# OPERATING INSTRUCTIONS FOR ALL MODEL 31 GRAHAM COIL AND CONDENSER TESTERS

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## GENERAL INFORMATION

For all tests, unless instructed otherwise, set the bottom switch on tester in NORMAL (T-2) position and the Trigger Pack switch in the NORMAL (left position).

Models 31 SM, 31 SMX, and 31 SMXH - These units all have Trigger Packs permanently connected and it is energized every time the COIL TEST spring switch is operated.

All Model 31 Testers are all equipped with extra flux CD-3 Charging Packs. If a 1/8" spacer is placed between CD-3 Charging Pack lamination and charging coil core of unit on test, the CD-3 is then equal to the CD-2 Charging Pack. The CD-3 Charging Pack is energized only when the MAIN SWITCH and CD-3 Charging Pack switch are both turned "ON". **CD-3 Charging Pack is for intermittent duty and should be "ON" only when needed.**

Some capacitive discharge coil units (CD Units) require a smaller spark gap than "NORMAL" so a second "SPECIAL" spark gap is provided on 31 SMX & 31 SMXH testers to be available when needed.

For maximum SCR life, allow tester to "warm up" a few seconds before operation the spring switch on coil test. Also, do not hold spring switch "ON" for more than a few seconds at a time. A few seconds "ON" and a few seconds "OFF" is best .

The short lead and clip on the Trigger Pack is only a "ground" wire and is used ONLY when the RED and BLACK tester clips are not connected to the coil under test.

**CAUTION** - on metal benches, be sure coil is placed on a non-conductor such as a carton or book. Coil should be at least one inch from any metal object.

**CAUTION** - High voltage at test clips - do not connect them directly to diodes or rectifiers.

## SIMPLE TEST PROCEDURES FOR ALL MODEL 31 TESTERS

### CONDENSER TEST

A. Attach RED and BLACK test clips to condenser to be tested.

B. Set COIL INDEX knob to lowest position, full counter clockwise.

C. Turn tester MAIN SWITCH to "ON" Position.

D. If condenser is good, the continuity light will glow briefly while condenser is being charged. If continuity light does not flash replace the condenser.

E. If continuity light remains ON, condenser is leaking. Replace the condenser.

F. Turn tester "OFF-ON" switch to "OFF" position to discharge condenser before disconnecting test clips. If condenser is good, the continuity light will glow briefly while condenser is being discharged. If continuity light does not flash replace the condenser.

## COIL TEST

See Figures 1. - 3. on Page 3

A. Connect Test clips (RED and BLACK) to check continuity of coil secondary winding - usually BLACK clip to (-) or GND primary terminal [2.] and the RED clip to the secondary terminal (usually the tower terminal) [1.].

B. Turn tester MAIN SWITCH to "ON" position. Continuity light should glow. If no continunity is observed, repeat with BLACK clip connected to (+) [4.]if light doesn't glow through (-) connection. Discard coil if test fails on both (-) and (+) continuity tests. This is an indication of an "open" secondary.

C. Move RED test clip from secondary coil terminal [1.] to the remaining coil primary terminal (usually +) [4.]. Continuity light should glow. Discard coil if primary winding is "open".

D. Connect NORMAL spark gap on tester to coil secondary (usually the tower terminal) [1.].

E. Turn the spring switch to "COIL TESTS ON" position. Then rotate "COIL INDEX" setting to achieve a steady blue spark at the large gap. Note the COIL INDEX setting. Compare the setting to the specification found in Table 2, or compare it to a new coil using the same procedure. If COIL INDEX setting for coil on test is 5 or more Coil Index points higher than for a new coil, the coil may have shorted secondary windings and should be discarded. If COIL INDEX setting for coil on test is 10 or more Coil Index points lower than for new coil and still firing, the coil may have shorted primary windings and should be discarded

F. If spark output is satisfactory, check coil for any insulation breaks as described below under Insulation Checking.

## SECONDARY ATTACHED TO PRIMARY

Attach TEST CLIPS as shown in Figures 1 and 2, observing Polarity at 2. BLACK clip to Negative and RED clip to Positive. Ignore Polarity on Magneto Coils unless specified. Attach the CLIP at 1 to a screwdriver for reaching a contact in deep towers.

## INSULATION CHECKING

Clip TEST PROBE Lead to either convenient Coil Primary Terminal. If more convenient the TEST PROBE may be clipped directly to the most convenient RED or BLACK Test Clip. While operating the spring switch at "60" Coil Index setting or higher if indicated by step "E" "COIL INDEX" hold COIL TESTS spring switch knob "ON". Then using the TEST PROBE, explore all insulation on test unit for evidence of Secondary Leakage as shown in Figure 3..

Secondary Leakage will be shown by sparking and current travel to the TEST PROBE.

An insulation breakdown will be indicated by spark jumping directly from the TEST PROBE to coil or secondary wire insulation.

Secondary Leakage can be caused by moisture, carbon tracks, dirt and generally weak insulation.

If COIL is mounted on engine or vehicle, the test for Insulation Leakage can be carried right on through DISTRIBUTOR CAP and IGNITION CABLES to SPARK PLUGS.

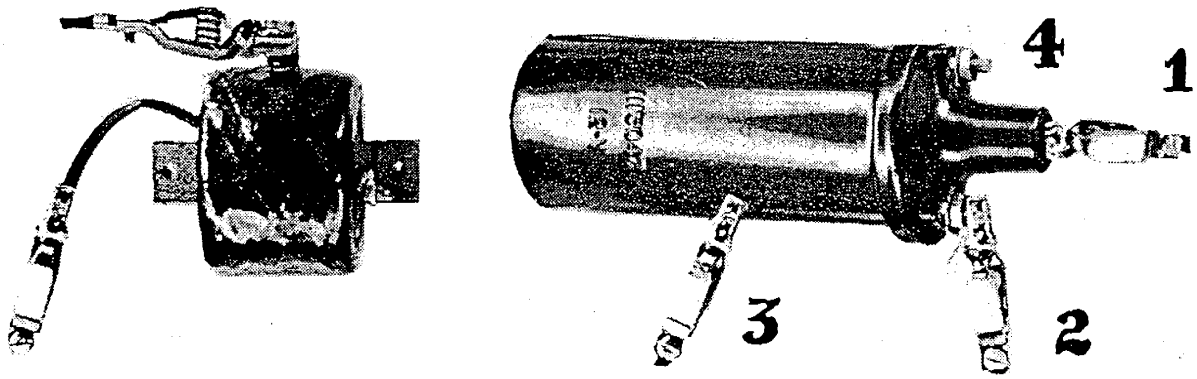



**Figure 1. Secondary Continuity**

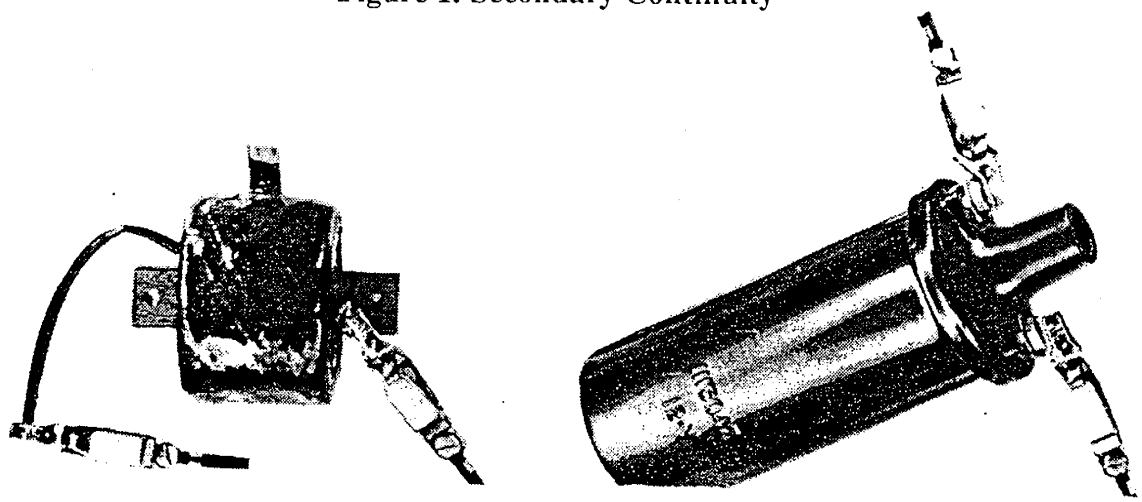


**Figure 2 Primary Continuity**

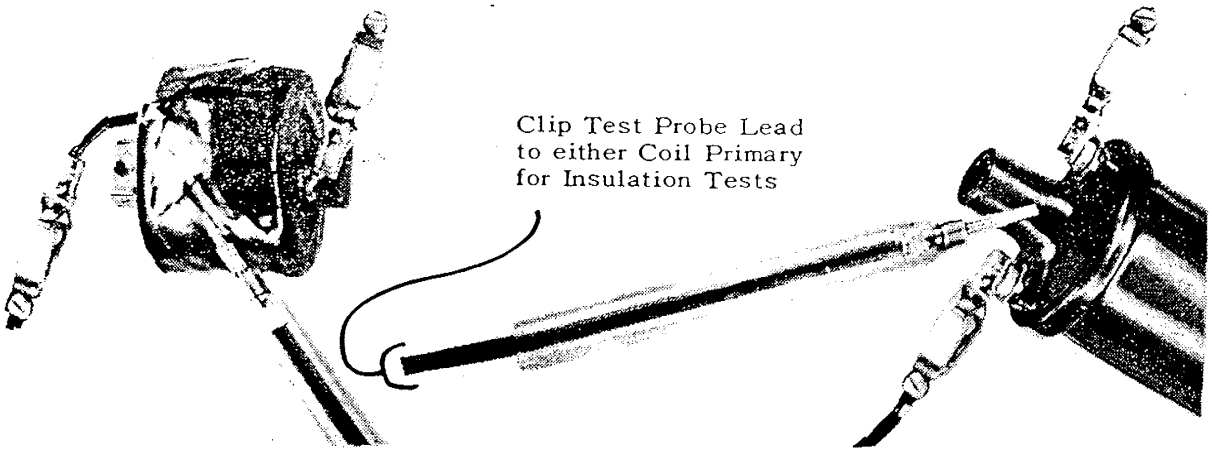



**Figure 3. Checking Insulation**

## CD-3 Charging Pack COIL TESTS

Keep CD-3 Charging Pack switch 'OFF" at all times, except when CD-3 Charging Pack is being used. It is for intermittent duty only and should be used no more than 5 minute at one time and no more than 15 minutes in any hour or it will over-heat and become inoperative. An internal thermal switch will protect the unit form being damaged but unit will not function until it cools off and automatically resets itself.

In operation the lamination end is placed squarely up to the generating coil core of the solid state unit under test. This continuously charges the capacitor in the solid state unit.

Once the capacitor in the solid state unit is being charged by the CD-3 Charging Pack. it still must be "triggered" before a steady spark can be obtained. The triggering can be accomplished by using the Trigger Pack as described below.

## TRIGGER PACK COIL TESTS

The Trigger Pack is energized when ever the tester is "ON" and the spring switch is turned to "COIL TESTS ON" position. Use "NORMAL T-2" position unless "SPECIAL T-1" is specified in test procedure for unit being tested.

On Model 31 SMXH units, the "NORMAL - HIGH TRIGGER" switch should be in "NORMAL" position except where "HIGH TRIGGER" is needed. At completion of test always return this switch to "NORMAL".

In the "HIGH TRIGGER' position , the BLACK and RED test lead circuit is "open" and no continuity tests can be made. All power goes into Trigger Pack in "HIGH TRIGGER' position.

Note: If using a Graham Tester (Model 31 & 31M) without a SPECIAL spark gap, a common spark plug set at .035" may be used instead when the test procedure requires a SPECIAL spark gap connection. Connect the metal body of the spark plug to the spark gap side with the wire going into the tester (ground side). This will connect the ground circuit. When testing connect the Test Probe to the spark plug wire terminal.

## TEST PROCEDURES FOR SPECIFIC IGNITION MODULES

**See Table 1 for Manufacture reference to TEST SETUP # ?.**

### TEST SETUP # 1

1. Connect tab on module to tab on transformer.
2. Connect "eyelet" lead on module to module lamination. ("Kill" lead is not connected to anything.)
3. Connect "eyelet" lead on transformer to module lamination.
4. Connect spark plug wire on transformer to "SPECIAL" spark gap on tester using the Test Probe.
5. Connect Trigger Pack ground lead to lamination on module.
6. Turn MAIN SWITCH of Tester to "ON" position and set "COIL INDEX" as specified in Table 1.
7. Turn "NORMAL - HIGH TRIGGER" switch to "NORMAL" position.
8. Turn "SPECIAL T-1 -NORMAL T-2" switch to "SPECIAL T-1" position.
9. Turn "ON" the CD-3 Charging Pack
10. Hold lamination of CD-3 Charging Pack firmly to lamination core at SMALL END of module.
11. Turn the spring switch to "COIL TESTS ON" position
12. Bring YELLOW end of Trigger Pack toward the "bump" at other end of module. Steady spark should occur.
13. Release spring switch
14. Turn "OFF" the CD-3 Charging Pack.
15. Turn the spring switch to "COIL TESTS ON" position
16. Bring YELLOW end of Trigger Pack to "bump." A single spark should occur indicating capacitor in module is holding charge. If no spark occurs, try more than once but if single spark cannot be obtained, CD module should be replaced.
17. Turn MAIN SWITCH of Tester "OFF".

NOTE: Transformer can be checked using standard coil test procedure.

### TEST SETUP # 2

1. Attach Trigger Pack ground lead to the lamination of ignition module on test.
2. Connect spark plug wire from unit on test to NORMAL spark gap on tester using Test Probe.
3. Turn MAIN SWITCH of Tester to "ON" position and set "COIL INDEX" as specified in Table 1.

4. Turn "NORMAL - HIGH TRIGGER" switch to "HIGH TRIGGER" position.
5. Turn "SPECIAL T-1 -NORMAL T-2" switch to "SPECIAL T-1" position.
6. Turn the spring switch to "COIL TESTS ON" position
7. Bring YELLOW end of Trigger Pack to good contact with ignition unit lamination at CENTER of round coil.
8. Steady spark should occur across spark gap if ignition unit is OK. Replace unit if no spark.
9. Release spring switch.
10. Turn MAIN SWITCH of Tester "OFF".

**TEST SETUP # 3**

1. Connect tab from module to one transformer primary. (Approx. 1/4" wide piece on either side of transformer coil. )
2. Ground "eyelet" lead on module to module core. ("Kill" lead is not connected to anything.)
3. Connect remaining primary tab to ground on module. (Module lamination is most convenient.)
4. Connect spark plug recess in transformer to NORMAL spark gap.
5. Connect Trigger Pack ground lead to lamination on module.
6. Turn MAIN SWITCH of Tester to "ON" position and set "COIL INDEX" as specified in Table 1.
7. Turn "NORMAL - HIGH TRIGGER" switch to "HIGH TRIGGER" position.
8. Turn "SPECIAL T-1 -NORMAL T-2" switch to "SPECIAL T-1" position.
9. Turn "ON" the D-3 Charging Pack.
10. Hold lamination of CD-3 Charging Pack firmly to lamination core at small end of module.
11. Turn the spring switch to "COIL TESTS ON" position
12. Bring YELLOW end of Trigger Pack to good contact with ignition unit lamination at CENTER of round coil. Steady spark should occur across spark gap if ignition unit is OK. Replace unit if no spark.
13. Release spring switch.
14. Turn "OFF" the CD-3 Charging Pack.
15. Turn the spring switch to "COIL TESTS ON" position.
16. Bring YELLOW end of Trigger Pack to "bump." A single spark should occur indicating capacitor in module is holding charge. If no spark occurs, try more than once but if single spark cannot be obtained, CD module should be replaced.
17. Release spring switch.
18. Transformer can be checked using standard coil test procedure if desired.
19. Turn "OFF" the CD-3 Charging Pack.
20. Turn MAIN SWITCH of Tester "OFF".

## TEST SETUP # 4

1 Attach tester Trigger Pack ground lead to the lamination of ignition module and place spade terminal lead on module between clip jaw and lamination. (Kill terminal on module is not connected to anything.)

2 Connect spark plug wire from unit on test to SPECIAL spark gap on tester using Test Probe.

3 Turn MAIN SWITCH of Tester to "ON" position and set "COIL INDEX" as specified in Table 1.

4 Turn "NORMAL - HIGH TRIGGER" switch to "HIGH TRIGGER" position.

5 Turn "SPECIAL T-1 -NORMAL T-2" switch to "SPECIAL T-1" position.

6 Turn the spring switch to "COIL TESTS ON" position.

7 Bring RED end of Trigger Pack to good contact with module lamination as specified in Table 1.

8 Steady spark should occur across spark gap if ignition unit is OK. Replace coil unit is test fails.

9 Release spring switch.

10 Turn MAIN SWITCH of Tester "OFF".

## TEST SETUP # 5

1. Connect BLACK test clip from Graham Tester BLACK test clip to BLACK "eyelet" lead of unit.

2. Connect spark plug wire from unit on test to NORMAL spark gap on tester using Test Probe.

3. Turn MAIN SWITCH of Tester to "ON" position and set "COIL INDEX" as specified in Table 1.

4. Turn "ON" the CD-3 Charging Pack.

5. Bring lamination of CD-3 Charging Pack up to the center lamination of CD unit on test - make sure of full contact on the two lamination.

6. Steady spark should occur. If no spark, discard unit on test.

7. Turn "OFF" the CD-3 Charging Pack .

8. Connect RED test clip to "tab" on module. (BLACK test clip still connected to the BLACK eyelet lead.)

9. Turn the spring switch to "COIL TESTS ON" position. There should be NO SPARK across spark gap. Discard module if there is spark across gap.

10. Release spring switch

11. Reverse RED & BLACK test leads and REPEAT STEPS 9 & 10, spark should occur. If no spark occurs, discard module.

12. Turn MAIN SWITCH of Tester "OFF".

## TEST SETUP # 6

1. Place CD unit to be tested on bench with base plate down. (If bench is metal, place insulation or carton between bench and CD unit.)
2. Connect BLACK clip on Graham Tester to ground on base plate of CD unit on test.
3. Connect spark plug wire from unit on test to NORMAL spark gap on tester using Test Probe.
4. Turn MAIN SWITCH of Tester to "ON" position and set "COIL INDEX" as specified in Table 1.
5. Turn "ON" the CD-3 Charging Pack.
6. Bring lamination end into good contact with the middle lamination at the outer edge of the Femsatronic CD unit on test.
7. Turn the spring switch to "COIL TESTS ON" position.
8. Bring RED end of Trigger Pack toward the RIGHT HAND lamination on CD unit next to the one the CD-3 Charging Pack is touching .
9. Spark should occur across spark gap if CD unit is OK.
10. If spark occurs across spark gap, draw Trigger Pack away until spark stops.
11. Release spring switch
12. Turn "OFF" the CD-3 Charging Pack.
13. Turn the spring switch to "COIL TESTS ON" position.
14. Bring RED end of Trigger Pack back up to the RIGHT HAND trigger lamination and a single spark should occur indicating capacitor in CD unit is holding charge. If no spark, try more than once but if single spark cannot be obtained, CD unit should be replaced.
15. Release spring switch
16. Turn MAIN SWITCH of Tester "OFF".

## TEST SETUP # 7

1. Place CD unit to be tested on bench with part number on top.
2. Connect YELLOW lead from CD unit to YELLOW coil lead.
3. Connect BLACK lead of coil to ground of SEM charging unit and to tester ground clip.
4. Connect spark plug wire from unit on test to SPECIAL spark gap on tester using Test Probe.
5. Turn "SPECIAL T-1 -NORMAL T-2" switch to "SPECIAL T-1" position.
6. Turn MAIN SWITCH of Tester to "ON" position and set "COIL INDEX" as specified in Table 1.
7. Turn "ON" the CD-3 Charging Pack.
8. Bring the lamination end into good contact with LEFT HAND end of CD unit charging coil lamination.

9. Turn the spring switch to "COIL TESTS ON" position.
10. Bring RED end of trigger toward lamination at RIGHT HAND end.
11. Steady spark should occur across small spark gap if entire assembly is OK.
12. If spark occurs across spark gap, draw Trigger Pack away until spark stops.
13. Release spring switch
14. Turn "OFF" the CD-3 Charging Pack.
15. Turn the spring switch to "COIL TESTS ON" position.
16. Bring RED end of Trigger Pack back up to RIGHT HAND trigger lamination as before and a single spark should occur, indicating capacitor in CD unit is holding charge. If no spark, try more than once but if single spark cannot be obtained, CD unit should be replaced.
17. Turn MAIN SWITCH of Tester "OFF".

## TEST SETUP # 8

1. Connect YELLOW lead of pulse transformer to YELLOW lead of charging coil.
2. Connect BLACK lead of pulse transformer to ground of charging coil. ("Kill" lead on charging coil is not connected to anything.)
3. Connect spark plug wire from unit on test to SPECIAL spark gap on tester using Test Probe.
4. Place unit with wires on top side; place Graham CD-3 Charging Pack up to the <u>left</u> lamination. (A small block about 1/2 inch thick under the CD unit on test will bring it to about the correct height - wood, paper, plastic, not metal.)
5. Turn "SPECIAL T-1 -NORMAL T-2" switch to "SPECIAL T-1" position.
6. Turn MAIN SWITCH of Tester to "ON" position and set "COIL INDEX" as specified in Table 1.
7. Turn "ON" the CD-3 Charging Pack.
8. Turn the spring switch to "COIL TESTS ON" position.
9. Bring YELLOW end of Trigger Pack up to lamination at RIGHT HAND end of CD unit. If CD system is OK a steady spark should occur across the small spark gap.
10. If spark occurs across spark gap, draw Trigger Pack away until spark stops.
11. Release spring switch
12. Turn "OFF" the CD-3 Charging Pack.
13. Turn the spring switch to "COIL TESTS ON" position.
14. Bring YELLOW end of Trigger Pack back up to RIGHT HAND trigger lamination and a single spark should occur, indicating capacitor in CD unit is holding charge. If no spark, try more than once but if single spark cannot be obtained, CD unit should be replaced.
15. If steady spark does not occur at step 5, check CE 114/3 pulse transformer as per coil test procedures.

16. Check secondary continuity between spark plug wire and either BLACK or YELLOW lead.
17. Check primary continuity between BLACK lead and YELLOW lead on the pulse transformer.
19. If pulse transformer checks good, replace CE 114/3 CD unit.
21. Turn MAIN SWITCH of Tester "OFF".

## TEST SETUP # 9

1. Place CD unit to be tested on bench with base plate down. (If bench is metal, place book or carton between bench and CD unit.)
2. Connect Trigger Pack ground wire to base plate.
3. Connect spark plug wire from unit on test to SPECIAL spark gap on tester using Test Probe.
4. Turn "SPECIAL T-1 -NORMAL T-2" switch to "SPECIAL T-1" position.
5. Turn MAIN SWITCH of Tester to "ON" position and set "COIL INDEX" as specified in Table 1.
6. Turn the spring switch to "COIL TESTS ON" position.
7. Bring RED end of Trigger Pack toward RIGHT HAND end of lamination at RIGHT HAND end of ignition coil on CD unit assembly.
8. Steady spark should occur across spark gap if CD unit is OK.
9. If spark occurs across spark gap, draw Trigger Pack away until spark stops.
10. Release spring switch
12. Turn the spring switch to "COIL TESTS ON" position.
13. Bring Trigger Pack back up to lamination as before. A single spark should occur, indicating capacitor of CD unit is holding charge. If no spark, try more than once but if single spark cannot be obtained, CD unit should be replaced.
14. Release spring switch
16. Turn MAIN SWITCH of Tester "OFF".

## TEST SETUP # 10

1. Place CD unit to be tested on bench with base plate down. (If bench is metal, place book or carton between bench and CD unit.
2. Connect Trigger Pack ground wire to base plate.
3. Connect spark plug wire from unit on test to SPECIAL spark gap on tester using Test Probe.
4. Turn "SPECIAL T-1 -NORMAL T-2" switch to "SPECIAL T-1" position.
5. Turn MAIN SWITCH of Tester to "ON" position and set "COIL INDEX" as specified in Table 1.
6. Turn "ON" the CD-3 Charging Pack

7. Bring lamination to good contact to the RIGHT HAND lamination of the two on the CD unit that are close together. (There is a slight bump above the correct lamination.)
8. Turn the spring switch to "COIL TESTS ON" position.
9. Bring RED end of Trigger Pack up to lamination immediately to the RIGHT (wording "SEM' just above this lamination) and steady spark should occur across spark gap.
10. Draw Trigger Pack away and spark should stop.
11. Release spring switch
12. Turn "OFF" CD-3 Charging Pack.
13. Turn the spring switch to "COIL TESTS ON" position.
14. Bring Trigger Pack back up to lamination as before. A single spark should occur, indicating capacitor of CD unit is holding charge. If single spark cannot be obtained after several tries, CD unit should be replaced.
15. Turn MAIN SWITCH of Tester "OFF".

**TEST SETUP # 11**

1. Place the CD unit to be tested on bench with base plate down. (If bench is metal, place book or carton between bench and CD unit.)
2. Connect the Trigger Pack ground clip to "ground" of assembly on test.
3. Connect YELLOW lead of coil to YELLOW lead of CD unit.
4. Connect coil lamination (ground) to good ground of CD unit. ("Kill" lead on CD unit is not connected to anything.
5. Connect spark plug wire from unit on test to NORMAL spark gap on tester using Test Probe.
6. Turn "SPECIAL T-1 -NORMAL T-2" switch to "SPECIAL T-1" position.
7. Turn MAIN SWITCH of Tester to "ON" position and set "COIL INDEX" as specified in Table 1.
8. Turn "ON" the CD-3 Charging Pack.
9. Bring Lamination end of CD-3 Charging Pack into good contact with test lamination - (see table)
10. Turn the spring switch to "COIL TESTS ON" position.
11. Bring RED end of Trigger Pack toward the RIGHT HAND lamination on CD unit next to the one the CD-3 Charging Pack is touching.
12. Steady spark should occur across spark gap if CD unit assembly is OK.
13. If spark occurs, draw Trigger Pack away until spark stops.
14. Release spring switch
15. Turn "OFF" the CD-3 Charging Pack.
16. Turn the spring switch to "COIL TESTS ON" position.

17. Bring RED end of Trigger Pack back up to the RIGHT HAND trigger lamination and a single spark should occur indicating capacitor in CD unit is holding charge. If no spark, try more than once but if single spark cannot be obtained, CD unit should be replaced.
18. Turn MAIN SWITCH of Tester "OFF".

### TEST SETUP # 12

1. Connect YELLOW lead of coil to YELLOW lead of CD unit.
2. Connect BLACK coil lead to good ground on CD unit. ("KILL" lead on CD unit is not connected to anything.
3. Connect Trigger Pack ground lead to ground of CD unit.
4. Connect spark plug wire from unit on test to SPECIAL spark gap on tester using Test Probe.
5. Turn MAIN SWITCH of Tester to "ON" position.
6. Turn "ON" the CD-3 Charging Pack
7. Bring Lamination end of CD-3 Charging Pack into good contact with test lamination - (see table)
8. Steady spark should occur across spark gap if CD unit assembly is OK.
9. Turn "OFF" CD-3 Charging Pack.
10. Turn MAIN SWITCH of Tester "OFF".

### TEST SETUP # 13

1. Place CD unit to be tested on bench with part number on top.
2. Connect YELLOW lead from CD unit to YELLOW coil lead.
3. Connect BLACK lead of coil to ground of SEM charging unit and to tester BLACK ground clip.
4. Connect spark plug wire from unit on test to SPECIAL spark gap on tester using Test Probe.
5. Turn "SPECIAL T-1 - NORMAL T-2" switch to "SPECIAL T-1" position.
6. Turn MAIN SWITCH of Tester to "ON" position and set "COIL INDEX" as specified in Table 1.
7. Turn "ON" the CD-3 Charging Pack. Then bring lamination end into good contact
8. Turn the spring switch to "COIL TESTS ON" position.
9. Bring RED end of trigger toward lamination at RIGHT.
10. Steady spark should occur across small spark gap if entire CD unit is OK.
11. If steady spark occurs, draw Trigger Pack away until spark stops.
12. Release spring switch
13. Turn "OFF" the CD-3 Charging Pack.

14. Turn the spring switch to "COIL TESTS ON" position.
15. Bring RED end of Trigger Pack back up to lamination as before and a single spark should occur, indication capacitor in CD unit is holding charge. If no spark, try more than once but if single spark cannot be obtained, CD unit should be replaced.
16. Release spring switch
17. Turn MAIN SWITCH of Tester "OFF".

## TEST SETUP # 14

1. Connect YELLOW lead of CD unit to YELLOW coil lead.
2. Connect BLACK lead of coil to ground of CD unit. ("Kill" lead is not connected to anything.)
3. Connect spark plug wire from unit on test to NORMAL spark gap on tester using Test Probe.
4. Turn "SPECIAL T-1 -NORMAL T-2" switch to "SPECIAL T-1" position.
5. Turn MAIN SWITCH of Tester to "ON" position and set "COIL INDEX" as specified in Table 1.
6. Place CD unit with wires on top side and place Graham CD-3 Charging Pack up to the LEFT lamination. (A small block about 1/2" thick under the CD unit on test will bring it to about the correct height - wood, paper, plastic, **not metal**.)
7. Turn "ON" the CD-3 Charging Pack.
8. Turn the spring switch to "COIL TESTS ON" position.
9. Bring YELLOW end of Trigger Pack up to the lamination at RIGHT HAND end of CD module. A steady spark should occur across spark gap.
10. If spark occurs across spark gap, draw Trigger Pack away until spark stops.
11. Release spring switch
12. Turn "OFF" the CD-3 Charging Pack.
13. Turn the spring switch to "COIL TESTS ON" position.
14. Bring YELLOW end of Trigger Pack up to RIGHT HAND trigger lamination and a single spark should occur, indication capacitor in CD unit is holding charge. If no spark, try more than once but if a single spark cannot be obtained, CD unit should be replaced.
15. If steady spark does not occur at step 5, check coil per coil test procedure on page 1. If coil tests good, replace CD module.
16. Release spring switch
17. Turn MAIN SWITCH of Tester "OFF".

## TEST SETUP # 15

1. Connect BLACK test clip from Graham Tester to "Ground" of CD Pack under test.
2. Connect switch terminal blade of Lawnboy unit to ground using a jumper lead.

3. Connect spark plug wire from unit on test to NORMAL spark gap on tester using Test Probe.
4. Turn MAIN SWITCH of Tester to "ON" position.
5. Turn "ON" the CD-3 Charging Pack.
6. Place a 1/8" to 3/16" rubber, paper, or plastic, **not metal** spacer between the CD-3 Charging Pack and the small lamination of the unit under test. Hold the CD-3 Charging Pack in place.
7. Steady spark should occur the spark gap of Tester. If it does not, coil should be discarded.*
8. Turn "OFF" the CD-3 Charging Pack.
9. Turn MAIN SWITCH of Tester "OFF".

* A high resistance contact to ground or a bad diode in CD unit may cause ignition failure in spite of good spark on this test.

## TEST SETUP # 16

1. Connect test clips RED and BLACK, one to spark plug wire and one to "Kill" lead. Continuity light should be lite one way and not light with leads reversed A flash up to one per second is the same as no light. If continuity light is lite both ways, unit under test should be discarded.
2. Connect BLACK test clip from Graham Tester to "Ground" of unit under test.
3. Connect spark plug wire from unit on test to NORMAL spark gap on tester using Test Probe.
4. Turn MAIN SWITCH of Tester to "ON" position.
5. Turn "ON" the CD-3 Charging Pack.
6. Place a 1/8" to 3/16" rubber, paper, or plastic, not metal spacer between the CD-3 Charging Pack and the small lamination that is farthest from the round end of the unit under test. Hold the CD-3 Charging Pack in place
7. While the CD pack is firing the spark gap, attach a test probe to ground and explore for secondary leakage where secondary wire inters CD pack, etc.
8. If CD Pack under test does not fire tester gap, it should be discarded.
9. Turn "OFF" CD-3 Charging Pack.
10. Turn MAIN SWITCH of Tester "OFF".

## TEST SETUP # 17

1. Connect BLACK test clip as specified in Table 1.
2. Connect spark plug wire from unit on test to NORMAL spark gap on tester using Test Probe.
3. Turn MAIN SWITCH of Tester to "ON".
4. Turn "ON" the CD-3 Charging Pack.

5. Bring lamination of CD-3 Charging Pack up to CENTER lamination of CD unit. Be sure there is full contact.
6. If CD unit does not fire tester spark gap, it should be discarded.
7. Turn "OFF" CD-3 Charging Pack.
8. Turn MAIN SWITCH of Tester "OFF".

## TEST SETUP # 18

1. Attach BLACK test clip to ignition unit terminal.
2. Attach RED test clip to ignition unit ground.
3. Turn MAIN SWITCH of Tester to "ON" position and set "COIL INDEX" as specified in Table 1.
4. Continuity light should glow and become dim as capacitor in ignition unit is charged. Light may flash occasionally, but it is better if it goes out completely. Discard ignition unit if light remains bright.
5. Move BLACK test clip to "ground" of ignition unit on test.
6. Connect RED tester clip to secondary of ignition unit. (Use screw driver or test probe to make contact conveniently.) Tester light should glow to indicate there is continuity in secondary winding. If secondary is "open" discard ignition unit.
7. Move RED tester clip to ignition unit terminal. Tester light should glow indicating continuity in primary. If no continuity in primary, discard ignition unit.
8. Connect spark plug wire from unit on test to NORMAL spark gap on tester using Test Probe.
9. Turn the spring switch to "COIL TESTS ON" position.
10. Bring Trigger Pack RED end toward "trigger" magnet on ignition unit. Spark should occur across spark gap. When Trigger Pack is pulled away, firing should stop.
11. Release spring switch
12. Disconnect RED clip or clips from ignition unit, leaving the BLACK test clip still connected to "ground."
13. Turn the spring switch to "COIL TESTS ON" position.
14. Bring Trigger Pack RED end back to trigger magnet on ignition unit as before. A single spark should jump the spark gap indication the capacitor in the ignition unit is holding charge. If no spark, discard ignition unit but try more than once by reconnecting leads to ignition unit.
15. Release spring switch
16. Turn MAIN SWITCH of Tester "OFF".

