Section III - ELECTRICAL SYSTEM

☐ **Location on 6 point Terminal Strip**

ELECTRICAL DIAGRAM (Z MODEL)

NOTE:
ANTI-BACKFIRE (ORANGE WIRE) USED ON BRIGGS TWINS

COMPONENT KEY

- A - Anti - Backfire
- B - Fuse
- C - Battery
- D - Starter
- E - Seat Switch
- F - Solenoid
- G - Key Switch
- H - Clutch Switch
- J - Clutch
- K - Neutral Switch
- L - Hour Meter
- M - Buzzer
- N - Oil Switch
- O - Regulator
- P - Magneto
- Q - Headlight Switch
- R - Headlights

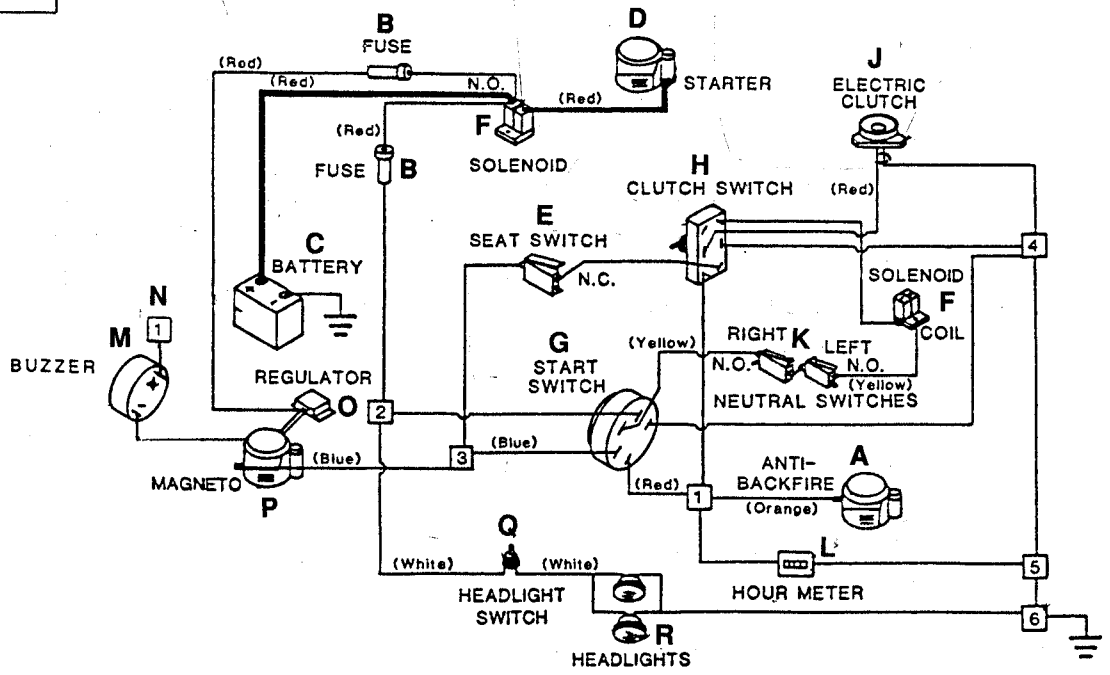


FIGURE 3.7

Section III - ELECTRICAL SYSTEM

3.2 INTERLOCK SYSTEM ANALYSIS

A. KEY SWITCH

1. Disconnect wires from the switch terminals. See Figure 3.8.
2. Place the switch in the OFF position. Connect continuity light to "M" and "G" terminals only - there should be contact.
3. Place the switch in ON position and connect the light to the "B" and "L" terminals only - there should be contact.
4. Hold the switch in the START position after connecting the light to terminals "B" and "S" - there should be contact.
5. Reconnect harness wires to switch terminals after completing test.

