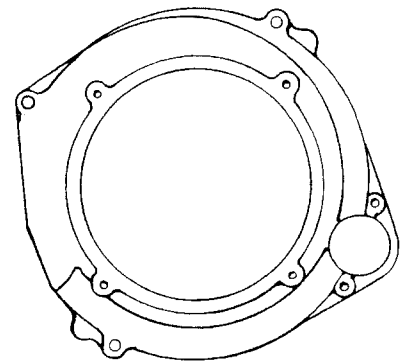


### 1.8.4- Blower Housing

**D** Clean the Blower Housing Assembly with commercial cleaning solvent suitable for use with aluminum. The Housing is an aluminum casting. Carefully inspect the assembly for obvious damage, cracks, elongated bolt holes, etc. Replace assembly if damaged or defective.

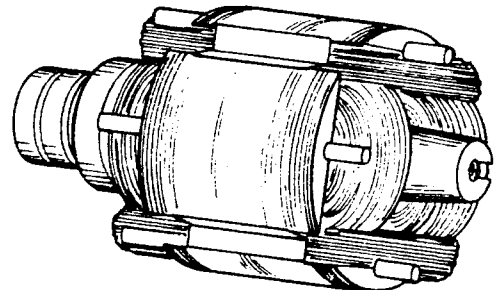
**D**



### 1.8.5- Rotor Assembly

**E** Clean Rotor with clean, dry, low pressure air (25 psi maximum). Use an ohmmeter to test Rotor winding resistance (Paragraph 1.4.7, Page 14). Check Rotor bearing for binding, rough operation, etc. If bearing is defective, entire Rotor Assembly must be replaced. Inspect keyway in tapered shaft for wear, elongation. Inspect sliprings and, if tarnished or dirty, clean with fine sandpaper. **DO NOT USE ANY METALLIC GRIT TO CLEAN SLIP RINGS.** Use a Hi-Pot tester to check Rotor insulation resistance (Paragraph 1.3.2, Page 9). If insulation resistance is low, Rotor may be dried with warm, dry, flowing air **NOT TO EXCEED 185° F. (85° C.)**. If insulation resistance still fails Hi-Pot test after drying, replace the Rotor Assembly.

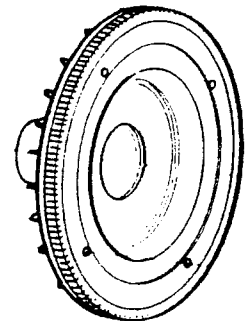
**E**



### 1.8.6- Fan & Ring Gear Assembly

**F** Assembly is balanced as a unit (ring gear installed). Ring Gear is heated and pressed onto Blower Fan at 400° F. Clean Fan & Ring Gear Assembly. Inspect Ring Gear for damaged teeth, cracks, obvious damage, etc. Inspect Blower Fan for same conditions. Replace assembly if damaged or defective.

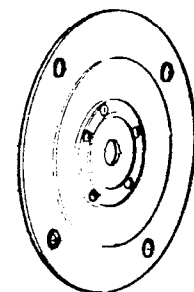
**F**



### 1.8.7- Coupling Plate

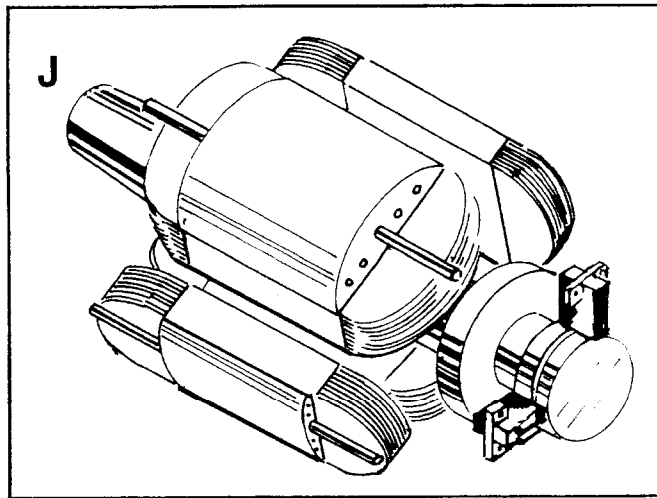
**G** The Coupling Plate is fabricated of 16 gauge steel. Clean the Plate carefully. Then, inspect visually for cracks, buckling, obvious damage, or other defects. Check all holes for elongation (out-of-round). Replace Plate if damaged or defective in any way.