## TEST SETUP # 19

1. Assemble Timer Base and Sensor Assembly to Power Pack Assembly, using the OMC connectors.

2. Connect plain orange lead from Coil Assembly to small connector of power Pack Assembly.
3. Connect the striped lead from Ignition Coil Assembly to ground wire of Roper Pack Assembly.
4. Connect one connector of stator to matching connector or Power Pack Assembly.
5. Connect lead from ground on Stator to Power Pack ground wire.
6. Connect RED test lead from tester to ground lead wire of Power Pack Assembly.
7. Connect spark plug wire from unit on test to NORMAL spark gap on tester using Test Probe.
8. Turn "SPECIAL T-1 -NORMAL T-2" switch to "SPECIAL T-1" position.
9. Turn MAIN SWITCH of Tester to "ON" position and set "COIL INDEX" as specified in Table 1.
10. Place CD-3 Charging Pack lamination up to lamination of Charging Coil on stator.
11. Turn "ON" the CD-3 Charging Pack.
12. Turn the spring switch to "COIL TESTS ON" position.
13. Bring RED end of Trigger Pack up to the Timer Base and Sensor Assembly. When RED end is near the correct sensor coil, there should be a steady spark across the spark gap on Graham Tester.
14. After the Correct Sensor Coil has been located, the size of the spark gap can be increased to approximately 3/8" to 1/2", if coil is OK and system is normal. To do this, it is suggested the high voltage test probe be taken from the spark gap and attached to ground. Then, as the coil is being fired, draw the high voltage test probe away from coil secondary wire to a maximum of 1/2" and spark should remain steady. (Be sure high voltage test probe remains securely attached to ground.) Be sure laminations of CD-3 Charging Pack and Charging Coil are making full firm contact.
15. With coil firing, remove Trigger Pack.
16. Release spring switch
17. Turn CD-3 Charging Pack "OFF".
18. Turn the spring switch to "COIL TESTS ON" position.
19. Bring RED end of Trigger Pack back up to sensor coil. There should be a single spark indicating the capacitor in the Power Pack Assembly is holding charge
20. Release spring switch
21. Turn MAIN SWITCH of Tester "OFF".

**Note: Refer to Manufacturer's Service Manual for applicable part numbers.**

## TEST SETUP # 20

(Read the General Instructions Before Proceeding)

1. The coil can be tested conventionally.

2. The Ignition pack can be tested on the saw by removing the coil or by using a coil from stock as follows:
3. Connect spark plug wire from unit on test to NORMAL spark gap on tester using Test Probe.
4. Ground the core of the coil to the engine and ground the BLACK test lead to the engine (when testing Ignition in the saw).
5. Connect the tab of the coil to the wire going to the Ignition pack (be sure the stop switch is in the run position).
6. Turn MAIN SWITCH of Tester to "ON".
7. Touch the core of the CD-3 Charging Pack to the core of the coil.
8. Turn "ON" the CD-3 Charging Pack.
9. Spark should occur across the spark gap.
10. Let the spark jump for 1 minute to detect any breakdown after warm-up.
11. Turn "OFF" the CD-3 Charging Pack.
12. Turn MAIN SWITCH of Tester "OFF".

**TEST SETUP # 21**

(Read the General Instructions Before Proceeding)

1. The coil can be tested conventionally.
2. The Thyristor must be removed from the saw for testing.
3. Lay the Thyristor on the table with the wide tab against the table. The angled core to the right.
4. Connect spark plug wire from unit on test to SPECIAL spark gap on tester using Test Probe.
5. Ground the core of the CD-3 Charging Pack to the left core of the Thyristor (the flat one).
6. Connect the tab of the coil to the remaining tab of the Thyristor.
7. Turn "SPECIAL T-1 -NORMAL T-2" switch to "SPECIAL T-1" position.
8. Turn MAIN SWITCH of Tester to "ON" position and set "COIL INDEX" as specified in Table 1.
9. Touch the core of the CD-3 Charging Pack to the left core of the Thyristor (the flat one).
10. Turn "ON" the CD-3 Charging Pack.
11. Bring the Trigger Pack to the RIGHT CORE of the Thyristor (the angled one).
12. Turn the spring switch to "COIL TESTS ON" position.
13. Spark should occur across the spark gap.
14. Let the spark jump for 1 minute to detect any breakdown after warm-up.
15. Release spring switch

## TEST SETUP # 25

1. Attach BLACK test lead to ignition unit terminal.
2. Attach RED test lead to ignition unit ground.
3. Turn tester "ON" - - - Continuity light should glow and become dim as capacitor in ignition unit is charged, If continuity light remains bright, discard ignition unit
4. NOW PROCEED WITH REST OF TESTS
5. Attach BLACK test clip from Model 31 Tester to "ground" on Ignition Unit to be tested. Turn Tester AC. switch to "ON" position.
6. Connect RED Tester clip to secondary of ignition unit. (Use screw driver or test probe to make contact conveniently.) Tester light should glow to indicate there is continuity in secondary winding.
7. Move RED tester clip to ignition unit terminal. Tester light should glow indication continuity in Primary.
8. Connect spark plug wire from unit on test to NORMAL spark gap on tester using Test Probe.
6. Turn MAIN SWITCH of Tester to "ON" position and set "COIL INDEX" as specified in Table 1.
10. Turn the spring switch to "COIL TESTS ON" position.
11. Bring "Trigger Pack" RED end close to "trigger" magnet on ignition unit. A low frequency spark will occur, When Trigger Pack is pulled away, firing should stop.
12. With Trigger Pack away from ignition unit, release spring switch.
13. Disconnect both RED clips from unit but let them stay attached together without touching anything else. (Black Clips both remain on ground of ignition unit.)
14. Turn the spring switch to "COIL TESTS ON" position.
15. Bring "Trigger Pack" RED end to trigger magnet on ignition unit as before. A single spark should jump the spark gap. Indicating the capacitor in the ignition unit is holding charge.
17. Turn MAIN SWITCH of Tester "OFF".

## TEST SETUP # 26

1. Place test clips between terminal "B" and Ground - - should glow both ways - solid state Unit only.
2. Place test clips between terminal "A" and Ground - - should glow continuously one way (red on term "A") and then glow briefly the other way (black on term" A") while capacitor is being charged. Discard solid state unit if any of the tests above fail.
3. If OK, proceed with test below. Steps 4 - 13
4. Ground ignition coil to solid state ignition unit.
5. Attach ignition coil terminal or lead wire to lower terminal "A" of solid state ignition unit.

## TEST SETUP # 25

1. Attach BLACK test lead to ignition unit terminal.
2. Attach RED test lead to ignition unit ground.
3. Turn tester "ON" - - - Continuity light should glow and become dim as capacitor in ignition unit is charged, If continuity light remains bright, discard ignition unit
4. NOW PROCEED WITH REST OF TESTS
5. Attach BLACK test clip from Model 31 Tester to "ground" on Ignition Unit to be tested. Turn Tester AC. switch to "ON" position.
6. Connect RED Tester clip to secondary of ignition unit. (Use screw driver or test probe to make contact conveniently.) Tester light should glow to indicate there is continuity in secondary winding.
7. Move RED tester clip to ignition unit terminal. Tester light should glow indication continuity in Primary.
8. Connect spark plug wire from unit on test to NORMAL spark gap on tester using Test Probe.
6. Turn MAIN SWITCH of Tester to "ON" position and set "COIL INDEX" as specified in Table 1.
10. Turn the spring switch to "COIL TESTS ON" position.
11. Bring "Trigger Pack" RED end close to "trigger" magnet on ignition unit. A low frequency spark will occur, When Trigger Pack is pulled away, firing should stop.
12. With Trigger Pack away from ignition unit, release spring switch.
13. Disconnect both RED clips from unit but let them stay attached together without touching anything else. (Black Clips both remain on ground of ignition unit.)
14. Turn the spring switch to "COIL TESTS ON" position.
15. Bring "Trigger Pack" RED end to trigger magnet on ignition unit as before. A single spark should jump the spark gap. Indicating the capacitor in the ignition unit is holding charge.
17. Turn MAIN SWITCH of Tester "OFF".

## TEST SETUP # 26

1. Place test clips between terminal "B" and Ground - - should glow both ways - solid state Unit only.
2. Place test clips between terminal "A" and Ground - - should glow continuously one way (red on term "A") and then glow briefly the other way (black on term" A") while capacitor is being charged. Discard solid state unit if any of the tests above fail.
3. If OK, proceed with test below. Steps 4 - 13
4. Ground ignition coil to solid state ignition unit.
5. Attach ignition coil terminal or lead wire to lower terminal "A" of solid state ignition unit.

6. Connect spark plug wire from unit on test to NORMAL spark gap on tester using Test Probe.
7. Connect test clip of Trigger Pack to ground on solid state ignition unit.
6. Turn MAIN SWITCH of Tester to "ON" position and set "COIL INDEX" as specified in Table 1.
9. Turn "ON" the CD-3 Charging Pack.
10. Place lamination of CD-3 Charging Pack squarely up to the generating coil core of the solid state unit under test. (Magnetism will hold them together as long as Charging Pack is plugged in or turned "ON".
11. Turn the spring switch to "COIL TESTS ON" position.
12. Bring Trigger Pack YELLOW end toward trigger pins on solid state unit. A good steady spark should occur. Draw Trigger Pack away and spark should stop.
13. Release spring switch
14. Turn "OFF" the CD-3 Charging Pack.
15. Turn the spring switch to "COIL TESTS ON" position.
16. Bring YELLOW end of Trigger Pack back to one of the solid state unit trigger pins once again. A single spark should occur, indicating capacitor on solid state unit on test, is holding charge.
10. Release spring switch
18. Turn MAIN SWITCH of Tester "OFF".

**TEST SETUP # 27**

1. Attach spade receptacle wire of Tecumseh charging coil to receptacle on Tecumseh ignition unit. (NOTE: Lead with "eyelet" on 610896 charging coil assembly is "kill" lead and is not connected to anything. )
2. With jumper lead, connect ignition unit to charge coil unit.
3. Connect spark plug wire from unit on test to NORMAL spark gap on tester using Test Probe.
4. Turn tester "ON-OFF" switch to "ON" position.
5. Turn "ON" the CD-3 Charging Pack. Bring lamination into good, square full contact with lamination in CENTER of unit on test.
6. Turn the spring switch to "COIL TESTS ON" position.
7. Bring RED end of Trigger Pack toward the trigger magnet on ignition unit on test.
8. If no spark is obtained, 610855 ignition unit can be tested separately using test procedure for Tecumseh 610748
9. Release spring switch
10. Turn "OFF" the CD-3 Charging Pack.
11. Turn MAIN SWITCH of Tester "OFF".

Above procedure is also applicable for Tecumseh 610910 with 610855 ignition unit assembly the insulated lead on 610910 is for generator output and is not connected to anything except for making continuity tests, if desired.

If spark is erratic, it may be clue to shorted diode, An alternate method is to use Graham CD-3 Charging Pack to energize charging coil. With good lamination contact, a minimum of 20 volts DC. should be obtained between ground and spade terminal leads if diode and charge coil are OK. (positive to ground for voltage readings.)

If AC. voltmeter is available, 610910 generator circuit, should check at 50-55 volts AC. between insulated terminal and ground when charge coil is energized by Graham CD-2.

## TEST SETUP # 28

(TECUMSEH 610958 - SEE NOTE AT BOTTOM TO THIS PAGE)

1. Ground transformer to solid state unit with jumper lead.
2. Ground tester to these units using RED test clip.
3. Attach solid state unit transformer lead to transformer.
4. Connect spark plug wire from unit on test to NORMAL spark gap on tester using Test Probe.
6. Turn MAIN SWITCH of Tester to "ON" position and set "COIL INDEX" as specified in Table 1.
6. Turn "ON" the CD-3 Charging Pack. Bring lamination end into good contact with low speed generating coil lamination on solid state unit.
8. Turn the spring switch to "COIL TESTS ON" position.
9. Bring YELLOW end of Trigger Pack up to OUTSIDE MIDDLE of trigger module. Spark should be steady across spark gap.
10. Release spring switch
11. Attach Test Probe to "SPECIAL" spark gap on tester or if tester does not have second spark gap, substitute a spark plug with gap of .035 for the gap on the Graham tester. Proceed to check the high speed winding in same manner. (A smaller gap of .030" to .060" is required for checking the high speed winding.)***
12. 9a. See step "1" above. Attach test prod clip to top of spark plug where the plug wire is attached.
13. 9b. See step" 3" above. Ground the threaded portion of spark plug to transformer base (or solid state Magneto base) using jumper wire with clip on each end.
14. Check other half of 610873 in same manner - steps" 1" through "9b".
15. Turn "OFF" the CD-3 Charging Pack.
16. Turn MAIN SWITCH of Tester "OFF".

* See Page 42 of January 1977 Graham Specification Book for test data on Transformer number 610758A in case you wish to test this part separately.

Tecumseh 610958 - There are two windings and trigger module on this number. They are tested with 610785A Transformer using steps "1" through "8" above for each winding and module set plus step 11.

## TEST SETUP # 29

1. Check for secondary continuity - ground to secondary.
2. Connect spark plug wire from unit on test to NORMAL spark gap on tester using Test Probe.
3. Attach BLACK clip from tester to solid state unit on test.
4. Turn MAIN SWITCH of Tester to "ON" position and set "COIL INDEX" as specified in Table 1.
5. Turn "ON" the CD-3 Charging Pack.
6. Bring CD-3 Charging Pack lamination up to lamination - square end - of solid state unit on test. (Be sure laminations make good contact.).
7. Turn the spring switch to "COIL TESTS ON" position.
8. Bring YELLOW end of Trigger Pack up to lamination - round end - of solid state unit on test.
9. Coil should fire steady spark across spark gap on tester. If this does not occur, replace solid state unit complete or proceed with optional further tests in event separate solid state components are available, as follows:
10. Release spring switch
    - A. Remove ground screw on solid state unit.
    - B. Slide both sleeve covers back so bare wire is exposed.
    - C. Cut BLACK wire, leaving enough bare wire for re soldering
    - D. Attach one test clip to the wire not cut in two.
    - E. Attach other test clip to the ignition coil - round end - side of cut off wire.
    - F. Check to be sure secondary wire is still attached to spark gap.
    - G. Set Coil Index at "60".
    - H. Turn "ON" the CD-3 Charging Pack.
    - I. Turn spring switch to "COIL TESTS ON".
    - J. Steady spark should occur across spark gap.
    - K. Release spring switch
    - L. If steady spark occurs, remove secondary coil lead from spark gap and make usual coil insulation tests with probe attached to either RED or BLACK test clip.
    - M. If coil tests OK, replace solid state unit - square end.
    - N. If coil tests bad, replace solid state unit - round end - per manufacturer's instructions.
11. Turn "OFF" the CD-3 Charging Pack.

12. Turn MAIN SWITCH of Tester "OFF".

## TEST SETUP # 30

(CAUTION - These Units Contain Diodes)

1. Connect BLACK test clip to insulated spade connector.
2. Connect RED test clip to coil lead with no insulation.
3. Turn the MAIN SWITCH to the "ON" position.
4. Continuity light should light.
5. Reverse connections in steps 3 and 4 - light should not light. If steps 5 and 6 do not agree, diode is bad.
6. CONTINUITY CHECK
7. Perform steps 1 and 2 above.
8. Connect Black lead to stator frame.
9. Connect RED lead to eyelet terminal.
10. Continuity light should light, if not, replace stator assembly.
11. Turn MAIN SWITCH of Tester "OFF".

## TEST SETUP # 31

1. Connect spark plug wire from unit on test to NORMAL spark gap on tester using Test Probe.
2. Connect BLACK test clip of Graham Tester to BLACK test clip of Graham T-2 Trigger Pack.
3. Connect RED test clips of tester and Trigger Pack to ground on X17920 Stator Assembly to be tested. (ON "SM" Models only the Trigger Pack ground clip need be connected.)
4. Turn MAIN SWITCH of Tester to "ON" position and set "COIL INDEX" as specified in Table 1.
5. Turn "ON" the CD-3 Charging Pack. Place lamination end of CD-3 Charging Pack up to generating coil core on stator plate under test.
6. Turn the spring switch to "COIL TESTS ON" position.
7. Bring the YELLOW end of Trigger Pack toward one of the trigger coils on the stator assembly. A good steady spark should occur. Draw Trigger Pack away and spark should stop. Check second trigger coil on the Stator Assembly in same manner as the first one.
8. Release spring switch
9. Turn "OFF" the CD-2 Charging Pack.
10. Turn the spring switch to "COIL TESTS ON" position.
11. Bring Trigger Pack back to one to trigger coils once again. A single spark should occur, indication capacitor on the Stator Assembly is holding charge.
12. Release spring switch

13. If spark is not satisfactory, disconnect the T-2 Trigger Pack and proceed with test of ignition coil unit only on Graham Tester as outlined on separate page.
14. Turn MAIN SWITCH of Tester "OFF".

## TEST SETUP # 32

1. Remove white wire clip from trigger coil terminal of stator assembly.
2. Pull BLACK wire banana plug form the generating coil.
3. Check secondary continuity by connecting RED test clip to ground on stator assembly and BLACK test clip to secondary lead wire, tester light will light on good unit.
4. RED test clip remains attached to ground.
5. Check primary continuity by attaching BLACK test clip to banana plug, tester light will light on good unit.
6. Connect spark plug wire from unit on test to NORMAL spark gap on tester using Test Probe.
7. Turn MAIN SWITCH of Tester to "ON" position and set "COIL INDEX" as specified in Table 1.
8. Turn the spring switch to "COIL TESTS ON" position.
9. If spark output is satisfactory, remove coil secondary wire from spark gap and attach test probe to ground on stator assembly.
10. Operate spring switch again and at same time probe secondary lead insulation and coil insulation for breaks. An insulation break will be indicated by spark jumping directly to test probe through coil or secondary wire insulation.
11. Remove test leads and reconnect wires removed under "1" and "2" above.
12. Turn MAIN SWITCH of Tester "OFF".

## TEST SETUP # 33

1. Using several jumper leads, ground 3 - 4 - 5 - 6 - 7* - 7* *Spark gaps set at .060" using test plugs or graham spark gaps.
2. Place plugs from 3 and 4 into matching receptacles on 5.
3. Connect white and RED wires coming out of 5 to 6-6.
4. Attach secondary cables from 6-6 to 7-7.
5. Turn "ON" the CD-3 Charging Pack.
6. Place lamination end up to each one in turn of three stator windings which supply power for ignitions.
7. Turn the spring switch to "COIL TESTS ON" position.
8. Bring YELLOW end of T-2 Trigger Pack up to the Two Trigger windings in turn. (Trigger windings are 180 degrees apart inside 4.)

9. One trigger should fire one coil and the other trigger fires the second coil (Ignition Transformer) as YELLOW end of Trigger Pack is brought near at the inside diameter of 4 and CD-3 Charging Pack is held up to any one of the three stator windings which supply power for ignition. Only one coil will fire at a time.

8. Release the spring switch.

10. Turn "OFF" the CD-3 Charging Pack.

11. Turn MAIN SWITCH of Tester "OFF".

### TEST SETUP # 34

X18122 Ignition Coil - test separately in regular manner using these test limits:

X18092 Condenser - Test in same manner as any regular magneto or automotive condenser. Capacity limits .6 to .7 MFD.

X18111 Electronics Module - If above units check good, connect all three units together for test as follows:

1. Using jumper lead, ground X18092 condenser to X18111 Electronics Module.
2. Plug Condenser lead into receptacle or electronics Module.
3. Connect RED lead of Electronics module to spade terminal of X18122 Coil.
4. Black lead of Electronics Module is not connected to anything.
5. Black lead from Ignition Coil is connected to "ground".
6. Connect spark plug wire from unit on test to SPECIAL spark gap on tester using Test Probe.
7. Turn MAIN SWITCH of Tester to "ON" position and set "COIL INDEX" as specified in Table 1.
8. Turn "ON" the CD-3 Charging Pack.
9. Bring CD-3 Charging Pack lamination up as squarely as possible up to the iron core in the center of the charging coil. (This is the lamination at the Large end of the assembly - NOT the lamination the middle of the complete assembly nor the lamination at the small end.).
10. Turn the spring switch to "COIL TESTS ON" position.
11. Bring RED end of Trigger Pack to lamination at the small end of the Electronics Module under test. Because of space limitations, the Graham Trigger Pack cannot be brought up squarely with the trigger coil and this is not necessary - just bring it up at an approximate 45 degree angle until a steady spark occurs.
12. Pull Trigger Pack away and spark should stop.
13. Release the spring switch.
14. Turn "OFF" the CD-3 Charging Pack.
15. Turn the spring switch to "COIL TESTS ON" position.
16. Bring RED end of Trigger Pack back up to the trigger coil and a single spark should occur indication Condenser is holding charge.

17. Release the spring switch
18. Turn MAIN SWITCH of Tester "OFF".

### TEST SETUP # 35

1. Connect BLACK test clip as specified in Table 1.
2. Connect spark plug wire from unit on test to SPECIAL spark gap on tester using Test Probe.
3. Turn MAIN SWITCH of Tester to "ON".
4. Turn "ON" the CD-3 Charging Pack.
5. Bring lamination of CD-3 Charging Pack up to lamination of CD unit. Be sure there is full contact.
6. If CD unit does not fire tester spark gap, it should be discarded.
7. Turn "OFF" CD-3 Charging Pack.
8. Turn MAIN SWITCH of Tester "OFF".

### TEST SETUP # 36

1. Attach Trigger Pack ground lead to the lamination of ignition module on test.
2. Connect spark plug wire from unit on test to SPECIAL spark gap on tester using Test Probe.
3. Turn MAIN SWITCH of Tester to "ON" position and set "COIL INDEX" as specified in Table 1.
4. Turn "NORMAL - HIGH TRIGGER" switch to "HIGH TRIGGER" position.
5. Turn "SPECIAL T-1 -NORMAL T-2" switch to "SPECIAL T-1" position.
6. Turn the spring switch to "COIL TESTS ON" position
7. Bring YELLOW end of Trigger Pack to good contact with ignition unit lamination at CENTER of round coil.
8. Steady spark should occur across spark gap if ignition unit is OK. Replace unit if no spark.
9. Release spring switch.
10. Turn MAIN SWITCH of Tester "OFF".

## WARRANTY

The Model 31 Coil & Condenser Tester is guaranteed to be free from defects in material and workmanship for a period of twelve months, after date of original purchase by the user and when used in regular service work. Repairs or adjustments under the terms of this warranty, will be made by the Factory or designated repair agency at no charge, except for transportation to and from the Factory or designated repair agency. Written instructions, from the factory, must be secured before submitting a unit for service.

This warranty is voided if the unit has been subjected to abuse, accident, improper installation or neglect in storage, transportation or handling. or if a properly executed registration Card is not sent to the Factory, within thirty days after original purchase.

## REGISTRATION CARD

It is important to register the ownership of the Model 31 Coil & Condenser Tester. This validates the warranty and enables the factory to send out additional information and specifications as they become available. There is no charge for this service during the first twelve months after the original purchase.

A Registration card is included with each new Model 31. If the card has been lost, write the Factory, giving the serial number, and where and when purchased. Do the same thing if the unit has been purchased second-hand.

**FILL OUT AND MAIL THE REGISTRATION CARD TODAY!**

# GRAHAM-LEE FIGURE # AND TEST #
# SETUP TABLE 1

| MANUFACTURE | PART NO. | COIL INDEX | TEST PROCEEDURE SPECIAL NOTES | FIG # | TEST # |
|---|---|---|---|---|---|
| BEAIRD-POULAN | 39067 MODULE & 39068 TRANSFORMER | 60 | Charging Pack to **SMALL END** of module | 8 | 1 |
| BEAIRD-POULAN | 39087 | 60 | Trigger Pack to **CENTER** of round coil | 1 | 2 |
| BEAIRD-POULAN | 39088 | 60 | Trigger Pack to **CENTER** of round coil | 1 | 2 |
| BRIGGS & STRATTON | Single Cylinder Coil with points | Table 2 | Use COIL TEST proceedure on Page 2 | 9 | |
| BRIGGS & STRATTON | Single Cylinder Magnetron Coil | Table 2 | Use COIL TEST proceedure on Page 2<br>Note Ground lead separate from laminations | 10 | |
| BRIGGS & STRATTON | Magnavac Coil | Table 2 | Use COIL TEST proceedure on Page 2 | 11 | |
| BRIGGS & STRATTON | Twin Cylinder Coil | Table 2 | Use COIL TEST proceedure on Page 2 | 12 | |
| BRIGGS & STRATTON | Twin Cylinder Magnetron Coil | Table 2 | Use COIL TEST proceedure on Page 2 | 13 | |
| HOMELITE | 360 CD UNIT | 100 | Charging Pack to **SMALL END** of module | 22 | 3 |
| HOMELITE | # A-94111 and 94605 | 100 | Trigger Pack to **CENTER** of round coil | 2 | 4 |
| HOMELITE | 94711-1 CD MODULE | 50 | Charging Pack to **CENTER** of CD unit | 1 | 5 |
| HOMELITE BLACK JACKETED | #12669 TRANSFORMER #A-12299-A | 100 | Charging Pack to **SMALL END** of module<br>Trigger Pack to **BUMP** on other end | 22 | 3 |
| HUSQVARNA | 50-14-846-01 FEMSATRONIC | 45 | Charging Pack to **MIDDLE LAMINATION** of CD unit<br>Trigger Pack to **RIGHT HAND** end | | 6 |
| HUSQVARNA | 501 61 61-01 CD UNIT WITH PULSE TRANSFORMER | 50 | Charging Pack to **LEFT HAND END** of CD unit<br>Trigger Pack to **RIGHT HAND** end | | 7 |
| HUSQVARNA | 501 61 62-01 | 50 | Charging Pack to **LEFT HAND END** of CD unit<br>Trigger Pack to **RIGHT HAND** end | | 7 |
| HUSQVARNA | CE 114/3 CD UNIT<br>OEM IGN. HVA RANCHER 61 | 55 | Charging Pack to **LEFT LAMINATION** of CD unit<br>Trigger Pack to **RIGHT HAND** end | | 8 |

| MANUFACTURE | PART NO. | COIL INDEX | TEST PROCEEDURE SPECIAL NOTES | FIG # | TEST # |
|---|---|---|---|---|---|
| HUSQVARNA | 50 16 130-01 BOSCH KDK 1 CD UNIT | 50 | Base plate down. A small block about 1/2 inch thick under CD unit on test will bring it to the correct height - wood, paper, plastic - not metal.<br>Charging Pack to **LEFT HAND END** of CD unit<br>Trigger Pack to **RIGHT HAND** end | | 9 |
| HUSQVARNA | 50 16 757-01 CD ASSEMBLY SEM GA-1 & 2 | 60 | There is a slight bump above the correct charging lamination.<br>Charging Pack to **RIGHT HAND END** of CD unit<br>Trigger Pack to lamination to the **RIGHT** the above lamination | | 10 |
| JACOBSEN | 500697 | 45 | | | 47 |
| JONSEREDS | 52E and 70E 1585000 CD UNIT ASSEMBLY - 4620009 CD UNIT | 50 | Base plate down.<br>Charging Pack to **MIDDLE** lamination at the outer edge of the CD unit. | 2 | 11 |
| JONSEREDS | 4391001 Ignition Transformer | 50 | Base plate down.<br>Can be tested with standard coil test or test 11 | | 11 |
| JONSEREDS | 70E IGNITION MODULE | 100 | Trigger Pack to **CENTER** of round coil | | 4 |
| JONSEREDS | 504 62 00-09 IGNITION MODULE WITH PULSE TRANSFORMER | 50 | Charging Pack to **LEFT HAND** end of CD unit<br>Trigger Pack to **RIGHT HAND** end | | 13 |
| JONSEREDS | 510 - 520 CD UNIT # 4620019 & 361 CD UNIT #m123690 | 100 | Trigger Pack to **CENTER OF ROUND COIL** | | 2 |
| JONSEREDS | 630 ASSEMBLY 5015161C1 CD UNIT 501516201 COIL | 50 | Part number on top.<br>Charging Pack to **LEFT HAND** end<br>Trigger Pack to **RIGHT HAND** end | | 11 |
| JONSEREDS | 920 ASSEMBLY 504620030 CD UNIT WITH 504391013 COIL | 60 | Charging Pack to **LEFT HAND** end<br>Trigger Pack to **RIGHT HAND** end | | 14 |
| JONSEREDS | 451E CD UNIT ASSEMBLY 4391010 IGNITION TRANSFORMER COIL 4620025 CD UNIT | | Part number up<br>Charging Pack to **RIGHT HAND** end of CD unit charging lamination.<br>If desired, the 4391010 coil can be tester separately using standard "COIL TESTS" procedures. | | 12 |
| KOHLER | 47-584-01 | 100 | | | 36 |
| KOHLER | 47-584-02 | 100 | | | 36 |

| MANUFACTURE | PART NO. | COIL INDEX | TEST PROCEEDURE SPECIAL NOTES | FIG # | TEST # |
|---|---|---|---|---|---|
| LAWNBOY | 681578 OR 682340 CD PAC | | Charging Pack to **SMALL LAMINATION** | | 15 |
| LAWNBOY | 679593 OR 681542 CD PACK | | Charging Pack to LAMINATION **FARTHEST** from **ROUND** end | | 16 |
| LAWNBOY | 682702 | | Charging Pack to LAMINATION **FARTHEST** from **ROUND** end | | 16 |
| MCCULLOCH | 92785 AND 93161 CD UNITS | 50 | BLACK test clip to "GND" terminal. Charging Pack to **CENTER LAMINATION** | | 20 |
| MCCULLOCH | 93131-A | 50 | BLACK test clip to lead with eyelet Charging Pack to **CENTER LAMINATION** | | 20 |
| OLYMPIC | SELECTRA IGNITION MODULE A52880 | 100 | NOTE: Unit replaces PN 5523. Part Number 5523 has similar test. With "PN 5523" facing up, Trigger Pack is placed on **THIRD LAMINATION FROM LEFT** | 2 | 4 |
| Olympic | 234 - 300 - 400 Brachutter. | 100 | | | 15 |
| OMC | 1978 THROUGH 1980 CD UNITS | 50 | | 16 | 19 |
| ONAN | 160-1125 CD IGNITION | 60 | | 17 | 18 |
| ONAN | 166B535 | 65 | | | |
| PARTNER | IGNITRON IGNITION | | | 14 | 20 |
| PARTNER | THYRISTOR IGNITION | 60 | | 15 | 21 |
| PHELON | 10900-01; 10900-01-A; 10900-01-L Low Turns | 100 | | | 2 |
| PHELON | 10900-00-R; 10900-02-K High Turns | | BLACK test clip to lamination | | 20 |
| PIONEER | WICO FW 2906 | 50 | | | 34 |
| REMINGTON | 69987 | 100 | PRESTOLITE | 2 | 4 |
| ROPER | 3558J | 100 | PRESTOLITE Trigger Pack to **CENTER** of round coil | 2 | 4 |
| ROPER | 9326 R | | Charging Pack to Core Use **SPECIAL** spark gap | | 35 |
| ROPER | 9338 R | | Charging Pack to Core Use **SPECIAL** spark gap | | 35 |
| STHIL | 1119-400-1310 | | BLACK test clip to lamination. Charging Pack to **CENTER** lamination | | 20 |
| STHIL | 4118-400-1300 | | BLACK test clip to lamination. Charging Pack to **CENTER** lamination | | 20 |
| STHIL | 4114-404-132 | | TRANSFORMER | | 22 & 23 |
| STHIL | 1117-400-1300 | 60 | | | 23 |

| MANUFACTURE | PART NO. | COIL INDEX | TEST PROCEEDURE SPECIAL NOTES | FIG # | TEST # |
|---|---|---|---|---|---|
| STHIL | 1114-400-0808 | 50 | SEM TYPE G/5<br>Charging Pack to **MIDDLE** lamination | | 11 |
| STHIL | 111-400-1305 | 100 | | 1 | 2 |
| STHIL | 1115-400-0507 | 50 | SEM<br>Charging Pack to **MIDDLE** lamination | | 6 |
| STHIL | 1118-400-1310 | | BLACK test clip to lamination.<br>Charging Pack to **CENTER** lamination | | 20 |
| STHIL | 1117-400-1310 | | BLACK test clip to lamination.<br>Charging Pack to **CENTER** lamination | 23 | 20 |
| STHIL | 1121-400-1300 | | BLACK test clip to lamination.<br>Charging Pack to **CENTER** lamination | 24 | 20 |
| TECHUMSEH | 34960 | | | | 24 |
| TECHUMSEH | 34990 | | | | 24 |
| TECHUMSEH | 34443 | | BLACK clip lead metal case<br>Charging Pack to **CENTER** lamination | | 20 |
| TECHUMSEH | 610748 | 50 | | 6 | 25 |
| TECHUMSEH | 610759 | 45 | | 7 | 26 |
| TECHUMSEH | 610785A | 100 | TRANSFORMER | | 28 |
| TECHUMSEH | 610873 | | MAGNETO | 5 | 28 |
| TECHUMSEH | 610893 | 60 | | | 29 |
| TECHUMSEH | 610896 | | | | 27 |
| TECHUMSEH | 610906 | 50 | | 6 | 25 |
| TECHUMSEH | 610910A | | STATOR WITH ALTERNATOR | | 30 |
| TECHUMSEH | 610946 | | BLACK test clip to metal case | | 20 |
| TECHUMSEH | 610958 | 100 | SPECIAL INSTRUCTIONS<br>TWO MODULES IN UNIT | | 28 |
| TECHUMSEH | 610983 | | STATOR WITH ALTERNATOR | 3 & 4 | 30 |
| TECHUMSEH | 611056 | | BLACK test clip to metal case | | 20 |
| WICO | X17920 | 45 | PRESTOLITE | | 31 |
| WICO | X17920 | 60 | COIL UNIT ONLY | | 32 |
| WICO | FAC ELECTROMAGS | 45 | IGNITION PORTION | 21 | 33 |

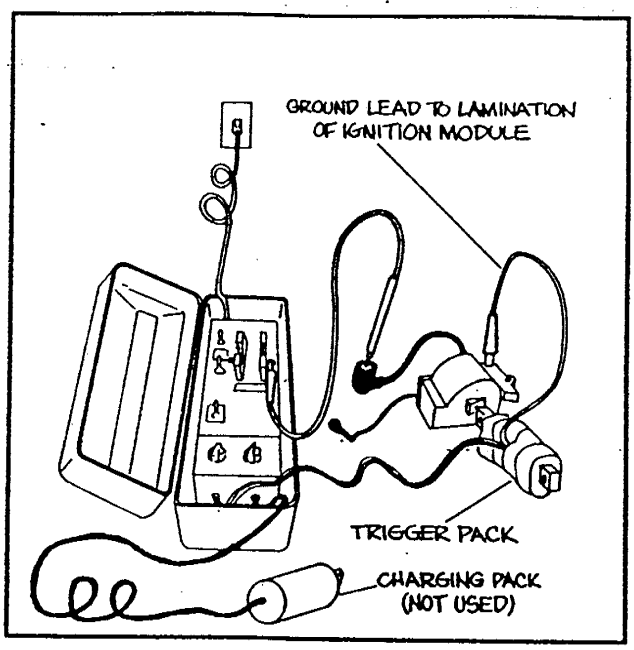



FIGURE 1.

