TECH TIPS

Alternator Installation Guide

1. Before removing the alternator, please perform the necessary diagnostic tests to ensure that the alternator requires changing:
   - Ensure that the battery is fully charged and in good condition, do a load test on the battery and if possible check the specific gravity (should be 1.260).
   - Check that all wires and connections are in good condition. Do a voltage drop test under load, anything over 0.2V could be an issue that needs correcting.
   - Check any fusible links in the charging system to ensure that they are operational.
   - Check for any vehicle specific Dixie Tech Tips.
2. In addition to the above tests, make sure that the alternator drive belt is in good condition. Also make sure that the belt is not cracked or glazed. Also check the alternator clutch or de-coupling pulley, used on many later applications as they have a short life expectancy.
3. Before disconnecting the battery follow the manufacturers recommended procedures to ensure that the system memory is not compromised. Some vehicles will have to have the on-board computer re-calibrated if power is lost. Some vehicles have specific window positions and if not done correctly will cause damage to the vehicle or will take additional time to correct. Disconnect the negative battery cable first to prevent short circuits to ground.
4. Remove the wires (and wiring harness, if equipped) from the alternator. Use extreme care and mark the location and note the routing of the wires.
5. Depending on how the belt tension is achieved, either disengage the automatic belt tensioner and/or loosen the mounting bolts and remove the alternator.
6. Make sure that the replacement alternator has the same number of grooves as the old unit. In addition, locate the electrical connections to be sure that they are the same as the old one. In some cases the connections may be in different locations as the vehicle manufacturer may have used more then one alternator manufacturer.
7. Inspect wires for swelling, “green” oxide and fraying. Replace as required, if the wires are good, clean the wire terminals and/or plugs to ensure proper connections to the replacement unit. Remove any covers, shrouds or condensers from the old unit and install them on the new unit, if not provided.
8. Hold the replacement unit in position and replace the mounting bolts by hand. Install the alternator belt, then torque the bolts to the manufacturer’s specifications. On vehicles with an automatic belt tensioner the bolts can be torqued after they are all installed by hand.
9. Use a belt tension verification tool to ensure that the belt tension is to the manufacturer’s specifications. If the application is with an automatic belt tensioner ensure that it is operating correctly (that the pulley and bearing are not worn and that the spring is functioning).

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10. Reconnect the wires and wiring harness, if equipped to the alternator. Be sure to follow the proper wire routing to prevent chaffing of the wires. In some cases the use of dielectric contact grease or gel is recommended for electrical connections.
11. Reconnect the negative battery cable. Before starting the vehicle make sure that the battery is fully charged. **Do not use the alternator to charge a battery that is severely discharged.**
12. Start the engine and test for proper charging after the engine has run for a few minutes to allow the battery to stabilise. Check that the dash light or voltmeter on the dash is operating correctly (if the vehicle is equipped). Stop the engine and check for loose belt(s) or any loose mounting hardware or electrical connections.

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