**G**



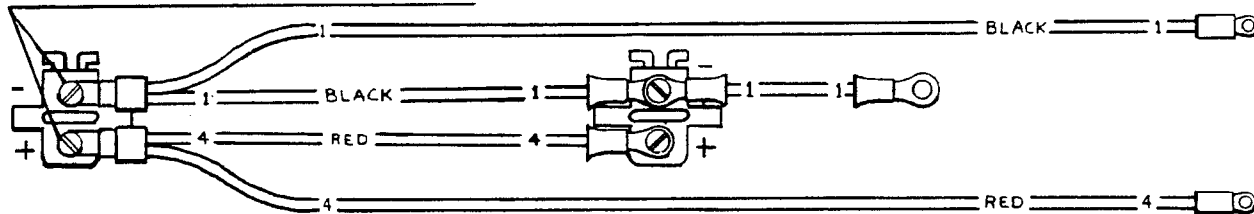
### 1.8.8- Brush Holder and Brushes

**H -J** Generators use two Brush Holders, with a positive (+) and a negative (-) brush in each Holder. Brush wiring connections are shown in the illustration. When Brush Holders are installed, the positive (red) brush must contact the slip ring nearest the Rotor bearing. Inspect Brush Holders for cracks, damage, etc. Inspect brushes for wear, damage, cracks, chipping, etc. Replace any damaged or defective components.



**H**

REMOVE THE 2 LEADS

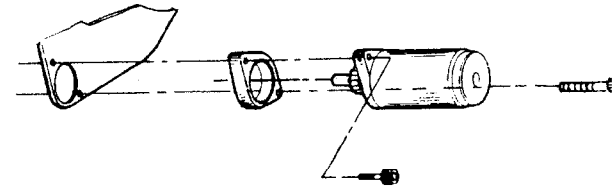


## SECTION 1.9 - GENERATOR REASSEMBLY

### 1.9.1- Install Engine Plate, Fan & Ring Gear and Coupling Plate

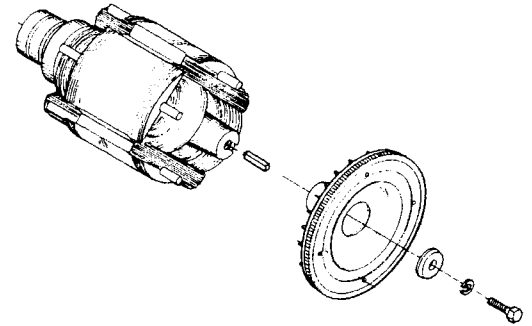
**A** Retain ENGINE PLATE to ENGINE, using M8-1.25 HEX SCREWS, LOCKWASHERS, FLATWASHERS and HEX NUTS as shown. Note locations of shorter (20mm) and longer (45mm) HEX SCREWS. Tighten to 11-13 foot-pounds (15-18 N-m). Also retain STARTER ADAPTER and STARTER to ENGINE PLATE as shown.

**A**



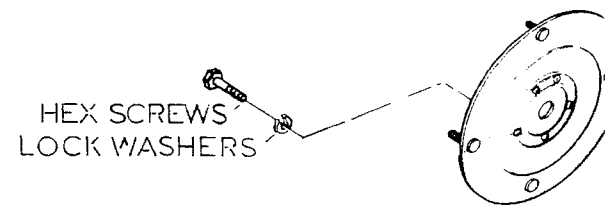
**B** Install KEY into Rotor Shaft KEYWAY. Carefully align FAN & RING GEAR with ROTOR shaft and install. Install Rotor Shaft SPACER. Retain SPACER and FAN & RING GEAR to ROTOR SHAFT with M12 LOCKWASHER and M12 x 40mm HEX BOLT. Tighten HEX BOLT to 39-41 foot-pounds (53-56 N-m).

