

ACCESSORY

Kit

AK177-68E
FEBRUARY 10, 1978

Title GROUND SERVICE RECEPTACLE INSTALLATION - 12 VOLT



MODELS AFFECTED

177RG
F177RG

SERIALS AFFECTED

177RG0001 thru 177RG1266
F177RG0001 thru F177RG0177

PARTS LIST:

QUANTITY	PART NUMBER	NOMENCLATURE
1	MS3506-1	Receptacle
4	AN3-3A	Bolt
2	AN341-10	Nut
2	AN510-10R14	Screw
2	MS35338-43	Washer
2	MS21044N3	Nut
1	MS25171-1S	Nipple
1	MS25171-3S	Nipple
1	S1367-1-10	Terminal
2	S1367-1-13	Terminal
20 ft	S1460-18-9	Wire
2 ft	S1460-18-4	Wire (YEL)
2 ft	S1460-18-5	Wire (GRN)
3	S1493-1	Terminal
1	S1660A1	Contactator
1	0312155-10	Ground Strap
1	0712031-3	Fuse and Diode Assembly
1	0752610-1	Doubler Assembly
1	0752611-1	Door Assembly
1	1205024-1	Placard
1	1570043-3	Diode Board Assembly
1	2012115-1	Bracket Assembly
1	2070001PA5	Cable Assembly
1	2070001PC1	Cable Assembly
1		Installation Instructions

CHANGE IN WEIGHT AND BALANCE:

WEIGHT INCREASE	3.2 pounds	(NET CHANGE)
ARM	202.8 inches	
RESULTANT MOMENT	649.0 inch-pounds	
INDEX	0.649	

1. DESCRIPTION OF INSTALLATION

a. (Refer to figure 1.) Installation of this kit consists of:

- (1) Installation of bracket.
- (2) Installation of receptacle and diode board.

- (3) Installation of doubler on fuselage skin.
- (4) Installation of fuse and diode assembly on battery box.

2. INSTALLATION INSTRUCTIONS.

- a. (Refer to figure 2, sheets 1 & 2.) Doubler Installation.

CAUTION

Before beginning installation of this kit disconnect and remove battery from aircraft.

- (1) Working through baggage door, remove curtain at aft end of baggage compartment.
- (2) In accordance with dimensions shown, locate and remove existing rivets (2) and (8).
- (3) Temporarily secure receptacle (21) to bracket (1). From interior align bracket (1) with rivet holes and cleco in place.
- (4) Slide doubler (5) between receptacle (21) and skin (7) aligning doubler with receptacle.

CAUTION

Make sure that the doubler is aligned with receptacle.

- (5) Scribe two rivet holes in doubler onto skin.
- (6) Remove doubler (5), receptacle (21) and bracket (1).
- (7) Using a #40 (.098) bit drill out scribed holes. Cleco doubler (5) in place and drill remaining rivet pattern.
- (8) Remove doubler (5) and using it as a guide cleco it on outside of skin and make final cutout in aircraft skin.
- (9) In accordance with illustration secure doubler (5) with rivets (4).

- b. (Refer to figure 2.) Receptacle and Bracket Installation.

- (1) Remove and retain washers and nuts (12) from base of receptacle (21).
- (2) Position receptacle (21) in bracket (1) with small post down. Install screws (20) and nuts (13).
- (3) Position ground strap (14) under aft nut (13) and over aft large receptacle stud as shown. Secure nuts (13).
- (4) Install bracket (1) with MS20470AD3 rivets.
- (5) Install nipples (19) on cable (11) and cable on middle stud. Secure ground strap (14) and cable (11) with washers and nuts (12). Slide nipple over cable terminal nut and stud.
- (6) Secure diode board (22) on small stud.

NOTE

Be sure all electrical contacts are clean bare metal surfaces to ensure good connections.

- c. (Refer to figure 2, sheet 2.) Contactor Installation.

- (1) Secure contactor (17) to bracket (1) with bolts (18).
- (2) Connect cable (11) to contactor (17) as shown.
- (3) Install nipple (16) after fabricating wire from contactor (17) to diode board (22).

d. (Refer to figure 3.) Fuse and Diode Installation.

- (1) In accordance with illustration locate existing holes in battery box and install fuse and diode assembly (2) using bolts, washers, and nuts (7).

NOTE

If aircraft is equipped with an electric clock, remove and discard existing clock fuse assembly

e. (Refer to figure 4.) Wiring Installation.

- (1) Fabricate and install wiring as shown in accordance with wiring diagram.

