

Source: Leece-Neville Heavy Duty Systems Division – Arcade, NY USA

Date: June 24, 2020

Bulletin No: TSB-1155

Starter Models: HM95, M105, M110, M128

Subject: Starter Diagnostic Procedure

Tools needed:

Digital Volt / Ohm Meter



Amp Clamp Meter



Carbon Pile



Socket Wrench Set



End Wrench Set



Important: The information contained in this bulletin is intended for use by trained professional technicians who have the proper tools, equipment, and training to perform the required maintenance described above. This information is not intended for do-it-yourselfers, and you should not assume that this information applies to your equipment. If you have any questions regarding this information please visit our website at www.prestolite.com, or contact our technical service department at: Leece Neville Heavy Duty Systems, Phone: (844) 492-4062



Technical Service Bulletin

Source: Leece-Neville Heavy Duty Systems Division – Arcade, NY USA
Date: June 24, 2020
Bulletin No: TSB-1155
Starter Models: HM95, M105, M110, M128
Subject: Starter Diagnostic Procedure

Warning:

The relay (IMS) is part of the starter soft start feature. Neither the IMS nor the wiring from IMS to solenoid should be removed or modified. Malfunction or serious damage can result from wrong connection, and may void the warranty.

Please consult the Prestolite help-desk if you are in any doubt about starter connections.

Note:

To insure reliable long term operation when replacing the starter, it is critical that the vehicle ring gear be inspected for excessively worn or frayed edges of the ring gear teeth that may prevent engagement of the starter pinion. Replace or repair ring gear if necessary.

Safety:

Before starting procedure be sure all electrical loads are off, transmission is in neutral or park and the parking brake is set. Always wear face and eye protection. Know where the nearest eye wash station is located.

Step 1 - Battery Test

Test battery(s) using suitable battery tester and follow manufacturer's recommendations. **Each battery Must be at least 75% charged.**

12 Volt systems **Must** have a voltage reading of 12.4V or greater on each battery before proceeding.

24 Volt systems **Must** have a voltage reading of 24.8 volts or greater before proceeding.

Replace battery(s) if defective. **Continue to step 2 only if batteries test good.**

Important: The information contained in this bulletin is intended for use by trained professional technicians who have the proper tools, equipment, and training to perform the required maintenance described above. This information is not intended for do-it-yourselfers, and you should not assume that this information applies to your equipment. If you have any questions regarding this information please visit our website at www.prestolite.com, or contact our technical service department at: Leece Neville Heavy Duty Systems, Phone: (844) 492-4062

Source: Leece-Neville Heavy Duty Systems Division – Arcade, NY USA
Date: June 24, 2020
Bulletin No: TSB-1155
Starter Models: HM95, M105, M110, M128
Subject: Starter Diagnostic Procedure

Step 2 - Positive/Negative Cable Test

Connect the carbon pile tester and voltmeter per **Figure 2A**.

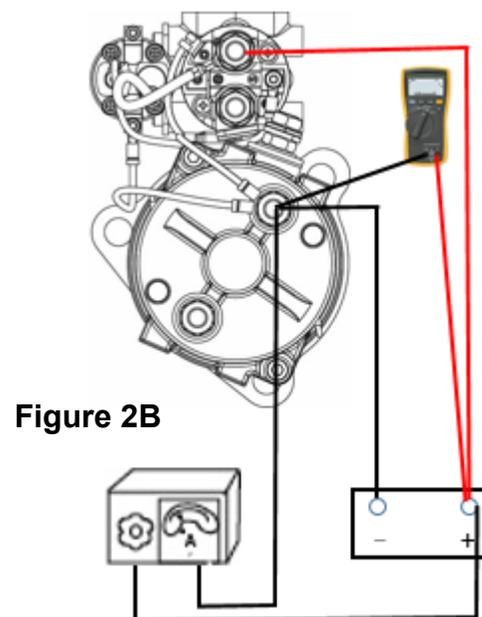
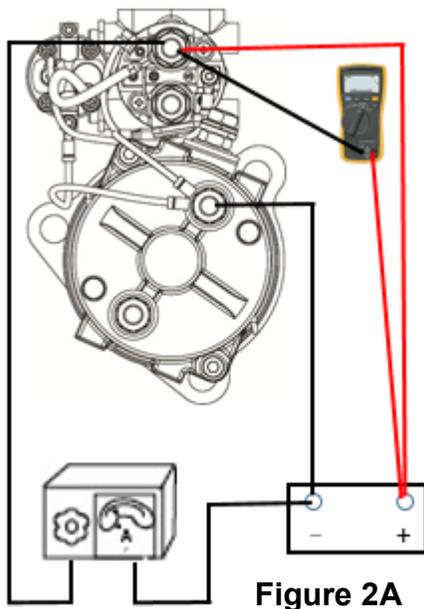
Adjust the carbon pile until it reads 500 amps. **NOTE: Heat will be generated while using the carbon pile.**

Record the voltage on the voltmeter. Turn off the carbon pile tester. Repeat this step connecting per **Figure 2B**.

On 12V systems the voltage on either side should not exceed .25V.

On 24V systems voltage should not exceed .5V.

If the voltage reading exceeds the above values then the cables need to be inspected and the problem corrected. Positive and Negative cables need to be tested separately in order to determine if either is out of spec.



One final note: There are many variations of grounding the starter circuit. When doing a voltage drop test, you must check the entire length of the circuit.

Important: The information contained in this bulletin is intended for use by trained professional technicians who have the proper tools, equipment, and training to perform the required maintenance described above. This information is not intended for do-it-yourselfers, and you should not assume that this information applies to your equipment. If you have any questions regarding this information please visit our website at www.prestolite.com, or contact our technical service department at: Leece Neville Heavy Duty Systems, Phone: (844) 492-4062

Source: Leece-Neville Heavy Duty Systems Division – Arcade, NY USA
Date: June 24, 2020
Bulletin No: TSB-1155
Starter Models: HM95, M105, M110, M128
Subject: Starter Diagnostic Procedure

Step 3 - Ignition Test

Connect voltmeter per **Figure 3**.

Ensure parking break is set and vehicle is in neutral or out of gear.
Turn the key switch to start position or press start button and record the voltage.

Starter IMS (Integral Mag Switch) minimum voltage requirements:

- 7 Volts (12V systems)
- 16 Volts (24V systems)

If no voltage is present or the voltage reading is less than 7 or 16 volts, the ignition circuit needs to be inspected and the problem corrected.

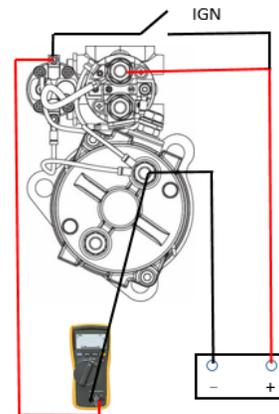


Figure 3

If voltage is present at the IMS terminal as referenced above and you're experiencing slow or no cranking, your next step is to replace the starter.

Important: The information contained in this bulletin is intended for use by trained professional technicians who have the proper tools, equipment, and training to perform the required maintenance described above. This information is not intended for do-it-yourselfers, and you should not assume that this information applies to your equipment. If you have any questions regarding this information please visit our website at www.prestolite.com, or contact our technical service department at: Leece Neville Heavy Duty Systems, Phone: (844) 492-4062