

# Rockwell service letter No. SL-AG-66

## International

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Service Letter No. SL-AG-66

### NIGHT LIGHTING SYSTEM AND VOLTAGE REGULATOR CIRCUIT INTERACTION

**EFFECTIVITY:** Aero Commander Model S-2R Thrush, Serial No. 1380 thru 1551 having alternator system and night lighting equipment.

**REASON FOR PUBLICATION:** Service investigation has revealed that when the night lights were operated, a surge in voltage occurs due to relay operation. Such a surge could result in unacceptable operation of the voltage regulator. This may be eliminated by the following changes.

**COMPLIANCE:** At owner's discretion.

**APPROVAL:** FAA DER Approved

#### INSTRUCTION:

There are five (5) diodes and one (1) resistor that must be installed to insure proper operation of electrical system as per this Service Letter. To simplify instructions, the diodes will be referred to Diodes No. 1, 2, 3, 4, and 5. Diodes No. 1, 2, and 3, will be installed on the night light relays which will be referred to as Relays A, B, and C. (These relays are located on the left-hand side of the fuselage below the throttle console. – Remove side skin panel.) Diodes No. 4 and 5 will be installed on master and start relays respectfully. (These two relays are located adjacent to the battery box on the right-hand side of the aircraft just aft of the wing trailing edge. –Remove side skin panel.) The resistor will be installed on the voltage regulator support panel.

It should also be noted that each diode has a solid stripe around it. This stripe indicates the direction of current flow and also the direction in which the arrow on wiring schematic points. ( Symbol band indicates this end.)



1. Connect the end of Diode No. 1 common to the band to the terminal on Relay A that has Wire No. 90176-82 connected. Connect other end of diode to the terminal on Relay A that has Wire No. 90176-55 connected. (Reference Figure 1).
2. Connect the end of Diode No. 2 common to the band to the terminal on Relay B that has Wire No. 90176-60 connected. Connect other end of diode to the terminal on Relay B that has Wire No. 90176-91 connected. (Reference Figure 1).
3. Connect the end of Diode No. 3 common to the band to the terminal on Relay C that has Wire No. 90176-57 connected. Connect other end of diode to the terminal on Relay C that has Wire No. 90176-56 connected. (Reference Figure 1).
4. Connect the end of Diode No. 4 common to the band to the terminal on master relay that has Wire No. 90176-29 & -37 connected. Connect other end of Diode No. 4 to terminal that has Wire No. 90176-30. (Reference Figure 2).
5. Connect the end of Diode No. 5 common to the band to the terminal on start relay that has Wire No. 90176-21 connected. Connect other end of Diode No. 5 to the terminal on start relay that has Wire No. 90176-23 connected. (Reference Figure 2).
6. Be certain that all diodes are installed correctly. (Reference Schematic 1).
7. Connect the 75 OHM resistor ,P/N FMM 1008, to voltage regulator support panel as shown in Figure 3. (Voltage regular support panel is located on the R/H forward side of the firewall).
8. Disconnect green wire and Wire No. 90176-32 from the inboard terminal on the isolation diode, P/N FMM 1005.
9. Connect new short wire, No. -157, between same inboard terminal on insulation diode (FMM 1005) and the inboard terminal of new resistor (FMM 1008).
10. Reconnect green wire and Wire No. -32 to the outboard terminal of new resistor, P/N FMM 1008.
11. Ensure that all wires are correctly connected prior to applying power and operating engine, reference Schematic II.

**SUPPLY DATA:**

The following parts may be ordered from your nearest Aero Commander dealer, Code 5.

QTY	PART NO.	DESCRIPTION
5	SKT-63	Diode Assembly
1	FMM 1008	Resistor
1	90176-157	Wire – Electrical
1	AN526-428R9	Screw

1	AN960-416	Washer
1	MS 20365-428	Nut
2	AN526-632R6	Screw
2	AN960-6	Washer
2	MS 20365-632	Nut

**WEIGHT AND BALANCE:** Not Applicable

**AIRCRAFT RECORD:** Make appropriate entry in aircraft permanent maintenance records as follows:

Service Letter NO. SL-AG-66, entitled "Night Lighting System and Voltage Regulator Circuit Interaction", accomplished  
(date) \_\_\_\_\_.