3. OPERATIONAL CHECKOUT.

a. Check operation of ground service plug installation as follows:

CAUTION

Because this aircraft incorporates a negative battery-to-ground electrical system, care should be taken that external power source incorporates the same polarity.

Ensure that everything and everyone is clear of propeller during operational checkout.

- (1) Connect a rectifier-power supply to the receptacle so that "+" is connected to large center pin and to the small short pin in the receptacle. Negative lead connects to the large pin inside the receptacle.
- (2) Turn off the ship's master switch. Turn off all electrical and electronic equipment that have power switches.
- (3) Slowly increase voltage output of rectifier-power supply from "0" to rated system voltage, 12 volts. Listen for possible chattering of starter contactor due to miswired and/or shorted diode located near split bus bar relay.
- (4) Other evidence of incorrect circuit will be high current output from rectifier-power supply due to starter contactor closing.
- (5) Start engine to determine power source is functioning correctly.
- (6) If engine starts, function of power source is correct. Stop engine.
- (7) Reinstall all previously removed items and equipment.
- (8) (Refer to figure 2.) Apply placard (10) to inside of door (9) and install door.

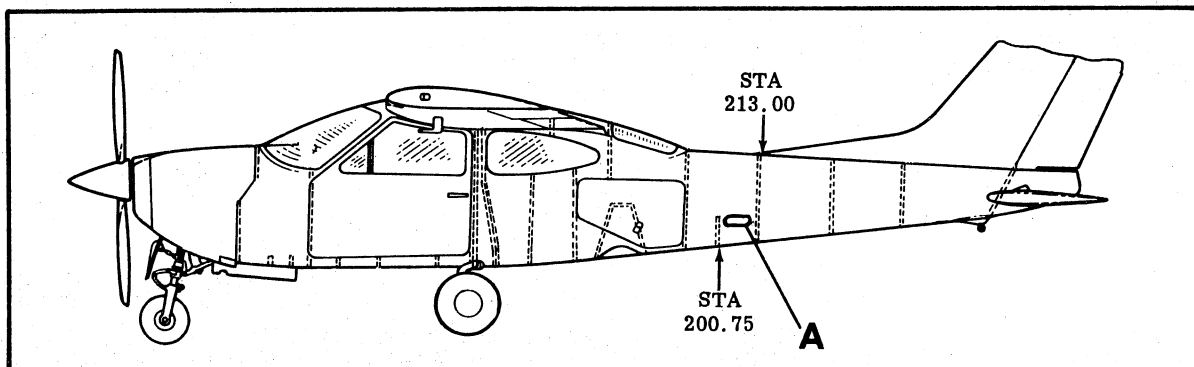


Figure 1. Ground Service Receptacle Location.

