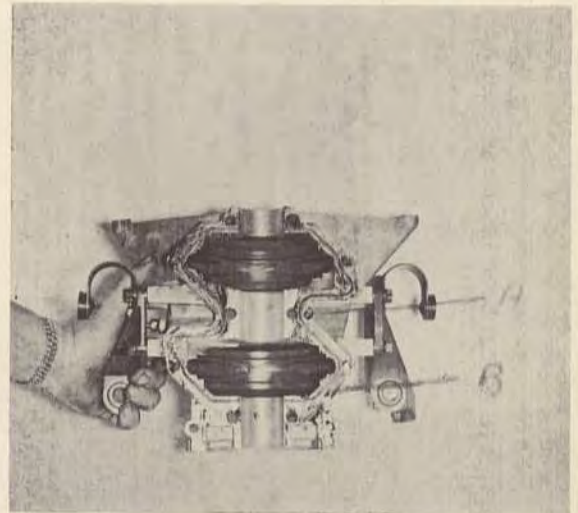
7. Apply Permatex #3 to both halves of the crankcase.



Torquing Rod Cap Screws

8. Insert new drain plug seal (A), and seal-line between crankcase halves (B).

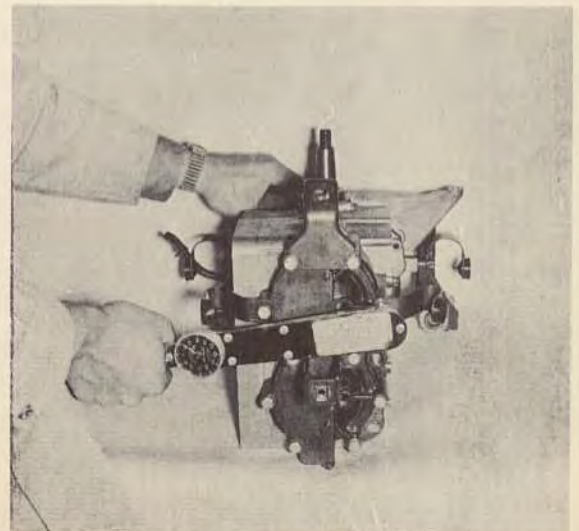
When assembled, and with intake cover plate off, rotate crankshaft in both directions to detect any possible signs of rubbing, binding, or the feeling of rollers skipping in a cage. The latter will indicate an incorrect number of rollers in a bearing. There is one roller in each slot in the cage. A poor match between rod-body and cap or between bearing races will also be indicated by the feeling of skipping in the cage.



Crankcase Seals

9. Replace the head, and torque the bolts to 150 lbs. Retighten the head bolts after a short run-in period.

Always use new gaskets and seals when completing any maintenance.



Torquing Head Bolts

NOTE: For illustrative purposes the crankshaft has been removed from the motor and is shown without the piston and rod assemblies.

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CRANKSHAFT COLLAR INSTALLED



CRANKSHAFT BOOT INSTALLED

Install the crankshaft collar by tapping it onto the end of the crankshaft. The collar should be positioned flush with the end of the shaft as shown. After the collar has been installed, slip the boot into position, secure it with the retainer ring, and re-assemble the motor

CENTER BLEED TUBE

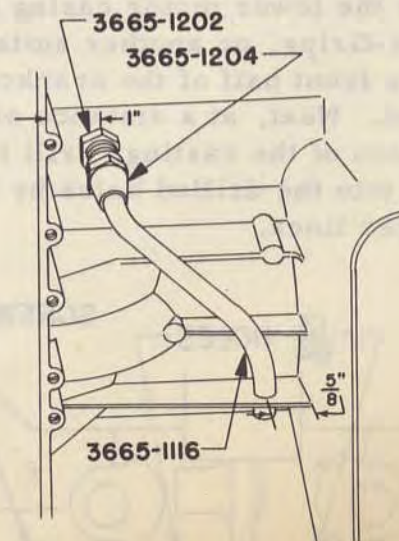
All 30 and 33 HP motors produced after Serial Number 3665-3566 are equipped with a center bleed tube located midway between the cylinders. This bleed tube assures an adequate flow of water through the central cooling passage. This feature should be installed on all 30 and 33 HP motors produced prior to Serial Number 3665-3566.

To install, drill an 11/32" hole in the block according to the dimensions shown in the illustration.

NOTE: Drill this hole to a depth of approximately 3/4", and check to make certain it extends into the cooling passage.

Tap the drilled hole (1/8-27 National Pipe Tap) to accommodate the bleed tube connector.

Next, drill a 5/16" hole through the web of the cylinder block casting to receive the end of the bleed tube, and complete the installation as shown.



Order the required parts from your dealer.

	<u>Quantity</u>	<u>Part Number</u>	<u>Description</u>	<u>Price</u>
Sect. F-20	1	3665-1204	Connector Bleed Tube	.25
	1	3665-1115	Bleed Tube & Nut Assy.	.35

30 AND 33 HP MODIFICATIONS

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BOOT KIT

All 30 and 33 HP motors manufactured after Serial Number 3665-1011 are equipped with a neoprene boot on the lower end of the Crankshaft. This boot prevents water, which has a tendency to climb up the rotating driveshaft, from reaching the lower main bearing and causing subsequent rusting of the bearing and the driveshaft splines. In addition, the boot insures adequate lubrication of the lower main bearing by retaining oil from the scavenge lines. Installation of the Boot Kit is recommended on all motors produced prior to Serial Number 3665-1011.

NOTE: Replacement crankshafts are identical with those used in current production and use a different boot. These crankshafts can be identified by a boot anchor groove which is ground into the lower end of the crankshaft.

The SK ~~7640~~ Boot Kit contains the following parts:
7670

<u>Part No.</u>	<u>Description</u>	<u>Qty.</u>	<u>List Price</u>
SK 7619	Crankshaft Collar	1	\$.75
SK 7617	Crankshaft Boot	1	2.20
3665-1960	Boot retainer ring	1	.45
SK 7469	Self-tapping screw	2	.10
3655-1222	Scavenger line fitting	2	.24

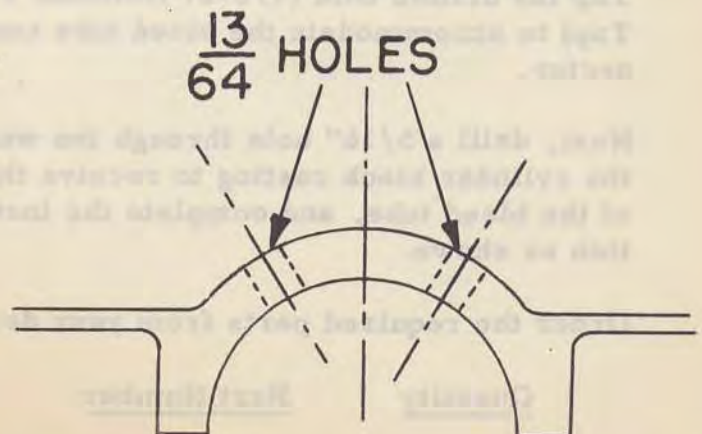
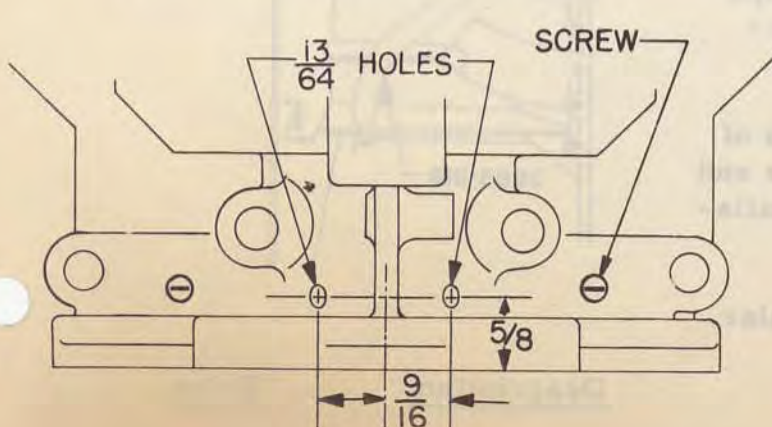
Preparing the motor for installation of the Boot Kit requires changing the location of the Scavenger line fittings. This operation necessitates removing the front half of the Crankcase and drilling two holes to receive the new fittings.



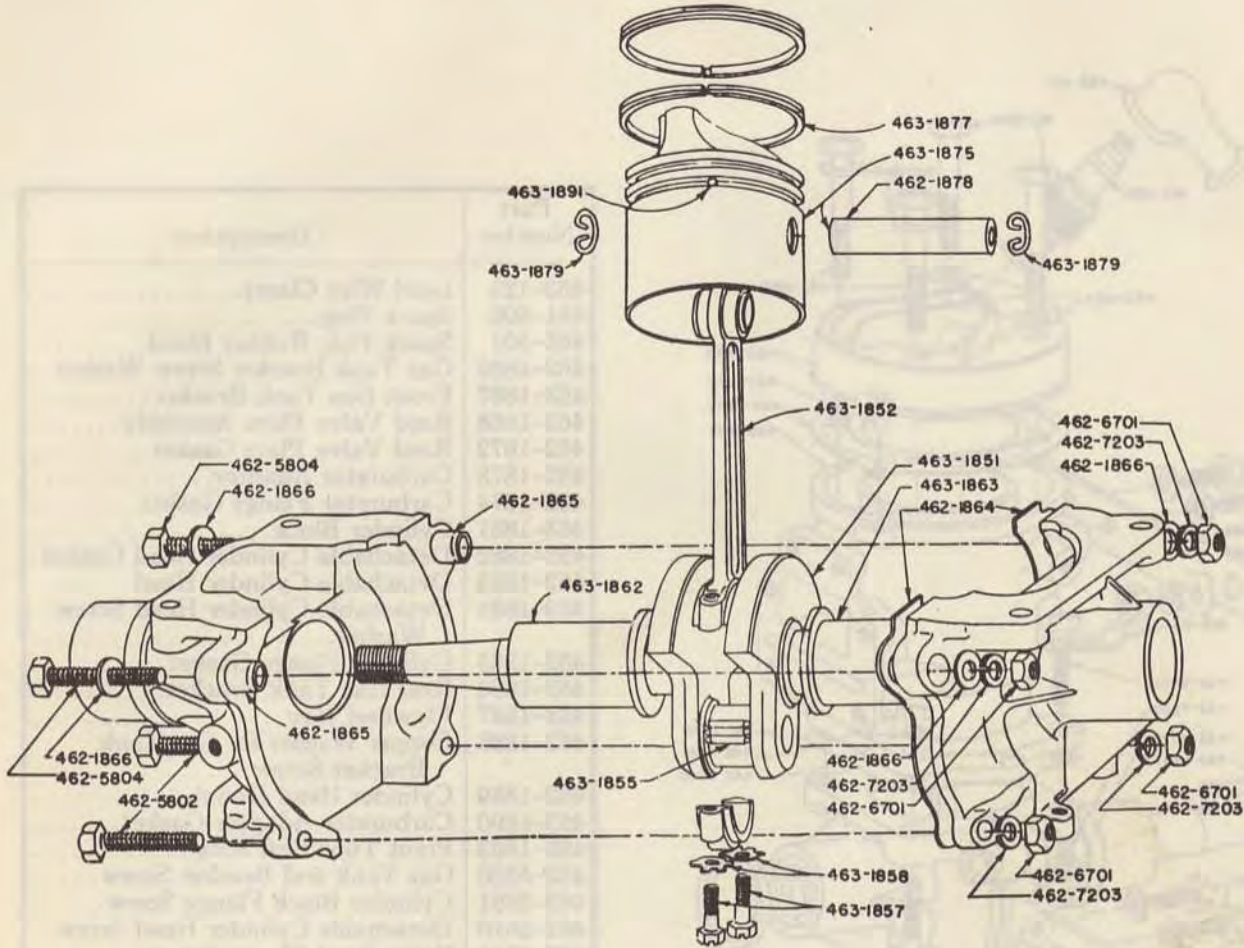
BOOT KIT

INSTALLING SCAVENGER LINE FITTINGS

Remove the lower motor casing and front half of the crankcase from the motor. Using Vise-Grips, or another suitable tool, remove the two scavenger line fittings from the front half of the crankcase and plug these holes with the self-tapping screws provided. Next, at a distance of $9/16$ " from the crankshaft centerline and $5/8$ " from the bottom of the casting, drill two holes with a $13/64$ " drill as shown. Seat the new fittings into the drilled holes by tapping them lightly with a hammer and connect the scavenger lines.



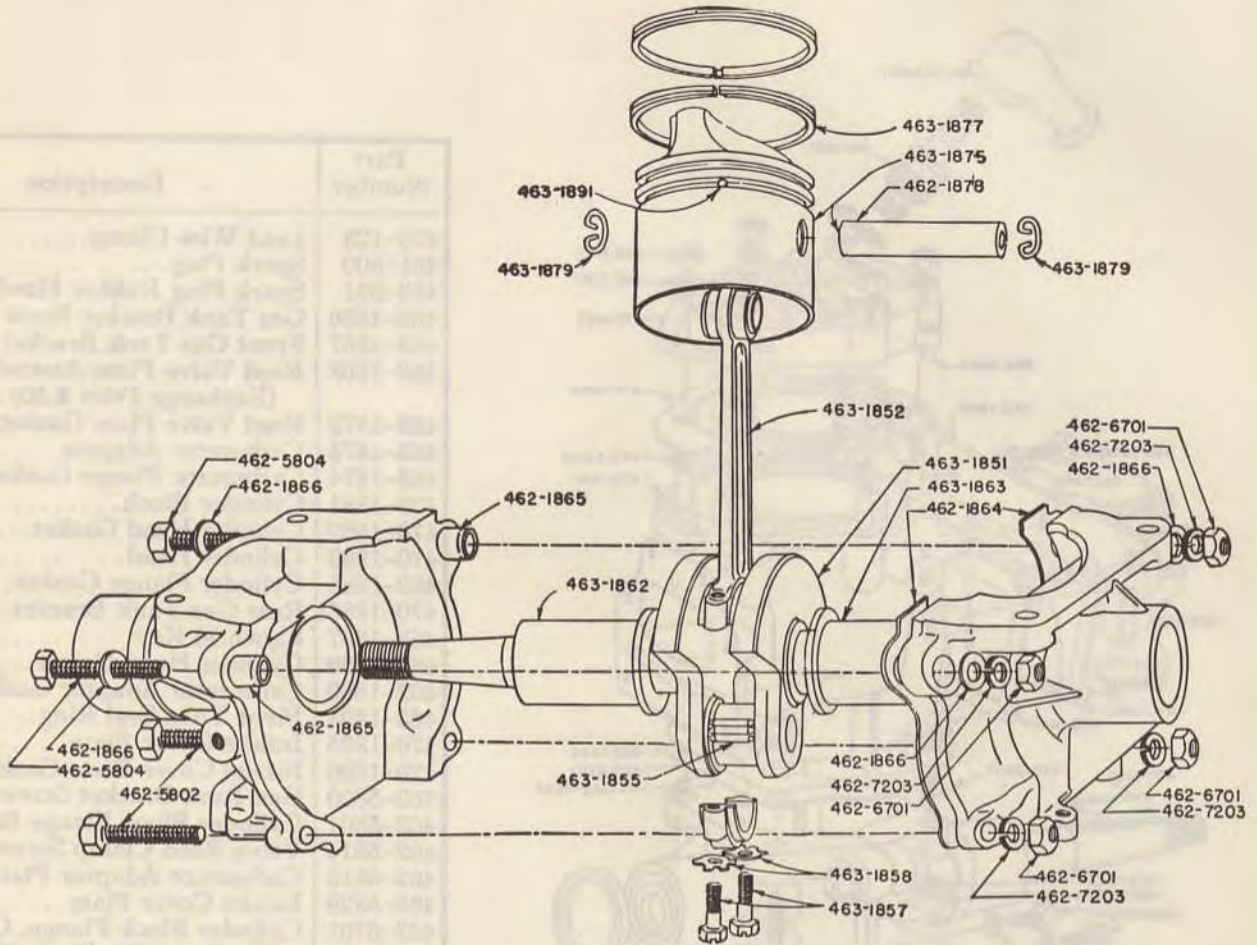
CRANKCASE 461-467



Part Number	Description
463-1851	Crankshaft.....
463-1852	Connecting Rod & Cap (Includes 463-1855, 463-1858 & 463-1857).....
463-1855	Connecting Rod Crank Pin Roller Set (24).....
	Note: When replacing rollers of a Connecting Rod that is identified by a white mark, order 463-1855-0 (oversize—23 per set).....
463-1857	Connecting Rod Screw.....
463-1858	Connecting Rod Screw Lock.....
463-1860	Crankcase Assembly (Includes Upper and Lower Halves of Crankcase with Bearings).....

Part Number	Description
463-1862	Upper Crankshaft Bearing.....
463-1863	Lower Crankshaft Bearing.....
462-1864	Crankcase Gasket.....
462-1865	Crankcase Dowel.....
462-1866	Crankcase Dowel Washer.....
463-1875	Piston and Pin.....
463-1877	Piston Ring.....
462-1878	Piston Pin.....
463-1879	Piston Pin Lock.....
463-1891	Piston Ring Pin.....
462-5802	Front Crankcase Flange Screw.....
462-5804	Rear Crankcase Flange Screw.....
462-6701	Crankcase Flange Screw Nut.....
462-7203	Lock Washer for Crankcase Flange Screw Nut.....

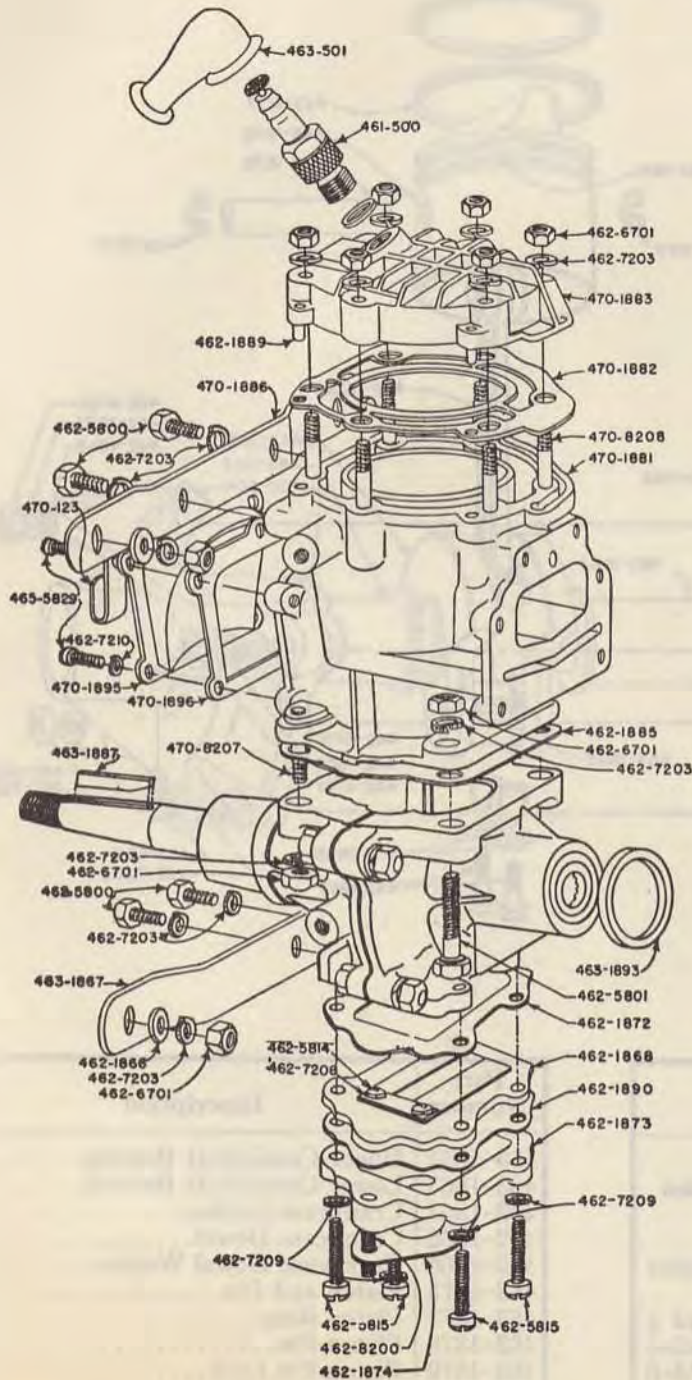
CRANKCASE 470-471



Part Number	Description
463-1851	Crankshaft.....
463-1852	Connecting Rod & Cap (Includes 463-1855, 463-1858 & 463-1857).....
463-1855	Connecting Rod Crank Pin Roller Set (24)..... Note: When replacing rollers of a Connecting Rod that is identified by a white mark, order 463-1855-0 (oversize—23 per set).....
463-1857	Connecting Rod Screw.....
463-1858	Connecting Rod Screw Lock.....
470-1860	Crankcase Assembly (Includes Upper and Lower Halves of Crankcase with Bearings).....

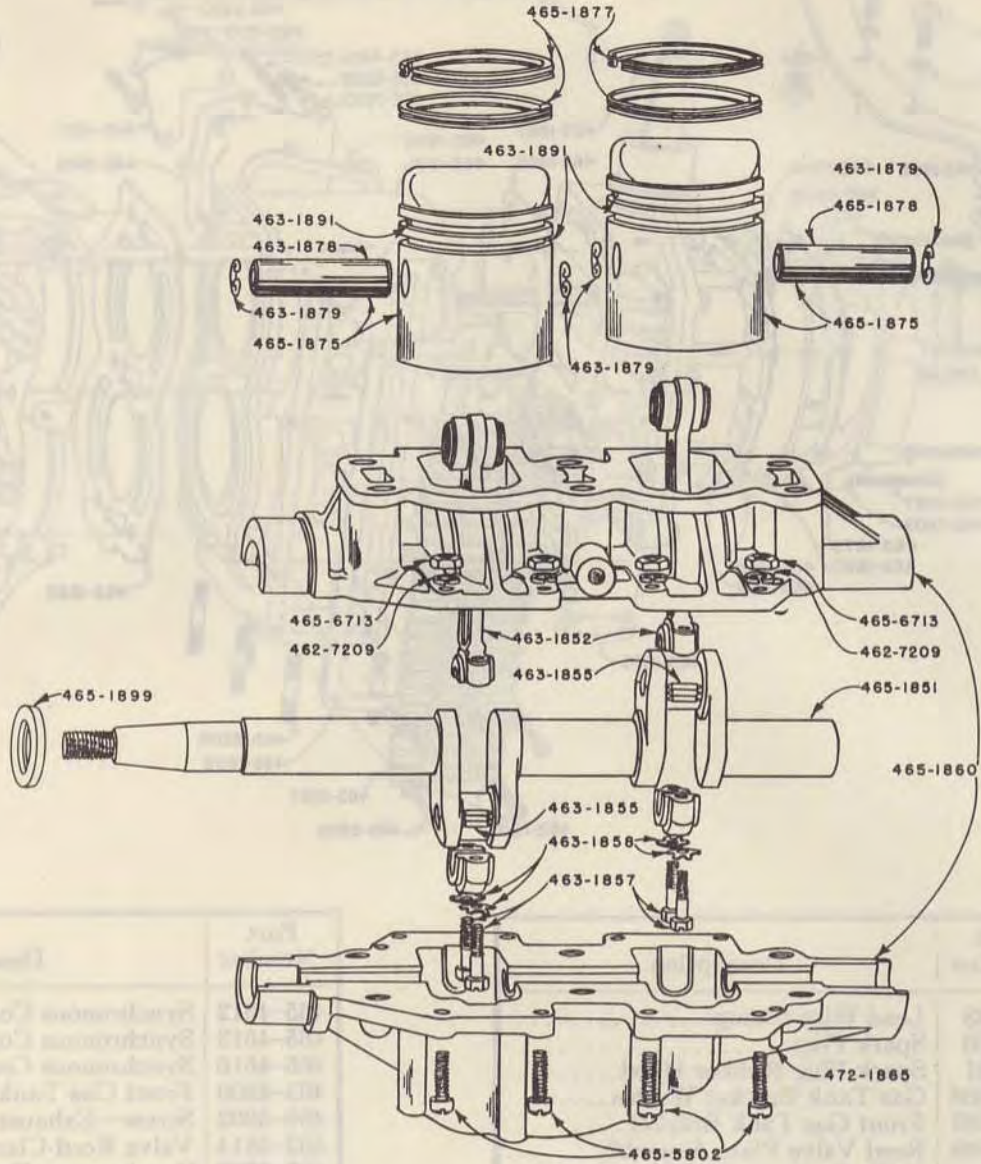
Part Number	Description
463-1862	Upper Crankshaft Bearing.....
463-1863	Lower Crankshaft Bearing.....
462-1864	Crankcase Gasket.....
462-1865	Crankcase Dowel.....
462-1866	Crankcase Dowel Washer.....
463-1875	Piston and Pin.....
463-1877	Piston Ring.....
462-1878	Piston Pin.....
463-1879	Piston Pin Lock.....
463-1891	Piston Ring Pin.....
462-5802	Front Crankcase Flange Screw.....
462-5804	Rear Crankcase Flange Screw.....
462-6701	Crankcase Flange Screw Nut.....
462-7203	Lock Washer for Crankcase Flange Screw Nut.....

POWER HEAD 470-471



Part Number	Description
470-123	Lead Wire Clamp.....
461-500	Spark Plug.....
463-501	Spark Plug Rubber Hood.....
462-1866	Gas Tank Bracket Screw Washer..
463-1867	Front Gas Tank Bracket.....
462-1868	Reed Valve Plate Assembly (Exchange Price \$.50).....
462-1872	Reed Valve Plate Gasket.....
462-1873	Carburetor Adaptor.....
462-1874	Carburetor Flange Gasket.....
470-1881	Cylinder Block.....
470-1882	Cylinder Head Gasket.....
470-1883	Cylinder Head.....
462-1885	Cylinder Flange Gasket.....
470-1886	Rear Gas Tank Bracket.....
463-1887	Flywheel Key.....
462-1889	Cylinder Head Dowel.....
462-1890	Carburetor Adaptor Gasket.....
463-1893	Pivot Tube Seal Ring.....
470-1895	Intake Cover Plate.....
470-1896	Intake Cover Plate Gasket.....
462-5800	Gas Tank Bracket Screw.....
462-5801	Cylinder Block Flange Screw.....
462-5814	Valve Reed Clamp Screw.....
462-5815	Carburetor Adaptor Plate Screw..
465-5829	Intake Cover Plate.....
462-6701	Cylinder Block Flange, Cylinder Head and Gas Tank Nut.....
462-7203	Lock Washer—Gas Tank, Cylinder Block Flange, Cylinder Head and Bracket.....
462-7208	Lock Washer—Valve Reed Clamp Screw.....
462-7209	Lock Washer—Carburetor Adaptor Plate.....
462-7210	Lock Washer—Intake Cover Plate..
462-8200	Carburetor Flange Stud.....
470-8207	Cylinder Block Flange Stud.....
470-8208	Cylinder Head Stud.....

CRANKCASE 473



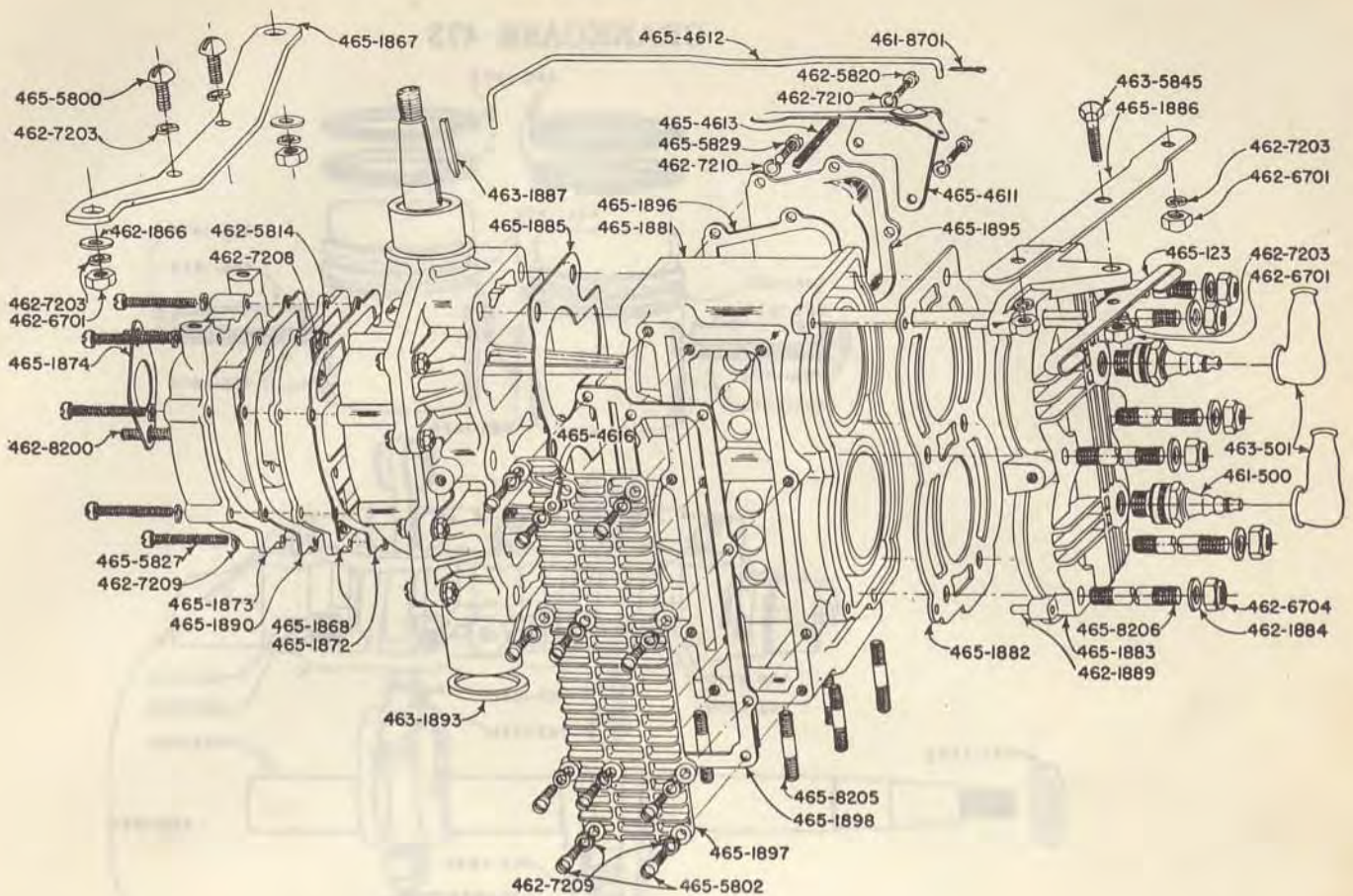
Part Number	Description
465-1851	Crankshaft.....
463-1852	Connecting Rod Assembly (Includes 463-1855, 463-1858 and 463-1857).....
*463-1855	Connecting Rod Crank Pin Roller Set (24).....
	NOTE: When replacing rollers of a connecting rod that is identified by a white mark, order 463-1855-0 (23 per set).....
463-1857	Connecting Rod Screw.....
463-1858	Connecting Rod Screw Lock.....
465-1860	Crankcase Assembly (Includes Front and Rear Halves of Crankcase with Bearings).....

*Sold in sets only, to maintain uniformity

Part Number	Description
472-1865	Crankcase Dowel.....
465-1875	Piston and Pin.....
465-1877	Piston Ring.....
465-1878	Piston Pin.....
463-1879	Piston Pin Lock.....
463-1891	Piston Ring Pin.....
465-1899	Oil Seal—Upper Crankcase Bearing.....
465-5802	Screw—Crankcase Flange.....
465-6713	Nut—Crankcase Flange Screw.....
462-7209	Lock Washer—Crankcase Flange Screw Nut.....

POWERHEAD 473

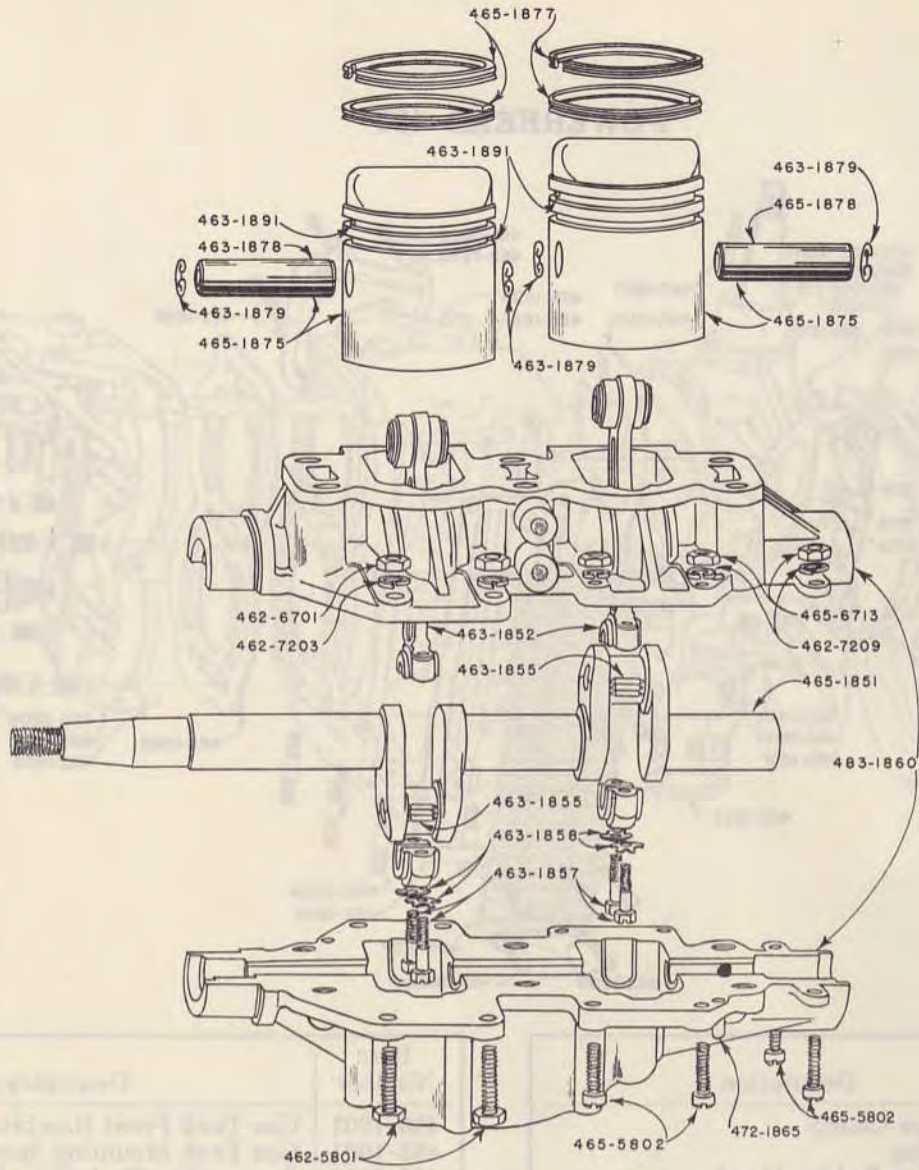
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Part Number	Description
465-123	Lead Wire Clamp.....
461-500	Spark Plug.....
463-501	Spark Plug Rubber Hood.....
462-1866	Gas Tank Bracket Washer.....
465-1867	Front Gas Tank Bracket.....
465-1868	Reed Valve Plate Assembly..... (Exchange at \$1.00)
465-1872	Valve Reed Plate Gasket.....
465-1873	Intake Manifold.....
465-1874	Carburetor Flange Gasket.....
465-1881	Cylinder Block.....
465-1882	Cylinder Head Gasket.....
465-1883	Detachable Cylinder Head.....
462-1884	Detachable Cylinder Head Washer.....
465-1885	Cylinder Flange Gasket.....
465-1886	Rear Gas Tank Bracket.....
463-1887	Flywheel Key.....
462-1889	Cylinder Head Dowel.....
465-1890	Intake Manifold Gasket.....
463-1893	Pivot Tube Seal Ring.....
465-1895	Intake Cover Plate.....
465-1896	Intake Cover Plate Gasket.....
465-1897	Exhaust Cover Plate.....
465-1898	Exhaust Cover Plate Gasket.....
465-4611	Synchronous Control Lever and Bracket Assembly.....

Part Number	Description
465-4612	Synchronous Control Link.....
465-4613	Synchronous Control Lever Spring.....
465-4616	Synchronous Control Spring Lug.....
465-5800	Front Gas Tank Bracket Screw.....
465-5802	Screw—Exhaust Cover Plate.....
462-5814	Valve Reed Clamp Screw.....
462-5820	Synchronous Control Bracket Screw (2).....
465-5827	Intake Manifold Screw (long).....
462-5815	Intake Manifold Screw (short).....
465-5829	Intake Cover Plate Screw.....
463-5845	Gas Tank Rear Bracket Mounting Screw.....
462-6701	Gas Tank Bracket Nut.....
462-6704	Lock Nut—Cylinder Head.....
462-7203	Lock Washer— $\frac{1}{4}$ " Common.....
462-7208	Lock Washer—Valve Reed Clamp Screw.....
462-7209	Lock Washer—#10 Common.....
462-7210	Lock Washer—#8 Common.....
462-8200	Carburetor Stud.....
465-8205	Stud—Cylinder Exhaust Flange.....
465-8206	Stud—Cylinder Block.....
461-8701	Synchronous Control Cotter Pin.....

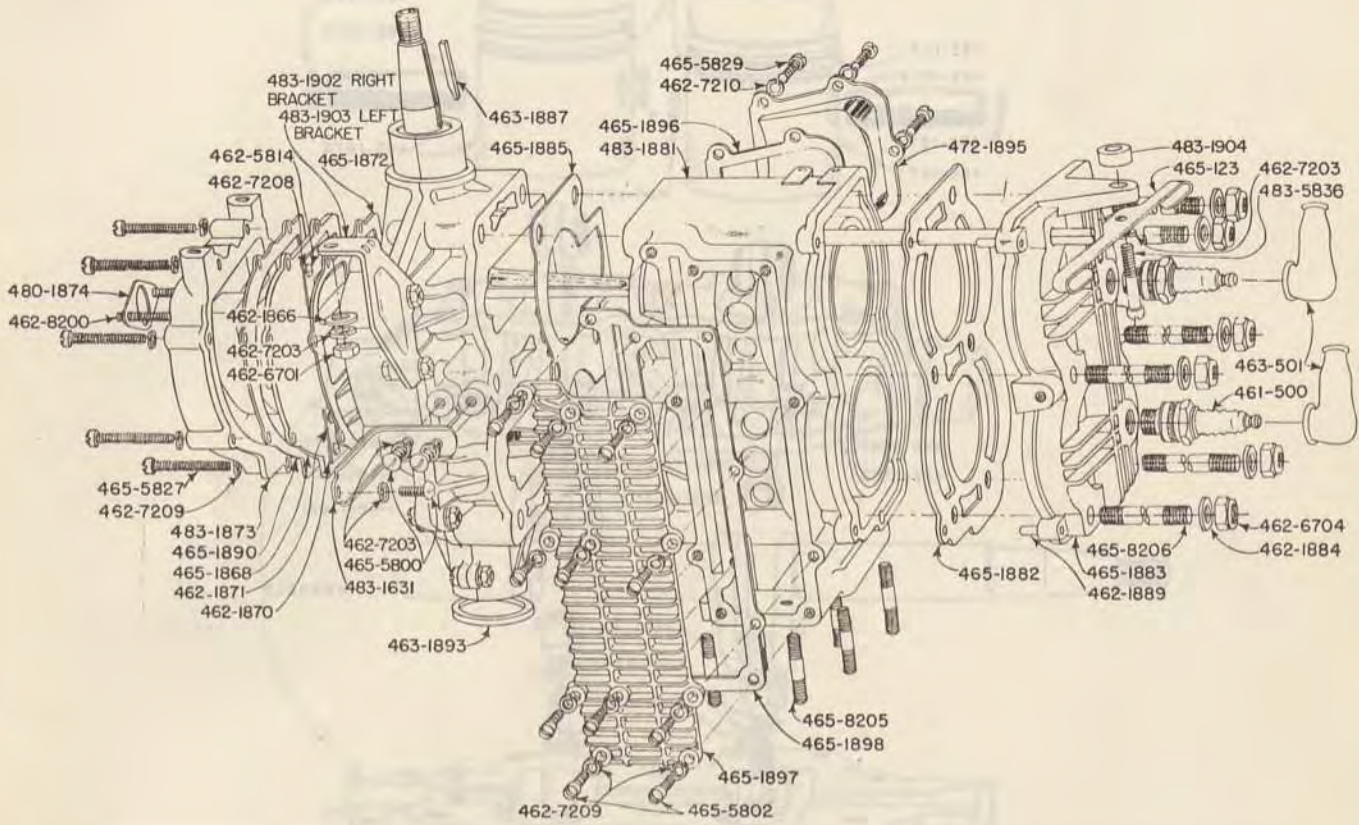
CRANKCASE 483



Part Number	Description
465-1851	Crankshaft
463-1852	Connecting Rod Assembly (Includes 463-1855, 463-1858 and 463-1857)
*463-1855	Connecting Rod Crank Pin Roller Set (24) NOTE: When replacing rollers of a connecting rod that is identified by a white mark, order 463-1855-0 (23 per set)
463-1857	Connecting Rod Screw
463-1858	Connecting Rod Screw Lock
483-1860	Crankcase Assembly (Includes Front and Rear Halves of Crankcase with Bearings)
*Sold in sets only, to maintain uniformity	

Part Number	Description
472-1865	Crankcase Dowel
465-1875	Piston and Pin
465-1877	Piston Ring
465-1878	Piston Pin
463-1879	Piston Pin Lock
463-1891	Piston Ring Pin
462-5801	Screw (Long)—Crankcase Flange
465-5802	Screw (Short)—Crankcase Flange
462-6701	Nut—Crankcase Flange Screw (Long)
465-6713	Nut—Crankcase Flange Screw (Short)
462-7203	Lockwasher—Crankcase Flange
462-7209	Lock Washer—Crankcase Flange
	Screw (Long) Nut
	Screw (Short) Nut

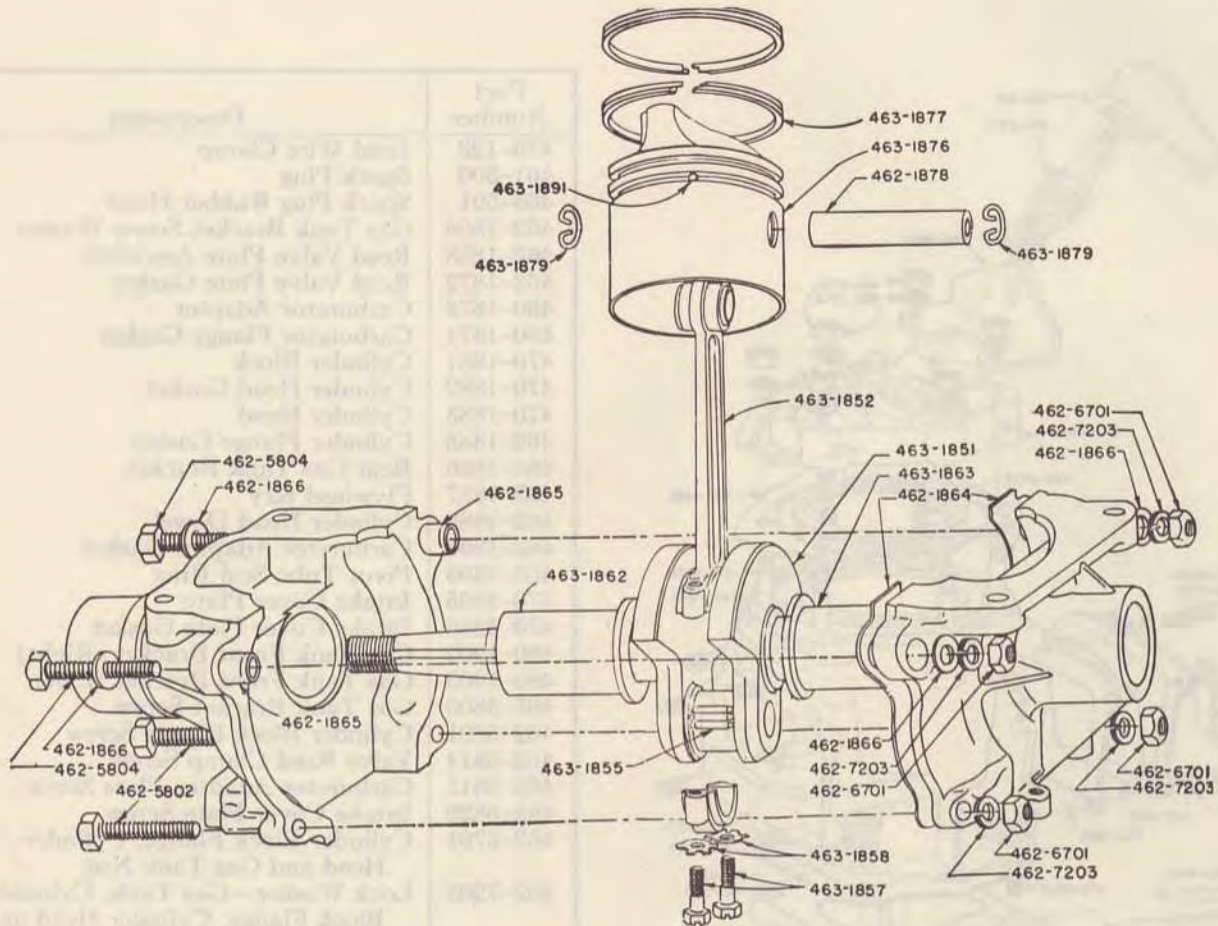
POWERHEAD 483



Part Number	Description
465-123	Lead Wire Clamp
461-500	Spark Plug
463-501	Spark Plug Rubber Hood
483-1631	Gas Tank Skirt Bracket
462-1866	Gas Tank Bracket Washer (Front)
465-1868	Reed Valve Plate Assembly
465-1872	Valve Reed Plate Gasket
483-1873	Intake Manifold
480-1874	Carburetor Flange Gasket
483-1881	Cylinder Block
465-1882	Cylinder Head Gasket
465-1883	Detachable Cylinder Head
462-1884	Detachable Cylinder Head Washer
465-1885	Cylinder Flange Gasket
463-1887	Flywheel Key
462-1889	Cylinder Head Dowel
465-1890	Intake Manifold Gasket
463-1893	Pivot Tube Seal Ring
472-1895	Intake Cover Plate
465-1896	Intake Cover Plate Gasket
465-1897	Exhaust Cover Plate
465-1898	Exhaust Cover Plate Gasket
483-1902	Gas Tank Front Bracket (Right)

Part Number	Description
483-1903	Gas Tank Front Bracket (Left)
483-1904	Gas Tank Mounting Spacer (Rear)
465-5800	Screw—Gas Tank Skirt Front Bracket
465-5802	Screw—Exhaust Cover Plate
462-5814	Valve Reed Clamp Screw
462-5815	Intake Manifold Screw (short)
465-5827	Intake Manifold Screw (long)
465-5829	Intake Cover Plate Screw
483-5836	Screw—Gas Tank Mounting (Rear)
462-6701	Nut—Gas Tank Mounting Screw
462-6704	Lock Nut—Cylinder Head
462-7203	Lock Washer—Gas Tank Mounting
462-7203	Lock Washer—Gas Tank Skirt Mounting Screw
462-7208	Lock Washer—Valve Reed Clamp Screw
462-7209	Lock Washer—Intake Manifold
462-7210	Lock Washer—Intake Cover Plate
462-8200	Carburetor Stud
465-8205	Stud—Cylinder Exhaust Flange
465-8206	Stud—Cylinder Block
462-7209	Lock Washer—Exhaust Cover Plate Screw

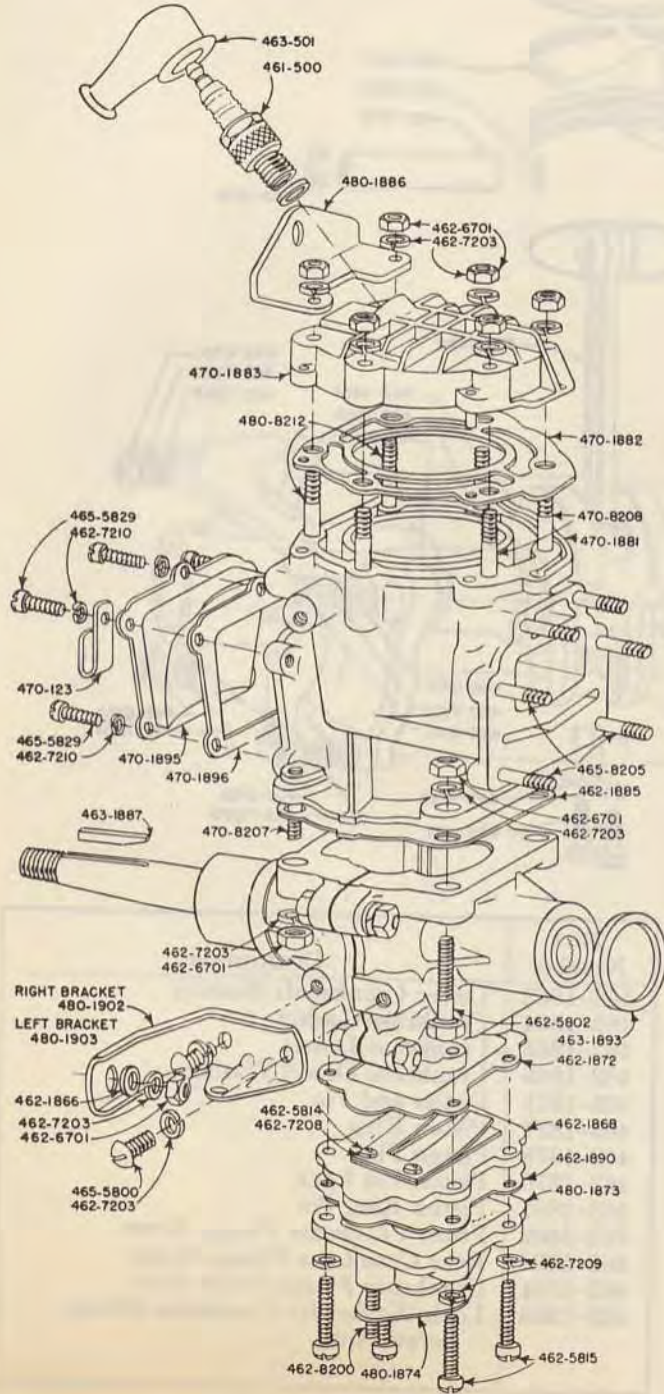
CRANKCASE 480 - 481



Part Number	Description
463-1851	Crankshaft
463-1852	Connecting Rod & Cap (Includes 463-1855, 463-1858 & 463-1857)
463-1855	Connecting Rod Crank Pin Roller Set (24) Note: When replacing rollers of a Connecting Rod that is identified by a white mark, order 463-1855-0 (oversize—23 per set)
463-1857	Connecting Rod Screw
463-1858	Connecting Rod Screw Lock
470-1860	Crankcase Assembly (Includes Upper and Lower Halves of Crankcase with Bearings)
463-1862	Upper Crankshaft Bearing

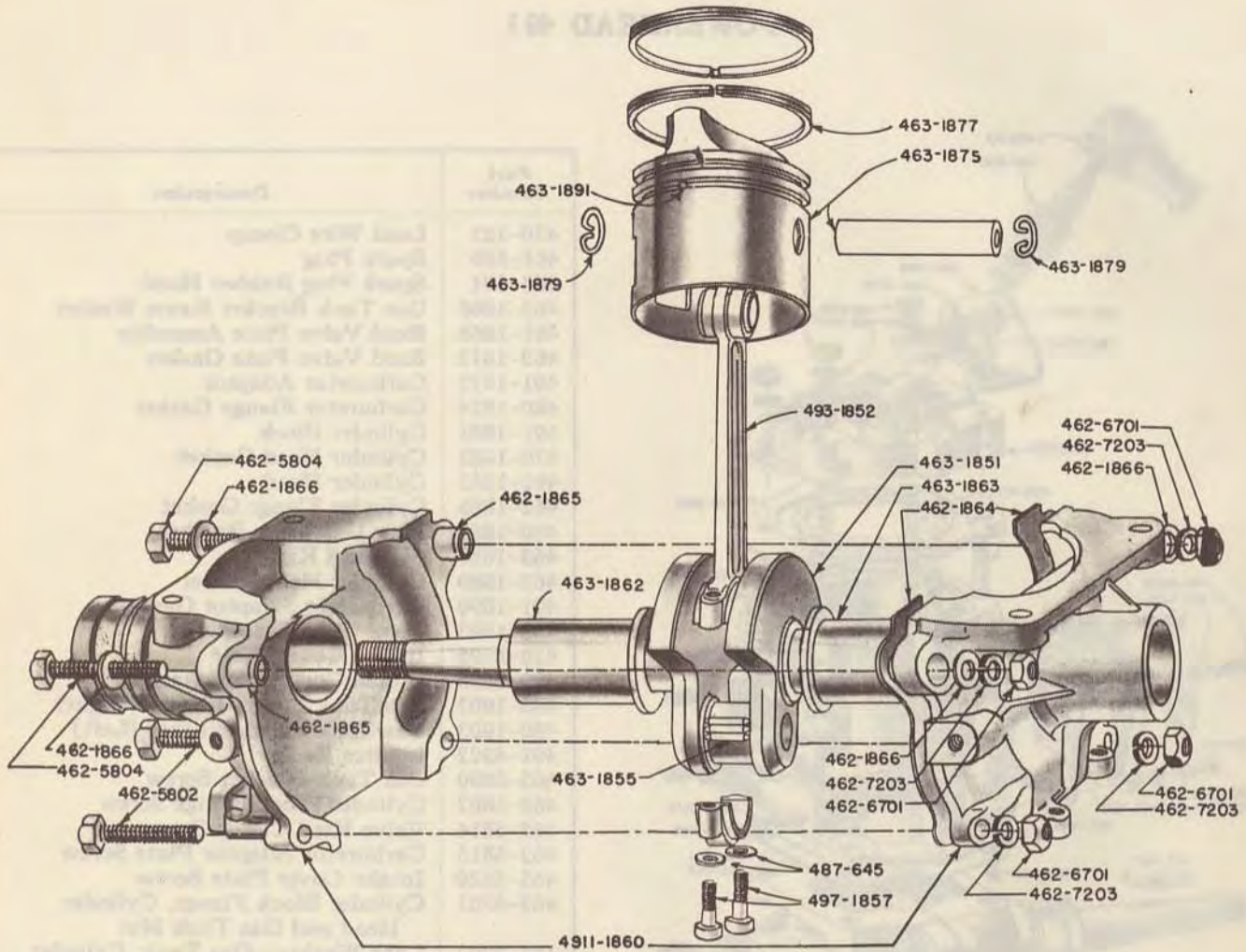
Part Number	Description
463-1863	Lower Crankshaft Bearing
462-1864	Crankcase Gasket
462-1865	Crankcase Dowel
462-1866	Crankcase Dowel Washer
463-1875	Piston and Pin
463-1877	Piston Ring
462-1878	Piston Pin
463-1879	Piston Pin Lock
463-1891	Piston Ring Pin
462-5802	Front Crankcase Flange Screw
462-5804	Rear Crankcase Flange Screw
462-6701	Crankcase Flange Screw Nut
462-7203	Lock Washer for Crankcase Flange Screw Nut

POWERHEAD 480 - 481



Part Number	Description
470-123	Lead Wire Clamp
461-500	Spark Plug
463-501	Spark Plug Rubber Hood
462-1866	Gas Tank Bracket Screw Washer
462-1868	Reed Valve Plate Assembly
462-1872	Reed Valve Plate Gasket
480-1873	Carburetor Adaptor
480-1874	Carburetor Flange Gasket
470-1881	Cylinder Block
470-1882	Cylinder Head Gasket
470-1883	Cylinder Head
462-1885	Cylinder Flange Gasket
480-1886	Rear Gas Tank Bracket
463-1887	Flywheel Key
462-1889	Cylinder Head Dowel
462-1890	Carburetor Adaptor Gasket
463-1893	Pivot Tube Seal Ring
470-1895	Intake Cover Plate
470-1896	Intake Cover Plate Gasket
480-1902	Gas Tank Front Bracket (Right)
480-1903	Gas Tank Front Bracket (Left)
465-5800	Gas Tank Bracket Screw
462-5801	Cylinder Block Flange Screw
462-5814	Valve Reed Clamp Screw
462-5815	Carburetor Adaptor Plate Screw
465-5829	Intake Cover Plate Screw
462-6701	Cylinder Block Flange, Cylinder Head and Gas Tank Nut
462-7203	Lock Washer—Gas Tank, Cylinder Block Flange, Cylinder Head and Bracket
462-7208	Lock Washer—Valve Reed Clamp Screw
462-7209	Lock Washer—Carburetor Adaptor Plate
462-7210	Lock Washer—Intake Cover Plate
462-8200	Carburetor Flange Stud
465-8205	Stud Cylinder Exhaust Flange
470-8207	Cylinder Block Flange Stud
470-8208	Cylinder Head Stud
480-8212	Stud Upper Cylinder Head

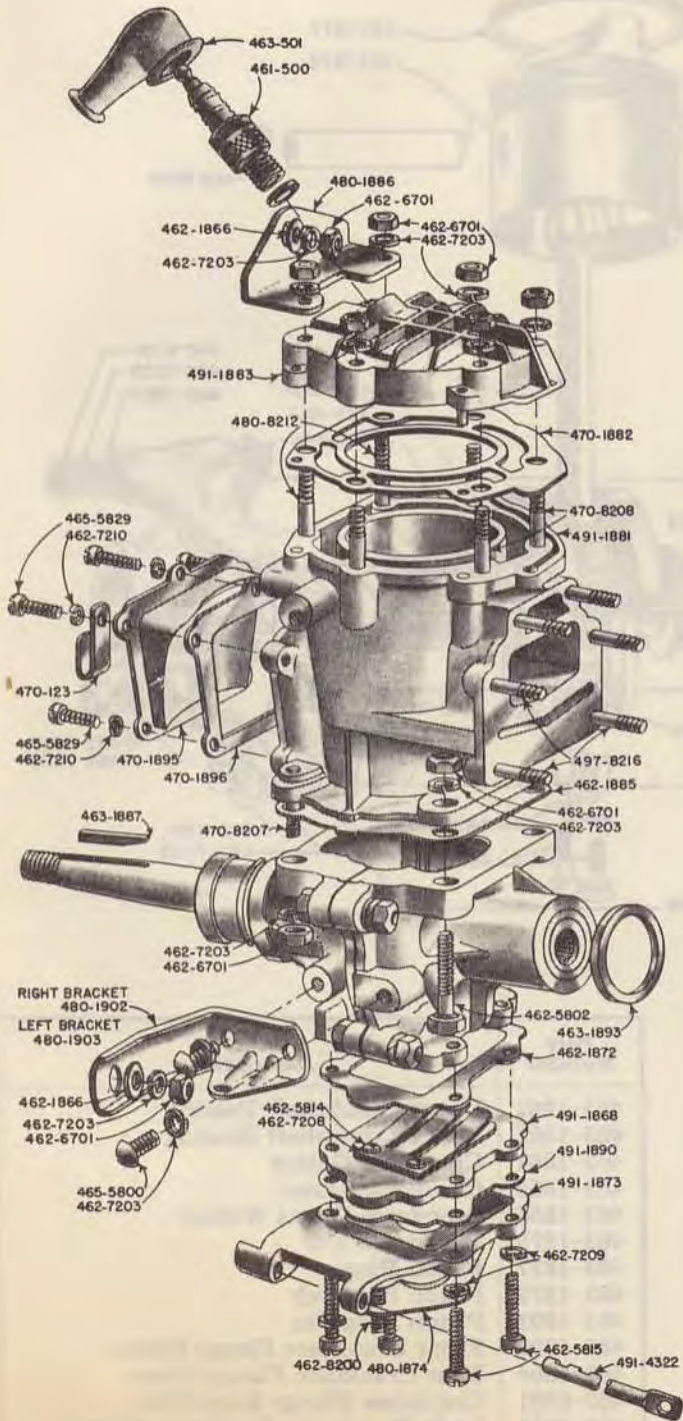
CRANKCASE 491



Part Number	Description
463-1851	Crankshaft
493-1852	Connecting Rod and Cap (Includes 463-1855, 487-645 and 497-1857)
463-1855	Connecting Rod Crank Pin Roller Set (24)
	NOTE: When replacing rollers of a connecting Rod that is identified by a white mark, order 463-1855-0 (oversize—23 per set)
497-1857	Connecting Rod Screw
487-645	Connecting Rod Screw Lock
4911-1860	Crankcase Assembly (Includes Upper and Lower Halves of Crankcase with Bearings)

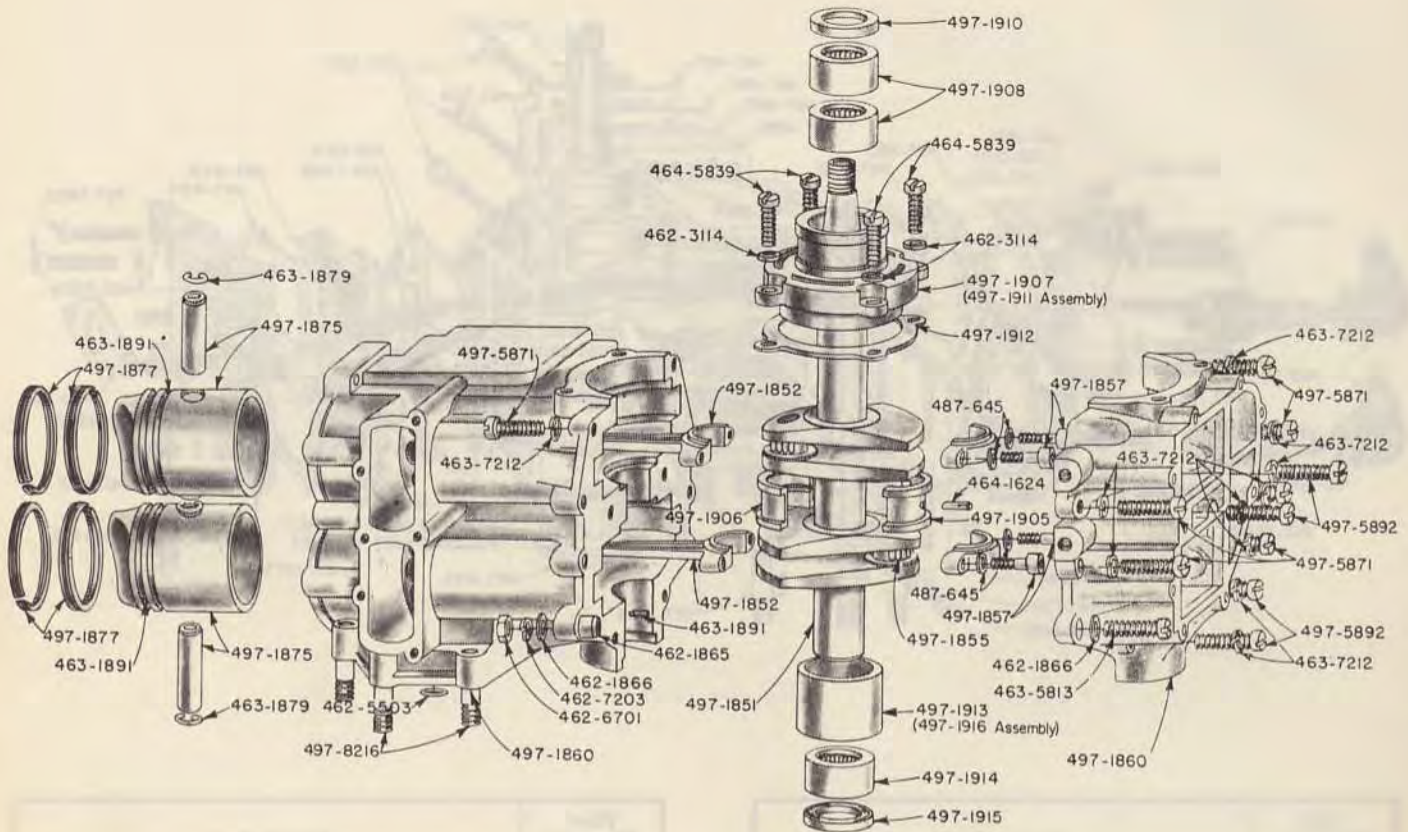
Part Number	Description
463-1862	Upper Crankshaft Bearing
463-1863	Lower Crankshaft Bearing
462-1864	Crankcase Gasket
462-1865	Crankcase Dowel
462-1866	Crankcase Dowel Washer
463-1875	Piston and Pin
463-1877	Piston Ring
463-1879	Piston Pin Lock
463-1891	Piston Ring Pin
462-5802	Front Crankcase Flange Screw
462-5804	Rear Crankcase Flange Screw
462-6701	Crankcase Flange Screw Nut
462-7203	Lock Washer for Crankcase Flange Screw Nut

POWERHEAD 491



Part Number	Description
470-123	Lead Wire Clamp
461-500	Spark Plug
463-501	Spark Plug Rubber Hood
462-1866	Gas Tank Bracket Screw Washer
491-1868	Reed Valve Plate Assembly
462-1872	Reed Valve Plate Gasket
491-1873	Carburetor Adaptor
480-1874	Carburetor Flange Gasket
491-1881	Cylinder Block
470-1882	Cylinder Head Gasket
491-1883	Cylinder Head
462-1885	Cylinder Flange Gasket
480-1886	Rear Gas Tank Bracket
463-1887	Flywheel Key
462-1889	Cylinder Head Dowel
491-1890	Carburetor Adaptor Gasket
463-1893	Pivot Tube Seal Ring
470-1895	Intake Cover Plate
470-1896	Intake Cover Plate Gasket
480-1902	Gas Tank Front Bracket (Right)
480-1903	Gas Tank Front Bracket (Left)
491-4322	Limit Rod
465-5800	Gas Tank Bracket Screw
462-5802	Cylinder Block Flange Screw
462-5814	Valve Reed Clamp Screw
462-5815	Carburetor Adaptor Plate Screw
465-5829	Intake Cover Plate Screw
462-6701	Cylinder Block Flange, Cylinder Head and Gas Tank Nut
462-7203	Lock Washer—Gas Tank, Cylinder Block Flange, Cylinder Head and Bracket
462-7208	Lock Washer—Valve Reed Clamp Screw
462-7209	Lock Washer—Carburetor Adaptor Plate
462-7210	Lock Washer—Intake Cover Plate
462-8200	Carburetor Flange Stud
470-8207	Cylinder Block Flange Stud
470-8208	Cylinder Head Stud
480-8212	Stud Upper Cylinder Head
497-8216	Cyl. Exhaust Flange Stud

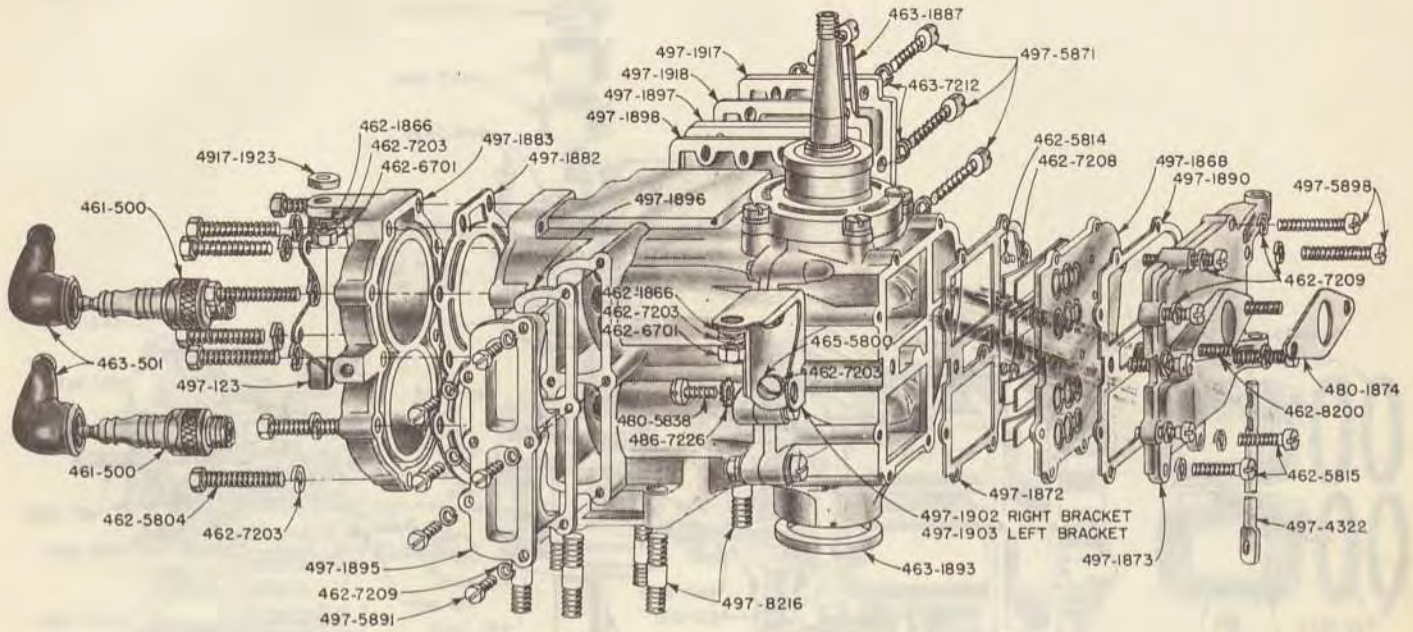
CRANKCASE 497



Part Number	Description
487-645	Connecting Rod Screw Washer
464-1624	Groove Pin—Bearing Retainer
497-1851	Crankshaft
497-1852	Connecting Rod Assembly
497-1855	Connecting Rod Crank Pin Roller (Set)
497-1857	Connecting Rod Screw
497-1860	Crankcase and Block Assembly
462-1865	Hollow—Dowel
462-1866	Washer—Dowel Screw
497-1875	Piston Assembly
497-1877	Piston Ring
463-1879	Piston Pin Lock
463-1891	Piston Ring Pin
463-1891	Pin—Lower Bearing
497-1905	Center Bearing—Front
497-1906	Center Bearing—Rear
497-1907	Magneto Mount Bearing Cage
497-1908	Needle Bearing—Magneto Mount
497-1910	Oil Seal—Magneto Mount
497-1911	Magneto Mount Assembly (includes 497-1907, 497-1908, 497-1910)

Part Number	Description
497-1912	Gasket—Mag. Mount Bearing Cage
497-1913	Retainer—Lower Crankshaft Bearing
497-1914	Needle Bearing
497-1915	Oil Seal
497-1916	Lower Crankshaft Bearing Retainer Assembly (includes 497-1913, 497-1914, 497-1915)
462-3114	Washer—Magneto Mount Bearing Cage
462-5503	“O” Ring—Water Inlet
463-5813	Screw—Dowel
464-5839	Screw—Magneto Mount Bearing Cage
497-5871	Screw—Crankcase Flange
497-5892	Screw—Center and Lower Main Bearing
462-6701	Nut—Dowel Screw
462-7203	L.W.—Dowel
463-7212	L.W.—Flange and Bearing Screw
497-8216	Stud—Cylinder Exhaust Flange

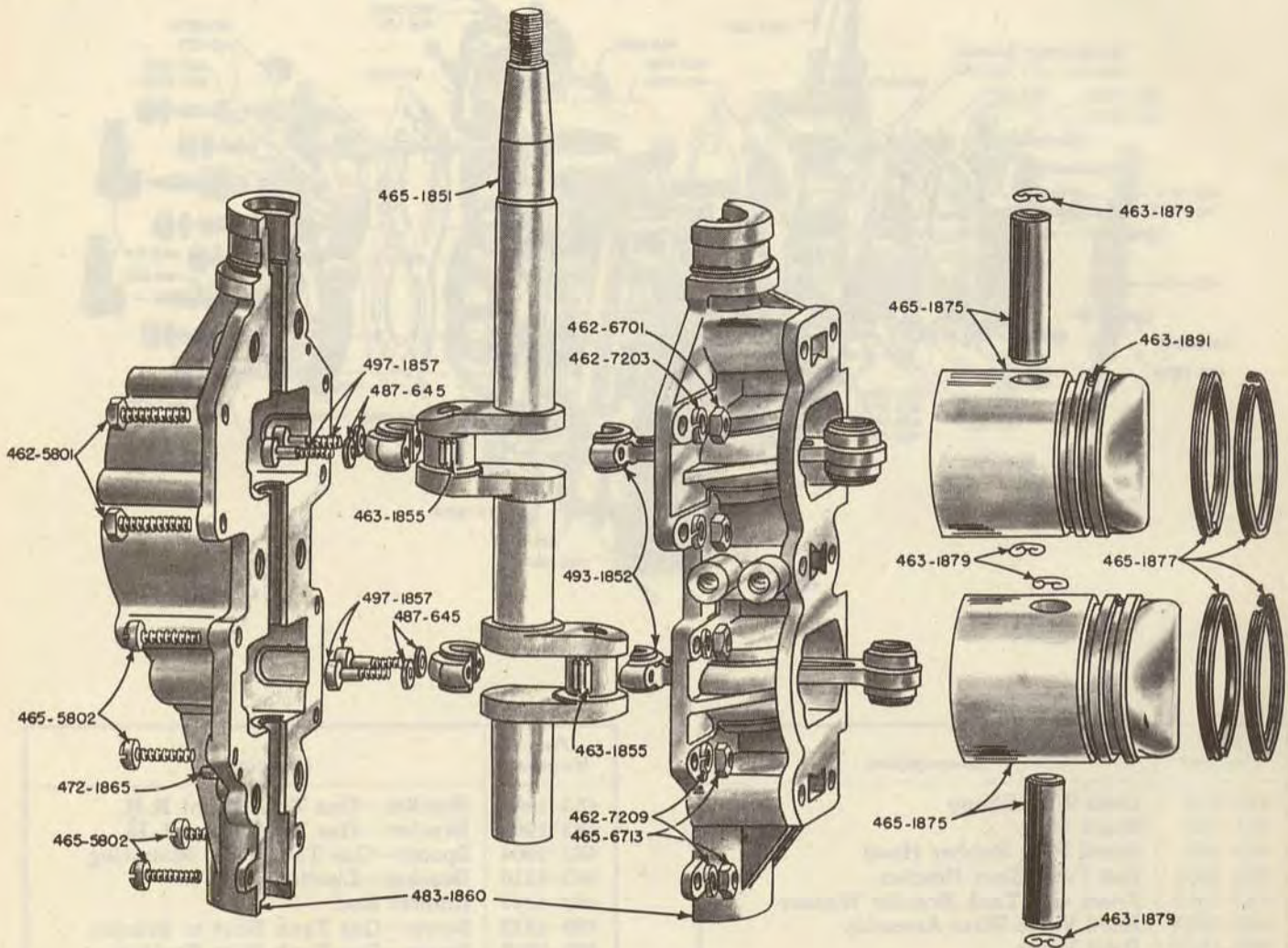
POWERHEAD 497



Part Number	Description
497-123	Lead Wire Clamp
461-500	Spark Plug
463-501	Spark Plug Rubber Hood
462-1866	Washer—Gas Tank Bracket
497-1868	Reed Valve Plate Assembly
497-1872	Valve Reed Plate Gasket
497-1873	Intake Manifold
480-1874	Carburetor Flange Gasket
497-1882	Cylinder Head Gasket
497-1883	Detachable Cylinder Head
463-1887	Flywheel Key
497-1890	Intake Manifold Gasket
463-1893	Pivot Tube Seal Ring
497-1895	Intake Cover Plate
497-1896	Intake Cover Plate Gasket
497-1897	Exhaust Cover Plate
497-1898	Exhaust Cover Plate Gasket
497-1902	Gas Tank Bracket (RH)
497-1903	Gas Tank Bracket (LH)
497-1917	Water Cover Plate
497-1918	Gasket—Water Cover Plate
4917-1923	Spacer—Gas Tank (Rear)
497-4322	Limitor Rod
465-5800	Screw—Gas Tank Bracket to Powerhead

Part Number	Description
462-5804	Screw—Cylinder Head
462-5814	Screw—Valve Reed Clamp
462-5815	Screw—Intake Manifold—Short
480-5838	Screw—Gas Tank Skirt—Front
497-5871	Screw—Water Cover Plate
497-5891	Screw—Intake Cover Plate
497-5898	Screw—Intake Manifold—Long
497-5901	Screw—Water Cover Plate (Not Shown)
462-6701	Nut—Gas Tank Mounting Screw
462-7203	Lockwasher—Gas Tank Bracket
462-7203	Lockwasher—Bracket Screw
462-7203	Lockwasher—Cylinder Head
462-7208	Lockwasher—Valve Reed Clamp Screw
462-7209	Lockwasher—Intake Manifold Screw
462-7209	Lockwasher—Intake Cover Plate Screw
463-7212	Lockwasher—Water Cover Plate
463-7212	Lockwasher—Flange and Bearing Screw
461-7220	Lockwasher—Water Cover Plate (Not Shown)
486-7226	Lockwasher—Skirt Mounting
462-8200	Carburetor Flange Stud
497-8216	Stud—Cylinder Exhaust Flange

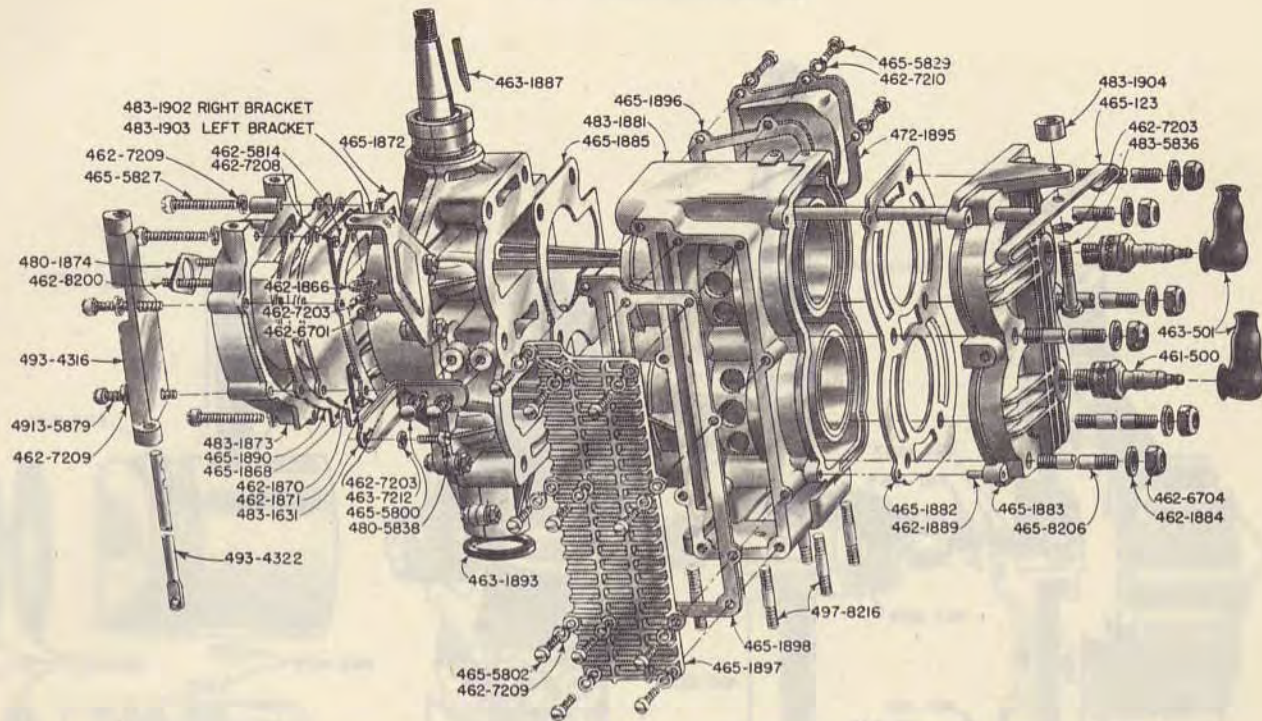
CRANKCASE 493



Part Number	Description
487-645	Connecting Rod Screw Washer
465-1851	Crankshaft
493-1852	Connecting Rod Assembly (Includes 463-1855, 487-645 and 497-1857)
*463-1855	Connecting Rod Crank Pin Roller Set (24) NOTE: When replacing rollers of a connecting rod that is identified by a white mark, order 463-1855-0 (23 per set)
497-1857	Connecting Rod Screw *Sold in sets only, to maintain uniformity.

Part Number	Description
483-1860	Crankcase Assembly (Includes Front and Rear Halves of Crankcase with Bearings)
472-1865	Crankcase Dowel
465-1875	Piston and Pin
465-1877	Piston Ring
463-1879	Piston Pin Lock
463-1891	Piston Ring Pin
462-5801	Screw-Crankcase Flange
465-5802	Screw-Crankcase Flange
462-6701	Nut-Crankcase Flange Screw
465-6713	Nut-Crankcase Flange Screw
462-7203	Lock Washer-Crankcase Flange
462-7209	Lock Washer-Crankcase Flange Screw Nut

POWERHEAD 493



Part Number	Description
465-123	Lead Wire Clamp
461-500	Spark Plug
463-501	Spark Plug Rubber Hood
483-1631	Gas Tank Skirt Bracket
462-1866	Front Gas Tank Bracket Washer
465-1868	Reed Valve Plate Assembly
462-1870	Reed Valve
462-1871	Reed Valve Clamp Plate
465-1872	Reed Valve Plate Gasket
483-1873	Intake Manifold
480-1874	Carburetor Flange Gasket
483-1881	Cylinder Block
465-1882	Cylinder Head Gasket
465-1883	Detachable Cyl. Head
462-1884	Detachable Cyl. Head Washer
465-1885	Cylinder Flange Gasket
463-1887	Flywheel Key
462-1889	Cylinder Head Dowel
465-1890	Intake Manifold Gasket
463-1893	Pivot Tube Seal Ring
472-1895	Intake Cover Plate
465-1896	Intake Cover Plate Gasket
465-1897	Exhaust Cover Plate
465-1898	Exhaust Cover Plate Gasket

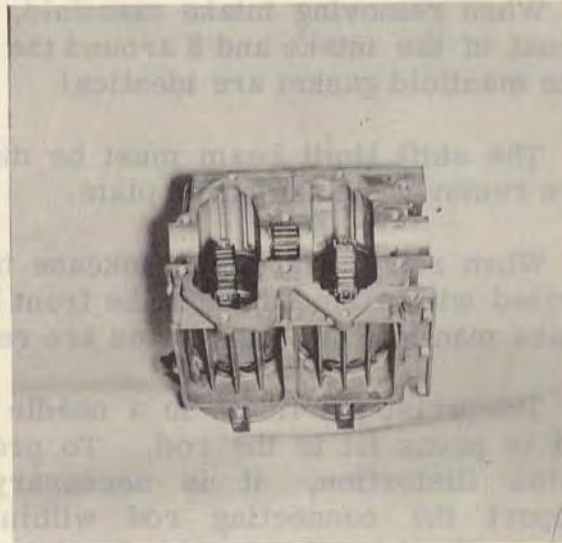
Part Number	Description
483-1902	Bracket—Gas Tank Front R.H.
483-1903	Bracket—Gas Tank Front L.H.
483-1904	Spacer—Gas Tank Rear Mounting
493-4316	Bracket—Limiter Rod
493-4322	Limiter Rod
480-5838	Screw—Gas Tank Skirt to Bracket
465-5800	Screw—Gas Tank Skirt Bracket
465-5802	Screw—Exhaust Cover Plate
462-5814	Screw—Reed Valve Clamp
*462-5815	Screw—Intake Manifold Short
465-5827	Screw—Intake Manifold Long
465-5829	Screw—Intake Cover Plate
4913-5879	Screw—Limiter Rod Bracket
462-6701	Nut—Gas Tank Mounting Screw
462-6704	Locknut—Cylinder Head
462-7203	Lockwasher— $\frac{1}{4}$ " Common
462-7208	Lockwasher—Reed Valve Clamp Screw
462-7209	Lockwasher—#10 Common
462-7210	Lockwasher—#8 Common
462-8200	Carburetor Stud
465-8206	Stud—Cylinder Block
497-8216	Stud—Cylinder Exh. Flange
461-8701	Synch. Control Cotter Pin
	*Not Illustrated

ASSEMBLY

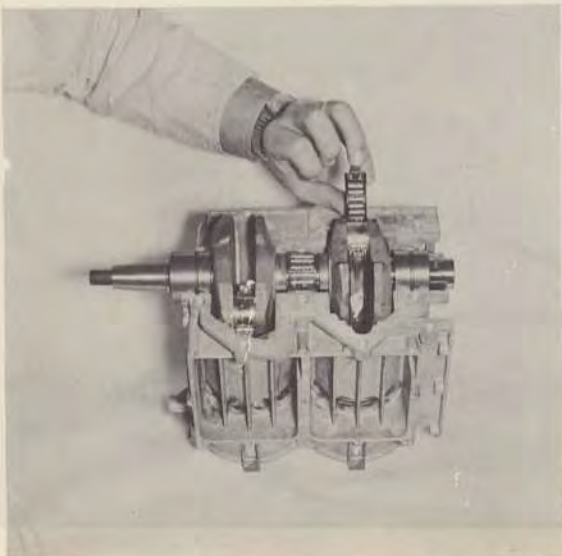
1. With the rings on the pistons, compress the rings and fit pistons into the block with the baffle to the intake side of the block.
2. Set center main race, rollers, and cage in place. The rollers fit on the underside of the cage, or between cage and race - (16 rollers per center bearing assembly).
3. Assemble rod bearings in cage, and place on rods. (17 rollers per rod assembly). Use a soluble lubricant on all needle rollers.
4. Slide the upper and lower main bearings onto the crankshaft with the oil seals to the outside. It is advisable to use a thin, smooth guide (such as shim stock) wrapped around the shaft. This will prevent any possible damage to the bearing seals.



Inserting Piston in Block



Center Main and Rod Bearings



Assemble Rod Caps and Mains

Construction of the 30 HP motor permits simplified access throughout for powerhead maintenance. Remove the complete powerhead simply by removing the 13 screws attaching the lower motor casing to the powerhead, the vertical speed control shaft, and the gas inlet line.

The upper and lower main bearings, and wrist pin bearings are caged rollers. The center-main and rod bearings are needle-roller bearings held in a cage. The bearing assemblies can be replaced individually.

The connecting rod caps are fractured for perfect fit, with each rod and cap a matched pair.

The crankcase and block are a matched set, and both must be replaced if damage occurs to either part.

TIPS FOR DISASSEMBLY

When removing intake manifold, there is 1 concealed screw located within the throat of the intake and 8 around the outside. The reed-valve plate gasket and intake manifold gasket are identical.

The shift limit beam must be disconnected at it's center pivoting location before removing intake cover plate.

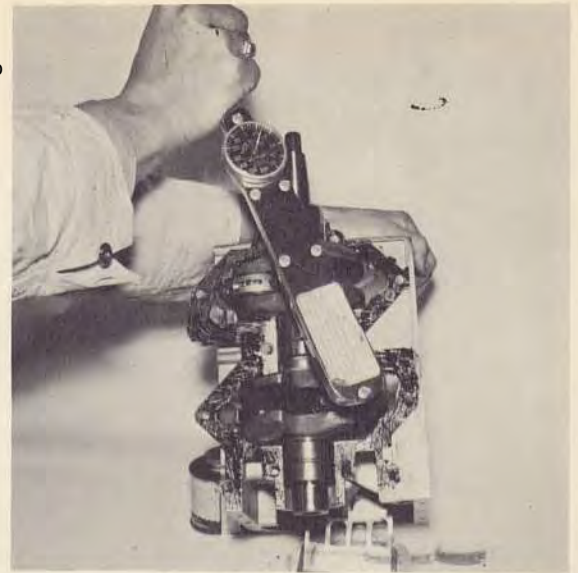
When separating the crankcase halves, the 2 center main bearing screws are located within the intake in the front half of the case. These are exposed when the intake manifold and reed boxes are removed.

The wrist-pin floats in a needle bearing assembly in each side of the piston, and is press fit to the rod. To prevent piston distortion, it is necessary to support the connecting rod within the piston when removing, or inserting the wrist-pin. Place a 13/16" open end wrench around the pin on the under side of the rod - hold wrench and rod firmly, or clamp wrench in a vice - Insert punch into pin -- tap wrist-pin out or in with a hammer.



6. Torque set the rod-cap screws to 160 lbs. The bearings and cages on the rods must rotate freely even after tightening.

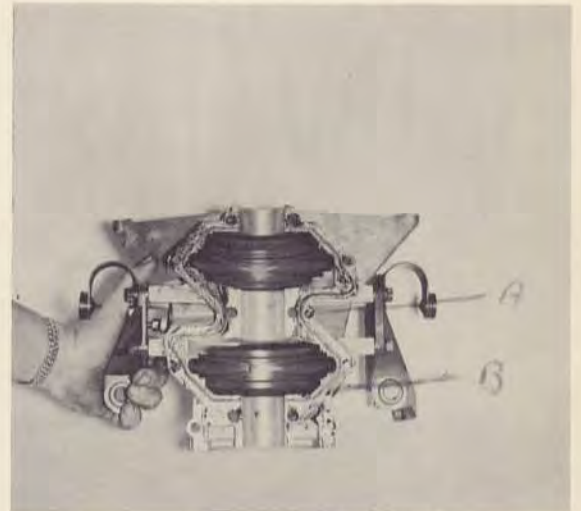
7. Apply Permatex #3 to both halves of the crankcase.



Torquing Rod Cap Screws

8. Insert new drain plug seal (A), and seal-line between crankcase halves (B).

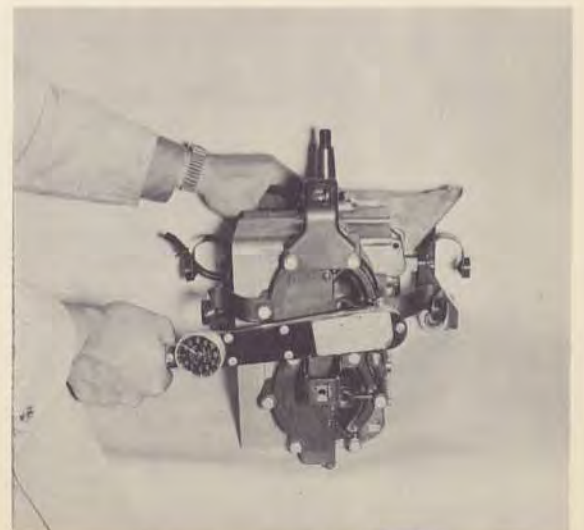
When assembled, and with intake cover plate off, rotate crankshaft in both directions to detect any possible signs of rubbing, binding, or the feeling of rollers skipping in a cage. The latter will indicate an incorrect number of rollers in a bearing (16 rollers per center main - 17 rollers per rod assembly), or a poor match between rod-body and cap, or bearing races.



Crankcase Seals

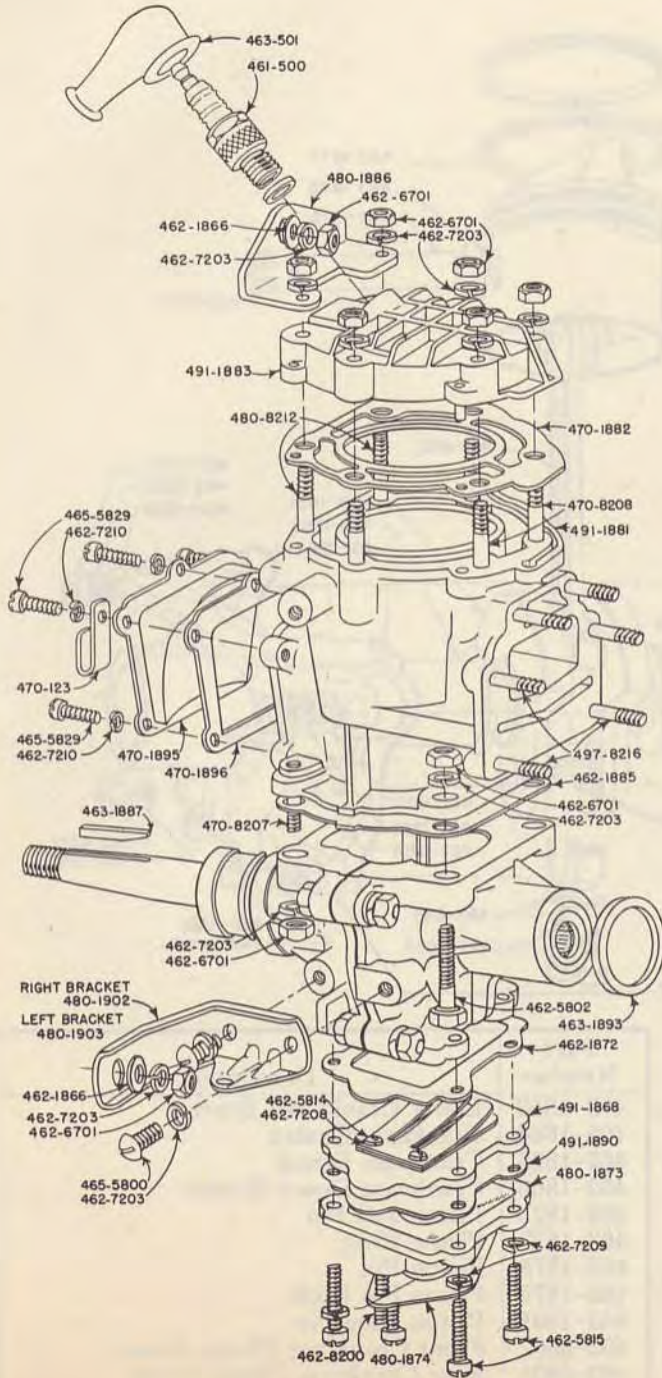
9. Replace the head, and torque the bolts to 150 lbs. Retighten the head bolts after a short run-in period.

Always use new gaskets and seals when completing any maintenance.



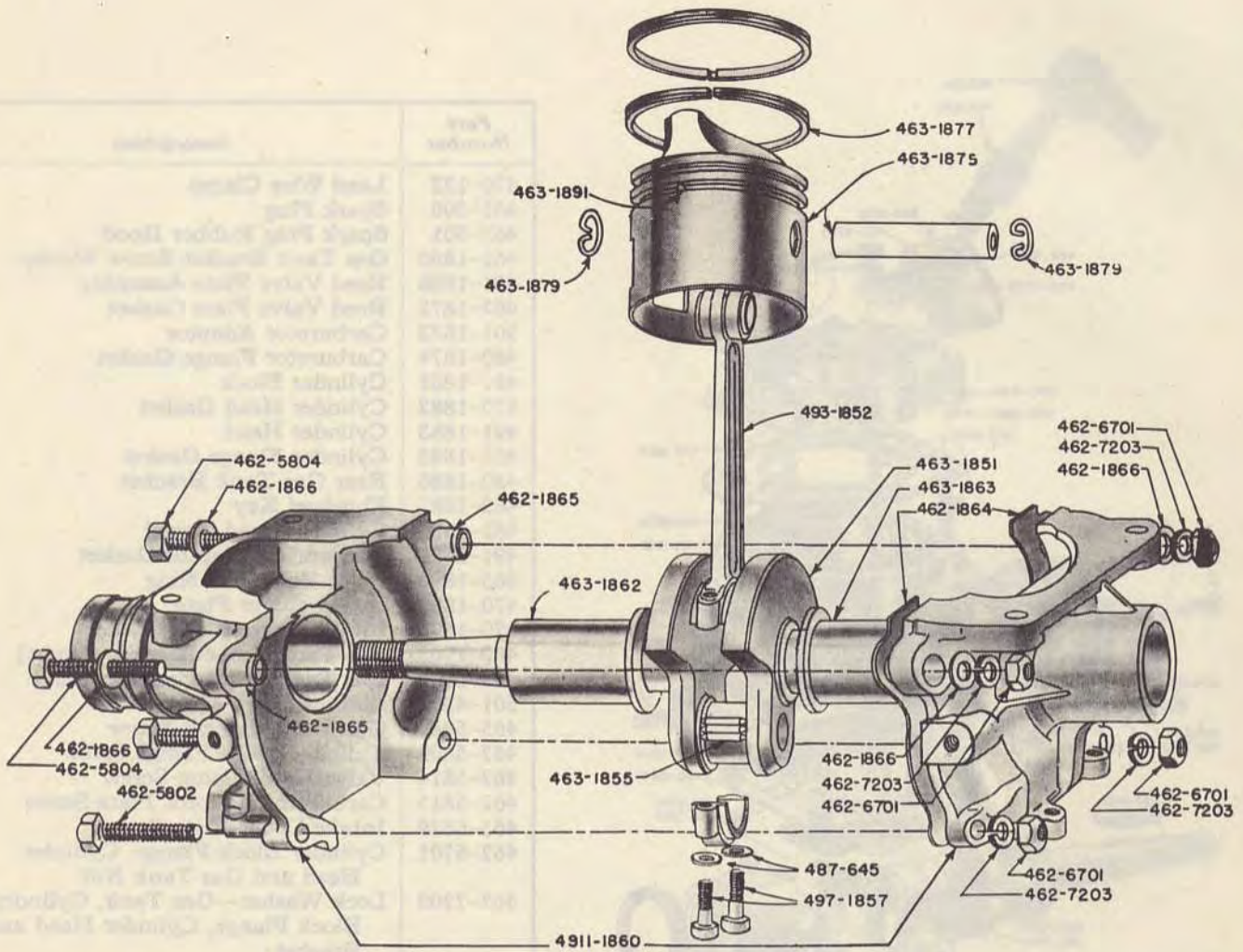
Torquing Head Bolts

POWERHEAD 500



Part Number	Description
470-123	Lead Wire Clamp
461-500	Spark Plug
463-501	Spark Plug Rubber Hood
462-1866	Gas Tank Bracket Screw Washer
491-1868	Reed Valve Plate Assembly
462-1872	Reed Valve Plate Gasket
480-1873	Carburetor Adaptor
480-1874	Carburetor Flange Gasket
491-1881	Cylinder Block
470-1882	Cylinder Head Gasket
491-1883	Cylinder Head
462-1885	Cylinder Flange Gasket
480-1886	Rear Gas Tank Bracket
463-1887	Flywheel Key
462-1889	Cylinder Head Dowel
491-1890	Carburetor Adaptor Gasket
463-1893	Pivot Tube Seal Ring
470-1895	Intake Cover Plate
470-1896	Intake Cover Plate Gasket
480-1902	Gas Tank Front Bracket (Right)
480-1903	Gas Tank Front Bracket (Left)
465-5800	Gas Tank Bracket Screw
462-5802	Cylinder Block Flange Screw
462-5814	Valve Reed Clamp Screw
462-5815	Carburetor Adaptor Plate Screw
465-5829	Intake Cover Plate Screw
462-6701	Cylinder Block Flange, Cylinder Head and Gas Tank Nut
462-7203	Lock Washer—Gas Tank, Cylinder Block Flange, Cylinder Head and Bracket
462-7208	Lock Washer—Valve Reed Clamp Screw
462-7209	Lock Washer—Carburetor Adaptor Plate
462-7210	Lock Washer—Intake Cover Plate
462-8200	Carburetor Flange Stud
470-8207	Cylinder Block Flange Stud
470-8208	Cylinder Head Stud
480-8212	Stud Upper Cylinder Head
497-8216	Stud Cylinder Exhaust Flange
481-1921	Complete Gasket Set—Less Carburetor Gaskets

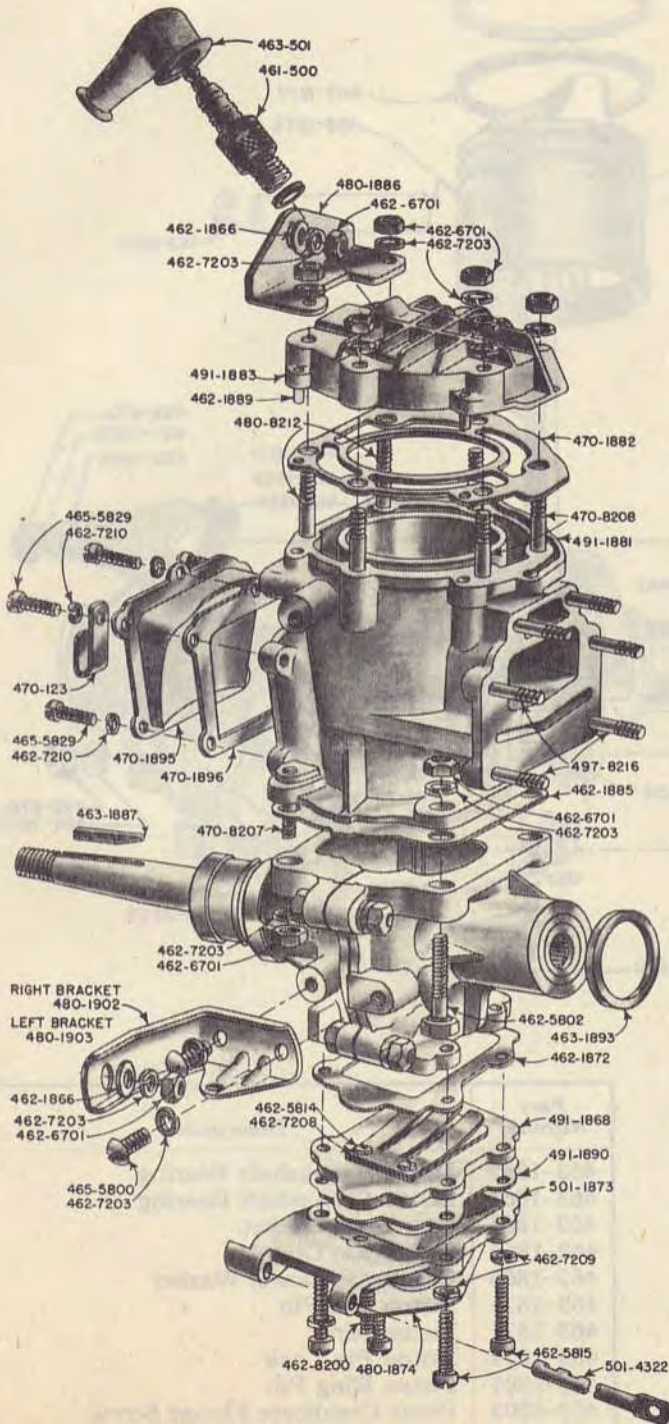
www.powersportsupply.co
CRANKCASE 501



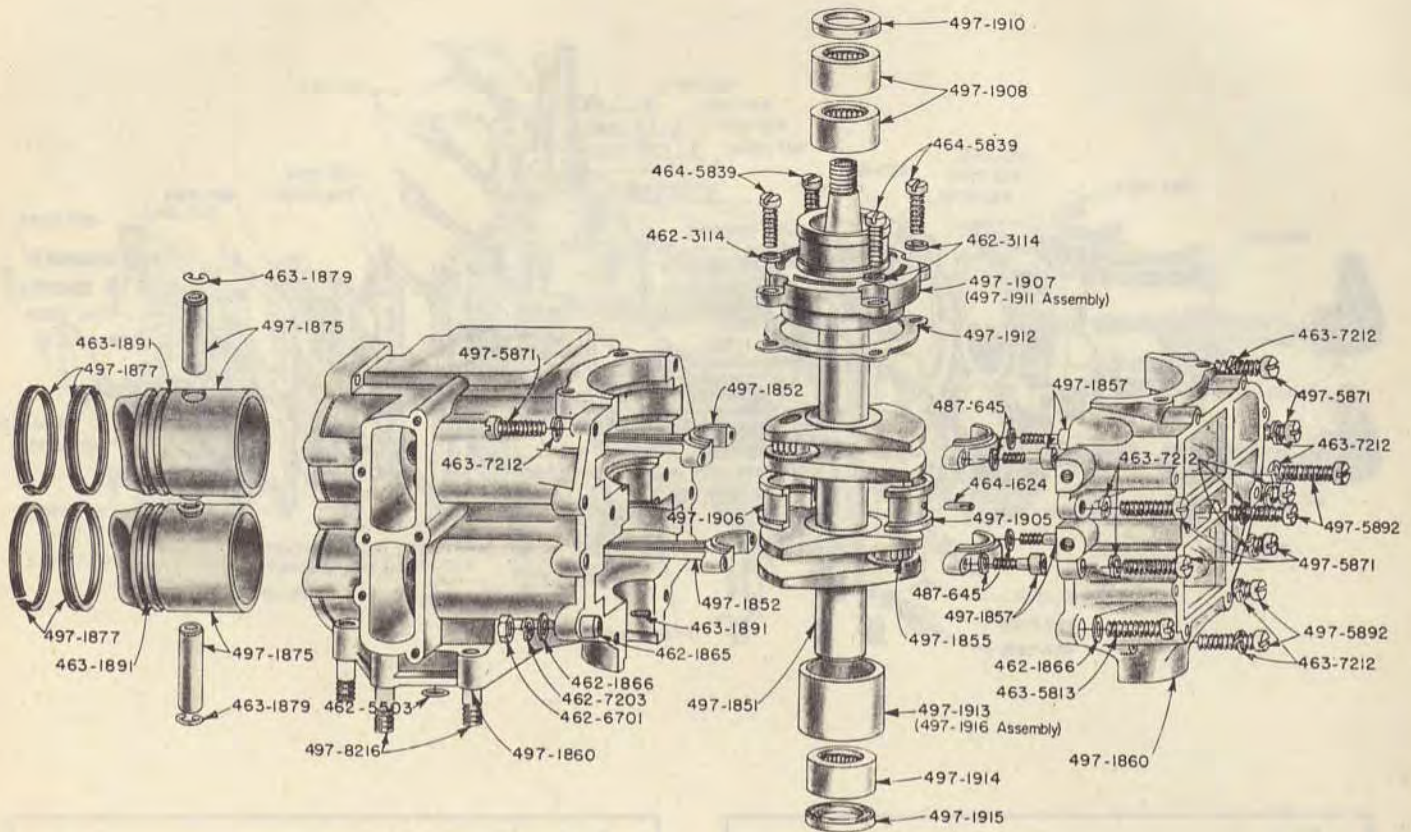
Part Number	Description
487-645	Connecting Rod Screw Washer
463-1851	Crankshaft
493-1852	Connecting Rod and Cap (Includes 463-1855, 487-645 and 497-1857)
463-1855	Connecting Rod Crank Pin Roller Set (24) NOTE: When replacing rollers of a connecting Rod that is identified by a white mark, order 463-1855-0 (oversize—23 per set)
497-1857	Connecting Rod Screw
4911-1860	Crankcase Assembly (Includes Upper and Lower Halves of Crankcase with Bearings)

Part Number	Description
463-1862	Upper Crankshaft Bearing
463-1863	Lower Crankshaft Bearing
462-1864	Crankcase Gasket
462-1865	Crankcase Dowel
462-1866	Crankcase Dowel Washer
463-1875	Piston and Pin
463-1877	Piston Ring
463-1879	Piston Pin Lock
463-1891	Piston Ring Pin
462-5802	Front Crankcase Flange Screw
462-5804	Rear Crankcase Flange Screw
462-6701	Crankcase Flange Screw Nut
462-7203	Lock Washer for Crankcase Flange Screw Nut

POWERHEAD 501



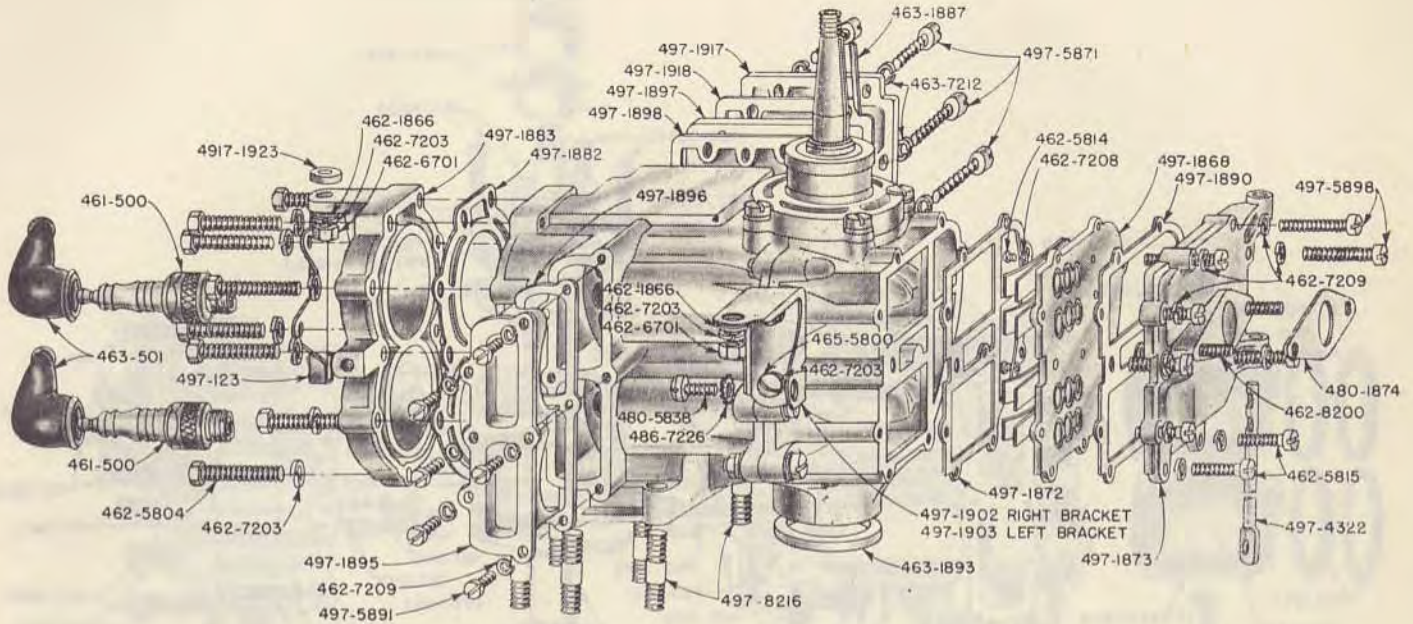
Part Number	Description
470-123	Lead Wire Clamp
461-500	Spark Plug
463-501	Spark Plug Rubber Hood
462-1866	Gas Tank Bracket Screw Washer
491-1868	Reed Valve Plate Assembly
462-1872	Reed Valve Plate Gasket
501-1873	Carburetor Adaptor
480-1874	Carburetor Flange Gasket
491-1881	Cylinder Block
470-1882	Cylinder Head Gasket
491-1883	Cylinder Head
462-1885	Cylinder Flange Gasket
480-1886	Rear Gas Tank Bracket
463-1887	Flywheel Key
462-1889	Cylinder Head Dowel
491-1890	Carburetor Adaptor Gasket
463-1893	Pivot Tube Seal Ring
470-1895	Intake Cover Plate
470-1896	Intake Cover Plate Gasket
480-1902	Gas Tank Front Bracket (Right)
480-1903	Gas Tank Front Bracket (Left)
501-4322	Limiter Rod
465-5800	Gas Tank Bracket Screw
462-5802	Cylinder Block Flange Screw
462-5814	Valve Reed Clamp Screw
462-5815	Carburetor Adaptor Plate Screw
465-5829	Intake Cover Plate Screw
462-6701	Cylinder Block Flange, Cylinder Head and Gas Tank Nut
462-7203	Lock Washer—Gas Tank, Cylinder Block Flange, Cylinder Head and Bracket
462-7208	Lock Washer—Valve Reed Clamp Screw
462-7209	Lock Washer—Carburetor Adaptor Plate
462-7210	Lock Washer—Intake Cover Plate
462-8200	Carburetor Flange Stud
470-8207	Cylinder Block Flange Stud
470-8208	Cylinder Head Stud
480-8212	Stud Upper Cylinder Head
497-8216	Cyl. Exhaust Flange Stud



Part Number	Description
487-645	Connecting Rod Screw Washer
464-1624	Groove Pin—Bearing Retainer
497-1851	Crankshaft
497-1852	Connecting Rod Assembly
497-1855	Connecting Rod Crank Pin Roller (Set)
497-1857	Connecting Rod Screw
497-1860	Crankcase and Block Assembly
462-1865	Hollow Dowel
462-1866	Washer—Dowel Screw
497-1875	Piston Assembly
497-1877	Piston Ring
463-1879	Piston Pin Lock
463-1891	Piston Ring Pin
463-1891	Pin—Lower Bearing
497-1905	Center Bearing—Front
497-1906	Center Bearing—Rear
497-1907	Magneto Mount Bearing Cage
497-1908	Needle Bearing—Magneto Mount
497-1910	Oil Seal—Magneto Mount
497-1911	Magneto Mount Assembly (includes 497-1907, 497-1908, 497-1910)

Part Number	Description
497-1912	Gasket—Mag. Mount Bearing Cage
497-1913	Retainer—Lower Crankshaft Bearing
497-1914	Needle Bearing—Lower Main
497-1915	Oil Seal
497-1916	Lower Crankshaft Bearing Retainer Assembly (includes 497-1913, 497-1914, 497-1915)
462-3114	Washer—Magneto Mount Bearing Cage
462-5503	“O” Ring—Water Inlet
463-5813	Screw—Dowel
464-5839	Screw—Magneto Mount Bearing Cage
497-5871	Screw—Crankcase Flange
497-5892	Screw—Center and Lower Main Bearing
462-6701	Nut—Dowel Screw
462-7203	L.W.—Dowel
463-7212	L.W.—Flange and Bearing Screw
497-8216	Stud—Cylinder Exhaust Flange

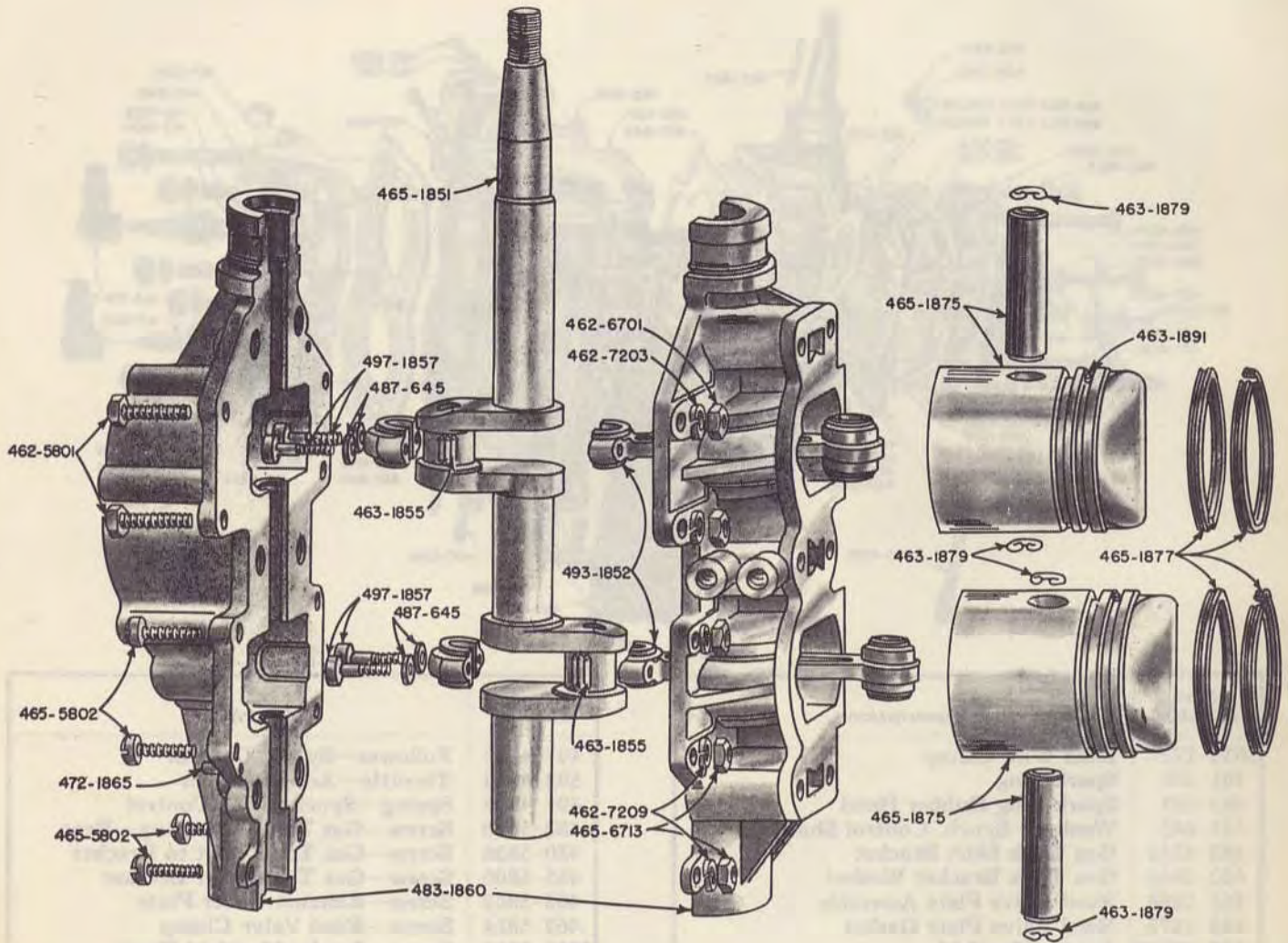
POWERHEAD 507



Part Number	Description
497-123	Lead Wire Clamp
461-500	Spark Plug
463-501	Spark Plug Rubber Hood
462-1866	Washer—Gas Tank Bracket
497-1868	Reed Valve Plate Assembly
497-1872	Valve Reed Plate Gasket
497-1873	Intake Manifold
480-1874	Carburetor Flange Gasket
497-1882	Cylinder Head Gasket
497-1883	Detachable Cylinder Head
463-1887	Flywheel Key
497-1890	Intake Manifold Gasket
463-1893	Pivot Tube Seal Ring
497-1895	Intake Cover Plate
497-1896	Intake Cover Plate Gasket
497-1897	Exhaust Cover Plate
497-1898	Exhaust Cover Plate Gasket
497-1902	Gas Tank Bracket (RH)
497-1903	Gas Tank Bracket (LH)
497-1917	Water Cover Plate
497-1918	Gasket—Water Cover Plate
4917-1923	Spacer—Gas Tank (Rear)
497-4322	Limiter Rod
465-5800	Screw—Gas Tank Bracket to Powerhead

Part Number	Description
462-5804	Screw—Cylinder Head
462-5814	Screw—Valve Reed Clamp
462-5815	Screw—Intake Manifold—Short
480-5838	Screw—Gas Tank Skirt—Front
497-5871	Screw—Water Cover Plate
497-5891	Screw—Intake Cover Plate
497-5898	Screw—Intake Manifold—Long
497-5901	Screw—Water Cover Plate (Not Shown)
462-6701	Nut—Gas Tank Mounting Screw
462-7203	Lockwasher—Gas Tank Bracket
462-7203	Lockwasher—Bracket Screw
462-7203	Lockwasher—Cylinder Head
462-7208	Lockwasher—Valve Reed Clamp Screw
462-7209	Lockwasher—Intake Manifold Screw
462-7209	Lockwasher—Intake Cover Plate Screw
463-7212	Lockwasher—Water Cover Plate
463-7212	Lockwasher—Flange and Bearing Screw
461-7220	Lockwasher—Water Cover Plate (Not Shown)
486-7226	Lockwasher—Skirt Mounting
462-8200	Carburetor Flange Stud
497-8216	Stud—Cylinder Exhaust Flange

CRANKCASE 503

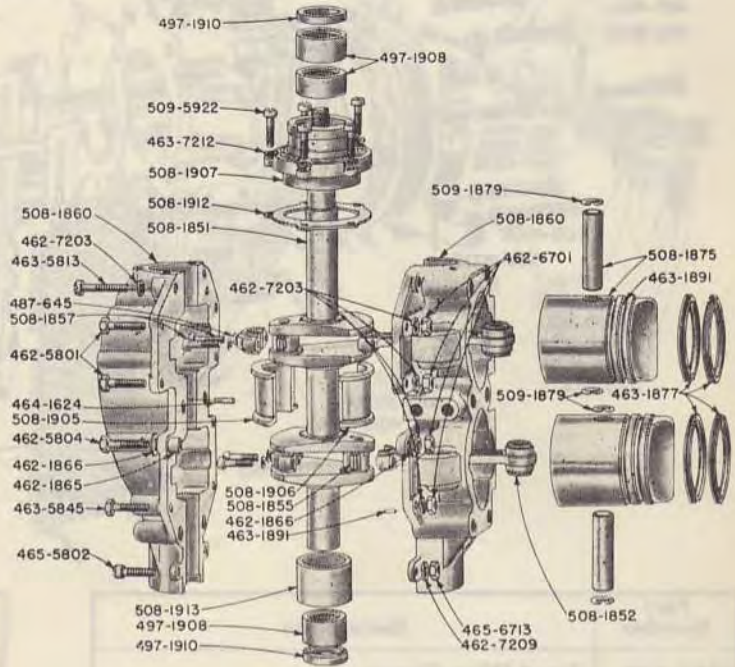


Part Number	Description
487-645	Connecting Rod Screw Washer
465-1851	Crankshaft
493-1852	Connecting Rod Assembly (Includes 463-1855, 487-645 and 497-1857)
*463-1855	Connecting Rod Crank Pin Roller Set (24) NOTE: When replacing rollers of a connecting rod that is identified by a white mark, order 463-1855-0 (23 per set)
497-1857	Connecting Rod Screw *Sold in sets only, to maintain uniformity.

