



SERVICE INSTRUCTION

SI-24-01
Revision 0

TITLE: Ignition System Wiring Reconfiguration

SUBJECT / REASON / DESCRIPTION:

The purpose of this service instruction is to extend the life of the ignition switch by rerouting the output of the “Slick Start” spark booster.

COMPLIANCE:

Compliance is optional.

EFFECTIVITY:

Aircraft S/N 28 to 54

Aircraft 55 and onwards will have this Service Bulletin embodied at manufacture

APPROVAL:

This modification has been approved by FAC Engineering and TCCA where applicable.

MANPOWER REQUIREMENTS:

It is estimated that this modification will take approximately 2 hour. This excludes labor necessary to open and close the aircraft, and the work is performed by experienced personnel.

SPECIAL TOOLS / EQUIPMENT:

Not applicable

PARTS LIST (BILL OF MATERIALS):

Not applicable

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WEIGHT & BALANCE:

Not applicable

DRAWINGS/MANUALS:

Maintenance Manual FAC2-M200

IMPLEMENTATION INSTRUCTIONS:

WARNING:

DISCONNECT THE BATTERY GROUND BEFORE BEGINNING THIS PROCEDURE. KEEP SERVICE PERSONEL CLEAR OF THE PROPELLER ARC. MISWIRING THE IGNITION SWITCH MAY CAUSE DAMAGE TO THE AIRCRAFT OR ITS SYSTEMS AND CAN CAUSE BODILY INJURY OR DEATH TO PERSONNEL.

1. Gain Access to, and disconnect the ground wire (#50) from the battery in accordance with MM section 24-30-01.
2. Figure 1 illustrates the schematic for modified ignition circuit. It may be used as a reference as the following procedure is accomplished.
3. It is recommended the wiring be modified with the flight panel removed. See MM FAC2-M200 Section 31-11 Flight Instrument Panel for removal details. With reference to Figure 2, remove the ignition switch mount nut and switch plate. This will allow the switch to be removed and provide easier access to the back of the switch assembly.

CAUTION:

The “tachometer isolators” supplied with the R-1-6 Tachometer, are mechanically sensitive. Simple bending or pulling may damage them. It is recommended if the “isolators” are to be disconnected via the quick disconnects, that the technician use a pair of needle nose pliers to hold the base of the connectors while pulling them apart. Furthermore, it is recommended that the integrity of the “isolators” be verified before the flight panel is reinstalled. This is accomplished by measuring the resistance of the isolator, which should be approximately 79,000 ohms. If an isolator fails the tachometer may not read in the “Left” or “Right” or “Both” key positions. BE GENTLE WITH THE WIRES.

4. Figure 3 illustrates the current wiring arrangement. Note, the 10-357200-1 switch has an extra terminal, labeled “PR” and is not used.
5. The shields of wires 56, 57, 110 and the 4” jumper need to be disconnected from each other. They will remain connected at the magnetos.
6. Wire 110-S18 should be removed from terminal “LR”. The #6 ring tongue terminal should be removed. The exposed shielding may be trimmed at this time and cover with heat shrink or similar material. The spare terminal connector on Pin 3 of the

“Slick Start” maybe removed and crimped to wire 110-S18. This wire may now be attached to terminal 3 of the “Slick Start”. Reference Figure 4

7. Next, remove wires 57-S18 and wire 29-18 from switch terminals “L” and “BO” respectively. Again, remove the #6 ring tongue terminal from the end of the wire and install a short segment of heat shrink tube to cover any exposed shielding. Wires 57 and 29 may now be joined with a short, (4”), jumper. This connection may be done with a crimp type wire nut or solder and heat shrink or any other method acceptable under AC43.13.
8. Finally, the disconnected shield of wire 56-S18 should be secured against shorting to other terminals or systems. Recommend disconnecting wire 56 from the switch terminal “R”, and installing heat shrink.
9. When reinstalling switch terminal screws a small amount of thread lock, “Loctite 220” or equivalent, should be used on each screw. Once the switch is remounted visually verify that the wires are all connected tightly to their respective terminations.
10. Reinstall the “Flight Panel” per MM Section 31-11.
11. Perform a leak check of the pitot-static in accordance with the MM, section 34-11.

