

STEERING

06
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PRECAUTION (STEERING)

A3U061001034W01

Wheels and Tires Removal/Installation

1. The removal and installation procedures for the wheels and tires are not mentioned in this section. When a wheel is removed, retighten it to **89—117 N·m {9.0—12.0 kgf·m, 65.1—86.7 ft·lbf}**.

Power Steering Components Removal/Installation

1. If any power steering fluid line has been disconnected anytime during the procedure, add ATF M-III or equivalent (e.g. Dexron[®] III), bleed the fluid lines, and inspect for leakage after the procedure has been completed.

Connectors Disconnection/Connection

1. Disconnect the negative battery cable before doing any work that requires handling of connectors. Reconnect the negative battery cable only after the work is completed.

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ENGINE SPEED SENSING POWER

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POWER STEERING OIL PUMP (FS)

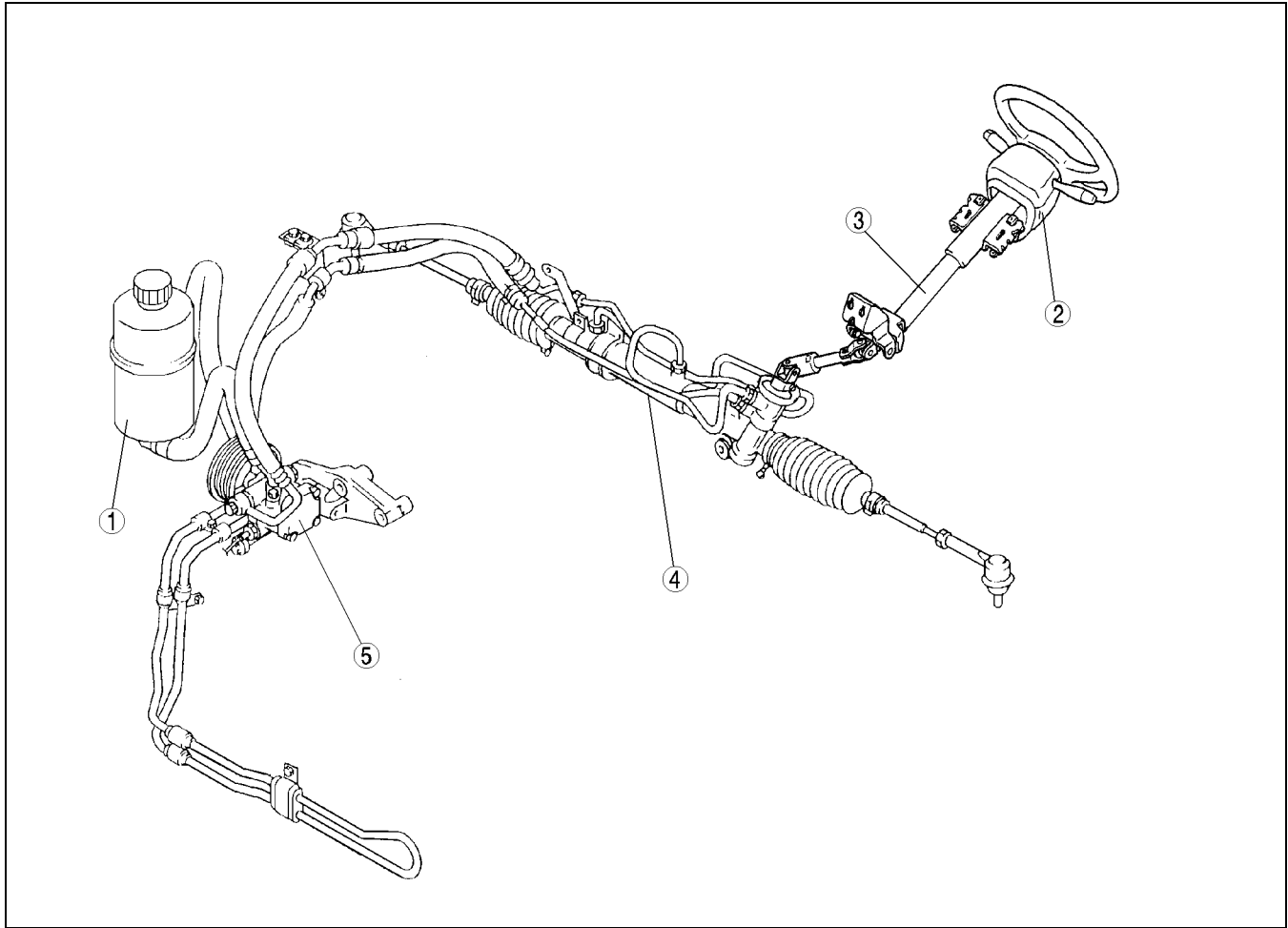
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ENGINE SPEED SENSING POWER STEERING

ENGINE SPEED SENSING POWER STEERING LOCATION INDEX

A3U061201036W01



Z3U0612W011

1	Power steering fluid (See 06-12-3 POWER STEERING FLUID INSPECTION)
2	Steering wheel and column (See 06-12-5 STEERING WHEEL AND COLUMN INSPECTION) (See 06-12-6 STEERING WHEEL AND COLUMN REMOVAL/INSTALLATION)
3	Steering shaft (See 06-12-8 STEERING SHAFT INSPECTION)

4	Steering gear and linkage (See 06-12-9 STEERING GEAR AND LINKAGE REMOVAL/INSTALLATION) (See 06-12-11 STEERING GEAR AND LINKAGE DISASSEMBLY) (See 06-12-15 STEERING GEAR AND LINKAGE INSPECTION) (See 06-12-17 STEERING GEAR AND LINKAGE ASSEMBLY)
5	Power steering oil pump (See 06-12-23 POWER STEERING OIL PUMP REMOVAL/INSTALLATION) (See 06-12-25 POWER STEERING OIL PUMP (ZM) DISASSEMBLY/ASSEMBLY) (See 06-12-27 POWER STEERING OIL PUMP (FS) DISASSEMBLY/ASSEMBLY)

ENGINE SPEED SENSING POWER STEERING

AIR BLEEDING

A3U061201036W02

1. Inspect the fluid level. (See 06–12–3 Fluid Level Inspection.)
2. Jack up the front of the vehicle and support it on safety stands.
3. Turn the steering wheel fully to the left and right several times with the engine not running.
4. Reinspect the fluid level.
 - If it has dropped, add fluid.
5. Repeat Steps 3 and 4 until the fluid level stabilizes.
6. Lower the vehicle.
7. Start the engine and let it idle.
8. Turn the steering wheel fully to the left and right several times.
9. Verify that the fluid is not foamy and that the fluid level has not dropped.
 - Add fluid as necessary and repeat Steps 8 and 9.

POWER STEERING FLUID INSPECTION

A3U061232040W01

Fluid Level Inspection

1. Inspect the power steering fluid level.
 - Add fluid to the specified level as necessary.

Fluid specification

ATF M-III or equivalent (e.g. Dexron® III)

Fluid Leakage Inspection

Caution

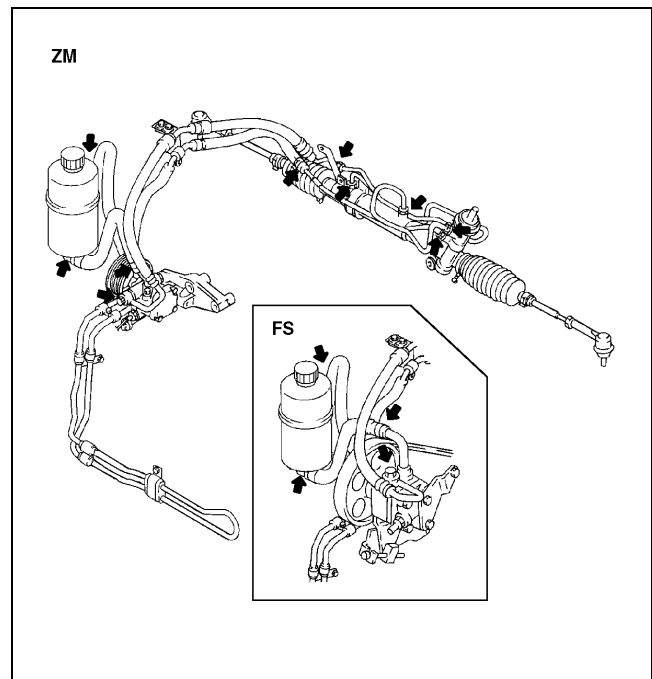
- If the steering wheel is kept in the fully turned position for more than 5 seconds, the fluid temperature will rise excessively and adversely affect the oil pump.

1. Start the engine and let it idle. Turn the steering wheel fully to the left and right to apply fluid pressure.

Note

- The points where fluid leakage may occur are indicated in the figure.

2. Inspect for fluid leakage.
 - If fluid leakage is found, replace related pipe or hose.



X3U612WBR

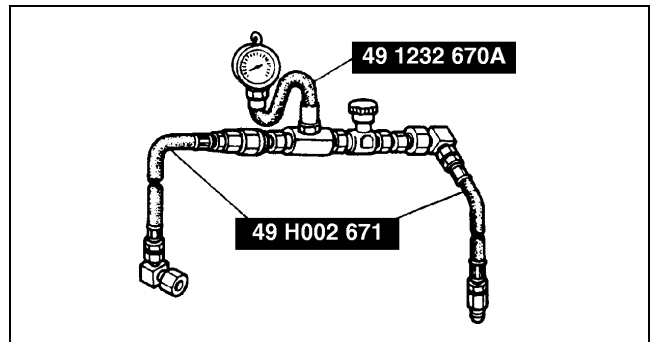
ENGINE SPEED SENSING POWER STEERING

Fluid Pressure Inspection

1. Assemble the **SSTs** as shown in the figure.
2. Disconnect the pressure pipe from the oil pump, and connect the **SSTs**.

Tightening torque

30—44 N·m {3.0—4.5 kgf·m, 22—32 ft·lbf}



X3U612WA0

3. Bleed the air from the system.
4. Open the gauge valve fully. Start the engine and turn the steering wheel fully left and right to raise the fluid temperature to 50—60 °C {123—140 °F}.

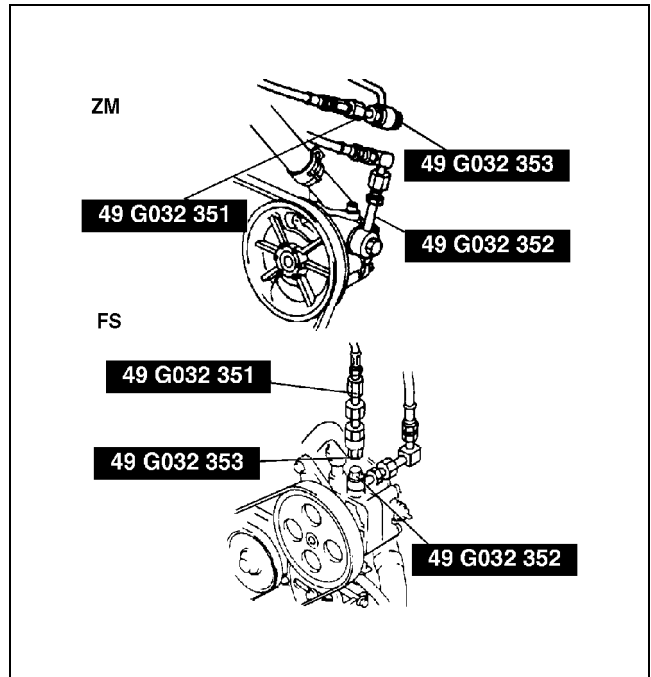
Caution

- If the valve is left closed for more than 5 seconds, the fluid temperature will rise excessively and adversely affect the oil pump.

5. Close the gauge valve completely. Increase the engine speed to 1,000—1,500 rpm and measure the fluid pressure generated by the oil pump.
 - If the pressure is not within the specification, repair or replace the oil pump component.

Oil pump fluid pressure

8.34—8.82 MPa {85.0—90.0 kgf/cm², 1,209—1,279 psi}



Z3U0612W002

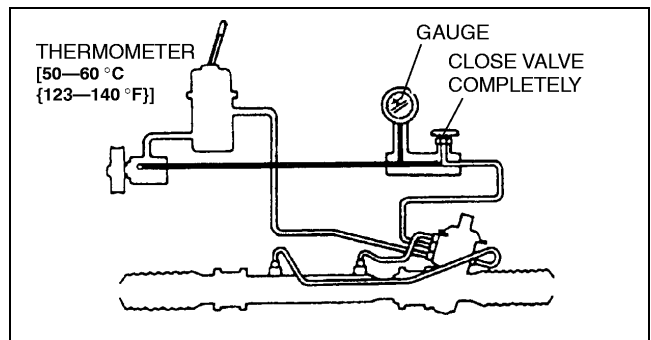
Caution

- If the steering wheel is kept in the fully turned position for more than 5 seconds, the fluid temperature will rise excessively and adversely affect the oil pump.

6. Open the gauge valve fully and increase the engine speed to 1,000—1,500 rpm.
7. Turn the steering wheel fully to the left and right, then measure the fluid pressure generated at the gear housing.
 - If the pressure is not within the specification, repair or replace the steering gear component.