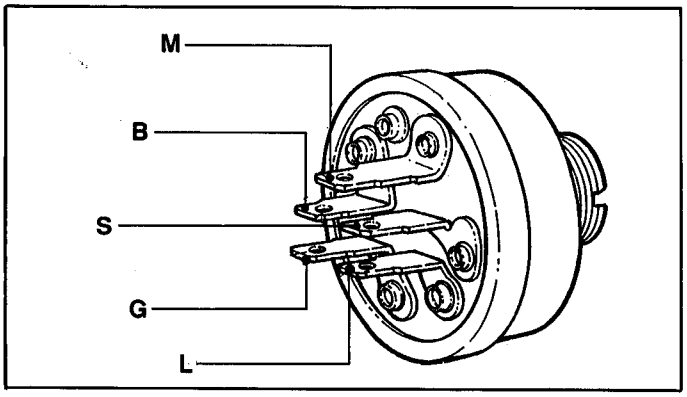


FIGURE 3.8

B. SOLENOID TEST

1. Disconnect all wires from the solenoid. See Figure 3.9.
2. Connect the continuity light to both threaded terminals.
3. Now apply 12 Volts to the two plug terminals. The solenoid should click and the continuity light should come on.
4. Reconnect wires to proper terminals.

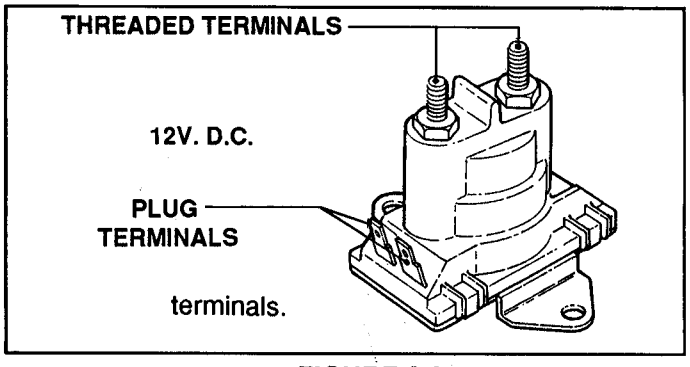


FIGURE 3.9

C. SEAT SWITCH TEST

1. Disconnect wire connectors from terminals. See Figure 3.10.
2. Attach continuity light wires to the NC and COMM terminals. When the switch is depressed (making the circuit) the light should come on.
3. Reconnect wires to the seat switch.

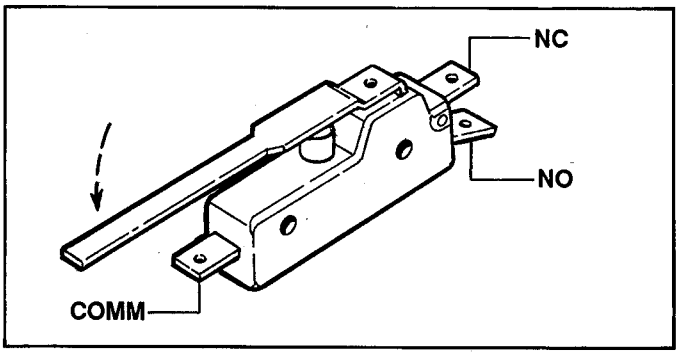


FIGURE 3.10

D. CLUTCH SWITCH TESTS

1. Disconnect wires from the switch terminals. See Figure 3.11.
2. Place switch in OFF position and connect tester wires to the #4 and #5 terminals only - the light should come on.
3. Place switch in ON position and connect tester wires to the #1 and #3 terminals only - the light should come on.
4. Reconnect wires to the proper terminals.

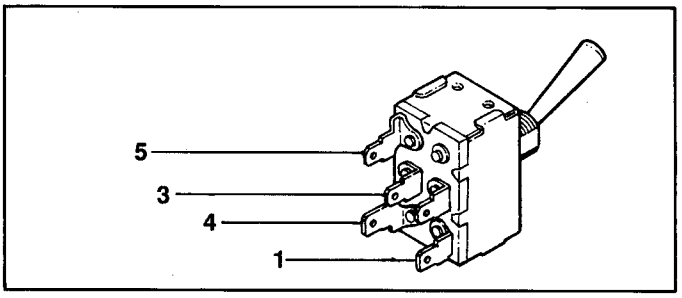


FIGURE 3.11

E. JOYSTICK SWITCH TEST

1. Disconnect wire connectors from terminals. See Figure 3.12.
2. Push the joystick DOWN and connect tester wires to the NC and COMM terminals - the light should come on.
3. Pull the joystick UP and connect tester wires to the NO and COMM terminals - the light should come on.

