

# STARTER

1990 Nissan 240SX

1990-92 ELECTRICAL  
Nissan Starters - Hitachi & Mitsubishi  
240SX

## DESCRIPTION

Starter is a conventional 12-volt, 4-pole brush-type motor, with direct or reduction gear drive. The starter-mounted solenoid shifts overrunning clutch and pinion into flywheel when starter is energized.

## ON-VEHICLE TESTING

### NO LOAD TESTS

Connect starter in series with a 12-volt battery, a voltmeter and a 1000-amp ammeter. Compare readings with STARTER NO LOAD SPECIFICATIONS table.

#### STARTER NO LOAD SPECIFICATIONS

Application	Max. Amps	Min. RPM
Hitachi (1990) S114-519A .....	85 .....	2750
Mitsubishi M1T72781 .....	75 .....	4000

## BENCH TESTING

### BRUSHES & SPRINGS

Check brush spring tension, contact surface condition and brush length. Check lead clip and wire connections. Check condition of brush holders. See BRUSH SPRING TENSION or MINIMUM BRUSH LENGTH table.

#### BRUSH SPRING TENSION

Application	Spring Tension Lbs. (kg)
Hitachi (1990) S114-519A .....	4.0-4.9 (1.8-2.2)
Mitsubishi M1T72781 .....	3.1-5.7 (1.4-2.6)

#### MINIMUM BRUSH LENGTH

Application	Minimum Brush Length Inch (mm)
Hitachi (1990) S114-519A .....	.43 (10.9)
Mitsubishi M1T72781 .....	.47 (11.9)

## COMUTATOR

Inspect commutator for roughness, grooves, burns or pitting. If necessary, sand lightly with 500-600 grit sandpaper. Check commutator for out-of-round. Check mica insulators undercut. Ensure

depth of undercut is .020-.031" (.50-.80 mm). Commutator may be turned a maximum of .04" (1.0 mm) from original size and mica undercut. Replace if excessively worn.

COMMUTATOR MINIMUM DIAMETER

Application	Inch (mm)
M1T72781 .....	1.134 (28.8)

**REMOVAL & INSTALLATION**

**STARTER MOTOR**

Removal & Installation

Remove negative battery cable. If necessary, raise vehicle on hoist. Disconnect starter wiring. Remove starter mounting bolts. Remove starter from vehicle. To install, reverse removal procedure.

**OVERHAUL**

To adjust end play, some starters are equipped with adjusting plates (shims) or washers. See Figs. 1 & 2. Adjusting washers and plates are available in various thicknesses. Correct end play is .004-.020" (.1-.5 mm).