Gear housing fluid pressure

8.34—8.82 MPa {85.0—90.0 kgf/cm², 1,209—1,279 psi}



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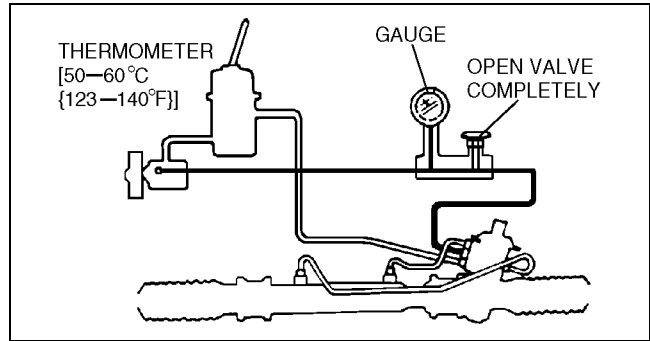
ENGINE SPEED SENSING POWER STEERING

- Remove the **SSTs**. Install and tighten the pressure pipe to the specified torque.

Tightening torque

30—44 N·m {3.0—4.5 kgf·m, 22—32 ft·lbf}

- Bleed the air from the system.



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STEERING WHEEL AND COLUMN INSPECTION

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Steering Wheel Play Inspection

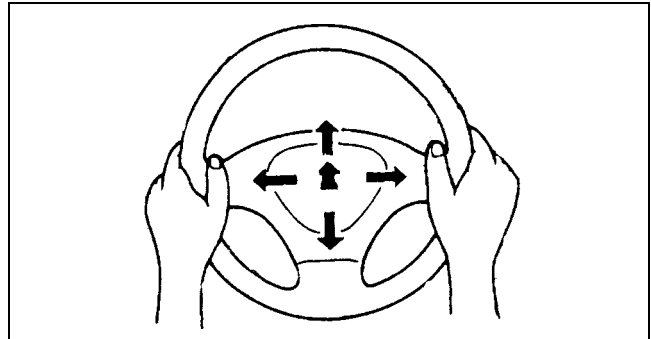
- With the wheels in the straight-ahead position, gently turn the steering wheel to the left and right and verify that the play is within the specification.
 - If the play exceeds the specification, either the steering joints are worn or the backlash of the steering gear is excessive. Correct as necessary.

Play

0—30 mm {0—1.18 in}

Steering Wheel Looseness Inspection

- Move the steering wheel as shown in the figure to inspect for column bearing wear, steering shaft joint play, steering wheel looseness, and column looseness.
 - Repair or replace as necessary.



A3U0612W017

Steering Wheel Effort Inspection

- Inspect the following points:
 - Tire size and tire pressure
 - Fluid level
 - Drive belt deflection
- With the vehicle on a hard, level surface, put the wheels in the straight-ahead position.

Warning

- See **08-10 DRIVER-SIDE AIR BAG MODULE REMOVAL/INSTALLATION** for removal/installation of the air bag module after inspection.

- Remove the air bag module.
- Start the engine and warm the power steering fluid to **50—60 °C {123—140 °F}**.
- Measure the steering wheel effort using a torque wrench.

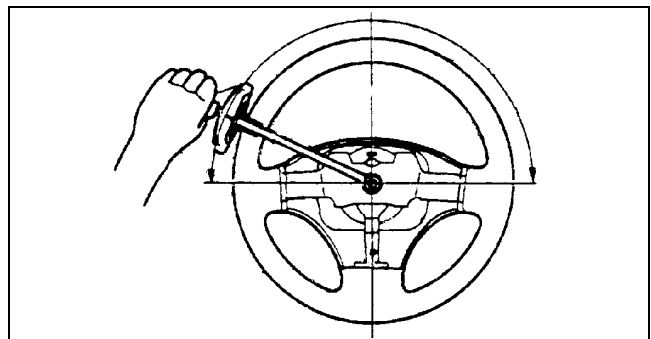
- If not within the specification, note the following:
 - Air in system
 - Fluid leakage at hose or connectors
 - Function of oil pump and steering gear

Steering wheel effort

7.8 N·m {80 kgf·cm, 69 in·lbf} max.

Note

- To determine whether the steering effort is satisfactory or not, perform the inspection on another vehicle of the same model and under the same conditions, and compare the results.



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ENGINE SPEED SENSING POWER STEERING

Steering Wheel Removal Note

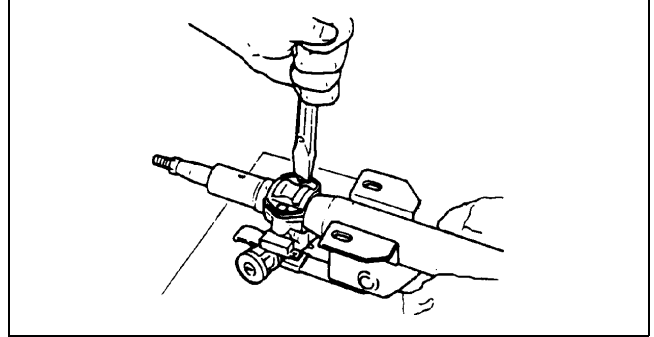
1. Set the vehicle in the straight-ahead position.
2. Remove the steering wheel using a suitable puller.

Caution

- Do not try to remove the steering wheel by hitting the shaft with a hammer. The column will collapse.

Steering Lock Mounting Bolts and Bracket Removal Note

1. Make a groove in the heads of the steering lock mounting bolts using a chisel and a hammer.
2. Remove the bolts using a screwdriver.
3. Disassemble the steering lock component.



X3U612WA7

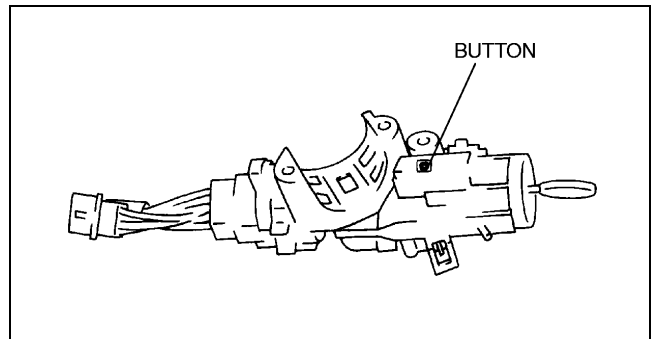
06-12

Cylinder Outer Component Removal Note

Caution

- When replacing the cylinder outer component, the coil also must be replaced.

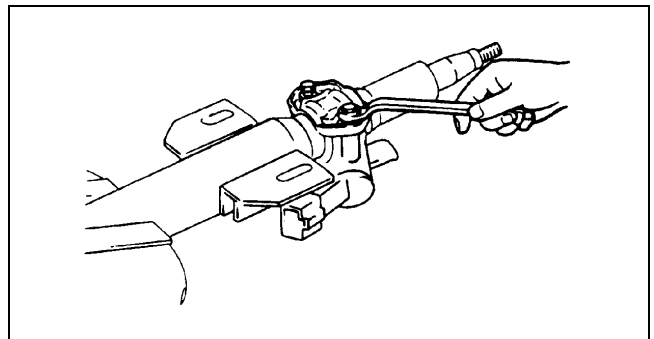
1. Set the key in the ACC position.
2. Keep pushing the button and remove the cylinder outer component.



X3U612WA8

Steering Lock Mounting Bolts and Bracket Installation Note

1. Assemble the steering lock component to the steering shaft.
2. Verify that the lock operates correctly.
3. Install new steering lock mounting bolts.
4. Tighten the bolts until the heads break off.



X3U612WA9

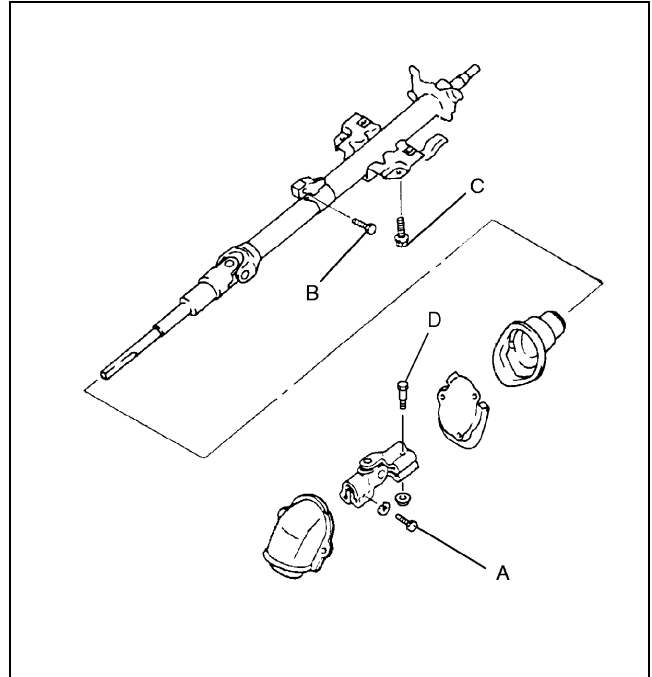
ENGINE SPEED SENSING POWER STEERING

Steering Shaft Installation Note

Caution

- Do not apply a shock in the axial direction of the shaft.

1. Tighten bolt A.
2. Tighten bolt C.
3. Tighten bolt B.
4. Release the adjusting lever, and lower the steering shaft to the lowest position.
5. Tighten bolt D.



Y3U612WA3

Steering Wheel Installation Note

1. Set the wheels in the straight-ahead position, and install the steering wheel.

STEERING SHAFT INSPECTION

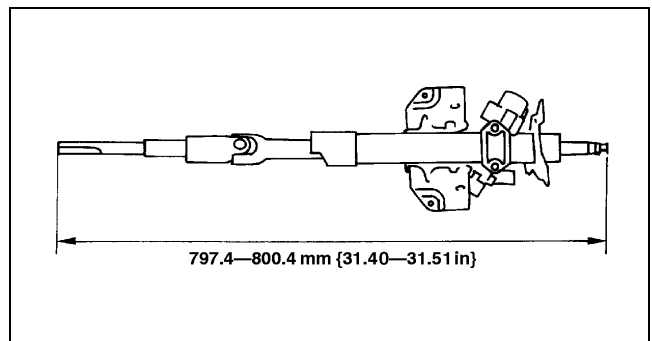
A3U061232100W01

1. Inspect the following.
 - (1) Column bearing for damage
 - (2) Steering shaft length
 - Replace the steering shaft component as necessary.

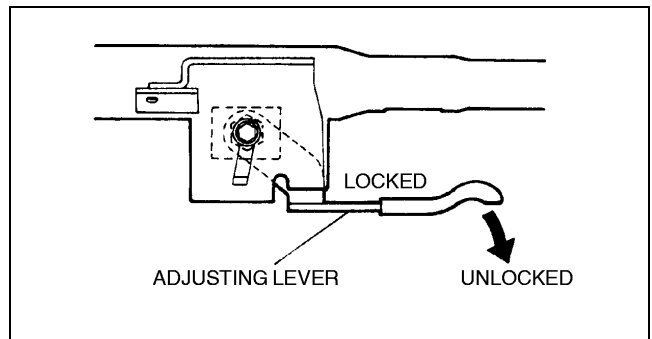
Length

797.4—800.4 mm {31.40—31.51 in}

2. Tilt operation
 - (1) Verify that the adjusting lever moves smoothly from unlock position to lock position.
 - (2) Verify that the steering shaft is fixed firmly when the adjusting lever is locked.
 - Replace the steering shaft component as necessary.



Y3U612WA4



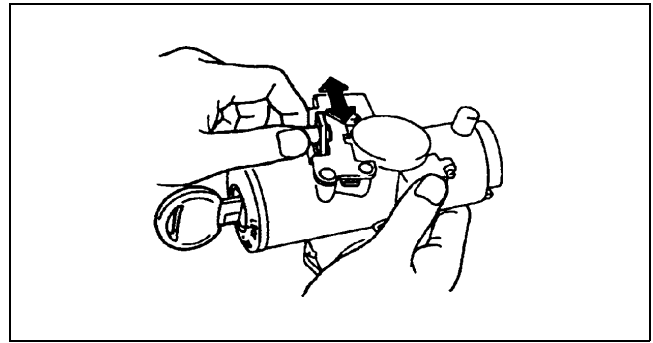
X3U612WAC

ENGINE SPEED SENSING POWER STEERING

STEERING LOCK (ATX MODEL) INSPECTION

A3U061275990W01

1. Verify that the cable connector does not move when the key is in the LOCK position and that it moves freely with the key in other positions.
 - Replace the steering lock component as necessary.