**B**



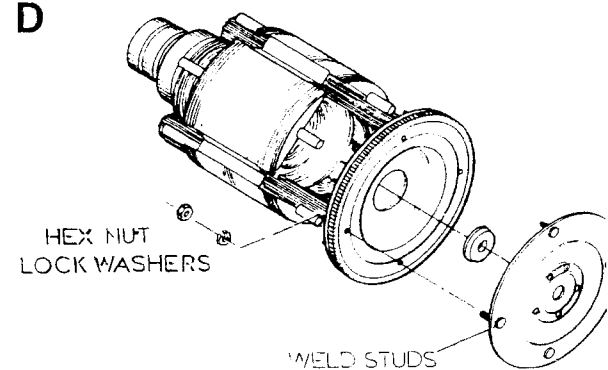
**C** Retain COUPLING PLATE to ENGINE using five M10-1.25 x 20mm HEX SCREWS and LOCKWASHERS. Tighten HEX SCREWS to 28-30 foot-pounds (38-42 N-m).

**C**



**D** Align four WELD STUDS on COUPLING PLATE with holes in FAN & RING GEAR, and install FAN & RING GEAR. Retain FAN & RING GEAR to COUPLING PLATE, using four M10-1.50 HEX NUTS and LOCKWASHERS. Tighten HEX NUTS to 28-30 foot-pounds (38-42 N-m).

**D**



## 2 - Install Blower Housing

Retain BLOWER HOUSING to ENGINE PLATE, using M10-1.50 HEX SCREWS, FLATWASHERS, LOCKWASHERS and HEX NUTS. Dowel sleeves ensure proper alignment. Note locations of shortest (40mm) and longest (70mm) HEX SCREWS. Tighten HEX NUTS to 28-30 foot-pounds (38-41 N-m).

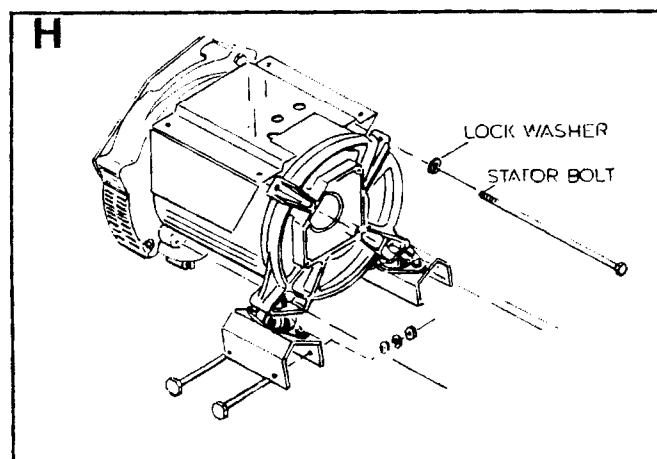
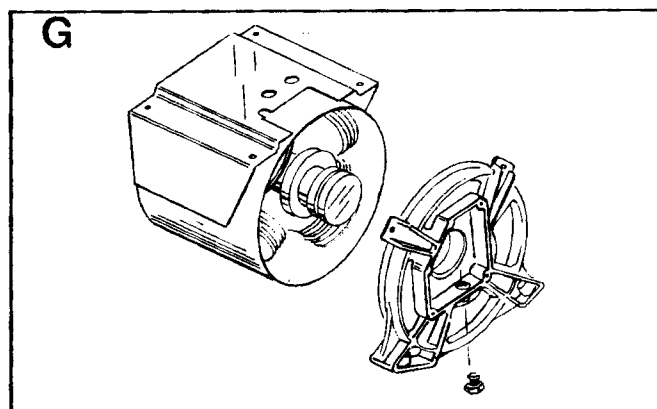
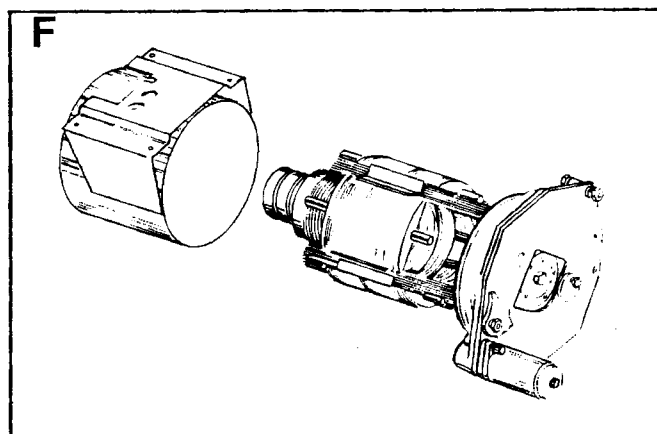
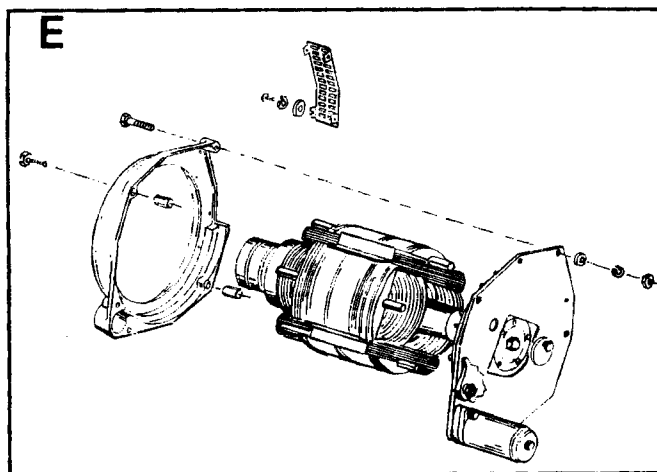
## 9.3 - Install Stator Assembly