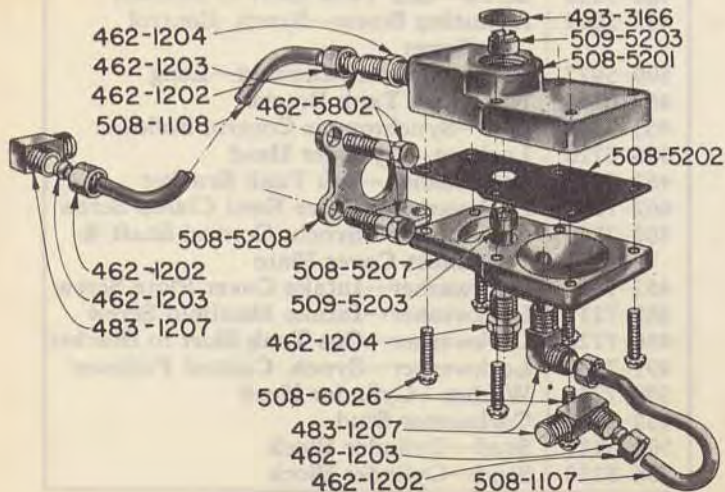
Part Number	Description
483-1860	Crankcase Assembly (Includes Front and Rear Halves of Crankcase with Bearings)
472-1865	Crankcase Dowel
465-1875	Piston and Pin
465-1877	Piston Ring
463-1879	Piston Pin Lock
463-1891	Piston Ring Pin
462-5801	Screw—Crankcase Flange
465-5802	Screw—Crankcase Flange
462-6701	Nut—Crankcase Flange Screw
465-6713	Nut—Crankcase Flange Screw
462-7203	Lock Washer—Crankcase Flange
462-7209	Lock Washer—Crankcase Flange Screw Nut

CRANKCASE & FUEL PUMP 518

Part Number	Description
487-645	Connecting Rod Screw Washer
464-1624	Groove Pin—Bearing Retainer
508-1851	Crankshaft
508-1852	Connecting Rod Assembly (Includes 508-1855, 487-645, 508-1857)
508-1855	Connecting Rod Crank Pin Rollers (28 Per Set)
508-1857	Connecting Rod Screw
508-1860	Crankcase Assembly
462-1865	Crankcase Dowel
462-1866	Washer—Crankcase Dowel
508-1875	Piston Assembly
463-1877	Piston Ring
509-1879	Piston Pin Lock
463-1891	Pin—Lower Bearing—Rear Crankcase & Piston Ring Pin
508-1905	Center Main Bearing—Front Half
508-1906	Center Main Bearing—Rear Half
508-1907	Magneto Mount Bearing Cage
497-1908	Needle Bearing
497-1910	Oil Seal
508-1912	Gasket—Magneto Mount Bearing Cage
508-1913	Lower Crankshaft Bearing Retainer
462-5801	Screw—Crankcase Flange
465-5802	Screw—Crankcase Flange
462-5804	Screw—Crankcase Flange
463-5813	Screw—Crankcase Flange
463-5845	Screw—Crankcase Flange
509-5922	Screw—Magneto Mount Bearing Cage
462-6701	Nut—Crankcase Flange Screw
465-6713	Nut—Crankcase Flange Screw
462-7203	Lockwasher—Crankcase Flange Screw
462-7209	Lockwasher—Crankcase Flange Screw
463-7212	Lockwasher—Magneto Mount Bearing Cage



FUEL PUMP

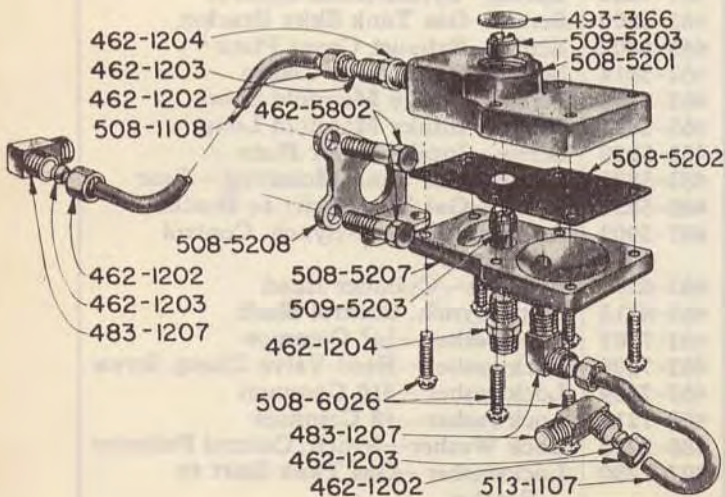
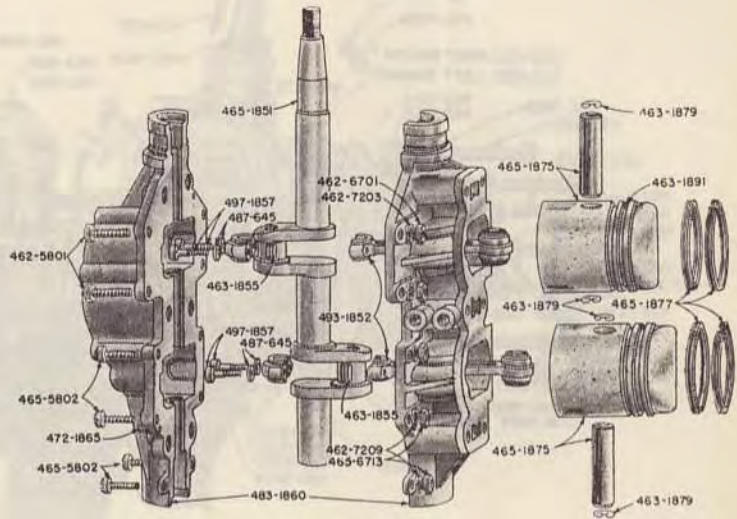


Part Number	Description
508-1107	Pump Pressure Line
508-1108	Gas Line—Pump to Carburetor
462-1202	Gas Line Compression Nut
462-1203	Gas Line Compression Sleeve
462-1204	Gas Line Male Connector
483-1207	Gas Line Compression Elbow
*493-3166	Welch Plug
508-5200	Fuel Pump Assembly
*508-5201	Fuel Pump Body—Upper
*508-5202	Diaphragm—Fuel Pump
*509-5203	Check Valve
*508-5207	Fuel Pump Body—Lower
508-5208	Bracket—Fuel Pump
462-5802	Screw—Bracket to Crankcase Flange
*508-6026	Screw—Fuel Pump Body

*Included in 508-5200 Assembly

CRANKCASE - 513

Part Number	Description
487-645	Connecting Rod Screw Washer
465-1851	Crankshaft
493-1852	Connecting Rod Assembly (Includes 463-1855, 487-645 and 497-1857)
*463-1855	Connecting Rod Crank Pin Roller Set (24) NOTE: When replacing rollers of a connecting rod that is identified by a white mark, order 463-1855-0 (23 per set)
497-1857	Connecting Rod Screw
483-1860	Crankcase Assembly (Includes Front and Rear Halves of Crankcase with Bearings)
472-1865	Crankcase Dowel
465-1875	Piston and Pin
465-1877	Piston Ring
463-1879	Piston Pin Lock
463-1891	Piston Ring Pin
462-5801	Screw—Crankcase Flange
465-5802	Screw—Crankcase Flange
462-6701	Nut—Crankcase Flange Screw
465-6713	Nut—Crankcase Flange Screw
462-7203	Lock Washer—Crankcase Flange
462-7209	Lock Washer—Crankcase Flange Screw Nut
*Sold in sets only, to maintain uniformity.	

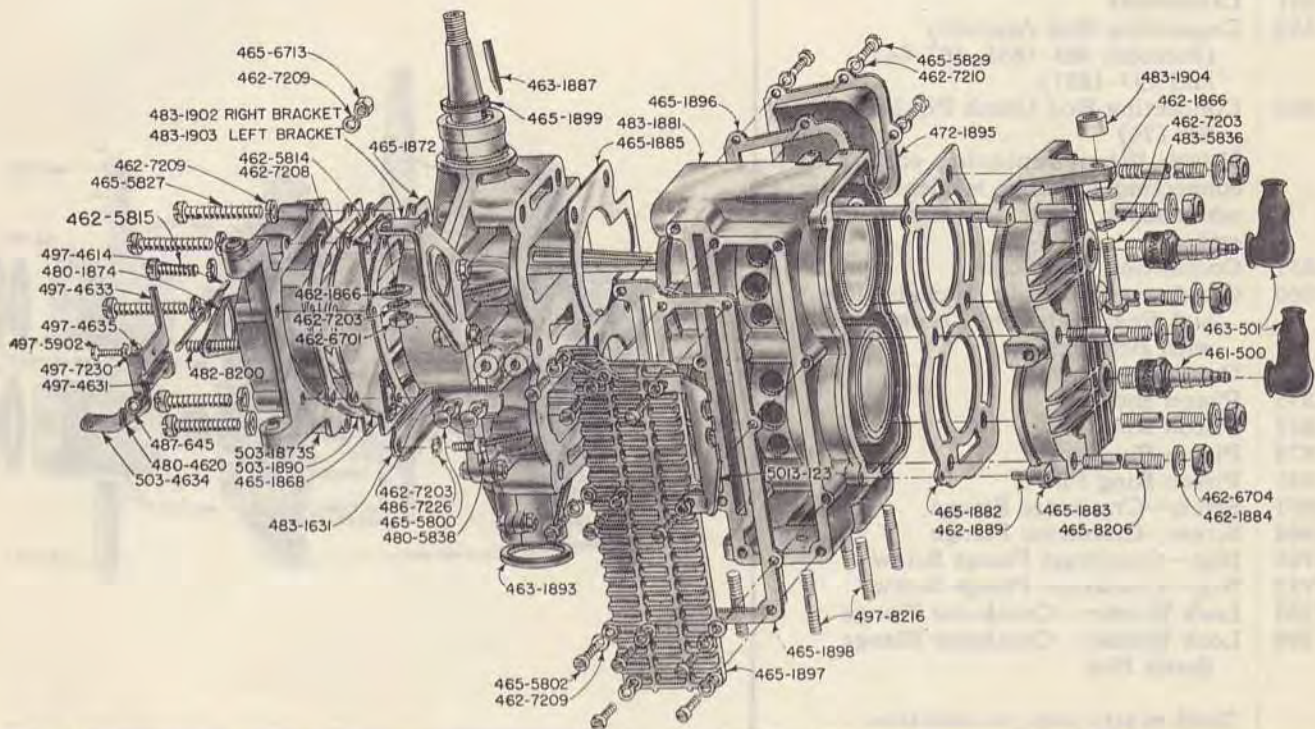


FUEL PUMP

Part Number	Description
513-1107	Pump Pressure Line
508-1108	Gas Line—Pump to Carburetor
462-1202	Gas Line Compression Nut
462-1203	Gas Line Compression Sleeve
462-1204	Gas Line Male Connector
483-1207	Gas Line Compression Elbow
*493-3166	Welch Plug
508-5200	Fuel Pump Assembly
*508-5201	Fuel Pump Body—Upper
*508-5202	Diaphragm—Fuel Pump
*509-5203	Check Valve
*508-5207	Fuel Pump Body—Lower
508-5208	Bracket—Fuel Pump
462-5802	Screw—Bracket to Crankcase Flange
*508-6026	Screw—Fuel Pump Body

*Included in 508-5200 Assembly

POWERHEAD - 510 - Same as 500, Page P17, 18
 POWERHEAD - 511 - Same as 501, Page P19, 20
 POWERHEAD - 517 - Same as 507, Page P21, 22
 except top two Cylinder Head
 Screws are 463-5813
POWERHEAD - 513

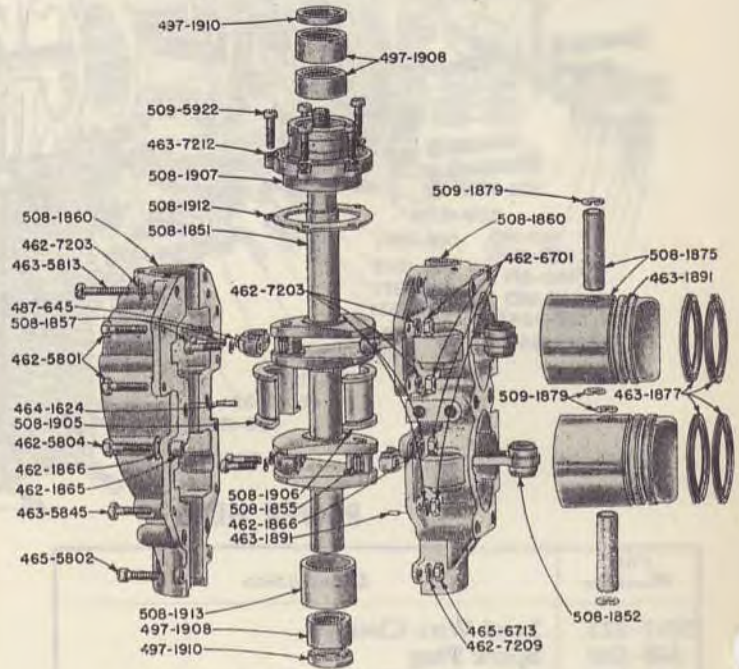


Part Number	Description
5013-123	Lead Wire Clamp
461-500	Spark Plug
463-501	Spark Plug Rubber Hood
487-645	Washer—Synch. Control Shaft
483-1631	Gas Tank Skirt Bracket
462-1866	Gas Tank Bracket Washer
465-1868	Reed Valve Plate Assembly
465-1872	Reed Valve Plate Gasket
503-1873S	Intake Manifold
480-1874	Carburetor Flange Gasket
483-1881	Cylinder Block
465-1882	Cylinder Head Gasket
465-1883	Detachable Cyl. Head
462-1884	Detachable Cyl. Head Washer
465-1885	Cylinder Flange Gasket
463-1887	Flywheel Key
462-1889	Cylinder Head Dowel
465-1890	Intake Manifold Gasket
463-1893	Pivot Tube Seal Ring
472-1895	Intake Cover Plate
465-1896	Intake Cover Plate Gasket
465-1897	Exhaust Cover Plate
465-1898	Exhaust Cover Plate Gasket
465-1899	Oil Seal
483-1902	Bracket—Gas Tank Front R.H.
483-1903	Bracket—Gas Tank Front L.H.
483-1904	Spacer—Gas Tank Rear Mounting
497-4614	Shaft—Synch. Control Follower

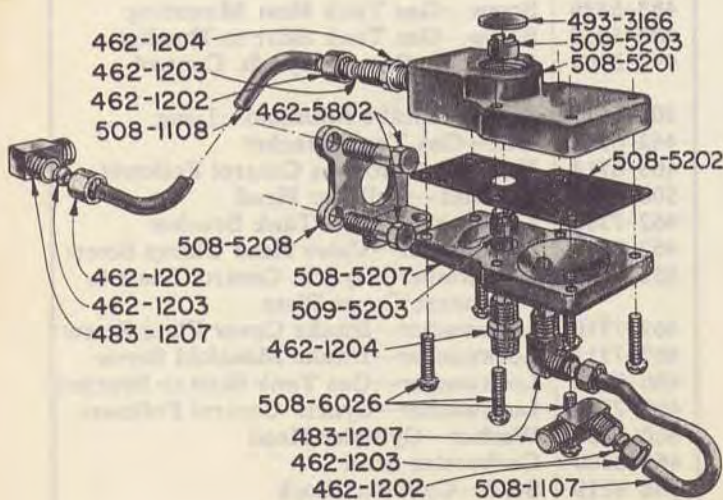
Part Number	Description
480-4620	Lock—Synch. Control Shaft
497-4631	Bearing—Synch. Control Follower
497-4633	Follower—Synch. Control
503-4634	Throttle—Actuator Arm
497-4635	Spring—Synchronous Control
465-5800	Screw—Gas Tank Skirt Bracket
465-5802	Screw—Exhaust Cover Plate
462-5814	Screw—Reed Valve Clamp
462-5815	Screw—Intake Manifold Short
465-5827	Screw—Intake Manifold Long
465-5829	Screw—Intake Cover Plate
483-5836	Screw—Gas Tank Mounting—Rear
480-5838	Screw—Gas Tank Skirt to Bracket
497-5902	Adjusting Screw—Synch. Control Follower
462-6704	Locknut—Cylinder Head
465-6713	Nut—Synch. Control Shaft
462-7203	Lockwasher— $\frac{1}{4}$ " Common
462-7208	Lockwasher—Reed Valve Clamp Screw
462-7209	Lockwasher—#10 Common
462-7210	Lockwasher—#8 Common
486-7226	Lock Washer—Synch. Control Follower
497-7230	Lockwasher—Gas Tank Skirt to Bracket
462-8200	Carburetor Stud
465-8206	Stud—Cylinder Block
497-8216	Stud—Cylinder Exh. Flange

CRANKCASE - 518

Part Number	Description
487-645	Connecting Rod Screw Washer
464-1624	Groove Pin—Bearing Retainer
508-1851	Crankshaft
508-1852	Connecting Rod Assembly (Includes 508-1855, 487-645, 508-1857)
508-1855	Connecting Rod Crank Pin Rollers (28 Per Set)
508-1857	Connecting Rod Screw
508-1860	Crankcase Assembly
462-1865	Crankcase Dowel
462-1866	Washer—Crankcase Dowel
508-1875	Piston Assembly
463-1877	Piston Ring
509-1879	Piston Pin Lock
463-1891	Pin—Lower Bearing—Rear Crankcase & Piston Ring Pin
508-1905	Center Main Bearing—Front Half
508-1906	Center Main Bearing—Rear Half
508-1907	Magneto Mount Bearing Cage
497-1908	Needle Bearing
497-1910	Oil Seal
508-1912	Gasket—Magneto Mount Bearing Cage
508-1913	Lower Crankshaft Bearing Retainer
462-5801	Screw—Crankcase Flange
465-5802	Screw—Crankcase Flange
462-5804	Screw—Crankcase Flange
463-5813	Screw—Crankcase Flange
463-5845	Screw—Crankcase Flange
509-5922	Screw—Magneto Mount Bearing Cage
462-6701	Nut—Crankcase Flange Screw
465-6713	Nut—Crankcase Flange Screw
462-7203	Lockwasher—Crankcase Flange Screw
462-7209	Lockwasher—Crankcase Flange Screw
463-7212	Lockwasher—Magneto Mount Bearing Cage

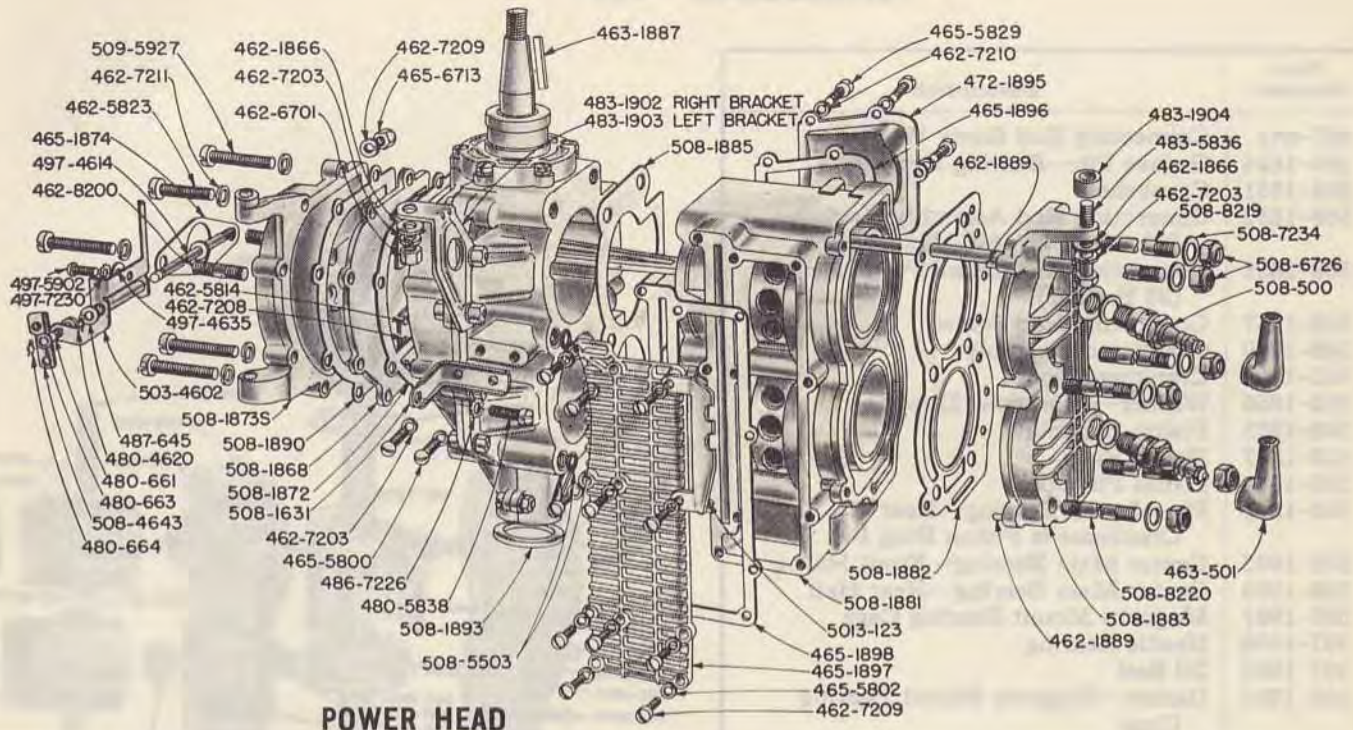


FUEL PUMP



Part Number	Description
508-1107	Pump Pressure Line
508-1108	Gas Line—Pump to Carburetor
462-1202	Gas Line Compression Nut
462-1203	Gas Line Compression Sleeve
462-1204	Gas Line Male Connector
483-1207	Gas Line Compression Elbow
*493-3166	Welch Plug
508-5200	Fuel Pump Assembly
*508-5201	Fuel Pump Body—Upper
*508-5202	Diaphragm—Fuel Pump
*509-5203	Check Valve
*508-5207	Fuel Pump Body—Lower
508-5208	Bracket—Fuel Pump
462-5802	Screw—Bracket to Crankcase Flange
*508-6026	Screw—Fuel Pump Body

*Included in 508-5200 Assembly



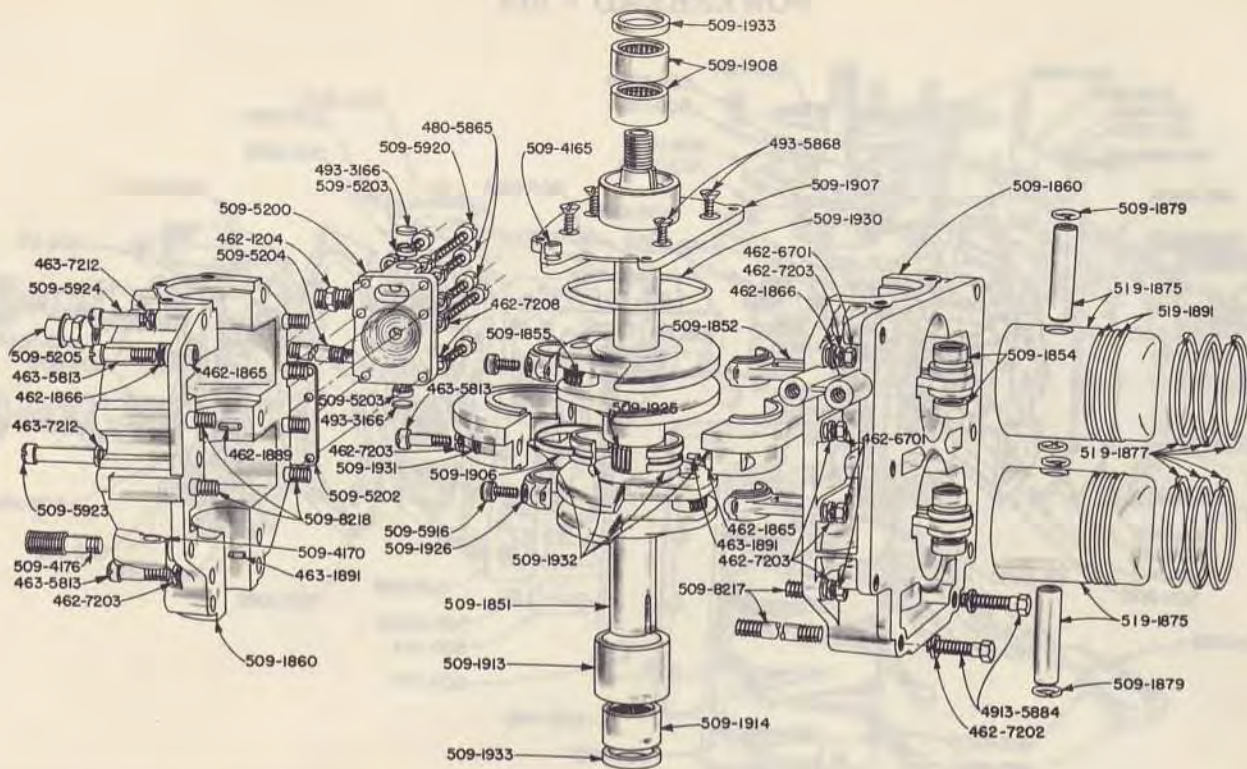
POWER HEAD

Part Number	Description
5013-123	Lead Wire Clamp
508-500	Spark Plug
463-501	Spark Plug Rubber Hood
487-645	Washer Synch. Control Shaft Lever
480-661	Choke Lever Pivot Pin
480-663	Washer—Choke Lever Pivot Pin
480-664	Hairpin Cotter
508-1631	Gas Tank Skirt Bracket
462-1866	Spacer—Gas Tank Bracket and Rear Mounting Screw
508-1868	Reed Valve Plate Assembly
508-1872	Valve Reed Plate Gasket
508-1873S	Intake Manifold
465-1874	Carburetor Flange Gasket
508-1881	Cylinder Block
508-1882	Cylinder Head Gasket
508-1883	Cylinder Head
508-1885	Cylinder Flange Gasket
463-1887	Flywheel Key
462-1889	Cylinder Head Dowel
508-1890	Intake Manifold Gasket
508-1893	Pivot Tube Seal Ring
472-1895	Intake Cover Plate—Top
465-1896	Intake Cover Plate Gasket
465-1897	Exhaust Cover Plate
465-1898	Exhaust Cover Plate
483-1902	Bracket—Gas Tank Front—R.H.
483-1903	Bracket—Gas Tank Front—L.H.
483-1904	Gas Tank Rear Mounting
503-1937	Intake Cover Plate—Bottom

Part Number	Description
503-4602	Synchronous Control Follower Assembly
497-4614	Shaft—Synchronous Control Follower
480-4620	Lock—Synchronous Control Shaft
497-4635	Synchronous Control Spring
508-4643	Link—Throttle Actuator
508-5503	Seal Ring—Cylinder Block Stud
465-5800	Screw—Gas Tank Skirt Bracket
465-5802	Screw—Exhaust Cover Plate
462-5814	Screw—Valve Reed Clamp
462-5823	Screw—Intake Manifold—Short
465-5829	Screw—Intake Cover Plate
483-5836	Screw—Gas Tank Rear Mounting
480-5838	Screw—Gas Tank Skirt to Bracket
497-5902	Adjusting Screw—Synch. Control Follower
509-5927	Screw—Intake Manifold—Long
462-6701	Nut—Gas Tank Bracket
465-6713	Nut—Synchronous Control Follower
508-6726	Locknut—Cylinder Head
462-7203	Lockwasher—Gas Tank Bracket
462-7208	Lockwasher—Valve Reed Clamp Screw
462-7209	Lockwasher—Synch. Control Shaft & Exhaust Cover Plate
462-7210	Lockwasher—Intake Cover Plate Screw
462-7211	Lockwasher—Intake Manifold Screw
486-7226	Lockwasher—Gas Tank Skirt to Bracket
497-7230	Lockwasher—Synch. Control Follower
508-7234	Washer—Cylinder Head
462-8200	Carburetor Stud
508-8219	Stud—Cylinder Block
508-8220	Stud—Cylinder Block

CRANKCASE - 519

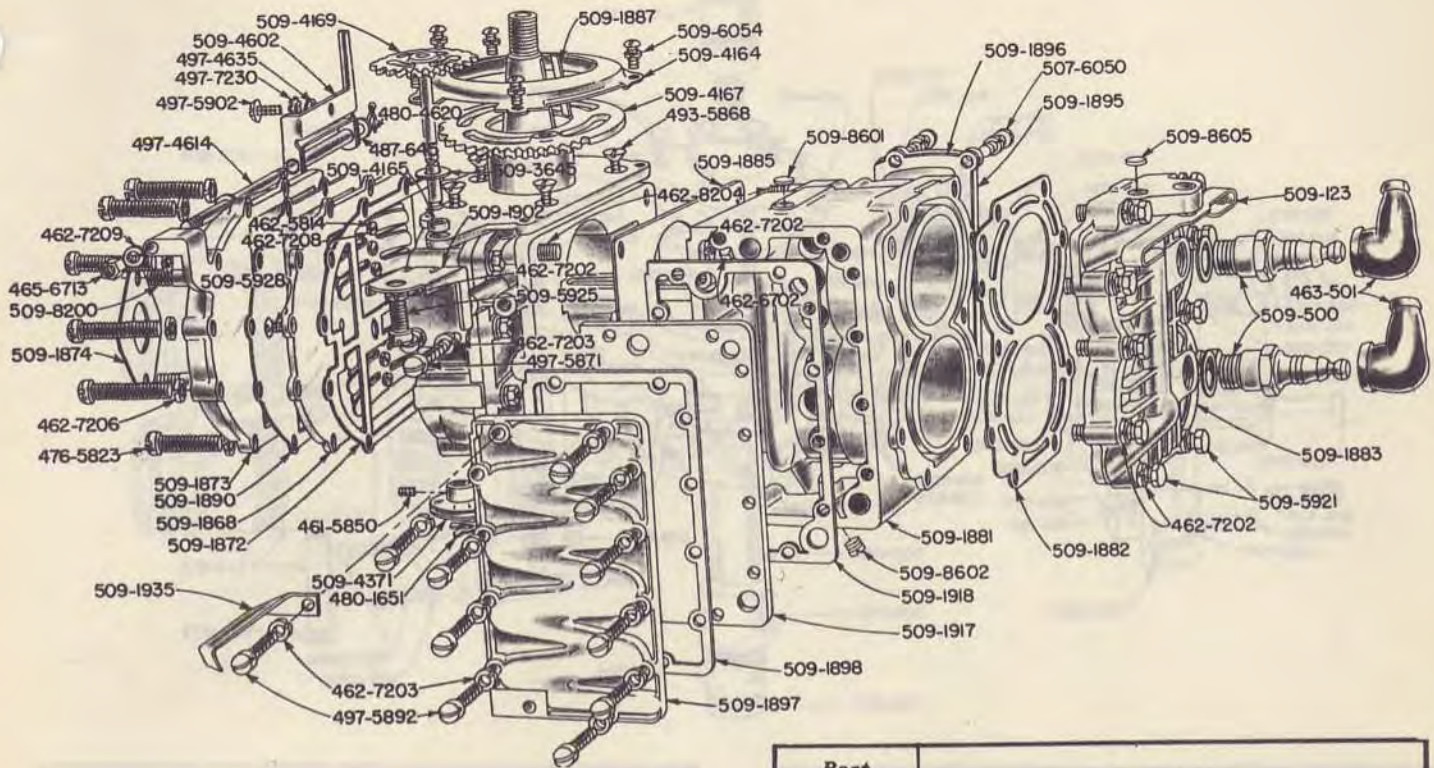
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Part Number	Description
462-1204	Male Connector—Gas Line
509-1851	Crankshaft
509-1852	Connecting Rod Assembly (Includes 509-1854, 509-1855, 509-5916, 509-1926)
509-1854	Bearing—Wrist Pin
*509-1855	Crank Pin Roller Set (56)
509-1860	Crankcase Assembly
462-1865	Dowel—Retainer
462-1866	Washer—Crankcase Flange Screw
519-1875	Piston Assembly
519-1877	Piston Ring
509-1879	Piston Pin Lock
462-1889	Pin—Center Bearing to Crankcase
519-1891	Piston Ring Pin
463-1891	Pin—Lower Bearing
463-1891	Dowel—Race to Retainer
509-1905	Needle Bearing Race
509-1906	Race Band
509-1907	Magneto Mount Plate
509-1908	Needle Bearing—Magneto Mount
509-1911	Magneto Mount Assy. (Includes 509-1907, 509-1908, 509-4165, 509-1933)
509-1913	Retainer—Lower Crankshaft Bearing
509-1914	Needle Bearing
509-1916	Lower Crankshaft Bear. Assy. (Includes 509-1913, 509-1914, 509-1933)
*509-1925	Center Crankshaft Roller Bear. Set (27)
509-1926	Washer—Connecting Rod Cap Screw
509-1930	"O" Ring Magneto Mount
509-1931	Washer—Center Bearing Screw
509-1932	Center Bearing Assembly (Inc. 509-1863,

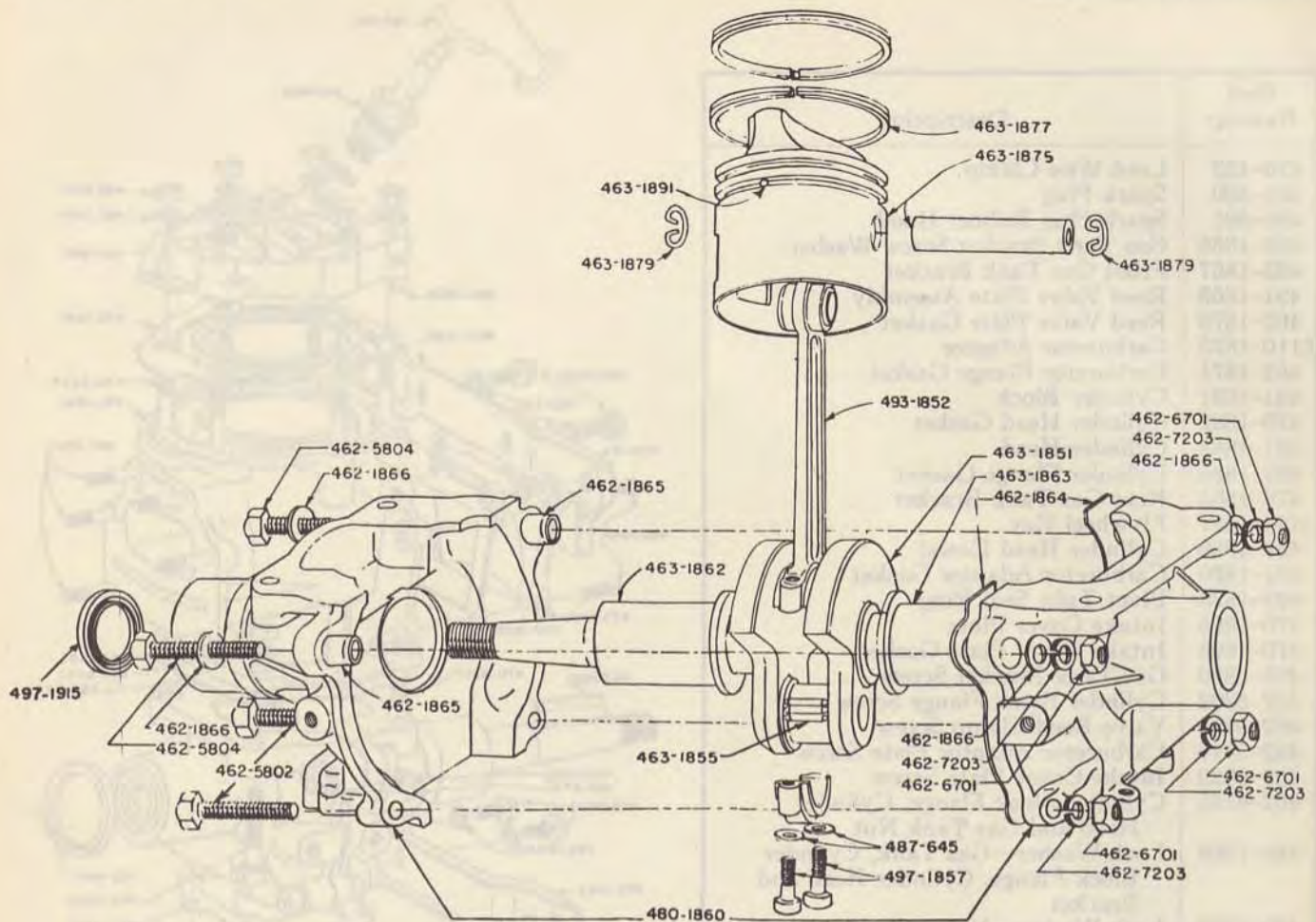
Part Number	Description
509-1905, 509-1906, 509-5938, 509-1931, 462-1865, 462-7203, 509-1925, 509-1891)	Oil Seal
509-1933	Oil Seal
493-3166	Welch Plug
509-4165	Bearing—Magneto Pinion Shaft
509-4170	Bearing—Mag. Pinion Shaft—Lower
509-4176	Adjusting Screw
509-5200	Fuel Pump Body Assembly (Includes 509-5203, 493-3166)
509-5202	Diaphragm—Fuel Pump
509-5203	Check Valve
509-5204	Fuel Pump Filter Assembly
509-5205	Plug—Fuel Coupling
463-5813	Screw—Crankcase Flange
463-5813	Screw—Lower Main Bearing
463-5813	Screw—Center Bearing
480-5865	Screw—Fuel Pump—Short
493-5868	Screw—Mag. Mount Bearing Cage
4913-5884	Screw—Crankcase to Block
509-5916	Screw—Connecting Rod Cap
509-5920	Screw—Fuel Pump—Long
509-5923	Screw—Crankcase Center Front
509-5924	Screw—Top Crankcase
462-6701	Nut—Crankcase Flange Screw and Stud
462-7202	Lockwasher—Crankcase to Block
462-7203	Lockwasher
462-7208	Lockwasher—Fuel Pump Screw
463-7212	Lockwasher—Top & Center Screws
509-8217	Stud—Lower Crankcase
509-8218	Stud—Crankcase Front

* Sold in Sets Only, to Maintain Uniformity



Part Number	Description
509-123	Lead Wire Clamp
509-176	Lead Wire Clamp
509-500	Spark Plug
463-501	Spark Plug Rubber Hood
487-645	Washer
480-1651	'X' Washer—Magneto Pulley Shaft
509-1868	Reed Valve Plate Assembly
509-1872	Gasket—Reed Valve Plate
509-1873	Intake Manifold
509-1874	Carburetor Flange Gasket
509-1881	Cylinder Block
509-1882	Gasket—Cylinder Head
509-1883	Cylinder Head
509-1885	Cylinder Flange Gasket
509-1887	Flywheel Key
509-1890	Intake Manifold Gasket
509-1895	Intake Cover Plate Assembly
†509-1896	Gasket—Intake Cover Plate
509-1897	Exhaust Cover Plate
509-1898	Exhaust Cover Plate Gasket
509-1902	Hood Bracket
509-1917	Water Cover Plate
509-1918	Water Cover Plate Gasket
509-1935	Lead Wire Guide
509-3645	Washer—Pinion Thrust
509-4164	Mounting Ring—Stator Plate
509-4165	Bearing—Magneto Pinion Shaft
509-4167	Gear—Stator Plate
509-4169	Magneto Pinion Pulley
509-4371	Magneto Pulley Assembly

Part Number	Description
509-4602	Follower Assembly
497-4614	Shaft—Synchronous Control Follower
480-4620	Lock—Synchronous Control Shaft
*497-4635	Spring—Synchronous Control
462-5814	Screw—Valve Reed Clamp
476-5823	Screw—Intake Manifold
461-5850	Set Screw—Magneto Pinion Pulley
493-5868	Screw—Magneto Mount Bearing
497-5871	Screw—Hood Bracket to Powerhead
497-5891	Screw—Mag. Pinion Shaft Lower Bearing
497-5892	Screw—Water Cover Plate
*497-5902	Adjust. Screw—Synch. Control Follower
509-5921	Screw—Cylinder Head
509-5925	Screw—Hood Bracket to Hood
509-5928	Screw—Reed Valve Plate
507-6050	Screw—Intake Cover Plate
509-6054	Screw—Mounting Ring
462-6702	Nut—Cylinder Block Studs
465-6713	Nut—Synchronous Control Shaft
462-7202	Lockwasher—5/16" Common
462-7203	Lockwasher—1/4" Common
462-7206	Lockwasher—Intake Manifold
462-7208	Lockwasher—Valve Reed Clamp
462-7209	Lockwasher—Synchronous Control Shaft
*497-7230	Lockwasher—Synch. Control Follower
509-8200	Stud—Carburetor Flange
462-8204	Stud—Crankcase to Block
509-8601	Welch Plug—Cylinder Block
509-8602	Pipe Plug—Cylinder Block
509-8605	Expansion Plug—Cylinder Head
†	Included in 509-1895 Assembly
*	Included in 509-4602 Assembly

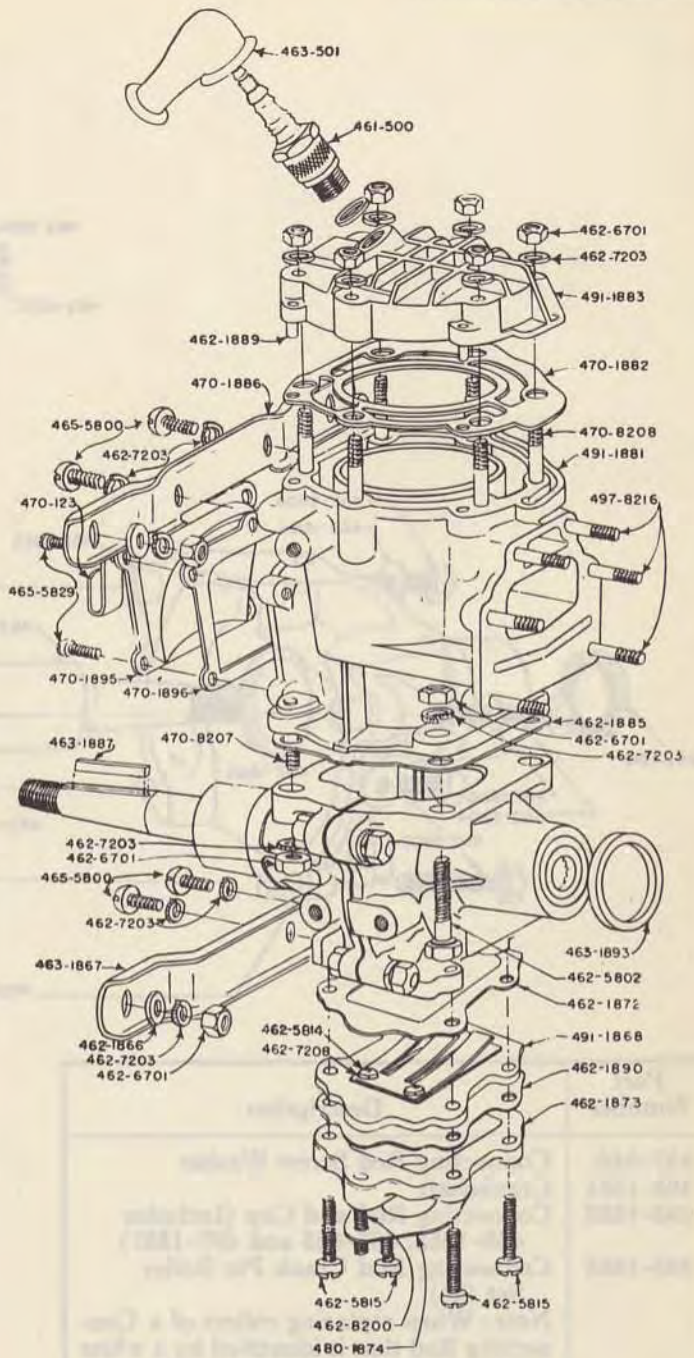


Part Number	Description
487-645	Connecting Rod Screw Washer
463-1851	Crankshaft
493-1852	Connecting Rod and Cap (Includes 463-1855, 487-645 and 497-1857)
463-1855	Connecting Rod Crank Pin Roller Set (24) Note: When replacing rollers of a Connecting Rod that is identified by a white mark, order 463-1855-0 (oversize—23 per set)
497-1857	Connecting Rod Screw
480-1860	Crankcase Assembly (Includes Upper and Lower Halves of Crankcase with Bearings)

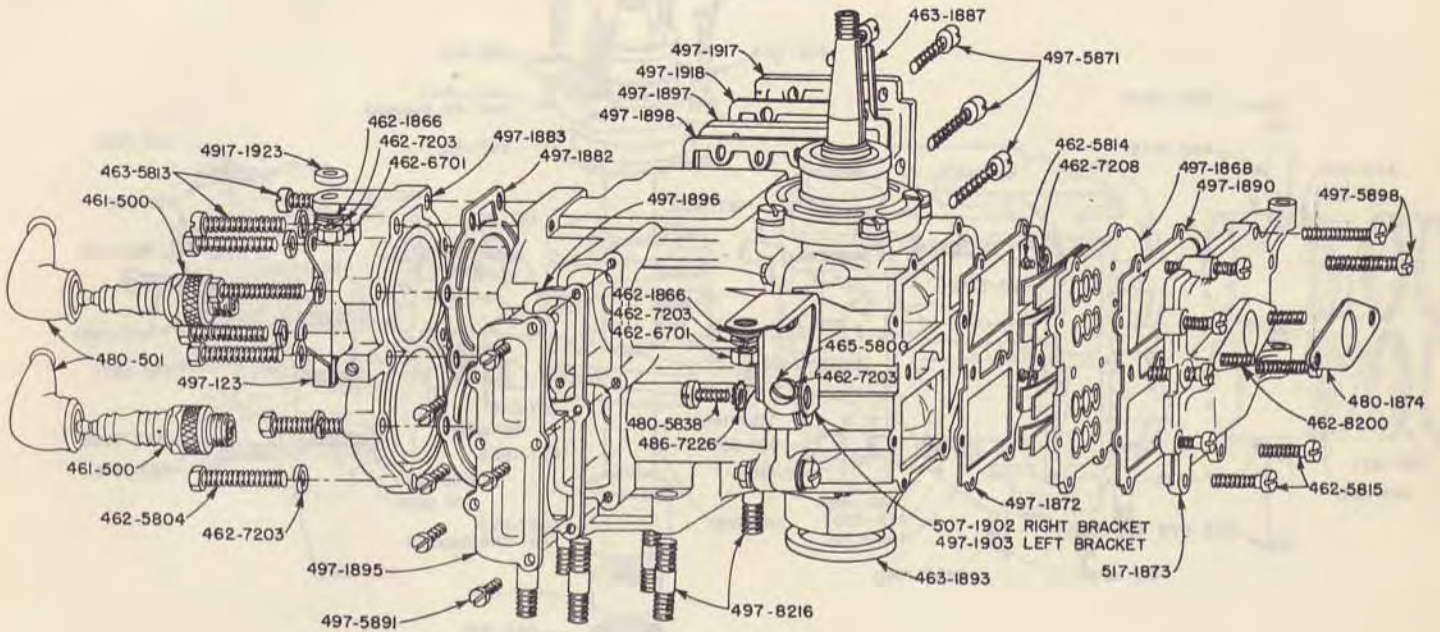
Part Number	Description
463-1862	Upper Crankshaft Bearing
463-1863	Lower Crankshaft Bearing
462-1864	Crankcase Gasket
462-1865	Crankcase Dowel
462-1866	Crankcase Dowel Washer
463-1875	Piston and Pin
463-1877	Piston Ring
463-1879	Piston Pin Lock
463-1891	Piston Ring Pin
497-1915	Oil Seal—Upper Crankshaft Bearing
462-5802	Front Crankcase Flange Screw
462-5804	Rear Crankcase Flange Screw
462-6701	Crankcase Flange Screw Nut
462-7203	Lock Washer for Crankcase Flange Screw Nut

POWERHEAD 3025

Part Number	Description
470-123	Lead Wire Clamp
461-500	Spark Plug
480-501	Spark Plug Rubber Hood
462-1866	Gas Tank Bracket Screw Washer
463-1867	Front Gas Tank Bracket
491-1868	Reed Valve Plate Assembly
462-1872	Reed Valve Plate Gasket
5110-1873	Carburetor Adaptor
462-1874	Carburetor Flange Gasket
491-1881	Cylinder Block
470-1882	Cylinder Head Gasket
491-1883	Cylinder Head
462-1885	Cylinder Flange Gasket
470-1886	Rear Gas Tank Bracket
463-1887	Flywheel Key
462-1889	Cylinder Head Dowel
491-1890	Carburetor Adaptor Gasket
463-1893	Pivot Tube Seal Ring
470-1895	Intake Cover Plate
470-1896	Intake Cover Plate Gasket
465-5800	Gas Tank Bracket Screw
462-5802	Cylinder Block Flange Screw
462-5814	Valve Reed Clamp Screw
462-5815	Carburetor Adaptor Plate Screw
465-5829	Intake Cover Plate Screw
462-6701	Cylinder Block Flange, Cylinder Head and Gas Tank Nut
462-7203	Lock Washer—Gas Tank, Cylinder Block Flange, Cylinder Head and Bracket
462-7208	Lock Washer—Valve Reed Clamp Screw
462-8200	Carburetor Flange Stud
497-8216	Cylinder Exhaust Flange Stud
470-8207	Cylinder Block Flange Stud
470-8208	Cylinder Head Stud



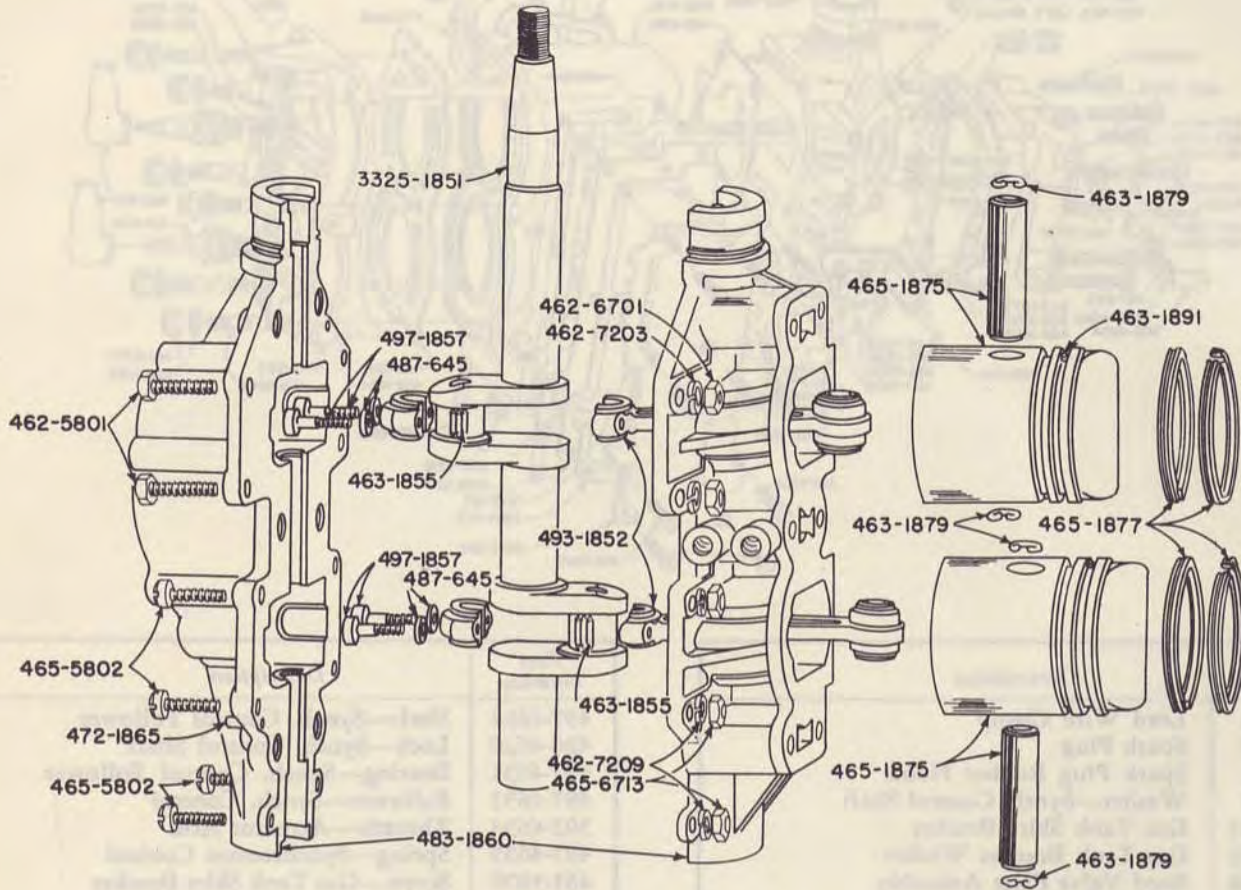
POWERHEAD 3725



Part Number	Description
497-123	Lead Wire Clamp
461-500	Spark Plug
480-501	Spark Plug Rubber Hood
462-1866	Washer—Gas Tank Bracket
497-1868	Reed Valve Plate Assembly
497-1872	Valve Reed Plate Gasket
517-1873	Intake Manifold
480-1874	Carburetor Flange Gasket
497-1882	Cylinder Head Gasket
497-1883	Detachable Cylinder Head
463-1887	Flywheel Key
497-1890	Intake Manifold Gasket
463-1893	Pivot Tube Seal Ring
497-1895	Intake Cover Plate
497-1896	Intake Cover Plate Gasket
497-1897	Exhaust Cover Plate
497-1898	Exhaust Cover Plate Gasket
507-1902	Gas Tank Bracket (RH)
497-1903	Gas Tank Bracket (LH)
497-1917	Water Cover Plate
497-1918	Gasket—Water Cover Plate

Part Number	Description
4917-1923	Spacer—Gas Tank (Rear)
465-5800	Screw—Gas Tank Bracket to Powerhead
462-5804	Screw—Cylinder Head
463-5813	Screw—Cylinder Head
462-5814	Screw—Valve Reed Clamp
462-5815	Screw—Intake Manifold—Short
480-5838	Screw—Gas Tank Skirt—Front
497-5871	Screw—Water Cover Plate
497-5891	Screw—Intake Cover Plate
497-5898	Screw—Intake Manifold—Long
497-5901	Screw—Water Cover Plate (Not Shown)
462-6701	Nut—Gas Tank Mounting Screw
462-7203	Lockwasher—Gas Tank Bracket
462-7203	Lockwasher—Bracket Screw
462-7203	Lockwasher—Cylinder Head
462-7208	Lockwasher—Valve Reed Clamp Screw
486-7226	Lockwasher—Skirt Mounting
462-8200	Carburetor Flange Stud
497-8216	Stud—Cylinder Exhaust Flange

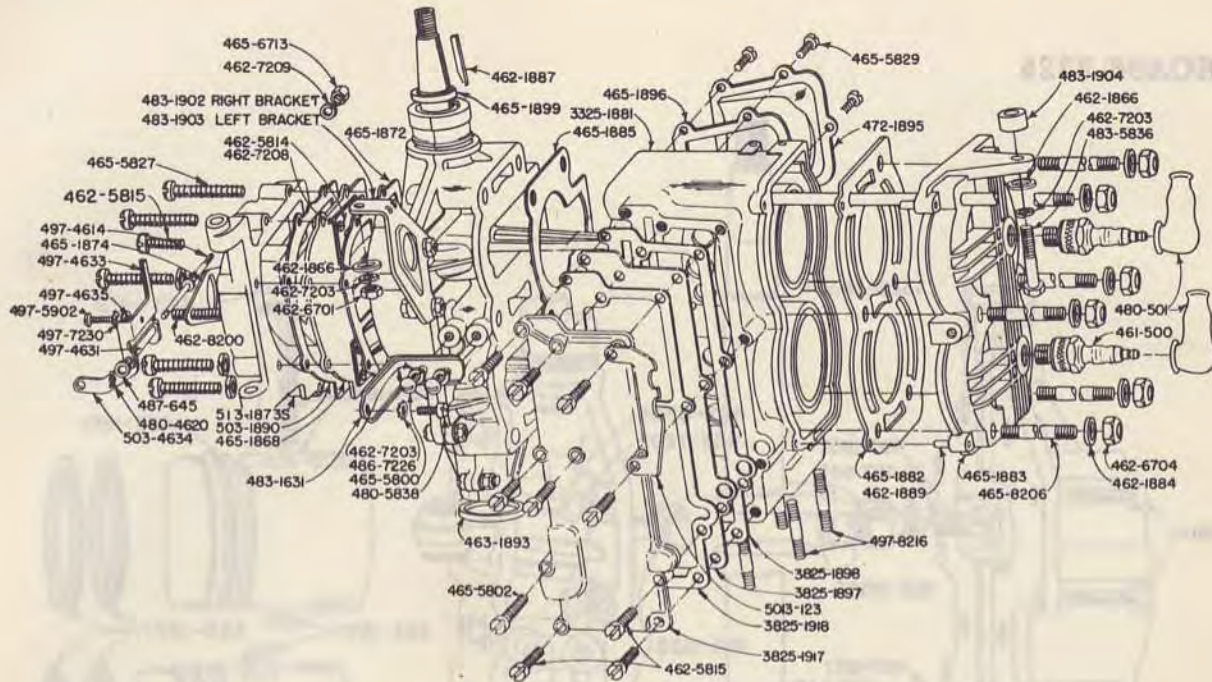
CRANKCASE 3325



Part Number	Description
487-645	Connecting Rod Screw Washer
3325-1851	Crankshaft
493-1852	Connecting Rod Assembly (Includes 463-1855, 487-645 and 497-1857)
*463-1855	Connecting Rod Crank Pin Roller Set (24) NOTE: When replacing rollers of a connecting rod that is identified by a white mark, order 463-1855-0 (23 per set)
497-1857	Connecting Rod Screw
483-1860	Crankcase Assembly (Includes Front and Rear Halves of Crankcase with Bearings)

Part Number	Description
472-1865	Crankcase Dowel
465-1875	Piston and Pin
465-1877	Piston Ring
463-1879	Piston Pin Lock
463-1891	Piston Ring Pin
462-5801	Screw—Crankcase Flange
465-5802	Screw—Crankcase Flange
462-6701	Nut—Crankcase Flange Screw
465-6713	Nut—Crankcase Flange Screw
462-7203	Lock Washer—Crankcase Flange
462-7209	Lock Washer—Crankcase Flange
	Screw Nut
	*Sold in sets only, to maintain uniformity.

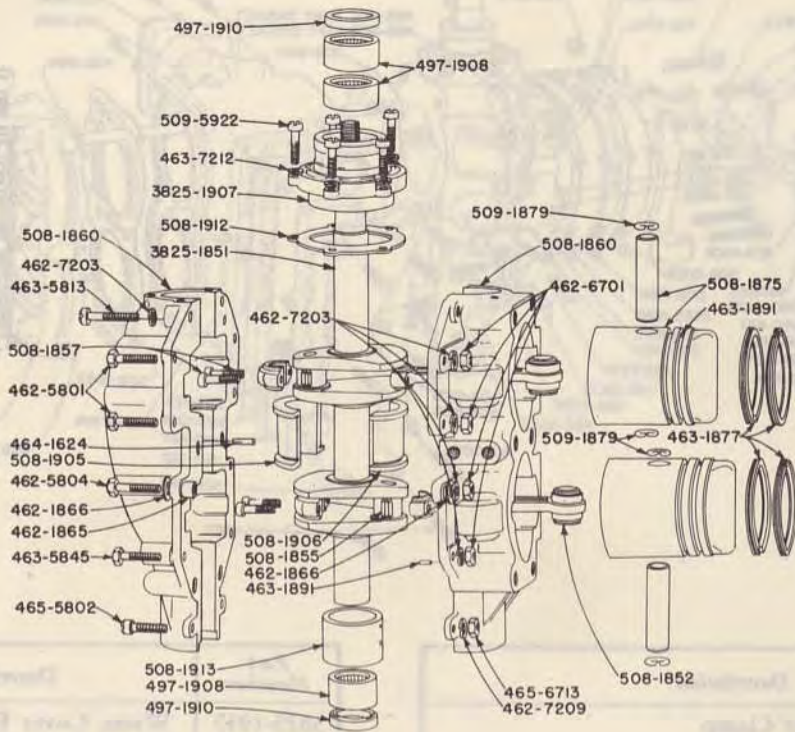
POWERHEAD 3325



Part Number	Description
5013-123	Lead Wire Clamp
461-500	Spark Plug
480-501	Spark Plug Rubber Hood
487-645	Washer—Synch. Control Shaft
483-1631	Gas Tank Skirt Bracket
462-1866	Gas Tank Bracket Washer
465-1868	Reed Valve Plate Assembly
465-1872	Reed Valve Plate Gasket
513-1873S	Intake Manifold
465-1874	Carburetor Flange Gasket
3325-1881	Cylinder Block
465-1882	Cylinder Head Gasket
465-1883	Detachable Cyl. Head
462-1884	Detachable Cyl. Head Washer
465-1885	Cylinder Flange Gasket
462-1887	Flywheel Key
462-1889	Cylinder Head Dowel
503-1890	Intake Manifold Gasket
463-1893	Pivot Tube Seal Ring
472-1895	Intake Cover Plate
465-1896	Intake Cover Plate Gasket
3825-1897	Exhaust Cover Plate
3825-1898	Exhaust Cover Plate Gasket
465-1899	Oil Seal
483-1902	Bracket—Gas Tank Front R.H.
483-1903	Bracket—Gas Tank Front L.H.
483-1904	Spacer—Gas Tank Rear Mounting
503-1924	Grommet—Gas Tank Bracket
3825-1918	Water Cover Plate Gasket
3825-1917	Water Cover Plate

Part Number	Description
497-4614	Shaft—Synch. Control Follower
480-4620	Lock—Synch. Control Shaft
497-4631	Bearing—Synch. Control Follower
497-4633	Follower—Synch. Control
503-4634	Throttle—Actuator Arm
497-4635	Spring—Synchronous Control
465-5800	Screw—Gas Tank Skirt Bracket
465-5802	Screw—Exhaust Cover Plate
462-5814	Screw—Reed Valve Clamp
462-5815	Screw—Intake Manifold Short—Exhaust Cover Plate
465-5827	Screw—Intake Manifold Long
465-5829	Screw—Intake Cover Plate
483-5836	Screw—Gas Tank Mounting—Rear
480-5838	Screw—Gas Tank Skirt to Bracket
497-5902	Adjusting Screw—Synch. Control Follower
462-6701	Nut—Gas Tank Mounting Stud
462-6704	Locknut—Cylinder Head
465-6713	Nut—Synch. Control Shaft
462-7203	Lockwasher—1/4 Inch Common
462-7208	Lockwasher—Reed Valve Clamp Screw
462-7209	Lockwasher—#10 Common
486-7226	Lockwasher—Skirt Mounting Screw
497-7230	Lockwasher—Gas Tank Skirt to Bracket
462-8200	Carburetor Stud
465-8206	Stud—Cylinder Block
497-8216	Stud—Cylinder Exh. Flange

CRANKCASE 3825



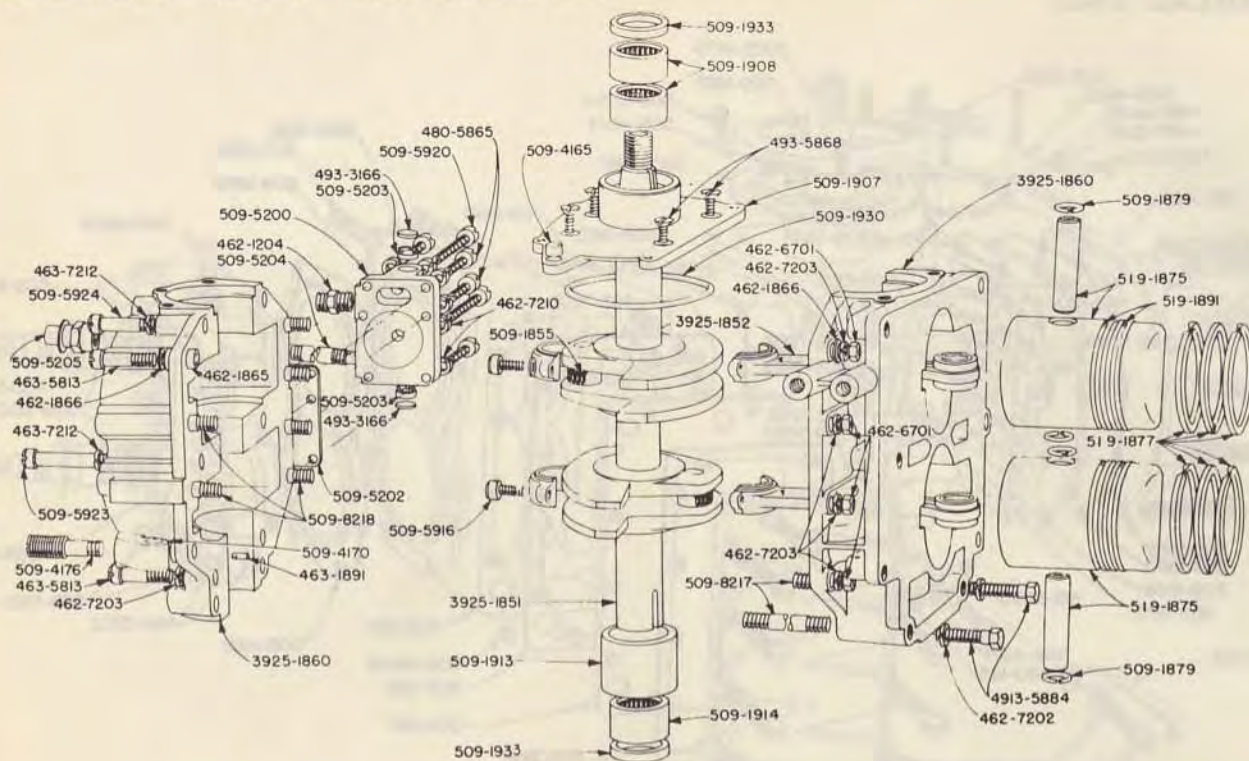
Part Number	Description
464-1624	Groove Pin—Bearing Retainer
3825-1851	Crankshaft
508-1852	Connecting Rod Assembly (Includes 508-1855, 508-1857)
508-1855	Connecting Rod Crank Pin Rollers (28 Per Set)
508-1857	Connecting Rod Screw
508-1860	Crankcase Assembly
462-1865	Crankcase Dowel
462-1866	Washer—Crankcase Dowel
508-1875	Piston Assembly
463-1877	Piston Ring
509-1879	Piston Pin Lock
463-1891	Pin—Lower Bearing—Rear Crankcase & Piston Ring Pin
508-1905	Center Main Bearing—Front Half
508-1906	Center Main Bearing—Rear Half

Part Number	Description
3825-1907	Magneto Mount Bearing Cage
497-1908	Needle Bearing
497-1910	Oil Seal
3825-1911	Magneto Mount Assembly
508-1912	Gasket—Magneto Mount Bearing Cage
508-1913	Lower Crankshaft Bearing Retainer
508-1916	Lower Crankshaft Bearing Assembly
462-5801	Screw—Crankcase Flange
465-5802	Screw—Crankcase Flange
462-5804	Screw—Crankcase Flange
463-5813	Screw—Crankcase Flange
463-5845	Screw—Crankcase Flange
509-5922	Screw—Magneto Mount Bearing Cage
462-6701	Nut—Crankcase Flange Screw
465-6713	Nut—Crankcase Flange Screw
462-7203	Lockwasher—Crankcase Flange Screw
462-7209	Lockwasher—Crankcase Flange Screw
463-7212	Lockwasher—Magneto Mount Bearing Cage

CRANKCASE 3925 - Early Models used 509 - 1851

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Crankshaft and 509 - 1860 Crankcase



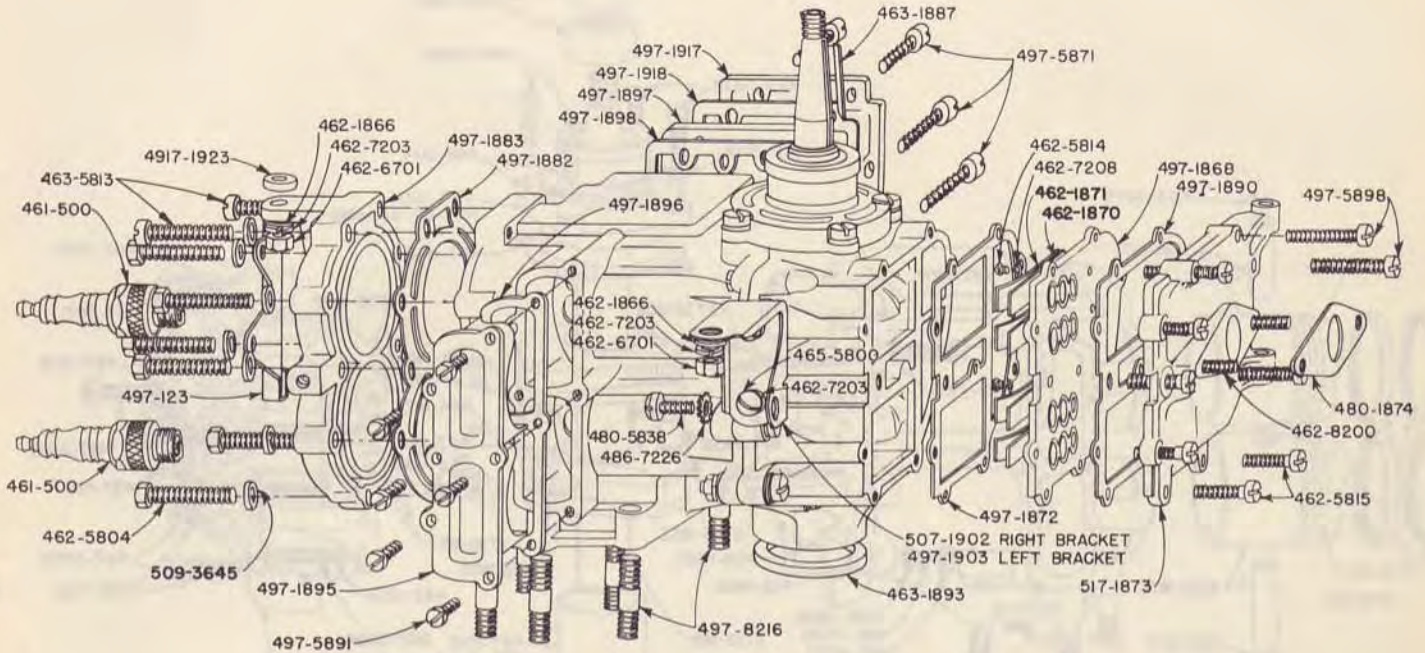
Part Number	Description
462-1204	Male Connector—Gas Line
3925-1851	Crankshaft
3925-1852	Connecting Rod Assembly (Includes 509-1855, 509-5916)
*509-1855	Crank Pin Roller Set (56)
3925-1860	Crankcase Assembly
462-1865	Dowel—Crankcase
462-1866	Washer—Crankcase Flange Screw
519-1875	Piston Assembly
519-1877	Piston Ring
509-1879	Piston Pin Lock
519-1891	Piston Ring Pin
463-1891	Pin—Lower Bearing
509-1907	Magneto Mount Plate
509-1908	Needle Bearing—Magneto Mount
509-1911	Magneto Mount Assy. (Includes 509-1907, 509-1908, 509-4165, 509-1933)
509-1913	Retainer—Lower Crankshaft Bearing
509-1914	Needle Bearing
509-1916	Lower Crankshaft Bear. Assy. (Includes 509-1913, 509-1914, 509-1933)
509-1930	"O" Ring Magneto Mount 509-1905, 509-1906, 509-5938, 509-1931, 462-1865, 462-7203, 509-1925, 509-1891)
509-1933	Oil Seal
493-3166	Welch Plug

Part Number	Description
509-4165	Bearing—Magneto Pinion Shaft
509-4170	Bearing—Mag. Pinion Shaft—Lower
509-4176	Adjusting Screw
509-5200	Fuel Pump Body Assembly (Includes 509-5203, 493-3166)
509-5202	Diaphragm—Fuel Pump
509-5203	Check Valve
509-5204	Fuel Pump Filter Assembly
509-5205	Plug—Fuel Coupling
463-5813	Screw—Crankcase Flange
463-5813	Screw—Lower Main Bearing
480-5865	Screw—Fuel Pump—Short
493-5868	Screw—Mag. Mount Bearing Cage
4913-5884	Screw—Crankcase to Block
509-5916	Screw—Connecting Rod Cap
509-5920	Screw—Fuel Pump—Long
509-5923	Screw—Crankcase Center Front
509-5924	Screw—Top Crankcase
462-6701	Nut—Crankcase Flange Screw and Stud
462-7202	Lockwasher—Crankcase to Block
462-7203	Lockwasher
462-7210	Lockwasher—Fuel Pump Screw
463-7212	Lockwasher—Top & Center Screws
509-8217	Stud—Lower Crankcase
509-8218	Stud—Crankcase Front

* Sold in Sets Only, to Maintain Uniformity

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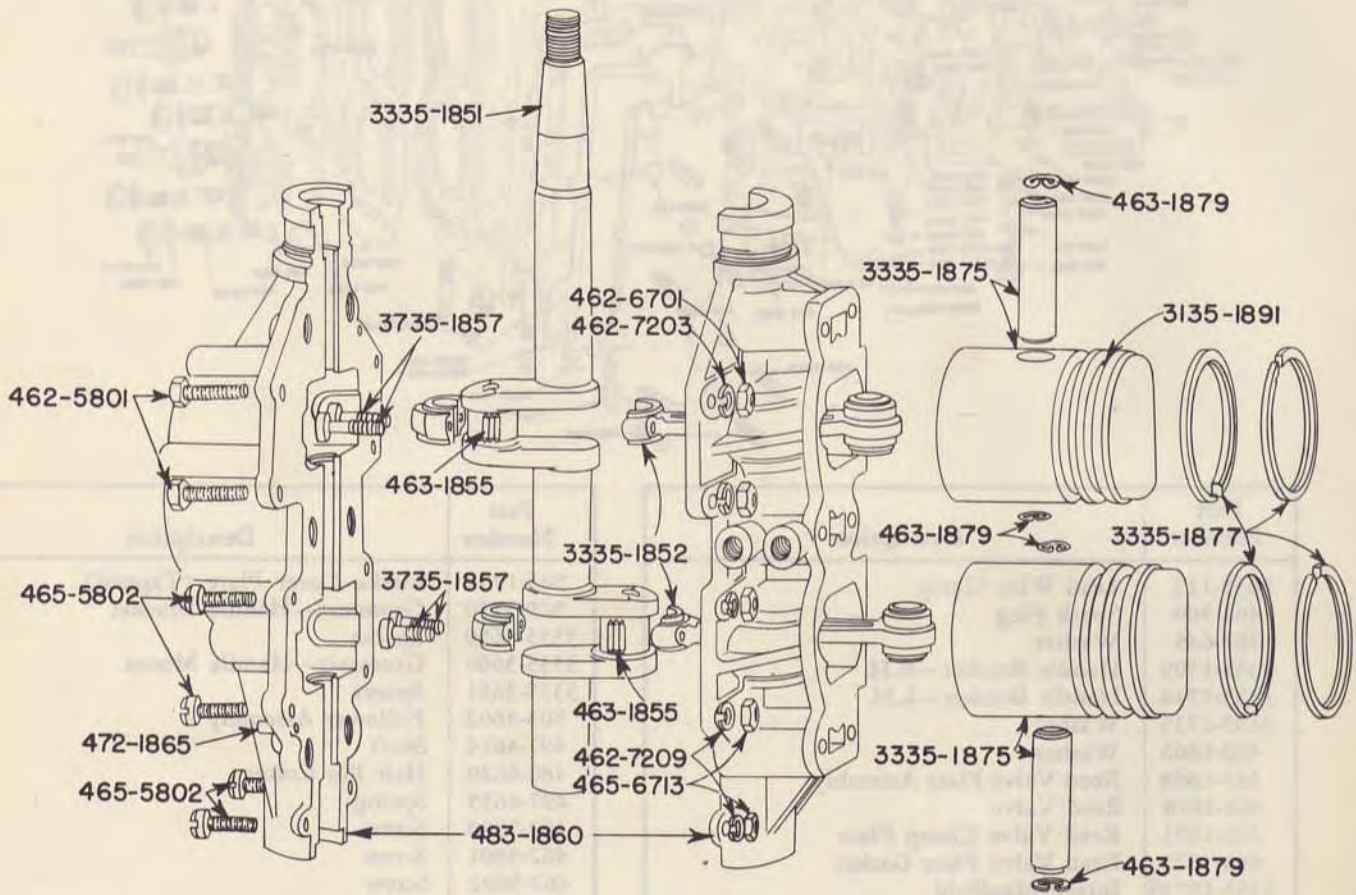
POWERHEAD 3735



Part Number	Description
497-123	Lead Wire Clamp
461-500	Spark Plug
462-1866	Washer—Gas Tank Bracket
497-1868	Reed Valve Plate Assembly
462-1870	Reed
426-1871	Reed Bracket Clamp
497-1872	Valve Reed Plate Gasket
517-1873	Intake Manifold
480-1874	Carburetor Flange Gasket
497-1882	Cylinder Head Gasket
497-1883	Detachable Cylinder Head
463-1887	Flywheel Key
497-1890	Intake Manifold Gasket
463-1893	Pivot Tube Seal Ring
497-1895	Intake Cover Plate
497-1896	Intake Cover Plate Gasket
497-1897	Exhaust Cover Plate
497-1898	Exhaust Cover Plate Gasket
507-1902	Gas Tank Bracket (RH)
497-1903	Gas Tank Bracket (LH)
497-1917	Water Cover Plate
497-1918	Gasket—Water Cover Plate

Part Number	Description
4917-1923	Spacer—Gas Tank (Rear)
509-3645	Washer
465-5800	Screw—Gas Tank Bracket to Powerhead
462-5804	Screw—Cylinder Head
463-5813	Screw—Cylinder Head
462-5814	Screw—Valve Reed Clamp
462-5815	Screw—Intake Manifold—Short
480-5838	Screw—Gas Tank Skirt—Front
497-5871	Screw—Water Cover Plate
497-5891	Screw—Intake Cover Plate
497-5898	Screw—Intake Manifold—Long
497-5901	Screw—Water Cover Plate (Not Shown)
462-6701	Nut—Gas Tank Mounting Screw
462-7203	Lockwasher—Gas Tank Bracket
462-7203	Lockwasher—Bracket Screw
462-7208	Lockwasher—Valve Reed Clamp Screw
486-7226	Lockwasher—Skirt Mounting
462-8200	Carburetor Flange Stud
497-8216	Stud—Cylinder Exhaust Flange

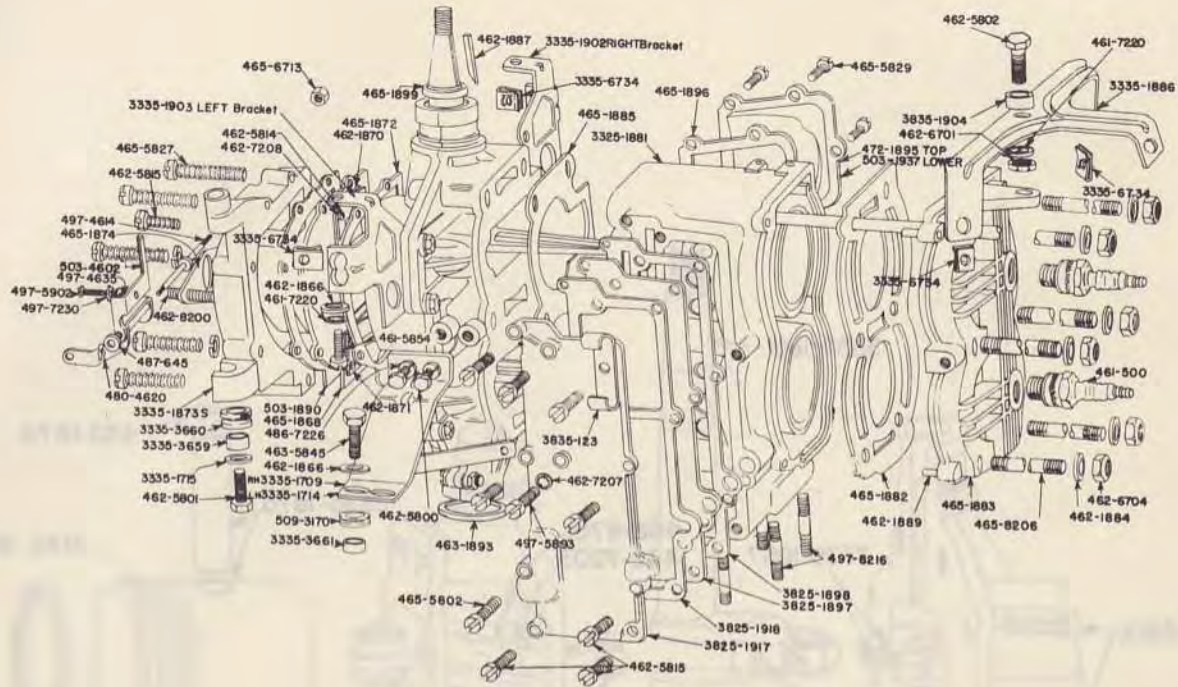
CRANKCASE 3335



Part Number	Description
3335-1851	Crankshaft
3335-1852	Connecting Rod Assembly (Includes 463-1855 and 3735-1857)
*463-1855	Connecting Rod Crank Pin Roller Set (24)
3735-1857	Connecting Rod Screw
483-1860	Crankcase Assembly (Includes Front and Rear Halves of Crankcase with Bearings)
472-1865	Crankcase Dowel *Sold in sets only, to maintain uniformity

Part Number	Description
3335-1875	Piston and Pin
3335-1877	Piston Ring
463-1879	Piston Pin Lock
3135-1891	Piston Ring Pin
462-5801	Screw—Crankcase Flange
465-5802	Screw—Crankcase Flange
462-6701	Nut—Crankcase Flange Screw
465-6713	Nut—Crankcase Flange Screw
462-7203	Lock Washer—Crankcase Flange Screw Nut
462-7209	Lock Washer—Crankcase Flange Screw Nut

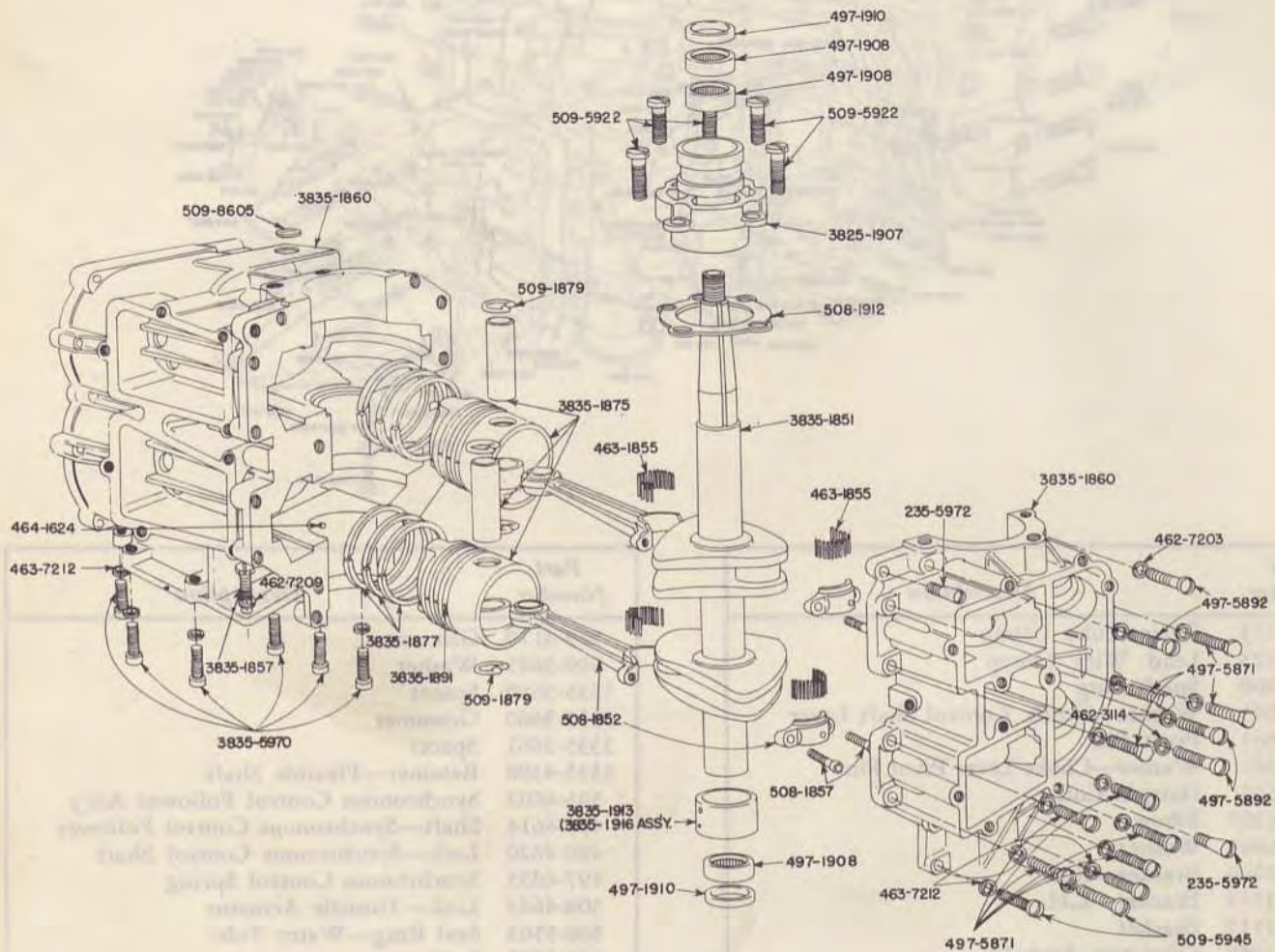
POWERHEAD 3335



Part Number	Description
3835-123	Lead Wire Clamp
461-500	Spark Plug
487-645	Washer
3335-1709	Handle Bracket—R.H.
3335-1714	Handle Bracket—L.H.
3335-1715	Washer
462-1866	Washer
465-1868	Reed Valve Plate Assembly
462-1870	Reed Valve
462-1871	Reed Valve Clamp Plate
465-1872	Reed Valve Plate Gasket
3335-1873S	Intake Manifold
465-1874	Carburetor Flange Gasket
3325-1881	Cylinder Block
465-1882	Cylinder Head Gasket
465-1883	Detachable Cyl. Head
462-1884	Detachable Cyl. Head Washer
465-1885	Cylinder Flange Gasket
3335-1886	Rear Bracket Assembly
462-1887	Flywheel Key
462-1889	Cylinder Head Dowel
503-1890	Intake Manifold Gasket
463-1893	Pivot Tube Seal Ring
472-1895	Intake Cover Plate
465-1896	Intake Cover Plate Gasket
3825-1897	Exhaust Cover Plate
3825-1898	Exhaust Cover Plate Gasket
465-1899	Oil Seal
3335-1902	Bracket—Front L.H.
3335-1903	Bracket—Front R.H.
3835-1904	Spacer
3825-1917	Water Cover Plate
3825-1918	Gasket—Water Cover Plate

Part Number	Description
503-1937	Intake Cover Plate (Tapped)
509-3170	Grommet—Handle Bracket
3335-3659	Spacer
3335-3660	Grommet—Handle Mount
3335-3661	Spacer
503-4602	Follower Assembly
497-4614	Shaft
480-4620	Hair Pin Cotter
497-4635	Spring
462-5800	Screw
462-5801	Screw
462-5802	Screw
465-5802	Screw
462-5814	Screw—Reed Valve Clamp
462-5815	Screw
465-5827	Screw—Intake Manifold
465-5829	Screw—Intake Cover Plate
463-5845	Screw
461-5854	Screw
497-5893	Screw
497-5902	Adjusting Screw
462-6701	Nut Starter Mounting Screw
462-6704	Locknut—Cylinder Head
465-6713	Nut
3335-6734	Speed Nut
462-7207	Lockwasher
462-7208	Lockwasher—Reed Valve Clamp Screw
461-7220	Lockwasher
486-7226	Lockwasher
497-7230	Lockwasher
462-8200	Carburetor Stud
465-8206	Stud—Cylinder Block
497-8216	Stud—Cylinder Exh. Flange

CRANKCASE 3835

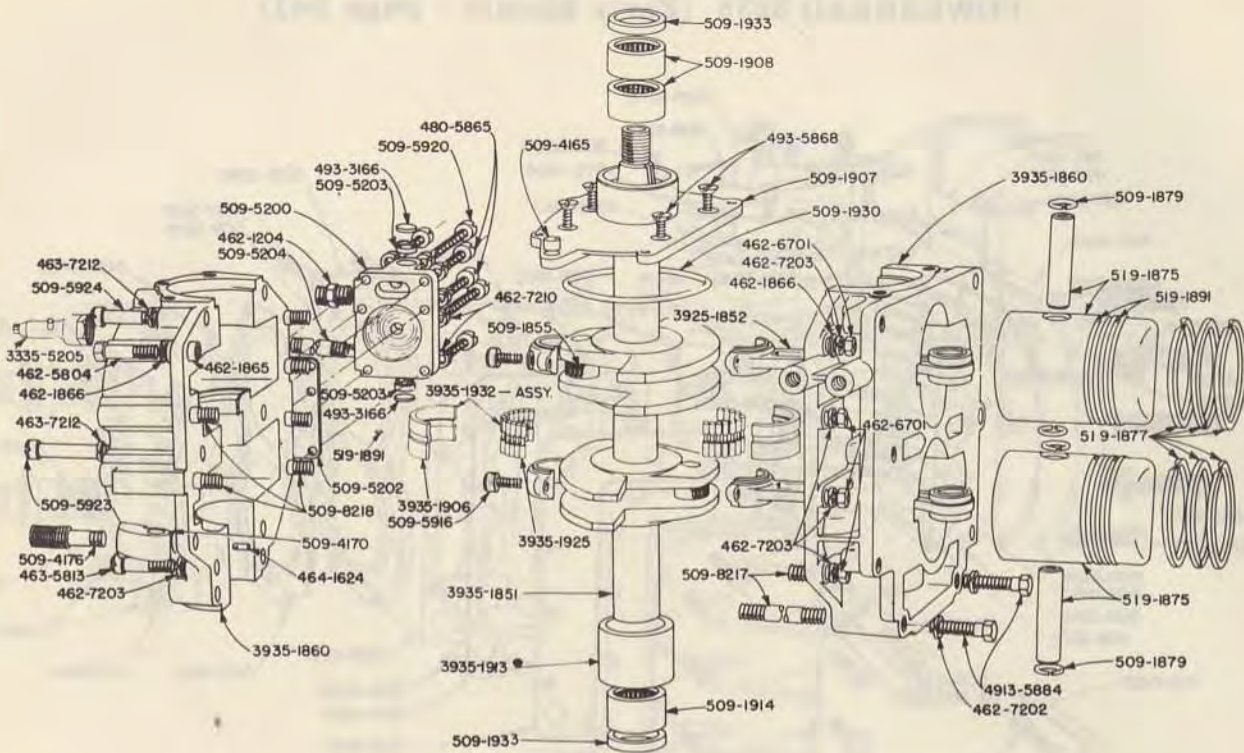


Part Number	Description
464-1624	Groove Pin—Bearing Retainer
3835-1851	Crankshaft
508-1852	Connecting Rod Assembly (Includes 463-1855, 508-1857)
463-1855	Connecting Rod Crank Pin Rollers (28 Per Set)
508-1857	Connecting Rod Screw
3835-1857	Screw
3835-1860	Crankcase Assembly
3835-1875	Piston Assembly
3835-1877	Piston Ring
509-1879	Piston Pin Lock
3835-1891	Pin—Piston Ring Pin
3825-1907	Magneto Mount Bearing Cage
497-1908	Needle Bearing
497-1910	Oil Seal

Part Number	Description
3825-1911	Magneto Mount Assembly
508-1912	Gasket—Magneto Mount Bearing Cage
3835-1913	Lower Crankshaft Bearing Retainer
3835-1916	Lower Crankshaft Bearing Assembly
462-3114	Washer
497-5871	Screw
497-5892	Screw
509-5922	Screw—Magneto Mount Bearing Cage
509-5945	Screw
3835-5970	Screw
235-5972	Dowel Screw
462-7203	Lockwasher—Crankcase Flange Screw
462-7209	Lockwasher
463-7212	Lockwasher

CRANKCASE 3935 (Early Models - Page P44)

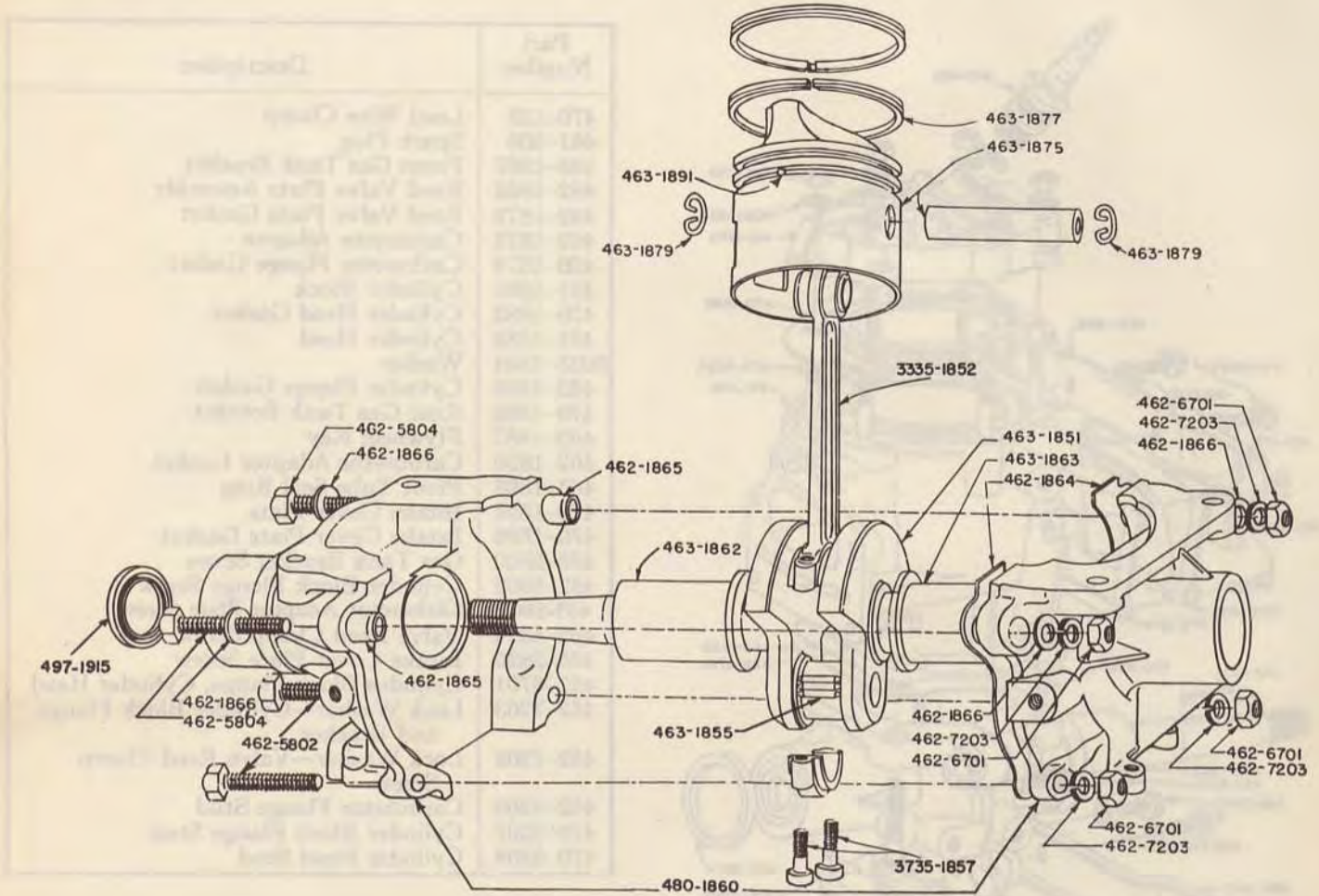
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Part Number	Description
462-1204	Male Connector—Gas Line
464-1624	Pin
509-1851	Crankshaft
3925-1852	Connecting Rod Assembly (Includes 509-1855, 509-5916)
*509-1855	Crank Pin Roller Set (56)
3935-1860	Crankcase Assembly
462-1865	Dowel—Retainer
462-1866	Washer—Crankcase Flange Screw
519-1875	Piston Assembly
519-1877	Piston Ring
509-1879	Piston Pin Lock
519-1891	Pin
463-1891	Pin—Bearing Retainer
3935-1906	Race
509-1907	Magneto Mount Plate
509-1908	Needle Bearing—Magneto Mount
509-1911	Magneto Mount Assy. (Includes 509-1907, 509-1908, 509-4165, 509-1933)
3935-1913	Retainer—Lower Crankshaft Bearing
509-1914	Needle Bearing
3935-1916	Lower Crankshaft Bear. Assy. (Includes 3935-1913, 509-1914, 509-1933)
3935-1925	Center Crankshaft Roller Bear. Set (23)
509-1930	“O” Ring Magneto Mount
3935-1932	Center Bearing Assembly (3935-1906 and 3935-1925)

Part Number	Description
509-1933	Oil Seal
493-3166	Welch Plug
509-4165	Bearing—Magneto Pinion Shaft
509-4170	Bearing—Mag. Pinion Shaft—Lower
509-4176	Adjusting Screw
509-5200	Fuel Pump Body Assembly (Includes 509-5203, 493-3166)
509-5202	Diaphragm—Fuel Pump
509-5203	Check Valve
509-5204	Fuel Pump Filter Assembly
3335-5205	Plug—Fuel Coupling
462-5804	Screw
463-5813	Screw—Crankcase Flange
463-5813	Screw—Lower Main Bearing
480-5865	Screw—Fuel Pump—Short
493-5868	Screw—Mag. Mount Bearing Cage
4913-5884	Screw—Crankcase to Block
509-5916	Screw—Connecting Rod Cap
509-5920	Screw—Fuel Pump—Long
509-5923	Screw—Crankcase Center Front
509-5924	Screw—Top Crankcase
462-6701	Nut—Crankcase Flange Screw and Stud
462-7202	Lockwasher—Crankcase to Block
462-7203	Lockwasher
462-7210	Lockwasher—Fuel Pump Screw
463-7212	Lockwasher—Top & Center Screws
509-8217	Stud—Lower Crankcase
509-8218	Stud—Crankcase Front

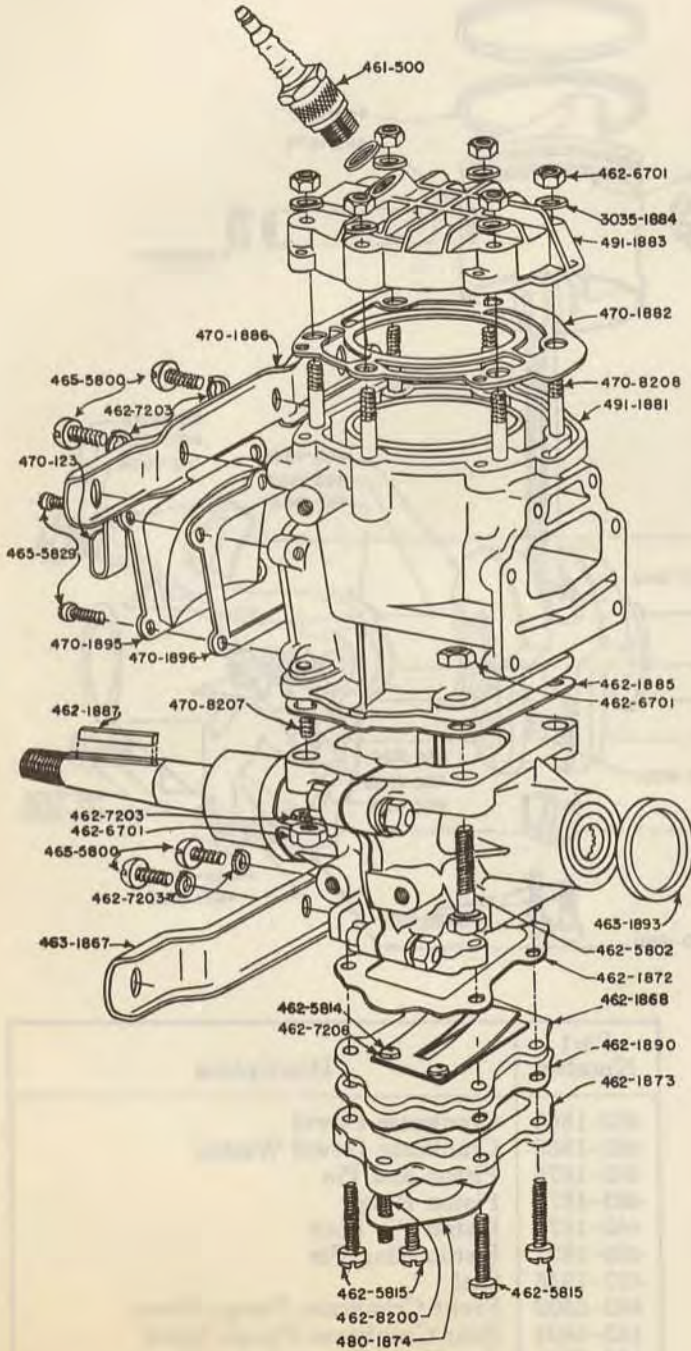
CRANKCASE - 3045



Part Number	Description
463-1851	Crankshaft
3335-1852	Connecting Rod and Cap (Includes 463-1855 and 3735-1857)
463-1855	Connecting Rod Crank Pin Roller Set (24)
3735-1857	Connecting Rod Screw
480-1860	Crankcase Assembly (Includes Upper and Lower Halves of Crankcase with Bearings)
463-1862	Upper Crankshaft Bearing
463-1863	Lower Crankshaft Bearing
462-1864	Crankcase Gasket

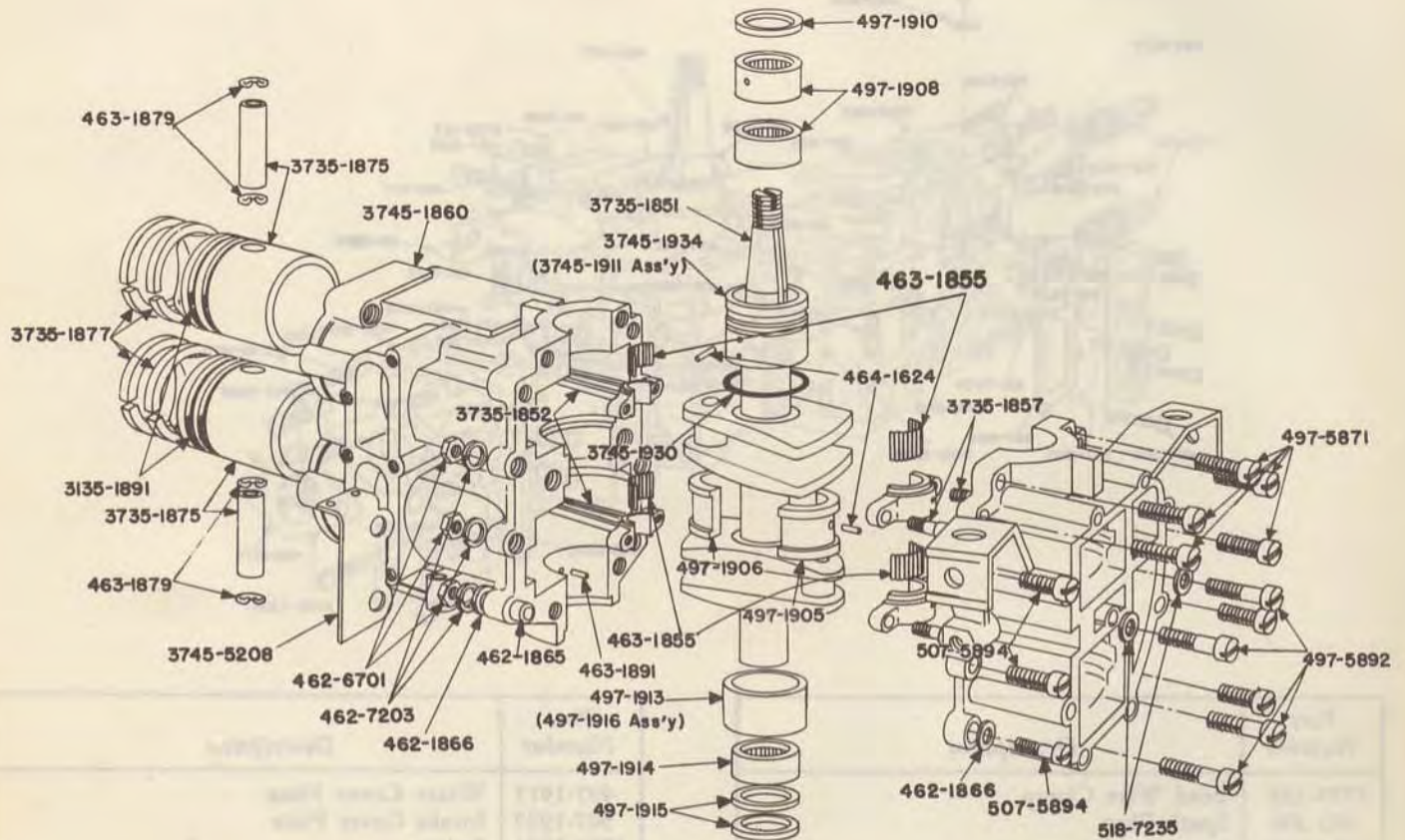
Part Number	Description
462-1865	Crankcase Dowel
462-1866	Crankcase Dowel Washer
463-1875	Piston and Pin
463-1877	Piston Ring
463-1879	Piston Pin Lock
463-1891	Piston Ring Pin
497-1915	Seal
462-5802	Front Crankcase Flange Screw
462-5804	Rear Crankcase Flange Screw
462-6701	Crankcase Flange Screw Nut
462-7203	Lock Washer for Crankcase Flange Screw Nut

POWERHEAD - 3045



Part Number	Description
470-123	Lead Wire Clamp
461-500	Spark Plug
463-1867	Front Gas Tank Bracket
462-1868	Reed Valve Plate Assembly
462-1872	Reed Valve Plate Gasket
462-1873	Carburetor Adaptor
480-1874	Carburetor Flange Gasket
491-1881	Cylinder Block
470-1882	Cylinder Head Gasket
491-1883	Cylinder Head
3035-1884	Washer
462-1885	Cylinder Flange Gasket
470-1886	Rear Gas Tank Bracket
462-1887	Flywheel Key
462-1890	Carburetor Adaptor Gasket
463-1893	Pivot Tube Seal Ring
470-1895	Intake Cover Plate
470-1896	Intake Cover Plate Gasket
465-5800	Gas Tank Bracket Screw
462-5802	Cylinder Block Flange Screw
465-5802	Carburetor Adaptor Plate Screw
462-5814	Valve Reed Clamp Screw
465-5829	Intake Cover Plate Screw
462-6701	Cylinder Block Flange, Cylinder Head
462-7203	Lock Washer—Cylinder Block Flange and Bracket
462-7208	Lock Washer—Valve Reed Clamp Screw
462-8200	Carburetor Flange Stud
470-8207	Cylinder Block Flange Stud
470-8208	Cylinder Head Stud

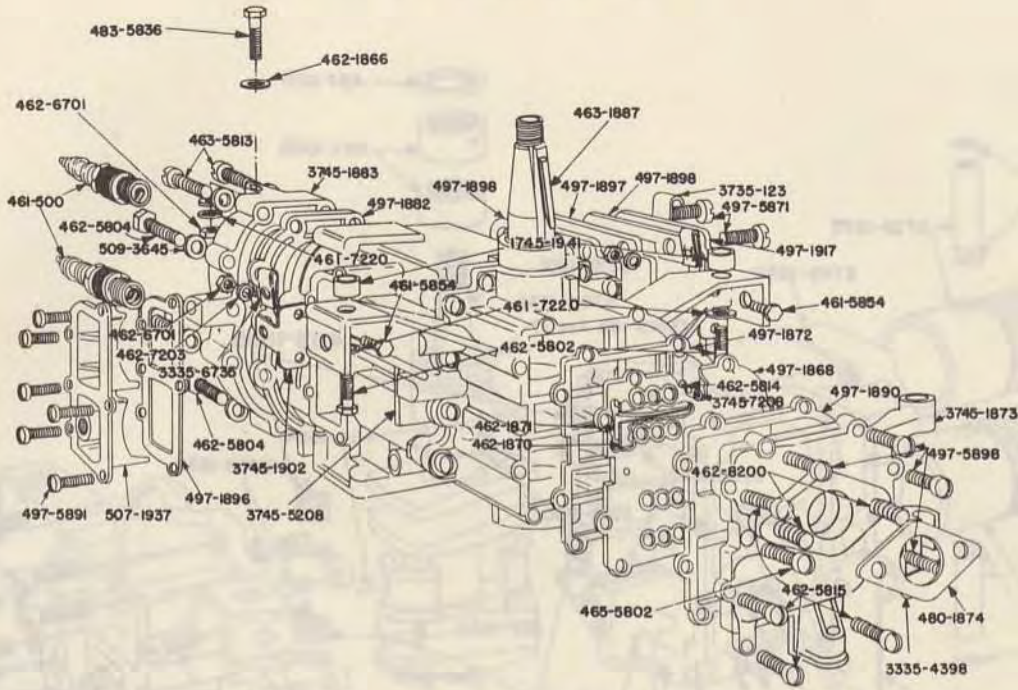
CRANKCASE - 3745



Part Number	Description
464-1624	Groove Pin—Bearing Retainer
3735-1851	Crankshaft
3735-1852	Connecting Rod Assembly
463-1855	Connecting Rod Crank Pin Roller (Set)
3735-1857	Connecting Rod Screw
3745-1860	Crankcase and Block Assembly
462-1865	Hollow—Dowel
462-1866	Washer—Dowel Screw
3735-1875	Piston Assembly
3735-1877	Piston Ring
463-1879	Piston Pin Lock
463-1891	Pin—Lower Bearing
3135-1891	Piston Ring Pin
497-1905	Center Bearing—Front
497-1906	Center Bearing—Rear
497-1908	Needle Bearing—Magneto Mount
497-1910	Oil Seal—Magneto Mount

Part Number	Description
3745-1911	Magneto Mount Assembly (includes 3745-1934, 497-1908, 497-1910)
497-1913	Retainer—Lower Crankshaft Bearing
497-1914	Needle Bearing
497-1915	Oil Seal
497-1916	Lower Crankshaft Bearing Retainer Assembly (includes 497-1913, 497-1914, 497-1915)
3745-1930	Seal—Bearing Cage
3745-1934	Bearing Cage
3745-5208	Pump Bracket
497-5871	Screw—Crankcase Flange
497-5892	Screw—Center and Lower Main Bearing
507-5894	Screw
462-6701	Nut
462-7203	Lockwasher
518-7235	Washer

POWERHEAD - 3745

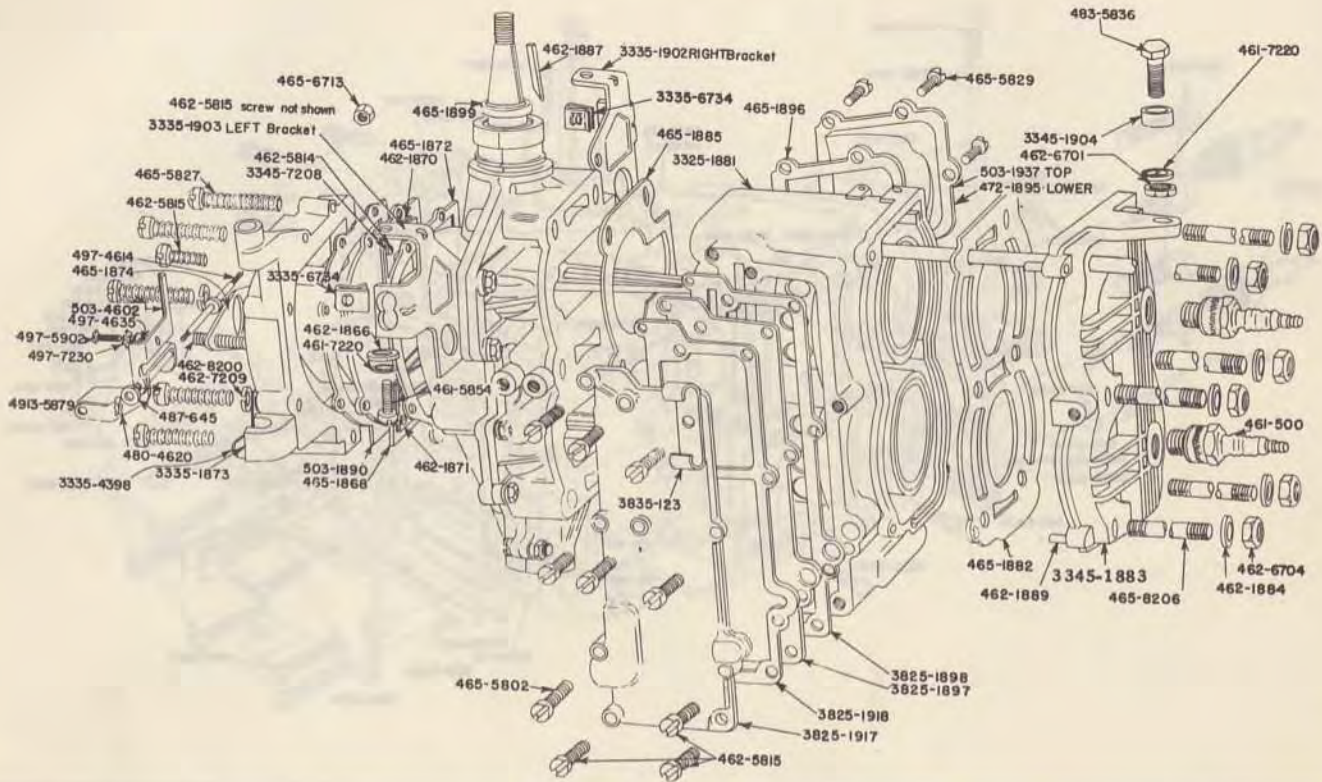


Part Number	Description
3735-123	Lead Wire Clamp
461-500	Spark Plug
4917-1660	Spacer
462-1866	Washer
497-1868	Reed Valve Plate Assembly
462-1870	Reed Only
462-1871	Reed Stop
497-1872	Valve Reed Plate Gasket
3745-1873	Intake Manifold
480-1874	Carburetor Flange Gasket
497-1882	Cylinder Head Gasket
3745-1883	Detachable Cylinder Head
1745-1886	Bracket
463-1887	Flywheel Key
497-1890	Intake Manifold Gasket
463-1893	Pivot Tube Seal Ring
507-1895	Intake Cover Plate
497-1896	Intake Cover Plate Gasket
497-1897	Exhaust Cover Plate
497-1898	Exhaust and Water Cover Plate Gasket
3745-1902	Bracket
3745-1904	Spacer

Part Number	Description
497-1917	Water Cover Plate
507-1937	Intake Cover Plate
1745-1941	Spacer
509-3645	Washer
3335-4398	Retainer
462-5802	Screw
465-5802	Screw
462-5804	Screw—Cylinder Head
463-5813	Screw—Cylinder Head
462-5814	Screw—Valve Reed Clamp
462-5815	Screw—Intake Manifold—Short
483-5836	Screw
461-5854	Screw
497-5871	Screw—Water Cover Plate
497-5891	Screw—Intake Cover Plate
497-5898	Screw—Intake Manifold—Long
462-6701	Nut
3335-6735	Speed Nut
462-7203	Lockwasher
3745-7208	L.W.—Valve Reed Clamp Screw
461-7220	L.W.
462-8200	Carburetor Flange Stud

(CRANKCASE - 3345 - P-48)

POWERHEAD - 3345

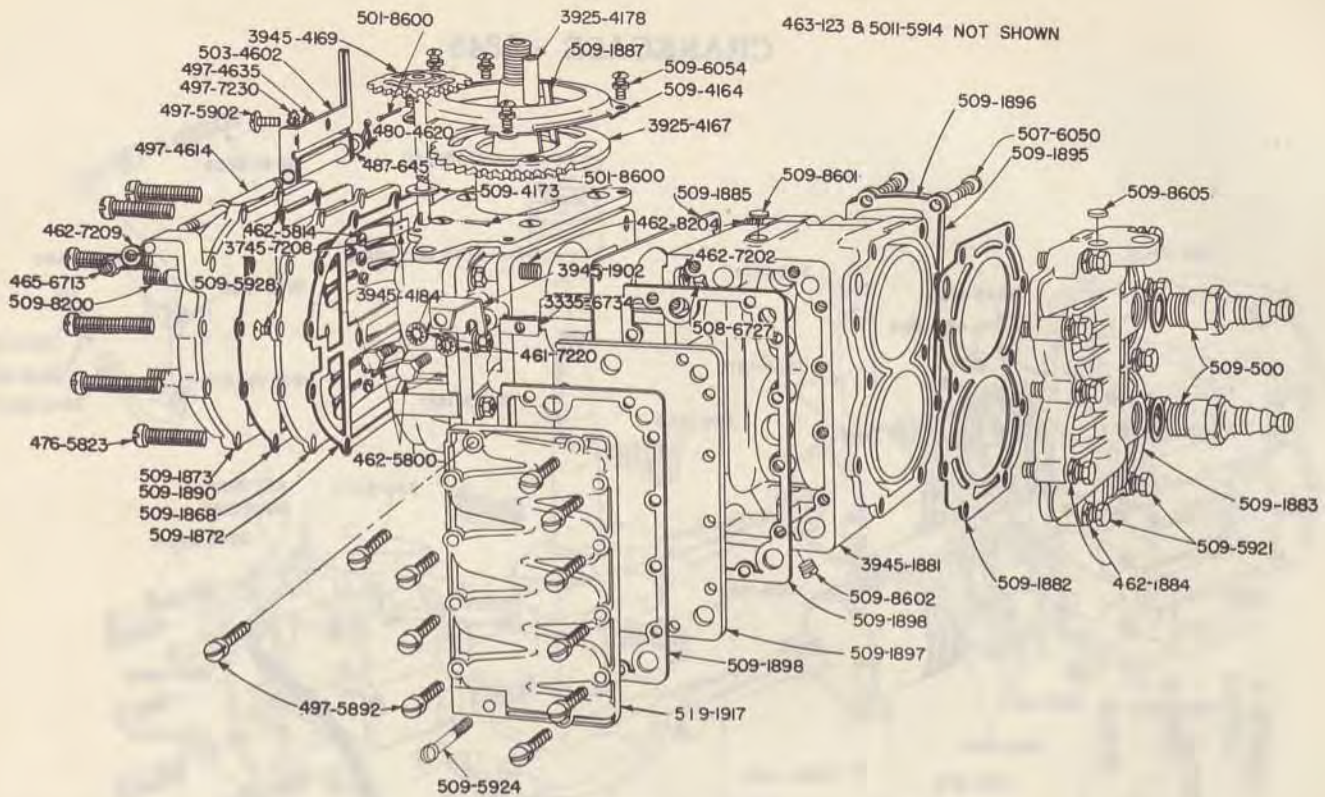


Part Number	Description
3835-123	Lead Wire Clamp
461-500	Spark Plug
487-645	Washer
462-1866	Washer
465-1868	Reed Valve Plate Assembly
462-1870	Reed Valve
462-1871	Reed Valve Clamp Plate
465-1872	Reed Valve Plate Gasket
3335-1873	Intake Manifold
465-1874	Carburetor Flange Gasket
3325-1881	Cylinder Block
465-1882	Cylinder Head Gasket
3345-1883	Detachable Cyl. Head
462-1884	Detachable Cyl. Head Washer
465-1885	Cylinder Flange Gasket
462-1887	Flywheel Key
462-1889	Cylinder Head Dowel
503-1890	Intake Manifold Gasket
472-1895	Intake Cover Plate
465-1896	Intake Cover Plate Gasket
3825-1897	Exhaust Cover Plate
3825-1898	Exhaust Cover Plate Gasket
465-1899	Oil Seal
3335-1902	Bracket—Front R.H.
3335-1903	Bracket—Front L.H.
3345-1904	Spacer

Part Number	Description
3825-1917	Water Cover Plate
3825-1918	Gasket—Water Cover Plate
503-1937	Intake Cover Plate (Tapped)
503-4602	Follower Assembly
497-4614	Shaft
480-4620	Hair Pin Cotter
497-4635	Spring
462-5802	Screw
465-5802	Screw
462-5814	Screw—Reed Valve Clamp
462-5815	Screw
465-5827	Screw—Intake Manifold
465-5829	Screw—Intake Cover Plate
483-5836	Screw
461-5854	Screw
497-5902	Adjusting Screw
462-6701	Nut Starter Mounting Screw
462-6704	Locknut—Cylinder Head
465-6713	Nut
3335-6734	Speed Nut
462-7207	Lockwasher
3745-7208	Lockwasher—Reed Valve Clamp Screw
461-7220	Lockwasher
497-7230	Lockwasher
462-8200	Carburetor Stud
465-8206	Stud—Cylinder Block

POWERHEAD - 3945

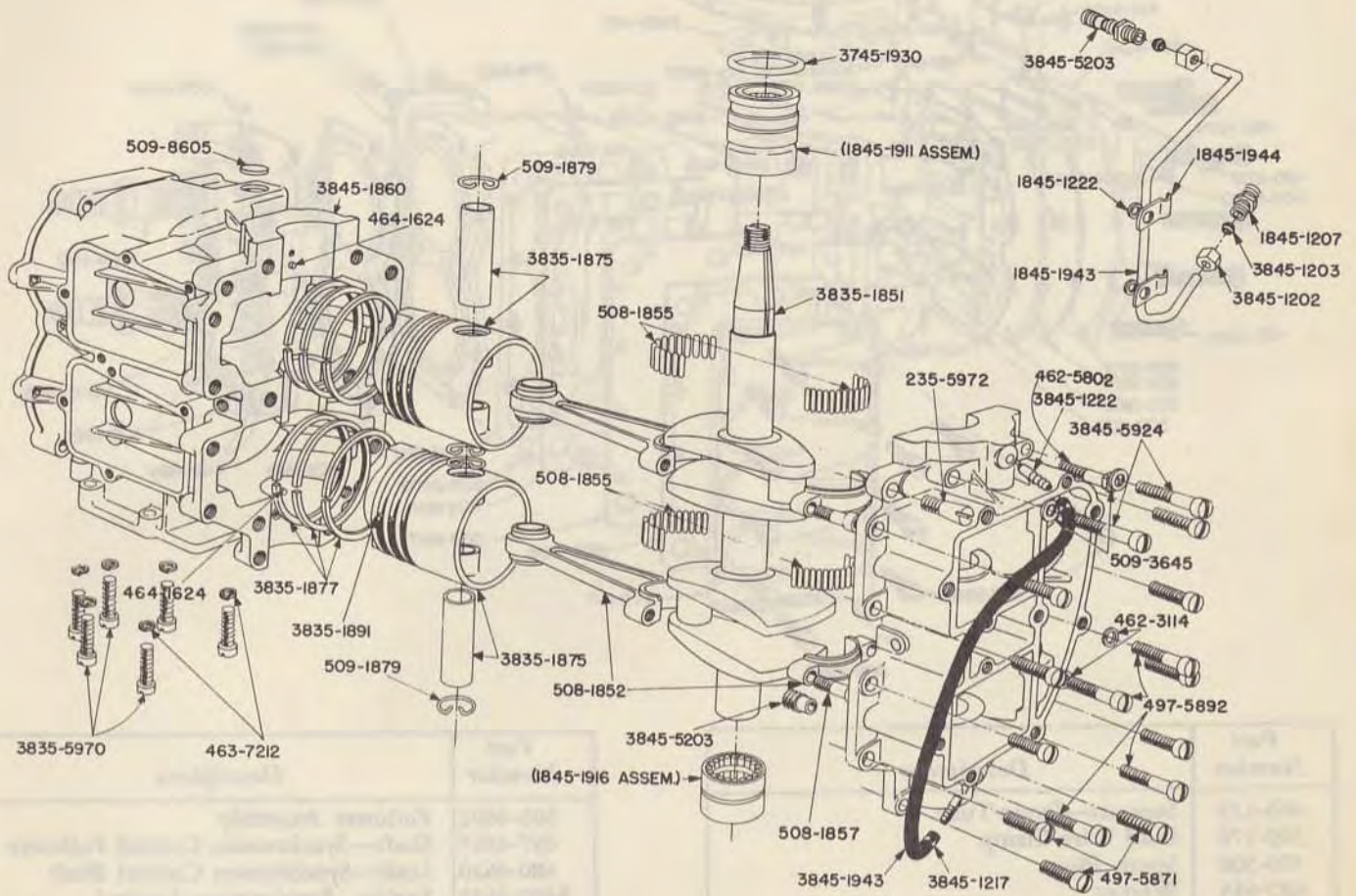
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Part Number	Description
463-123	Support—Drain Tube
509-176	Lead Wire Clamp
509-500	Spark Plug
487-645	Washer
509-1868	Reed Valve Plate Assembly
509-1870	Reeds Only
509-1871	Reed Valve Clamp
509-1872	Gasket—Reed Valve Plate
509-1873	Intake Manifold
3945-1881	Cylinder Block
509-1882	Gasket—Cylinder Head
509-1883	Cylinder Head
462-1884	Washer—Cylinder Head
509-1885	Cylinder Flange Gasket
509-1887	Flywheel Key
509-1890	Intake Manifold Gasket
509-1895	Intake Cover Plate Assembly
†509-1896	Gasket—Intake Cover Plate
509-1897	Exhaust Cover Plate
509-1898	Exhaust and Water Cover Plate Gasket
3945-1902	Skirt Bracket
509-1917	Water Cover Plate
509-4164	Mounting Ring—Stator Plate
3925-4167	Gear—Stator Plate
3945-4169	Magneto Pinion Pulley
509-4173	Washer
3925-4178	Spacer—Stator Plate Gear Screw
3945-4184	Key

Part Number	Description
503-4602	Follower Assembly
497-4614	Shaft—Synchronous Control Follower
480-4620	Lock—Synchronous Control Shaft
*497-4635	Spring—Synchronous Control
462-5800	Screw—Bracket
462-5814	Screw—Valve Reed Clamp
476-5823	Screw—Intake Manifold
497-5892	Screw—Water Cover Plate
*497-5902	Adjust. Screw—Synch. Control Follower
5011-5914	Screw—Drain Tube Support
509-5921	Screw—Cylinder Head
509-5924	Screw
509-5928	Screw—Reed Valve Plate
507-6050	Screw—Intake Cover Plate
509-6054	Screw—Mounting Ring
465-6713	Nut—Synchronous Control Shaft
508-6727	Nut—Cylinder Block Studs
3335-6734	Speed Nut
462-7202	Lockwasher—5/16" Common
3745-7208	Lockwasher—Valve Reed Clamp
462-7209	Lockwasher—Synchronous Control Shaft
461-7220	Lockwasher—Bracket Screw
*497-7230	Lockwasher—Synch. Control Follower
509-8200	Stud—Carburetor Flange
462-8204	Stud—Crankcase to Block
501-8600	Cotter Pin
509-8601	Welch Plug—Cylinder Block
509-8602	Pipe Plug—Cylinder Block
509-8605	Expansion Plug—Cylinder Head
	†Included in 509-1895 Assembly
	*Included in 503-4602 Assembly

CRANKCASE - 3845



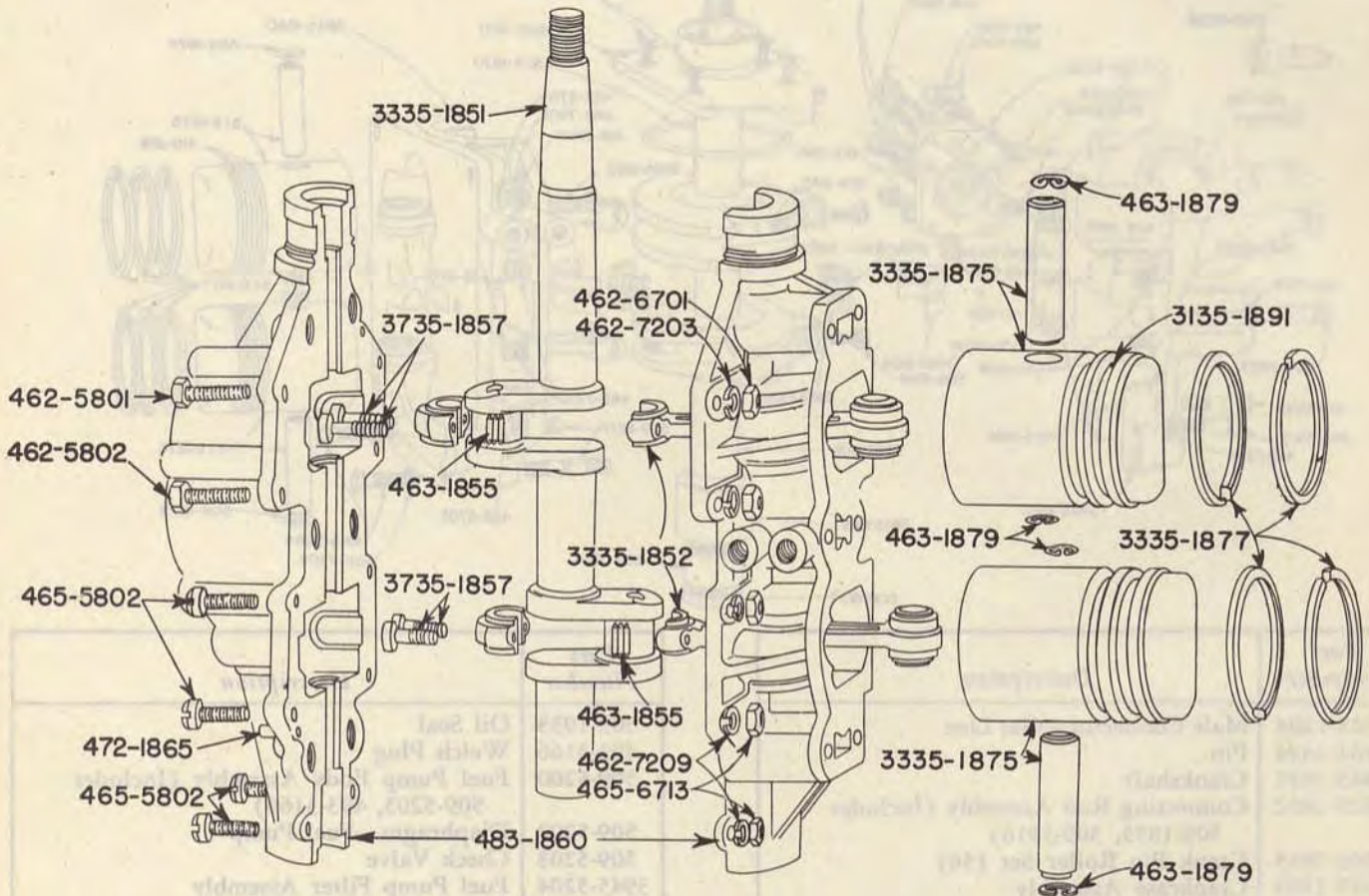
Part Number	Description
*3845-1202	Nut
*3845-1203	Sleeve
*1845-1207	Special Fitting
3845-1217	Clamp
*1845-1222	Washer
3845-1222	Fitting
464-1624	Groove Pin
3835-1851	Crankshaft
508-1852	Connecting Rod Assembly (Inc. 508-1855,508-1857)
508-1855	Connecting Rod Crank Pin Rollers (28 per set)
508-1857	Connecting Rod Screw
3845-1860	Crankcase Assembly
3835-1875	Piston Assembly
3835-1877	Piston Ring
509-1879	Piston Pin Lock
3835-1891	Pin—Piston Ring Pin

Part Number	Description
1845-1911	Magneto Bearing Assembly
1845-1916	Lower Crankcase Bearing Assembly
3745-1930	"O" Ring
*1845-1943	Lub. Line
3845-1943	Lub. Line
*1845-1944	Bracket
462-3114	Washer
509-3645	Washer
3845-5203	Check Valve
462-5802	Screw
497-5871	Screw
497-5892	Screw
3845-5924	Screw
3835-5970	Screw
235-5972	Dowel Screw
463-7212	Lockwasher
509-8605	Welch Plug

*These parts used on all 10 H.P. motors prior to those using the rubber lubrication line.

