

**AA-5 SERIES
MAINTENANCE MANUAL**

CHAPTER 80

STARTING

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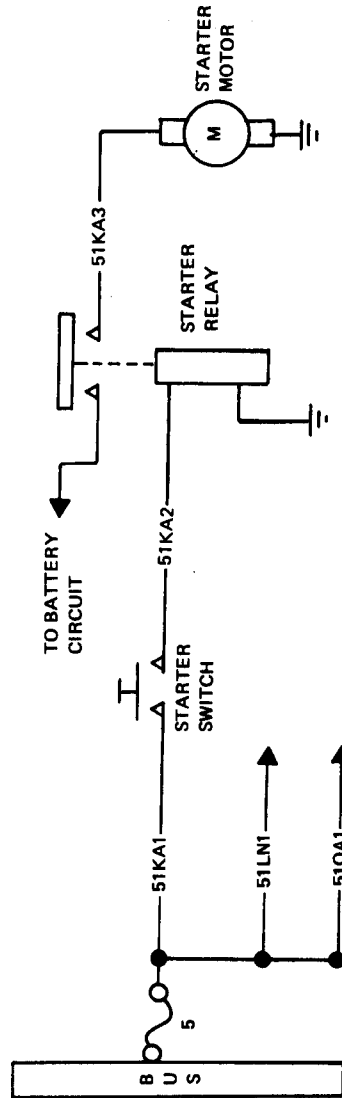
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STARTING SYSTEM — DESCRIPTION/OPERATION

1. General

The starting system consists of the starter switch, starter relay, starter, a 5-amp fuse, and associated wiring necessary to effect the required connections. The starter switch is a pushbutton type switch located on the lower left-hand side of the instrument panel. The 5-amp fuse that protects the starter circuit is located at the extreme lower right-hand corner of the instrument panel. The same fuse also protects two other circuits and is decalcd FUEL PUMP, STROBE, STARTER. The starter relay is located on the front of the firewall and is connected directly to the starter switch (See Figure 1). The starter is mounted on the front of the engine and is secured with one mounting bolt and three mounting studs, nuts, and washers. When power is supplied to the starter, the starter Bendix gears engage the starter ring gear mounted on the front end of the crankshaft and turn the engine for starting. Power for starting is supplied from a 12-volt, 25-ampere hour, dry-charge type battery.

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Starter Circuit
Figure 1

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STARTING SYSTEM - TROUBLE SHOOTING

1. Trouble Shooting the Starter

TROUBLE	PROBABLE CAUSE	REMEDY
Starter will not operate	Low Battery	Recharge or replace
	Blown fuse	Replace fuse
	Defective wiring	Check wiring with ohmmeter and repair as required.
	Defective starter relay	Replace relay
	Defective starter switch	With master switch off, conduct continuity test across starter switch. If circuit is open when button is depressed, replace switch.
	Defective starter motor	Repair or replace
Starter motor sluggish	Low battery	Recharge or replace
	Dirty contacts on starter switch or starter relay	Replace
	Defective starter	Repair or replace
	Dirty commutator	Clean and turn down as required.
Starter noisy	Worn starter drive gear	Inspect starter drive gear and replace if necessary
	Worn or broken teeth on crankshaft ring gear	Inspect crankshaft, ring gear and replace if necessary

STARTING SYSTEM - MAINTENANCE PRACTICES

1. Removal/Installation of Starting System Components

A. Remove Starter (See Figure 201).

NOTE: Ensure that master switch is in OFF position.

- (1) Remove cowl as necessary to gain access to starter.
- (2) Disconnect starter cable and ground wire.
- (3) Remove bolt securing brace to alternator mount.
- (4) Remove mounting bolt and three nuts on starter mounting studs and remove starter.

B. Install Starter

- (1) Position starter on mounting studs and install nuts and mounting bolt.
- (2) Position brace from alternator mount in place and install mounting bolt.
- (3) Connect starter, cable and ground wire.
- (4) Install cowl.

C. Remove Starter Relay (See Figure 202.)

NOTE: Ensure that master switch is in OFF position.

- (1) Raise right-hand side of upper cowl to gain access.
- (2) Disconnect wiring from starter relay.
- (3) Remove bolts, nuts, and washers securing starter relay to firewall and remove relay.