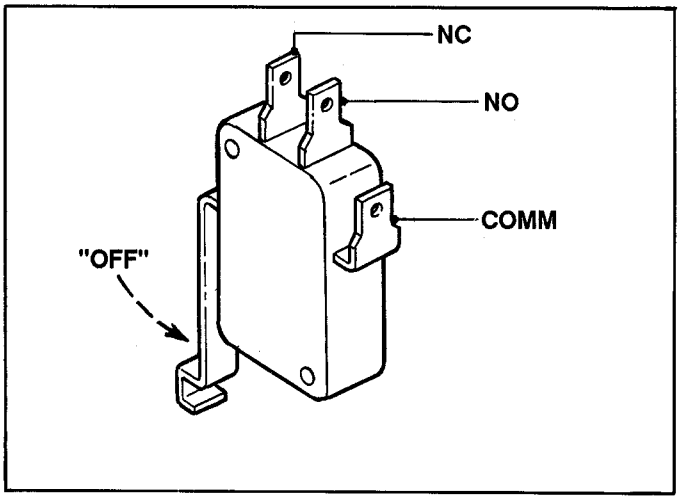


FIGURE 3.12

Section III - ELECTRICAL SYSTEM

F. BRAKE SWITCH TEST

1. Disconnect wire connectors from terminals. See Figure 3.13.
2. Attach continuity light wires to the NO and COMM terminals. When the switch is released (making the circuit) the light should come on.
3. Reconnect wires to the seat switch.

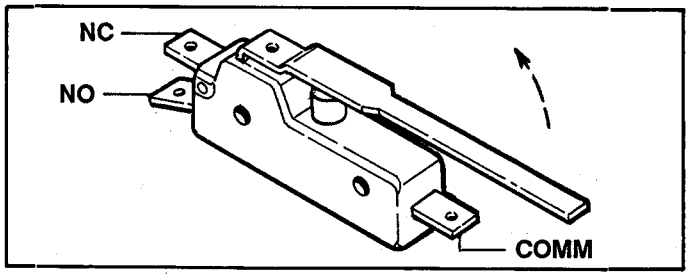


FIGURE 3.13

G. OIL SWITCH TEST

1. Disconnect wire connector from terminal. See Figure 3.14.
2. Connect tester wires to terminal and steel deck plate. If light on tester glows, switch is good. If light does not glow, replace oil switch.

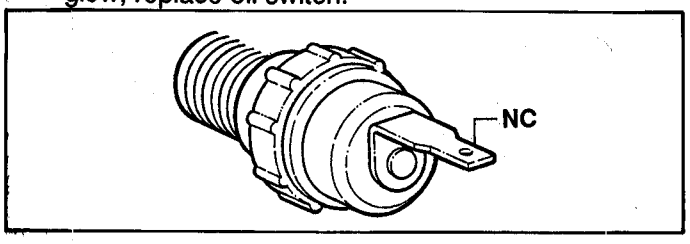


FIGURE 3.14

H. ELECTRIC CLUTCH TESTS

(MEASURE CLUTCH FIELD COIL)

1. Turn clutch switch and engine switch OFF.
2. Disconnect clutch wire connectors. See Figure 3.15.

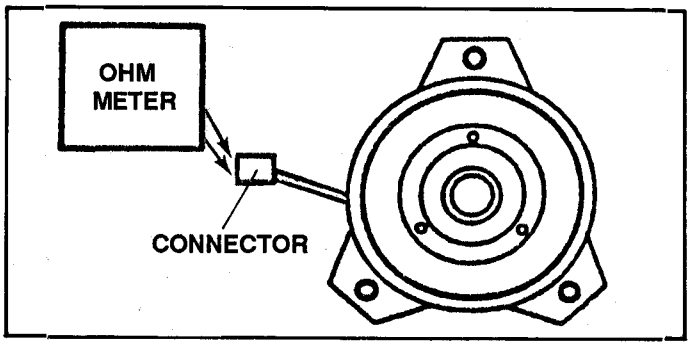


FIGURE 3.15
(CLUTCH FIELD COIL RESISTANCE)

3. Connect OHM meter leads to the two wires in the clutch connector. Refer to Figure 3.15.
4. If the meter reading is BELOW 2.40 OHMs or ABOVE 3.40 OHMs resistance, the clutch has failed and must be replaced.
5. If the meter reads between 2.40 and 3.40 OHMs resistance, proceed with the CLUTCH CURRENT DRAW test.

