

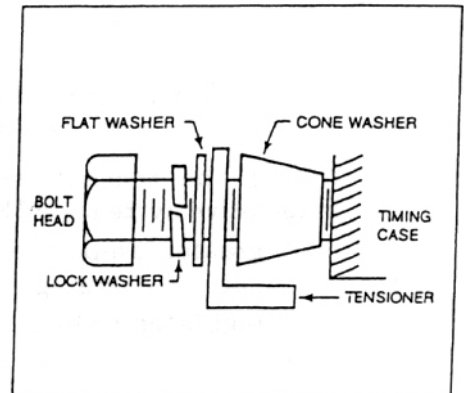
# A-10001-A Alternator

## “ONE CONNECTION” ALTERNATOR Installation Instructions

### CAUTION

**Check the voltage and polarity of the car’s electrical system before installation of the alternator. Connection to other polarity or voltage system will severely damage the alternator.**

1. Disable electrical power to prevent short circuits. Disconnect the battery cables, remove fuse, or open battery disconnect switch.
2. Disconnect the wires to the DC generator cutout. Remove the generator (the mounting bolt and nut are 3/4”).
3. Remove the middle, driver side, timing case bolt (9/16” head). Install the belt tension adjuster kit as shown.
4. Install alternator on the engine boss with the Step 2, 3 “ or longer, mounting bolt head FORWARD and the lock washer and nut TOWARD THE REAR. Slip the drive belt over the pulley.
5. Tighten the nut, while pivoting the alternator TOWARD YOU. The belt tension should be adjusted for about 1” flex on the passenger side. Securely tighten the mounting bolt. Place the tensioning foot against the alternator case and tighten the clamping bolt.
6. Reconnect the wires of Step 2 to the alternator output terminal.
7. Reconnect electrical power.



To assure and test for proper system operation, it is best to start with a fully Charged battery. Charge the battery; measure the “state of charge” with a hydrometer. A fully charged battery should normally indicate 1260 to 1275 specific gravity. Lower readings as 1225 indicate discharge and will show high ammeter charge current after engine start-up until full charge state is attained.

Start the engine and run it up once or twice to “self excite” the alternator. The ammeter should initially show high “charge” current and slowly drop toward zero or a few amperes current indication. The drop toward zero is dependent upon the battery accepting charging current. A partially charged battery will require time to recharge. A “bad” battery or electrical connection will show high continuous charge.

With the engine at med/high speed, turn the lights on “bright.” The ammeter should be steady or drop slightly. This indicates the alternator is “regulating” or holding the output voltage constant while supplying current to the lights and battery. The “constant output” voltage with variable load/current output is a major attribute of the alternator system.

Recheck the belt tension and readjust if necessary.

Extended storage in some environments may cause corrosion internally at the brush and slip ring surfaces causing high resistance. For initial start up or starting after extended storage it may be necessary to increase engine speed to a medium/high RPM which clears the corrosion or high resistance. This allows the charging function to “turn on.” “Turn on” will be indicated when the ammeter needle moves/jumps toward + (charging) position.

NOTE: A fluttering ammeter needle is normal under low idle speed and certain load conditions. This indicates a charge and marginal no charge condition. Increasing engine RPM will result in a steady charge condition.

## **Conversion of 6 Volt DC Generator Systems to 12 Volt Alternator Systems**

Among the reasons for conversion of the DC 6 volt generator automotive systems to 12 volt alternator ones are:

- greater amperage output for modern headlights and faster battery charging
- regulated voltage for battery, light, and accessory operation
- current output at lower engine speed,
- availability of batteries, bulbs, and 12 volt accessories
- greater reliability and life with no maintenance.

Cars initially had DC generators and 3 cell, 6 volt batteries. As engines increased in size, electrical accessories and better headlights evolved; the electrical power requirements increased. During the 50's and 60's, cars were being equipped with 12 volt batteries and alternators to cope with the increased electrical demands.

The alternator of the era, particularly the GM designs, are available for conversion and installation on old cars. The adaptation is minimal and results in reliable, virtually trouble free operation. As example, what problems. has your passenger car experienced in this area?

To convert a 6 volt car to 12 volt negative ground operation, the following is required:

1. Replace all 6 volt lights with 12 volt ones of same or greater candle power.
2. If the car was a positive ground system:
  - a) interchange the wire connections at the coil primary terminals, this preserves the proper coil polarity,
  - b) interchange the wire connections at the ammeter for proper charge/discharge indication,
  - c) replace the ignition coil with a new oil filled one. The coil should be a 12 volt one (no external resistance required).  
A 6 volt coil can be used if an appropriate voltage dropping resister (ballast) is used in series with the primary winding.
3. Install a 6 cell, 12 volt battery. Ground the negative terminal to the car frame and engine.

If the "one connection" alternator is used, no further changes are required.