Carefully align and install STATOR ASSEMBLY. Make sure it is properly aligned. Engage STATOR with BLOWER HOUSING until it is flush with HOUSING. Check for proper alignment before proceeding.

## 9.4 - Install Rear Bearing Carrier

If necessary, install the VIBRATION ISOLATORS into the REAR BEARING CARRIER feet. Carefully align bearing bore of BEARING CARRIER with ROTOR BEARING. Then, use a soft mallet to tap the BEARING CARRIER over the ROTOR BEARING. The STATOR must be sandwiched properly between the BEARING CARRIER and the BLOWER HOUSING, and all mating parts must be flush with each other.

Retain REAR BEARING CARRIER and STATOR to BLOWER HOUSING with the four long STATOR BOLTS and LOCKWASHERS. Tighten STATOR BOLTS to 10-12 foot-pounds (14-16 N-m). Recheck flushness of STATOR CAN against REAR BEARING CARRIER and BLOWER HOUSING.



**J** Retain VIBRATION ISOLATOR MOUNTING BRACKETS to MOUNTING RAIL, using M8-1.25 x 20mm BOLTS. Tighten to 9-10 foot-pounds (12-14 N-m).

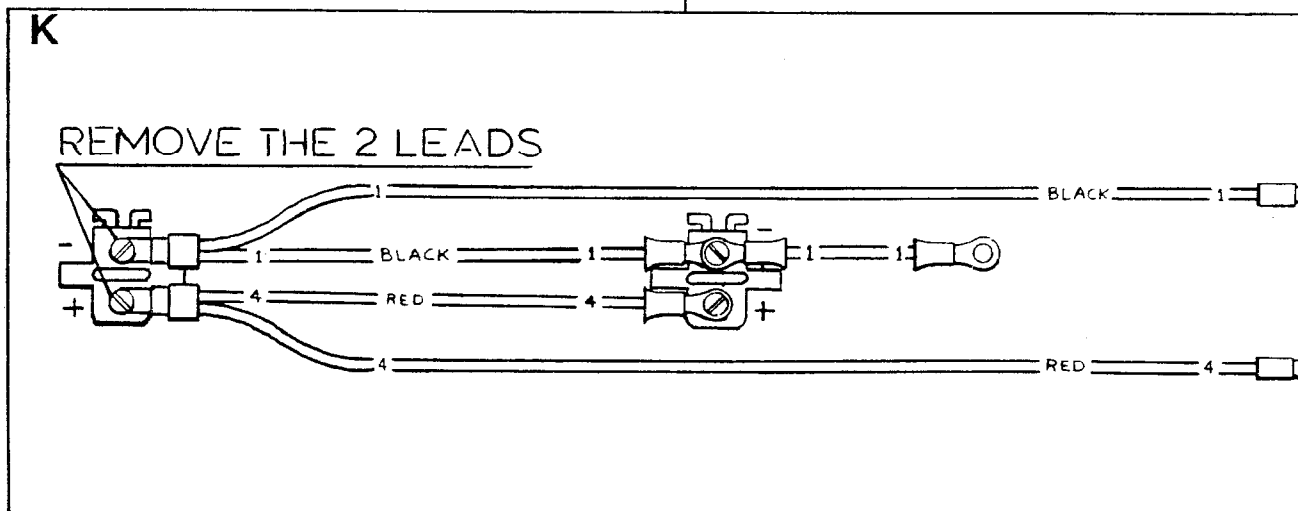
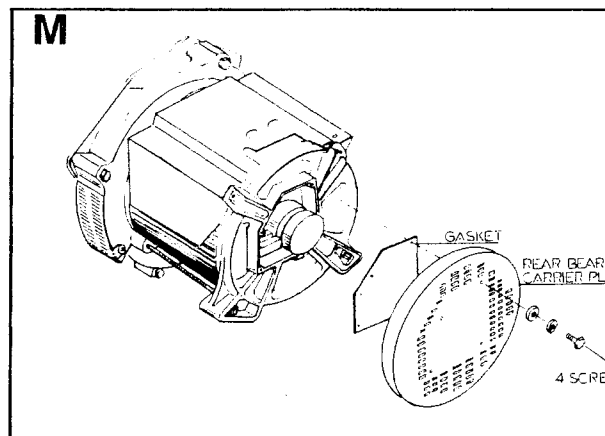
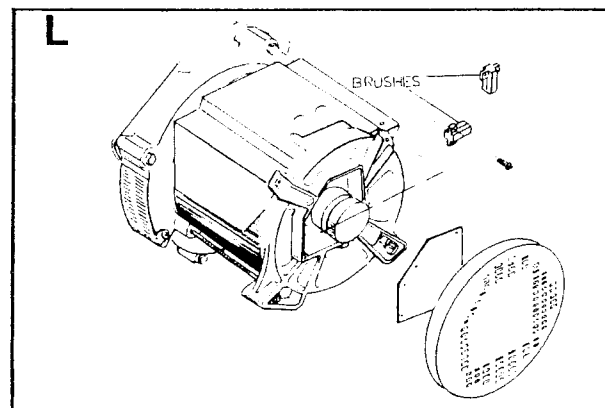
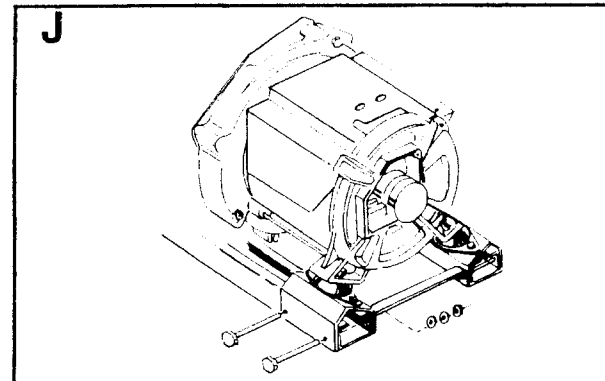
