POWER STEERING SYSTEM

PRECAUTION

1. HANDLING PRECAUTIONS FOR STEERING SYSTEM

(a) Care must be taken when replacing parts. Incorrect replacement could affect the performance of the steering system and result in a driving hazard.

2. HANDLING PRECAUTIONS FOR SRS

(a) The vehicle is equipped with a Supplemental Restraint System (SRS) which includes a driver side airbag. Failure to carry out service procedures in the correct sequence may unexpectedly deploy the SRS and cause serious injuries. Furthermore, if a mistake is made in servicing the SRS, it may fail to operate when required.

Before servicing (including installation, removal, inspection or replacement of parts), read the SRS section's "Precaution" (see page RS-1).

PROBLEM SYMPTOMS TABLE

HINT:

Use the table below to help determine the cause of the problem symptom. The potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are listed. Replace parts as necessary.

Steering system:

Symptom	Suspected area	See page
Hard steering	1. Tires (improperly inflated)	TW-3
	2. Power steering fluid level (low)	PS-2
	3. Drive belt	EM-6
	4. Front wheel alignment (incorrect)	SP-2
	5. Steering system joints (worn)	-
	6. Suspension arm ball joints (worn) ATM	SP-17
	7. Suspension arm ball joints (worn) MTM	SP-21
	8. Steering column (binding)	-
	9. Vane pump assembly	PS-10
	10. Power steering link assembly	PS-25
Poor return	1. Tires (improperly inflated)	TW-3
	2. Front wheel alignment (incorrect)	SP-2
	3. Steering column (binding)	-
	4. Power steering link assembly	PS-25
Excessive play	1. Steering system joints (worn)	-
	2. Suspension arm ball joints (worn) ATM	SP-17
	3. Suspension arm ball joints (worn) MTM	SP-21
	4. Front wheel bearing (worn)	AH-6
	5. Power steering link assembly	PS-25
Abnormal noise	1. Power steering fluid level (low)	PS-2
	2. Steering system joints (worn)	-
	3. Vane pump assembly	PS-10
	4. Power steering link assembly	PS-25



ON-VEHICLE INSPECTION

1. INSPECT DRIVE BELT

- (a) Visually check the belt for excessive wear, frayed cords, etc. If any defect is found, replace the drive belt.
 - HINT:

Cracks on the rib side of the belt are considered acceptable. Replace the belt if there are any missing ribs.

2. BLEED AIR FROM POWER STEERING SYSTEM

- (a) Check the fluid level.
- (b) Jack up the front of the vehicle and support it with stands.
- (c) Turn the steering wheel.
 - With the engine stopped, turn the steering wheel slowly from lock to lock several times.
- (d) Lower the vehicle.







- (e) Start the engine. Run the engine at idle for a few minutes.
- (f) Turn the steering wheel.
 - (1) With the engine idling, turn the steering wheel to the left or right full lock position and hold it there for 2 to 3 seconds. Then turn the steering wheel to the opposite full lock position and hold it there for 2 to 3 seconds.
 - (2) Repeat the step above several times.
- (g) Stop the engine.
- (h) Check for foaming or emulsification. If the system has to be bled twice because of foaming or emulsification, check for fluid leaks in the system.
- (i) Check the fluid level.

3. CHECK FLUID LEVEL

- (a) Keep the vehicle level.
- (b) With the engine stopped, check the power steering fluid level in the oil reservoir. If necessary, add power steering fluid.

Power steering fluid: ATF "DEXRON" II or III HINT:

If the fluid is hot, check that the fluid level is within the HOT range on the oil reservoir. If the fluid is cold, check that the fluid level is within the COLD range.

- (c) Start the engine and run it at idle.
- (d) Turn the steering wheel to the left or right full lock position. Then turn the steering wheel to the opposite full lock position. Repeat this several times to raise the fluid temperature.

Standard fluid temperature: 80°C (176°F)

(e) Check for foaming or emulsification. If foaming or emulsification is identified, bleed air from the power steering system.



- (f) With the engine idling, measure the fluid level in the oil reservoir.
- (g) Stop the engine.
- (h) Wait a few minutes and remeasure the fluid level in the oil reservoir.

Maximum fluid level increase: 5 mm (0.20 in.)

If a problem is found, bleed air from the power steering system.

(i) Check the fluid level.

4. CHECK STEERING FLUID PRESSURE

- (a) Disconnect the pressure feed tube (see page PS-8).
- (b) Connect SST as shown in the illustration below.
 - SST 09640-10010 (09641-01010, 09641-01030, 09641-01060)

NOTICE:

Check that the valve of SST is in the open position.

- (c) Bleed air from the power steering system.
- (d) Start the engine and run it at idle.
- (e) Turn the steering wheel to the left or right full lock position. Then turn the steering wheel to the opposite full lock position. Repeat this several times to raise fluid temperature.

Standard fluid temperature:

75 to 80°C (167 to 176°F)











 (f) With the engine idling, close the valve of SST and observe the reading on SST.
 Minimum fluid pressure:

Minimum fluid pressure:

5,900 kPa (60 kgf/cm², 852 psi) NOTICE:

- Do not keep the valve closed for more than 10 seconds.
- Do not let the fluid temperature become too high.

If the pressure is not within the specified range, check for fluid leaks and replace parts as necessary.

- (g) With the engine idling, fully open the valve.
- (h) Measure the fluid pressure at engine speeds of 1,000 rpm and 3,000 rpm.

Standard fluid pressure difference: 490 kPa (5 kgf/cm², 71 psi) or less NOTICE: Do not turn the steering wheel.

If the pressure is not within the specified range, check for fluid leaks and replace parts as necessary.

(i) With the engine idling and the valve fully opened, turn the steering wheel to the left or right full lock position.

Minimum fluid pressure:

5,900 kPa (60 kgf/cm², 852 psi) NOTICE:

- Do not maintain the lock position for more than 10 seconds.
- Do not let the fluid temperature become too high.

If the pressure is not within the specified range, check for fluid leaks and replace parts as necessary.

(j) Disconnect SST.

SST 09640-10010 (09641-01010, 09641-01030, 09641-01060)

- (k) Connect the pressure feed tube (see page PS-14).
- (I) Bleed air from the power steering system.

. CHECK STEERING RESISTANCE

- (a) Center the steering wheel.
- (b) Remove the steering pad (see page RS-186).
- (c) Start the engine and run it at idle.
- (d) Measure the steering resistance in both directions.
 Standard steering resistance (Reference): 6 N*m (60 kgf*cm, 53 in.*lbf) HINT:

Tire type, tire pressure and type of surface beneath the vehicle should be taken into consideration before making your diagnosis.

(e) Tighten the steering wheel set nut. Torque: 50 N*m (510 kgf*cm, 37 ft.*lbf)

(f) Install the steering pad (see page RS-187).