STEERING SYSTEM

SECTION ST

CONTENTS

Refer to section MA for:

CHECKING WHEEL ALIGNMENT

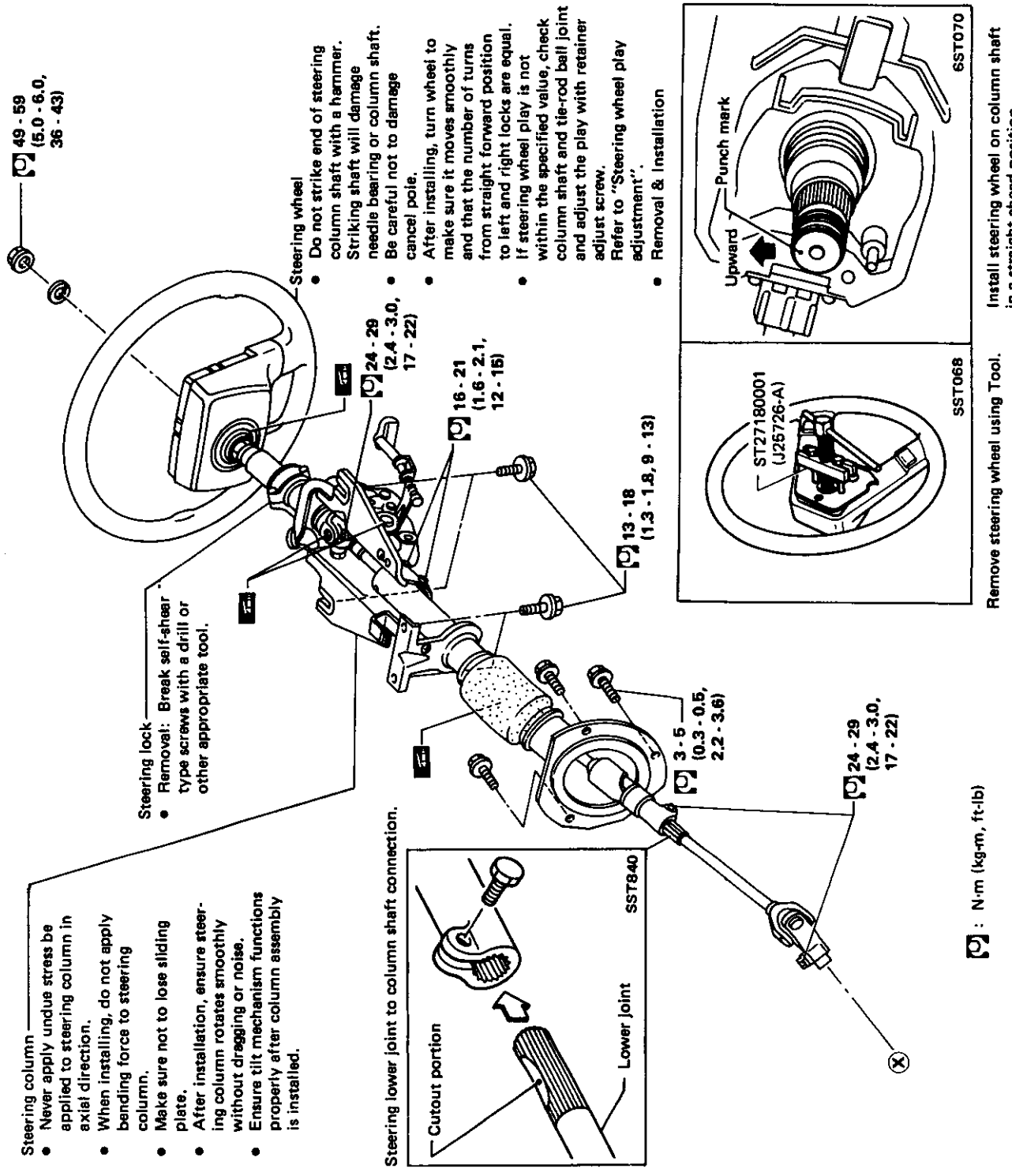
- Toe-in
- Front wheel turning angle

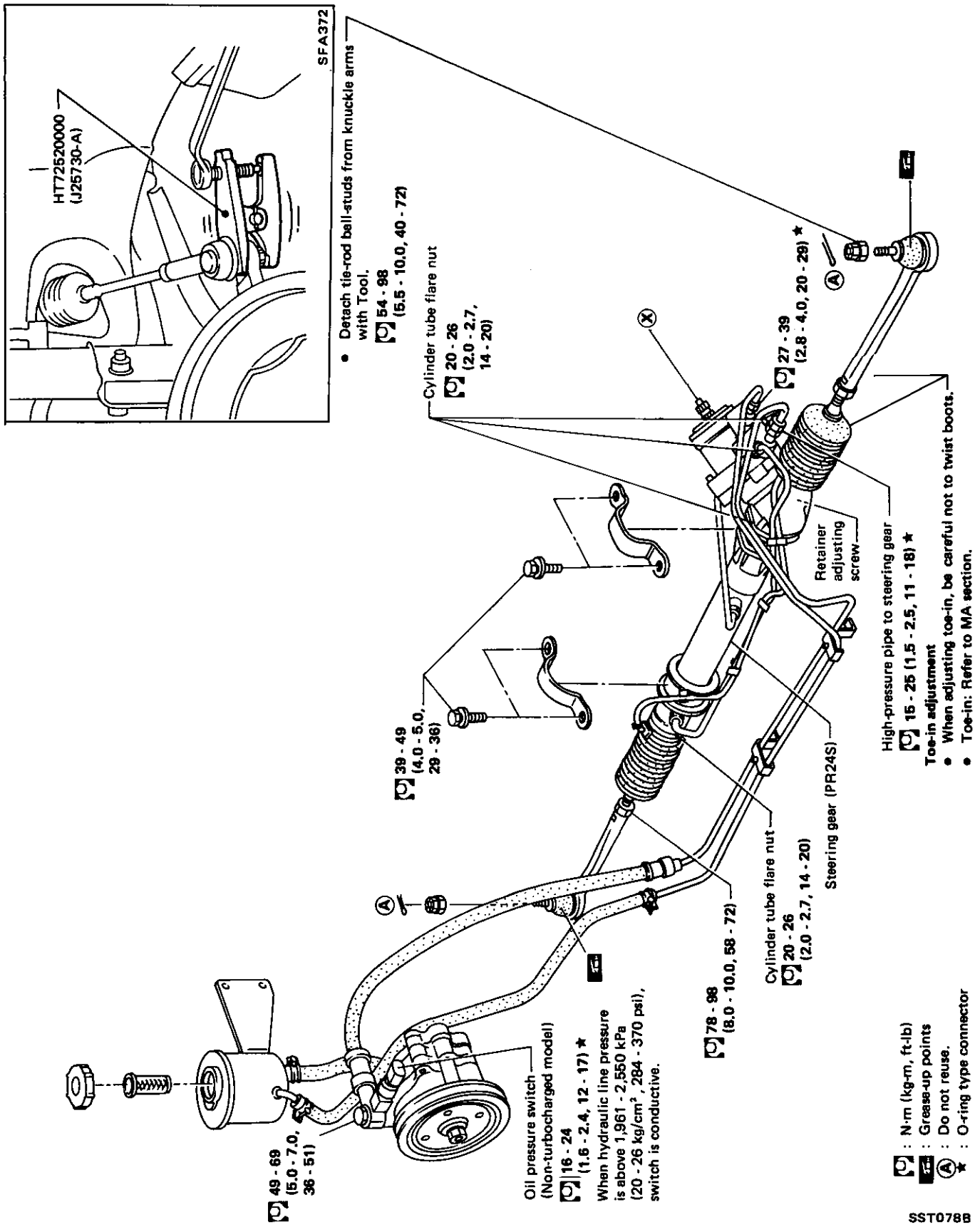
BASIC MECHANICAL SYSTEM

- Checking drive belts

STEERING SYSTEM

- Fully turn steering wheel to the right and disconnect whole hydraulic line to steering gear assembly, then remove steering gear.
- Whenever disconnecting hydraulic lines, cover openings to prevent foreign material from entering.
- Be careful not to damage hydraulic line connection.
- Do not reuse O-ring in hydraulic system.
- When connecting hydraulic line, apply a coat of automatic transmission fluid "Dexron Type" to O-rings.
- If disconnecting hydraulic line, always perform leak test and bleed air from line after filling it with oil.
- After properly installing steering gear and linkage, check wheel alignment. Refer to section MA.