(POWERHEAD — 3055 P-53)
(CRANKCASE — 3055 P-54)

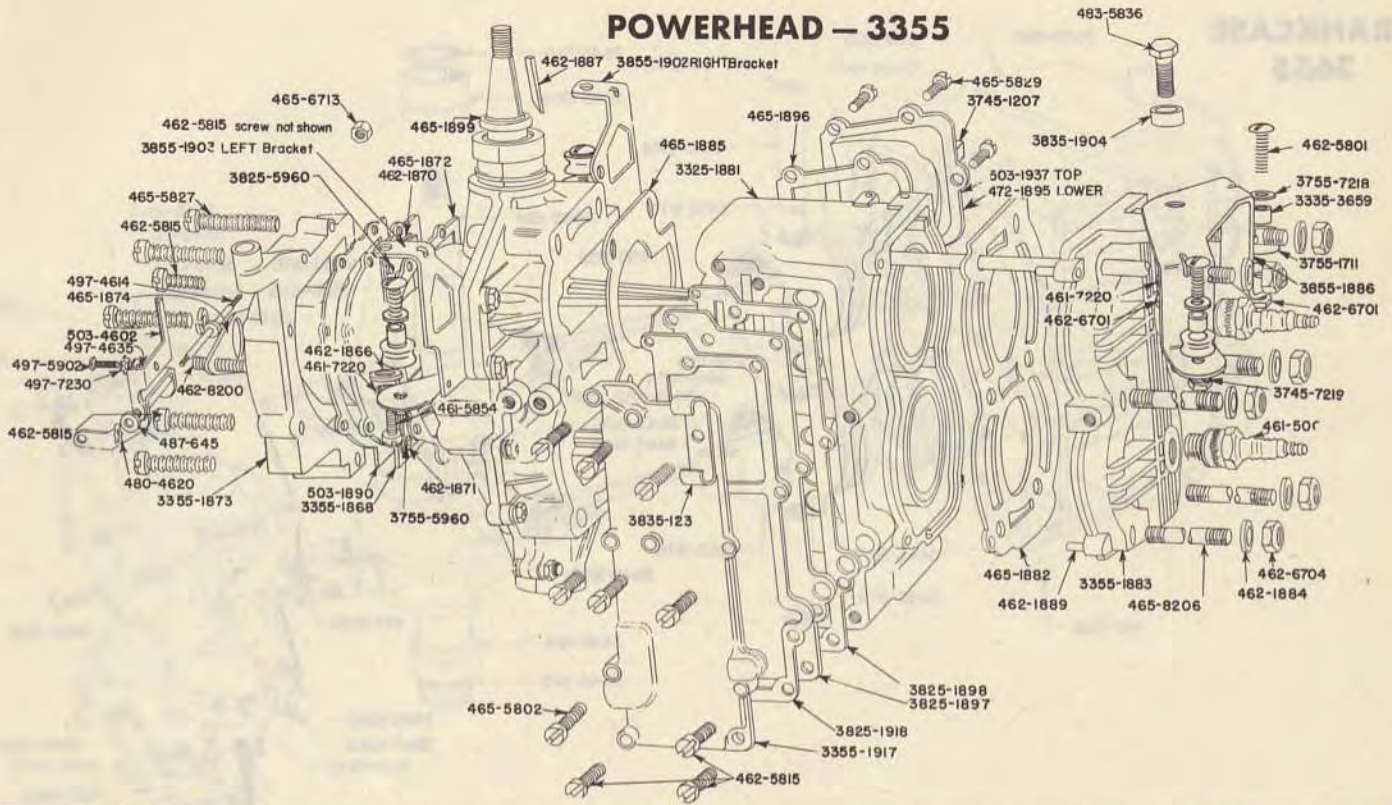
CRANKCASE — 3355



Part Number	Description
3335-1851	Crankshaft
3335-1852	Connecting Rod Assembly (Includes 463-1855 and 3735-1857)
*463-1855	Connecting Rod Crank Pin Roller Set (24)
3735-1857	Connecting Rod Screw
483-1860	Crankcase Assembly (Includes Front and Rear Halves of Crankcase with Bearings)
472-1865	Crankcase Dowel *Sold in sets only, to maintain uniformity

Part Number	Description
3335-1875	Piston and Pin
3335-1877	Piston Ring
463-1879	Piston Pin Lock
3135-1891	Piston Ring Pin
462-5801	Screw—Crankcase Flange
462-5802	Screw—Crankcase Flange
465-5802	Screw—Crankcase Flange
462-6701	Nut—Crankcase Flange Screw
465-6713	Nut—Crankcase Flange Screw
462-7203	Lock Washer—Crankcase Flange Screw Nut
462-7209	Lock Washer—Crankcase Flange Screw Nut

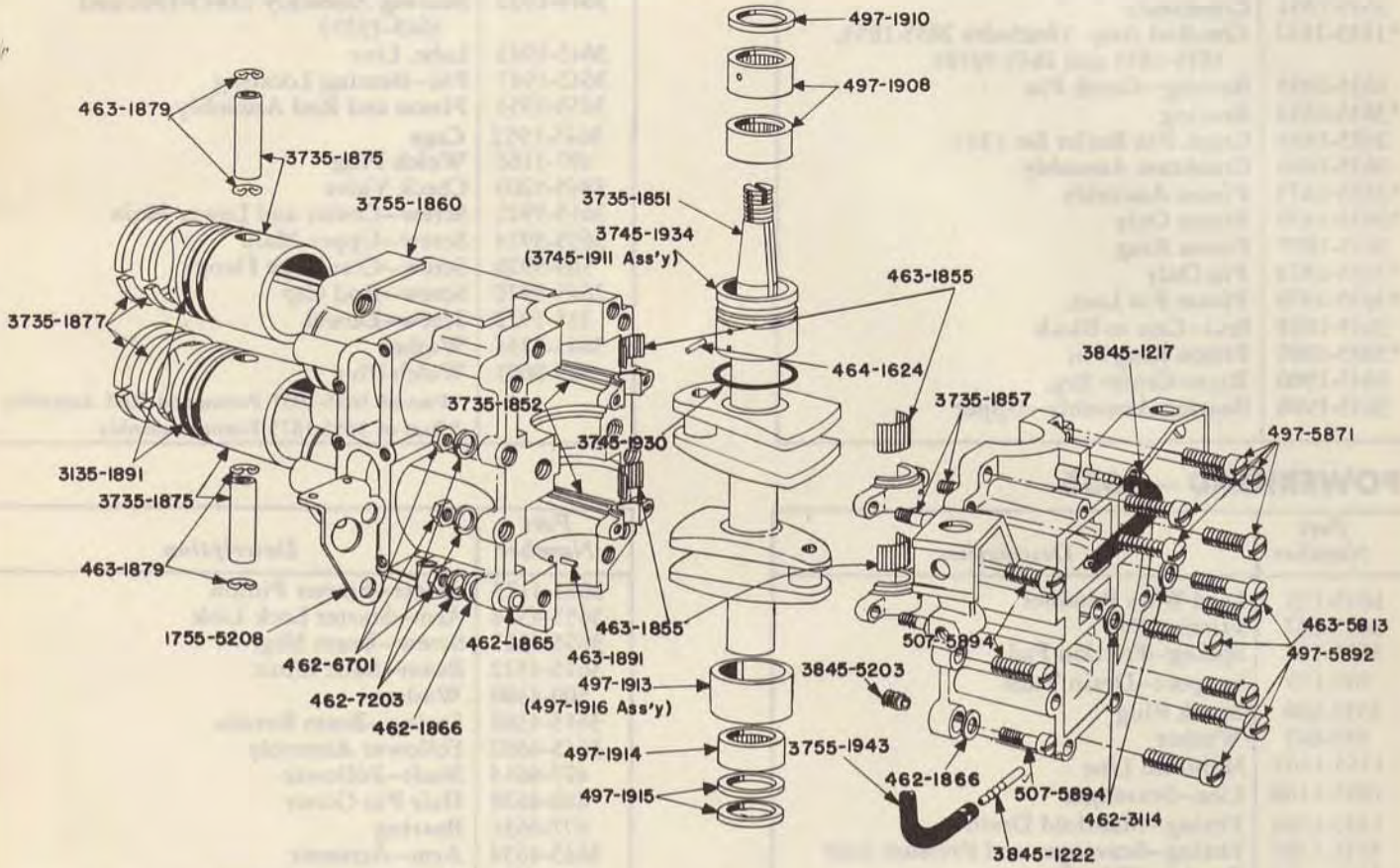
POWERHEAD – 3355



Part Number	Description
3835-123	Lead Wire Clamp
461-500	Spark Plug
487-645	Washer
3755-1711	Grommet
3745-1207	Elbow
462-1866	Washer
3355-1868	Reed Valve Plate Assembly
*3355-1869	Plate only
462-1870	Reed Valve
462-1871	Reed Valve Clamp Plate
465-1872	Reed Valve Plate Gasket
3355-1873	Intake Manifold
465-1874	Carburetor Flange Gasket
3325-1881	Cylinder Block
465-1882	Cylinder Head Gasket
3355-1883	Detachable Cyl. Head
462-1884	Detachable Cyl. Head Washer
465-1885	Cylinder Flange Gasket
3855-1886	Bracket Rear
462-1887	Flywheel Key
462-1889	Cylinder Head Dowel
503-1890	Intake Manifold Gasket
472-1895	Intake Cover Plate
465-1896	Intake Cover Plate Gasket
3825-1897	Exhaust Cover Plate
3825-1898	Exhaust Cover Plate Gasket
465-1899	Oil Seal
3855-1902	Bracket—Front R. H. Assy.
3855-1903	Bracket—Front L. H. Assy.
3835-1904	Spacer

Part Number	Description
3355-1917	Water Cover Plate
3825-1918	Gasket—Water Cover Plate
503-1937	Intake Cover Plate (Tapped)
3335-3659	Spacer—Grommet
503-4602	Follower Assembly
497-4614	Shaft
480-4620	Hair Pin Cotter
497-4635	Spring
462-5801	Screw
465-5802	Screw
462-5815	Screw
465-5827	Screw—Intake Manifold
465-5829	Screw—Intake Cover Plate
483-5836	Screw
461-5854	Screw
497-5902	Adjusting Screw
3755-5960	Screw
3825-5960	Screw
462-6701	Nut
462-6704	Locknut—Cylinder Head
465-6713	Nut
3755-7218	Washer
3745-7219	Lockwasher
461-7220	Lockwasher
497-7230	Lockwasher
462-8200	Carburetor Stud
465-8206	Stud—Cylinder Block
*Part of 3355-1868 Assembly	

CRANKCASE - 3755



Part Number	Description
3845-1217	Clamp
3845-1222	Fitting - Lubrication Line
464-1624	Groove Pin - Bearing Retainer
3735-1851	Crankshaft
3735-1852	Connecting Rod Assembly
463-1855	Connecting Rod Crank Pin Roller (Set)
3735-1857	Connecting Rod Screw
3755-1860	Crankcase and Block Assembly
462-1865	Hollow - Dowel
462-1866	Washer - Dowel Screw
3735-1875	Piston Assembly
3735-1877	Piston Ring
463-1879	Piston Pin Lock
463-1891	Pin - Lower Bearing
3135-1891	Piston Ring Pin
497-1908	Needle Bearing - Magneto Mount
497-1910	Oil Seal - Magneto Mount

Part Number	Description
3745-1911	Magneto Mount Assembly (includes 3745-1934, 497-1908, 497-1910)
497-1913	Retainer - Lower Crankshaft Bearing
497-1914	Needle Bearing
497-1915	Oil Seal
497-1916	Lower Crankshaft Bearing Retainer Assembly (includes 497-1913, 497-1914, 497-1915)
3745-1930	Seal
3745-1934	Bearing Cage
3755-1943	Lubrication Line
462-3114	Washer
3845-5203	Check Valve
1755-5208	Pump Bracket
463-5813	Screw - Center Main
497-5871	Screw - Crankcase Flange
497-5892	Screw - Lower Main
507-5894	Screw
462-6701	Nut
462-7203	L.W.

CRANKCASE — 3655

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Part Number	Description
3845-1217	Clamp—Lubr. Line
3845-1222	Fitting—Lubr. Line
3655-1622	Fitting
497-1809	Seal—Drain Plug
3645-1851	Crankshaft
*1655-1852	Con-Rod Assy. (Includes 2655-1855, 1655-1855 and 2645-5970)
1655-1855	Bearing—Crank Pin
*3655-1854	Bearing
2655-1855	Crank Pin Roller Set (34)
3655-1860	Crankcase Assembly
*3655-1875	Piston Assembly
*3655-1876	Piston Only
3645-1877	Piston Ring
*3655-1878	Pin Only
*3655-1879	Piston Pin Lock
3645-1885	Seal—Case to Block
*3655-1891	Piston Ring Pin
3645-1906	Race—Center Brg.
3645-1908	Bearing Assembly—Upper

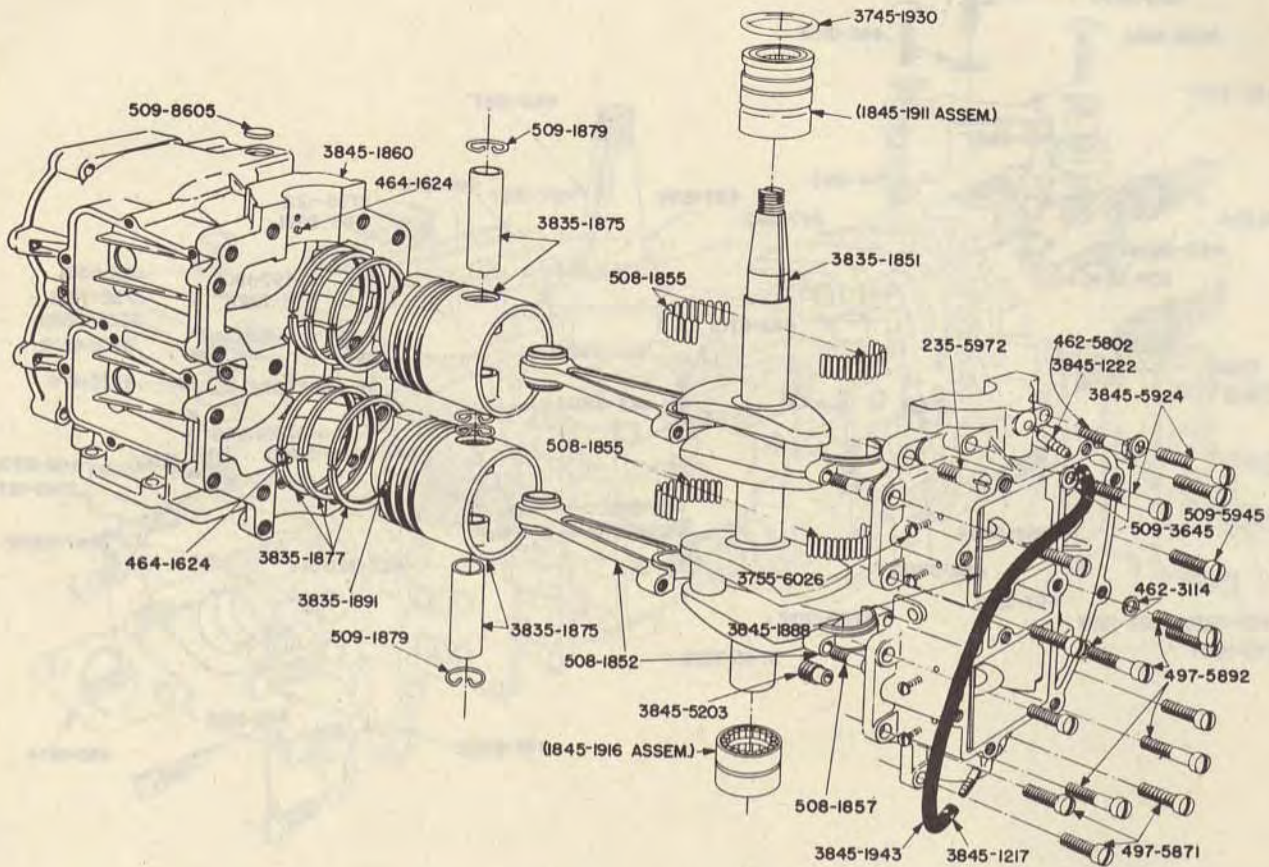
Part Number	Description
3645-1910	Oil Seal—Upper
3645-1914	Bearing Assembly—Lower
3645-1915	Oil Seal—Lower
3645-1925	Center Brg. Roller Set (16)
3645-1932	Bearing Assembly (3645-1906 and 3645-1925)
3645-1943	Lubr. Line
3645-1947	Pin—Bearing Locating
3655-1951	Piston and Rod Assembly
3645-1952	Cage
497-3166	Welch Plug
3845-5203	Check Valve
3655-5921	Screw—Center and Lower Main
3655-5924	Screw—Upper Main
509-5926	Screw—Crankcase Flange
2645-5970	Screw—Rod Cap
235-5972	Screw—Dowel
3645-7234	Washer
509-8601	Welch Plug
	*Part of 3655-1951 Piston and Rod Assembly
	*Part of 3655-1875 Piston Assembly

POWERHEAD — 3655

Part Number	Description
1645-123	Lead Wire Retainer
3655-137	Friction Pad
3655-138	Spring—Friction Pad
509-176	Support—Drain Tube
3335-500	Spark Plug
487-645	Washer
1755-1107	Manifold Line
1855-1108	Line—Scavenger
1325-1204	Fitting—Manifold Drain
3745-1207	Fitting—Scavenger and Pressure Line
3645-1709	Bracket—Skirt R.
3645-1711	Bumper
3645-1868	Reed Plate Assembly
*3645-1869	Plate Only
*3645-1870	Reed Valve
*3645-1871	Clamp Plate—R.
3655-1872	Gasket—Baffle Plate
3645-1873	Intake Manifold
3645-1882	Gasket—Cylinder Head
3645-1883	Cylinder Head
3645-1886	Bracket—Rear
3655-1887	Key—Flywheel
3645-1890	Gasket—Intake Man. and Reed Plate
3655-1892	Plate—Baffle
3655-1895	Cover Plate—Intake
3645-1896	Gasket—Intake Cover Plate
3645-1897	Cover Plate—Exhaust
3645-1898	Gasket—Exhaust Cover Plate
3645-1902	Bracket—Skirt R.
3645-1903	Bracket—Skirt L.
3645-1917	Water Plate—Exhaust
3655-1935	Guide—Lead Wire
3645-1945	Gasket—Cylinder Head Water
3645-1946	Cover Plate—Cylinder Head Water
*3645-1961	Clamp Plate—Left
3655-3645	Washer
3655-3677	Bracket—Spring R.
3645-3681	Bracket—Spring L.
3655-4169	Starter Pinion Assembly

Part Number	Description
3655-4173	Spacer—Starter Pinion
3655-4314	Arm—Starter Lock Link
3655-4317	Screw—Beam Mtg.
3655-4322	Beam—Shift Limit
509-4380	Washer
3655-4388	Spring—Beam Return
3645-4602	Follower Assembly
497-4614	Shaft—Follower
480-4620	Hair Pin Cotter
497-4631	Bearing
3645-4634	Arm—Actuator
497-4635	Spring—Sync. Control
3645-4643	Link—Throttle Act.
3845-5203	Check Valve
2655-5208	Bracket—Fuel Pump
3655-5208	Bracket—Scavenger Pump
*462-5814	Screw—Reed Valve
462-5815	Screw
465-5827	Screw
464-5839	Screw
3645-5878	Bolt—Cylinder Head
3645-5884	Screw—Brackets
497-5891	Screw
3655-5891	Screw
497-5893	Screw
497-5902	Screw—Follower Adj.
509-5951	Screw
3655-6027	Screw
507-6050	Screw
493-6719	Nut
3655-6735	Speed Nut
462-7202	Lockwasher
*3745-7208	Lockwasher
462-7209	Lockwasher
463-7214	Lockwasher
497-7230	Lockwasher
509-8200	Stud—Carb. Flange
3945-8602	Pipe Plug
3645-8614	Retaining Ring
3655-8616	Retaining Ring
	*Part of 3645-1868 Assembly

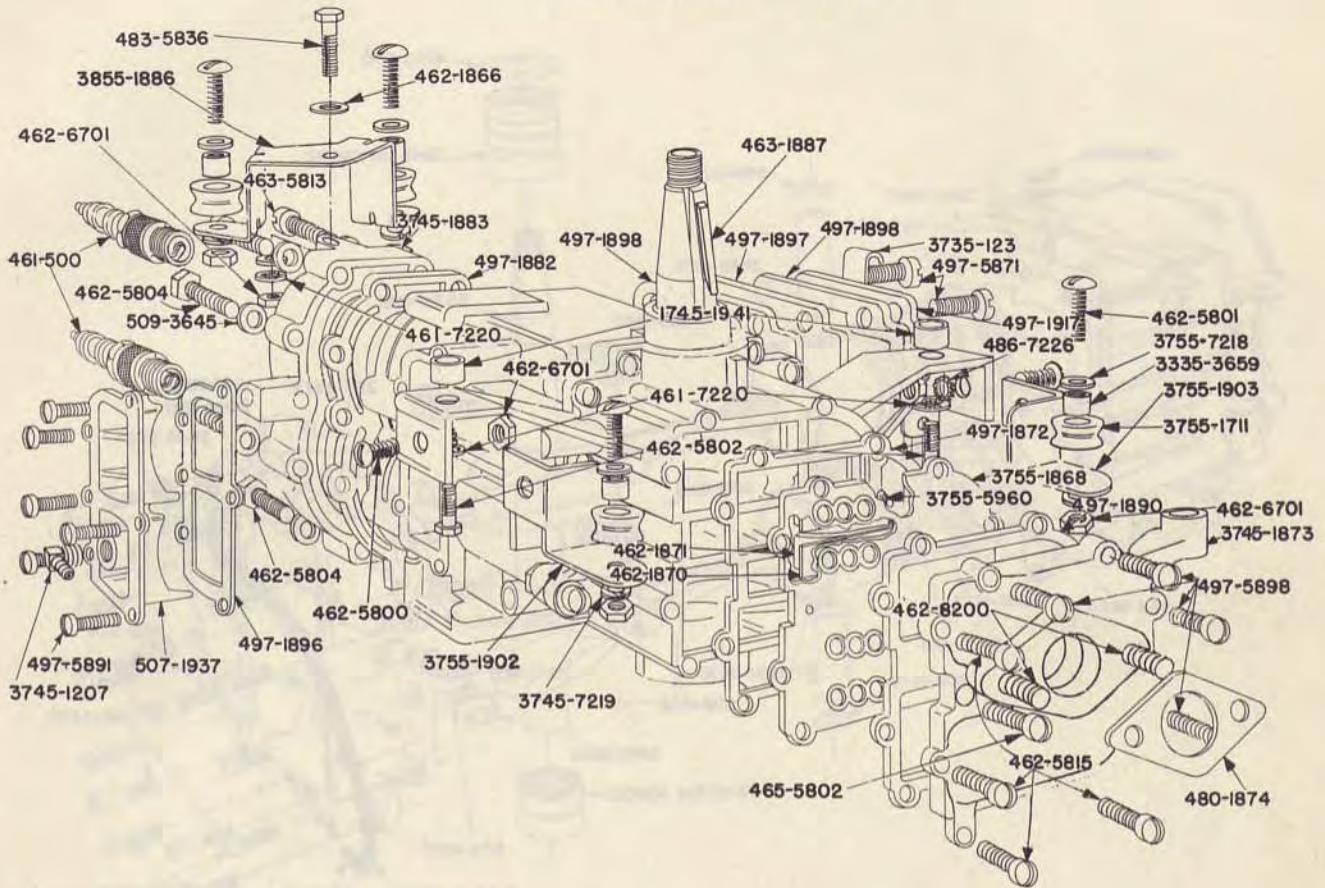
CRANKCASE — 3855



Part Number	Description
3845-1217	Clamp
3845-1222	Fitting
464-1624	Groove Pin
3835-1851	Crankshaft
508-1852	Connecting Rod Assembly (Inc. 508-1855, 508-1857)
508-1855	Connecting Rod Crank Pin Rollers (28 per set)
508-1857	Connecting Rod Screw
3845-1860	Crankcase Assembly
3835-1875	Piston Assembly
3835-1877	Piston Ring
509-1879	Piston Pin Lock
3845-1888	Baffle
3835-1891	Pin—Piston Ring
497-1910	Oil Seal (Part of 1845-1911)

Part Number	Description
1845-1911	Magneto Bearing Assembly
1845-1916	Lower Crankcase Bearing Assembly
3745-1930	"O" Ring
3845-1943	Lub. Line
462-3114	Washer
509-3645	Washer
3845-5203	Check Valve
462-5802	Screw—Flange
497-5871	Screw—Flange and Bracket
497-5892	Screw—Lower and Center Mains
3845-5924	Screw—Top Main
509-5945	Screw
235-5972	Dowel Screw
3755-6026	Screw
509-8605	Welch Plug

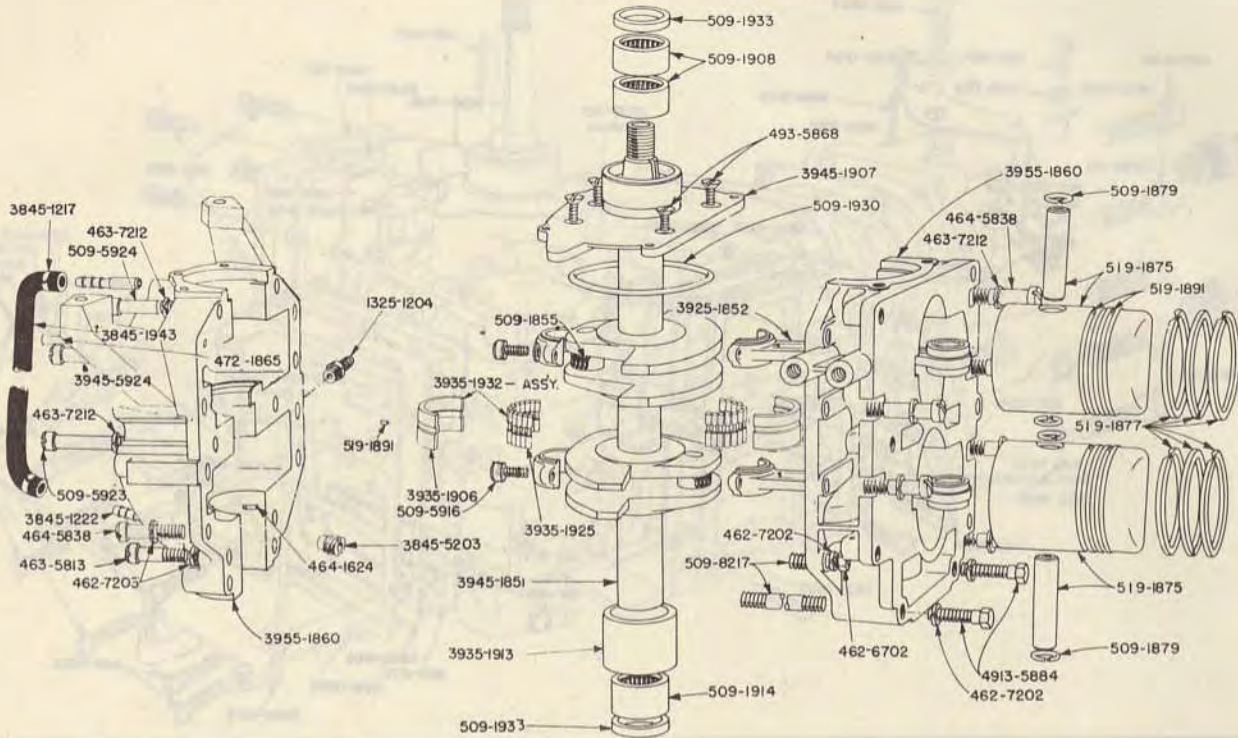
POWERHEAD — 3755



Part Number	Description
3735-123	Lead Wire Clamp
461-500	Spark Plug
3745-1207	Fitting
3755-1711	Grommet
462-1866	Washer
3755-1868	Reed Valve Plate Assembly
462-1870	Reed Only
462-1871	Reed Stop
497-1872	Valve Reed Plate Gasket
3745-1873	Intake Manifold
480-1874	Carburetor Flange Gasket
497-1882	Cylinder Head Gasket
3745-1883	Detachable Cylinder Head
3855-1886	Bracket—Rear
463-1887	Flywheel Key
497-1890	Intake Manifold Gasket
497-1896	Intake Cover Plate Gasket
497-1897	Exhaust Cover Plate
497-1898	Exhaust and Water Cover Plate Gasket
3755-1902	Bracket—Right Front
3755-1903	Bracket—Left Front

Part Number	Description
497-1917	Water Cover Plate
507-1937	Intake Cover Plate
1745-1941	Spacer
509-3645	Washer
3335-3659	Spacer
462-5802	Screw
465-5802	Screw
462-5804	Screw—Cylinder Head
462-5800	Screw
462-5801	Screw
463-5813	Screw—Cylinder Head
462-5815	Screw—Intake Manifold—Short
483-5836	Screw
497-5871	Screw—Water Cover Plate
497-5891	Screw—Intake Cover Plate
497-5898	Screw—Intake Manifold—Long
3755-5960	Screw—Reed Valve
462-6701	Nut
3755-7218	Washer
3745-7219	Lockwasher
461-7220	L.W.
486-7226	L.W.
462-8200	Carburetor Flange Stud

CRANKCASE — 3955

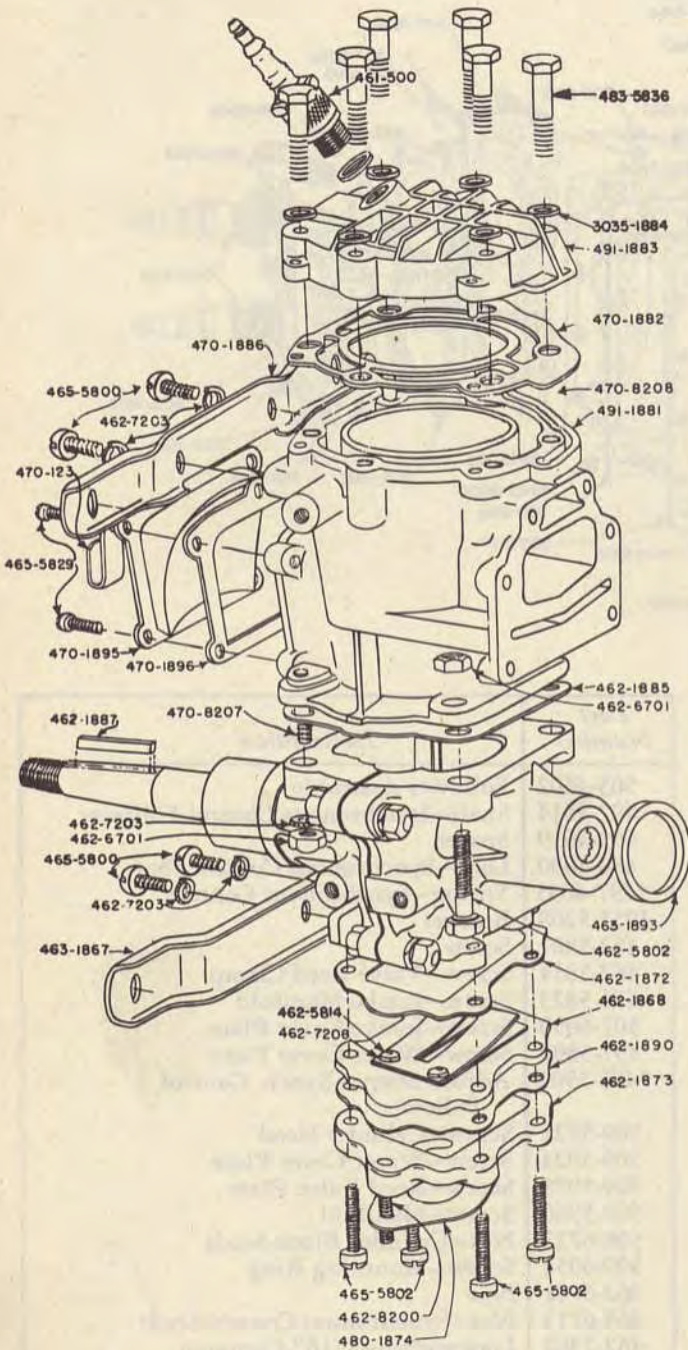


Part Number	Description
1325-1204	Fitting — Pump Pressure Line
3845-1217	Ferrule
3845-1222	Fitting
464-1624	Pin
3945-1851	Crankshaft
3925-1852	Connecting Rod Assembly (Includes 509-1855, 509-5916)
*509-1855	Crank Pin Roller Set (56)
3955-1860	Crankcase Assembly
472-1865	Taper Pin
519-1875	Piston Assembly
519-1877	Piston Ring
509-1879	Piston Pin Lock
519-1891	Pin
3935-1906	Race
3945-1907	Magneto Mount Plate
509-1908	Needle Bearing — Magneto Mount
3945-1911	Magneto Mount Assy. (Includes 3945-1907, 509-1908, 509-1933)
3935-1913	Retainer — Lower Crankshaft Bearing
509-1914	Needle Bearing
3935-1916	Lower Crankshaft Bear. Assy. (Includes 3935-1913, 509-1914, 509-1933)
3935-1925	Center Crankshaft Roller Bear. Set (23)

Part Number	Description
509-1930	"O" Ring Magneto Mount
3935-1932	Center Bearing Assembly (3935-1906 and 3935-1925)
509-1933	Oil Seal
3845-1943	Lubrication Line
3845-5203	Check Valve
463-5813	Screw — Lower Main Bearing
464-5838	Screw — Crankcase Flange
493-5868	Screw — Mag. Mount Bearing Cage
4913-5884	Screw — Crankcase to Block
509-5916	Screw — Connecting Rod Cap
509-5923	Screw — Crankcase Center Front
509-5924	Screw — Top Crankcase
3945-5924	Screw — Crankcase Flange
462-6702	Nut — Lower Crankcase Stud
462-7202	Lockwasher — Crankcase to Block
462-7203	Lockwasher
463-7212	Lockwasher
509-8217	Stud Lower Crankcase

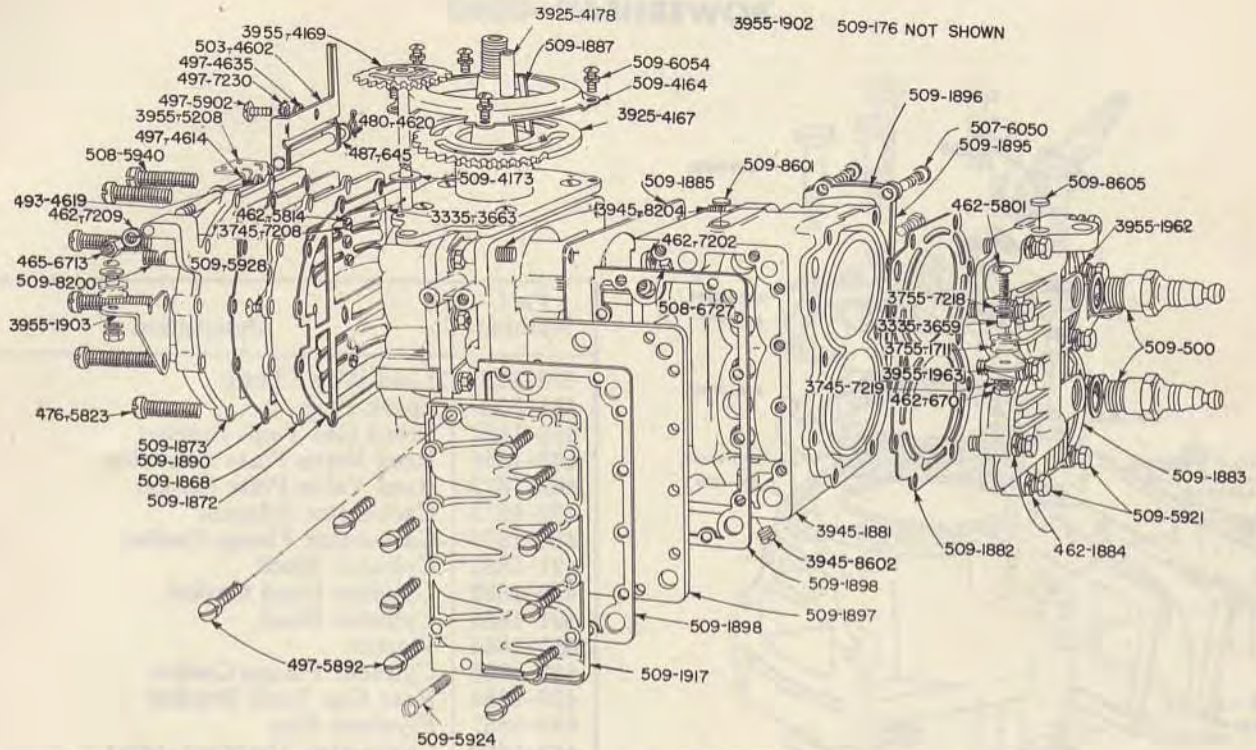
*Sold in Sets Only, to Maintain Uniformity

POWERHEAD-3065



Part Number	Description
470-123	Lead Wire Clamp
461-500	Spark Plug
463-1867	Front Gas Tank Bracket
462-1868	Reed Valve Plate Assembly
462-1872	Reed Valve Plate Gasket
462-1873	Carburetor Adaptor
480-1874	Carburetor Flange Gasket
491-1881	Cylinder Block
470-1882	Cylinder Head Gasket
491-1883	Cylinder Head
3035-1884	Washer
462-1885	Cylinder Flange Gasket
470-1886	Rear Gas Tank Bracket
462-1887	Flywheel Key
462-1890	Carburetor Adaptor Gasket
463-1893	Pivot Tube Seal Ring
470-1895	Intake Cover Plate
470-1896	Intake Cover Plate Gasket
465-5800	Gas Tank Bracket Screw
462-5802	Cylinder Block Flange Screw
465-5802	Valve Reed Clamp Screw
462-5814	Carburetor Adaptor Plate Screw
465-5829	Intake Cover Plate Screw
483-5836	Screw
462-6701	Cylinder Block Flange, Cylinder Head
462-1872	Lock Washer—Cylinder Block Flange and Bracket
462-7203	Lock Washer—Valve Reed Clamp Screw
462-7208	Lock Washer—Valve Reed Clamp Screw
462-8200	Carburetor Flange Stud
470-8207	Cylinder Block Flange Stud

POWERHEAD – 3955

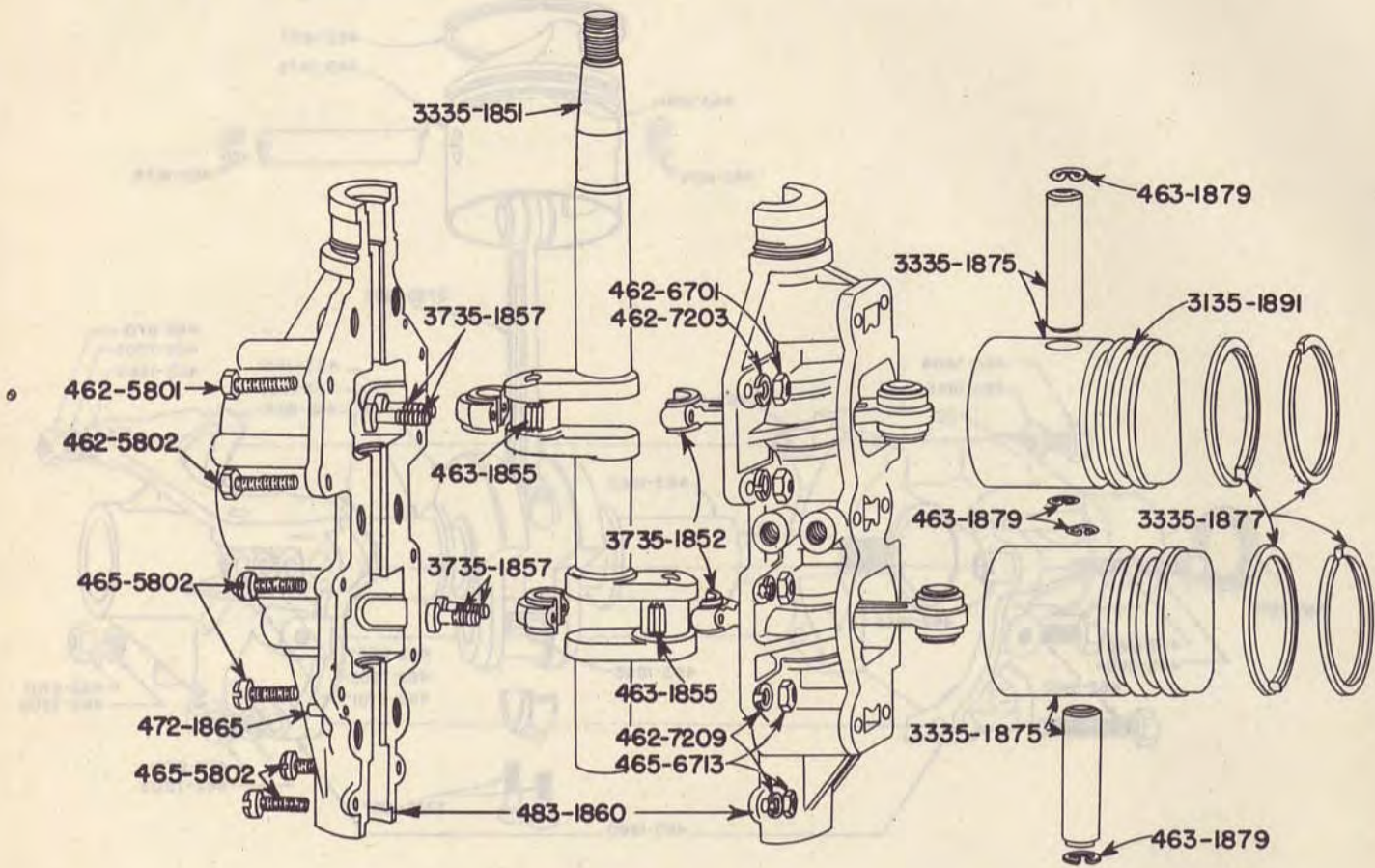


Part Number	Description
509-176	Lead Wire Clamp and Drain Tube Sup.
509-500	Spark Plug
487-645	Washer
4911-1663	Washer
3755-1711	Grommet
509-1868	Reed Valve Plate Assembly
509-1870	Reeds Only
509-1871	Reed Valve Clamp
509-1872	Gasket—Reed Valve Plate
509-1873	Intake Manifold
3945-1881	Cylinder Block
509-1882	Gasket—Cylinder Head
509-1883	Cylinder Head
462-1884	Washer—Cylinder Head
509-1885	Cylinder Flange Gasket
509-1887	Flywheel Key
509-1890	Intake Manifold Gasket
509-1895	Intake Cover Plate Assembly
†509-1896	Gasket—Intake Cover Plate
509-1897	Exhaust Cover Plate
509-1898	Exhaust and Water Cover Plate Gasket
3955-1902	Bracket—Right Front
3955-1903	Bracket—Left Front
509-1917	Water Cover Plate
3955-1962	Bracket—Right Rear
3955-1963	Bracket—Left Rear
509-4164	Mounting Ring—Stator Plate
3925-4167	Gear—Stator Plate
3955-4169	Magneto Pinion and Shaft Assembly
509-4173	Washer
3925-4178	Spacer—Stator Plate Gear Screw
3335-3659	Spacer
3335-3663	Roll Pin

Part Number	Description
503-4602	Follower Assembly
497-4614	Shaft—Synchronous Control Follower
493-4619	Spacer
480-4620	Lock—Synchronous Control Shaft
*497-4635	Spring—Synchronous Control
3955-5208	Bracket
462-5801	Screw
462-5814	Screw—Valve Reed Clamp
476-5823	Screw—Intake Manifold
507-6050	Screw—Intake Cover Plate
497-5892	Screw—Water Cover Plate
*497-5902	Adjust. Screw—Synch. Control Follower
509-5921	Screw—Cylinder Head
509-5924	Screw—Water Cover Plate
509-5928	Screw—Reed Valve Plate
508-5940	Screw—Manifold
508-6727	Nut—Cylinder Block Studs
509-6054	Screw—Mounting Ring
462-6701	Nut
465-6713	Nut—Synchronous Control Shaft
462-7202	Lockwasher—5/16" Common
3745-7208	Lockwasher—Valve Reed Clamp
462-7209	Lockwasher—Synchronous Control Shaft
3755-7218	Washer
3745-7219	Lockwasher
*497-7230	Lockwasher—Synch. Control Follower
509-8200	Stud—Carburetor Flange
3945-8204	Stud—Crankcase to Block
509-8601	Welch Plug—Cylinder Block
3945-8602	Pipe Plug—Cylinder Block
509-8605	Expansion Plug—Cylinder Head

†Included in 509-1895 Assembly
*Included in 503-4602 Assembly

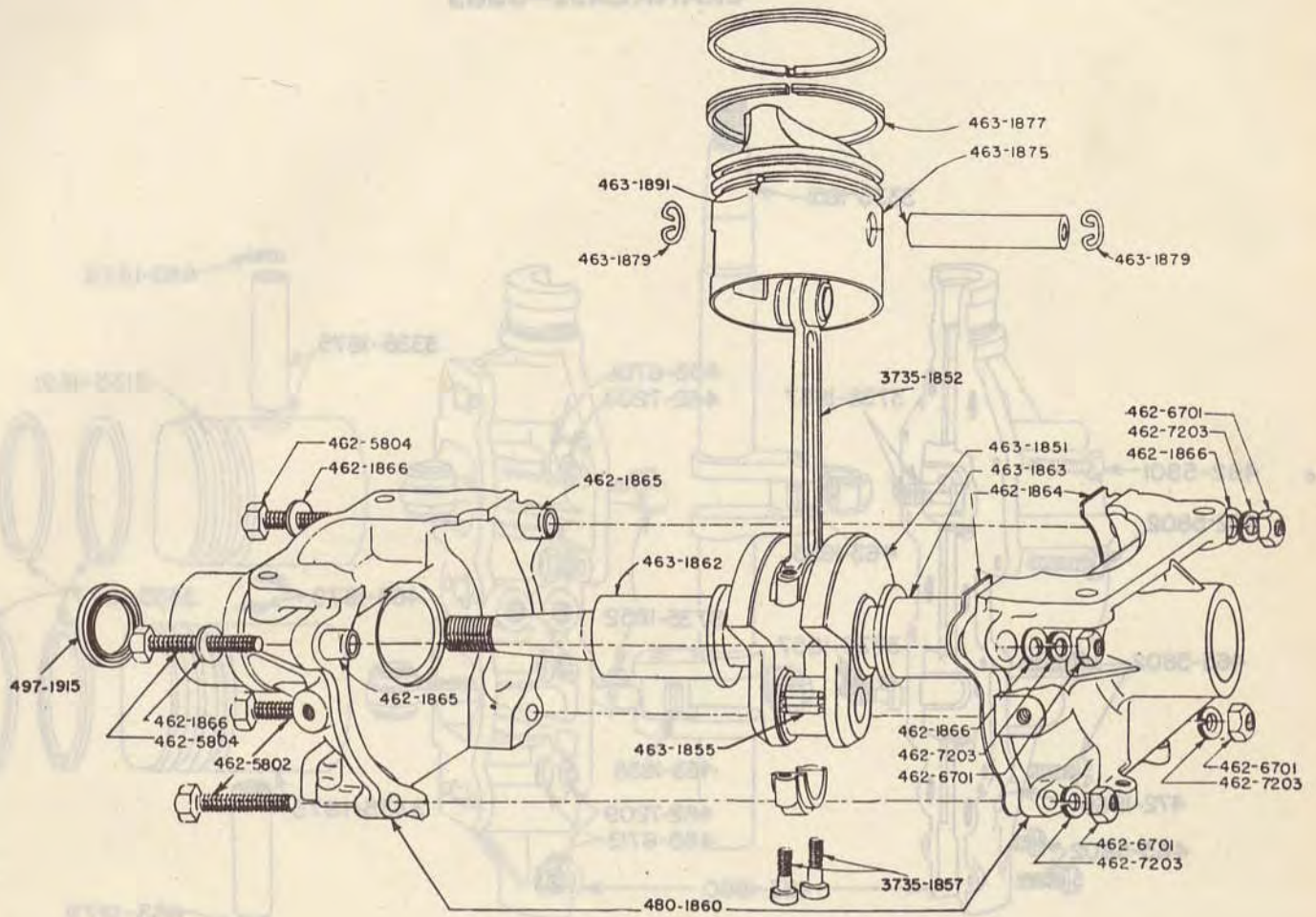
CRANKCASE-3365



Part Number	Description
3335-1851	Crankshaft
3735-1852	Connecting Rod Assembly (Includes 463-1855 and 3735-1857)
*463-1855	Connecting Rod Crank Pin Roller Set (24)
3735-1857	Connecting Rod Screw
483-1860	Crankcase Assembly (Includes Front and Rear Halves of Crankcase with Bearings)
472-1865	Crankcase Dowel *Sold in sets only, to maintain uniformity

Part Number	Description
3335-1875	Piston and Pin
3335-1877	Piston Ring
463-1879	Piston Pin Lock
3135-1891	Piston Ring Pin
462-5801	Screw—Crankcase Flange
462-5802	Screw—Crankcase Flange
465-5802	Screw—Crankcase Flange
462-6701	Nut—Crankcase Flange Screw
465-6713	Nut—Crankcase Flange Screw
462-7203	Lock Washer—Crankcase Flange Screw Nut
462-7209	Lock Washer—Crankcase Flange Screw Nut

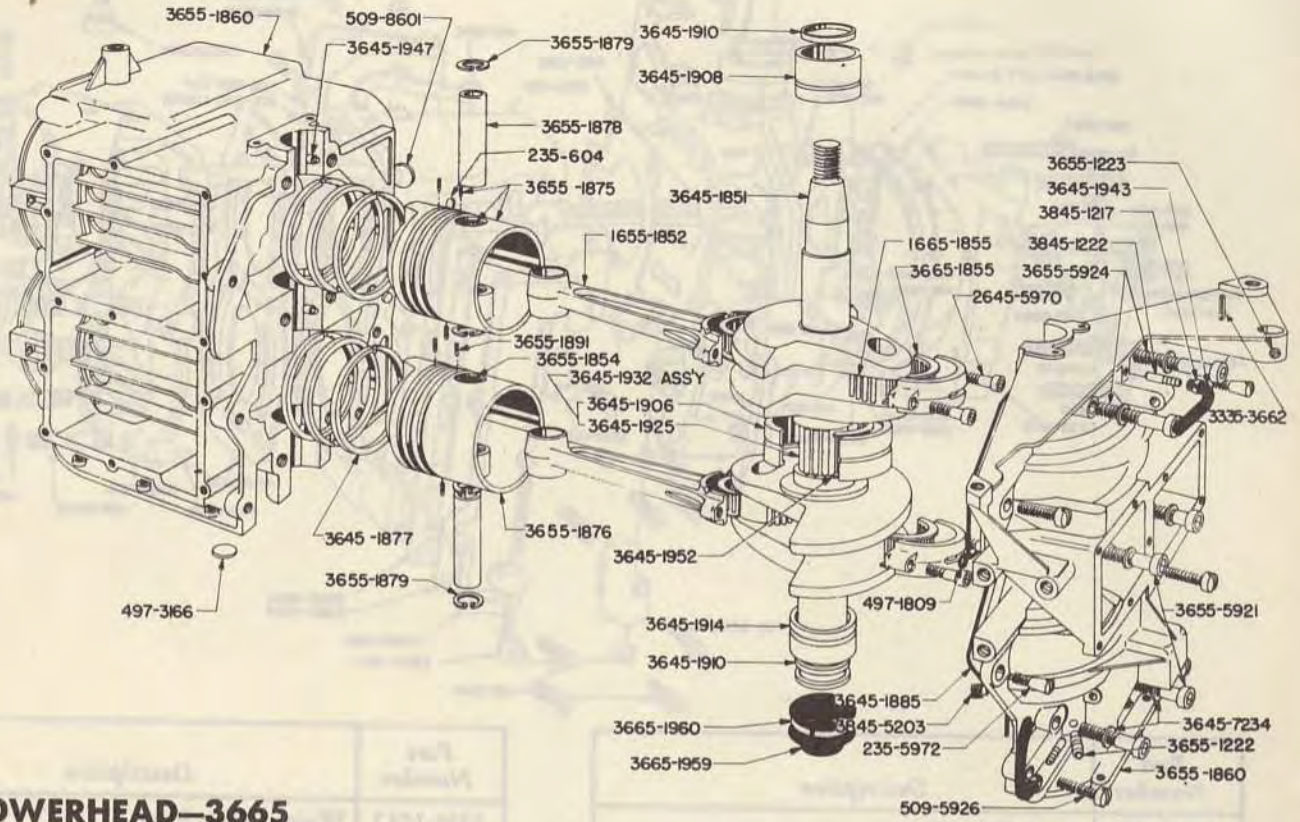
CRANKCASE-3065



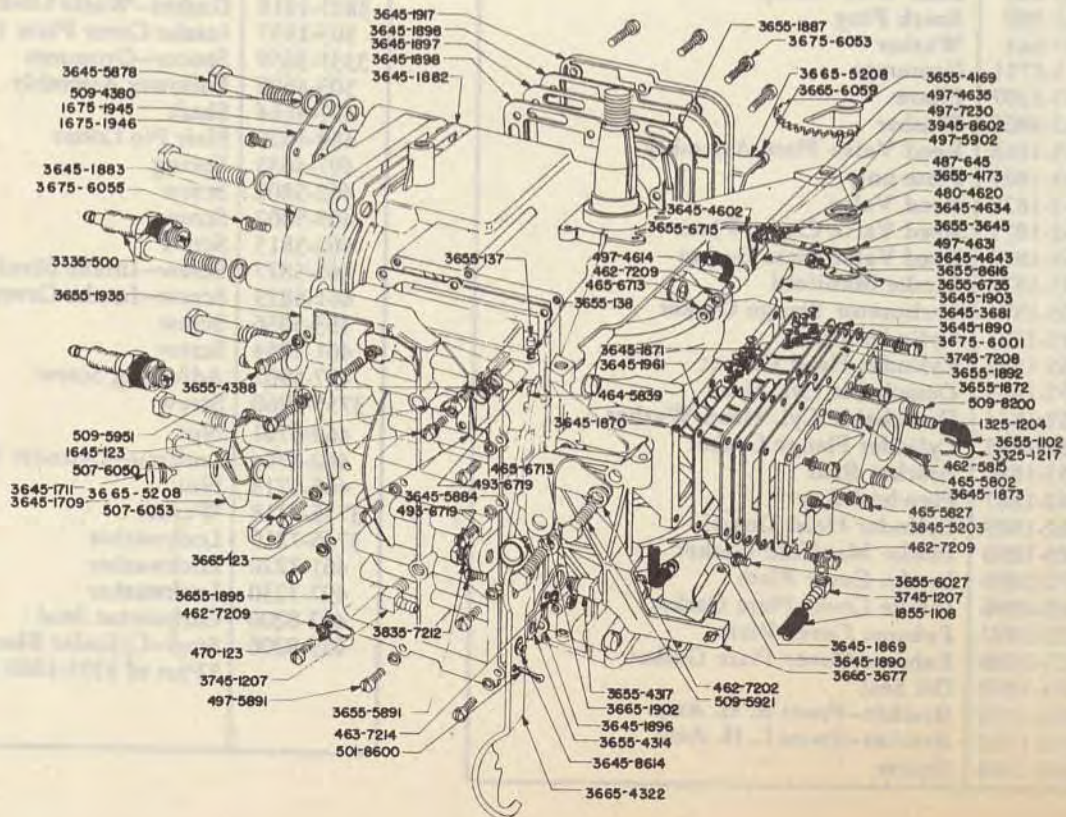
Part Number	Description
463-1851	Crankshaft
3735-1852	Connecting Rod and Cap (Includes 463-1855 and 3735-1857)
463-1855	Connecting Rod Crank Pin Roller Set (24)
3735-1857	Connecting Rod Screw
480-1860	Crankcase Assembly (Includes Upper and Lower Halves of Crankcase with Bearings)
463-1862	Upper Crankshaft Bearing
463-1863	Lower Crankshaft Bearing
462-1864	Crankcase Gasket

Part Number	Description
462-1865	Crankcase Dowel
462-1866	Crankcase Dowel Washer
463-1875	Piston and Pin
463-1877	Piston Ring
463-1879	Piston Pin Lock
463-1891	Piston Ring Pin
497-1915	Seal
462-5802	Front Crankcase Flange Screw
462-5804	Rear Crankcase Flange Screw
462-6701	Crankcase Flange Screw Nut
462-7203	Lock Washer for Crankcase Flange Screw Nut

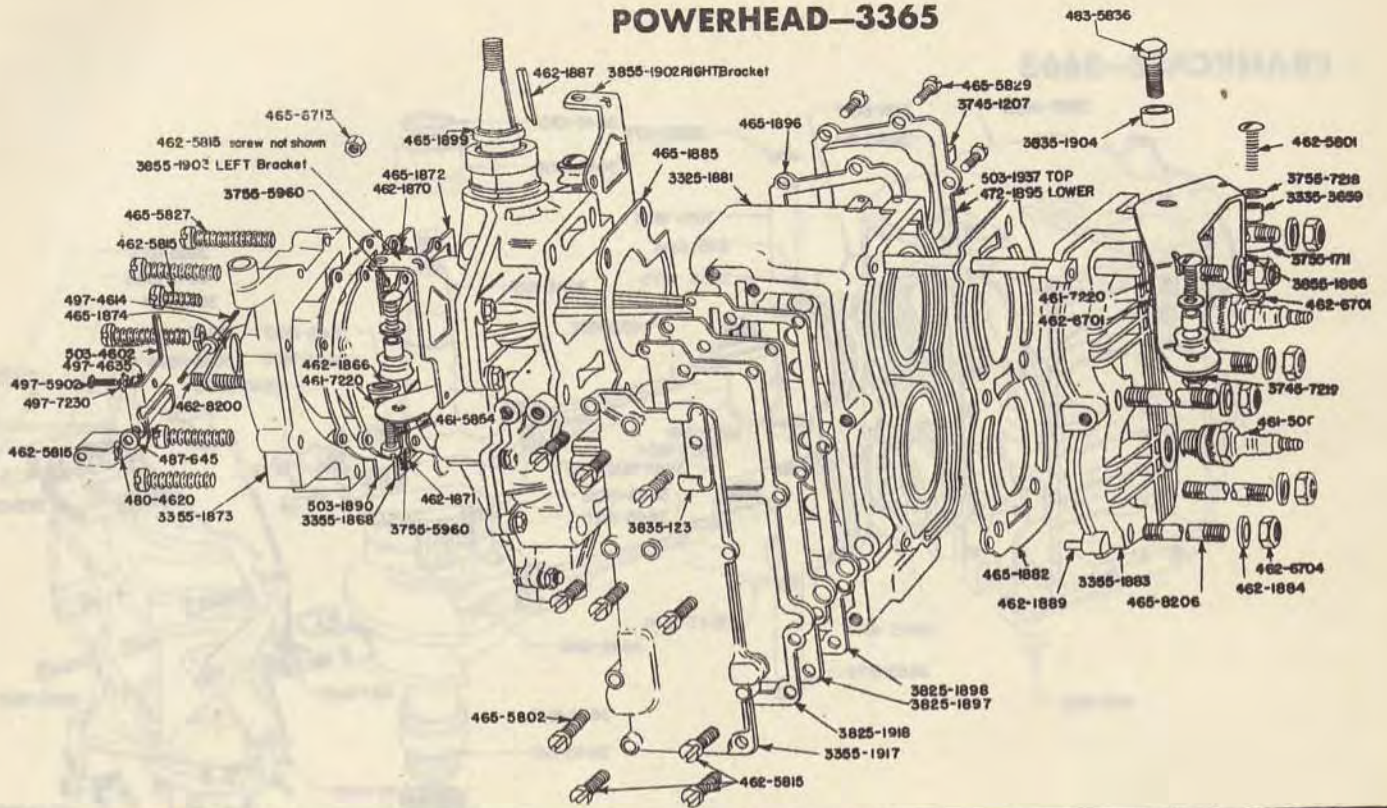
CRANKCASE-3665



POWERHEAD-3665



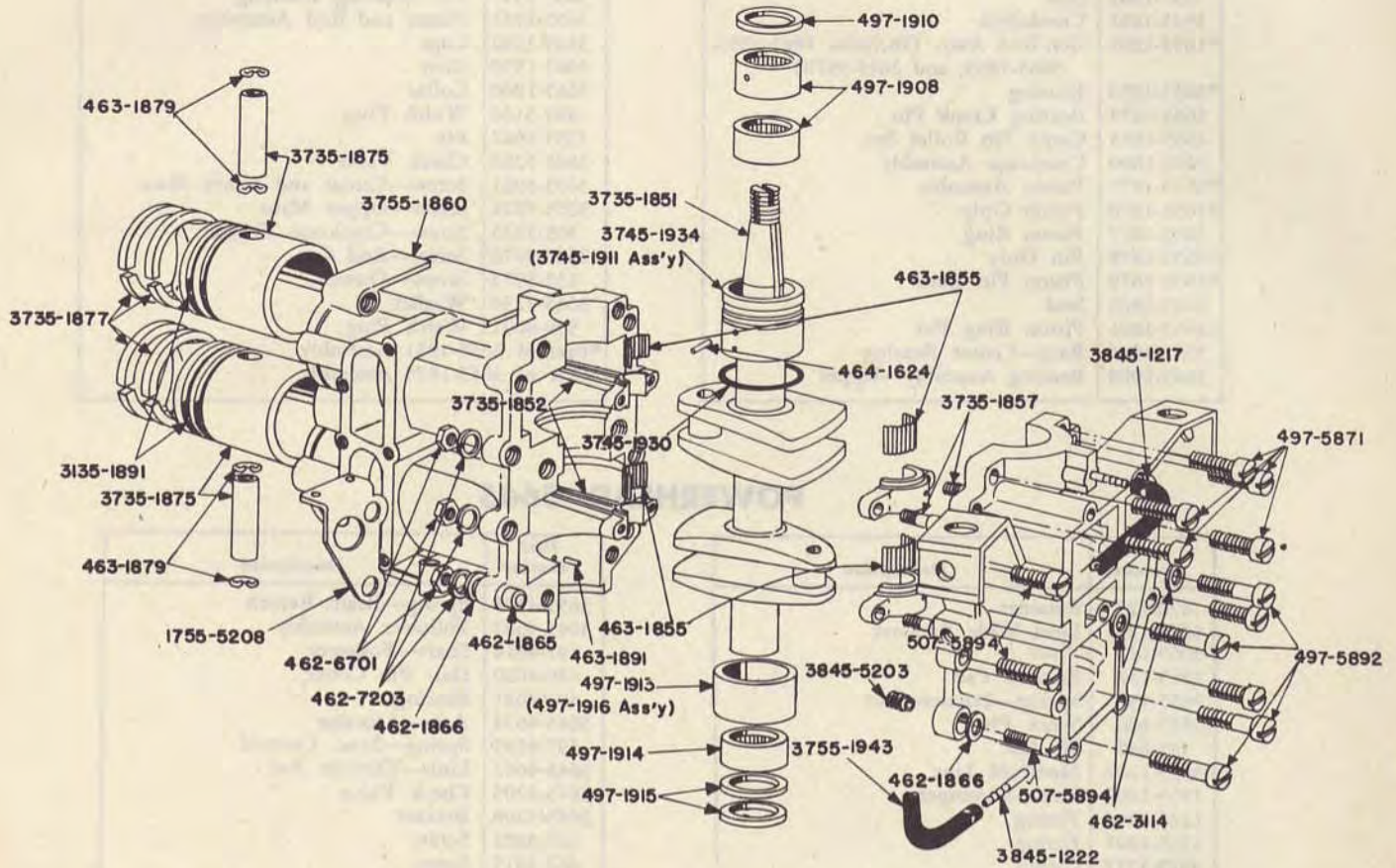
POWERHEAD-3365



Part Number	Description
3835-123	Lead Wire Clamp
461-500	Spark Plug
487-645	Washer
3755-1711	Grommet
3745-1207	Elbow
462-1866	Washer
3355-1868	Reed Valve Plate Assembly
*3355-1869	Plate only
462-1870	Reed Valve
462-1871	Reed Valve Clamp Plate
465-1872	Reed Valve Plate Gasket
3355-1873	Intake Manifold
465-1874	Carburetor Flange Gasket
3325-1881	Cylinder Block
465-1882	Cylinder Head Gasket
3355-1883	Detachable Cyl. Head
462-1884	Detachable Cyl. Head Washer
465-1885	Cylinder Flange Gasket
3855-1886	Bracket Rear
462-1887	Flywheel Key
462-1889	Cylinder Head Dowel
503-1890	Intake Manifold Gasket
472-1895	Intake Cover Plate
465-1896	Intake Cover Plate Gasket
3825-1897	Exhaust Cover Plate
3825-1898	Exhaust Cover Plate Gasket
465-1899	Oil Seal
3855-1902	Bracket—Front R. H. Assy.
3855-1903	Bracket—Front L. H. Assy.
3835-1904	Spacer

Part Number	Description
3355-1917	Water Cover Plate
3825-1918	Gasket—Water Cover Plate
503-1937	Intake Cover Plate (Tapped)
3355-3659	Spacer—Grommet
503-4602	Follower Assembly
497-4614	Shaft
480-4620	Hair Pin Cotter
497-4635	Spring
462-5801	Screw
465-5802	Screw
462-5815	Screw
465-5827	Screw—Intake Manifold
465-5829	Screw—Intake Cover Plate
483-5836	Screw
461-5854	Screw
497-5902	Adjusting Screw
3755-5960	Screw
462-6701	Nut
462-6704	Locknut—Cylinder Head
465-6713	Nut
3755-7218	Washer
3745-7219	Lockwasher
461-7220	Lockwasher
497-7230	Lockwasher
462-8200	Carburetor Stud
465-8206	Stud—Cylinder Block
	*Part of 3355-1868 Assembly

CRANKCASE-3765



Part Number	Description
3845-1217	Clamp
3845-1222	Fitting - Lubrication Line
464-1624	Groove Pin - Bearing Retainer
3735-1851	Crankshaft
3735-1852	Connecting Rod Assembly
463-1855	Connecting Rod Crank Pin Roller (Set)
3735-1857	Connecting Rod Screw
3755-1860	Crankcase and Block Assembly
462-1865	Hollow - Dowel
462-1866	Washer - Dowel Screw
3735-1875	Piston Assembly
3735-1877	Piston Ring
463-1879	Piston Pin Lock
463-1891	Pin - Lower Bearing
3135-1891	Piston Ring Pin
497-1908	Needle Bearing - Magneto Mount
497-1910	Oil Seal - Magneto Mount

Part Number	Description
3745-1911	Magneto Mount Assembly (includes 3745-1934, 497-1908, 497-1910)
497-1913	Retainer - Lower Crankshaft Bearing
497-1914	Needle Bearing
497-1915	Oil Seal
497-1916	Lower Crankshaft Bearing Retainer Assembly (includes 497-1913, 497-1914, 497-1915)
3745-1930	Seal
3745-1934	Bearing Cage
3755-1943	Lubrication Line
462-3114	Washer
3845-5203	Check Valve
1755-5208	Pump Bracket
497-5871	Screw - Crankcase Flange
497-5892	Screw
507-5894	Screw
462-6701	Nut
462-7203	L.W.

CRANKCASE—3665

Part Number	Description
235-604	Welch Plug
3845-1217	Clamp
3655-1222	Fitting
3845-1222	Fitting
3655-1223	Fitting
497-1809	Seal
3645-1851	Crankshaft
*1655-1852	Con-Rod Assy. (Includes 1665-1855, 3665-1855, and 2645-5970)
*3655-1854	Bearing
3665-1855	Bearing Crank Pin
1665-1855	Crank Pin Roller Set
3655-1860	Crankcase Assembly
*3655-1875	Piston Assembly
†3655-1876	Piston Only
3645-1877	Piston Ring
*3655-1878	Pin Only
*3655-1879	Piston Pin Lock
3645-1885	Seal
†3655-1891	Piston Ring Pin
3645-1906	Race—Center Bearing
3645-1908	Bearing Assembly—Upper

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Part Number	Description
3645-1910	Oil Seal
3645-1914	Bearing Assembly—Lower
3645-1925	Center Bearing Roller Set (16)
3645-1932	Bearing Assy. (3645-1906 and 1925)
3645-1943	Lubr. Line
3645-1947	Pin—Bearing Locating
3655-1951	Piston and Rod Assembly
3645-1952	Cage
3665-1959	Boot
3665-1960	Collar
497-3166	Welch Plug
3335-3662	Pin
3845-5203	Check Valve
3655-5921	Screw—Center and Lower Main
3655-5924	Screw—Upper Main
509-5926	Screw—Crankcase Flange
2645-5970	Screw—Rod Cap
235-5972	Screw—Dowel
3645-7234	Washer
509-8601	Welch Plug
*Part of 3655-1951 Assembly	
†Part of 3655-1875 Assembly	

POWERHEAD—3665

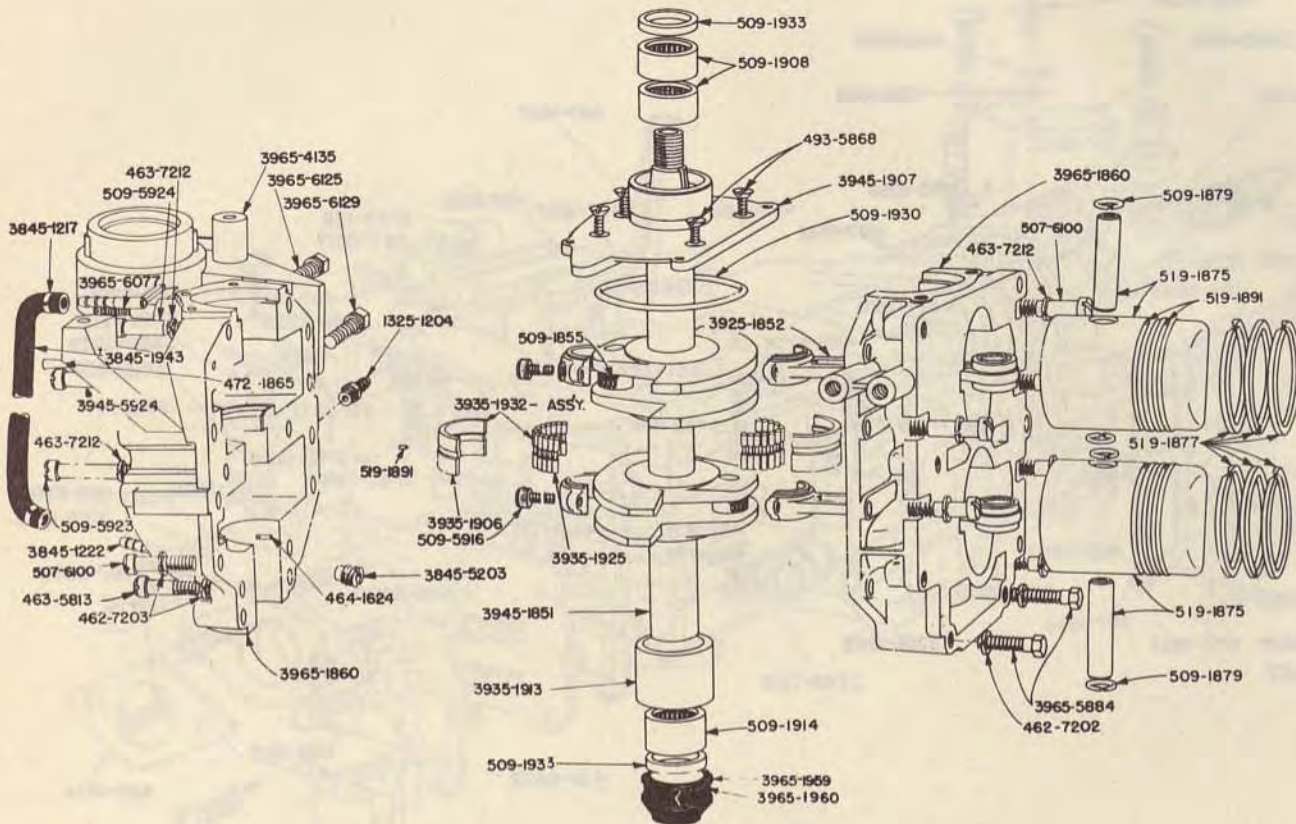
Part Number	Description
470-123	Retainer
1645-123	Lead Wide Retainer
3665-123	Plate
3655-137	Friction Pad
3655-138	Spring—Friction Pad
3335-500	Spark Plug
487-645	Washer
3655-1102	Manifold Line
1855-1108	Line—Scavenger
1325-1204	Fitting
3745-1207	Fitting
3325-1217	Clamp
3645-1709	Bracket
3645-1711	Bumper
1675-1868	Reed Plate Assembly
*3645-1869	Plate Only
*3645-1870	Reed Valve
*3645-1871	Clamp Plate
3655-1872	Gasket
3645-1873	Intake Manifold
3645-1882	Gasket—Cylinder Head
3645-1883	Cylinder Head
3655-1887	Key—Flywheel
3645-1890	Gasket
3655-1892	Plate—Baffle
3655-1895	Cover Plate—Intake
3645-1896	Gasket—Intake Cover Plate
3645-1897	Cover Plate—Exhaust
3645-1898	Gasket—Exhaust Cover Plate
3665-1902	Bracket—R
3645-1903	Bracket—L
3645-1917	Water Plate—Exhaust
3655-1935	Guide—Lead Wire
1675-1945	Gasket—Cylinder Head Water
1675-1946	Cover Plate
*3645-1961	Clamp Plate
3655-3645	Washer
3665-3677	Bracket—Spring R.
3645-3681	Bracket—Spring L.
3655-4169	Stator Pinion Assembly
3655-4173	Spacer—Stator Pinion
3655-4314	Arm—Starter Lock Link
3655-4317	Screw
3665-4322	Beam
509-4380	Washer

Part Number	Description
3655-4388	Spring—Beam Return
3645-4602	Follower Assembly
497-4614	Shaft—Follower
480-4620	Hair Pin Cotter
497-4631	Bearing
3645-4634	Arm—Actuator
497-4635	Spring—Sync. Control
3645-4643	Link—Throttle Act.
3845-5203	Check Valve
3665-5208	Bracket
465-5802	Screw
462-5815	Screw
465-5827	Screw
464-5839	Screw
3645-5878	Bolt—Cylinder Head
3645-5884	Screw
497-5891	Screw
3655-5891	Screw
497-5902	Screw—Follower Adj.
509-5921	Screw
509-5951	Screw
509-5961	Screw
*3675-6001	Screw
3655-6024	Screw
3655-6027	Screw
507-6050	Screw
507-6053	Screw
3675-6053	Screw
3675-6055	Screw
3665-6059	Screw
465-6713	Nut
3655-6715	Speed Nut
493-6719	Nut
3655-6735	Speed Nut
462-7202	Lockwasher
*3745-7208	Lockwasher
462-7209	Lockwasher
3835-7212	Lockwasher
463-7214	Lockwasher
497-7230	Lockwasher
509-8200	Stud—Carb. Flange
3945-8602	Pipe Plug
3645-8614	Retaining Ring
3655-8616	Retaining Ring
*Part of 1675-1868 Assembly	

(CRANKCASE - 3865 - P68)

(POWERHEAD - 3865 - P69)

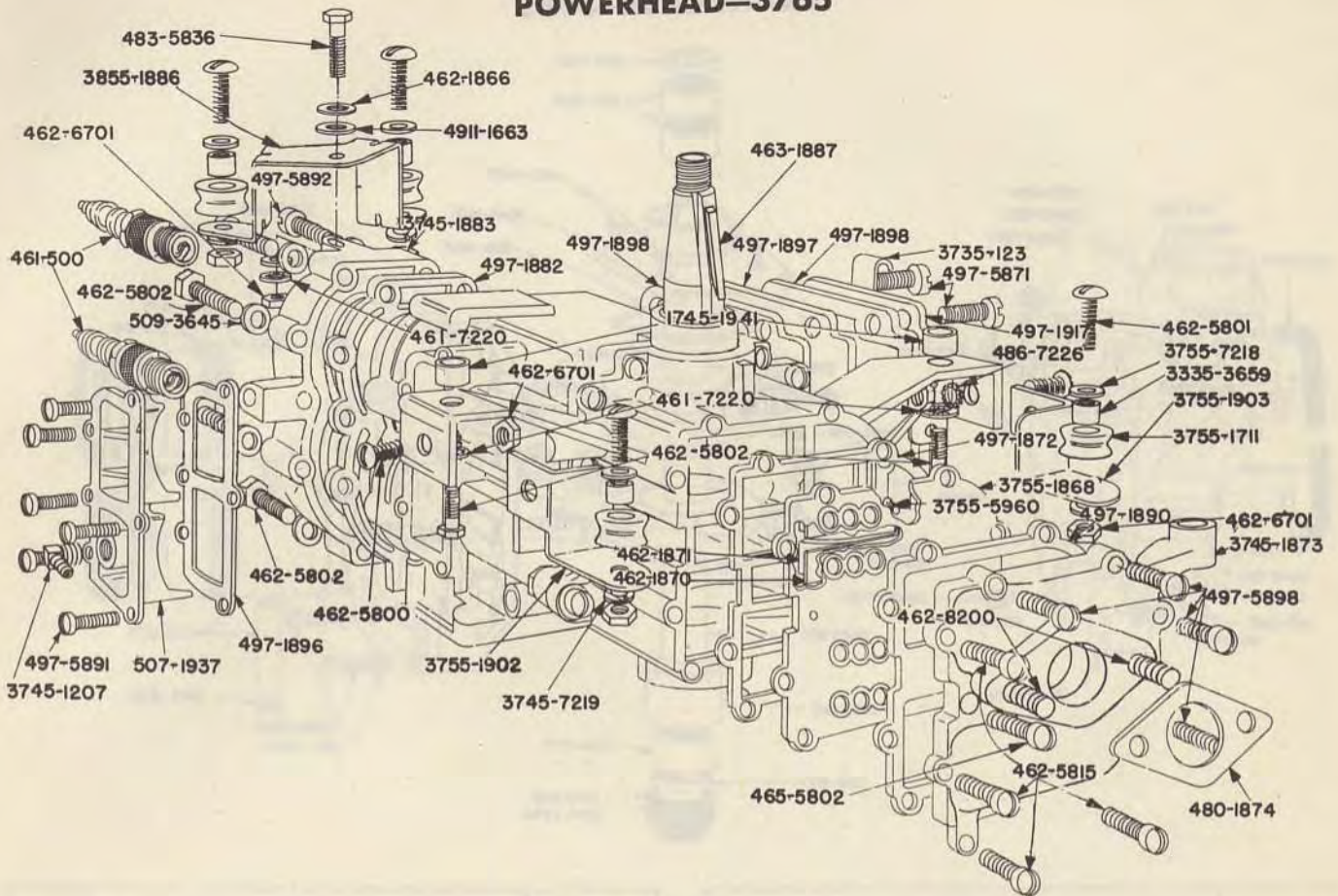
CRANKCASE-3965



Part Number	Description
1325-1204	Fitting - Pump Pressure Line
3845-1217	Ferrule
3845-1222	Fitting
464-1624	Pin
3945-1851	Crankshaft
3925-1852	Connecting Rod Assembly (Includes 509-1855, 509-5916)
*509-1855	Crank Pin Roller Set (56)
3965-1860	Crankcase Assembly
472-1865	Taper Pin
519-1875	Piston Assembly
519-1877	Piston Ring
509-1879	Piston Pin Lock
519-1891	Pin
3935-1906	Race
3945-1907	Magneto Mount Plate
509-1908	Needle Bearing - Magneto Mount
3945-1911	Magneto Mount Assy. (Includes 3945-1907, 509-1908, 509-1933)
3935-1913	Retainer - Lower Crankshaft Bearing
509-1914	Needle Bearing
3935-1916	Lower Crankshaft Bear. Assy. (Includes 3935-1913, 509-1914, 509-1933)
3935-1925	Center Crankshaft Roller Bear. Set (23)

Part Number	Description
509-1930	"O" Ring Magneto Mount
3935-1932	Center Bearing Assembly (3935-1906 and 3935-1925)
509-1933	Oil Seal
3845-1943	Lubrication Line
3965-1959	Boot
3965-1960	Collar
3965-4135	Bracket - Starter Motor
3845-5203	Check Valve
463-5813	Screw - Lower Main Bearing
493-5868	Screw - Mag. Mount Bearing Cage
3965-5884	Screw - Crankcase to Block
509-5916	Screw - Connecting Rod Cap
509-5923	Screw - Crankcase Center Front
509-5924	Screw - Top Crankcase
3945-5924	Screw - Crankcase Flange
3965-6077	Screw - Bracket to Crankcase
507-6100	Screw - Crankcase Flange
3965-6125	Screw - Bracket to Crankcase
3965-6129	Screw - Bracket to Crankcase
462-7202	Lockwasher - Crankcase to Block
462-7203	Lockwasher
463-7212	Lockwasher
*Sold in Sets Only, to Maintain Uniformity	

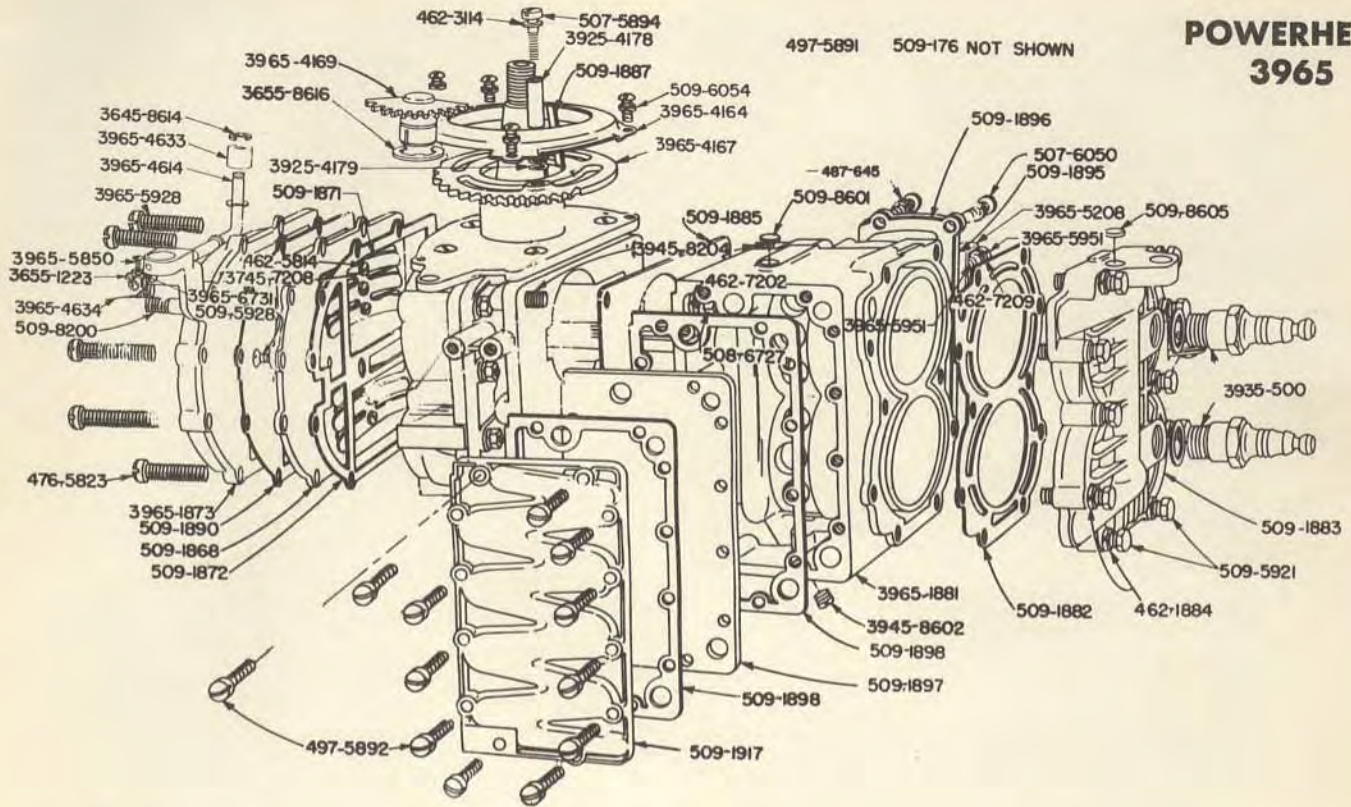
POWERHEAD—3765



Part Number	Description
3735-123	Lead Wire Clamp
461-500	Spark Plug
3745-1207	Fitting
4911-1663	Spacer
3755-1711	Grommet
462-1866	Washer
3755-1868	Reed Valve Plate Assembly
462-1870	Reed Only
462-1871	Reed Stop
497-1872	Valve Reed Plate Gasket
3745-1873	Intake Manifold
480-1874	Carburetor Flange Gasket
497-1882	Cylinder Head Gasket
3745-1883	Detachable Cylinder Head
3855-1886	Bracket—Rear
463-1887	Flywheel Key
497-1890	Intake Manifold Gasket
497-1896	Intake Cover Plate Gasket
497-1897	Exhaust Cover Plate
497-1898	Exhaust and Water Cover Plate Gasket
3755-1902	Bracket—Right Front
3755-1903	Bracket—Left Front

Part Number	Description
497-1917	Water Cover Plate
507-1937	Intake Cover Plate
1745-1941	Spacer
509-3645	Washer
3335-3659	Spacer
462-5800	Screw
462-5801	Screw
462-5802	Screw
465-5802	Screw
462-5804	Screw—Cylinder Head
463-5813	Screw—Cylinder Head
497-5892	Screw
462-5815	Screw—Intake Manifold—Short
483-5836	Screw
497-5871	Screw—Water Cover Plate
497-5891	Screw—Intake Cover Plate
497-5898	Screw—Intake Manifold—Long
3755-5960	Screw—Reed Valve
462-6701	Nut
3755-7218	Washer
3745-7219	Lockwasher
461-7220	L.W.
486-7226	L.W.
462-8200	Carburetor Flange Stud

POWERHEAD 3965



Part Number	Description
509-176	Lead Wire Clamp
3935-500	Spark Plug
487-645	Washer
3655-1223	Fitting
509-1868	Reed Valve Plate Assy.
509-1870	Reeds Only
509-1871	Reed Valve Clamp
509-1872	Gasket—Reed Valve Plate
3965-1873	Intake Manifold
3965-1881	Cylinder Block
509-1882	Gasket—Cylinder Head
509-1883	Cylinder—Head
462-1884	Washer—Cylinder Head
509-1885	Gasket—Cylinder Flange
509-1887	Flywheel Key
509-1890	Intake Manifold Gasket
509-1895	Intake Cover Plate Assy.
*509-1896	Gasket—Intake Cover Plate
509-1897	Exhaust Cover Plate
509-1898	Gasket—Exhaust and Water Cover Plate
509-1917	Water Cover Plate
462-3114	Washer
3965-4164	Mounting Ring—Stator Plate
3965-4167	Gear—Stator Plate
3965-4169	Mag. Pinion and Shaft
3925-4178	Spacer
3925-4179	Spring—Stator Plate Gear Screw
3965-4614	Shaft

Part Number	Description
3965-4633	Follower
3965-4634	Arm—Actuator
3965-5208	Bracket
462-5814	Screw—Valve Reed Clamp
476-5823	Screw—Intake Manifold
3965-5850	Screw
497-5891	Screw
497-5892	Screw—Water Cover Plate
507-5894	Screw
509-5921	Screw—Cylinder Head
509-5928	Screw—Reed Valve Plate
3965-5928	Screw—Intake Manifold
3965-5951	Screw
507-6050	Screw
509-6054	Screw—Mounting Ring
508-6727	Nut—Cylinder Block Studs
3965-6731	Nut
462-7202	Lockwasher—5/16" Common
3745-7208	Lockwasher—Valve Reed Clamp
462-7209	Lockwasher
509-8200	Stud—Carburetor Flange
3945-8204	Stud—Crankcase to Block
509-8601	Welch Plug—Cylinder Block
3945-8602	Pipe Plug—Cylinder Block
509-8605	Expansion Plug—Cylinder Head
3645-8614	Retainer
3655-8616	Retainer
	†Included in 509-1895 Assembly

SECTION G - LOWER UNIT, WATER PUMP AND PROPELLER

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LOWER UNIT, WATER PUMP AND PROPELLER

1946 - 47 - 48 LOWER UNIT

The gear housing on the single cylinder models has graphite bronze bearings throughout, while the twin models have a Torrington needle roller bearing supporting the lower end of the driveshaft and one in the cap supporting the front of the propeller shaft.

The bronze thrust washers in front of the needle roller bearings have projections that must fit into slots in the housing to prevent the thrust washer's turning. If improperly installed, damage will occur to thrust washer and bearings.

All the bearings are replaceable, but replacement is seldom necessary because they are designed to last the life of the motor. An excessive amount of water mixed with the grease in the lower unit usually indicates that the propeller shaft grease seal is worn or the bearing cap gasket leaks.

DISASSEMBLY (Follow instructions in the order given)

1. Remove the propeller.
2. Remove the bearing cap by removing the two screws that hold it in place.
3. Remove the nut thus exposed and the corresponding nut on the other side above the propeller. This allows you to pull off the lower unit, including the driveshaft and anti-cavitation plate.
4. Pull the propeller shaft out. This releases the pinion gear (and thrust washer on twins) from the driveshaft.
5. Pull out the driveshaft and remove the water pump.
6. If it is necessary to replace either the propeller shaft bevel gear or the propeller shaft, the bevel gear can be removed from the propeller shaft by pressing the shaft out of the gear.
7. The water pump cam on the driveshaft is pressed on over a knurl on the shaft. This cam should be pressed on until the measurement from the bottom of the shaft to the bottom of the cam is exactly 3-1/4". If a stainless steel cavity is installed, the measurement should be 3-7/32" for the singles and 3-5/32" for the twins.

1. With the cam in position on the driveshaft, insert the driveshaft through the lower pump cam thrust washer and into the lower unit body.
2. Place the pinion gear thrust washer (twins only) over the driveshaft so that the projections fit into the slots in the casting and slide the pinion gear on the shaft.
3. If the gear has been removed from the propeller shaft, press it back on the shaft over the Woodruff key against the gear retaining ring.
4. With the bevel gear on the prop shaft, insert the shaft so that the two gears mesh.
5. Replace the water pump. The side marked "TOP" must face upward.
6. Place the upper pump cam thrust washer and anti-cavitation plate over the driveshaft. Side marked "TOP" must face upward.
7. Grease the spline connection between driveshaft and crankshaft with an anti-corrosive viscous lubricant.
8. Replace the entire unit on the lower motor casing. It may be necessary to rotate the motor a few degrees to allow the shaft to engage the spline. Bolt in place.
9. Place the thrust washer (twins only) in the bearing cap (hold it in place with grease) and slide the bearing cap in place over a new gasket. Screw in place.
10. Replace the propeller.

SHIFT MODEL LOWER UNIT

Most service problems concerning the shift can be corrected by making the adjustments outlined in Section B or in the Owner's Manual. Consult that section before disassembling the lower unit to correct any shifting difficulties.

If the motor will not go into reverse, or if it jumps out of reverse, first check to see that the shift lever is not binding. If everything is in order, the trouble probably lies in the lower unit. Either the clutch dog has been at one time installed backwards or the cam detent is loose.

Grease leaks in the lower unit may be caused by an improper seal around the shift rod. Remove the bearing cap and replace the seal.

Lower units of '49 models can be recognized by the type of shift actuating mechanism used. The shift and the reverse lock on '49 models are actuated by wires, while in '50 models, steel rods are used. The '50 models also have a two piece driveshaft; however, the '49 model driveshaft, with the short rubber type shock absorber near the top end, can be replaced by the newer split shaft with the long, torsion spring shock absorber.

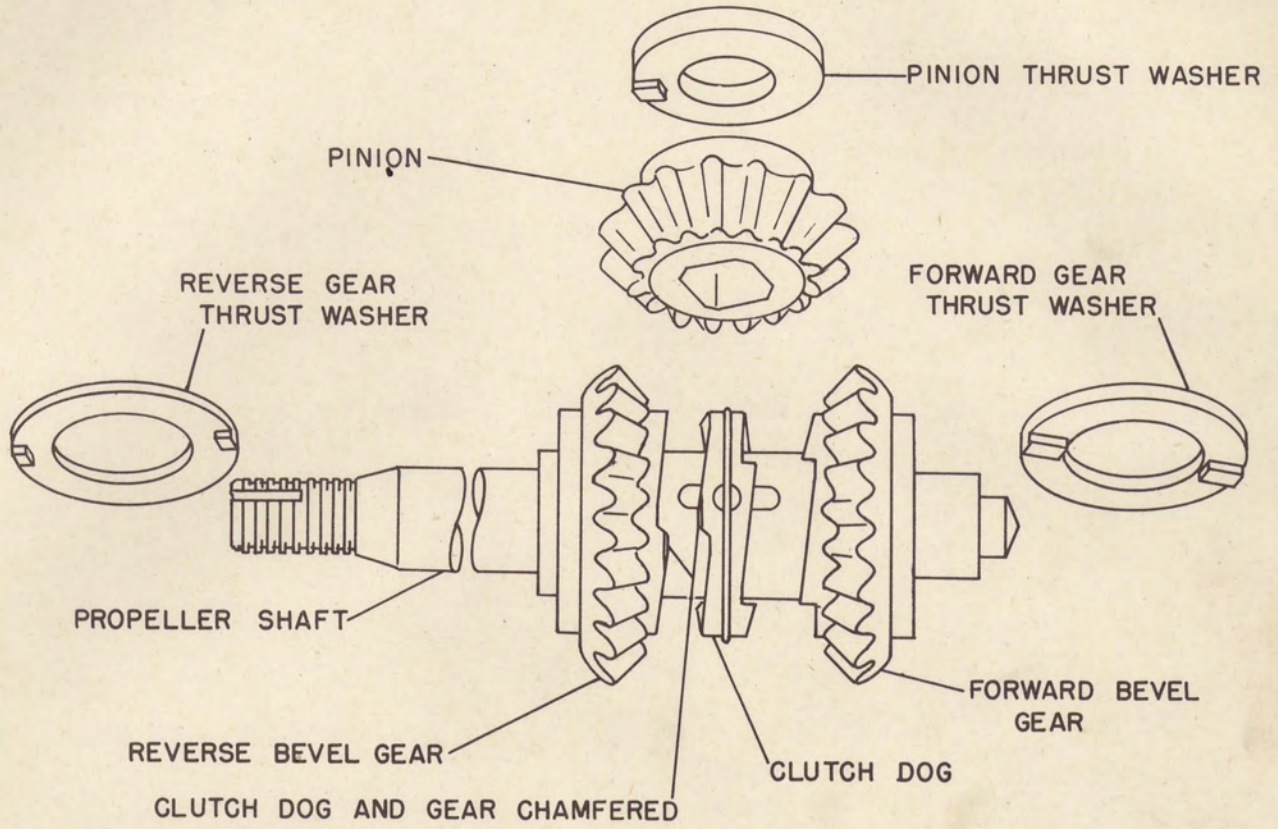
The following instructions for the disassembly and assembly of the lower unit should be followed closely; otherwise serious service problems can result.

DISASSEMBLY

1. Remove the three screws holding the bearing cap and remove the cap.
2. Unscrew the special nut on the drive selector rod.
3. Remove the lower unit stud nuts allowing the entire lower unit, driveshaft and anti-cavitation plate to be pulled off the lower motor casing. The top and bottom halves of the 1950 driveshaft may be separated by simply pulling them apart.
4. Slide off the forward bevel gear and thrust washer. If the propeller has been removed, the prop shaft can be pulled out and the reverse bevel gear and thrust washer removed.
5. Slide the pinion pin retainer up, push the pin part way out, rotate the shaft 1/2 turn and pull the pin out with a pair of pliers. The lower end of the driveshaft can now be pulled out, releasing the pinion gear and pinion thrust washer.
6. The water pump impeller can be slid off the driveshaft; and by driving out the impeller pin, the pump cover plate and anti-cavitation plate can be slid off the driveshaft. On '50 models, the driveshaft comes apart so that it is unnecessary to remove the pinion gear to take the water pump impeller off. Just pull the top 1/2 of the driveshaft off, remove the anti-cavitation plate and pump cover plate, and pull the water pump impeller off the top of the driveshaft stub.
7. The clutch dog can be taken off the propeller shaft by sliding the retaining ring (only on '49 models) aside and driving out the cross pin. This also releases the spring loaded prop shaft plunger.
8. To remove the drive selector cam; remove the cam detent retainer, drive out the expansion plug, remove the fork and slide out the cam.

The bearings and seals can all be replaced. The bearing in the cap assembly must be pulled out with a puller, the others can be pressed out. In replacing the propeller shaft rear ball bearing, the open end must face inward. The other two bearings should be pressed in putting pressure on the printed end. The bronze upper driveshaft bearing should be pressed in flush with the bottom of the pump cavity forming a groove for the pump seal ring to fit in.

In replacing the dog on the propeller shaft, the dog must be placed so that the teeth with the chamfered edge face the rear, or propeller end. Care must be taken to see that the three bronze thrust washers are in their proper places and the projections are properly seated in the grooves in the die cast housing.



The smallest thrust washer goes on the driveshaft. Of the two remaining, the thinner one with the short projections goes next to the rear ball bearing and the thicker one with the long projections goes next to the needle roller bearing in the bearing cap. A heavy grease will hold these washers in place while completing the assembly.

ASSEMBLY

1. Slide the anti-cavitation plate and pump cover plate (held together with the rubber grommet) onto the driveshaft, making sure the word "TOP" stamped on each plate, faces upward. Slide the water pump impeller on the shaft and drive in the impeller pin.

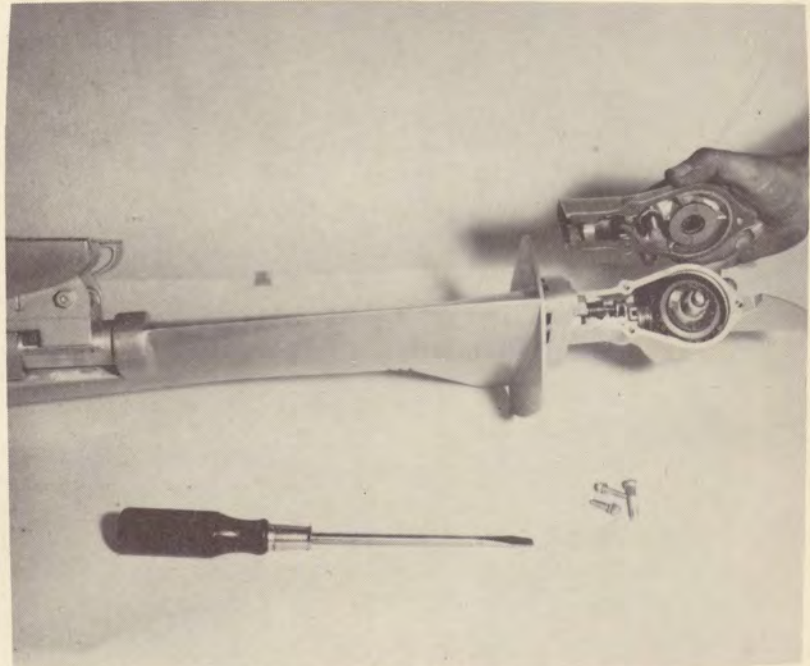
On '50 models, the driveshaft is split so that it is not necessary to place the anti-cavitation plate on the shaft first. Just press in the impeller pin and insert the lower driveshaft stub in the lower unit. The pump cover plate and the anti-cavitation plate can be replaced after the rest of the gear housing has been assembled.

2. Insert the driveshaft in the lower unit and slide the correct thrust washer and bevel gear on the shaft. Press the pinion pin in position and replace the retainer in such a way that the overlapping edge points to your right when looking into the lower unit. In this position it will not pick up grease when rotated by the motor. Draw up the driveshaft, making sure that the thrust washer is properly seated, and slide the impeller down into the pump housing, engaging the impeller pin on the driveshaft.
3. With the proper thrust washer in place, take the reverse gear (the one with the needle roller in the hub and the chamfer on the edge of the dog face) and slide it in behind the pinion gear. Insert the propeller shaft and clutch dog assembly.
4. Replace the lower unit and driveshaft on the motor with the drive selector rod passing through the rubber grommet in the anti-cavitation plate. It may be necessary to rotate the motor a few degrees to get the driveshaft to engage the spline in the crankshaft. Replace the two lower unit stud nuts and lockwashers.
5. Slide the seal sleeve on the shift rod casing and screw the special nut on the rod until the end of the rod is flush with the face of the nut.

On '50 models, there is a special "O" ring that slides on the shift rod and over that, a short length of aluminum casing which has a synthetic seal-sleeve on the lower end. Coat the seal with permatex to insure a grease tight seal at this point.

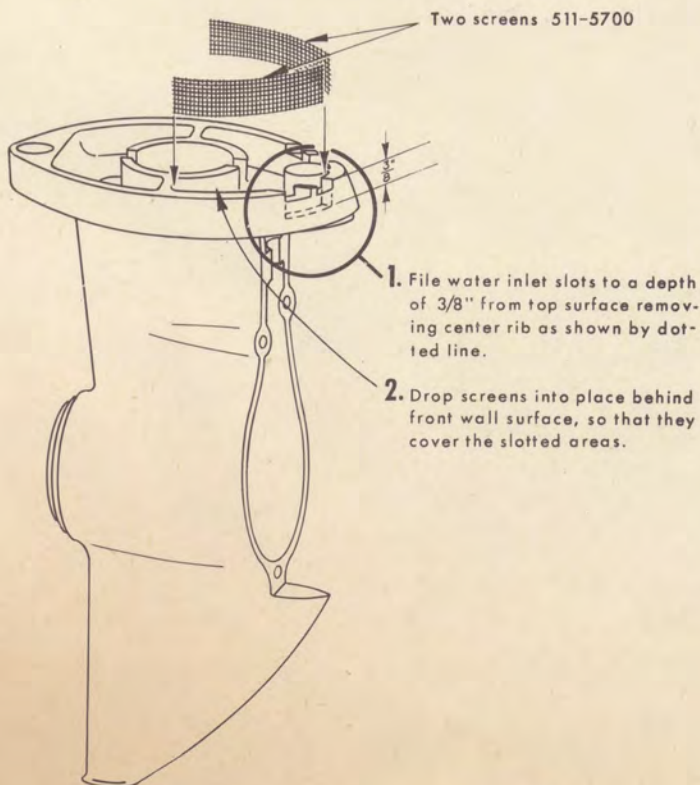
6. Slide the forward bevel gear on the propeller shaft. Coat the thrust washer with grease and place it in position in the bearing cap.
7. Replace the bearing cap assembly making sure the thrust washer is in place, the seal sleeve on the shift rod is in place and bearing cap gasket is properly placed.

The drive selector cam fork must engage the special nut on the shift rod. On '49 models it may be necessary to move the nut by moving the shift lever on the side of the motor. On the '50 models, set the shift rod so that there is 1/32" clearance between the reverse lock and thrust socket, then place the drive selector cam in the bearing cap in the neutral position and hold the bearing cap in position over the prop shaft. If the cam fork will not engage the nut, screw the nut up or down until the fork will slide over the nut without moving either the reverse lock or the drive selector cam out of the correct neutral position. Usually the nut will be screwed on until 2 or 3 threads show beyond the nut. Screw the cap in position and fill with grease. Do not force the bearing cap assembly into place. If it does not seat easily, either the thrust bearings are interchanged or not in position, or the fork is not engaged with the special nut on the shift rod.

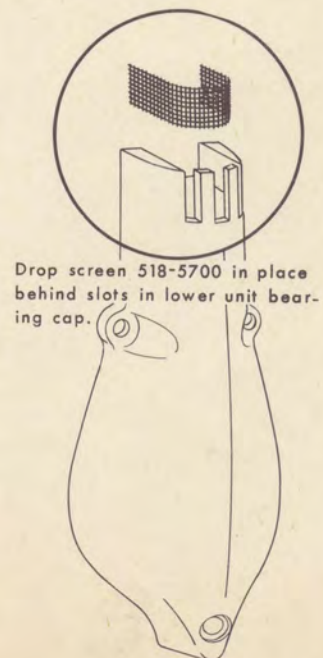


Checking position of special nut before replacing bearing cap.

**MODIFICATION OF SHIFT LOWER UNITS FOR OPERATION
IN EXTREMELY DIRTY WATER
(4 thru 10 HP MODELS)**



**10 HP (Only
Bearing Cap)**



10 HP SHIFT LOWER UNIT THRU 1953

DISASSEMBLY

1. Remove grease plugs and drain grease.
2. Remove the bearing cap and unscrew the special nut on the shift rod.
3. Remove the four Bristol screws just under the pump housing and pull the lower unit off.
4. Pull off the top half of the driveshaft, remove the splash plate, pull the water pump impeller out and remove the pump pin.
5. Remove the stud nut exposed when the cap was taken off and the nut down in the pump housing casting. The lower unit castings can then be separated.
6. Disassembly of the lower unit gears is the same as for the smaller shift motors.

ASSEMBLY

1. Assemble the lower unit gears and driveshaft stub according to instructions given on pages 4 and 5 of this section.
2. Place the "O" ring in the groove in the lower unit body. If you find this groove so deep that the "O" ring will not be compressed, cut a washer out of .015 gasket material or shim stock and place it under the "O" ring. Use permatex to insure a seal around the washer.
3. Slide the anti-cavitation plate on the driveshaft, place the "O" ring in the bottom of the pump housing casting and slide the casting over the driveshaft. Replace the two stud nuts and tighten down. Be sure to use the thin walled nut on the front stud, otherwise the lower unit cap will not fit.
4. Replace the two seal rings and the water pump cavity. Insert the pump pin and slide the water pump impeller down into the cavity, turning it with a clockwise motion to properly position the blades. The side marked TOP must face upward.
5. Replace the pump cover plate and "O" ring. Slide the splash plate over the driveshaft and replace the screws.
6. Grease driveshaft connections and slide the top section of the driveshaft on the stub making sure the torsion spring enters the slot in the stub. Attach this assembly to the lower motor casing. If you have any difficulty steering the shift rod into the sleeve, bend the rod forward slightly. It may also be easier to coat the end of the driveshaft with heavy grease and push it up in place in the lower motor casing while the lower unit is being worked into position, then steer the drive-shaft into position after the shift rod has come through.
7. Move the gearshift handle until there is 1/32 inch clearance between the reverse lock and the thrust socket. Next, place the drive selector cam in neutral. Now screw the special nut on the shift rod until it will engage the fork on the drive selector without moving out of the correct neutral position.
8. With the proper thrust washer in place, attach the lower unit cap over a new gasket and fill the housing with Universal Gear Lubricant SAE 90 (E.P.). When available, use Texaco "Maropa".

THINGS TO WATCH FOR

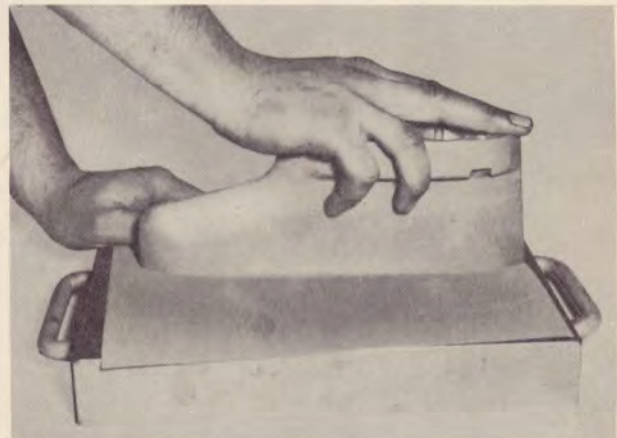
Clutch Dog Broken. Early models were equipped with a clutch dog that has since been improved. If this part breaks, or if the unit is serviced, replace the old clutch dog with the newer type. The new ones are lighter colored and are not chamfered around the hole for the cross pin.

Water Pump Quits. A few of the early models may quit pumping water because the cavity has turned backward in the casting, closing the inlet hole. This can be prevented by using the newer style cavity that has a dimple in the port side. Lay the new cavity in place, mark the casting and file a groove in the casting for this dimple to slide down into. The old cavity can also be fixed by making a punch mark on the port side of the cup with a dull center punch and filing a groove in the casting to match.



Dimple in the cup corresponding to the slot in the casting.

Grease Leaks Between Castings. Lay a smooth sheet of fine emery paper on a surface plate, or other flat surface, and run the flat surface of the casting over the emery paper lightly. Do not remove any more metal than is absolutely necessary. A thin layer of permatex will also help seal these joints.



Smoothing out parting surfaces

DISASSEMBLY

1. Remove the shift actuator pin, Part No. 509 - 4364, and unscrew the shift connector "A" until it is free of the shift rod. There is not much room at this point under the powerhead, but by placing the shift lever in forward and the shift rod in reverse, you can manipulate this part with the fingers.

2. Remove the four screws just above the water pump housing and pull the lower unit off. The top half of the driveshaft can then be lifted off.

3. Remove the splash plate, exposing the water pump. Pull the impeller out and remove the Woodruff key.

4. Drain the lubricant out of the lower unit. You can drain the lubricant while disassembling the above, however, it is not necessary to drain when working on the water pump.

5. Remove the two nuts on the lower unit studs with a 9/16 socket wrench. Remove the screw at the exhaust outlet, which holds the anti-cavitation plate to the pump housing. The lower unit can then be pulled apart.

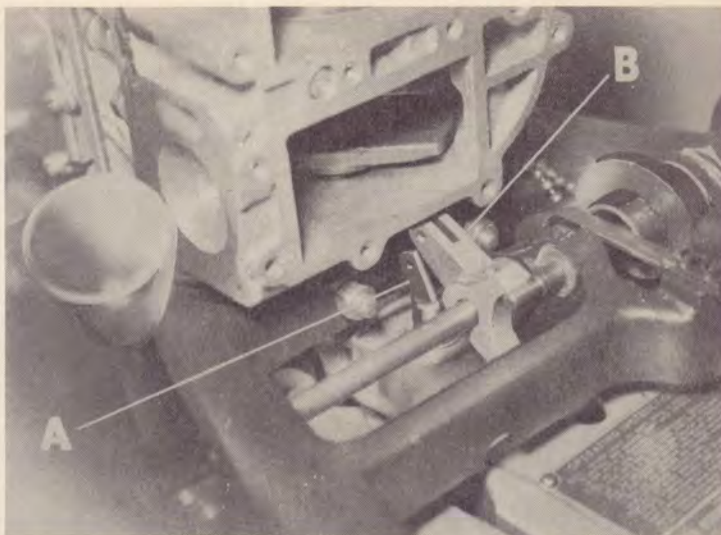
6. Slide the driveshaft, pinion gear and bearing assembly out of the unit.

7. The drive selector cam can now be removed if necessary.

NOTE: It is not necessary to complete the above steps before disassembling the lower unit gears and prop shaft, which is described below:

8. Remove the propeller, loosen the two set screws on the side of the unit and unscrew the lower unit cap.

9. Remove the "O" ring. This can be done by reaching in and grasping it with a long nose pliers.



Shift actuator linkage.



*Removing lower unit cap.
Tools shown in illustrations
are A50-635 Lower Unit.
Tool Set, \$6.50 net per Set.*

10. Use the special puller to pull the rear prop shaft bearing and cage out of the lower unit. This bearing cannot be removed by pulling on the prop shaft because the gears cannot get by the spiral ring.

11. Remove the spiral lock by starting one end out with a screw driver, grasp it with a long nose pliers, and work the spiral out of the groove.

12. Pull the prop shaft assembly and reverse gear out of the unit.

13. The forward gear can now be taken out. With the pinion gear still in place it will be necessary to rotate the forward gear around to the side of the pinion in order to remove it.

14. Fish out the thrust washer. If necessary, the front prop shaft bearing can be pulled out with the special puller. This bearing can also be removed by running hot water over the casting, then tapping the casting on a table so that the bearing falls out.

ASSEMBLY

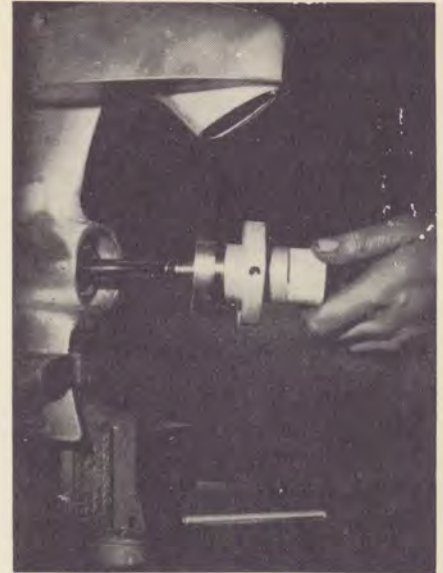
1. If the clutch dog has been removed from the shaft, replace it so that the teeth with the chamfered edge face the propeller end. See the illustration on page 4 of this section. If the clutch dog is held in place with a knurled pin, see instructions under, "Things to Watch For".

2. With the front prop shaft bearing in place, coat the thrust washer with grease and place it in position. Place the forward bevel gear, the one that has a bronze bearing in the hub, in place over the thrust washer.

3. Pull the drive selector cam up, or into the forward gear position. Line up the washer and gear as closely as possible, then carefully insert the prop shaft assembly. Be sure that the shaft is all the way into position; as a check, $3 \frac{13}{16}$ inches of the driveshaft should be exposed beyond the face of the lower unit housing.

4. Place the rear bevel gear, the one with a needle bearing in the hub, on the shaft. Slide the thrust washer into position on the shaft.

5. Work the spiral ring into the groove in the casting.



Removing rear prop shaft bearing.



Removing front prop shaft bearing.