### 1.9.5 - Install Brushes and Brush Holders

**K** Install BRUSH WIRES and retain with SCREWS.

**L** Install both BRUSH HOLDERS onto REAR BEARING CARRIER and retain with M4-0.70 x 12mm SCREWS.

### 1.9.6- Install Rear Bearing Carrier Plate

**M** Install GASKET. Then, install REAR BEARING CARRIER PLATE and retain with four M6-1.00 x 8mm SCREWS, LOCKWASHERS and FLATWASHERS.



## SECTION 1.10- OPERATIONAL TESTS AND ADJUSTMENTS

Operational testing may be accomplished when the unit is installed in a vessel or when it is uninstalled.

### 1.10.1- Preparation Before Use

#### ⚠ WARNING

Before starting the engine, operate bilge blower(s) for at least 5 minutes to remove any explosive fumes from the engine-generator compartment. If the vessel is not equipped with a bilge blower(s), open the engine-generator hatch and leave open while starting the engine.

**IMPORTANT:** Observe the following:

DO NOT start the engine-generator without water being supplied to its sea water pump, or damage to the pump or engine will result.

Let the engine warm up to approximately 150°-170° before applying a heavy electrical load. Apply light electrical loads (less than 50% of unit's capacity) during warmup.

DO NOT operate engine starter motor continuously for longer than about 30 seconds.