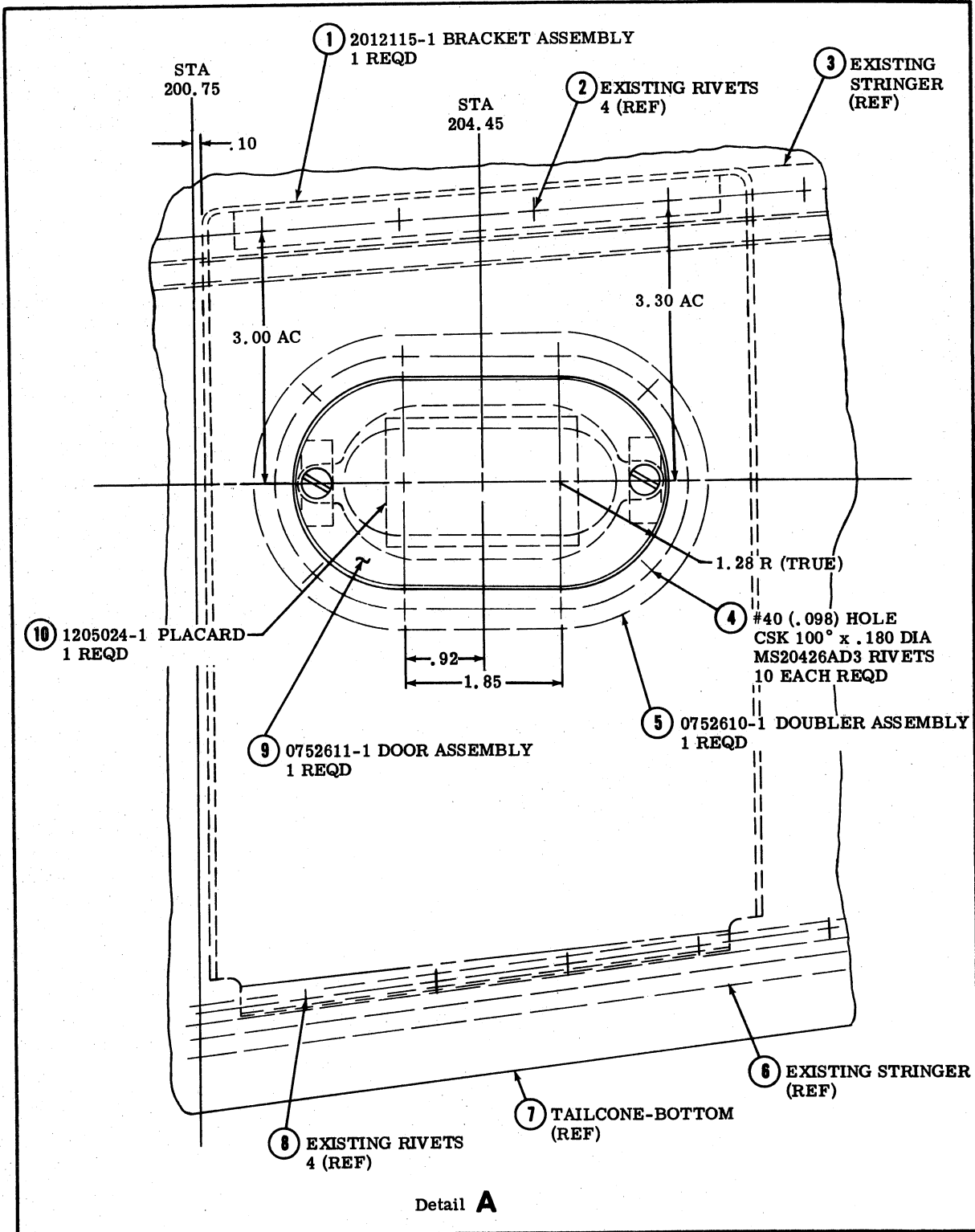


Figure 2. Ground Service Receptacle Installation (Sheet 1 of 2).