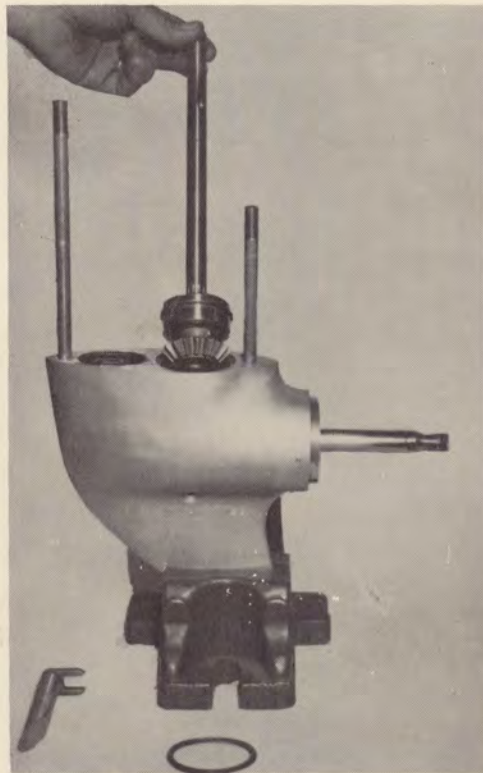
6. Slide the rear bearing and cage into position so that it fits against the spiral ring.

7. Place the "O" ring in position, coat the threads with a little glyptal and screw the cap on tightly. Tighten up the set screws.

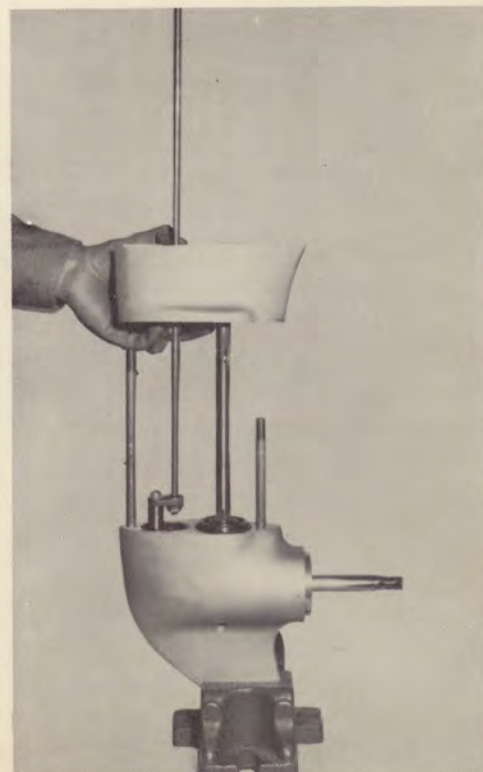
8. Place the driveshaft, pinion gear and bearing assembly in position. If you find that the bearing is not held snugly in place by the spiral lock on the pinion, cut a washer out of proper shim stock and insert between the bearing and spiral lock. Be sure that the rivet holding the pinion on the shaft is in tightly.

9. Slide the drive selector cam into the lower unit and replace the "O" ring. Screw the special nut all the way on the shift rod and lock in place with the other nut. Place the shift rod and special nut in position. Replace the "O" ring around pinion gear bearing.

10. Slide the lower unit top section over the studs making sure that the grommet around the shift rod is in position. Place the "O" ring in the groove around the driveshaft. Slide the shift rod tube over the shift so that the lower shoulder fits against the Neoprene grommet.



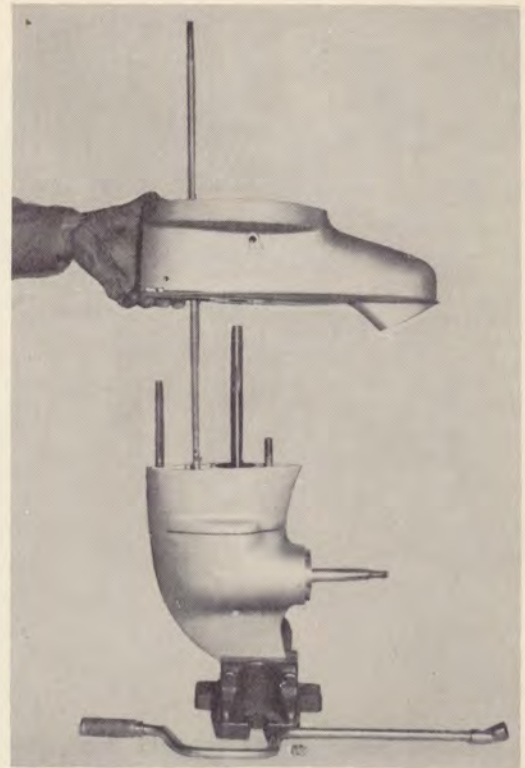
Placing pinion in position.



Installing top section of lower unit.

11. With the "O" ring and grommet in position in the pump housing, place the anti-cavitation plate and pump housing, held together by the screw in the back, in position. Be sure that the bearing and seal around the driveshaft are in position. Tighten the two nuts on the studs.

12. With the "O" ring and water pump cavity in place, replace the Woodruff key and slide the pump into the cavity, turning it with a clockwise motion to set blades at proper angle. The pump must slide freely over the key so that it will float on the shaft. It may be necessary to file the key slightly.



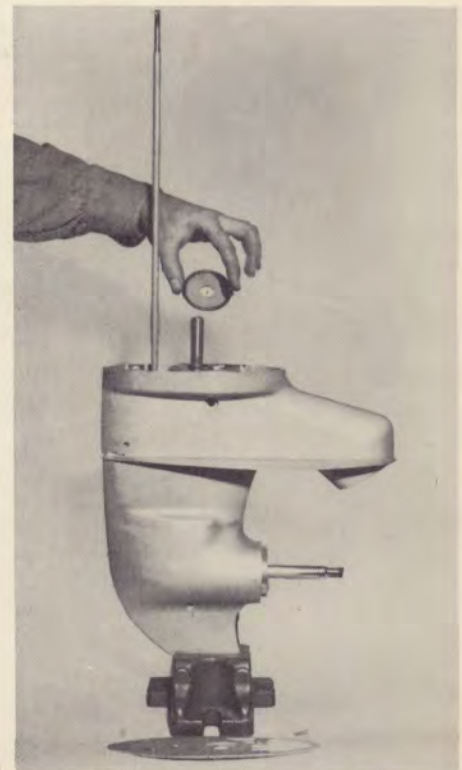
Installing pump housing.

13. Apply a thin coat of permatex on the top of the pump cover plate next to the locating lip and slide the plate over the shaft. Place the "O" ring in position.

14. Slide the splash plate over the shaft and replace the two screws that hold it in position.

15. Grease both connections and place the top half of the driveshaft over the lower end making sure the torsion spring enters the slot in the driveshaft. Then push the lower unit up into place on the lower motor casing. It may be necessary to rotate the flywheel a few degrees before the driveshaft will engage the slot in the crankshaft.

16. Bolt the lower unit in position with the four Bristol screws.



*Replacing pump cover plate.
Note Glyptol around locating lip.*

17. Screw the shift connector "A" on until the holes for the pin line up when both the shift handle and the lower unit are in the correct neutral position. (See illustration under #1 of disassembly.) This adjustment is important because it is the only linkage between the lower unit and shift handle. It is easiest to manipulate the shift connector with the lower unit in reverse and the handle in the forward position.

18. Replace the shift actuator pin and the hair pin cotter. If the hair pin cotter has lost its tension, use a standard type of cotter pin. The newer style pin with the "U" shaped clip can also be used in place of the hair pin cotter.

19. Fill the lower unit with Universal Gear Lubricant SAE 90 (EP). Use Texaco "Maropa" if available.

THINGS TO WATCH FOR

Water Pump Works at Slow Speed Only. Usually this will be caused by a tight fit between the pump and driveshaft. During high speed operation, the gears tend to move the shaft upward slightly. Unless the pump is allowed to float on the shaft, the pump will be pushed up against the pump cover plate and break the seal. If this has happened, replace the worn pump impeller and file the Woodruff key so that the new impeller will float on the shaft.

Lower Unit Jams or Turns Free. The pin that holds the pinion on the driveshaft may have come out. Early production used a knurled pin, later a rivet was used. Install a new rivet and pean the end.

If the knurled pin in the clutch dog is loose, it is advisable to replace the clutch dog with the later type, which uses a retainer to hold the pin in position. If you cannot obtain a new clutch dog, use a new pin and a new prop shaft plunger, making sure the pin is a tight press fit in the plunger.

Check the torsion bar in the driveshaft to see that it has not been deformed. Normal shape is a flat bar.

Grease Leaks Around the Lower Unit Cap. Loosen two set screws, remove the cap and coat the threads with glyptal and replace cap tightly. (If this doesn't stop it, cut a .015 gasket to fit with "O" ring).

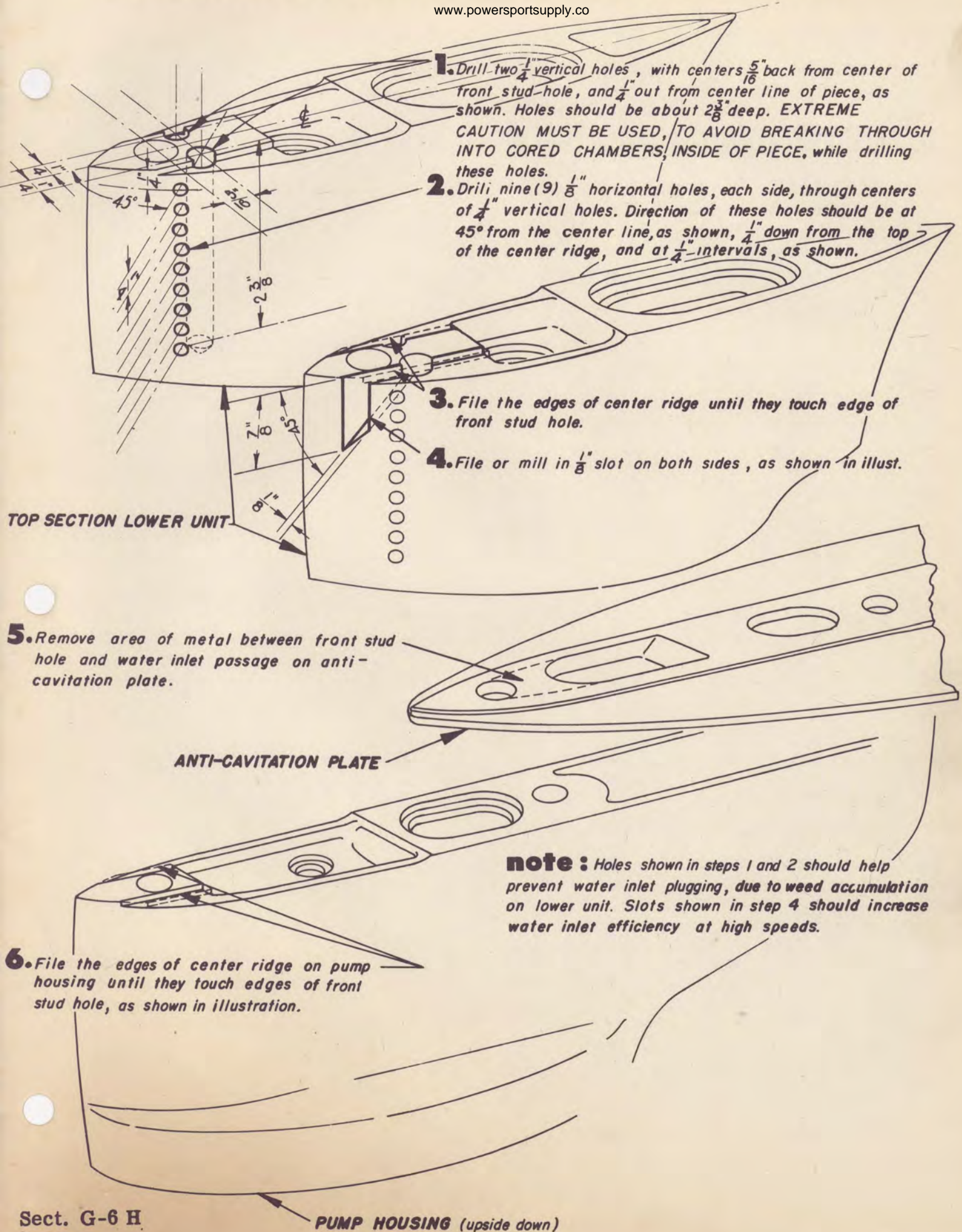
Grease Leaks Between Castings. Lay a smooth sheet of emery paper on a surface plate, or other flat surface, and smooth out parting surfaces by sanding very lightly. See the illustration at the end of the instructions for the 10 HP powerhead.

Grease Leaks Around Shift Rod and Pivot Tube. A certain amount of grease will travel up between the shift rod and tube to lubricate the parts. If there is excessive leakage, replace the shift rod with the later type that has an oil seal or "O" ring about 6 inches from the top end.

Water Pump Quits - Weeds on Lower Unit. See modification on next page.

1-30 Lower Unit Water Inlet Holes Modification

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1. Drill two $\frac{1}{4}$ " vertical holes, with centers $\frac{5}{16}$ " back from center of front stud hole, and $\frac{1}{4}$ " out from center line of piece, as shown. Holes should be about $2\frac{3}{8}$ " deep. **EXTREME CAUTION MUST BE USED, TO AVOID BREAKING THROUGH INTO CORED CHAMBERS, INSIDE OF PIECE, while drilling these holes.**

2. Drill nine (9) $\frac{1}{8}$ " horizontal holes, each side, through centers of $\frac{1}{4}$ " vertical holes. Direction of these holes should be at 45° from the center line, as shown, $\frac{1}{4}$ " down from the top of the center ridge, and at $\frac{1}{4}$ " intervals, as shown.

3. File the edges of center ridge until they touch edge of front stud hole.

4. File or mill in $\frac{1}{8}$ " slot on both sides, as shown in illust.

5. Remove area of metal between front stud hole and water inlet passage on anti-cavitation plate.

ANTI-CAVITATION PLATE

note: Holes shown in steps 1 and 2 should help prevent water inlet plugging, due to weed accumulation on lower unit. Slots shown in step 4 should increase water inlet efficiency at high speeds.

6. File the edges of center ridge on pump housing until they touch edges of front stud hole, as shown in illustration.

Sect. G-6 H

PUMP HOUSING (upside down)

1-30 LOWER UNIT MODIFICATION

The modification shown on the previous page shows how to improve the Model 509 water inlet. A more satisfactory system would be to replace the necessary parts to move the inlet in back of the propeller as is done on the late model 519.

To make this change, replace the following parts:

- 519-3189 Pump Housing
- 519-3103 Anti-Cavitation Plate
- 509-2901 Drive Shaft-Lower End
- 519-3185 Seal Ring - Pump Cavity - Bottom
- 509-8204 Stud-Rear (longer than stud used in model 509)

Be sure to change the driveshaft because the case hardened surface for the needle bearing has been changed. It is not necessary to replace the Lower Unit Top Section, however, it is advisable to fill the water inlet holes in front with liquid solder or lead shot.

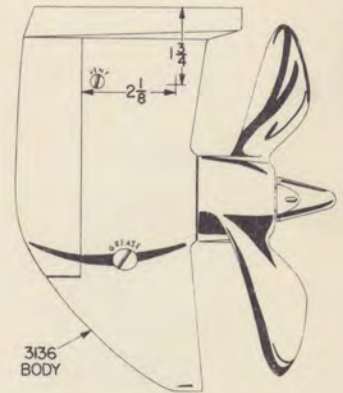
If the motor is ever stored in a freezing climate, drill small drain holes in the Pump Housing and Lower Unit Top Section wherever water might accumulate. If water is left in these cavities and it freezes, the ice will break out the casting walls.

ADAPTATION OF SALT WATER FLUSHING PLUG

For models manufactured without facilities for flushing the internal water lines and passages, the following instructions show how to install the salt water flushing plug.

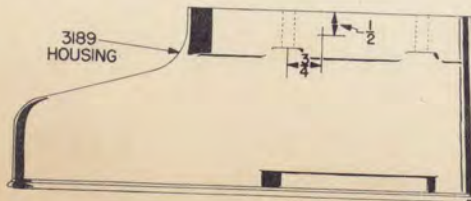
4.0, 5.0 and 7.5 HP (1949 through 1953)

On "grease plug" or "port" side of motor locate center of the hole 2 1/8" from front of #3136 lower unit body and 1 3/4" from top of body. (See illustration.) Drill through with 11/32 drill and tap with 1/8-27 National pipe tap. Use standard 1/8" pipe plug or 509-8602 pipe plug.



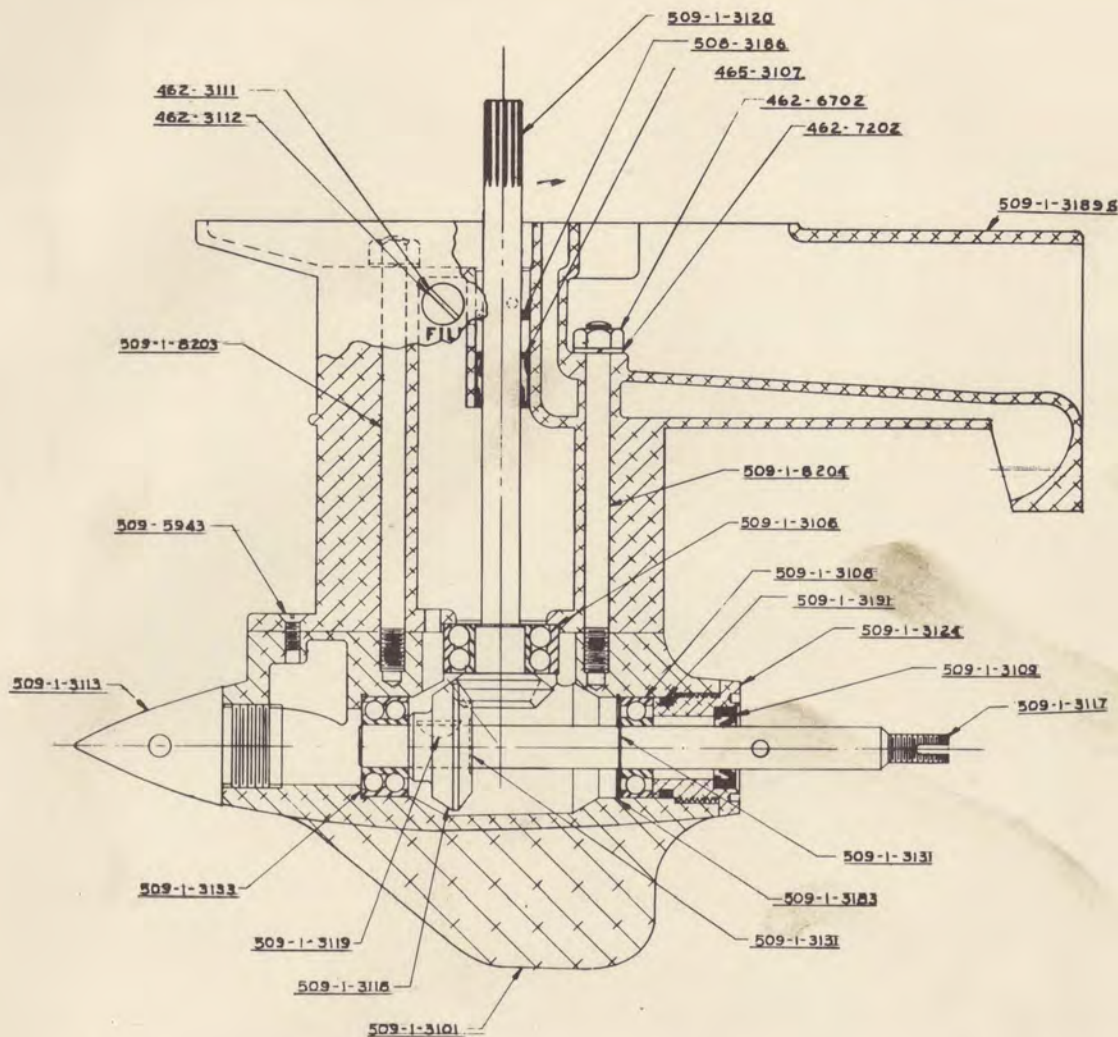
10 and 16 HP (1950 through 1953)

On "Shift" or "Starboard" side of motor, locate center of the hole in #3189 pump housing 3/4" from the center of rear lower unit fastening screw (508-5930 on the 10 HP and 509-5947 on the 16 HP) and 1/2" down from top of this pump housing. (See illustration.) Drill through with 11/32 drill and tap with 1/8-27 National pipe tap. Use standard 1/8" pipe plug or 509-8602 pipe plug.



GREEN HORNET LOWER UNIT - 509 - 1 - 3100

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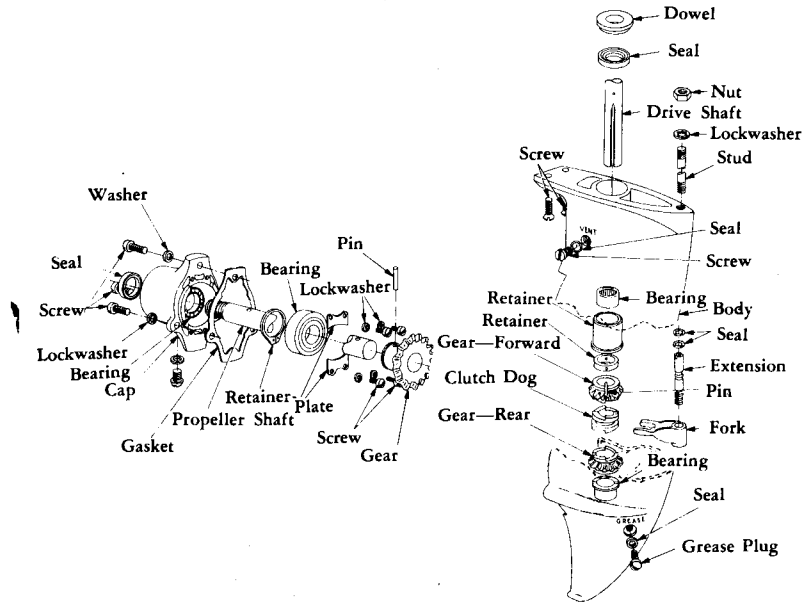
Part No.	Description	Part No.	Description
*509-1-2900	Driveshaft - Top End	509-1-3124	Rear Cap
509-1-3101	Lower Unit Body	509-1-3131	Retaining Ring
509-1-3106	Bearing - Pinion	509-1-3133	Bearing - Front
465-3107	Bearing	509-1-3173	Propeller Shaft Assembly
509-1-3108	Bearing - Rear Prop Shaft	509-1-3177	Rear Cap Assembly
509-1-3109	Seal - Propeller Shaft	509-1-3183	Snap Ring - Rear Bearing
462-3111	Grease Plug	508-3186	Seal - Driveshaft
462-3112	Gasket - Grease Plug	509-1-3189S	Lower Unit - Top Section
509-1-3113	Nose Plug	509-1-3190	Splash Plate
509-1-3117	Propeller Shaft	509-1-3191	Seal Ring - Rear Cap
509-1-3118	17 Tooth Gear	509-5943	Vent Screw
509-1-3119	Woodruff Key	509-1-8203	Stud - Front
509-1-3120	Lower Driveshaft & Pinion	509-1-8204	Stud - Rear
509-1-3121	Propeller (Not included in 509-1-3100 Assembly)	519-8608	Cotter Pin - Prop. Nut
509-1-3123	Propeller Nut	462-6702	Nut
		462-7202	Lock Washer

'54 LOWER UNIT - 5 - 7 1/2 - 10 HP

A complete new and improved lower unit exists in the '54 models. The gear assembly is located vertically in the lower unit and assembled directly on the driveshaft. When disassembling and assembling, the following instructions should be closely followed. See also Sect. H, Page 6 Illustration.

DISASSEMBLY

1. Let the grease drain from the lower unit while removing the lower motor casing. Remove the pumps as shown on Page H6.
2. With the shift handle in the forward position, remove the link pin from the shift rod link. Remove the cotter pin from the pivot shaft and slide the link to the side.
3. Loosen the reverse lock actuator screw. With a pliers, unscrew the shift rod and slide it out of the casing. This will also allow the reverse lock actuator to fall free.
4. Remove the nut and two screws attaching the lower unit to the lower motor casing and pull the two units apart.
5. With the prop off, remove the three cap screws and pull the cap assembly and prop shaft out. If it is necessary to replace parts within the cap assembly remove the plates on the back of the cap. If the prop shaft seal is removed, a new seal must be inserted.
6. The pinion gear is keyed to the prop shaft and can be removed by removing the lock ring and ball bearing then drive the pin out and slide the gear off the shaft.
7. Put the selector fork down into the reverse position. Push downward on the driveshaft until the retainer in top lower unit bearing is exposed and push the pin part way through the retainer and shaft. Rotate the shaft one-half a turn and pull the pin out. Remove the driveshaft and dowel.
8. The upper and lower bearings, the forward and reverse gears and the clutch dog can then be removed.
9. Insert a screw driver into the slot on the top of the shift rod extension and screw it upward and out. The selector fork is now free to be removed.

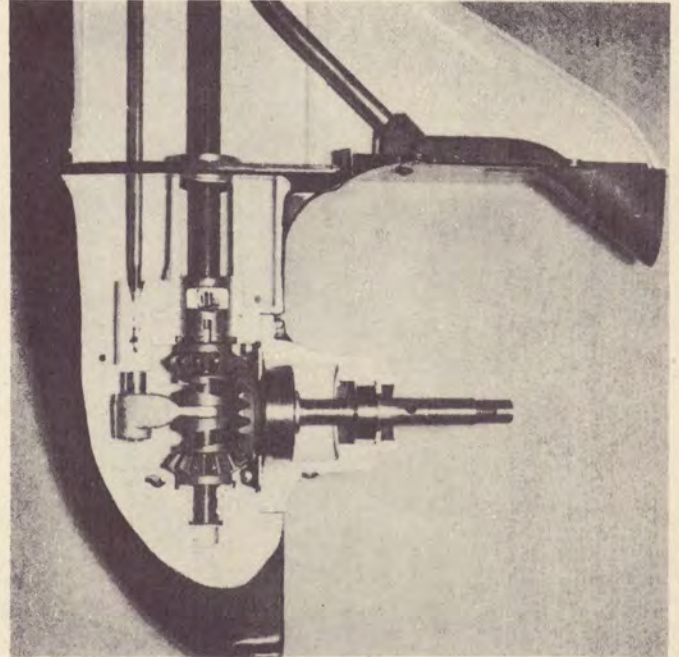


Exploded View — Lower Unit

ASSEMBLY

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1. Replace the selector fork and extension. The long side of the fork faces downward. New seal rings should be used on the extension.
2. Set the lower drive shaft bearing, (or bearing and thrust washer on the 10 HP Model) in place. Start the driveshaft in, assembling the upper bearing, (or bearing and bearing retainer used on 7 1/2 and 10 HP models), driveshaft retainer, forward gear, clutch dog and reverse gear in order. The top (Forward) gear is marked with a T. Push the driveshaft down, lining up the shaft retainer with the hole in the shaft and insert the pin.
3. Insert the shift rod, attaching the reverse lock actuator. Screw the rod into place. Check clutch for full travel and engagement with forward and reverse gears.
4. Coat both sides of lower unit cap gasket with a #2 permatex. Replace the cap and prop shaft assembly.
5. Slide the dowel over the driveshaft and seat in place. *Cutaway View — Lower Unit*
6. Fasten the lower unit onto the lower motor casing. Assemble the bailer and water pumps.
7. Assemble the shift actuator assembly. Check the shift handle for full travel.
8. Push the lower motor casing up into position on the powerhead. It may be necessary to rotate the flywheel a few degrees to engage the driveshaft in the crankcase.
9. Bolt the lower motor casing to the powerhead with the 10 screws.
10. Fill the lower unit with Universal Gear Lubricant SAE-90.

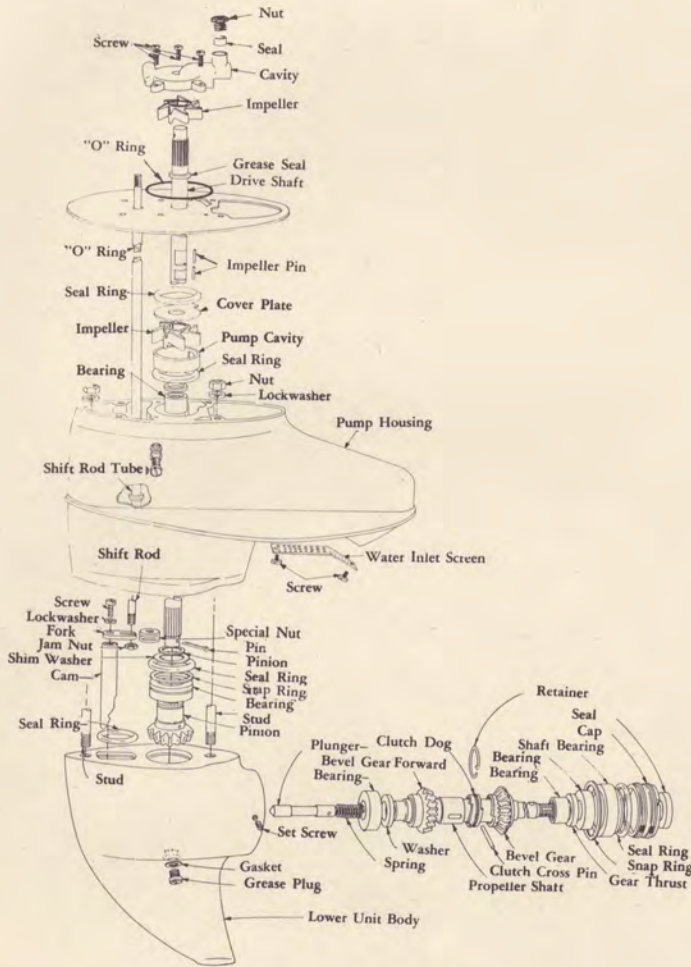


Field reports have indicated a few instances of grease leaks in the lower units of the '54 motors. On the 5 - 7 1/2 and 10 HP models, the leakage occurs around the cap gasket. To remedy this, remove the cap and apply #2 Permatex to the sealing surfaces of the cap and body.

'55-'56 Lower units, 5 - 7 1/2 and 10 HP models are identical to those shown for '54. Possible signs of a grease leak around the propeller shaft can be remedied by placing one 3755-3126 seal ring behind the grease seal on the shaft.

16 HP LOWER UNIT - BAIL-A-MATIC

The 16 HP '54 lower unit is similar to that of the earlier models with the following exceptions. The addition of a bailer pump, plus a one piece pump housing which now replaces the pump housing, the anti-cavitation plate and the lower unit top section formerly used.



Exploded View 16 H. P. Lower Unit

DISASSEMBLY

1. Remove the shift actuator assembly and the propeller as shown on page G-6C. Drain the lubricant from the lower unit. (It is not necessary to drain when working on the pumps only.) Remove the bailer fitting. Push the inlet line into the casing, clear of the hole.
2. Remove the four screws just above the pump housing and pull the lower unit off. Unscrew the compression fitting holding the bailer line to the cavity. Remove the water line and seal.
3. Loosen the four pump body screws and remove the bailer cavity, the impeller and the impeller drive pin. The splash plate can then be lifted off.
4. Remove the seal ring, the pump cover plate and the impeller drive pin can then be removed.
5. Pull the pump cavity out and remove the two seal rings.
6. With a 9/16" socket wrench remove the two nuts within the pump housing and lift the housing off the lower unit body. The upper driveshaft bearing is seated within the housing, but can be easily driven out if necessary.
7. Lift the driveshaft, pinion gear and bearing assembly out of the unit.
8. The drive selector cam and shift rod can now be removed if necessary.
9. To disassemble the lower unit gears and prop shaft refer to pages G-6C and G-6D, following steps 8 thru 14.

ASSEMBLY

1. To assemble the lower unit gears and prop shaft refer to pages G-6d and G-6E, following steps 1 thru 7.
2. Place the drive shaft, pinion gear and bearing assembly in position and replace the seal ring.
3. Slide the drive selector cam into the lower unit and replace the seal ring. Screw the special nut all the way onto the shift rod and tighten in place with the second nut. Place the shift rod and special nut in position on the cam fork.
4. Bolt the pump housing onto the lower unit body, being sure the upper drive-shaft bearing, the upper and lower pump cavity seals and the shift rod seal are in place.
5. Insert the pump parts in the following order: pump cavity, drive pin, impeller, cover plate and seal ring.
6. Replace the splash plate and assemble the bailer pump. Slide the grease seal in place on the drive shaft.
7. Set the bailer inlet line in place in the bailer cavity and screw the compression fitting in tight. Place one "O" ring on the top end of the inlet line.
8. Push the lower unit up into position on the lower motor casing. If necessary, rotate the flywheel a few degrees to engage the driveshaft in the crankcase. With a long nose pliers, pull the bailer line through the hole in the casing. Place an "O" ring over the line and screw the bailer inlet fitting in place.
9. Bolt the lower unit in place with the four Bristol screws.
10. With the shift rod down in the reverse position and the shift handle forward, screw the shift connector on $7 \frac{1}{2}$ turns. Then with the shift rod and the handle in neutral insert the actuator pin and cotter pin. Check the shift handle for full travel.
11. Fill the lower unit with Universal Gear Lubricant SAE-90 (EP).

Leakage of lubricant on the 16 HP models may appear around the seal ring in the shift selector cam cavity between the matching surfaces of the pump housing and the lower unit body. To correct this, coat all sealing and matching surfaces of the two castings with #2 Permatex. Also replace the seal ring if damage is apparent.

See "Things To Watch For" page G-6G.

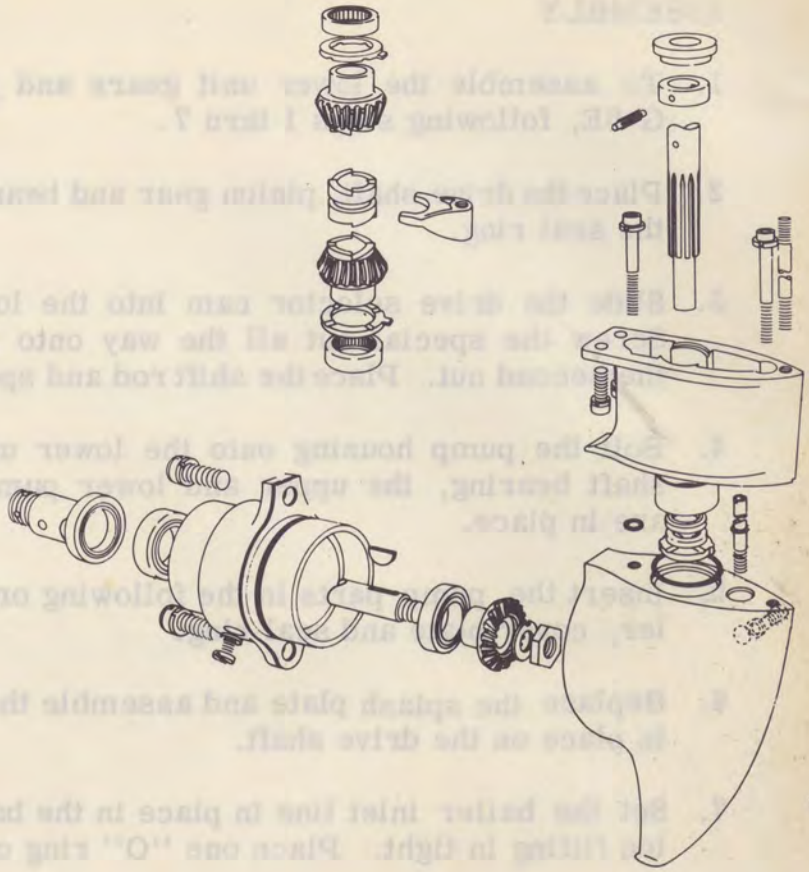
16 HP LOWER UNIT - '55

The '55 - 16 HP lower unit disassembles and assembles identical to the '54 model. The only difference being the exhaust valve on the '55 model.

'56 - 16 HP LOWER UNIT

DISASSEMBLY

1. Drain the grease and remove the propeller.
2. Remove the propeller shaft and cap assembly by turning and pulling. (DO NOT PRY IT OFF AS IT MAY BECOME MARRED OR THE EARS MIGHT BREAK.)
3. Remove the reverse lock, lower spring mount and the lower motor casing as described on page H-7B.
4. Secure the lower motor casing in vise or fixture.
5. Remove the shift actuator in the order shown on page H-7.
6. The pumps are removed as shown on page H-6. Leave the water pump cavity in place.
7. Unscrew shift rod from the shift fork. If you count the number of turns required it will facilitate assembly.
8. Remove the stud nut and two screws (adaptor to lower unit) and the assembly can be pulled off the lower motor casing.
9. The adaptor is separated from the lower unit by taking out the two screws and pulling on the drive-shaft.
10. To separate the driveshaft from the adaptor, remove the retaining ring from the drive-shaft through the adaptor. **CAUTION - DO NOT SLIDE THE ADAPTOR OVER THE MILLED IMPELLER DRIVE SLOTS IN THE CRANKSHAFT. THEY WILL DAMAGE THE SEALS IN THE ADAPTOR.**



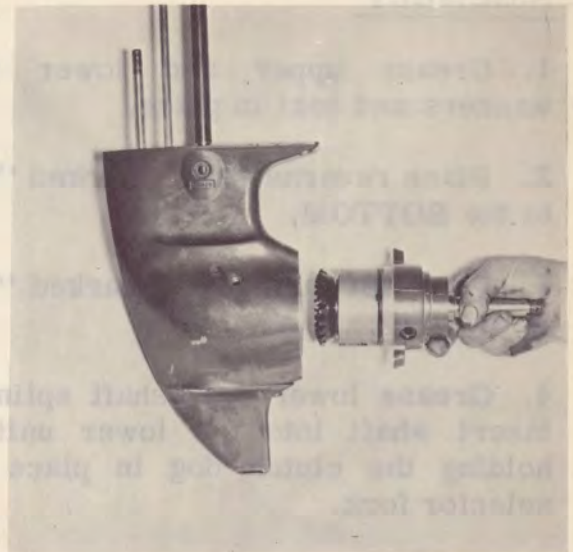
ASSEMBLY

1. Grease forward and reverse thrust washers and put in place.
2. Put forward and reverse gears in. They are marked T for top and R for reverse.
3. Screw shift rod extension into the selector fork.
4. Place clutch dog on the fork.
5. Grease and place driveshaft thrust washer in place in adaptor.
6. Insert lower end of driveshaft through adaptor. **CAUTION - DO NOT SLIP ADAPTOR OVER MILLED IMPELLER DRIVE SLOTS IN DRIVESHAFT AS THE SEALS WILL BE DAMAGED.**
7. Place retainer on the driveshaft and fasten.
8. Insert driveshaft into lower unit and put the cap assembly on.
9. Fasten adaptor to the lower unit. Be sure the adaptor screw seal ('O' ring) is in place.

This Lower Unit is simple in construction, with very few moving parts. When removing cap assembly only, it is necessary to first remove the drain screw in the cap. Remove the 2 cap mounting screws - Do not pry on the cap ears. Turn and pull simultaneously on the cap.

DISASSEMBLY

1. Remove VENT and DRAIN screws - disconnect shift-rod coupling located above the lower springs.
2. Remove nut and lockwasher from the lower unit stud, and the 2 screws attaching lower unit to lower motor casing. To prevent driveshaft from coming out of the lower unit body, a 3655-5921 allen screw (see crankcase) may be inserted in the VENT hole and tightened against the driveshaft.
3. Rotate the flywheel 1 complete turn (clockwise). This lines up the impeller key with the key-way in the driveshaft (see illustration Sect. H-7C).
4. Pull the lower unit off.
5. Remove Cap assembly as shown in paragraph 1.
6. Remove the gears by simply pulling the driveshaft out.
7. To remove propeller shaft and gear* from the cap, remove locking nut and gear, and press the shaft out.
* Motors below Serial No. 36553001 use a propeller shaft and gear assembly (2655-3137). Motors above Serial No. 36553000 use a separate propeller shaft (3645-3117) and gear (3645-3118).
8. The forward skeg screw is located within the body, and the rear screw is external.



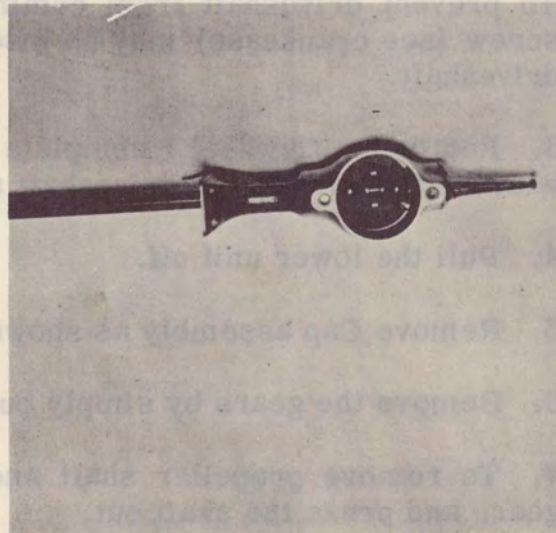
Removing Cap Assembly

ASSEMBLY

1. Grease upper and lower thrust-washers and seat in place.
2. Place reverse gear, marked "R" into the BOTTOM.
3. Place forward gear, marked "T" into the TOP.
4. Grease lower driveshaft spline, and insert shaft into the lower unit while holding the clutch dog in place on the selector fork.
5. Lubricate ground surfaces on the cap, and replace cap assembly.
6. Replace driveshaft seal & dowel.
7. Grease the upper driveshaft spline.
8. Bolt the lower unit in place on the lower motor casing, and connect shift-rod coupling.
9. Fill lower unit with Hypoid Universal Gear Lubricant SAE #90 (EP).



Lower Unit Gears



Gears Assembled on Driveshaft

WATER PUMP

The water pump takes the water from the inlet just below the anti-cavitation plate, forces it up around the cylinder head jackets, down through the head and out behind the motor. The outlet is in the lower motor casing, just below the back of the rear skirt.

Check the water discharge when the motor is running. At high speed the water should be discharged in a steady stream. At idling speed the discharge will be broken up into a fine mist by the exhaust relief. The temperature of the water discharged should not be so hot that you can not hold your hand under it. If it is too hot, not enough water is being circulated, and the water pump and all water lines should be checked.

'46 - '47 - '48 WATER PUMP

The water pump in both the single and the twin motors is identical. It is a simple type of positive displacement pump with a synthetic rubber impeller actuated by a bronze cam pressed onto the drive-shaft. Operation of the motor in water containing a great quantity of silt or sand will eventually result in enlarging the impeller cavity in the lower unit body, scoring of the anti-cavitation plate, and reduction in the size of the impeller. This wear causes an improper seal between the impeller and the cavity and loss of pumping ability.

The anti-cavitation plate can be replaced or the lower unit body itself can be replaced. Care should be taken when replacing these parts to be sure that the upper and lower pump cam thrust washers are in place. The anti-cavitation plate must be placed right side up against the lower motor casing or an offset in the inlet hole in the anti-cavitation plate will block water passage to the powerhead. The synthetic rubber impellers are tapered. The side marked "TOP" should be placed uppermost or closest to the powerhead.



1946 - '47 - '48 water pump.

INSTALLING STAINLESS STEEL WATER PUMP CAVITY

If the water pump has been worn because of operation in water containing silt or sand, it is advisable to install a stainless steel water pump cavity. You can get the complete kit for this installation by ordering Part No. 480-5111 - Water Pump Repair Kit.

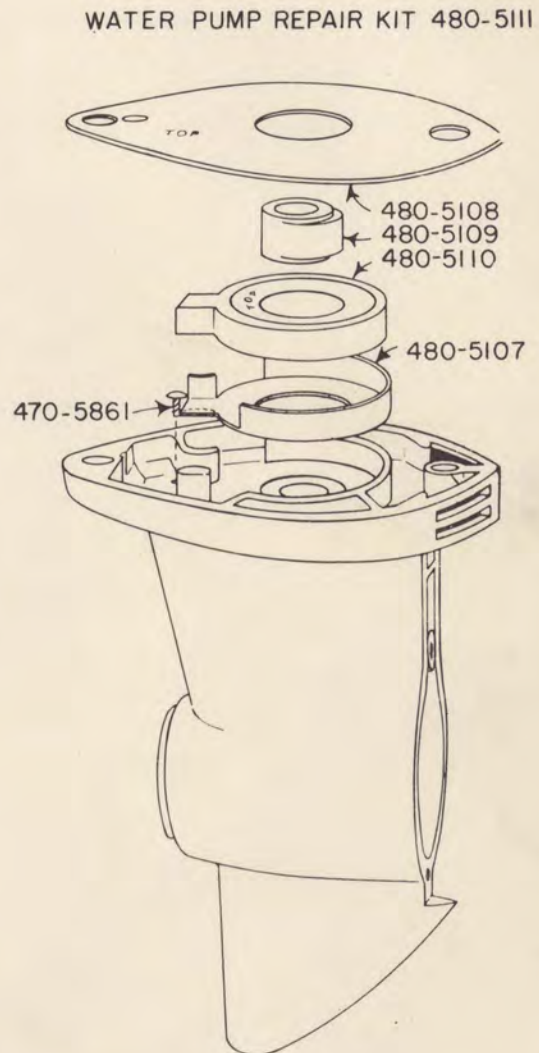
Disassemble the lower unit according to instructions given for 1946-47-48 models. Try the cup for fit in the casting. It may be necessary to file down the tab, as shown in the diagram, so that it will fit the projection in the casting. The cup must fit into the housing so that it is flush across the top.

Seal all surfaces of the replacement cup to the casting with Duco household cement. Drill $1/16''$ hole at the edge of the cup and screw in the drive screw to prevent lateral movement of the cup. It may be necessary to trim the bottom of the rotor so that it will clear the drive screw.

Remove the old cam from the driveshaft and press on the new cam so that the distance from the bottom of the cam to the bottom of the driveshaft is $3-7/32''$ for the single or $3-5/32''$ for the twin.

The 1948 model anti-cavitation plate must be used with this installation. Anti-cavitation plates of '46 and '47 models must be replaced with Part No. 480-3125 for the singles, and Part No. 483-3125 for the twins. Thrust washers standard on '46 and '47 models are not used. The stainless steel cover must be placed so that the side marked "TOP" faces upward.

Follow instructions given previously when reassembling the lower unit and installing it on the lower motor casing.

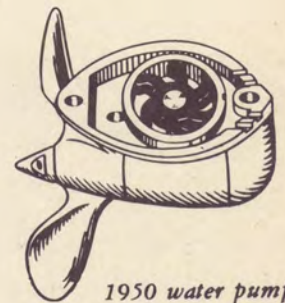


SHIFT MODEL WATER PUMP

www.powersportsupply.co

The water pump is a positive rotary vane type impeller made of special synthetic rubber, which rotates in a stainless steel cavity. Both the impeller and the cavity are replaceable, but this is seldom necessary. Operation in even the most sandy water will not appreciably wear down the cavity.

When installing a new impeller, make sure that it does not bind over the pump pin on the driveshaft. If the impeller binds, the edges of the pump pin should be filed slightly to allow the pump to float on the shaft. The lower pump seal should be replaced when installing a new cavity and the cavity should be held in place with Duco cement.



1950 water pump.

IMPELLERS

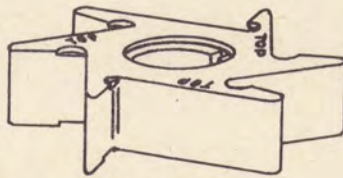
The impellers illustrated below are of the latest design and development. The rugged neoprene construction provides greater flexibility and less drag, with efficient cooling and bailing at all speeds, in or out of gear. The word TOP appears on the impeller, thus care should be taken to see that it is properly installed.



493-5100

Model

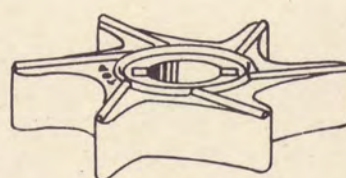
- | | |
|-----|------|
| 491 | 511 |
| 493 | 513 |
| 497 | 517 |
| 501 | 3325 |
| 503 | 3725 |
| 507 | 3335 |
| | 3735 |



509-5100

Model

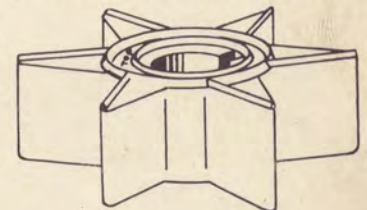
- | |
|------|
| 509 |
| 519 |
| 3925 |
| 3935 |
| 3945 |



2945-5100

Model

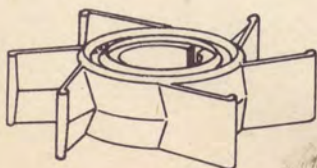
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| **3945 |
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3745-5100

Model

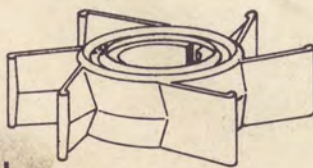
- | |
|-------|
| 518 |
| 3825 |
| 3835 |
| *3345 |
| *3745 |
| *3845 |



3965-5100

Model

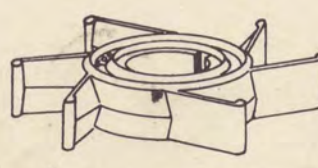
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| *3965 |
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3755-5100

Model

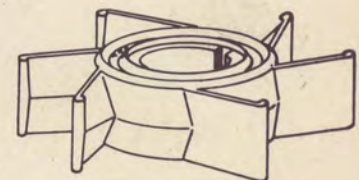
- | | |
|-------|-------|
| *3355 | *3365 |
| *3755 | *3765 |
| *3855 | *3865 |



3955-5100

Model

- | |
|--------|
| **3955 |
|--------|



3645-5100

Model

- | |
|-------|
| *3655 |
| *3665 |

* Water and Bailer Pump

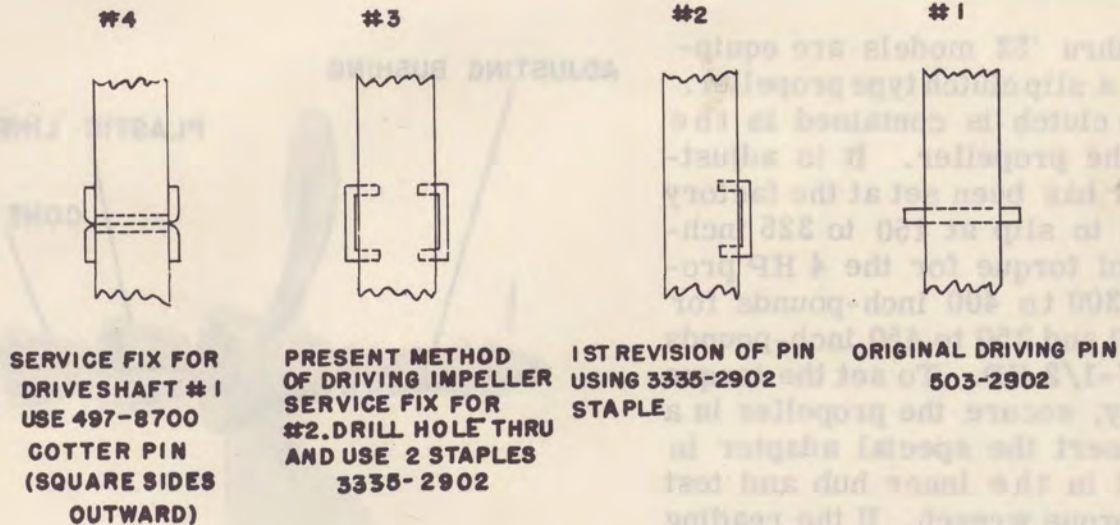
** Bailer Pump Only

IMPELLER DRIVE MODIFICATION 493-5100 www.powersportsupply.co

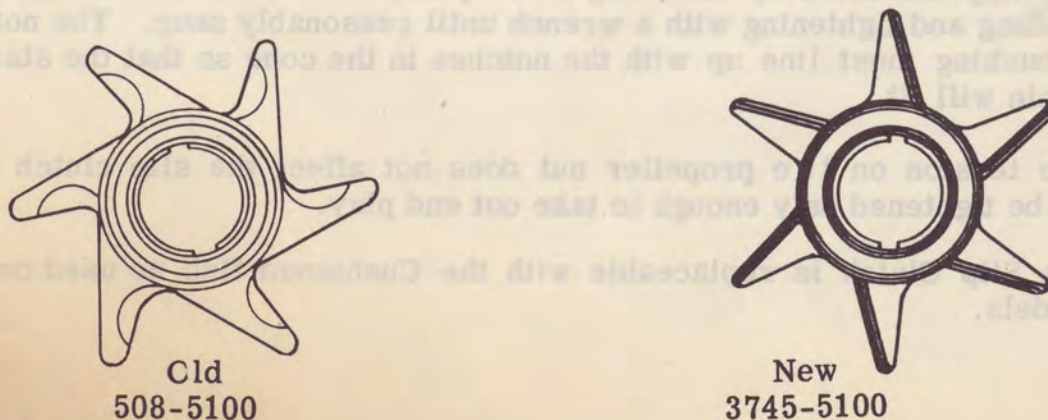
Field reports indicate that some trouble is being experienced with 493-5100 impeller, having a cast in nylon bushing. Whenever this impeller is installed on driveshaft number 1, always use the method shown in number 4 to drive the impeller. Be sure the cotter key, 497-8700, is cut short enough so it does not cut into the water pump cover plate or pump cavity when assembled.

On driveshafts number 2, the two small holes for the driving staple should be drilled all the way through and two staples, 3335-2902, used to drive impeller as shown in number 3. (Use 1/16" diameter drill.)

Not all of the trouble is due to the method of driving the impeller, however. Some impellers are too thick and some pump cavities are too shallow to permit free rotating of the impeller in the assembly. This can usually be determined by examination of used impeller. If impeller is scored or burned on faces, probably impeller or cavity or both require replacement. Correction as shown in drawing should correct the trouble in 99% of the cases.



Impeller 508-5100 contains a cast in nylon bushing. However, this has become obsolete and should be replaced by impeller 3745-5100, or the impeller as shown to use in the parts price list.



PROPELLER

The standard propeller furnished with each motor is designed to give good all around performance on the type of boat on which the motor will generally be used. If the customer questions you about other available props, consult Section A - Propeller Choice.

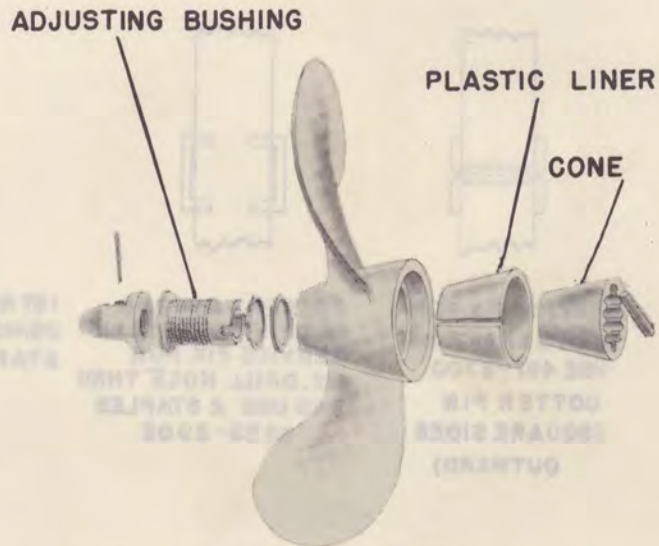
Check the propeller on all motors that are serviced. Hammer out all irregularities caused by hitting under water objects and smooth out the leading edges.

'46 - '47 - '48 STANDARD PROPS

The propeller supplied with '46, '47 and '48 motors is the standard type with a brass shear pin for protection. Check the propeller and shear pin. The prop nut should be tightened only enough to take out end play.

SLIP CLUTCH PROPS

'49 thru '52 models are equipped with a slip clutch type propeller. The slip clutch is contained in the hub of the propeller. It is adjustable and has been set at the factory to begin to slip at 150 to 325 inch-pounds of torque for the 4 HP propeller, 300 to 400 inch-pounds for the 5 HP and 350 to 450 inch-pounds for the 7-1/2 HP. To set the torque correctly, secure the propeller in a vice, insert the special adapter in the slot in the inner hub and test with a torque wrench. If the reading is not within the recommended limits, tighten or loosen the inner bushing one notch and test again. The setting is not critical. If the proper tools are not available, the setting may be approximated by inserting a heavy washer in the slot in the outside end of the bushing and tightening with a wrench until reasonably snug. The notches in the inner bushing must line up with the notches in the cone so that the stainless steel shear pin will fit.



SLIP CLUTCH

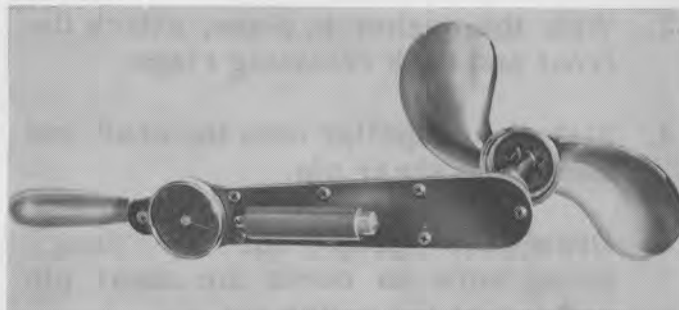
The tension on the propeller nut does not affect the slip clutch setting and should be tightened only enough to take out end play.

The Slip Clutch is replaceable with the Cushioned Hub as used on the '53 and '54 models.

The standard type of propeller used on non-shift models can be replaced with a slip clutch prop. Use propeller No. 480-3141 on the singles and 483-3141 on the 7 1/2 HP twins.

The following table gives the correct torque settings for each propeller. Note that the setting for non-shift models is less than for shift models of the same size. This is because reversing direction tends to work the prop clutch loose, necessitating a tight setting.

	Non-Shift Models	Shift Models
	inch pounds	inch pounds
Prop for 3.6 HP	125-300	
Prop for 4 HP	150-325	250-350
Prop for 5 HP		300-400
Prop for 7 1/2 HP	225-325	350-450
Prop for 10HP		350-450

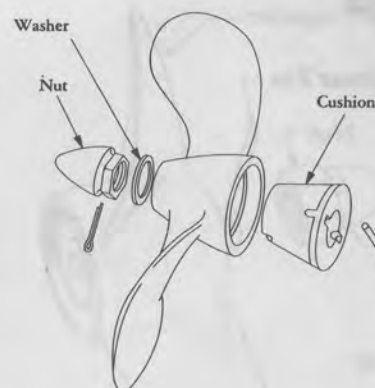


Testing Slip clutch with torque wrench A48-618 Adapter.

If a clutch has been slipping a lot, the plastic liner may be worn to the point where it is difficult to maintain a setting. Replace the liner and be sure the seating surfaces are clean of grease and dirt. If clutch has been tightened too tightly, the plastic resilient washer and the spring washer may need replacing.

CUSHIONED HUB PROPS

'53 and later models possess a cushioned hub propeller. This is done with a special rubber cushion within the hub which absorbs the shock and protects the shear pin if you strike an underwater obstruction. The cushion when fit into the hub, engages a protrusion in the back of the hub and the shear pin in the forward part. Slide the prop onto the shaft and put the washer in place. Draw the prop nut up finger tight, then add one complete turn and insert the cotter pin.



CAUTION - RIGHT AND LEFT HAND PROPS ARE NOT INTERCHANGEABLE

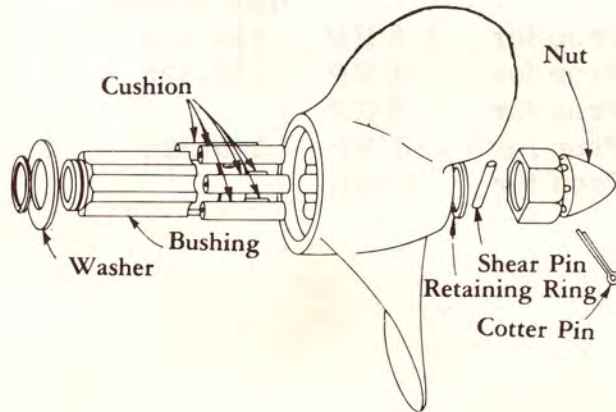
All Models previous to '54 use RIGHT hand turning propellers. The 5 - 7 1/2 and 10 HP motors of '54 use LEFT hand turning props.

SHOCK ABSORBER PROPS

The 16 HP motor is equipped with a shock absorber built into the hub of the prop. Six synthetic solid rubber cushions arranged around the shaft transmit power to the propeller as well as take up shock when an obstruction is hit. This unit is not intended to slip, however, it will reduce shearing pins to a minimum.

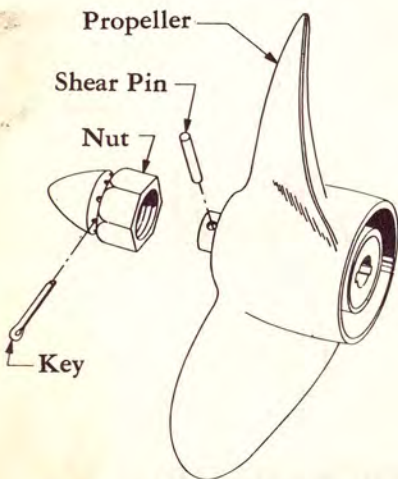
ASSEMBLE

1. Place the 6 cushions in the hub. Wetting the cushions in water will greatly aid in assembling.
2. Insert the prop bushing.
3. With the washer in place, attach the front and back retaining rings.
4. Slide the propeller onto the shaft and insert the shear pin.
5. Draw the prop nut up snug, being sure to cover the shear pin and insert the cotter pin.



Propeller 16 H. P.

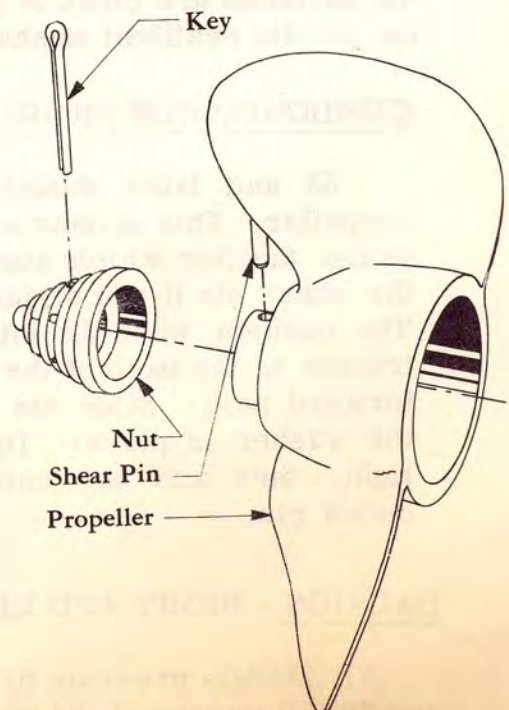
The cushions used on the early 509's were hollow. This would sometimes allow the prop to slip at high speed. If the propeller slips or if you have occasion to remove it from the shaft, the solid rubber cushions should be used in reassembling.



16 HP—1955

16 and 30 HP propellers for '55 are equipped with built in cushioned hubs. These hubs are pressed in and are replaced only with complete propeller assembly.

To change broken shear pin, simply remove the cotter key and propeller nut. Insert new shear pin. Replace nut and cotter key.



30 HP—1955

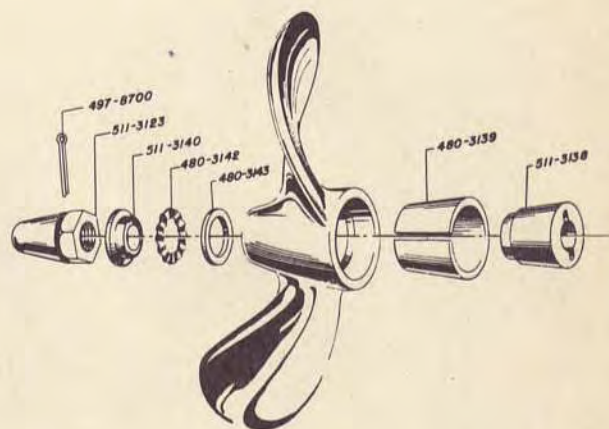
SALT WATER SLIP CLUTCH PROPELLER

Corrosion of the steel bushing in the standard slip clutch propeller may give trouble in salt water areas. Either the slip clutch will freeze solidly, or will slip too easily and adjustment can not be made satisfactorily. To eliminate this problem replace the standard slip clutch with the Salt Water Replacement Kit, Part No. 511-3202.

This improved slip clutch is adjusted by tightening up the prop nut just enough to prevent slippage at high speed. The cone in the hub of the prop is made of treated aluminum and will not readily corrode. This type of slip clutch is standard on late 1952 models.

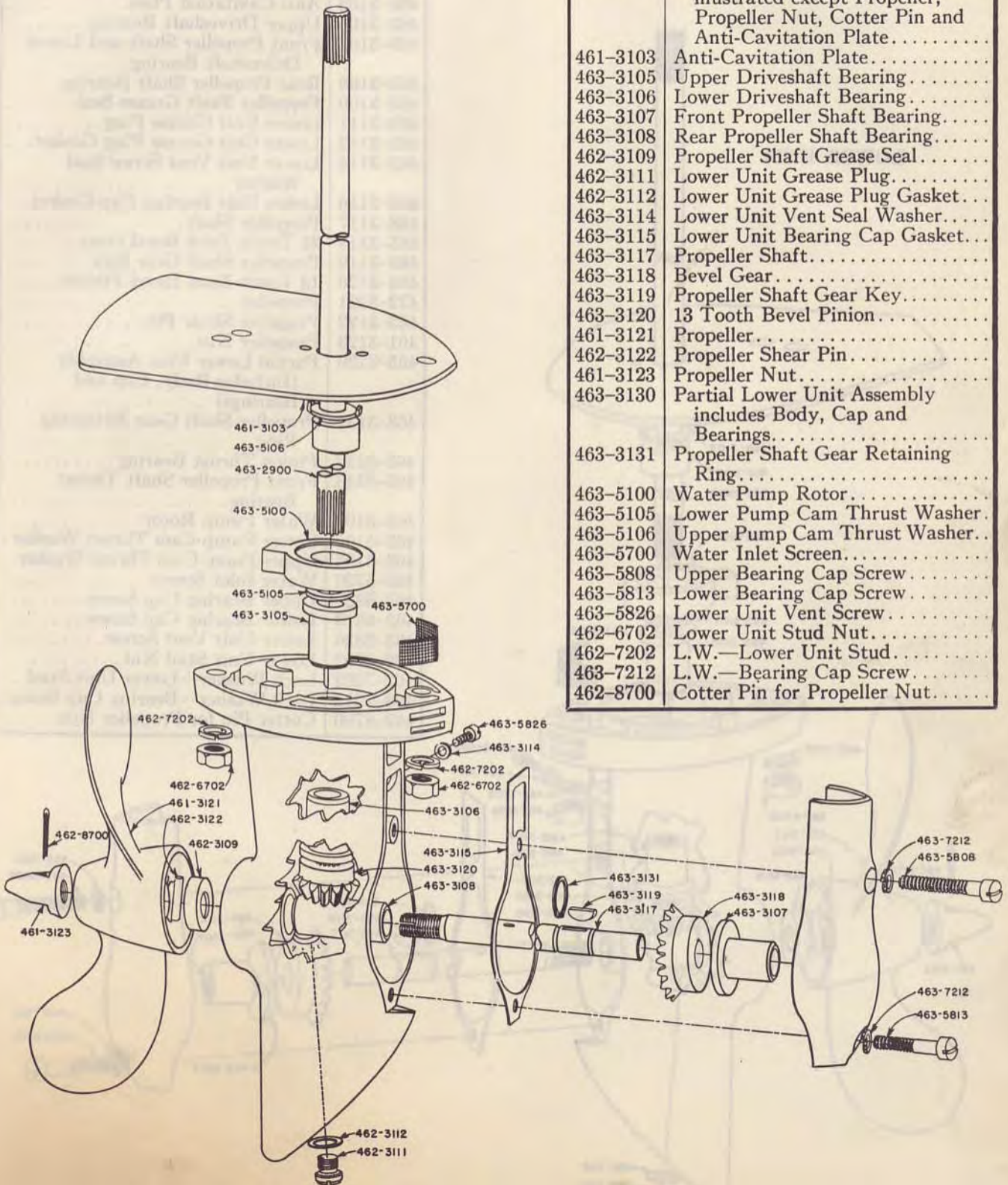
If the owner does not remove the old style slip clutch prop and grease the shaft occasionally, the steel bushing may freeze to the prop shaft. Should all normal attempts to remove the prop fail, saw the shoulder off the steel bushing just back of the prop nut, and pull the main part of the prop off the cone. Then lay the assembly on an anvil and jar the bushing loose with a hammer. Be careful not to damage the prop shaft or the bearings in the lower unit.

Replace the slip clutch parts according to the above diagram and install the propeller on the motor. Screw the prop nut on finger tight then tighten about 1 1/2 turns. If the prop slips at high speed, tighten the prop nut enough to prevent slippage. Be sure to use the new brass prop nut (511-3123) with 6 cotter pin holes so that proper adjustment can be made.



*Salt Water Slip Clutch
Replacement Kit*

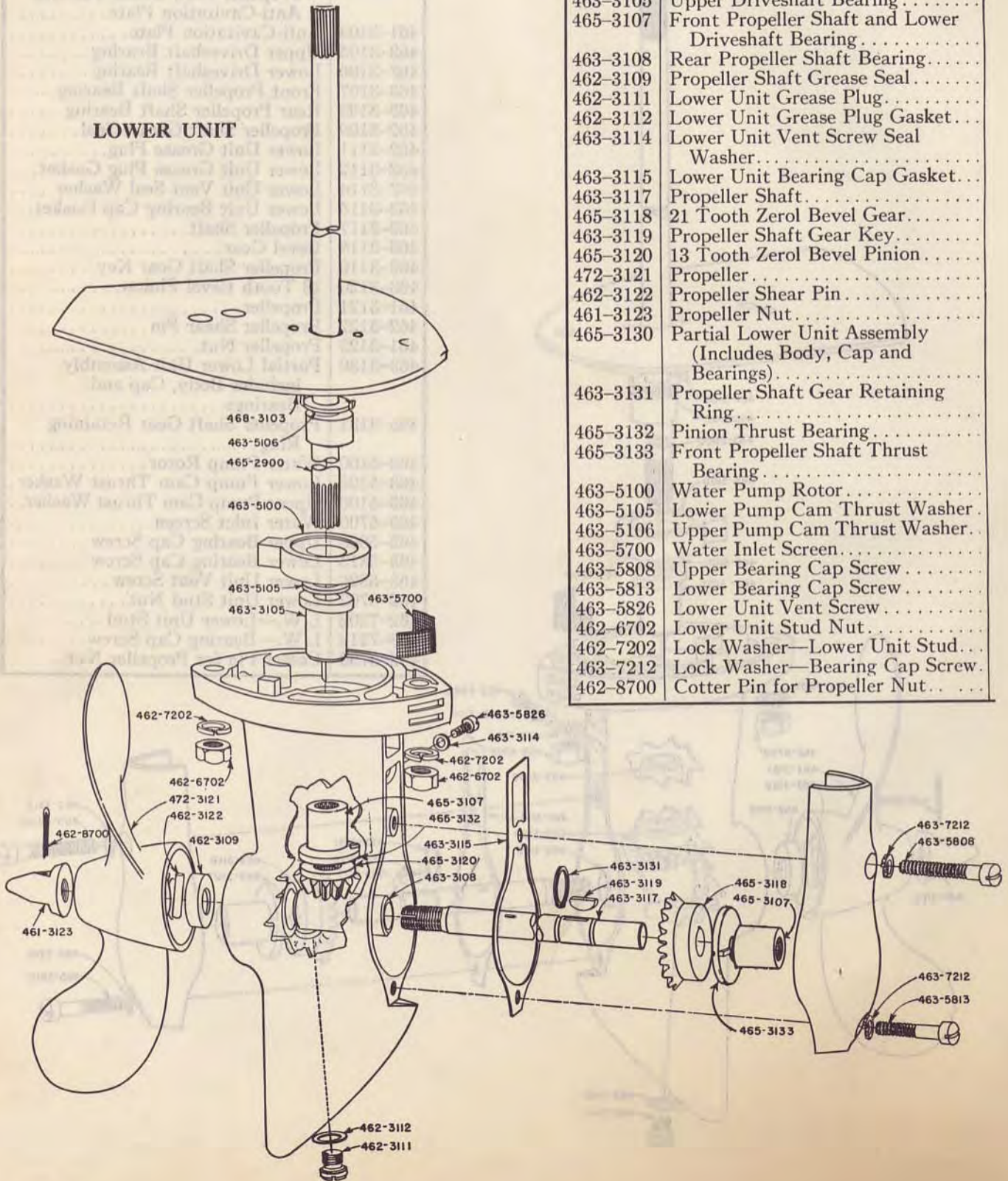
LOWER UNIT 461 - 467 - 470 - 471



Part Number	Description
463-2900	Driveshaft and Cam
461-3100	Complete Lower Unit Assembly as illustrated except Propeller, Propeller Nut, Cotter Pin and Anti-Cavitation Plate.
461-3103	Anti-Cavitation Plate.
463-3105	Upper Driveshaft Bearing.
463-3106	Lower Driveshaft Bearing.
463-3107	Front Propeller Shaft Bearing.
463-3108	Rear Propeller Shaft Bearing.
462-3109	Propeller Shaft Grease Seal.
462-3111	Lower Unit Grease Plug.
462-3112	Lower Unit Grease Plug Gasket.
463-3114	Lower Unit Vent Seal Washer.
463-3115	Lower Unit Bearing Cap Gasket.
463-3117	Propeller Shaft.
463-3118	Bevel Gear.
463-3119	Propeller Shaft Gear Key.
463-3120	13 Tooth Bevel Pinion.
461-3121	Propeller.
462-3122	Propeller Shear Pin.
461-3123	Propeller Nut.
463-3130	Partial Lower Unit Assembly includes Body, Cap and Bearings.
463-3131	Propeller Shaft Gear Retaining Ring.
463-5100	Water Pump Rotor.
463-5105	Lower Pump Cam Thrust Washer.
463-5106	Upper Pump Cam Thrust Washer.
463-5700	Water Inlet Screen.
463-5808	Upper Bearing Cap Screw.
463-5813	Lower Bearing Cap Screw.
463-5826	Lower Unit Vent Screw.
462-6702	Lower Unit Stud Nut.
462-7202	L.W.—Lower Unit Stud.
463-7212	L.W.—Bearing Cap Screw.
462-8700	Cotter Pin for Propeller Nut.

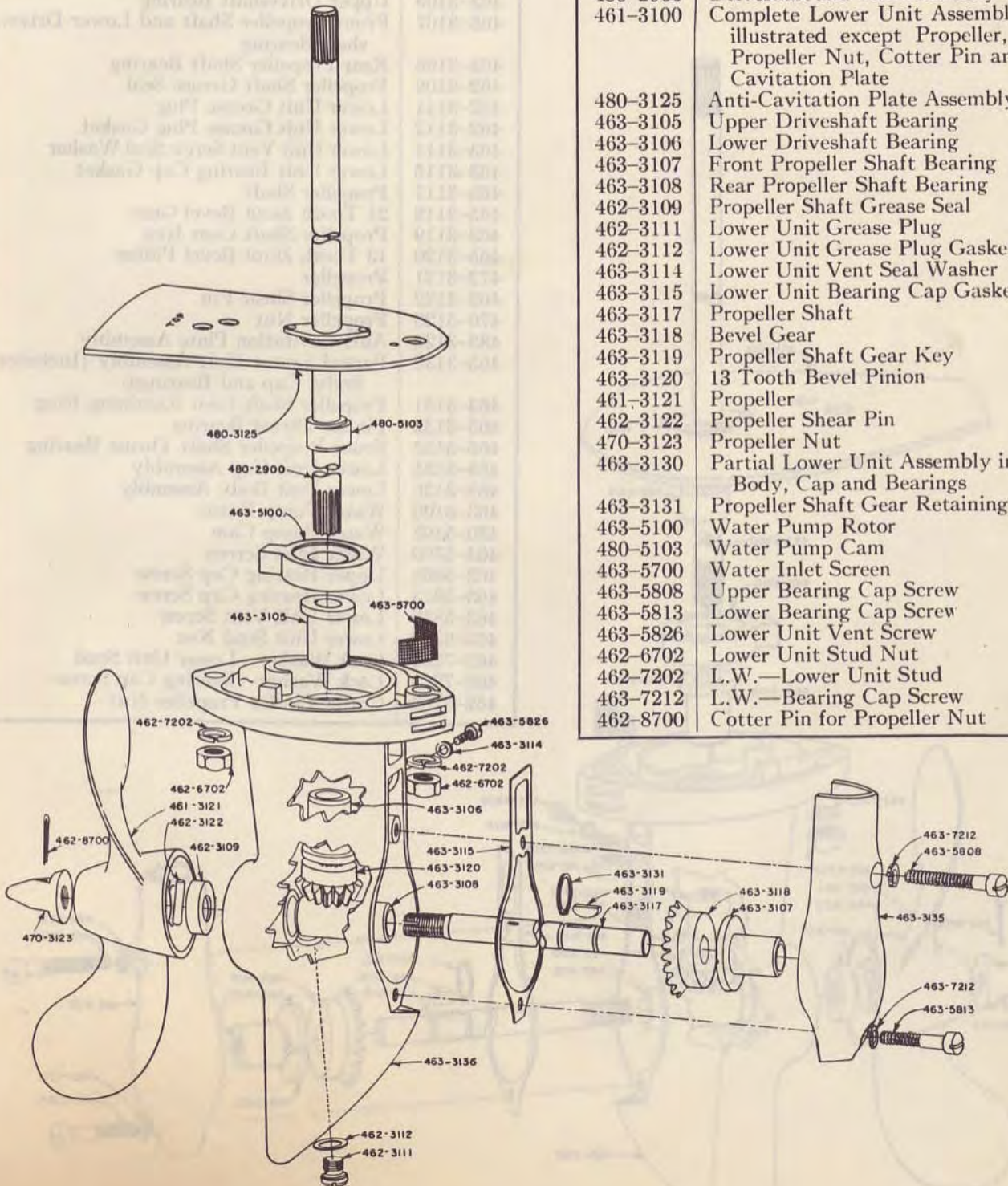
**LOWER UNIT
473**

LOWER UNIT



Part Number	Description
465-2900	Driveshaft and Cam Assembly
465-3100	Complete Lower Unit Assembly as Illustrated except Propeller, Propeller Nut, Cotter Pin and Anti-Cavitation Plate
468-3103	Anti-Cavitation Plate
463-3105	Upper Driveshaft Bearing
465-3107	Front Propeller Shaft and Lower Driveshaft Bearing
463-3108	Rear Propeller Shaft Bearing
462-3109	Propeller Shaft Grease Seal
462-3111	Lower Unit Grease Plug
462-3112	Lower Unit Grease Plug Gasket
463-3114	Lower Unit Vent Screw Seal Washer
463-3115	Lower Unit Bearing Cap Gasket
463-3117	Propeller Shaft
465-3118	21 Tooth Zerol Bevel Gear
463-3119	Propeller Shaft Gear Key
465-3120	13 Tooth Zerol Bevel Pinion
472-3121	Propeller
462-3122	Propeller Shear Pin
461-3123	Propeller Nut
465-3130	Partial Lower Unit Assembly (Includes Body, Cap and Bearings)
463-3131	Propeller Shaft Gear Retaining Ring
465-3132	Pinion Thrust Bearing
465-3133	Front Propeller Shaft Thrust Bearing
463-5100	Water Pump Rotor
463-5105	Lower Pump Cam Thrust Washer
463-5106	Upper Pump Cam Thrust Washer
463-5700	Water Inlet Screen
463-5808	Upper Bearing Cap Screw
463-5813	Lower Bearing Cap Screw
463-5826	Lower Unit Vent Screw
462-6702	Lower Unit Stud Nut
462-7202	Lock Washer—Lower Unit Stud
463-7212	Lock Washer—Bearing Cap Screw
462-8700	Cotter Pin for Propeller Nut

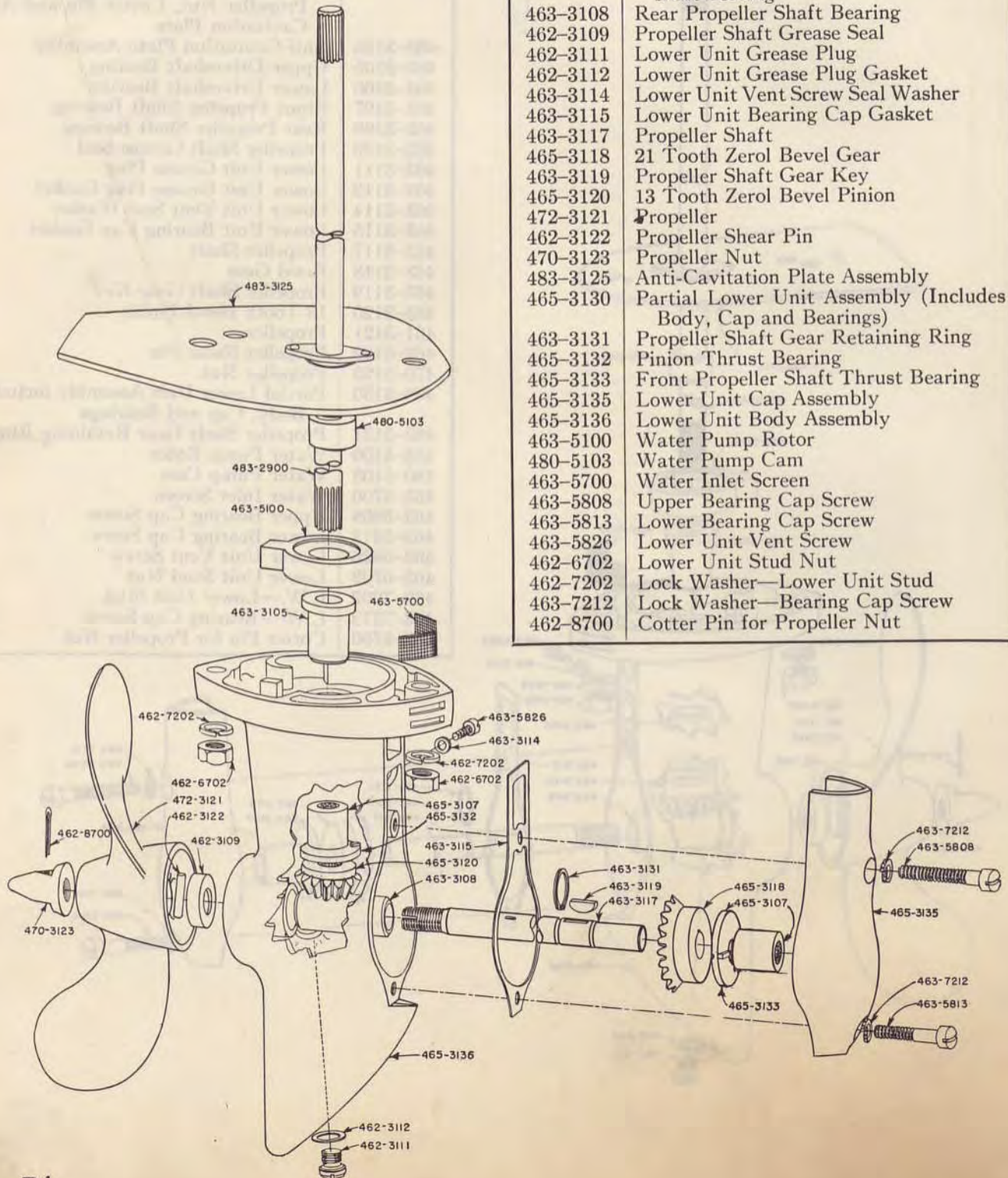
LOWER UNIT 480 - 481



Part Number	Description
480-2900	Driveshaft and Cam Assembly
461-3100	Complete Lower Unit Assembly as illustrated except Propeller, Propeller Nut, Cotter Pin and Anti-Cavitation Plate
480-3125	Anti-Cavitation Plate Assembly
463-3105	Upper Driveshaft Bearing
463-3106	Lower Driveshaft Bearing
463-3107	Front Propeller Shaft Bearing
463-3108	Rear Propeller Shaft Bearing
462-3109	Propeller Shaft Grease Seal
462-3111	Lower Unit Grease Plug
462-3112	Lower Unit Grease Plug Gasket
463-3114	Lower Unit Vent Seal Washer
463-3115	Lower Unit Bearing Cap Gasket
463-3117	Propeller Shaft
463-3118	Bevel Gear
463-3119	Propeller Shaft Gear Key
463-3120	13 Tooth Bevel Pinion
461-3121	Propeller
462-3122	Propeller Shear Pin
470-3123	Propeller Nut
463-3130	Partial Lower Unit Assembly includes Body, Cap and Bearings
463-3131	Propeller Shaft Gear Retaining Ring
463-5100	Water Pump Rotor
480-5103	Water Pump Cam
463-5700	Water Inlet Screen
463-5808	Upper Bearing Cap Screw
463-5813	Lower Bearing Cap Screw
463-5826	Lower Unit Vent Screw
462-6702	Lower Unit Stud Nut
462-7202	L.W.—Lower Unit Stud
463-7212	L.W.—Bearing Cap Screw
462-8700	Cotter Pin for Propeller Nut

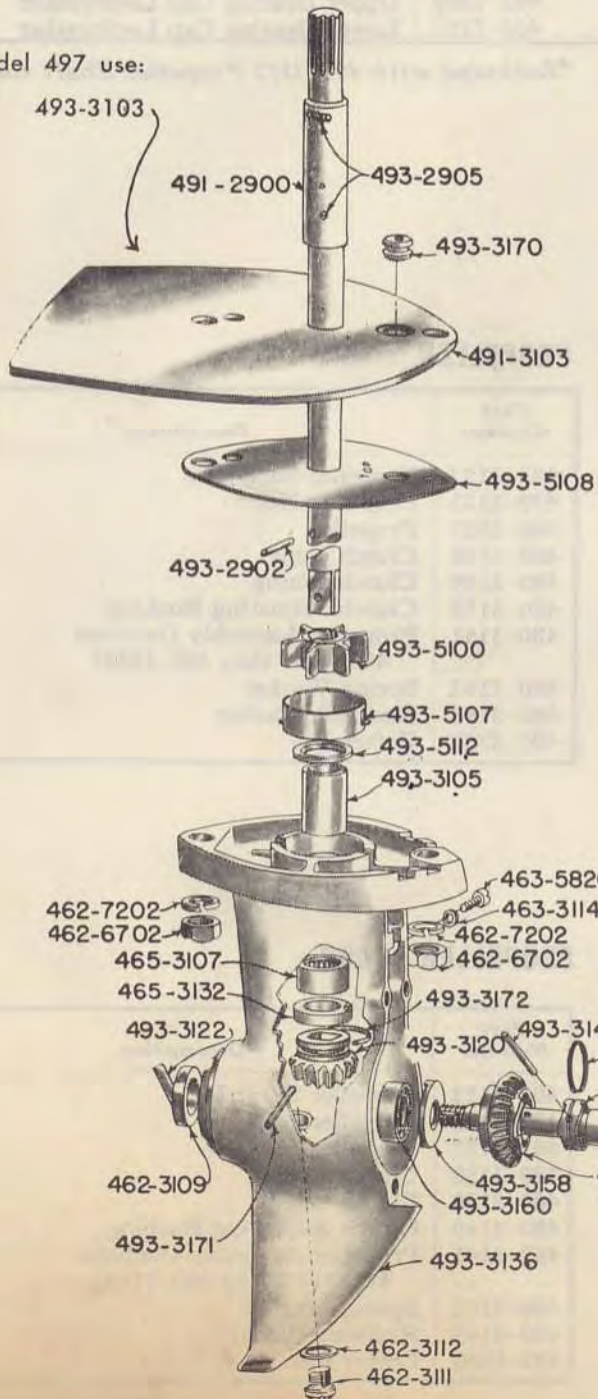
**LOWER UNIT
483**

Part Number	Description
483-2900	Driveshaft and Cam Assembly
483-3100	Complete Lower Unit Assembly as Illustrated except Propeller, Propeller Nut, Cotter Pin and Anti-Cavitation Plate
463-3105	Upper Driveshaft Bearing
465-3107	Front Propeller Shaft and Lower Driveshaft Bearing
463-3108	Rear Propeller Shaft Bearing
462-3109	Propeller Shaft Grease Seal
462-3111	Lower Unit Grease Plug
462-3112	Lower Unit Grease Plug Gasket
463-3114	Lower Unit Vent Screw Seal Washer
463-3115	Lower Unit Bearing Cap Gasket
463-3117	Propeller Shaft
465-3118	21 Tooth Zerol Bevel Gear
463-3119	Propeller Shaft Gear Key
465-3120	13 Tooth Zerol Bevel Pinion
472-3121	Propeller
462-3122	Propeller Shear Pin
470-3123	Propeller Nut
483-3125	Anti-Cavitation Plate Assembly
465-3130	Partial Lower Unit Assembly (Includes Body, Cap and Bearings)
463-3131	Propeller Shaft Gear Retaining Ring
465-3132	Pinion Thrust Bearing
465-3133	Front Propeller Shaft Thrust Bearing
465-3135	Lower Unit Cap Assembly
465-3136	Lower Unit Body Assembly
463-5100	Water Pump Rotor
480-5103	Water Pump Cam
463-5700	Water Inlet Screen
463-5808	Upper Bearing Cap Screw
463-5813	Lower Bearing Cap Screw
463-5826	Lower Unit Vent Screw
462-6702	Lower Unit Stud Nut
462-7202	Lock Washer—Lower Unit Stud
463-7212	Lock Washer—Bearing Cap Screw
462-8700	Cotter Pin for Propeller Nut



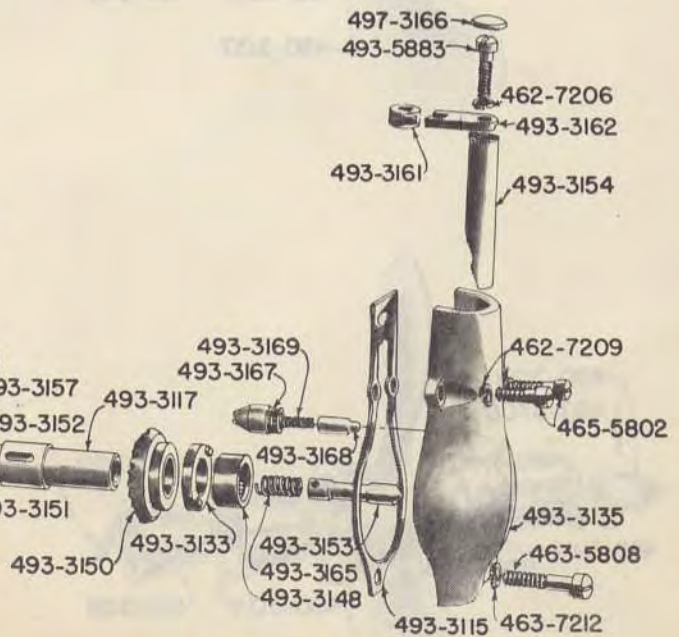
LOWER UNIT 491 - 497

*Model 497 use:



Number	Description
491-2900	Driveshaft Assembly
493-2902	Driveshaft Pump Pin
493-2905	Driveshaft Pin
491-3100	Complete Lower Unit Assembly as illustrated except Propeller, Propeller Nut, and Cotter Pin
491-3103	Anti-Cavitation Plate
493-3105	Upper Driveshaft Bearing
465-3107	Lower Driveshaft Bearing
462-3109	Prop Shaft Grease Seal
462-3111	Grease Plug
462-3112	Gasket—Grease Plug
463-3114	Vent Screw Seal Washer
493-3115	Lower Unit Bearing Cap Gasket
*493-3117	Propeller Shaft
493-3120	13 Tooth Bevel Pinion
493-3130	Partial Lower Unit Assembly (includes Body, Cap and Bearings)
465-3132	Pinion Thrust Bearing
493-3133	Forward Gear Thrust Washer
493-3135	Lower Unit Bearing Cap Assembly (with bearing and detent)
493-3136	Lower Unit Body Assembly (with bearings, seal, vent screw and grease plug)
493-3148	Propeller Shaft Front Bearing
*493-3149	Clutch Cross Pin
493-3150	21 Tooth Bevel Gear Assembly—Forward
493-3151	21 Tooth Bevel Gear Assembly—Rear
*493-3152	Clutch Dog
*493-3153	Propeller Shaft Plunger
493-3154	Drive Selector Cam
*493-3157	Cross Pin Retainer
493-3158	Reverse Gear Thrust Washer

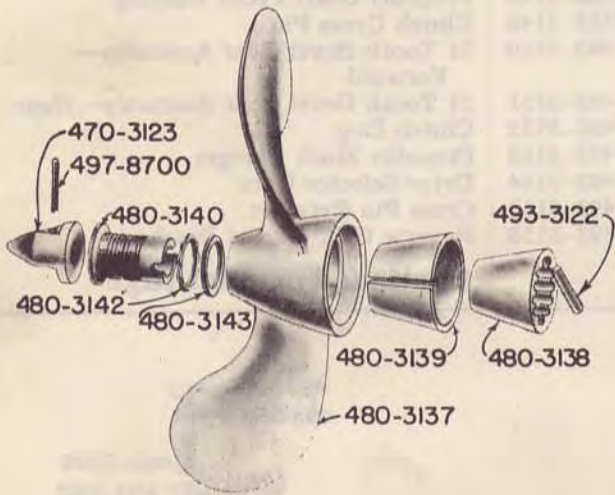
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LOWER UNIT—Continued

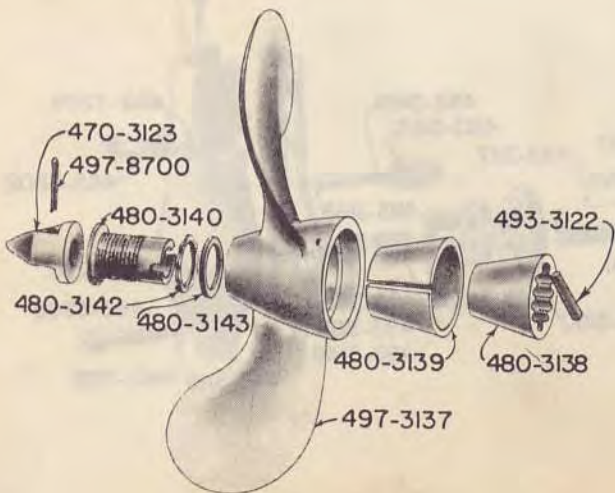
Part Number	Description	Part Number	Description
493-3160	Prop Shaft Rear Bearing	493-3173	Propeller Shaft Assembly
493-3161	Special Nut—Drive Selector Cam	493-5100	Water Pump Impeller
493-3162	Drive Selector Cam Fork	493-5107	Pump Cavity
*493-3165	Plunger Spring	493-5108	Pump Cover Plate
497-3166	Expansion Plug	493-5112	Lower Pump Seal
493-3167	Cam Detent Retainer	465-5802	Upper Bearing Cap Screw
493-3168	Cam Detent	463-5808	Lower Bearing Cap Screw
493-3169	Cam Detent Spring	463-5826	Vent Screw
493-3170	Anti-Cavitation Plate Grommet	493-5883	Drive Selector Cam Screw
493-3171	Pinion Pin	462-6702	Lower Unit Stud Nut
493-3172	Pinion Pin Retainer	462-7202	Lower Unit Stud Lockwasher
		462-7206	Drive Selector Cam Lockwasher
		462-7209	Upper Bearing Cap Lockwasher
		463-7212	Lower Bearing Cap Lockwasher

*Included with 493-3173 Propeller Shaft Assembly



PROPELLER - 491

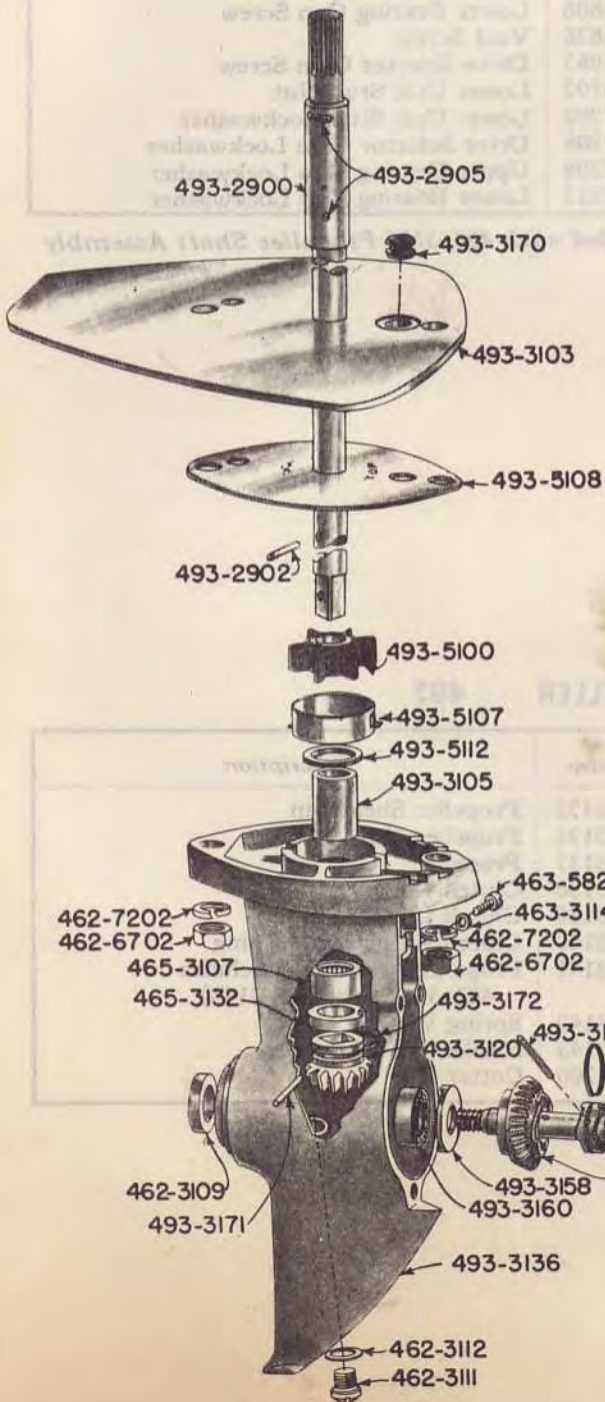
Part Number	Description
493-3122	Propeller Shear Pin
470-3123	Propeller Nut
480-3137	Propeller
480-3138	Clutch Cone
480-3139	Clutch Lining
480-3140	Clutch Adjusting Bushing
480-3141	Propeller Assembly (includes 480-3137 thru 480-3143)
480-3142	Spring Washer
480-3143	Resilient Washer
497-8700	Cotter Pin



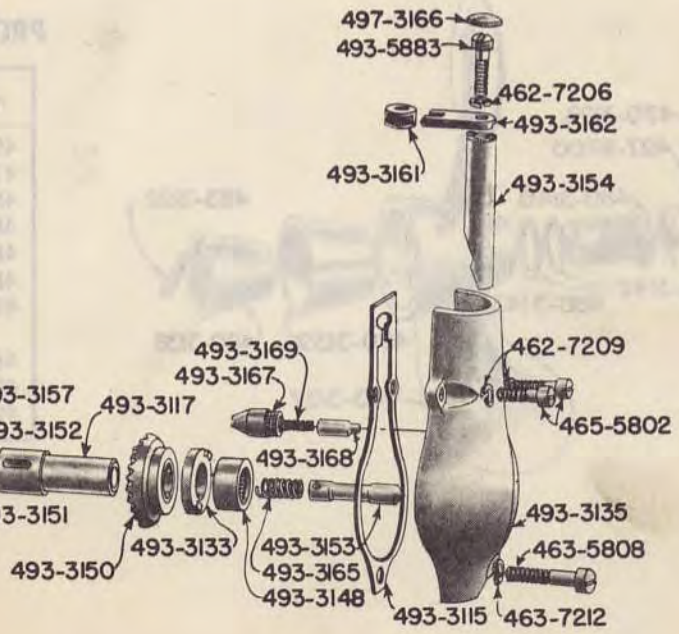
PROPELLER - 497

Part Number	Description
493-3122	Propeller Shear Pin
470-3123	Propeller Nut
497-3137	Propeller
480-3138	Clutch Cone
480-3139	Clutch Lining
480-3140	Clutch Adjusting Bushing
497-3141	Propeller Assembly (includes 497-3137 thru 480-3143)
480-3142	Spring Washer
480-3143	Resilient Washer
497-8700	Cotter Pin

LOWER UNIT 493



Number	Description
493-2900	Driveshaft Assembly
493-2902	Driveshaft Pump Pin
493-2905	Driveshaft Pin
493-3100	Complete Lower Unit Assembly as illustrated except Propeller, Propeller Nut, and Cotter Pin
493-3103	Anti-Cavitation Plate
493-3105	Upper Driveshaft Bearing
465-3107	Lower Driveshaft Bearing
462-3109	Prop Shaft Grease Seal
462-3111	Grease Plug
462-3112	Gasket—Grease Plug
463-3114	Vent Screw Seal Washer
493-3115	Lower Unit Bearing Cap Gasket
*493-3117	Propeller Shaft
493-3120	13 Tooth Bevel Pinion
493-3130	Partial Lower Unit Assembly (includes Body, Cap and Bearings)
465-3132	Pinion Thrust Bearing
493-3133	Forward Gear Thrust Washer
493-3135	Lower Unit Bearing Cap Assembly (with bearing and detent)
493-3136	Lower Unit Body Assembly (with bearings, seal, vent screw and grease plug)
493-3148	Propeller Shaft Front Bearing
*493-3149	Clutch Cross Pin
493-3150	21 Tooth Bevel Gear Assembly—Forward
493-3151	21 Tooth Bevel Gear Assembly—Rear
*493-3152	Clutch Dog
*493-3153	Propeller Shaft Plunger
493-3154	Drive Selector Cam
*493-3157	Cross Pin Retainer
493-3158	Reverse Gear Thrust Washer

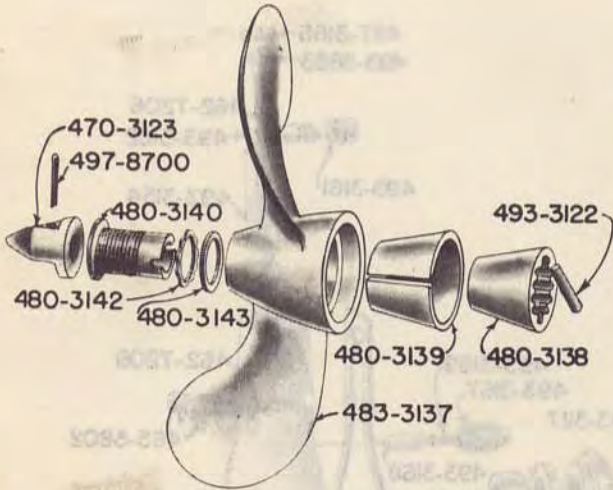


LOWER UNIT
493

LOWER UNIT—Continued

Part Number	Description	Part Number	Description
493-3160	Prop Shaft Rear Bearing	493-3173	Propeller Shaft Assembly
493-3161	Special Nut—Drive Selector Cam	493-5100	Water Pump Impeller
493-3162	Drive Selector Cam Fork	493-5107	Pump Cavity
*493-3165	Plunger Spring	493-5108	Pump Cover Plate
497-3166	Expansion Plug	493-5112	Lower Pump Seal
493-3167	Cam Detent Retainer	465-5802	Upper Bearing Cap Screw
493-3168	Cam Detent	463-5808	Lower Bearing Cap Screw
493-3169	Cam Detent Spring	463-5826	Vent Screw
493-3170	Anti-Cavitation Plate Grommet	493-5883	Drive Selector Cam Screw
493-3171	Pinion Pin	462-6702	Lower Unit Stud Nut
493-3172	Pinion Pin Retainer	462-7202	Lower Unit Stud Lockwasher
		462-7206	Drive Selector Cam Lockwasher
		462-7209	Upper Bearing Cap Lockwasher
		463-7212	Lower Bearing Cap Lockwasher

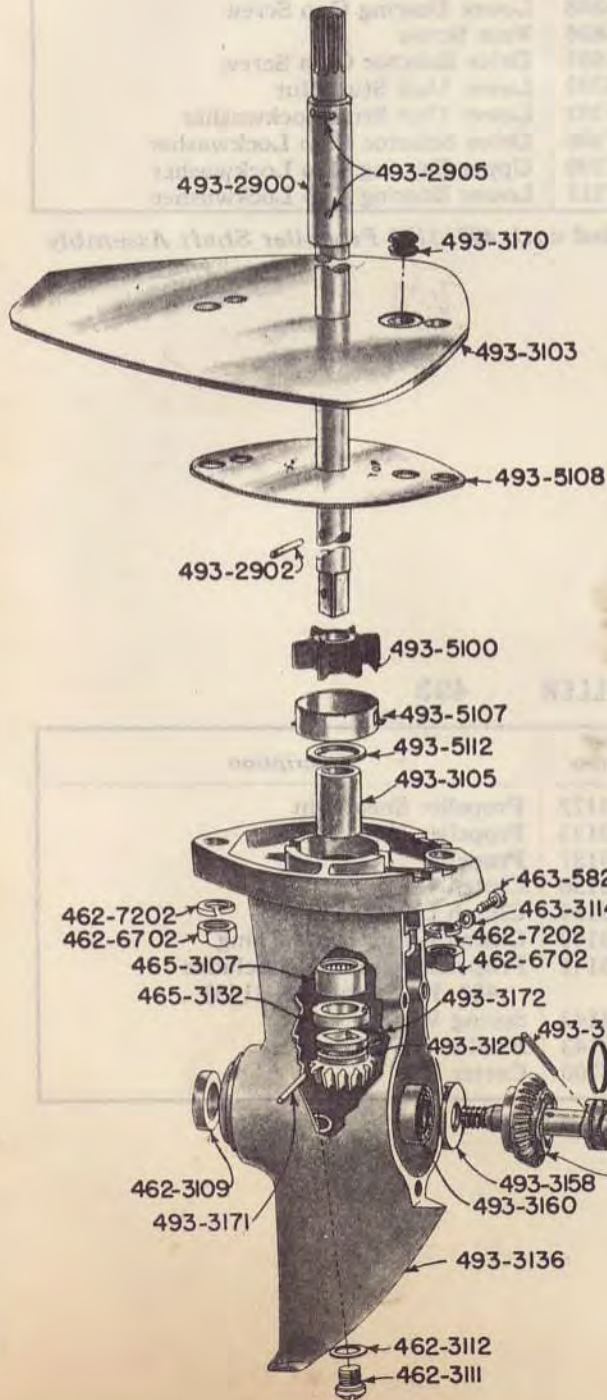
*Included with 493-3173 Propeller Shaft Assembly



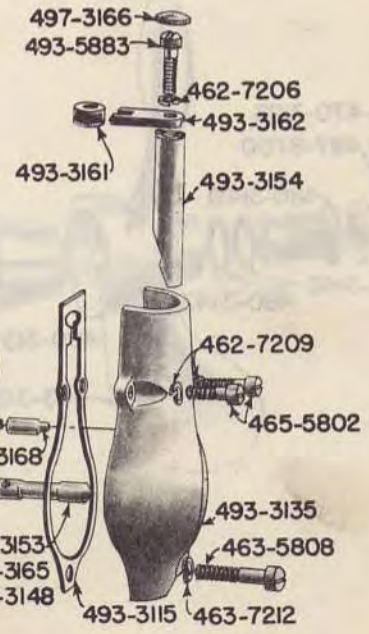
PROPELLER 493

Part Number	Description
493-3122	Propeller Shear Pin
470-3123	Propeller Nut
483-3137	Propeller
480-3138	Clutch Cone
480-3139	Clutch Lining
480-3140	Clutch Adjusting Bushing
483-3141	Propeller Assembly (includes 483-3137 thru 480-3143)
480-3142	Spring Washer
480-3143	Resilient Washer
497-8700	Cotter Pin

**LOWER UNIT
493**



Part Number	Description
493-2900	Driveshaft Assembly
493-2902	Driveshaft Pump Pin
493-2905	Driveshaft Pin
493-3100	Complete Lower Unit Assembly as illustrated except Propeller, Propeller Nut, and Cotter Pin
493-3103	Anti-Cavitation Plate
493-3105	Upper Driveshaft Bearing
465-3107	Lower Driveshaft Bearing
462-3109	Prop Shaft Grease Seal
462-3111	Grease Plug
462-3112	Gasket—Grease Plug
463-3114	Vent Screw Seal Washer
493-3115	Lower Unit Bearing Cap Gasket
*493-3117	Propeller Shaft
493-3120	13 Tooth Bevel Pinion
493-3130	Partial Lower Unit Assembly (includes Body, Cap and Bearings)
465-3132	Pinion Thrust Bearing
493-3133	Forward Gear Thrust Washer
493-3135	Lower Unit Bearing Cap Assembly (with bearing and detent)
493-3136	Lower Unit Body Assembly (with bearings, seal, vent screw and grease plug)
493-3148	Propeller Shaft Front Bearing
*493-3149	Clutch Cross Pin
493-3150	21 Tooth Bevel Gear Assembly—Forward
493-3151	21 Tooth Bevel Gear Assembly—Rear
*493-3152	Clutch Dog
*493-3153	Propeller Shaft Plunger
493-3154	Drive Selector Cam
*493-3157	Cross Pin Retainer
493-3158	Reverse Gear Thrust Washer

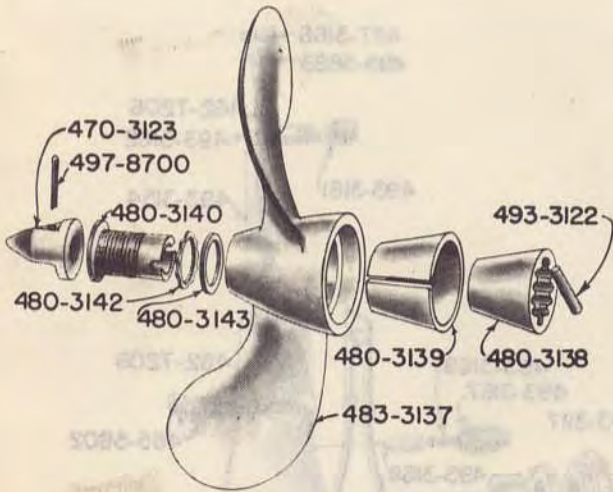


LOWER UNIT
493

LOWER UNIT—Continued

Part Number	Description	Part Number	Description
493-3160	Prop Shaft Rear Bearing	493-3173	Propeller Shaft Assembly
493-3161	Special Nut—Drive Selector Cam	493-5100	Water Pump Impeller
493-3162	Drive Selector Cam Fork	493-5107	Pump Cavity
*493-3165	Plunger Spring	493-5108	Pump Cover Plate
497-3166	Expansion Plug	493-5112	Lower Pump Seal
493-3167	Cam Detent Retainer	465-5802	Upper Bearing Cap Screw
493-3168	Cam Detent	463-5808	Lower Bearing Cap Screw
493-3169	Cam Detent Spring	463-5826	Vent Screw
493-3170	Anti-Cavitation Plate Grommet	493-5883	Drive Selector Cam Screw
493-3171	Pinion Pin	462-6702	Lower Unit Stud Nut
493-3172	Pinion Pin Retainer	462-7202	Lower Unit Stud Lockwasher
		462-7206	Drive Selector Cam Lockwasher
		462-7209	Upper Bearing Cap Lockwasher
		463-7212	Lower Bearing Cap Lockwasher

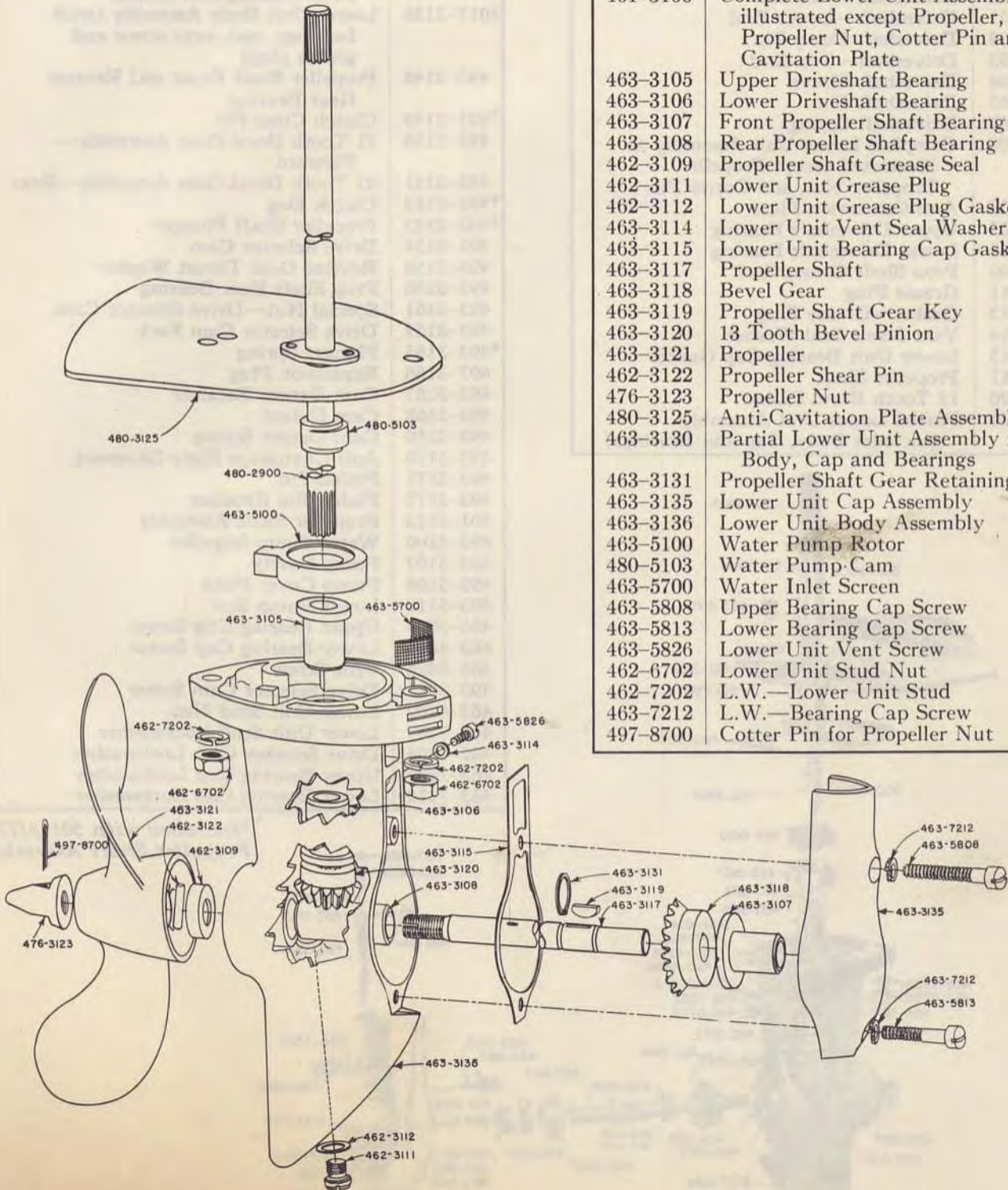
*Included with 493-3173 Propeller Shaft Assembly



PROPELLER 493

Part Number	Description
493-3122	Propeller Shear Pin
470-3123	Propeller Nut
483-3137	Propeller
480-3138	Clutch Cone
480-3139	Clutch Lining
480-3140	Clutch Adjusting Bushing
483-3141	Propeller Assembly (includes 483-3137 thru 480-3143)
480-3142	Spring Washer
480-3143	Resilient Washer
497-8700	Cotter Pin

LOWER UNIT 500

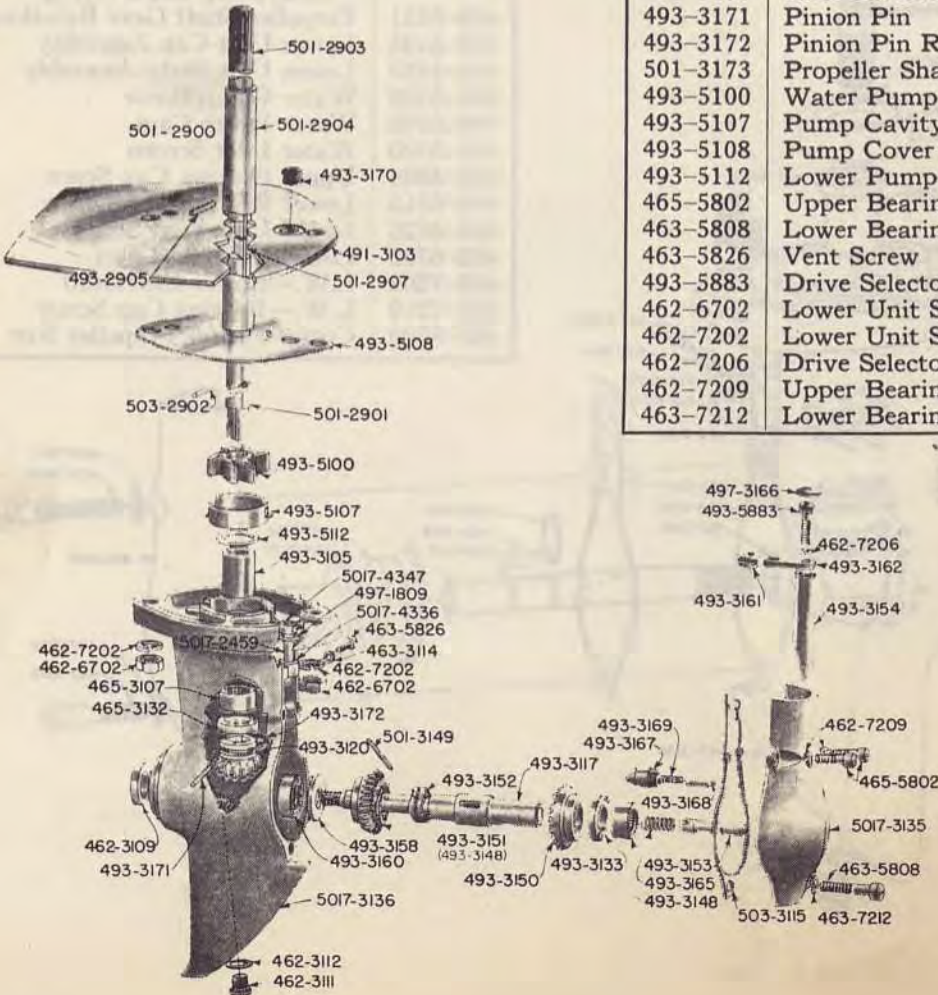


Part Number	Description
480-2900	Driveshaft and Cam Assembly
461-3100	Complete Lower Unit Assembly as illustrated except Propeller, Propeller Nut, Cotter Pin and Anti-Cavitation Plate
463-3105	Upper Driveshaft Bearing
463-3106	Lower Driveshaft Bearing
463-3107	Front Propeller Shaft Bearing
463-3108	Rear Propeller Shaft Bearing
462-3109	Propeller Shaft Grease Seal
462-3111	Lower Unit Grease Plug
462-3112	Lower Unit Grease Plug Gasket
463-3114	Lower Unit Vent Seal Washer
463-3115	Lower Unit Bearing Cap Gasket
463-3117	Propeller Shaft
463-3118	Bevel Gear
463-3119	Propeller Shaft Gear Key
463-3120	13 Tooth Bevel Pinion
463-3121	Propeller
462-3122	Propeller Shear Pin
476-3123	Propeller Nut
480-3125	Anti-Cavitation Plate Assembly
463-3130	Partial Lower Unit Assembly includes Body, Cap and Bearings
463-3131	Propeller Shaft Gear Retaining Ring
463-3135	Lower Unit Cap Assembly
463-3136	Lower Unit Body Assembly
463-5100	Water Pump Rotor
480-5103	Water Pump-Cam
463-5700	Water Inlet Screen
463-5808	Upper Bearing Cap Screw
463-5813	Lower Bearing Cap Screw
463-5826	Lower Unit Vent Screw
462-6702	Lower Unit Stud Nut
462-7202	L.W.—Lower Unit Stud
463-7212	L.W.—Bearing Cap Screw
497-8700	Cotter Pin for Propeller Nut

**LOWER UNIT - 501
PROPELLER - Page 13**

Part Number	Description
497-1809	"O" Ring—Shift Rod
5017-2459	Sleeve—Shift Rod
501-2900	Driveshaft Assembly
501-2901	Driveshaft—Lower End
503-2902	Driveshaft Pump Pin
501-2903	Driveshaft—Top End
501-2904	Driveshaft Sleeve
493-2905	Driveshaft Pin
501-2907	Driveshaft Spring
501-3100	Complete Lower Unit Assembly as illustrated except Propeller, Propeller Nut, and Cotter Pin
491-3103	Anti-Cavitation Plate
493-3105	Upper Driveshaft Bearing
465-3107	Lower Driveshaft Bearing
462-3109	Prop Shaft Grease Seal
462-3111	Grease Plug
462-3112	Gasket—Grease Plug
463-3114	Vent Screw Seal Washer
503-3115	Lower Unit Bearing Cap Gasket
*493-3117	Propeller Shaft
493-3120	13 Tooth Bevel Pinion
5017-3130	Partial Lower Unit Assembly (includes Body, Cap and Bearings)

Part Number	Description
465-3132	Pinion Thrust Bearing
493-3133	Forward Gear Thrust Washer
5017-3135	Lower Unit Bearing Cap Assembly (with bearing and detent)
5017-3136	Lower Unit Body Assembly (with bearings, seal, vent screw and grease plug)
493-3148	Propeller Shaft Front and Reverse Gear Bearing
*501-3149	Clutch Cross Pin
493-3150	21 Tooth Bevel Gear Assembly—Forward
493-3151	21 Tooth Bevel Gear Assembly—Rear
*493-3152	Clutch Dog
*493-3153	Propeller Shaft Plunger
493-3154	Drive Selector Cam
493-3158	Reverse Gear Thrust Washer
493-3160	Prop Shaft Rear Bearing
493-3161	Special Nut—Drive Selector Cam
493-3162	Drive Selector Cam Fork
*493-3165	Plunger Spring
497-3166	Expansion Plug
493-3167	Cam Detent Retainer
493-3168	Cam Detent
493-3169	Cam Detent Spring
493-3170	Anti-Cavitation Plate Grommet
493-3171	Pinion Pin
493-3172	Pinion Pin Retainer
501-3173	Propeller Shaft Assembly
493-5100	Water Pump Impeller
493-5107	Pump Cavity
493-5108	Pump Cover Plate
493-5112	Lower Pump Seal
465-5802	Upper Bearing Cap Screw
463-5808	Lower Bearing Cap Screw
463-5826	Vent Screw
493-5883	Drive Selector Cam Screw
462-6702	Lower Unit Stud Nut
462-7202	Lower Unit Stud Lockwasher
462-7206	Drive Selector Cam Lockwasher
462-7209	Upper Bearing Cap Lockwasher
463-7212	Lower Bearing Cap Lockwasher