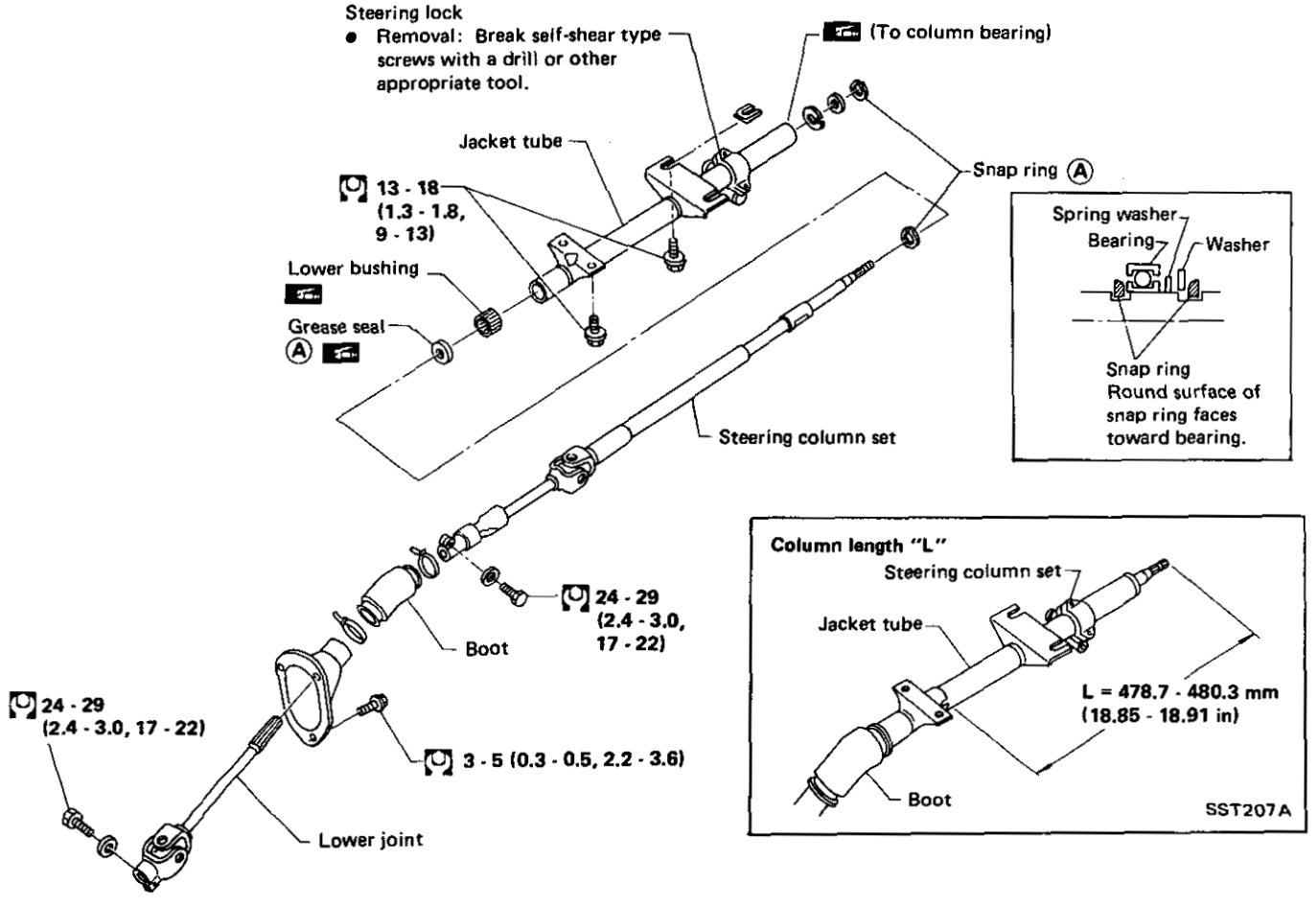

SFA372
HT72520000 (J25730-A)
• Detach tie-rod ball-studs from knuckle arms with Tool.
54 - 98 (5.5 - 10.0, 40 - 72)
Cylinder tube flare nut
20 - 26 (2.0 - 2.7, 14 - 20)
27 - 39 (2.8 - 4.0, 20 - 29) ★
Retainer adjusting screw
High-pressure pipe to steering gear
15 - 25 (1.5 - 2.5, 11 - 18) ★
Toe-in adjustment
• When adjusting toe-in, be careful not to twist boots.
• Toe-in: Refer to MA section.
39 - 49 (4.0 - 5.0, 29 - 36)
Cylinder tube flare nut
20 - 26 (2.0 - 2.7, 14 - 20)
Steering gear (PR24S)
78 - 98 (8.0 - 10.0, 58 - 72)
Oil pressure switch (Non-turbocharged model)
16 - 24 (1.6 - 2.4, 12 - 17) ★
When hydraulic line pressure is above 1,961 - 2,550 kPa (20 - 26 kg/cm², 284 - 370 psi), switch is conductive.
49 - 69 (5.0 - 7.0, 36 - 51)
: N·m (kg-m, ft-lb)
: Grease-up points
: Do not reuse.
: O-ring type connector
SST078B

STEERING COLUMN

- Never in any case should undue stress be applied to steering column in axial direction.
- When installing, do not apply bending force to steering column.
- Be careful not to lose sliding plate.
- When the vehicle comes into light collision, check dimension "L", between steering column upper end and jacket tube crashable area.