X3U612WAD

STEERING GEAR AND LINKAGE REMOVAL/INSTALLATION

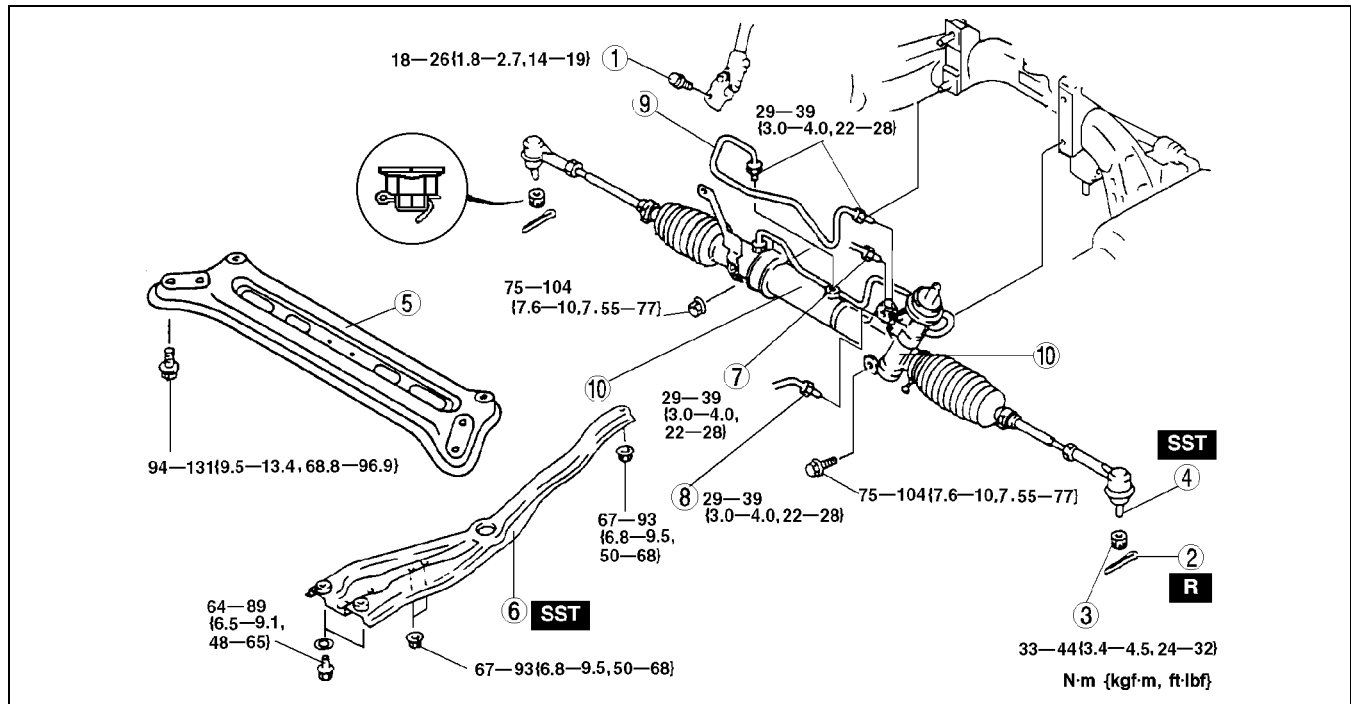
A3U061232960W01

Caution

- Performing the following procedures without first removing the ABS wheel-speed sensor may possibly cause an open circuit in the harness if it is pulled by mistake. Before performing the following procedures, remove the ABS wheel-speed sensor (axle side) and fix it to an appropriate place where the sensor will not be pulled by mistake while servicing the vehicle.

06-12

1. Remove in the order indicated in the table.
2. Install in the reverse order of removal.
3. After installation, inspect the toe-in. (See 02-11-1 FRONT WHEEL ALIGNMENT.)



A3U0612W012

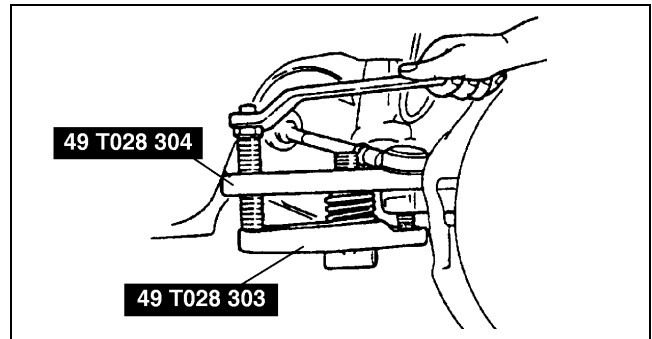
1	Bolt (intermediate shaft) (See 06-12-10 Bolt (Intermediate Shaft) Removal Note) (See 06-12-10 Bolt (Intermediate Shaft) Installation Note)
2	Cotter pin
3	Nut
4	Tie-rod end ball joint (See 06-12-10 Tie-rod End Ball Joint Removal Note)

5	Transverse member (ZM (ATX), FS)
6	Engine mount member (See 06-12-10 Engine Mount Member Removal Note)
7	Pressure pipe
8	Return pipe and clamp
9	Oil pipe
10	Steering gear and linkage (See 06-12-10 Steering Gear and Linkage Removal Note)

ENGINE SPEED SENSING POWER STEERING

Tie-rod End Ball Joint Removal Note

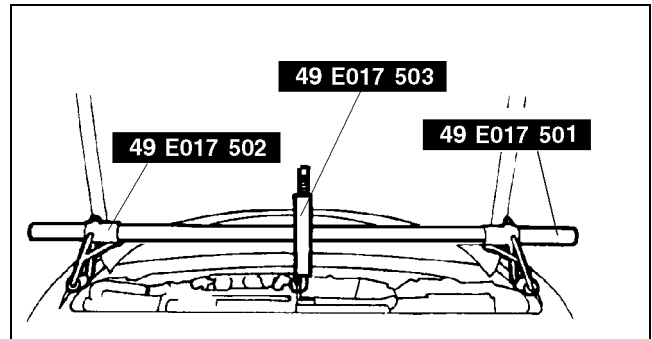
1. Remove the tie rod nut.
2. Separate the tie rod end from the steering knuckle using the **SSTs**.



X3U612WAF

Engine Mount Member Removal Note

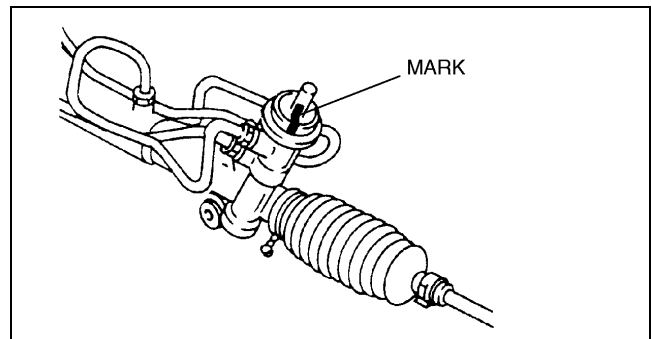
1. Set the **SSTs** as shown in the figure.
2. Remove the engine mount member.



Z3U0612W004

Bolt (Intermediate Shaft) Removal Note

1. Mark the pinion shaft and gear housing for proper installation.



Y3U612WA8

Steering Gear and Linkage Removal Note

1. Remove the steering gear and linkage by pulling it from the right side.

Bolt (Intermediate Shaft) Installation Note

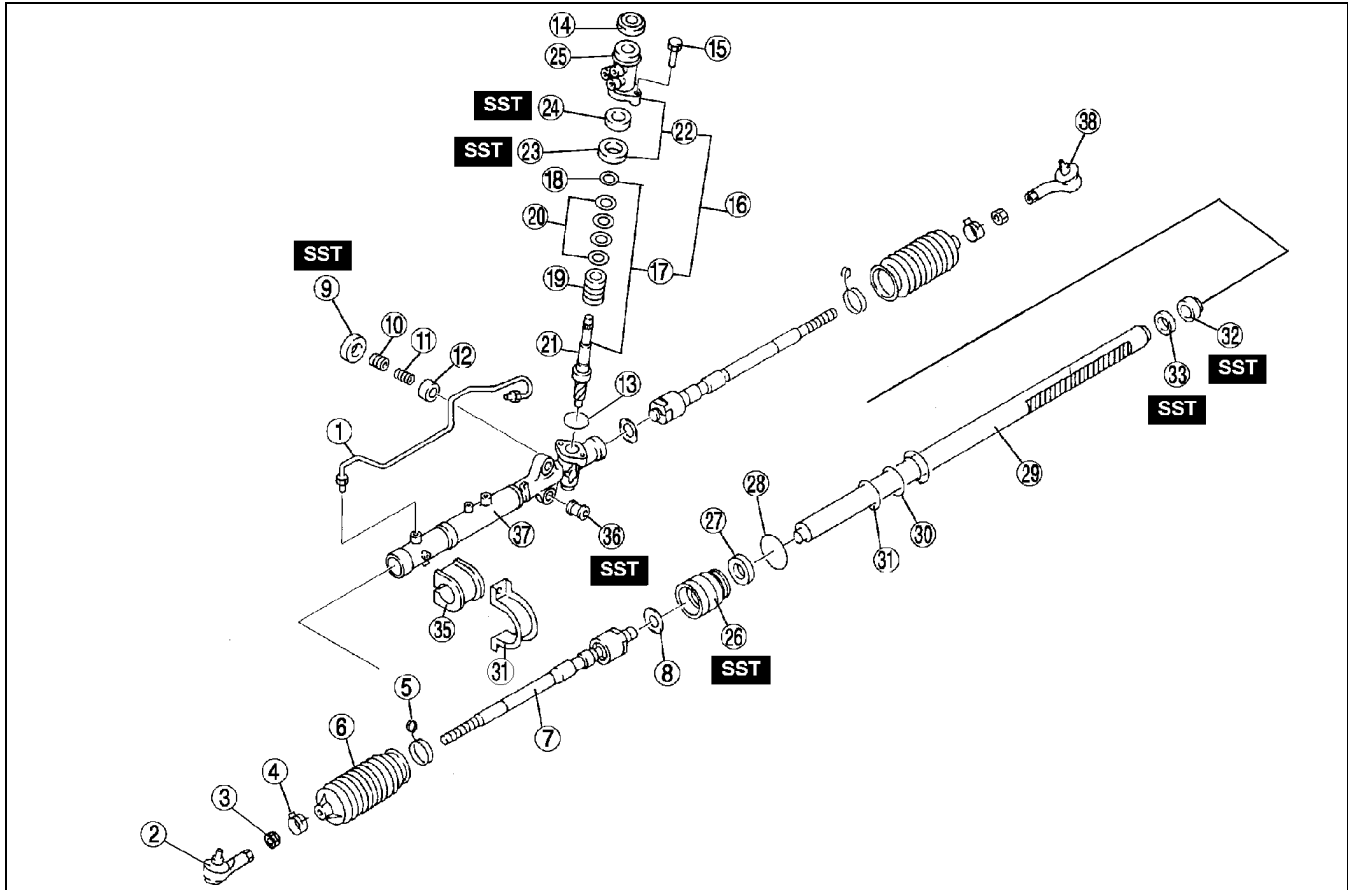
1. Align the marks and install the intermediate shaft and bolt.

ENGINE SPEED SENSING POWER STEERING

STEERING GEAR AND LINKAGE DISASSEMBLY

A3U061232960W02

1. Disassemble in the order indicated in the table.



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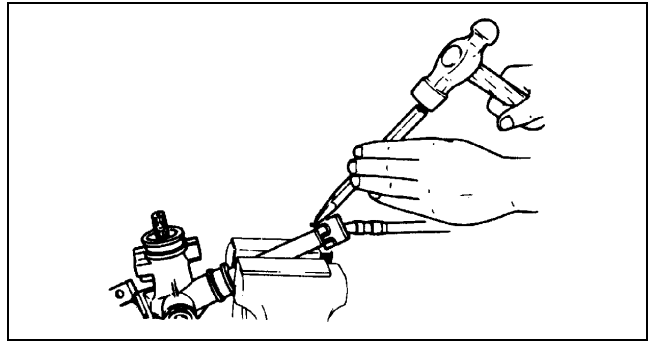
1	Oil pipe
2	Tie-rod end
3	Locknut (Tie-rod end)
4	Boot band
5	Boot wire
6	Boot
7	Tie rod (See 06-12-12 Tie Rod Disassembly Note)
8	Washer
9	Locknut (Adjusting cover) (See 06-12-12 Locknut (Adjusting Cover) Disassembly Note)
10	Adjusting cover
11	Yoke spring
12	Support yoke
13	O-ring
14	Dust cover
15	Socket bolt
16	Pinion shaft and housing component (See 06-12-12 Pinion Shaft and Housing Component Disassembly Note)
17	Pinion shaft component (See 06-12-13 Pinion Shaft Component Disassembly Note)
18	Snap ring (See 06-12-13 Snap Ring Disassembly Note)
19	Control valve component

20	Seal ring
21	Pinion shaft
22	Valve housing component
23	Upper bearing (See 06-12-13 Upper Bearing Disassembly Note)
24	Oil seal
25	Valve housing
26	Holder (See 06-12-13 Holder Disassembly Note)
27	U-gasket
28	O-ring
29	Steering rack
30	Seal ring
31	O-ring
32	Inner guide (See 06-12-14 Inner Guide Disassembly Note)
33	Oil seal
34	Mounting bracket
35	Mount
36	Mounting rubber (See 06-12-14 Mounting Rubber Disassembly Note)
37	Gear housing
38	Tie-rod end boot (See 06-12-15 Tie-rod End Boot Disassembly Note)

ENGINE SPEED SENSING POWER STEERING

Tie Rod Disassembly Note

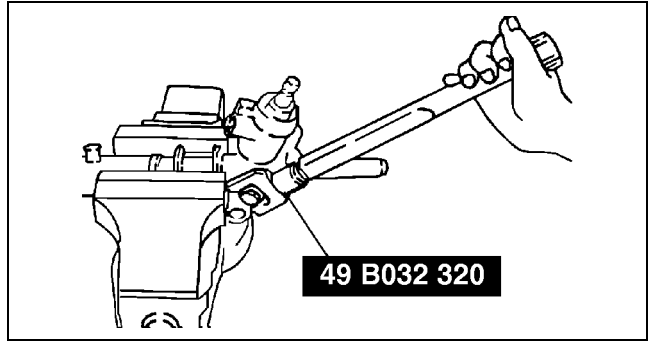
1. Unclamp the washer.
2. Remove the tie-rod.