Caution:

Keep personal clear of the propeller arc.

12. Reconnect the battery ground wire #50 and secure battery cover in accordance with MM section 24-30-01. Close cowls.
13. Perform a function check of the engine start, tachometer indication and correct operation of the ignition switch.
14. Perform a Magneto function check in accordance with Pilot Operating Handbook section 4, page 4-24.

LOG BOOK CERTIFICATION:

1. Update Log Book to state, “Service Instruction SI-24-01, Ignition System Wiring Reconfiguration completed”
2. “Complete the enclosed letter of confirmation and return via Fax or mail to FAC after implementation of service instruction”.

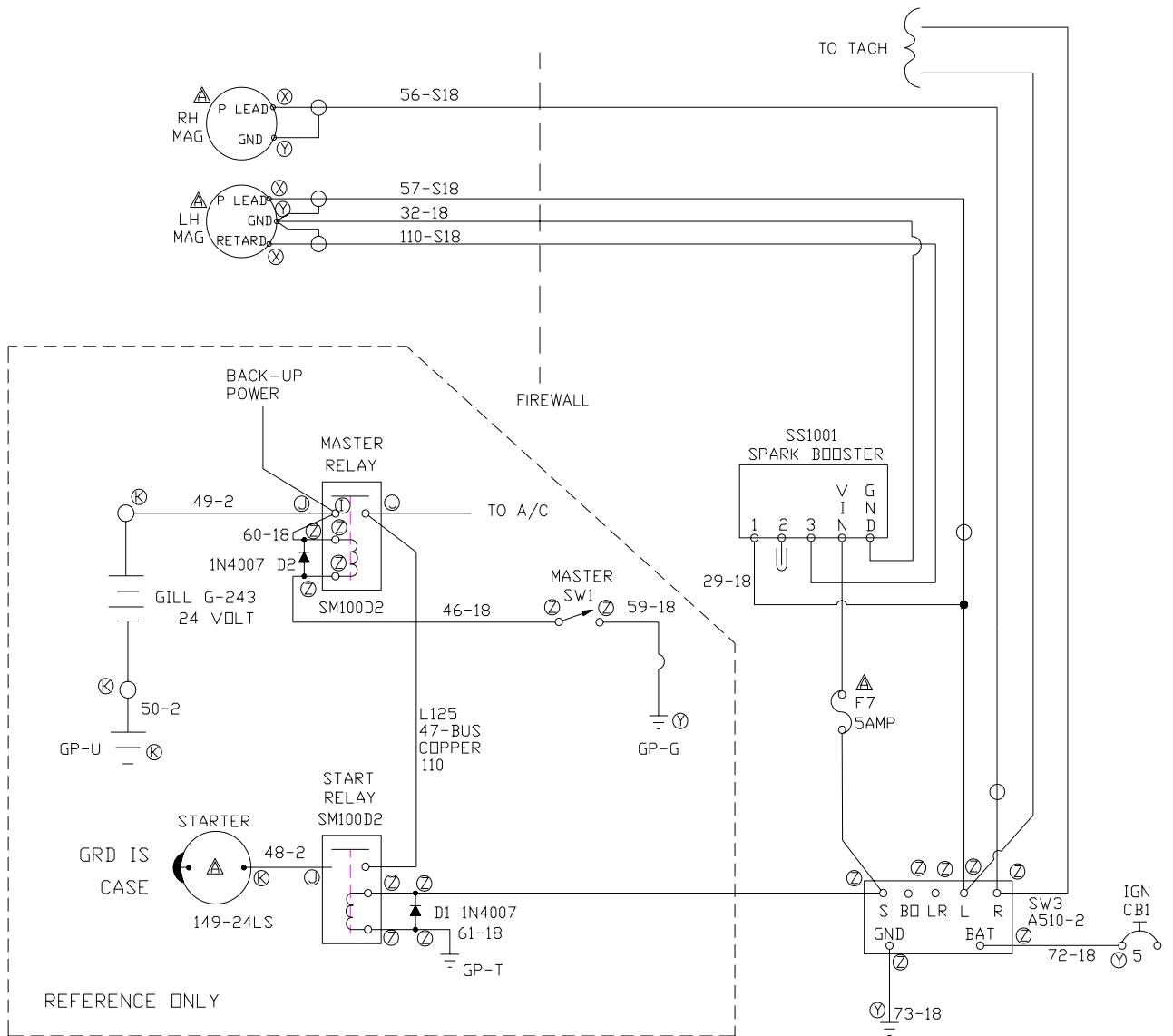


FIGURE 1 SCHEMATIC – IGNITION SYSTEM

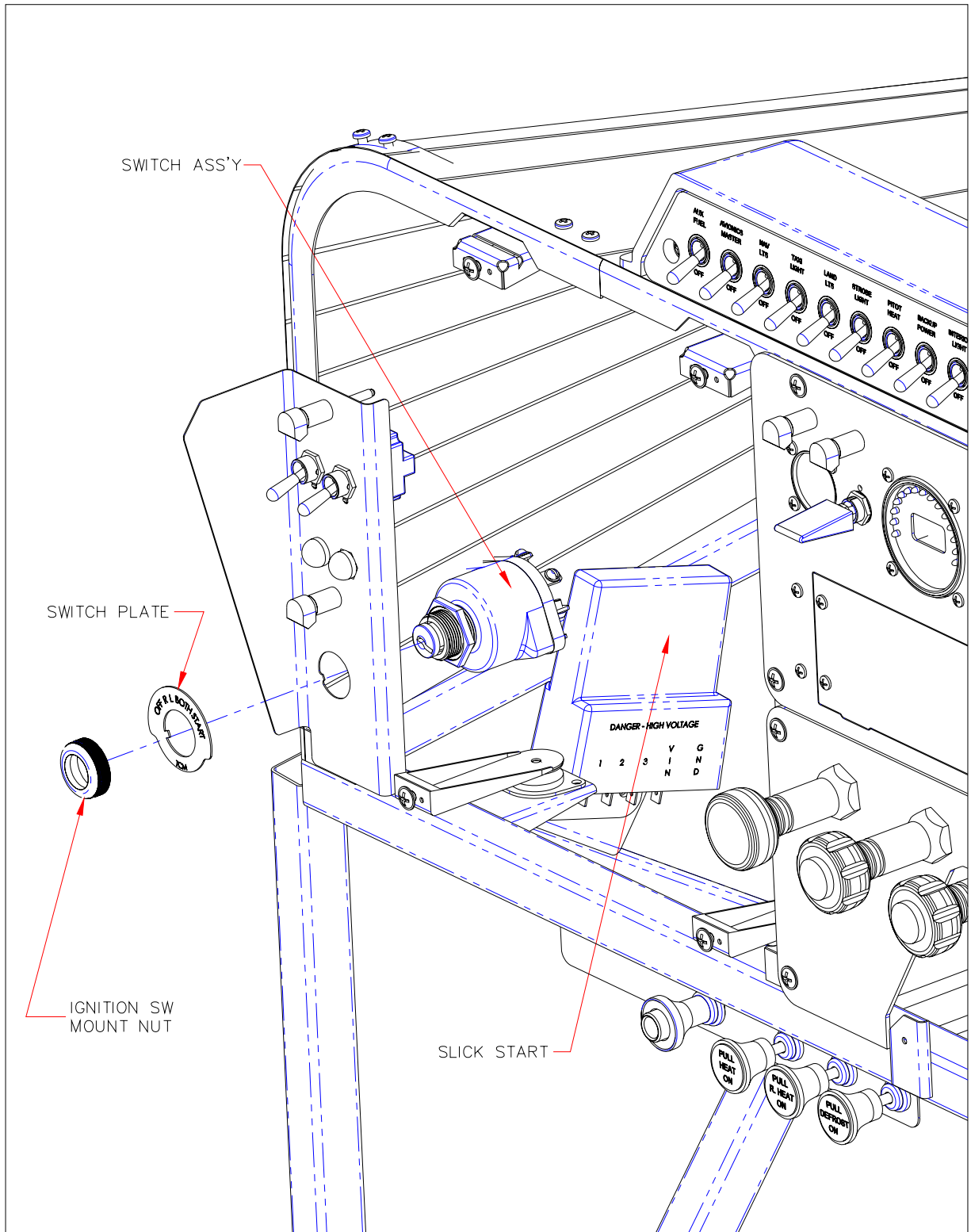


FIGURE 2 IGNITION SWITCH – REMOVAL

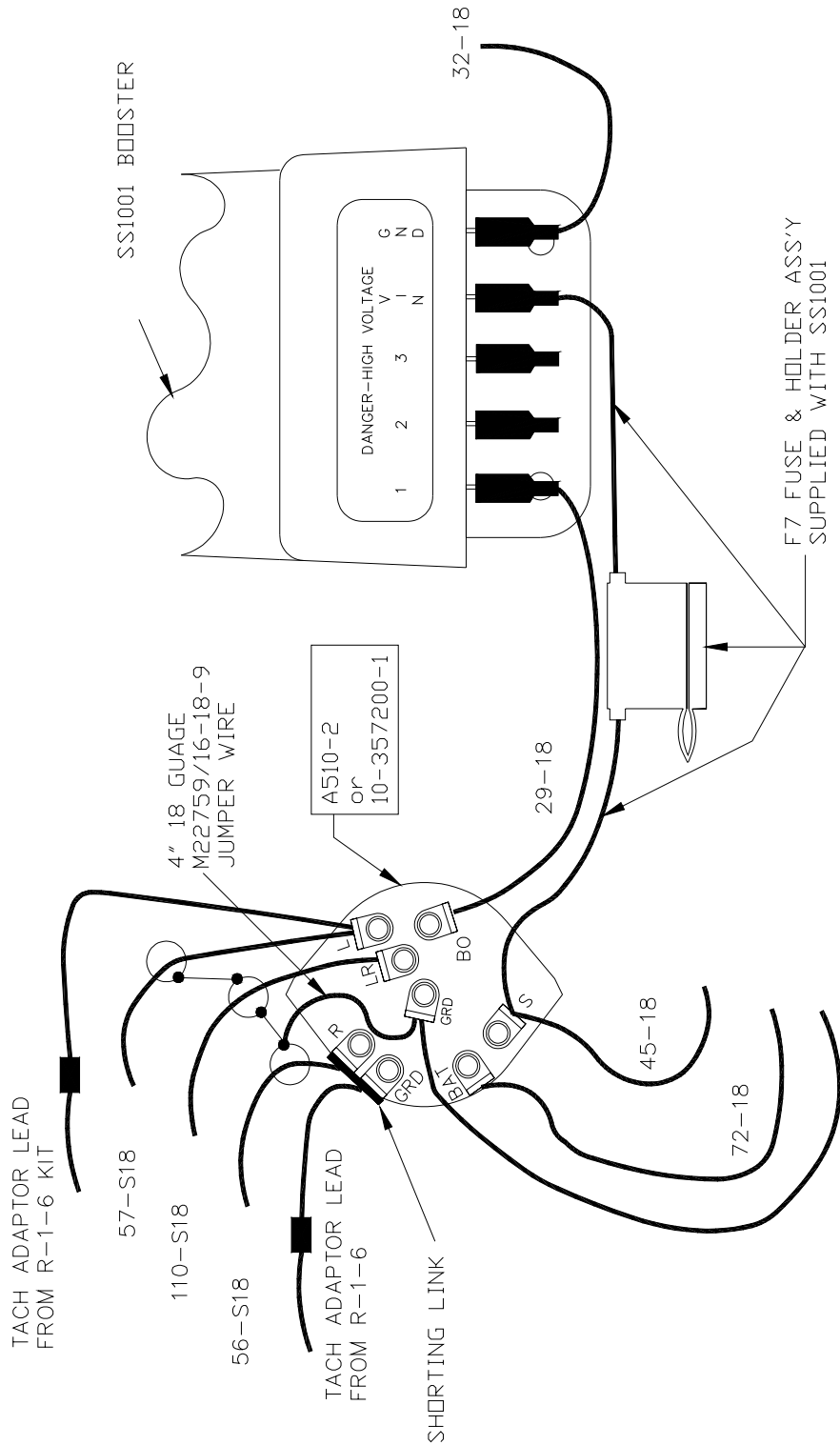


