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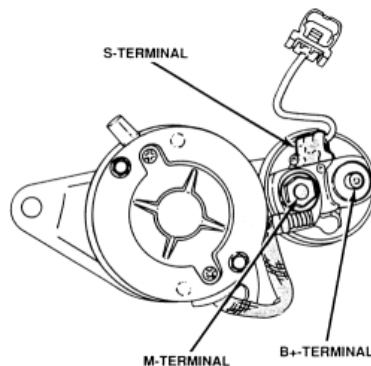
## Ford Contour/Mystique/Cougar 1995-1999 Repair Guide

TESTING  
REMOVAL & INSTALLATION

### Starter TESTING

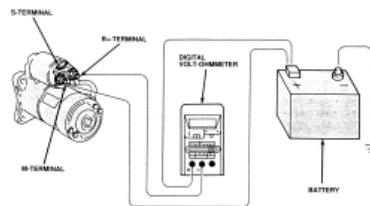
**Voltage Drop Test**  
See Figures 1 and 2

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Fig. Fig. 1: Location of the terminals on the starter motor



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Fig. Fig. 2: Schematic of a voltage drop test

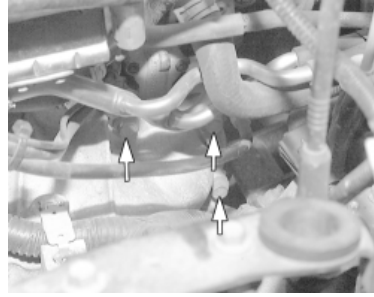
*The battery must be in good condition and fully charged prior to performing this test.*

1. Disable the ignition system by unplugging the coil pack. Verify that the vehicle will not start.
2. Connect a voltmeter between the positive terminal of the battery and the starter B+ circuit.
3. Turn the ignition key to the *START* position and note the voltage on the meter.
4. If voltage reads 0.5 volts or more, there is high resistance in the starter cables or the cable ground, repair as necessary. If the voltage reading is ok proceed to the next step.
5. Connect a voltmeter between the positive terminal of the battery and the starter M circuit.
6. Turn the ignition key to the *START* position and note the voltage on the meter.
7. If voltage reads 0.5 volts or more, there is high resistance in the starter. Repair or replace the starter as necessary.

*Many automotive parts stores have starter bench testers available for use by customers. A starter bench test is the most definitive way to determine the condition of your starter.*

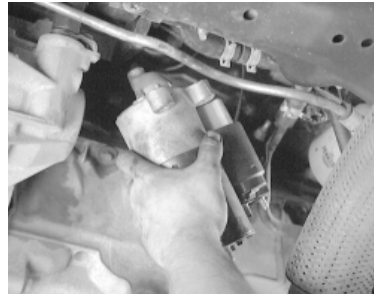
## REMOVAL & INSTALLATION

**2.0L Engine**  
See Figures 3 and 4



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**Fig. Fig. 3: Remove the three starter mounting bolts**



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**Fig. Fig. 4: Carefully lower the starter out of the vehicle**

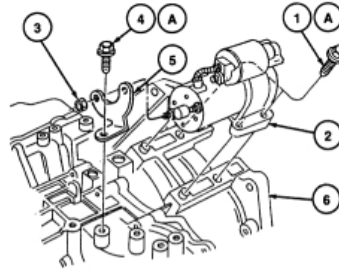
1. Disconnect the negative battery cable.
2. Remove air intake resonators.
3. Remove starter motor upper mounting bolts.
4. Raise and support the vehicle.
5. Remove the nuts on the starter terminals and remove the cables from the terminals.
6. Remove the two starter lower retaining bolts and remove the starter.

**To install:**

7. Place the starter into position and tighten the 2 lower retaining bolts to 15-20 ft. lbs (20-27 Nm).
8. Place the starter cables onto the terminals and tighten the retaining nuts to 80-124 inch lbs. (5-7 Nm).
9. Lower the vehicle.
10. Install and tighten the upper retaining bolt to 15-20 ft. lbs (20-27 Nm).
11. Install the air intake resonators.
12. Connect the negative battery cable.

**2.5L Engine**

See Figure 5



Item	Part Number	Description
1	W50035-S415	Bolt (2 Req'd)
2	11002	Starter Motor
3	W520412-S415	Nut (2 Req'd)
4	W500023-S309	Bolt
5	11A148	Starter Bracket
6	6007	Engine
A	—	Tighten to 21-29 N-m (15-21 Lb-Ft)

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**Fig. Fig. 5: Starter mounting-2.5L engine**

1. Disconnect the negative battery cable.
2. Remove the engine air cleaner assembly.
3. Remove the fuel feed and return lines from the support bracket located on the accelerator cable bracket, and remove the fuel line bracket.
4. On vehicles equipped with a automatic transaxle, remove the gear selector and the gear shift cable bracket from the transaxle.
5. Remove the air cleaner support bracket from the engine and transaxle mount.
6. Remove the nuts on the starter terminals and remove the cables from the terminals.
7. Remove the starter motor-to-transaxle case retaining bolt at the rear of the starter.
8. Remove the two starter retaining bolts and carefully lift the starter from the transaxle case while disengaging the alignment pins.

**To install:**

9. Position the starter onto the alignment pins and onto the transaxle case.
10. Install the two starter retaining bolts and the rear retaining bolt and tighten them to 15-21 ft. lbs. (21-29 Nm).
11. Place the starter cables onto the terminals and tighten the retaining nuts to 80-124 inch lbs. (5-7 Nm).
12. Install the air cleaner support bracket.
13. If removed, install the gear shift selector and bracket.
14. Install the fuel line bracket and install the fuel lines in the bracket.
15. Install the air cleaner assembly.
16. Connect the negative battery cable.

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