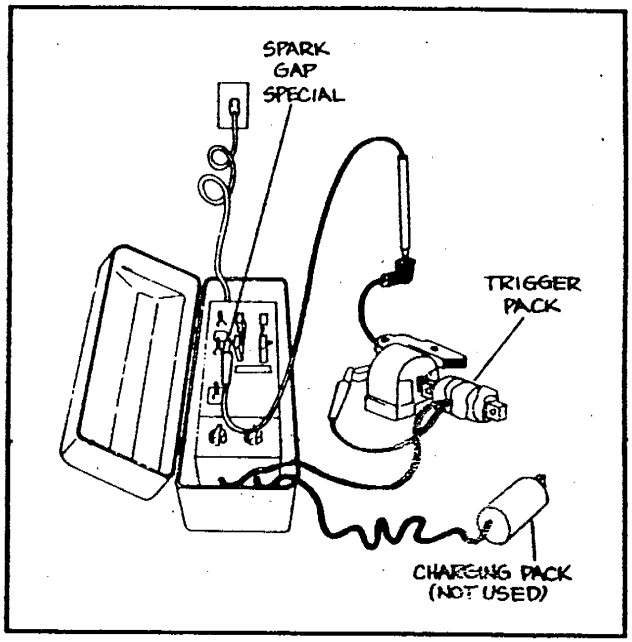



FIGURE 2.

## STATOR ASSEMBLIES
## (610983, 610910A) WITH ALTERNATOR

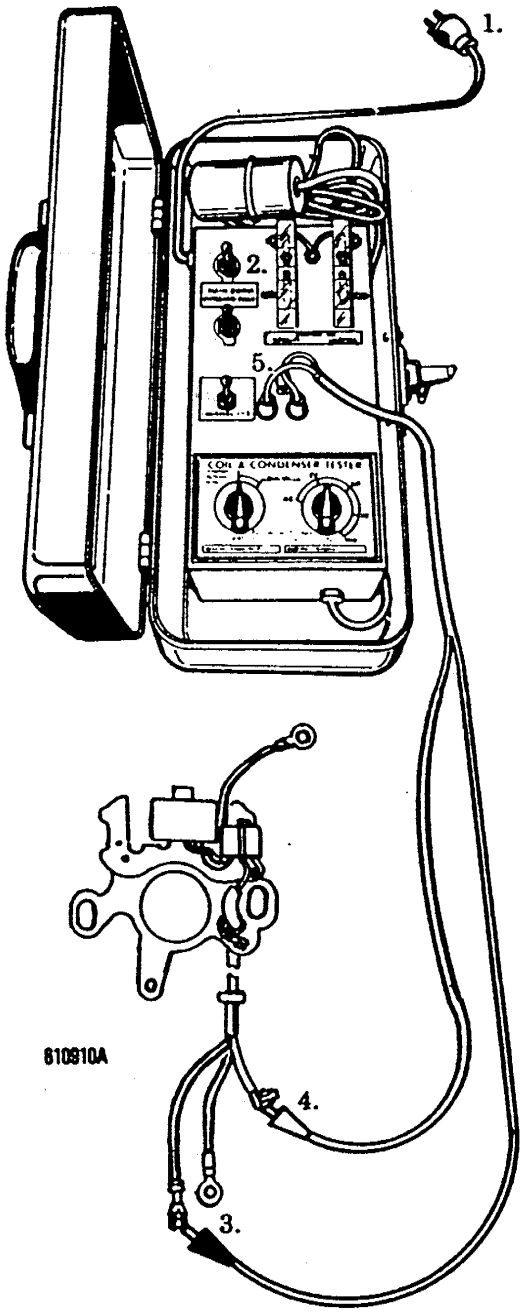



FIGURE 3.

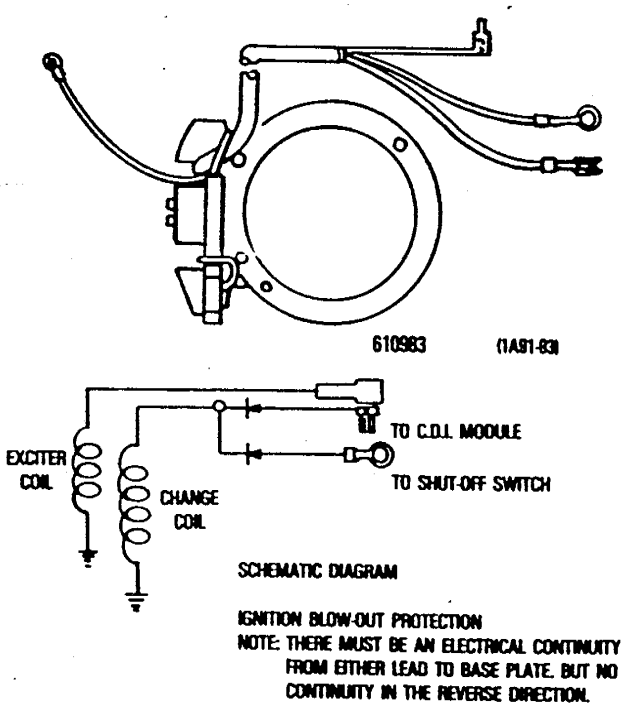
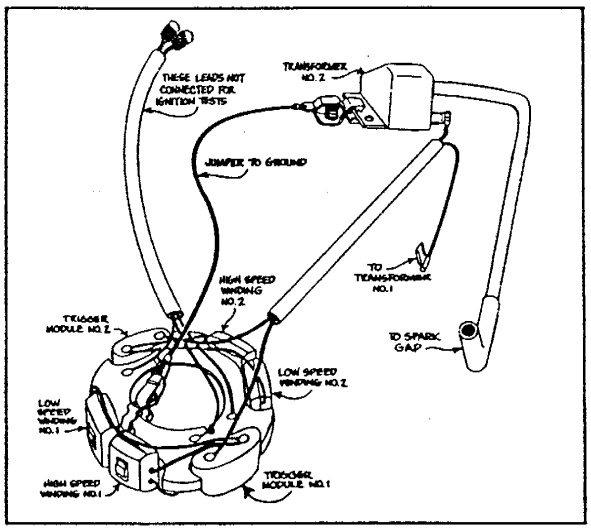



FIGURE 4.

INSTRUCTIONS FOR BENCH TEST OF TECUMSEH 610873 SOLID STATE MAGNETO and 610785A* TRANSFORMER ASSEMBLY USING ANY MODEL GRAHAM TESTER with GRAHAM T-1 TRIGGER PACK and MODEL CD-2 GRAHAM A.C. CHARGING PACK.

(TECUMSEH 610958 - See note at bottom of this page.)




NOTE: Tests for the newer stator with 2 coils and 2 modules follow steps 1 through 8 plus step 11. For older stator with 4 coils and 2 modules follow steps 1 through 11.

TECUMSEH 610958 - There are two windings and trigger modules on this number. They are tested with 610785A Transformer using steps "1" through "8" above for each winding and module set plus step 11.

**FIGURE 5.**

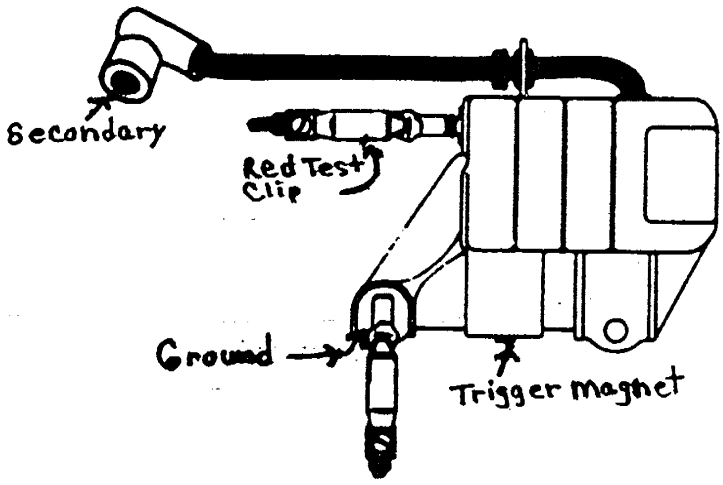



FIGURE 6.

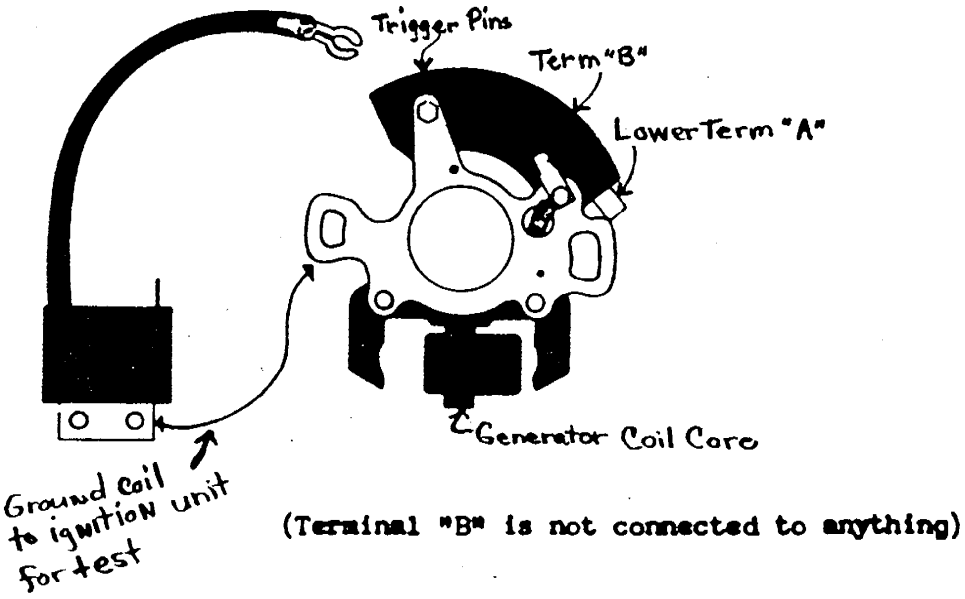



FIGURE 7.

# BEAIRD-POULAN 39067 MODULE AND 39068 TRANSFORMER

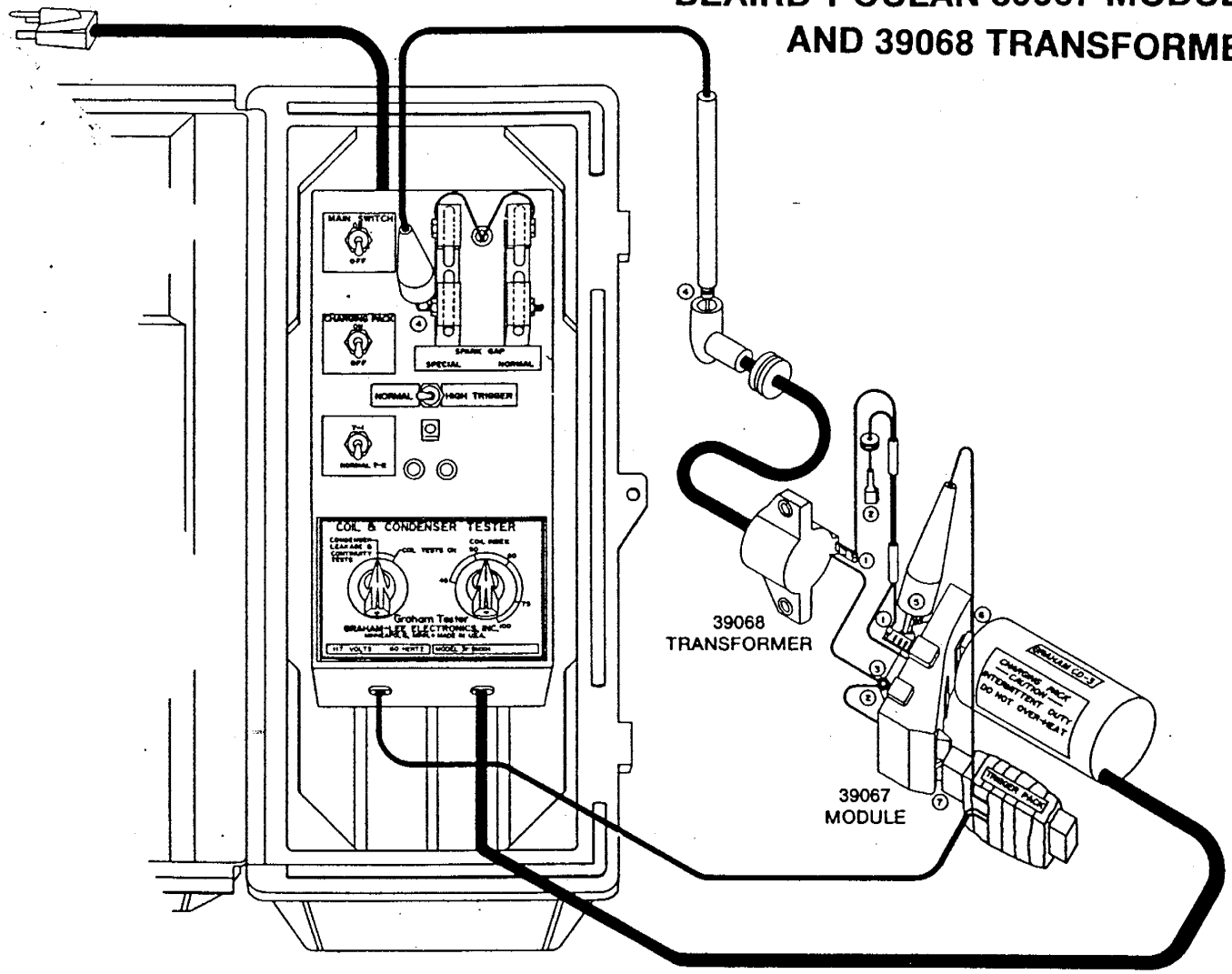
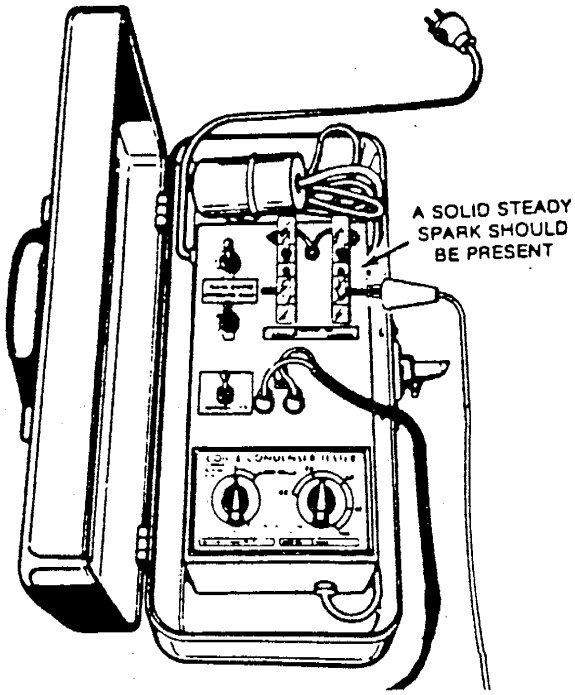



FIGURE 8.



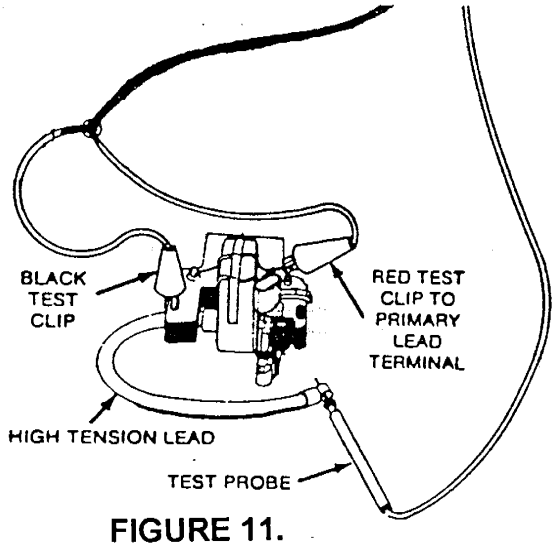




FIGURE 11.

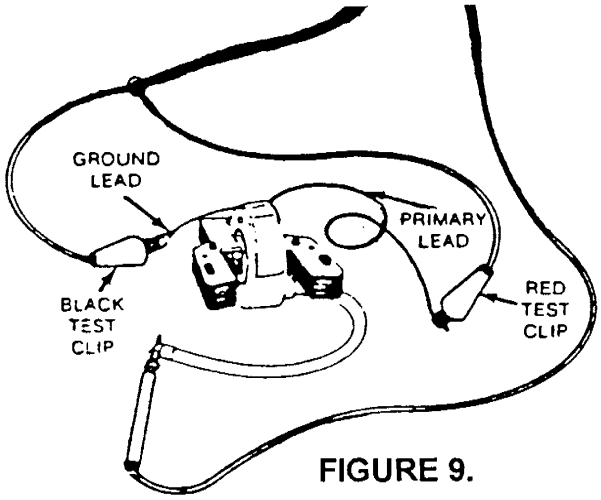



FIGURE 9.

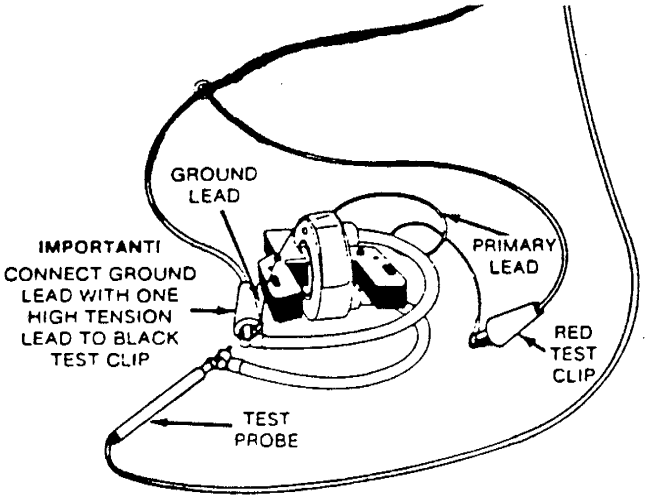



FIGURE 12.

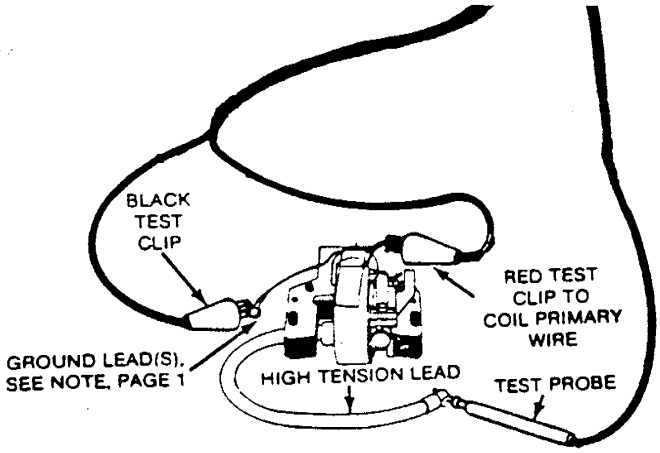



FIGURE 10.

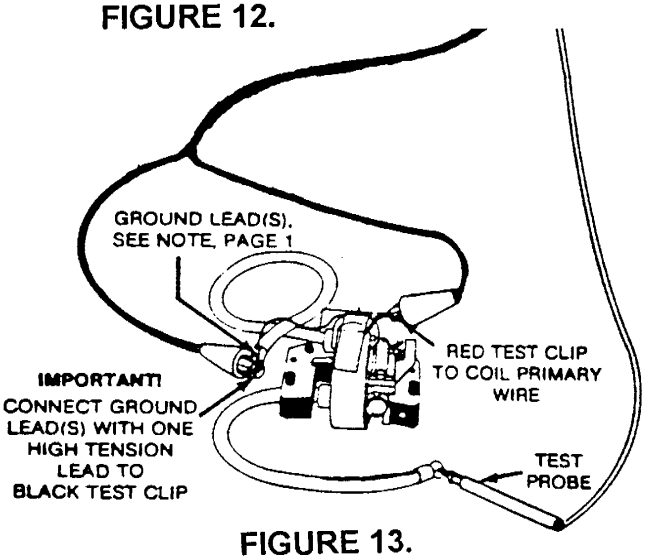



FIGURE 13.

# PARTNER IGNITRON IGNITION

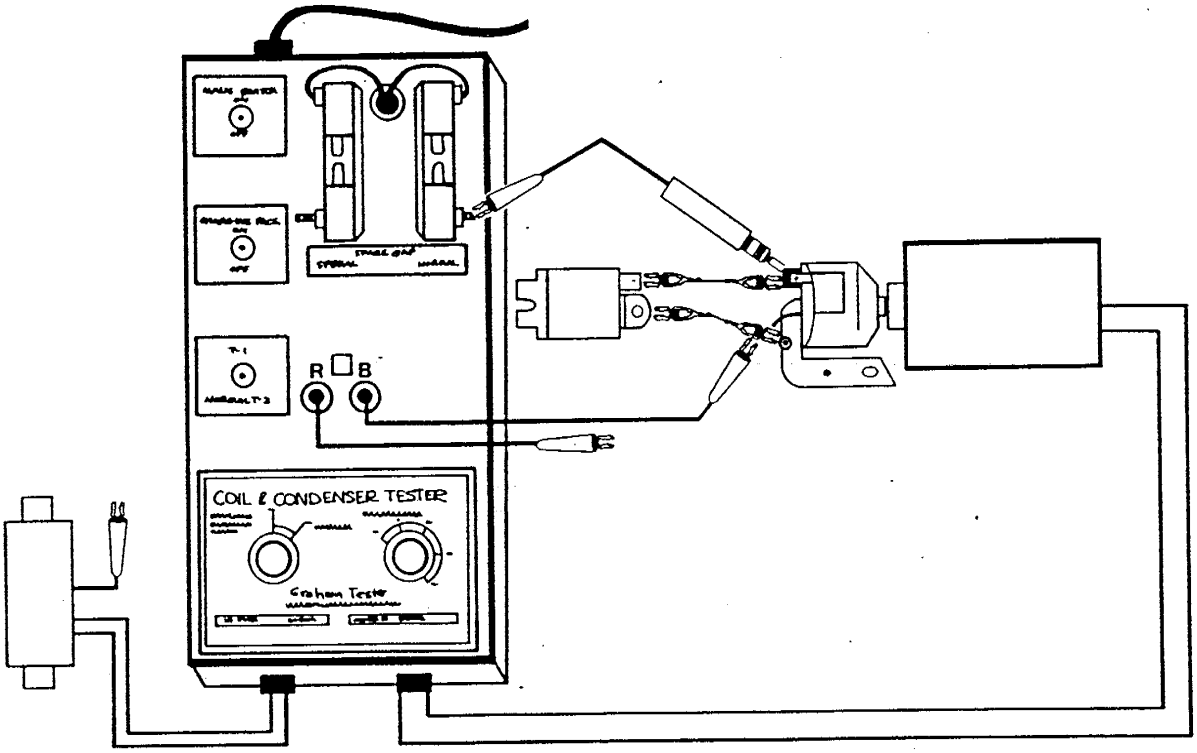



FIGURE 14.

# PARTNER THYRISTOR IGNITION

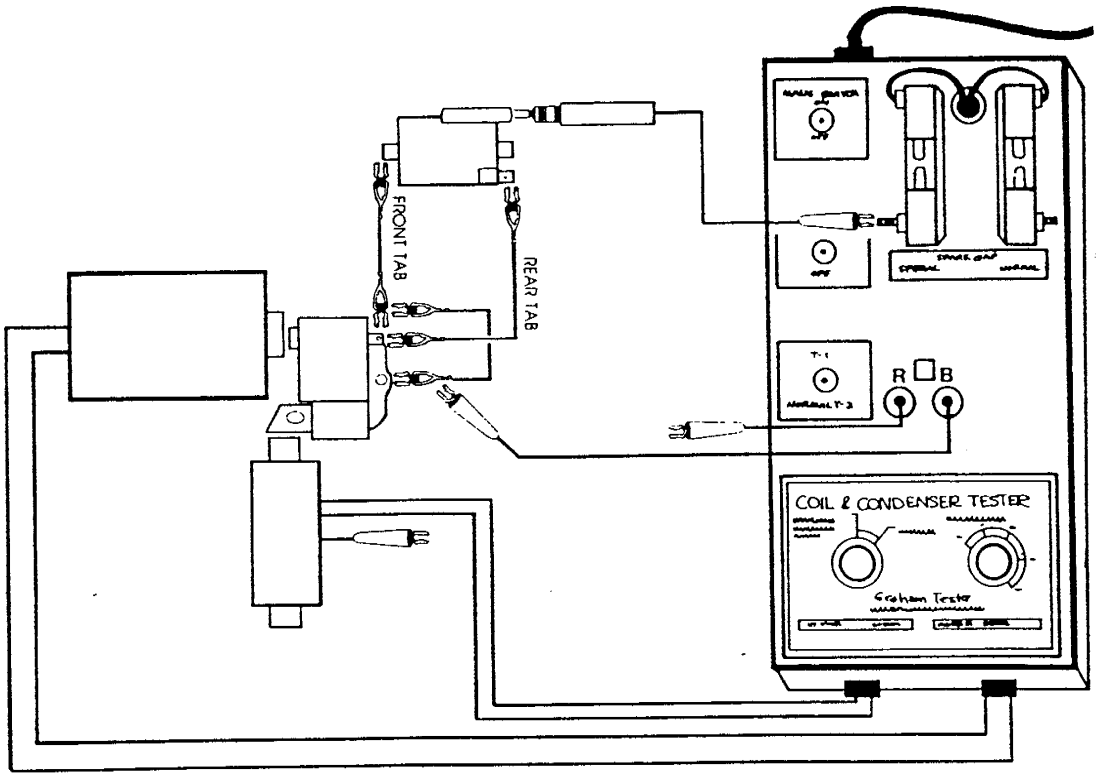



FIGURE 15.

# OMC 1978 THROUGH 1980 CD IGNITION SYSTEMS

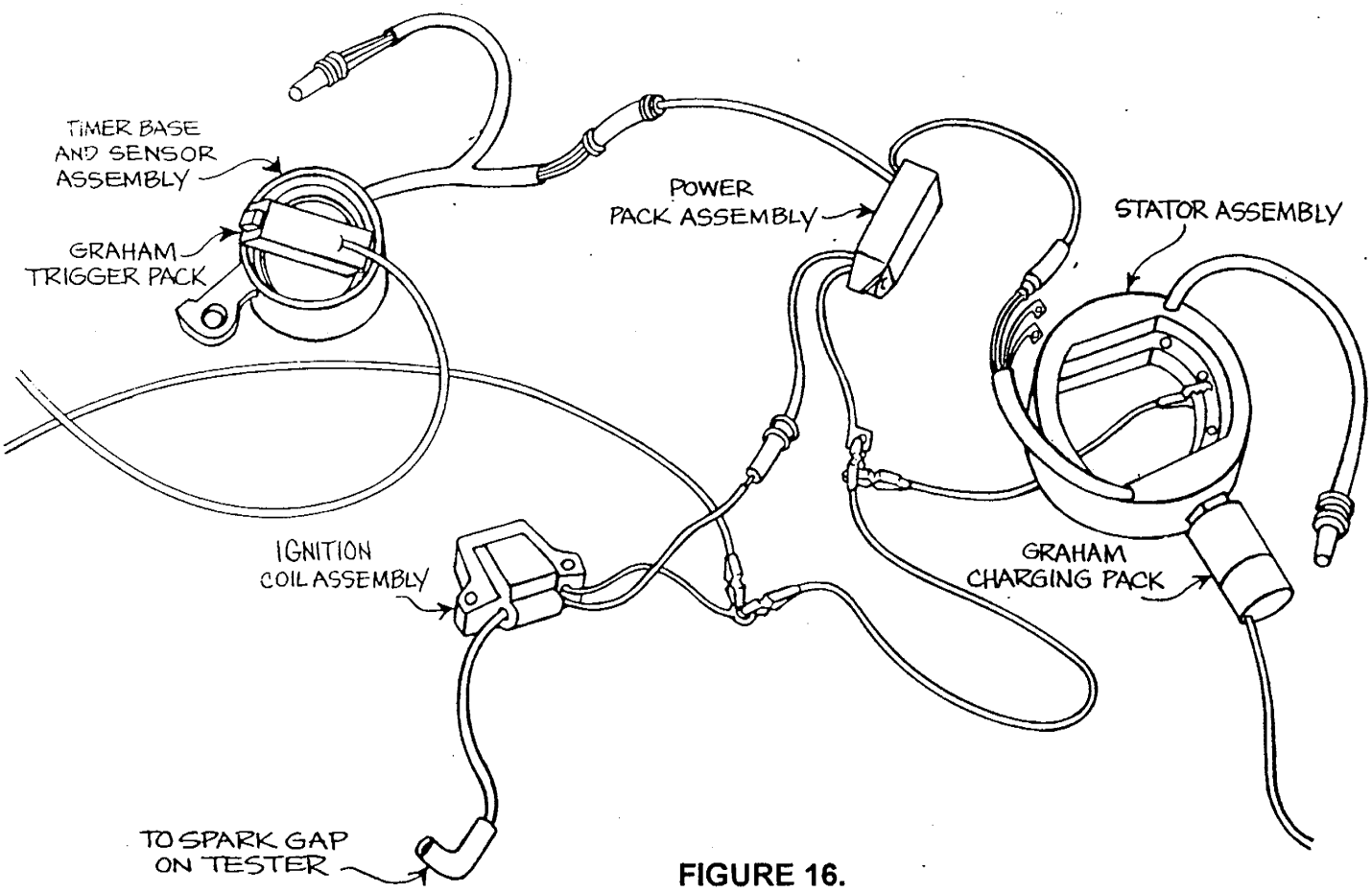



FIGURE 16.

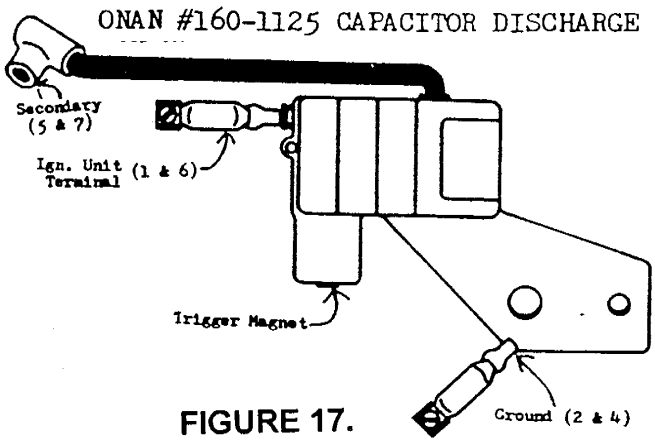



FIGURE 17.

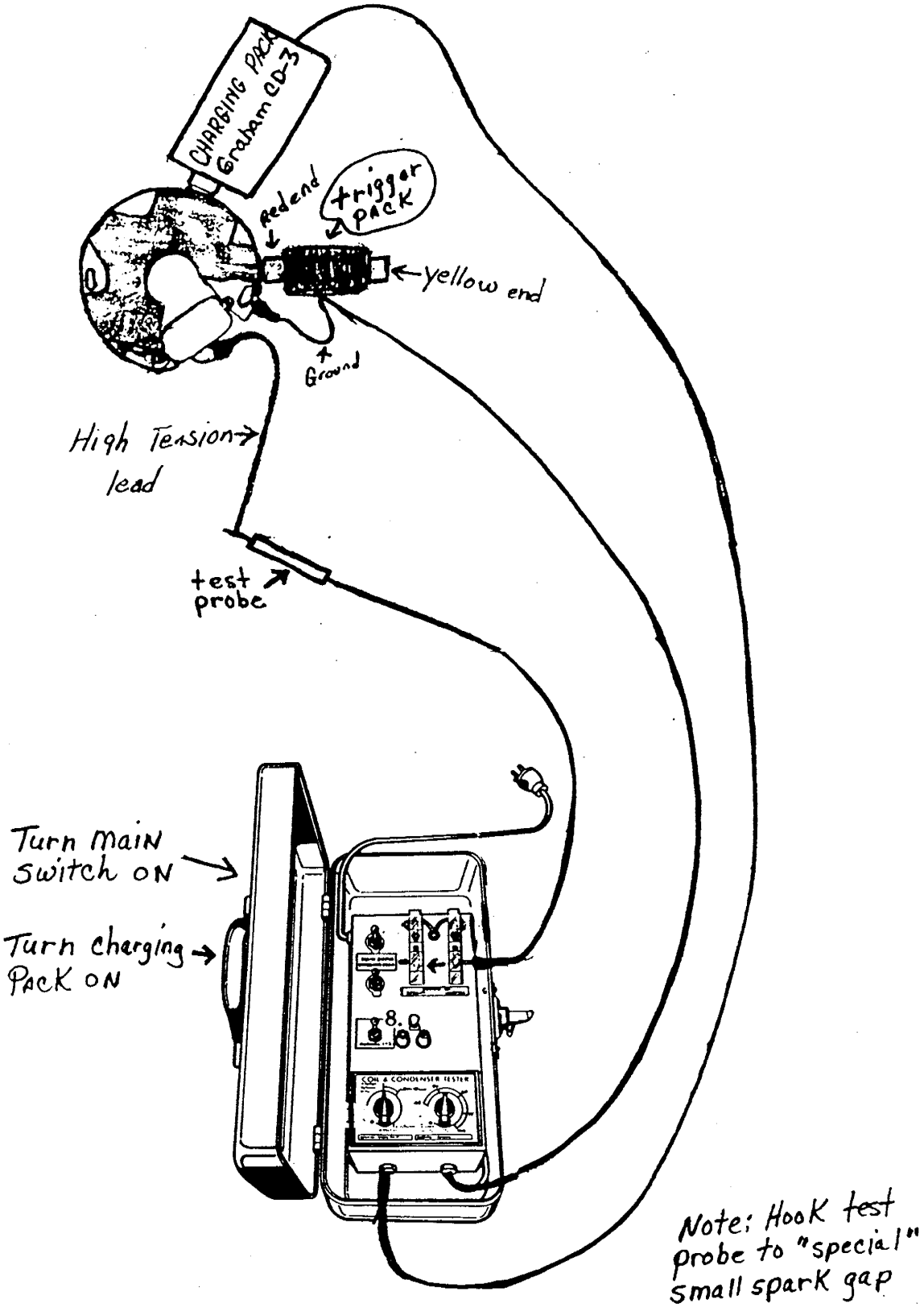

CHARGING PACK
Graham CD-3
Red end
trigger PACK
yellow end
Ground
High Tension lead
test probe
Turn main switch ON
Turn charging PACK ON
Note: Hook test probe to "special" small spark gap

FIGURE 18.

