

Source: Leece-Neville Heavy Duty Systems Division - Arcade, NY USA
Date: June 27, 2017
Bulletin No: TSB-1020
Models: All 12 Volt Alternators
Subject: Bench Top Testing Instructions

On all Prestolite, Leece-Neville alternators with a 7/8" diameter Shaft use a Dual 1/2" groove 3 1/2" Diameter Pulley for test purposes. L/N pulley 107-22 is recommended. Utilize the largest 4" v-groove pulley on the motor spindle of test stand. **If a Leece-Neville alternator is being tested on a Delco or a Leece Neville test stand, you must use the approved Leece-Neville pulley (#107-22) and the following instructions. The Delco-supplied pulley and Delco instructions will result in inaccurate testing of Leece-Neville alternators.**



Use either L/N 120-129 or a standard 5/8" flat washer, and a standard 5/8-18 hex nut when installing pulley on alternator to be tested. (Do not re-use the self-locking nut that is supplied with the alternator for testing. Constant use of the self-locking nut will contribute to damaged threads.)

The operating speed of the test stand drive motor is 3600RPM. If a 3" to 3 1/2" diameter pulley is used on the alternator the speed and HP of the stand is more than adequate to test all 8LHA, 8LHP LBA, LBP, BLD, BLP, 2500, 2600, 2800, 4000 series alternators. It is extremely important to reference the applicable load switch for the model of alternator being tested. Never select a load switch setting greater than 80% of the total rated output of alternator noted on the alternator label; contact a Leece Neville representative if you are unsure. Also one can reference the performance chart for the specific alternator model being tested at the Prestolite web site; www.prestolite.com. Once obtaining the performance curve for the alternator identify the alternators output capability when operating at 3000 RPM. Never exceed this number when selecting the load amperage on the test stand or your test will be inaccurate. Below is a sample performance curve of a 145 amp alternator.

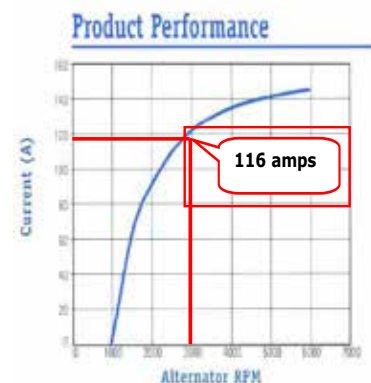
Step 1: Visual Inspection. See procedure 1.1. TSB-1021

Step 2: Install Leece Neville pulley. L/N part number 107-22 should be utilized.

Step 3: Mount alternator on test stand. Utilize the largest 4" v-groove pulley on the motor spindle of test stand. **If a Leece-Neville alternator is being tested on a Delco or a Leece Neville test stand, you must use the approved Leece-Neville pulley (#107-22) and the following instructions. The Delco-supplied pulley and Delco instructions will result in inaccurate testing of Leece-Neville alternators.** Ensure that adequate belt tension has been applied.

Step 4: Electrical connections. Locate the power switch of the test stand and select the on position. Connect the test stands electrical cables to the alternator. **Red battery clamp to (+) alternator terminal, Black battery clamp to (-) alternator terminal.**

Note: Most Leece Neville alternators have isolated ground rectification. Always connect to the negative output terminal.



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“WARNING: IF WHEN CONNECTING TEST LEADS THERE IS A BIG SPARK, ENSURE LEADS ARE BEING CONNECTED PROPERLY. IF SO ALTERNATOR IS SHORTED INTERNALLY DO NOT PROCEED WITH TEST. SUBMIT FOR WARRANTY.”

Before turning the tester drive motor on, confirm that the voltmeter of tester indicates battery voltage above 12.40 volts. (The battery connected to the tester must be in good condition with a minimum voltage of 12.40 volts or you will get false readings and the test will not be accurate. Charge or replace battery if necessary.) If alternator being tested is not ignition excite nor a DVAC Remote Sense alternator skip to Step 5.

Special Models

Ignition Excited: On models that require a 12 volt ignition source to turn on the alternator, connect the red jumper that is attached to the **Positive (red) cable** to the ignition terminal as shown in the adjacent picture. This terminal will be labeled (IGN). Proceed to step 5.

Ignition Terminal



DUVAC Models (Remote battery sense) Models 2824, 2826, 2827, 2829, 4824, 4826, 4829, 4884, 4874. “Mostly Motor Home or Custom Chassis.”

Ignition Terminal

Duvac “S” Terminal



This model incorporates both IGNITION EXCITE & REMOTE BATTERY SENSE which is external to the alternator. These terminals are labeled IGN & DUVAC / “S” respectively. Connect red lead from tester harness to the DUVAC / “S” terminal of the alternator. Connect the jumper from the positive battery clamp already connected to the alternators B+ stud to the IGN terminal. See adjacent picture. Proceed to step 5.