X3U612WAK

Locknut (Adjusting Cover) Disassembly Note

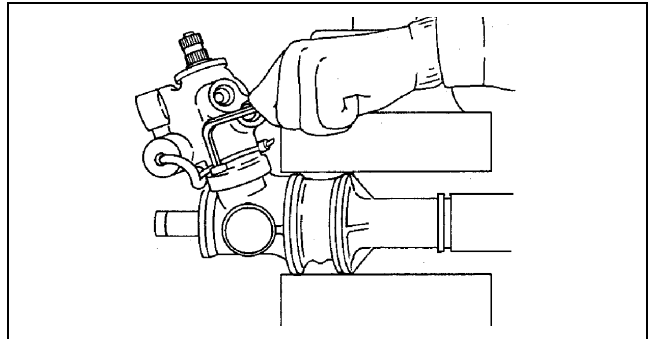
1. Remove the locknut using the SST.



A3U0612W009

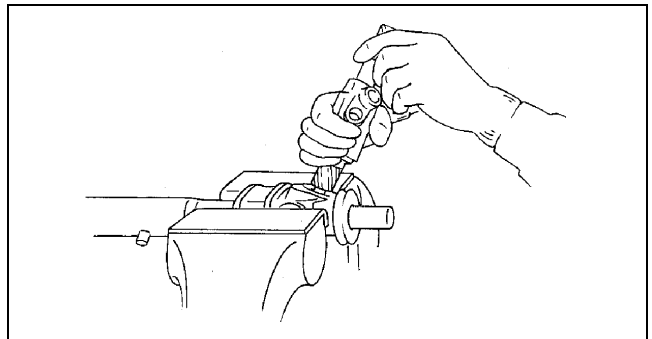
Pinion Shaft and Housing Component Disassembly Note

1. Remove the socket bolts (2 points) which fix the pinion shaft and housing.



X3U612WAM

2. Hold the pinion shaft as shown, and pull the pinion shaft out and housing component.



X3U612WAN

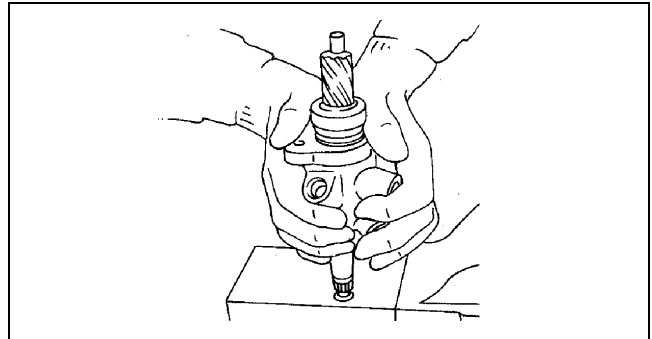
ENGINE SPEED SENSING POWER STEERING

Pinion Shaft Component Disassembly Note

1. Push the pinion shaft component out from the valve housing as shown.

Note

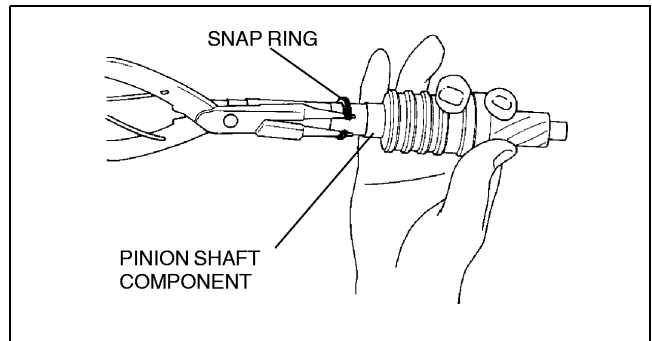
- If the pinion shaft does not come out easily, remove it using a press.



X3U612WAP

Snap Ring Disassembly Note

1. Carefully remove the snap ring without damaging the pinion shaft component.

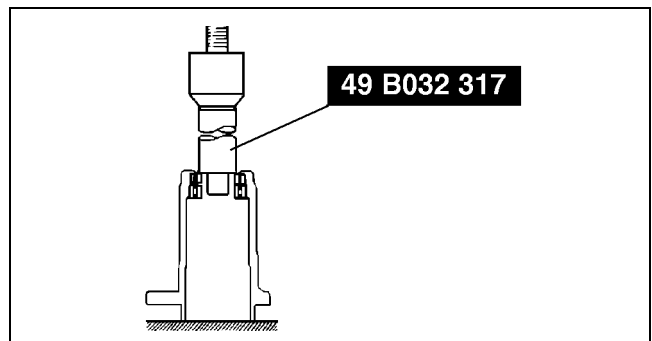


X3U612WQAQ

06-12

Upper Bearing Disassembly Note

1. Set the **SST** as shown.
2. Using a press, remove the oil seal and upper bearing without applying pressure to the edge of the valve housing.



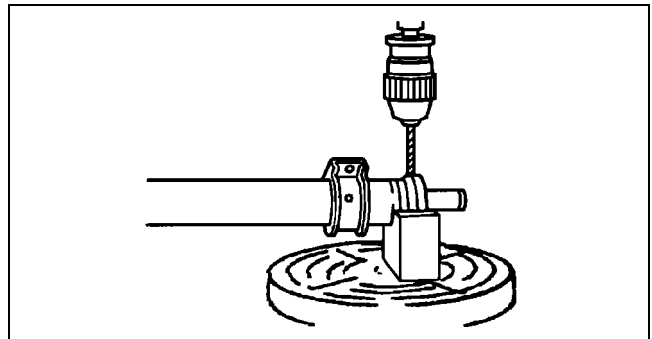
A3U0612W005

Holder Disassembly Note

1. Cut away the staked area using a drill.

Caution

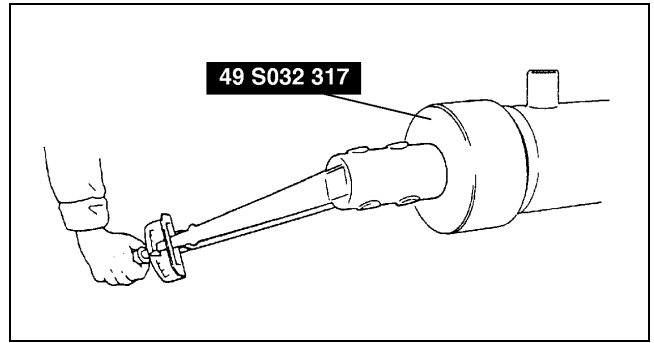
- Carefully pull the holder out without damaging the U-gasket.



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ENGINE SPEED SENSING POWER STEERING

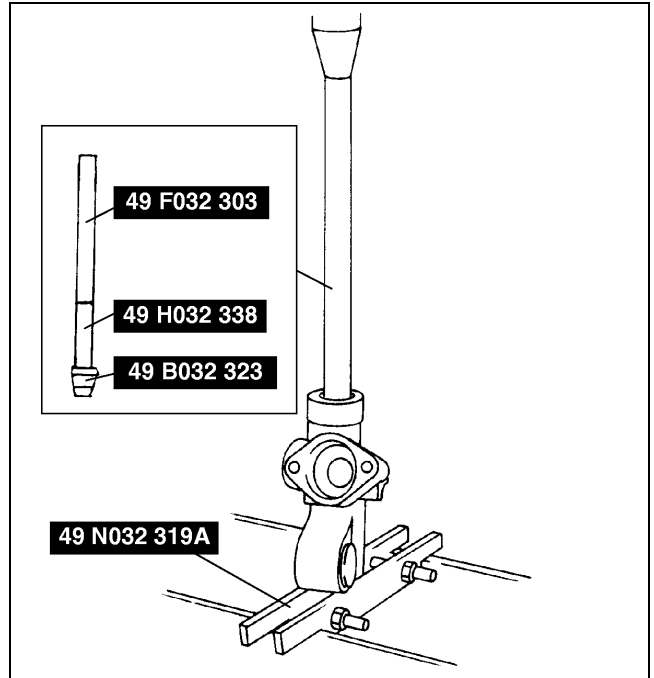
2. Disassemble the holder using the **SST**.



X3U612WAT

Inner Guide Disassembly Note

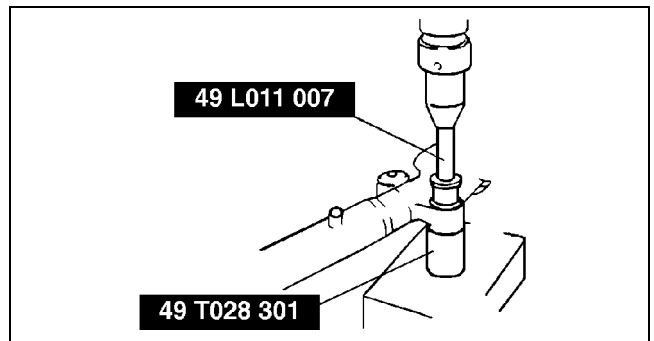
1. Set the **SSTs** into the valve side.
2. Install the **SST** to the gear housing.
3. Press the oil seal and inner guide out.



X3U612WAU

Mounting Rubber Disassembly Note

1. Press the mounting rubber out from the gear housing using the **SSTs** and a press.

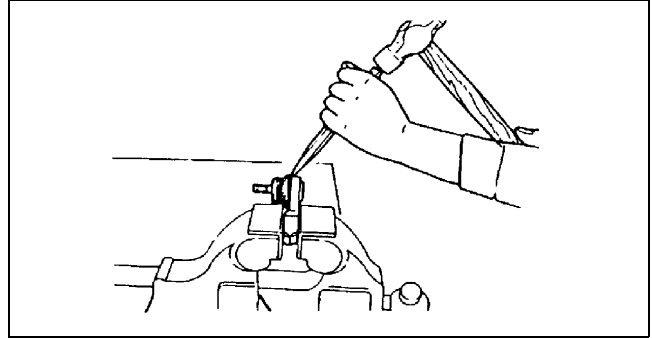


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ENGINE SPEED SENSING POWER STEERING

Tie-rod End Boot Disassembly Note

1. Secure the tie-rod end in a vise.
2. Place a chisel against the boot and hold it at the angle shown.
3. Remove the boot by tapping it with a hammer.



X3U612WAW

STEERING GEAR AND LINKAGE INSPECTION

Rack Inspection

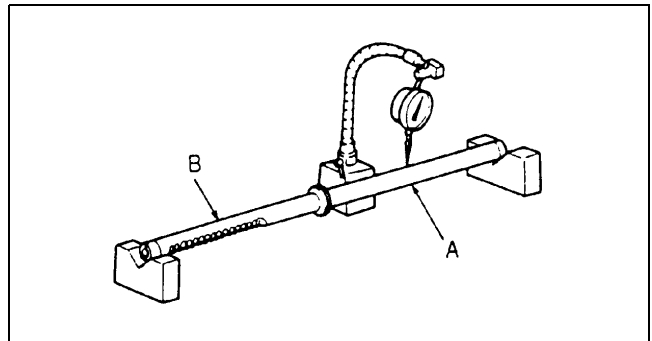
1. Inspect the rack for cracking, damage, and tooth wear.
 - Replace it as necessary.
2. Measure the runout of the rack.
 - If not within the specification, replace the rack.

A3U061232960W03

Runout

Near point A: 0.15 mm {0.0059 in} max.

Near point B: 0.20 mm {0.0079 in} max.



X3U612WAX

06-12

Tie-rod End Inspection

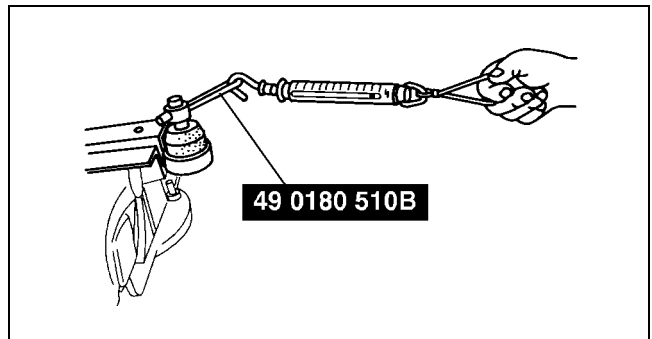
1. Inspect the tie-rod end for damage and boot cracks.
 - Replace it as necessary.
2. Inspect the ball joint for looseness.
 - Replace the tie-rod end as necessary.
3. Rotate the ball joint **5 times**.
4. Measure the rotation torque of the ball joint using the SST and a pull scale.
 - If not within the specification, replace the tie-rod end.