  Column length "L" = 478.7 mm - 480.3 mm (18.85 - 18.91 in)
  (Measure "L" at neutral position of steering column if equipped with tilt mechanism)
- Check steering column for smooth rotation without binding and noise. If it does not rotate smoothly, check as follows:

Non-tilt Type Column

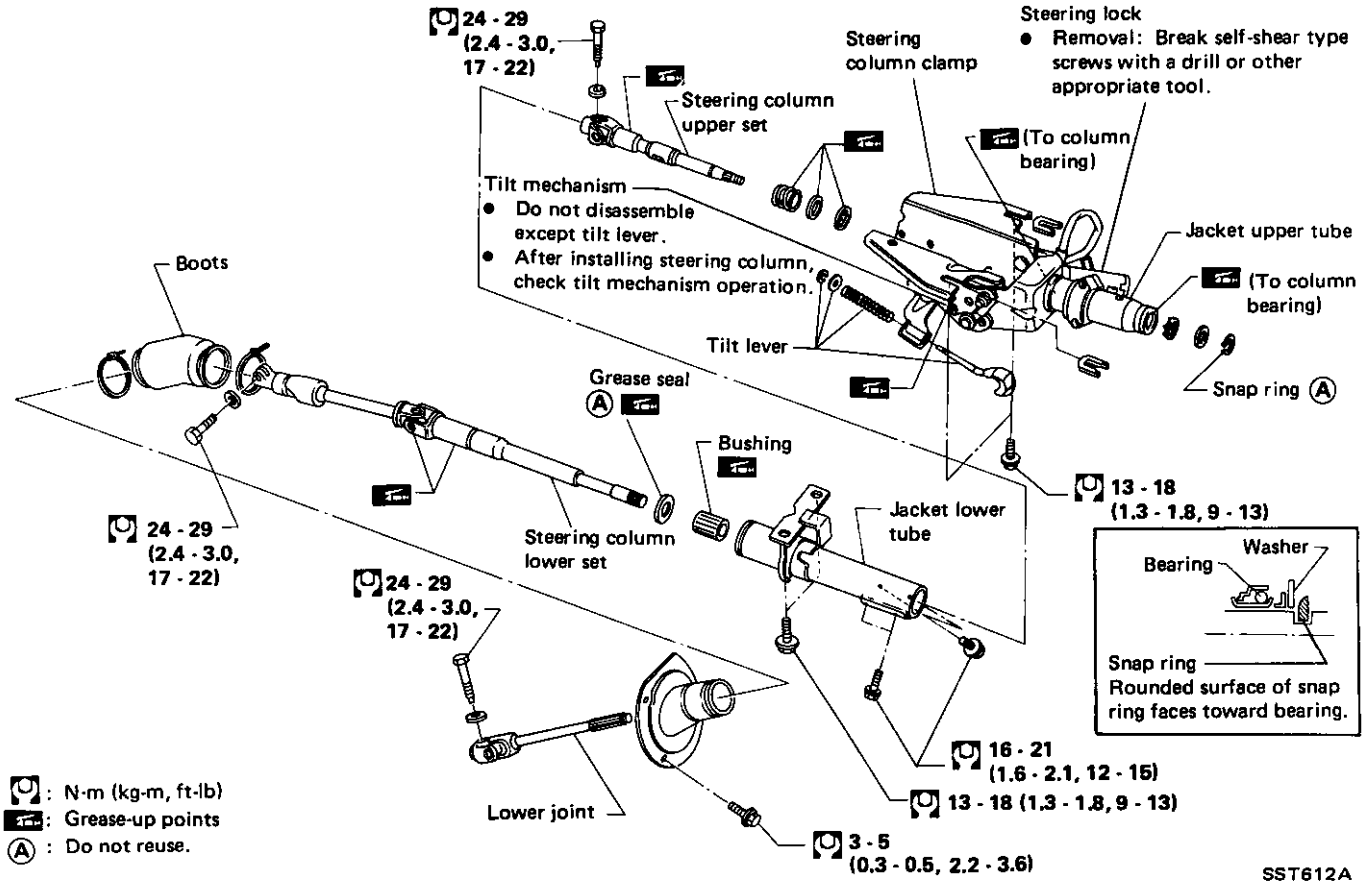


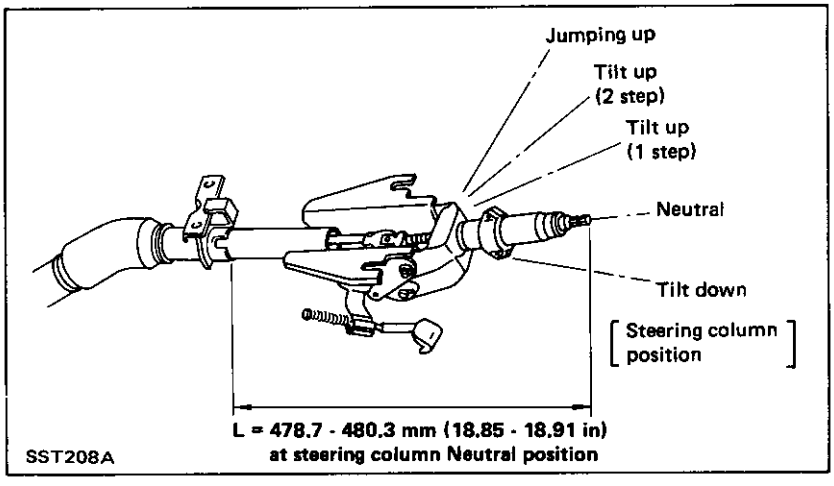
: N·m (kg-m, ft-lb)
: Grease-up points
Ⓐ : Do not reuse.

SST205A

STEERING COLUMN

Tilt Type Column





POWER STEERING SYSTEM —Checking

Fluid Level Check

Check the fluid level when the fluid is cold.
Refer to MA section.

Power Steering Pump Belt Tension

Refer to MA section.

Fluid Leakage Check

1. Run engine at idle speed or 1,000 rpm.
   Make sure temperature of fluid in tank rises to 60 to 80°C (140 to 176°F).
2. Turn steering wheel right-to-left several times.
3. Hold steering wheel at each "lock" position for five seconds and carefully check for fluid leakage.

CAUTION:

- **Do not hold steering wheel at "lock" position for more than 15 seconds at a time.**
- **If fluid leaks at connectors, replace O-ring (if equipped). Do not overtighten connector as this can damage O-ring and connector.**

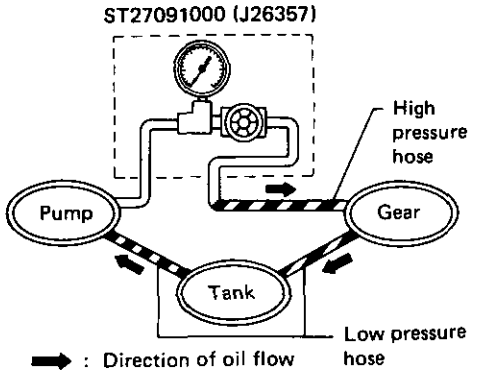
Bleeding Hydraulic System

1. Raise front end of vehicle until wheels clear ground.
2. While adding fluid, quickly turn steering wheel fully to right and left and lightly touch steering stoppers.
   Repeat steering wheel operation until fluid level no longer decreases.
3. Start engine.
   Repeat step 2 above.

Hydraulic System Check

Before starting, check belt tension, driving pulley and tire pressure. (Refer to MA section.)

1. Set Tool. Open shut off valve. Then bleed air. (See "Bleeding Hydraulic System".)



SST834

2. Run engine.

Make sure temperature of fluid in tank rises to 60 to 80°C (140 to 176°F).

3. Check pressure with steering wheel fully turned to left and right position.

CAUTION:

Do not hold steering wheel at lock position for more than 15 seconds.

Oil pump maximum pressure:
6,669 - 7,257 kPa
(68 - 74 kg/cm², 967 - 1,052 psi) at idling

4. If oil pressure is below the standard, slowly close shut-off valve and check pressure.
   - If pressure raises to standard, gear is damaged.
   - If pressure remains below standard, pump is damaged.
     Gear may be damaged.
5. If oil pressure is above the standard, pump may be damaged.

CAUTION:

Do not close shut-off valve for more than fifteen seconds.