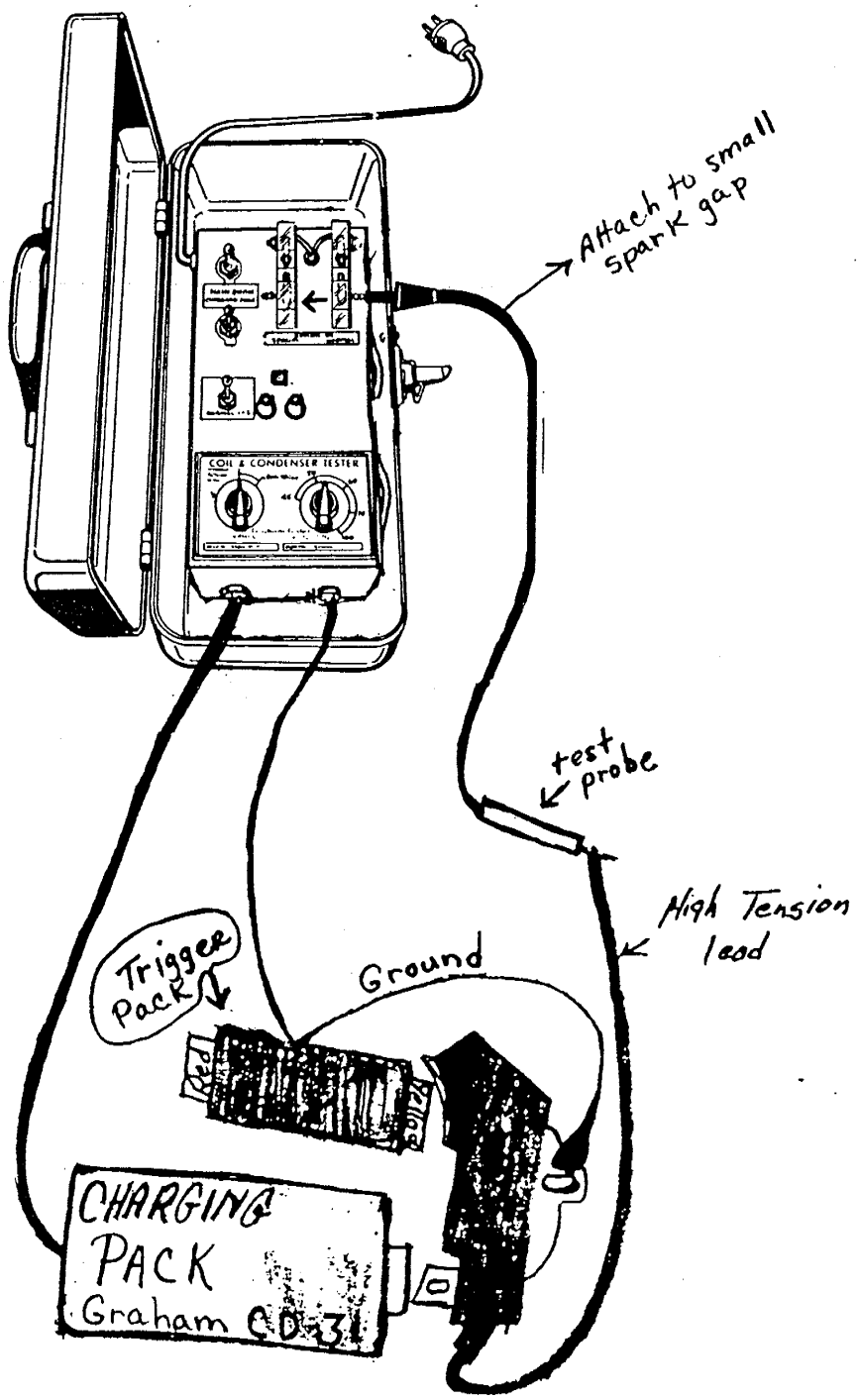

Attach to small spark gap
COIL & CONDENSER TESTER
test probe
High Tension lead
Trigger Pack
Ground
Red
Zinc
CHARGING PACK
Graham CD-31

FIGURE 19.

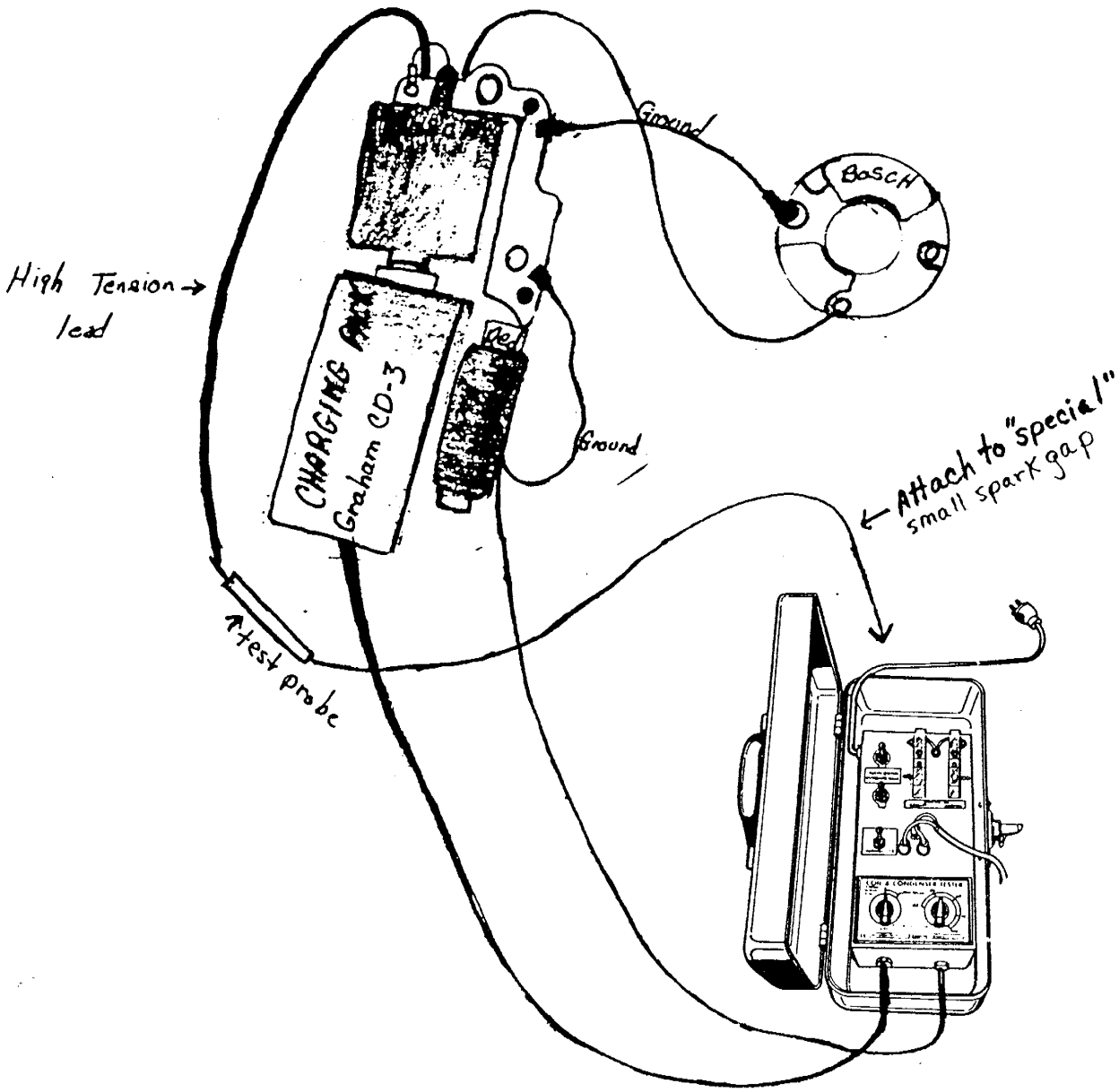

High Tension lead
Ground
BOSCH
Red
Ground
CHARGING UNIT
Graham CD-3
Attach to "special" small spark gap
test probe

FIGURE 20.

# WICO FAC ELECTROMAGS

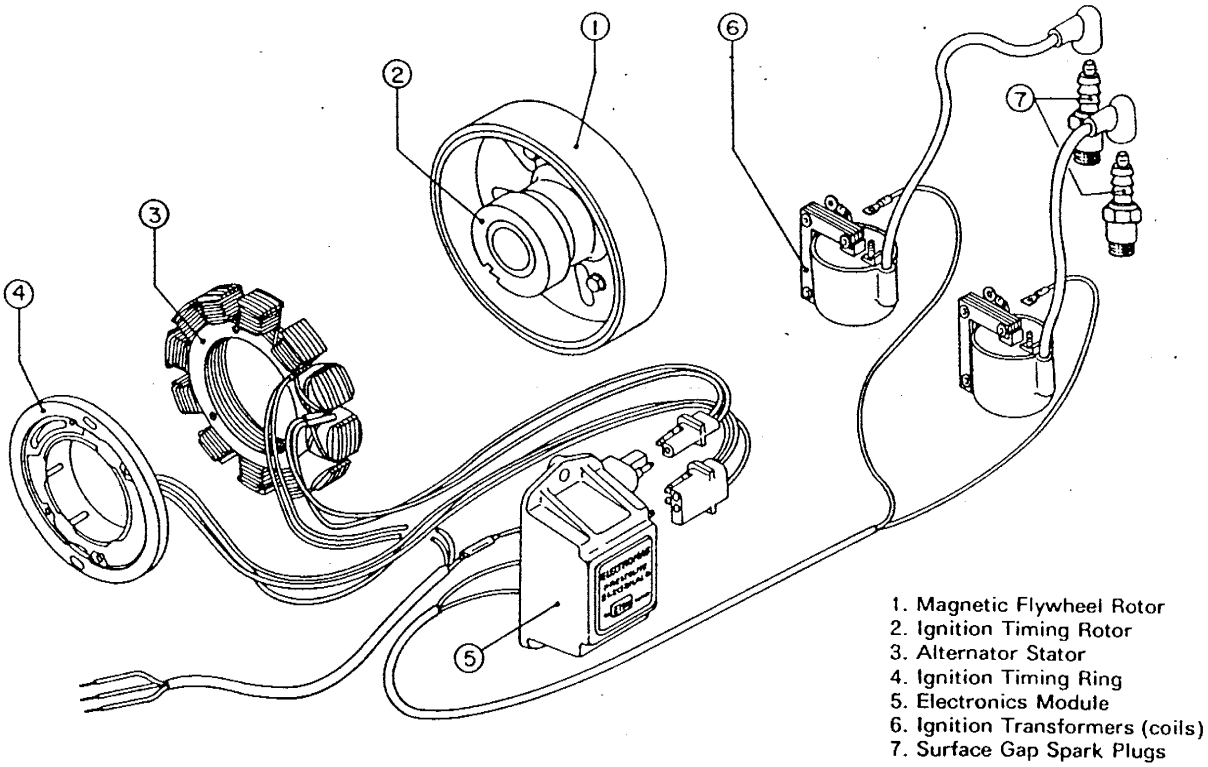



FIGURE 21.

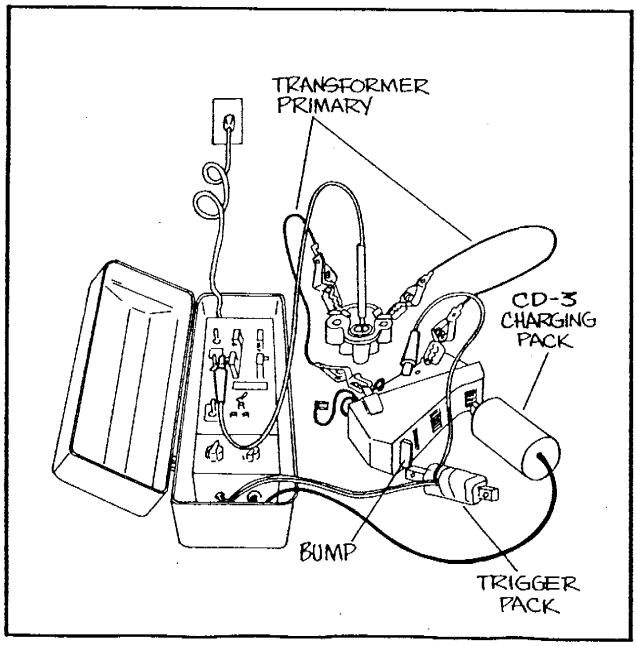



FIGURE 22.

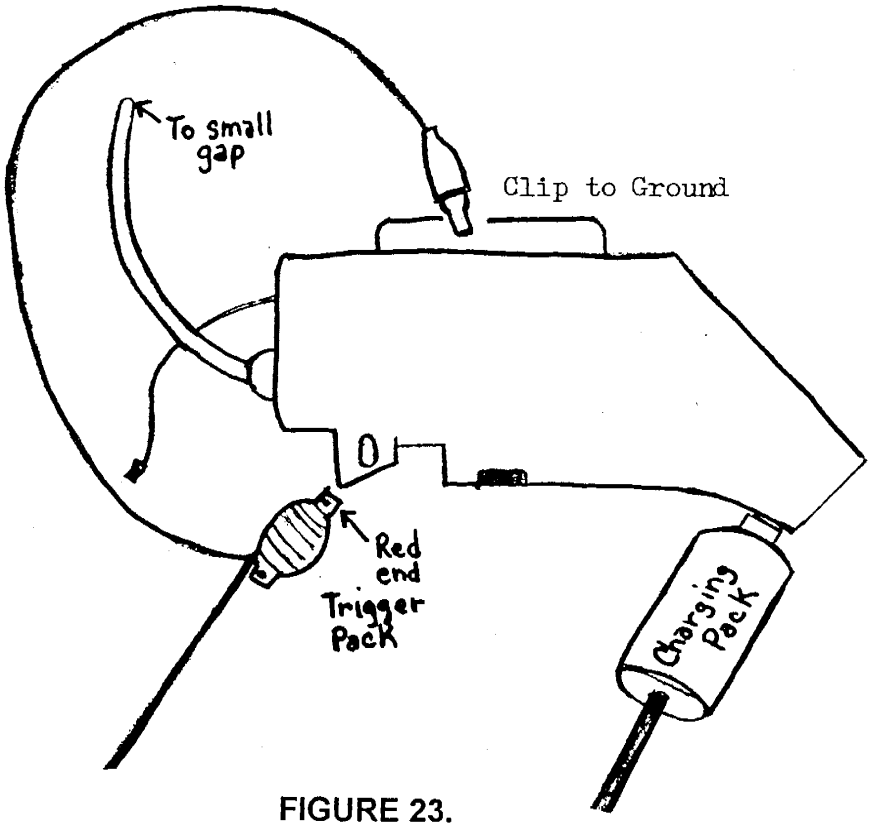



FIGURE 23.

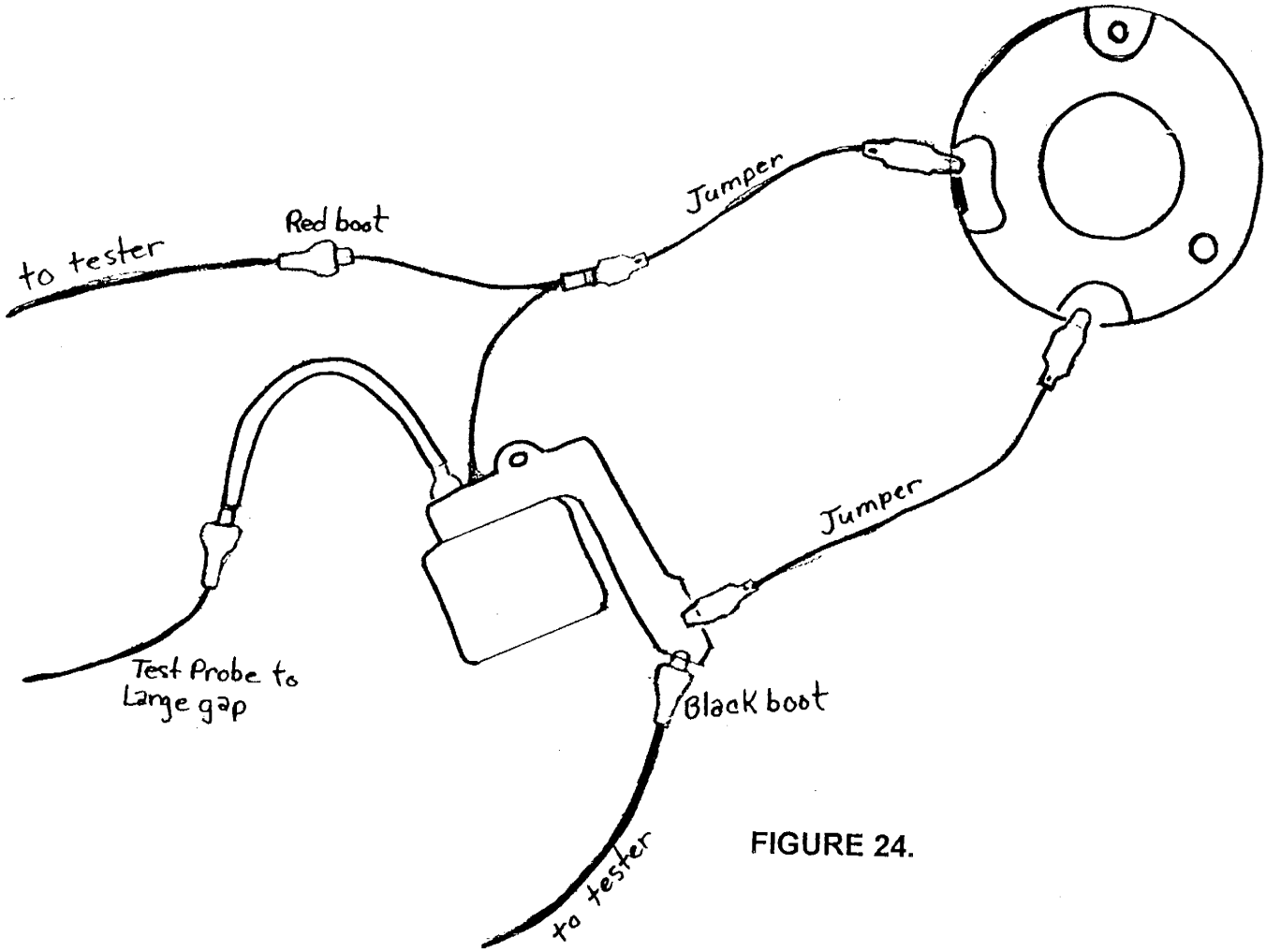



FIGURE 24.

# GRAHAM-LEE
# COIL TEST SPECIFICATIONS
# TABLE 2

# COIL LISTING

## AMERICAN BOSCH

| COIL TYPE | MAXIMUM SECONDARY RESISTANCE | MAXIMUM PRIMARY RESISTANCE | COIL INDEX | MINIMUM COIL TEST | MAX. GAP INDEX | MAGNETO |
|---|---|---|---|---|---|---|
| CL 51172 | | .8 | 50 | 15 | | |
| CL 521001 | 12000 | 1.5 | 65 | 36 | 65 | |
| CL 521005 | 10000 | 1.3 | 60 | 28 | 60 | |
| CL 521022A | [1] | | | | | |
| CL 521043A | 10000 | 1.3 | 75 | 33 | 95 | |
| CL 52107 | 10000 | 1.6 | 75 | 38 | 60 | MJB & MRA |
| CL 52109 | 7500 | 1.0 | 60 | 26 | 65 | MJA |
| CL 52112 | 8000 | 1.5 | 75 | 45 | 75 | MJK |
| CL 52118 | 10000 | 1.6 | 75 | 38 | 60 | MJB & MRA |
| CL 52128 | 9000 | .8 | 65 | 38 | 65 | |
| CL 52134 | 8000 | 1.3 | 75 | 36 | 65 | MJH |
| CL 52137 | 8000 | 1.3 | 75 | 31 | 60 | MJH & MRD |
| CL 52143 | 8000 | 1.3 | 75 | 36 | 65 | MRD |
| CL 52144 | 8000 | 1.5 | 75 | 45 | 75 | MJK |
| CL 52145A | 8000 | 1.3 | 75 | 36 | 65 | MRE |
| CL 52159 | | .8 | 60 | 20 | | MRB |
| CL 52162 | | .9 | 60 | 21 | | MSB |
| CL 52163 | | .6 | 60 | 17 | | MJA |
| CL 52164 | 10000 | 1.3 | 60 | 26 | 70 | MRA |
| CL 52166 | 10000 | 1.4 | 70 | 40 | 70 | MJC |
| CL 523 | 8000 | 1.2 | 65 | 32 | 60 | MJA |
| CL 5231 | 8500 | 1.4 | 80 | 40 | 65 | MJC |
| CL 5238 | 10000 | 1.4 | 70 | 40 | 70 | MJC |
| CL 524 | 10000 | 1.6 | 75 | 32 | 60 | MJB |
| CL 5244 | 8000 | 1,4 | 75 | 31 | 60 | MJD |
| CL 5246 | 8000 | 1.3 | 70 | 34 | 55 | MVA |
| CL 528 | 10000 | 1.6 | 80 | 41 | 60 | MJC |
| CL 529 | 7500 | 1.2 | 80 | 38 | 60 | MJA |
| CL 5298 | 8000 | 1.5 | 75 | 45 | 75 | MJK |
| CL 6AA5 | 9000 | 2.6 | 60 | 36 | 60 | |
| CLC 12A-5S | 10000 | 7.5 | 60 | 33 | 60 | |
| CLC 6A5-S | 9000 | 2.6 | 60 | 36 | 60 | |
| CLM 12 | 10000 | 10 | 70 | 38 | 75 | Battery |
| CLM 6B1 | 20000 | 4 | 60 | 29 | 70 | |
| CLM 80 F1 [2] | 100000 | 3.6[3] | 60 | 27 | 60 | [4] |
| CLS 12A1 | 14000 | 20 | 65 | 44 | 65 | |
| CLT 10 | 10000 | 18 | 65 | 40 | 60 | |
| CLT 40A | 10000 | 40 | 55 | 33 | 60 | |
| TC 22 (S & U) | 5000 | 2.2 | 60 | 30 | 60 | Battery |
| TC 51 (A-B-C-D) | 6000 | 2.2 | 60 | 31 | 65 | Battery |
| TC 612 | 9000 | 6.2 | 70 | 40 | 65 | Battery |
| TC 69U | 6000 | 2 | 60 | 31 | 65 | Battery |
| TC 71 (A-B-C) | 6000 | 2.3 | 60 | 32 | 60 | Battery |
| TC 81 | 5000 | 2.2 | 60 | 34 | 60 | Battery |
| TC 83 | 8000 | 1.9 | 60 | 34 | 60 | Battery |

[1]Single winding only - approximately 75 ohms nominal DC Seconday Continuity or Condenser Leakage circuit.
[2]Do not test on Model 31
[3]Between two secondary terminals.
[4]Black clip to LT+, Red clip to LT-

| COIL TYPE | MAXIMUM SECONDARY RESISTNACE | MAXIMUM PRIMARY RESISTANCE | COIL INDEX | MINIMUM COIL TEST | MAX GAP INDEX | MAGNETO |
|---|---|---|---|---|---|---|
| TCA 35A1 | 25000 | 1.1 | 45 | 7[5] | 45 | |
| TCD 90A4 | 7500 | .5 | 50 | 9[6] | 50 | |
| TCF 12 | 14000 | 20 | 65 | 44 | 65 | |
| TCG 90B4 | 20000 | .5 | 50 | 20 | 50 | [7] |
| TCG 90C1 | 20000 | .5 | 50 | 20 | 50 | [8] |
| TCL 150A1[9] | 15000 | .6 | 45 | 40 Amplified | 45 | |
| WC 73360 | 8000 | 3.0 | 70 | 34 | 70 | DU & ZR |
| WC 74792 | 7500 | 3.0 | 70 | 34 | 70 | AT 4-6 |
| WC 79444 | 6500 | 4.2 | 60 | 31 | 60 | U 6 |
| WC 82913 | 6500 | 4.3 | 60 | 31 | 60 | U 4 |

## ARCTIC CAT SNOWMOBILES

| | | | | | | MAX. PRIMARY CD OHMS (POINT TEST) |
|---|---|---|---|---|---|---|
| 3000-912 | 10000 | 11 | 60 | 34 | 55 | 1.2 |
| 3000-951 | 10000 | 10 | 60 | 24 | 55 | |
| 3001-067 | 20000 | 1.3 | 50 | 14 | 45[10] | .55 |

## AUTO LITE

| | | | | | |
|---|---|---|---|---|---|
| CAB 12 VOLT 1955 INDUSTRIAL | 7000 | 9.5 | 85 | 51 | 77 |
| CAC 6 VOLT 1955 CHRYSLER | 10500 | 2.1 | 50 | 22 | 43 |
| CAD 12 VOLT 1955 PACKARD | 10500 | 3.7[11] | 55 | 32 | 48 |
| CAD 12 VOLT 1955 CHRYSLER | 10500 | 4.2 | 55 | 32 | 48 |
| CAE Coils | 11000 | 4.6 | 60 | 36 | 50 |
| CAF 12 VOLT | 9000 | 9.0 | 80 | 48 | 70 |
| CAG 12 VOLT | 7000 | 10.0 | 75 | 44 | 70 |
| CAH 12 VOLT | 12000 | 3.7[12] | 50 | 27 | 50 |
| CAL-4001 | 10000 | 2.5 | 50 | 28 | 50 |
| CAM-4001 | 12000 | 2.0[12]<br>2.3[13] | 50 | 22 | 50 |
| CE 6 VOLT | 5000 | 2.3 | 60 | 28 | 48 |
| CF 6 VOLT | 5500 | 8.0 | 85 | 52 | 67 |
| CL 6 VOLT | 4000 | 2.7 | 70 | 40 | 55 |
| CM 12 VOLT | 7000 | 7.0 | 85 | 55 | 72 |

---

[5]65 Amplified

[6]This is normal minimum reading with coil unmounted. Using Coil Test Amplifier on those testers so equipped minimum amplified reading is 100. Don not use Coil Test with coil mounted in its holding bracket, normal minimum reading on coil test is 5 or 55 minimum using coil Test Amplifier.

[7]Polarity reads "up scale" ;with black clip on + and red clip on -

[8]Polarity reads "up scale" ;with black clip on + and red clip on -

[9]Black clip on #1, red clip on #2, #3 is other end of secondary

[10]One end of secondary must be grounded to most convenient primary terminal

[11]3.7 Ohms measured directly through primary; 4.6 including resistance unit on case

[12]Less Ballast

[13]With Ballast

| COIL TYPE | MAXIMUM SECONDARY RESISTNACE | MAXIMUM PRIMARY RESISTANCE | COIL INDEX | MINIMUM COIL TEST | MAX GAP INDEX | MAGNETO |
|---|---|---|---|---|---|---|
| CO 24 VOLT | 7000[14] | 7.5 | 80 | 48 | 80 | |
| CP 12 VOLT | 7500[15] | 7.5[15] | 80 | 48 | 75 | |
| CR 6 VOLT | 7500 | 2.6 | 60 | 32 | 48 | |
| CT 24 VOLT | 11000 | 30 | 70 | 51 | 80 | |
| IG 6 VOLT | 4000 | 2.9 | 75 | 45 | 58 | |
| 200574 | 12000 | 7.8 | 65 | 37 | 55 | |
| 200575 | 12000 | 3.9 | 60 | 27 | 50 | |
| 200577 | 12000 | 3.1 | 60 | 28 | 50 | |
| 200668 | 14000 | 4.2 | 60 | 29 | 50 | |

## BENDIX

| | | | | | | |
|---|---|---|---|---|---|---|
| 2-751 | 7000 | | | | | VAG SERIES |
| 10-2160 | 8000 | | | | | C SERIES |
| 10-2160Z | 8000 | | | | | C SERIES |
| 10-2160Y | 8000 | | | | | C SERIES |
| 10-2160W | 8000 | 1.5 | 65 | 30 | | C SERIES |
| 10-6710 | 6000 | | | | | AV4-6, NV4-6 |
| 10-6730 | 6000 | | | | | AU8-NV8 |
| 10-8548 | 7500 | | | | | PA-PB--PC |
| 10-13623Y | 9000 | .7 | 60 | 25 | 45 | |
| 10-13625Z | 7000 | 2.0 | 65 | 25 | | |
| 10-13760 | 8000 | | | | | C SERIES |
| 10-13825Y | 4500 | | | | | OA SERIES |
| 10-14856 | 7000 | | | | | VMN SERIES |
| 10-14917Y | 8000 | | | | | S1 SERIES |
| 10-155544Y | 4500 | | | | | OA SERIES |
| 10-15829 | 7500 | 1.5 | 65 | 25 | | P SERIES |
| 10-15829Z | 7500 | | | | | P SERIES |
| 10-15829Y | 7500 | 1.5 | 65 | 25 | | P SERIES |
| 10-15829W | 7500 | | | | | P SERIES |
| 10-15829V | 7500 | 1.5 | 65 | 15 | | P SERIES |
| 10-16585Y | | | | | | OA SERIES |
| 10-17288 | 8000 | 1.5 | 65 | 30 | | C SERIES |
| 10-17970 | 8000 | | | | | LA SERIES |
| 10-20776Y | | | | | | OA SERIES |
| 10-21917 | 4500 | 1.5 | 60 | 27 | | OA SERIES |
| 10-21917Y | | | | | | OA SERIES |
| 10-38222[16] | 8000 | 2.2 | 70 | 36 | 70 | K SERIES |
| 10-38222[17] | 8000 | 1.0 | 70 | 36 | 70 | K SERIES |
| 10-38222Y[17] | 8000 | 2.2 | 70 | 36 | 70 | K SERIES |
| 10-38222Y[18] | 8000 | 1.0 | 70 | 36 | 70 | K SERIES |
| 10-50210 | | | | | | K SERIES |
| 10-50226 | 4500 | 1.5 | 60 | 31 | | OA SERIES |
| 10-50715 | 7500 | 2.0 | 70 | 43 | | K SERIES |
| 10-51303 | 8500 | 2.0 | 60 | 36 | | S400 SERIES |
| 10-51661 | | | | | | K SERIES |
| 10-53128 | 4500 | 1.5 | 75 | 36 | | OA SERIES |
| 10-54007 | 5000 | 2.0 | 65 | 32 | | H SERIES |

[14]Secondary ground attached to case
[15]7.5 Ohms measured directly through primary; 8.0 including resistance unit on case
[16]On Stator Plate
[17]Off Stator Plate

| COIL TYPE | MAXIMUM SECONDARY RESISTNACE | MAXIMUM PRIMARY RESISTANCE | COIL INDEX | MINIMUM COIL TEST | MAX GAP INDEX | MAGNETO |
|---|---|---|---|---|---|---|
| 10-54970 | 6000 | | | | | K SERIES |
| 10-56108 | 2300 | | | | | K SERIES |
| 10-57460 | 7200 | | | | | LAR SERIES |
| 10-5L7460-1 | 7500 | 3.0 | 60 | 30 | 50 | LAR SERIES |
| 10-60676A | 4500 | 1.5 | 75 | 36 | | |
| 10-70100[17] | 6000 | 1.6 | 85 | 33 | 85 | |
| 10-70100[18] | 6000 | 1.0 | 85 | 30 | 85 | |
| 10-70128 | 5000 | 1.2 | 75 | 25 | 85 | |
| 10-L70132 | 5000 | 1.0 | 75 | 26 | 85 | |
| 10-70161 | 2500 | .8 | 70 | 15 | 95 | K SERIES |
| 10-70169 | 5000 | .95 | 75 | 27 | 95 | K SERIES |
| 10-70199[18] | 2000 | | | | | K SERIES |
| 10-76384 | 8500 | 2.0 | 60 | 36 | | |
| 10-77334 | 3400 | | | | | H2 SERIES |
| 10-77379 | 3700 | 1.2 | 70 | 21 | 100 | H1 SERIES |
| 10-79157 | 3700 | .8 | 70 | 12 | 95 | K SERIES |
| 10-79290 | 17000 | 8.5 | 55 | 28 | 55 | |
| 10-81707 | 9000 | 35 | 60 | 34 | 90 | |
| 10-81707 | 7000 | | | | | VAG SERIES |
| 10-82215 | 4500 | | | | | K SERIES |
| 10-82241[19] | 3700 | .8 | 70 | 15 | 95 | K SERIES |
| 10-84356Y | 4700 | .8 | 70 | 16 | 55 | |
| 10-94097 | 5000 | 1.0 | 70 | 23 | 85 | |
| 10-102902 | 5000 | 1.0 | 70 | 23 | 85 | |
| 10-160396 | 5000 | .95 | 75 | 27 | 95 | |
| 10-160886 | 25000 | 1.1 | 55 | 27 | 55 | |
| 10-160887 | 25000 | 1.1 | 55 | 27 | 55 | |
| 10-163297[20] | | | | | | |
| 10-171248[21] | | | | | | |
| 10-171323-1 | 30000 | 3.7 | 60 | 36 | 60 | |
| 10-320790-1 | 10000 | 3.0 | 55 | 31 | 55 | 2.0 Max. Primary DC Ohms |
| 10-349271 | 30000 | 3.8 | 70 | 49 | 65 | |
| 10-349750 | 10000[22] | .3 | 50 | 18[23] | 50[24] | D-2000 SERIES 2.0 Max. Primary DC Ohms |
| 10-357165 | 25000 | 1.4 | 60 | 30 | 55 | |
| 10-372385 | 10000 | .4 | 50 | 18[24] | 50 | D-2000 SERIES 2.0 Max. Primary DC Ohms |
| 10-382588 | 15000 | 1.3 | 65 | 34 | 65 | D-2000 SERIES 2.0 Max. Primary DC Ohms |
| 10-382790 | 25000 | 3.0 | 65 | 34 | 65 | D-2000 SERIES 2.0 Max. Primary DC Ohms |