Rotation torque

0.35—2.54 N·m {3.5—26.0 kgf·cm, 3.1—22.5 in·lbf}

Pull scale reading

3.5—25.4 N {0.35—2.60 kgf, 0.78—5.72 lbf}



A3U0612W015

ENGINE SPEED SENSING POWER STEERING

Tie Rod Inspection

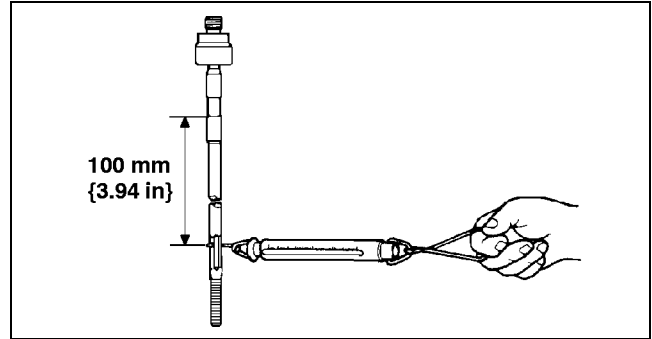
1. Inspect the tie rod for bending and damage.
 - Replace it as necessary.
2. Inspect the ball joint for looseness.
 - Replace the tie rod as necessary.
3. Swing the tie-rod **5 times**.
4. Measure the swinging torque using a pull scale.
 - If not within the specification, replace the tie rod.

Swinging torque

0.1—3.8 N·m {1—39 kgf·cm, 1—33 in·lbf}

Pull scale reading

0.6—24.5 N·m {0.06—2.50 kgf, 0.14—5.50 lbf}



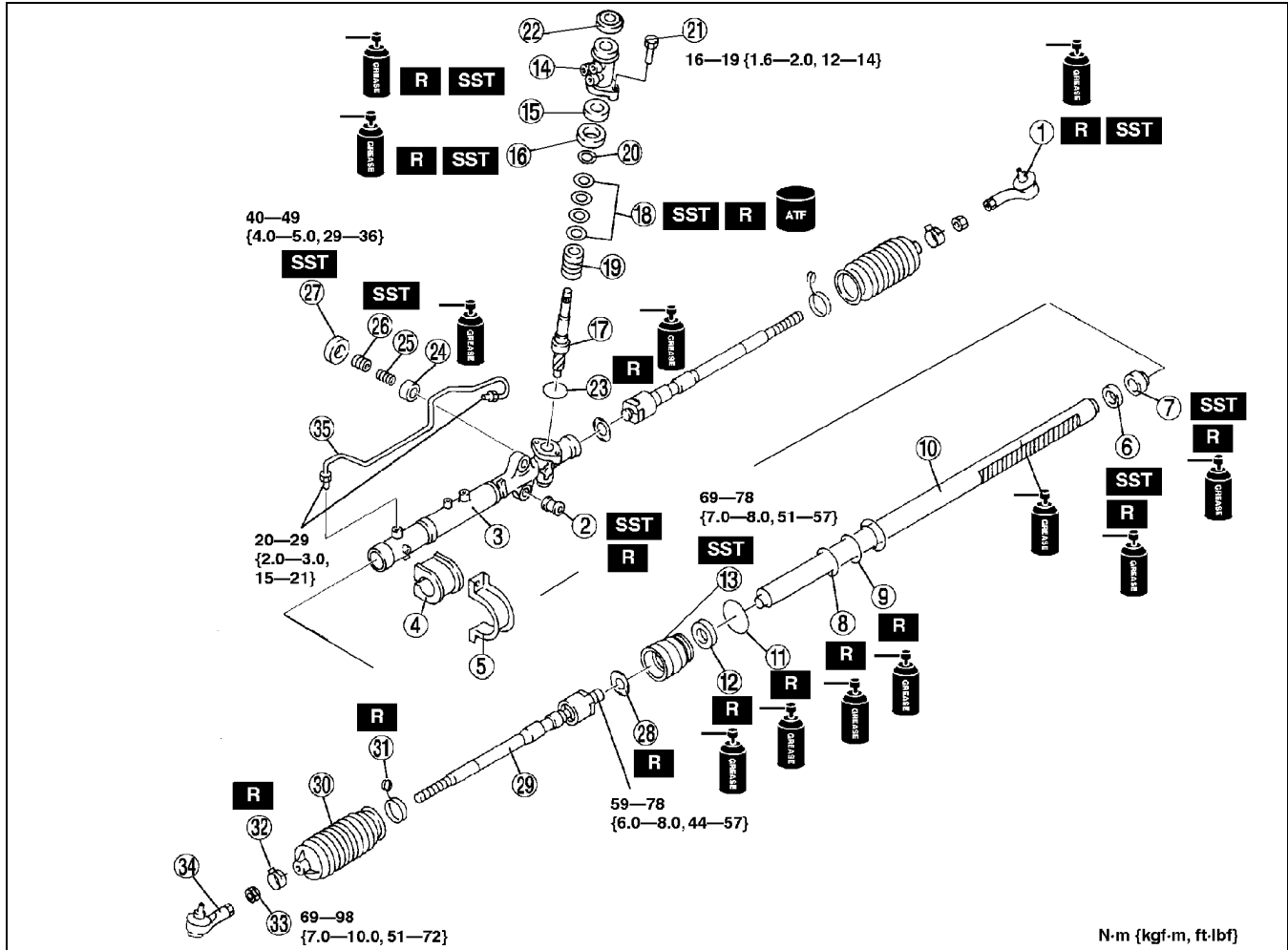
A3U0612W003

ENGINE SPEED SENSING POWER STEERING

STEERING GEAR AND LINKAGE ASSEMBLY

A3U061232960W04

1. Assemble in the order indicated in the table.



06-12

Z3U0612W014

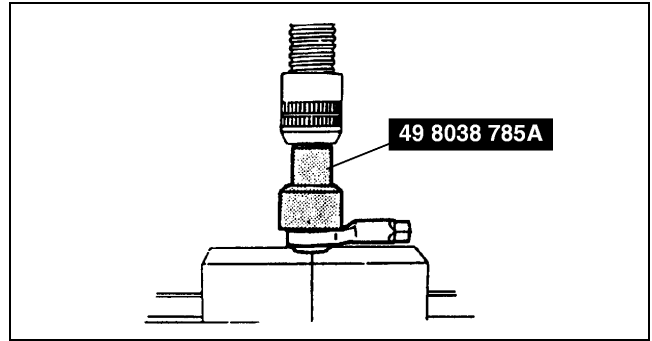
1	Tie-rod end boot (See 06-12-18 Tie-rod End Boot Assembly Note)
2	Mounting rubber (See 06-12-18 Mounting Rubber Assembly Note)
3	Gear housing
4	Mount
5	Mounting bracket
6	Oil seal (See 06-12-19 Oil Seal Assembly Note 1)
7	Inner guide
8	O-ring
9	Seal ring
10	Steering rack
11	O-ring
12	U-gasket
13	Holder (See 06-12-20 Holder Assembly Note)
14	Valve housing
15	Oil seal (See 06-12-20 Oil Seal Assembly Note 2)
16	Upper bearing (See 06-12-21 Upper Bearing Assembly Note)

17	Pinion shaft
18	Seal ring (See 06-12-21 Seal Ring Assembly Note)
19	Control valve
20	Snap ring
21	Socket bolt
22	Dust cover
23	O-ring
24	Support yoke
25	Yoke spring
26	Adjusting cover (See 06-12-21 Adjusting Cover Assembly Note)
27	Locknut (Adjusting cover)
28	Washer
29	Tie-rod
30	Boot
31	Boot wire
32	Boot band
33	Locknut (Tie-rod End)
34	Tie-rod End
35	Oil pipe

ENGINE SPEED SENSING POWER STEERING

Tie-rod End Boot Assembly Note

1. Wipe the grease off the ball joint.
2. Put a small amount of lithium-based grease into a new dust boot.
3. Install the dust boot onto the tie-rod end using the **SST** and a press.
4. Wipe away any excessive grease.



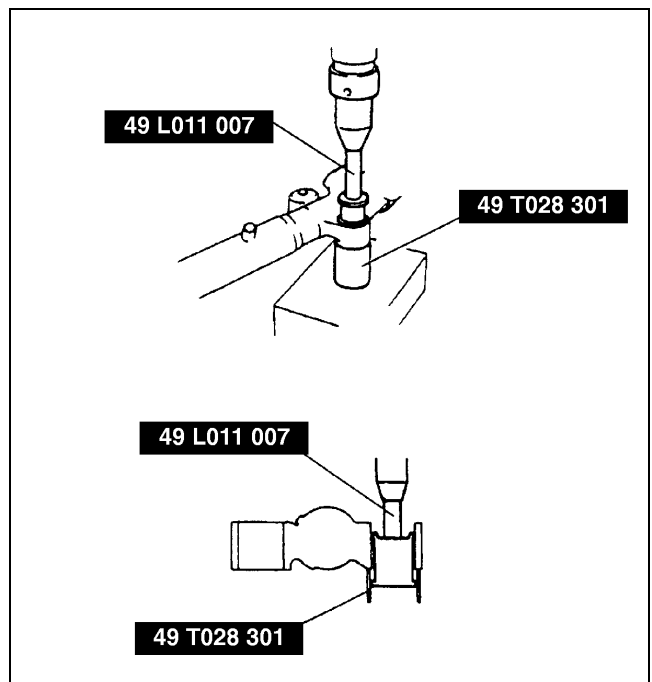
X3U612WB1

Mounting Rubber Assembly Note

1. Apply soapy water to the rubber part of the mounting rubber.
2. Press the mounting rubber until the mounting rubber end comes out completely from the gear housing using the **SSTs** and a press.

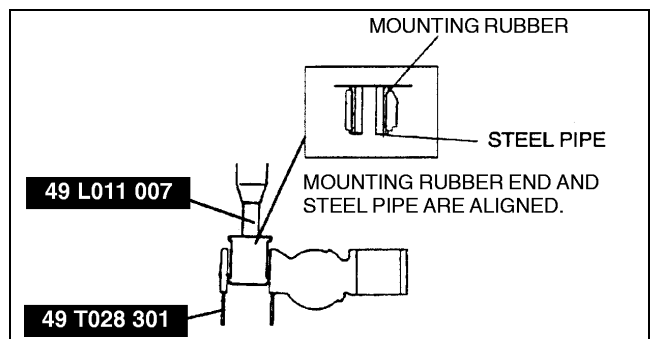
Note

- Mounting rubber end and steel plate shall be aligned.



X3U612WB2

3. Reverse the gear housing, then press the mounting rubber until the mounting rubber end comes completely out the other side.

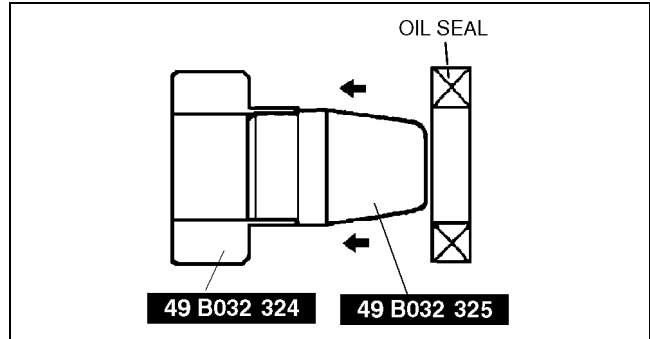


X3U612WB3

ENGINE SPEED SENSING POWER STEERING

Oil Seal Assembly Note 1

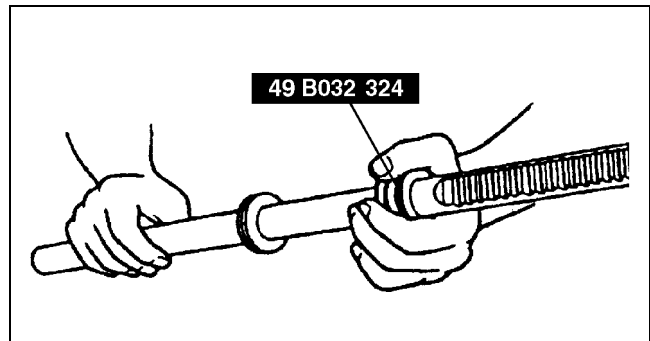
1. Install a new O-ring and new seal ring to the rack piston.
2. After installing the seal ring, seat it properly at the piston circumference.
3. Install a new oil seal to the **SST** (49 B032 319) using the **SST** (49 B032 318).
4. Remove the **SST** (49 B032 318).