(MEASURE CLUTCH CURRENT DRAW)

1. With the engine switch and clutch switch OFF, disconnect the clutch wire connector. See Figure 3.16.

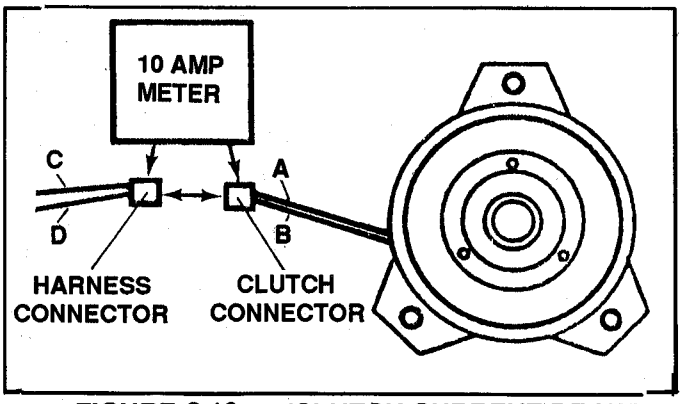


FIGURE 3.16 (CLUTCH CURRENT DRAW)

2. Use an AMP meter with a 10 AMP scale. Connect one meter lead to clutch connector wire "A" and connect the other meter lead to wire "C" in the harness connector.
3. Connect a short jumper wire to the wire "B" in the clutch connector and to wire "D" in the harness connector.
4. Turn clutch switch ON.
5. If the meter reads BELOW 3.5 AMPS, the electical system has a problem (battery, relay, switches, etc.). Check the electrical system.
6. If the meter reads 3.5 AMPS to 4.5 AMPS, proceed to the AIR GAP SETTING instructions.

(CHECK AIR GAP SETTING)

1. With the engine switch and clutch switch OFF, locate the three air gap check "slots" as shown. See Figure 3.17.

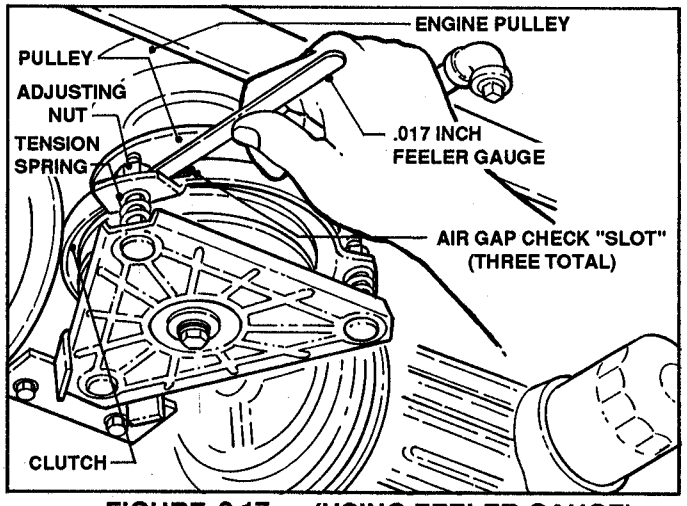


FIGURE 3.17 (USING FEELER GAUGE)

2. Insert a .017 feeler gauge into each of the 3 slots.
3. If the gaps do not fall between .010 and .025, reset the spring-loaded adjustment nuts until the gaps are measured at .017 on the feeler gauge.

THEREFORE IF...