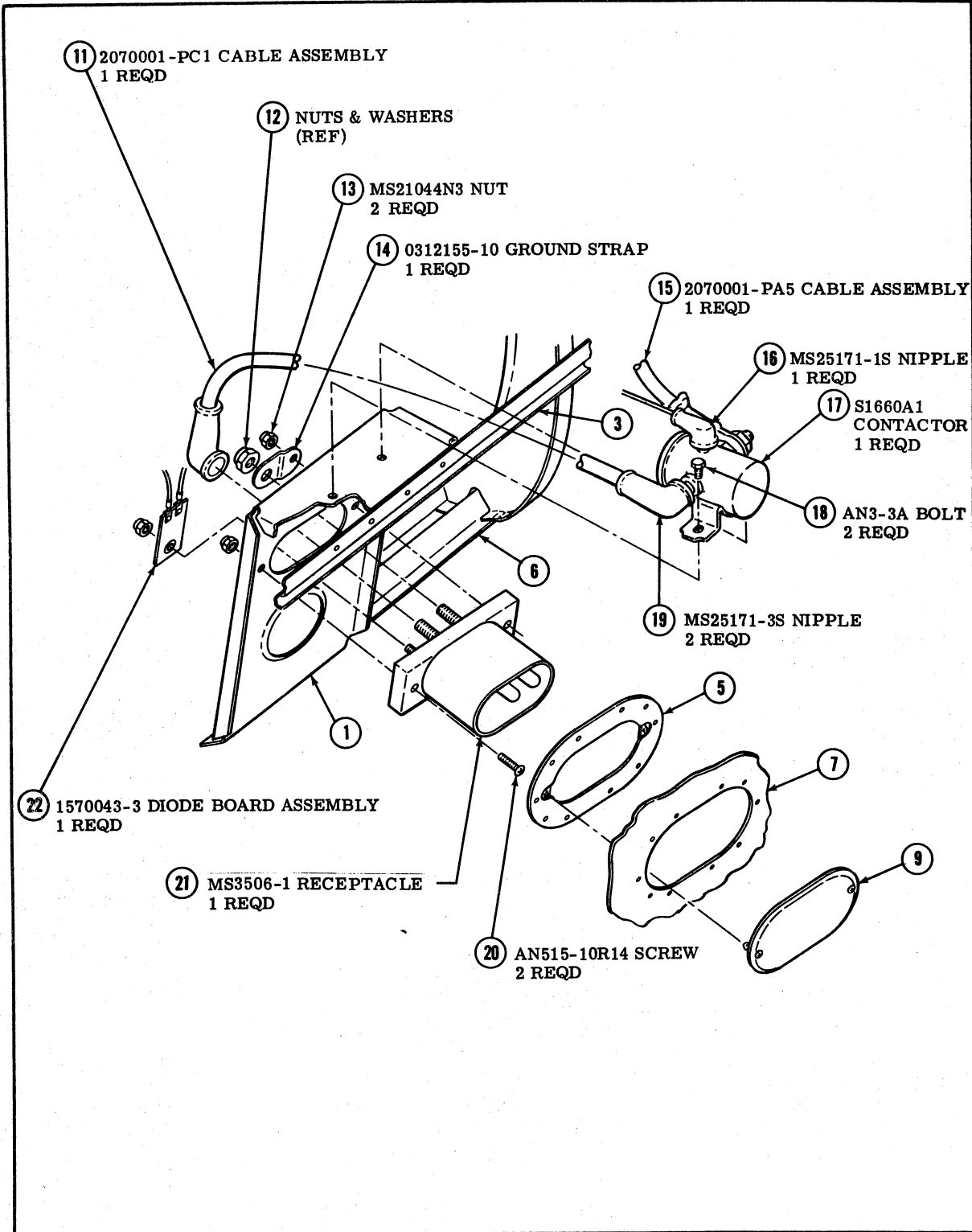


Figure 2. Ground Service Receptacle Installation (Sheet 2 of 2).

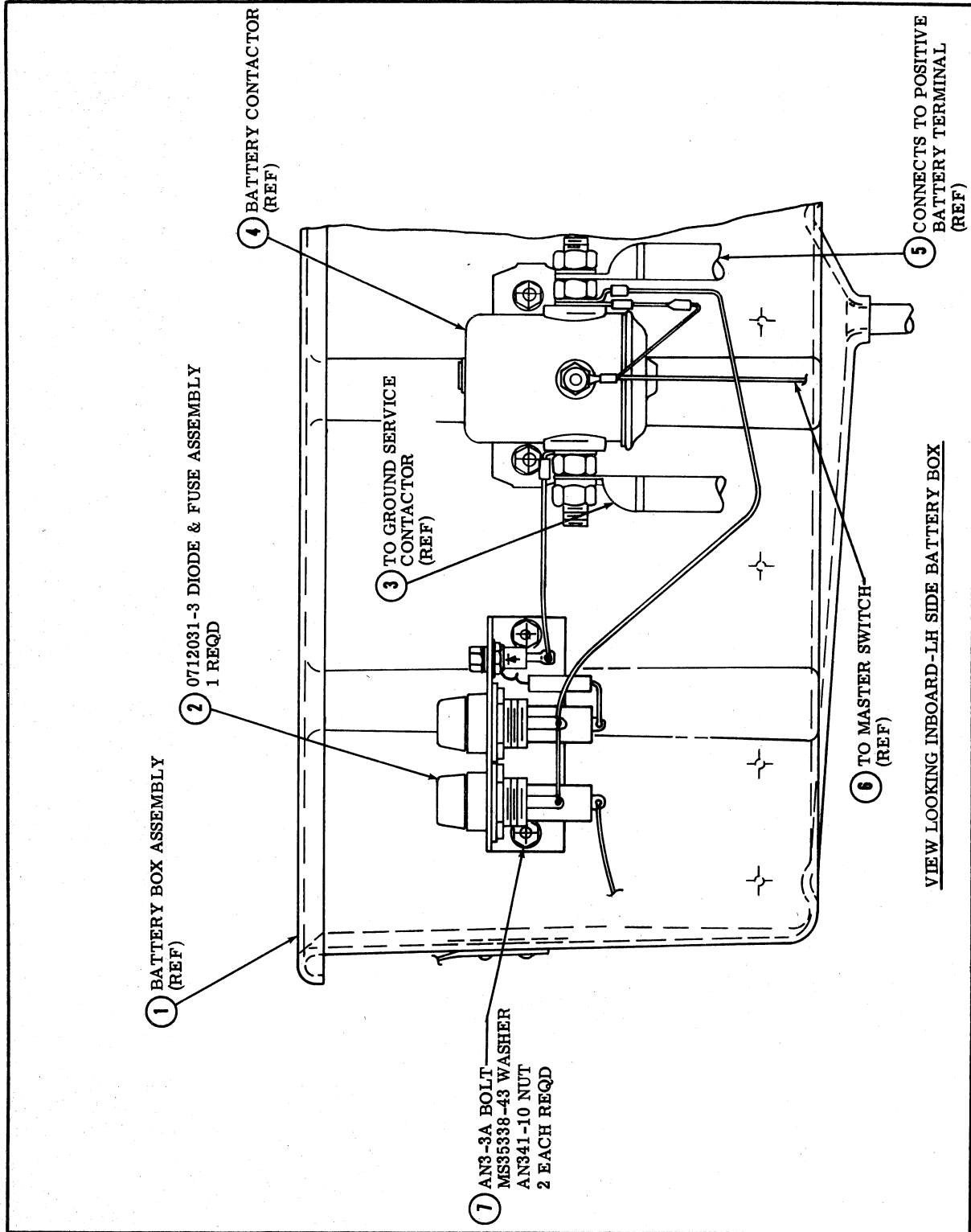


Figure 3. Diode and Fuse Assembly Installation.