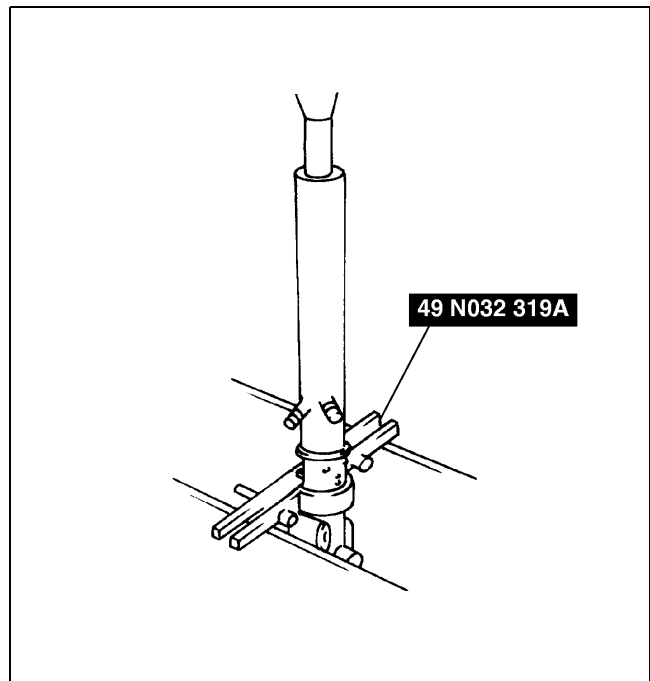
5. Using the **SST**, place the oil seal at the edge of the steering rack's piston and remove the **SST**.
6. Install a new inner guide to the steering rack.

Caution

- When pressing in, do not apply a load pressure of more than 39.2 MPa {400 kgf/cm², 5,690 psi}. Doing so will damage the oil seal and inner guide.



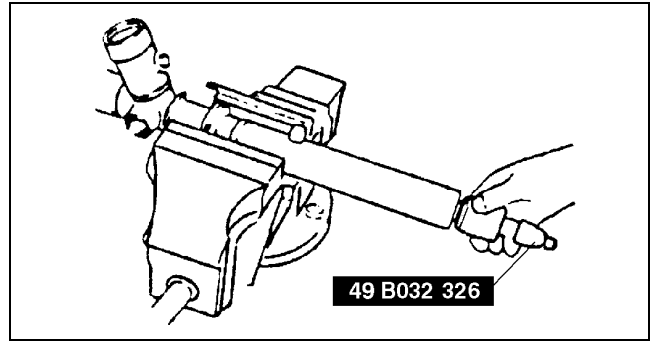
7. After installing the steering rack to the gear housing, press the oil seal and inner guide using the **SST** until the force required suddenly increases.



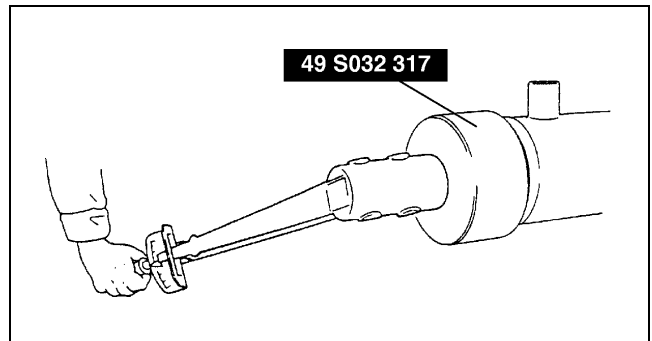
ENGINE SPEED SENSING POWER STEERING

Holder Assembly Note

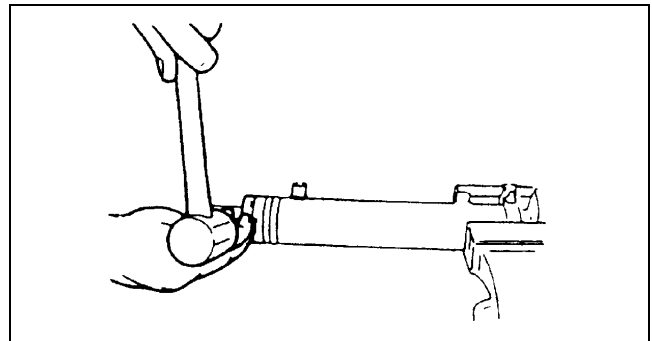
1. Apply grease to the U-gasket and O-ring.
2. Assemble the U-gasket and O-ring into the holder.
3. Assemble the **SST** to the steering rack.



4. Assemble the holder using the **SST**.

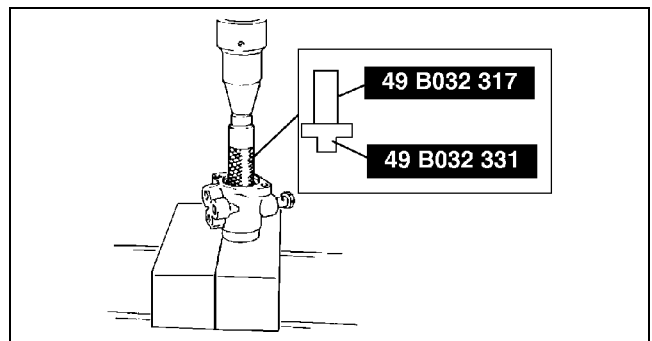


5. Stake the holder to the cylinder using a punch.



Oil Seal Assembly Note 2

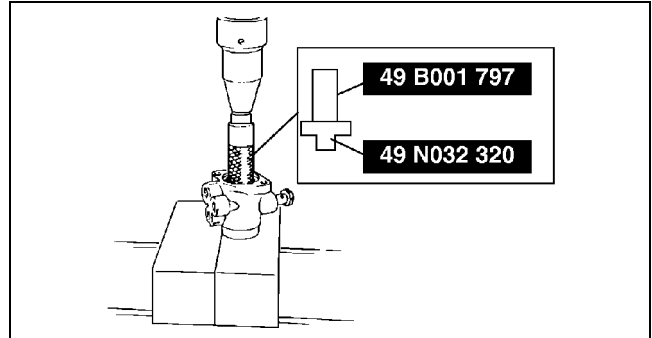
1. Apply grease to a new oil seal.
2. Press in the new oil seal using the **SSTs**.



ENGINE SPEED SENSING POWER STEERING

Upper Bearing Assembly Note

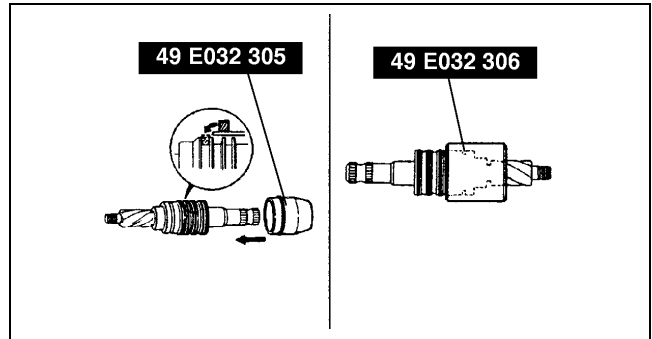
1. Apply grease to a new upper bearing.
2. Press in the new oil seal using the **SSTs**.



A3U0612W013

Seal Ring Assembly Note

1. Install a new seal ring to the valve part of the pinion shaft using the **SST**.
2. After installing it, seat it properly using the **SST**.
3. Install the snap ring.

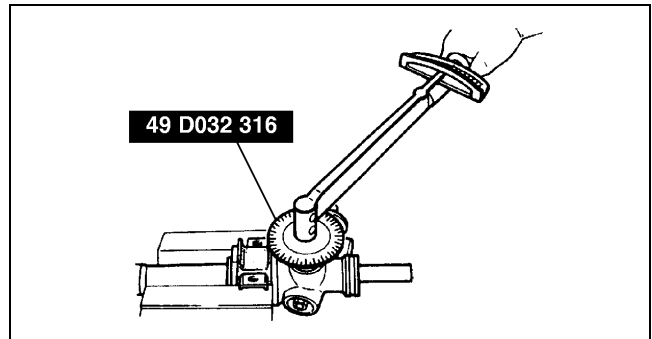


X3U612WBC

06-12

Adjusting Cover Assembly Note

1. Set the rack to the center position.
2. Tighten the adjusting cover to **20 N·m {2.0 kgf·m, 14 ft·lbf} 3 times**, then return it **42°** using the **SST**.
3. Apply sealant to the threads of the locknut.
4. Attach the locknut.

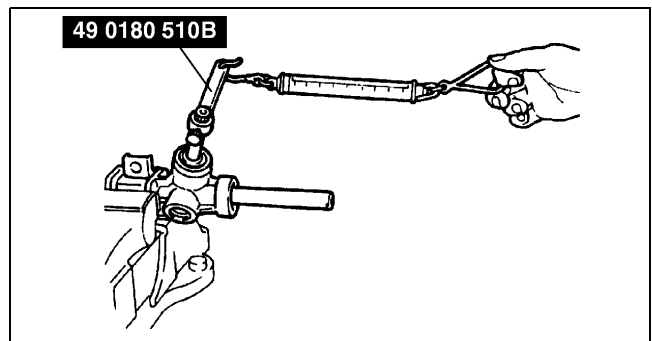


X3U612WBD

5. Measure the pinion torque using the SST and a pull scale.
 - If not as specified, repeat Step 2 through 5.

Standard

Center of rack $\pm 90^\circ$ 0.8—1.1 N·m {8—11 kgf·cm, 7—9 in·lbf} [Pull scale reading 8—11 N {0.8—1.1 kgf, 1.7—2.4 lbf}]



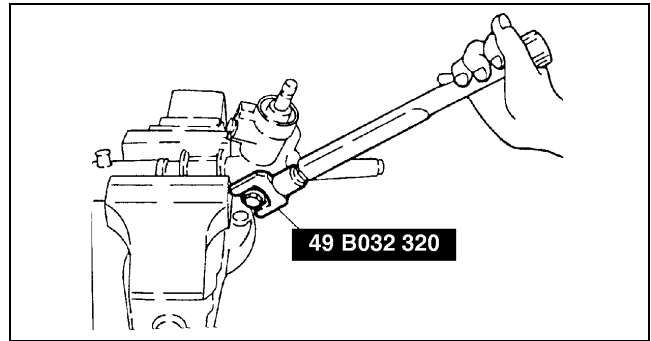
X3U612WBE

ENGINE SPEED SENSING POWER STEERING

6. Install the locknut using the SST.

Tightening torque

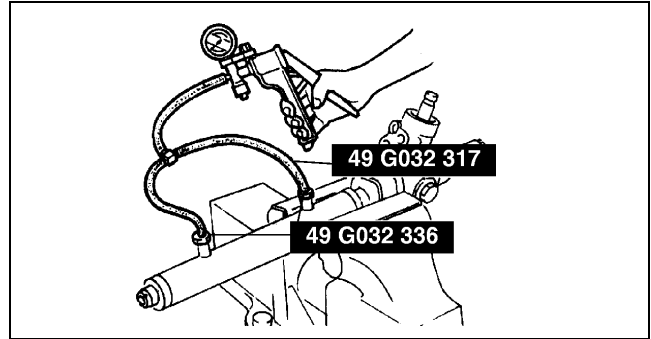
40—49 N·m {4.0—5.0 kgf·m, 29—36 ft·lbf}



X3U612WBF

Hermetic Sealing Inspection

1. Connect the SSTs to the power cylinder section of the gear housing.
2. Apply **53.3 kPa {400 mmHg, 15.7 inHg}** vacuum with a vacuum pump and verify that it is held for at least **30 seconds**.
 - If the vacuum is not held, replace the oil seal.



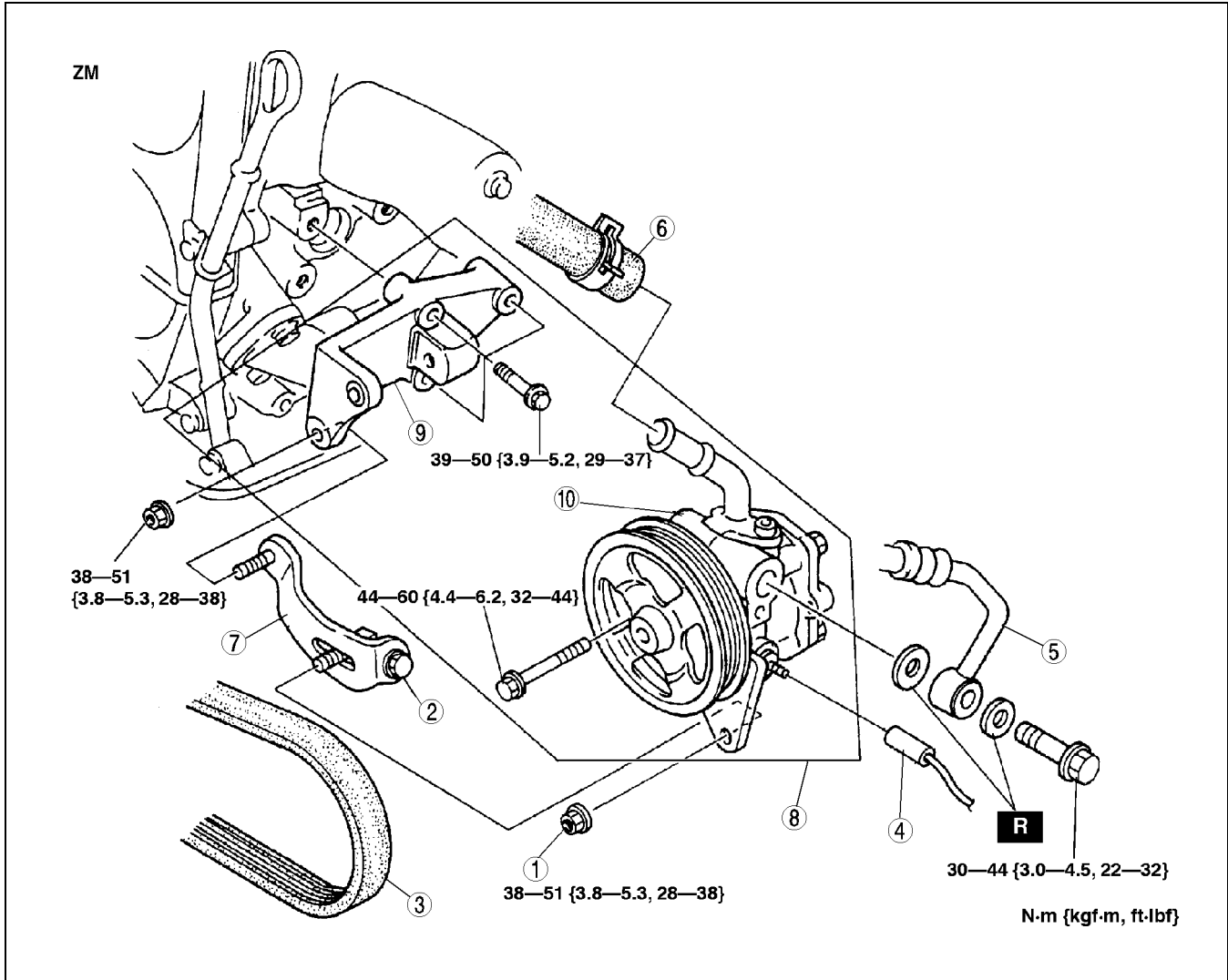
X3U612WBG

ENGINE SPEED SENSING POWER STEERING

POWER STEERING OIL PUMP REMOVAL/INSTALLATION

A3U061232650W01

1. Remove in the order indicated in the table.
2. Install in the reverse order of removal.
3. Adjust the drive belt. (See 01-10A-4 DRIVE BELT ADJUSTMENT [ZM].) (See 01-10B-4 DRIVE BELT ADJUSTMENT [FS].)