6. After checking hydraulic system, remove Tool and add fluid as necessary, then completely bleed air out of system.

POWER STEERING SYSTEM —Checking

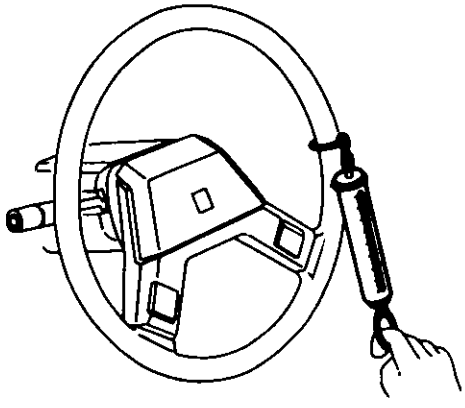
Turning Force Check

1. Park vehicle on a level, dry surface and set parking brake.
2. Bring power steering fluid up to adequate operating temperature. [Temperature of fluid is approximately 60 to 80°C (140 to 176°F)].

- **Tires must be inflated to normal pressure.**

3. Check steering wheel turning force when steering wheel has been turned 360° from neutral position with engine running.

Steering wheel turning force:
39.2 N (4.0 kg, 8.8 lb) or less



SST474

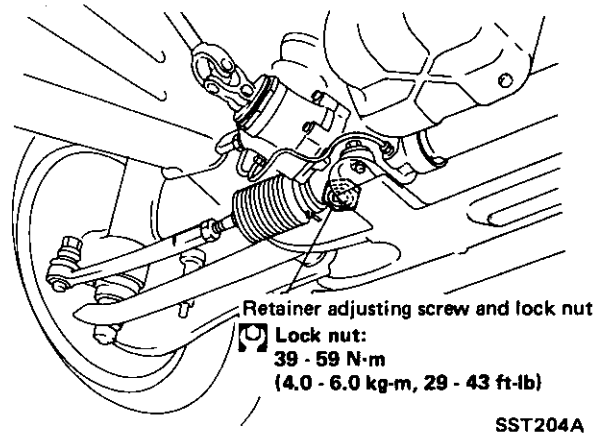
Steering Wheel Play Adjustment

Steering wheel axial play:
0 mm (0 in)
Steering wheel play:
35 mm (1.38 in) or less

If steering wheel play is not within specifications, check condition of column shaft and tie-rod ball joints. If they are in good order, adjust rack retainer.

Rack retainer adjustment:

a) Adjust only when steering wheel play does not meet specifications.
b) Prior to adjustment, completely loosen adjustment screw, clean old locking sealer and apply new locking sealer.
Tighten the screw to approximately 3 N·m (0.3 kg-m, 2.2 ft-lb) and back off by 20° to 25°. Measure steering wheel play to make sure it is within specifications. Then tighten lock nut.



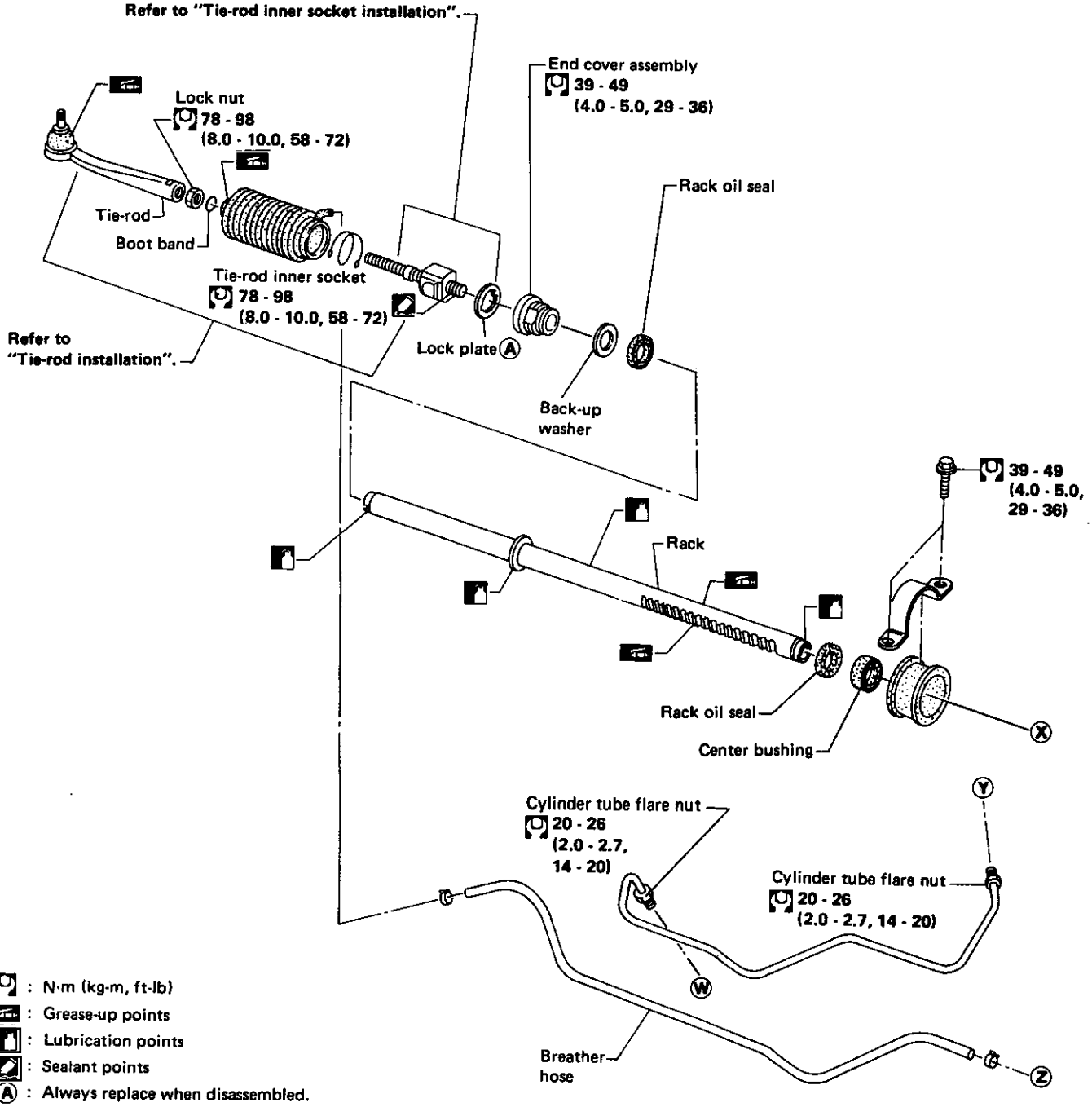
SST204A

c) After adjustment, drive vehicle at low speeds to check for proper operation of steering system.

