

Technical Update 31

How to Convert 3G Series Alternators to Replace Mitsubishi for Ford

IN THE LATE 1980'S MITSUBISHI produced two alternators for Ford: The A3T01598 (WAI #1-1180-02MI, Lester #13190) was used on 1988-90 Tempo and Topaz and has a 1-groove pulley; the A3T01596 (WAI #1-1180-01MI, Lester #13188) was used on 1988-89 Taurus and has a 6-groove pulley. These alternators are exactly alike except for the type of pulley they require.



Figure 1. Hard-to-get Mitsubishi alternators for Ford like this one can be replaced with a converted 3G unit.

The cores for these two alternators can sometimes be hard to find. However, with the addition of a conversion plug, you can build 3G units to replace the Mitsubishi units.

Components Needed to Build Replacement Units

To build 3G units to replace these Mitsubishi units, use the following components:

- Small D.E. frame with 135 mm OD and the adjusting ear at 10:00 when viewed from the S.R.E. end (WAI #21-211).
- Late-style small-frame rectifier with 135 mm OD (WAI #31-207). Has extended hex nut and attached washer (WAI #85-2305) on the rectifier battery terminal. (See Figure 2.)
- Late-style S.R.E. frame with diamond-shaped



Figure 2. Use the rectifier assembly on the right, with the extended hex nut & attached washer on the battery terminal.

battery-terminal hole (WAI #22-206). (See Figure 3.)

- Small-frame stator with 135 mm OD. If you are salvaging stators, the color of the insulating varnish indicates the amperage, as follows:
 - Green: 75-amp
 - Purple: 85-amp
 - No color: 95-amp



Figure 3. Use the S.R.E. frame with the diamond-shaped battery-terminal hole, shown on the right.

If you are using a new stator, you can use WAI #27-209 (95-amp).

- Regulator E9DZ-10316-A, F0DZ-10316-A, GR801 (WAI #35-204).
- Conversion plug adapter and battery-post insulator (WAI #46-2805). (See Figure 4.)
- Terminal cover (WAI #46-2852).
- Either a 1-groove pulley for use on 1988-90

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Tempo and Topaz (WAI #24-2104) or a 6-groove pulley for use on 1988-89 Taurus (WAI #24-2254).

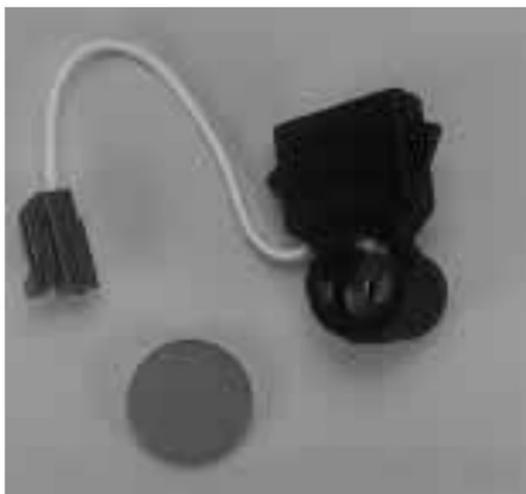


Figure 4. This conversion plug and cover are the key to converting 3G units.



Figure 5. The converted 3G unit.

How to Convert Existing 3G Units

You can also convert existing 3G units to replace these Mitsubishi units. All you have to do is remove the insulator on WAI's 20-225-31 and 20-225-32 units and install the conversion plug and cover above. (See Figure 4.)

Please note that although both of the Mitsubishi units are rated at 75 amps, our testing has shown that their maximum output is actually well above the 75-amp rating. But also note that all alternators are designed to operate at maximum output for only short periods of time.

Warning

The battery-terminal connection on these alternators is susceptible to the same kind of burnup that can occur on Ford IAR units, so the installer must be sure to inspect the vehicle's wiring harness and replace it, if necessary, with a new plug adapter (WAI #46-2801 or 46-2801-1). To ensure a tight, sealed connection, the installer should also be sure to apply electrical contact gel to the plug (WAI #89-262).

For more details on how to prevent burnup caused by a poor connection at the battery terminal, see *Technical Update 3* (November 1992).

WAI No.	Description	WAI No.	Description
20-225-31	95-amp 3G alternator for Ford	35-204	Voltage regulator
20-225-32	95-amp 3G alternator for Ford	46-2801	Repair harness
21-211	D.E. frame	46-2801-1	Repair harness w/ butt connectors & shrink tube
22-206	S.R.E. frame	46-2805	Conversion plug adapter
24-2104	1-groove pulley	46-2852	Terminal cover
24-2254	6-groove pulley	85-2305	Extended hex nut w/ attached washer
27-209	95-amp stator	89-262	Electrical contact gel
31-207	Rectifier		