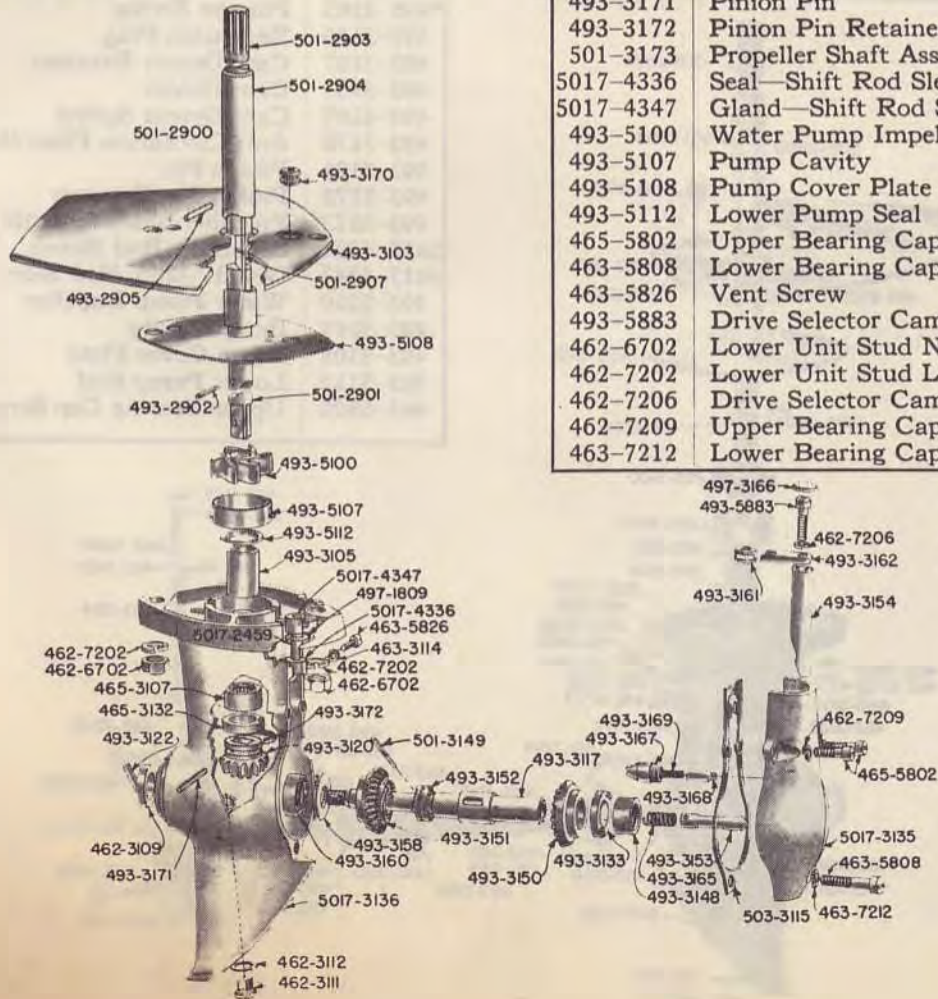


*Included with 501-3173 Propeller Shaft Assembly

LOWER UNIT - 507
PROPELLER - Page 13

Part Number	Description
497-1809	"O" Ring—Shift Rod
5017-2459	Sleeve—Shift Rod
501-2900	Driveshaft Assembly
501-2901	Driveshaft—Lower End
503-2902	Driveshaft Pump Pin
501-2903	Driveshaft—Top End
501-2904	Driveshaft Sleeve
493-2905	Driveshaft Pin
501-2907	Driveshaft Spring
5017-3100	Complete Lower Unit Assembly as illustrated except Propeller, Propeller Nut, and Cotter Pin
493-3103	Anti-Cavitation Plate
493-3105	Upper Driveshaft Bearing
465-3107	Lower Driveshaft Bearing
462-3109	Prop Shaft Grease Seal
462-3111	Grease Plug
462-3112	Gasket—Grease Plug
463-3114	Vent Screw Seal Washer
503-3115	Lower Unit Bearing Cap Gasket
*493-3117	Propeller Shaft
493-3120	13 Tooth Bevel Pinion
5017-3130	Partial Lower Unit Assembly (includes Body, Cap and Bearings)

Part Number	Description
465-3132	Pinion Thrust Bearing
493-3133	Forward Gear Thrust Washer
5017-3135	Lower Unit Bearing Cap Assembly (with bearing and detent)
5017-3136	Lower Unit Body Assembly (with bearings, seal, vent screw and grease plug)
493-3148	Propeller Shaft Front and Reverse Gear Bearing
*501-3149	Clutch Cross Pin
493-3150	21 Tooth Bevel Gear Assembly—Forward
493-3151	21 Tooth Bevel Gear Assembly—Rear
*493-3152	Clutch Dog
*493-3153	Propeller Shaft Plunger
493-3154	Drive Selector Cam
493-3158	Reverse Gear Thrust Washer
493-3160	Prop Shaft Rear Bearing
493-3161	Special Nut—Drive Selector Cam
493-3162	Drive Selector Cam Fork
*493-3165	Plunger Spring
497-3166	Expansion Plug
493-3167	Cam Detent Retainer
493-3168	Cam Detent
493-3169	Cam Detent Spring
493-3170	Anti-Cavitation Plate Grommet
493-3171	Pinion Pin
493-3172	Pinion Pin Retainer
501-3173	Propeller Shaft Assembly
5017-4336	Seal—Shift Rod Sleeve
5017-4347	Gland—Shift Rod Sleeve
493-5100	Water Pump Impeller
493-5107	Pump Cavity
493-5108	Pump Cover Plate
493-5112	Lower Pump Seal
465-5802	Upper Bearing Cap Screw
463-5808	Lower Bearing Cap Screw
463-5826	Vent Screw
493-5883	Drive Selector Cam Screw
462-6702	Lower Unit Stud Nut
462-7202	Lower Unit Stud Lockwasher
462-7206	Drive Selector Cam Lockwasher
462-7209	Upper Bearing Cap Lockwasher
463-7212	Lower Bearing Cap Lockwasher

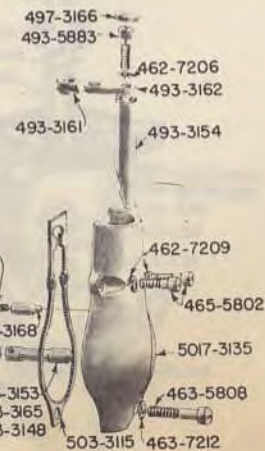
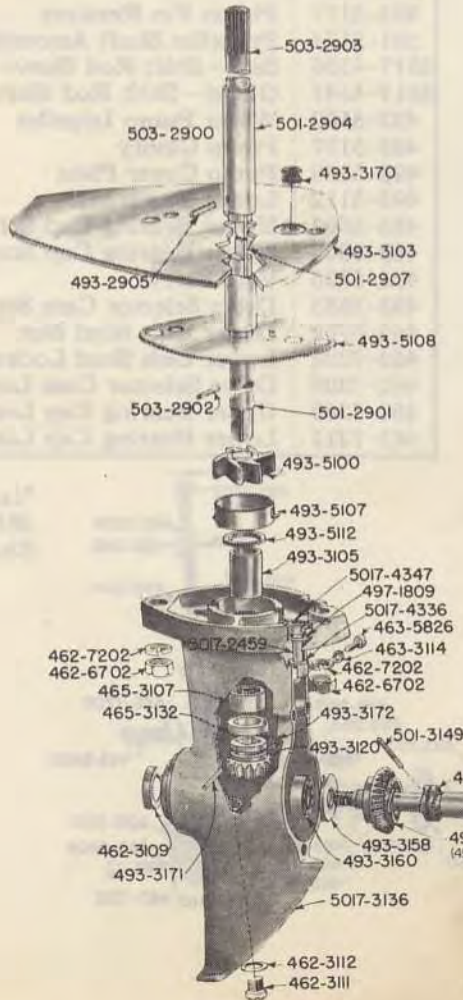


**Included with
501-3173 Propeller
Shaft Assembly*

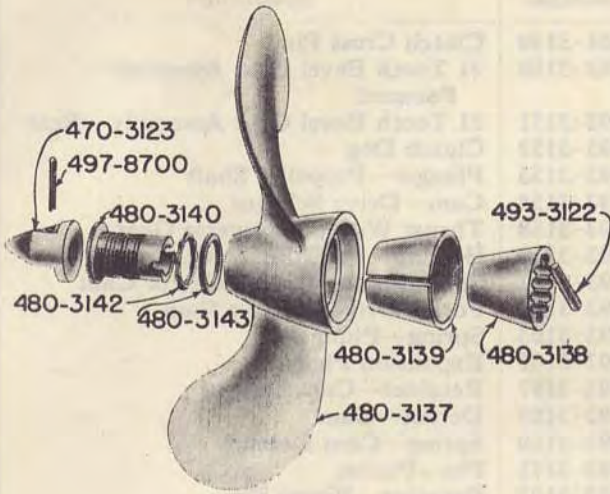
**LOWER UNIT - 503
PROPELLER - Page 13**

Part Number	Description
497-1809	"O" Ring—Shift Rod
5017-2459	Sleeve—Shift Rod
503-2900	Driveshaft Assembly
501-2901	Drive Shaft—Lower End
503-2902	Driveshaft Pump Pin
503-2903	Drive Shaft—Top End
501-2904	Drive Shaft Sleeve
493-2905	Driveshaft Pin
501-2907	Drive Shaft Spring
503-3100	Complete Lower Unit Assembly as illustrated except Propeller, Propeller Nut, and Cotter Pin
493-3103	Anti-Cavitation Plate
493-3105	Upper Driveshaft Bearing
465-3107	Lower Driveshaft Bearing
462-3109	Prop Shaft Grease Seal
462-3111	Grease Plug
462-3112	Gasket—Grease Plug
463-3114	Vent Screw Seal Washer
503-3115	Lower Unit Bearing Cap Gasket
*493-3117	Propeller Shaft

Part Number	Description
493-3120	13 Tooth Bevel Pinion
5017-3130	Partial Lower Unit Assembly (includes Body, Cap and Bearings)
465-3132	Pinion Thrust Bearing
493-3133	Forward Gear Thrust Washer
5017-3135	Lower Unit Bearing Cap Assembly (with bearing and detent)
5017-3136	Lower Unit Body Assembly (with bearings, seal, vent screw and grease plug)
493-3148	Propeller Shaft Front & Reverse Gear Bearing
*501-3149	Clutch Cross Pin
493-3150	21 Tooth Bevel Gear Assembly—Forward
493-3151	21 Tooth Bevel Gear Assembly—Rear
*493-3152	Clutch Dog
*493-3153	Propeller Shaft Plunger
493-3154	Drive Selector Cam
493-3158	Reverse Gear Thrust Washer
493-3160	Prop Shaft Rear Bearing
493-3161	Special Nut—Drive Selector Cam
493-3162	Drive Selector Cam Fork
*493-3165	Plunger Spring
497-3166	Expansion Plug
493-3167	Cam Detent Retainer
493-3168	Cam Detent
493-3169	Cam Detent Spring
493-3170	Anti-Cavitation Plate Grommet
493-3171	Pinion Pin
493-3172	Pinion Pin Retainer
493-3173	Propeller Shaft Assembly
5017-4336	Seal-Shift Rod Sleeve
5017-4347	Gland—Shift Rod Sleeve
493-5100	Water Pump Impeller
493-5107	Pump Cavity
493-5108	Pump Cover Plate
493-5112	Lower Pump Seal
465-5802	Upper Bearing Cap Screw

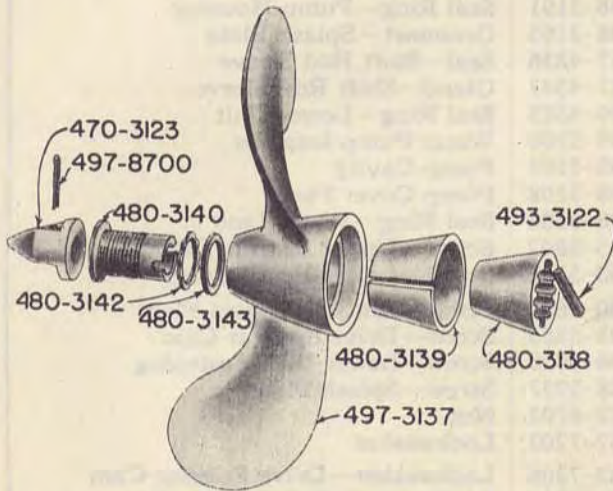


PROPELLER - 501



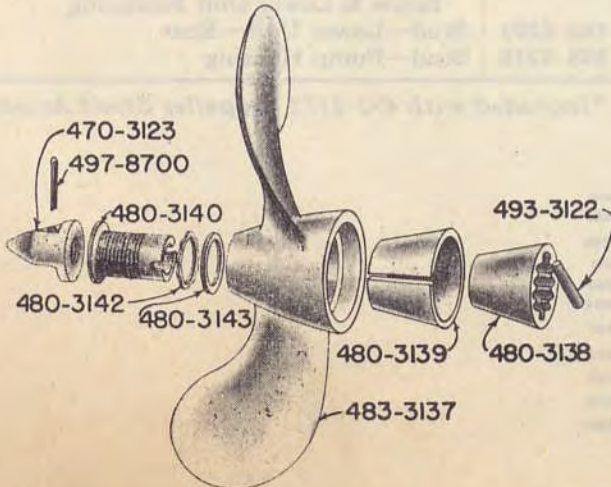
Part Number	Description
493-3122	Propeller Shear Pin
470-3123	Propeller Nut
480-3137	Propeller
480-3138	Clutch Cone
480-3139	Clutch Lining
480-3140	Clutch Adjusting Bushing
480-3141	Propeller Assembly (includes 480-3137 thru 480-3143)
480-3142	Spring Washer
480-3143	Resilient Washer
497-8700	Cotter Pin

PROPELLER - 507



Part Number	Description
493-3122	Propeller Shear Pin
470-3123	Propeller Nut
497-3137	Propeller
480-3138	Clutch Cone
480-3139	Clutch Lining
480-3140	Clutch Adjusting Bushing
497-3141	Propeller Assembly (includes 497-3137 thru 480-3143)
480-3142	Spring Washer
480-3143	Resilient Washer
497-8700	Cotter Pin

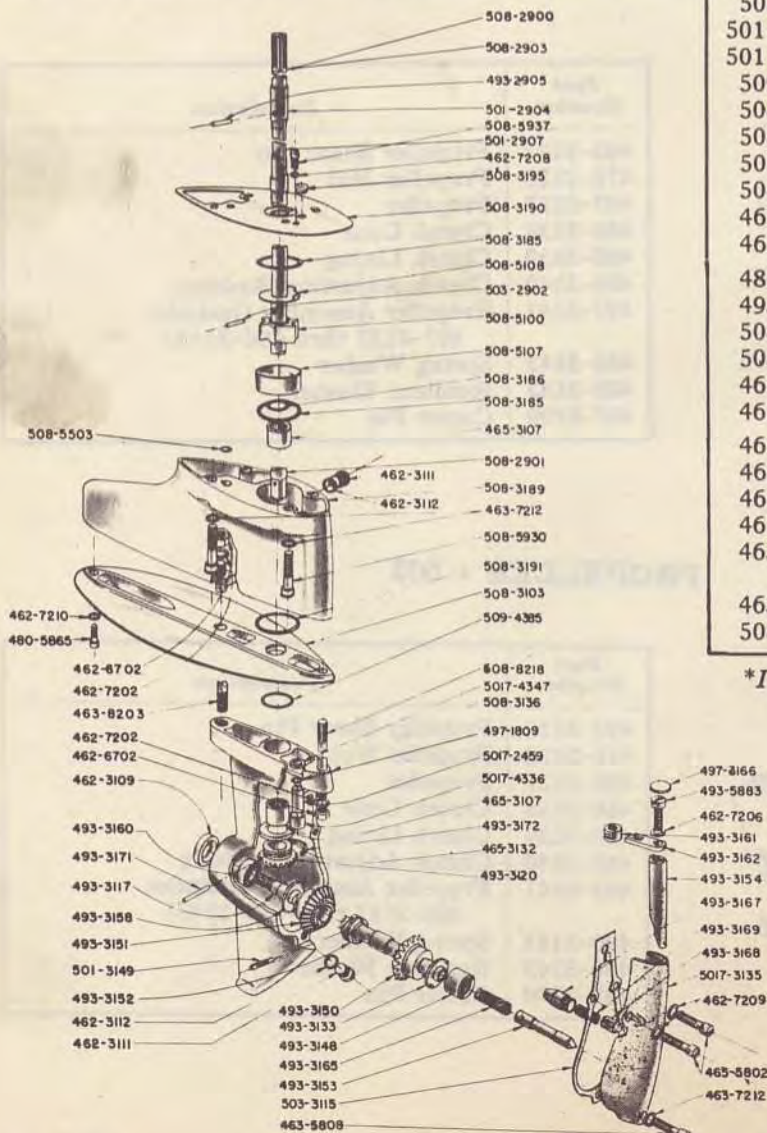
PROPELLER - 503



Part Number	Description
493-3122	Propeller Shear Pin
470-3123	Propeller Nut
483-3137	Propeller
480-3138	Clutch Cone
480-3139	Clutch Lining
480-3140	Clutch Adjusting Bushing
483-3141	Propeller Assembly (includes 483-3137 thru 480-3143)
480-3142	Spring Washer
480-3143	Resilient Washer
497-8700	Cotter Pin

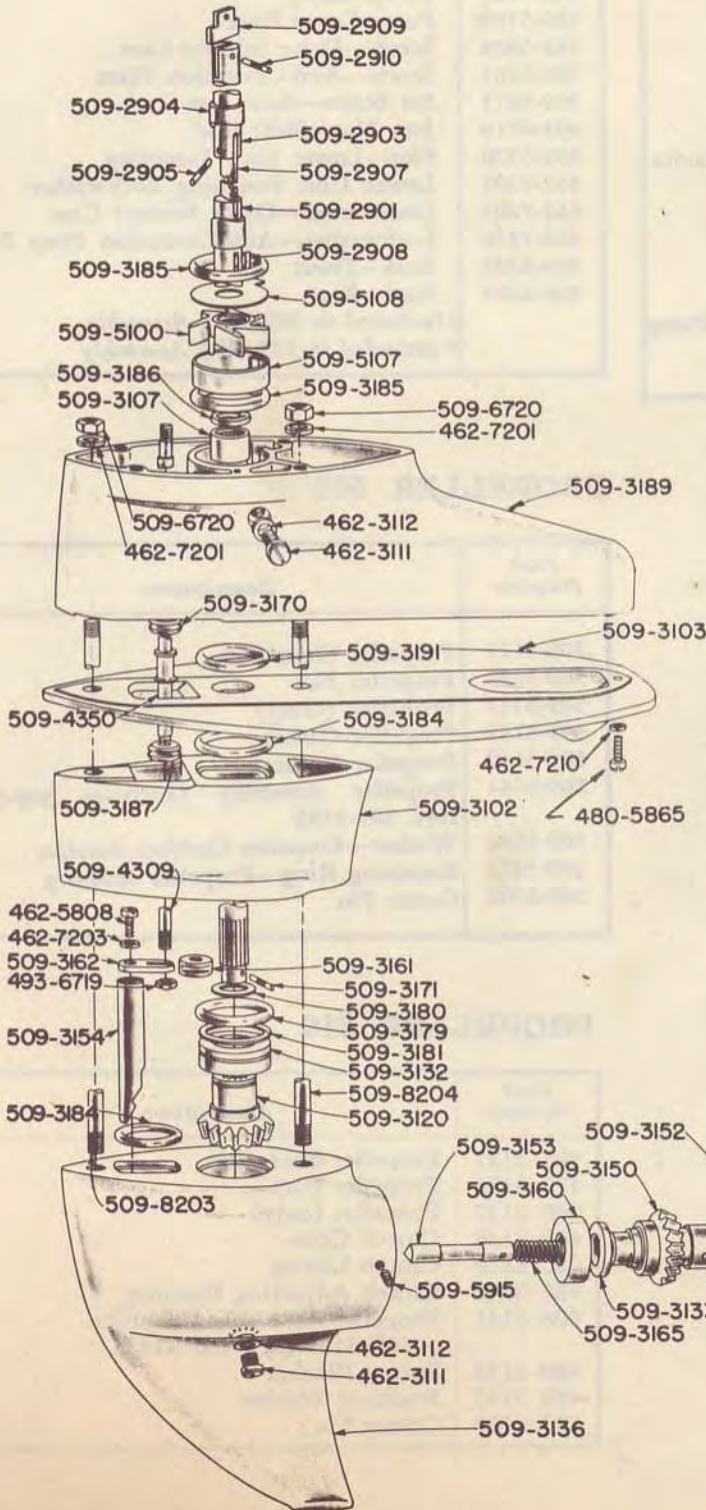
Part Number	Description
497-1809	"O" Ring-Shift Rod
5017-2459	Sleeve-Shift Rod
508-2900	Drive Shaft Assembly
508-2901	Drive Shaft-Lower End
503-2902	Drive Shaft Pump Pin
508-2903	Drive Shaft-Top End
501-2904	Drive Shaft Sleeve
493-2905	Drive Shaft Pin
501-2907	Drive Shaft Spring
508-3103	Anti-Cavitation Plate
465-3107	Drive Shaft Bearing
462-3109	Propeller Shaft Grease Seal
462-3111	Grease Plug
462-3112	Gasket-Grease Plug
503-3115	Gasket-Lower Unit Bearing Cap
*493-3117	Propeller Shaft
493-3120	13 Tooth Bevel Pinion
465-3132	Bearing-Pinion Thrust
493-3133	Thrust Washer-Forward Gear
*5017-3135	Lower Unit Bearing Cap Assembly
508-3136	Lower Unit Body Assembly
493-3148	Bearing-Front Propeller Shaft

Part Number	Description
*501-3149	Clutch Cross Pin
493-3150	21 Tooth Bevel Gear Assembly-Forward
493-3151	21 Tooth Bevel Gear Assembly-Rear
*493-3152	Clutch Dog
*493-3153	Plunger-Propeller Shaft
493-3154	Cam-Drive Selector
493-3158	Thrust Washer-Reverse Gear
493-3160	Bearing-Propeller Shaft Rear
493-3161	Special Nut-Drive Selector Cam
493-3162	Fork-Drive Selector Cam
*493-3165	Spring-Plunger
497-3166	Expansion Plug
493-3167	Retainer-Cam Detent
493-3168	Detent-Cam
493-3169	Spring-Cam Detent
493-3171	Pin-Pinion
493-3172	Retainer-Pinion Pin
508-3185	Seal Ring-Pump Cavity
508-3186	Seal Ring-Drive Shaft
508-3189	Pump Housing
508-3190	Splash Plate
508-3191	Seal Ring-Pump Housing
508-3195	Grommet-Splash Plate
5017-4336	Seal-Shift Rod Sleeve
5017-4347	Gland-Shift Rod Sleeve
509-4385	Seal Ring-Lower Unit
508-5100	Water Pump Impeller
508-5107	Pump Cavity
508-5108	Pump Cover Plate
508-5503	Seal Ring-Water Line
465-5802	Screw-Upper Bearing Cap
463-5808	Screw-Lower Bearing Cap
480-5865	Screw-Anti-Cavitation Plate
493-5883	Screw-Drive Selector Cam
508-5930	Screw-Lower Unit Fastening
508-5937	Screw-Splash Plate
462-6702	Nut
462-7202	Lockwasher
462-7206	Lockwasher-Drive Selector Cam
462-7208	Lockwasher-Splash Plate Screw
462-7209	Lockwasher-Upper Bearing Cap Screw
462-7210	Lockwasher
463-7212	Lockwasher-Lower Bearing Cap Screw & Lower Unit Fastening
463-8203	Stud-Lower Unit-Rear
508-8218	Stud-Pump Housing



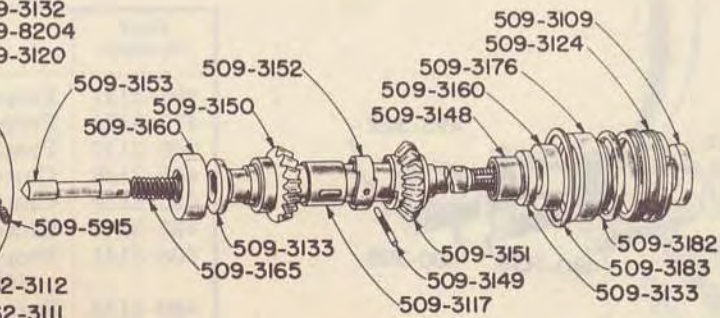
*Included with 493-3173 Propeller Shaft Assembly

LOWER UNIT 509



Part Number	Description
509-2901	Drive Shaft—Lower End
509-2903	Drive Shaft—Top End
509-2904	Drive Shaft Sleeve
509-2905	Drive Shaft Pin
509-2907	Drive Shaft Torque Bar
509-2908	Woodruff Key
509-2909	Drive Shaft Key
509-2910	Drive Shaft—Key Pin
509-3100	Complete Lower Unit Assembly as Illustrated
509-3102	Lower Unit—Top Section
509-3103	Anti-Cavitation Plate
509-3107	Bearing—Upper Drive Shaft
509-3109	Seal—Lower Unit Cap
462-3111	Grease Plug
462-3112	Gasket—Grease Plug
*509-3117	Propeller Shaft
509-3120	Pinion
509-3124	Cap—Lower Unit
509-3132	Bearing—Pinion
509-3133	Gear Thrust Washer
509-3136	Lower Unit Body Assembly
†509-3148	Bearing—Reverse Gear
*509-3149	Clutch Cross Pin
509-3150	Bevel Gear Assembly—Forward
509-3151	Bevel Gear Assembly—Rear
*509-3152	Clutch Dog
*509-3153	Plunger—Propeller Shaft
509-3154	Cam—Drive Selector
509-3160	Bearing—Front & Rear
509-3161	Special Nut—Shift Rod
509-3162	Fork—Drive Selector Cam
*509-3165	Spring—Plunger
509-3170	Grommet

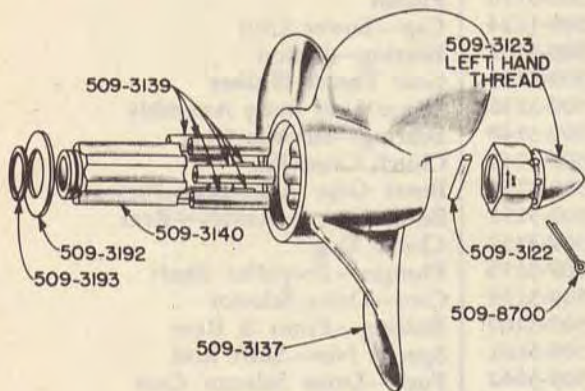
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LOWER UNIT 509 (Continued)

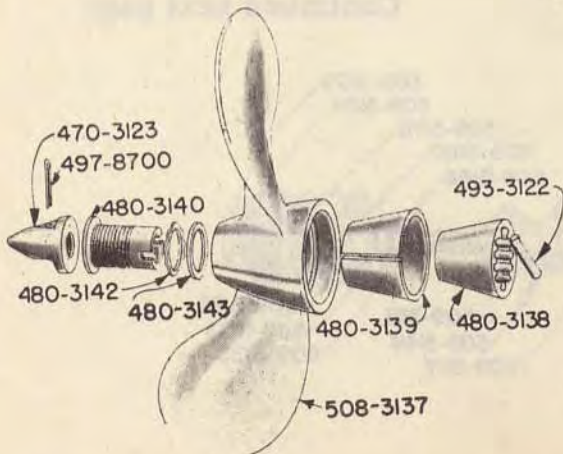
Part Number	Description
509-3171	Pin—Pinion
509-3173	Propeller Shaft Assembly
509-3176	Rear Prop. Shaft Bearing Assembly
509-3179	Seal Ring—Pinion Bearing
509-3180	Snap Ring—Pinion
509-3181	Snap Ring—Bearing
509-3182	Seal Ring—Bearing Sleeve
509-3183	Snap Ring—Bearing Sleeve
509-3184	Seal Ring—Cam Cavity & Anti-Cavitation Plate
509-3185	Seal Ring—Pump Cavity
509-3186	Grease Seal—Drive Shaft
509-3187	Grommet Shift Tube
509-3189	Pump Housing
509-3191	Seal Ring—Drive Shaft, Lower Pump Housing
509-4309	Shift Rod

Part Number	Description
509-4350	Shift Rod Tube Assembly
509-5100	Impeller
509-5107	Pump Cavity
509-5108	Pump Cover Plate
462-5808	Screw—Drive Selector Cam
480-5865	Screw—Anti-Cavitation Plate
509-5915	Set Screw—Rear Cap
493-6719	Jam Nut—Shift Rod
509-6720	Nut—Lower Unit Fastening
462-7201	Lower Unit Fastening Lockwasher
462-7203	Lockwasher—Drive Selector Cam
462-7210	Lockwasher—Anti-Cavitation Plate Screw
509-8203	Stud—Front
509-8204	Stud—Rear
	† Included in 509-3151 Assembly
	* Included in 509-3173 Assembly



PROPELLER 509

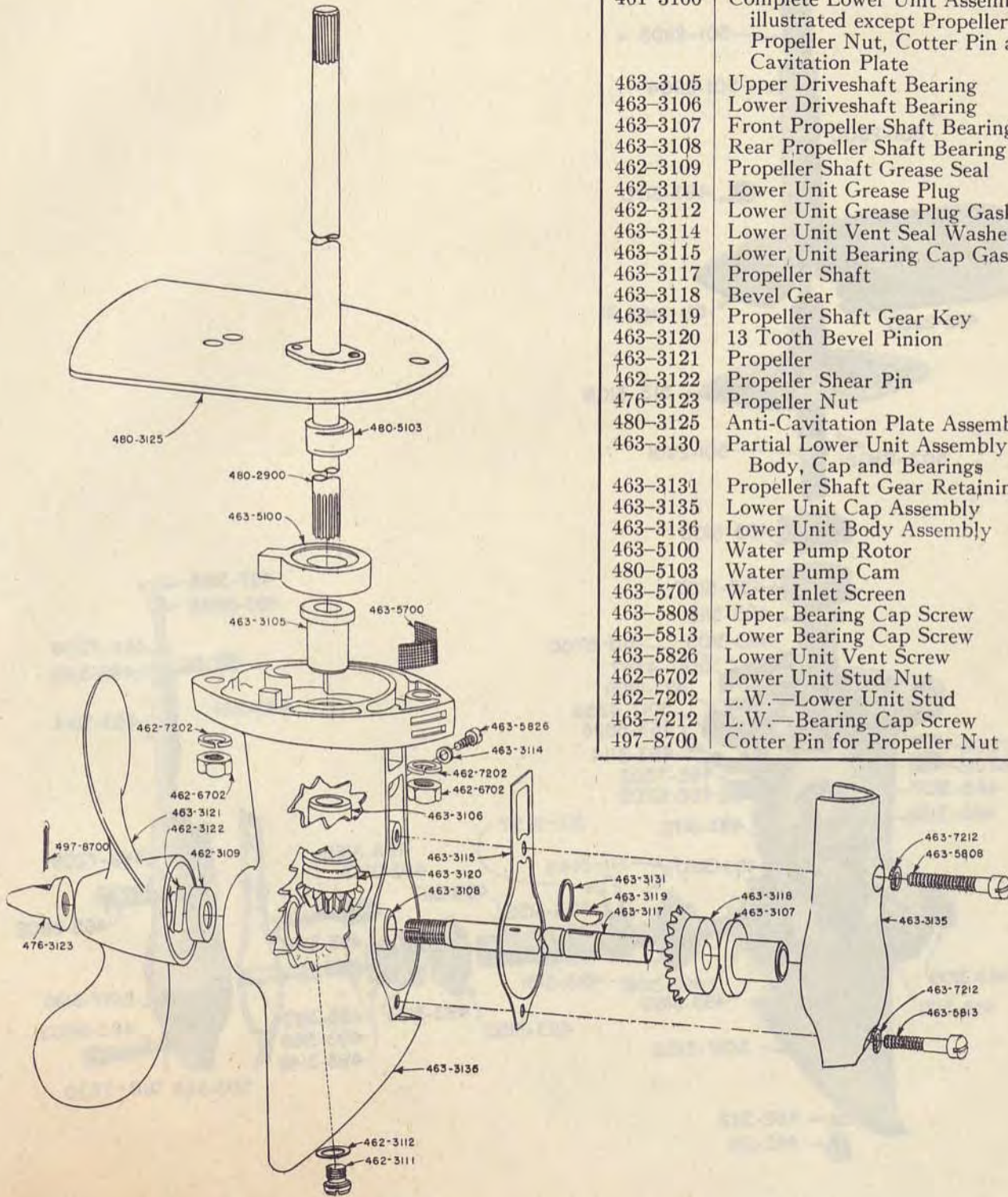
Part Number	Description
509-3122	Propeller Shear Pin
509-3123	Propeller Nut
509-3137	Propeller (Only)
509-3139	Propeller Cushion
509-3140	Propeller Bushing
509-3141	Propeller Assembly (Includes 509-3137 thru 509-3193)
509-3192	Washer—Propeller Cushion Retainer
509-3193	Retaining Ring—Propeller Bushing
509-8700	Cotter Pin



PROPELLER 518

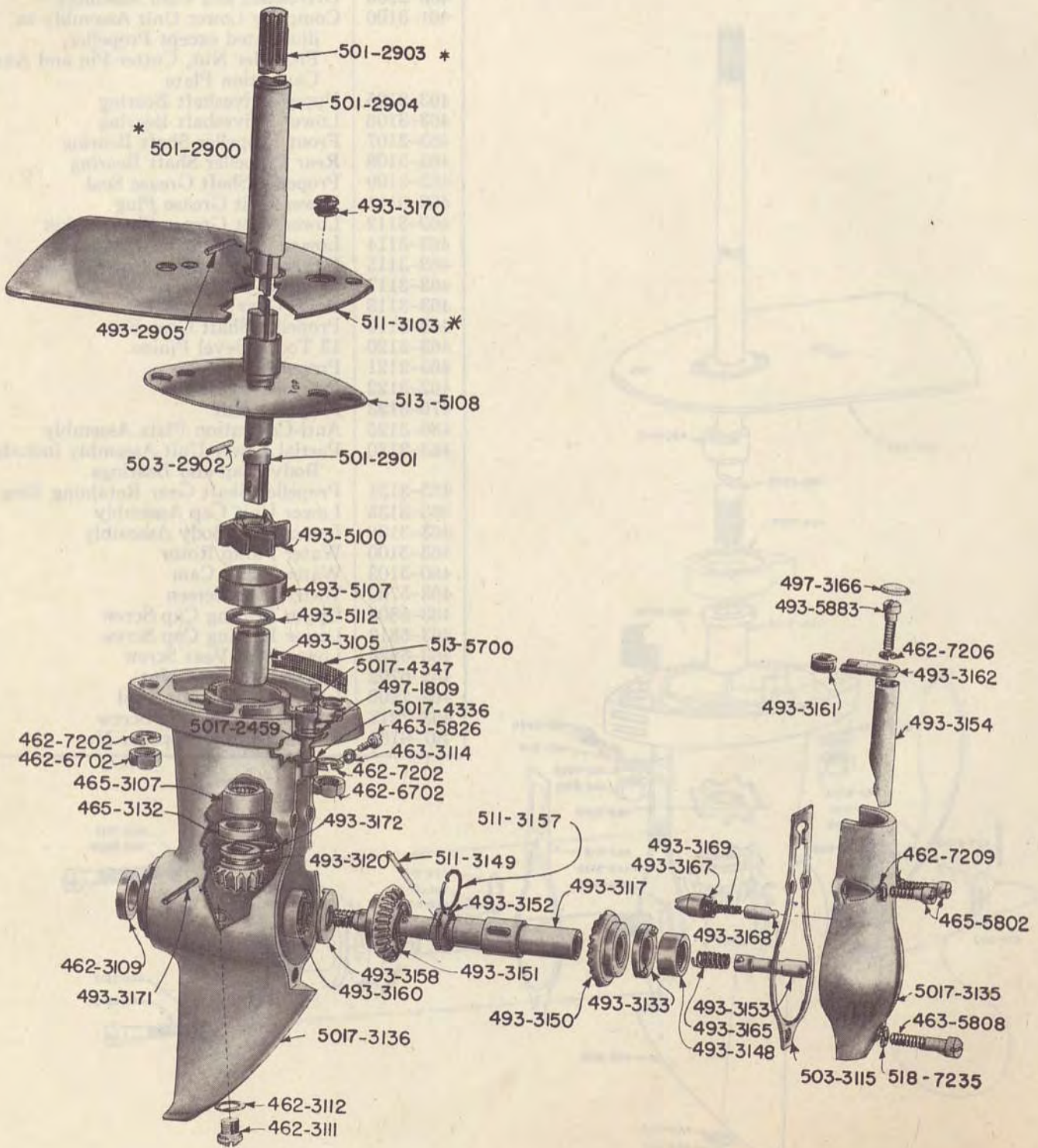
Part Number	Description
493-3122	Propeller Shear Pin
470-3123	Propeller Nut
508-3137	Propeller (only)
480-3138	Clutch Cone
480-3139	Clutch Lining
480-3140	Clutch Adjusting Bushing
508-3141	Propeller Assembly (includes 508-3137 thru 480-3143)
480-3142	Spring Washer
480-3143	Resilient Washer
497-8700	Cotter Pin

LOWER UNIT - 510



Part Number	Description
480-2900	Driveshaft and Cam Assembly
461-3100	Complete Lower Unit Assembly as illustrated except Propeller, Propeller Nut, Cotter Pin and Anti-Cavitation Plate
463-3105	Upper Driveshaft Bearing
463-3106	Lower Driveshaft Bearing
463-3107	Front Propeller Shaft Bearing
463-3108	Rear Propeller Shaft Bearing
462-3109	Propeller Shaft Grease Seal
462-3111	Lower Unit Grease Plug
462-3112	Lower Unit Grease Plug Gasket
463-3114	Lower Unit Vent Seal Washer
463-3115	Lower Unit Bearing Cap Gasket
463-3117	Propeller Shaft
463-3118	Bevel Gear
463-3119	Propeller Shaft Gear Key
463-3120	13 Tooth Bevel Pinion
463-3121	Propeller
462-3122	Propeller Shear Pin
476-3123	Propeller Nut
480-3125	Anti-Cavitation Plate Assembly
463-3130	Partial Lower Unit Assembly includes Body, Cap and Bearings
463-3131	Propeller Shaft Gear Retaining Ring
463-3135	Lower Unit Cap Assembly
463-3136	Lower Unit Body Assembly
463-5100	Water Pump Rotor
480-5103	Water Pump Cam
463-5700	Water Inlet Screen
463-5808	Upper Bearing Cap Screw
463-5813	Lower Bearing Cap Screw
463-5826	Lower Unit Vent Screw
462-6702	Lower Unit Stud Nut
462-7202	L.W.—Lower Unit Stud
463-7212	L.W.—Bearing Cap Screw
497-8700	Cotter Pin for Propeller Nut

LOWER UNIT - 511 - 517 - 513



* See exceptions on next page

LOWER UNIT - 511 - 517 - 513
 Propeller - Same as 501 - 507 - 503 (Page P13)

Part Number	Description
497-1809	"O" Ring—Shift Rod
5017-2459	Sleeve—Shift Rod
* 501-2900	Driveshaft Assembly
501-2901	Driveshaft—Lower End
503-2902	Driveshaft Pump Pin
* † 501-2903	Driveshaft—Top End
† 501-2904	Driveshaft Sleeve
† 493-2905	Driveshaft Pin
* 501-2906	Driveshaft Sub Assembly
† 501-2907	Driveshaft Spring
* 517-3100	Complete Lower Unit Assembly as illustrated except Propeller, Propeller Nut, and Cotter Pin
* 511-3103	Anti-Cavitation Plate
493-3105	Upper Driveshaft Bearing
465-3107	Lower Driveshaft Bearing
462-3109	Prop Shaft Grease Seal
462-3111	Grease Plug
462-3112	Gasket—Grease Plug
463-3114	Vent Screw Seal Washer
503-3115	Lower Unit Bearing Cap Gasket
*493-3117	Propeller Shaft
493-3120	13 Tooth Bevel Pinion
5017-3130	Partial Lower Unit Assembly (includes Body, Cap and Bearings)
465-3132	Pinion Thrust Bearing
493-3133	Forward Gear Thrust Washer
5017-3135	Lower Unit Bearing Cap Assembly (with bearing and detent)
5017-3136	Lower Unit Body Assembly (with bearings, seal, vent screw and grease plug)
493-3148	Propeller Shaft Front and Reverse Gear Bearing

†Included with 501-2906 Assembly

Part Number	Description
*511-3149	Clutch Cross Pin
493-3150	21 Tooth Bevel Gear Assembly—Forward
493-3151	21 Tooth Bevel Gear Assembly—Rear
*493-3152	Clutch Dog
*493-3153	Propeller Shaft Plunger
493-3154	Drive Selector Cam
*511-3157	Clutch Cross Pin Retainer
493-3158	Reverse Gear Thrust Washer
493-3160	Prop Shaft Rear Bearing
493-3161	Special Nut—Drive Selector Cam
493-3162	Drive Selector Cam Fork
*493-3165	Plunger Spring
497-3166	Expansion Plug
493-3167	Cam Detent Retainer
493-3168	Cam Detent
493-3169	Cam Detent Spring
493-3170	Anti-Cavitation Plate Grommet
493-3171	Pinion Pin
493-3172	Pinion Pin Retainer
511-3173	Propeller Shaft Assembly
5017-4336	Seal—Shift Rod Sleeve
5017-4347	Gland—Shift Rod Sleeve
493-5100	Water Pump Impeller
493-5107	Pump Cavity
513-5108	Pump Cover Plate
493-5112	Lower Pump Seal
513-5700	Water Inlet Screen
465-5802	Upper Bearing Cap Screw
463-5808	Lower Bearing Cap Screw
463-5826	Vent Screw
493-5883	Drive Selector Cam Screw
462-6702	Lower Unit Stud Nut
462-7202	Lower Unit Stud Lockwasher
462-7206	Drive Selector Cam Lockwasher
462-7209	Upper Bearing Cap Lockwasher
463-7212	Lower Bearing Cap Lockwasher
518-7235	Lockwasher—Lower Bearing Cap Screw

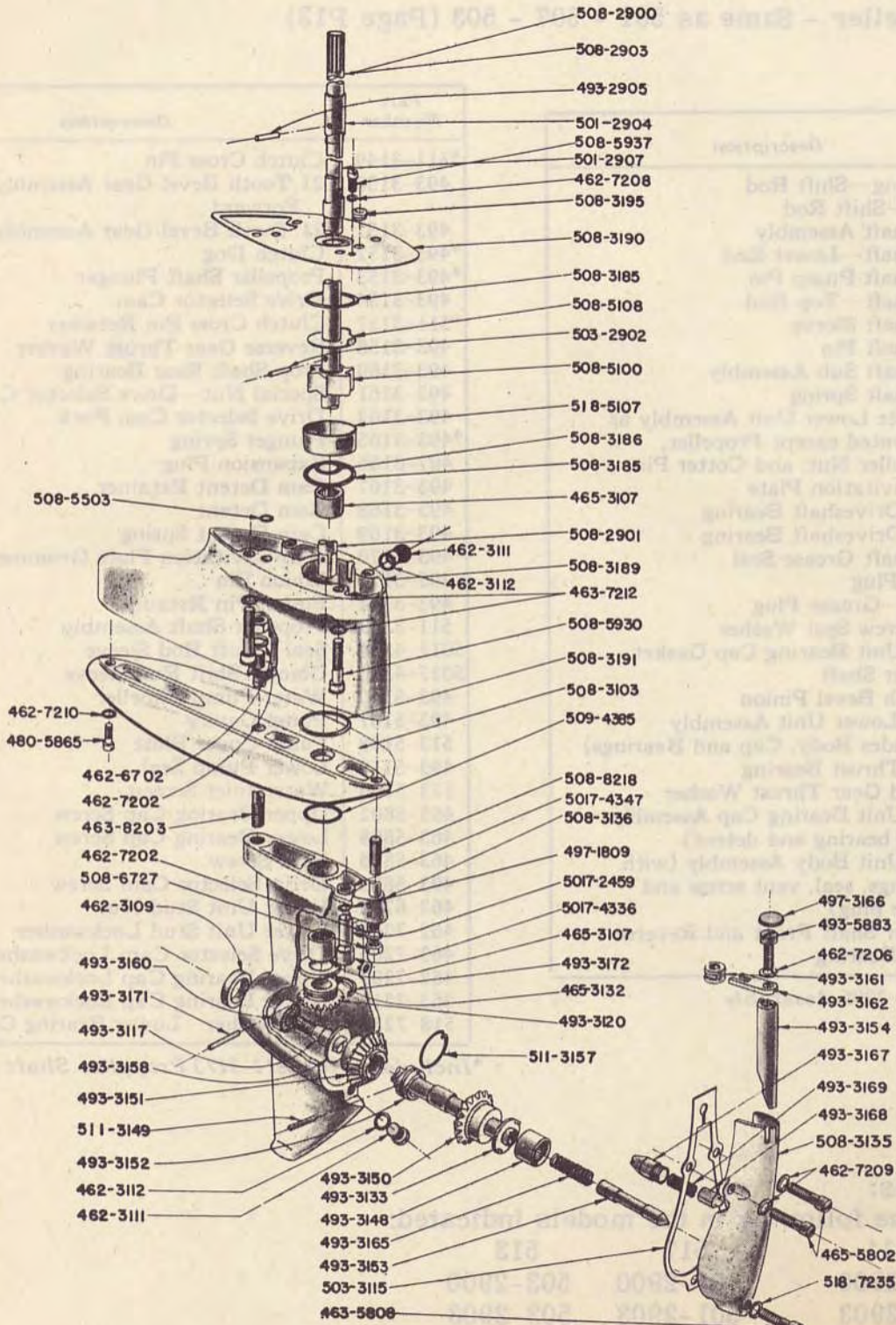
*Included with 511-3173 Propeller Shaft Assembly

* Exceptions:

Use the following in the models indicated:

511	517	513
501-2900	501-2900	503-2900
501-2903	501-2903	503-2903
501-2906	501-2906	503-2906
511-3100	517-3100	513-3100
511-3103	513-3103	513-3100

LOWER UNIT - 518

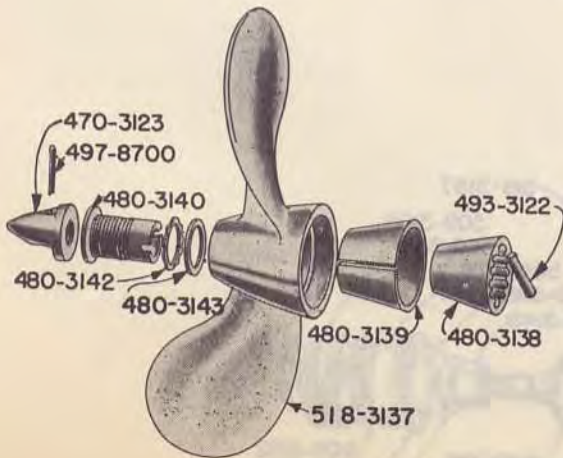


LOWER UNIT - 518

Part Number	Description
497-1809	"O" Ring Shift Rod
5017-2459	Sleeve—Shift Rod
508-2900	Drive Shaft Assembly
508-2901	Drive Shaft—Lower End
503-2902	Drive Shaft Pump Pin
508-2903	Drive Shaft—Top End
501-2904	Drive Shaft Sleeve
493-2905	Drive Shaft Pin
501-2907	Drive Shaft Spring
508-3103	Anti-Cavitation Plate
465-3107	Drive Shaft Bearing
462-3109	Propeller Shaft Grease Seal
462-3111	Grease Plug
462-3112	Gasket—Grease Plug
503-3115	Gasket—Lower Unit Bearing Cap
*493-3117	Propeller Shaft
493-3120	13 Tooth Bevel Pinion
465-3132	Bearing—Pinion Thrust
493-3133	Thrust Washer—Forward Gear
*5017-3135	Lower Unit Bearing Cap Assembly
508-3136	Lower Unit Body Assembly
493-3148	Bearing—Front Propeller Shaft
*511-3149	Clutch Cross Pin
493-3150	21 Tooth Bevel Gear Assembly—Forward
493-3151	21 Tooth Bevel Gear Assembly—Rear
*493-3152	Clutch Dog
*493-3153	Plunger—Propeller Shaft
493-3154	Cam—Drive Selector
511-3157	Retainer—Clutch Cross Pin
493-3158	Thrust Washer—Reverse Gear
493-3160	Bearing—Propeller Shaft Rear
493-3161	Special Nut—Drive Selector Cam
493-3162	Fork—Drive Selector Cam
*493-3165	Spring—Plunger
497-3166	Expansion Plug

Part Number	Description
493-3167	Retainer—Cam Detent
493-3168	Detent—Cam
493-3169	Spring—Cam Detent
493-3171	Pin—Pinion
493-3172	Retainer—Pinion Pin
508-3185	Seal Ring—Pump Cavity
508-3186	Seal Ring—Drive Shaft
508-3189	Pump Housing
508-3190	Splash Plate
508-3191	Seal Ring—Pump Housing
508-3195	Grommet—Splash Plate
5017-4336	Seal—Shift Rod Sleeve
5017-4347	Gland—Shift Rod Sleeve
509-4385	Seal Ring—Lower Unit
508-5100	Water Pump Impeller
518-5107	Pump Cavity
508-5108	Pump Cover Plate
508-5503	Seal Ring—Water Line
465-5802	Screw—Upper Bearing Cap
463-5808	Screw—Lower Bearing Cap
480-5865	Screw—Anti-Cavitation Plate
493-5883	Screw—Drive Selector Cam
508-5930	Screw—Lower Unit Fastening
508-5937	Screw—Splash Plate
462-6702	Nut
508-6727	Nut
462-7202	Lockwasher
462-7206	Lockwasher—Drive Selector Cam
462-7208	Lockwasher—Splash Plate Screw
462-7209	Lockwasher—Upper Bearing Cap Screw
462-7210	Lockwasher
463-7212	Lockwasher—Lower Unit Fastening
518-7235	Lockwasher—Lower Bearing Cap Screw
463-8203	Stud—Lower Unit—Rear
508-8218	Stud—Pump Housing

*Included with 493-3173 Propeller Shaft Assembly

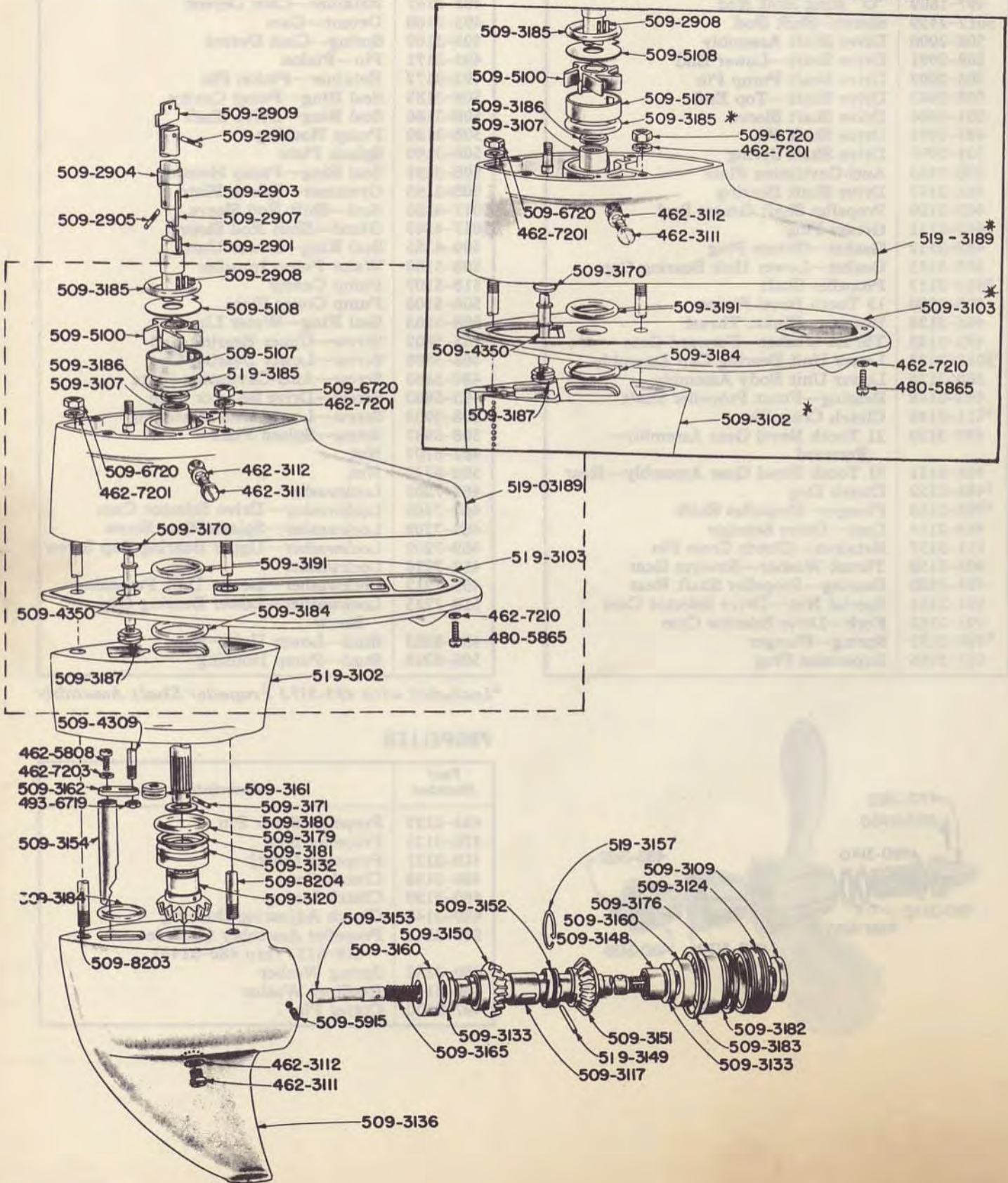


PROPELLER

Part Number	Description
493-3122	Propeller Shear Pin
470-3123	Propeller Nut
518-3137	Propeller (only)
480-3138	Clutch Cone
480-3139	Clutch Lining
480-3140	Clutch Adjusting Bushing
518-3141	Propeller Assembly (includes 518-3137 thru 480-3143)
480-3142	Spring Washer
480-3143	Resilient Washer
497-8700	Cotter Pin

LOWER UNIT - 519

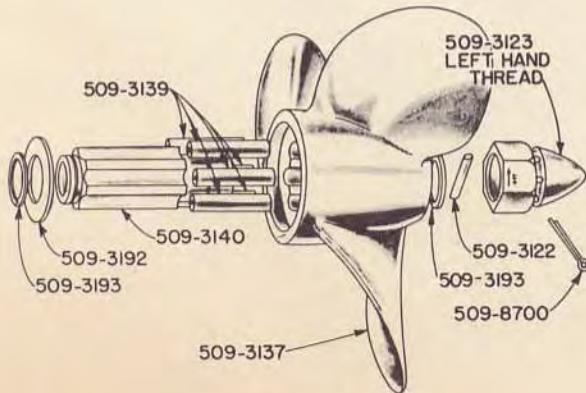
Early Models - Water Inlet in Front



LOWER UNIT - 519

Part Number	Description
509-2901	Drive Shaft—Lower End
‡509-2903	Drive Shaft—Top End
‡509-2904	Drive Shaft Sleeve
‡509-2905	Drive Shaft Pin
509-2906	Drive Shaft Sub Assembly
‡509-2907	Drive Shaft Torque Bar
509-2908	Woodruff Key
‡509-2909	Drive Shaft Key
‡509-2910	Drive Shaft—Key Pin
519-3100	Complete Lower Unit Assembly as Illustrated
509-3102	Lower Unit—Top Section
509-3103	Anti-Cavitation Plate
519-3102	Lower Unit—Top Section
519-3103	Anti-Cavitation Plate
509-3107	Bearing—Upper Drive Shaft
509-3109	Seal—Lower Unit Cap
462-3111	Grease Plug
462-3112	Gasket—Grease Plug
*509-3117	Propeller Shaft
509-3120	Pinion
509-3124	Cap—Lower Unit
509-3132	Bearing—Pinion
509-3133	Gear Thrust Washer
509-3136	Lower Unit Body Assembly
‡509-3148	Bearing—Reverse Gear
*519-3149	Clutch Cross Pin
509-3150	Bevel Gear Assembly—Forward
509-3151	Bevel Gear Assembly—Rear
*509-3152	Clutch Dog
*509-3153	Plunger—Propeller Shaft
509-3154	Cam—Drive Selector
519-3157	Retainer—Clutch Cross Pin
509-3160	Bearing—Front & Rear
509-3161	Special Nut—Shift Rod
509-3162	Fork—Drive Selector Cam
*509-3165	Spring—Plunger
509-3170	Grommet

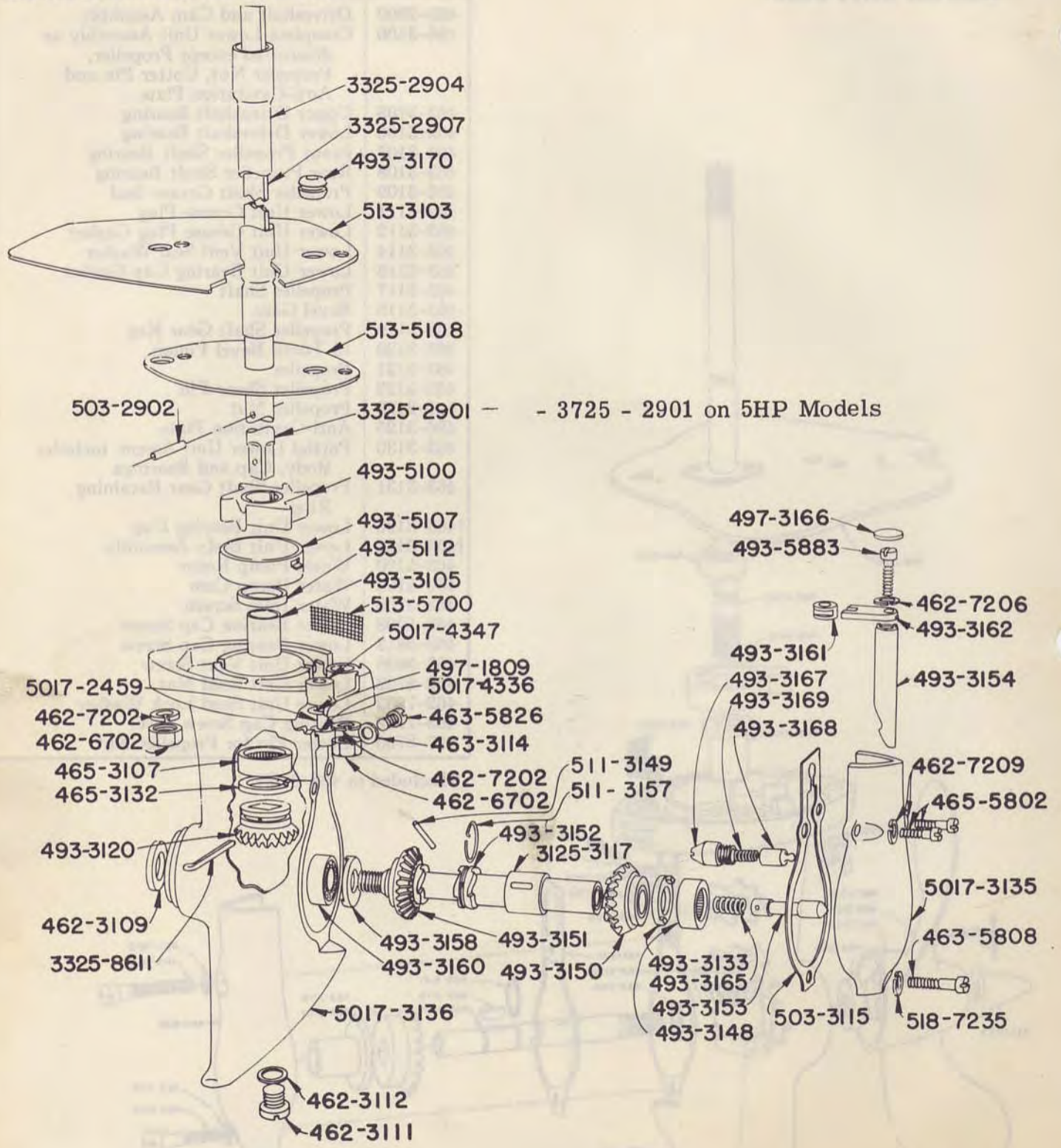
Part Number	Description
509-3171	Pin—Pinion
509-3173	Propeller Shaft Assembly
509-3176	Rear Prop. Shaft Bearing Assembly
509-3179	Seal Ring—Pinion Bearing
509-3180	Snap Ring—Pinion
509-3181	Snap Ring—Bearing
509-3182	Seal Ring—Bearing Sleeve
509-3183	Snap Ring—Bearing Sleeve
509-3184	Seal Ring—Cam Cavity & Anti-Cavitation Plate
509-3185	Seal Ring—Pump Cavity—Top
519-3185	Seal Ring—Pump Cavity—Bottom
509-3186	Grease Seal—Drive Shaft
509-3187	Grommet Shift Tube
519-3189	Pump Housing
519-03189	Pump Housing
509-3191	Seal Ring—Drive Shaft, Lower Pump Housing
509-4309	Shift Rod
509-4350	Shift Rod Tube Assembly
509-5100	Impeller
509-5107	Pump Cavity
509-5108	Pump Cover Plate
462-5808	Screw—Drive Selector Cam
480-5865	Screw—Anti-Cavitation Plate
509-5915	Set Screw—Rear Cap
493-6719	Jam Nut—Shift Rod
509-6720	Nut—Lower Unit Fastening
462-7201	Lower Unit Fastening Lockwasher
462-7203	Lockwasher—Drive Selector Cam
462-7210	Lockwasher—Anti-Cavitation Plate Screw
509-8203	Stud—Front
509-8204	Stud—Rear
	†Included in 509-3151 Assembly
	*Included in 509-3173 Assembly
	‡Included in 509-2906 Assembly



PROPELLER

Part Number	Description
509-3122	Propeller Shear Pin
509-3123	Propeller Nut
509-3137	Propeller (Only)
509-3139	Propeller Cushion
509-3140	Propeller Bushing
509-3141	Propeller Assembly (Includes 509-3137 thru 509-3193)
509-3192	Washer—Propeller Cushion Retainer
509-3193	Retaining Ring—Propeller Bushing
509-8700	Cotter Pin

LOWER UNIT 3725 and 3325



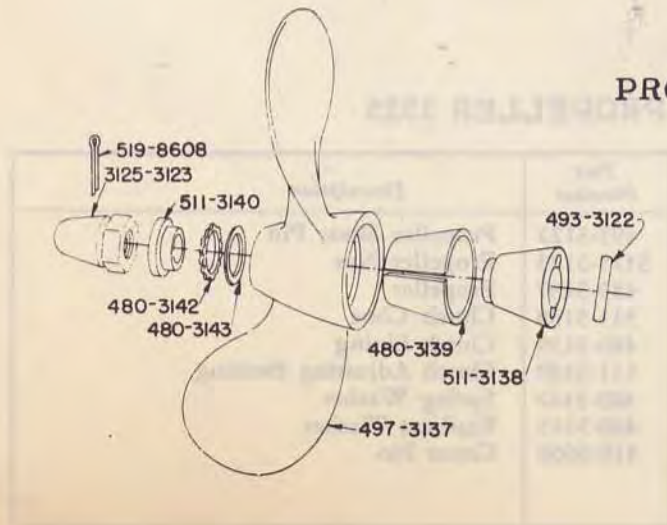
LOWER UNIT 3725

Part Number	Description
497-1809	"O" Ring—Shift Rod
5017-2459	Sleeve—Shift Rod
3725-2901	Drive Shaft—Lower End
503-2902	Driveshaft Pump Pin
3325-2904	Drive Shaft Sleeve
3325-2907	Drive Shaft Spring
3725-3100	Complete Lower Unit Assembly as illustrated
513-3103	Anti-Cavitation Plate
493-3105	Upper Driveshaft Bearing
465-3107	Lower Driveshaft Bearing
462-3109	Prop Shaft Grease Seal
462-3111	Grease Plug
462-3112	Gasket—Grease Plug
463-3114	Vent Screw Seal Washer
503-3115	Lower Unit Bearing Cap Gasket
*3125-3117	Propeller Shaft
493-3120	13 Tooth Bevel Pinion
5017-3130	Partial Lower Unit Assembly (includes Body, Cap and Bearings)
465-3132	Pinion Thrust Bearing
493-3133	Forward Gear Thrust Washer
5017-3135	Lower Unit Bearing Cap Assembly (with bearing and detent)
5017-3136	Lower Unit Body Assembly (with bearings, seal, vent screw and grease plug)
493-3148	Propeller Shaft Front & Reverse Gear Bearing
*511-3149	Clutch Cross Pin
493-3150	21 Tooth Bevel Gear Assembly—Forward

Part Number	Description
493-3151	21 Tooth Bevel Gear Assembly—Rear
*493-3152	Clutch Dog
*493-3153	Propeller Shaft Plunger
493-3154	Drive Selector Cam
*511-3157	Clutch Cross Pin Retainer
493-3158	Reverse Gear Thrust Washer
493-3160	Prop Shaft Rear Bearing
493-3161	Special Nut—Drive Selector Cam
493-3162	Drive Selector Cam Fork
*493-3165	Plunger Spring
497-3166	Expansion Plug
493-3167	Cam Detent Retainer
493-3168	Cam Detent
493-3169	Cam Detent Spring
493-3170	Anti-Cavitation Plate Grommet
3125-3173	Propeller Shaft Assembly
5017-4336	Seal—Shift Rod Sleeve
5017-4347	Gland—Shift Rod Sleeve
493-5100	Water Pump Impeller
493-5107	Pump Cavity
513-5108	Pump Cover Plate
493-5112	Lower Pump Seal
513-5700	Inlet Water Screen
465-5802	Upper Bearing Cap Screw
463-5808	Lower Bearing Cap Screw
463-5826	Vent Screw
493-5883	Drive Selector Cam Screw
462-6702	Lower Unit Stud Nut
462-7202	Lower Unit Stud Lockwasher
462-7206	Drive Selector Cam Lockwasher
462-7209	Upper Bearing Cap Lockwasher
518-7235	Lower Bearing Cam Lockwasher
3325-8611	Cotter Pin—Pinion

*Included with 3125-3173 Propeller Shaft Assembly

PROPELLER 3725



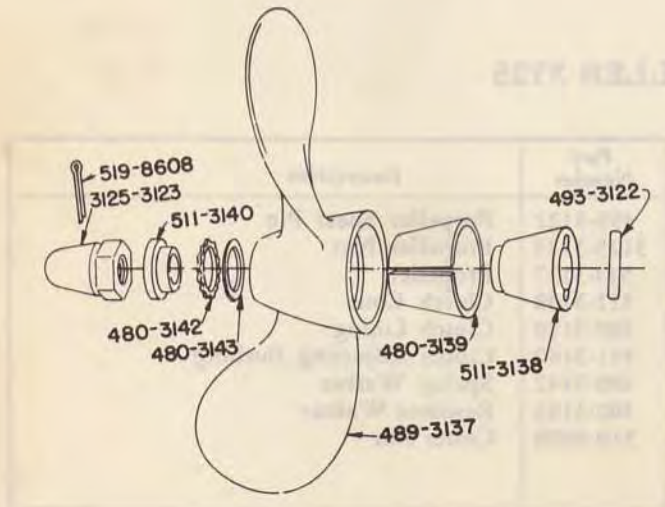
Part Number	Description
493-3122	Propeller Shear Pin
3125-3123	Propeller Nut
511-3137	Propeller
511-3138	Clutch Cone
480-3139	Clutch Lining
511-3140	Clutch Adjusting Bushing
480-3142	Spring Washer
480-3143	Resilient Washer
519-8608	Cotter Pin

LOWER UNIT 3325

Part Number	Description
497-1809	"O" Ring—Shift Rod
5017-2459	Sleeve—Shift Rod
3325-2901	Drive Shaft—Lower End
503-2902	Driveshaft Pump Pin
3325-2904	Drive Shaft Sleeve
3325-2907	Drive Shaft Spring
3325-3100	Complete Lower Unit Assembly as illustrated
513-3103	Anti-Cavitation Plate
493-3105	Upper Driveshaft Bearing
465-3107	Lower Driveshaft Bearing
462-3109	Prop Shaft Grease Seal
462-3111	Grease Plug
462-3112	Gasket—Grease Plug
463-3114	Vent Screw Seal Washer
503-3115	Lower Unit Bearing Cap Gasket
*3125-3117	Propeller Shaft
493-3120	13 Tooth Bevel Pinion
5017-3130	Partial Lower Unit Assembly (includes Body, Cap and Bearings)
465-3132	Pinion Thrust Bearing
493-3133	Forward Gear Thrust Washer
5017-3135	Lower Unit Bearing Cap Assembly (with bearing and detent)
5017-3136	Lower Unit Body Assembly (with bearings, seal, vent screw and grease plug)
493-3148	Propeller Shaft Front & Reverse Gear Bearing
*511-3149	Clutch Cross Pin
493-3150	21 Tooth Bevel Gear Assembly—Forward

Part Number	Description
493-3151	21 Tooth Bevel Gear Assembly—Rear
*493-3152	Clutch Dog
*493-3153	Propeller Shaft Plunger
493-3154	Drive Selector Cam
*511-3157	Clutch Cross Pin Retainer
493-3158	Reverse Gear Thrust Washer
493-3160	Prop Shaft Rear Bearing
493-3161	Special Nut—Drive Selector Cam
493-3162	Drive Selector Cam Fork
*493-3165	Plunger Spring
497-3166	Expansion Plug
493-3167	Cam Detent Retainer
493-3168	Cam Detent
493-3169	Cam Detent Spring
493-3170	Anti-Cavitation Plate Grommet
3125-3173	Propeller Shaft Assembly
5017-4336	Seal—Shift Rod Sleeve
5017-4347	Gland—Shift Rod Sleeve
493-5100	Water Pump Impeller
493-5107	Pump Cavity
493-5108	Pump Cover Plate
493-5112	Lower Pump Seal
513-5700	Inlet Water Screen
465-5802	Upper Bearing Cap Screw
463-5808	Lower Bearing Cap Screw
463-5826	Vent Screw
493-5883	Drive Selector Cam Screw
462-6702	Lower Unit Stud Nut
462-7202	Lower Unit Stud Lockwasher
462-7206	Drive Selector Cam Lockwasher
462-7209	Upper Bearing Cap Lockwasher
518-7235	Lower Bearing Cam Lockwasher
3325-8611	Cotter Pin—Pinion

*Included with 3125-3173 Propeller Shaft Assembly

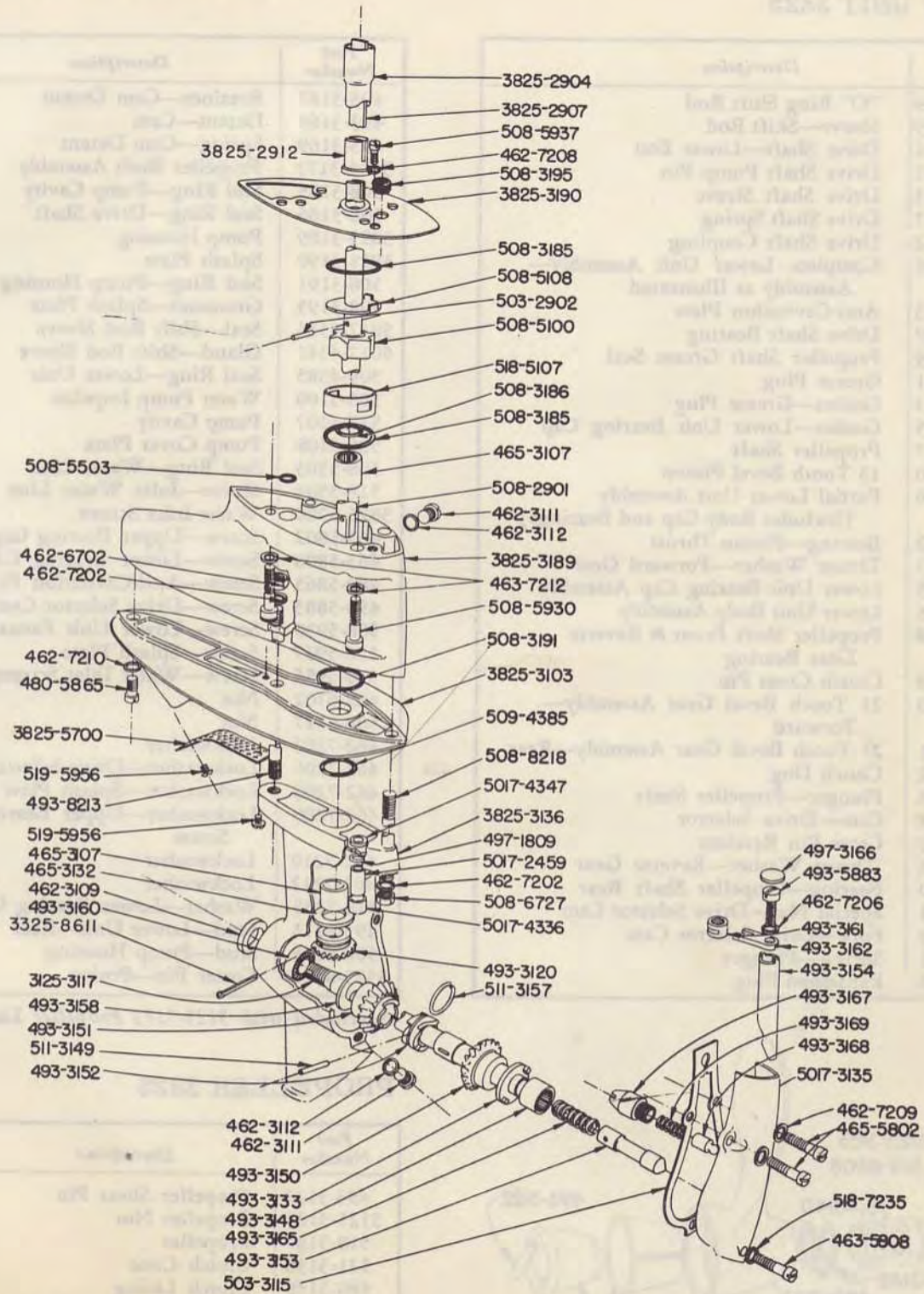


PROPELLER 3325

Part Number	Description
493-3122	Propeller Shear Pin
3125-3123	Propeller Nut
489-3137	Propeller
511-3138	Clutch Cone
480-3139	Clutch Lining
511-3140	Clutch Adjusting Bushing
480-3142	Spring Washer
480-3143	Resilient Washer
519-8608	Cotter Pin

LOWER UNIT 3825

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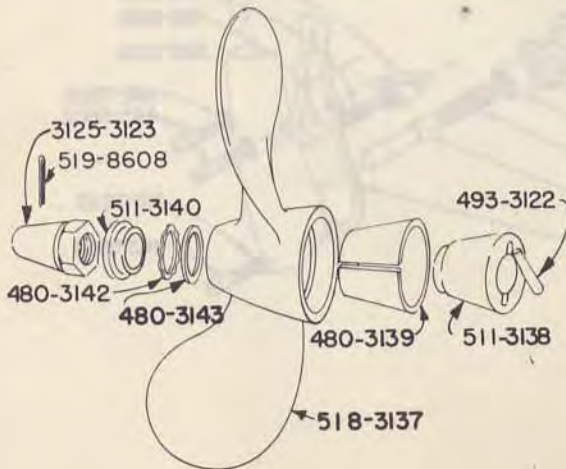


LOWER UNIT 3825

Part Number	Description
497-1809	"O" Ring Shift Rod
5017-2459	Sleeve—Shift Rod
508-2901	Drive Shaft—Lower End
503-2902	Drive Shaft Pump Pin
3825-2904	Drive Shaft Sleeve
3825-2907	Drive Shaft Spring
3825-2912	Drive Shaft Coupling
3825-3100	Complete Lower Unit Assembly— Assembly as Illustrated
3825-3103	Anti-Cavitation Plate
465-3107	Drive Shaft Bearing
462-3109	Propeller Shaft Grease Seal
462-3111	Grease Plug
462-3112	Gasket—Grease Plug
503-3115	Gasket—Lower Unit Bearing Cap
*3125-3117	Propeller Shaft
493-3120	13 Tooth Bevel Pinion
3825-3130	Partial Lower Unit Assembly (Includes Body Cap and Bearings)
465-3132	Bearing—Pinion Thrust
493-3133	Thrust Washer—Forward Gear
5017-3135	Lower Unit Bearing Cap Assembly
3825-3136	Lower Unit Body Assembly
493-3148	Propeller Shaft Front & Reverse Gear Bearing
*511-3149	Clutch Cross Pin
493-3150	21 Tooth Bevel Gear Assembly— Forward
493-3151	21 Tooth Bevel Gear Assembly—Rear
*493-3152	Clutch Dog
*493-3153	Plunger—Propeller Shaft
493-3154	Cam—Drive Selector
*511-3157	Cross Pin Retainer
493-3158	Thrust Washer—Reverse Gear
493-3160	Bearing—Propeller Shaft Rear
493-3161	Special Nut—Drive Selector Cam
493-3162	Fork—Drive Selector Cam
*493-3165	Spring—Plunger
497-3166	Expansion Plug

Part Number	Description
493-3167	Retainer—Cam Detent
493-3168	Detent—Cam
493-3169	Spring—Cam Detent
3125-3173	Propeller Shaft Assembly
508-3185	Seal Ring—Pump Cavity
508-3186	Seal Ring—Drive Shaft
3825-3189	Pump Housing
3825-3190	Splash Plate
508-3191	Seal Ring—Pump Housing
508-3195	Grommet—Splash Plate
5017-4336	Seal—Shift Rod Sleeve
5017-4347	Gland—Shift Rod Sleeve
509-4385	Seal Ring—Lower Unit
508-5100	Water Pump Impeller
518-5107	Pump Cavity
508-5108	Pump Cover Plate
508-5503	Seal Ring—Water Line
518-5504	Sleeve—Inlet Water Line
3825-5700	Water Inlet Screen
465-5802	Screw—Upper Bearing Cap
463-5808	Screw—Lower Bearing Cap
480-5865	Screw—Anti-Cavitation Plate
493-5883	Screw—Drive Selector Cam
508-5930	Screw—Lower Unit Fastening
508-5937	Screw—Splash Plate
519-5956	Screw—Water Inlet Screen
462-6702	Nut
508-6727	Nut
462-7202	Lockwasher
462-7206	Lockwasher—Drive Selector Cam
462-7208	Lockwasher—Splash Plate Screw
462-7209	Lockwasher—Upper Bearing Cap Screw
462-7210	Lockwasher
463-7212	Lockwasher
518-7235	Washer—Lower Bearing Cap Screw
493-8213	Stud—Lower Unit—Rear
508-8218	Stud—Pump Housing
3325-8611	Cotter Pin—Pinion

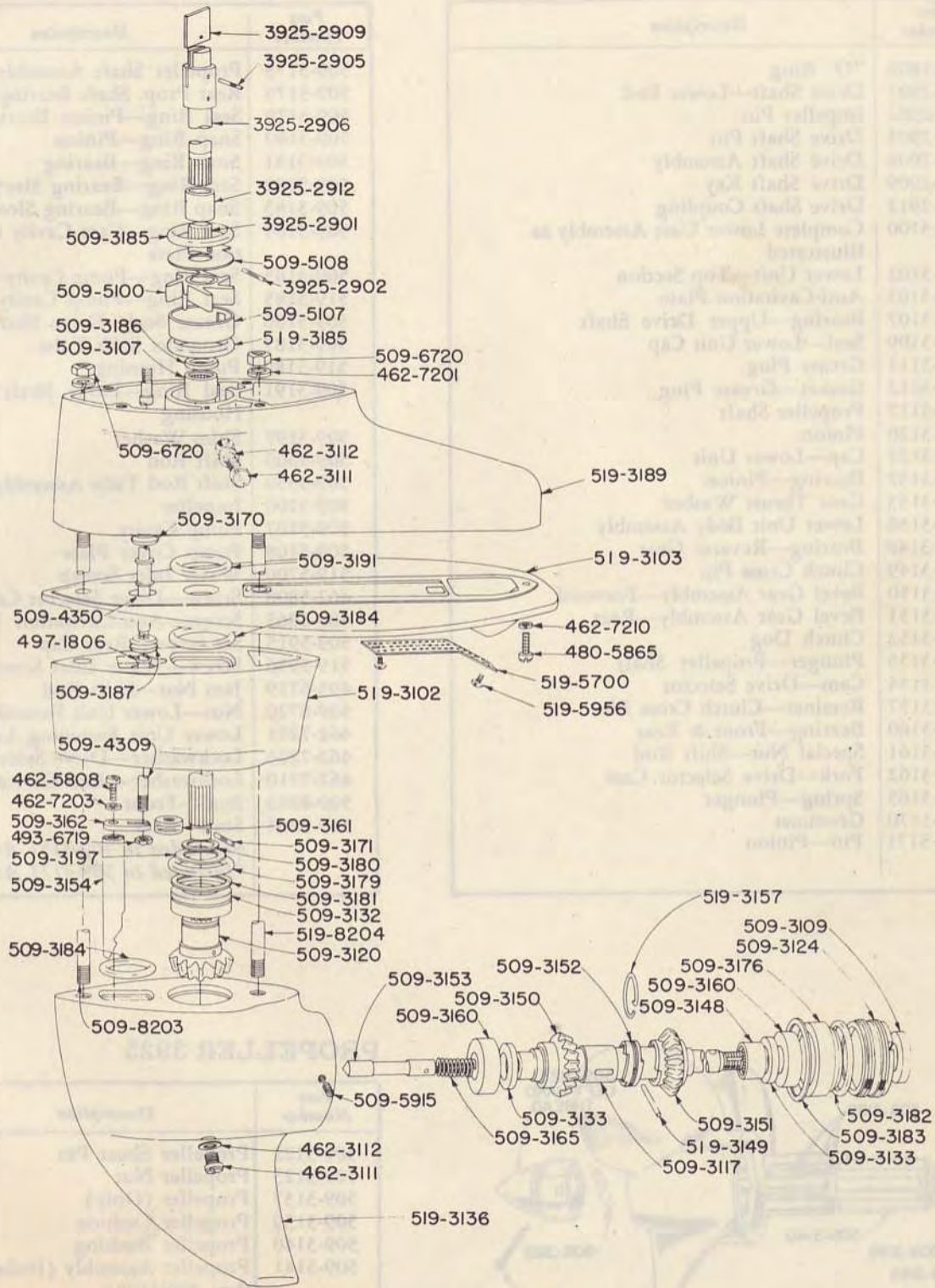
*Included with 3125-3173 Propeller Shaft Assembly



PROPELLER 3825

Part Number	Description
493-3122	Propeller Shear Pin
3125-3123	Propeller Nut
518-3137	Propeller
511-3138	Clutch Cone
480-3139	Clutch Lining
511-3140	Clutch Adjusting Bushing
480-3142	Spring Washer
480-3143	Resilient Washer
519-8608	Cotter Pin

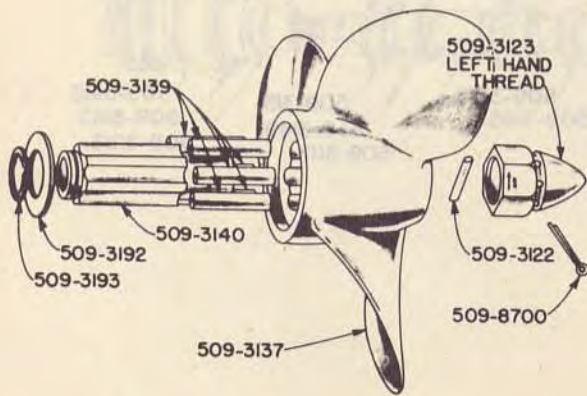
LOWER UNIT 3925



LOWER UNIT 3925

Part Number	Description
497-1806	"O" Ring
3925-2901	Drive Shaft—Lower End
3925-2902	Impeller Pin
3925-2905	Drive Shaft Pin
3925-2906	Drive Shaft Assembly
3925-2909	Drive Shaft Key
3925-2912	Drive Shaft Coupling
3925-3100	Complete Lower Unit Assembly as Illustrated
519-3102	Lower Unit—Top Section
519-3103	Anti-Cavitation Plate
509-3107	Bearing—Upper Drive Shaft
509-3109	Seal—Lower Unit Cap
462-3111	Grease Plug
462-3112	Gasket—Grease Plug
*509-3117	Propeller Shaft
509-3120	Pinion
509-3124	Cap—Lower Unit
509-3132	Bearing—Pinion
509-3133	Gear Thrust Washer
519-3136	Lower Unit Body Assembly
†509-3148	Bearing—Reverse Gear
*519-3149	Clutch Cross Pin
509-3150	Bevel Gear Assembly—Forward
509-3151	Bevel Gear Assembly—Rear
*509-3152	Clutch Dog
*509-3153	Plunger—Propeller Shaft
509-3154	Cam—Drive Selector
519-3157	Retainer—Clutch Cross Pin
509-3160	Bearing—Front & Rear
509-3161	Special Nut—Shift Rod
509-3162	Fork—Drive Selector Cam
*509-3165	Spring—Plunger
509-3170	Grommet
509-3171	Pin—Pinion

Part Number	Description
509-3173	Propeller Shaft Assembly
509-3176	Rear Prop. Shaft Bearing Assembly
509-3179	Seal Ring—Pinion Bearing
509-3180	Snap Ring—Pinion
509-3181	Snap Ring—Bearing
509-3182	Seal Ring—Bearing Sleeve
509-3183	Snap Ring—Bearing Sleeve
509-3184	Seal Ring—Cam Cavity & Anti-Cavitation Plate
509-3185	Seal Ring—Pump Cavity—Top
519-3185	Seal Ring—Pump Cavity—Bottom
509-3186	Grease Seal—Drive Shaft
509-3187	Grommet Shift Tube
519-3189	Pump Housing
509-3191	Seal Ring—Drive Shaft Lower Pump Housing
509-3197	Shim Washer
509-4309	Shift Rod
509-4350	Shift Rod Tube Assembly
509-5100	Impeller
509-5107	Pump Cavity
509-5108	Pump Cover Plate
519-5700	Water Inlet Screen
462-5808	Screw—Drive Selector Cam
480-5865	Screw—Anti-Cavitation Plate
509-5915	Set Screw—Rear Cap
519-5956	Screw—Water Inlet Screen
493-6719	Jam Nut—Shift Rod
509-6720	Nut—Lower Unit Fastening
462-7201	Lower Unit Fastening Lockwasher
462-7203	Lockwasher—Drive Selector Cam
462-7210	Lockwasher—Anti-Cavitation Plate Screw
509-8203	Stud—Front
519-8204	Stud—Rear
†Included in 509-3151 Assembly	
*Included in 509-3173 Assembly	

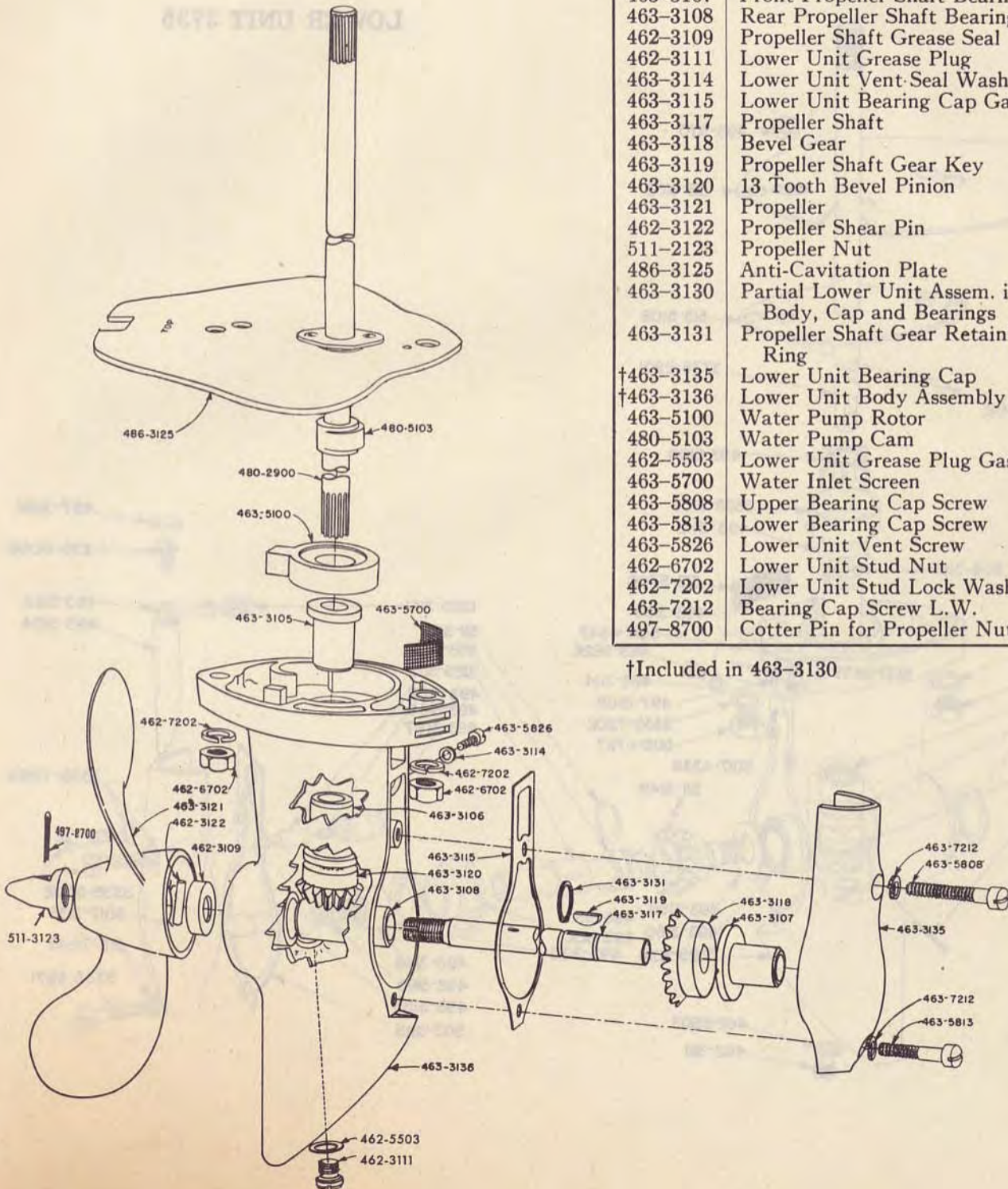


PROPELLER 3925

Part Number	Description
509-3122	Propeller Shear Pin
509-3123	Propeller Nut
509-3137	Propeller (Only)
509-3139	Propeller Cushion
509-3140	Propeller Bushing
509-3141	Propeller Assembly (Includes 509-3137 thru 509-3193)
509-3192	Washer—Propeller Cushion Retainer
509-3193	Retaining Ring—Propeller Bushing
509-8700	Cotter Pin

LOWER UNIT 3035

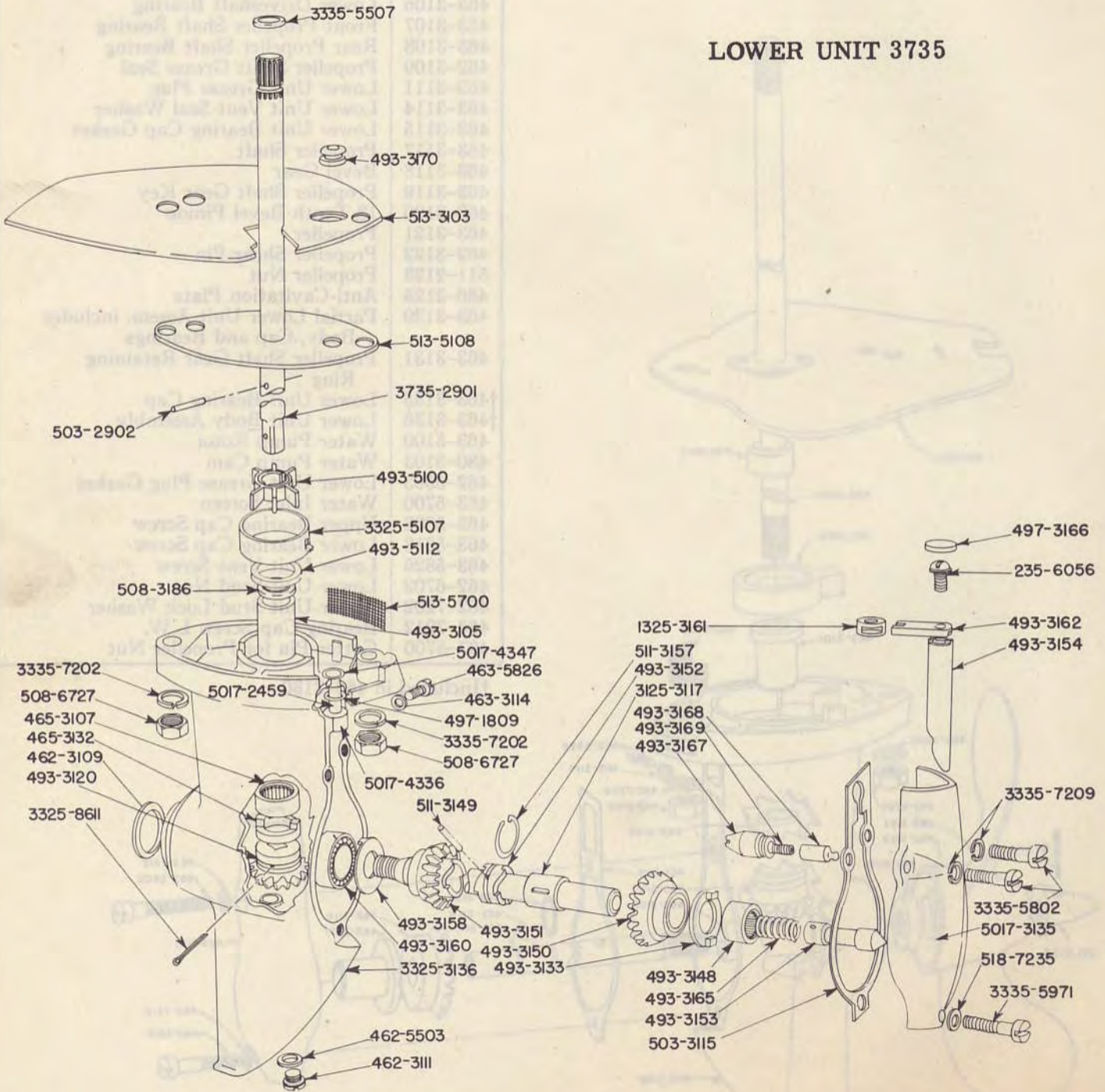
Part Number	Description
480-2900	Driveshaft and Cam Assembly
486-3100	
	Complete Lower Unit Assembly as illustrated except Propeller, Propeller Nut, Cotter Pin and Anti-Cavitation Plate
463-3105	Upper Driveshaft Bearing
463-3106	Lower Driveshaft Bearing
463-3107	Front Propeller Shaft Bearing
463-3108	Rear Propeller Shaft Bearing
462-3109	Propeller Shaft Grease Seal
462-3111	Lower Unit Grease Plug
463-3114	Lower Unit Vent Seal Washer
463-3115	Lower Unit Bearing Cap Gasket
463-3117	Propeller Shaft
463-3118	Bevel Gear
463-3119	Propeller Shaft Gear Key
463-3120	13 Tooth Bevel Pinion
463-3121	Propeller
462-3122	Propeller Shear Pin
511-2123	Propeller Nut
486-3125	Anti-Cavitation Plate
463-3130	Partial Lower Unit Assem. includes Body, Cap and Bearings
463-3131	Propeller Shaft Gear Retaining Ring
†463-3135	Lower Unit Bearing Cap
†463-3136	Lower Unit Body Assembly
463-5100	Water Pump Rotor
480-5103	Water Pump Cam
462-5503	Lower Unit Grease Plug Gasket
463-5700	Water Inlet Screen
463-5808	Upper Bearing Cap Screw
463-5813	Lower Bearing Cap Screw
463-5826	Lower Unit Vent Screw
462-6702	Lower Unit Stud Nut
462-7202	Lower Unit Stud Lock Washer
463-7212	Bearing Cap Screw L.W.
497-8700	Cotter Pin for Propeller Nut



†Included in 463-3130

LOWER UNIT 3735

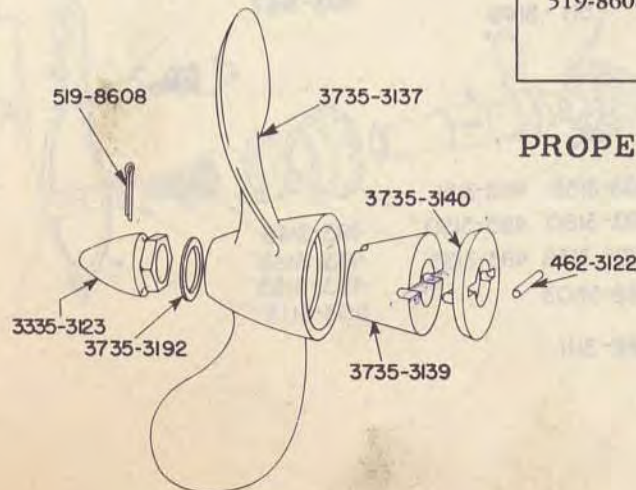
LOWER UNIT 3735



LOWER UNIT 3735

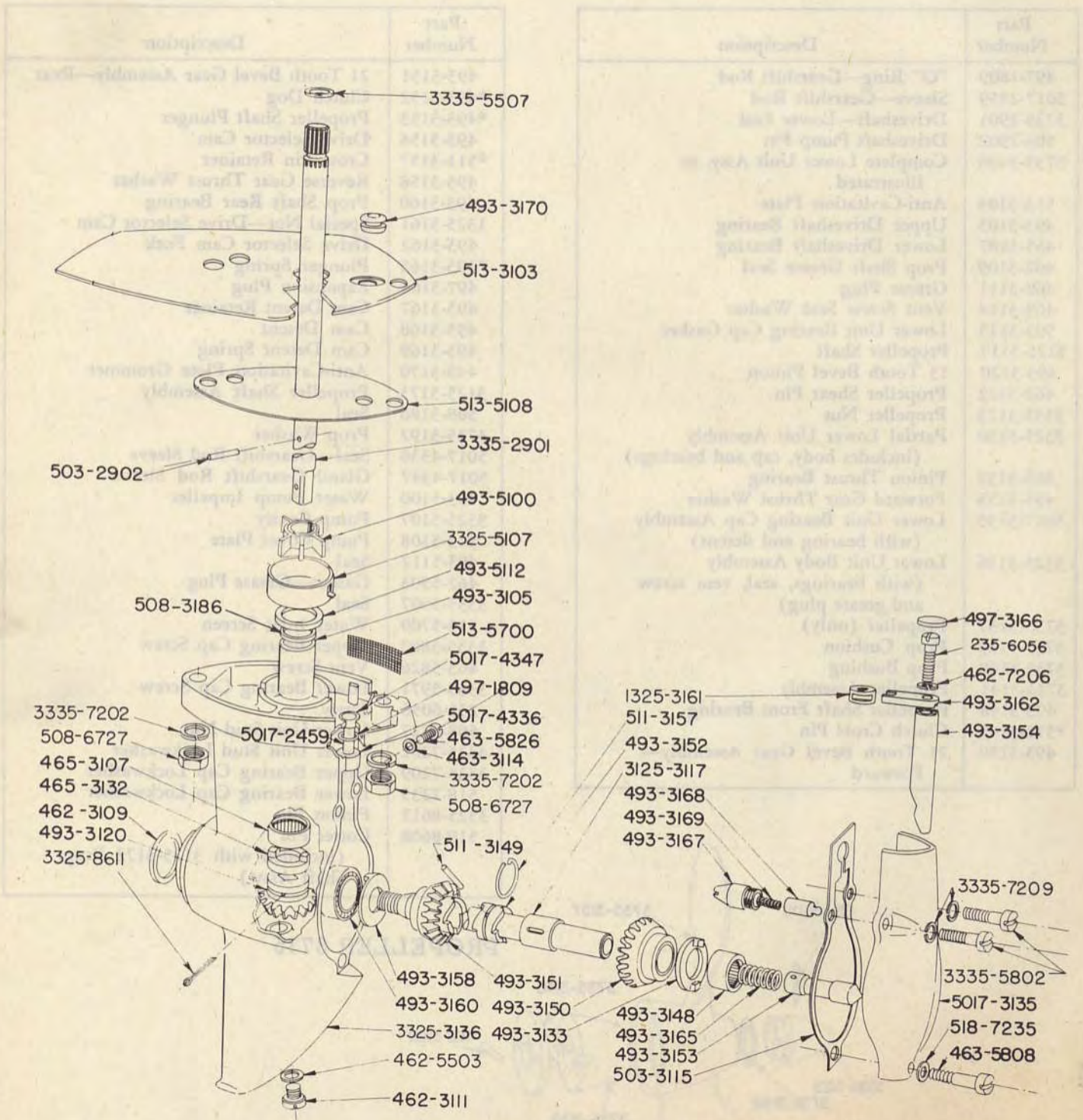
Part Number	Description
497-1809	"O" Ring—Gearshift Rod
5017-2459	Sleeve—Gearshift Rod
3735-2901	Driveshaft—Lower End
503-2902	Driveshaft Pump Pin
3735-3100	Complete Lower Unit Assy. as illustrated
513-3105	Anti-Cavitation Plate
493-3105	Upper Driveshaft Bearing
465-3107	Lower Driveshaft Bearing
462-3109	Prop Shaft Grease Seal
462-3111	Grease Plug
463-3114	Vent Screw Seal Washer
503-3115	Lower Unit Bearing Cap Gasket
3125-3117	Propeller Shaft
493-3120	13 Tooth Bevel Pinion
462-3122	Propeller Shear Pin
3335-3123	Propeller Nut
3325-3130	Partial Lower Unit Assembly (includes body, cap and bearings)
465-3132	Pinion Thrust Bearing
493-3133	Forward Gear Thrust Washer
5017-3135	Lower Unit Bearing Cap Assembly (with bearing and detent)
3325-3136	Lower Unit Body Assembly (with bearings, seal, vent screw and grease plug)
3735-3137	Propeller (only)
3735-3139	Prop Cushion
3735-3140	Prop Bushing
3735-3141	Propeller Assembly
493-3148	Propeller Shaft Front Bearing
*511-3149	Clutch Cross Pin
493-3150	21 Tooth Bevel Gear Assembly—Forward

Part Number	Description
493-3151	21 Tooth Bevel Gear Assembly—Rear
*493-3152	Clutch Dog
*493-3153	Propeller Shaft Plunger
493-3154	Drive Selector Cam
*511-3157	Cross Pin Retainer
493-3158	Reverse Gear Thrust Washer
493-3160	Prop Shaft Rear Bearing
1325-3161	Special Nut—Drive Selector Cam
493-3162	Drive Selector Cam Fork
*493-3165	Plunger Spring
497-3166	Expansion Plug
493-3167	Cam Detent Retainer
493-3168	Cam Detent
493-3169	Cam Detent Spring
493-3170	Anti-Cavitation Plate Grommet
3125-3173	Propeller Shaft Assembly
508-3186	Seal
3735-3192	Prop Washer
5017-4336	Seal—Gearshift Rod Sleeve
5017-4347	Gland Gearshift Rod Sleeve
493-5100	Water Pump Impeller
3325-5107	Pump Cavity
513-5108	Pump Cover Plate
493-5112	Seal
462-5503	Gasket—Grease Plug
3335-5507	Seal
513-5700	Water Inlet Screen
3335-5802	Upper Bearing Cap Screw
463-5826	Vent Screw
3335-5971	Lower Bearing Cap Screw
235-6056	Screw
508-6727	Lower Unit Stud Nut
3335-7202	Lower Unit Stud Lockwasher
3335-7209	Upper Bearing Cap Lockwasher
518-7235	Lower Bearing Cap Lockwasher
3325-8611	Pinion Pin
519-8608	Cotter Pin (included with 3125-3173 Prop. Shaft Assy.)



PROPELLER 3735

LOWER UNIT 3335

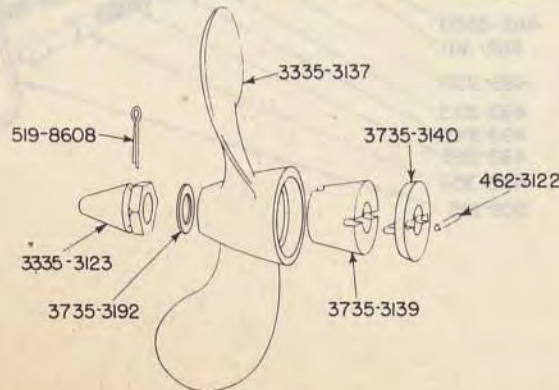


LOWER UNIT 3335

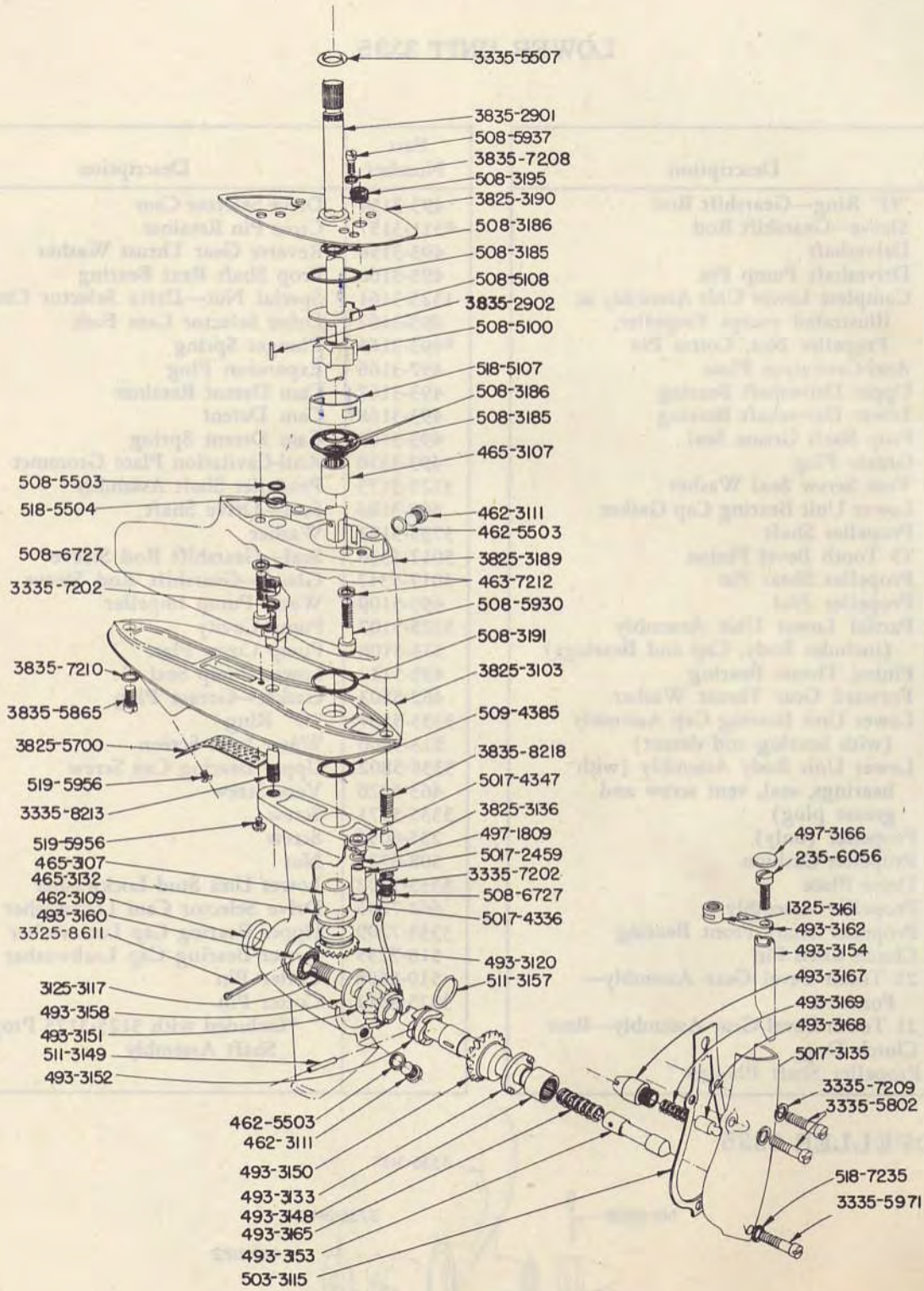
Part Number	Description
497-1809	"O" Ring—Gearshift Rod
5017-2459	Sleeve—Gearshift Rod
3335-2901	Driveshaft
503-2902	Driveshaft Pump Pin
3335-3100	Complete Lower Unit Assembly as illustrated except Propeller, Propeller Nut, Cotter Pin
513-3103	Anti-Cavitation Plate
493-3105	Upper Driveshaft Bearing
465-3107	Lower Driveshaft Bearing
462-3109	Prop Shaft Grease Seal
462-3111	Grease Plug
463-3114	Vent Screw Seal Washer
503-3115	Lower Unit Bearing Cap Gasket
*3125-3117	Propeller Shaft
493-3120	13 Tooth Bevel Pinion
462-3122	Propeller Shear Pin
3335-3123	Propeller Nut
3325-3130	Partial Lower Unit Assembly (includes Body, Cap and Bearings)
465-3132	Pinion Thrust Bearing
493-3133	Forward Gear Thrust Washer
5017-3135	Lower Unit Bearing Cap Assembly (with bearing and detent)
3325-3136	Lower Unit Body Assembly (with bearings, seal, vent screw and grease plug)
3335-3137	Propeller (only)
3735-3139	Propeller Cushion
3735-3140	Drive Plate
3335-3141	Propeller Assembly
493-3148	Propeller Shaft Front Bearing
*511-3149	Clutch Cross Pin
493-3150	21 Tooth Bevel Gear Assembly—Forward
493-3151	21 Tooth Bevel Gear Assembly—Rear
*493-3152	Clutch Dog
*493-3153	Propeller Shaft Plunger

Part Number	Description
493-3154	Drive Selector Cam
*511-3157	Cross Pin Retainer
493-3158	Reverse Gear Thrust Washer
493-3160	Prop Shaft Rear Bearing
1325-3161	Special Nut—Drive Selector Cam
493-3162	Drive Selector Cam Fork
*493-3165	Plunger Spring
497-3166	Expansion Plug
493-3167	Cam Detent Retainer
493-3168	Cam Detent
493-3169	Cam Detent Spring
493-3170	Anti-Cavitation Plate Grommet
3125-3173	Propeller Shaft Assembly
508-3186	Seal—Drive Shaft
3735-3192	Washer
5017-4336	Seal—Gearshift Rod Sleeve
5017-4347	Gland—Gearshift Rod Sleeve
493-5100	Water Pump Impeller
3325-5107	Pump Cavity
513-5108	Pump Cover Plate
493-5112	Lower Pump Seal
462-5503	Gasket—Grease Plug
3335-5507	"O" Ring
513-5700	Water Inlet Screen
3335-5802	Upper Bearing Cap Screw
463-5826	Vent Screw
3335-5971	Screw
235-6056	Screw
508-6727	Nut
3335-7202	Lower Unit Stud Lockwasher
462-7206	Drive Selector Cam Lockwasher
3335-7209	Upper Bearing Cap Lockwasher
518-7235	Lower Bearing Cap Lockwasher
519-8608	Cotter Pin
3325-8611	Cotter Pin
	*Included with 3125-3173 Propeller Shaft Assembly

PROPELLER 3335



LOWER UNIT 3835

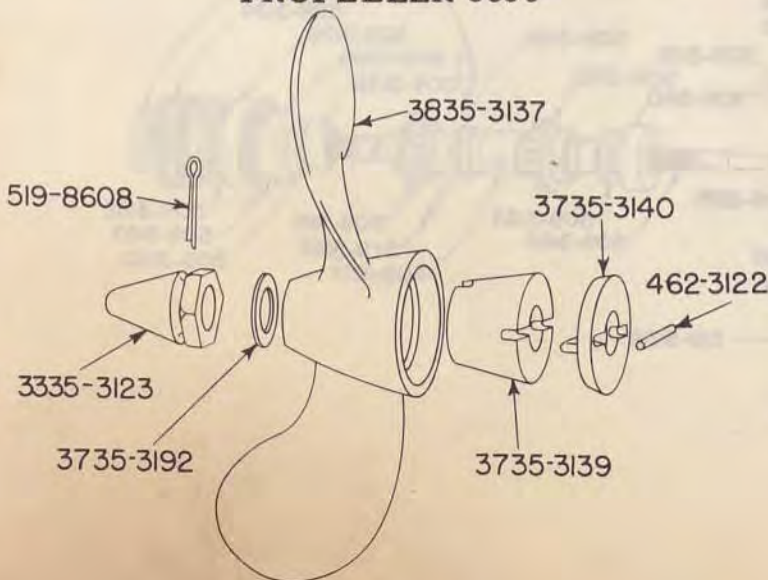


LOWER UNIT 3835

Part Number	Description
497-1809	"O" Ring—Gearshift Rod
5017-2459	Sleeve—Gearshift Rod
3835-2901	Driveshaft
3835-2902	Driveshaft Pump Pin
3835-3100	Complete Lower Unit Assembly as illustrated except Propeller, Propeller Nut, Cotter Pin
3825-3103	Anti-Cavitation Plate
465-3107	Driveshaft Bearing
462-3109	Prop Shaft Grease Seal
462-3111	Grease Plug
503-3115	Lower Unit Bearing Cap Gasket
*3125-3117	Propeller Shaft
493-3120	13 Tooth Bevel Pinion
462-3122	Propeller Shear Pin
3335-3123	Propeller Nut
3825-3130	Partial Lower Unit Assembly (includes Body, Cap and Bearings)
465-3132	Pinion Thrust Bearing
493-3133	Forward Gear Thrust Washer
5017-3135	Lower Unit Bearing Cap Assembly (with bearing and detent)
3825-3136	Lower Unit Body Assembly (with bearings, seal, vent screw and grease plug)
3835-3137	Propeller (only)
3735-3139	Propeller Cushion
3735-3140	Drive Plate
3835-3141	Propeller Assembly
493-3148	Propeller Shaft Front Bearing
*511-3149	Clutch Cross Pin
493-3150	21 Tooth Bevel Gear Assembly Forward
493-3151	21 Tooth Bevel Gear Assembly—Rear
*493-3152	Clutch Dog

Part Number	Description
*493-3153	Propeller Shaft Plunger
493-3154	Drive Selector Cam
*511-3157	Cross Pin Retainer
493-3158	Reverse Gear Thrust Washer
493-3160	Prop Shaft Rear Bearing
1325-3161	Special Nut—Drive Selector Cam
493-3162	Drive Selector Cam Fork
*493-3165	Plunger Spring
497-3166	Expansion Plug
493-3167	Cam Detent Retainer
493-3168	Cam Detent
493-3169	Cam Detent Spring
3125-3173	Propeller Shaft Assembly
508-3185	Seal
508-3186	Seal
3825-3189	Housing
3825-3190	Splash Plate
508-3191	Seal
3735-3192	Washer
508-3195	Grommet
5017-4336	Seal—Gearshift Rod Sleeve
5017-4347	Gland—Gearshift Rod Sleeve
509-4385	Seal
508-5100	Water Pump Impeller
518-5107	Pump Cavity
508-5108	Pump Cover Plate
462-5503	Gasket—Grease Plug
508-5503	Seal
518-5504	Sleeve
3335-5507	"O" Ring
3825-5700	Water Inlet Screen
3335-5802	Upper Bearing Cap Screw
3835-5865	Screw
508-5930	Screw
508-5937	Screw
519-5956	Screw
3335-5971	Screw
235-6056	Screw
508-6727	Nut
3335-7202	Lower Unit Stud Lockwasher
3835-7208	Lockwasher
3335-7209	Upper Bearing Cap Lockwasher
3835-7210	Lockwasher
463-7212	Lockwasher
518-7235	Lower Bearing Cap Lockwasher
3335-8213	Stud
3835-8218	Stud
519-8608	Cotter Pin
3325-8611	Cotter Pin
*Included with 3125-3173 Propeller Shaft Assembly	

PROPELLER 3835

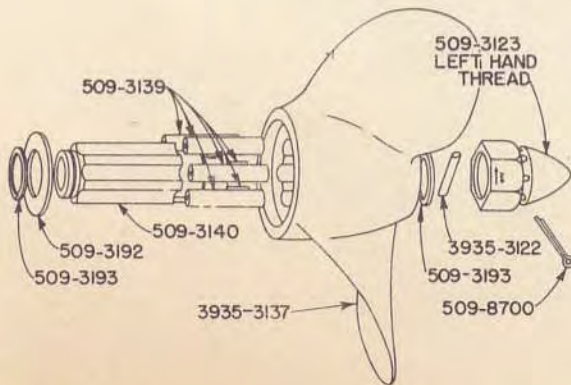


LOWER UNIT 3935

Part Number	Description
497-1806	"O" Ring
3935-2901	Drive Shaft
3935-2902	Impeller Pin
3935-3100	Complete Lower Unit Assembly as Illustrated
519-3102	Lower Unit—Top Section
519-3103	Anti-Cavitation Plate
509-3107	Bearing—Upper Drive Shaft
509-3109	Seal—Lower Unit Cap
462-3111	Grease Plug
*509-3117	Propeller Shaft
509-3120	Pinion
509-3124	Cap—Lower Unit
509-3132	Bearing—Pinion
509-3133	Gear Thrust Washer
519-3136	Lower Unit Body Assembly
†509-3148	Bearing—Reverse Gear
*519-3149	Clutch Cross Pin
509-3150	Bevel Gear Assembly—Forward
509-3151	Bevel Gear Assembly—Rear
*509-3152	Clutch Dog
*509-3153	Plunger—Propeller Shaft
509-3154	Cam—Drive Selector
519-3157	Retainer—Clutch Cross Pin
509-3160	Bearing—Front & Rear
509-3161	Special Nut—Shift Rod
509-3162	Fork—Drive Selector Cam
*509-3165	Spring—Plunger
509-3170	Grommet
509-3173	Propeller Shaft Assembly
509-3176	Rear Prop. Shaft Bearing Assembly
509-3179	Seal Ring—Pinion Bearing
509-3180	Snap Ring—Pinion
509-3181	Snap Ring Bearing

Part Number	Description
509-3182	Seal Ring—Bearing Sleeve
509-3183	Snap Ring—Bearing Sleeve
509-3184	Seal Ring—Cam Cavity & Anti-Cavitation Plate
509-3185	Seal Ring—Pump Cavity—Top
519-3185	Seal Ring—Pump Cavity—Bottom
509-3186	Grease Seal—Drive Shaft
509-3187	Grommet Shift Tube
519-3189	Pump Housing
509-3191	Seal Ring—Drive Shaft Lower Pump Housing
509-3197	Shim Washer
509-4309	Shift Rod
509-4350	Shift Rod Tube Assembly
509-5100	Impeller
509-5107	Pump Cavity
509-5108	Pump Cover Plate
462-5503	Gasket—Grease Plug
519-5700	Water Inlet Screen
519-5700	Water Inlet Screen
462-5808	Screw—Drive Selector Cam
480-5865	Screw—Anti-Cavitation Plate
509-5915	Set Screw—Rear Cap
519-5956	Screw—Water Inlet Screen
493-6719	Jam Nut—Shift Rod
509-6720	Nut—Lower Unit Fastening
462-7201	Lower Unit Fastening Lockwasher
462-7203	Lockwasher—Drive Selector Cam
462-7210	Lockwasher—Anti-Cavitation Plate Screw
509-8203	Stud—Front
519-8204	Stud—Rear
3935-8612	Pin—Pinion
	†Included in 509-3151 Assembly
	*Included in 509-3173 Assembly

Early Model - See 3925

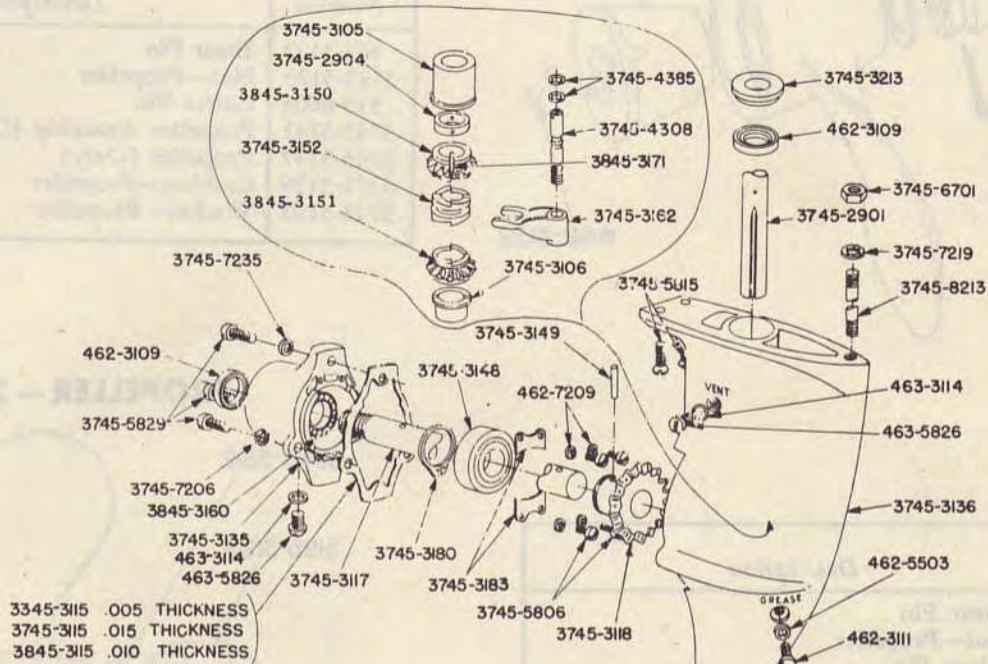


PROPELLER 3935

Part Number	Description
3935-3122	Propeller Shear Pin
509-3123	Propeller Nut
3935-3137	Propeller (Only)
509-3139	Propeller Cushion
509-3140	Propeller Bushing
3935-3141	Propeller Assembly (Includes 3935-3137 thru 509-3193)
509-3192	Washer—Propeller Cushion Retainer
509-3193	Retaining Ring—Propeller Bushing
509-8700	Cotter Pin

(LOWER UNIT — 3045 P-32)

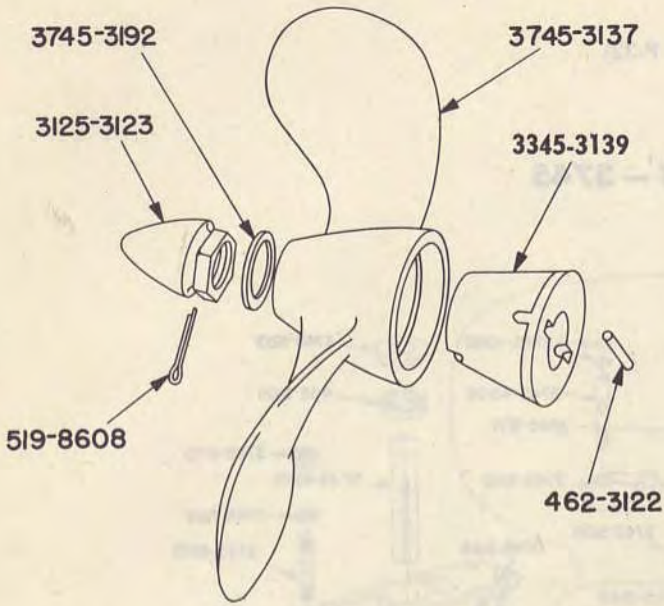
LOWER UNIT — 3745



Part Number	Description
3745-2901	Drive Shaft
3745-2904	Retainer—Drive Shaft
3745-3100	Lower Unit (Complete as Illustrated)
3745-3105	Bearing—Upper—Drive Shaft
3745-3106	Bearing—Lower—Drive Shaft
462-3109	Seal
462-3111	Grease Plug
463-3114	Seal
3345-3115	Gasket—.005 Thickness (Blue)
3745-3115	Gasket—.015 Thickness (Pink)
3845-3115	Gasket—.010 Thickness (Brown)
*3745-3117	Propeller Shaft Only
*3745-3118	Gear—Propeller Shaft
3745-3130	Partial Lower Unit (Body, Cap and Bearings)
3745-3135	Cap Assembly
3745-3136	Body—Lower Unit
*3745-3148	Bearing—Front Propeller Shaft
*3745-3149	Pin—Gear Retainer
3845-3150	Forward Gear Assy.
3845-3151	Reverse Gear Assy.

