

Bulletin No: TSB-1155
Models: Starter Motors
Subject: Starter Diagnostic Procedure

Warning:

Relay is part of the starter soft start feature. Neither the relay nor the wiring from relay to solenoid should be removed or modified. Malfunction or serious damage can result from wrong connection. Please consult Prestolite help-desk if you are in any doubt about starter connections.

Note:

To insure reliable long term operation 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 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.

Step 1 - Battery Test

Follow battery manufacture's recommendation for testing. Each battery must be at least 75% charged and have a voltage reading of 12.4V or greater on each battery before proceeding. See figure 1.

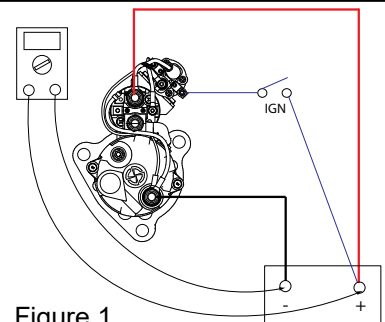


Figure 1

Step 2 - Positive/Negative Cable Test

Positive and negative cables need to be tested separately in order to determine which cable is defective.

2A - Positive Cable Test:

Connect carbon pile tester, voltmeter and ammeter per figure 2A. Adjust carbon pile until 500 amps reads on the ammeter. Record voltage on voltmeter. Turn off carbon pile tester. On 12V systems voltage should not exceed .4V. If voltage reading exceeds the above values then the cable needs to be inspected and the problem corrected.

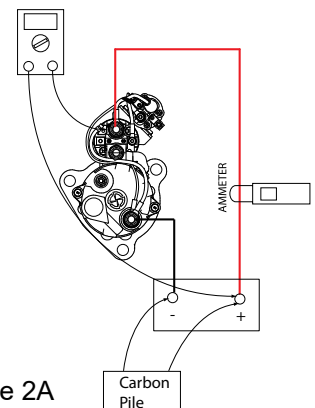


Figure 2A

NOTE: For starter motor safety precautions please reference TSB-1166.

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:

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Step 2 - Positive/Negative Cable Test (continued)

2B - Negative Cable Test:

Connect carbon pile tester, voltmeter and ammeter per figure 2B.
Adjust carbon pile until 500 amps reads on the ammeter.
Record voltage on voltmeter.
Turn off carbon pile tester.
On 12V systems voltage should not exceed .4V
If voltage reading exceeds the above values then the cable needs to be inspected and the problem corrected.

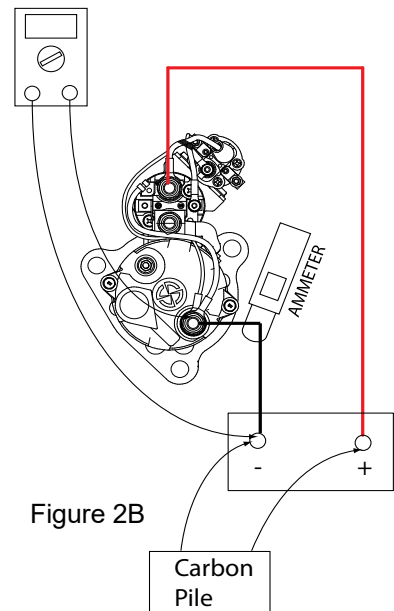


Figure 2B

Step 3 - Ignition Test

Connect voltmeter per figure 3.
Ensure parking break is set and vehicle is in neutral or out of gear.
Turn key switch to start position or press start button and record voltage.
Starter IMS (Integral Mag Switch) has a minimum voltage requirement of 7 volts (12V systems) for it to operate properly. If no voltage is present or the voltage reading is less than 7 volts the ignition circuit need to be inspected and the problem corrected.

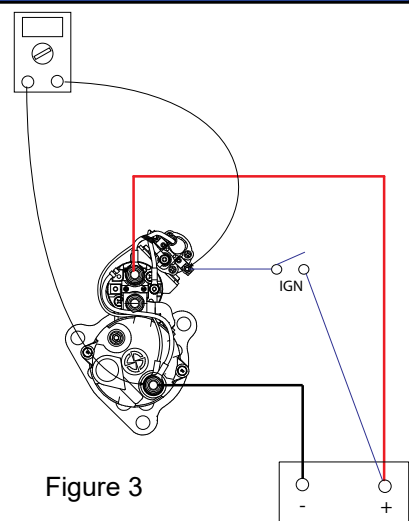


Figure 3

NOTE: For starter motor safety precautions please reference TSB-1166.

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