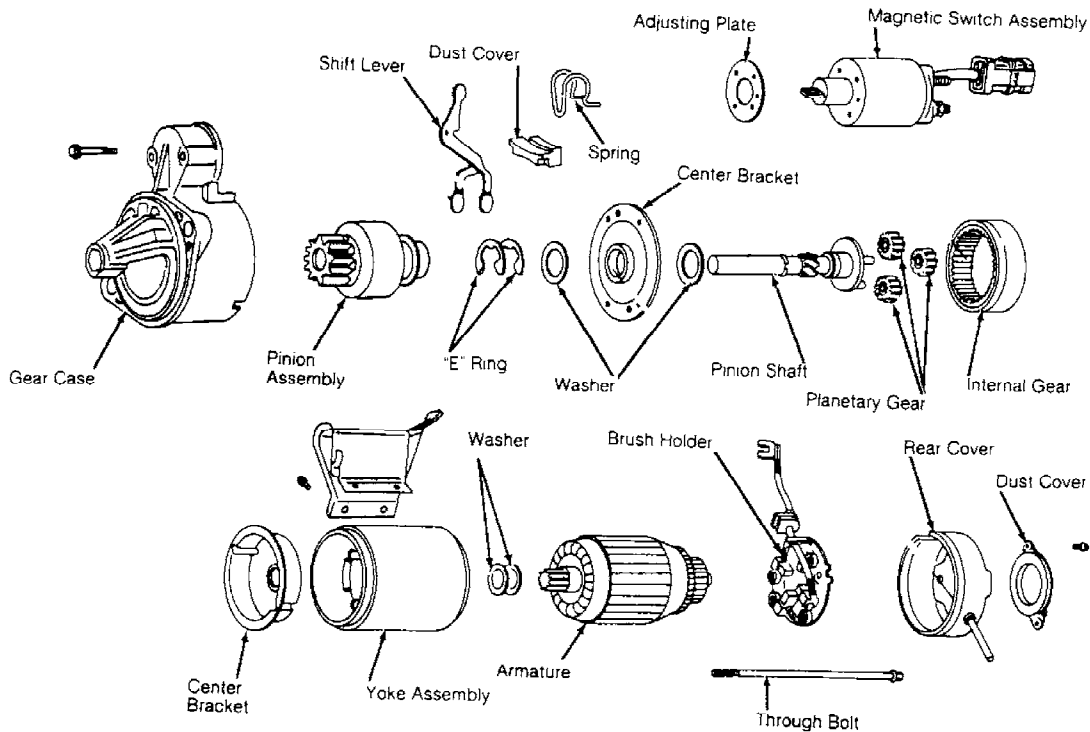
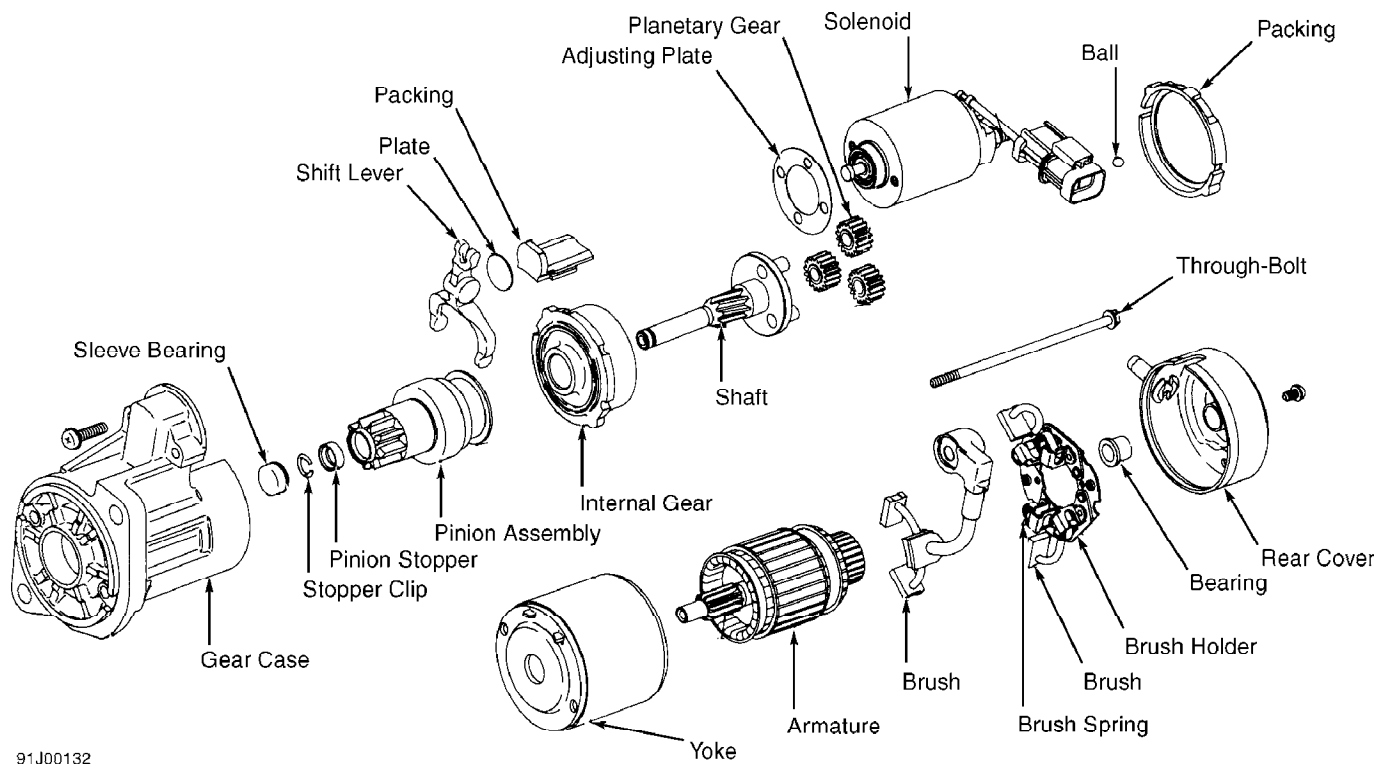


Fig. 1: Exploded View of Starter S114-519A  
 Courtesy of Nissan Motor Co., U.S.A.



91J00132  
 Fig. 2: Exploded View of Starter M1T60281 (M1T72781 for 240SX is Similar)  
 Courtesy of Nissan Motor Co., U.S.A.