* On Stator Plate ** Off Stator Plate *** Replaces 10-70199

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[18]See 10-82241
[19]Replaces 10-70199
[20]Only one heavy winding in this coil. Make continuity check only.
[21]A lighting coil check for continuity only (about 3.5 ;ohms on Primary Continuity Scale.)
[22]Between secondary and GND terminal
[23]Amplified
[24]Attached jumper lead from GND terminal to one primary terminal

| COIL TYPE | MAXIMUM SECONDARY RESISTNACE | MAXIMUM PRIMARY RESISTANCE | COIL INDEX | MINIMUM COIL TEST | MAX GAP INDEX | MAGNETO |
|---|---|---|---|---|---|---|

## ROBERT BOSCH

(See GERMAN BOSCH Page 17)

## BRIGGS & STRATTON

| Part Number | Ref. No | Models Used On |
|---|---|---|
| 29656 | See #1 below | A, B, H, HM, K, Y, Z &ZZ |
| 29657 | See #1 below | FH, FI, FG, FJ, L, M, PB, Q, R, S, T,&W |
| 29671 | See #2 below | N, I, IBP, NS, U, WI, WM & WMI |
| 290880 | See #3 below | 9, 14, 19, 23, 23A, 191400 & 231400 |
| 291617 | See #2 below | 60100, 60200, 60300, 60400, 60500, 60700, 60900, 61100, 61200, 61300, 61400, 61500, 61700, 61900, 80100, 80300, 80400, 80500, 80700, 80900, 81100, 81300, 81400, 81500, 81700, 81900, 5, 5S, 6, 6A-H, 6A-HS, 6B, 6B-H, 6B-S, 6B-HS, 6H, 6HF, 6HS, 6HSF, 6-S, 8, 8A-HF, 8B, 8B-H, 8B-HA, 8HF, N, WI, &WMB |
| 292184 | See #2 below | 6, 8, 6B, & N |
| 292640 | See #4 below | 9, 14FB & 23FB |
| 292650 | See #4 below | 9, 14 & 23 |
| 293013 | See #4 below | 9, 14, 19, 23A, 191400 & 231400 |
| 293289 | See #1 below | A, B, & ZZ |
| 293431 | See #5 below | 23A & 231400 |
| 294319 | See #2 below | 6B |
| 295680 | See #2 below | 60300, 60400, 80700 & 8B |
| 295845 | See #2 below | 141000 & 14300 |
| 295915[25] | See #6 below | 60300 & 61300 |
| 296084 | See #5 below | 80302 |
| 296171 | See #2 below | 80600, 80800, 81600, 81800, 84502, 85502 & 85902 |
| 296703 | See #2 below | 140000, 141000, 142000 & 143000 |
| 296834 | See #2 below | 140200, 140300, 140700, 141200, 141300, 141400, 141700, 142700, 143300, 143400, 143700, 19D, 23C & 23D |
| 296858 | See #2 below | 60000 &80000 |
| 297307 | See #7 below | 60500, 60700, 61500 & 61700 |
| 297320 | See #2 below | 140300, 141300 & 141400 |
| 267594 | See #2 below | 100200 & 100900 |
| 298274 | See #7 below | 60300 & 80400 |
| 298316 | See #7 below | 100200, 100900, 130200 & 130900 |
| 298502 | See #7 below | 60100, 60200, 60300, 60400, 60900, 61100, 61200, 61300, 61400, 61900, 80100, 80300, 80400, 80500, 80700, 81100, 81300, 81400, 81500, 81700, 82500, 82900, 92500, 92900, 110900, 111200 & 111900 |
| 298443 | See #7 below | 60000 & 80000 |
| 298524 | See #7 below | 100200 & 100900 |
| 298654 | See #8 below | 80300, 80400 & 81400 |
| 298968 | See #8 below | 144200, 144400, 144700, 145200, 145400, 145700, 146400, 146700, 147400, 147700, 170400, 170700, 171700, 090400, 190700, 191700, 193400, 200400, 302400, 320400, 325400, 326400 |
| 299366 | See #7 below | 144400, 146400 &170400 |
| 299700 | See #8 below | 200400 & 233400 |

[25] Part Numbers 295915 & 298654 have dual Secondary. Therefore, when testing for secondary continuity and coil test, it is necessary to ground one of the secondary leads to the armature laminations. Test second lead the same way.

| COIL TYPE | MAXIMUM SECONDARY RESISTNACE | MAXIMUM PRIMARY RESISTANCE | COIL INDEX | MINIMUM COIL TEST | MAX GAP INDEX | MAGNETO |
|---|---|---|---|---|---|---|
| **BRIGGS & STRATTON** | **REFERENCE TABLE** | **SEE PART NO.'S ABOVE** | | | | |
| Reference # 1 | 10,000 | 8.5 | 55 | 30 | 65 | |
| Reference # 2 | 7,500 | 1.5 | 55 | 14 | 65 | |
| Reference # 3 | 10,000 | 2.0 | 65 | 40 | 65 | |
| Reference # 4 | 10,000 | 7.0 | 80 | 36 | 70 | |
| Reference # 5 | 9,000 | 1.6 | 60 | 35 | 55[26] | |
| Reference # 6 | 7,500 | 1.1 | 55 | 18 | 60 | |
| Reference # 7 | 4,000 | 1.0 | 55 | 14 | 60 | |
| Reference # 8 | 5,600 | 1.0 | 50 | 16 | 60 | |
| [27] | | | | | | |
| **BUNDY MARINE** | | | | | | |
| 81-0505-0140 | 30 | 7.0 | 70 | 41 | 75 | |
| 81-0505-0170 | | | | | | |
| [28] | | | | | | |
| **J. I. CASE CO.** | | | | | | |
| JM | 10,000 | 1.0 | 60 | 34 | 60 | coil out of mag. |
| JM | 10,000 | 2.6 | 60 | 26 | 60 | coil in magneto |
| CM | 12,000 | 1.0 | 60 | 29 | 60 | coil in magneto |
| 7-41A | 10,300 | 1.5 | 60 | 33 | 60 | coil out of mag |
| 7-41A | 10,300 | 3.0 | 60 | 20 | 60 | coil in magneto |
| 15-41A | 10,000 | 1.0 | 60 | 40 | 60 | coil out of mag |
| 15-41A | 10,000 | 2.0 | 60 | 18 | 60 | coil in magneto |
| 11-46A | 10,300 | 1.5 | 60 | 33 | 60 | coil out of mag |
| 11-46A | 10,300 | 3.0 | 60 | 20 | 60 | coil in magneto |
| m-1073[29] | 10,300 | 1.5 | 60 | 33 | 60 | coil out of mag |
| m-1073[30] | 10,300 | 3.0 | 60 | 20 | 60 | coil in magneto |
| **CHRYSLER MOPAR COIL** | | | | | | |
| 2945531 | 15,000 | 4.2 | 60 | 29 | 55 | |
| **CHRYSLER OUTBOARD** | | | | | | "POINTS TEST" PRIMARY DC OHMS MAXIMUM |
| 12057 | 15,000 | 1.3 | 75 | 31 | 75 | .9 |
| 12211 | 15,000 | 1.2 | 65 | 16 | 65 | .8 |
| 12226 | 15,000 | 1.2 | 65 | 19 | 65 | .8 |
| A12231 | 15,000 | 1.2 | 65 | 19 | 65 | .8 |
| 12345 | 15,000 | 1.2 | 65 | 19 | 65 | .8 |
| 12348 | 15,000 | 1.8 | 60 | 18 | 70 | 1.3 |
| 12358 | 15,000 | 1.8 | 60 | 18 | 70 | 1.3 |

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[26] One end of secondary connected to primary

[27] Note: Keep coil secondary lead (Ignition Cable) at least one inch away from all other wires and surfaces during "coil test". When making above tests, coil must be separated at least three inches from other coils or metal objects including metal bench top.

[28] Diodes on stator plate-standard test

[29] This coil used in both 400 and 600 Series Jump-Spark Magnetos

[30] This coil used in both 400 and 600 Series Jump-Spark Magnetos

| COIL TYPE | MAXIMUM SECONDARY RESISTNACE | MAXIMUM PRIMARY RESISTANCE | COIL INDEX | MINIMUM COIL TEST | MAX GAP INDEX | MAGNETO |
|---|---|---|---|---|---|---|
| A85475-2 | 25,000 | 4.5 | 80 | 46 | 60 | 5.0 |
| 2A91475-2 | 15,000 | 7.0 | 70 | 40 | 70 | 6.0 |
| 316475 | 25,000 | 4.5 | 80 | 46 | 60 | 5.0 |
| 321475-1 | 1,500 | .3 | 80 | 9* | 80** in ign unit | .10 |
| | | | | 75* amp | 75** out of unit | |
| 345475-1 | 1,500 | .8 | 65 | 50 amp | 65 | .5 |
| 474475*** | 1,500 | .3 | 65 | 40 amp | 75*** | .15 |
| 510475 | 1,000 | .3 | 50 | 29 amp | 50 | .07 |

[31]

## CLINTON MACHINE CO

| | | | | | |
|---|---|---|---|---|---|
| P-5502 | 5700 | 1.4 | 75 | 17 | 60 |
| P-5509 | 5700 | 1.4 | 75 | 17 | 60 |
| P-5531 | 5700 | 1.4 | 75 | 17 | 60 |
| P-5538 | 5700 | 1.4 | 75 | 17 | 60 |
| P-5545 | 5700 | 1.4 | 75 | 17 | 60 |
| P-5563 | 17000 | 1.7 | 75 | 34 | 50 |
| P-5593 | 5700 | 1.4 | 75 | 17 | 60 |
| P-5733 | 5700 | 1.4 | 75 | 17 | 60 |
| P-5770 | 5700 | 1.4 | 75 | 17 | 60 |
| P-25313 | 8300 | 1.4 | 75 | 26 | 55 |
| 135-17-500 | 5700 | 1.4 | 75 | 17 | 60 |
| 135-167 | 5700 | 1.4 | 75 | 17 | 60 |
| 135-19-500 | 5700 | 1.4 | 75 | 17 | 60 |
| 135-169 | 5700 | 1.4 | 75 | 17 | 60 |
| 135-19-500 | 5700 | 1.4 | 75 | 17 | 60 |
| 135-22-500 | 17000 | 1.7 | 75 | 34 | 50 |
| 135-23-500 | 5700 | 1.4 | 75 | 17 | 60 |
| 135-10-500 | 5700 | 1.4 | 75 | 17 | 60 |
| 135-13-990 | 5700 | 1.4 | 75 | 17 | 60 |
| 135-15-500 | 8300 | 1.4 | 75 | 26 | 55 |

## CLINTON MACHINE CO

### Chain Saws & Outboards

| | | | | | |
|---|---|---|---|---|---|
| P-513 | 5700 | 1.4 | 75 | 17 | 60 |
| P400467 | 5700 | 1.4 | 75 | 17 | 60 |
| P400789 | 5700 | 1.4 | 75 | 17 | 60 |
| P-254 | 8000 | 2.6 | 75 | 28 | 70 |
| 135-19-500 | 5700 | 1.4 | 75 | 17 | 60 |
| 135-8-500 | 5700 | 1.4 | 75 | 17 | 60 |

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[31] * If transformer is mounted in ignition unit, remove wires from primary terminals for this test.
** "G" terminal on transformer must be grounded to one of the primary terminals for this test. If test is made with transformer mounted in ignition unit, remove ignition unit wires from primary terminals for this test.
*** for coil tests of number 474475-1, connect black test clip to primary "+" and red test clip to primary "-".
**** Maximum Gap Index means coil must fire tester spark gap at this coil index setting or less.

| COIL TYPE | MAXIMUM SECONDARY RESISTNACE | MAXIMUM PRIMARY RESISTANCE | COIL INDEX | MINIMUM COIL TEST | MAX GAP INDEX | MAGNETO |
|---|---|---|---|---|---|---|
| 135-230-500 | 5700 | 1.4 | 75 | 17 | 60 | |
| 135-19-500 | 8000 | 2.6 | 75 | 28 | 70 | |
| 135-281-000 | 8000 | 2.6 | 75 | 28 | 70 | |
| [32] | | | | | | |
| **CUSHMAN MOTORS** | | | | | | |
| 378231 if Autolite or Prestolite 200668 | 14000 | 4.2 | 60 | 29 | 50 | |
| If Delco Remy 1115153 | 10000 | 4.2 | 60 | 30 | 50 | |
| 580346 | 7500 | 1.5 | 50 | 20 | 65 | |
| 580380 | 25000 | 2.2 | 50 | 27 | 50* | |
| Phelon FG-1070 | 7500 | 2.0 | 75 | 24 | 70 | all scooter engines used alternately since 60 series. |
| Wico X-4943 & X-4943-F | 5500 | 2.0 | 55 | 18 | 50 & 60 | series scooters and all commercial engines |
| Wico X-11856 | 7500 | 1.3 | 50 | 13 | 70 | Used on scooters engines 1959 &1960 |
| Cushman 383444 | 10000 | 3.0 | 55 | 28 | 50 | |
| Motorcraft D2AF-12020-AA | 10000 | 3.0 | 55 | 28 | 50 | |
| Cushman 58346 | 7500 | 1.5 | 50 | 20 | 65 | |
| **DECO-GRAND INC. (formerly CONTINENTAL MOTORS)** | | | | | | |
| Bendix 10-38222Y | 8000 | 1.0 | 70 | 36 | 70 Off stator plate | |
| Scintilla k1-1 10-38222Y | 8000 | 2.2 | 70 | 36 | 70 On stator plate | |
| AA7M-3001 Wico X-6111 | 5000 | 2.1 | 50 | 18 | 65 | |
| Wico FW AA7M3260 Smith | 6000 | 1.2 | 60 | 18 | 65 | |
| Wico FW X-6718 | 5000 | 1.5 | 50 | 17 | 70 | |
| Wico FW X-7536 | 8000 | 1.2 | 60 | 17 | 70 | |
| Phelon F-724 FG-463B | 7500 | 2.0 | 75 | 17 | 70 | |
| Deco-Grand No. AA7-M-3500 | 10000 | 1.5 | 75 | 22 | 70 | |
| **Delco Remy** | | | | | | |
| 526-528-533 | 20000 | 2.8 | 55 | 26 | 55 | |
| 534-536-538 | 20000 | 2.8 | 55 | 26 | 55 | |
| 528D* | 20000 | 2.8 | 55 | 26 | 55 | |

[32]Note: Test Specifications are given for coil mounted on magneto core and can be taken with magneto on engine.

| COIL TYPE | MAXIMUM SECONDARY RESISTNACE | MAXIMUM PRIMARY RESISTANCE | COIL INDEX | MINIMUM COIL TEST | MAX GAP INDEX | MAGNETO |
|---|---|---|---|---|---|---|
| 539 Series | 20000 | 2.7 | 50 | 23 | 50 | |
| 553 | 20000 | 2.8 | 55 | 26 | 55 | |
| 1112203 (coil part only) | 9000 | 1.5 | 60 | 29 | 50 | |
| 1115011-12 | 20000 | 2.8 | 55 | 26 | 55 | |
| 1115021 to 30 | 20000 | 2.8 | 55 | 26 | 55 | |
| 1115032 | 20000 | 12.0 | 65 | 38 | 65 | |
| 1115033 | 20000 | 8.1 | 55 | 30 | 55 | |
| 1115034 | 20000 | 12.0 | 65 | 38 | 65 | |
| 1115036 | 20000 | 3.5 | 50 | 25 | 50 | |
| 1115037 | 20000 | 5.0 | 50 | 23 | 55 | |
| 1115038 | 20000 | 3.5 | 50 | 25 | 50 | |
| 1115039 | 20000 | 3.5 | 50 | 25 | 50 | |
| 1115042 to 58 | 20000 | 12.0 | 65 | 38 | 65 | |
| 1115060 -61 | 20000 | 7.0 | 75 | 39 | 75 | |
| 1115062 | 20000 | 8.1 | 55 | 30 | 55 | |
| 1115064 | 20000 | 7.0 | 75 | 39 | 75 | |
| 1115065-66-67 | 20000 | 7.3 | 55 | 28 | 50 | |
| 1115068-69-70 | 20000 | 8.0 | 65 | 37 | 65 | |
| 1115071 | 20000 | 8.1 | 55 | 30 | 55 | |
| 1115072 | 20000 | 8.0 | 65 | 37 | 65 | |
| 1115073 | 20000 | 40.0 | 60 | 35 | 60 | |
| 1115074 | 20000 | 2.4 | 50 | 17 | 50 | |
| 1115075 | 20000 | 12.0 | 65 | 38 | 65 | |
| 1115076 to 79 | 20000 | 12.0 | 65 | 38 | 65 | |
| 1115081 to 85 | 20000 | 3.5 | 50 | 25 | 50 | |
| 1115086 | 20000 | 3.5 | 50 | 25 | 50 | |
| 1115087 to 90 | 20000 | 3.5 | 50 | 25 | 50 | |
| 1115091 | 20000 | 3.5 | 50 | 25 | 50 | |
| 1115092 to 98 | 20000 | 3.5 | 50 | 25 | 50 | |
| 1115099 | 20000 | 3.5 | 50 | 25 | 50 | |
| 1115100 | 20000 | 3.5 | 50 | 25 | 50 | |
| 1115101 to 3 | 20000 | 2.7 | 50 | 23 | 50 | |
| 1115104 to 12 | 20000 | 3.5 | 50 | 25 | 50 | |
| 1115114 to 16 | 20000 | 3.5 | 50 | 25 | 50 | |
| 1115118 to 25 | 20000 | 3.5 | 50 | 25 | 50 | |
| 1115126 to 30 | 20000 | 2.7 | 60 | 23 | 60 | |
| 1115131 to 34 | 20000 | 5.0 | 50 | 23 | 55 | |
| 1115135 to 37 | 20000 | 3.5 | 50 | 25 | 50 | |
| 1115139 | 20000 | 3.5 | 50 | 25 | 50 | |
| 1115143 | 20000 | 2.8 | 60 | 30 | 60 | |
| 1115144 | 20000 | 2.7 | 50 | 23 | 50 | |
| 1115145 | 20000 | 2.8 | 60 | 30 | 60 | |
| 1115146 | 20000 | 2.7 | 50 | 23 | 50 | |
| 1115147 | 20000 | 2.8 | 60 | 30 | 60 | |
| 1115149*-50*-51* | 20000 | 2.8 | 60 | 30 | 60 | |
| 1115152 | 20000 | 5.0 | 50 | 23 | 55 | |
| 1115153 | 20000 | 4.2 | 60 | 30 | 50 | |
| 1115154-55 | 20000 | 3.5 | 55 | 27 | 55 | |
| 1115156 to 61 | 20000 | 3.5 | 50 | 25 | 50 | |
| 1115162 | 20000 | 3.9 | 55 | 25 | 55 | |
| 1115163-64 | 20000 | 3.5 | 50 | 25 | 50 | |
| 1115165-66 | 20000 | 3.9 | 55 | 25 | 55 | |
| 1115167-68 | 20000 | 3.5 | 50 | 25 | 50 | |
| 1115169 | 20000 | 3.9 | 55 | 25 | 55 | |

| COIL TYPE | MAXIMUM SECONDARY RESISTNACE | MAXIMUM PRIMARY RESISTANCE | COIL INDEX | MINIMUM COIL TEST | MAX GAP INDEX | MAGNETO |
|---|---|---|---|---|---|---|
| 1115170 | 20000 | 3.5 | 50 | 25 | 50 | |
| 1115171 | 20000 | 3.0 | 55 | 25 | 55 | |
| 1115172 | 20000 | 3.5 | 50 | 25 | 50 | |
| 1115173 | 20000 | 3.5 | 50 | 25 | 50 | |
| 1115174 | 20000 | 5.0 | 50 | 23 | 55 | |
| 1115175 | 20000 | 3.9 | 55 | 25 | 55 | |
| 1115176 | 20000 | 1.4 | 45 | 18 | 45 | |
| 1115177 | 20000 | 3.5 | 50 | 25 | 50 | |
| 1115178-79 | 20000 | 3.5 | 50 | 25 | 50 | |
| 1115180 | 20000 | 3.5 | 50 | 25 | 50 | |
| 115181-82-83 | 20000 | 3.5 | 50 | 25 | 50 | |
| 1115184 | 20000 | 3.9 | 55 | 25 | 55 | |
| 1115185 | 20000 | 3.5 | 50 | 25 | 50 | |
| 1115186 | 20000 | 1.4 | 45 | 18 | 45 | |
| 1115187 | 20000 | 5.0 | 50 | 23 | 55 | |
| 1115188 | 20000 | 3.5 | 50 | 25 | 55 | |
| 1115189 | 20000 | 1.4 | 45 | 18 | 45 | |
| 1115190-1-2-3 | 20000 | 5.0 | 50 | 25 | 50 | |
| 1115194 | 20000 | 3.5 | 50 | 25 | 50 | |
| 1115195-6-7 | 20000 | 1.4 | 45 | 18 | 45 | |
| 1115198 | 20000 | 2.5 | 50 | 25 | 50 | |
| 1115199 | 20000 | 1.4 | 45 | 18 | 45 | |
| 1115200-205 | 20000 | 3.5 | 50 | 25 | 50 | |
| 1115206 | 20000 | 2.9 | 22 | 25 | 55 | |
| 1115207 | 20000 | 1.4 | 45 | 18 | 45 | |
| 1115208 | 20000 | 3.9 | 55 | 25 | 55 | |
| 115209-10-11 | 20000 | 1.4 | 45 | 18 | 45 | |
| 1115212 | 20000 | 3.5 | 50 | 25 | 50 | |
| 1115213 | 20000 | 1.4 | 45 | 18 | 45 | |
| 1115214 | 20000 | 5.0 | 50 | 23 | 55 | |
| 1115215 | 20000 | 1.4 | 45 | 18 | 45 | |
| 1115216 | 20000 | 5.0 | 50 | 23 | 55 | |
| 1115217-8 | 20000 | 3.5 | 50 | 25 | 50 | |
| 1115219-20 | 20000 | 5.0 | 50 | 23 | 55 | |
| 1115222 | 20000 | 8.0 | 65 | 37 | 65 | |
| 1115223 | 20000 | 12.0 | 65 | 38 | 65 | |
| 1115224 | 20000 | 3.9 | 55 | 25 | 55 | |
| 1115225 | 20000 | 3.5 | 50 | 25 | 50 | |
| 1115226-7* | 20000 | 5.0 | 50 | 23 | 55 | |
| 1115229 | 20000 | 5.0 | 50 | 23 | 55 | |
| 1115230 | 20000 | 3.5 | 50 | 25 | 50 | |
| 1115231 | 20000 | 3.5 | 50 | 25 | 50 | |
| 1115232-3 | 20000 | 3.5 | 50 | 25 | 50 | |
| 1115235 | 20000 | 5.0 | 50 | 23 | 55 | |
| 1115236 | 20000 | 3.5 | 50 | 25 | 50 | |
| 1115237 | 20000 | 1.0 | 50 | 18 | 50 | |
| 1115238 | 20000 | 5.0 | 50 | 23 | 55 | |
| 1115240-1 | 20000 | 1.0 | 50 | 18 | 50 | |
| 1115242 | 20000 | 3.5 | 50 | 25 | 50 | |
| 1115244 | 20000 | 5.0 | 50 | 23 | 50 | |
| 1115245-6 | 20000 | 1.0 | 50 | 18 | 50 | |
| 1115247 | 20000 | 3.5 | 50 | 25 | 50 | |
| 1115248 | 20000 | 1.0 | 50 | 18 | 50 | |
| 1115249 | 20000 | 3.5 | 50 | 25 | 50 | |

| COIL TYPE | MAXIMUM SECONDARY RESISTNACE | MAXIMUM PRIMARY RESISTANCE | COIL INDEX | MINIMUM COIL TEST | MAX GAP INDEX | MAGNETO |
|---|---|---|---|---|---|---|
| 1115250 | 20000 | 7.3 | 55 | 28 | 50 | |
| 1115251-2[33] | 20000 | 6.0 | 70 | 29 | 70 | |
| 1115253 | 20000 | 7.5 | 60 | 36 | 50 | |
| 1115254-5 | 20000 | 6.0 | 40 | 39 | 70 | |
| 1115256 | 20000 | 5.8 | 55 | 29 | 55 | |
| 1115257[34] | 20000 | 6.0 | 70 | 39 | 70 | |
| -8-9 | | | | | | |
| 4445260 | 20000 | 6.0 | 60 | 36 | 60 | |
| 4445261-2-3-4- | 20000 | 6.5 | 50 | 25 | 50 | |
| 1115265 | 20000 | 8.0 | 65 | 37 | 65 | |
| 1115233-7 | 20000 | 5.0 | 50 | 23 | 55 | |
| 1115268 | 20000 | 3.5 | 50 | 25 | 50 | |
| 1115269-70 | 20000 | 5.0 | 50 | 23 | 55 | |
| 1115271 | 20000 | 1.0 | 50 | 18 | 50 | |
| 1115272 | 20000 | 3.5 | 50 | 25 | 50 | |
| 1115273-4 | 20000 | 5.0 | 50 | 23 | 55 | |
| 1115276-7 | 20000 | 6.0 | 60 | 36 | 60 | |
| 1115278-9-80 | 20000 | 7.5 | 60 | 36 | 50 | |
| 1115282 | 20000 | 7.5 | 60 | 36 | 50 | |
| 1115283 | 20000 | 7.0 | 60 | 35 | 55 | |
| 1115284-5 | 20000 | 6.0 | 60 | 36 | 60 | |
| 1115286 | 20000 | 7.5 | 60 | 36 | 50 | |
| 1115287-8 | 20000 | 5.0 | 50 | 23 | 55 | |
| 1115290 | 20000 | 3.4 | 50 | 26 | 50 | |
| 1115292-3 | 20000 | 5.0 | 50 | 23 | 55 | |
| 1115294 | 20000 | 3.9 | 55 | 25 | 55 | |
| 1115295 | 20000 | 5.0 | 50 | 23 | 55 | |
| 1115296 | 20000 | 3.4 | 50 | 26 | 50 | |
| 1115297 | 20000 | 3.9 | 55 | 25 | 55 | |
| 1115298 | 20000 | 5.0 | 50 | 23 | 55 | |
| 1115299 | 20000 | 1.0 | 50 | 18 | 50 | |
| 1115326-7-8-9 | 20000 | 2.8 | 60 | 30 | 60 | |
| 1115333-4-5 | 20000 | 2.8 | 60 | 30 | 60 | |
| 1115338-9 | 20000 | 2.8 | 60 | 30 | 60 | |
| 1115376 | 20000 | 2.9 | 60 | 29 | 50 | |
| 1115378 | 20000 | 2.9 | 60 | 29 | 50 | |
| 1115379 | 20000 | 3.9 | 55 | 25 | 55 | |
| 1115380 | 20000 | 2.9 | 60 | 29 | 50 | |
| 1115381-2-3-4 | 20000 | 3.9 | 55 | 25 | 55 | |
| 1115385-6-7 | 20000 | 2.9 | 60 | 29 | 50 | |
| 1115389-93 | 20000 | 2.9 | 60 | 29 | 50 | |
| 1115395 | 20000 | 3.9 | 55 | 25 | 55 | |
| 1115397 | 20000 | 2.9 | 60 | 29 | 50 | |
| 1115398-9 | 20000 | 3.9 | 55 | 25 | 55 | |
| 1115400 | 20000 | 3.9 | 55 | 25 | 50 | |
| 1115401 | 20000 | 2.9 | 60 | 29 | 50 | |

[33]* Secondary ground attached to case. When testing for secondary continuity, connect one test lead to high tension terminal and other test lead to metal container.
Test Polarity on all coils after 1940
Leakage: Operation Temperature (160-180 degrees F.) 5 Megohms minimum.

[34]* Secondary ground attached to case. When testing for secondary continuity, connect one test lead to high tension terminal and other test lead to metal container.
Test Polarity on all coils after 1940
Leakage: Operation Temperature (160-180 degrees F.) 5 Megohms minimum.

| COIL TYPE | MAXIMUM SECONDARY RESISTNACE | MAXIMUM PRIMARY RESISTANCE | COIL INDEX | MINIMUM COIL TEST | MAX GAP INDEX | MAGNETO |
|---|---|---|---|---|---|---|
| 1115404 | 20000 | 2.9 | 60 | 29 | 50 | |
| 1115405 | 20000 | 3.5 | 50 | 25 | 50 | |
| 1115406 | 20000 | 1.4 | 50 | 18 | 50 | |
| 1115407 | 20000 | 3.5 | 50 | 25 | 50 | |
| 1115409 | 20000 | 3.5 | 50 | 25 | 50 | |
| 1115410 | 20000 | 5.0 | 50 | 23 | 55 | |
| 1115412 | 20000 | 3.9 | 55 | 25 | 55 | |
| 1115413 | 20000 | 8.1 | 55 | 30 | 55 | |
| 1115414 | 20000 | 3.7 | 50 | 26 | 50 | |
| 1115419 | 20000 | 3.5 | 50 | 25 | 50 | |
| 1915992 | 20000 | 4.2 | 50 | 24 | 50 | |
| 1972028 | 20000 | 3.9 | 55 | 25 | 55 | |
| 1972277 | 20000 | 3.9 | 55 | 25 | 55 | |
| **DESA INDUSTRIES** | | | | | | |
| 68025 | 7000 | 1.5 | 55 | 20 | 55 | |
| **DISSTON CHAIN SAW** | | | | | | |
| DH-120 FAIRBANKS-MORES G2477 DA-211F | 6500 | 1.0 | 70 | 32 | 60 | |
| SCINTILLA 10-70128 | 5000 | 1.2 | 75 | 25 | 85 | |
| SCINTILLA 10-70132 | 5000 | 1.00 | 75 | 26 | 85 | |
| D0-100 SCINTILLA 10-38222 | 8000 | 1.2 | 70 | 36 | 70 | OFF STATOR |
| | 8000 | 2.2 | 70 | 36 | 70 | ON STATOR |
| D0-101 SCINTILLA 10-38222Y | 8000 | 1.2 | 70 | 36 | 70 | OFF STATOR |
| | 8000 | 2.2 | 70 | 36 | 70 | ON STATOR |
| DISSTON 230J-264 | 4500 | 1.2 | 80 | 28 | 85 | |
| **EDISON SPLITDORF** | | | | | | |
| 6406 | 7000 | 1.5 | 70 | 36 | 70 | RM 4-6 |
| 6435 | 6000 | 1.5 | 75 | 37 | 75 | RM 1.2 |
| 51432 | 7500 | 2.0 | 55 | 26 | 55 | CD |
| 51690 | 7000 | 1.5 | 70 | 22 | 70 | AJ |
| 72080A | 5000 | 1.5 | 70 | 22 | 70 | AJ |
| 72223 | 5000 | 1.5 | 70 | 22 | 70 | AJ |
| 72288 | 8000 | 1.5 | 75 | 22 | 75 | AJ |
| **EISEMANN** | | | | | | |
| H20-714 | 4500 | 4.5 | 65 | 35 | 65 | GL & GV SERIES |
| H21-A808 | 7000 | 3.5 | 80 | 45 | 80 | FW |
| H22-920 | 8500 | 2.0 | 60 | 31 | 60 | RT SERIES |

| COIL TYPE | MAXIMUM SECONDARY RESISTNACE | MAXIMUM PRIMARY RESISTANCE | COIL INDEX | MINIMUM COIL TEST | MAX GAP INDEX | MAGNETO |
|---|---|---|---|---|---|---|
| H23-010 | 6000 | 1.6 | 55 | 22 | 55 | FW |
| H23-049 | 8000 | 1.8 | 60 | 30 | 60 | FW |
| H23-295 | 8500 | 2.0 | 60 | 30 | 60 | RC SERIES |
| H24-820 | 6000 | 1.5 | 55 | 24 | 55 | FW |
| H27-277 | 10000[35] | 1.9 | 55 | 20 | 55[36] | FW |
| H27-719 | 7000 | 1.5 | 50 | 16 | 50 | AM & LA SERIES |
| H27-894 | 6000 | 1.4 | 60 | 25 | 52 | AM & LA SERIES |
| H27-927 | 10500[37] | 1.5 | 60 | 22 | 65[38] | |
| H27-958 | 7000 | 2.0 | 50 | 20 | 50 | AM & LA SERIES |
| H27-959 | 7000 | 1.5 | 50 | 16 | 50 | AM & LA SERIES |
| H28-015 | 10000[39] | 2.8 | 55 | 22 | 60[40] | FW |
| H28-030 | 85000 | 2.0 | 60 | 31 | 75 | RT & RC SERIES |
| **EVINRUDE MOTORS** | | | | | | |
| 112931 | 30000 | 4.0 | 60 | 30 | 50 | SNOWMOBILE |
| 191049 | 6000 | 0.6 | 50 | 22 | 50 | BATTERY |
| 191051 | 6000 | 0.6 | 50 | 22 | 50 | BATTERY |
| 191073 | 6000 | 0.8 | 50 | 23 | 50 | BATTERY |
| 191181 | 7500 | 1.0 | 45 | 20 | 45 | MAGNETO |
| 191572 | 6000 | 0.8 | 50 | 23 | 50 | BATTERY |
| 192385 | 3000 | 0.6 | 70 | 26 | 70 | BATTERY |
| 192648 | 7500 | 0.6 | 45 | 20 | 45 | MAGNETO |
| 192882 | 6000 | 0.6 | 50 | 22 | 50 | BATTERY |
| 192980 | 6000 | 0.6 | 50 | 22 | 50 | BATTERY |
| 193163 | 5000 | 1.4 | 65 | 27 | 65 | BATTERY |
| 193164 | 6000 | 0.6 | 50 | 22 | 50 | BATTERY |
| 193274 | 6000 | 0.6 | 50 | 22 | 50 | BATTERY |
| 194168 | 7500 | 1.0 | 45 | 20 | 45 | MAGNETO |
| 195911 | 7500 | 1.0 | 50 | 19 | 50 | MAGNETO |
| 275019 | 6500 | 0.5 | 50 | 11 | 50 | MAGNETO |
| 275370 | 8500 | 0.8 | 45 | 20 | 45 | MAGNETO |
| 275540 | 18500[41] | 1.0 | 45 | 20 | 45 | MAGNETO |
| 276039 | 8500 | 0.8 | 45 | 19 | 45 | MAGNETO |
| 375189 | 4500 | 1.0 | 65 | 25 | 65 | MAGNETO |
| 378331 | OPTIONS BELOW | | | | | |
| AUTO-LITE PRESTOLITE 200668 | 14000 | 4.2 | 60 | 29 | 50 | |
| DELCO REMY 1115153 | 10000 | 4.2 | 60 | 30 | 50 | |
| 379569 | 30000 | 4.0 | 60 | 30 | 50 | MAGNETO |
| 381886 | 1500 | .65 | 65 | 4<br>44 Amplified | 50 | PULSE TRANSFORMER |

