

Packard **SERVICE TECHNICAL** **Bulletin**

54T-18
November 26, 1954

To: ZONES

Subject: STARTING MOTOR CRANKING TORQUE - 359 CU. IN. ENGINE .
54TH SERIES

Slow cranking of the engine by the starting motor may be encountered occasionally on the 54th Series, 359 cu. in. engines. (Delco-Remy Starters)

The starting motor will crank the engine properly when cold but after the engine is extremely hot, it then cranks very slow and, in some cases, it may even fail to crank.

In the event of starting motor failure as described above, the following items should be checked.

1. Test the battery for being fully charged.
2. Inspect all electrical connections from the battery to the starting motor for being clean and tight.
3. Remove the starting motor cover band and inspect the condition of the commutator and brushes.

If the above items check out satisfactorily and the starting motor still fails to crank the engine properly, install the following new parts:

- a. Starting Motor Relay and Cable Kit which will bypass or eliminate the resistance and voltage drop in the solenoid circuit.
- b. Starting Motor Field Coils with larger windings to provide extra cranking torque.

These new parts can be installed by following the procedure outlined:

1. Disconnect the Starting Motor Cable from the battery.
Remove the Starting Motor Assembly and install the new field coils.
Reinstall the Starting Motor Assembly.
2. Attach the new Relay Feed Cable, Part Number 458684, (small terminal end) to the #1 terminal on the relay. NOTE: The large terminal on this cable attaches to the battery cable post on the solenoid.
3. Attach the new relay to Solenoid Cable, Part Number 458685, to the #2 terminal on the relay. Attach the Relay Ground Cable, Part Number 458686, (small short cable) to the #4 terminal on the relay.

4. Hold the relay and cables next to the curved section of the fire wall, thread the wires in back of the accelerator rod and connect the wires to the solenoid - wire from #1 post on the relay, connect to the battery connection on the solenoid. Wire from #2 post on the relay, connect to the small connection on the solenoid.

5. Attach the relay in the corner of the curved section of the fire wall with sheet metal screws. Be sure to leave enough slack in the two cables so that they will not touch the accelerator rod when it is operated.

Attach the ground wire from #4 terminal under the top sheet metal screw used to mount the relay.

6. Attach the switch wire (brown wire that was attached to the small terminal on the solenoid) to the #3 terminal on the relay.

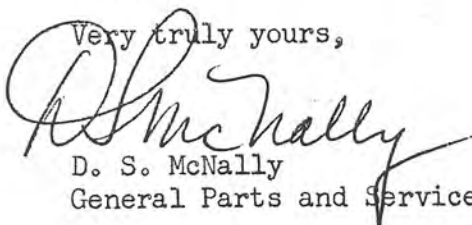
Make sure that all wires are properly located and no interference can take place.

The material is available at the Central Parts Warehouse and may be ordered as follows:

	<u>Number Required Per Car</u>
Part Number 458649 Field Coil Assembly (left)	1
Part Number 458650 Field Coil Assembly (right)	1
Part Number 458652 Starting Motor Relay Kit	1

The installation of the new field coils will be handled on an RFA in the usual manner with a labor allowance of 2.1 hours (Operation Numbers 4-87, 4-89). The removed field coils must be returned with the RFA. 0.5 hours labor will be allowed to install the Relay Kit.

Very truly yours,



D. S. McNally
General Parts and Service Manager

HGL:tf