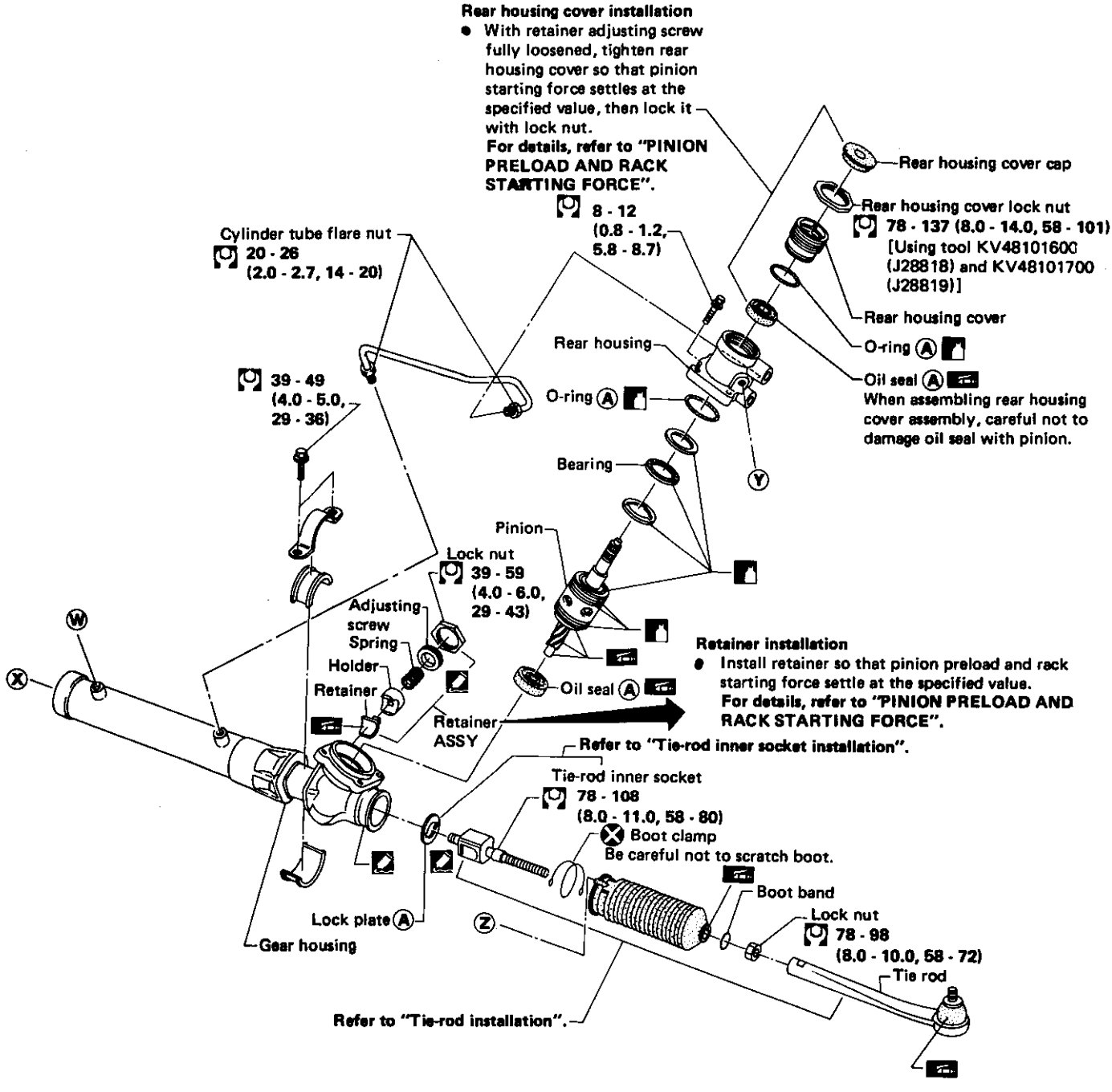
POWER STEERING GEAR AND LINKAGE

Disassembly and Assembly

- Do not disassemble unless repairing to stop oil leak, replacing tie-rod and tie-rod inner socket ball joint, or for various adjustments.
- Do not reuse O-rings or oil seals.
- When assembling, apply a coat of oil to mating surfaces of O-rings and oil seals.
- When assembling, be careful not to damage oil seals.
- Before starting work, thoroughly clean all parts in cleaning solvent or automatic transmission fluid "Dexron Type" and blow dry with compressed air, if available.
- After assembling tie-rod inner socket to rack & housing assembly, check rack stroke (refer to "Rack stroke").



: N·m (kg-m, ft-lb)
: Grease-up points
: Lubrication points
: Sealant points
A : Always replace when disassembled.


Rear housing cover installation
● With retainer adjusting screw fully loosened, tighten rear housing cover so that pinion starting force settles at the specified value, then lock it with lock nut.
For details, refer to "PINION PRELOAD AND RACK STARTING FORCE".
8 - 12 (0.8 - 1.2, 5.8 - 8.7)
Rear housing cover cap
Rear housing cover lock nut
78 - 137 (8.0 - 14.0, 58 - 101)
[Using tool KV48101600 (J28818) and KV48101700 (J28819)]
Rear housing cover
O-ring (A)
Oil seal (A)
When assembling rear housing cover assembly, careful not to damage oil seal with pinion.
Cylinder tube flare nut
20 - 26 (2.0 - 2.7, 14 - 20)
39 - 49 (4.0 - 5.0, 29 - 36)
Rear housing
O-ring (A)
Bearing
Pinion
Lock nut
39 - 59 (4.0 - 6.0, 29 - 43)
Adjusting screw
Spring
Holder
Retainer
Retainer ASSY
Oil seal (A)
Retainer installation
● Install retainer so that pinion preload and rack starting force settle at the specified value.
For details, refer to "PINION PRELOAD AND RACK STARTING FORCE".
Refer to "Tie-rod inner socket installation".
Tie-rod inner socket
78 - 108 (8.0 - 11.0, 58 - 80)
Boot clamp
Be careful not to scratch boot.
Boot band
Lock nut
78 - 98 (8.0 - 10.0, 58 - 72)
Tie rod
Lock plate (A)
Gear housing
Refer to "Tie-rod installation".
W
X
Y
Z
SST056B

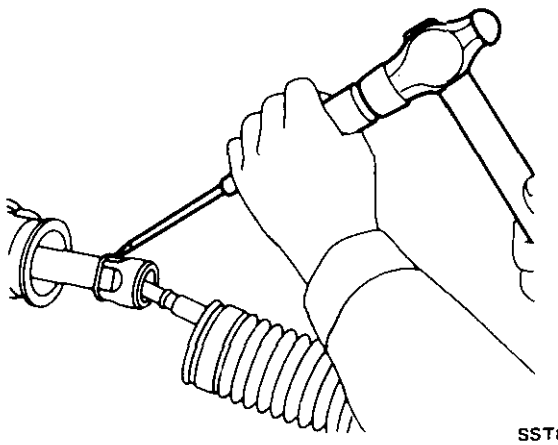
Disassembly

CAUTION:

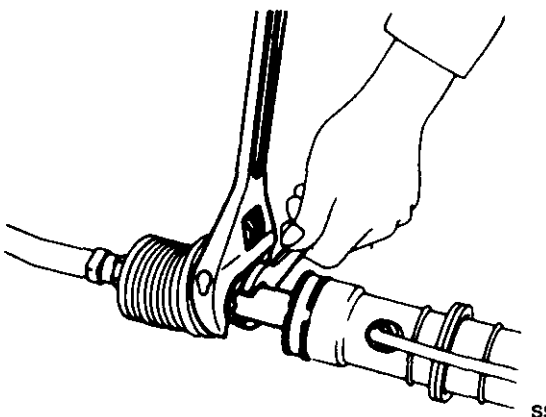
- The parts which can be disassembled are strictly limited, and never disassemble parts other than the specified ones.
- Disassembly should be performed in a place as clean as possible.
- Hands should be cleaned before disassembly.
- Do not use a rag. Be sure to use nylon or paper cloth.
- When disassembling and reassembling, do not allow any foreign matter to enter or contact any parts of steering gear.

1. Remove tie-rod assembly.

- Flatten lock plate.