[35] Between two secondary terminals
[36] One secondary terminal grounded to primary
[37] Between tow secondary terminals
[38] One secondary terminal grounded to primary
[39] Between two secondary terminals
[40] One secondary terminal grounded to primary
[41] The spark coils must have one secondary terminal grounded to one primary terminal when making tests with the coil firing spark gap.

| COIL TYPE | MAXIMUM SECONDARY RESISTNACE | MAXIMUM PRIMARY RESISTANCE | COIL INDEX | MINIMUM COIL TEST | MAX GAP INDEX | MAGNETO |
|---|---|---|---|---|---|---|
| 580040 | 4000 | 1.3 | 75 | 31 | 75 | MAGNETO |
| 580084 | 4000 | 1.0 | 70 | 26 | 70 | MAGNETO |
| 580118 | 4000 | 1.2 | 75 | 33 | 75 | MAGNETO |
| 580197 | 9000 | 1.2 | 75 | 36 | 70 | MAGNETO |
| 580243 50 HP. | 8000 | 1.1 | 60 | 31 | 55 | MAGNETO |
| 580416 | 5500 | 1.2 | 75 | 33 | 75 | MAGNETO |
| 580527 | 25000 | 25 | 55 | 32 | 45 | |
| 580602 | 25000 | 25 | 55 | 32 | 45 | |
| 580688 | 3000 | 1.2 | 60 | 9 80 Amplified | 50 | |
| 580730 | 3000 | 1.2 | 60 | 9 80 Amplified | 50 | |
| 580740 | 3000 | 1.2 | 60 | 9 80 Amplified | 50 | OUTBOARD MAG |
| 580821 | 3000 | 1.2 | 60 | 9 80 Amplified | 50 | OUTBOARD MAG |
| 580847 | 3000 | 1.2 | 60 | 9 80 Amplified | 50 | OUTBOARD MAG |
| 580944 | 3000 | 1.2 | 60 | 9 80 Amplified | 50 | SNOWMOBILE MAG |
| 580971 | 5500 | 1.2 | 75 | 33 | 70 | OUTBOARD MAG |
| 580976 | 3000 | 1.2 | 60 | 9 80 Amplified | 50 | SNOWMOBILE MAG |
| 580977 | 3000 | 1.2 | 60 | 9 80 Amplified | 50 | SNOWMOBILE MAG |
| 580981 | 3000 | 1.2 | 60 | 9 80 Amplified | 50 | SNOWMOBILE MAG |
| 581024 | 3000 | 1.2 | 60 | 9 80 Amplified | 50 | SNOWMOBILE MAG |
| 581032 | 3000 | 1.2 | 60 | 9 80 Amplified | 50 | OUTBOARD MAG |
| 581124 | 9000 | 7.0 | 50 | 22 | 50 | OUTBOARD MAG |
| | | | | | | MAXIMUM PRIMARY DC OHMS (POINTS TEST) |
| 581370 | 20000 | 14 | 50 | 24 | 45 | 1.2 |
| 581407 | 20000 | 14 | 50 | 24 | 45 | 1.2 |
| 581503 | 3000 | 0.6 | 50 | 27 Amplified | 50 | 0.06 |
| 581609 | 3000 | 0.6 | 50 | 27 Amplified | 50 | 0.06 |
| 581610 | 3000 | 0.6 | 50 | 27 Amplified | 50 | 0.06 |
| 581611 | 3000 | 0.6 | 50 | 27 Amplified | 50 | 0.06 |
| 581685 | 3000 | 0.6 | 50 | 27 Amplified | 50 | 0.06 |
| 581686 | 3000 | 0.6 | 50 | 27 Amplified | 50 | 0.06 |
| 581764 | 3000 | 0.6 | 50 | 27 Amplified | 50 | 0.06 |

## FAIRBANKS-MORSE

| | | | | |
|---|---|---|---|---|
| B2477C | 5500 | 0.8 | 70 | 33 |
| EX2477[42] | 7500 | 1.0 | 75 | 31 |
| F2477C6000 | 6000 | 1.2 | 70 | 37 |
| FX2477[43] | 7500 | 1.0 | 75 | 31 |

[42] Before testing a coil from a flywheel magneto, inset laminated iron core.

| COIL TYPE | MAXIMUM SECONDARY RESISTNACE | MAXIMUM PRIMARY RESISTANCE | COIL INDEX | MINIMUM COIL TEST | MAX GAP INDEX | MAGNETO |
|---|---|---|---|---|---|---|
| GX2477C | 5500 | 0.8 | 70 | 33 | | |
| HX2477[44] | 6500 | 0.8 | 75 | 22 | | |
| JX2477[45] | 6500 | 0.8 | 75 | 22 | | |
| LX2477 | 7000 | 1.0 | 75 | 31 | | |
| NX2477 | 6500 | 0.A8 | 75 | 22 | | |
| P2477C | 5500 | 1.0 | 95 | 49 | | |
| P2477C | 4200 | 1.5 | 70 | | 38 | |
| Q2477C | 9000 | 0.4 | 55 | 15 | | |
| | 12000 | 0.5 | 70 | | 30 | |
| QP2477C | 9000 | 0.4 | 55 | 15 | | |
| QR2477C | 11000 | 0.4 | 55 | 22 | | |
| | 12000 | 0.5 | 70 | | 30 | |
| QS2477C | 7000 | 0.4 | 55 | 15 | | |
| | 12000 | 0.5 | 70 | | 30 | |
| QT2477C | 9000 | 0.4 | 55 | 15 | | |
| QX2477C | 9000 | 0.4 | 55 | 15 | | |
| QW2477C | 9000 | 0.4 | 55 | 15 | | |
| | 12000 | 0.5 | 70 | | 30 | |
| QY2477C | 7000 | 0.4 | 55 | 15 | | |
| QZ2477C | 7000 | 0.4 | 55 | 15 | | |
| | 12000 | 0.5 | 70 | | 30 | |
| R2477C | 5500 | 0.8 | 70 | 33 | | |
| | 4200 | 0.6 | 70 | | 35 | |
| RS2477C | 5500 | 0.8 | 70 | 33 | | |
| | 4200 | 0.6 | 70 | | 35 | |
| S2477C | 7000 | 0.6 | 70 | 35 | | |
| T2477C | 5500 | 0.6 | 70 | 30 | | |
| | 5900 | 0.5 | 70 | | 27 | |
| TS2477C | 4700 | 0.7 | 70 | | 26 | |
| TX2477 | 7000 | 1.0 | 75 | 31 | | |
| | 5900 | 1.0 | 70 | | 35 | |
| U2477[46] | 7500 | 1.0 | 75 | 31 | | |
| U2477C | 5500 | 1.0 | 95 | 49 | | |
| X2477 | 7000 | 1.0 | 75 | 31 | | |
| | 5900 | 1.0 | 70 | 35 | | |
| YX2477 | 5900 | 1.0 | 70 | | 35 | |

[47]

## FIRESTONE

(SEE SCOTT ATWATER)

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[43] Before testing a coil from a flywheel magneto, inset laminated iron core.
[44] Before testing a coil from a flywheel magneto, inset laminated iron core.
[45] Before testing a coil from a flywheel magneto, inset laminated iron core.
[46] Before testing a coil from a flywheel magneto, inset laminated iron core.
[47] Please Note - In the case of the above readings on Fairbanks-Morse molded coils only, it is suggested they be used only as approximate standards. In the field, due both to variation between coils and coil testers, readings may be somewhat above or below the average given here. Where two lines of test data are given for the same coil number it means the coil under test will be to one or the other set of data. Test readings will usually indicate which set of test limits to use.

| COIL TYPE | MAXIMUM SECONDARY RESISTNACE | MAXIMUM PRIMARY RESISTANCE | COIL INDEX | MINIMUM COIL TEST | MAX GAP INDEX | MAGNETO |
|---|---|---|---|---|---|---|
| **FORD, LINCOLN, MERCURY, EDSEL COMET** | | | | | | |
| 78-12036 | 8000 | 1.9 | 60 | 30 | 48 | |
| IGA-12024 | 7500 | 1.9 | 60 | 30 | 48 | |
| 8BA-12029 (6 VOLT) | 5000 | 2.4 | 65 | 33 | 50 | |
| 68-12024 | 4500 | 1.8 | 70 | 37 | 54 | |
| 18-12024 | 4500 | 1.8 | 70 | 37 | 54 | |
| B6A-12029-B (12 VOLT) | 10000 | 3.0 | 55 | 28 | 50 | |
| FAC-12029A | 10000 | 3.0 | 55 | 28 | 50 | |
| MOTORCRAFT D2AF-12029-AA | 10000 | 3.0 | 55 | 28 | 50 | |
| **GAMBLE, GOODRICH, GOODYEAR** | | | | | | |
| SEE COMMON SPECIFICATIONS ON LAST PAGE OF TEST SPECS. | | | | | | |
| **GERMAN BOSCH** | | | | | | |
| M7AN 3Z 6Z (STIHL D-24 LIGHTING 8 HP SAW) | 9000 | 1.4 | 50 | 15 | 55 | |
| 7T1 (STIHL M-07 6 HP SAW | 8000 | 2.5 | 55 | 22 | 60 | |
| 2-204-210-013 (JLO #152 | 6000 | 14.8 | 85 | 46 | 95 | |
| 2-204-210-0A40 (HIRTH 300) | 7000 | 2.5 | 60 | 29 | 65 | |
| 2-204-210-041 (JLO 252 & 372) | 6500 | 5.2 | 85 | 48 | 100 | |
| 2-0204-211-007 (JLO 292 & 372) | 7000 | 2.3 | 60 | 31 | 65 | |
| 2-204-211SD-00AA8 | 7500 | 4.7 | 90 | 49 | 100 | |
| 2-204-211-029 | 7500 | 2.5 | 70 | 35 | 75 | |
| 2-204-211-051 | 10000 | 2.5 | 70 | 30 | 75 | |
| 2-204-211-052 | 10000 | 3.0 | 70 | 33 | 95 | |
| 2-204-211-069 | 10000 | 2.0 | 60 | 24 | 65 | |
| 2-204-211-082 [48] | 5000 | 0.85 | 65 | 35 Amplified | 65 | |
| 0-212-940-001 | 10000 | 23 | 55 | 31 | 55 | |
| 1-214-210-106 [49] | | 2.5 | | | | |
| 1-214-210-162 [50] | | 8.5 | | | | |

[48] Nominal resistance of charging coil is about 1000 OHMS, use Secondary Continuity Test.
[49] Lighting coils - continuity test only ohms Primary Continuity Test.

| COIL TYPE | MAXIMUM SECONDARY RESISTNACE | MAXIMUM PRIMARY RESISTANCE | COIL INDEX | MINIMUM COIL TEST | MAX GAP INDEX | MAGNETO |
|---|---|---|---|---|---|---|
| 0-221-500-800 | 10000 | 23 | 55 | 31 | 55 | |
| 2-204-222-018 | 15000 | 1.5 | 60 | 18 | 60 | |
| 2-204-222-022 | 15000 | 2.0 | 60 | 28 | 60 | |
| 2-204-222-052 | 15000 | 1.5 | 70 | 27 | 70 | |
| **HARLEY DAVIDSON** | | | | | | |
| 29524-55A | 9000 | .04 | 55 | 15 | | |
| 31601-63A | 10000 | 8.0 | 65 | 37 | 65 | |
| 31602-65 | 12000 | 4.5 | 60 | 32 | 60 | |
| 31604-48 TWIN IGNITION | 7000 [51] | 4.1 | 60 | 29 | 67 [52] | |
| 31609-65a | 25000 [53] | 25 | 70 | 51 | 65 [54] | |
| **HOLLINGSWORHT CORP. GENERATORS** | | | | | | |
| PHELON F-981 | | | | | | |
| PHELON FG-1054 | | | | | | |
| PHELON FG-1057 | | | | | | |
| **HOMELITE** | | | | | | |
| 63998-A | 10000 | 1.7 | 65 | 20 | 65 | |
| 68149 | 9000 | 1.7 | 65 | 24 | 60 | |
| 68716 | 7000 | 1.7 | 65 | 24 | 60 | |
| 90098-A1 | 30000 | 3.5 | 65 | 35 | 50 | |
| **HONDA** | | | | | | |
| C-100, C-110 EARLY MODELS | 6000 | 1.4 | 60 | 24 | 70 | |
| C-100, C-110, C-105 Primary coil only for energy transfer systems which replaced above magneto | | 4.2 | 60 | 31 | | |
| High tension coil only for energy transfer system and used in conjunction with above primary coil | 15000 | 12 [55] | 70 | 43 | 75 | |
| C-102 (6 VOLTS) | 15000 | 3.3 | 50 | 23 | 55 | |
| C-200, CT-200 (6 VOLTS) | 20000 | 3.5 | 55 | 27 | 60 | |

[50] Lighting coils - continuity test only ohms Primary Continuity Test.
[51] Between two secondary terminals.
[52] Coil must have one secondary terminal grounded to one primary terminal.
[53] Between two secondary terminals.
[54] Coil must have one secondary terminal grounded to one primary terminal.
[55] Between the two primary leads with one end of secondary connected to one primary.

| COIL TYPE | MAXIMUM SECONDARY RESISTNACE | MAXIMUM PRIMARY RESISTANCE | COIL INDEX | MINIMUM COIL TEST | MAX GAP INDEX | MAGNETO |
|---|---|---|---|---|---|---|
| CB-160 (12 VOLTS) | 20000 | 8.5 | 55 | 31 | 60 [56] | |
| CB-72, CB-D77, CL-72 (12 VOLTS) | 15000 | 7.5 | 70 | 42 | 75 | |
| 30400-028-004 | 15000 | 3.2 | 60 | 35 | 60 | |
| 30500-035-004 | 15000 | 25 | 80 | 50 | 60 | |
| 38250-013-0 | | 6.0 | | | | PRIMARY ONLY |
| 30500-044-010 | 15000 | 25 | 85 | 50 | 85 | |
| 30540-044-004 | | 7.0 | | | | PRIMARY ONLY |
| 30400-045-020 | 20000 | 3.8 | 50 | 25 | 55 | |
| 30540-045-670 | | 6.0 | | | | PRIMARY ONLY |
| 30400-118-017 | 20000 | 7.5 | 60 | 26 | 55 | |
| 30540-041-005 | | 6.0 | | | | PRIMARY ONLY |
| 30400-046-000 | 15000 | 6.5 | 60 | 29 | 55 | |
| 30500-063-004 | 10000 | 11 | 70 | 37 | 65 | |
| 38260-002-0 | | 6.0 | | | | PRIMARY ONLY |
| 30400-074-000 | 25000 | 6.5 | 55 | 24 | 50 | |
| 30400-087-791 | 20000 | 3.3 | 55 | 26 | 50 | |
| 30400-089-672 | 30000 | 3.6 | 60 | 34 | 55 | |
| 30500-098-671 | 15000 | 12.0 | 70 | 40 | 65 | |
| 30540-041-00A5 | | 6.0 | | | | PRIMARY ONLY |
| 30400-107-007 | 15000 | 3.0 | 55 | 28 | 50 | |
| 30400-114-017 | 10000 | 8.0 | 60 | 27 | 55 | |
| 038260-0050 | | 6.0 | | | | PRIMARY ONLY |
| 30500-202-004 | 20000 | 3.3 | 65 | 35 | 60 [57] | |
| 30500-230-000 | 20000 | 3.4 | 65 | 33 | 60 [59] | |
| 30500-235-672 | 50000 | 8.5 | 70 | 42 | 65 [59] | |
| 30500-283-000 | 20000 | 10.0 | 75 | 44 | 70 | |
| 30500-286-004 | 15000 | 9.5 | 75 | 45 | 75 | |
| 30500-292-671 | 20000 | 10.0 | 60 | 35 | 70 | |
| 30500-300-013 | 20000 | 10.0 | 70 | 44 | 65 [59] | |
| 30400-303-004 | 20000 | 3.0 | 55 | 28 | 50 [59] | |
| 30500-310-670 | 15000 | 8.6 | 85 | 47 | 75 | |
| 30500-312-000 | 15000 | 9.0 | 75 | 44 | 70 | |
| 30400-313-003 | 50000 | 10.0 | 75 | 45 | 70 | |
| 30500-323-023 | 20000 | 10.0 | 75 | 47 | 70 [59] | |
| 30500-918-670 | 15000 | 11.0 | 65 | 37 | 60 | |
| 31102-918-004 | | 14.0 | | | | PRIMARY ONLY |
| 30500-357-003 | 10000 | 6.0 | 55 | 24 | 55 | 2.2 (POINT TEST) |
| 30500-358-003 | 20000 | 8.0 | 65 | 26 | 60 | 1.5 (POINT TEST) |
| 30500-360-003 | 20000 | 1.2 | 50 | 18 | 50 | 1.0 (POINT TEST) |
| 30500--362-000 | 20000 | 3.0 | 55 | 24 | 55 | 2.0 (POINT TEST) |
| **International Harvester** | | | | | | |
| 47439-DAX | 12000 | .4 | 60 | 20 | 60 | H-4 |
| 352355-R91 | 12000 | .4 | 60 | 20 | 60 | J-4 |
| 21401-DAX | 12500 | .4 | 60 | 23 | 60 | F-4 & F-6 |
| 353874-R91 | 5500 [58] | 2.3 | 60 | 31 | 50 | IHC DIST. ING. SET |
| 353875-R91 | 6000 | 7.0 | 60 | 37 | 70 | 12 VOLT |

[56] Ground first one secondary lead and then the other when making this test.
[57] One end of secondary must be grounded to most convenient primary terminal for this test.
[58] Check polarity. Spark will be negative with red clip to positive primary terminal.

| COIL TYPE | MAXIMUM SECONDARY RESISTNACE | MAXIMUM PRIMARY RESISTANCE | COIL INDEX | MINIMUM COIL TEST | MAX GAP INDEX | MAGNETO |
|---|---|---|---|---|---|---|
| **JACOBSEN MANUFACTURING CO.** | | | | | | |
| SEE COIL MANUFACTURE SPECIFICATIONS | | | | | | |
| **JOHNSON MOTORS** | | | | | | |
| 72-612 | 6000 | 0.3 | 60 | 22 | 60 | |
| 72-792 | 9000 | 0.8 | A45 | 21 | 45 | |
| 72-852 | 18500 | 0.5 | 50 | 27 | 50 | |
| 72-875 | 8500 | .0S.5 | 50 | 25 | 50 | |
| 72-947 | 9500 | 0.8 | 45 | 21 | 45 | |
| 72-1005 | 5000 | 0.5 | 60 | 30 | 60 | |
| 72-1072 | 9500 | 0.9 | 50 | 16 | 50 | |
| 72-1108 | 8500 | 0.4 | 50 | 10 | 45 | |
| 375102 | 7000 | 1.8 | 65 | 36 | 65 | |
| 375189 | 4500 | 1.0 | 65 | 25 | 65 | |
| 378231 | | | | | | |
| AUTO-LITE 200668 | 14000 | 4.2 | 60 | 29 | 50 | |
| DELCO REMY 1115153 | 10000 | 4.2 | 60 | 30 | 50 | |
| 379569 | 30000 | 4.0 | 60 | 30 | 50 | |
| 381886 | 1500 | 0.65 | 65 | 4 44 Amplified | 50 | PULSE TRANSFORMER |
| 580040 | 4000 | 1.3 | 75 | 31 | 75 | |
| 580118 | 4000 | 1.2 | 75 | 33 | 75 | |
| 580197 | 9000 | 1.2 | 75 | 36 | 70 | |
| 580243 | 8000 | 1.1 | 60 | 31 | 55 | |
| 580380 | 25000 | 2.4 | 50 | 22 | 50 [59] | |
| 580416 | 5500 | 1.2 | 75 | 33 | 75 | |
| 580527 | 25000 | 25.0 | 55 | 32 | 45 [61] | |
| 580602 | 25000 | 25.0 | 55 | 32 | 45 [61] | |
| 580683 | 3000 | 1.2 | 60 | 9 80 Amplified | 50 | |
| 580730 | 3000 | 1.2 | 60 | 9 80 Amplified | 50 | |
| 580740 | 3000 | 1.2 | 60 | 9 80 Amplified | 50 | OUTBOARD MAG |
| 580821 | 3000 | 1.2 | 60 | 9 80 Amplified | 50 | OUTBOARD MAG |
| 580847 | 3000 | 1.2 | 60 | 9 80 Amplified | 50 | OUTBOARD MAG |
| 580944 | 3000 | 1.2 | 60 | 9 80 Amplified | 50 | SNOWMOBILE MAG |
| 580971 | 3000 | 1.2 | 60 | 9 80 Amplified | 50 | OUTBOARD MAG |
| 580976 | 3000 | 1.2 | 60 | 9 80 Amplified | 50 | SNOWMOBILE MAG |

[59] Two spark coils must have one secondary terminal grounded to one primary terminal when making tests with the coil firing.

| COIL TYPE | MAXIMUM SECONDARY RESISTNACE | MAXIMUM PRIMARY RESISTANCE | COIL INDEX | MINIMUM COIL TEST | MAX GAP INDEX | MAGNETO |
|---|---|---|---|---|---|---|
| 580977 | 3000 | 1.2 | 60 | 9<br>80 Amplified | 50 | SNOWMOBILE MAG |
| 580981 | 3000 | 1.2 | 60 | 9<br>80 Amplified | 50 | SNOWMOBILE MAG |
| 581024 | 3000 | 1.2 | 60 | 9<br>80 Amplified | 50 | SNOWMOBILE MAG |
| 581032 | 3000 | 1.2 | 60 | 9<br>80 Amplified | 50 | OUTBOARD MAG |
| 581124 | 3000 | 1.2 | 60 | 9<br>80 Amplified | 50 | OUTBOARD MAG |
| 581370 | 20000 | 14.0 | 50 | 24 | 45 | 1.2 (POINT TEST) |
| 581407 | 20000 | 14.0 | 50 | 24 | 45 | 1.2 (POINT TEST) |
| 581503 | 3000 | 0.6 | 50 | 27 Amplified | 50 | .06 (POINT TEST) |
| 581609 | 3000 | 0.6 | 50 | 27 Amplified | 50 | .06 (POINT TEST) |
| 581610 | 3000 | 0.6 | 50 | 27 Amplified | 50 | .06 (POINT TEST) |
| 581611 | 3000 | 0.6 | 50 | 27 Amplified | 50 | .06 (POINT TEST) |
| 581685 | 3000 | 0.6 | 50 | 27 Amplified | 50 | .06 (POINT TEST) |
| 581686 | 3000 | 0.6 | 50 | 27 Amplified | 50 | .06 (POINT TEST) |
| 581764 | 3000 | 0.6 | 50 | 27 Amplified | 50 | .06 (POINT TEST) |
| **KOHLER COMPANY** | | | | | | |
| SEE CROSS REFERENCE TABLE | | | | | | |
| 277375 | 30000 | 35 | 70 | 54 | 65 | 6.0 (POINT TEST) |
| **LAWNBOY** | | | | | | |
| 580118 | 4000 | 1.2 | 75 | 33 | 75 | |
| 580184 | 4000 | 1.2 | 75 | 33 | 75 | |
| 580602 | 35000 | 35 | 55 | 32 | 45 | |
| 678111 | 4000 | 1.2 | 75 | 33 | 75 | |
| 678539 | 4000 | 1.2 | 75 | 33 | 75 | |
| **Mall Tool Company** | | | | | | |
| OMG Scintilla | 10-82235 | 42247 | 10-79157 | 42399 | 10-79168 | 42403 |
| IMG Scintilla | 10-79185 | 41324A | 10-82241 | 42797 | 10-86610 | 43879 |
| 3MG Scintilla | 10-86610 | 43047 | 10-79157 | 42399 | 10-86610 | 43879 |
| 4MG Scintilla | 10-86610 | 43047 | 10-79157 | 42399 | 10-86610 | 43879 |
| 5MG Scintilla | 10-79185 | 41324A | 10-82241 | 42797 | 10-86610 | 43879 |
| GP Scintilla | 10-86620 | 43047 | 10-79157 | 42399 | 10-86610 | 43879 |
| 2MG Scintilla | 10-79185 | 41324A | 10-82241 | 42797 | 10-86610 | 43879 |
| 6-7 Scintilla | 10-51660 | 27200A | 10-50226 | 25954 | 10-51658 | 25976 |

| COIL TYPE | MAXIMUM SECONDARY RESISTNACE | MAXIMUM PRIMARY RESISTANCE | COIL INDEX | MINIMUM COIL TEST | MAX GAP INDEX | MAGNETO |
|---|---|---|---|---|---|---|
| 7G Scintilla | 10-54902 | 23710 | 10-38222 | 22341 | 10-3835ow | 32483 |
| 8 Scintilla | | 41080 | | | | |
| 10-11 Scintilla | 10-53165 | 30660 | 10-3822 | 22341 | 10-3835ow | 32483 |
| 12 Phelon | FG-553 | 21907 | FG-678 | 21694 | FG-458B | 21593 |
| 12A Phelon | FG-109E | 21908 | FG-463 | 37381 | FG-458B | 21593 |
| Wico | | 40528 | X-7536 | 40509 | X-7529 | 40507 |
| Wico | FW-2096 | 37191 | X-5345 | 37387 | X-7372 | 37393 |
| 8G B&S | B-290763 | | B-29671 | | B-29830 | |
| 23-14 B&S | | | B-290880 | | B-291369 | |
| 6 B&S | | | B-291617 | | B-292589 | |

[60]

## Mallory Coils

| | | | | | | |
|---|---|---|---|---|---|---|
| CDNA-1 | 1500 | .4 | .04 | 55 | 11* | 55 |
| Super Mag | 25000 | Inf** | 3.0 | 80 | 68 | 80 |
| 28130A | 25000 | 3.5 | 4.5 | 65 | 38 | 55*1) |
| U12A Coil & 28675 | 20000 | 3.2 & 3.8# | 3.8 | 65 | 36 | 55 |
| U6A Coil & 28670 | 20000 | 2.2 | 2.6 | 55 | 30 | 50 |
| [61] | | | | | | |
| 28680 | 20000 | 3.5 | 1.8 | 65 | 38 | 55 |
| 28685 | 20000 | 1.6 | 0.9 | 50 | 32 | 50 |
| 28690 | 20000 | 1.6 | .09 | 50 | 32 | 50 |
| [62] | | | | | | |

## McCulloch Motors (chain saw)

| | | | | | |
|---|---|---|---|---|---|
| C-2 to I-7 | 5000 | .5 | 60 | 13 | 47 |
| J-7 to K-8 | 3000 | .5 | 60 | 12 | 67 |
| L-8 to F-1 (d) | 4000 | 1.5 | 60 | 24 | 75 |
| F-1 on | 7200 | 1.2 | 60 | 22 | 67 |
| 18019A | 8500 | 0.7 | 50 | 11 | 50 |
| 18033C | 6000 | 2.0 | 55 | 20 | 75 |

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[60]** Refer to respective Scintilla, Phelon, Wico or Briggs & Stratton Specification page for test data on coils listed in this column.
[61]*1) Ground one secondary terminal to primary on this test.
[62] * Amplified reading. If tester does not have amplifier, ignore meter reading on this test.
** Check for Primary Continuity only on tester secondary or capacity circuits. Use, "Point test" position if your tester has one and check DC ohms resistance -3.0 ohms maximum.
# With ballast

| COIL TYPE | MAXIMUM SECONDARY RESISTNACE | MAXIMUM PRIMARY RESISTANCE | COIL INDEX | MINIMUM COIL TEST | MAX GAP INDEX | MAGNETO |
|---|---|---|---|---|---|---|
| 19033A | 8500 | 0.7 | 50 | 11 | 50 | |
| 19033C | 6000 | 2.0 | 55 | 20 | 70 | |
| 24033A | 8500 | 0.7 | 50 | 11 | 50 | |
| 24033C | 6000 | 2.0 | 55 | 20 | 75 | |
| 55013(a) | 60000 | 2.0 | 55 | 20 | 70 | |
| 58826 | 10000 | 1.4 | 60 | 23 | 65 | |
| 62927, 63888, 67921(b) | 15000 | 1.4 | 60 | 23 | 65 | |
| 68707(c) | 10000 | 1.7 | 70 | 27 | 70 | |
| 84957 | 10000 | 1.7 | 70 | 27 | 70 | |
| 84972, 85243 | 15000 | 1.5 | 60 | 25 | 65 | |
| 87246 | 15000 | 1.5 | 60 | 25 | 65 | |
| [63] | | | | | | |
| **Mercury Marine** | | | | | | |
| 32193 | 20000 | 3.0 | | 50 | 23 | 50 |
| 394-1128A1 | 12000 | .7 | | 60 | 18 | 50 |
| 332-2983A5 | 500 | ** | | 50 | 19 amp | 45 |
| [64] | | | | | | |
| 332-4075A1 | 4000 | ** | | 50 | 12 amp | 45 |
| 332-4895A2 | 1500(1) | .3 | .025 | 50 | 20 amp | 50 |
| [65] | | | | | | |
| 336-3955A | 500 | .5 | | 75 | 52 amp | *** |
| [66] | | | | | | |
| 336-4528A1 | 2000(2) | 1.0 | .22 | 60 | 65 amp | 60 |
| [67] | | | | | | |
| 339-5748A2 | 1500(3) | .4 | .04 | 50 | 35 amp | 50**** |
| [68] | | | | | | |
| 398-2568A1 | 10000 | 1.2 | | 60 | 20 | 55 |
| 333-3175 | | | | | | |
| 333-3176 | | | | | | |
| **Morrison - Pelsue Co.** | | | | | | |

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[63] (a) Replaced by 57643A - same test specification for both part numbers.
(b) replaced by 84972
(c) replaced by 84957
(d)Coils F-0 to F-1 with a red dot on the coil case near the primary ground terminal are Hi-Output coils and use the specifications for the F-1 on, Hi-Output coils
McCulloch coil identification stamped on flywheel side of coil (bottom)
[64]** Check for continuity only - resistance is very low
[65](1) Between Secondary and Primary
[66]*** Not Applicable
[67](2) between ground wire and secondary
[68](3) Between ground and secondary
****Secondary ground wire must be attached to primary for this test

| COIL TYPE | MAXIMUM SECONDARY RESISTNACE | MAXIMUM PRIMARY RESISTANCE | COIL INDEX | MINIMUM COIL TEST | MAX GAP INDEX | MAGNETO |
|---|---|---|---|---|---|---|
| 5052 & 1252A [69] | 3300 | 1.0 | 55 | 18 | 65* | |
| **Motorola** | | | | | | |
| Sales #8-1 (Eng. #25C44066A01) | 13000 | .5 | 45 | 16 | 45 | |
| Sales #8-2(Eng. #25C44109A01 | 13000 | .4 | 45 | 14 | 45 | |
| **Muncie Neptune** | | | | | | |
| 1.5 HP. Single | F-109 | FG-114 | FG-159 | (.16 -.18 mfd) | | |
| 1.7 HP. Single | F-109D | FG-307 | FG-216 | (.16 -.18 mfd) | | |
| Model a-1 Muncie | F-109DM | FG-470B | FG-471B | (.13 - .15 mfd) | | |
| 2.5 HP. Single | F-189 | FG-307 | FG-216 | (.16 -.18 mfd) | | |
| 3.3 H.P. Single | F-189D | FG-307 | FG-216 | (.16 -.18 mfd) | | |
| 3.3 H.P. Single [70] | F-189M | FG-470B | FG-471B | (.13 - .15 mfd) | | |
| **O & R Engines** | | | | | | |
| A-149-3 | 10000 | 1.4 | 55 | 20 | 55 | |
| **Onan Division of Studebaker Corp.** | | | | | | |
| 160B155 | Magneto | 7500 | 0.9 | 42 | 9 | 47 |
| 19410A* (2-160B155 Coils) | Magneto | 7500 | 1.9 | 80 | 40 | 80 |
| 160B86** | Magneto or battery | 10000 | 10-15 | 75 | 45 | 70 |
| 160B99** | Magneto or battery | 10000 | 10-15 | 75 | 45 | 70 |
| 160C483** | Magneto or battery | 10000 | 2.5-3.5 | 75 | 45 | 67 |
| 160B693 | Magneto or battery | 15000 | 2.1 | 60 | 29 | 60 |
| 160A750 | Magneto | 10000 | 1.6 | 60 | 25 | 60* |
| 160C792 | Magneto or battery | 10000 | 2.5-3.5 | 75 | 45 | 67 |
| 166C346 | | 15000 | 3.0 | 70 | 36 | 70 |
| 160-1016 | | 10000 | 1.8 | 60 | 32 | 60 |
| 166B382 | | 15000(a) | 6.0(b) | 65 | 32 | 65 (c) |
| 166B535 & 166-0643 [71] | | 25000 | 7.5 | 65 | 39 | 65 |

[69]* Test is made first with one secondary terminal shorted to ground, then with other secondary terminal shorted to ground.
[70]* Refer to Phelon Specification Page for test data on coils listed.