Step 5: Voltage Turn on test. Turn the test stand motor run switch to the FORWARD position. At this point if the alternator is operating correctly the voltmeter will show that the alternator has turned on and the voltage should increase to a range between 13.5 volts to 14.2 volts. With the tester running in forward position with no load applied “if” this voltage is out of range inspect to see if alternator has an adjustable regulator. If so “adjust voltage to a setting of 14.0 volts.” Once you verify that the alternator has turned on and the voltage is within range. Allow the alternator to recharge the battery of the test stand until the ammeter indicates 12 amps or less before continuing the test. **If the voltage cannot be adjusted into range or the alternator does not have adjustable regulator, replace alternator.**



Step 6: Performance Test. Using the chart below select the correct load control switch and hold the switch in the direction of the indicated load for 5 to 10 seconds. The voltage should not drop more than .50 volts if the alternator is in good working condition. If voltage drops more than .50 volts the alternator is considered to be defective.

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Delco Test Stand	
Use load of	Alt Rating
40 Amp	65-90
70 Amp	90-115
100 Amp	120-140
130 Amp	160-175
160 Amp	200-320

Leece Neville Test Stand	
Use load of	Alt Rating
40 Amp	65-90
80 Amp	100-140
120 Amp	160-175
160 Amp	200-320

Mounting instructions for PAD mount alternators

To test the 4-bolt pad mount alternator on a test stand it will be necessary to utilize adapter Leece Neville #ASG-100. It is also necessary to utilize a ½" v-belt that is 1" to 2" shorter than the belt that comes with the tester.

Mount the bracket to the alternator as shown, and then rotate the spindle on the tester so that the ½" spindle is nearest test stand. Slide alternator with bracket attached, onto the ½" spindle and tighten belt.



Remote Regulated Alternators

On certain model alternators (the model number usually ends in AA) the regulator is mounted remotely in the vehicle and does not normally get returned with the alternator to test.

The most efficient way to test these 12-volt models is to purchase remote regulator Leece Neville #8RD2041S and connect to the alternator for test purposes on the test stand.

Remote Connection Method:

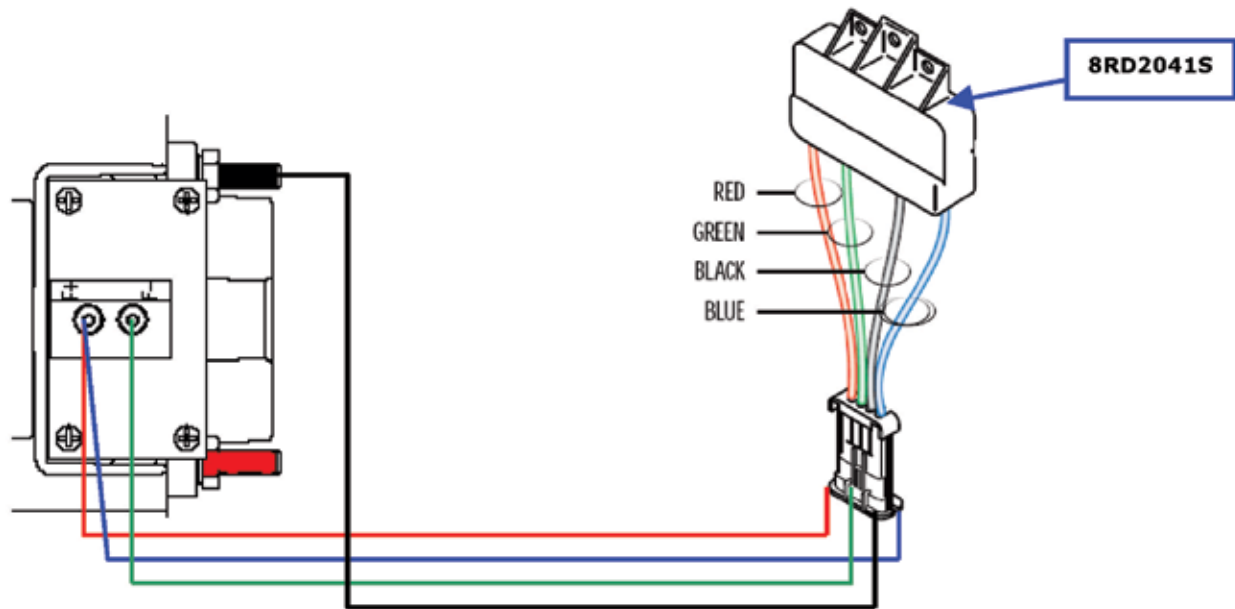
1. Connect the **positive (B+)** and negative (B-) cables to B+ and B- terminals of the alternator as in a normal test.
2. Connect the red jumper lead from **Positive (B+)** test stand clamp along with the red lead from the regulator harness and the blue wire the from regulator harness to the alternator (F+) terminal on the brush cover.
3. Connect the black wire from the regulator harness to Black (B-) output stud on the alternator.
4. Connect the green wire from the Leece Neville #8RD2041S regulator harness to (F-) on the brush cover



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The alternator is now ready to test following the above test procedures.



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