



Alternator Removal and Installation Instructions

The following instructions listed below consist of general information for removing and installing alternators. Refer to Original Equipment Manufacturer's service manual for specific information pertaining to your vehicle.

Definition of Terms

- ⚠WARNING:** Describes precautions that should be observed in order to prevent injury or death to the user during installation.
- ⚠CAUTION:** Describes precautions that should be observed in order to prevent damage to the vehicle or its components, which may occur during installation if sufficient care is not taken.
- NOTE:** Provides additional information that facilitates installation work.
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Removal Instructions

1. Disconnect the negative (-) battery cable from the battery.

⚠WARNING: Personal injury or damage to the equipment and its components may occur if this step is not performed.

2. Identify each wire and note the connection locations on the alternator.
3. Disconnect the wires from the alternator.
4. Loosen the pivot bolt and then the adjusting bolt(s) on the alternator.
5. Remove the drive belt(s) from the alternator.
6. When removing all mounting brackets, plugs and connectors (if equipped) note the positioning before removing.
7. Remove all necessary bolts and hardware that mount the alternator to the engine, then remove the alternator.

Installation Instructions

1. Verify the battery is fully charged (12.6 volts) and battery posts and battery cables are clean and not frayed.
2. Physically compare the replacement alternator to the original alternator. Compare pulley, wire connector locations, rear housing clocking, pivot hole location and adjusting hole locations to the original alternator.
3. If the drive belt(s) is worn, oily, glazed or cracked, replacement of the belt(s) is recommended.
4. Place alternator in mounting bracket(s) and reinstall pivot and adjusting bolts.

NOTE: Do not completely tighten the bolts at this time.

5. Install the alternator drive belt(s) and check for proper alignment between alternator pulley and drive pulley(s).
6. Adjust the belt tension to the manufacturer's specification and tighten the adjusting bolt and pivot bolt to the manufacturer's torque specifications.

⚠CAUTION: DO NOT pry on the alternator housing to tighten the belt(s).

7. Connect the previously removed wires to the proper location on the replacement alternator.
8. Reconnect the battery cable to the battery and torque the battery terminal to the manufacturer's specifications.
9. Check the charging system according to manufacturer's specifications.

Basic System Charging Check (without voltmeter)

With the ignition on, verify the charge lamp illuminates. Start the engine and verify the charge lamp goes out or voltage/amp meter on the dash shows an increase in voltage.

Basic System Charging Check (with a voltmeter)

1. Check battery voltage before starting the engine. The battery voltage should be 12.6 volts. (If less, recharge the battery and check battery capacity.)
2. Start engine and let it idle for 10 minutes. Battery voltage should be greater than 13.0 volts.
3. Increase engine RPM to approximately 2000 RPM, voltage meter should show an increase in voltage but not exceed 14.8 volts. **(Check the manufacturer's service manual for exact voltage and amperage specifications.)**

Product Consolidation

DENSO is the largest manufacturer of starters and alternators in the world. We are constantly updating our product to offer greater output and increased durability, often in a smaller package. DENSO may choose to substitute an updated unit for your application, but only if it offers you equal or better performance than the original unit.