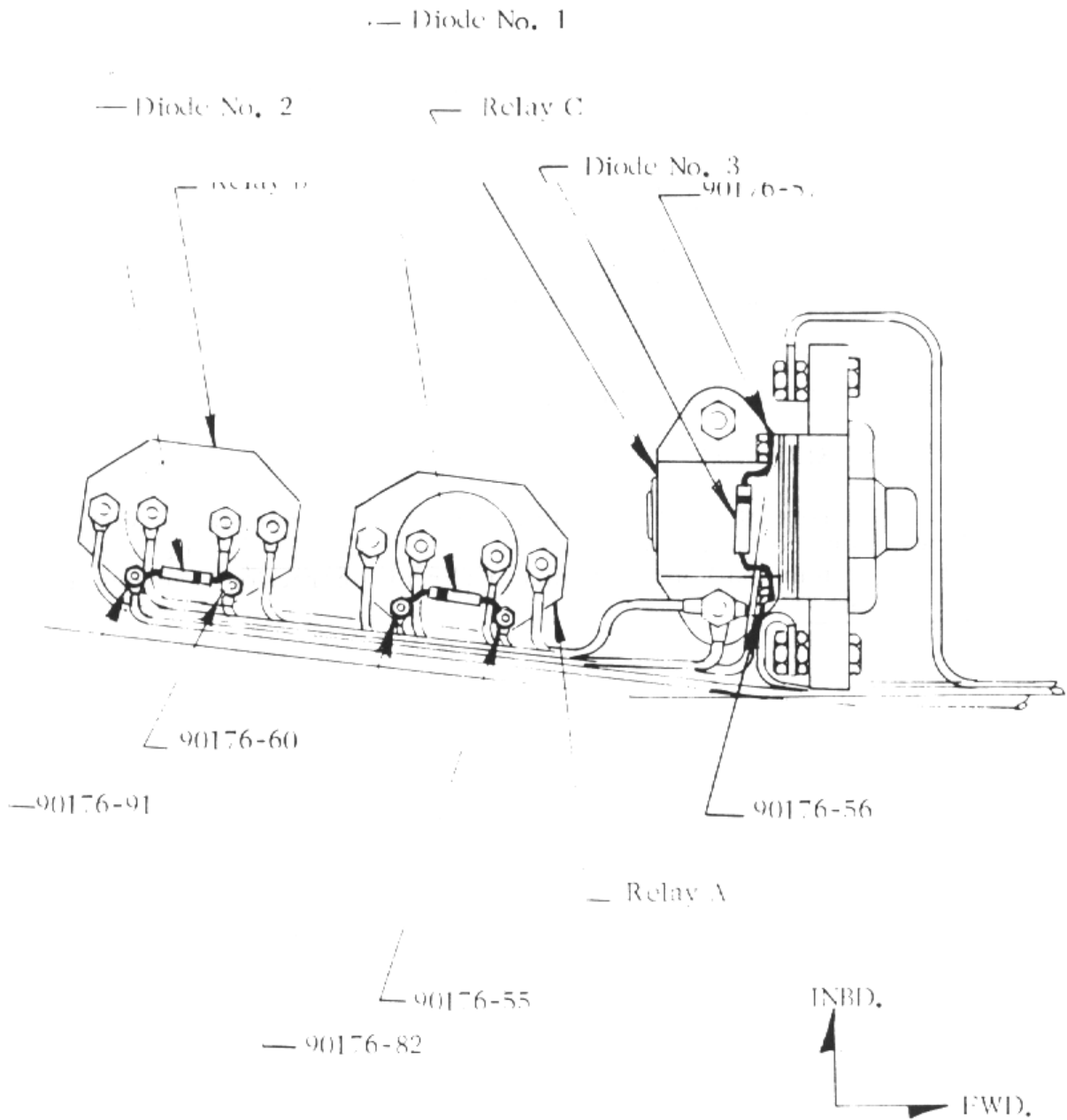


FIGURE 1  
(VIEW LOOKING UP)