A. The resistance falls between 2.40 and 3.40 OHMs...
B. The amperage draw is 3.50 AMPS to 4.5 AMPS...
C. The air gaps are between .010" and .025" (or have been reset to .017"), the electric clutch is within factory specifications and is not the source of a problem - check the remainder of the electrical system.

Section III- ELECTRICAL SYSTEM

WIRING SCHEMATIC– 12 Hp. Models Only

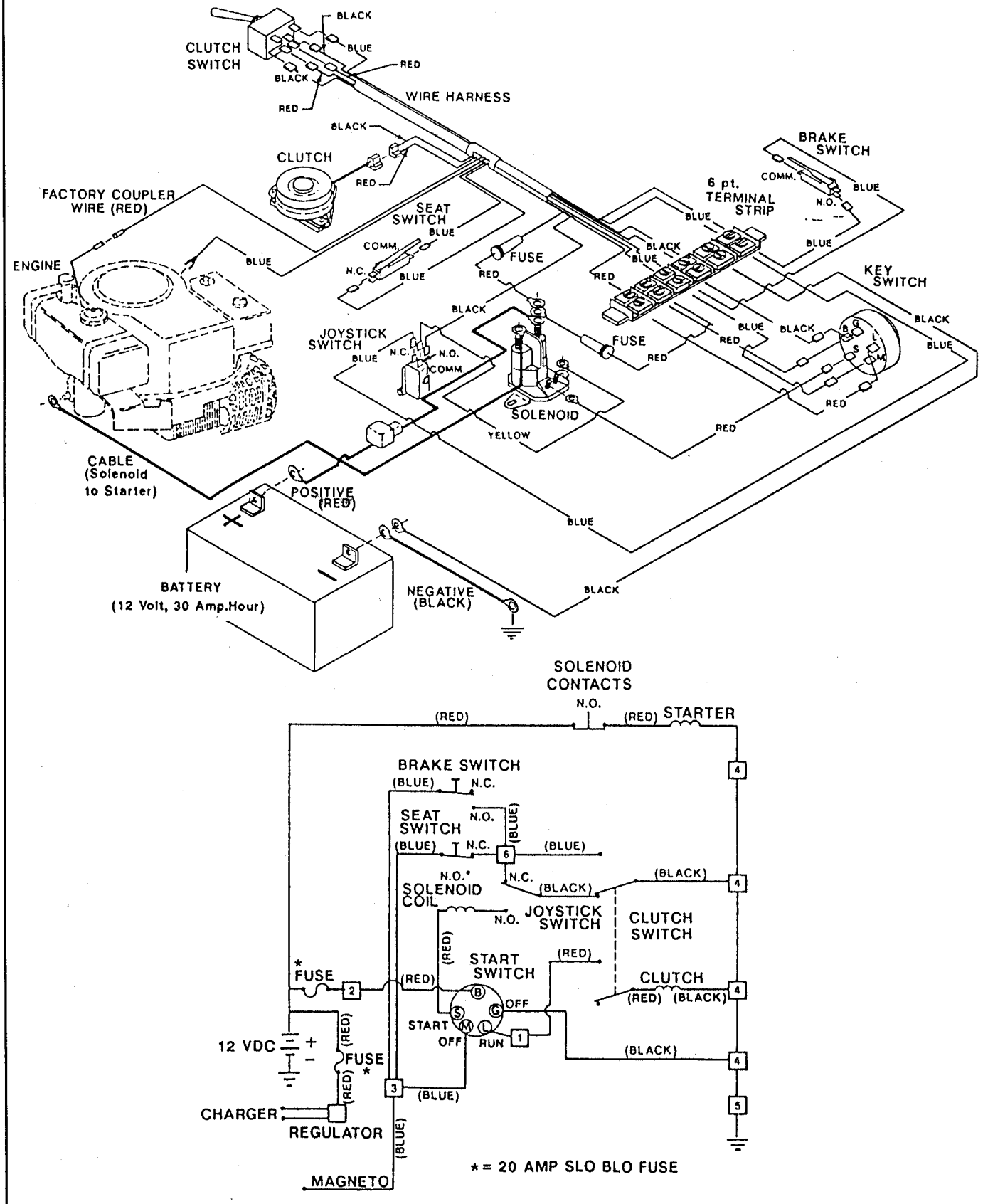
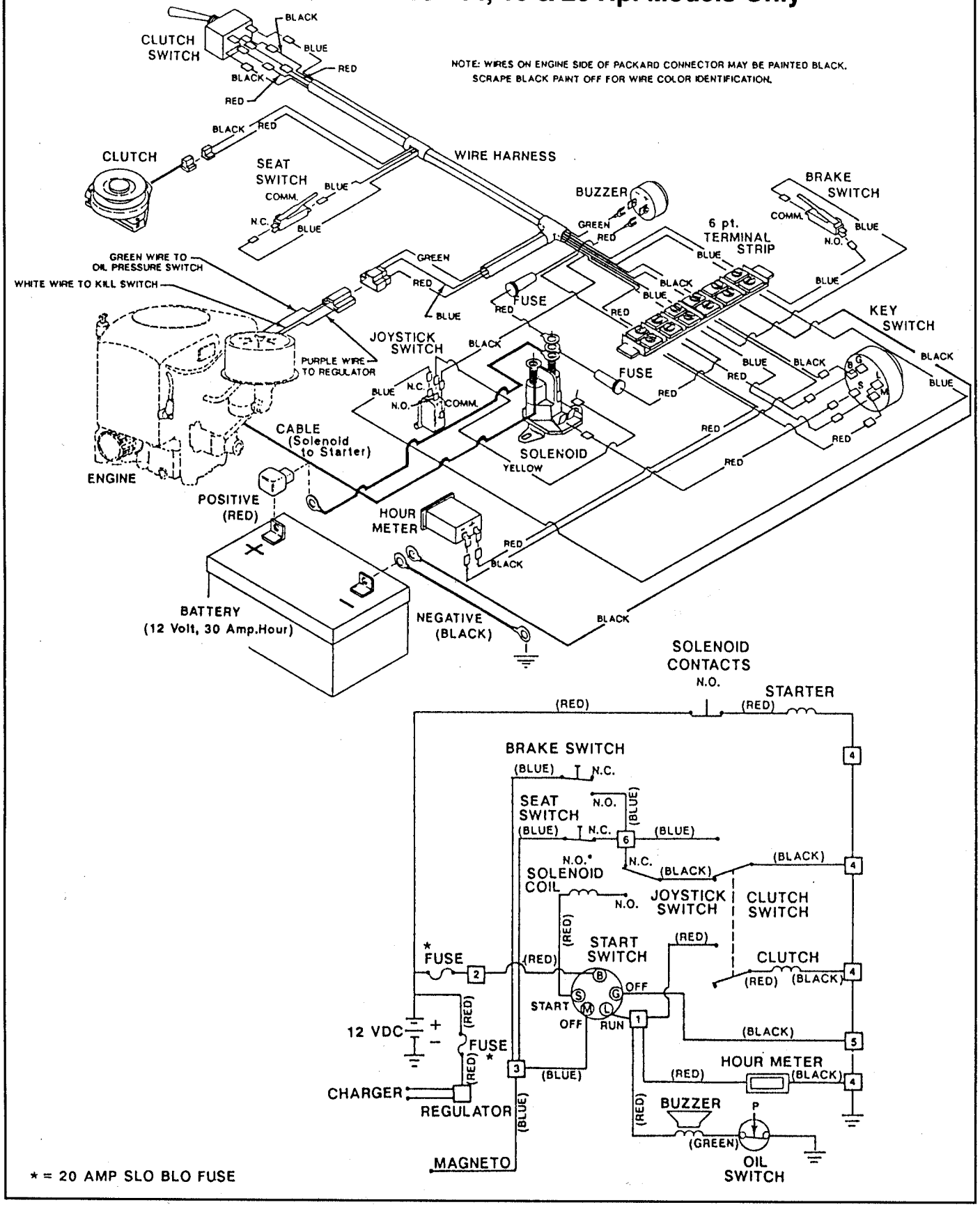


FIGURE 3.18

WIRING SCHEMATIC– 14, 18 & 20 Hp. Models Only



* = 20 AMP SLO BLO FUSE

FIGURE 3.19