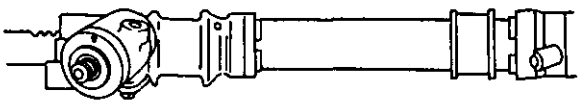


SST881



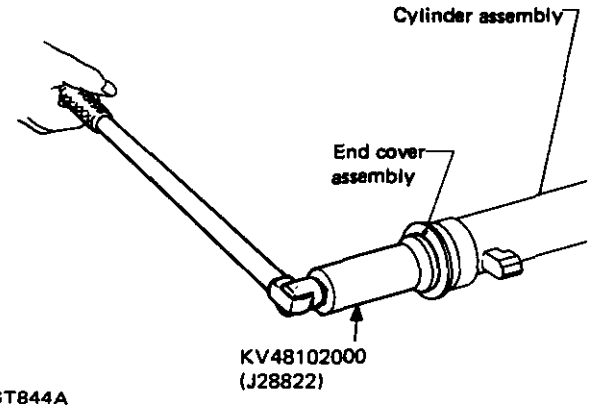
SST409

2. Remove retainer.
3. Remove pinion assembly.



SST094B

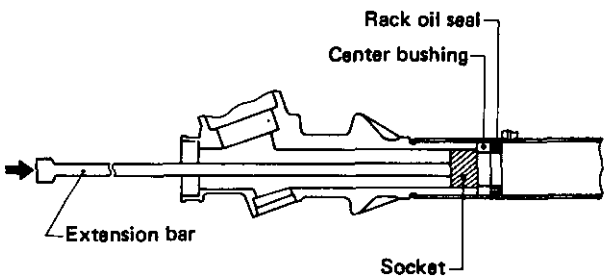
4. Remove end cover assembly with Tool.



SST844A

5. Draw out rack assembly.
6. Remove rack packing and back-up collar with socket and extension bar.

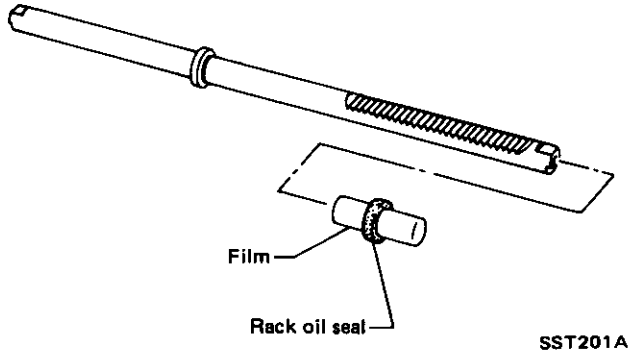
Do not scratch inner surfaces of cylinder.



SST472A

Assembly

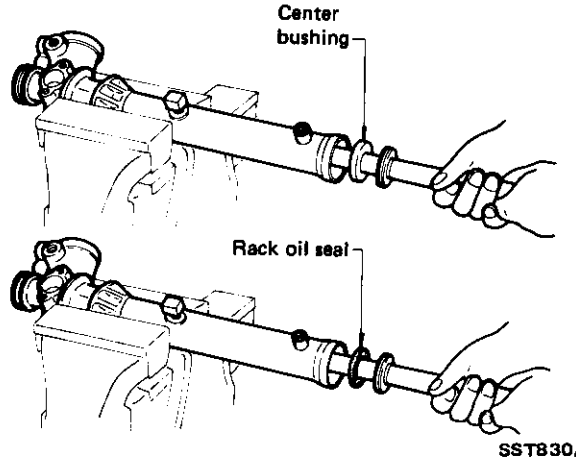
1. Insert rack packing.
- Place plastic film on inner side of rack packing to prevent damage by rack teeth.
- Always remove plastic film after rack oil seal is positioned properly.



SST201A

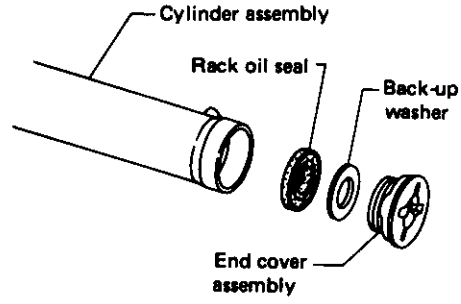
2. Install center bushing and rack oil seal with rack assembly.

Coat rack teeth with multi-purpose grease.



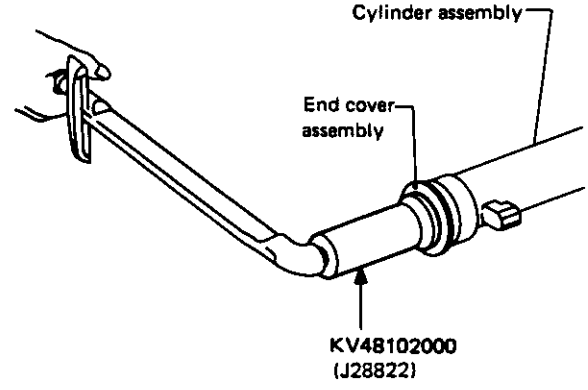
SST830A

3. Install back-up washer and rack oil seal to cylinder assembly.



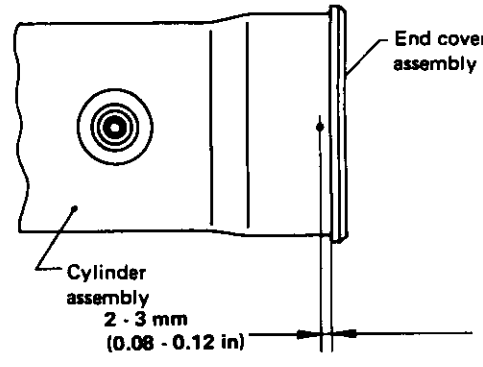
SST765A

4. Tighten end cover assembly with Tool.



SST759A

5. Fasten end cover assembly to cylinder assembly by staking.

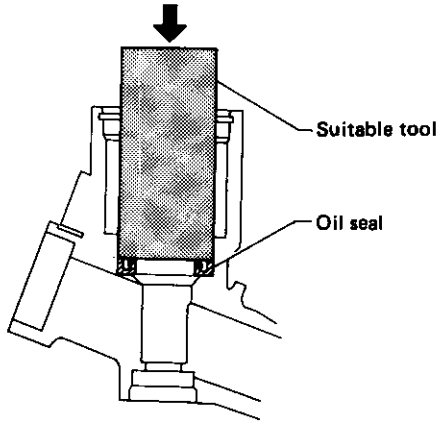


SST827A

6. Set rack gear in neutral position.

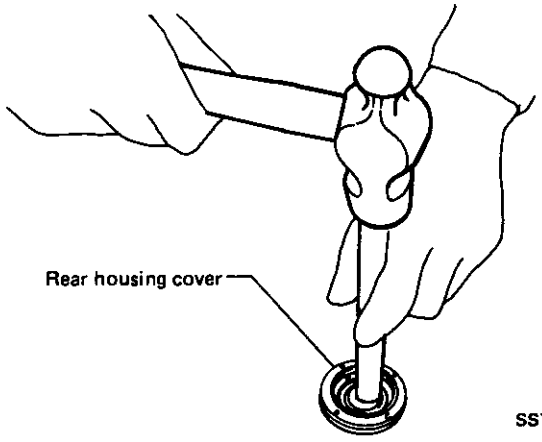
Assembly (Cont'd)

7. Coat seal lip of oil seal with multi-purpose grease and install new pinion oil seal to pinion housing with suitable tool.