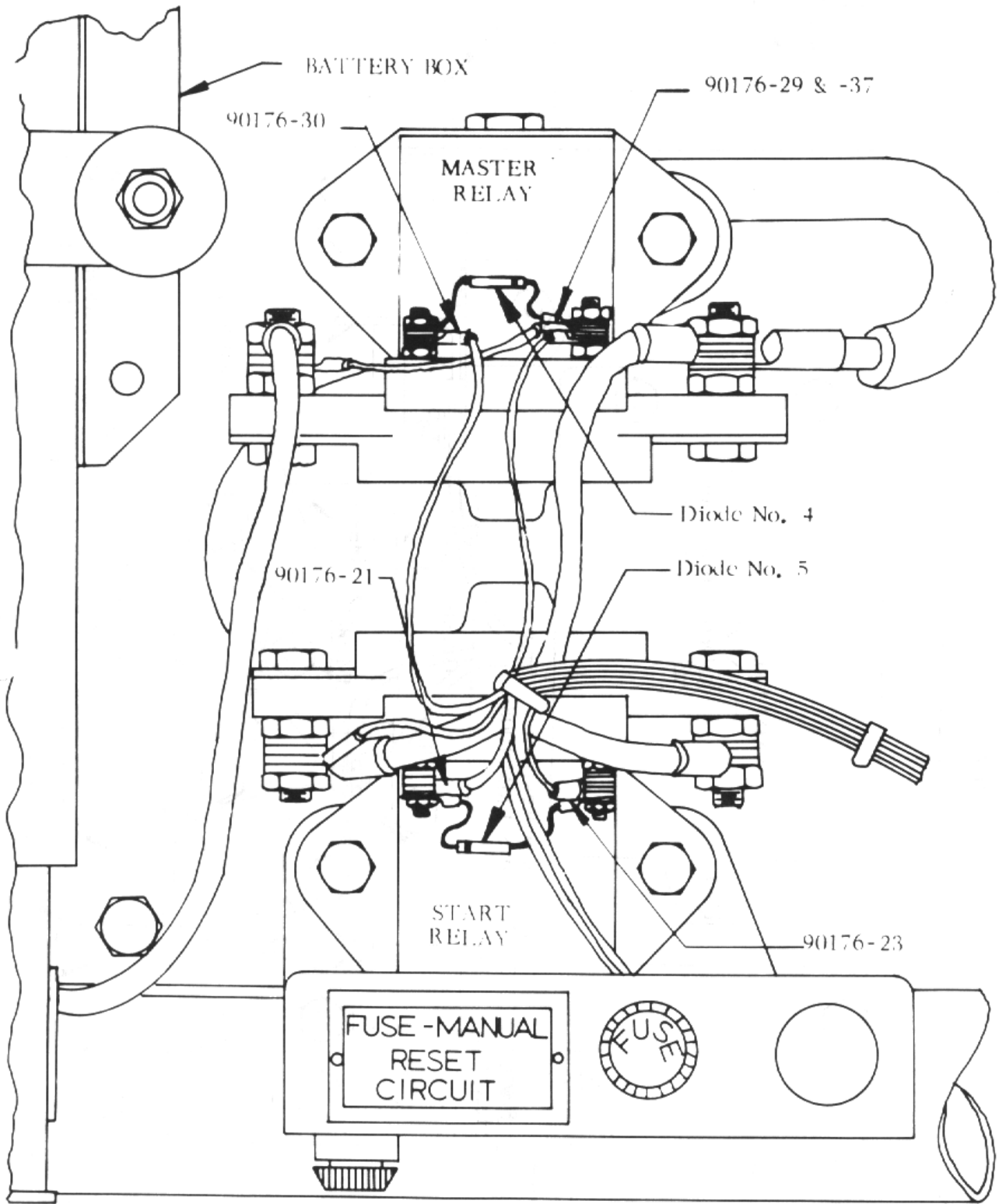
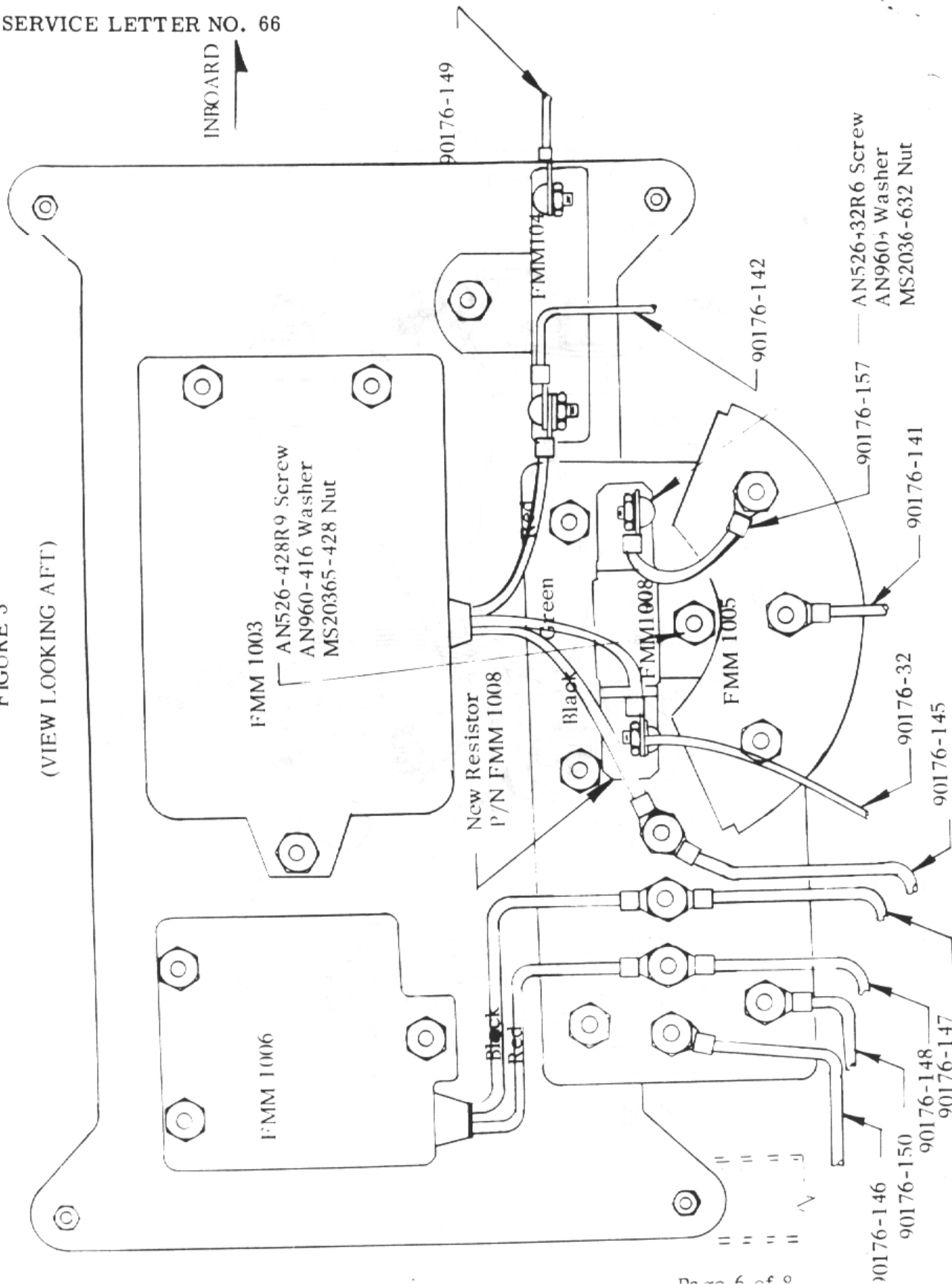