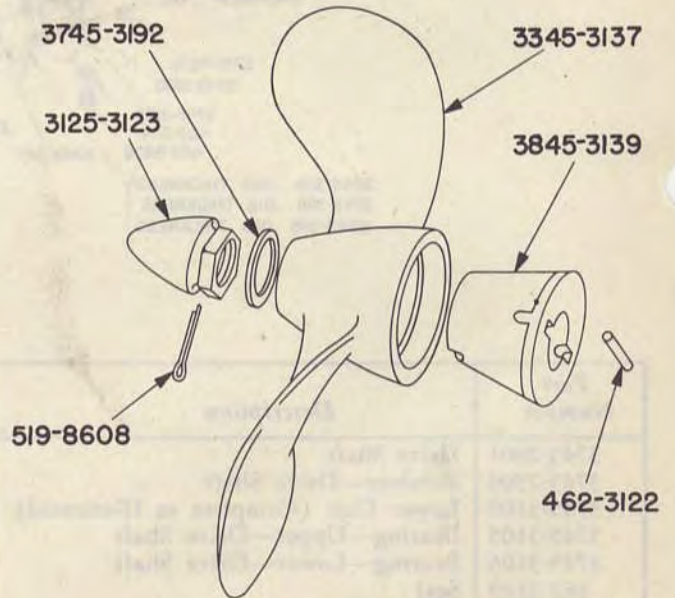
Part Number	Description
3745-3152	Clutch Dog
3845-3160	Bearing—Rear Propeller Shaft
3745-3162	Fork—Drive Selector
3845-3171	Pin—Drive Shaft Retainer
3745-3173	Propeller Shaft Assembly
*3745-3180	Retainer Ring—Front Bearing
*3745-3183	Pin—Gear
3745-3213	Dowel—Lower Unit to Exhaust Case
3745-4308	Extension—Drive Selector Fork
3745-4385	Seal—Fork Extension
462-5503	Seal—Grease Plug
3745-5806	Screw—Bearing Retainer
3745-5815	Screw
463-5826	Vent Screw
3745-5829	Screw—Bearing Cap
3745-6701	Nut
3745-7206	Lockwasher
462-7209	Lockwasher
3745-7219	Lockwasher
3745-7235	Washer
3745-8213	Stud—Lower Unit
	*Included in 3745-3173 Assembly

PROPELLER — 3745



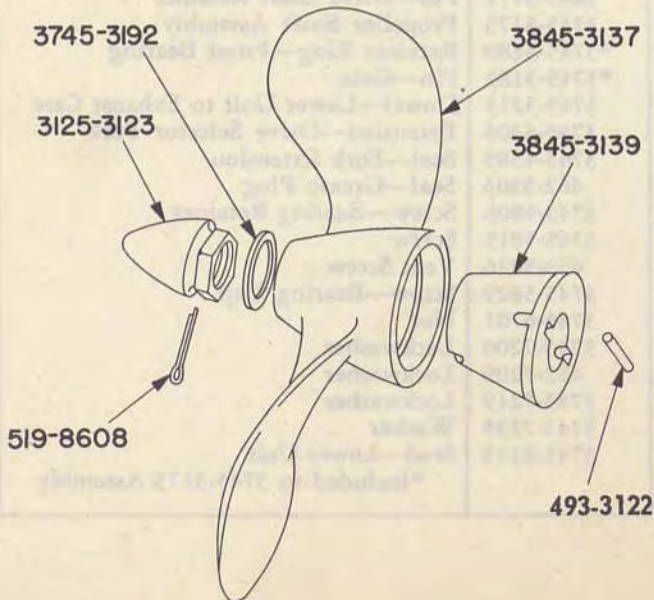
Part Number	Description
462-3122	Shear Pin
3125-3123	Nut—Propeller
519-8608	Cotter Pin
3745-3141	Propeller Assembly (Complete)
3745-3137	Propeller (Only)
3345-3139	Cushion—Propeller
3745-3192	Washer—Propeller

PROPELLER — 3345



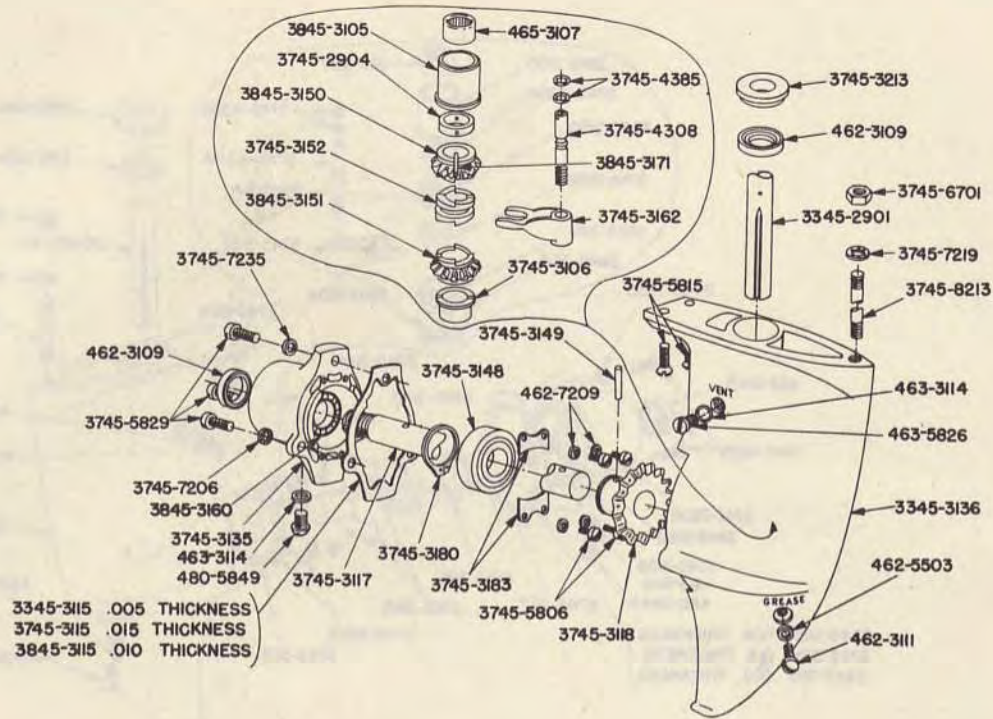
Part Number	Description
462-3122	Shear Pin
3125-3123	Nut—Propeller
519-8608	Cotter Pin
3345-3141	Propeller Assembly (Complete)
3345-3137	Propeller (Only)
3845-3139	Cushion—Propeller
3745-3192	Washer—Propeller

PROPELLER — 3845, 3855



Part Number	Description
493-3122	Shear Pin
3125-3123	Nut—Propeller
3845-3137	Propeller (only)
3845-3139	Cushion—Propeller
3845-3141	Propeller Assembly (complete)
3745-3192	Washer—Propeller
519-8608	Cotter Pin

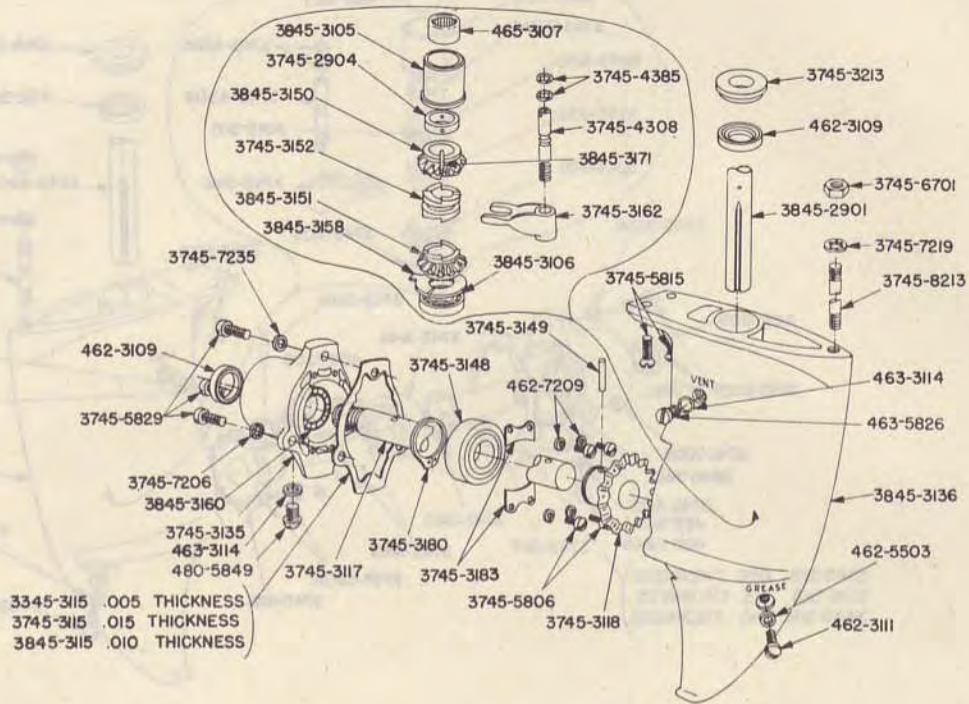
LOWER UNIT - 3345



Part Number	Description
3345-2901	Drive Shaft
3745-2904	Retainer—Drive Shaft
3345-3100	Lower Unit (Complete as Illustrated)
3845-3105	Bearing Retainer—Upper—Drive Shaft
3745-3106	Bearing—Lower—Drive Shaft
465-3107	Roller Bearing—Upper—Drive Shaft
462-3109	Seal
462-3111	Grease Plug
463-3114	Seal
3345-3115	Gasket—.005 Thickness (Blue)
3745-3115	Gasket—.015 Thickness (Pink)
3845-3115	Gasket—.010 Thickness (Brown)
*3745-3117	Propeller Shaft Only
*3745-3118	Gear—Propeller Shaft
3345-3130	Partial Lower Unit (Body, Cap and Bearings)
3745-3135	Cap Assembly
3345-3136	Body—Lower Unit
*3745-3148	Bearing—Front Propeller Shaft
*3745-3149	Pin—Gear Retainer
3845-3150	Gear—Forward
3845-3151	Gear—Rear

Part Number	Description
3745-3152	Clutch Dog
3845-3160	Bearing—Rear Propeller Shaft
3745-3162	Fork—Drive Selector
3845-3171	Pin—Drive Shaft Retainer
3745-3173	Propeller Shaft Assembly
*3745-3180	Retainer Ring—Front Bearing
*3745-3183	Retainer Plate—Front Bearing
3745-3213	Dowel—Lower Unit to Exhaust Case
3745-4308	Extension—Drive Selector Fork
3745-4385	Seal—Fork Extension
462-5503	Seal—Grease Plug
3745-5806	Screw—Bearing Retainer
3745-5815	Screw
463-5826	Vent Screw
3745-5829	Screw—Bearing Cap
480-5849	Drain Screw
3745-6701	Nut
3745-7206	Lockwasher
462-7209	Lockwasher
3745-7219	Lockwasher
3745-7235	Washer
3745-8213	Stud—Lower Unit
*Included in 3745-3173 Assembly	

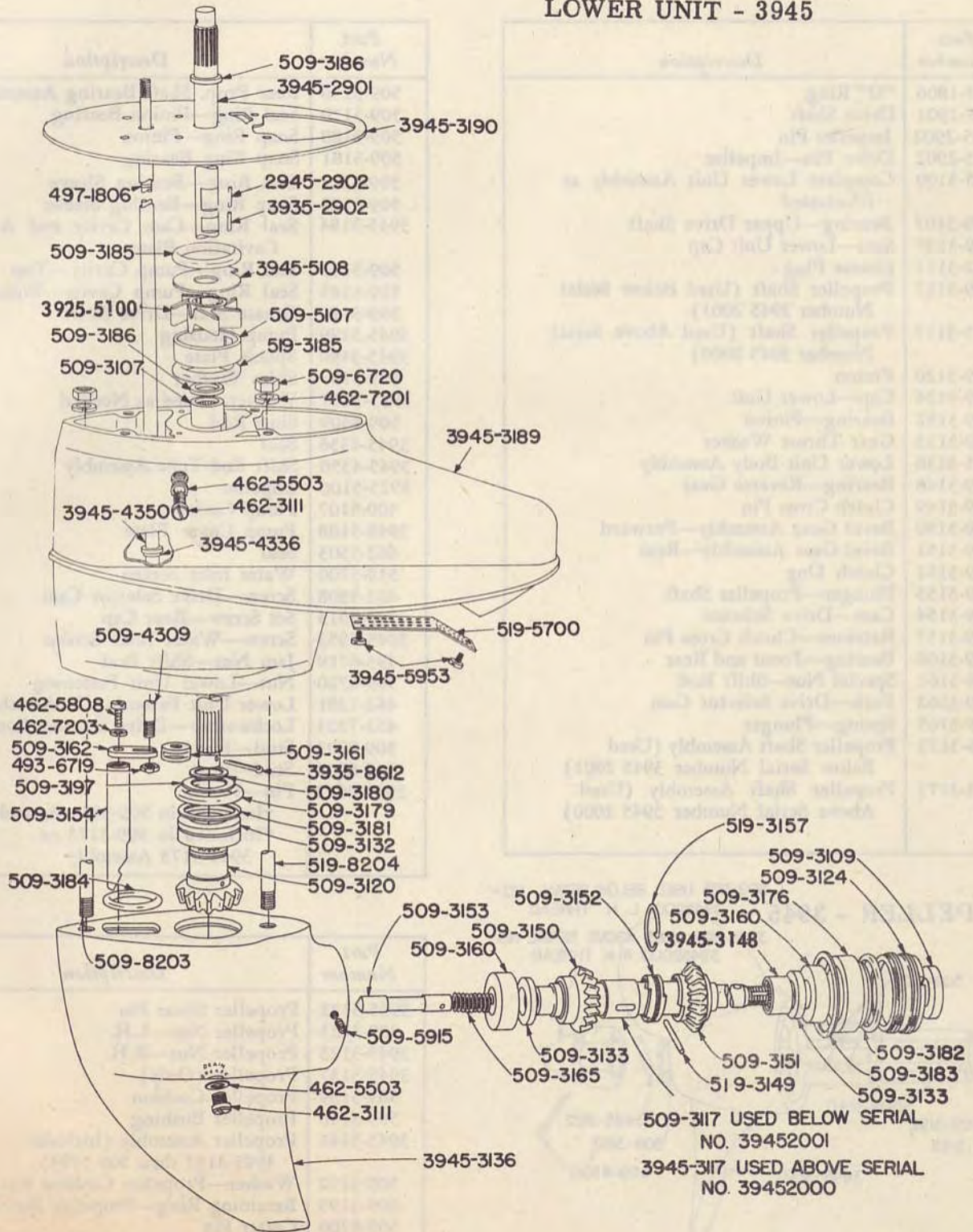
LOWER UNIT - 3845



Part Number	Description
3845-2901	Drive Shaft
3745-2904	Retainer—Drive Shaft
3845-3100	Lower Unit (Complete as Illustrated)
3845-3105	Bearing Retainer—Upper—Drive Shaft
3845-3106	Bearing—Lower—Drive Shaft
465-3107	Roller Bearing—Upper—Drive Shaft
462-3109	Seal
462-3111	Grease Plug
463-3114	Seal
3345-3115	Gasket—.005 Thickness (Blue)
3745-3115	Gasket—.015 Thickness (Pink)
3845-3115	Gasket—.010 Thickness (Brown)
*3745-3117	Propeller Shaft Only
*3745-3118	Gear—Propeller Shaft
3845-3130	Partial Lower Unit (Body, Cap and Bearings)
3745-3135	Cap Assembly
3845-3136	Body—Lower Unit
*3745-3148	Bearing—Front Propeller Shaft
*3745-3149	Pin—Gear Retainer
3845-3150	Gear—Forward
3845-3151	Gear—Rear

Part Number	Description
3745-3152	Clutch Dog
3845-3158	Thrust Washer
3845-3160	Bearing—Rear Propeller Shaft
3745-3162	Fork—Drive Selector
3845-3171	Pin—Drive Shaft Retainer
3745-3173	Propeller Shaft Assembly
*3745-3180	Retainer Ring—Front Bearing
*3745-3183	Retainer Plate—Front Bearing
3745-3213	Dowel—Lower Unit to Exhaust Case
3745-4308	Extension—Drive Selector Fork
3745-4385	Seal—Fork Extension
462-5503	Seal—Grease Plug
3745-5806	Screw—Bearing Retainer
3745-5815	Screw
463-5826	Vent Screw
3745-5829	Screw—Bearing Cap
480-5849	Drain Screw
3745-6701	Nut
3745-7206	Lockwasher
462-7209	Lockwasher
3745-7219	Lockwasher
3745-7235	Washer
3745-8213	Stud—Lower Unit
*Included in 3745-3173 Assembly	

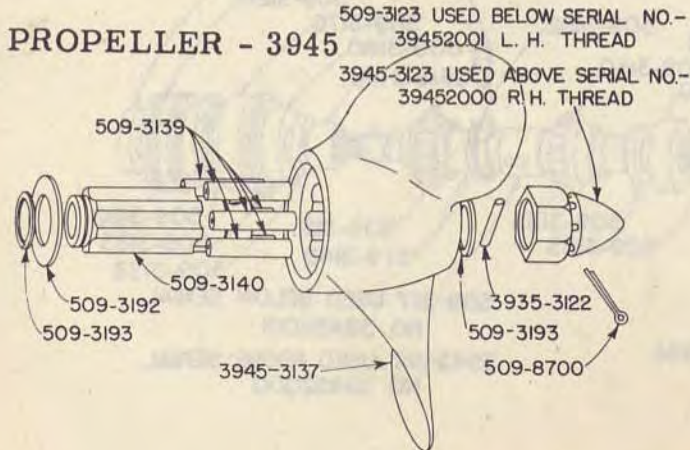
LOWER UNIT - 3945



LOWER UNIT - 3945

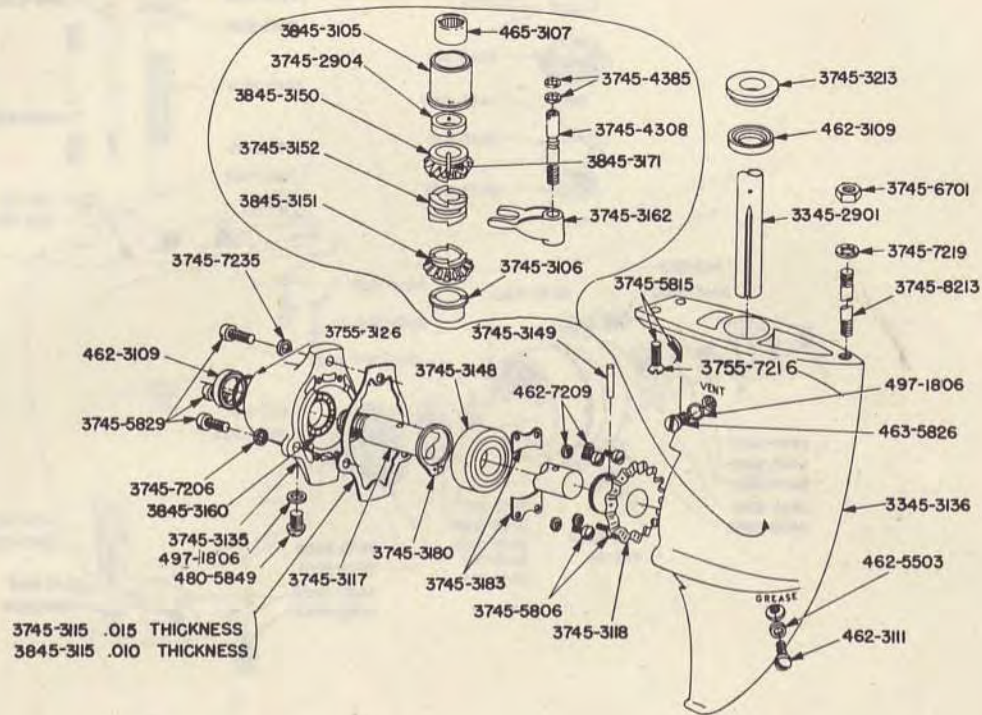
Part Number	Description
497-1806	"O" Ring
3945-2901	Drive Shaft
3935-2902	Impeller Pin
2945-2902	Drive Pin—Impeller
3945-3100	Complete Lower Unit Assembly as Illustrated
509-3107	Bearing—Upper Drive Shaft
509-3109	Seal—Lower Unit Cap
462-3111	Grease Plug
*509-3117	Propeller Shaft (Used Below Serial Number 3945 2001)
*3945-3117	Propeller Shaft (Used Above Serial Number 3945 2000)
509-3120	Pinion
509-3124	Cap—Lower Unit
509-3132	Bearing—Pinion
509-3133	Gear Thrust Washer
3945-3136	Lower Unit Body Assembly
†509-3148	Bearing—Reverse Gear
*519-3149	Clutch Cross Pin
509-3150	Bevel Gear Assembly—Forward
509-3151	Bevel Gear Assembly—Rear
*509-3152	Clutch Dog
*509-3153	Plunger—Propeller Shaft
509-3154	Cam—Drive Selector
519-3157	Retainer—Clutch Cross Pin
509-3160	Bearing—Front and Rear
509-3161	Special Nut—Shift Rod
509-3162	Fork—Drive Selector Cam
*509-3165	Spring—Plunger
509-3173	Propeller Shaft Assembly (Used Below Serial Number 3945 2001)
3945-3173	Propeller Shaft Assembly (Used Above Serial Number 3945 2000)

Part Number	Description
509-3176	Rear Prop. Shaft Bearing Assembly
509-3179	Seal Ring—Pinion Bearing
509-3180	Snap Ring—Pinion
509-3181	Snap Ring Bearing
509-3182	Seal Ring—Bearing Sleeve
509-3183	Snap Ring—Bearing Sleeve
3945-3184	Seal Ring—Cam Cavity and Anti-Cavitation Plate
509-3185	Seal Ring—Pump Cavity—Top
519-3185	Seal Ring—Pump Cavity—Bottom
509-3186	Grease Seal—Drive Shaft
3945-3189	Pump Housing
3945-3190	Splash Plate
509-3197	Shim Washer
3935-3197	Washer—Used as Needed
509-4309	Shift Rod
3945-4336	Seal
3945-4350	Shift Rod Tube Assembly
3925-5100	Impeller
509-5107	Pump Cavity
3945-5108	Pump Cover Plate
462-5503	Seal
519-5700	Water Inlet Screen
462-5808	Screw—Drive Selector Cam
509-5915	Set Screw—Rear Cap
3945-5953	Screw—Water Inlet Screen
493-6719	Jam Nut—Shift Rod
509-6720	Nut—Lower Unit Fastening
462-7201	Lower Unit Fastening Lockwasher
462-7203	Lockwasher—Drive Selector Cam
509-8203	Stud—Front
519-8204	Stud—Rear
3935-8612	Pin—Pinion
	†Included in 509-3151 Assembly
	*Included in 509-3173 or 3945-3173 Assembly



Part Number	Description
3935-3122	Propeller Shear Pin
509-3123	Propeller Nut—L.H.
3945-3123	Propeller Nut—R.H.
3945-3137	Propeller (Only)
509-3139	Propeller Cushion
509-3140	Propeller Bushing
3945-3141	Propeller Assembly (Includes 3945-3137 thru 509-3193)
509-3192	Washer—Propeller Cushion Retainer
509-3193	Retaining Ring—Propeller Bushing
509-8700	Cotter Pin

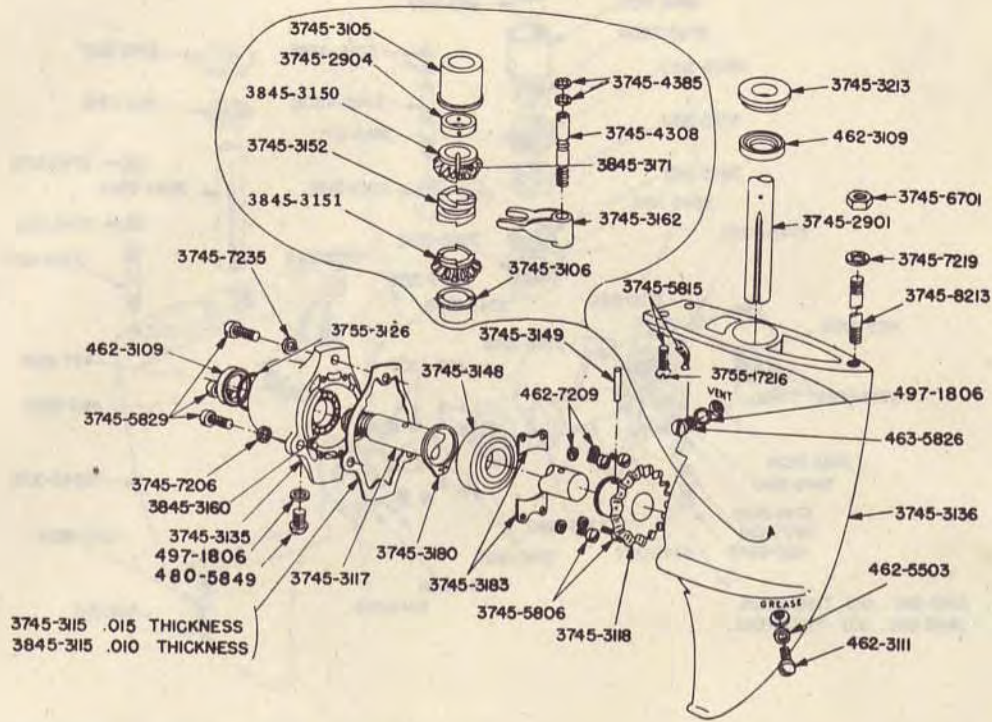
LOWER UNIT — 3355



Part Number	Description
497-1806	Seal
3345-2901	Drive Shaft
3745-2904	Retainer—Drive Shaft
3345-3100	Lower Unit (Complete as Illustrated)
3845-3105	Bearing Retainer—Upper—Drive Shaft
3745-3106	Bearing—Lower—Drive Shaft
465-3107	Roller Bearing—Upper—Drive Shaft
462-3109	Seal
462-3111	Grease Plug
3745-3115	Gasket—.015 Thickness
3845-3115	Gasket—.010 Thickness
*3745-3117	Propeller Shaft Only
*3745-3118	Gear—Propeller Shaft
3755-3126	"O" Ring
3345-3130	Partial Lower Unit (Body, Cap and Bearings)
3745-3135	Cap Assembly
3345-3136	Body—Lower Unit
*3745-3148	Bearing—Front Propeller Shaft
*3745-3149	Pin—Gear Retainer
3845-3150	Gear—Forward
3845-3151	Gear—Rear

Part Number	Description
3745-3152	Clutch Dog
3845-3160	Bearing—Rear Propeller Shaft
3745-3162	Fork—Drive Selector
3845-3171	Pin—Drive Shaft Retainer
3745-3173	Propeller Shaft Assembly
*3745-3180	Retainer Ring—Front Bearing
*3745-3183	Retainer Plate—Front Bearing
3745-3213	Dowel—Lower Unit to Exhaust Case
3745-4308	Extension—Drive Selector Fork
3745-4385	Seal—Fork Extension
462-5503	Seal—Grease Plug
3745-5806	Screw—Bearing Retainer
3745-5815	Screw
463-5826	Vent Screw
3745-5829	Screw—Bearing Cap
480-5849	Drain Screw
3745-6701	Nut
3745-7206	Lockwasher
462-7209	Lockwasher
3755-7216	Lockwasher
3745-7219	Lockwasher
3745-7235	Washer
3745-8213	Stud—Lower Unit
*Included in 3745-3173 Assembly	

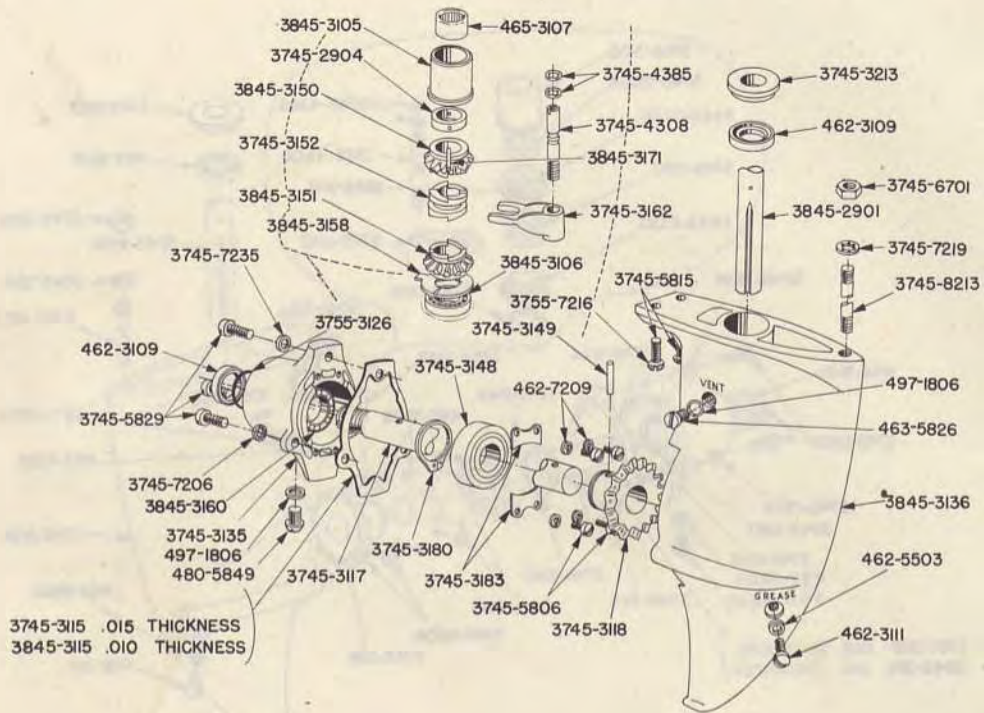
LOWER UNIT- 3755



Part Number	Description
497-1806	Seal
3745-2901	Drive Shaft
3745-2904	Retainer - Drive Shaft
3745-3100	Lower Unit (Complete as Illustrated)
3745-3105	Bearing - Upper - Drive Shaft
3745-3106	Bearing - Lower - Drive Shaft
462-3109	Seal
462-3111	Grease Plug
3745-3115	Gasket - .015 Thickness
3845-3115	Gasket - .010 Thickness
*3745-3117	Propeller Shaft Only
*3745-3118	Gear - Propeller Shaft
3755-3126	"O" Ring
3745-3130	Partial Lower Unit (Body, Cap and Bearings)
3745-3135	Cap Assembly
3745-3136	Body - Lower Unit
*3745-3148	Bearing - Front Propeller Shaft
*3745-3149	Pin - Gear Retainer
3845-3150	Forward Gear Assy.
3845-3151	Reverse Gear Assy.

Part Number	Description
3745-3152	Clutch Dog
3845-3160	Bearing - Rear Propeller Shaft
3745-3162	Fork - Drive Selector
3845-3171	Pin - Drive Shaft Retainer
3745-3173	Propeller Shaft Assembly
*3745-3180	Retainer Ring - Front Bearing
*3745-3183	Retainer
3745-3213	Dowel - Lower Unit to Exhaust Case
3745-4308	Extension - Drive Selector Fork
3745-4385	Seal - Fork Extension
462-5503	Seal - Grease Plug
3745-5806	Screw - Bearing Retainer
3745-5815	Screw
463-5826	Vent Screw
3745-5829	Screw - Bearing Cap
480-5849	Vent Screw
3745-6701	Nut
3745-7206	Lockwasher
462-7209	Lockwasher
3755-7216	Lockwasher
3745-7219	Lockwasher
3745-7235	Washer
3745-8213	Stud - Lower Unit
*Included in 3745-3173 Assembly	

LOWER UNIT-3855



Part Number	Description
497-1806	Seal
3845-2901	Drive Shaft
3745-2904	Retainer—Drive Shaft
3845-3100	Lower Unit (Complete as Illustrated)
3845-3105	Bearing Retainer—Upper—Drive Shaft
3845-3106	Bearing—Lower—Drive Shaft
465-3107	Roller Bearing—Upper—Drive Shaft
462-3109	Seal
462-3111	Grease Plug
3745-3115	Gasket
3845-3115	Gasket
*3745-3117	Propeller Shaft Only
*3745-3118	Gear—Propeller Shaft
3755-3126	"O" Ring
3845-3130	Partial Lower Unit (Body, Cap and Bearings)
3745-3135	Cap Assembly
3845-3136	Body—Lower Unit
*3745-3148	Bearing—Front Propeller Shaft
*3745-3149	Pin—Gear Retainer
3845-3150	Gear—Forward
3845-3151	Gear—Rear

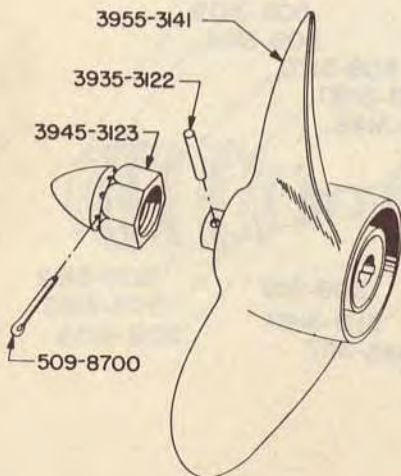
Part Number	Description
3745-3152	Clutch Dog
3845-3158	Thrust Washer
3845-3160	Bearing—Rear Propeller Shaft
3745-3162	Fork—Drive Selector
3845-3171	Pin—Drive Shaft Retainer
3745-3173	Propeller Shaft Assembly
*3745-3180	Retainer Ring—Front Bearing
3745-3183	Retainer Plate—Front Bearing
3745-3213	Dowel—Lower Unit to Exhaust Case
3745-4308	Extension—Drive Selector Fork
3745-4385	Seal—Fork Extension
462-5503	Seal—Grease Plug
3745-5806	Screw—Bearing Retainer
3745-5815	Screw
463-5826	Vent Screw
3745-5829	Screw—Bearing Cap
480-5849	Drain Screw
3745-6701	Nut
3745-7206	Lockwasher
462-7209	Lockwasher
3755-7216	Lockwasher
3745-7219	Lockwasher
3745-7235	Washer
3745-8213	Stud—Lower Unit
	*Included in 3745-3173 Assembly

LOWER UNIT—3955

Part Number	Description
497-1806	"O" Ring
3945-2901	Drive Shaft
3935-2902	Impeller Pin
2945-2902	Drive Pin—Impeller
3955-3100	Complete Lower Unit Assembly as Illustrated
509-3107	Bearing—Upper Drive Shaft
509-3109	Seal—Lower Unit Cap
462-3111	Grease Plug
*3945-3117	Propeller Shaft
509-3120	Pinion
509-3124	Cap—Lower Unit
509-3132	Bearing—Pinion
509-3133	Gear Thrust Washer
3945-3136	Lower Unit Body Assembly
†509-3148	Bearing—Reverse Gear
*519-3149	Clutch Cross Pin
509-3150	Bevel Gear Assembly—Forward
509-3151	Bevel Gear Assembly—Rear
*509-3152	Clutch Dog
*509-3153	Plunger—Propeller Shaft
509-3154	Cam—Drive Selector
519-3157	Retainer—Clutch Cross Pin
509-3160	Bearing—Front and Rear
509-3161	Special Nut—Shift Rod
509-3162	Fork—Drive Selector Cam
*509-3165	Spring—Plunger
3945-3173	Propeller Shaft Assembly

Part Number	Description
509-3176	Rear Prop. Shaft Bearing Assembly
509-3179	Seal Ring—Pinion Bearing
509-3180	Snap Ring—Pinion
509-3181	Snap Ring Bearing
509-3182	Seal Ring—Bearing Sleeve
509-3183	Snap Ring—Bearing Sleeve
3945-3184	Seal Ring—Cam Cavity and Anti-Cavitation Plate
509-3185	Seal Ring—Pump Cavity—Top
519-3185	Seal Ring—Pump Cavity—Bottom
509-3186	Grease Seal—Drive Shaft
3955-3189	Pump Housing
3945-3190	Splash Plate
509-3197	Shim Washer
509-4309	Shift Rod
3945-4336	Seal
3945-4350	Shift Rod Tube Assembly
509-5100	Impeller
509-5107	Pump Cavity
3945-5108	Pump Cover Plate
462-5503	Seal
519-5700	Water Inlet Screen
3955-5704	Exhaust Valve
3955-5705	Retainer
462-5808	Screw—Drive Selector Cam
3945-5953	Screw—Water Inlet Screen
3955-6001	Screw
493-6719	Jam Nut—Shift Rod
509-6720	Nut—Lower Unit Fastening
462-7201	Lower Unit Fastening Lockwasher
462-7203	Lockwasher—Drive Selector Cam
509-8203	Stud—Front
519-8204	Stud—Rear
3935-8612	Pin—Pinion
	†Included in 509-3151 Assembly
	*Included in 3945-3173 Assembly

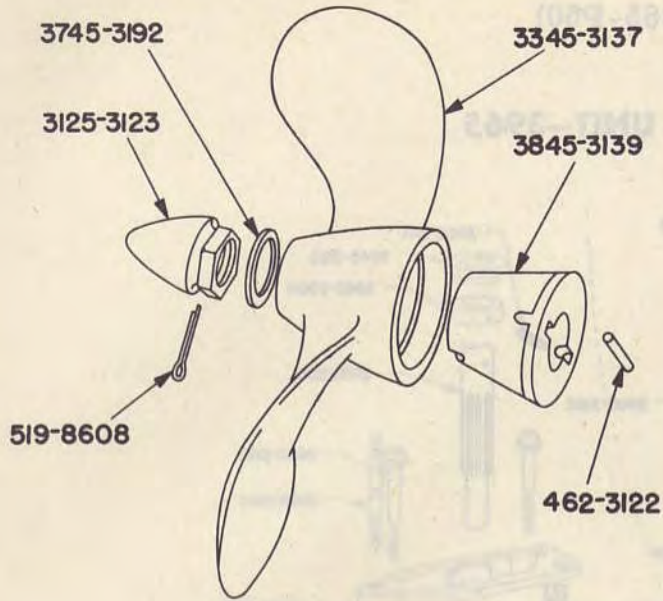
PROPELLER — 3955



Part Number	Description
3935-3122	Propeller Shear Pin
3945-3123	Propeller Nut
3955-3141	Propeller Assembly
509-8700	Cotter Pin

PROPELLER — 3355

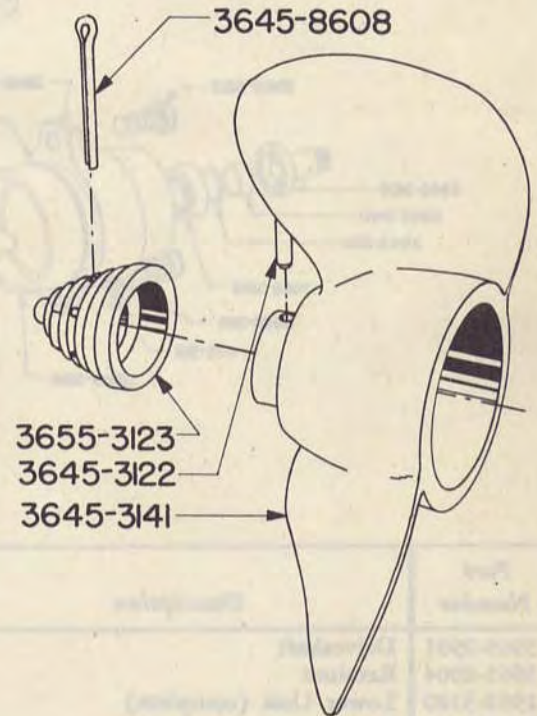
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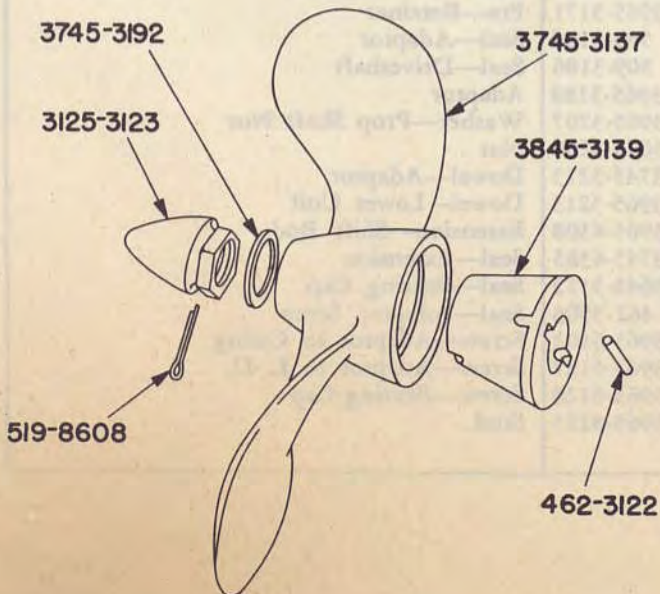
Part Number	Description
462-3122	Shear Pin
3125-3123	Nut—Propeller
3345-3137	Propeller (Only)
3845-3139	Cushion—Propeller
3345-3141	Propeller Assembly (Complete)
3745-3192	Washer—Propeller
519-8608	Cotter Pin

PROPELLER — 3655

Part Number	Description
3645-3122	Shear Pin
3655-3123	Nut
3645-3141	Propeller Assembly
3645-8608	Cotter Pin



PROPELLER — 3755



Part Number	Description
462-3122	Shear Pin
3125-3123	Nut—Propeller
3745-3137	Propeller (Only)
3845-3139	Cushion—Propeller
3745-3141	Propeller Assembly (Complete)
3745-3192	Washer—Propeller
519-8608	Cotter Pin

(LOWER UNIT, PUMP, AND PROPELLER- 3065 -P32)

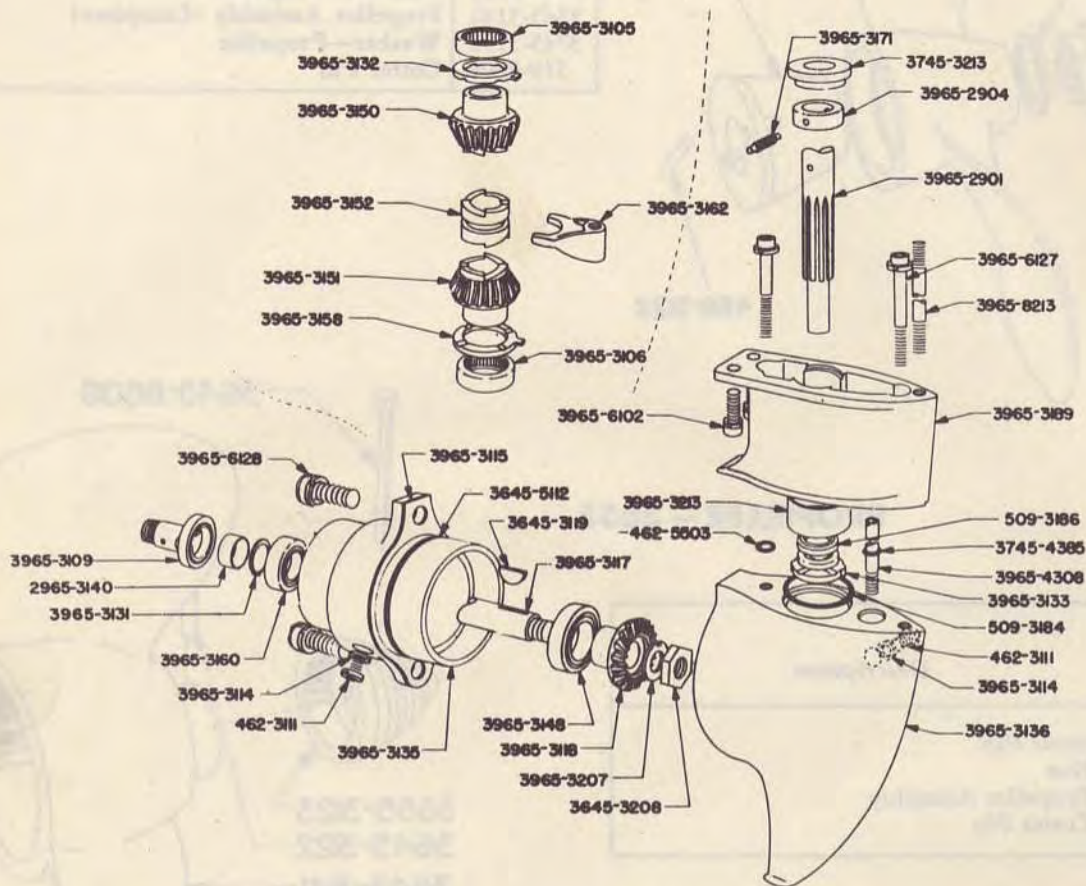
(Lower Unit - 3365-P47)

(Lower Unit - 3065-P48)

(Lower Unit - 3765-P49)

(Lower Unit - 3865-P50)

LOWER UNIT-3965

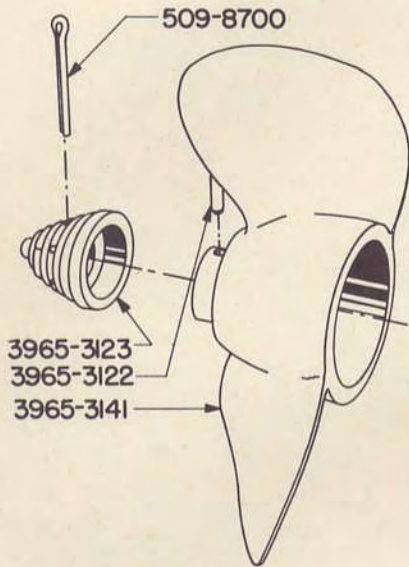


Part Number	Description
3965-2901	Driveshaft
3965-2904	Retainer
1965-3100	Lower Unit (complete)
3965-3105	Bearing—Forward Gear
3965-3106	Bearing—Reverse Gear
3965-3109	Seal—Prop Shaft
462-3111	Screw—Fill and Drain
3965-3114	Seal—Fill and Drain Screw
3965-3115	Shim—Cap to Body
3965-3117	Shaft
3965-3118	Gear—Prop Shaft
3645-3119	Key—Gear to Shaft
3965-3130	Partial Lower Unit—Cap and Body Assy.
3965-3131	Retaining Ring
3965-3132	Thrustwasher—Forward Gear
3965-3133	Thrustwasher—Driveshaft
3965-3135	Cap Assembly
3965-3136	Body Assembly
2965-3140	Sleeve
3965-3148	Bearing—Front
3965-3150	Gear Assy.—Forward
3965-3151	Gear Assy.—Reverse

Part Number	Description
3965-3152	Clutch Dog
3965-3158	Thrustwasher—Reverse Gear
3965-3160	Bearing—Rear
3965-3162	Fork—Drive Selector
3965-3171	Pin—Retainer
509-3184	Seal—Adaptor
509-3186	Seal—Driveshaft
3965-3189	Adaptor
3965-3207	Washer—Prop Shaft Nut
3645-3208	Nut
3745-3213	Dowel—Adaptor
3965-3213	Dowel—Lower Unit
3965-4308	Extension—Shift Rod
3745-4385	Seal—Extension
3645-5112	Seal—Bearing Cap
462-5503	Seal—Adaptor Screw
3965-6102	Screw—Adaptor to Casing
3965-6127	Screw—Adaptor to L. U.
3965-6128	Screw—Bearing Cap
3965-8213	Stud

(PROPELLER - 3065 P32)
(PROPELLER - 3865 P42)

PROPELLER—3965



<i>Part Number</i>	<i>Description</i>
3965-3122	Shear Pin
3965-3123	Nut—Prop.
3965-3141	Propeller
509-8700	Cotter Pin

SCOTT-ATWATER SERVICE MANUAL

SECTION H - POWERHEAD SUPPORT

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POWER HEAD SUPPORT

The entire powerhead is removable from the lower motor casing or exhaust housing by removal of the six nuts (or bolts, as the case may be) located immediately under the powerhead mounting flange on the lower motor casing. The lower motor casing contains no working or wearing parts - it simply provides an exhaust passage and a housing for the driveshaft from the powerhead to the lower unit.

PIVOT TUBE

To remove the pivot tube, loosen the bolt that clamps it at the top, loosen the pivot bracket steering tension screws and drive the tube out with a long punch inserted from the bottom of the lower motor casing. After the tapered seat on the bottom end of the pivot tube has been loosened, the tube will readily slide out of the lower motor casing.

When replacing the pivot tube, tap or press it in until the tapered end is again well seated. If this tube should ever work loose it should be forced back in and clamped again at the top. Care should be used when replacing the pivot tube assembly on the '49 shift models to see that the selector rod casing is not damaged and that the upper end of the casing comes out in the slot in the top of the lower motor casing. The '50 models have a projection in the top of the tube that fits into the slot in the top of the lower motor casing.

WATER LINE

The lower end of the water line is sealed in the lower motor casing with a small rubber gasket and a water line sleeve. On the '46 and '47 models the upper end of the water line is fastened to the lower motor casing cover plate with a compression nut and sleeve that screws on to a fitting riveted to the plate. This compression nut and sleeve can be eliminated by replacing the cover plate with the like part for the '48 models.

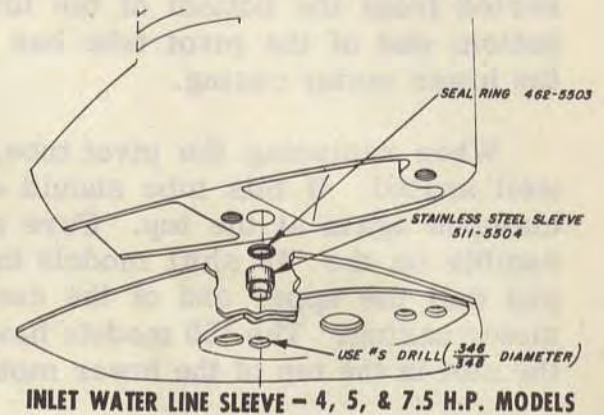
The 4 and the 7 1/2 HP models made in '48, '49, and '50 have the upper end of the water line sealed to the cover plate with the same rubber gasket used on the lower end. The 5 HP model has the water line sealed directly to the cylinder block with the rubber gasket. This end of the water line must be guided in place when putting on the powerhead for the '49 model.

It is important that the water line is sealed at both ends to ensure an adequate supply of cooling water to the powerhead.

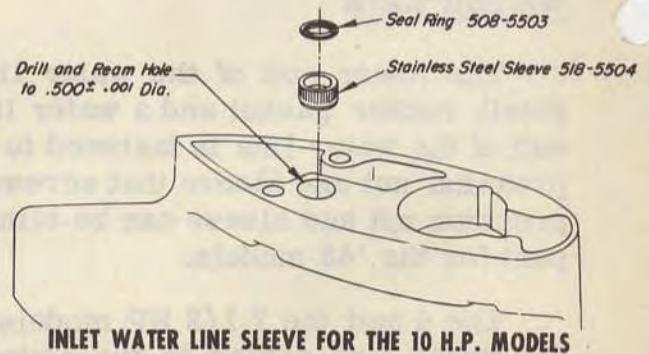
STAINLESS STEEL WATER LINE SLEEVE

An electrolysis action sets in when two dissimilar metal parts adjacent to one another are exposed to salt water. As a result, a deposit of corroded material builds up to form a greater volume than the original metals. Because of this phenomenon, a motor may quit pumping water because the water lines have clogged up. Usually this happened at the point where the copper water line passes through an aluminum grommet, through an aluminum anticavitation plate, and into a stainless steel water pump cavity. To prevent this problem, the grommet has been changed to stainless steel and designed so that aluminum does not touch the water line at the outlet from the pump.

On all models below 10hp, remove the old aluminum sleeve and seal ring and insert the new stainless steel sleeve as shown. If the seal ring has not been damaged, it can be reused. Hold the anticavitation plate and water pump cavity cover together and enlarge the hole as specified. Be sure the holes line up, then reassemble the lower unit.



For 10 hp models, drill and ream out inlet water line hole as shown and press the stainless steel sleeve into the pump housing. The top of the sleeve should be from .063 to .078 of an inch below the surface of the pump housing at allow room for the seal ring.



The stainless steel sleeves are standard equipment on late 1951 and 1952 models.

TILT ADJUSTMENT

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If the notches for the tilt pin show undue signs of wear or possible fracture, the part should be replaced. On '48 models and older, the boat bracket cover plate should be replaced. On '49 and '50 models the tilt arm assembly should be replaced. Early 491 and 493 models were equipped with a tilt arm assembly that was changed slightly in models manufactured later in 1949. If the motor will not stay in the position of greatest tilt, this assembly should be replaced. To remove the tilt arm assembly, remove the boat bracket bolt, loosen one end of the cross piece that goes between the bottom ends of the boat bracket clamps, and manipulate each boat bracket until it is free of the tilt adjusting pin. The upper arms on the tilt arm assembly can then be spread and removed. Reverse the above procedure when replacing the tilt arm assembly.



Replacing tilt arm assembly.

SHIFT LEVER

Making adjustments on the shift is covered in Section B. Aside from these adjustments, very little need ever be done to service the shift.

'49 SHIFT MODELS

In the event that either the drive selector rod or reverse lock wire breaks or becomes bent, replacement is necessary. The drive selector rod is inserted from the bottom and passes through a small rubber gasket in the rod's casing. If this gasket is forced out of the casing when inserting a new wire, remove the wire and slide the gasket back on the wire and replace in the casing. The reverse lock wire should be inserted from the top, through the swivel, down through the casing to the thrust socket lock. To tighten the swivels, use a #8 Bristol multiple spline wrench, while holding the swivel with a screw driver. On some early '49 models, a 5/64" Allen set screw is used.

'50 SHIFT MODELS

The shift actuating mechanism in the '50 models is composed of a steel linkage between the shift lever and the reverse lock, and a steel rod from the reverse lock to the drive selector cam. The adjustments necessary are covered in Section B.

To remove the shift rod, remove the cotter pin in front of the reverse lock. The shift rod can then be drawn out the upper end of the pivot tube.

When replacing the rod, make sure it is in front of groove pin, Part No. 501-2487, or between pin and front of lower motor casing.

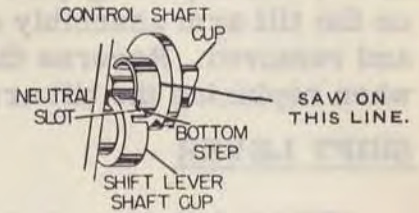
The shift lever assembly can be removed by removing the yoke pivot screw, Part No. 5017-5911, and the two bolts that fasten the yoke to the shift rod link. There are two adjustments to be made in this linkage, one when attaching the lower unit and the other when installing the limiter rod. Consult Section B for details.

REMOVING THE SHIFT LIMITERS

The shift limiting mechanism has been removed on all models in the 1951 line. We still advise all owners to limit the engine speed when shifting, however, this gives the owner simplicity in operation and greater speed in reverse and neutral.

Owners of older shift motors may ask to have the limiters removed. On models up to 7 1/2 HP, just remove the limiter rod and linkage. When taking the limiter rod off the '49 models, leave the limiter arm on the shift lever, otherwise the lever will pull out of the bracket. Adjust the shifting mechanism so that the pin in the limiter arm is midway between the stops when the lower unit is in neutral.

On the 16 HP model, remove the carrying and steering handle from the motor and saw off that portion of the limiter attached to the control shaft pulley assembly. You need not disassemble the unit, just thread the hacksaw blade into position, clamp the blade in a frame and saw the cup off.

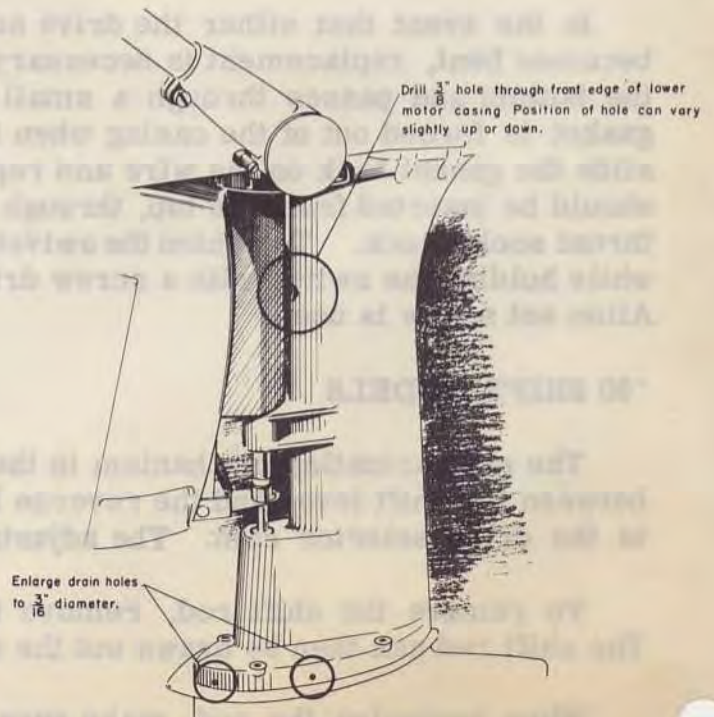


STARBOARD VIEW OF INTERLOCKING CONTROL CUPS

MODIFICATION OF MODEL 509 LOWER MOTOR CASING

Reports from the field indicate that water enters the lower cylinder on some of the model 509 motors. This is caused by a build up of pressure in the lower motor casing which forces water through the lower main bearing into the lower cylinder. Providing adequate drainage of the driveshaft cavity, as shown, will eliminate this difficulty.

It is not necessary to disassemble any parts. Swing the motor to one side and drill the tophole as close to the pivot bracket as possible. The two holes just above the splash plate should be enlarged to 3/16". **BE SURE THIS CHANGE IS COMPLETED ON EVERY 509 MODEL THAT COMES IN, REGARDLESS OF WHETHER DIFFICULTY HAS BEEN EXPERIENCED.**

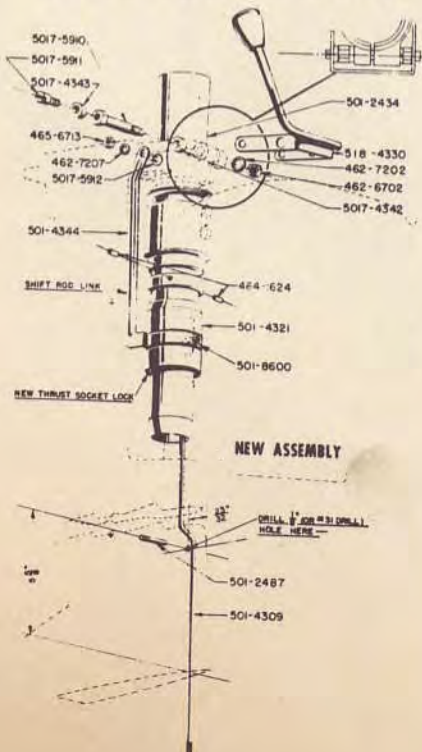
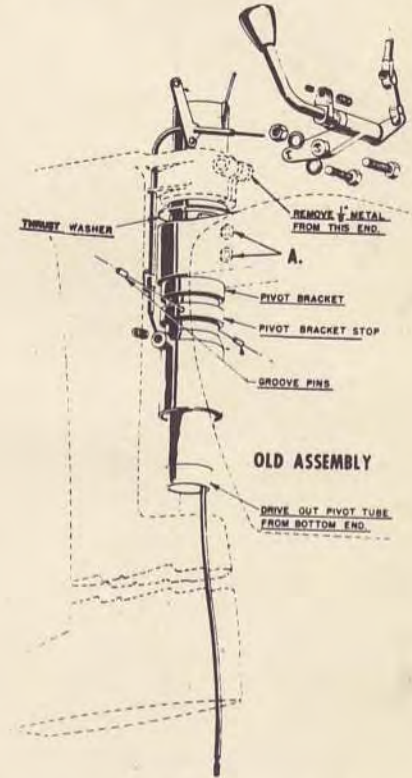


1949 SHIFT CONVERSION KIT
 (Order kit of parts needed by Part No. 493-4394,

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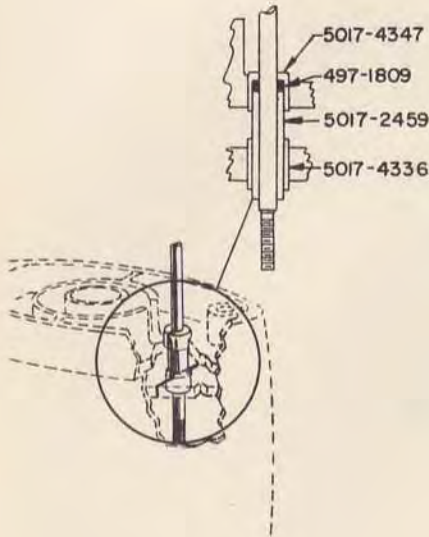
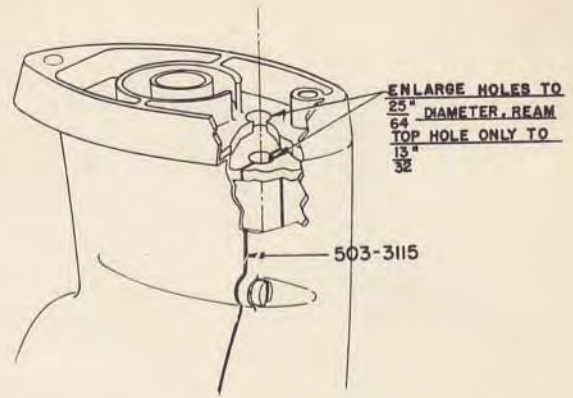
The wire type of shift actuation used on 1949 SHIFT models does give trouble in that the owner can put the shift out of adjustment by forcing the shift lever. Chronic complaints can be corrected by converting to the solid rod type of shift mechanism as explained below. We suggest charging list price for parts, plus two hours' labor for making this change.

1. Remove entire powerhead (not necessary to remove skirts separately), lower unit, lock wire casing, shift lever and bracket assembly.
2. Remove groove pins from pivot tube stop, loosen pivot bracket screws (A), and drive out pivot tube with a long punch inserted from the bottom of the lower motor casing.
3. File off 1/8 inch of metal from the bracket bosses on the left or port side of the motor. Remove enough metal so that the yoke of the new shift lever assembly will clear the casing.
4. Slide the new pivot tube into position, using the old thrust washer, pivot bracket and pivot bracket stop. Install the new thrust socket lock with the shoulder on the bottom. Turn the tube until the upset section fits into the slot in the casing and force the tapered end into the seat. Lock the pivot bracket stop in position with the tapered pins.



5. Install the shift lever yoke and shift rod link as shown.
6. Drill a 1/8 inch hole through the lower motor casing 5-5/8 inches up from the bottom surface and 23/32 inch back from the leading edge. Insert the drive pin in this hole.
7. Slip the shift rod between the drive pin and housing and thread the bent end through the pivot tube slot, the hole in the thrust socket lock and the shift rod link. Insert the cotter pin in the end of the shift rod.

8. Clamp the two lower unit castings together with the gasket in place and drill out the shift rod hole to 25/64 inch.
9. Ream out the top hole (in the Lower Unit Body only) to 13/32.
10. Remove the cap and clean out all chips and shavings caught in the grease.



11. Force the knurled brass gland into the top hole with the small end up. Insert from the bottom.
12. Assemble the lower unit and driveshaft on the lower motor casing with the shift rod passing through the gland. Slide the "O" ring on the shift rod and push it up into the gland with the aluminum sleeve.
13. Coat the outside of the neoprene seal sleeve with gasket cement and push it on the aluminum sleeve until it rests in the half hole in the lower unit.
14. See Sect. G-5 and 6 for reassembling the lower unit.

15. Replace the powerhead and the motor is ready to run.

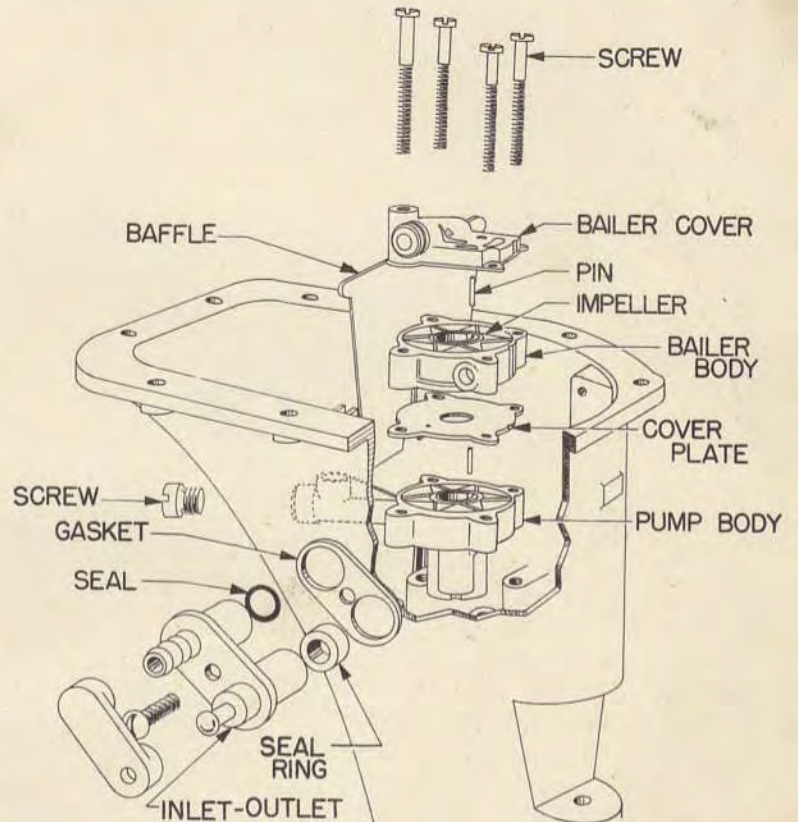
The shift limiting mechanism has been removed on all present production because it is not needed. Tell the customer that this limiter has been removed and advise him to slow the motor down before shifting.

PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
464-1624	Groove Pin - Pivot Bracket Stop	5017-4343	Spacer - Gear Shift Yoke
497-1809	"O" Ring Seal	501-4344	Shift Rod Link
501-2434	Motor Pivot Tube	5017-4347	Gland - Shift Rod Sleeve
5017-2459	Sleeve - Shift Rod	5017-5910	Pivot Tube Clamp Screw
501-2487	Groove Pin	5017-5911	Yoke Pivot Screw
503-3115	Lower Unit Cap Gasket	5017-5912	Screw - Shift Rod
501-4309	Shift Rod	462-6702	Nut
501-4321	Lock - Thrust Socket	465-6713	Nut
518-4330	Shift Lever	462-7202	Lockwasher
5017-4336	Seal - Shift Rod Sleeve	462-7207	Lockwasher
5017-4342	Spacer	501-8600	Cotter Pin

With the introduction of Bail-A-Matic, the lower unit motor casing becomes more than an exhaust passage as it now contains working parts. The cooling system water pump, along with the bailer pump is now located in the upper portion of this casing.

DISASSEMBLE

1. After detaching the lower motor casing from the power-head, remove the shift actuator assembly as shown on page H7.
2. Remove the bailer Inlet-Outlet fitting and the flushing screw from the outside of the casing.
3. Loosen the four pump body screws.
4. Remove the bailer cover, seal ring and impeller.
5. The impeller drive pin must be removed from the shaft before removing the bailer body.

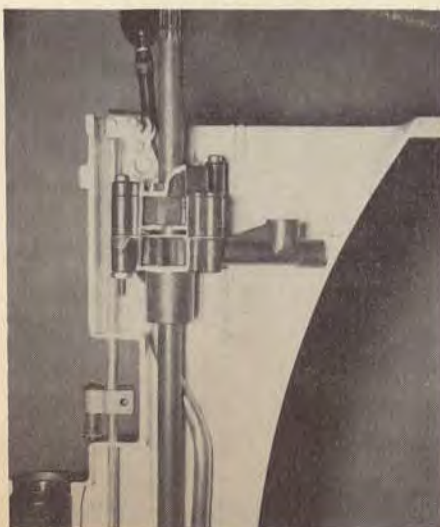


Water and Bailer Pumps

6. Remove the water pump cover plate (including the seal rings above and below), impeller, drive pin, baffle plate and pump body in that order.

ASSEMBLE

When assembling, reverse the above procedure.



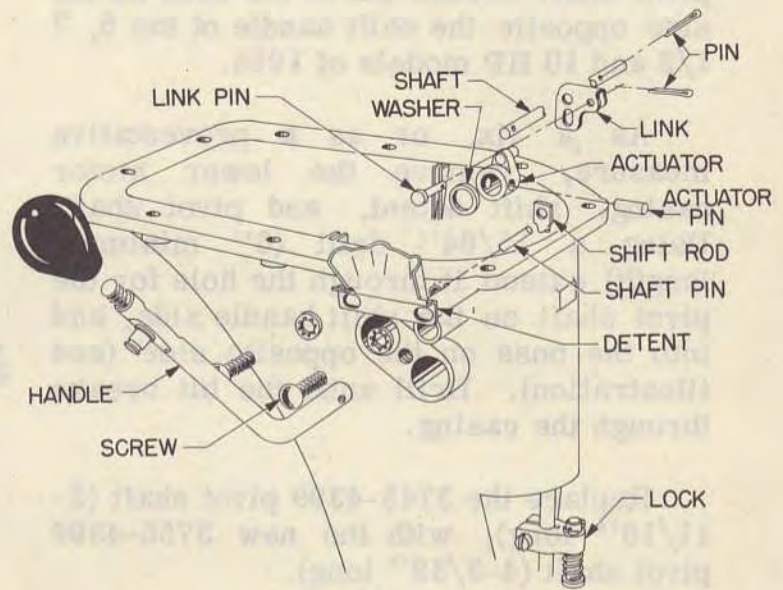
Cutaway View — Lower Motor Casing

The word TOP appears on one side of the impeller and should be so installed. Be sure the seal rings are in good condition and in place as any loss of pressure will result in less pumping. Also, the bleeder hole on the pump cover plate must be on the RIGHT side of the pump. (A groove on the front of the plate lines up with the groove on the front of the bailer body).

'54 SHIFT ACTUATOR ASSEMBLY 5 - 7 1/2 - 10 HP MODELS

DISASSEMBLE

1. Remove the lower motor casing from the powerhead.
2. Remove the link pin separating the shift rod from the link.
3. Pull the cotter pin from the shaft and slide the link off the actuator.
4. Extract the actuator pin, removing the actuator and washer from the shift handle. The handle can then be removed.
5. Loosen the two shift detent screws and remove the detent.
6. Remove the shaft pin located behind the shift detent. Slide the shaft part way out, remove the link then complete the removal of the shaft.



Shift Actuator Assembly

ASSEMBLY

1. With the actuator shaft part way in, attach the link. Slide the shaft the rest of the way in and insert the shaft pin.
2. Replace the shift detent.
3. Set the shaft handle in place. Slide the washer and actuator onto the handle and insert the actuator pin.
4. Put the link in place on the Actuator. Replace the cotter pin in the shaft, holding the link in position.
5. Attach the shift rod to the link by inserting the link pin and cotter pin.
6. Grease the driveshaft end and bolt the lower motor casing in place on the power head.

When disassembling or assembling, be sure to remove any part that may fall into the casing. If necessary invert the unit and shake the fallen parts out.

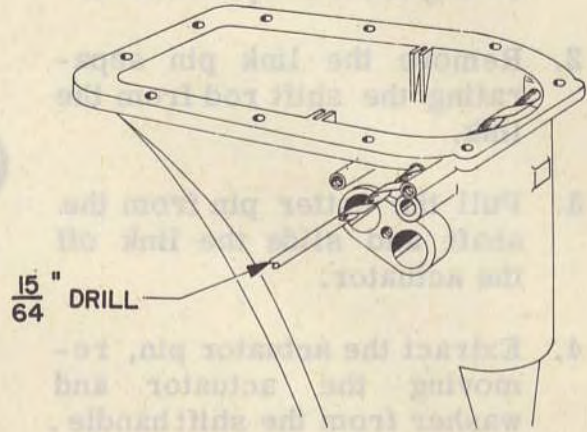
1954 LOWER MOTOR CASING MODIFICATION 5 - 7 - 1/2 & 10 HP FOR PIVOT SHAFT

Cases have been noted where the pivot shaft breaks out of the boss on the side opposite the shift handle of the 5, 7 1/2 and 10 HP models of 1954.

As a fix, or as a preventative measure, remove the lower motor casing, shift detent, and pivot shaft. Using a 15/64" drill (6" minimum length) extend it through the hole for the pivot shaft on the shift handle side, and into the boss on the opposite side (see illustration). Drill until the bit breaks through the casing.

Replace the 3745-4399 pivot shaft (3-11/16" long), with the new 3755-4399 pivot shaft (4-3/32" long).

Replace shift detent and lower motor casing.

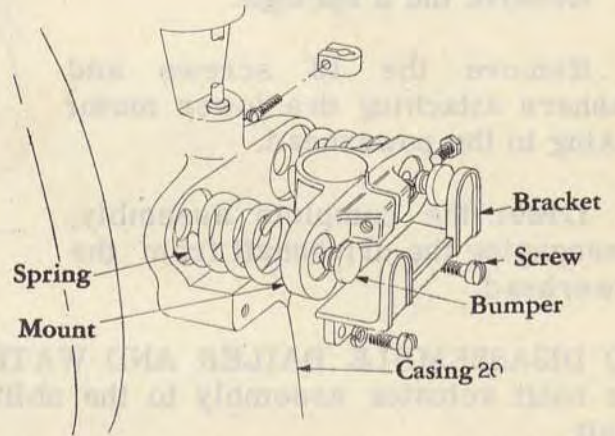


SPRING MOUNT - 5- 7 1/2 - 10 HP - 1955 1956 AND 16 HP - 1956

Coupling the lower motor casing to the bottom end of the pivot tube and boat bracket through springs, isolates motor vibration, and is extremely easy to disassemble and assemble.

DISASSEMBLE

1. With the motor in the tilt-up position, remove the reverse lock yoke spring, and pin (see P-62). Spread the open end of the yoke slightly apart - turn and remove the yoke from behind shift rod.
2. Return the motor to an upright position. Remove the 2 lower spring-mount bracket screws, and bracket.
3. Remove the 2 motor mount springs.
4. Remove the 10 screws and washers at the lower motor casing flange, freeing the complete powerhead support from the powerhead and boat bracket.



Lower Spring Mount 5, 7 1/2 and 10 HP

The exhaust valve may be removed at any time by loosening the 4 water-inlet cover plate screws.

Remove the water and bailer pumps as shown on page H-6, and the shift actuator assembly as shown on page H-7. Instructions and illustrations for installing the Fresh Water Flushing Adaptor are given in Sect. A page 6A.

ASSEMBLY

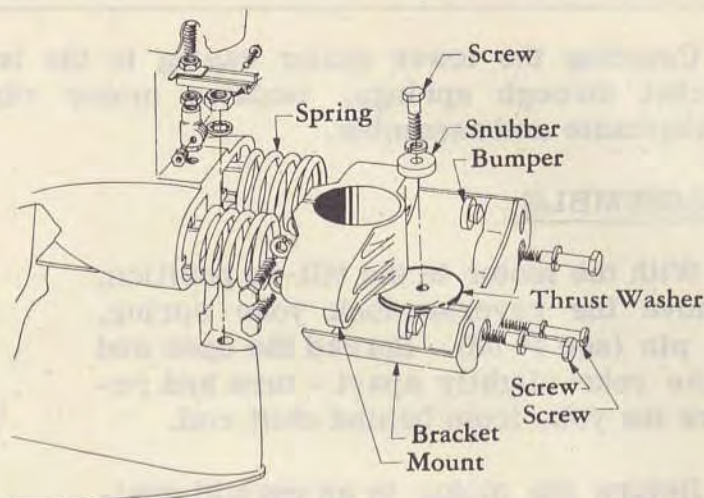
Assemble by reversing the above steps. Always grease the spline on the driveshaft, and use Permatex on the lower motor casing flange gasket when re-assembling. Apply a liberal amount of water pump grease on the impellers.

POWERHEAD SUPPORT - 30 & 33 HP

The powerhead support may be removed with the powerhead remaining fixed to the handle and mount assembly.

DISASSEMBLY

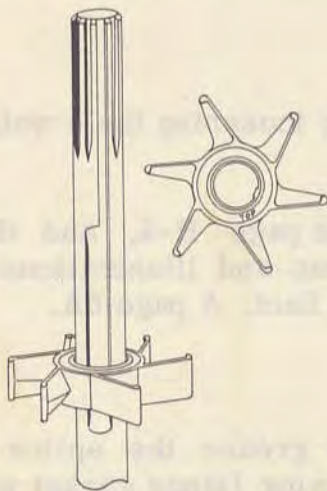
1. With the motor in an upright position, remove the 3 lower spring mount bracket screws, and washers.
2. Remove the 2 springs.
3. Remove the 13 screws and washers attaching the lower motor casing to the powerhead.
4. Lower the complete assembly, disengaging the driveshaft from the powerhead.



Lower Spring Mount—30-33 HP

TO DISASSEMBLE BAILER AND WATER PUMPS loosen the set screw attaching the shift actuator assembly to the shift lever shaft. Remove the shift handle and shaft.

1. Remove bailer inlet and outlet lines.
2. Remove the 4 pump body screws and washers.
3. Lift all pump parts upward, off the drive-shaft. Always replace impellers appearing set or worn.



Impeller Installation—30-33 HP

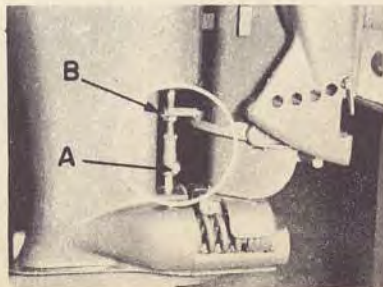
ASSEMBLY

A long key way is provided in the driveshaft (as shown at the left), for the impellers.

1. Coat the pump bodies with a liberal amount of water pump grease.
2. Insert the impellers with the word TOP showing upward. Consult the parts pages of this section for correct placement of seals.

3. Assemble pumps and powerhead support in reverse order of disassembly shown above. Use Permatex on all gaskets.

Shift rod linkage is adjustable by screwing the shift rod coupling (A) to the desired height on the upper shift rod, and tightening the locking nut against the coupling.



The reverse lock actuator (B) is adjusted to the proper setting by loosening and tightening the nuts above and below the actuator on the shift rod.

EXTENDED SHAFT '54 - 10 HP MODEL

A six inch extension of the Powerhead Support on the 10 HP motor can be obtained by completing the following:

- A-Replace 3745-5300 Lower Section Water Line with 3845-2-5300.
- B-Replace 3745-4310 Shift Rod with 3845-2-4310.
- C-Replace 3845-2901 Driveshaft with 3845-2-2901.
- D-Replace 3745-2420 Lower Motor Casing with 3845-2-2420.

EXTENDED SHAFT '54 - 16 HP MODEL

A six inch extension of the Powerhead Support on the 16 HP motor can be obtained by completing the following:

- A-Replace 509-5300 Water Line with 509-2-5300.
- B-Replace 509-4309 Shift Rod with 509-2-4309.
- C-Replace 3945-4350 Shift Rod Tube Assembly with 3945-2-4350.
- D-Replace 3945-2901 Driveshaft with 3945-2-2901.
- E-Replace 3945-2420 Lower Motor Casing with 3945-2-2420
- F-Replace 3945-5301 Inlet Line-Bailer with 3945-2-5301

REVERSE LOCK HOOK ASSEMBLY - 16 HP

Field reports indicate that occasionally the Reverse Lock Hook Assembly on the 16 HP motor is not properly centered in the boat brackets, thus the lock will not engage when the motor is shifted into reverse. This can be corrected by inserting 3935-2430 boat bracket bolt washer(s) as required, on the bracket bolt separating the pivot bracket from the boat brackets, centering the reverse lock assembly.

If the Reverse Lock Hook Assembly (509-4360) has become damaged and requires replacement it is necessary to remove the lower unit. First remove the shift rod connection from the shift rod at the top of the lower motor casing. This is done by unscrewing the connection approximately eight turns (See Sect. C-8). Remove the four bolts holding the lower unit to the lower motor casing and pull the lower unit off. Replace the reverse lock. Bolt the lower unit in place and attach the shift rod connection.

EXTENDED SHAFT '55 - 16 HP MODEL www.powersportsupply.co

A five inch extension of the powerhead support on the 16 HP motor can be obtained by completing the following:

- A. Replace 3955-2420 Lower Motor Casing with 3955-2-2420.
- B. Replace 3945-2901 Driveshaft with 3945-2-2901.
- C. Replace 509-4309 Shift Rod with 509-2-4309.
- D. Replace 3945-4350 Shift Rod Tube Assy. with 3945-2-4350.
- E. Replace 509-5300 Water Line with 509-2-5300.
- F. Replace 3945-5301 Inlet Line-Upper with 3945-2-5301.

EXTENDED SHAFT '55 - 30 HP MODEL

A five inch extension of the powerhead support on the 30 HP motor can be obtained by completing the following:

- A. Replace 3655-2516 Spring - Lower with 3655-2-2516.
- B. Replace 3645-2901 Driveshaft with 3655-2-2901.
- C. Replace 3645-3679 Spring - Upper with 3655-2-3679.
- D. Replace 3645-4308 Shift Rod with 3655-2-4308.
- E. Replace 3645-5300 Water Line with 3655-2-5300.
- F. Replace 3655-8213 Stud with 3655-2-8213.
- G. Add 3655-3189 Casing Extension.
- H. Add 3645-3213 Dowel
- I. Add 3655-6001 Screw
- J. Add 3655-6002 Screw
- K. Add 3655-6701 Nut-Rear Stud
- L. Add 3655-8214 Stud-Rear

The complete 30 HP Extended Shaft assembly can be obtained by ordering part number SK-7270.

EXTENDED SHAFT '56 - 33 HP MODEL

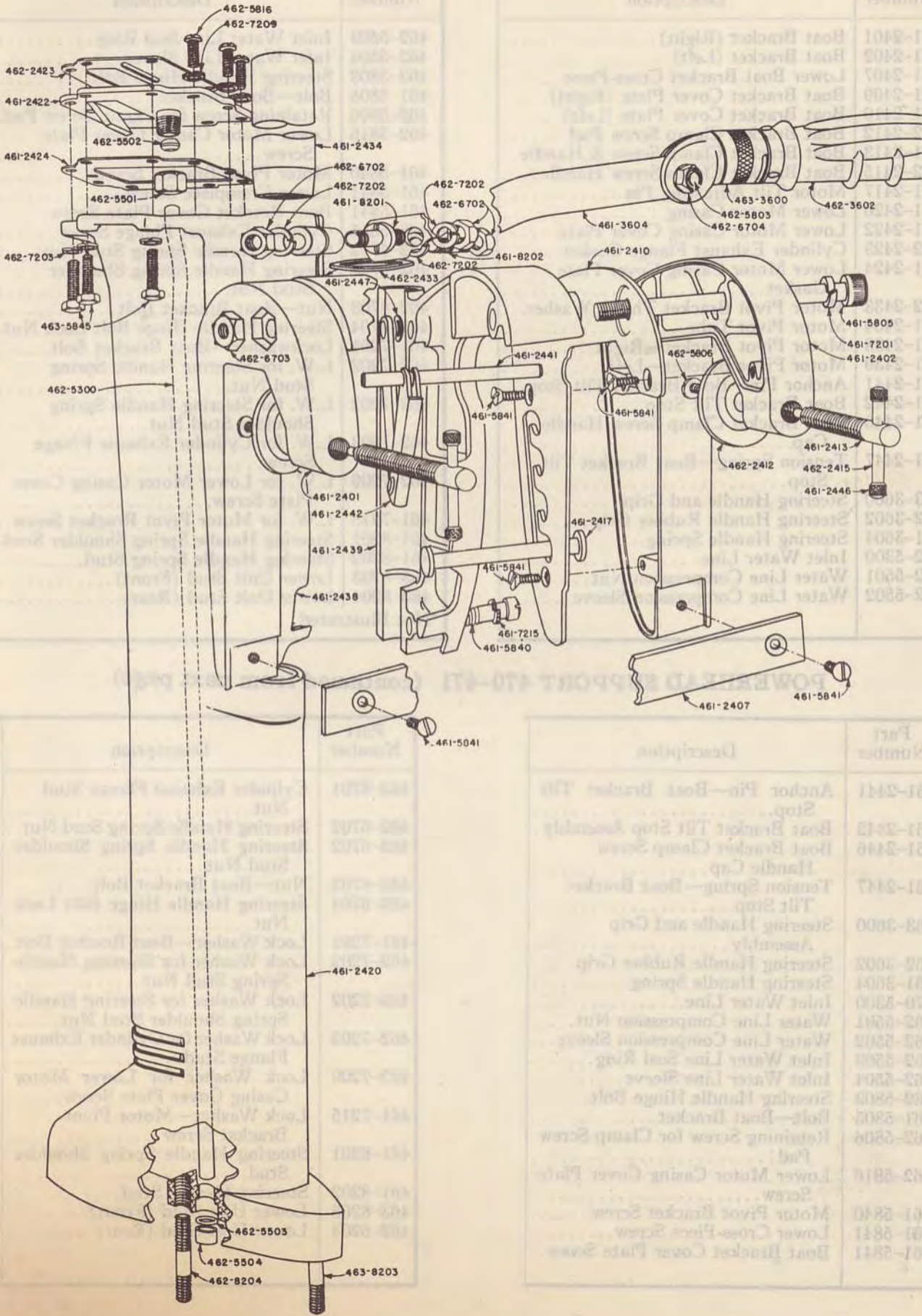
A five inch extension of the powerhead support on the 33 HP motor can be obtained by completing the following:

	<u>Quantity</u> <u>Req'd</u>
Replace 3645-3679 Spring - Upper with 3655-2-3679	(2)
Replace 3655-2516 Spring - Lower with 3655-2-2516	(2)
Replace 3645-6720 Nut with 462-6703	(1)
Replace 3665-5300 Water Line with 3665-2-5300	(1)
Replace 3645-2901 Driveshaft with 3655-2-2901	(1)
Replace 3645-4308 Shift Rod with 3655-2-4308	(1)
Replace 3655-8213 Stud with 3655-2-8213	(1)
Replace 2655-5815 Screw with 3665-8214	(2)
Add 3655-3189 Extension - Motor Casing	(1)
Add 3645-3213 Dowell - Extension to Casing	(1)
Add 3655-6001 Screw - Extension to Casing	(4)
Add 3655-6701 Nut - Rear Stud	(2)

All parts shown above can be purchased in kit form. Order Part No. SK-7640

POWERHEAD SUPPORT 461-467

www.powersportsupply.co



Part Number	Description
461-2411	Anchor Pin—Boat Bracket For
461-2412	Stop
461-2413	Boat Bracket The Stop Assembly
461-2414	Boat Bracket Clamp Screw
461-2415	Handle Cap
461-2417	Tension Spring—Boat Bracket
461-2418	The Stop
461-2419	Steering Handle and Cap
461-2420	Assembly
461-2421	Steering Handle Rubber Cap
461-2422	Steering Handle Spring
461-2423	Water Line
461-2424	Water Line Compression Nut
461-2425	Water Line Compression Spring
461-2426	Water Line Seal Ring
461-2427	Water Line Sleeve
461-2428	Steering Handle Hinge Bolt
461-2429	Boat Bracket
461-2430	Retaining Screw for Clamp Screw
461-2431	Pad
461-2432	Lower Motor Clamp Cover Pad
461-2433	Screw
461-2434	Motor Pivot Bracket Screw
461-2435	Lower Cross-Piece Screw
461-2436	Boat Bracket Cover Plate Screw

POWERHEAD SUPPORT 461-467 (continued)

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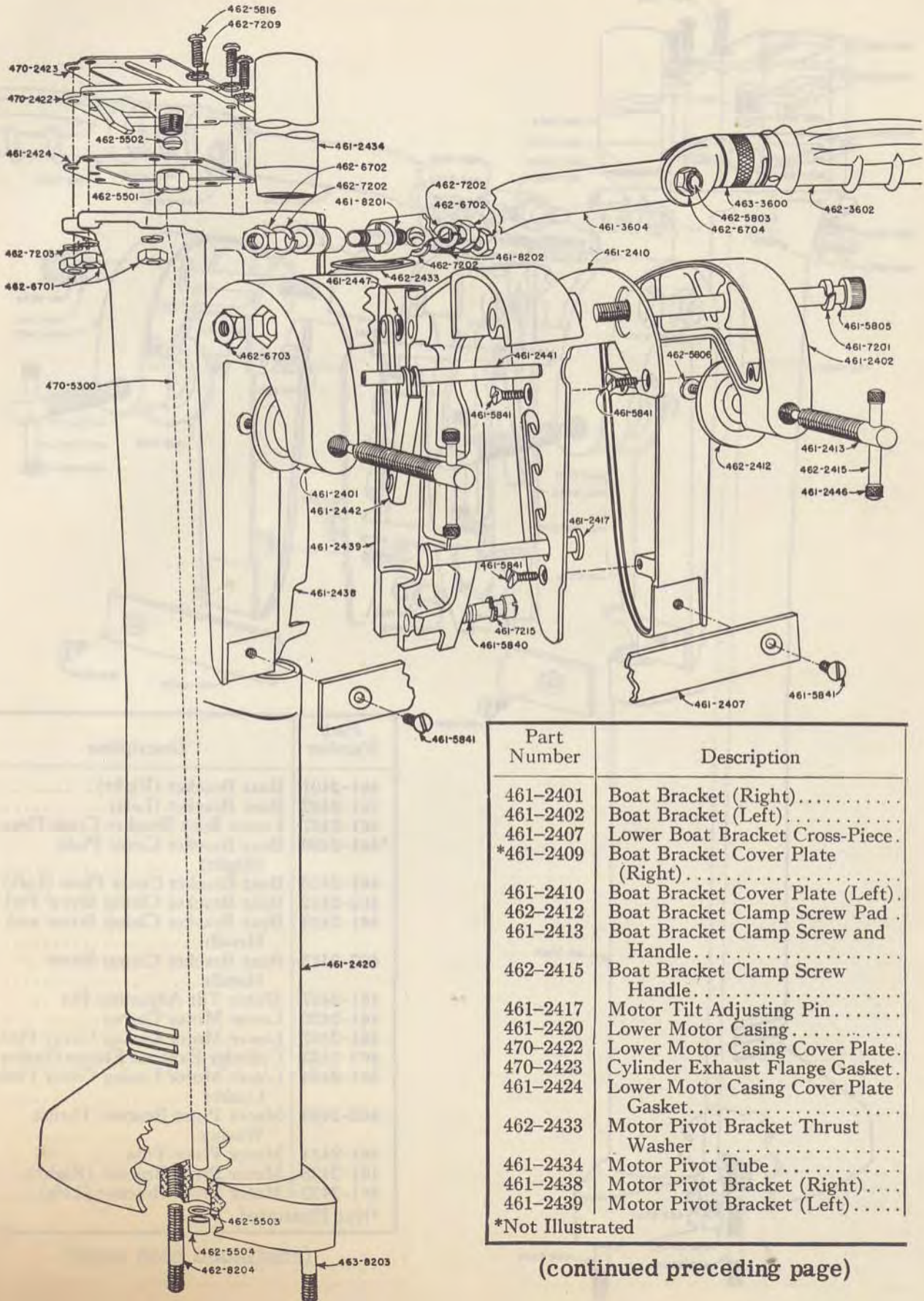
Part Number	Description	Part Number	Description
461-2401	Boat Bracket (Right)	462-5503	Inlet Water Line Seal Ring
461-2402	Boat Bracket (Left)	462-5504	Inlet Water Line Sleeve
461-2407	Lower Boat Bracket Cross-Piece	462-5803	Steering Handle Hinge Bolt
*461-2409	Boat Bracket Cover Plate (Right)	461-5805	Bolt—Boat Bracket
461-2410	Boat Bracket Cover Plate (Left)	462-5806	Retaining Screw for Clamp Screw Pad
462-2412	Boat Bracket Clamp Screw Pad	462-5816	Lower Motor Casing Cover Plate Screw
461-2413	Boat Bracket Clamp Screw & Handle	461-5840	Motor Pivot Bracket Screw
462-2415	Boat Bracket Clamp Screw Handle	461-5841	Lower Crosspiece Screw
461-2417	Motor Tilt Adjusting Pin	461-5841	Boat Bracket Cover Plate Screw
461-2420	Lower Motor Casing	463-5845	Cylinder Exhaust Flange Screw
461-2422	Lower Motor Casing Cover Plate	462-6702	Steering Handle Spring Stud Nut
462-2423	Cylinder Exhaust Flange Gasket	462-6702	Steering Handle Spring Shoulder Stud Nut
461-2424	Lower Motor Casing Cover Plate Gasket	462-6703	Nut—Boat Bracket Bolt
462-2433	Motor Pivot Bracket Thrust Washer	462-6704	Steering Handle Hinge Bolt Lock Nut
461-2434	Motor Pivot Tube	461-7201	Lockwasher—Boat Bracket Bolt
461-2438	Motor Pivot Bracket—Right	462-7202	L.W. for Steering Handle Spring Stud Nut
461-2439	Motor Pivot Bracket—Left	462-7202	L.W. for Steering Handle Spring Shoulder Stud Nut
461-2441	Anchor Pin—Boat Bracket Tilt Stop	462-7203	L.W. for Cylinder Exhaust Flange Screw
461-2442	Boat Bracket Tilt Stop	462-7209	L.W. for Lower Motor Casing Cover Plate Screw
461-2446	Boat Bracket Clamp Screw Handle Cap	461-7215	L.W. for Motor Pivot Bracket Screw
461-2447	Tension Spring—Boat Bracket Tilt Stop	461-8201	Steering Handle Spring Shoulder Stud
463-3600	Steering Handle and Grip	461-8202	Steering Handle Spring Stud
462-3602	Steering Handle Rubber Grip	463-8203	Lower Unit Stud (Front)
461-3604	Steering Handle Spring	462-8204	Lower Unit Stud (Rear)
462-5300	Inlet Water Line		
462-5501	Water Line Compression Nut		
462-5502	Water Line Compression Sleeve		

*Not Illustrated

POWERHEAD SUPPORT 470-471 (continued from next page)

Part Number	Description
461-2441	Anchor Pin—Boat Bracket Tilt Stop
461-2442	Boat Bracket Tilt Stop Assembly
461-2446	Boat Bracket Clamp Screw Handle Cap
461-2447	Tension Spring—Boat Bracket Tilt Stop
463-3600	Steering Handle and Grip Assembly
462-3602	Steering Handle Rubber Grip
461-3604	Steering Handle Spring
470-5300	Inlet Water Line
462-5501	Water Line Compression Nut
462-5502	Water Line Compression Sleeve
462-5503	Inlet Water Line Seal Ring
462-5504	Inlet Water Line Sleeve
462-5803	Steering Handle Hinge Bolt
461-5805	Bolt—Boat Bracket
462-5806	Retaining Screw for Clamp Screw Pad
462-5816	Lower Motor Casing Cover Plate Screw
461-5840	Motor Pivot Bracket Screw
461-5841	Lower Cross-Piece Screw
461-5841	Boat Bracket Cover Plate Screw

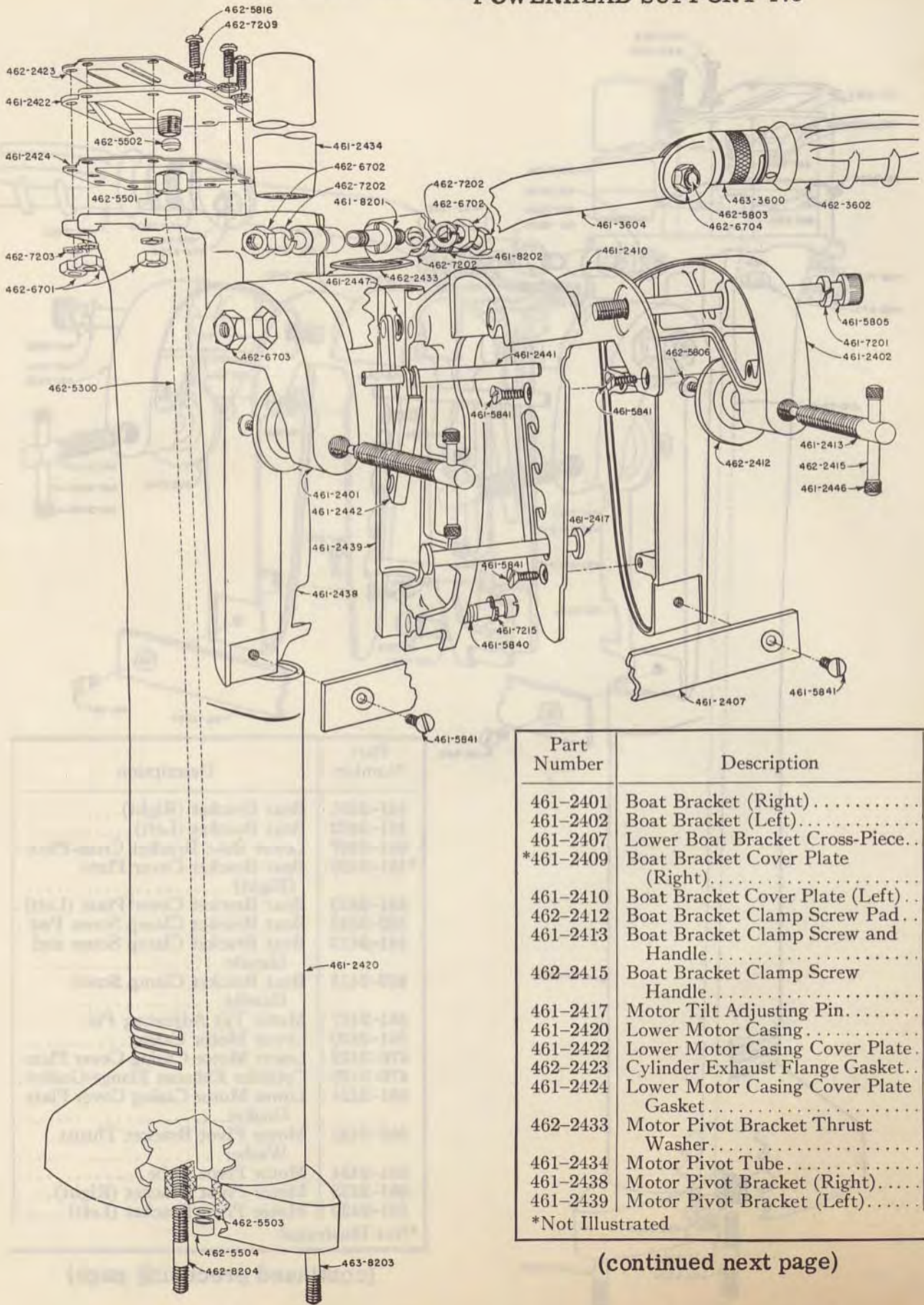
Part Number	Description
462-6701	Cylinder Exhaust Flange Stud Nut
462-6702	Steering Handle Spring Stud Nut
462-6702	Steering Handle Spring Shoulder Stud Nut
462-6703	Nut—Boat Bracket Bolt
462-6704	Steering Handle Hinge Bolt Lock Nut
461-7201	Lock Washer—Boat Bracket Bolt
462-7202	Lock Washer for Steering Handle Spring Stud Nut
462-7202	Lock Washer for Steering Handle Spring Shoulder Stud Nut
462-7203	Lock Washer for Cylinder Exhaust Flange Stud
462-7209	Lock Washer for Lower Motor Casing Cover Plate Screw
461-7215	Lock Washer—Motor Pivot Bracket Screw
461-8201	Steering Handle Spring Shoulder Stud
461-8202	Steering Handle Stud
463-8203	Lower Unit Stud (Front)
462-8204	Lower Unit Stud (Rear)



Part Number	Description
461-2401	Boat Bracket (Right).....
461-2402	Boat Bracket (Left).....
461-2407	Lower Boat Bracket Cross-Piecc.
*461-2409	Boat Bracket Cover Plate (Right).....
461-2410	Boat Bracket Cover Plate (Left).....
462-2412	Boat Bracket Clamp Screw Pad.....
461-2413	Boat Bracket Clamp Screw and Handle.....
462-2415	Boat Bracket Clamp Screw Handle.....
461-2417	Motor Tilt Adjusting Pin.....
461-2420	Lower Motor Casing.....
470-2422	Lower Motor Casing Cover Plate.....
470-2423	Cylinder Exhaust Flange Gasket.....
461-2424	Lower Motor Casing Cover Plate Gasket.....
462-2433	Motor Pivot Bracket Thrust Washer.....
461-2434	Motor Pivot Tube.....
461-2438	Motor Pivot Bracket (Right).....
461-2439	Motor Pivot Bracket (Left).....
*Not Illustrated	

(continued preceding page)

POWERHEAD SUPPORT 473



Part Number	Description
461-2401	Boat Bracket (Right).....
461-2402	Boat Bracket (Left).....
461-2407	Lower Boat Bracket Cross-Piece..
*461-2409	Boat Bracket Cover Plate (Right).....
461-2410	Boat Bracket Cover Plate (Left) ..
462-2412	Boat Bracket Clamp Screw Pad..
461-2413	Boat Bracket Clamp Screw and Handle.....
462-2415	Boat Bracket Clamp Screw Handle.....
461-2417	Motor Tilt Adjusting Pin.....
461-2420	Lower Motor Casing.....
461-2422	Lower Motor Casing Cover Plate..
462-2423	Cylinder Exhaust Flange Gasket..
461-2424	Lower Motor Casing Cover Plate Gasket.....
462-2433	Motor Pivot Bracket Thrust Washer.....
461-2434	Motor Pivot Tube.....
461-2438	Motor Pivot Bracket (Right).....
461-2439	Motor Pivot Bracket (Left).....
*Not Illustrated	

(continued next page)

POWERHEAD SUPPORT 473 (continued)

Part Number	Description
461-2441	Anchor Pin—Boat Bracket Tilt Stop.....
461-2442	Boat Bracket Tilt Stop Assembly
461-2446	Boat Bracket Clamp Screw Handle Cap.....
461-2447	Tension Spring—Boat Bracket Tilt Stop.....
463-3600	Steering Handle and Grip Assembly.....
462-3602	Steering Handle Rubber Grip.....
461-3604	Steering Handle Spring.....
462-5300	Inlet Water Line.....
462-5501	Water Line Compression Nut.....
462-5502	Water Line Compression Sleeve.....
462-5503	Inlet Water Line Seal Ring.....
462-5504	Inlet Water Line Sleeve.....
462-5803	Steering Handle Hinge Bolt.....
461-5805	Bolt—Boat Bracket.....
462-5806	Retaining Screw for Clamp Screw Pad.....
462-5816	Lower Motor Casing Cover Plate Screw.....
461-5840	Motor Pivot Bracket Screw.....
461-5841	Lower Cross-Piece Screw.....
461-5841	Boat Bracket Cover Plate Screw.....

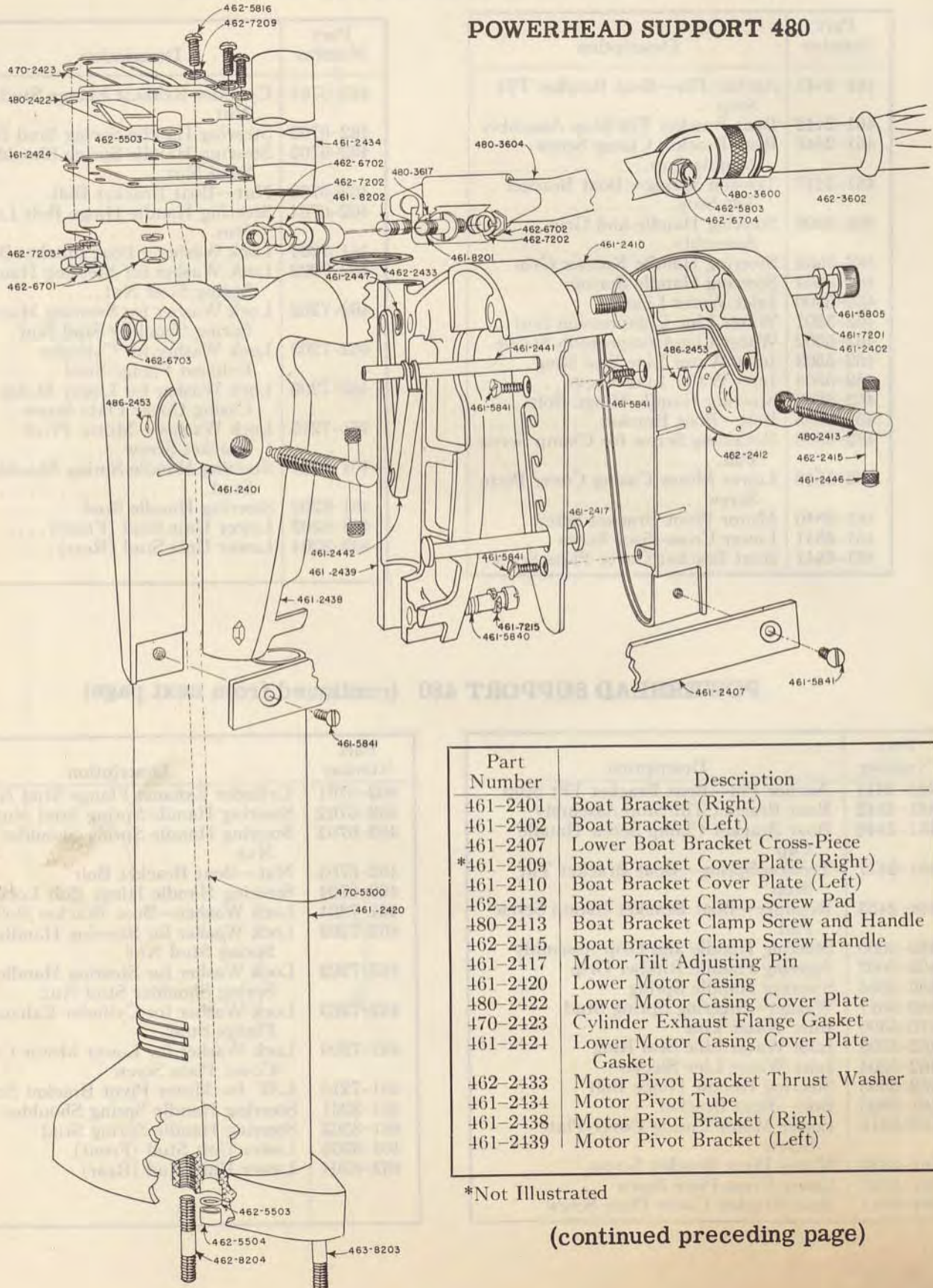
Part Number	Description
462-6701	Cylinder Exhaust Flange Stud Nut.....
462-6702	Steering Handle Spring Stud Nut.....
462-6702	Steering Handle Spring Shoulder Stud Nut.....
462-6703	Nut—Boat Bracket Bolt.....
462-6704	Steering Handle Hinge Bolt Lock Nut.....
461-7201	Lock Washer—Boat Bracket Bolt.....
462-7202	Lock Washer for Steering Handle Spring Stud Nut.....
462-7202	Lock Washer for Steering Handle Spring Shoulder Stud Nut.....
462-7203	Lock Washer for Cylinder Exhaust Flange Stud.....
462-7209	Lock Washer for Lower Motor Casing Cover Plate Screw.....
461-7215	Lock Washer—Motor Pivot Bracket Screw.....
461-8201	Steering Handle Spring Shoulder Stud.....
461-8202	Steering Handle Stud.....
463-8203	Lower Unit Stud (Front).....
462-8204	Lower Unit Stud (Rear).....