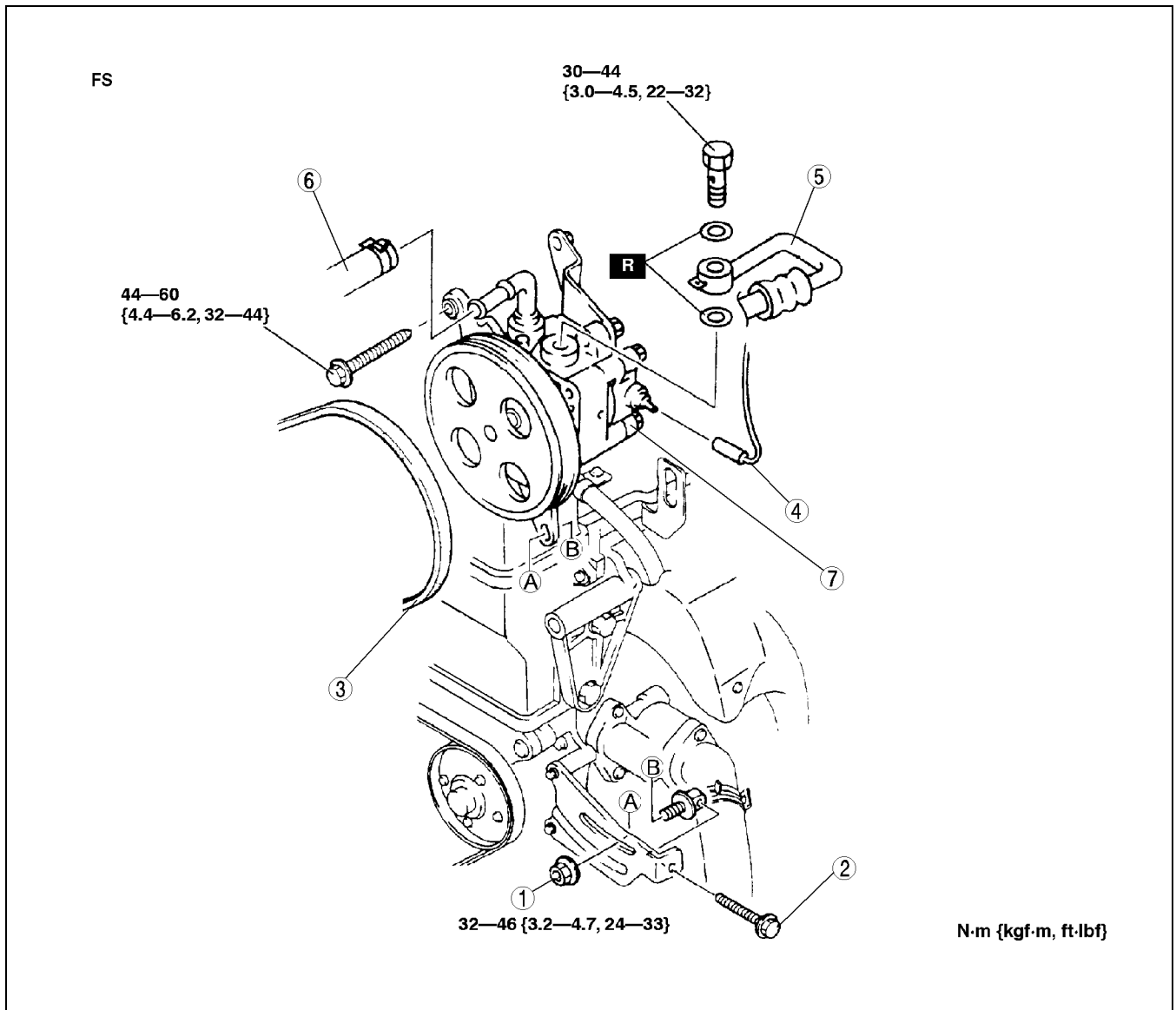
06-12

Z3U0612W008

1	Locknut
2	Adjusting bolt
3	Drive belt
4	Pressure switch connector
5	Pressure pipe

6	Return hose
7	Bracket
8	Power steering oil pump, bracket
9	Oil pump bracket
10	Power steering oil pump

ENGINE SPEED SENSING POWER STEERING



Z3U0612W009

1	Locknut
2	Adjusting bolt
3	Drive belt
4	Pressure switch connector

5	Pressure pipe
6	Return hose
7	Power steering oil pump and bracket

ENGINE SPEED SENSING POWER STEERING

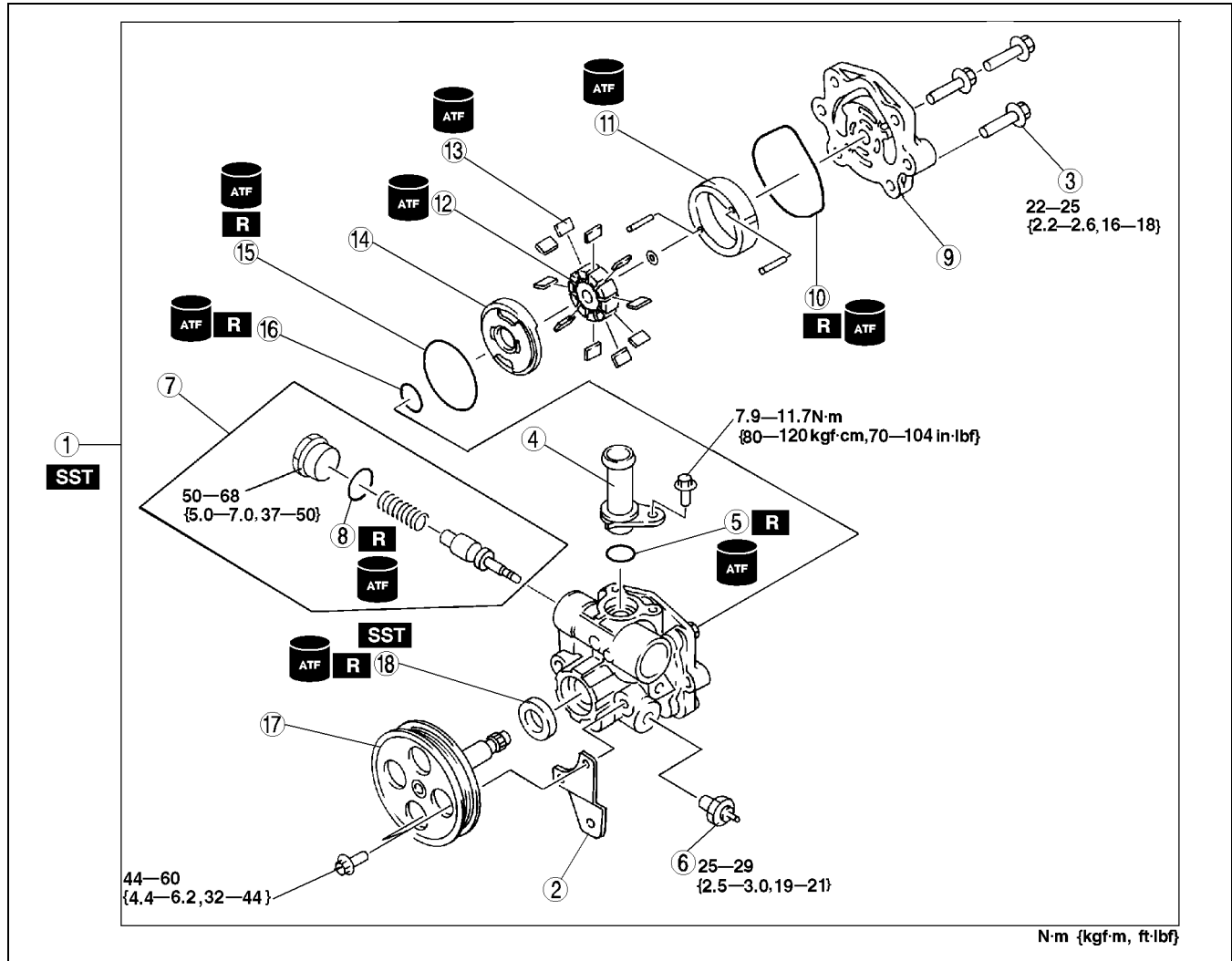
POWER STEERING OIL PUMP (ZM) DISASSEMBLY/ASSEMBLY

A3U061232650W02

Note

- The following procedure is for replacement of the O-ring and oil seal only. Replace the pump component if other repairs are necessary.

- Disassemble in the order indicated in the table.
- Assemble in the reverse order of disassembly.



A3U0612W002

1	Power steering oil pump component (See 06-12-26 Power Steering Oil Pump Component Disassembly Note)
2	Front bracket
3	Bolt
4	Suction pipe
5	O-ring
6	Pressure switch component
7	Connector component
8	O-ring
9	Rear pump body (See 06-12-26 Rear Pump Body Assembly Note)

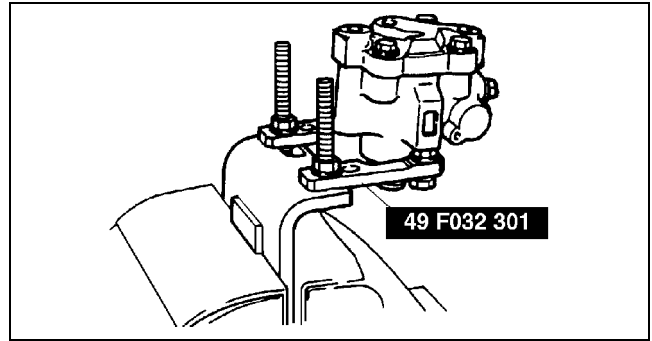
10	O-ring
11	Cam ring (See 06-12-26 Cam Ring Assembly Note)
12	Rotor
13	Vane (See 06-12-26 Vane Assembly Note)
14	Side plate
15	O-ring
16	O-ring
17	Shaft component
18	Oil seal (See 06-12-26 Oil Seal Assembly Note)

ENGINE SPEED SENSING POWER STEERING

Power Steering Oil Pump Component Disassembly Note

Caution

- Use the SST to prevent damage to the pump when securing it in a vise.



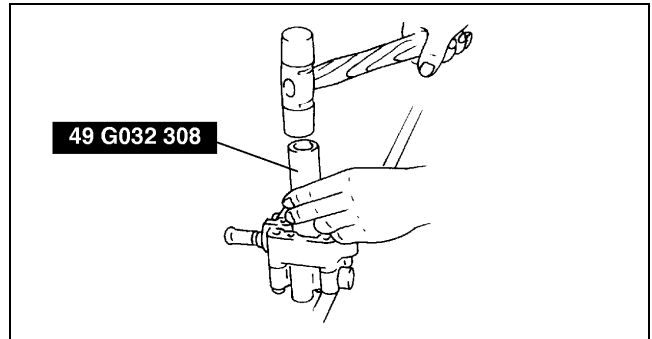
A3U0612W001

Oil Seal Assembly Note

1. Assemble the oil seal using the SST and a hammer.

Caution

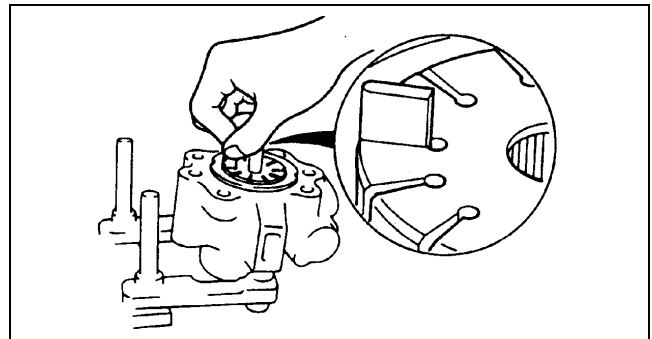
- The pump body should be positioned evenly.