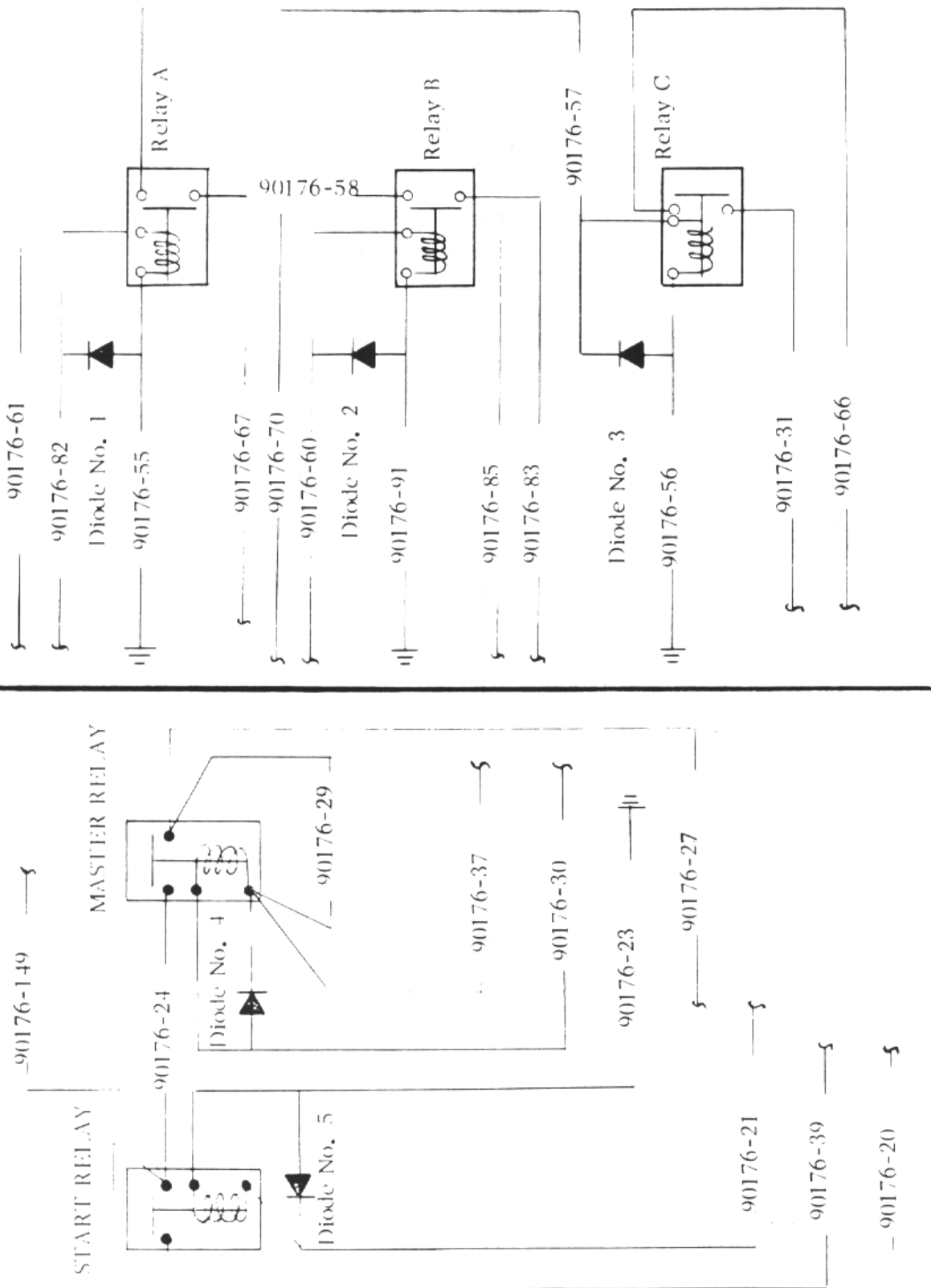
FIGURE 2  
(VIEW LOOKING DOWN)

