Prestolite Leece-Neville

Technical Service Bulletin

Source:	Leece-Neville Heavy Duty Systems Division - Arcade, NY USA
Date:	June 27, 2017
Bulletin No:	TSB-1017
Models:	4991PA, 4992PA
Subject:	Twin Power Troubleshooting Procedure

Ignition / Sync. Circuit Test

1) Connect voltmeter to alternator ignition (ign.) terminal. Turn vehicle start switch to run mode. **(Do not start engine.)** Verify voltage is present on ignition terminal. Move voltmeter to second alternator and verify voltage is present on ignition terminal. See Figure #1 for connection of voltmeter to alternator ignition terminals.

If voltage is not present, troubleshoot the ignition circuit. Do not continue until voltage is at the alternator ignition terminals.

2) Turn off vehicle start switch.

3) Check continuity of SYNC wire connecting Alternator #1 (Master) to Alternator #2 (Follower). See Figure #2 for connection of voltmeter.

4) If continuity is not present troubleshoot SYNC wire. Do not continue until continuity is present in the SYNC wire.

Fig. 1

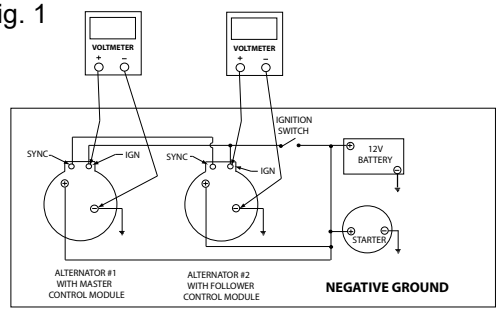
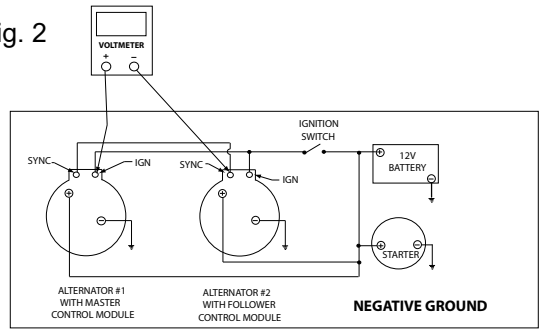


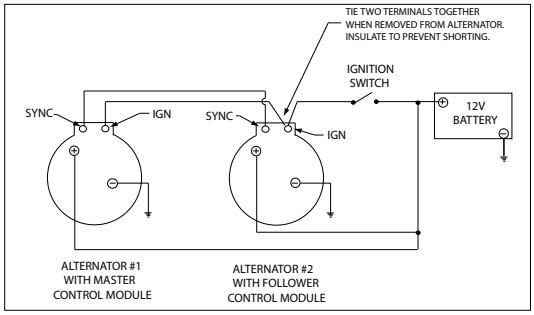
Fig. 2



General Diagram. See Figure #3

NOTE: On applications where the ignition wires are daisy chained together, make sure the terminals are tied together at the first junction point when removed from the alternator. Insulate this junction.

Fig. 3



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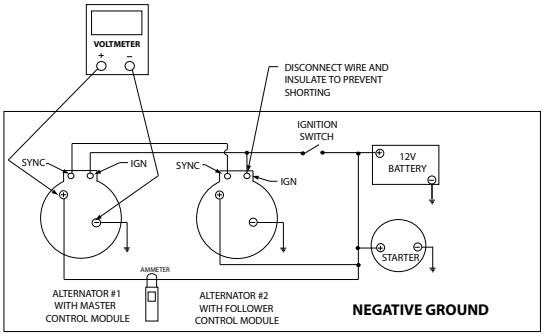
Alternator Performance Test (Master Alternator)

Connect voltmeter to Alternator #1 (Master) terminals and ammeter to alternator's positive output cable, disconnect ignition wire from Alternator #2 (Follower) and insulate per Figure #4. Make sure ammeter is at least 6 inches (15cm) away from alternator to eliminate the possibility of faulty reading. Make sure voltage is present at alternator's output terminals. Start engine and run it at 1500 RPM's (operating RPM). Check that all vehicle loads are turned off and reading on ammeter is less than 20 amps.