POWERHEAD SUPPORT 480 (continued from next page)

Part Number	Description
461-2441	Anchor Pin—Boat Bracket Tilt Stop
461-2442	Boat Bracket Tilt Stop Assembly
461-2446	Boat Bracket Clamp Screw Handle Cap
461-2447	Tension Spring—Boat Bracket Tilt Stop
486-2453	Retainer—Boat Bracket Clamp Screw Pad
480-3600	Steering Handle and Grip Assembly
462-3602	Steering Handle Rubber Grip
480-3604	Steering Handle Spring
480-3617	Washer—Steering Spring Stud
470-5300	Inlet Water Line
462-5503	Inlet Water Line Seal Ring
462-5504	Inlet Water Line Sleeve
462-5803	Steering Handle Hinge Bolt
461-5805	Bolt—Boat Bracket
462-5816	Lower Motor Casing Cover Plate Screw
461-5840	Motor Pivot Bracket Screw
461-5841	Lower Cross-Piece Screw
461-5841	Boat Bracket Cover Plate Screw

Part Number	Description
462-6701	Cylinder Exhaust Flange Stud Nut
462-6702	Steering Handle Spring Stud Nut
462-6702	Steering Handle Spring Shoulder Stud Nut
462-6703	Nut—Boat Bracket Bolt
462-6704	Steering Handle Hinge Bolt Lock Nut
461-7201	Lock Washer—Boat Bracket Bolt
462-7202	Lock Washer for Steering Handle Spring Stud Nut
462-7202	Lock Washer for Steering Handle Spring Shoulder Stud Nut
462-7203	Lock Washer for Cylinder Exhaust Flange Stud
462-7209	Lock Washer for Lower Motor Casing Cover Plate Screw
461-7215	L.W. for Motor Pivot Bracket Screw
461-8201	Steering Handle Spring Shoulder Stud
461-8202	Steering Handle Spring Stud
463-8203	Lower Unit Stud (Front)
462-8204	Lower Unit Stud (Rear)

POWERHEAD SUPPORT 480

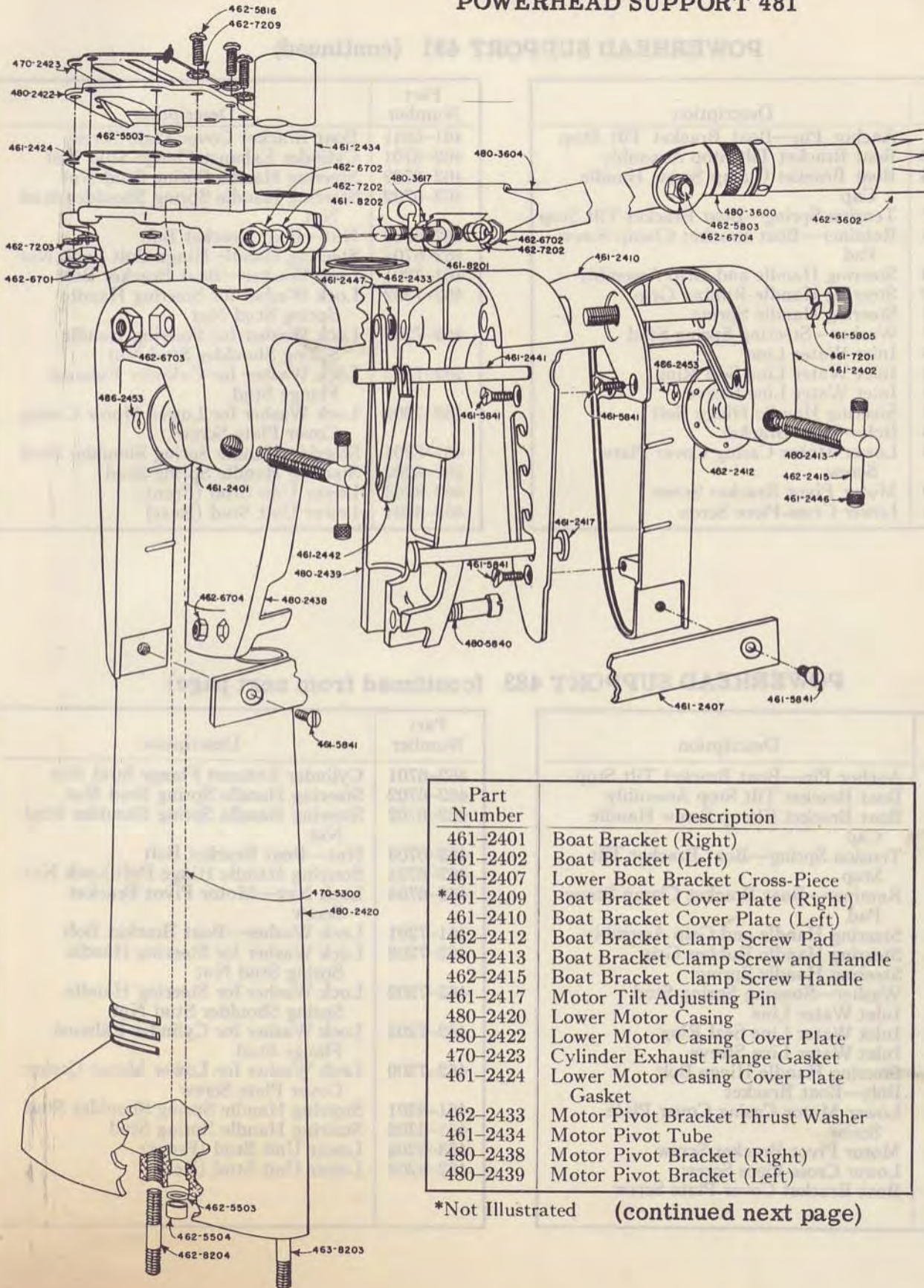


Part Number	Description
461-2401	Boat Bracket (Right)
461-2402	Boat Bracket (Left)
461-2407	Lower Boat Bracket Cross-Piece
*461-2409	Boat Bracket Cover Plate (Right)
461-2410	Boat Bracket Cover Plate (Left)
462-2412	Boat Bracket Clamp Screw Pad
480-2413	Boat Bracket Clamp Screw and Handle
462-2415	Boat Bracket Clamp Screw Handle
461-2417	Motor Tilt Adjusting Pin
461-2420	Lower Motor Casing
480-2422	Lower Motor Casing Cover Plate
470-2423	Cylinder Exhaust Flange Gasket
461-2424	Lower Motor Casing Cover Plate Gasket
462-2433	Motor Pivot Bracket Thrust Washer
461-2434	Motor Pivot Tube
461-2438	Motor Pivot Bracket (Right)
461-2439	Motor Pivot Bracket (Left)

*Not Illustrated

(continued preceding page)

POWERHEAD SUPPORT 481



Part Number	Description
461-2401	Boat Bracket (Right)
461-2402	Boat Bracket (Left)
461-2407	Lower Boat Bracket Cross-Piece
*461-2409	Boat Bracket Cover Plate (Right)
461-2410	Boat Bracket Cover Plate (Left)
462-2412	Boat Bracket Clamp Screw Pad
480-2413	Boat Bracket Clamp Screw and Handle
462-2415	Boat Bracket Clamp Screw Handle
461-2417	Motor Tilt Adjusting Pin
480-2420	Lower Motor Casing
480-2422	Lower Motor Casing Cover Plate
470-2423	Cylinder Exhaust Flange Gasket
461-2424	Lower Motor Casing Cover Plate Gasket
462-2433	Motor Pivot Bracket Thrust Washer
461-2434	Motor Pivot Tube
480-2438	Motor Pivot Bracket (Right)
480-2439	Motor Pivot Bracket (Left)

*Not Illustrated (continued next page)

POWERHEAD SUPPORT 481 (continued)

Part Number	Description
461-2441	Anchor Pin—Boat Bracket Tilt Stop
461-2442	Boat Bracket Tilt Stop Assembly
461-2446	Boat Bracket Clamp Screw Handle Cap
461-2447	Tension Spring—Boat Bracket Tilt Stop
486-2453	Retainer—Boat Bracket Clamp Screw Pad
480-3600	Steering Handle and Grip Assembly
462-3602	Steering Handle Rubber Grip
480-3604	Steering Handle Spring
480-3617	Washer—Steering Spring Stud
470-5300	Inlet Water Line
462-5503	Inlet Water Line Seal Ring
462-5504	Inlet Water Line Sleeve
462-5803	Steering Handle Hinge Bolt
461-5805	Bolt—Boat Bracket
462-5816	Lower Motor Casing Cover Plate Screw
480-5840	Motor Pivot Bracket Screw
461-5841	Lower Cross-Piece Screw

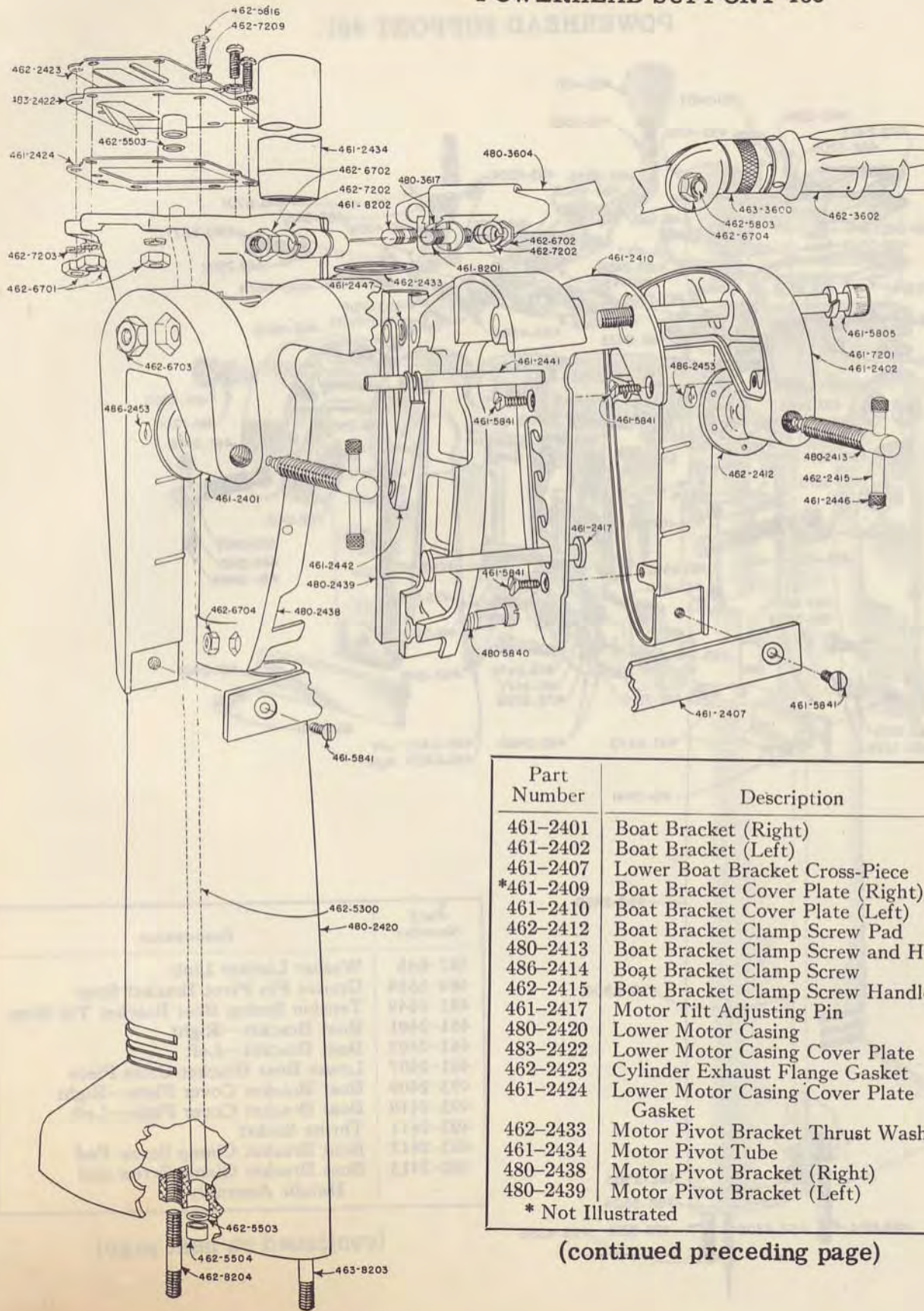
Part Number	Description
461-5841	Boat Bracket Cover Plate Screw
462-6701	Cylinder Exhaust Flange Stud Nut
462-6702	Steering Handle Spring Stud Nut
462-6702	Steering Handle Spring Shoulder Stud Nut
462-6703	Nut—Boat Bracket Bolt
462-6704	Steering Handle Hinge Bolt Lock Nut
461-7201	Lock Washer—Boat Bracket Bolt
462-7202	Lock Washer for Steering Handle Spring Stud Nut
462-7202	Lock Washer for Steering Handle Spring Shoulder Stud Nut
462-7203	Lock Washer for Cylinder Exhaust Flange Stud
462-7209	Lock Washer for Lower Motor Casing Cover Plate Screw
461-8201	Steering Handle Spring Shoulder Stud
461-8202	Steering Handle Spring Stud
463-8203	Lower Unit Stud (Front)
462-8204	Lower Unit Stud (Rear)

POWERHEAD SUPPORT 483 (continued from next page)

Part Number	Description
461-2441	Anchor Pin—Boat Bracket Tilt Stop
461-2442	Boat Bracket Tilt Stop Assembly
461-2446	Boat Bracket Clamp Screw Handle Cap
461-2447	Tension Spring—Boat Bracket Tilt Stop
486-2453	Retainer—Boat Bracket Clamp Screw Pad
463-3600	Steering Handle and Grip Assembly
462-3602	Steering Handle Rubber Grip
480-3604	Steering Handle Spring
480-3617	Washer—Steering Spring Stud
462-5300	Inlet Water Line
462-5503	Inlet Water Line Seal Ring
462-5504	Inlet Water Line Sleeve
462-5803	Steering Handle Hinge Bolt
461-5805	Bolt—Boat Bracket
462-5816	Lower Motor Casing Cover Plate Screw
480-5840	Motor Pivot Bracket Screw
461-5841	Lower Cross-Piece Screw
461-5841	Boat Bracket Cover Plate Screw

Part Number	Description
462-6701	Cylinder Exhaust Flange Stud Nut
462-6702	Steering Handle Spring Stud Nut
462-6702	Steering Handle Spring Shoulder Stud Nut
462-6703	Nut—Boat Bracket Bolt
462-6704	Steering Handle Hinge Bolt Lock Nut
462-6704	Lock Nut—Motor Pivot Bracket Screw
461-7201	Lock Washer—Boat Bracket Bolt
462-7202	Lock Washer for Steering Handle Spring Stud Nut
462-7202	Lock Washer for Steering Handle Spring Shoulder Stud Nut
462-7203	Lock Washer for Cylinder Exhaust Flange Stud
462-7209	Lock Washer for Lower Motor Casing Cover Plate Screw
461-8201	Steering Handle Spring Shoulder Stud
461-8202	Steering Handle Spring Stud
463-8203	Lower Unit Stud (Front)
462-8204	Lower Unit Stud (Rear)

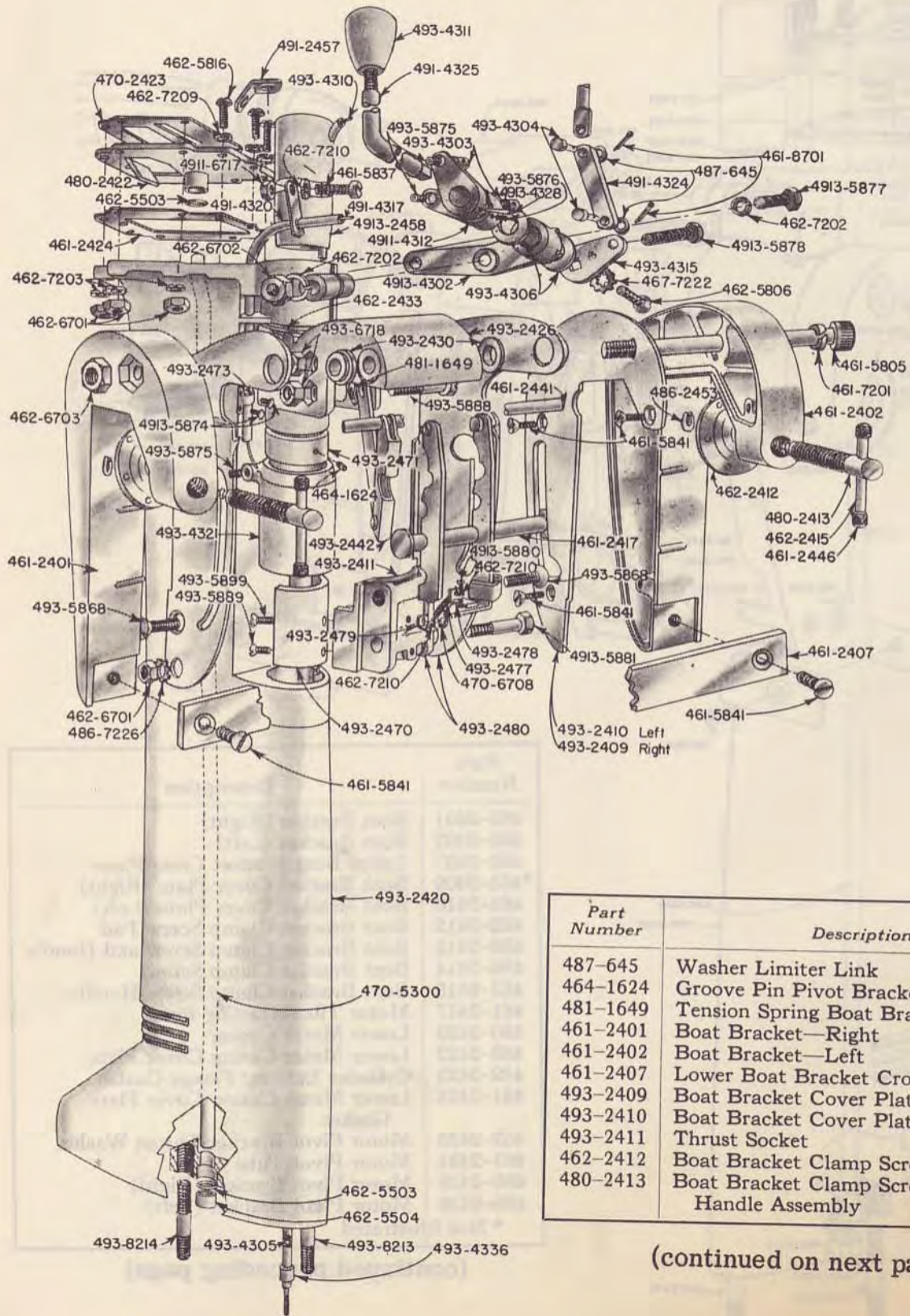
POWERHEAD SUPPORT 483



Part Number	Description
461-2401	Boat Bracket (Right)
461-2402	Boat Bracket (Left)
461-2407	Lower Boat Bracket Cross-Piece
*461-2409	Boat Bracket Cover Plate (Right)
461-2410	Boat Bracket Cover Plate (Left)
462-2412	Boat Bracket Clamp Screw Pad
480-2413	Boat Bracket Clamp Screw and Handle
486-2414	Boat Bracket Clamp Screw
462-2415	Boat Bracket Clamp Screw Handle
461-2417	Motor Tilt Adjusting Pin
480-2420	Lower Motor Casing
483-2422	Lower Motor Casing Cover Plate
462-2423	Cylinder Exhaust Flange Gasket
461-2424	Lower Motor Casing Cover Plate Gasket
462-2433	Motor Pivot Bracket Thrust Washer
461-2434	Motor Pivot Tube
480-2438	Motor Pivot Bracket (Right)
480-2439	Motor Pivot Bracket (Left)
* Not Illustrated	

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POWERHEAD SUPPORT 491



Part Number	Description
487-645	Washer Limiter Link
464-1624	Groove Pin Pivot Bracket Stop
481-1649	Tension Spring Boat Bracket Tilt Stop
461-2401	Boat Bracket—Right
461-2402	Boat Bracket—Left
461-2407	Lower Boat Bracket Cross Piece
493-2409	Boat Bracket Cover Plate—Right
493-2410	Boat Bracket Cover Plate—Left
493-2411	Thrust Socket
462-2412	Boat Bracket Clamp Screw Pad
480-2413	Boat Bracket Clamp Screw and Handle Assembly

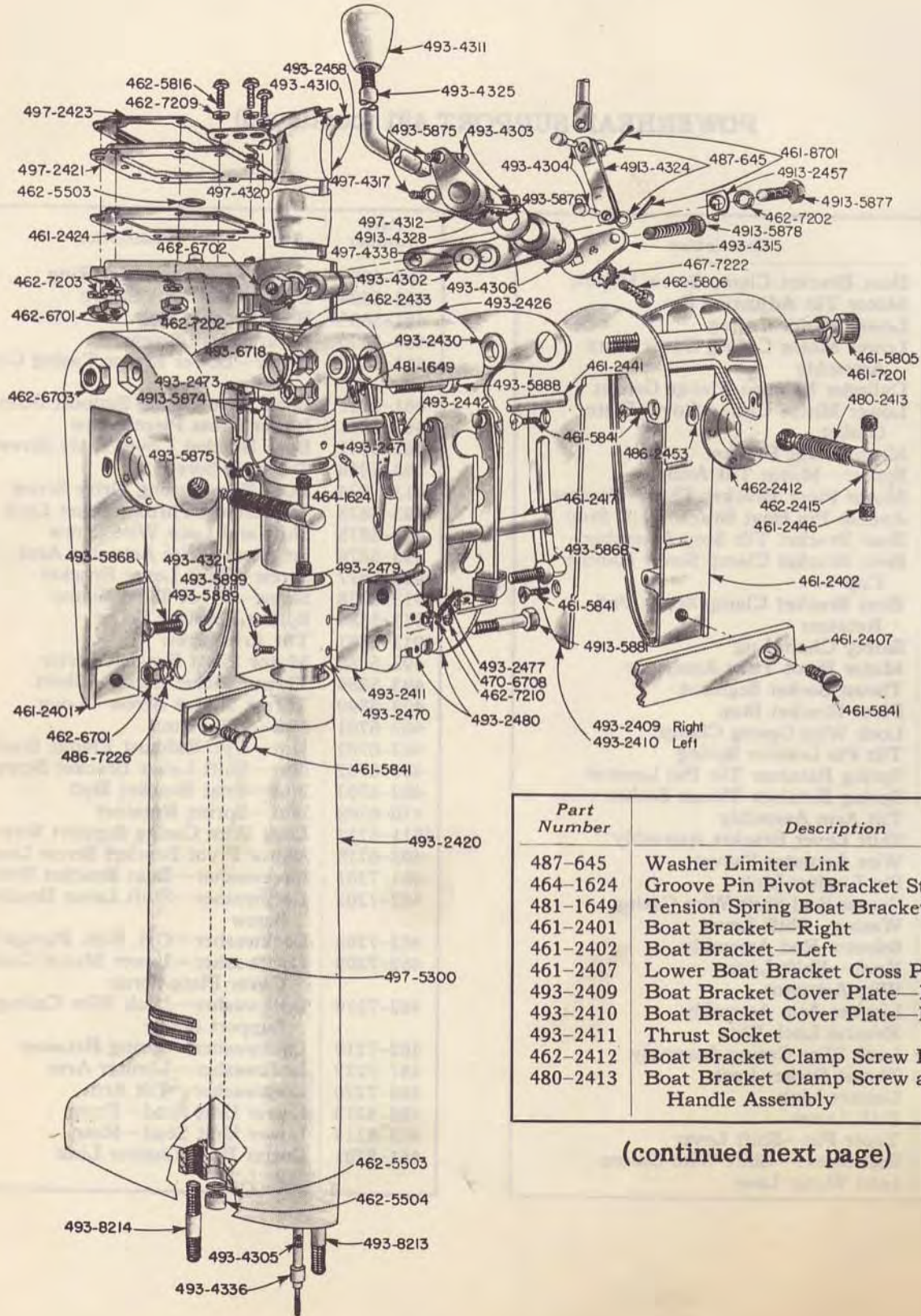
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POWERHEAD SUPPORT 491 (continued)

<i>Part Number</i>	<i>Description</i>
462-2415	Boat Bracket Clamp Screw Handle
461-2417	Motor Tilt Adjusting Pin
491-2420	Lower Motor Casing
480-2422	Lower Motor Casing Cover Plate Assembly
470-2423	Cylinder Exhaust Flange Gasket
461-2424	Lower Motor Casing Cover Plate Gasket
493-2426	Motor Pivot Bracket
493-2430	Spacer—Motor Tilt Arm
462-2433	Motor Pivot Bracket Thrust Washer
461-2441	Anchor Pin Boat Bracket Tilt Stop
493-2442	Boat Bracket Tilt Stop Assembly
461-2446	Boat Bracket Clamp Screw Handle Cap
486-2453	Boat Bracket Clamp Screw Pad Retainer
491-2457	Safety Chain Lug
493-2458	Motor Pivot Tube Assembly
493-2470	Thrust Socket Segment
493-2471	Pivot Bracket Stop
493-2473	Lock Wire Casing Clamp
493-2477	Tilt Pin Locator Spring
493-2478	Spring Retainer Tilt Pin Locator
493-2479	Spring Retainer Thrust Socket
493-2480	Tilt Arm Assembly
4913-4302	Shift Lever Bracket Assembly
493-4303	Wire Actuator Swivel
493-4304	Pin Limiter Link
493-4305	Grease Seal Shift Wire Casing
493-4306	Washer—Shift Lever
493-4310	Selector Rod Assembly
493-4311	Knob—Shift Lever
4911-4312	Wire Actuator
493-4315	Limiter Arm Assembly
491-4317	Reverse Lock Wire
491-4320	Lock Wire Casing Assembly
493-4321	Thrust Socket Lock
491-4324	Limiter Link
491-4325	Shift Lever
4913-4328	Taper Pin—Shift Lever
493-4336	Seal Sleeve—Shift Wire Casing
470-5300	Inlet Water Line

<i>Part Number</i>	<i>Description</i>
462-5503	Inlet Water Line Seal Ring
462-5504	Inlet Water Line Sleeve
461-5805	Boat Bracket Bolt
462-5806	Limiter Arm Screw
462-5816	Screw—Lower Motor Casing Cover Plate
461-5837	Lock Wire Casing Support Screw
461-5841	Lower Cross Piece Screw
461-5841	Boat Bracket Cover Plate Screw
493-5868	Tilt Arm Screw
4913-5874	Lock Wire Casing Drive Screw
493-5875	Set Screw—Thrust Socket Lock
493-5875	Shift and Lock Wire Screw
493-5876	Set Screw Wire Actuator Arm
4913-5877	Screw—Shift Lever Bracket
4913-5878	Screw—Pivot Tube Clamp
4913-5880	Spring Retainer Screw
4913-5881	Tilt Arm Screw
493-5888	Motor Pivot Bracket Screw
493-5889	Thrust Socket Screw—Short
493-5899	Thrust Socket Screw—Long
462-6701	Nut—Tilt Arm
462-6701	Nut—Cyl. Exhaust Flange Stud
462-6702	Nut—Shift Lever Bracket Screw
462-6703	Nut—Boat Bracket Bolt
470-6708	Nut—Spring Retainer
4911-6717	Lock Wire Casing Support Screw Nut
493-6718	Motor Pivot Bracket Screw Locknut
461-7201	Lockwasher—Boat Bracket Bolt
462-7202	Lockwasher—Shift Lever Bracket Screw
462-7203	Lockwasher—Cyl. Exh. Flange Stud
462-7209	Lockwasher—Lower Motor Casing Cover Plate Screw
462-7210	Lockwasher—Lock Wire Casing Support Screw
462-7210	Lockwasher—Spring Retainer
467-7222	Lockwasher—Limiter Arm
486-7226	Lockwasher—Tilt Arm
493-8213	Lower Unit Stud—Front
493-8214	Lower Unit Stud—Rear
461-8701	Cotter Pin—Limiter Link

POWERHEAD SUPPORT 497



Part Number	Description
487-645	Washer Limiter Link
464-1624	Groove Pin Pivot Bracket Stop
481-1649	Tension Spring Boat Bracket Tilt Stop
461-2401	Boat Bracket—Right
461-2402	Boat Bracket—Left
461-2407	Lower Boat Bracket Cross Piece
493-2409	Boat Bracket Cover Plate—Right
493-2410	Boat Bracket Cover Plate—Left
493-2411	Thrust Socket
462-2412	Boat Bracket Clamp Screw Pad
480-2413	Boat Bracket Clamp Screw and Handle Assembly

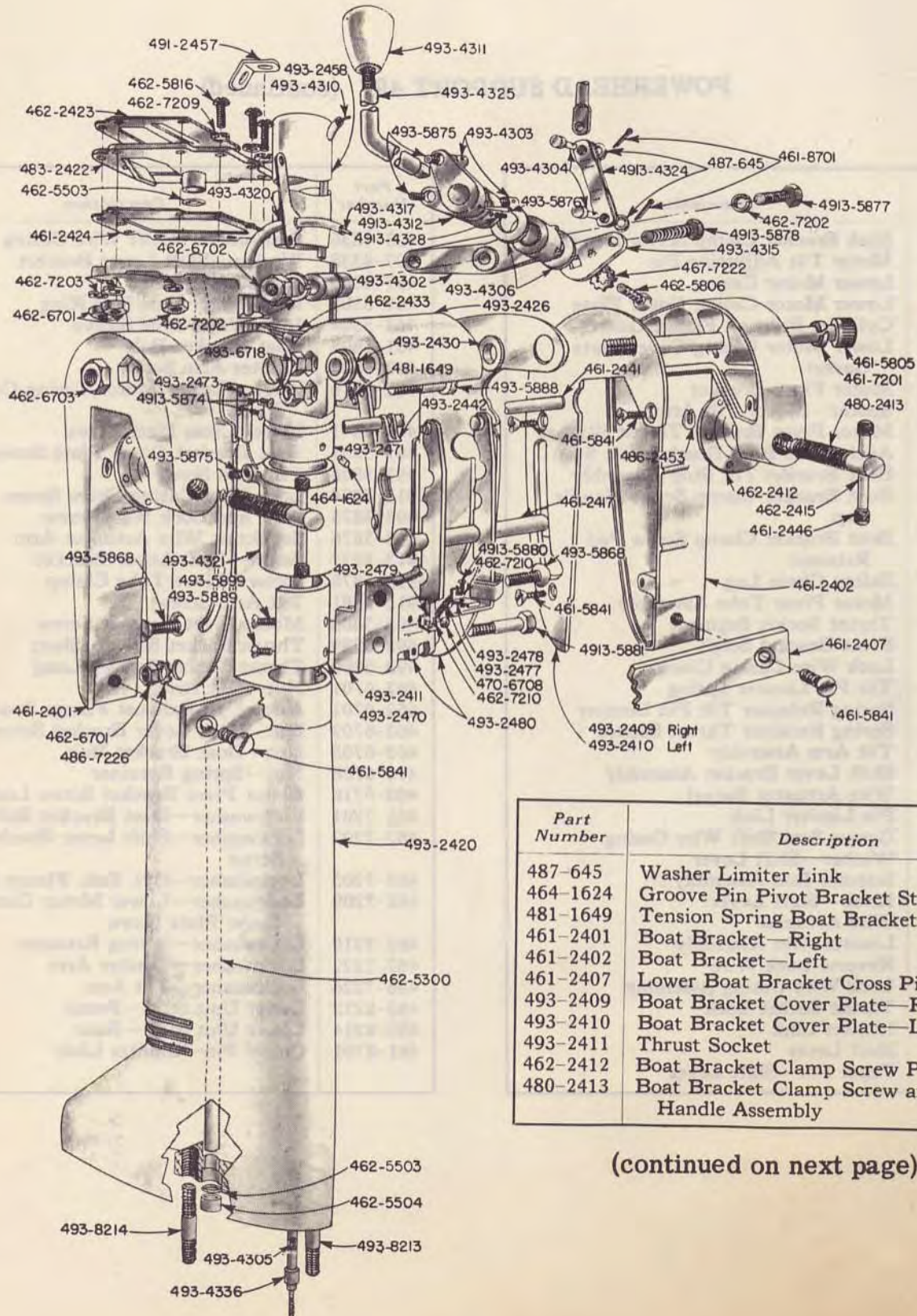
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POWERHEAD SUPPORT 497 (continued)

<i>Part Number</i>	<i>Description</i>
462-2415	Boat Bracket Clamp Screw Handle
461-2417	Motor Tilt Adjusting Pin
493-2420	Lower Motor Casing
497-2421	Lower Motor Casing Cover Plate
497-2423	Cylinder Exhaust Flange Gasket
461-2424	Lower Motor Casing Cover Plate Gasket
493-2426	Motor Pivot Bracket
493-2430	Spacer—Motor Tilt Arm
462-2433	Motor Pivot Bracket Thrust Washer
461-2441	Anchor Pin Boat Bracket Tilt Stop
493-2442	Boat Bracket Tilt Stop Assembly
461-2446	Boat Bracket Clamp Screw Handle Cap
486-2453	Boat Bracket Clamp Screw Pad Retainer
4913-2457	Safety Chain Lug
493-2458	Motor Pivot Tube Assembly
493-2470	Thrust Socket Segment
493-2471	Pivot Bracket Stop
493-2473	Lock Wire Casing Clamp
493-2477	Tilt Pin Locator Spring
493-2478	Spring Retainer Tilt Pin Locator
493-2479	Spring Retainer Thrust Socket
493-2480	Tilt Arm Assembly
493-4302	Shift Lever Bracket Assembly
493-4303	Wire Actuator Swivel
493-4304	Pin Limiter Link
493-4305	Grease Seal Shift Wire Casing
493-4306	Washer—Shift Lever
493-4310	Selector Rod Assembly
493-4311	Knob—Shift Lever
497-4312	Wire Actuator
493-4315	Limiter Arm Assembly
497-4317	Reverse Lock Wire
497-4320	Lock Wire Casing Assembly
493-4321	Thrust Socket Lock
4913-4324	Limiter Link
493-4325	Shift Lever
4913-4328	Taper Pin—Shift Lever

<i>Part Number</i>	<i>Description</i>
493-4336	Seal Sleeve—Shift Wire Casing
497-4338	Washer—Shift Lever Bracket
497-5300	Inlet Water Line
462-5503	Inlet Water Line Seal Ring
462-5504	Inlet Water Line Sleeve
461-5805	Boat Bracket Bolt
462-5806	Limiter Arm Screw
462-5816	Screw—Lower Motor Casing Cover Plate
461-5841	Lower Cross Piece Screw
461-5841	Boat Bracket Cover Plate Screw
493-5868	Tilt Arm Screw
4913-5874	Lock Wire Casing Drive Screw
493-5875	Shift and Lock Wire Screw
493-5876	Set Screw Wire Actuator Arm
4913-5877	Screw—Shift Lever Bracket
4913-5878	Screw—Pivot Tube Clamp
4913-5881	Tilt Arm Screw
493-5888	Motor Pivot Bracket Screw
493-5889	Thrust Socket Screw—Short
493-5899	Thrust Socket Screw—Long
462-6701	Nut—Tilt Arm
462-6701	Nut—Cyl. Exhaust Flange Stud
462-6702	Nut—Shift Lever Bracket Screw
462-6703	Nut—Boat Bracket Bolt
470-6708	Nut—Spring Retainer
493-6718	Motor Pivot Bracket Screw Locknut
461-7201	Lockwasher—Boat Bracket Bolt
462-7202	Lockwasher—Shift Lever Bracket Screw
462-7203	Lockwasher—Cyl. Exh. Flange Stud
462-7209	Lockwasher—Lower Motor Casing Cover Plate Screw
462-7210	Lockwasher—Spring Retainer
467-7222	Lockwasher—Limiter Arm
486-7226	Lockwasher—Tilt Arm
493-8213	Lower Unit Stud—Front
493-8214	Lower Unit Stud—Rear
461-8701	Cotter Pin—Limiter Link

POWERHEAD SUPPORT 493



Part Number	Description
487-645	Washer Limiter Link
464-1624	Groove Pin Pivot Bracket Stop
481-1649	Tension Spring Boat Bracket Tilt Stop
461-2401	Boat Bracket—Right
461-2402	Boat Bracket—Left
461-2407	Lower Boat Bracket Cross Piece
493-2409	Boat Bracket Cover Plate—Right
493-2410	Boat Bracket Cover Plate—Left
493-2411	Thrust Socket
462-2412	Boat Bracket Clamp Screw Pad
480-2413	Boat Bracket Clamp Screw and Handle Assembly

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POWERHEAD SUPPORT 493 (continued)

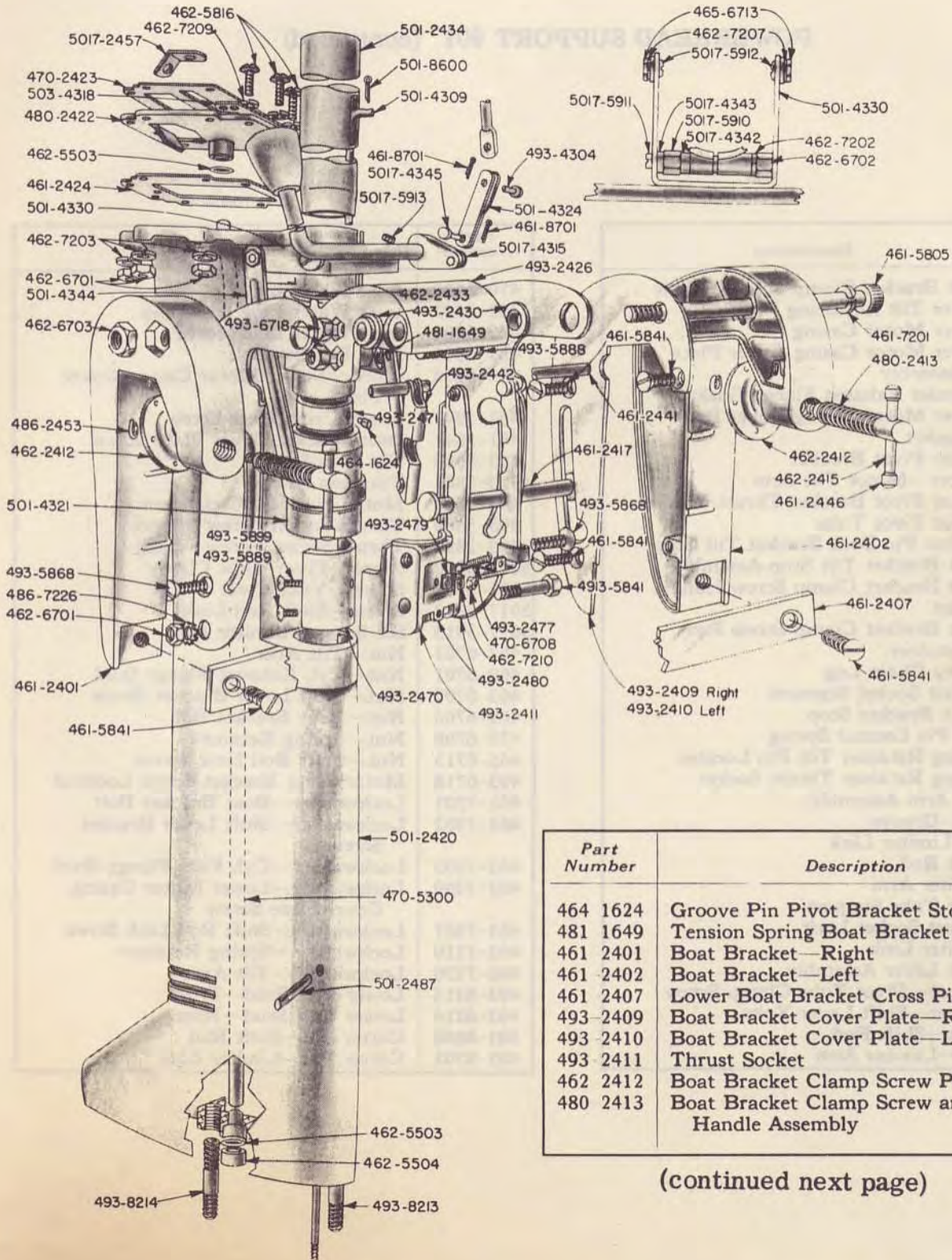
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Part Number	Description	Part Number	Description
462-2415	Boat Bracket Clamp Screw Handle	462-5503	Inlet Water Line Seal Ring
461-2417	Motor Tilt Adjusting Pin	462-5504	Inlet Water Line Sleeve
493-2420	Lower Motor Casing	461-5805	Boat Bracket Bolt
483-2422	Lower Motor Casing Cover Plate Assembly	462-5806	Limitter Arm Screw
462-2423	Cylinder Exhaust Flange Gasket	462-5816	Screw—Lower Motor Casing Cover Plate
461-2424	Lower Motor Casing Cover Plate Gasket	461-5841	Lower Cross Piece Screw
493-2426	Motor Pivot Bracket	461-5841	Boat Bracket Cover Plate Screw
493-2430	Spacer—Motor Tilt Arm	493-5868	Tilt Arm Screw
462-2433	Motor Pivot Bracket Thrust Washer	4913-5874	Lock Wire Casing Drive Screw
461-2441	Anchor Pin Boat Bracket Tilt Stop	493-5875	Set Screw—Thrust Socket Lock
493-2442	Boat Bracket Tilt Stop Assembly	493-5875	Shift and Lock Wire Screw
461-2446	Boat Bracket Clamp Screw Handle Cap	493-5876	Set Screw Wire Actuator Arm
486-2453	Boat Bracket Clamp Screw Pad Retainer	4913-5877	Screw—Shift Lever Bracket
491-2457	Safety Chain Lug	4913-5878	Screw—Pivot Tube Clamp
493-2458	Motor Pivot Tube Assembly	4913-5880	Spring Retainer Screw
493-2470	Thrust Socket Segment	4913-5881	Tilt Arm Screw
493-2471	Pivot Bracket Stop	493-5888	Motor Pivot Bracket Screw
493-2473	Lock Wire Casing Clamp	493-5889	Thrust Socket Screw—Short
493-2477	Tilt Pin Locater Spring	493-5899	Thrust Socket Screw—Long
493-2478	Spring Retainer Tilt Pin Locater	462-6701	Nut—Tilt Arm
493-2479	Spring Retainer Thrust Socket	462-6701	Nut—Cyl. Exhaust Flange Stud
493-2480	Tilt Arm Assembly	462-6702	Nut—Shift Lever Bracket Screw
493-4302	Shift Lever Bracket Assembly	462-6703	Nut—Boat Bracket Bolt
493-4303	Wire Actuator Swivel	470-6708	Nut—Spring Retainer
493-4304	Pin Limiter Link	4911-6717	Lock Wire Casing Support Screw Nut
493-4305	Grease Seal Shift Wire Casing	493-6718	Motor Pivot Bracket Screw Locknut
493-4306	Washer—Shift Lever	461-7201	Lockwasher—Boat Bracket Bolt
493-4310	Selector Rod Assembly	462-7202	Lockwasher—Shift Lever Bracket Screw
493-4311	Knob—Shift Lever	462-7203	Lockwasher—Cyl. Exh. Flange Stud
4913-4312	Wire Actuator	462-7209	Lockwasher—Lower Motor Casing Cover Plate Screw
493-4315	Limitter Arm Assembly	462-7210	Lockwasher—Spring Retainer
493-4317	Reverse Lock Wire	467-7222	Lockwasher—Limitter Arm
493-4320	Lock Wire Casing Assembly	486-7226	Lockwasher—Tilt Arm
493-4321	Thrust Socket Lock	493-8213	Lower Unit Stud—Front
4913-4324	Limitter Link	493-8214	Lower Unit Stud—Rear
493-4325	Shift Lever	461-8701	Cotter Pin—Limitter Link
4913-4328	Taper Pin—Shift Lever		
493-4336	Seal Sleeve—Shift Wire Casing		
462-5300	Inlet Water Line		

POWERHEAD SUPPORT 500 (continued from next page)

Part Number	Description	Part Number	Description
461-2441	Anchor Pin—Boat Bracket Tilt Stop	461-5841	Boat Bracket Cover Plate Screw
461-2442	Boat Bracket Tilt Stop Assembly	462-6701	Cylinder Exhaust Flange Stud Nut
461-2446	Boat Bracket Clamp Screw Handle Cap	462-6702	Steering Handle Spring Stud Nut
461-2447	Tension Spring—Boat Bracket Tilt Stop	462-6702	Steering Handle Spring Shoulder Stud Nut
486-2453	Retainer—Boat Bracket Clamp Screw Pad	462-6703	Nut—Boat Bracket Bolt
480-3600	Steering Handle and Grip Assembly	462-6704	Steering Handle Hinge Bolt Lock Nut
462-3602	Steering Handle Rubber Grip	461-7201	Lock Washer—Boat Bracket Bolt
480-3604	Steering Handle Spring	462-7202	Lock Washer for Steering Handle Spring Stud Nut
480-3617	Washer—Steering Spring Stud	462-7202	Lock Washer for Steering Handle Spring Shoulder Stud Nut
470-5300	Inlet Water Line	462-7202	Lock Washer for Steering Handle Spring Stud Nut
462-5503	Inlet Water Line Seal Ring	462-7203	Lock Washer for Cylinder Exhaust Flange Stud
462-5504	Inlet Water Line Sleeve	462-7209	Lock Washer for Lower Motor Casing Cover Plate Screw
462-5803	Steering Handle Hinge Bolt	461-8201	Steering Handle Spring Shoulder Stud
461-5805	Bolt—Boat Bracket	461-8202	Steering Handle Spring Stud
462-5816	Lower Motor Casing Cover Plate Screw	463-8203	Lower Unit Stud (Front)
480-5840	Motor Fivot Bracket Screw	462-8204	Lower Unit Stud (Rear)
461-5841	Lower Cross-Piece Screw		

POWERHEAD SUPPORT 501



Part Number	Description
464 1624	Groove Pin Pivot Bracket Stop
481 1649	Tension Spring Boat Bracket Tilt Stop
461 2401	Boat Bracket—Right
461 2402	Boat Bracket—Left
461 2407	Lower Boat Bracket Cross Piece
493 2409	Boat Bracket Cover Plate—Right
493 2410	Boat Bracket Cover Plate—Left
493 2411	Thrust Socket
462 2412	Boat Bracket Clamp Screw Pad
480 2413	Boat Bracket Clamp Screw and Handle Assembly

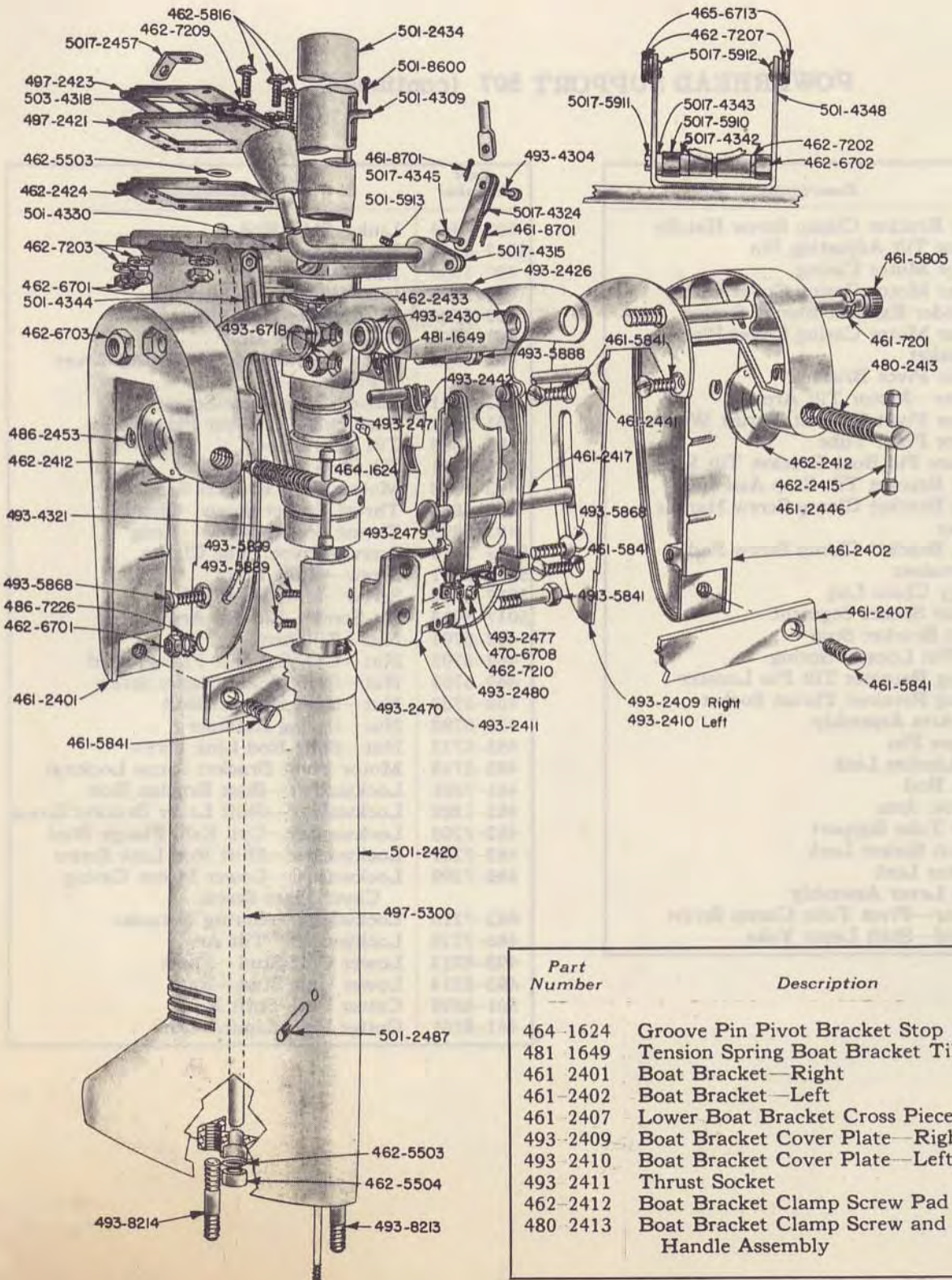
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POWERHEAD SUPPORT 501 (continued)

<i>Part Number</i>	<i>Description</i>
462-2415	Boat Bracket Clamp Screw Handle
461-2417	Motor Tilt Adjusting Pin
501-2420	Lower Motor Casing
480-2422	Lower Motor Casing Cover Plate Assembly
470-2423	Cylinder Exhaust Flange Gasket
461-2424	Lower Motor Casing Cover Plate Gasket
493-2426	Motor Pivot Bracket
493-2430	Spacer—Motor Tilt Arm
462-2433	Motor Pivot Bracket Thrust Washer
501-2434	Motor Pivot Tube
461-2441	Anchor Pin Boat Bracket Tilt Stop
493-2442	Boat Bracket Tilt Stop Assembly
461-2446	Boat Bracket Clamp Screw Handle Cap
486-2453	Boat Bracket Clamp Screw Pad Retainer
5017-2457	Safety Chain Lug
493-2470	Thrust Socket Segment
493-2471	Pivot Bracket Stop
493-2477	Tilt Pin Locater Spring
493-2478	Spring Retainer Tilt Pin Locater
493-2479	Spring Retainer Thrust Socket
493-2480	Tilt Arm Assembly
501-2487	Pin—Groove
493-4304	Pin Limiter Link
501-4309	Shift Rod
5017-4315	Limiter Arm
503-4318	Vent Tube Support
501-4321	Thrust Socket Lock
501-4324	Limiter Link
501-4330	Shift Lever Assembly
5017-4342	Spacer—Pivot Tube Clamp Screw
5017-4343	Spacer—Shift Lever Yoke
501-4344	Link—Shift Rod
5017-4345	Pin—Limiter Arm

<i>Part Number</i>	<i>Description</i>
470-5300	Inlet Water Line
462-5503	Inlet Water Line Seal Ring
462-5504	Inlet Water Line Sleeve
461-5805	Boat Bracket Bolt
462-5816	Screw—Lower Motor Casing Cover Plate
461-5841	Lower Cross Piece Screw
461-5841	Boat Bracket Cover Plate Screw
493-5868	Tilt Arm Screw
4913-5881	Tilt Arm Screw
493-5888	Motor Pivot Bracket Screw
493-5889	Thrust Socket Screw—Short
493-5899	Thrust Socket Screw—Long
5017-5910	Screw—Pivot Tube Clamp
5017-5911	Screw—Yoke Pivot
5017-5912	Screw—Shift Rod Link
5017-5913	Set Screw—Limiter Arm
462-6701	Nut—Tilt Arm
462-6701	Nut—Cyl. Exhaust Flange Stud
462-6702	Nut—Shift Lever Bracket Screw
462-6703	Nut—Boat Bracket Bolt
470-6708	Nut—Spring Retainer
465-6713	Nut—Shift Rod Link Screw
493-6718	Motor Pivot Bracket Screw Locknut
461-7201	Lockwasher—Boat Bracket Bolt
462-7202	Lockwasher—Shift Lever Bracket Screw
462-7203	Lockwasher—Cyl. Exh. Flange Stud
462-7209	Lockwasher—Lower Motor Casing Cover Plate Screw
462-7207	Lockwasher—Shift Rod Link Screw
462-7210	Lockwasher—Spring Retainer
486-7226	Lockwasher—Tilt Arm
493-8213	Lower Unit Stud—Front
493-8214	Lower Unit Stud—Rear
501-8600	Cotter Pin—Shift Rod
461-8701	Cotter Pin—Limiter Link

POWERHEAD SUPPORT 507



Part Number	Description
464-1624	Groove Pin Pivot Bracket Stop
481-1649	Tension Spring Boat Bracket Tilt Stop
461-2401	Boat Bracket—Right
461-2402	Boat Bracket—Left
461-2407	Lower Boat Bracket Cross Piece
493-2409	Boat Bracket Cover Plate—Right
493-2410	Boat Bracket Cover Plate—Left
493-2411	Thrust Socket
462-2412	Boat Bracket Clamp Screw Pad
480-2413	Boat Bracket Clamp Screw and Handle Assembly

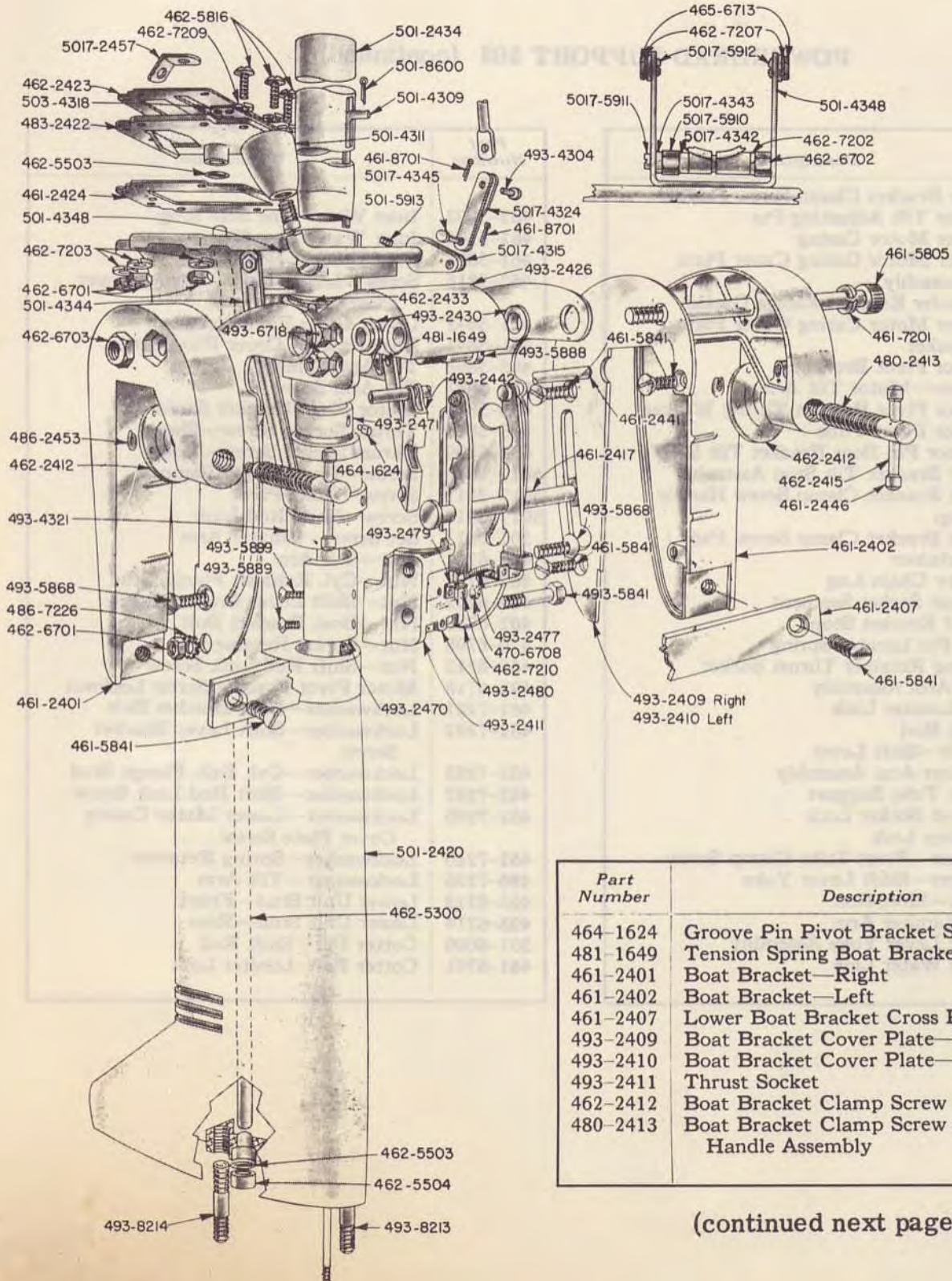
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POWERHEAD SUPPORT 507 (continued)

Part Number	Description
462-2415	Boat Bracket Clamp Screw Handle
461-2417	Motor Tilt Adjusting Pin
501-2420	Lower Motor Casing
497-2421	Lower Motor Casing Cover Plate
497-2423	Cylinder Exhaust Flange Gasket
462-2424	Lower Motor Casing Cover Plate Gasket
493-2426	Motor Pivot Bracket
493-2430	Spacer—Motor Tilt Arm
462-2433	Motor Pivot Bracket Thrust Washer
501-2434	Motor Pivot Tube
461-2441	Anchor Pin Boat Bracket Tilt Stop
493-2442	Boat Bracket Tilt Stop Assembly
461-2446	Boat Bracket Clamp Screw Handle Cap
486-2453	Boat Bracket Clamp Screw Pad Retainer
5017-2457	Safety Chain Lug
493-2470	Thrust Socket Segment
493-2471	Pivot Bracket Stop
493-2477	Tilt Pin Locator Spring
493-2478	Spring Retainer Tilt Pin Locator
493-2479	Spring Retainer Thrust Socket
493-2480	Tilt Arm Assembly
501-2487	Groove Pin
493-4304	Pin Limiter Link
501-4309	Shift Rod
5017-4315	Limiter Arm
503-4318	Vent Tube Support
501-4321	Thrust Socket Lock
5017-4324	Limiter Link
501-4330	Shift Lever Assembly
5017-4342	Spacer—Pivot Tube Clamp Screw
5017-4343	Spacer—Shift Lever Yoke

Part Number	Description
501-4344	Link—Shift Rod
5017-4345	Pin Limiter Arm
497-5300	Inlet Water Line
462-5503	Inlet Water Line Seal Ring
462-5504	Inlet Water Line Sleeve
461-5805	Boat Bracket Bolt
462-5816	Screw—Lower Motor Casing Cover Plate
461-5841	Lower Cross Piece Screw
461-5841	Boat Bracket Cover Plate Screw
493-5868	Tilt Arm Screw
4913-5881	Tilt Arm Screw
493-5888	Motor Pivot Bracket Screw
493-5889	Thrust Socket Screw—Short
493-5899	Thrust Socket Screw—Long
5017-5910	Screw—Pivot Tube Clamp
5017-5911	Screw—Yoke Pivot
5017-5912	Screw—Shift Rod Link
5017-5913	Set Screw—Limiter Arm
462-6701	Nut—Tilt Arm
462-6701	Nut—Cyl. Exhaust Flange Stud
462-6702	Nut—Pivot Tube Clamp Screw
462-6703	Nut—Boat Bracket Bolt
470-6708	Nut—Spring Retainer
465-6713	Nut—Shift Rod Link Screw
493-6718	Motor Pivot Bracket Screw Locknut
461-7201	Lockwasher—Boat Bracket Bolt
462-7202	Lockwasher—Shift Lever Bracket Screw
462-7203	Lockwasher—Cyl. Exh. Flange Stud
462-7207	Lockwasher—Shift Rod Link Screw
462-7209	Lockwasher—Lower Motor Casing Cover Plate Screw
462-7210	Lockwasher—Spring Retainer
486-7226	Lockwasher—Tilt Arm
493-8213	Lower Unit Stud—Front
493-8214	Lower Unit Stud—Rear
501-8600	Cotter Pin—Shift Rod
461-8701	Cotter Pin—Limiter Link

POWERHEAD SUPPORT 503



Part Number	Description
464-1624	Groove Pin Pivot Bracket Stop
481-1649	Tension Spring Boat Bracket Tilt Stop
461-2401	Boat Bracket—Right
461-2402	Boat Bracket—Left
461-2407	Lower Boat Bracket Cross Piece
493-2409	Boat Bracket Cover Plate—Right
493-2410	Boat Bracket Cover Plate—Left
493-2411	Thrust Socket
462-2412	Boat Bracket Clamp Screw Pad
480-2413	Boat Bracket Clamp Screw and Handle Assembly

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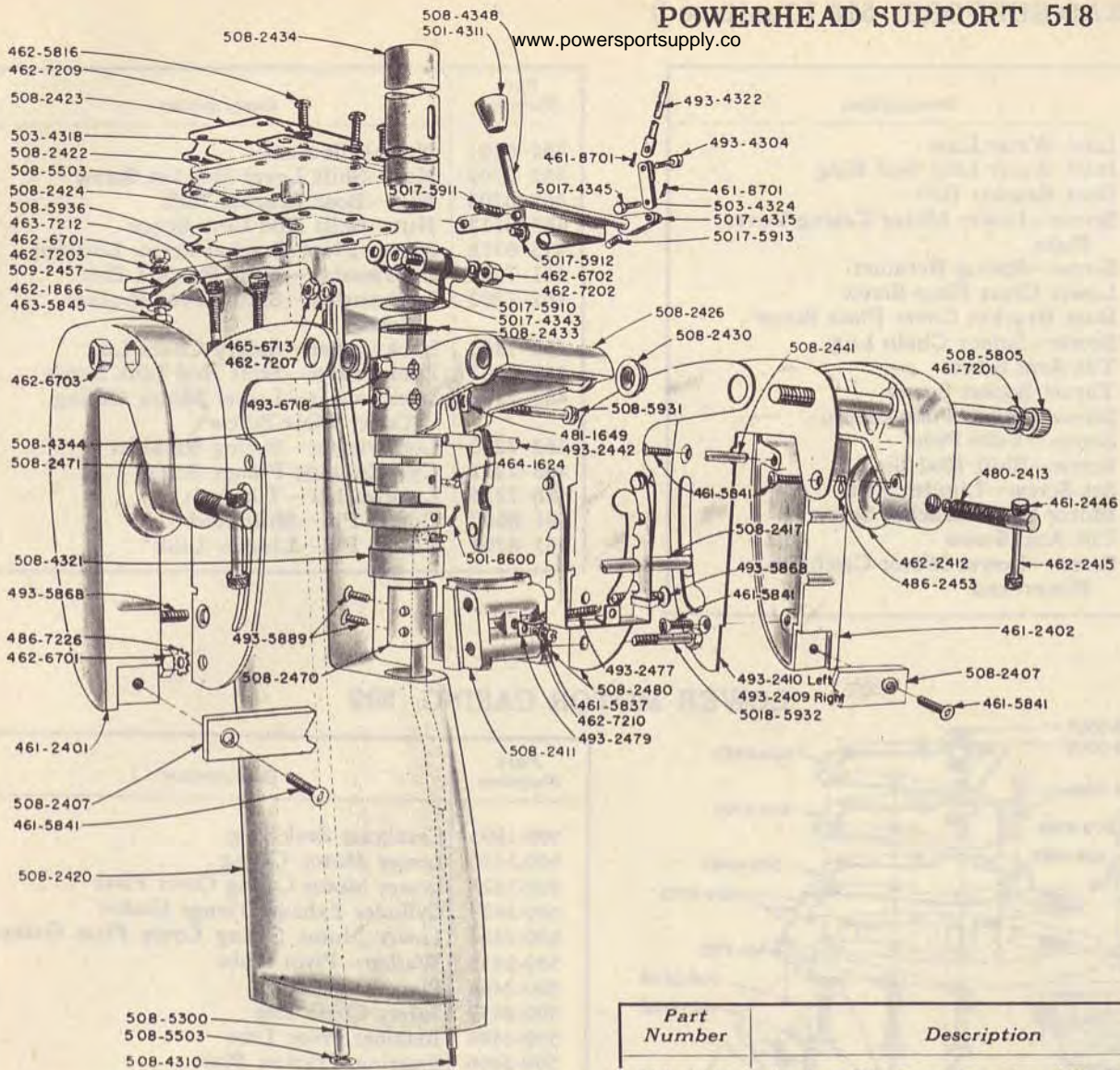
POWERHEAD SUPPORT 503 (continued)

Part Number	Description
462-2415	Boat Bracket Clamp Screw Handle
461-2417	Motor Tilt Adjusting Pin
493-2420	Lower Motor Casing
483-2422	Lower Motor Casing Cover Plate Assembly
462-2423	Cylinder Exhaust Flange Gasket
461-2424	Lower Motor Casing Cover Plate Gasket
493-2426	Motor Pivot Bracket
493-2430	Spacer—Motor Tilt Arm
462-2433	Motor Pivot Bracket Thrust Washer
501-2434	Motor Pivot Tube
461-2441	Anchor Pin Boat Bracket Tilt Stop
493-2442	Boat Bracket Tilt Stop Assembly
461-2446	Boat Bracket Clamp Screw Handle Cap
486-2453	Boat Bracket Clamp Screw Pad Retainer
5017-2457	Safety Chain Lug
493-2470	Thrust Socket Segment
493-2471	Pivot Bracket Stop
493-2477	Tilt Pin Locator Spring
493-2479	Spring Retainer Thrust Socket
493-2480	Tilt Arm Assembly
493-4304	Pin Limiter Link
501-4309	Shift Rod
501-4311	Knob—Shift Lever
5017-4315	Limiter Arm Assembly
503-4318	Vent Tube Support
493-4321	Thrust Socket Lock
5017-4324	Limiter Link
5017-4342	Spacer—Pivot Tube Clamp Screw
5017-4343	Spacer—Shift Lever Yoke
501-4344	Link—Shift Rod
5017-4345	Pin Limiter Arm
501-4348	Shift Lever Yoke Assembly
462-5300	Inlet Water Line

Part Number	Description
462-5503	Inlet Water Line Seal Ring
462-5504	Inlet Water Line Sleeve
461-5805	Boat Bracket Bolt
462-5816	Screw—Lower Motor Casing Cover Plate
461-5841	Lower Cross Piece Screw
461-5841	Boat Bracket Cover Plate Screw
493-5868	Tilt Arm Screw
4913-5881	Tilt Arm Screw
493-5888	Motor Pivot Bracket Screw
493-5889	Thrust Socket Screw—Short
493-5899	Thrust Socket Screw—Long
5017-5910	Screw—Pivot Tube Clamp
5017-5911	Screw—Yoke Pivot
5017-5912	Screw—Shift Rod Link
501-5913	Set Screw—Limiter Arm
462-6701	Nut—Tilt Arm
462-6701	Nut—Cyl. Exhaust Flange Stud
462-6702	Nut—Shift Lever Bracket Screw
462-6703	Nut—Boat Bracket Bolt
470-6708	Nut—Spring Retainer
465-6713	Nut—Shift Rod Link Screw
493-6718	Motor Pivot Bracket Screw Locknut
461-7201	Lockwasher—Boat Bracket Bolt
462-7202	Lockwasher—Shift Lever Bracket Screw
462-7203	Lockwasher—Cyl. Exh. Flange Stud
462-7207	Lockwasher—Shift Rod Link Screw
462-7209	Lockwasher—Lower Motor Casing Cover Plate Screw
462-7210	Lockwasher—Spring Retainer
486-7226	Lockwasher—Tilt Arm
493-8213	Lower Unit Stud—Front
493-8214	Lower Unit Stud—Rear
501-8600	Cotter Pin—Shift Rod
461-8701	Cotter Pin—Limiter Link

POWERHEAD SUPPORT 518

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Part Number	Description
464-1624	Groove Pin Pivot Bracket Stop
481-1649	Tension Spring Boat Bracket Tilt Stop
462-1866	Washer—Safety Chain Lug
461-2401	Boat Bracket—Right
461-2402	Boat Bracket—Left
508-2407	Lower Boat Bracket Cross Piece
493-2409	Boat Bracket Cover Plate—Right
493-2410	Boat Bracket Cover Plate—Left
508-2411	Thrust Socket
462-2412	Boat Bracket Clamp Screw Pad
480-2413	Boat Bracket Clamp Screw and Handle Assembly
462-2415	Boat Bracket Clamp Screw Handle
508-2417	Motor Tilt Adjusting Pin
508-2420	Lower Motor Casing
508-2422	Lower Motor Casing Cover Plate Assembly
508-2423	Cylinder Exhaust Flange Gasket
508-2424	Lower Motor Casing Cover Plate Gasket
508-2426	Motor Pivot Bracket
508-2430	Spacer—Motor Tilt Arm
508-2433	Motor Pivot Bracket Thrust Washer
508-2434	Motor Pivot Tube

Part Number	Description
508-2441	Anchor Pin Boat Bracket Tilt Stop
493-2442	Boat Bracket Tilt Stop Assembly
461-2446	Boat Bracket Clamp Screw Handle Cap
486-2453	Boat Bracket Clamp Screw Pad Retainer
509-2457	Safety Chain Lug
508-2470	Thrust Socket Segment
508-2471	Pivot Bracket Stop
493-2477	Tilt Pin Locator Spring
493-2479	Spring Retainer Thrust Socket
508-2480	Tilt Arm Assembly
493-4304	Pin Limiter Link
508-4310	Shift Rod Assembly
501-4311	Knob—Shift Lever
5017-4315	Limiter Arm Assembly
503-4318	Vent Tube Support
508-4321	Thrust Socket Lock
493-4322	Limiter Rod
503-4324	Limiter Link
5017-4343	Spacer—Shift Lever Yoke
508-4344	Link—Shift Rod
5017-4345	Pin Limiter Arm
508-4348	Shift Lever Yoke Assembly

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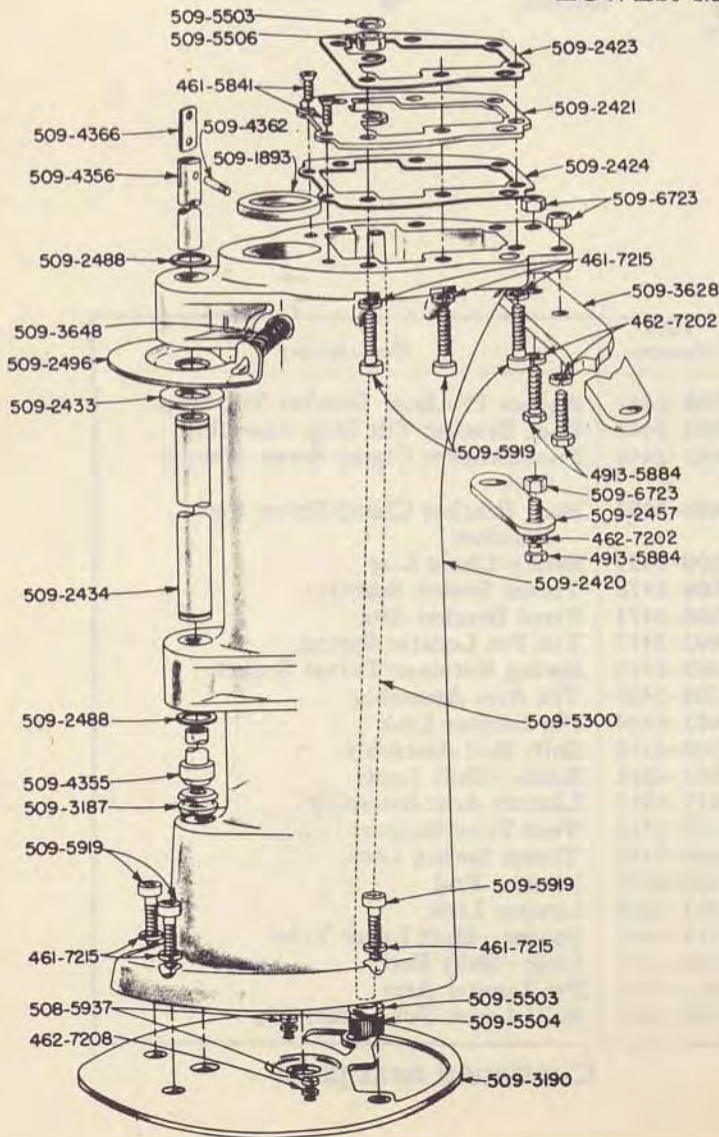
POWERHEAD SUPPORT 518 (Continued)

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Part Number	Description
508-5300	Inlet Water Line
508-5503	Inlet Water Line Seal Ring
508-5805	Boat Bracket Bolt
462-5816	Screw—Lower Motor Casing Cover Plate
461-5837	Screw—Spring Retainer
461-5841	Lower Cross Piece Screw
461-5841	Boat Bracket Cover Plate Screw
463-5845	Screw—Safety Chain Lug
493-5868	Tilt Arm Screw
493-5889	Thrust Socket Screw
5017-5910	Screw—Pivot Tube Clamp
5017-5911	Screw—Yoke Pivot
5017-5912	Screw—Shift Rod Link
5017-5913	Set Screw—Limiter Arm
508-5931	Motor Pivot Bracket Screw
5018-5932	Tilt Arm Screw
508-5936	Screw—Lower Motor Casing to Powerhead

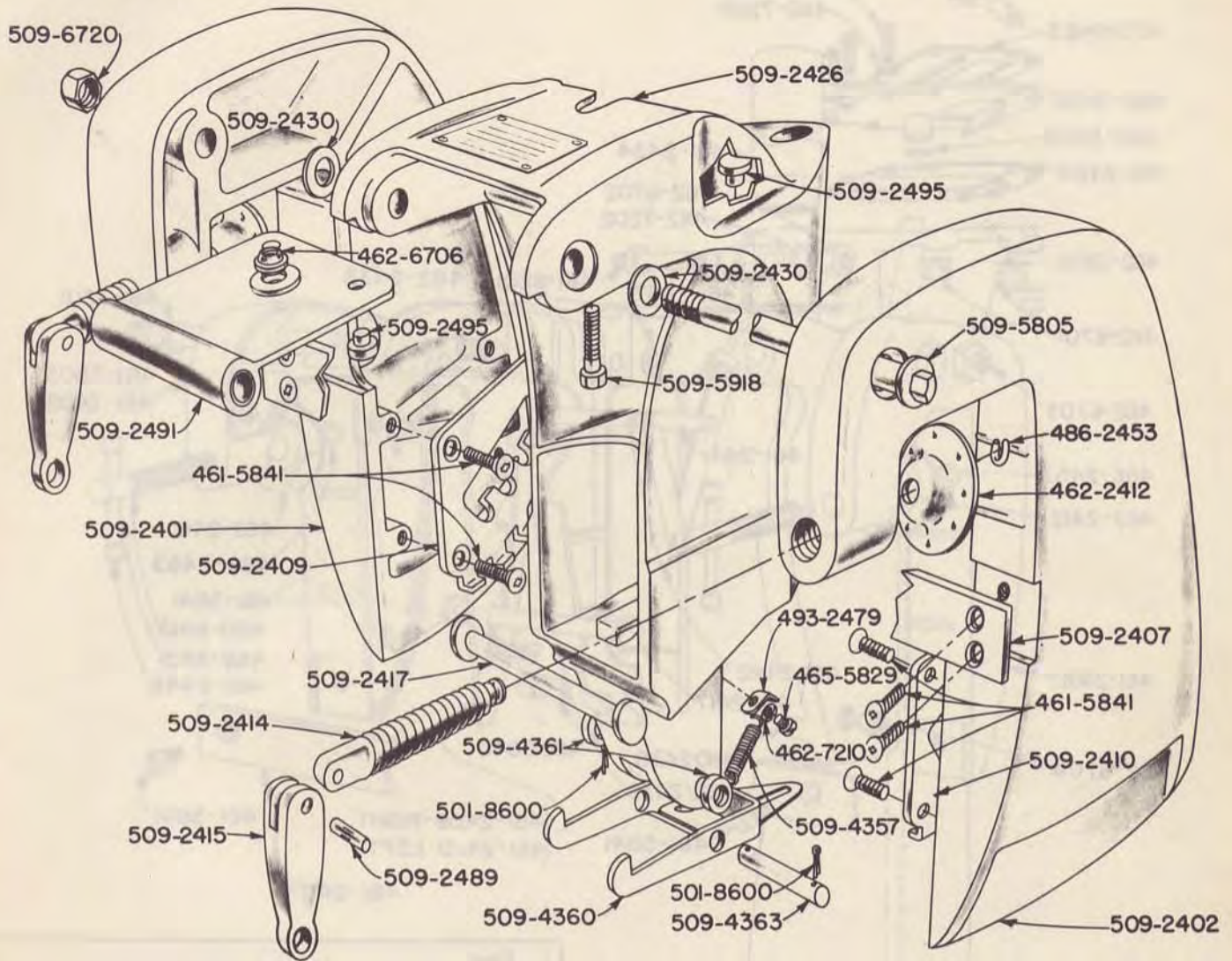
Part Number	Description
462-6701	Nut—Tilt Arm
462-6702	Nut—Shift Lever Bracket Screw
462-6703	Nut—Boat Bracket Bolt
465-6713	Nut—Shift Rod Link Screw
493-6718	Motor Pivot Bracket Screw Locknut
461-7201	Lockwasher—Boat Bracket Bolt
462-7202	Lockwasher—Shift Lever Bracket Screw
462-7203	Lockwasher—Safety Chain Lug
462-7207	Lockwasher—Shift Rod Link Screw
462-7209	Lockwasher—Lower Motor Casing Cover Plate Screw
462-7210	Lockwasher—Spring Retainer
463-7212	Cyl. Exhaust Flange Screw
486-7226	Lockwasher—Tilt Arm
501-8600	Cotter Pin—Shift Rod
461-8701	Cotter Pin—Limiter Link

LOWER MOTOR CASING 509



Part Number	Description
509-1893	Crankcase Seal Ring
509-2420	Lower Motor Casing
509-2421	Lower Motor Casing Cover Plate
509-2423	Cylinder Exhaust Flange Gasket
509-2424	Lower Motor Casing Cover Plate Gasket
509-2433	Washer—Pivot Tube
509-2434	Pivot Tube
509-2457	Safety Chain Lug
509-2488	Retainer Pivot Tube
509-2496	Steering Friction Plate
509-3187	Grommet
509-3190	Splash Plate
*509-3628	Tiller Bar (Includes two ea. 4913-5884, 509-6723, 462-7202)
509-3648	Spring—Motor Cushioning
509-4355	Reverse Lock Actuator Assembly
509-4356	Shift Connector
509-4362	Groove Pin—Shift Connector
509-4366	Shift Actuator Link
509-5300	Water Line
509-5503	"O" Ring—Water Line
509-5504	Water Line Sleeve
509-5506	Sleeve—Water Line Inlet
461-5841	Screw—Lower Motor Casing Cover Plate
4913-5884	Screw—Safety Chain Lug
509-5919	Screw—Lower Motor Casing & Lower Unit—Powerhead to Lower Motor Casing
508-5937	Screw—Splash Plate
509-6723	Nut—Safety Chain Lug
462-7202	Lockwasher—Safety Chain Lug
462-7208	Lockwasher—Splash Plate
461-7215	Lockwasher
<i>* Not Included With Motor</i>	

BOAT BRACKET 509



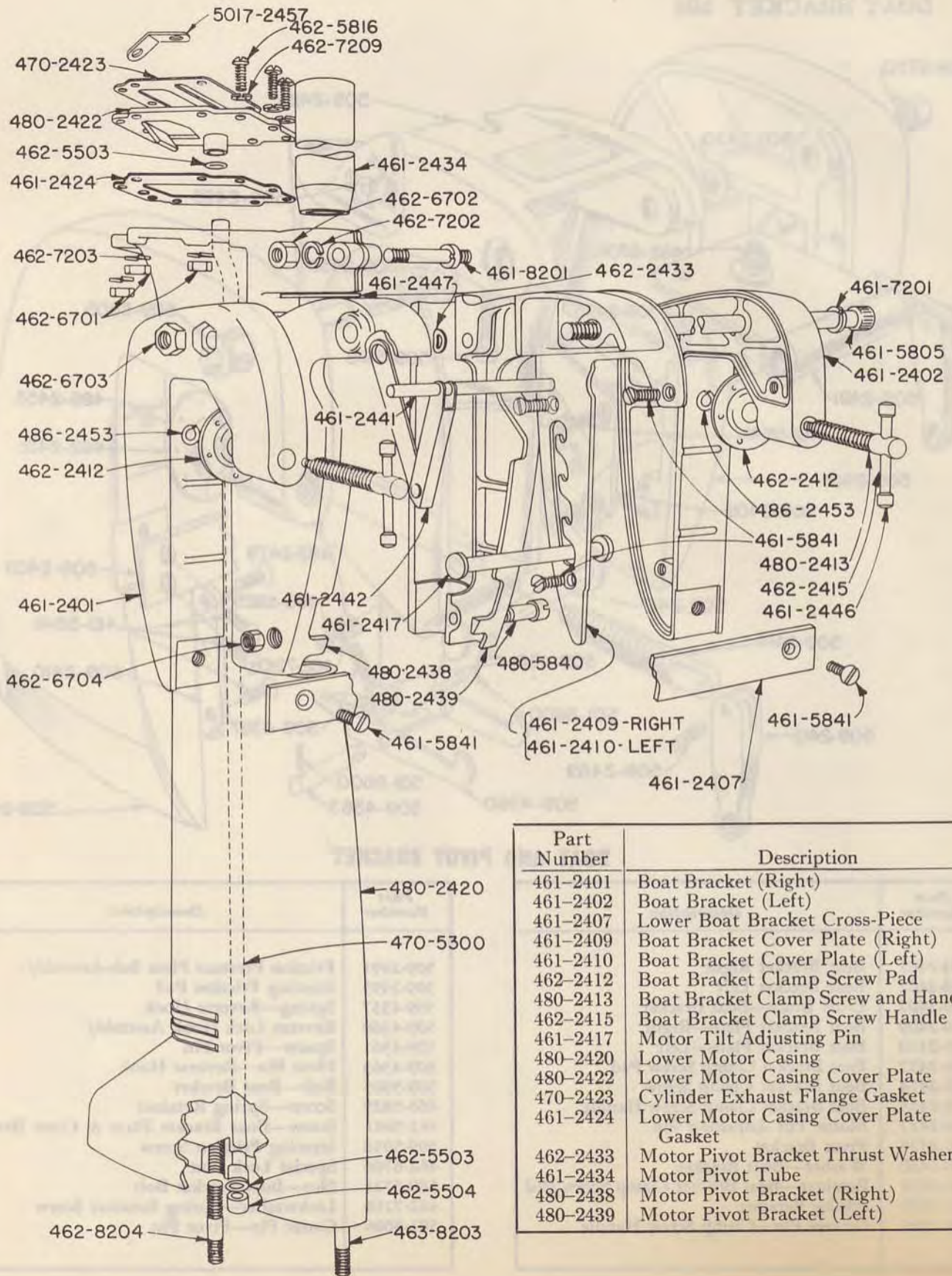
BOAT AND PIVOT BRACKET

Part Number	Description
509-2401	Boat Bracket Right
509-2402	Boat Bracket Left
509-2407	Cross Brace—Boat Bracket
509-2409	Boat Bracket Plate—Right
509-2410	Boat Bracket Plate—Left
462-2412	Boat Bracket Clamp Screw Pad
509-2414	Boat Bracket Clamp Screw
509-2415	Boat Bracket Clamp Screw Handle
509-2417	Motor Tilt Adjusting Pin
509-2426	Pivot Bracket
509-2430	Washer—Boat Bracket
486-2453	Retainer—Boat Bracket Clamp Screw Pad
493-2479	Spring Retainer
509-2489	Groove Pin—Clamp Screw Handle

Part Number	Description
509-2491	Friction Pressure Plate Sub-Assembly
509-2495	Steering Friction Pad
509-4357	Spring—Reverse Hook
509-4360	Reverse Lock Hook Assembly
509-4361	Spacer—Pivot Pin
509-4363	Pivot Pin—Reverse Hook
509-5805	Bolt—Boat Bracket
465-5829	Screw—Spring Retainer
461-5841	Screw—Boat Bracket Plate & Cross Brace
509-5918	Steering Friction Screw
462-6706	Special Lock Nut
509-6721	Nut—Boat Bracket Bolt
462-7210	Lockwasher—Spring Retainer Screw
501-8600	Cotter Pin—Pivot Pin

POWERHEAD SUPPORT - 510

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Part Number	Description
461-2401	Boat Bracket (Right)
461-2402	Boat Bracket (Left)
461-2407	Lower Boat Bracket Cross-Piece
461-2409	Boat Bracket Cover Plate (Right)
461-2410	Boat Bracket Cover Plate (Left)
462-2412	Boat Bracket Clamp Screw Pad
480-2413	Boat Bracket Clamp Screw and Handle
462-2415	Boat Bracket Clamp Screw Handle
461-2417	Motor Tilt Adjusting Pin
480-2420	Lower Motor Casing
480-2422	Lower Motor Casing Cover Plate
470-2423	Cylinder Exhaust Flange Gasket
461-2424	Lower Motor Casing Cover Plate Gasket
462-2433	Motor Pivot Bracket Thrust Washer
461-2434	Motor Pivot Tube
480-2438	Motor Pivot Bracket (Right)
480-2439	Motor Pivot Bracket (Left)

POWERHEAD SUPPORT - 510 continued)

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Part Number	Description
461-2441	Anchor Pin—Boat Bracket Tilt Stop
461-2442	Boat Bracket Tilt Stop Assembly
461-2446	Boat Bracket Clamp Screw Handle Cap
461-2447	Tension Spring—Boat Bracket Tilt Stop
486-2453	Retainer—Clamp Screw Pad
5017-2457	Safety Chain Lug
470-5300	Inlet Water Line
462-5503	Inlet Water Line Seal Ring
462-5504	Inlet Water Line Sleeve
461-5805	Bolt—Boat Bracket
462-5816	Lower Motor Casing Cover Plate Screw
480-5840	Motor Pivot Bracket Screw

Part Number	Description
461-5841	Lower Cross-Piece Screw
461-5841	Boat Bracket Cover Plate Screw
462-6701	Cylinder Exhaust Flange Stud Nut
462-6702	Shoulder Stud Nut
462-6703	Nut—Boat Bracket Bolt
462-6704	Lock Nut—Pivot Bracket Screw
461-7201	Lock Washer—Boat Bracket Bolt
462-7202	Lock Washer—Shoulder Stud Nut
462-7203	Lock Washer—Cyl. Exh. Flange Stud
462-7209	Lock Washer—Lower Motor Casing Cover Plate Screw
461-8201	Shoulder Stud
463-8203	Lower Unit Stud (Front)
462-8204	Lower Unit Stud (Rear)

POWERHEAD SUPPORT - 511 - 517 - 513

Part Number	Description
464-1624	Groove Pin Pivot Bracket Stop
481-1649	Tension Spring Boat Bracket Tilt Stop
461-2401	Boat Bracket—Right
461-2402	Boat Bracket—Left
461-2407	Lower Boat Bracket Cross Piece
493-2409	Boat Bracket Cover Plate—Right
493-2410	Boat Bracket Cover Plate—Left
511-2411	Thrust Socket
462-2412	Boat Bracket Clamp Screw Pad
480-2413	Boat Bracket Clamp Screw and Handle Assembly
462-2415	Boat Bracket Clamp Screw Handle
461-2417	Motor Tilt Adjusting Pin
501-2420	Lower Motor Casing
* 497-2421	Lower Motor Casing Cover Plate
* 497-2423	Cylinder Exhaust Flange Gasket
461-2424	Lower Motor Casing Cover Plate Gasket
493-2426	Motor Pivot Bracket
493-2430	Spacer—Motor Tilt Arm
462-2433	Motor Pivot Bracket Thrust Washer
501-2434	Motor Pivot Tube
461-2441	Anchor Pin Boat Bracket Tilt Stop
493-2442	Boat Bracket Tilt Stop Assembly
461-2446	Boat Bracket Clamp Screw Handle Cap
486-2453	Boat Bracket Clamp Screw Pad Retainer
5017-2457	Safety Chain Lug
511-2470	Thrust Socket Segment
493-2471	Pivot Bracket Stop
493-2477	Tilt Pin Locater Spring
493-2479	Spring Retainer Thrust Socket
493-2480	Tilt Arm Assembly
501-2487	Groove Pin
501-4309	Shift Rod
503-4318	Vent Tube Support
501-4321	Thrust Socket Lock

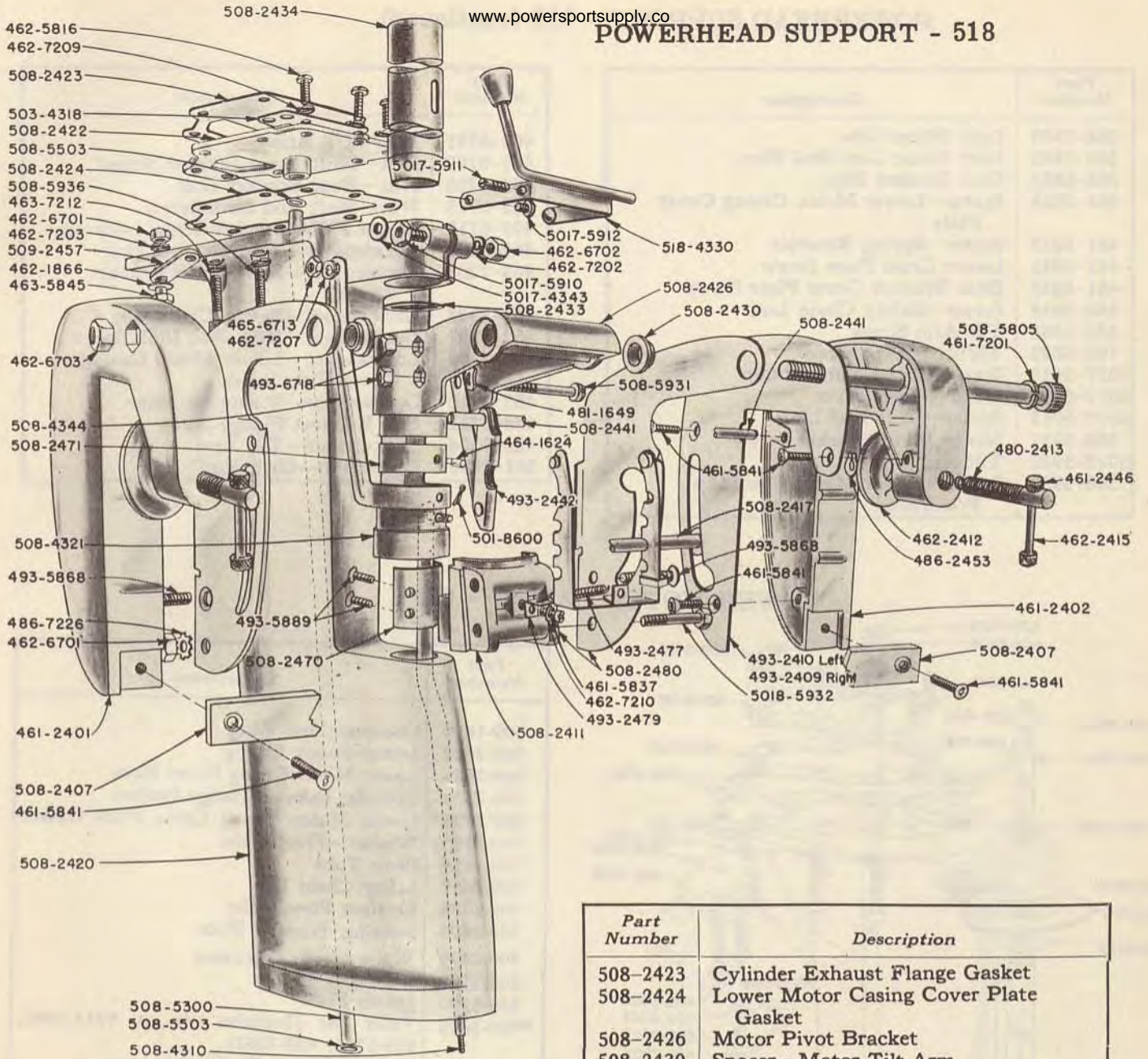
Part Number	Description
518-4330	Shift Lever Assembly
5017-4342	Spacer—Pivot Tube Clamp Screw
5017-4343	Spacer—Shift Lever Yoke
501-4344	Link—Shift Rod
* 497-5300	Inlet Water Line
462-5503	Inlet Water Line Seal Ring
511-5504	Inlet Water Line Sleeve
461-5805	Boat Bracket Bolt
462-5816	Screw—Lower Motor Casing Cover Plate
461-5837	Screw—Spring Retainer
461-5841	Lower Cross Piece Screw
461-5841	Boat Bracket Cover Plate Screw
493-5868	Tilt Arm Screw
4913-5881	Tilt Arm Screw
493-5888	Motor Pivot Bracket Screw
493-5889	Thrust Socket Screw—Short
493-5899	Thrust Socket Screw—Long
5017-5910	Screw—Pivot Tube Clamp
5017-5911	Screw—Yoke Pivot
5017-5912	Screw—Shift Rod Link
462-6701	Nut—Tilt Arm
462-6701	Nut—Cyl. Exhaust Flange Stud
462-6702	Nut—Pivot Tube Clamp Screw
462-6703	Nut—Boat Bracket Bolt
465-6713	Nut—Shift Rod Link Screw
493-6718	Motor Pivot Bracket Screw Locknut
461-7201	Lockwasher—Boat Bracket Bolt
462-7202	Lockwasher—Shift Lever Bracket Screw
462-7203	Lockwasher—Cyl. Exh. Flange Stud
462-7207	Lockwasher—Shift Rod Link Screw
462-7209	Lockwasher—Lower Motor Casing Cover Plate Screw
462-7210	Lockwasher—Spring Retainer
486-7226	Lockwasher—Tilt Arm
493-8213	Lower Unit Stud—Front
493-8214	Lower Unit Stud—Rear
501-8600	Cotter Pin—Shift Rod

* Exceptions:

Use the following in the models indicated:

511	517	513
480-2422	497-2421	483-2422
470-2423	497-2423	462-2423
470-5300	497-5300	462-5300

POWERHEAD SUPPORT - 518



Part Number	Description
464-1624	Groove Pin Pivot Bracket Stop
481-1649	Tension Spring Boat Bracket Tilt Stop
462-1866	Washer—Safety Chain Lug
461-2401	Boat Bracket—Right
461-2402	Boat Bracket—Left
508-2407	Lower Boat Bracket Cross Piece
493-2409	Boat Bracket Cover Plate—Right
493-2410	Boat Bracket Cover Plate—Left
508-2411	Thrust Socket
462-2412	Boat Bracket Clamp Screw Pad
480-2413	Boat Bracket Clamp Screw and Handle Assembly
462-2415	Boat Bracket Clamp Screw Handle
508-2417	Motor Tilt Adjusting Pin
508-2420	Lower Motor Casing
508-2422	Lower Motor Casing Cover Plate Assembly

Part Number	Description
508-2423	Cylinder Exhaust Flange Gasket
508-2424	Lower Motor Casing Cover Plate Gasket
508-2426	Motor Pivot Bracket
508-2430	Spacer—Motor Tilt Arm
508-2433	Motor Pivot Bracket Thrust Washer
508-2434	Motor Pivot Tube
508-2441	Anchor Pin Boat Bracket Tilt Stop
493-2442	Boat Bracket Tilt Stop Assembly
461-2446	Boat Bracket Clamp Screw Handle Cap
486-2453	Boat Bracket Clamp Screw Pad Retainer
509-2457	Safety Chain Lug
508-2470	Thrust Socket Segment
508-2471	Pivot Bracket Stop
493-2477	Tilt Pin Locater Spring
493-2479	Spring Retainer Thrust Socket
508-2480	Tilt Arm Assembly
508-4310	Shift Rod Assembly
503-4318	Vent Tube Support
508-4321	Thrust Socket Lock
5017-4343	Spacer—Shift Lever Yoke
508-4344	Link—Shift Rod
518-4330	Shift Lever Yoke Assembly

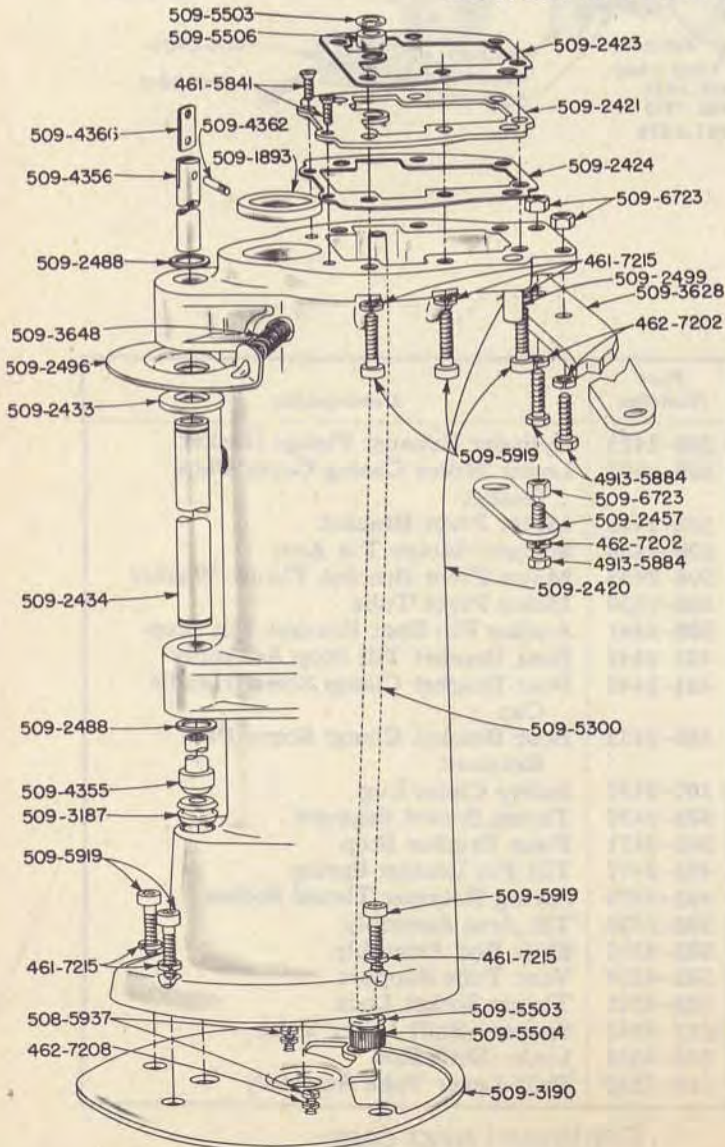
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POWERHEAD SUPPORT (continued)

Part Number	Description
508-5300	Inlet Water Line
508-5503	Inlet Water Line Seal Ring
508-5805	Boat Bracket Bolt
462-5816	Screw—Lower Motor Casing Cover Plate
461-5837	Screw—Spring Retainer
461-5841	Lower Cross Piece Screw
461-5841	Boat Bracket Cover Plate Screw
463-5845	Screw—Safety Chain Lug
493-5868	Tilt Arm Screw
493-5889	Thrust Socket Screw
5017-5910	Screw—Pivot Tube Clamp
5017-5911	Screw—Yoke Pivot
5017-5912	Screw—Shift Rod Link
508-5931	Motor Pivot Bracket Screw
5018-5932	Tilt Arm Screw
508-5936	Screw—Lower Motor Casing to Powerhead

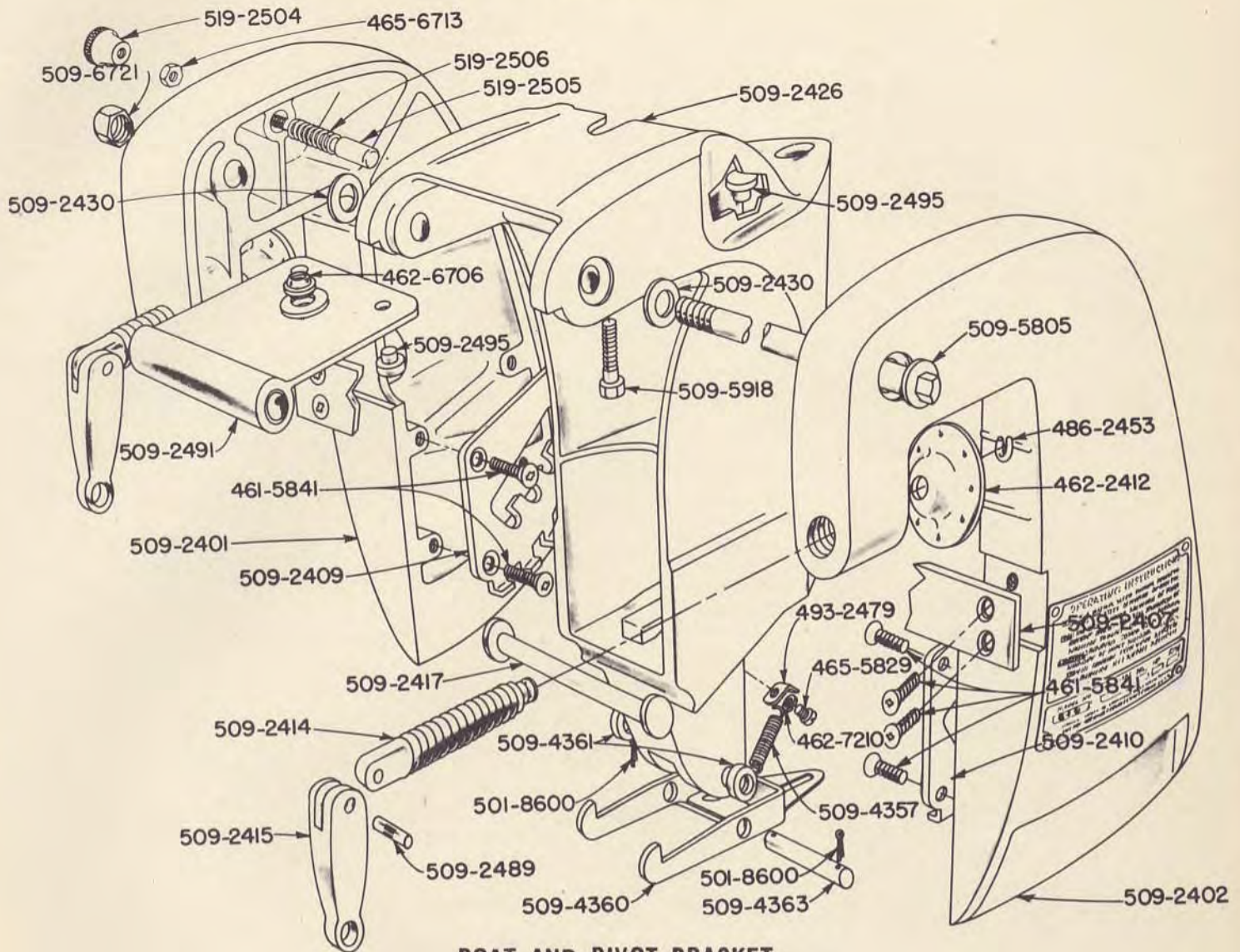
Part Number	Description
462-6701	Nut—Tilt Arm
462-6702	Nut—Shift Lever Bracket Screw
462-6703	Nut—Boat Bracket Bolt
465-6713	Nut—Shift Rod Link Screw
493-6718	Motor Pivot Bracket Screw Locknut
461-7201	Lockwasher—Boat Bracket Bolt
462-7202	Lockwasher—Shift Lever Bracket Screw
462-7203	Lockwasher—Safety Chain Lug
462-7207	Lockwasher—Shift Rod Link Screw
462-7209	Lockwasher—Lower Motor Casing Cover Plate Screw
462-7210	Lockwasher—Spring Retainer
463-7212	Cyl. Exhaust Flange Screw
486-7226	Lockwasher—Tilt Arm
501-8600	Cotter Pin—Shift Rod

LOWER MOTOR CASING - 519



Part Number	Description
509-1893	Crankcase Seal Ring
509-2420	Lower Motor Casing
509-2421	Lower Motor Casing Cover Plate
509-2423	Cylinder Exhaust Flange Gasket
509-2424	Lower Motor Casing Cover Plate Gasket
509-2433	Washer—Pivot Tube
509-2434	Pivot Tube
509-2457	Safety Chain Lug
509-2488	Retainer Pivot Tube
509-2496	Steering Friction Plate
509-2499	Water Outlet Extension
509-3187	Grommet
509-3190	Splash Plate
*509-3628	Tiller Bar (Includes two ea. 4913-5884, 509-6723, 462-7202)
509-3648	Spring—Motor Cushioning
509-4355	Reverse Lock Actuator Assembly
509-4356	Shift Connector
509-4362	Groove Pin—Shift Connector
509-4366	Shift Actuator Link
509-5300	Water Line
509-5503	"O" Ring—Water Line
509-5504	Water Line Sleeve
509-5506	Sleeve—Water Line Inlet
461-5841	Screw—Lower Motor Casing Cover Plate
4913-5884	Screw—Safety Chain Lug
509-5919	Screw—Lower Motor Casing & Lower Unit—Powerhead to Lower Motor Casing
508-5937	Screw—Splash Plate
509-6723	Nut—Safety Chain Lug
462-7202	Lockwasher—Safety Chain Lug
462-7208	Lockwasher—Splash Plate
461-7215	Lockwasher
<i>* Not Included With Motor</i>	

BOAT BRACKET www.powersportsupply.co



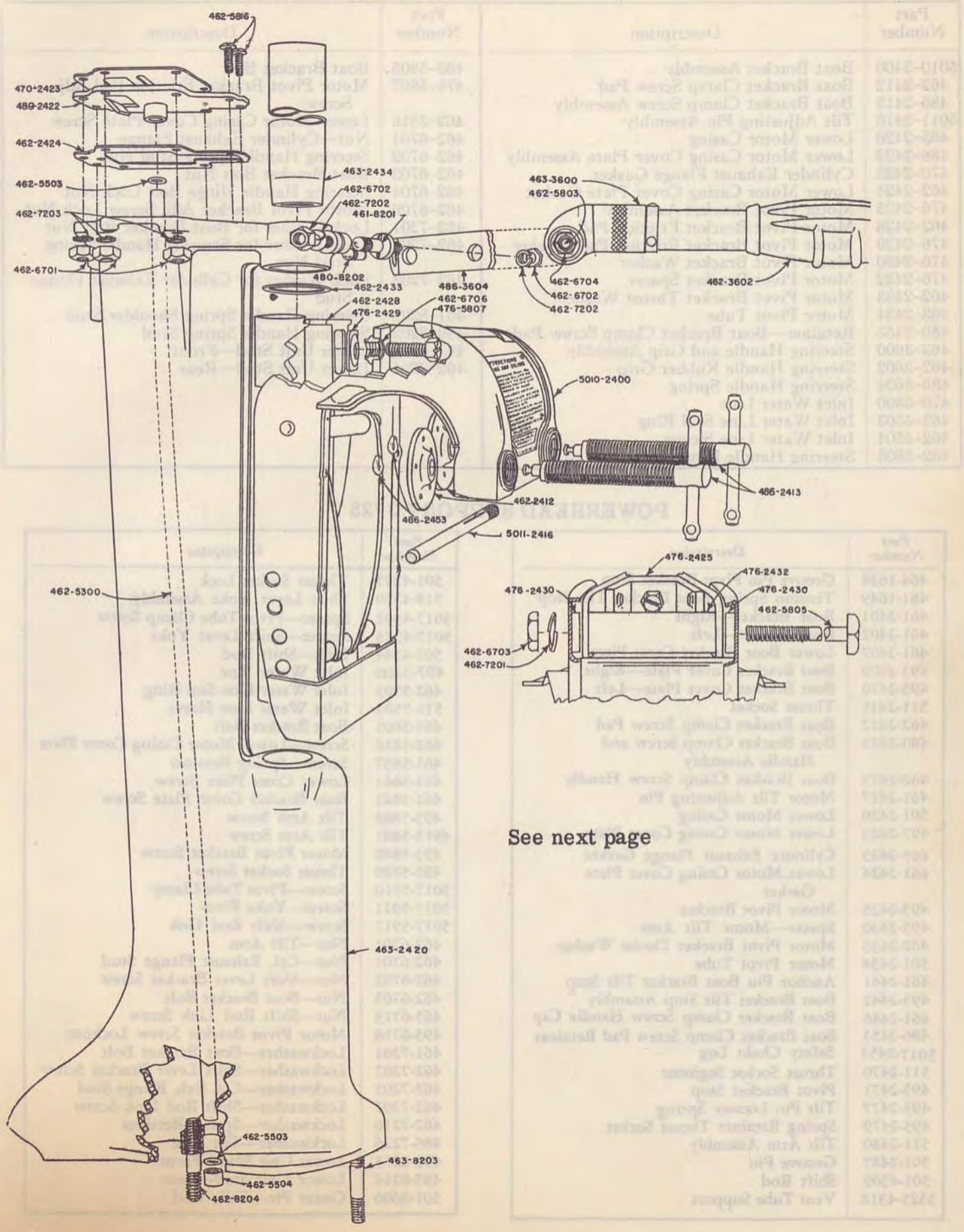
BOAT AND PIVOT BRACKET

Part Number	Description
509-2401	Boat Bracket Right
509-2402	Boat Bracket Left
509-2407	Cross Brace—Boat Bracket
509-2409	Boat Bracket Plate—Right
509-2410	Boat Bracket Plate—Left
462-2412	Boat Bracket Clamp Screw Pad
509-2414	Boat Bracket Clamp Screw
509-2415	Boat Bracket Clamp Screw Handle
509-2417	Motor Tilt Adjusting Pin
509-2426	Pivot Bracket
509-2430	Washer—Boat Bracket
486-2453	Retainer—Boat Bracket Clamp Screw Pad
493-2479	Spring Retainer
509-2489	Groove Pin—Clamp Screw Handle
509-2491	Friction Pressure Plate Sub-Assembly
509-2495	Steering Friction Pad

Part Number	Description
519-2504	Knob—Tilt Lock
519-2505	Plunger—Tilt Lock
519-2506	Spring—Tilt Lock
509-4357	Spring—Reverse Hook
509-4360	Reverse Lock Hook Assembly
509-4361	Spacer—Pivot Pin
509-4363	Pivot Pin—Reverse Hook
509-5805	Bolt—Boat Bracket
465-5829	Screw—Spring Retainer
461-5841	Screw—Boat Bracket Plate & Cross Brace
509-5918	Steering Friction Screw
462-6706	Special Lock Nut
467-6713	Nut—Knob Lock
509-6721	Nut—Boat Bracket Bolt
462-7210	Lockwasher—Spring Retainer Screw
501-8600	Cotter Pin—Pivot Pin

POWERHEAD

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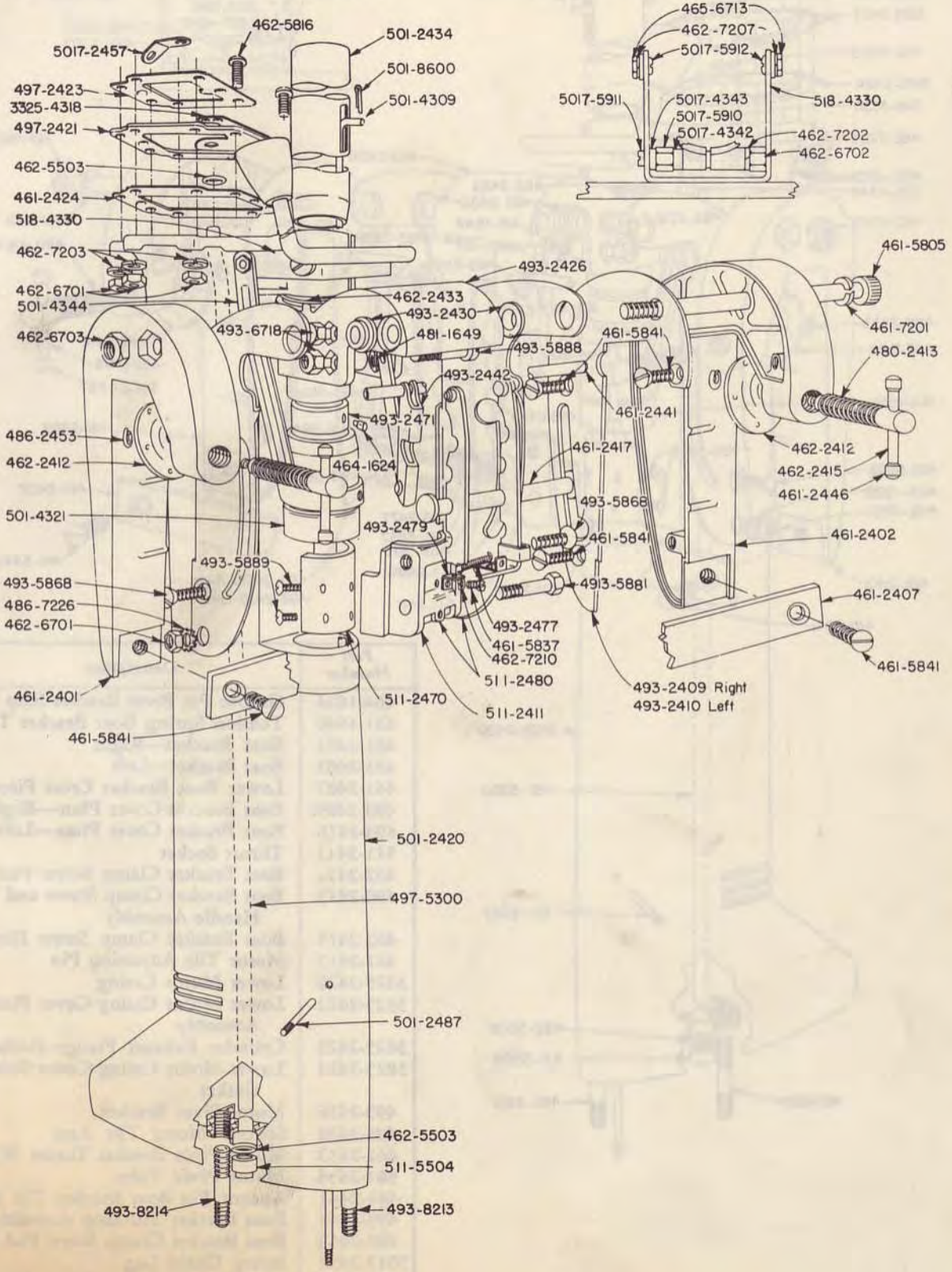
Part Number	Description	Part Number	Description
5010-2400	Boat Bracket Assembly	462-5805	Boat Bracket Bolt
462-2412	Boat Bracket Clamp Screw Pad	476-5807	Motor Pivot Bracket Friction Pad Adj. Screw
486-2413	Boat Bracket Clamp Screw Assembly	462-5816	Lower Motor Casing Cover Plate Screw
5011-2416	Tilt Adjusting Pin Assembly	462-6701	Nut—Cylinder Exhaust Flange
463-2420	Lower Motor Casing	462-6702	Steering Handle Spring Stud Nut
486-2422	Lower Motor Casing Cover Plate Assembly	462-6703	Boat Bracket Bolt Nut
470-2423	Cylinder Exhaust Flange Gasket	462-6704	Steering Handle Hinge Bolt Lock Nut
462-2424	Lower Motor Casing Cover Plate Gasket	462-6706	Motor Pivot Bracket Adj. Screw Lock Nut
476-2425	Motor Pivot Bracket Assembly	462-7201	Lock Washer for Boat Bracket Bolt Nut
462-2428	Motor Pivot Bracket Friction Pad	462-7202	Lock Washer for Steering Handle Spring Stud Nut
476-2429	Motor Pivot Bracket Friction Pad Washer	462-7203	Lock Washer for Cylinder Exhaust Flange Stud
476-2430	Motor Pivot Bracket Washer	461-8201	Steering Handle Spring Shoulder Stud
476-2432	Motor Pivot Bracket Spacer	480-8202	Steering Handle Spring Stud
462-2433	Motor Pivot Bracket Thrust Washer	463-8203	Lower Unit Stud—Front
463-2434	Motor Pivot Tube	462-8204	Lower Unit Stud—Rear
486-2453	Retainer—Boat Bracket Clamp Screw Pad		
463-3600	Steering Handle and Grip Assembly		
462-3602	Steering Handle Rubber Grip		
486-3604	Steering Handle Spring		
470-5300	Inlet Water Line		
462-5503	Inlet Water Line Seal Ring		
462-5504	Inlet Water Line Sleeve		
462-5803	Steering Handle Hinge Bolt		

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Part Number	Description
464-1624	Groove Pin Pivot Bracket Stop
481-1649	Tension Spring Boat Bracket Tilt Stop
461-2401	Boat Bracket—Right
461-2402	Boat Bracket—Left
461-2407	Lower Boat Bracket Cross Piece
493-2409	Boat Bracket Cover Plate—Right
493-2410	Boat Bracket Cover Plate—Left
511-2411	Thrust Socket
462-2412	Boat Bracket Clamp Screw Pad
480-2413	Boat Bracket Clamp Screw and Handle Assembly
462-2415	Boat Bracket Clamp Screw Handle
461-2417	Motor Tilt Adjusting Pin
501-2420	Lower Motor Casing
497-2421	Lower Motor Casing Cover Plate
497-2423	Cylinder Exhaust Flange Gasket
461-2424	Lower Motor Casing Cover Plate Gasket
493-2426	Motor Pivot Bracket
493-2430	Spacer—Motor Tilt Arm
462-2433	Motor Pivot Bracket Thrust Washer
501-2434	Motor Pivot Tube
461-2441	Anchor Pin Boat Bracket Tilt Stop
493-2442	Boat Bracket Tilt Stop Assembly
461-2446	Boat Bracket Clamp Screw Handle Cap
486-2453	Boat Bracket Clamp Screw Pad Retainer
5017-2457	Safety Chain Lug
511-2470	Thrust Socket Segment
493-2471	Pivot Bracket Stop
493-2477	Tilt Pin Locater Spring
493-2479	Spring Retainer Thrust Socket
511-2480	Tilt Arm Assembly
501-2487	Groove Pin
501-4309	Shift Rod
3325-4318	Vent Tube Support

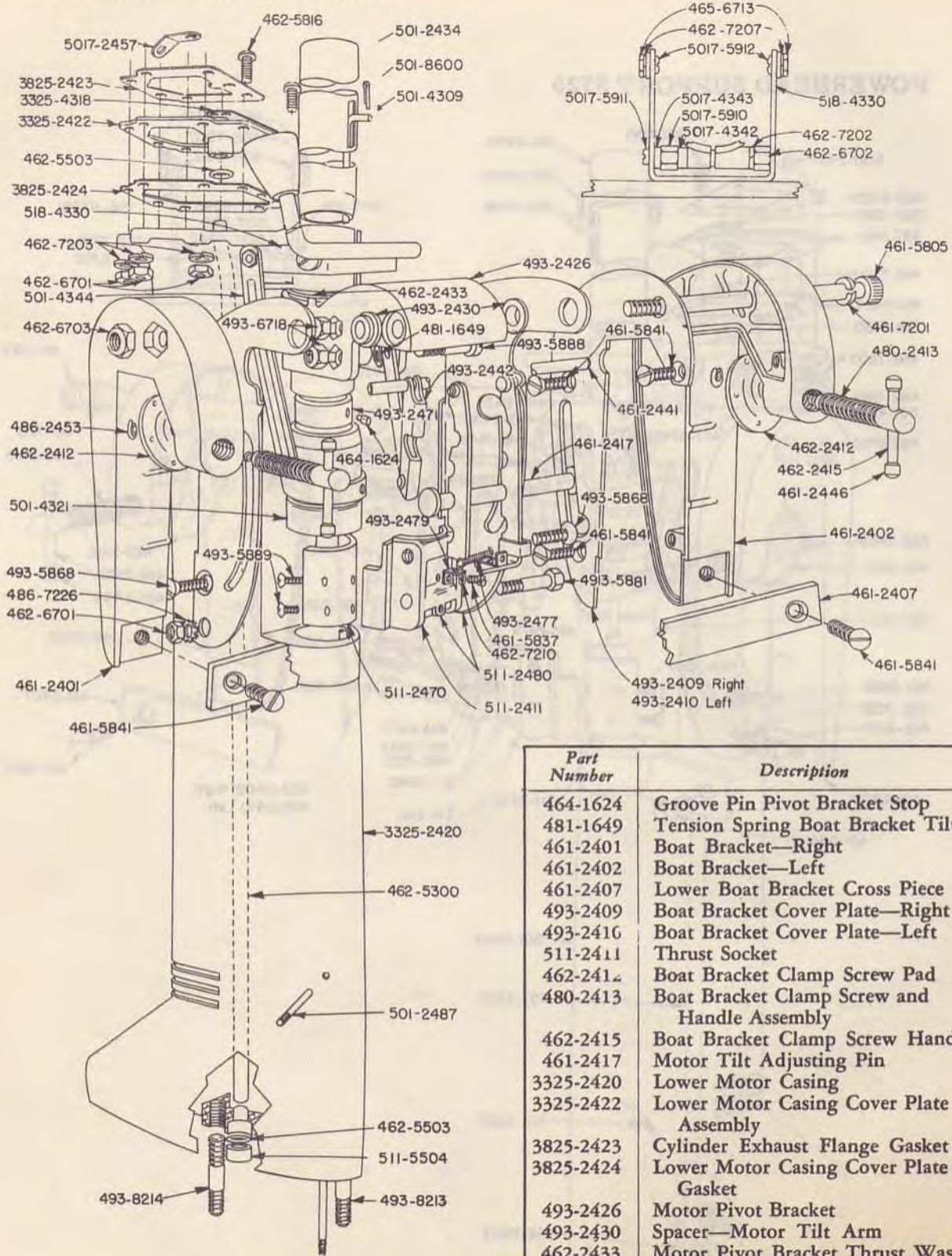
Part Number	Description
501-4321	Thrust Socket Lock
518-4330	Shift Lever Yoke Assembly
5017-4342	Spacer—Pivot Tube Clamp Screw
5017-4343	Spacer—Shift Lever Yoke
501-4344	Link—Shift Rod
497-5300	Inlet Water Line
462-5503	Inlet Water Line Seal Ring
511-5504	Inlet Water Line Sleeve
461-5805	Boat Bracket Bolt
462-5816	Screw—Lower Motor Casing Cover Plate
461-5837	Screw—Spring Retainer
461-5841	Lower Cross Piece Screw
461-5841	Boat Bracket Cover Plate Screw
493-5868	Tilt Arm Screw
4913-5881	Tilt Arm Screw
493-5888	Motor Pivot Bracket Screw
493-5889	Thrust Socket Screw
5017-5910	Screw—Pivot Tube Clamp
5017-5911	Screw—Yoke Pivot
5017-5912	Screw—Shift Rod Link
462-6701	Nut—Tilt Arm
462-6701	Nut—Cyl. Exhaust Flange Stud
462-6702	Nut—Shift Lever Bracket Screw
462-6703	Nut—Boat Bracket Bolt
465-6713	Nut—Shift Rod Link Screw
493-6718	Motor Pivot Bracket Screw Locknut
461-7201	Lockwasher—Boat Bracket Bolt
462-7202	Lockwasher—Shift Lever Bracket Screw
462-7203	Lockwasher—Cyl. Exh. Flange Stud
462-7207	Lockwasher—Shift Rod Link Screw
462-7210	Lockwasher—Spring Retainer
486-7226	Lockwasher—Tilt Arm
493-8213	Lower Unit Stud—Front
493-8214	Lower Unit Stud—Rear
501-8600	Cotter Pin—Shift Rod

POWERHEAD SUPPORT 3725



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Part Number	Description
464-1624	Groove Pin Pivot Bracket Stop
481-1649	Tension Spring Boat Bracket Tilt Stop
461-2401	Boat Bracket—Right
461-2402	Boat Bracket—Left
461-2407	Lower Boat Bracket Cross Piece
493-2409	Boat Bracket Cover Plate—Right
493-2410	Boat Bracket Cover Plate—Left
511-2411	Thrust Socket
462-2412	Boat Bracket Clamp Screw Pad
480-2413	Boat Bracket Clamp Screw and Handle Assembly
462-2415	Boat Bracket Clamp Screw Handle
461-2417	Motor Tilt Adjusting Pin
3325-2420	Lower Motor Casing
3325-2422	Lower Motor Casing Cover Plate Assembly
3825-2423	Cylinder Exhaust Flange Gasket
3825-2424	Lower Motor Casing Cover Plate Gasket
493-2426	Motor Pivot Bracket
493-2430	Spacer—Motor Tilt Arm
462-2433	Motor Pivot Bracket Thrust Washer
501-2434	Motor Pivot Tube
461-2441	Anchor Pin Boat Bracket Tilt Stop
493-2442	Boat Bracket Tilt Stop Assembly
486-2453	Boat Bracket Clamp Screw Pad Retainer
5017-2457	Safety Chain Lug
461-2446	Boat Bracket Clamp Screw Handle Cap

Continued next page

POWERHEAD SUPPORT 3325 (continued)

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Part Number	Description
511-2470	Thrust Socket Segment
493-2471	Pivot Bracket Stop
493-2477	Tilt Pin Locater Spring
493-2479	Spring Retainer Thrust Socket
511-2480	Tilt Arm Assembly
501-2487	Groove Pin
501-4309	Shift Rod
3325-4318	Vent Tube Support
501-4321	Thrust Socket Lock
518-4330	Shift Lever Yoke Assembly
5017-4342	Spacer—Pivot Tube Clamp Screw
5017-4343	Spacer—Shift Lever Yoke
501-4344	Link—Shift Rod
462-5300	Inlet Water Line
462-5503	Inlet Water Line Seal Ring
511-5504	Inlet Water Line Sleeve
461-5805	Boat Bracket Bolt
462-5816	Screw—Lower Motor Casing Cover Plate
461-5837	Screw—Spring Retainer
461-5841	Lower Cross Piece Screw
461-5841	Boat Bracket Cover Plate Screw

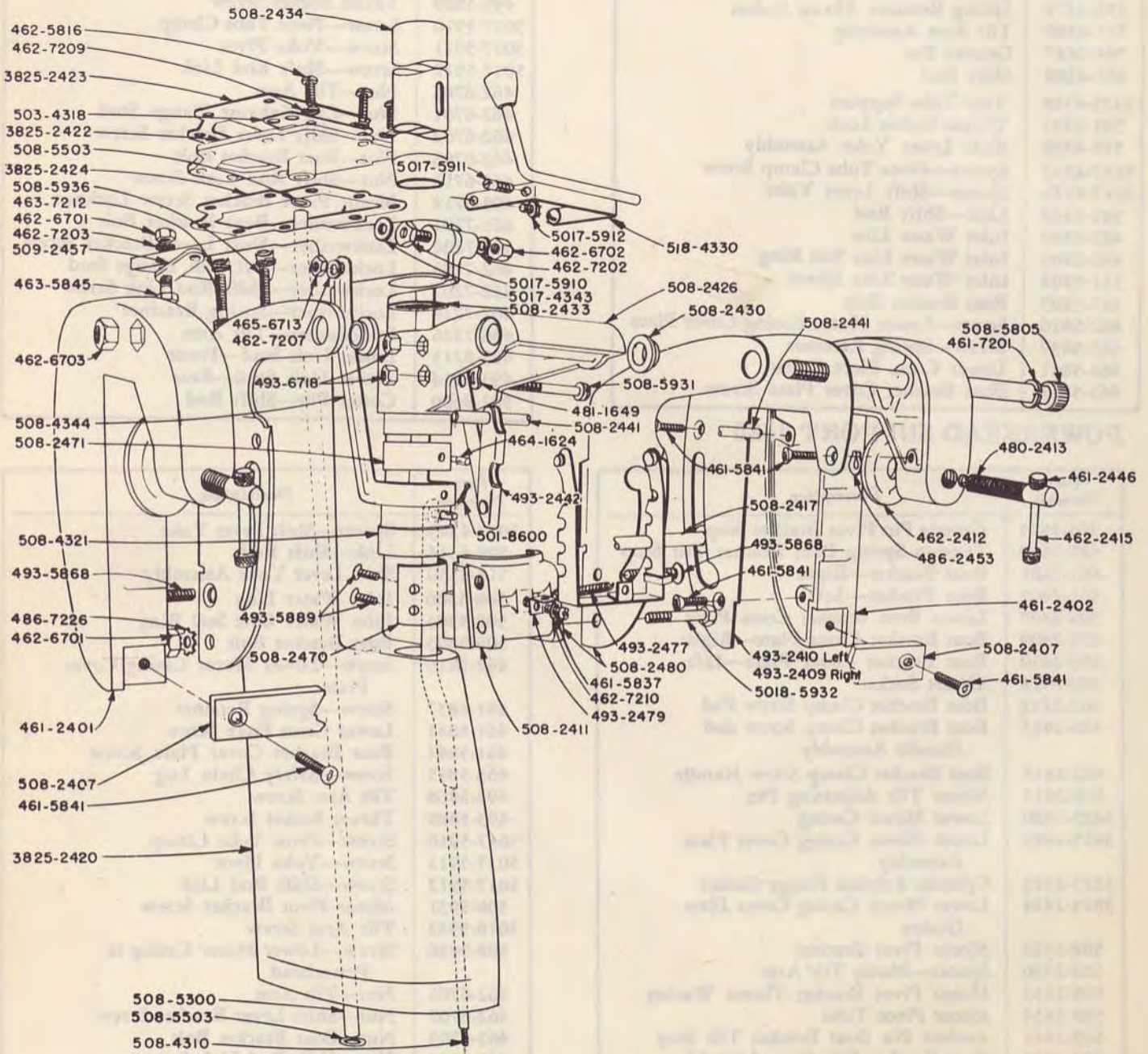
Part Number	Description
493-5868	Tilt Arm Screw
4913-5881	Tilt Arm Screw
493-5888	Motor Pivot Bracket Screw
493-5889	Thrust Socket Screw
5017-5910	Screw—Pivot Tube Clamp
5017-5911	Screw—Yoke Pivot
5017-5912	Screw—Shift Rod Link
462-6701	Nut—Tilt Arm
462-6701	Nut—Cyl. Exhaust Flange Stud
462-6702	Nut—Shift Lever Bracket Screw
462-6703	Nut—Boat Bracket Bolt
465-6713	Nut—Shift Rod Link Screw
493-6718	Motor Pivot Bracket Screw Locknut
461-7201	Lockwasher—Boat Bracket Bolt
462-7202	Lockwasher—Shift Lever Bracket Screw
462-7203	Lockwasher—Cyl. Exh. Flange Stud
462-7207	Lockwasher—Shift Rod Link Screw
462-7210	Lockwasher—Spring Retainer
486-7226	Lockwasher—Tilt Arm
493-8213	Lower Unit Stud—Front
493-8214	Lower Unit Stud—Rear
501-8600	Cotter Pin—Shift Rod

POWERHEAD SUPPORT 3825

Part Number	Description
464-1624	Groove Pin Pivot Bracket Stop
481-1649	Tension Spring Boat Bracket Tilt Stop
461-2401	Boat Bracket—Right
461-2402	Boat Bracket—Left
508-2407	Lower Boat Bracket Cross Piece
493-2409	Boat Bracket Cover Plate—Right
493-2410	Boat Bracket Cover Plate—Left
508-2411	Thrust Socket
462-2412	Boat Bracket Clamp Screw Pad
480-2413	Boat Bracket Clamp Screw and Handle Assembly
462-2415	Boat Bracket Clamp Screw Handle
508-2417	Motor Tilt Adjusting Pin
3825-2420	Lower Motor Casing
3825-2422	Lower Motor Casing Cover Plate Assembly
3825-2423	Cylinder Exhaust Flange Gasket
3825-2424	Lower Motor Casing Cover Plate Gasket
508-2426	Motor Pivot Bracket
508-2430	Spacer—Motor Tilt Arm
508-2433	Motor Pivot Bracket Thrust Washer
508-2434	Motor Pivot Tube
508-2441	Anchor Pin Boat Bracket Tilt Stop
493-2442	Boat Bracket Tilt Stop Assembly
461-2446	Boat Bracket Clamp Screw Handle Cap
486-2453	Boat Bracket Clamp Screw Pad Retainer
509-2457	Safety Chain Lug
508-2470	Thrust Socket Segment
508-2471	Pivot Bracket Stop
493-2477	Tilt Pin Locater Spring
493-2479	Spring Retainer Thrust Socket
508-2480	Tilt Arm Assembly
508-4310	Shift Rod Assembly
503-4318	Vent Tube Support
508-4321	Thrust Socket Lock

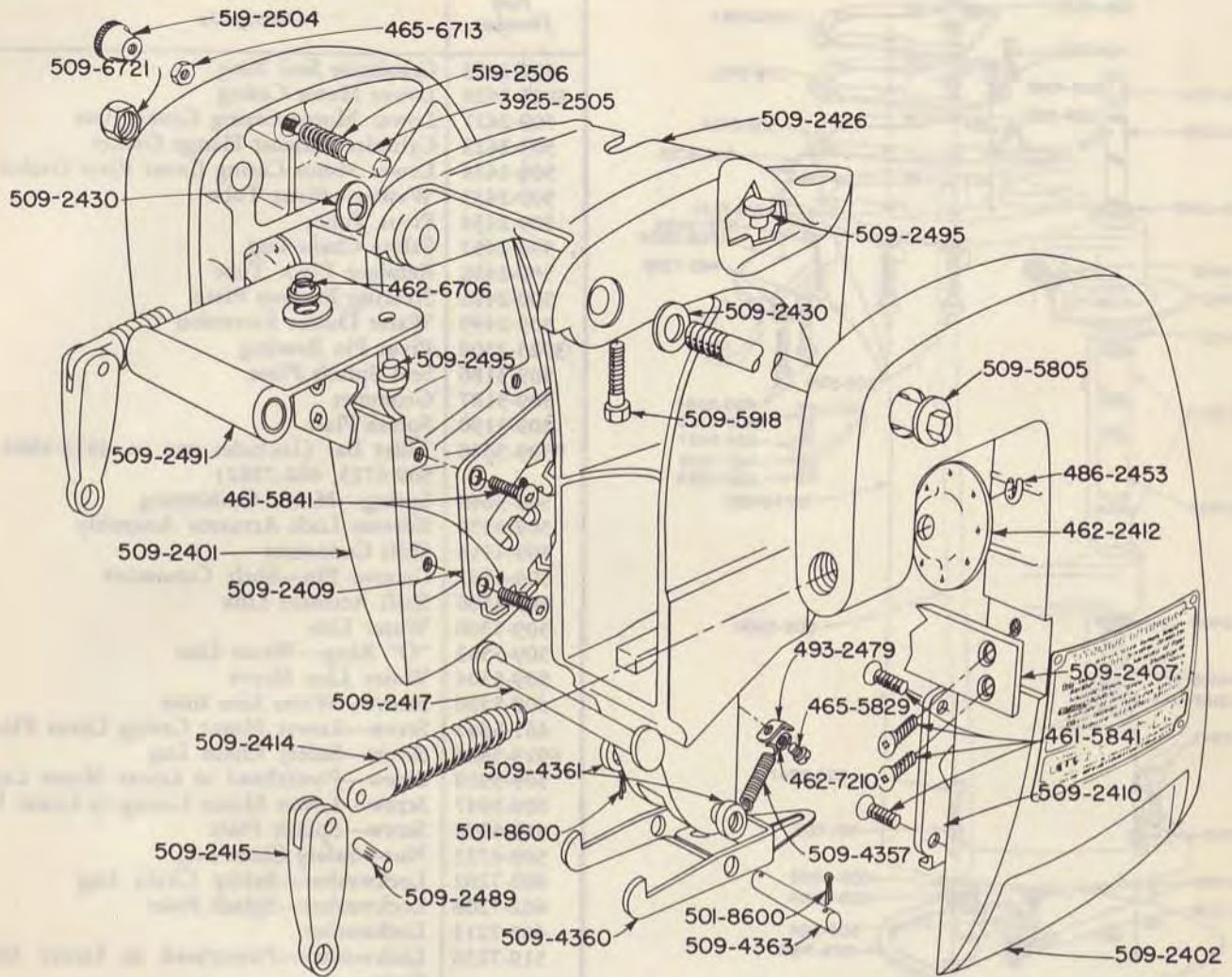
Part Number	Description
5017-4343	Spacer—Shift Lever Yoke
508-4344	Link—Shift Rod
518-4330	Shift Lever Yoke Assembly
508-5300	Inlet Water Line
508-5503	Inlet Water Line Seal Ring
508-5805	Boat Bracket Bolt
462-5816	Screw—Lower Motor Casing Cover Plate
461-5837	Screw—Spring Retainer
461-5841	Lower Cross Piece Screw
461-5841	Boat Bracket Cover Plate Screw
463-5845	Screw—Safety Chain Lug
493-5868	Tilt Arm Screw
493-5889	Thrust Socket Screw
5017-5910	Screw—Pivot Tube Clamp
5017-5911	Screw—Yoke Pivot
5017-5912	Screw—Shift Rod Link
508-5931	Motor Pivot Bracket Screw
5018-5932	Tilt Arm Screw
508-5936	Screw—Lower Motor Casing to Powerhead
462-6701	Nut—Tilt Arm
462-6702	Nut—Shift Lever Bracket Screw
462-6703	Nut—Boat Bracket Bolt
465-6713	Nut—Shift Rod Link Screw
493-6718	Motor Pivot Bracket Screw Locknut
461-7201	Lockwasher—Boat Bracket Bolt
462-7202	Lockwasher—Shift Lever Bracket Screw
462-7203	Lockwasher—Safety Chain Lug
462-7207	Lockwasher—Shift Rod Link Screw
462-7209	Lockwasher—Lower Motor Casing Cover Plate Screw
462-7210	Lockwasher—Spring Retainer
463-7212	Cyl. Exhaust Flange Screw
486-7226	Lockwasher—Tilt Arm
501-8600	Cotter Pin—Shift Rod

POWERHEAD SUPPORT 3825



See parts list on preceding page.