X3U612WBM

Vane Assembly Note

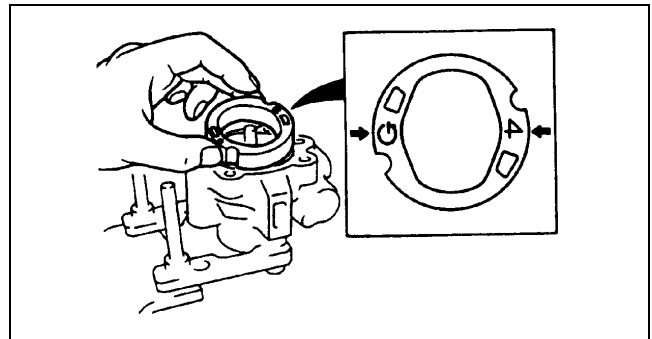
1. Place the vanes in the rotor with the rounded edges contacting the cam.



X3U612WBN

Cam Ring Assembly Note

1. Install the cam ring in the front pump body with the mark facing upward.



X3U612WBP

Rear Pump Body Assembly Note

1. After installing the rear body, manually turn the shaft to verify that it rotates smoothly.

ENGINE SPEED SENSING POWER STEERING

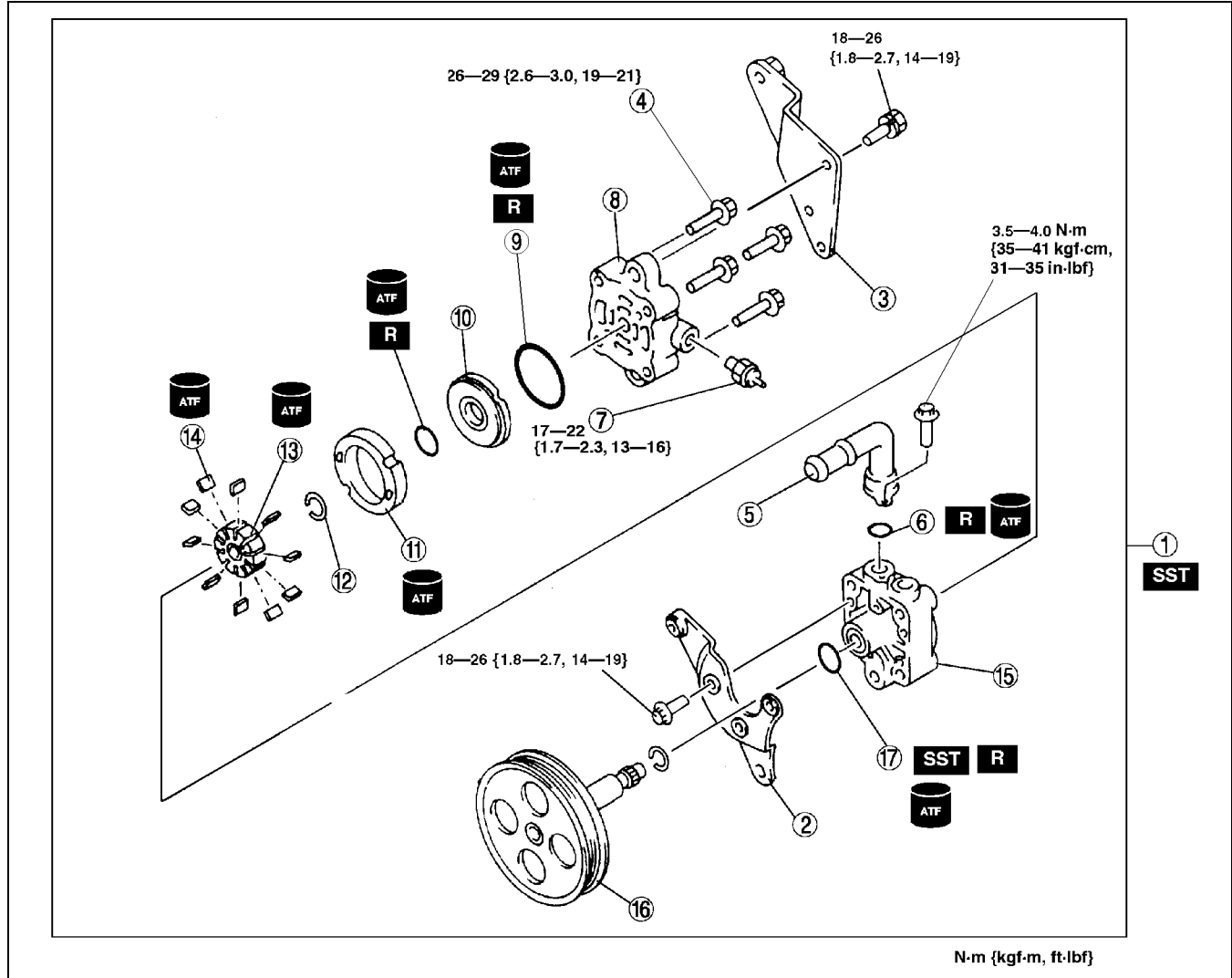
POWER STEERING OIL PUMP (FS) DISASSEMBLY/ASSEMBLY

A3U061232650W03

Note

- The following procedure is for replacement of the O-ring and oil seal only. Replace the pump component if other repairs are necessary.

- Disassemble in the order indicated in the table.
- Assemble in the reverse order of disassembly.



06-12

A3U0612W007

1	Power steering oil pump (See 06-12-26 Power Steering Oil Pump Component Disassembly Note)
2	Front bracket
3	Rear bracket
4	Bolt
5	Suction pipe
6	O-ring
7	Pressure switch component
8	Rear pump body (See 06-12-26 Rear Pump Body Assembly Note)
9	O-ring

10	Side plate
11	Cam ring (See 06-12-26 Cam Ring Assembly Note)
12	Backup ring
13	Rotor
14	Vane (See 06-12-26 Vane Assembly Note)
15	Front pump body
16	Shaft component
17	Oil seal (See 06-12-26 Oil Seal Assembly Note)

TECHNICAL DATA

06-50 TECHNICAL DATA

STEERING TECHNICAL DATA 06-50-1

STEERING TECHNICAL DATA

A3U065001034W01

Item		Specification	
ENGINE SPEED SENSING POWER STEERING			
Steering column and shaft	Length (mm {in})	797.4—800.4 {31.40—31.51}	
Steering gear	Tie-rod end	Rotation torque (N·m {kgf·cm, in·lbf})	0.35—2.54 {3.5—26.0, 3.1—22.5}
		[Pull scale reading] (N {kgf, lbf})	3.5—25.4 {0.35—2.60, 0.78—5.72}
	Tie rod	Swinging torque (N·m {kgf·cm, in·lbf})	0.1—3.8 {1—39, 1—33}
		[Pull scale reading] (N {kgf, lbf})	0.6—24.5 {0.06—2.50, 0.14—5.50}
	Pinion shaft	Rotation torque (Center of rack ± 90°) (N·m {kgf·cm, in·lbf})	0.8—1.1 {8—11, 7—9}
		[Pull scale reading] (N {kgf, lbf})	8—11 {0.8—1.1, 1.7—2.4}
	Gear housing fluid pressure (MPa {kgf·cm ² , psi})	8.34—8.82 {85.0—90.0, 1,209—1,279}	
Power steering oil pump	Oil pump fluid pressure (MPa {kgf·cm ² , psi})	8.34—8.82 {85.0—90.0, 1,209—1,279}	
Power steering system	Fluid	Type	ATF M-III or equivalent (e.g. Dexron®III)
		Capacity (Approximate quantity) (L {US qt, Imp qt})	1.0 {1.1, 0.9}

06-50

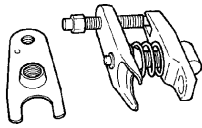
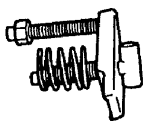

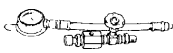
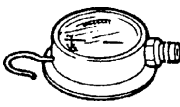

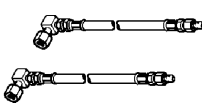

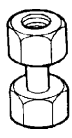
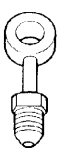
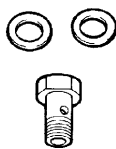
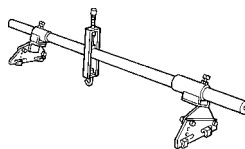


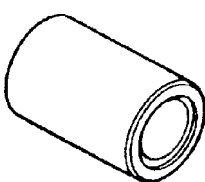
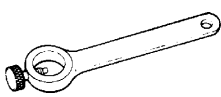
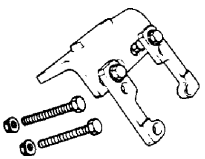

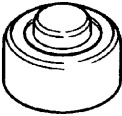
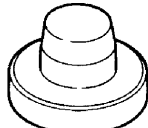

SERVICE TOOLS

06-60 SERVICE TOOLS

STEERING SST..... 06-60-1

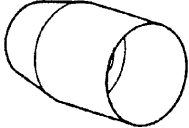
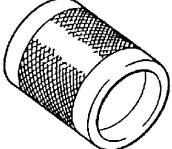
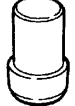


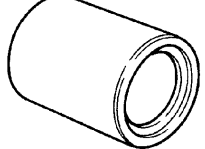
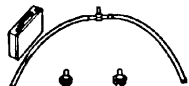

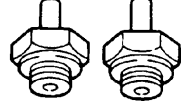
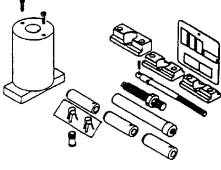



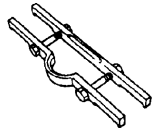
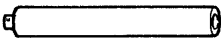
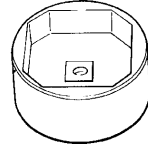
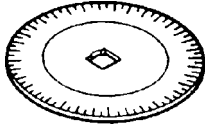
STEERING SST

A3U066001034W01

<p>49 T028 3A0</p> <p>Ball joint puller set</p> 	<p>49 T028 303</p> <p>Body (Part of 49 T028 3A0)</p> 	<p>49 T028 304</p> <p>Attachment (Part of 49 T028 3A0)</p> 
<p>49 1232 670B</p> <p>Power steering gauge set</p> 	<p>49 1232 672</p> <p>Gauge (Part of 49 1232 670B)</p> 	<p>49 1232 673</p> <p>Valve body (Part of 49 1232 670B)</p> 
<p>49 H002 671</p> <p>Adapter</p> 	<p>49 G032 3A4</p> <p>Power steering gauge adapter set</p> 	<p>49 G032 351</p> <p>Adapter (Part of 49 G032 3A4)</p> 
<p>49 G032 352</p> <p>Adapter (Part of 49 G032 3A4)</p> 	<p>49 G032 353</p> <p>Bolt (Part of 49 G032 3A4)</p> 	<p>49 E017 5A0</p> <p>Engine support</p> 
<p>49 B032 320</p> <p>Wrench</p> 	<p>49 B032 317</p> <p>Bearing & oil seal remover</p> 	<p>49 8038 785A</p> <p>Dust boot installer</p> 
<p>49 0180 510B</p> <p>Preload measuring attachment</p> 	<p>49 F032 301</p> <p>Power steering pump hanger</p> 	<p>49 B001 797</p> <p>Handle</p> 
<p>49 N032 320</p> <p>Oil seal installer</p> 	<p>49 B032 331</p> <p>Oil seal installer</p> 	<p>49 B032 323</p> <p>Rod seal remover body</p> 

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SERVICE TOOLS

<p>49 E032 305</p> <p>Slipper seal protector</p> 	<p>49 E032 306</p> <p>Slipper seal former</p> 	<p>49 B032 325</p> <p>Rod seal guide</p> 
<p>49 B032 326</p> <p>Outer box protector</p> 	<p>49 B032 324</p> <p>Rod seal protector body</p> 	<p>49 T028 301</p> <p>Dust boot installer</p> 
<p>49 G032 3A1</p> <p>Joint hose set</p> 	<p>49 G032 317</p> <p>Hose (Part of 49 G032 3A1)</p> 	<p>49 B032 336</p> <p>Adapter set</p> 
<p>49 L011 0A0B</p> <p>Piston pin setting tool set</p> 	<p>49 L011 007</p> <p>Guide (Part of 49 L011 0A0B)</p> 	<p>49 G032 308</p> <p>Oil seal installer</p> 
<p>49 F032 303</p> <p>Handle</p> 	<p>49 N032 319A</p> <p>Support plate</p> 	<p>49 H032 338</p> <p>Joint shaft</p> 
<p>49 S032 317</p> <p>Socket wrench</p> 	<p>49 D032 316</p> <p>protoractor</p> 	<p>—</p>