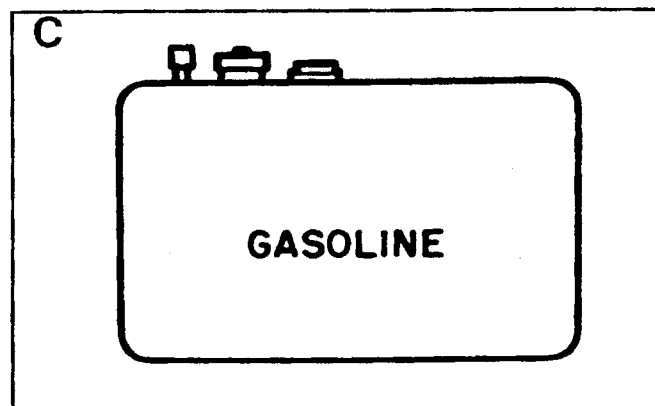
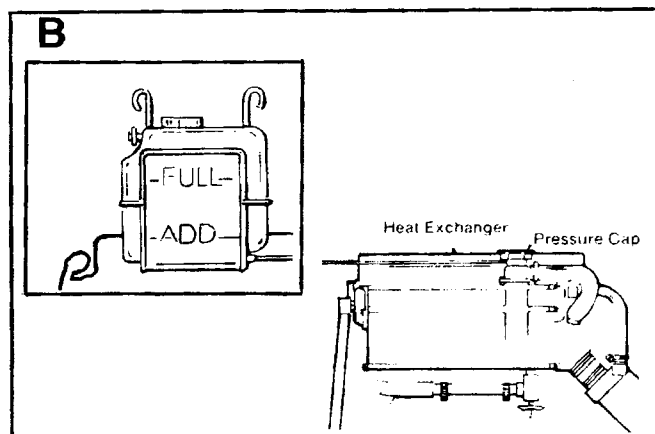
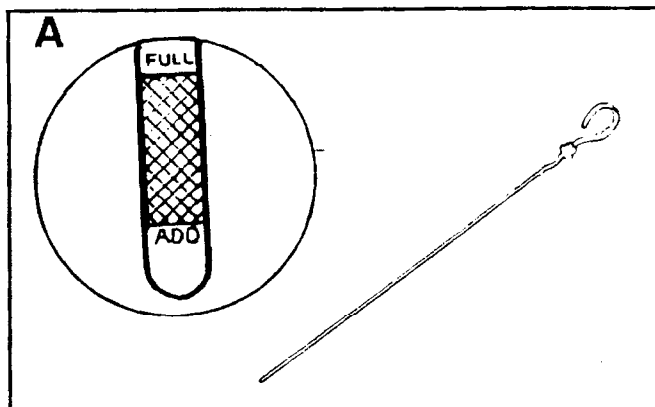
Before attempting to crank and start the engine, check the following:-

**A** Check Engine Oil Level:- Add oil as necessary, to the dipstick "FULL" mark only. DO NOT OVERFILL ABOVE FULL MARK. NEVER OPERATE ENGINE WITH OIL LEVEL BELOW THE "ADD" MARK.

**B** Check Engine Coolant Level:- Check coolant level in Heat Exchanger and Coolant Recovery Bottle. Fill to proper level, if necessary, with a 50-50 mixture of low silicate, ethylene glycol base anti-freeze and soft water.

**C** Check Fuel Supply:- Make sure an adequate supply of the recommended gasoline is available to the engine-generator fuel pump. If fuel supply system is equipped with a fuel shutoff valve, make sure it is open.

**D** Check Sea Water Supply:- Cooling water MUST be available to the generator's sea water pump or damage to the engine and/or exhaust system may result. If sea water supply lines are equipped with a sea cock, it must be open. In addition, the sea water pump supply lines and hoses must be tight and free of leaks, or the sea water pump will not self prime.



### 1.10.2- Starting the Engine

**E** Hold the Start/Stop switch at START position to crank engine. Release the switch when engine starts. Let engine stabilize and warm up.

### 1.10.3- Operational Tests

With generator stabilized and warmed up, check the following:-

1. All gauge and meter readings, as available (engine oil pressure, coolant temperature, d-c voltmeter, etc.). Make sure all readings are correct.
2. Remove (disconnect) all electrical loads from the generator. Then, check generator no-load a-c voltage and frequency. See Section 1.4 and TROUBLESHOOTING FLOW CHART on Page 7.
3. Check engine operation. If engine problems are encountered, see applicable engine section of this Manual.
4. If adjustments to a-c frequency, voltage or carburetor are required, refer to Section 1.5, ADJUSTMENTS.