D. Install Starter Relay

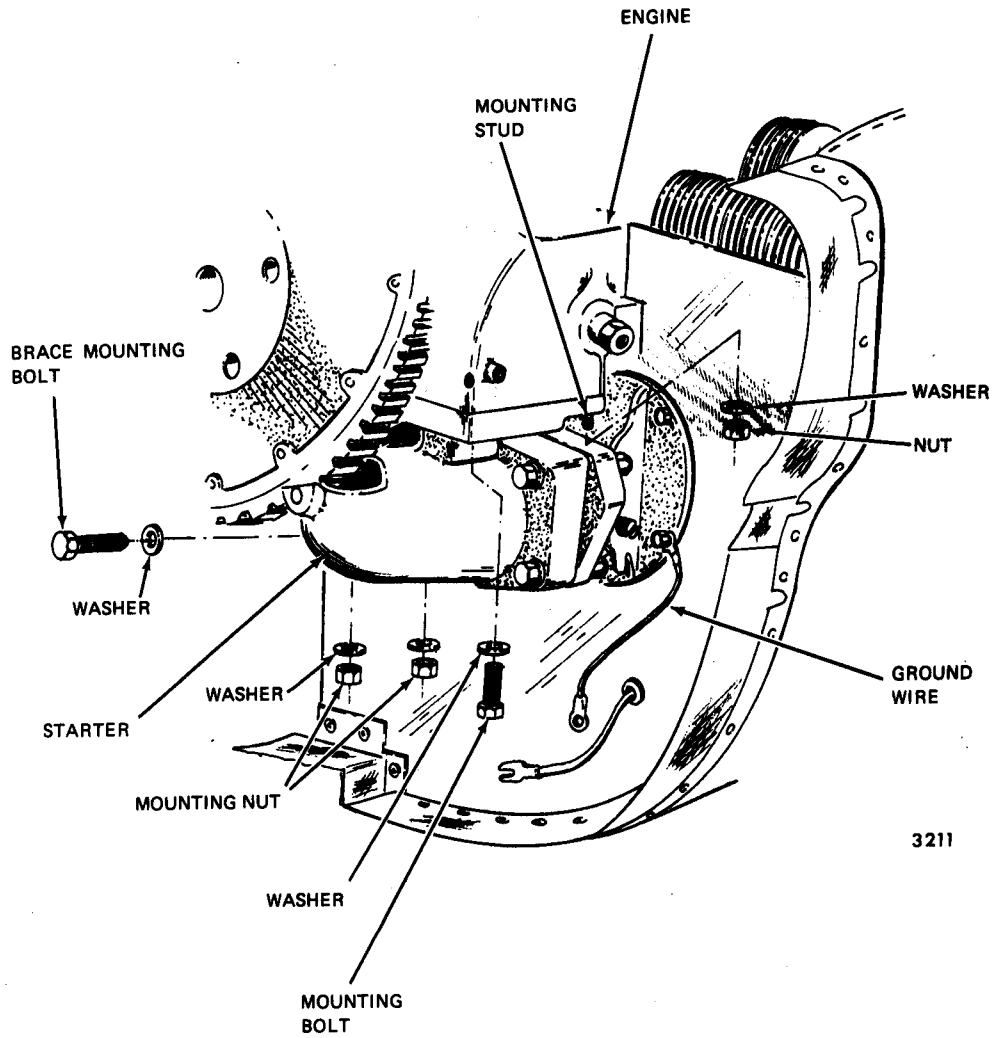
- (1) Position starter relay to firewall and install bolts, washers, and nuts.
- (2) Connect wiring to starter relay.
- (3) Close and secure cowl fasteners.

E. Remove Starter Switch

NOTE: Ensure that master switch is in OFF position.

- (1) Remove hex nut from shell of starter switch on front of instrument panel.
- (2) Push switch through panel and lower enough to disconnect wires from switch.

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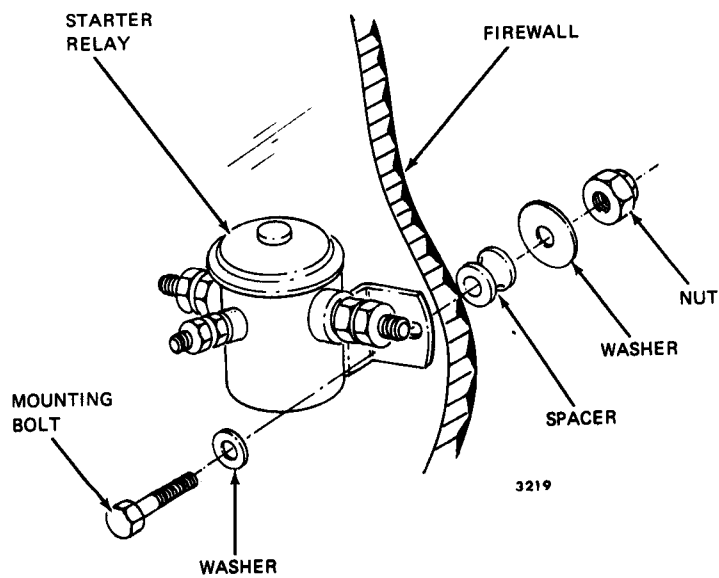


Starter Removal/Installation
Figure 201

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F. Install Starter Switch

- (1) Connect wiring to starter switch.
- (2) Position switch in instrument panel and install hex nut on switch shell.



Starter Relay Removal/Installation
Figure 202