SST381A

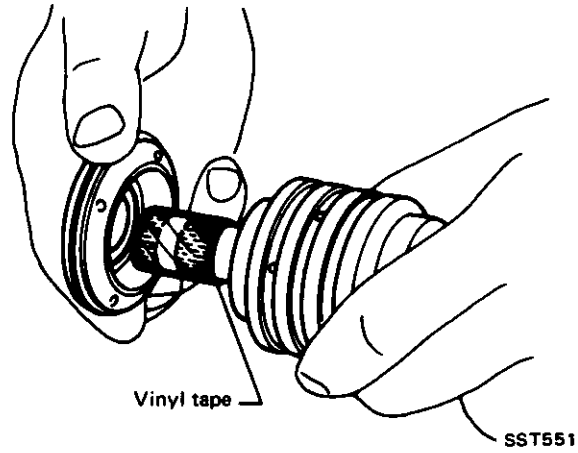
8. Install rear oil seal using suitable tool.



SST268A

9. Install rear housing cover assembly to pinion.

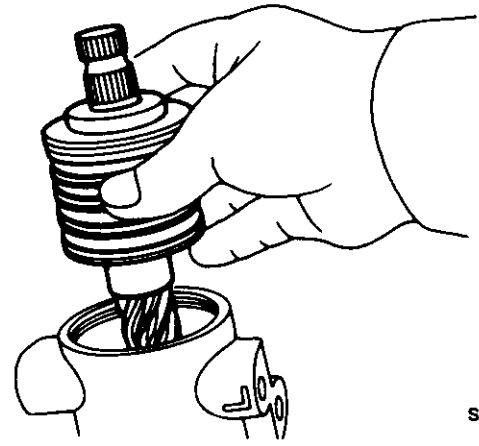
Wrap vinyl tape around pinion serrations to prevent oil seal from being damaged.



SST551

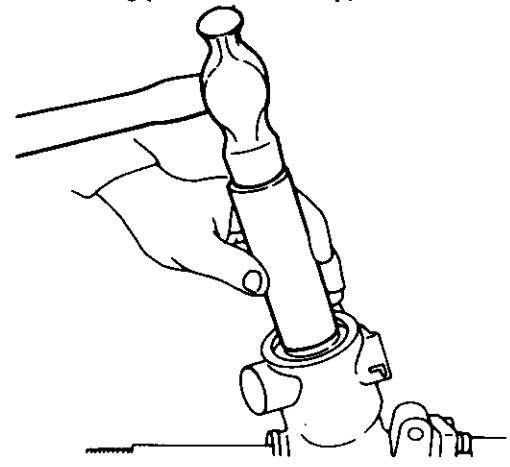
10. Install pinion assembly to pinion housing.

Be careful not to damage pinion teflon ring.



SST552

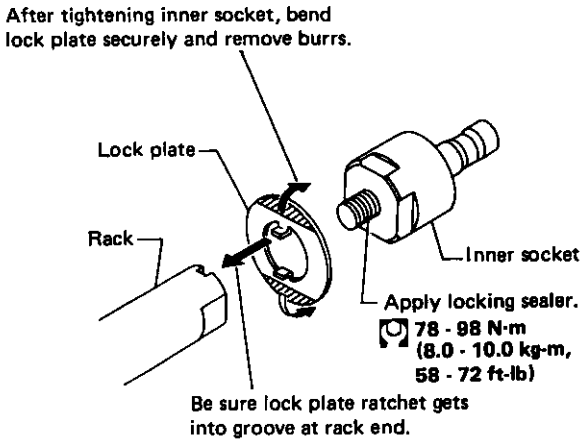
When installing pinion assembly, use suitable tool.



SST574

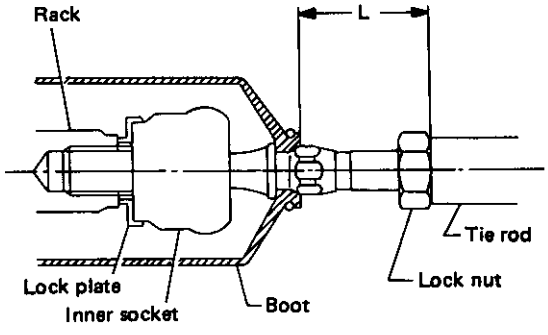
Assembly (Cont'd)

11. Install tie-rod inner socket.



SST213A

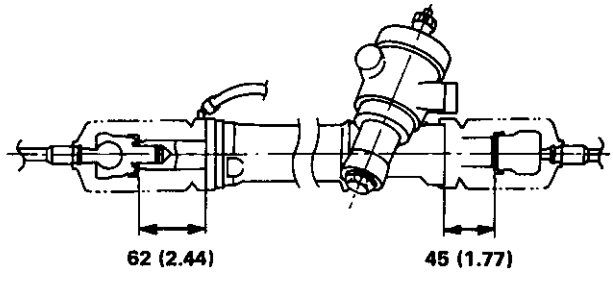
12. Install tie-rod.



- Standard dimension L = 42.9 mm (1.689 in)
- When installing tie-rod or adjusting toe-in, be careful not to twist boots.
- Toe-in: Refer to MA section.

SST936A

13. Measure rack stroke.

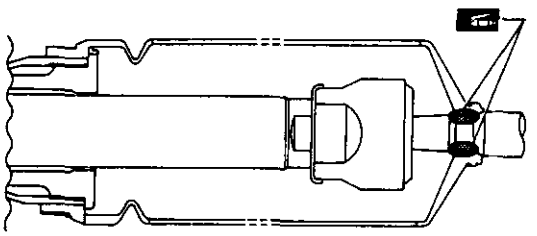


Unit: mm (in)

SST841A

Assembly (Cont'd)

14. Apply a coat of sealant to contact surfaces between boot and cylinder before installing boot.

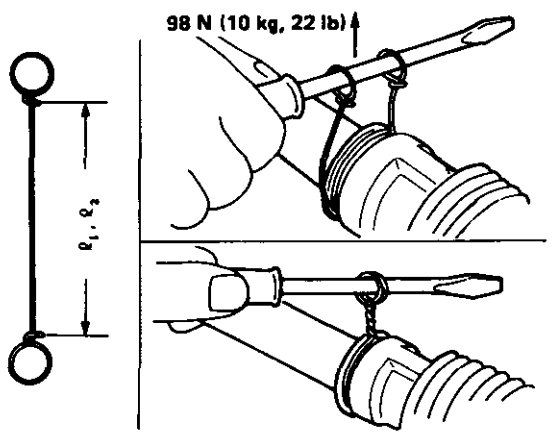


SST967A

15. Install boot clamps.

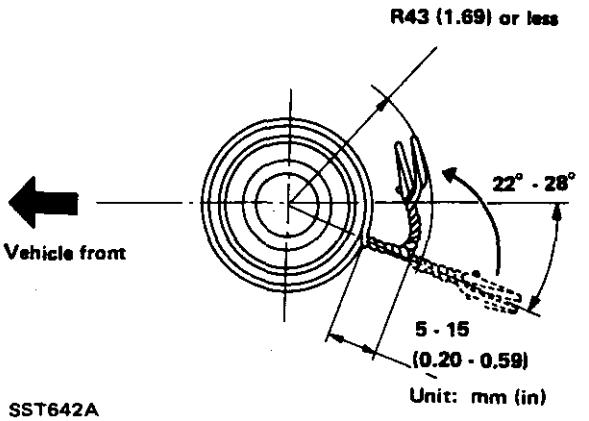
- To install, wrap boot clamp around boot groove twice. Tighten clamp by twisting rings at both ends four or four and a half turns with screwdriver while pulling with a force of approx. 98 N (10 kg, 22 lb).