FIGURE 3

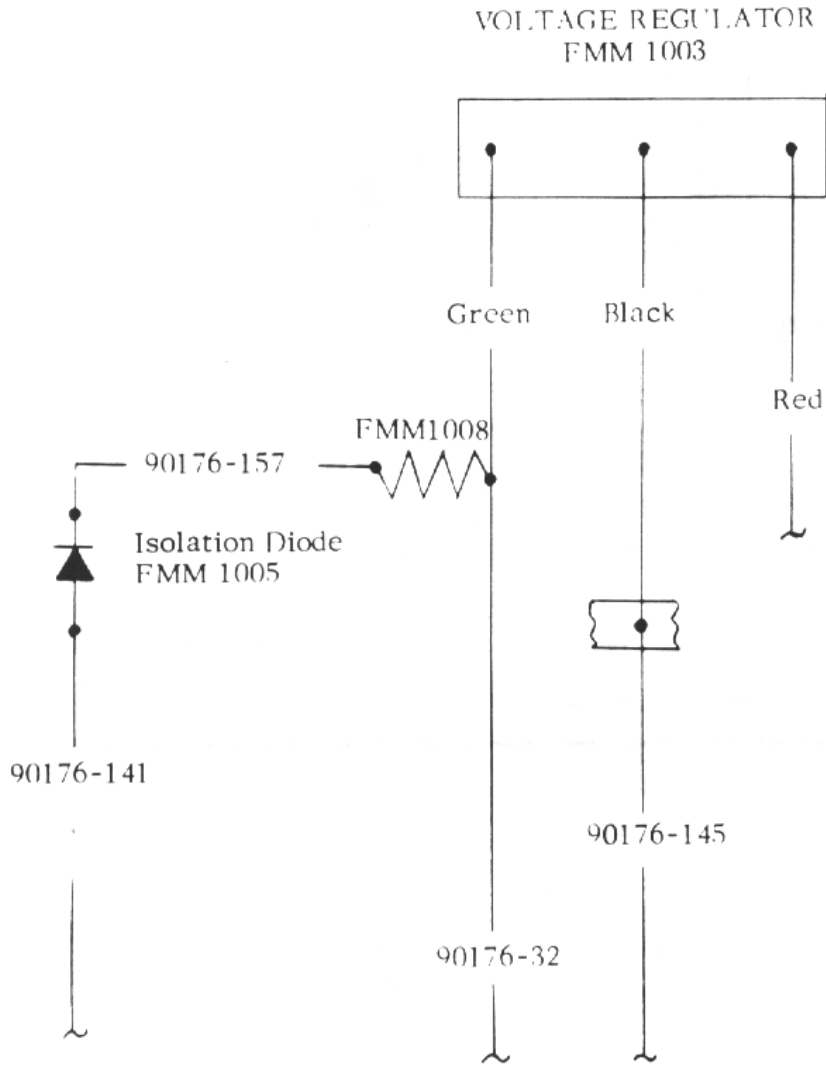
(VIEW LOOKING AFT)



SERVICE LETTER NO. 66



SCHEMATIC 1



SCHEMATIC II