[71](a) Take reading between the two secondary terminals which are on opposite sides of the case.
(b) Take reading from screw at top on 1.75 mfd. capacitor and terminal on one side of the case.

| COIL TYPE | MAXIMUM SECONDARY RESISTNACE | MAXIMUM PRIMARY RESISTANCE | COIL INDEX | MINIMUM COIL TEST | MAX GAP INDEX | MAGNETO |
|---|---|---|---|---|---|---|
| **Phelon** | | | | | | |
| FG-114 (taped) | 7500 | 2.0 | 75 | 24 | 70 | |
| FG-307 (taped) | 7500 | 2.0 | 75 | 24 | 70 | |
| FG-420 Series | 7500 | 2.0 | 75 | 17 | 70 | |
| FG-463 Series (taped) | 7500 | 2.0 | 75 | 17 | 70 | |
| FG-470 Series (taped) | 7500 | 2.0 | 75 | 17 | 70 | |
| Fg-470 Series (molded) | 7500 | 2.0 | 75 | 17 | 70 | |
| FG-492 Series | 9500 | 2.0 | 75 | 24 | 70* | |
| FG-608 | 9500 | 2.5 | 75 | 24 | 70 | |
| FG-678 | 7500 | 2.0 | 75 | 17 | 70 | |
| FG-1054 | 7500 | 2.5 | 75 | 24 | 70 | |
| FG-1070 | 7500 | 2.0 | 75 | 24 | 70 | |
| FG-1070B | 7500 | 2.0 | 75 | 14 | 55 | |
| FG-1309 | 7500 | 2.0 | 75 | 17 | 70 | |
| FG-1573 Series | 7500 | 2.0 | 75 | 17 | 70 | |
| FG-1618** | 7500 | 2.0 | 75 | 20 | 70 | |
| FG-1641 | 15000 | 3.0 | 75 | 30 | 70 | |
| FG-1835 | 9500 | 2.5 | 75 | 24 | 70 | |
| FG-2145 | 7500 | 2.0 | 75 | 17 | 70 | |
| FG-2145-1-B | 9500 | 2.1 | 75 | 24 | 70 | jacketed |
| FG-2180 | 7500 | 2.0 | 75 | 17 | 70 | |
| FG-2331 | 7500 | 2.0 | 75 | 17 | 70 | |
| FG-2435 | 7500 | 2.0 | 75 | 17 | 70 | |
| FG-2446 | 7500 | 2.0 | 75 | 17 | 70 | |
| FG-2454 | 9500 | 2.0 | 75 | 24 | 70 | |
| FG-2503 | 7500 | 2.0 | 75 | 17 | 70 | |
| FG-2546 | 9000 | 2.5 | 75 | 24 | 70 | |
| FG-2641 | 7500 | 2.0 | 75 | 17 | 70 | |
| FG-2731 | 7500 | 2.0 | 75 | 17 | 70 | |
| FG-2732 | 7500 | 2.0 | 75 | 17 | 70 | |
| FG-2914 | 7500 | 2.0 | 75 | 17 | 70 | |
| FG-2976 | 15000 | 2.0 | 75 | 30 | 70 | |
| FG-3003 | 10000 | 2.0 | 75 | 15 | 70 | |
| FG-3082 | 10000 | 2.0 | 75 | 15 | 70 | |
| FG-3082B | 10000 | 2.0 | 60 | 21 | 65 | |
| FG-3289 | 7500 | 2.0 | 75 | 17 | 70 | |
| FG-3289B | 7500 | 2.0 | 75 | 17 | 70 | |
| FG-3294 | 7500 | 2.0 | 75 | 17 | 70 | |
| FG-3294B | 7500 | 2.0 | 75 | 17 | 70 | |
| FG-3375 | 5500 | 2.0 | 75 | 23 | 80 | |
| FG-3426 | 12000 | 2.0 | 75 | 37 | 80 | |
| FG-3437 | 12000 | 2.0 | 75 | 37 | 80 | |
| FG-3502 | 7500 | 2.0 | 75 | 24 | 70 | |

(c) Ground one secondary terminal to primary winding - either end. Also, you will not be able to use the regular test probe as it gets too close to the metal case. Use some secondary wire to put in the secondary openings as any bare wire or prod will let spark jump to the coil case and not go across the spark gap.

* Test on this coil is made, first with one secondary terminal shorted to ground, then the other secondary terminal to ground, Testing in both cases will be as above.

** Test on this coil is made with only one of the secondary terminals shorted to a primary terminal. NOTE: Primary polarity connections are made to give the higher reading. Refer to the ONAN unit instruction manual for magneto breaker point or ignition breaker point gap setting, Pole shoe clearance, and magneto or ignition timing.

| COIL TYPE | MAXIMUM SECONDARY RESISTNACE | MAXIMUM PRIMARY RESISTANCE | COIL INDEX | MINIMUM COIL TEST | MAX GAP INDEX | MAGNETO |
|---|---|---|---|---|---|---|
| FG-3595 | 9500 | 2.5 | 75 | 24 | 70 | |
| FG-3595B | 9500 | 2.5 | 75 | 24 | 70 | |
| FG-3681 | 12000 | 2.0 | 75 | 37 | 80 | |
| FG-3689 | 7500 | 2.0 | 75 | 24 | 70 | |
| FG-3755 | 7500 | 2.0 | 75 | 24 | 70 | |
| FG-3755X | 9000 | 2.0 | 75 | 24 | 70 | |
| FG-3773 | 9000 | 2.0 | 75 | 17 | 80 | |
| FG-3872 | 7500 | 2.0 | 75 | 17 | 70 | |
| FG-4055 | 10000 | 2.0 | 75 | 15 | 70 | |
| FG-4081 | 7500 | 2.0 | 75 | 17 | 70 | |
| FG-4128 | 7500 | 2.0 | 75 | 24 | 70 | |
| FG-4213 | 9500 | 2.5 | 75 | 24 | 70 | |
| FG-4400 | 6700 | 1.4 | 75 | 30 | 65 | |
| FG-4448 | 7500 | 2.0 | 75 | 17 | 70 | |
| FG-4928 | 8500 | 2.4 | 60 | 17 | 75 | JACKETED |
| FG-5380 | 17000 | 1.7 | 75 | 31 | | |
| FG-5395 | 10000 | 1.7 | 75 | 28 | 60 | |
| FG-5773 | 9000 | 2.1 | 75 | 28 | 66 | |
| FG-5960 | 4000 | .6 | 70 | 32 AMP | 44 | |
| FG-5962 | 4000 | .6 | 70 | 32 AMP | 44 | |
| FG-6001 | 7500 | 2.0 | 75 | 24 | 70 | |
| FG-6001B | 7500 | 2.0 | 75 | 24 | 70 | |
| FG-6109 | 7500 | 2.0 | 75 | 17 | 70 | |
| FG-6110 | 7500 | 2.0 | 75 | 17 | 70 | |
| FG-6199 | 10000 | 2.0 | 75 | 15 | 70 | |
| FG-6201 | 10000 | 2.0 | 75 | 15 | 70 | |
| FG-6223 | 10000 | 2.0 | 75 | 15 | 70 | |
| FG-6235 | 10000 | 2.0 | 75 | 15 | 70 | |
| FG-6240 | 9000 | 1.8 | 75 | 17 | 70 | |
| FG-6240B | 9000 | 1.8 | 75 | 17 | 70 | |
| FG-6240C | 7500 | 2.0 | 75 | 17 | 70 | |
| FG-6240D | 7500 | 2.0 | 75 | 17 | 70 | |
| FG-6240E | 7500 | 2.0 | 75 | 17 | 70 | |
| FG-6240F | 9000 | 1.8 | 75 | 17 | 70 | |
| FG-6240G | 9000 | 1.8 | 75 | 17 | 70 | |
| FG-6240H | 9000 | 1.8 | 75 | 17 | 70 | |
| FG-6240K | 9000 | 1.8 | 75 | 17 | 70 | |
| FG-6240L | 9000 | 1.8 | 75 | 17 | 70 | |
| FG-6240M | 9000 | 1.8 | 75 | 17 | 70 | |
| FG-6240-00-N | 9500 | 1.7 | 75 | 17 | 70 | |
| FG-6240S | 10000 | 1.2 | 60 | 20 | 60 | |
| FG-6240T | 10000 | 1.2 | 60 | 20 | 60 | |
| FG-6358B | 10000 | 1.2 | 60 | 20 | 60 | |
| FG-6358C | 10000 | 1.2 | 60 | 20 | 60 | |
| FG-6388 | 7500 | 2.0 | 75 | 17 | 70 | |
| FG-6446 | 9000 | 2.1 | 75 | 22 | 75 | |
| FG-6503 | 7500 | 2.0 | 75 | 17 | 70 | |
| FG-6547 | 14000 | 2.2 | 75 | 34 | 56 | |
| FG-6599 | 9000 | 2.0 | 75 | 15 | 65 | |
| FG-6850 | 7500 | 2.0 | 75 | 17 | 70 | |
| FG-7049 | 10500 | 2.1 | 60 | 15 | 60 | |
| FG-7049A | 10500 | 2.1 | 60 | 15 | 60 | |
| FG-7106 | 7500 | 2.0 | 75 | 17 | 70 | |
| FG-7149 | 10000 | 2.0 | 75 | 15 | 70 | |
| FG-7151 | 9600 | 2.1 | 75 | 18 | 57 | |

| COIL TYPE | MAXIMUM SECONDARY RESISTNACE | MAXIMUM PRIMARY RESISTANCE | COIL INDEX | MINIMUM COIL TEST | MAX GAP INDEX | MAGNETO |
|---|---|---|---|---|---|---|
| FG-7168 | 7500 | 2.0 | 75 | 17 | 70 | |
| FG-7168B | 7500 | 2.0 | 75 | 17 | 70 | |
| FG-7202 | 8500 | 2.0 | 75 | 26 | 60 | |
| FG-7202B | 7500 | 2.0 | 75 | 17 | 70 | |
| FG-7211 | 8500 | 2.0 | 75 | 26 | 60 | |
| FG-7256 | 10000 | 2.0 | 75 | 15 | 70 | |
| FG-7256A | 10000 | 2.0 | 75 | 15 | 70 | |
| FG-7271 | 9000 | 1.8 | 75 | 20 | 70 | |
| FG-7423 | 9000 | 2.7 | 75 | 40 | 75 | |
| FG-7423B | 9000 | 2.7 | 75 | 40 | 75 | |
| FG-7423-1 | 10500 | 2.0 | 75 | 28 | 60 | JACKETED |
| FG-7423-1B | 10500 | 2.0 | 75 | 28 | 60 | JACKETED |
| FG-7427 | 9000 | 2.7 | 75 | 40 | 75 | |
| FG-7427-1 | 10500 | 2.0 | 75 | 28 | 60 | |
| FG-7427-M | 7000 | 2.3 | 75 | 28 | 70 | |
| FG-7447 | 9000 | 1.6 | 75 | 20 | 70 | |
| FG-7459 | 9000 | 1.6 | 75 | 20 | 70 | |
| FG-7469 | 10000 | 2.0 | 60 | 21 | 65 | |
| FG-7502 | 7500 | 2.0 | 75 | 17 | 70 | |
| FG-7513 | 9000 | 1.8 | 75 | 17 | 70 | |
| FG-7601 | 8000 | 2.6 | 75 | 28 | 70 | |
| FG-7670 | 10000 | 1.9 | 75 | 26 | 60 | |
| FG-7795 | 9000 | 2.9 | 75 | 32 | 64 | |
| FG-7898 | 25000 | 3.5 | 55 | 28 | 55* | |
| FG-7907 | 7500 | 2.7 | 75 | 22 | 61 | |
| FG-7969 | 9000 | 2.7 | 75 | 38 | 70 | |
| FG-7969B | 9000 | 2.7 | 75 | 38 | 70 | |
| FG-7969-1 | 10500 | 2.0 | 75 | 28 | 60 | JACKETED |
| FG-7969-1B | 10500 | 2.0 | 75 | 28 | 60 | JACKETED |
| FG-8054 | 10000 | 2.0 | 75 | 15 | 70 | |
| FG-8054 | 10500 | 2.1 | 60 | 15 | 60 | |
| FG-8119 | 9500 | 2.7 | 75 | 32 | 67 | |
| FG-8119-2 | 8500 | 2.4 | 60 | 17 | 75 | JACKETED |
| FG-8133 | 9500 | 2.7 | 75 | 32 | 67 | |
| FG-8515 | 12000 | 3.0 | 75 | 9 | 85 | |
| FG-8525 | 10500 | 2.5 | 75 | 25 | 75 | |
| FG-8619 | 8000 | 2.6 | 75 | 28 | 70 | |
| FG-8635 | 9500 | 2.2 | 75 | 21 | 52 | |
| FG-8635A | 11000 | 3.0 | 60 | 15 | 70 | |
| FG-8878 | 10500 | 2.5 | 75 | 25 | 75 | |
| FG-08921 | 9000 | 3.0 | 80 | 31 | 80 | |
| FG-8921-1 | 9500 | 3.4 | 60 | 20 | 80 | |
| FG-8991 | 9000 | 1.8 | 75 | 22 | 70 | |
| 08992 | 12000 | 2.0 | 65 | 18 | 65 | |
| 09140 | 11500 | 2.2 | 65 | 17 | 65 | |
| 09271 | 10500 | 2.5 | 75 | 15 | 60 | |
| 09428 | 9500 | 2.3 | 80 | 37 | 70 | |
| 09524 | 3500 | 1.15 | 50 | 18 AMP | | |
| 09667 | 9500 | 1.7 | 75 | 17 | 70 | |
| 10088 | 500 | .5 | 50 | 43 AMP | | |
| 10128 | | | 70 | 40 AMP | | |
| 10253 | 4000 | 1.2 | 46 | 17 AMP | | |
| 11181 | 10500 | 2.0 | 60 | 15 | 60 | |
| 11181-01 | 10500 | 2.0 | 60 | 15 | 60 | |

| COIL TYPE | MAXIMUM SECONDARY RESISTNACE | MAXIMUM PRIMARY RESISTANCE | COIL INDEX | MINIMUM COIL TEST | MAX GAP INDEX | MAGNETO |
|---|---|---|---|---|---|---|
| [72] | | | | | | |
| **PIONEER SAWS** | (Division on Outboard Marine Corp.) | | | | | |
| X7536 | 425371 | 8000 | 1.2 | 60 | 17 | 70 |
| X7500 | 425960 | 4000 | 1.4 | 50 | 16 | 70 |
| X11180 | 470187(1) | 7000 | 1.0 | 60 | 15 | 60 |
| X12935 | 470187(2) | 9000 | 1.1 | 55 | 17 | 65 |
| Own First Series | 470685 Blue | 5500 | 1.2 | 75 | 36 | 70 |
| Own Second Series | 470685 Reddish Purple | 5500 | 1.2 | 75 | 36 | 70 |
| Own | 473939 | 10000 | 1.8 | 60 | 22 | 60 |
| Own Model NU-17 | 580195 | 5500 | 1.2 | 75 | 36 | 70 |
| Own Model 700 | 580454 | 5500 | 1.2 | 75 | 33 | 75 |
| **Polaris** | | | | | | |
| 4405ACOH | 10000 | 8.0 | | 60 | 25 | 50 |
| SU207AC9G | 10000 | 6.0 | | 60 | 25 | 50 |
| SU207AC9L | 10000 | 7.2 | | 60 | 25 | 50 |
| 3080270 | 10000 | 5.5 | .09 | 60 | 25 | 50 1970 |
| 3080838 | 10000 | 9.0 | 2.0 | 60 | 24 | 50 1970-1 |
| 3081177 ** | 10000 | 9.0 | 2.0 | 60 | 24 | 50 1972-3-4 |
| 3081303 | 20000 | 1.8 | .45 | 60 | 18 | 50* 1972-3-4 |
| 3081514 | 20000 | 1.0 | .45 | 60 | 19 | 50 1973-4 |
| 3081602*** | 5000 | .4 | .09 | 60 | 75 AMP | 50 1973-4 |
| 3081603 | 20000 | 4.5 | .9 | 50 | 18 | 50 1972-3-4-5 |
| 3081954 | 15000 | .8 | .7 | 50 | 16 | 50* 1972-3-4-5-6 |
| 3081974 | 10000 | 9.5 | 2.0 | 55 | 21 | 55 1972-3-4-5-6 |
| 3081980 | 10000 | 2.0 | .25 | 50 | 13 | 50 1973-4-5-6 |
| [73] | | | | | | |
| **Prestolite** | (see also Wico - Prestolite) | | | | | |
| Transigniter #201 | 25000 | .6 | 45 | 17 | 45 | .35 |
| 200574 | 12000 | 7.8 | 65 | 37 | 55 | |
| 200575 | 12000 | 3.9 | 60 | 27 | 50 | |
| 200577 | 12000 | 3.1 | 60 | 29 | 50 | |
| 200668 | 14000 | 4.2 | 60 | 29 | 50 | |
| 200658 | 20000 | 7.5 | 75 | 37 | 55 | |
| 200690 (P5--8) | 20000 | 2.8 | 60 | 30 | 50 | 1.7 |
| 200691 (P5-10) | 20000 | 8.0 | 75 | 45 | 55 | |
| 200692 (P5-13) | 20000 | 4.0 | 60 | 30 | 50 | 2.0 |

[72]Coils on preceding pages are molded unless listed "taped"
* Ground out one secondary terminal while testing other.
** FG-1618 - Connect the core ends (common ground) during tests.
NOTE: These specifications are for coil on core and stator plate, with condenser in the circuit and the breaker points open.
[73] * one end of secondary must be grounded to most convenient primary terminal.
** twin ignition number but each coil is tested separately as a single coil.
*** set of three (3) coils with each coil tested separately as a single coil.
**** on this list test limits for "minimum coil test" are given with the secondary cable attached to coil. If secondary cable is removed, reduce test limit two (2) divisions.

| COIL TYPE | MAXIMUM SECONDARY RESISTNACE | MAXIMUM PRIMARY RESISTANCE | COIL INDEX | MINIMUM COIL TEST | MAX GAP INDEX | MAGNETO |
|---|---|---|---|---|---|---|
| 200718 | 30000 | 3.5 | 65 | 35 | 50 | |
| 200729 (P5-130) | 20000 | 3.4 | 55 | 31 | 50 | |
| 200753 (molded coil) | 20000 | 3.2 | 55 | 28 | 55 | 2.0 |
| 200759 | 20000 | 4.0 | 55 | 30 | 50 | |
| 200810 (P5-56) transigniter coil | 25000 | .6 | 45 | 17 | 45 | .35 |
| 200873 (P5-59) transigniter coil | 25000 | .6 | 45 | 17 | 45 | .35 |
| 201694* | 10000 | .6 | 45 | 8 | 45 | .35 |
| 201729 | 20000 | 8.0 | 60 | 37 | 55 | |

[74]

| **Remington Chain Saws** | PART NO. COIL | PART NO. MAGNETO |
|---|---|---|
| GP, SL, GL, SL5, SL5R, GL7, GL7R, SL5G, PRO 88 | 42797 SCINTILLA #10-82241 | 43062 SCINTILLA #10-88515-11 |
| SUPER 75, SUPER 75A, SUPER 75G, BANTAM, BANTAM "G", SUPER 65 | 60150 WICO #X-12920 | 60142 WICO #Y-12131 |
| SL5, SL5GB, PRO 88, PRO 88-G | 60621 PHELON FG-4081 | 60611, 60612 FAN PHELON FG-4418 |
| 660, SUPER 660G, SUPER 770, SUPER 770G, SUPER 770GB, SUPER 990 | 60150 WICO #X-12920 | 60051 WICO FWS-202 |
| SUPER 880, SUPER 880G | 62191 WICO #X-13655 | 62190 WICO #X-13656 |
| POWERLITE 4, POWERLITE STD. | 64477 PHELON FG-7094 | 64475 PHELON FG-463 |

| **REO LAWN MOWERS** | | |
|---|---|---|
| 552 (below Serial no. 73, 458) | Eisemann | H27-894 |
| 566 (below serial no. 6, 300) | Eisemann | H27-894 |
| 552 (above serial no 73, 457) | Wico | X-4943 |
| 556 (above serial no. 6, 299) | Wico | X-4943 |
| 211E (below serial no. 4, 005) | Wico | X-4943 |
| 338E (below serial no. 1, 001) | Wico | X-4943 |
| 211E (above serial no. 4, 004) | Wico | X-7467 |

[74]* Polarity reads down on this coil instead of up.

| COIL TYPE | MAXIMUM SECONDARY RESISTNACE | MAXIMUM PRIMARY RESISTANCE | COIL INDEX | MINIMUM COIL TEST | MAX GAP INDEX | MAGNETO |
|---|---|---|---|---|---|---|
| 338E (above serial no. 1, 010) | Wico | X-7467 | | | | |
| 404E (below serial no. 5, 869) | Wico | X-4943 | | | | |
| 404E (above serial no. 5, 869 | Wico | X-7467 | | | | |
| 211F | Wico | X-7467 | | | | |
| 338F | Wico | X-7467 | | | | |
| 404F | Wico | X-7467 | | | | |
| 211G | Wico | X-7467 | | | | |
| 211G, Type 1 | Phelon | FG-420 | | | | |
| 338G | Wico | X-7467 | | | | |
| 338G, Type 1 | Phelon | FG-420 | | | | |
| 404G | Wico | X-7467 | | | | |
| 404G, Type 1 | Phelon | FG-420 | | | | |
| 660G | Wico | X-7467 | | | | |
| 660G, Type 1 | Phelon | FG-420 | | | | |
| Lawnmowers 1956 & 1957 | Phelon | FG-2732 | | | | |
| All 1954, 1955, 1956 | Wico | X-9055 | | | | |
| 5240-7 | Phelon | FG-2731 | | | | |
| 5200-7 | Wico | X-9055 | | | | |
| 5260-7,5230-7 | (Type 1) | | | | | |
| 5250-7, All | Phelon | FG-2731 | | | | |
| others, also 5260-8 | ( Type 2) | | | | | |
| M41, M42, M43, M51, M52 | Wico | X-9965 | | | | |
| M45 | Wico | X-11654 | | | | |
| M46 | Wico | X-11654 | | | | |
| M47, M48 | Wico | X-9965 | | | | |
| M50, M53 | (Type 1) | | | | | |
| M47, M48 | Phelon | FG-3294 | | | | |
| M50, M53, M44 | (type 2) | | | | | |
| M54 | Phelon | FG-3294B | | | | |
| M21, M23 | Phelon | FG-2180B | | | | |
| M57, M58, M60, M61 | Phelon | FG-4081 | | | | |
| M62, M63, M64, M65 | or | | | | | |
| M66, M67, M69, M70 [75] | Wico | X-9965 | | | | |
| **Roper Outdoor Products** | | | | | | |
| 9309 R | 10000 | 20.0 | 60 | 70 AMP | 60* | |
| **Rupp Industries, Inc.** | | | | | | |
| 17055 (1972 Ign. Coil#1) | 8000 | 14.0 | 60 | 34 | 65 | |
| 17056 (1972 Ign. Coil #2) | 8000 | 14.0 | 60 | 34 | 85 | |
| 20581 (1973 Ign,. Coil | 1000 | .2 | 60 | 13 Amp | 50* | |

[75]For test specification on coils and condensers listed above refer to the respective Eisemann, Phelon or Wico Specification Page.

| COIL TYPE | MAXIMUM SECONDARY RESISTNACE | MAXIMUM PRIMARY RESISTANCE | COIL INDEX | MINIMUM COIL TEST | MAX GAP INDEX | MAGNETO |
|---|---|---|---|---|---|---|

[76]

## Scintilla (see Bendix)

| Scott Atwater Mfg. Co, Firestorm, Corsair, Hiawatha Outboard Motors | YEAR | PHELON MAG NO. | SCOTT ATWATER MAG. NO. | PHELON COIL NO. | SCOTT ATWATER COIL NO. |
|---|---|---|---|---|---|
| 4 HP Single | 1947 | F-189 | 4911-105 | FG-307 | 476-134 |
| 3.6 & 4 HP Single | 1949 | F-189H | 5010-105 | FG470 | 5010-134 |
| 5 HP | 1949 | F-189J | 5017-105 | FG-470 | 5010-134 |
| 7.5 HP | 1949 | F-189K | 5013-105 | FG-470 | 5010-134 |
| 3.6 HP Single | 1950 | F-189Q | 1025-105 | FG-470B | 5110=134 |
| 3.6 HP Single | 1954 | F-189Q-7 | 1055-105 | FG-1573C | 1355-134 |
| 5 HP | 1950 | F-189R | 5117-105 | FG-470B | 5110-134 |
| 7.5 HP | 1950 | F-189S | 5113-105 | FG-470B | 5110-134 |
| 7.5 & 10 HP | 1952 | F-189T | 3345-105 | FG-470B | 5110-134 |
| 7.5 & 10 HP | 1954 | F-189T-7 | 1355-105 | FG-1573C | 1355-134 |
| 30 HP | 1955 | F-1400 | 3655-105 | FG-2331 | 1355-134 |
| 33 HP | 1956 | F1400B | 3665-105 | FG-2546 | 3665-134 |
| 40 HP | | GM-2065 | 3675-3-105 | FG2546 | 3665-134 |
| | 1956 | GM-2065-C | 3675-3-105 | FG-2723 (LIGHT) | 2675-3-134 |
| | | | | FG-2725 (LIGHT) | 3673-3-134 |
| 40 HP | 1956 | F-2065 | 3675-105 | FG-2546 | 3665-134 |

[77]

## Skil Corporation

| | | | | | |
|---|---|---|---|---|---|
| 178685 | 10500 | 2.1 | 60 | 15 | 60 |
| 180685 | 9000 | 1.8 | 75 | 17 | 75 |
| 312820 | 9000 | 1.8 | 75 | 17 | 75 |

## Slick Magnetos

| | | | | | |
|---|---|---|---|---|---|
| 7-41A | 12,500 | 1.7 | 70 | 36 | 60 |
| 11-46 | 12,500 | 1.6 | 70 | 47 | 65 |
| 15-41A | 11,000 | .7 | 70 | 42 | 70 |
| 20-CMA | 12,000 | .7 | 70 | 37 | 60 |
| 145-JMA | 11,000 | .7 | 70 | 42 | 70 |
| M-1073 | 12,000 | 1.6 | 70 | 47 | 65 |

## Spiegel

SEE OUTBOARD MOTOR LISTING

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[76]* Ground One End Of secondary for this test

[77]* Those models which are equipped with Eisemann Magnetos have Eisemann Coil #H27-984. Refer to respective Phelon or Eisemann specification page for test data on coils listed.

| COIL TYPE | MAXIMUM SECONDARY RESISTNACE | MAXIMUM PRIMARY RESISTANCE | COIL INDEX | MINIMUM COIL TEST | MAX GAP INDEX | MAGNETO |
|---|---|---|---|---|---|---|
| **Stihl Saws** | | | | | | MAXIMUM DC OHMS (POINTS TEST) |
| 015*/Phelon FG-9430 | | | | | | |
| 020 /1114-404-3200 | 15000 | 1.5 | 70 | 27 | 70 | 1.4 |
| 031 /1113-400-1300 | 15000 | 1.5 | 60 | 18 | 60 | 1.4 |
| 041 /1110-404-3200 | 10000 | 2.0 | 60 | 24 | 65 | 2.0 |
| 045 /1115-404-3200 | 10000 | 3.0 | 70 | 33 | 95 | |
| 051 /1111-400-1305 | 15000 | 2.0 | 60 | 28 | 60 | 1.6 |
| 08S /1108-404-3200 | 10000 | 2.5 | 70 | 30 | 75 | 2.5 |
| **Synco** | | | | | | |
| 21565, 21565-1, 21575 | 10,000 | 20.0 | 60 | 70 amp | 60* | |
| **Tecumseh Products Co.** | | | | | | MAXIMUM DC OHMS (POINTS TEST) |
| 24439 | 7500 | 2.0 | 75 | 17 | 70 | |
| 29632 | 7000 | 2.0(coil in mag) 1.8(coil out of mag) | 55 | 13 | 65 | |
| 30546 | 7500 | 1.3 | 60 | 13 | 60 | |
| 30560 | 10000 | 1.5 | 60 | 15 | 70 | |
| 30560A | 10000 | 1.5 | 60 | 15 | 70 | |
| 27531 | 9000 | 1.2 | 55 | 17 | 70 | |
| 29176 | 7500 | 2.0 | 75 | 17 | 70 | |
| 32014 | 15000 | 1.5 | 50 | 25 | 50 | |
| 610242 | 7500 | 2.0 | 75 | 24 | 70 | |
| 610287 | 7500 | 2.0 | 75 | 17 | 70 | |
| 610292 | 7500 | 2.0 | 75 | 17 | 70 | |
| 610298 | 9500 | 2.0 | 75 | 24 | 70* | |
| 610323 | 7500 | 2.0 | 75 | 17 | 70 | |
| 610371 | 7500 | 2.0 | 75 | 17 | 70 | |
| 610466 | 7500 | 2.0 | 75 | 17 | 70 | |
| 610477 | 7500 | 2.0 | 75 | 17 | 70 | |
| 610523 | 7500 | 2.0 | 75 | 17 | 70 | |
| 610524 | 7500 | 2.0 | 75 | 17 | 70 | |
| 610529 | 7500 | 2.0 | 75 | 24 | 70 | |
| 610657 | 12000 | 1.8 | 60 | 23 | 60 | |
| 610657 | 12000 | 1.8 | 60 | 23 | 60 | |
| 610706 | 12000 | 1.4 | 55 | 16 | 55 | |
| 610760 | 4000 | 1.2 | 80 | 16** | 50 | .31 |
| 610761 | # | | | | | |
| 610768 | 10000 | 1.1 | 60 | 25 | 60 | .65 |
| 610783 | 4000 | 1.2 | 80 | 16** | 50 | .31 |
| 610785 | 500 | .2 | 50 | 5*** | 50 | .08 |
| 610785A | 500 | .2 | 50 | 5*** | 50 | .08 |

[78]

[78]# 400 ohms minimum between ignition unit terminal and ground. This can be checked on Model 51 Graham tester by using the "secondary Continuity" position

*Ground out one secondary terminal while testing other.

** Not over ten Seconds.

| COIL TYPE | MAXIMUM SECONDARY RESISTNACE | MAXIMUM PRIMARY RESISTANCE | COIL INDEX | MINIMUM COIL TEST | MAX GAP INDEX | MAGNETO |
|---|---|---|---|---|---|---|
| **Volkswagen** | | | | | | |
| Bosch /111-905-105E | 9000 | 2.6 | 60 | 31 | 50 | |
| **West Bend (now Chrysler Outboard)** | | | | | | |
| Coil #2A91475-1 | 12,000 | 6.0 | 65 | 41 | 70 | |
| **Whizzer** | | | | | | |
| Whizzer 2624 | 6000 | 2.0 | 65 | 32 | 75 | |
| **Wico-Prestolite Coils** | Test with iron core in. Coil out of magneto or off stator Plate. | | | | | |
| 18X123C | 6000 | 2.2 | 70 | 34 | 70 | FGB left |
| 18X123D | 6000 | 2.2 | 70 | 34 | 70 | FGB right |
| FAC-3046 | 1000 | .4 | 55 | 37 AMP | 55 | |
| FWM-1035 | 10000 | 1.1 | 60 | 24 | 60 | |
| FWM-1038 | 10000 | 1.1 | 60 | 22 | 60 | |
| FWM-2003 | 10000 | 1.8 | 60 | 22 | 60 | |
| FWM-3003*** | 7000 | 1.5 | 55 | 20 | 55 | |
| IKBX-103 | 5000 | 2.0 | 70 | 31 | 70 | EK right |
| IKBX-104 | 5000 | 2.0 | 70 | 31 | 70 | EK left |
| X11049 | 7500 | 1.0 | 50 | 12 | 60 | |
| X11180 | 7000 | 1.0 | 60 | 15 | 60 | |
| X11205 | 7000 | 1.1 | 50 | 12 | 65 | |
| X11260 | 6500 | 1.3 | 50 | 13 | 65 | |
| X11352 | 8000 | .9 | 60 | 16 | 60 | |
| X11406 | 8000 | .9 | 60 | 16 | 60 | |
| X11477 | 8000 | .9 | 60 | 16 | 60 | |
| X11563 | 9000 | 7.5 | 75 | 41 | 85 | |
| X11600 | 9000** | 1.2 | 80 | 29 | 90 | |
| X11654 | 7000 | 1.1 | 55 | 13 | 65 | |
| X11675 group | | 2.3 | 50 | 14 | | |
| X11737 single | | 1.1 | 50 | 7 | | |
| X11856 | 7500 | 1.3 | 50 | 13 | 70 | |
| X12281 | | .8 | 50 | 9 | | |
| X12302 | 9000 | 1.1 | 60 | 19 | 60 | |
| X12317# | 7000 | 1.3 | 50 | 19 | 70 | |
| X12325 | 7000 | .9 | 50 | 12 | 65 | |
| X12609 | 8000 | 1.1 | 55 | 29 | 55 | |
| X12660 | 8000 | 1.2 | 60 | 16 | 65 | |

*** With coil test Amplifier amplified reading only (part of "CD-1" Modification.) If your tester does not have coil test Amplifier, ignore meter reading and make sure coil fires steadily at specified Gap Index.

