

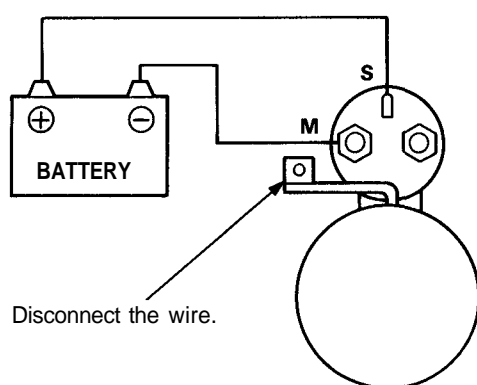


## Performance Test

NOTE: Before starting the following checks, disconnect the wire from terminal **M**, and make a connection as described below using as heavy a wire as possible (preferably equivalent to the wire used for the car).

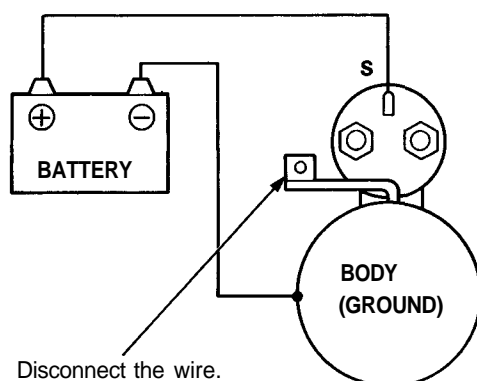
### Pull-in Coil Test:

Connect the battery between the terminals **S** and **M** on the solenoid. If the pinion protrudes, it is working properly. Do not leave the battery connected for more than 10 seconds.



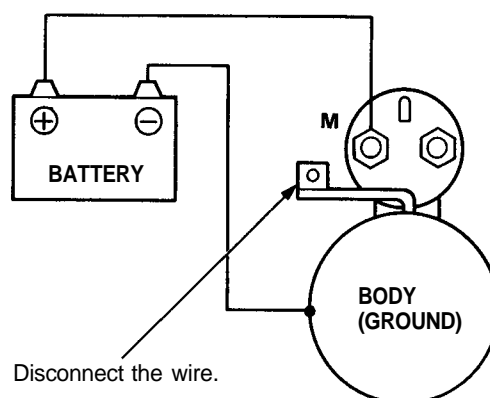
### Hold-in Coil Test:

Connect the battery between terminal **S** on the solenoid and the body. Manually pull out the pinion until it reaches the pinion stop. If the pinion does not retract when it is released, the hold-in coil is working properly. Do not leave the battery connected for more than 10 seconds.



### Retracting Test:

Connect the battery between terminal **M** on the solenoid and the body. Manually pull out the pinion until it reaches the pinion stop. If the pinion retracts immediately when it is released, it is working properly. Do not leave the battery connected for more than 10 seconds.



(cont'd)

# Starting System

## Performance Test (cont'd)

### Pinion Gap Check:

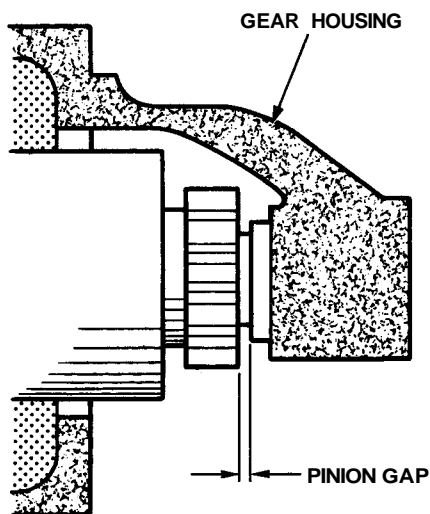
1. Disconnect the wire from terminal **M**.
2. When the battery is connected between terminals **S** and **M**, the pinion protrudes and stops. Keep the pinion in this position and measure the gap between the pinion and the pinion stop.

NOTE: Do not leave the battery connected for more than 10 seconds.

### Specification:

**Pinion Gap: 0.5-2 mm (0.02 — 0.08 in)**

3. If the pinion gap is out of the specified range, adjust the gap by increasing or decreasing the number of washers between the solenoid and the gear housing. When the number of washers is increased, the gap becomes smaller.



### Starter No-load Test:

1. Clamp the starter firmly in a vise.
2. Connect the starter to the battery as shown in the diagram below and confirm that the motor starts and keeps rotating.
3. If the electric current and motor speed meet the specifications when the battery voltage is at 11 V, the starter is working properly.

**Specifications: 140 A or less (Electric current)  
3,800 rpm or more (Motor speed)**