If ammeter readings are greater than 20 amps, double check that all vehicle loads are turned off and that batteries are fully charged. Record voltage on voltmeter. Reading should be between 13.8 and 14.4 volts.

Fig. 4



If voltage is not between these values then the alternator is defective and must be replaced.

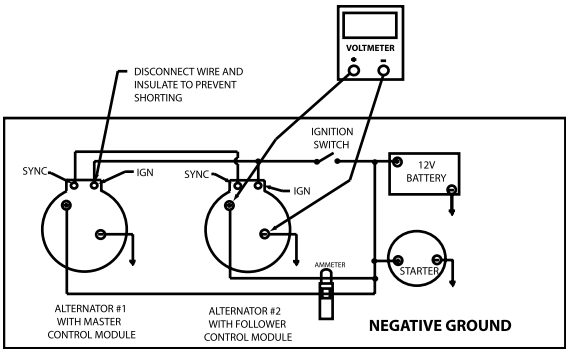
Alternator Performance Test Under Load (Master Alternator)

Keep engine running at 1500 RPM (operating RPM) and meters connected per Figure #4. Turn on vehicle loads until 75% of the alternator rated output is achieved on ammeter display. Record voltage on voltmeter. Compare reading to that taken during the Alternator Performance Test. If Alternator voltage drops more than .5 volts then alternator is defective.

Alternator Performance Test (Follower Alternator)

Connect voltmeter to Alternator #2 (Follower) terminals and ammeter to alternator's positive output cable, disconnect ignition wire from Alternator #1 (Master) and insulate per Figure #5. Make sure ammeter is at least 6 inches (15cm) away from alternator to eliminate the possibility of faulty reading. Make sure voltage is present at alternator's output terminals. Start engine and run it at 1500 RPM's (operating RPM). Check that all vehicle loads are turned off and reading on ammeter is less than 20 amps.

Fig. 5



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If ammeter reading is greater than 20 amps, double check that all vehicle loads are turned off and that batteries are fully charged. Record voltage on voltmeter. Reading should be between 13.8 and 14.4 volts. If voltage is not between these values then shut off engine and reconnect ignition wire to Alternator #1 (Master) and proceed to SYNC Circuit Test. If alternator passes SYNC Circuit Test then Alternator #2 (Follower) is defective.

Alternator Performance Test Under Load (Follower Alternator)

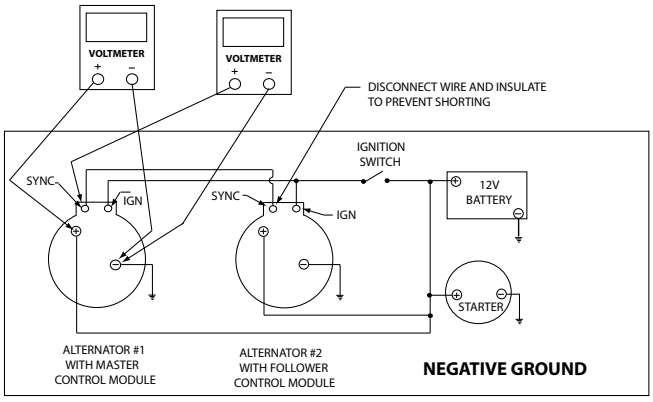
Keep engine running at 1500 RPM's (operating RPM) and meters connected per Figure #5. Turn on vehicle loads until 75% of the alternator rated output is achieved on ammeter display. Record voltage on voltmeter. Compare reading to that taken during the Alternator Performance Test. If alternator voltage drops more than .5 volts then alternator is defective.

SYNC Circuit Test

1) Disconnect SYNC wire from Alternator #2 (Follower) and insulate.
2) Connect meters per Figure #6.
3) Start engine and let idle.
4) Turn on vehicle loads until alternator voltage reaches 13.5 volts.
5) Record voltage at Alternator #1 (Master) SYNC terminal.

If voltage is between 14.2 and 6 volts then SYNC terminal is operating properly. If not, then Alternator #1 (Master) needs to be replaced.

Fig. 6



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