FIGURE 3 PRE-EXISTING IGNITION SWITCH WIRING

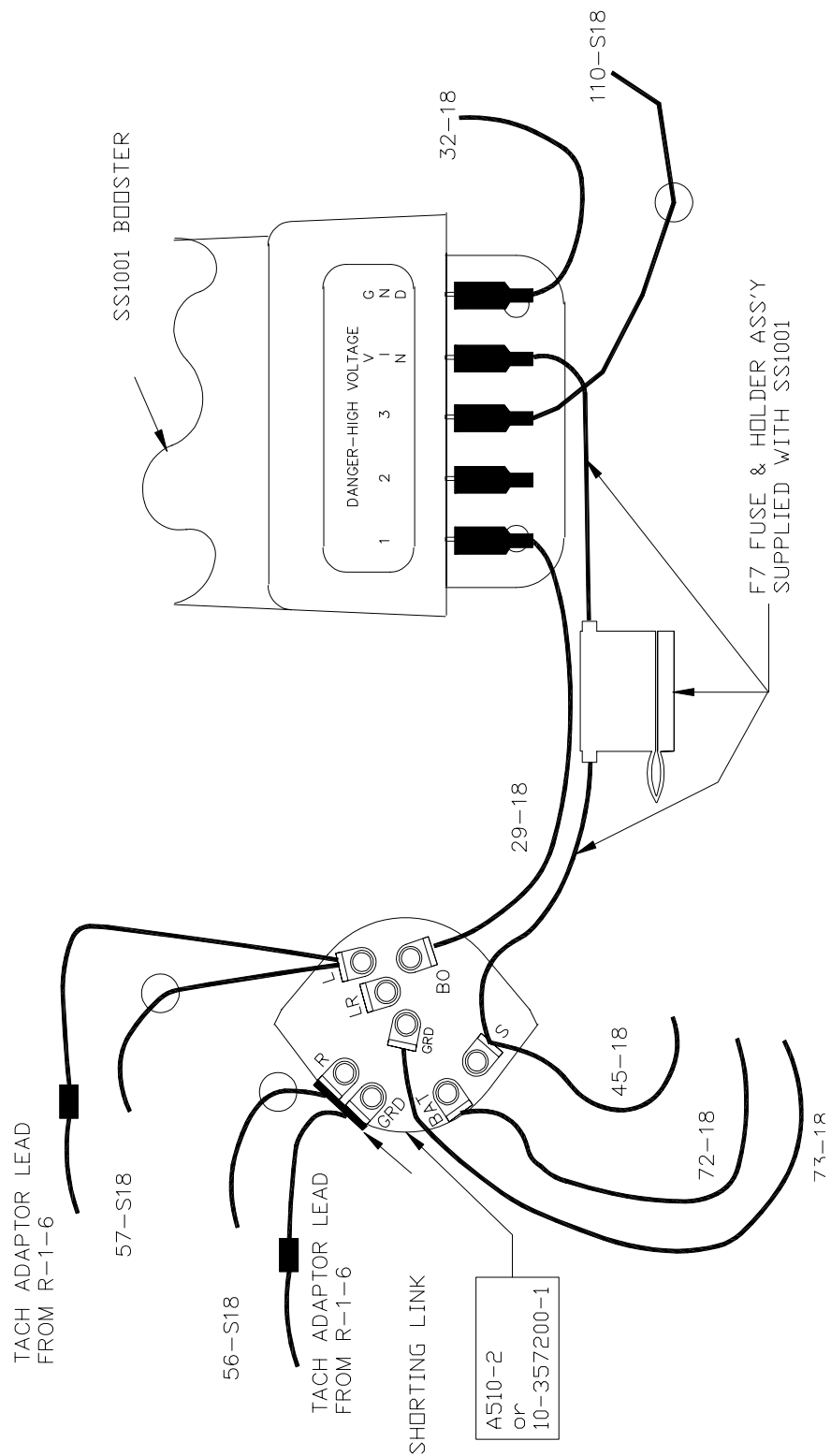


FIGURE 4 WIRE 110-S18 RELOCATION

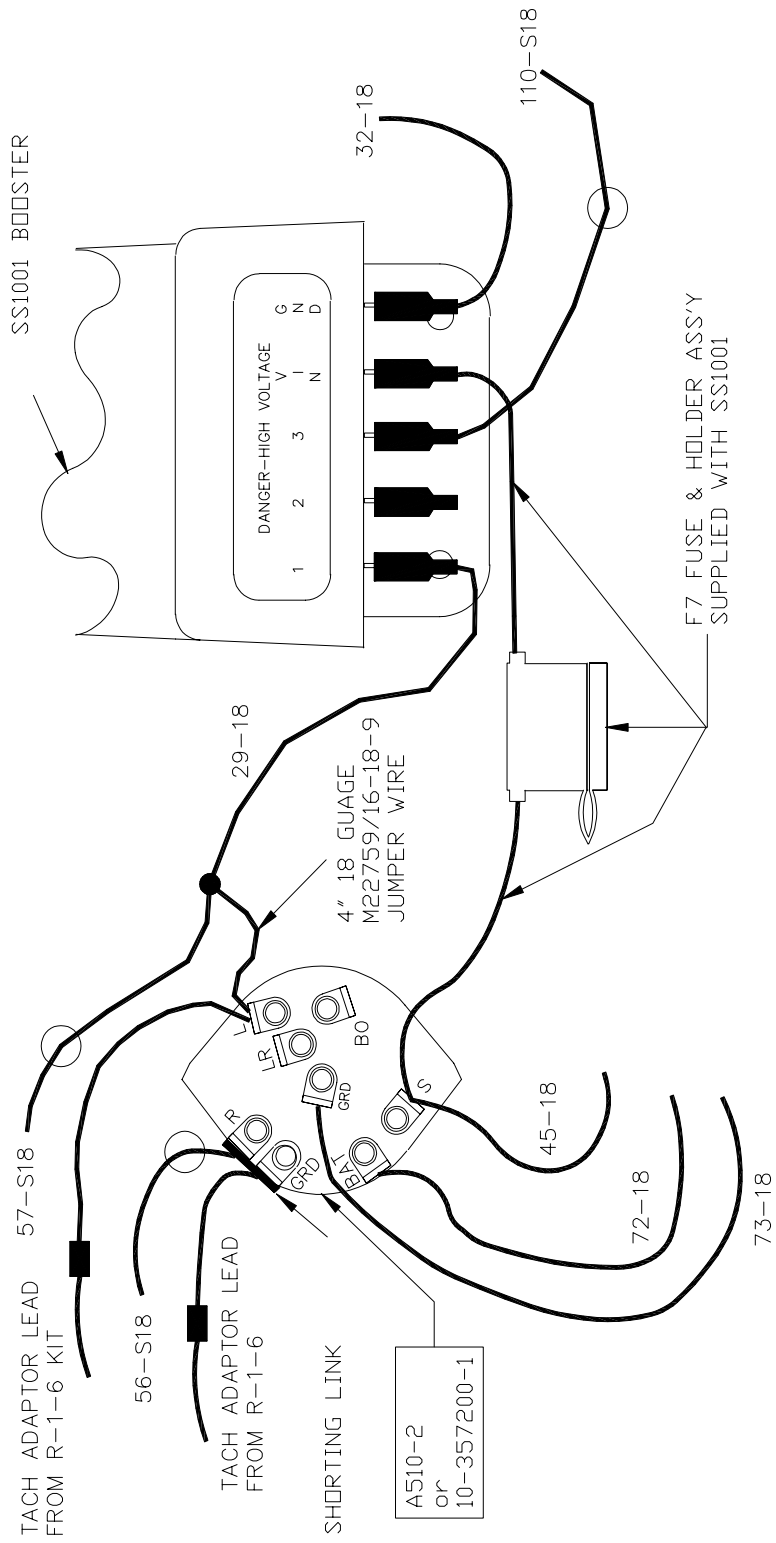


FIGURE 5 POST MODIFICATION WIRING ARRANGEMENT