| COIL TYPE | MAXIMUM SECONDARY RESISTNACE | MAXIMUM PRIMARY RESISTANCE | COIL INDEX | MINIMUM COIL TEST | MAX GAP INDEX | MAGNETO |
|---|---|---|---|---|---|---|
| X12810 | 25000 | 1.6 | 50 | 19 | 50* | |
| X12905 | 9000 | 1.2 | 55 | 17 | 70 | |
| X12910 | 9000 | 1.1 | 55 | 17 | 65 | |
| X12915 | 9000 | 1.1 | 55 | 17 | 65 | |
| X12920 | 9000 | 1.1 | 55 | 17 | 65 | |
| X12925 | 9000 | 1.1 | 55 | 17 | 65 | |
| X12935 | 9000 | 1.1 | 55 | 17 | 65 | |
| X12940 | 10000 | 1.2 | 65 | 21 | 70 | |
| X13000 | 8000 | 1.2 | 65 | 21 | 70 | |
| X13313 | 9000 | 1.2 | 55 | 17 | 70 | |
| X13655 | 9000 | 1.1 | 55 | 17 | 65 | |
| X14171 | 10000 | 1.7 | 65 | 20 | 65 | |
| X14276 | 9000 | 1.2 | 55 | 17 | 70 | |
| X14295 | 25000 | .8 | 60 | 26 | 50 | |
| X14381 | 10000 | 1.1 | 60 | 22 | 65 | |
| X14501 | 10000 | 1.1 | 60 | 22 | 65 | |
| X14877 | 13000 | 1.1 | 60 | 22 | 60 | |
| X16343 | 10000 | 1.7 | 65 | 27 | 65 | |
| X16381 & X16389 | 9000 | 1.1 | 55 | 17 | 65 | |
| X16669B | 10000 | 1.7 | 65 | 20 | 65 | |
| X16797B | 9000 | 1.1 | 55 | 17 | 65 | |
| X16809B, X16825B, X16893 | 10000 | 1.7 | 65 | 27 | 65 | |
| X16979B | 9000 | 1.1 | 55 | 17 | 65 | |
| X17085B, X17108-B | 10000 | 1.7 | 65 | 27 | 65 | |
| X17462C | 10000 | 1.7 | 65 | 20 | 65 | |
| X17566B | 10000 | 1.7 | 65 | 20 | 65 | |
| X18015 | 9000 | 1.7 | 65 | 24 | 60 | |
| X18050 | 7000 | 1.7 | 65 | 24 | 60 | |
| X18086 | 8000 | 1.7 | 65 | 26 | 70 | |
| X18122 | 1500 | .6 | 60 | 26 AMP | 65 | |
| X18248 | 10000 | 1.1 | 60 | 22 | 60 | |
| X1910 | 7000 | 1.0 | 60 | 26 | 60 | AH |
| X2156 | 6000 | 2.0 | 60 | 21 | 65 | FW |
| X2631 | 7000 | 3.0 | 60 | 32 | 80* | OC right HD |
| X2632 | 7000 | 3.0 | 60 | 32 | 80* | OC left HD |
| X2766 | 8500 | 1.0 | 50 | 18 | 65 | A & C |
| X2770 | 9500 | 1.0 | 45 | 15 | 65 | AP |
| X2770B | 9500 | 1.0 | 45 | 17 | 65 | APH |
| X2937 | 4500 | 1.2 | 65 | 15 | 75 | FW |
| X30089 | 7500 | 2.9 | 50 | 27 | 55 | |
| X30108 | 10000 | 8.7 | 60 | 35 | 65 | |
| X3040 A, B, C, D | 10500 | 1.7 | 50 | 20 | 65 | FW |
| X3430 | 9000 | 1.1 | 55 | 24 | 60 | EM |
| X3682 | 7000 | 1.7 | 55 | 24 | 60 | J & JM |
| X4791 | 10500 | 1.7 | 50 | 20 | 65 | FW |
| X4943 | 5500 | 2.0 | 55 | 18 | 65 | FW |

| COIL TYPE | MAXIMUM SECONDARY RESISTNACE | MAXIMUM PRIMARY RESISTANCE | COIL INDEX | MINIMUM COIL TEST | MAX GAP INDEX | MAGNETO |
|---|---|---|---|---|---|---|
| X5345 | 7000 | 1.8 | 60 | 23 | 70 | FW |
| X5460C | 6000 | 1.9 | 55 | 20 | 65 | FW |
| X5700 | 7000 | 1.2 | 60 | 24 | 65 | X |
| X5700B | 9000 | 1.2 | 80 | 28 | 90 | |
| X5700C | 8500 | 1.5 | 50 | 18 | 70 | |
| X5953 | 6000 | 2.0 | 60 | 21 | 65 | FW |
| X6111 | 5000 | 2.1 | 50 | 18 | 65 | FW |
| X6664 | 7000 | 0.8 | 50 | 11 | 75 | XH2D |
| X6718 | 5000 | 1.5 | 50 | 17 | 70 | FW |
| X6762 | 7000 | .7 | 60 | 18 | 55 | XH-1 |
| X6872 | 6000 | 2.0 | 50 | 25 | 60 | XB |
| X6872B | 8500 | 3.6 | 50 | 22 | 60 | XB |
| X6933 | 6000 | 2.0 | 50 | 17 | 65 | FW |
| X6936 | 6500 | 1.2 | 50 | 24 | 60 | XHD |
| X6936B | 9000 | 1.2 | 80 | 28 | 90 | |
| X6963 | 6000 | 2.0 | 50 | 17 | 65 | |
| X6985 | 5500 | 2.0 | 55 | 18 | 65 | FW |
| X7120 | 4800 | 1.7 | 50 | 18 | 65 | FW |
| X7233 | 7000 | 1.5 | 50 | 13 | 75 | FW |
| X7325 | 5000 | 1.8 | 65 | 22 | 70 | FW |
| X7345 | 5500 | 1.8 | 60 | 22 | 70 | FW |
| X7438 | 7000 | 1.5 | 50 | 13 | 75 | FW |
| X7453 | 8000 | 1.8 | 60 | 24 | 65 | FW |
| X7467 | 4500 | 1.3 | 50 | 15 | 75 | FW |
| X7500 | 4000 | 1.4 | 50 | 16 | 70 | FW |
| X7536 | 8000 | 1.2 | 60 | 17 | 70 | FW |
| X7560 | 7500 | 1.3 | 60 | 16 | 65 | XHD-1 |
| X7585 | 6500 | 1.0 | 45 | 14 | 65 | FW |
| X7680 | 5000 | 1.5 | 50 | 17 | 70 | XH |
| X7744 | 7000 | 1.2 | 60 | 24 | 65 | XH-1 & XHS-1 |
| X7886 | 7000 | .7 | 60 | 18 | 55 | XHS-2D |
| X7895 | 7000 | .8 | 50 | 11 | 75 | XH-1 |
| X8545 | 7000 | .7 | 60 | 18 | 60 | FW |
| X8668 | 8000 | 1.2 | 60 | 17 | 70 | |
| X8786 | 5000 | 1.5 | 65 | 21 | 70 | FW |
| X8795 | 6500** | 1.5 | 60 | 18 | 70* | XB |
| X8798 | 8500 | 3.6 | 50 | 22 | 60 | FW |
| X8877 | 7000 | 1.1 | 50 | 12 | 65 | XH-2D |
| X8964 | 7000** | 1.0 | 60 | 17 | 65* | FW |
| X9055 | 7000 | 1.2 | 50 | 12 | 65 | FW |
| X9144 | 12500** | 1.6 | 60 | 21 | 70* | |
| X9295 | 6000** | 1.5 | 65 | 22 | 70* | |
| X9533 | 5000 | .9 | 60 | 20 | 70 | |
| X9692 | 7000 | 1.1 | 50 | 13 | 65 | |
| X9767 | 6500 | 1.1 | 60 | 14 | 70 | |
| X9965 | 7000 | 1.0 | 60 | 15 | 60 | |

| COIL TYPE | MAXIMUM SECONDARY RESISTNACE | MAXIMUM PRIMARY RESISTANCE | COIL INDEX | MINIMUM COIL TEST | MAX GAP INDEX | MAGNETO |
|---|---|---|---|---|---|---|
| XX4658B [79] | 8000 | 1.8 | 60 | 24 | 65 | FW |

## WIZARD (SEE MERCURY MARINE)

## Yamaha

| | | | | | | |
|---|---|---|---|---|---|---|
| 168-82310-70 (marked diamond tu-29 12V) | 15000 | 7.5 | 70 | 42 | 70 | |
| DT1, DT1MX, RT1, RTLMX Motorcycles 214-82310-40 | 10000 | 5.5 | 55 | 21 | 60 | |
| AT1, R5,XS1 Motorcycle 227-82310-60 (marked 12 V CM11-50 107) | 15000 | 6.0 | 70 | 42 | 70 | |
| HT1, JT1, CT1,AT1MX Motorcycles 248-82310-11 (marked AC CM61-50 | 15000 | 6.0 | 70 | 42 | 70 | |
| 8SL-338B, GP-396, SS-433 Snowmobile 06-82310-40 (marked HMJ-7 Mitsubishi) | 20000 | 4.2 | 70 | 40 | 70 | |
| SL-292 Snowmobiles 812-82310-40 | 10000 | 8.5 | 55 | 26 | 55 | |
| 185-81312-10 | Lighting coils, check for continuity only. | | | | | |
| 207-81312-20 | Lighting coils, check for continuity only. | | | | | |
| 214-81312-21 | Lighting coils, check for continuity only. | | | | | |

[79] * Connect one secondary terminal to primary for this test.
*** Between two secondary terminals. when making gap index test ground on secondary terminal.
*** Includes coil, core and condenser, On Graham Model 51 Testers, The condenser can be tested on series resistance switch position. This test tells whether the condenser is properly connected across the coil primary circuit. If series resistance checks high (more than one ohm on series resistance meter scale) discard coil. If condenser is shorted, this will show on normal coil test procedure on any Model Graham Tester.
Note: Coils without a built-in condenser will show little or no reading when coil primary is connected to series resistance test position.

| COIL TYPE | MAXIMUM SECONDARY RESISTNACE | MAXIMUM PRIMARY RESISTANCE | COIL INDEX | MINIMUM COIL TEST | MAX GAP INDEX | MAGNETO |
|---|---|---|---|---|---|---|

## OUTBOARD MOTOR LISTING

All outboard Motors listed below use one or all of the coils listed below.

| | | | | | |
|---|---|---|---|---|---|
| 375189 | 4500 | 1.0 | 65 | 25 | 65 |
| 580040 | 4000 | 1.3 | 75 | 31 | 75 |
| 580084 | 4000 | 1.0 | 70 | 26 | 70 |
| 580118 | 4000 | 1.2 | 75 | 33 | 75 |

### ATLAS

375189 1A5, 2A3, 2A7
580040 -28A
580084 1A9, 2A7
580118 3S10A, 3D10A, 5S10A, 5D10B, 12S10B

### BUCCAHEER

580040 2B8
580084 1B10, 1B9, 2B7
580118 3S10B, 3D10B, 5S10B, 5D10B, 12S10B

### GAMBLE

375189 25-7945A, 25S, 25DL, 25-3257, 25-7955-47-3S, 25-7956, 25-7957A, 25-7958A, 50S, 50DL, 50-S-A, 25-3260-50DLA, 25-7970-47-S-D, 25-7971, 25-79721, 79721-25
580040 25-7980A
580084 25-7958A, 7972A
580118 25-7959A, 25-7973A, 25-7981A

### GOODRICH

580118 64-170, 64-180, 64-190

### GOODYEAR

375189 025-3562, 025-3562A, 025-3555, 1G1, 1G4, 025-3563, 025-3566, 025-3550, 2G2, 2G3, 025-3564
580040 025-3565
580084 025-3562A, 025-3566, 025-3564
580118 025-3567, 025-3568, 025-3569, 025-3570, 025-3571

### SPEIGEL

580084 230-50-1, 230-50-3, 230-50-5, 230-50-12
580118 230-51-3S, 230-51-3D, 230-51-12S

### MONTGOMERY WARD

375189 84GG9003A, 94GG9003B, 24GG9351A, 64GG9005, 74GG9005, 74GG9006, 84GG9007A,

| COIL TYPE | MAXIMUM SECONDARY RESISTNACE | MAXIMUM PRIMARY RESISTANCE | COIL INDEX | MINIMUM COIL TEST | MAX GAP INDEX | MAGNETO |
|---|---|---|---|---|---|---|
| | 94GG9009A, 14GG8826, 14GG8827, 54GG9010, 54GG9011, 74GG9011, 74GG9012, 84GG9014A, 94GG9014A | | | | | |
| 580040 | 84GG9017A, 94GG9017A | | | | | |
| 580084 | 94GG9003B, 94FF9009A, 94GG9014A | | | | | |
| 580118 | 15GG9004, 14GG9009, 15GG90015, 15GG9014, 15GG9018, 15GG9017 | | | | | |

**WESTERN FLYER**

| | |
|---|---|
| 3755189 | 121W, 122W, 251W, 252WA |

# GRAHAM-LEE
# CONDENSOR TEST SPECIFICATIONS
# TABLE 3

# CONDENSOR LISTING

## AMERICAN BOSCH

| CONDENSOR TYPE | MINIMUM | MAXIMUM |
|---|---|---|
| CW 5210 | .33 | .39 |
| CW 52110 | .28 | .35 |
| CW 52131 | .25 | .28 |
| CW 522 | .33 | .39 |
| CW 5224 | .22 | .27 |
| CW 5232 | .70 | .85 |
| CW 5239 | .22 | .27 |
| CW 5252 | .33 | .39 |
| CW 5260 | .22 | .27 |
| CW 5263 | .22 | .27 |
| CW 527 | .22 | .27 |
| CW 5279 | .22 | .27 |
| CW 5291 | .33 | .39 |
| CW 5292 | .28 | .35 |
| CW 5293 | .22 | .27 |
| CW 5296 | .33 | .39 |
| CW 5297 | .70 | .85 |
| CW 5298 | .33 | .39 |
| CW 5299 | .70 | .85 |

## ARCTIC CAT SNOWMOBILES

| CONDENSER[1] | |
|---|---|
| 3000-900 | .22 NOM |
| 3000-948 | .22 NOM |

## AUTO LITE

| CONDENSOR TYPE | MINIMUM | MAXIMUM |
|---|---|---|
| IAT 3076L SERIES | .21 | .25 |
| IAT 3076R SERIES | .21 | .25 |
| IAT 3076-AS-DS-ES-RA | .25 | .28 |
| IBB 2042 SERIES | .25 | .28 |
| IG 2671 SERIES | .20 | .25 |
| IG 3927 SERIES | .28 | .32 |
| IGB 1025 SERIES | .20 | .25 |
| IGH 3076 SERIES | .20 | .25 |
| IGW 3075C SERIES | .20 | .25 |
| IGW 3128A SERIES | .28 | |
| IGW 3139 | .23 | .26 |
| XA 559 SERIES | .25 | .28 |

## BENDIX CONDENSERS

| CONDENSOR TYPE | MINIMUM | MAXIMUM |
|---|---|---|
| 02-755Y | .17 | |
| 10-102513 | .78 | |
| 10-102514 | .78 | |
| 10-12049 | .17 | |
| 10-15061 | .17 | |
| 10-164005 | 1.10 | |
| 10-17453 | .25 | |
| 10-17889 | .17 | |
| 10-17892 | .22 | |
| 10-19188 | .24 | |
| 10-23186 | .16 | |
| 10-29443 | .70 | |
| 10-3159K | .29 | |
| 10-32556 | .16 | |
| 10-32603 | .20 | |
| 10-3373Y | .25 | |
| 10-349276 | .30 | |
| 10-37636 | .18 | |
| 10-382681 | .30 | |
| 10-382681-1 | .30 | |
| 10-382807 | .11 | |
| 10-38350W | .15 | |
| 10-4341 | .15 | |
| 10-51658 | .16 | |
| 10-51676 | .30 | |
| 10-52582 | .40 | |
| 10-53176Y | .15 | |
| 10-53229 | .22 | |
| 10-54916 | .15 | |
| 10-54954 | .15 | |
| 10-55208 | .15 | |
| 10-55555 | .14 | |
| 10-56107 | .15 | |
| 10-56549 | .15 | |
| 10-58217X | .15 | |
| 10-58223Y | .15 | |
| 10-58224Y | .15 | |
| 10-5925 | .17 | |
| 10-61650 | .18 | |
| 10-70141 | .15 | |
| 10-70162 | .27 | |
| 10-7461-2 | .25 | |
| 10-76413 | .35 | |
| 10-76492 | .15 | |
| 10-7713-2 | .25 | |
| 10-7713-3 | .30 | |
| 10-77325 | .006 | |
| 10-79125 | .15 | |
| 10-79168Y | .27 | |
| 10-79188 | .15 | |
| 10-81927 | .17 | |
| 10-81956 | 1.50 | |

[1]See tester instruction manuals for additional test information

| CONDENSOR TYPE | MINIMUM | MAXIMUM |
|---|---|---|
| 10-81958 | .70 | |
| 10-82104 | .15 | |
| 10-82207 | .29 | |
| 10-85252 | .60 | |
| 10-85256 | 1.50 | |
| 10-86610 | .15 | |
| 10-9372Y | .24 | |
| 10163131 | .30 | |
| 1077761 | .60 | |

## DELCO REMY

| | | |
|---|---|---|
| 1869704 | .18 | .23 |
| 1882239 | .29 | .34 |
| 1911095 | .28 | .38 |
| 1917580 | .4 | .6 |

## CHRYSLER OUTBOARD

| | | |
|---|---|---|
| 12042 | .28 | .33 |
| 12117 | .16 | .20 |
| 12119 | .26 | .30 |
| 12139 | .26 | .30 |
| 12143 | .16 | .20 |
| 12178 | .160 | .2 |
| 12181 | .16 | .20 |
| 12196 | .26 | .30 |
| 12357 | .16 | .20 |
| 14022-1 | .38 | .40 |

## CLINTON

| | Test to Standard Limits | |
|---|---|---|
| | 135-31-500 | .15 - .19 |
| | 135-251-500 | .15 - .19 |
| C3416 | 135-151 | .15 - .19 |
| P2053 | 135-24 | .12 -.16 |
| P5549 | 135-27-500 | .22 - .27 |
| P5589A | 135-29-990 | .15 - .19 |
| P5599A | 135-30-500 | .15 - .19 |
| P5736M | 135-33-500 | .15 - .19 |
| P5758 | 135-33-500 | .25 - .27 |
| P7219 | 135-261-500 | .15 - .19 |

## DESA INDUSTRIES

| | | |
|---|---|---|
| 688S5 | .16 | .20 |



| CONDENSOR TYPE | MINIMUM | MAXIMUM |
|---|---|---|

## CUSHMAN

| | | |
|---|---|---|
| 60 series scooter | 510478 | .30 - .37 |
| | X-5800 | .16 - .20 |
| 50 series scooter * all Commercial enginer | X-2186 | .16 - .20 |
| Phelon GM-994 Series Magneto All scooter engines used alternately since 60 series | FG-1019 | .12 - .16 |
| Scooter Engines 1959 & 1960 [2] | X-11397 | .16 - .20 |

## EDISON SPLITDORF

| | | |
|---|---|---|
| 6285 | .11 | .13 |
| 6286 | .11 | .13 |
| 6935 | .11 | .13 |
| 7511 | .11 | .13 |
| 8429C | .09 | .11 |
| 51389 | .11 | .14 |
| 51441 | .11 | .14 |

## EVINRUDE MOTORS[3] *

| | | |
|---|---|---|
| 170002 * | .3 | |
| 170067 * | .1 | |
| 170251 * | .3 | |
| 170384 * | .2 | |
| 171311 * | .2 | |
| 171448 * | .1 | |
| 171449 | .09 | .125 |
| 171470 | .27 | .36 |
| 171471 | .18 | .25 |
| 201484 | .16 | .24 |
| 201753 | .16 | .24 |
| 300153 | .15 | .205 |
| 480422 | .25 | .29 |
| 510173 | .18 | .22 |
| 580256 | .35 | .41 |
| 580321 | .18 | .22 |
| 580422 | .25 | .29 |
| 677299 * | .15 | |

[2] *ground one secondary terminal to primary

[3] It is suggested that tolerances of .03 mfd. plus or minus be allowed (*)

| CONDENSOR TYPE | MINIMUM | MAXIMUM |
|---|---|---|

## FAIRBANKS-MORSE

| | | |
|---|---|---|
| A2433 #1 | .38 | .43 |
| A2433 #2 | .33 | .38 |
| A2433 #3 | .25 | .30 |
| A2433 #4 | .22 | .27 |
| AX-M-R2422 | .17 | .23 |
| AX2433 | .27 | .23 |
| B2433 | .30 | .33 |
| BX2433 | .16 | .19 |
| CX2433 | .28 | .36 |
| DX2433 | .28 | .36 |
| EX2433 | .17 | .23 |
| FX2433 | .28 | .36 |
| GX2433 | .16 | .19 |
| HX2433 | .28 | .36 |
| JX2433 | .17 | .23 |
| K2433 | .17 | .23 |
| KX2333 | .28 | .36 |
| L-V2433 | .37 | .43 |
| L2433 | .33 | .38 |
| M2433 | .17 | .33 |
| NX2433 | .28 | .35 |
| PX2433 | .3 | |
| QX2433 | .28 | .35 |
| R2433 | .17 | .23 |
| RX2433 | .37 | .42 |
| S-X-Y2433 | .28 | .36 |
| S2433 | .28 | .33 |
| T2433 | .18 | .23 |
| TX2433 | .28 | .35 |
| V2433 | .35 | .40 |
| X2433 | .28 | .33 |
| Y2433 | .35 | .40 |

## GERMAN BOSCH

| | | |
|---|---|---|
| 1-237-330-037 | .32 | |

## HOMELITE

| | | |
|---|---|---|
| 68711 | .16 | .20 |
| 90756 | .21 | .27 |

## JOHNSON MOTORS

| | | |
|---|---|---|
| 300153 | .15 | .21 |
| 510172 | .15 | .21 |
| 510173 | .18 | .22 |

| CONDENSOR TYPE | MINIMUM | MAXIMUM |
|---|---|---|
| 580256 | .37 | .41 |
| 580321 | .18 | .22 |
| 580422 | .25 | .29 |
| 677299 | .12 | .18 |
| 71-1555 | .16 | .20 |
| 72-1036 | .8 | .24 |
| 72-702 | .28 | .32 |
| 72-864 | .27 | .33 |
| 72-873 | .20 | .24 |
| 72-996 | .8 | .24 |

## MALL TOOL COMPANY

| MODEL & MANUFACTURER | MALL NO. | MFG. NO. |
|---|---|---|
| 10-11 Scintilla | 32483 | 10-3835ow |
| 12 Phelon | 21593 | FG-458B |
| 12A Phelon | 21593 | FG-458B |
| 23-14 B&S | | B-291369 |
| 2MG Scintilla | 43879 | 10-86610 |
| 3MG Scintilla | 43879 | 10-86610 |
| 4MG Scintilla | 43879 | 10-86610 |
| 5MG Scintilla | 43879 | 10-86610 |
| 6 B&S | | B-292589 |
| 6-7 Scintilla | 25976 | 10-51658 |
| 7G Scintilla | 32483 | 10-3835ow |
| 8 Scintilla | | |
| 8G B&S | | B-29830 |
| GP Scintilla | 43879 | 10-86610 |
| IMG Sintilla | 43879 | 10-86610 |
| OMG Scintilla | 42403 | 10-79168 |
| Wico | 40507 | X-7529 |
| Wico | 37393 | X-7372 |

## MALLORY

| | |
|---|---|
| 25010-24 | .24 |
| 25010-36 | .36 |
| 400 | .3 |
| 401[4] | .27 |

## MUNCIE NEPTUNE

| | PHELON CONDENSOR NO. | |
|---|---|---|
| 1.5 H.P. Single | FG-159 | (.16 -.18) |
| 1.7 H.P. Single | FG-216 | (.16 -.18 |

[4]**** Do not discark condenser if reading is slightly above or below this value. Other condenser test limits standard.

| CONDENSOR TYPE | MINIMUM | MAXIMUM |
|---|---|---|
| 2.5 H.P. Single | FG-216 | (.16 -.18) |
| 3.3 H.P. Single | FG-216 | (.16 -.18) |
| 3.3 H.P. Single | FG-471B | (.13 - .15) |
| Model A-1 Muncie | FG-471B | (.13 - .15) |

## PHELON

| | | |
|---|---|---|
| 00410-00-D | .15 | .19 |
| 00471 | .13 | .19 |
| 00471-00-B | .13 | .18 |
| 00607-00-B | .15 | .19 |
| 00607-00-B | .15 | .19 |
| 00955 or CEX 955 | .15 | .19 |
| 00987 or CEX 987 | .15 | .19 |
| 01019 | .15 | .19 |
| 01057 | .15 | .19 |
| 01316 | .15 | .19 |
| 01338 | .15 | .19 |
| 01355 | .15 | .19 |
| 01770 | .15 | .19 |
| 01928 | .24 | .28 |
| 02111 | .15 | .19 |
| 02138 | .12 | .17 |
| 02176 | .15 | .19 |
| 02448 | .15 | .19 |
| 02508 | .15 | .19 |
| 02642 | .15 | .19 |
| 02733 | .15 | .19 |
| 02993 | .18 | .22 |
| 03044 | .24 | .28 |
| 03478 | .18 | .22 |
| 03505 | .15 | .19 |
| 03505-00-M | .15 | .19 |
| 03597 | .24 | .28 |
| 03693 | .15 | .19 |
| 03723 | .15 | .19 |
| 04016 | .18 | .22 |
| 04082 | .15 | .19 |
| 04312 | .24 | .28 |
| 04449 | .15 | .19 |
| 04477 | .15 | .19 |
| 06048 | .15 | .19 |
| 06048-00-B | .15 | .19 |
| 06168 | .15 | .19 |
| 06200-00-D | .19 | .25 |
| 06325 | .24 | .28 |
| 06453 | .15 | .19 |
| 06548 | .23 | .28 |
| 06548-00-B | .23 | .28 |
| 06867 | .11 | .15 |
| 07022 | .15 | .19 |
| 07047 | .18 | .22 |
| 07130 | .15 | .19 |
| 07146 | .18 | .22 |
| 07157 | .15 | .19 |
| 07157-00-K | .15 | .19 |
| 07184 | .24 | .28 |
| 07224 | .15 | .19 |
| 07251 | .11 | .15 |
| 07270 | .15 | .19 |
| 07339 | .18 | .22 |
| 07437 | .12 | .17 |
| 07460 | .15 | .19 |
| 07468 | .11 | .15 |
| 07499 | .15 | .19 |
| 07507 | .15 | .19 |
| 07533 | .12 | .17 |
| 07829 | .26 | .32 |
| 07909 | .11 | .15 |
| 08052 | .15 | .19 |
| 08095 | .24 | .28 |
| 08244 | .15 | .19 |
| 08466 | .19 | .23 |
| 08589 | .15 | .19 |
| 08725 | .15 | .19 |
| 08725-00-A | .15 | .19 |
| 08841 | .15 | .19 |
| 08852 | .24 | .28 |
| 08852-01 | .24 | .28 |
| 08860 | .15 | .19 |
| 08932-01 | .23 | .28 |
| 08977 | .15 | .19 |
| 09072 | .15 | .19 |
| 09221 | .15 | .19 |
| 11184 | .18 | .22 |
| 11239 | .15 | .19 |
| 11655 | .15 | .19 |
| 11746 | .15 | .19 |

## PIONEER SAWs

| | | |
|---|---|---|
| Wico Model 6-20 | .16 | .20 |
| 425369 | | |
| 425373 | | |
| 425702 | | |
| OMC Model NU-F | .18 | .22 |
| 700 | | |
| 426528 | | |

[5]

## POLARIS

| | | |
|---|---|---|
| ALL NUMBERS TO DATE | .22 | .30 |

[5]See also test procedure for pioneer capacitor discharge magneto at botton of page

| CONDENSOR TYPE | MINIMUM | MAXIMUM |
|---|---|---|

## REMINGTION CHAIN SAWS

| | PART NO. CONDENSER |
|---|---|
| GP, SL, GL, SL5, SL5R, GL7, GL7R, SL5G, PRO 88 | 43879 SCINTILLA #10-86610 |
| SUPER 75, SUPER 75A, SUPER 75G, BANTAM, BANTAM "G", SUPER 65 | 60145 WICO #X-11181 |
| SL5, SL5GB, PRO 88, PRO 88-G | 60622 PHELON FG-4449 |
| 660, SUPER 660G, SUPER 770, SUPER 770G, SUPER 770GB, SUPER 990 | 60145 WICO #X-11181 |
| SUPER 880, SUPER 880G | 60145 WICO #11181 |
| POWERLITE 4, POWERLITE STD. | 64479 PHELON FG-7047 |

## REO LAWN MOWERS

| | MFG. | PART NUMBER |
|---|---|---|
| 552 (below Serial no. 73, 458) | Eisemann | H26-982 |
| 566 (below serial no. 6, 300) | Eisemann | H26-982 |
| 552 (above serial no 73, 457) | Wico | X-5800 |
| 556 (above serial no. 6, 299) | Wico | X-5800 |
| 211E (bleow serial no. 4, 005) | Wico | X-5800 |
| 338E (below serial no. 1, 001) | Wico | X-5800 |
| 211E (above serial no. 4, 004) | Wico | X-7481 |
| 338E (above serial no. 1, 010) | Wico | X-7461 |
| 404E (below serial no. 5, 869) | Wico | X-5800 |
| 404E (above serial no. 5, 869 | Wico | X-7461 |
| 211F | Wico | X-7461 |
| 338F | Wico | X-7461 |
| 404F | Wico | X-7461 |
| 211G | Wico | X-7461 |
| 211G, Type 1 | Phelon | FG-458B |
| 338G | Wico | X-7461 |
| 338G, Type 1 | Phelon | FG-458B |
| 404G | Wico | X-7461 |
| 404G, Type 1 | Phelon | FG-458B |
| 660G | Wico | X-7461 |
| 660G, Type 1 | Phelon | FG-458B |
| Lawnmowers 1956 & 1957 | Phelon | FG-2733 or FG-2642 |
| All 1954, 1955, 1956 | Wico | X-8959 |
| 5240-7 | Phelon | FG-2733B |
| 5200-7 | Wico | X-8959 |
| 5260-7,5230-7 | (Type 1) | |
| 5250-7, All others, also 5260-8 | Phelon (Type 2) | FG-2733B |
| M41, M42, M43, M51, M52 | Wico | X-11000 |
| M45 | Wico | X-11000 |
| M46 | Wico | X-11672 |
| M47, M48 | Wico | X-11000 |
| M50, M53 | (TYPE 1) | |
| M47, M48 | Phelon | FG-2642 |
| M50, M53, M44 | (type 2) | |
| M54 | Phelon | FG-2642 |
| M21, M23 | Phelon | FG-2176 |
| M57, M58, M60, M61 M62, M63, M64, M65 M66, M67, M69, M70 | Phelon or Wico | FG-4082 X12174 |

## ROPER OUTDOOR PRODUCTS

| | | |
|---|---|---|
| 2821R, 9398H and 9648H | .16 | .20 |

## SCOTT ATWATER MFG. CO.

**Firestone Corsair, Hiawatha Outboard Motors**

| | YEAR | PHELON | SCOTT ATWATER |
|---|---|---|---|
| 4 HP Single | 1947 | FG-216 | 476-115 |
| 3.6 & 4 HP Sgl | 1949 | FG-471 | 5010-115 |
| 5 HP | 1949 | FG-471 | 5010-115 |
| 7.5 HP | 1949 | FG-471 | 5010-115 |
| 3.6 HP Single | 1950 | FG471B | 5010-115 |
| 3.6 HP Single | 1954 | FG471B | 5010-115 |
| 5HP | 1950 | FG-471B | 5010-115 |
| 7.5HP | 1950 | FG-471B | 5010-115 |
| 7.5 & 10 HP | 1952 | FG-471B | 5010-115 |

| CONDENSOR TYPE | | MINIMUM | MAXIMUM |
|---|---|---|---|
| 7.5 & 10 HP | 1954 | FG-471B | 5010-115 |
| 30 HP | 1955 | FG-2111 | 3655-115 |
| 33 HP | 1956 | FG-211 | 3655-115 |
| 40 HP | | | |
| | 1956 | | 3675-115 |
| | | FG-2727 | |
| 40 HP | 1956 | FG-2727 | 3675-115 |

## SKILL CORP.

| | | |
|---|---|---|
| 178664 | .15 | .19 |
| 180663 | .15 | .19 |

## STIHL

| | | |
|---|---|---|
| 015* | Phelon FG-9072A | |
| 020 | 1114-404-3400 | .16 - .22 |
| 031 | 1113-404-3400 | .16 - .22 |
| 045 | 1115-404-3400 | .16 - .22 |

[6]

## SYNCO

| | | |
|---|---|---|
| 2821R, 9398H and 9648H | .16 | 20 |

## TECUMSEH

| | | |
|---|---|---|
| 24445 | .15 | .19 |
| 25526 | .16 | 20 |
| 26641 | .15 | .19 |
| 27949 | .15 | .19 |
| 27949 | .15 | .19 |
| 29164 | .16 | .20 |
| 30548 | .12 | .14 |
| 30548A | .16 | .18 |
| 32015 | .23 | .29 |
| 610253 | .15 | .19 |
| 610268 | .15 | .19 |
| 610269 | .15 | .19 |
| 610294 | .13 | .18 |
| 610295 | .13 | .18 |
| 610303 | .15 | .19 |
| 610331 | .15 | .19 |
| 610370 | .15 | .19 |
| 610416 | .16 | .20 |
| 610707 | .18 | .22 |
| 610767 | .16 | .20 |

## WHIZZER

| | | |
|---|---|---|
| Whizzer 2624 | .15 | .19 |

## WICO PRESTOLITE

| | | |
|---|---|---|
| 12-X235 | .10 | .15 |
| EX6367 | .16 | .20 |
| EX6369 | .16 | .20 |
| EX6980 | .16 | .20 |
| FW-1024 | .16 | .20 |
| X10400 | .18 | .23 |
| X10455B | .18 | .23 |
| X11000 | .16 | .23 |
| X11181 | .16 | .20 |
| X11293 | .18 | .22 |
| X11337 | .26 | .30 |
| X11362 | .26 | .30 |
| X11397 | .16 | .20 |
| X11672 | .16 | .20 |
| X11762 | .16 | .20 |
| X11818 | .58 | .62 |
| X12174 | .16 | .20 |
| X12264 | .26 | .30 |
| X12303 | .16 | .20 |
| X12508 | .16 | .20 |
| X12513 | .16 | .20 |
| X12647 | .26 | .30 |
| X12984 | .30 | .34 |
| X13299 | .16 | .20 |
| X13299 | .16 | .20 |
| X1413 | .16 | .20 |
| X14497 | .16 | .20 |
| X14590 | .24 | .28 |
| X16345 | .16 | .20 |
| X16628 | .16 | .20 |
| X16778 | .10 | .12 |
| X16781 | .16 | .20 |
| X16835 | .16 | .20 |
| X16867 | .10 | .12 |
| X16888 | .16 | .20 |
| X17102 | .16 | .20 |
| X17107 | .10 | .12 |
| X17248 | .30 | .34 |
| X17767 | .16 | .20 |
| X17979 | .16 | .20 |
| X18042 | .16 | .20 |
| X18059 | .16 | .20 |

[6]* see this Number under Phelon Listing

| CONDENSOR TYPE | MINIMUM | MAXIMUM | CONDENSOR TYPE | MINIMUM | MAXIMUM |
|---|---|---|---|---|---|
| X2186 | .16 | .20 | | | |
| X2394 | .20 | .22 | | | |
| X2413 | .16 | .20 | | | |
| X2414 | .20 | .24 | | | |
| X2664 | .16 | .20 | | | |
| X2981 | .16 | .20 | | | |
| X30028 | .18 | .23 | | | |
| X30188 | .30 | .34 | | | |
| X3222 | .16 | .20 | | | |
| X3517 | .16 | .20 | | | |
| X4034 | .16 | .20 | | | |
| X4215 | .16 | .20 | | | |
| X5321 | .16 | .20 | | | |
| X5342 | .30 | .34 | | | |
| X5463 | .16 | .20 | | | |
| X5614 | .16 | .20 | | | |
| X5800 | .16 | .20 | | | |
| X5833 | .16 | .20 | | | |
| X5847 | .16 | .20 | | | |
| X5999 | .16 | .20 | | | |
| X6028 | .16 | .20 | | | |
| X6029 | .16 | .20 | | | |
| X6030 | .16 | .20 | | | |
| X6091 | .16 | .20 | | | |
| X6138 | .30 | .34 | | | |
| X6494 | .16 | .20 | | | |
| X6874 | .30 | .34 | | | |
| X6916 | .30 | .34 | | | |
| X6937 | .16 | .20 | | | |
| X7228 | .16 | .20 | | | |
| X7331 | .10 | .15 | | | |
| X7372 | .30 | .34 | | | |
| X7461 | .10 | .15 | | | |
| X7529 | .16 | .20 | | | |
| X7720 | .16 | .20 | | | |
| X8680 | .16 | .20 | | | |
| X8807 | .30 | .34 | | | |
| X8959 | .16 | .20 | | | |
| X9100 | .26 | .30 | | | |
| X9106 | .18 | .23 | | | |
| X9182 | .26 | .30 | | | |
| X9263 | .30 | .34 | | | |
| X9293 | .26 | .30 | | | |
| X9327 | .26 | .30 | | | |
| X9451 | .16 | .20 | | | |
| X9686 | .18 | .20 | | | |