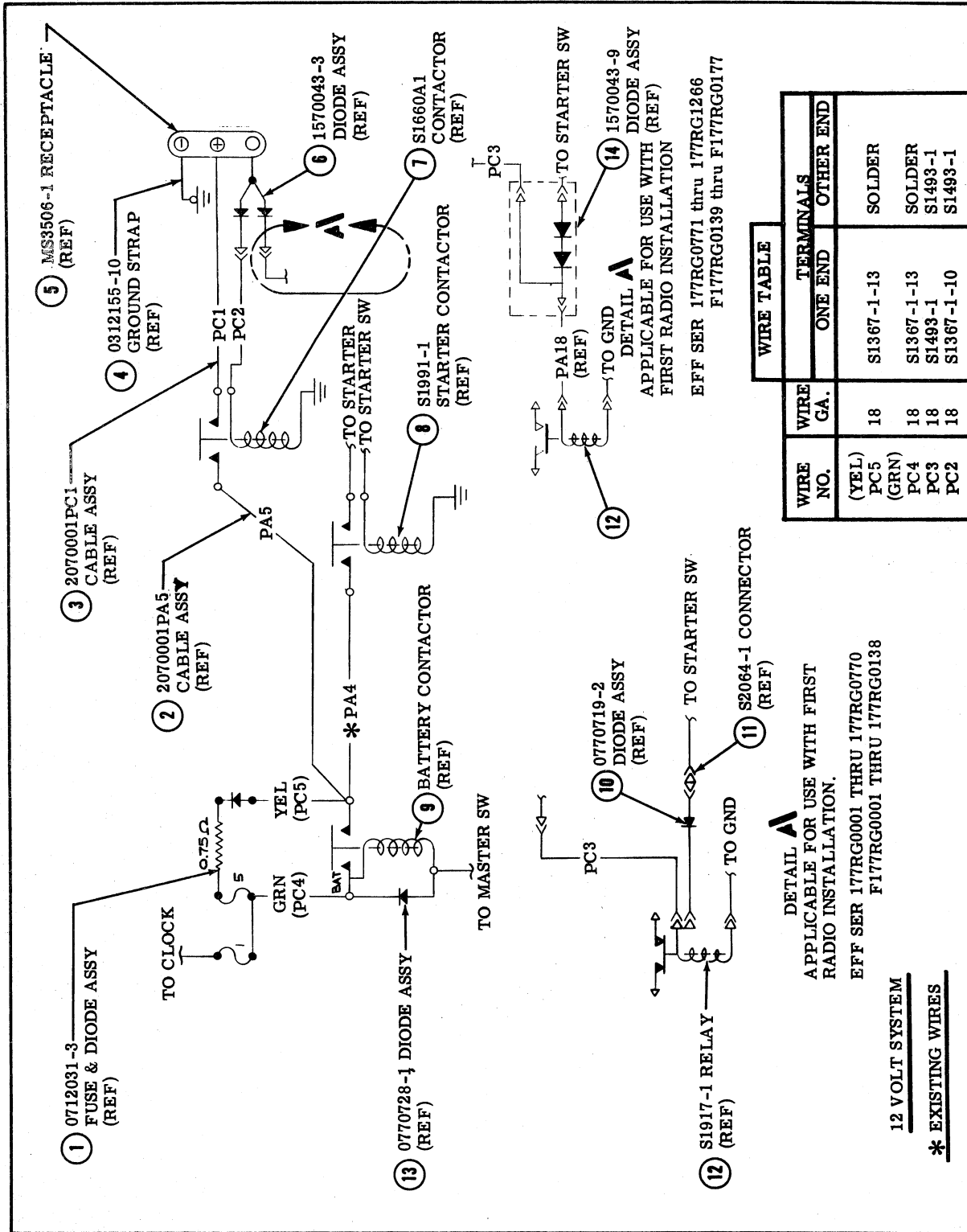


Figure 4. Wiring Diagram