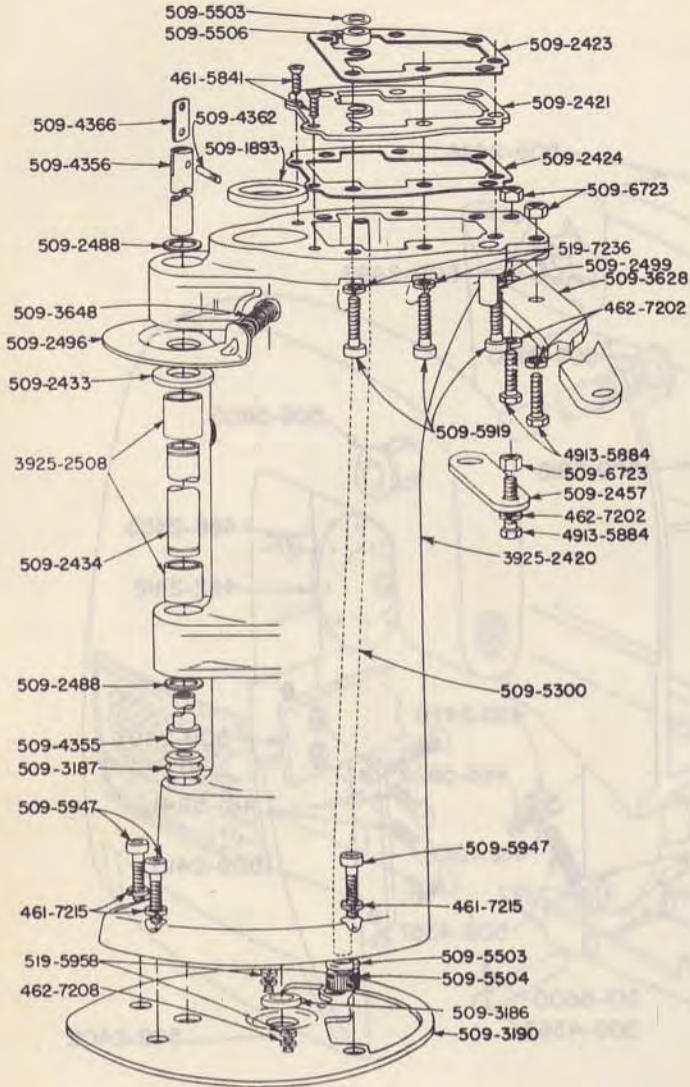
BOAT BRACKET 3925



Part Number	Description
509-2401	Boat Bracket Right
509-2402	Boat Bracket Left
509-2407	Cross Brace—Boat Bracket
509-2409	Boat Bracket Plate—Right
509-2410	Boat Bracket Plate—Left
462-2412	Boat Bracket Clamp Screw Pad
509-2414	Boat Bracket Clamp Screw
509-2415	Boat Bracket Clamp Screw Handle
509-2417	Motor Tilt Adjusting Pin
509-2426	Pivot Bracket
509-2430	Washer—Boat Bracket
486-2453	Retainer—Boat Bracket Clamp Screw Pad
493-2479	Spring Retainer
509-2489	Groove Pin—Clamp Screw Handle
509-2491	Friction Pressure Plate Sub-Assembly
509-2495	Steering Friction Pad

Part Number	Description
519-2504	Knob—Tilt Lock
3925-2505	Plunger—Tilt Lock
519-2506	Spring—Tilt Lock
509-4357	Spring—Reverse Hook
509-4360	Reverse Lock Hook Assembly
509-4361	Spacer—Pivot Pin
509-4363	Pivot Pin—Reverse Hook
509-5805	Bolt—Boat Bracket
465-5829	Screw—Spring Retainer
461-5841	Screw—Boat Bracket Plate & Cross Brace
509-5918	Steering Friction Screw
462-6706	Special Lock Nut
465-6713	Nut—Knob Lock
509-6721	Nut—Boat Bracket Bolt
462-7210	Lockwasher—Spring Retainer Screw
501-8600	Cotter Pin—Pivot Pin

POWERHEAD SUPPORT 3925



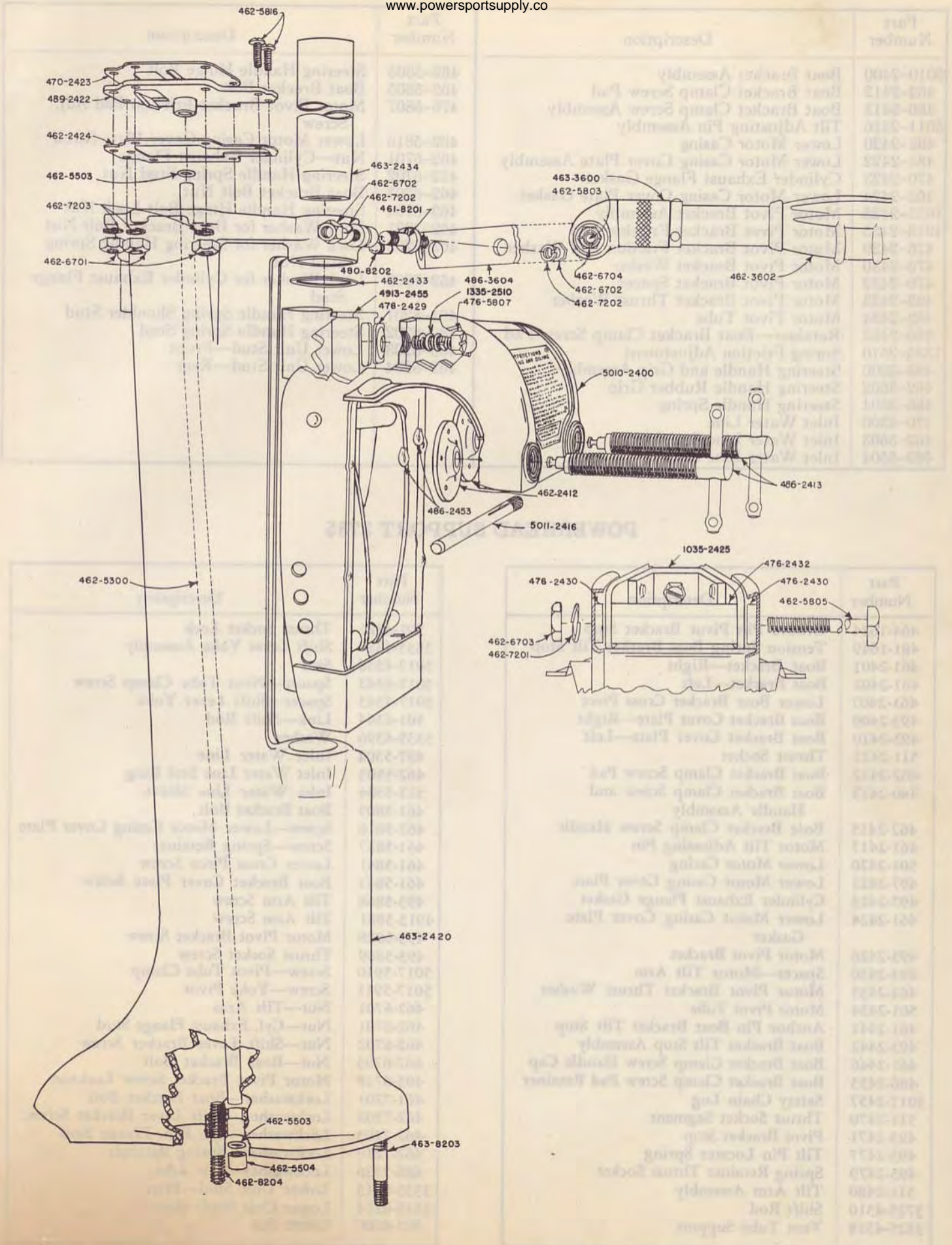
Part Number	Description
509-1893	Crankcase Seal Ring
3925-2420	Lower Motor Casing
509-2421	Lower Motor Casing Cover Plate
509-2423	Cylinder Exhaust Flange Gasket
509-2424	Lower Motor Casing Cover Plate Gasket
509-2433	Washer—Pivot Tube
509-2434	Pivot Tube
509-2457	Safety Chain Lug
509-2488	Retainer Pivot Tube
509-2496	Steering Friction Plate
509-2499	Water Outlet Extension
3925-2508	Pivot Pin Bearing
509-3186	Seal Splash Plate
509-3187	Grommet
509-3190	Splash Plate
*509-3628	Tiller Bar (Includes two ea. 4913-5884, 509-6723, 462-7202)
509-3648	Spring—Motor Cushioning
509-4355	Reverse Lock Actuator Assembly
509-4356	Shift Connector
509-4362	Groove Pin—Shift Connector
509-4366	Shift Actuator Link
509-5300	Water Line
509-5503	"O" Ring—Water Line
509-5504	Water Line Sleeve
509-5506	Sleeve—Water Line Inlet
461-5841	Screw—Lower Motor Casing Cover Plate
4913-5884	Screw—Safety Chain Lug
509-5919	Screw—Powerhead to Lower Motor Casing
509-5947	Screw—Lower Motor Casing to Lower Unit
519-5958	Screw—Splash Plate
509-6723	Nut—Safety Chain Lug
462-7202	Lockwasher—Safety Chain Lug
462-7208	Lockwasher—Splash Plate
461-7215	Lockwasher
519-7236	Lockwasher—Powerhead to Lower Motor Casing
<i>*Not Included with Motor</i>	

Part Number	Description
509-5503	"O" Ring—Water Line
509-5504	Water Line Sleeve
509-5506	Sleeve—Water Line Inlet
461-5841	Screw—Lower Motor Casing Cover Plate
4913-5884	Screw—Safety Chain Lug
509-5919	Screw—Powerhead to Lower Motor Casing
509-5947	Screw—Lower Motor Casing to Lower Unit
519-5958	Screw—Splash Plate
509-6723	Nut—Safety Chain Lug
462-7202	Lockwasher—Safety Chain Lug
462-7208	Lockwasher—Splash Plate
461-7215	Lockwasher
519-7236	Lockwasher—Powerhead to Lower Motor Casing

Part Number	Description
509-1893	Crankcase Seal Ring
3925-2420	Lower Motor Casing
509-2421	Lower Motor Casing Cover Plate
509-2423	Cylinder Exhaust Flange Gasket
509-2424	Lower Motor Casing Cover Plate Gasket
509-2433	Washer—Pivot Tube
509-2434	Pivot Tube
509-2457	Safety Chain Lug
509-2488	Retainer Pivot Tube
509-2496	Steering Friction Plate
509-2499	Water Outlet Extension
3925-2508	Pivot Pin Bearing
509-3186	Seal Splash Plate
509-3187	Grommet
509-3190	Splash Plate
*509-3628	Tiller Bar (Includes two ea. 4913-5884, 509-6723, 462-7202)
509-3648	Spring—Motor Cushioning
509-4355	Reverse Lock Actuator Assembly
509-4356	Shift Connector
509-4362	Groove Pin—Shift Connector
509-4366	Shift Actuator Link
509-5300	Water Line
509-5503	"O" Ring—Water Line
509-5504	Water Line Sleeve
509-5506	Sleeve—Water Line Inlet
461-5841	Screw—Lower Motor Casing Cover Plate
4913-5884	Screw—Safety Chain Lug
509-5919	Screw—Powerhead to Lower Motor Casing
509-5947	Screw—Lower Motor Casing to Lower Unit
519-5958	Screw—Splash Plate
509-6723	Nut—Safety Chain Lug
462-7202	Lockwasher—Safety Chain Lug
462-7208	Lockwasher—Splash Plate
461-7215	Lockwasher
519-7236	Lockwasher—Powerhead to Lower Motor Casing

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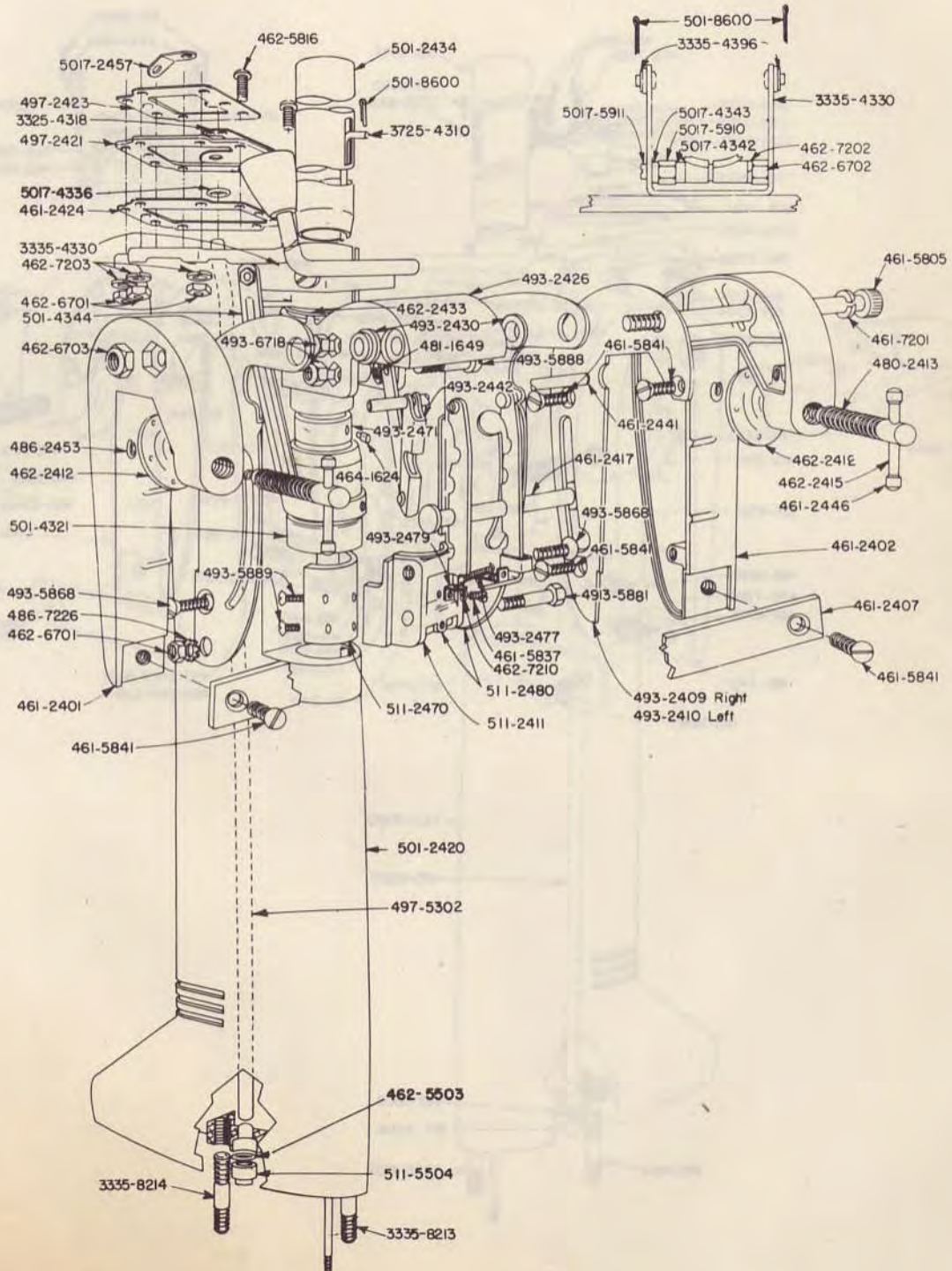
Part Number	Description	Part Number	Description
5010-2400	Boat Bracket Assembly	462-5803	Steering Handle Hinge Bolt
462-2412	Boat Bracket Clamp Screw Pad	462-5805	Boat Bracket Bolt
486-2413	Boat Bracket Clamp Screw Assembly	476-5807	Motor Pivot Bracket Friction Pad Adj. Screw
5011-2416	Tilt Adjusting Pin Assembly	462-5816	Lower Motor Casing Cover Plate Screw
463-2420	Lower Motor Casing	462-6701	Nut—Cylinder Exhaust Flange
486-2422	Lower Motor Casing Cover Plate Assembly	462-6702	Steering Handle Spring Stud Nut
470-2423	Cylinder Exhaust Flange Gasket	462-6703	Boat Bracket Bolt Nut
462-2424	Lower Motor Casing Cover Plate Gasket	462-6704	Steering Handle Hinge Bolt Lock Nut
1035-2425	Motor Pivot Bracket Assembly	462-7201	Lock Washer for Boat Bracket Bolt Nut
1913-2455	Motor Pivot Bracket Friction Pad	462-7202	Lock Washer for Steering Handle Spring Stud Nut
476-2429	Motor Pivot Bracket Friction Pad Washer	462-7203	Lock Washer for Cylinder Exhaust Flange Stud
476-2430	Motor Pivot Bracket Washer	461-8201	Steering Handle Spring Shoulder Stud
476-2432	Motor Pivot Bracket Spacer	480-8202	Steering Handle Spring Stud
462-2433	Motor Pivot Bracket Thrust Washer	463-8203	Lower Unit Stud—Front
463-2434	Motor Pivot Tube	462-8204	Lower Unit Stud—Rear
486-2453	Retainer—Boat Bracket Clamp Screw Pad		
1335-2510	Spring Friction Adjustment		
463-3600	Steering Handle and Grip Assembly		
462-3602	Steering Handle Rubber Grip		
486-3604	Steering Handle Spring		
470-5300	Inlet Water Line		
462-5503	Inlet Water Line Seal Ring		
462-5504	Inlet Water Line Sleeve		

POWERHEAD SUPPORT 3735

Part Number	Description
464-1624	Groove Pin Pivot Bracket Stop
481-1649	Tension Spring Boat Bracket Tilt Stop
461-2401	Boat Bracket—Right
461-2402	Boat Bracket—Left
461-2407	Lower Boat Bracket Cross Piece
493-2409	Boat Bracket Cover Plate—Right
493-2410	Boat Bracket Cover Plate—Left
511-2411	Thrust Socket
462-2412	Boat Bracket Clamp Screw Pad
480-2413	Boat Bracket Clamp Screw and Handle Assembly
462-2415	Boat Bracket Clamp Screw Handle
461-2417	Motor Tilt Adjusting Pin
501-2420	Lower Motor Casing
497-2421	Lower Motor Casing Cover Plate
497-2423	Cylinder Exhaust Flange Gasket
461-2424	Lower Motor Casing Cover Plate Gasket
493-2426	Motor Pivot Bracket
493-2430	Spacer—Motor Tilt Arm
462-2433	Motor Pivot Bracket Thrust Washer
501-2434	Motor Pivot Tube
461-2441	Anchor Pin Boat Bracket Tilt Stop
493-2442	Boat Bracket Tilt Stop Assembly
461-2446	Boat Bracket Clamp Screw Handle Cap
486-2453	Boat Bracket Clamp Screw Pad Retainer
5017-2457	Safety Chain Lug
511-2470	Thrust Socket Segment
493-2471	Pivot Bracket Stop
493-2477	Tilt Pin Locater Spring
493-2479	Spring Retainer Thrust Socket
511-2480	Tilt Arm Assembly
3725-4310	Shift Rod
3325-4318	Vent Tube Support

Part Number	Description
501-4321	Thrust Socket Lock
3335-4330	Shift Lever Yoke Assembly
5017-4336	Seal
5017-4342	Spacer—Pivot Tube Clamp Screw
5017-4343	Spacer—Shift Lever Yoke
501-4344	Link—Shift Rod
3335-4396	Washer
497-5302	Inlet Water Line
462-5503	Inlet Water Line Seal Ring
511-5504	Inlet Water Line Sleeve
461-5805	Boat Bracket Bolt
462-5816	Screw—Lower Motor Casing Cover Plate
461-5837	Screw—Spring Retainer
461-5841	Lower Cross Piece Screw
461-5841	Boat Bracket Cover Plate Screw
493-5868	Tilt Arm Screw
4913-5881	Tilt Arm Screw
493-5888	Motor Pivot Bracket Screw
493-5889	Thrust Socket Screw
5017-5910	Screw—Pivot Tube Clamp
5017-5911	Screw—Yoke Pivot
462-6701	Nut—Tilt Arm
462-6701	Nut—Cyl. Exhaust Flange Stud
462-6702	Nut—Shift Lever Bracket Screw
462-6703	Nut—Boat Bracket Bolt
493-6718	Motor Pivot Bracket Screw Locknut
461-7201	Lockwasher—Boat Bracket Bolt
462-7202	Lockwasher—Shift Lever Bracket Screw
462-7203	Lockwasher—Cyl. Exh. Flange Stud
462-7210	Lockwasher—Spring Retainer
486-7226	Lockwasher—Tilt Arm
3335-8213	Lower Unit Stud—Front
3335-8214	Lower Unit Stud—Rear
501-8600	Cotter Pin

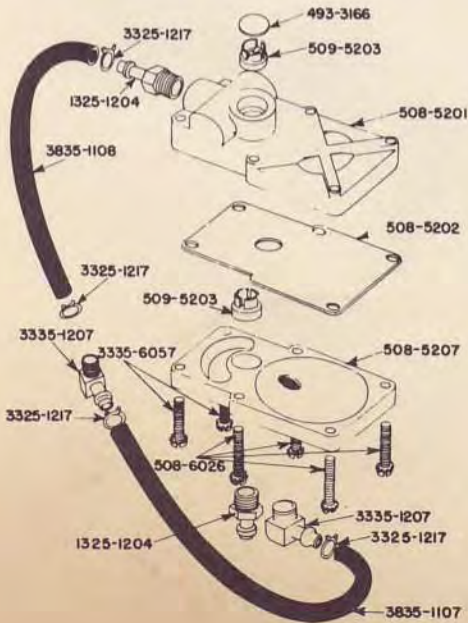
POWERHEAD SUPPORT 3735



POWERHEAD SUPPORT 3335

Part Number	Description
464-1624	Groove Pin Pivot Bracket Stop
481-1649	Tension Spring Boat Bracket Tilt Stop
461-2401	Boat Bracket—Right
461-2402	Boat Bracket—Left
461-2407	Lower Boat Bracket Cross Piece
493-2409	Boat Bracket Cover Plate—Right
493-2410	Boat Bracket Cover Plate—Left
511-2411	Thrust Socket
462-2412	Boat Bracket Clamp Screw Pad
480-2413	Boat Bracket Clamp Screw and Handle Assembly
462-2415	Boat Bracket Clamp Screw Handle
461-2417	Motor Tilt Adjusting Pin
3325-2420	Lower Motor Casing
3325-2422	Lower Motor Casing Cover Plate Assembly
3825-2423	Cylinder Exhaust Flange Gasket
3825-2424	Lower Motor Casing Cover Plate Gasket
493-2426	Motor Pivot Bracket
493-2430	Spacer—Motor Tilt Arm
462-2433	Motor Pivot Bracket Thrust Washer
501-2434	Motor Pivot Tube
461-2441	Anchor Pin Boat Bracket Tilt Stop
493-2442	Boat Bracket Tilt Stop Assembly
461-2446	Boat Bracket Clamp Screw Handle Cap
486-2453	Boat Bracket Clamp Screw Pad Retainer
511-2470	Thrust Socket Segment
493-2471	Pivot Bracket Stop
493-2477	Tilt Pin Locater Spring
493-2479	Spring Retainer Thrust Socket

Part Number	Description
511-2480	Tilt Arm Assembly
3335-3606	Carryhandle
3725-4310	Shift Rod Assem.
3325-4318	Drain Tube Support
501-4321	Thrust Socket Lock
3335-4330	Shift Lever Yoke Assembly
5017-4342	Spacer—Pivot Tube Clamp Screw
5017-4343	Spacer—Shift Lever Yoke
501-4344	Link—Shift Rod
3335-4396	Washer
470-5300	Inlet Water Line
462-5503	Inlet Water Line Seal Ring
511-5504	Inlet Water Line Sleeve
461-5805	Boat Bracket Bolt
462-5816	Screw—Lower Motor Casing Cover Plate
461-5837	Screw—Spring Retainer
461-5841	Screw
493-5868	Tilt Arm Screw
4913-5881	Tilt Arm Screw
493-5888	Motor Pivot Bracket Screw
493-5889	Thrust Socket Screw
5017-5910	Screw—Pivot Tube Clamp
5017-5911	Screw—Yoke Pivot
462-6701	Nut—Tilt Arm
462-6701	Nut—Cyl. Exhaust Flange Stud
462-6702	Nut
462-6703	Nut—Boat Bracket Bolt
493-6718	Motor Pivot Bracket Screw Locknut
461-7201	Lockwasher—Boat Bracket Bolt
462-7202	Lockwasher
462-7209	Lockwasher
462-7210	Lockwasher—Spring Retainer
461-7220	Lockwasher
486-7226	Lockwasher—Tilt Arm
3335-8213	Lower Unit Stud—Front
3335-8214	Lower Unit Stud—Rear
501-8600	Cotter Pin—Shift Rod

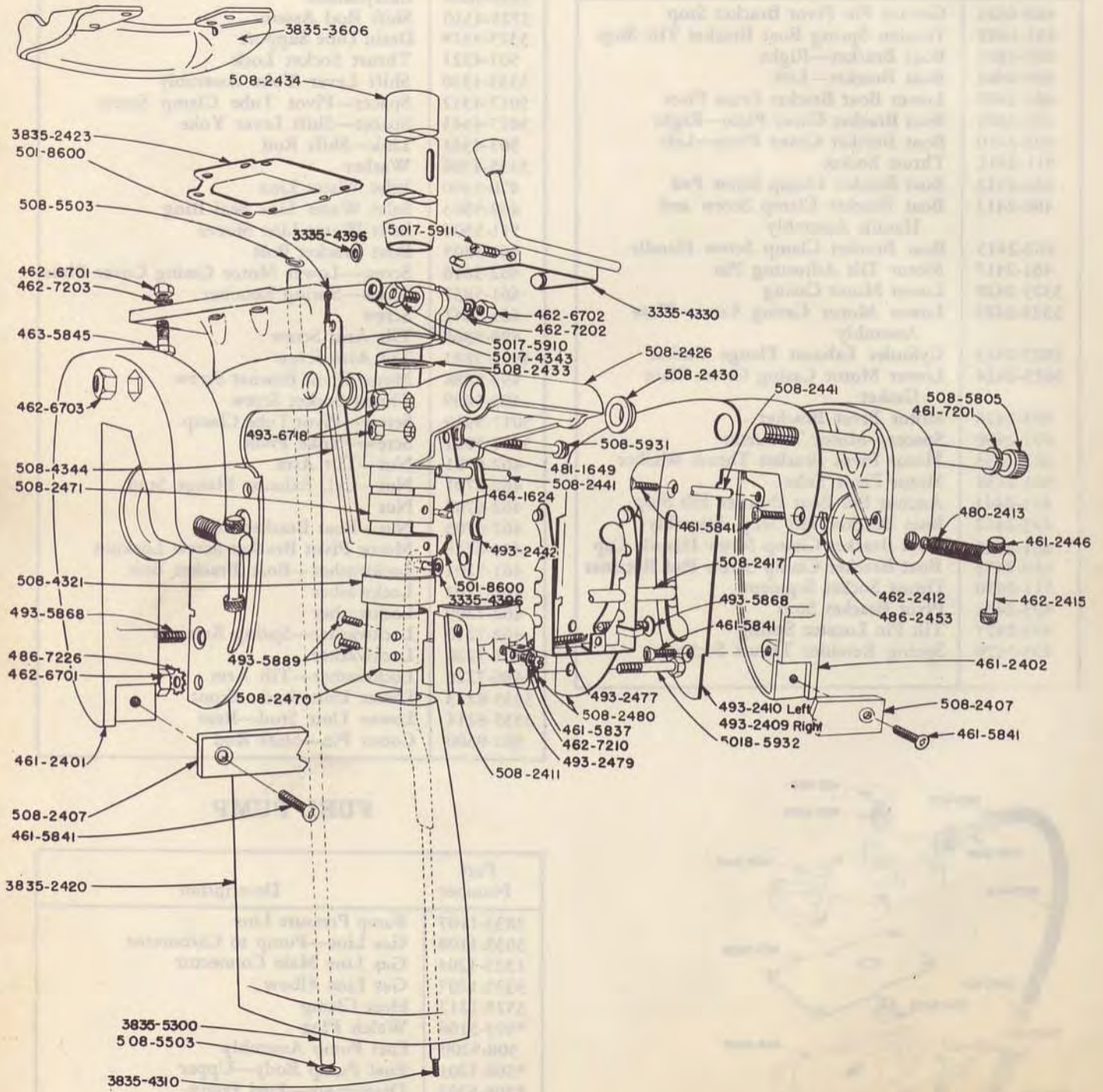


FUEL PUMP

Part Number	Description
3835-1107	Pump Pressure Line
3835-1108	Gas Line—Pump to Carburetor
1325-1204	Gas Line Male Connector
3335-1207	Gas Line Elbow
3325-1217	Hose Clamp
*493-3166	Welch Plug
508-5200	Fuel Pump Assembly
*508-5201	Fuel Pump Body—Upper
*508-5202	Diaphragm—Fuel Pump
*509-5203	Check Valve
*508-5207	Fuel Pump Body—Lower
*508-6026	Screw—Fuel Pump Body
3335-6057	Screw
*Included in 508-5200 Assembly	

POWERHEAD SUPPORT 3835

POWERHEAD SUPPORT 3835



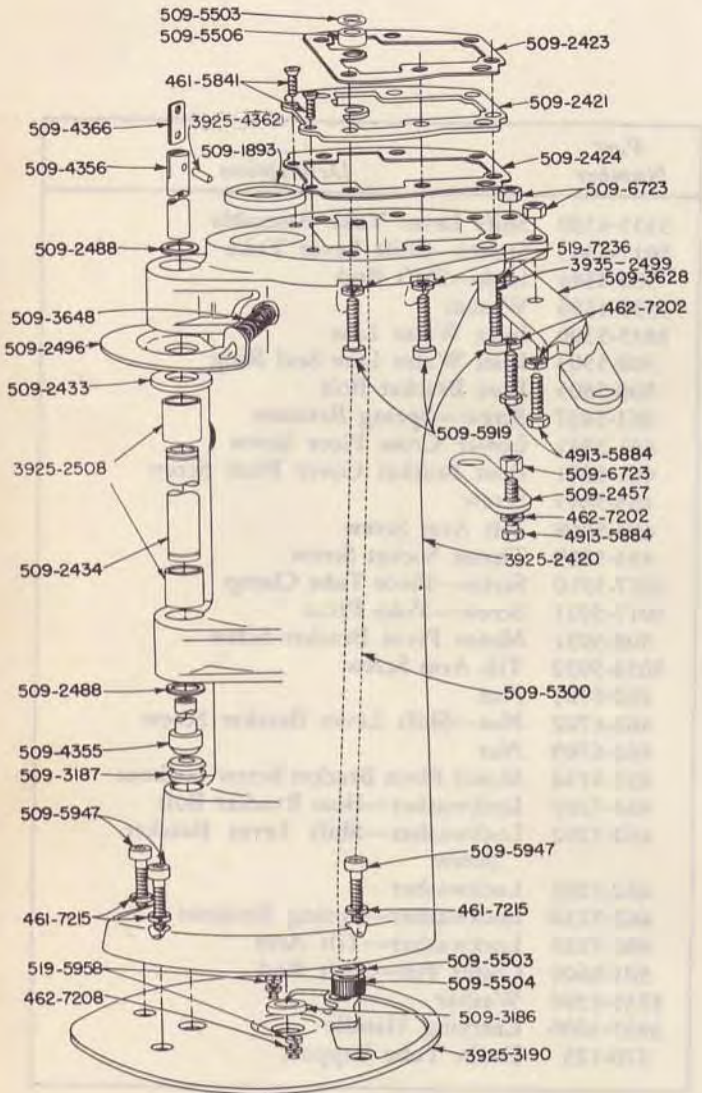
POWERHEAD SUPPORT 3835

<i>Part Number</i>	<i>Description</i>
464-1624	Groove Pin Pivot Bracket Stop
481-1649	Tension Spring Boat Bracket Tilt Stop
461-2401	Boat Bracket—Right
461-2402	Boat Bracket—Left
508-2407	Lower Boat Bracket Cross Piece
493-2409	Boat Bracket Cover Plate—Right
493-2410	Boat Bracket Cover Plate—Left
508-2411	Thrust Socket
462-2412	Boat Bracket Clamp Screw Pad
480-2413	Boat Bracket Clamp Screw and Handle Assembly
462-2415	Boat Bracket Clamp Screw Handle
508-2417	Motor Tilt Adjusting Pin
3835-2420	Lower Motor Casing
3835-2423	Cylinder Exhaust Flange Gasket
508-2426	Motor Pivot Bracket
508-2430	Spacer—Motor Tilt Arm
508-2433	Motor Pivot Bracket Thrust Washer
508-2434	Motor Pivot Tube
508-2441	Anchor Pin Boat Bracket Tilt Stop
493-2442	Boat Bracket Tilt Stop Assembly
461-2446	Boat Bracket Clamp Screw Handle Cap
486-2453	Boat Bracket Clamp Screw Pad Retainer
508-2470	Thrust Socket Segment
508-2471	Pivot Bracket Stop
493-2477	Tilt Pin Locater Spring
493-2479	Spring Retainer Thrust Socket
508-2480	Tilt Arm Assembly
3835-4310	Shift Rod Assembly
508-4321	Thrust Socket Lock

<i>Part Number</i>	<i>Description</i>
3335-4330	Shift Lever Yoke Assembly
5017-4343	Spacer—Shift Lever Yoke
508-4344	Link—Shift Rod
3335-4396	Washer
3835-5300	Inlet Water Line
508-5503	Inlet Water Line Seal Ring
508-5805	Boat Bracket Bolt
461-5837	Screw—Spring Retainer
461-5841	Lower Cross Piece Screw
461-5841	Boat Bracket Cover Plate Screw
463-5845	Screw
493-5868	Tilt Arm Screw
493-5889	Thrust Socket Screw
5017-5910	Screw—Pivot Tube Clamp
5017-5911	Screw—Yoke Pivot
508-5931	Motor Pivot Bracket Screw
5018-5932	Tilt Arm Screw
462-6701	Nut
462-6702	Nut—Shift Lever Bracket Screw
462-6703	Nut
493-6718	Motor Pivot Bracket Screw Locknut
461-7201	Lockwasher—Boat Bracket Bolt
462-7202	Lockwasher—Shift Lever Bracket Screw
462-7203	Lockwasher
462-7210	Lockwasher—Spring Retainer
486-7226	Lockwasher—Tilt Arm
501-8600	Cotter Pin—Shift Rod
3335-4396	Washer
3835-3606	Carrying Handle
470-123	Drain Tube Support

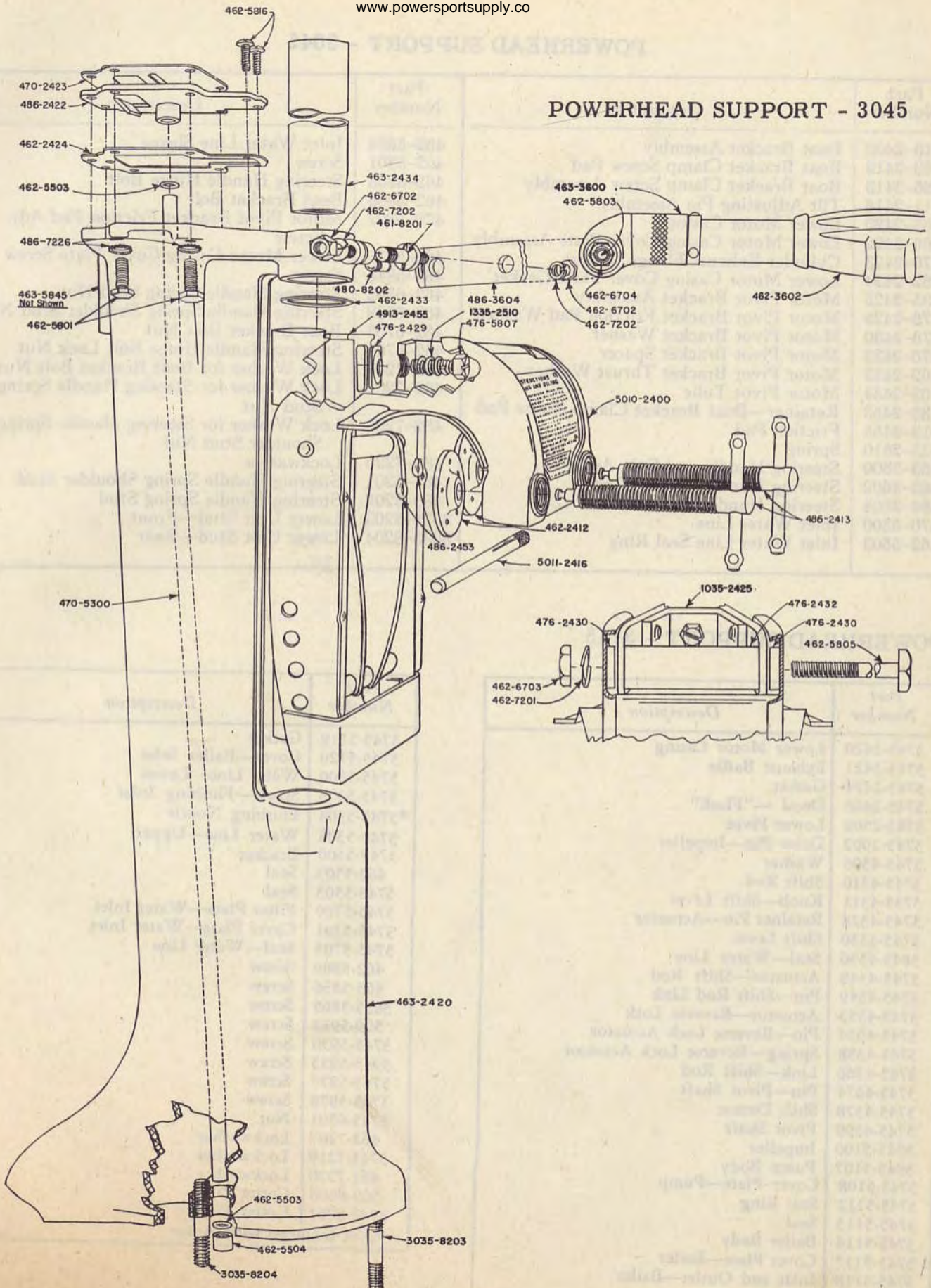
POWERHEAD SUPPORT 3935

POWERHEAD SUPPORT 3935 (Boat Bracket - Page P38)



Part Number	Description
509-1893	Crankcase Seal Ring
3925-2420	Lower Motor Casing
509-2421	Lower Motor Casing Cover Plate
509-2423	Cylinder Exhaust Flange Gasket
509-2424	Lower Motor Casing Cover Plate Gasket
509-2433	Washer—Pivot Tube
509-2434	Pivot Tube
509-2457	Safety Chain Lug
509-2488	Retainer Pivot Tube
509-2496	Steering Friction Plate
3925-2499	Water Outlet Extension
3925-2508	Pivot Pin Bearing
509-3186	Seal Splash Plate
509-3187	Grommet
3925-3190	Splash Plate
*509-3628	Tiller Bar (Includes two ea. 4913-5884, 509-6723, 462-7202)
509-3648	Spring—Motor Cushioning
509-4355	Reverse Lock Actuator Assembly
509-4356	Shift Connector
3925-4362	Groove Pin—Shift Connector
509-4366	Shift Actuator Link
509-5300	Water Line
509-5503	"O" Ring—Water Line
509-5504	Water Line Sleeve
509-5506	Sleeve—Water Line Inlet
461-5841	Screw—Lower Motor Casing Cover Plate
4913-5884	Screw—Safety Chain Lug
509-5919	Screw—Powerhead to Lower Motor Casing
509-5947	Screw—Lower Motor Casing to Lower Unit
519-5958	Screw—Splash Plate
509-6723	Nut—Safety Chain Lug
462-7202	Lockwasher—Safety Chain Lug
462-7208	Lockwasher—Splash Plate
461-7215	Lockwasher
519-7236	Lockwasher—Powerhead to Lower Motor Casing
<i>*Not Included with Motor</i>	

POWERHEAD SUPPORT - 3045



POWERHEAD SUPPORT - 3045

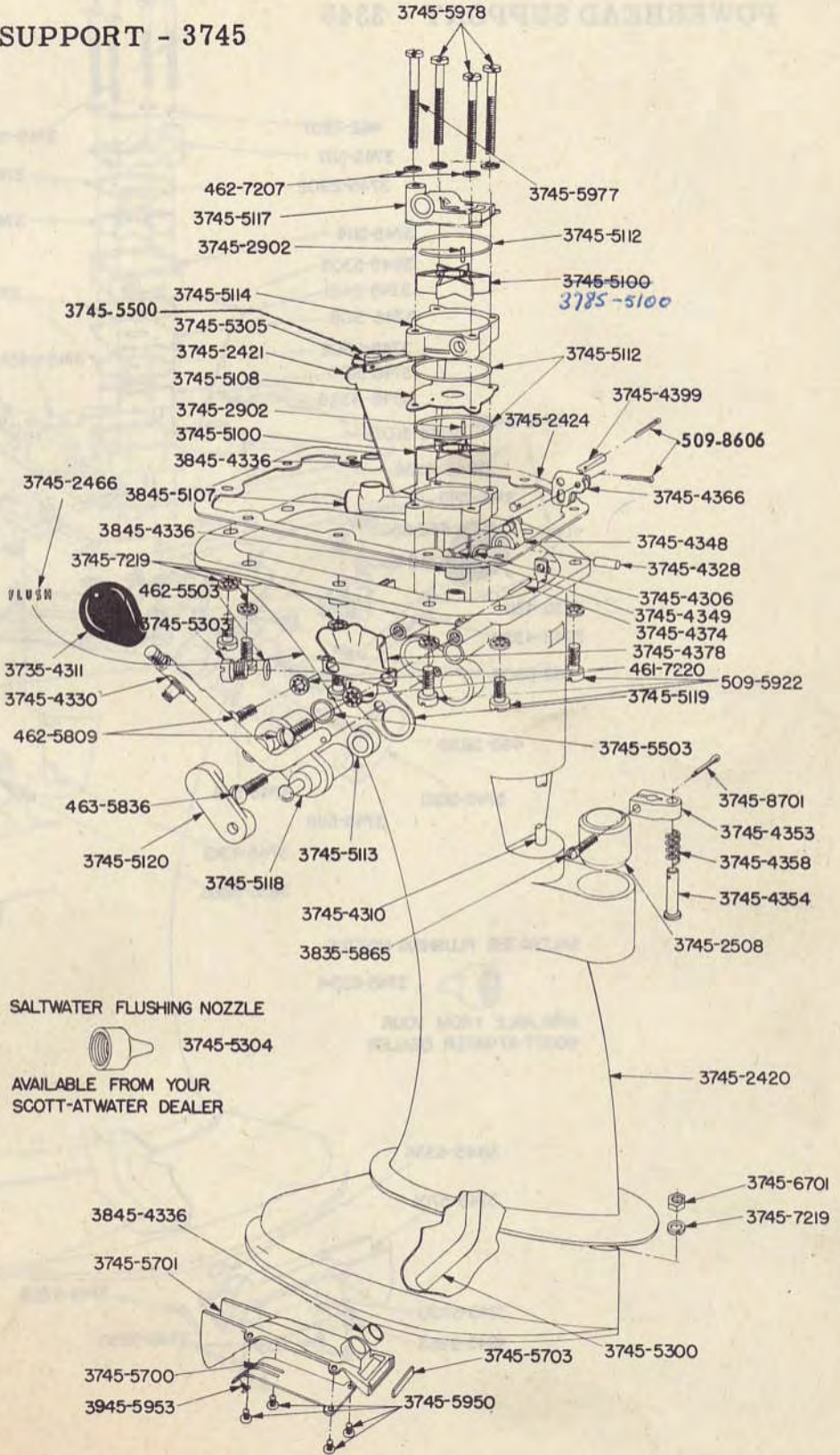
Part Number	Description	Part Number	Description
5010-2400	Boat Bracket Assembly	462-5504	Inlet Water Line Sleeve
462-2412	Boat Bracket Clamp Screw Pad	462-5801	Screw
486-2413	Boat Bracket Clamp Screw Assembly	462-5803	Steering Handle Hinge Bolt
5011-2416	Tilt Adjusting Pin Assembly	462-5805	Boat Bracket Bolt
463-2420	Lower Motor Casing	476-5807	Motor Pivot Bracket Friction Pad Adj. Screw
486-2422	Lower Motor Casing Cover Plate Assembly	462-5816	Lower Motor Casing Cover Plate Screw
470-2423	Cylinder Exhaust Flange Gasket	463-5845	Screw
462-2424	Lower Motor Casing Cover Plate Gasket	462-6702	Steering Handle Spring Stud Nut
1035-2425	Motor Pivot Bracket Assembly	462-6702	Steering Handle Spring Shoulder Stud Nut
476-2429	Motor Pivot Bracket Friction Pad Washer	462-6703	Boat Bracket Bolt Nut
476-2430	Motor Pivot Bracket Washer	462-6704	Steering Handle Hinge Bolt Lock Nut
476-2432	Motor Pivot Bracket Spacer	462-7201	Lock Washer for Boat Bracket Bolt Nut
462-2433	Motor Pivot Bracket Thrust Washer	462-7202	Lock Washer for Steering Handle Spring Stud Nut
463-2434	Motor Pivot Tube	462-7202	Lock Washer for Steering Handle Spring Shoulder Stud Nut
486-2453	Retainer—Boat Bracket Clamp Screw Pad	486-7226	Lockwasher
4913-2455	Friction Pad	461-8201	Steering Handle Spring Shoulder Stud
1335-2510	Spring	480-8202	Steering Handle Spring Stud
463-3600	Steering Handle and Grip Assembly	3035-8203	Lower Unit Stud—Front
462-3602	Steering Handle Rubber Grip	3035-8204	Lower Unit Stud—Rear
486-3604	Steering Handle Spring		
470-5300	Inlet Water Line		
462-5503	Inlet Water Line Seal Ring		

POWERHEAD SUPPORT - 3745

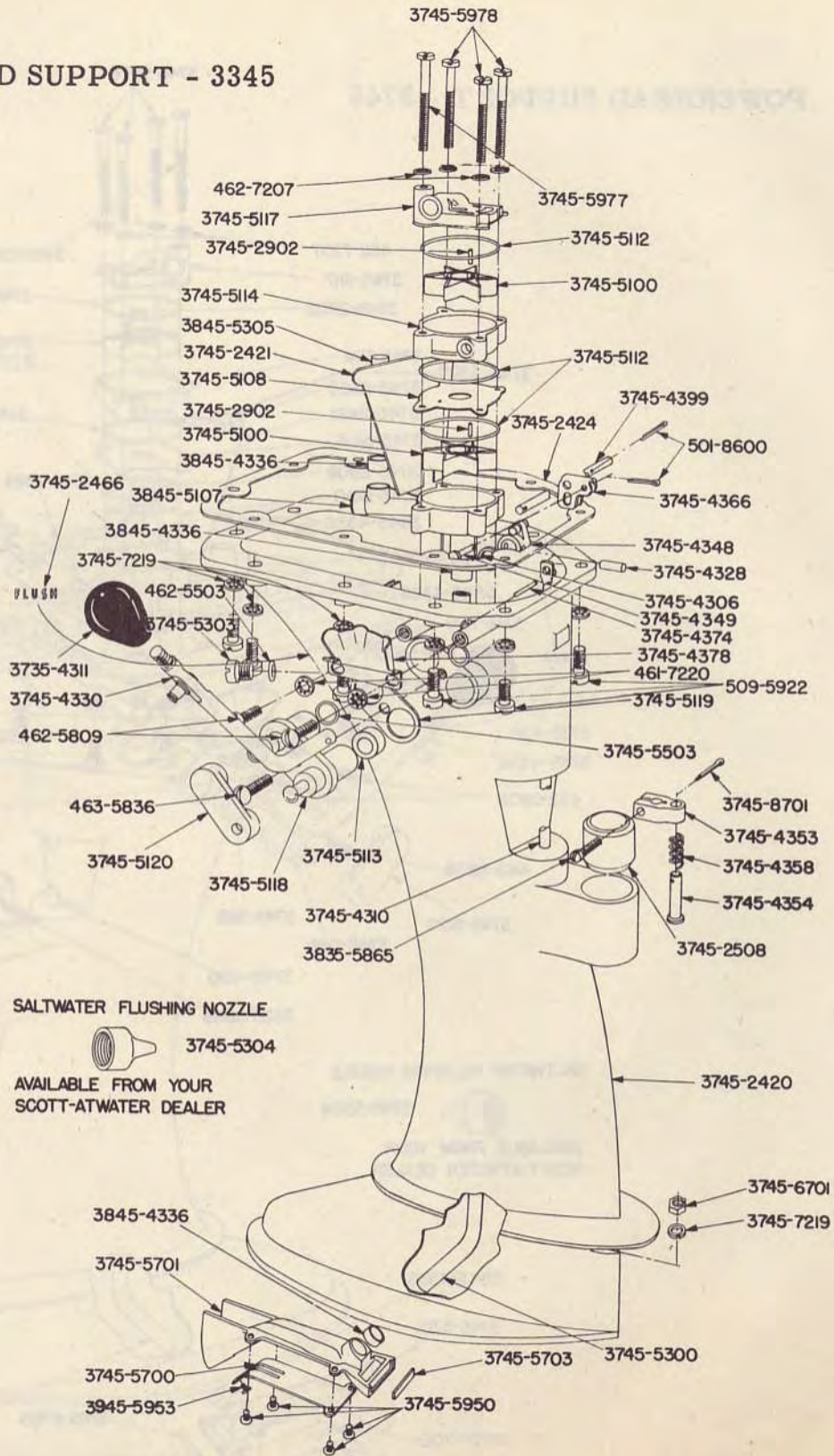
Part Number	Description
3745-2420	Lower Motor Casing
3745-2421	Exhaust Baffle
3745-2424	Gasket
3745-2466	Decal —"Flush"
3745-2508	Lower Pivot
3745-2902	Drive Pin—Impeller
3745-4306	Washer
3745-4310	Shift Rod
3735-4311	Knob—Shift Lever
3745-4328	Retainer Pin—Actuator
3745-4330	Shift Lever
3845-4336	Seal—Water Line
3745-4348	Actuator—Shift Rod
3745-4349	Pin—Shift Rod Link
3745-4353	Actuator—Reverse Lock
3745-4354	Pin—Reverse Lock Actuator
3745-4358	Spring—Reverse Lock Actuator
3745-4366	Link—Shift Rod
3745-4374	Pin—Pivot Shaft
3745-4378	Shift Detent
3745-4399	Pivot Shaft
3745-5100	Impeller
3845-5107	Pump Body
3745-5108	Cover Plate—Pump
3745-5112	Seal Ring
3745-5113	Seal
3745-5114	Bailer Body
3745-5117	Cover Plate—Bailer
3745-5118	Inlet and Outlet—Bailer

Part Number	Description
3745-5119	Gasket
3745-5120	Cover—Bailer Inlet
3745-5300	Water Line—Lower
3745-5303	Screw—Flushing Inlet
*3745-5304	Flushing Nozzle
3745-5305	Water Line—Upper
3745-5500	Bracket
462-5503	Seal
3745-5503	Seal
3745-5700	Filter Plate—Water Inlet
3745-5701	Cover Plate—Water Inlet
3745-5703	Seal—Water Line
462-5809	Screw
463-5836	Screw
3835-5865	Screw
509-5922	Screw
3745-5950	Screw
3945-5953	Screw
3745-5977	Screw
3745-5978	Screw
3745-6701	Nut
462-7207	Lockwasher
3745-7219	Lockwasher
461-7220	Lockwasher
509-8606	Cotter Pin
3745-8701	Cotter Pin
*Not Included with Motor	

POWERHEAD SUPPORT - 3745



POWERHEAD SUPPORT - 3345



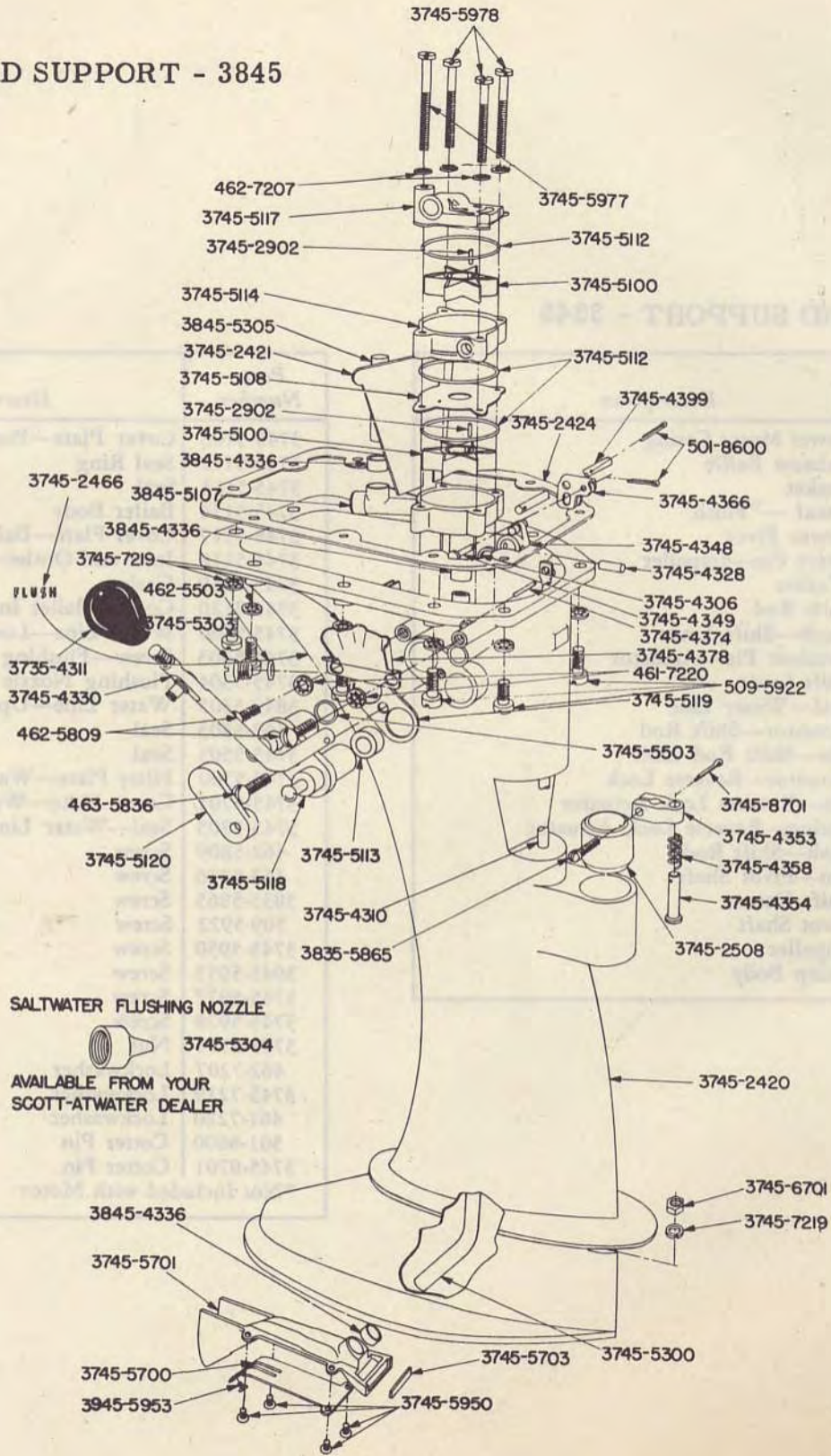
POWERHEAD SUPPORT - 3845

POWERHEAD SUPPORT - 3345

<i>Part Number</i>	<i>Description</i>
3745-2420	Lower Motor Casing
3745-2421	Exhaust Baffle
3745-2424	Gasket
3745-2466	Decal —"Flush"
3745-2508	Lower Pivot
3745-2902	Drive Pin—Impeller
3745-4306	Washer
3745-4310	Shift Rod
3735-4311	Knob—Shift Lever
3745-4328	Retainer Pin—Actuator
3745-4330	Shift Lever
3845-4336	Seal—Water Line
3745-4348	Actuator—Shift Rod
3745-4349	Pin—Shift Rod Link
3745-4353	Actuator—Reverse Lock
3745-4354	Pin—Reverse Lock Actuator
3745-4358	Spring—Reverse Lock Actuator
3745-4366	Link—Shift Rod
3745-4374	Pin—Pivot Shaft
3745-4378	Shift Detent
3745-4399	Pivot Shaft
3745-5100	Impeller
3845-5107	Pump Body

<i>Part Number</i>	<i>Description</i>
3745-5108	Cover Plate—Pump
3745-5112	Seal Ring
3745-5113	Seal
3745-5114	Bailer Body
3745-5117	Cover Plate—Bailer
3745-5118	Inlet and Outlet—Bailer
3745-5119	Gasket
3745-5120	Cover—Bailer Inlet
3745-5300	Water Line—Lower
3745-5303	Screw—Flushing Inlet
*3745-5304	Flushing Nozzle
3845-5305	Water Line—Upper
462-5503	Seal
3745-5503	Seal
3745-5700	Filter Plate—Water Inlet
3745-5701	Cover Plate—Water Inlet
3745-5703	Seal—Water Line
462-5809	Screw
463-5836	Screw
3835-5865	Screw
509-5922	Screw
3745-5950	Screw
3945-5953	Screw
3745-5977	Screw
3745-5978	Screw
3745-6701	Nut
462-7207	Lockwasher
3745-7219	Lockwasher
461-7220	Lockwasher
501-8600	Cotter Pin
3745-8701	Cotter Pin
*Not Included with Motor	

POWERHEAD SUPPORT - 3845



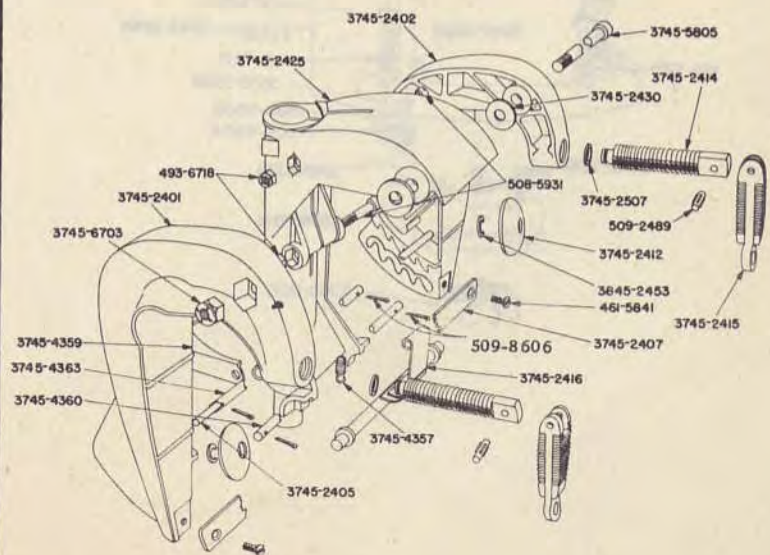
POWERHEAD SUPPORT - 3845

Part Number	Description
3745-2420	Lower Motor Casing
3745-2421	Exhaust Baffle
3745-2424	Gasket
3745-2466	Decal —“Flush”
3745-2508	Lower Pivot
3745-2902	Drive Pin—Impeller
3745-4306	Washer
3745-4310	Shift Rod
3735-4311	Knob—Shift Lever
3745-4328	Retainer Pin—Actuator
3745-4330	Shift Lever
3845-4336	Seal—Water Line
3745-4348	Actuator—Shift Rod
3745-4349	Pin—Shift Rod Link
3745-4353	Actuator—Reverse Lock
3745-4354	Pin—Reverse Lock Actuator
3745-4358	Spring—Reverse Lock Actuator
3745-4366	Link—Shift Rod
3745-4374	Pin—Pivot Shaft
3745-4378	Shift Detent
3745-4399	Pivot Shaft
3745-5100	Impeller
3845-5107	Pump Body
3745-5108	Cover Plate—Pump
3745-5112	Seal Ring
3745-5113	Seal
3745-5114	Bailer Body

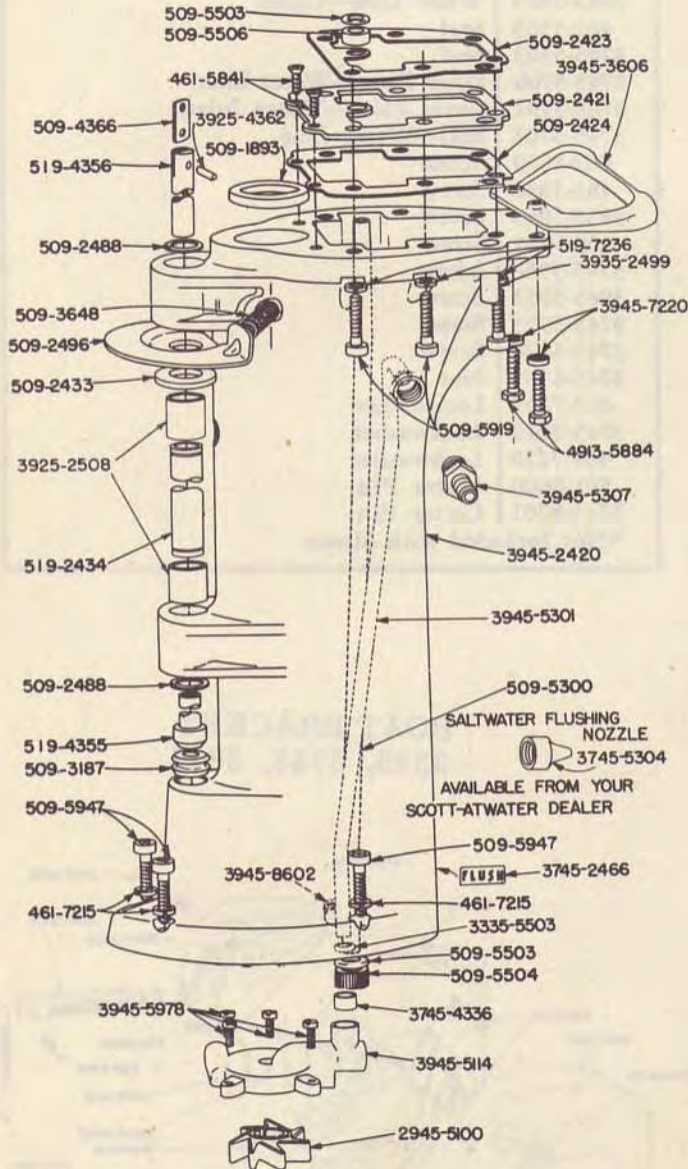
Part Number	Description
3745-5117	Cover Plate—Bailer
3745-5118	Inlet and Outlet—Bailer
3745-5119	Gasket
3745-5120	Cover—Bailer Inlet
3745-5300	Water Line—Lower
3745-5303	Screw—Flushing Inlet
*3745-5304	Flushing Nozzle
3845-5305	Water Line—Upper
462-5503	Seal
3745-5503	Seal
3745-5700	Filter Plate—Water Inlet
3745-5701	Cover Plate—Water Inlet
3745-5703	Seal—Water Line
462-5809	Screw
463-5836	Screw
3835-5865	Screw
509-5922	Screw
3745-5950	Screw
3945-5953	Screw
3745-5977	Screw
3745-5978	Screw
3745-6701	Nut
462-7207	Lockwasher
3745-7219	Lockwasher
461-7220	Lockwasher
501-8600	Cotter Pin
3745-8701	Cotter Pin
*Not Included with Motor	

Part Number	Description
3745-2401	Boat Bracket—R.H.
3745-2402	Boat Bracket—L.H.
3745-2405	Pivot Shaft—Tilt Pin Support
3745-2407	Crosspiece—Boat Bracket
3745-2412	Pad—Clamp Screw
3745-2414	Clamp Screw
3745-2415	Handle—Clamp Screw
3745-2416	Pin—Tilt Adjustment
3745-2425	Pivot Bracket
3745-2430	Friction Washer—Boat Bracket Bolt
3845-2453	Retainer—Clamp Pad
509-2489	Pin—Clamp Screw and Handle
3745-2507	Washer—Clamp Screw Handle
3745-4357	Spring—Reverse Lock
3745-4359	Yoke—Reverse Lock
3745-4360	Pin—Reverse Lock
3745-4363	Pivot Shaft—Reverse Lock
3745-5805	Bolt—Boat Bracket
461-5841	Screw—Crosspiece
508-5931	Friction Screw—Pivot Bracket
3745-6703	Locknut—Boat Bracket Bolt
493-6718	Locknut—Friction Screw
509-8606	Cotter Pin

**BOAT BRACKET
3345, 3745, 3845**

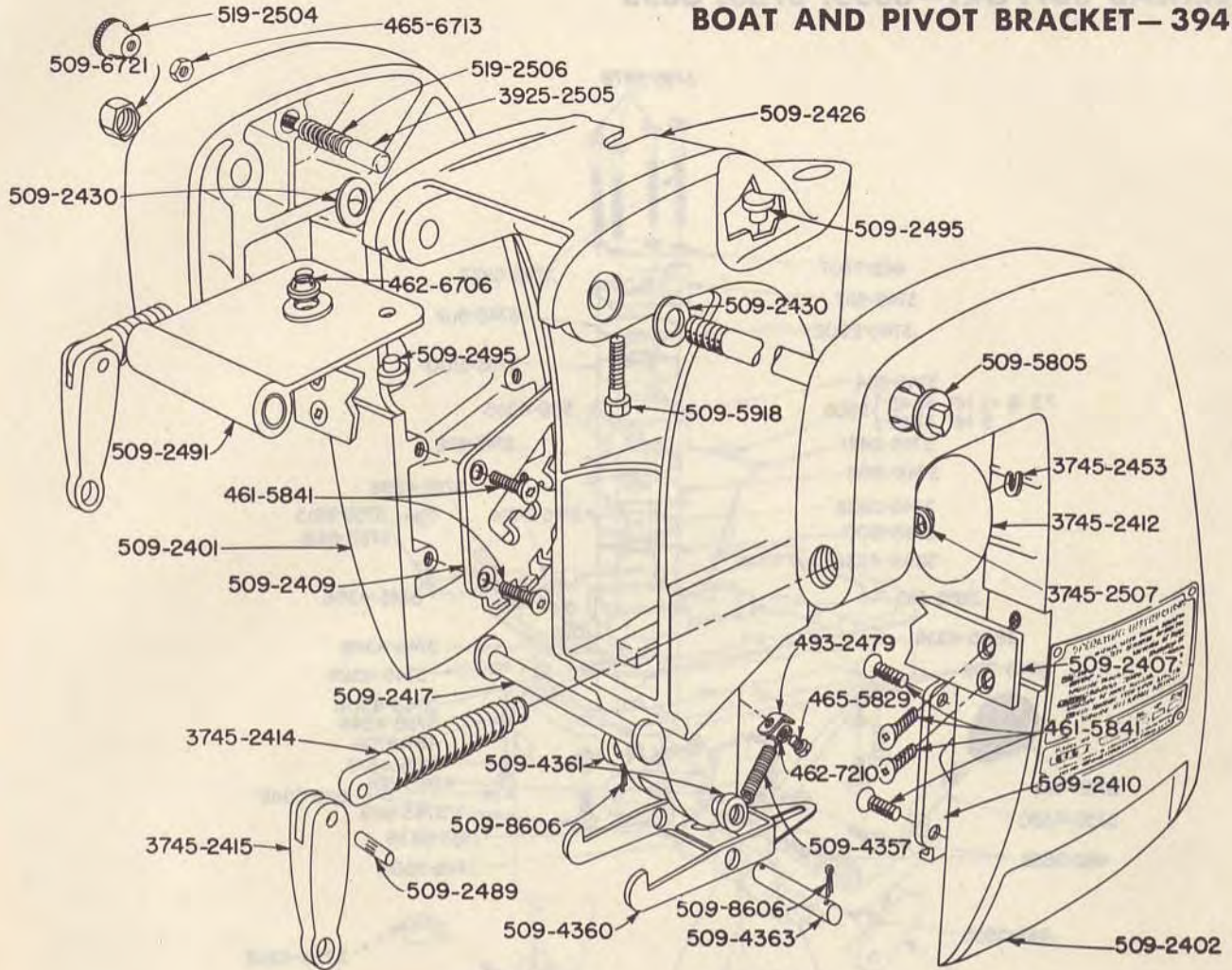


LOWER MOTOR CASING - 3945



Part Number	Description
509-1893	Crankcase Seal Ring
3945-2420	Lower Motor Casing
509-2421	Lower Motor Casing Cover Plate
509-2423	Cylinder Exhaust Flange Gasket
509-2424	Lower Motor Casing Cover Plate Gasket
509-2433	Washer—Pivot Tube
519-2434	Pivot Tube
3745-2466	Decal—Flush
509-2488	Retainer Pivot Tube
509-2496	Steering Friction Plate
3935-2499	Water Outlet Extension
3925-2508	Pivot Pin Bearing
509-3187	Grommet
3945-3606	Carrying Handle
509-3648	Spring—Motor Cushioning
3745-4336	Seal—Bailer Inlet Line
519-4355	Reverse Lock Actuator Assembly
519-4356	Shift Connector
3925-4362	Groove Pin—Shift Connector
509-4366	Shift Actuator Link
2945-5100	Impeller—Bailer
3945-5114	Cavity—Bailer
509-5300	Water Line
3945-5301	Inlet Line—Bailer
*3745-5304	Flushing Nozzle
3945-5307	Fitting—Bailer
509-5503	"O" Ring—Water Line
3335-5503	Seal
509-5504	Water Line Sleeve
509-5506	Sleeve—Water Line Inlet
461-5841	Screw—Lower Motor Casing Cover Plate
4913-5884	Screw—Carrying Handle
509-5919	Screw—Powerhead to Lower Motor Casing
509-5947	Screw—Lower Motor Casing to Lower Unit
3945-5978	Screw
461-7215	Lockwasher
3945-7220	Lockwasher
519-7236	Lockwasher—Powerhead to Lower Motor Casing
3945-8602	Flushing Plug
	*Not Included with Motor

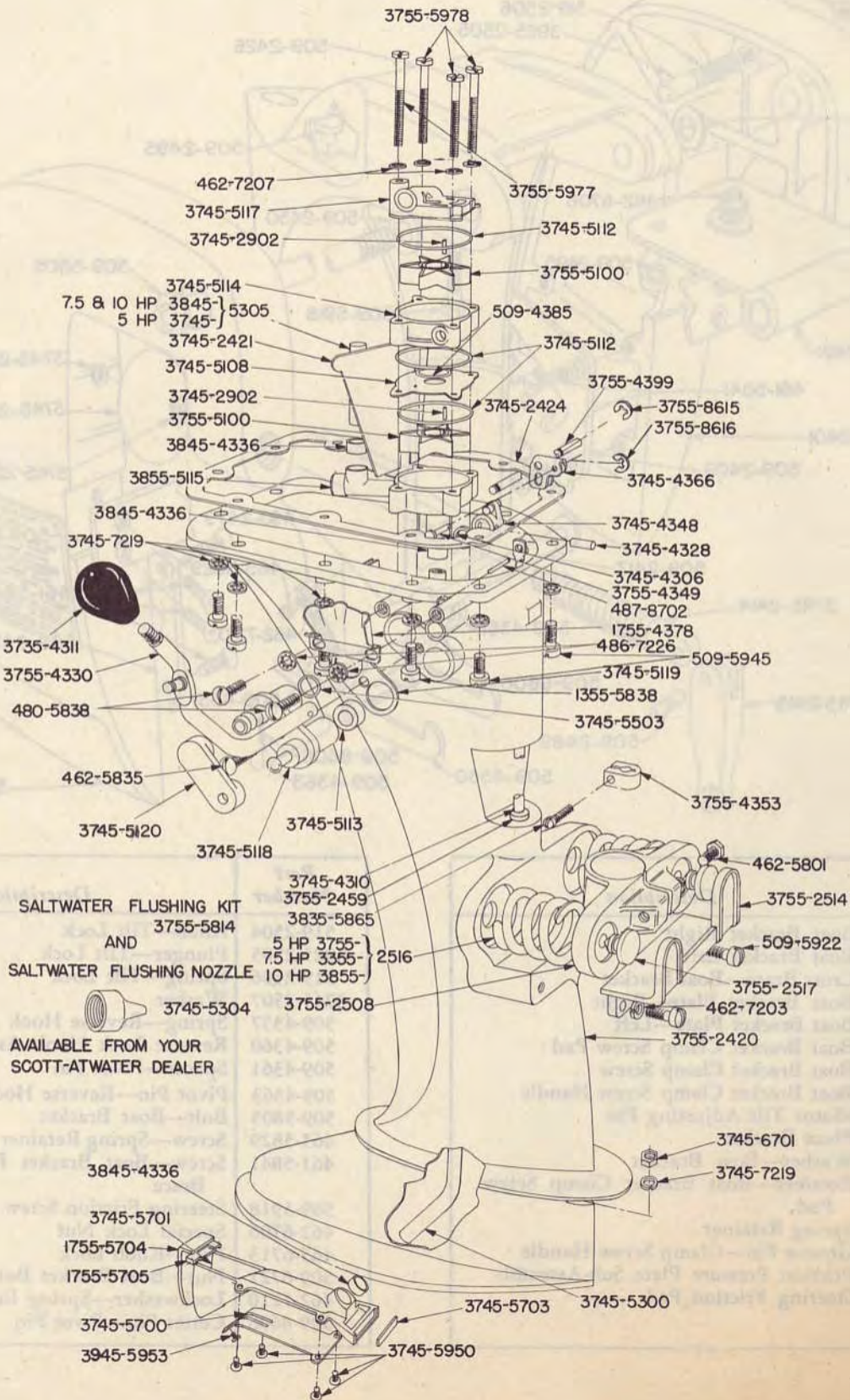
BOAT AND PIVOT BRACKET—3945



Part Number	Description
509-2401	Boat Bracket Right
509-2402	Boat Bracket Left
509-2407	Cross Brace—Boat Bracket
509-2409	Boat Bracket Plate—Right
509-2410	Boat Bracket Plate—Left
3745-2412	Boat Bracket Clamp Screw Pad
3745-2414	Boat Bracket Clamp Screw
3745-2415	Boat Bracket Clamp Screw Handle
509-2417	Motor Tilt Adjusting Pin
509-2426	Pivot Bracket
509-2430	Washer—Boat Bracket
3745-2453	Retainer—Boat Bracket Clamp Screw Pad
493-2479	Spring Retainer
509-2489	Groove Pin—Clamp Screw Handle
509-2491	Friction Pressure Plate Sub-Assembly
509-2495	Steering Friction Pad

Part Number	Description
519-2504	Knob—Tilt Lock
3925-2505	Plunger—Tilt Lock
519-2506	Spring—Tilt Lock
3745-2507	Washer
509-4357	Spring—Reverse Hook
509-4360	Reverse Lock Hook Assembly
509-4361	Spacer—Pivot Pin
509-4363	Pivot Pin—Reverse Hook
509-5805	Bolt—Boat Bracket
465-5829	Screw—Spring Retainer
461-5841	Screw—Boat Bracket Plate & Cross Brace
509-5918	Steering Friction Screw
462-6706	Special Lock Nut
465-6713	Nut—Knob Lock
509-6721	Nut—Boat Bracket Bolt
462-7210	Lockwasher—Spring Retainer Screw
509-8606	Cotter Pin—Pivot Pin

POWERHEAD SUPPORT—3355, 3755, 3855



POWERHEAD SUPPORT— 3355, 3755, 3855

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Part Number	Description
3755-2420	Lower Motor Casing
3745-2421	Exhaust Baffle
3745-2424	Gasket
3755-2459	Grommet—Shift Rod
3755-2508	Lower Spring Mount
3755-2514	Bracket
3355-2516	Spring—7½ HP Only
3755-2516	Spring—5 HP Only
3855-2516	Spring—10 HP Only
3755-2517	Bumper
3745-2902	Drive Pin—Impeller
3745-4306	Washer
3745-4310	Shift Rod
3735-4311	Knob—Shift Lever
3745-4328	Retainer Pin—Actuator
1755-4330	Shift Lever Assembly
3845-4336	Seal—Water Line
3745-4348	Actuator—Shift Rod
3755-4349	Pin—Shift Rod Link
3755-4353	Actuator—Reverse Lock
509-4358	Seal
3745-4366	Link—Shift Rod
1755-4378	Shift Detent
3755-4399	Pivot Shaft
3755-5100	Impeller
3745-5108	Cover Plate—Pump
3745-5112	Seal Ring
3745-5113	Seal
3745-5114	Bailer Body
3855-5115	Pump Body Assembly
3745-5117	Cover Plate—Bailer
3745-5118	Inlet and Outlet—Bailer

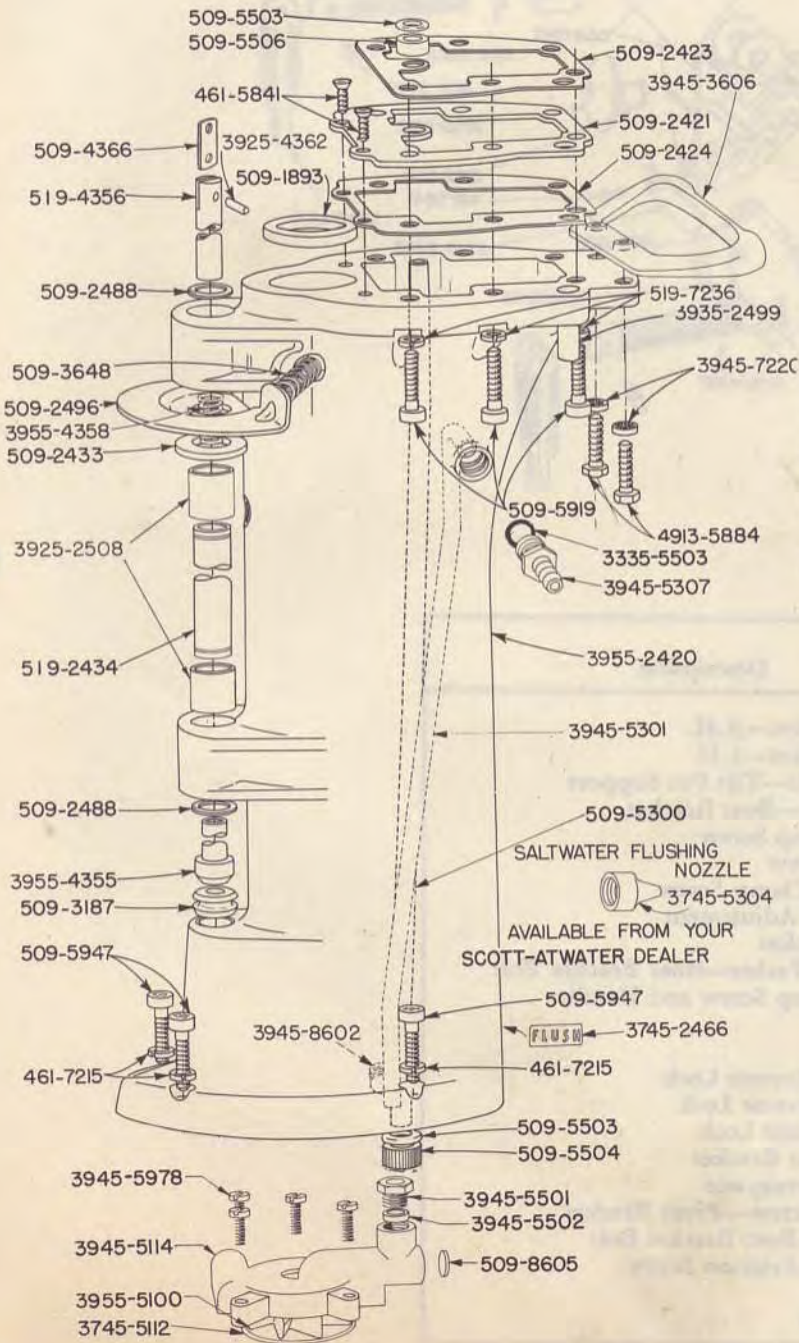
POWERHEAD SUPPORT— 3655

Part Number	Description
3655-1150	Hose Support
3335-1715	Washer—Shift Handle
3645-2424	Gasket
3655-2508	Vibration Spring Mount
3655-2509	Lower Motor Casing Assembly
3655-2514	Bracket—Spring Mount
3655-2516	Spring
3655-2517	Bumper
3655-2518	Snubber
*3655-2521	Bearing
3645-3606	Carry Handle—Rear
3645-4306	Washer
3645-4310	Coupling—Shift Rod
3655-4330	Shift Handle
3655-4336	Seal
3655-4348	Actuator and Rod Assy.
3655-4353	Actuator—Rev. Lock
3655-4354	Guide—Rev. Lock Act.
3645-4375	Shaft—Shift Lever
3645-4384	Pin—Detent
3645-5100	Impeller
3645-5107	Pump Body—Water
3645-5108	Cover Plate
3645-5112	Seal
3645-5113	Seal
3655-5113	Grommet—Bailer
3645-5114	Bailer Body
3645-5117	Cover—Bailer Body
3745-5120	Cover—Bailer Inlet
3645-5123	Seal
3645-5124	Screw—Inlet Cover
3645-5300	Line—Water Inlet

Part Number	Description
3745-5119	Gasket—Bailer Fitting
3745-5120	Cover—Bailer Inlet
3745-5300	Water Line—Lower
*3745-5304	Flushing Nozzle
3745-5305	Water Line—5 HP Only
3845-5305	Water Line—Upper—7½ & 10 HP Only
3745-5503	Seal
3745-5700	Filter Plate—Water Inlet
3745-5701	Cover Plate—Water Inlet
3745-5703	Seal—Water Line
1755-5704	Valve—Bacus
1755-5705	Retainer
*3755-5814	Flushing Kit
462-5835	Screw
480-5838	Screw—Detent
1355-5838	Screw
3835-5865	Screw
509-5922	Screw
509-5945	Screw
3745-5950	Screw
3945-5953	Screw
3755-5977	Screw
3755-5978	Screw
3745-6701	Nut
462-7203	Lockwasher
462-7207	Lockwasher
3835-7212	Lockwasher
3745-7219	Lockwasher
486-7226	Lockwasher
487-8702	Pin Pivot Shaft
3755-8615	"E" Ring
3755-8616	"E" Ring
*Not included with motor	

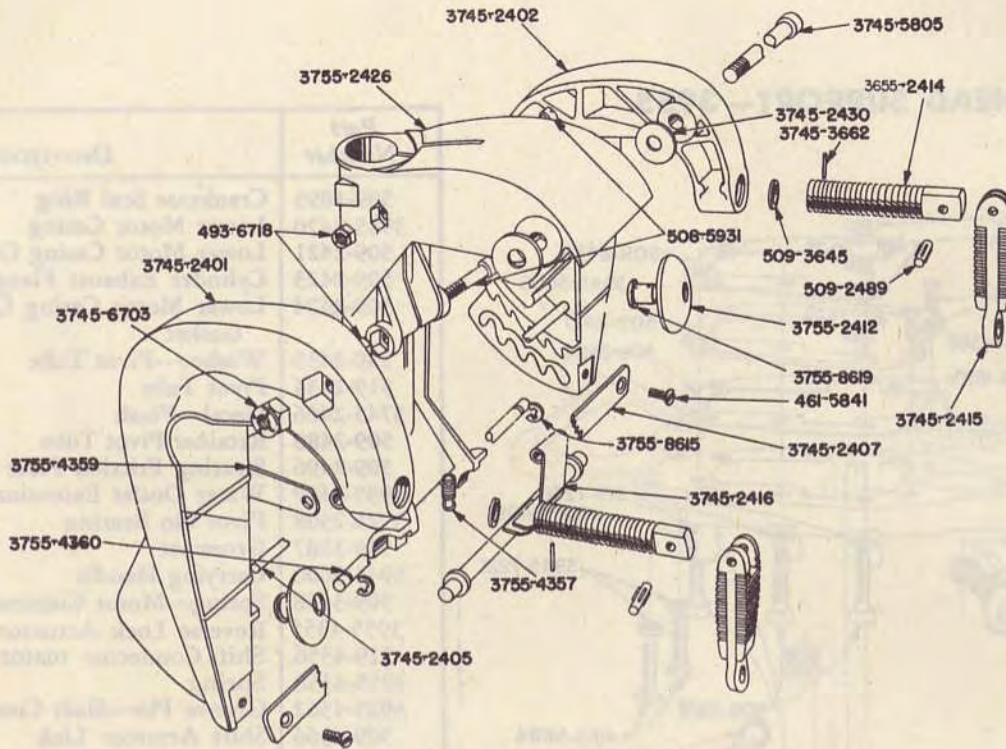
Part Number	Description
3645-5301	Tube—Bailer Inlet
3655-5302	Tube—Bailer Outlet
3645-5305	Tube—Pump Outlet
3645-5306	Seal—Water and Bailer Line
3645-5501	Nut—Packing Gland
3645-5502	Packing Gland and Seal
3645-5700	Screen
3655-5701	Cup—Water Inlet
3655-5703	Gasket—Inlet Cup
3645-5704	Exhaust Valve
3955-5705	Retainer
483-5811	Screw
3645-5816	Screw
3655-5817	Screw
3645-5854	Screw
3655-5859	Screw
3655-5886	Screw
509-5921	Screw
3655-5921	Screw
509-5922	Screw
3645-5923	Screw
3655-5923	Screw
3945-5953	Screw
3955-6002	Screw
462-6705	Nut
3645-6720	Nut
3655-6723	Nut
462-7201	Lockwasher
3645-7201	Lockwasher
462-7202	Lockwasher
3335-7202	Lockwasher
462-7203	Lockwasher
3335-7209	Lockwasher
462-7211	Washer
463-7212	Lockwasher
3745-7219	Lockwasher
*Part of 3655-2509 Assembly	

POWERHEAD SUPPORT— 3955



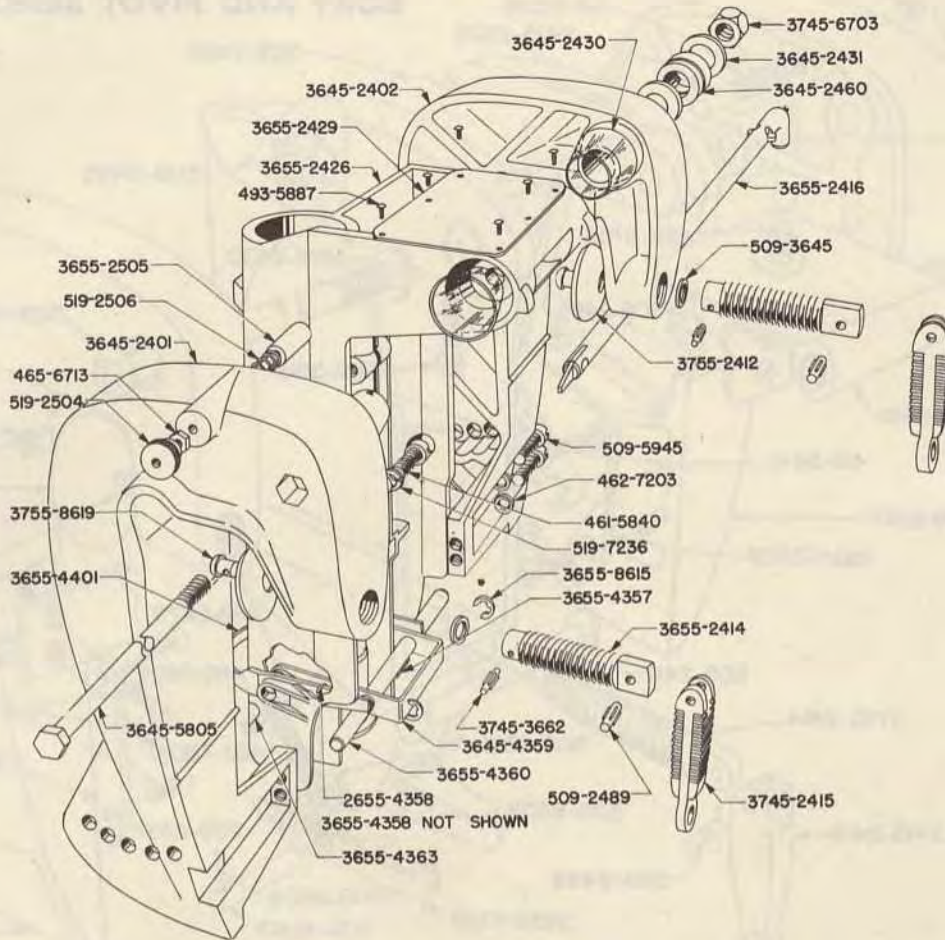
Part Number	Description
509-1893	Crankcase Seal Ring
3955-2420	Lower Motor Casing
509-2421	Lower Motor Casing Cover Plate
509-2423	Cylinder Exhaust Flange Gasket
509-2424	Lower Motor Casing Cover Plate Gasket
509-2433	Washer—Pivot Tube
519-2434	Pivot Tube
3745-2466	Decal—Flush
509-2488	Retainer Pivot Tube
509-2496	Steering Friction Plate
3935-2499	Water Outlet Extension
3925-2508	Pivot Pin Bearing
509-3187	Grommet
3945-3606	Carrying Handle
509-3648	Spring—Motor Cushioning
3955-4355	Reverse Lock Actuator Assembly
519-4356	Shift Connector tuator Assembly
3955-4358	Spring
3925-4362	Groove Pin—Shift Connector
509-4366	Shift Actuator Link
3955-5100	Impeller—Bailer
3745-5112	Seal
3945-5114	Cavity—Bailer
509-5300	Water Line
3945-5301	Inlet Line—Bailer
*3745-5304	Flushing Nozzle
3945-5307	Fitting—Bailer
3945-5501	Nut—Packing
3945-5502	Seal
509-5503	"O" Ring—Water Line
3335-5503	Seal
509-5504	Water Line Sleeve
509-5506	Sleeve—Water Line Inlet
461-5841	Screw—Lower Motor Casing Cover Plate
4913-5884	Screw—Carrying Handle
509-5919	Screw—Powerhead to Lower Motor Casing
509-5947	Screw—Lower Motor Casing to Lower Unit
3945-5978	Screw
461-7215	Lockwasher
3945-7220	Lockwasher
519-7236	Lockwasher—Powerhead to Lower Motor Casing
3945-8602	Flushing Plug
509-8605	Welch Plug
	*Not Included with Motor

BOAT BRACKET— 3355, 3755, 3855



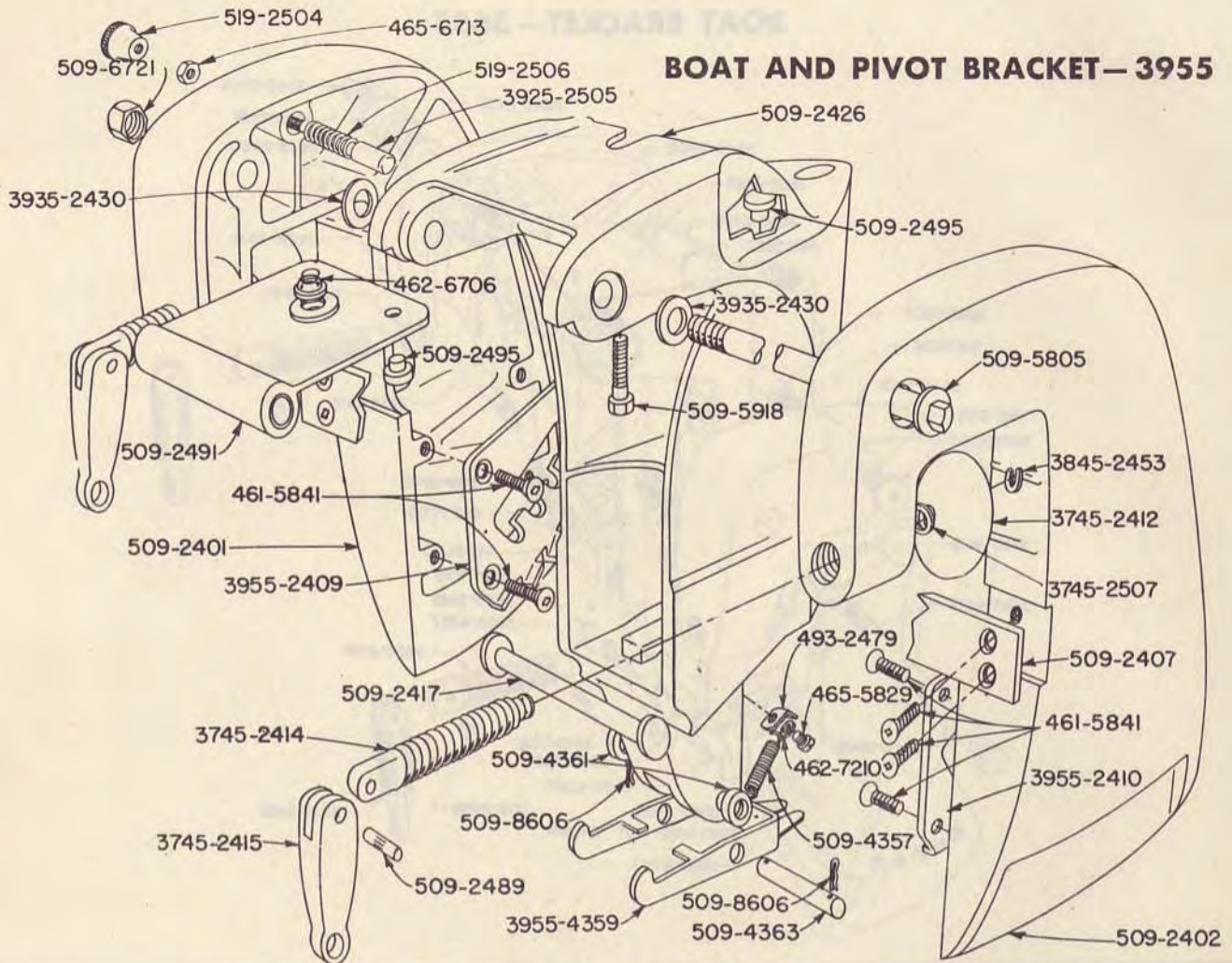
Part Number	Description
3745-2401	Boat Bracket—R.H.
3745-2402	Boat Bracket—L.H.
3745-2405	Pivot Shaft—Tilt Pin Support
3745-2407	Crosspiece—Boat Bracket
3755-2412	Pad—Clamp Screw
3655-2414	Clamp Screw
3745-2415	Handle—Clamp Screw
3745-2416	Pin—Tilt Adjustment
3755-2426	Pivot Bracket
3745-2430	Friction Washer—Boat Bracket Bolt
509-2489	Pin—Clamp Screw and Handle
509-3645	Washer
3745-3662	Pin
3755-4357	Spring—Reverse Lock
3755-4359	Yoke—Reverse Lock
3755-4360	Pin—Reverse Lock
3745-5805	Bolt—Boat Bracket
461-5841	Screw—Crosspiece
508-5931	Friction Screw—Pivot Bracket
3745-6703	Locknut—Boat Bracket Bolt
493-6718	Locknut—Friction Screw
3755-8615	"E" Ring
3755-8619	Clevis Pin

BOAT BRACKET— 3655



Part Number	Description
3645-2401	Bracket—R.
3645-2402	Bracket—L.
3755-2412	Pad—Clamp Screw
3655-2414	Clamp Screw
3745-2415	Clamp Screw—Handle
3655-2416	Tilt Pin Assy.
3655-2426	Pivot Bracket
3655-2429	Cover Plate
3645-2430	Cone—Tilt Friction
3645-2431	Washer—Brkt. Bolt
3645-2460	Spring—Tilt Pressure
509-2489	Groove Pin
519-2504	Knob—Tilt Stop
3655-2505	Plunger
519-2506	Spring
509-3645	Washer—Clamp Sc. Pad
3745-3662	Pin—Retaining

Part Number	Description
3655-4357	Spring—Lock Return
2655-4358	Spring—Actuator R.
3655-4358	Spring—Actuator L.
3645-4359	Bracket—Rev. Lock
3655-4360	Pin—Rev. Lock
3655-4363	Pin—Rev. Lock Pivot
3655-4401	Lever—Rev. Lock
3645-5805	Bolt
461-5840	Screw—Friction
493-5887	Drive Screw
509-5945	Drive Screw
3745-6703	Nut
465-6713	Nut—Tilt Stop
462-7203	Lockwasher
519-7236	Lockwasher
3655-8615	Retaining Ring
3755-8619	Clevis Pin



Part Number	Description
509-2401	Boat Bracket Right
509-2402	Boat Bracket Left
509-2407	Cross Brace—Boat Bracket
3955-2409	Boat Bracket Plate—Right
3955-2410	Boat Bracket Plate—Left
3745-2412	Boat Bracket Clamp Screw Pad
3745-2414	Boat Bracket Clamp Screw
3745-2415	Boat Bracket Clamp Screw Handle
509-2417	Motor Tilt Adjusting Pin
509-2426	Pivot Bracket
3935-2430	Washer—Boat Bracket
3845-2453	Retainer—Boat Bracket Clamp Screw Pad
493-2479	Spring Retainer
509-2489	Groove Pin—Clamp Screw Handle
509-2491	Friction Pressure Plate Sub-Assembly
509-2495	Steering Friction Pad

Part Number	Description
519-2504	Knob—Tilt Lock
3925-2505	Plunger—Tilt Lock
519-2506	Spring—Tilt Lock
3745-2507	Washer
509-4357	Spring—Reverse Hook
3955-4359	Reverse Lock Hook
509-4361	Spacer—Pivot Pin
509-4363	Pivot Pin—Reverse Hook
509-5805	Bolt—Boat Bracket
465-5829	Screw—Spring Retainer
461-5841	Screw—Boat Bracket Plate & Cross Brace
509-3918	Steering Friction Screw
462-6706	Special Lock Nut
465-6713	Nut—Knob Lock
509-6721	Nut—Boat Bracket Bolt
462-7210	Lockwasher—Spring Retainer Screw
509-8606	Cotter Pin—Pivot Pin

POWERHEAD SUPPORT—3065

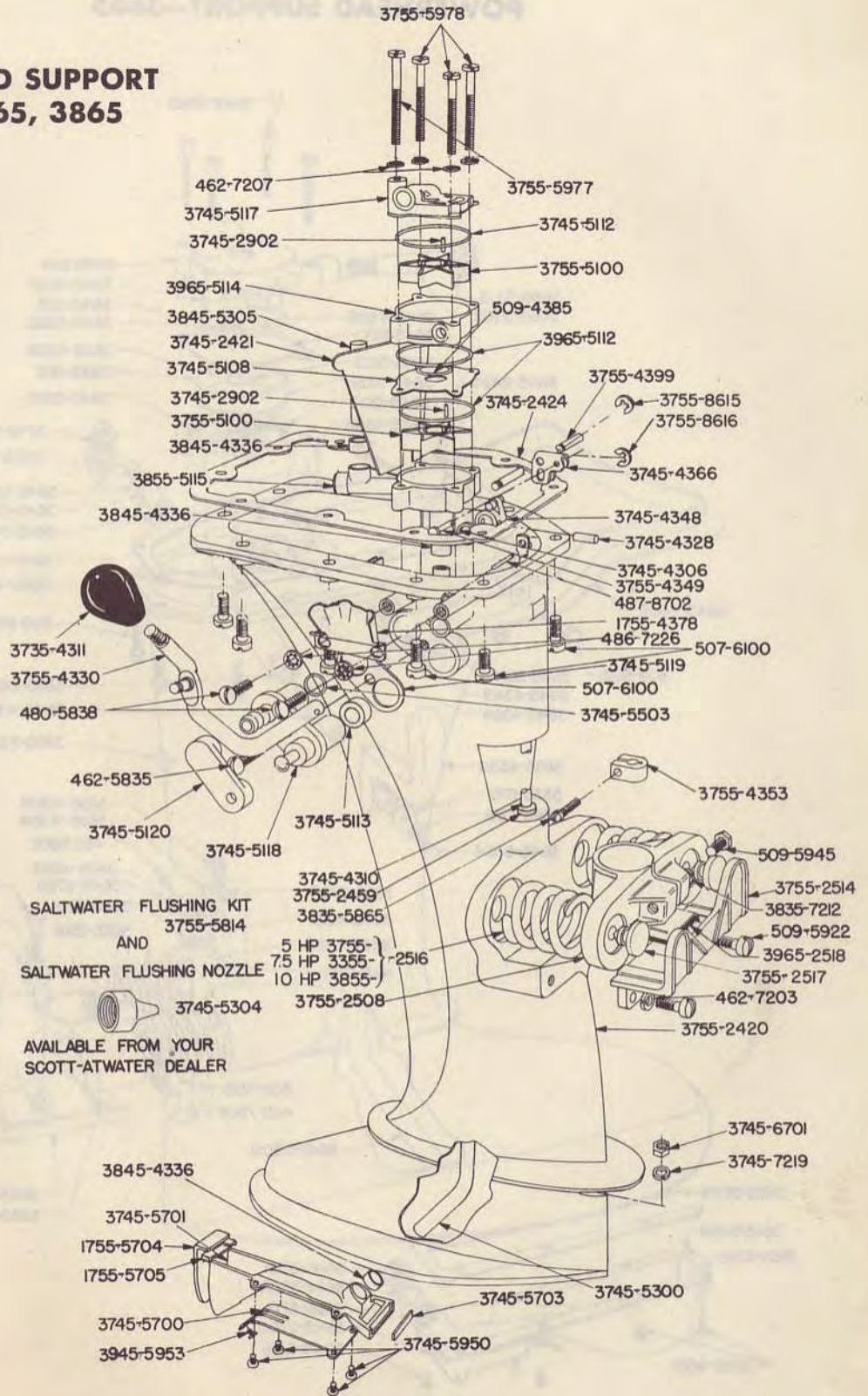
Part Number	Description	www.powersportsupply.com	Part Number	Description
5010-2400	Boat Bracket Assembly		462-5504	Inlet Water Line Sleeve
1755-2412	Boat Bracket Clamp Screw Pad		462-5801	Screw
486-2413	Boat Bracket Clamp Screw Assembly		462-5803	Steering Handle Hinge Bolt
1755-2416	Tilt Adjusting Pin Assembly		462-5805	Boat Bracket Bolt
463-2420	Lower Motor Casing		476-5807	Motor Pivot Bracket Friction Pad Adj. Screw
486-2422	Lower Motor Casing Cover Plate Assembly		462-5816	Lower Motor Casing Cover Plate Screw
470-2423	Cylinder Exhaust Flange Gasket		463-5845	Screw
462-2424	Lower Motor Casing Cover Plate Gasket		462-6702	Steering Handle Spring Stud Nut
1035-2425	Motor Pivot Bracket Assembly		462-6702	Steering Handle Spring Shoulder Stud Nut
476-2429	Motor Pivot Bracket Friction Pad Washer		462-6703	Boat Bracket Bolt Nut
476-2430	Motor Pivot Bracket Washer		462-6704	Steering Handle Hinge Bolt Lock Nut
476-2432	Motor Pivot Bracket Spacer		462-6704	Lock Washer for Boat Bracket Bolt Nut
462-2433	Motor Pivot Bracket Thrust Washer		462-7201	Lock Washer for Steering Handle Spring Stud Nut
463-2434	Motor Pivot Tube		462-7202	Lock Washer for Steering Handle Spring Shoulder Stud Nut
486-2453	Retainer—Boat Bracket Clamp Screw Pad		462-7202	Lock Washer for Steering Handle Spring Shoulder Stud Nut
4913-2455	Friction Pad		486-7226	Lockwasher
1335-2510	Spring		461-8201	Steering Handle Spring Shoulder Stud
463-3600	Steering Handle and Grip Assembly		461-8202	Steering Handle Spring Stud
462-3602	Steering Handle Rubber Grip		3035-8203	Lower Unit Stud—Front
486-3604	Steering Handle Spring		3035-8204	Lower Unit Stud—Rear
470-5300	Inlet Water Line			
462-5503	Inlet Water Line Seal Ring			

POWERHEAD SUPPORT—3365, 3765, 3865

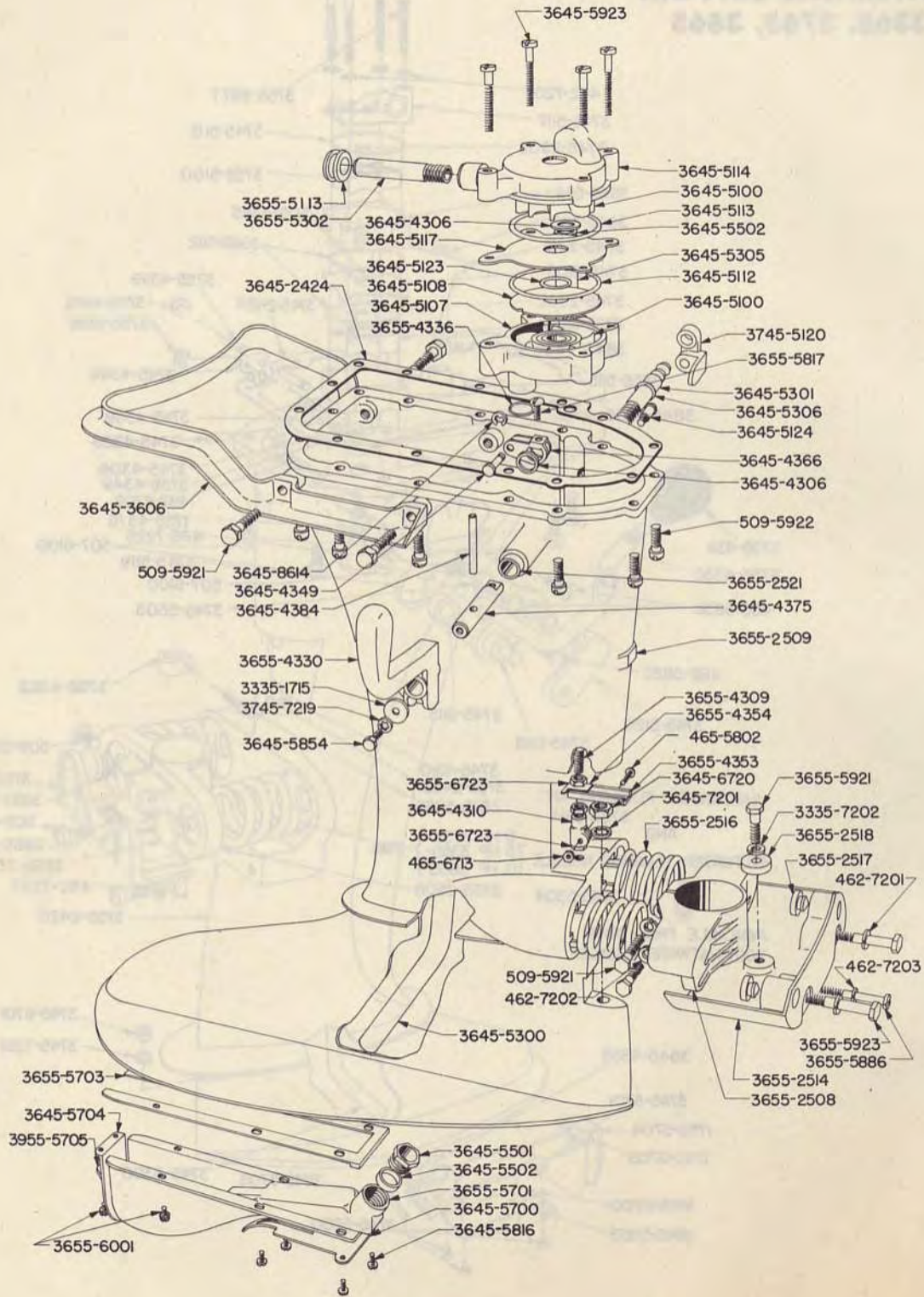
Part Number	Description
3755-2420	Lower Motor Casing
3745-2421	Exhaust Baffle
3745-2424	Gasket
3755-2459	Grommet—Shift Rod
3755-2508	Lower Spring Mount
3755-2514	Bracket
3855-2516	Spring
3755-2517	Bumper
3965-2518	Snubber
3745-2902	Drive Pin—Impeller
3745-4306	Washer
3745-4310	Shift Rod
3735-4311	Knob—Shift Lever
3745-4328	Retainer Pin—Actuator
1755-4330	Shift Lever Assembly
3845-4336	Seal—Water Line
3745-4348	Actuator—Shift Rod
3755-4349	Pin—Shift Rod Link
3755-4353	Actuator—Reverse Lock
3745-4366	Link—Shift Rod
1755-4378	Shift Detent
509-4385	Seal
3755-4399	Pivot Shaft
3755-5100	Impeller

Part Number	Description
3745-5108	Cover Plate—Pump
3745-5112	Seal Ring
3965-5112	Seal
3745-5113	Seal
3965-5114	Bailer Body
3855-5115	Pump Body Assembly
3745-5117	Cover Plate—Bailer
3745-5118	Inlet and Outlet—Bailer
3745-5119	Gasket—Bailer Fitting
3745-5120	Cover—Bailer Inlet
3745-5300	Water Line—Lower
*3745-5304	Flushing Nozzle
3845-5305	Water Line—Upper
3745-5503	Seal
3745-5700	Filter Plate—Water Inlet
3745-5701	Cover Plate—Water Inlet
3745-5703	Seal—Water Line
1755-5704	Valve—Bacus
1755-5705	Retainer
*3755-5814	Flushing Kit
462-5835	Screw
480-5838	Screw—Detent
3835-5865	Screw
509-5922	Screw
3745-5950	Screw
3945-5953	Screw
3755-5977	Screw
3755-5978	Screw
507-6100	Screw
3745-6701	Nut
462-7203	Lockwasher
462-7207	Lockwasher
3835-7212	Lockwasher
486-7226	Lockwasher
487-8702	Pin Pivot Shaft
3755-8615	"E" Ring
3755-8616	"E" Ring
	*Not included with motor

POWERHEAD SUPPORT 3365, 3765, 3865



POWERHEAD SUPPORT-3665

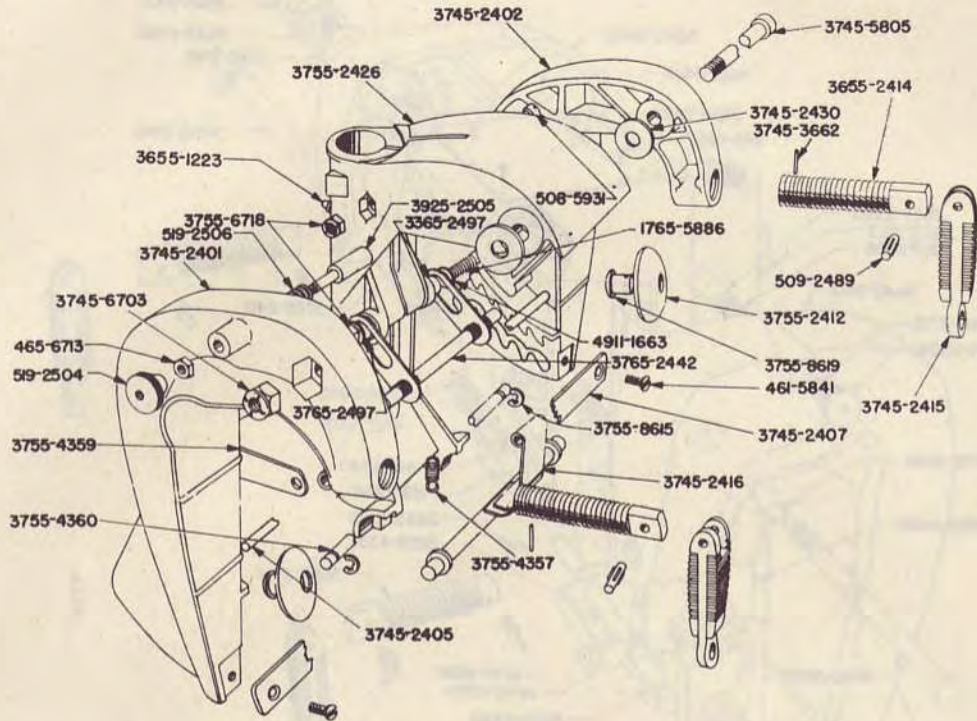


POWERHEAD SUPPORT—3665

<i>Part Number</i>	<i>Description</i>
3335-1715	Washer—Shift Handle
3645-2424	Gasket
3655-2508	Vibration Spring Mount
3655-2509	Lower Motor Casing Assembly
3655-2514	Bracket—Spring Mount
3655-2516	Spring
3655-2517	Bumper
3655-2518	Snubber
*3655-2521	Bearing
3645-3606	Carry Handle—Rear
3645-4306	Washer
3655-4309	Shift Rod—Upper
3645-4310	Coupling—Shift Rod
3655-4330	Shift Handle
3655-4336	Seal
3645-4349	Pin—Shift Rod
3655-4353	Actuator—Rev. Lock
3655-4354	Guide—Rev. Lock Act.
3645-4366	Actuator—Shift Rod
3645-4375	Shaft—Shift Lever
3645-4384	Pin—Detent
3645-5100	Impeller
3645-5107	Pump Body—Water
3645-5108	Cover Plate
3645-5112	Seal
3645-5113	Seal
3655-5113	Grommet—Bailer
3645-5114	Bailer Body
3645-5117	Cover—Bailer Body
3745-5120	Cover—Bailer Inlet
3645-5123	Seal
3645-5124	Screw—Inlet Cover
3645-5300	Line—Water Inlet

<i>Part Number</i>	<i>Description</i>
3645-5301	Tube—Bailer Inlet
3655-5302	Tube—Bailer Outlet
3645-5305	Tube—Pump Outlet
3645-5306	Seal—Water and Bailer Line
3645-5501	Nut—Packing Gland
3645-5502	Packing Gland and Seal
3645-5700	Screen
3655-5701	Cup—Water Inlet
3655-5703	Gasket—Inlet Cup
3645-5704	Exhaust Valve
3955-5705	Retainer
465-5802	Screw
3645-5816	Screw
3655-5817	Screw
3645-5854	Screw
3655-5886	Screw
509-5921	Screw
3655-5921	Screw
509-5922	Screw
3645-5923	Screw
3655-5923	Screw
3655-6001	Screw
465-6713	Nut
3645-6720	Nut
3655-6723	Nut
462-7201	Lockwasher
3645-7201	Lockwasher
462-7202	Lockwasher
3335-7202	Lockwasher
462-7203	Lockwasher
3745-7219	Lockwasher
3645-8614	Retainer
*Part of 3655-2509 Assembly	

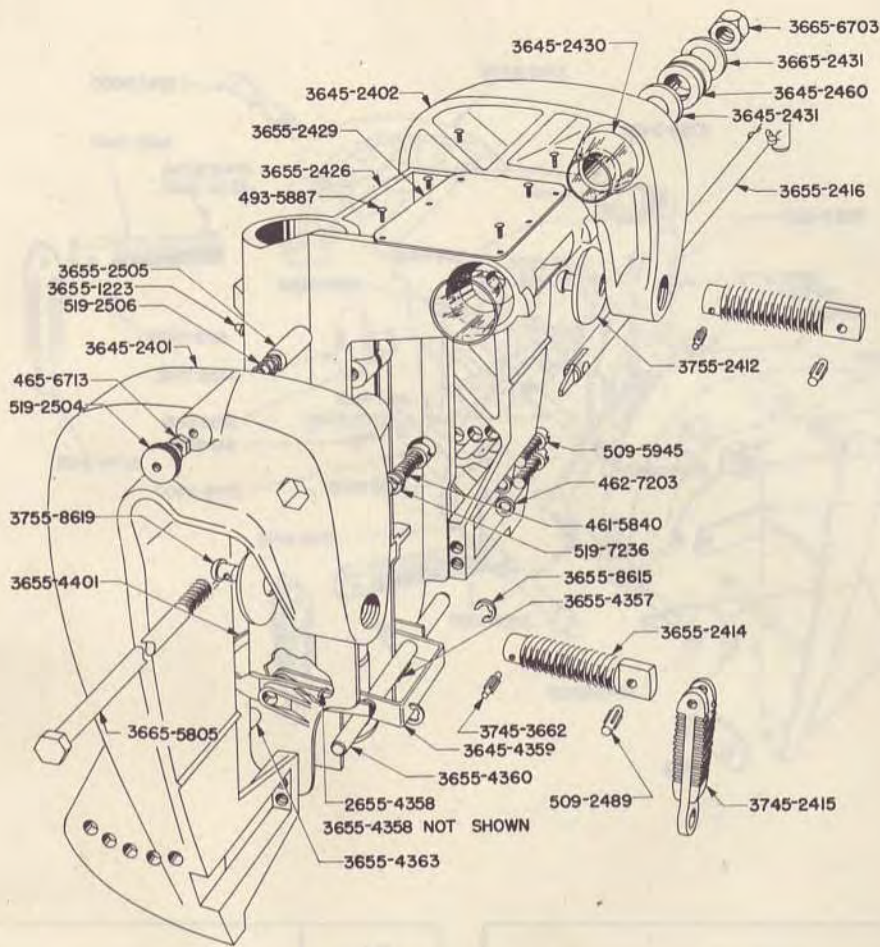
BOAT BRACKET 3365, 3765, 3865, AND 3965



Part Number	Description
3655-1223	Fitting
4911-1663	Washer
3745-2401	Boat Bracket—R.H.
3745-2402	Boat Bracket—L.H.
3745-2405	Pivot Shaft—Tilt Pin Support
3745-2407	Crosspiece—Boat Bracket
3755-2412	Pad—Clamp Screw
3655-2414	Clamp Screw
3745-2415	Handle—Clamp Screw
3745-2416	Tilt Pin Assembly
3755-2426	Pivot Bracket
3745-2430	Friction Washer—Boat Bracket Bolt
3765-2442	Tilt Stop Assembly
509-2489	Pin—Clamp Screw and Handle
3365-2497	Spacer
3765-2497	Spacer
519-2504	Knob

Part Number	Description
3925-2505	Plunger
519-2506	Spring
3745-3662	Pin
3755-4357	Spring—Reverse Lock
3755-4359	Yoke—Reverse Lock
3755-4360	Pin—Reverse Lock
3745-5805	Bolt—Boat Bracket
461-5841	Screw—Crosspiece
1765-5886	Screw
508-5931	Friction Screw—Pivot Bracket
3745-6703	Locknut—Boat Bracket Bolt
465-6713	Nut
3755-6718	Locknut—Friction Screw
3755-8615	"E" Ring
3755-8619	Clevis Pin

BOAT BRACKET-3665



Part Number	Description
3655-1223	Fitting—Grease
3645-2401	Bracket—R.
3645-2402	Bracket—L.
3755-2412	Pad—Clamp Screw
3655-2414	Clamp Screw
3745-2415	Clamp Screw—Handle
3655-2416	Tilt Pin Assy.
3655-2426	Pivot Bracket
3655-2429	Cover Plate
3645-2430	Cone—Tilt Friction
3645-2431	Washer—Brkt. Bolt
3665-2431	Washer—Brkt. Bolt
3645-2460	Spring—Tilt Pressure
509-2489	Groove Pin
519-2504	Knob—Tilt Stop
3655-2505	Plunger
519-2506	Spring
3745-3662	Pin—Retaining

Part Number	Description
3655-4357	Spring—Lock Return
2655-4358	Spring—Actuator R.
3655-4358	Spring—Actuator L.
3645-4359	Bracket—Rev. Lock
3655-4360	Pin—Rev. Lock
3655-4363	Pin—Rev. Lock Pivot
3655-4401	Lever—Rev. Lock
3665-5805	Bolt
461-5840	Screw—Friction
493-5887	Drive Screw
509-5945	Screw
3665-6703	Nut
465-6713	Nut—Tilt Stop
462-7203	Lockwasher
519-7236	Lockwasher
3655-8615	Retaining Ring
3755-8619	Clevis Pin