Boot clamp length: ℓ_1, ℓ_2
ℓ_1 = 390 mm (15.35 in)
... at pinion gear side
ℓ_2 = 430 mm (16.93 in)
... at opposite pinion gear side



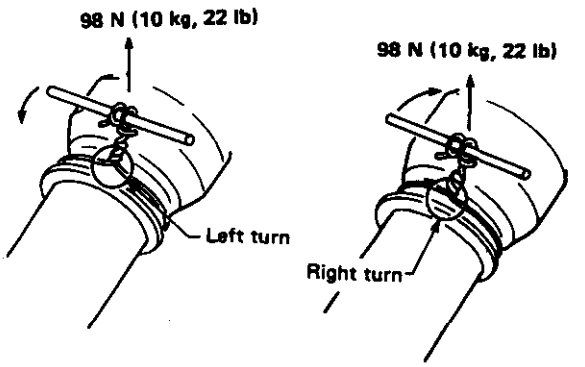
SST438A

- Install boot clamp so that it is to the rear of the vehicle when gear housing is attached to the body. (This will avoid interference with other parts.)



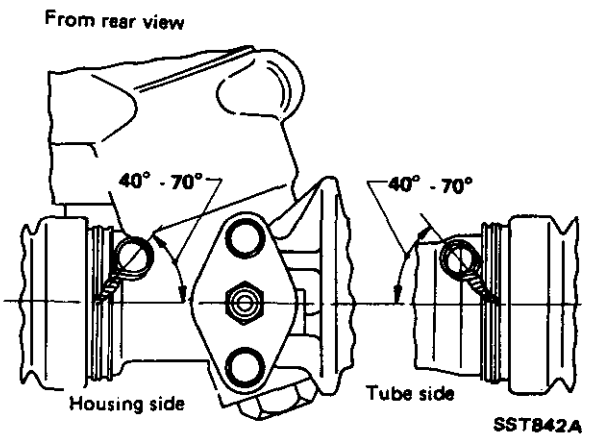
SST642A

- Twist boot clamp in the direction shown in figure at left.



SST440A

- After twisting boot clamp four or four and a half turns, bend twisted end diagonally so it does not contact boot.



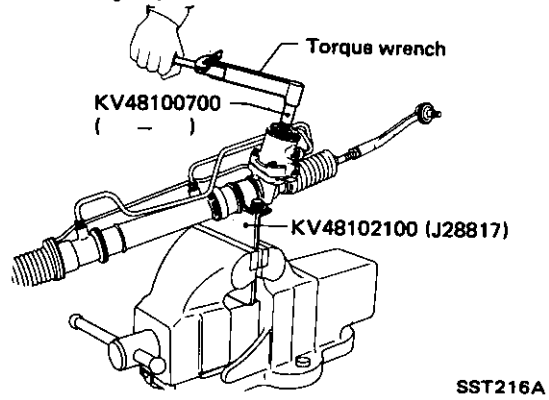
SST842A

Inspection and Adjustment

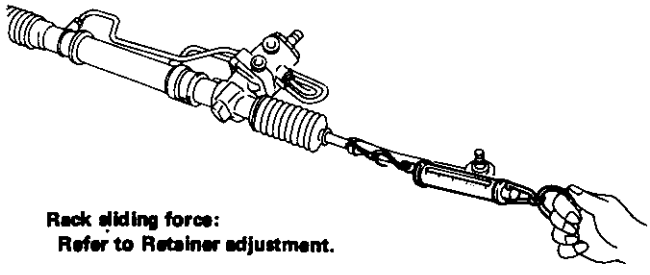
PINION PRELOAD AND RACK STARTING FORCE

- After disconnecting hydraulic line and draining fluid, measure them.

Pinion rotating torque:
1.9 N·m (19 kg-cm, 16 in-lb) or less



SST216A



Rack sliding force:
Refer to Retainer adjustment.

SST217A

- If they are not within specifications, adjust retainer adjusting screw.
- If retainer adjustment cannot be made properly, fully loosen retainer adjusting screw, and then adjust pinion preload.
  Then readjust retainer adjusting screw.
- If pinion preload adjustment cannot be made properly, replace steering gear assembly.

Retainer adjustment (VG30E engine model)

1. Remove retainer adjusting screw and clean old locking sealer off the threads.
2. Apply new locking sealer to the threads. Tighten the screw to approximately 3 N·m (0.3 kg-m, 2.2 ft-lb) and back it off by 20° to 25°.
3. If pinion and rack preloads are within specified ranges, tighten lock nut securely. (Check rack for smooth movement over its entire stroke.)

   Pinion rotating torque:
   1.9 N·m (19 kg-cm, 16 in-lb) or less

   Rack sliding force:
   245 N (25 kg, 55 lb) or less
   in neutral position

   : **Retainer adjusting screw lock nut:**
   39 - 59 N·m
   (4.0 - 6.0 kg-m, 29 - 43 ft-lb)

Retainer adjustment (VG30ET engine model)

1. Remove retainer adjusting screw and clean old locking sealer off the threads.
2. Apply new locking sealer to the threads. Tighten the screw to approximately 3 N·m (0.3 kg-m, 2.2 ft-lb) and back it off by 20° to 25°.
3. If pinion and rack preloads are within specified ranges, tighten lock nut securely. (Check rack for smooth movement over its entire stroke.)

   Pinion rotating torque:
   1.9 N·m (19 kg-cm, 16 in-lb) or less

   Rack sliding force (F_1):
   245 N (25 kg, 55 lb) or less
   in neutral position

   : **Retainer adjusting screw lock nut**
   39 - 59 N·m
   (4.0 - 6.0 kg-m, 29 - 43 ft-lb)

4. Check rack sliding force (F_2), when installing steering gear assembly on vehicle and starting engine.

   Rack sliding force (F_2):
   245 N (25 kg, 55 lb) or more

5. After checking rack sliding force (F_2), make sure that the handle returns smoothly when driving.

Inspection and Adjustment (Cont'd)

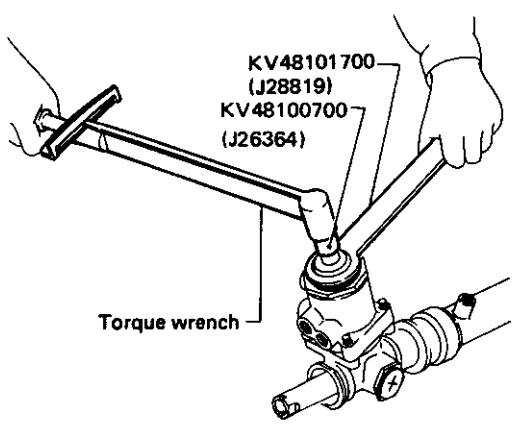
CAUTION:
When changing retainer spring, use the same part number retainer spring as the former retainer spring.

Part number	Set load N (kg, lb)	Identification (Color)
48237-F6100	127 (13, 29)	Brown
48237-F6101	157 (16, 35)	Pink
48237-W1000	186 (19, 42)	Unpainted
48237-F6102	216 (22, 49)	Green
48237-F6103	245 (25, 55)	Purple

Pinion preload adjustment

Before making pinion preload adjustment, make sure retainer adjusting screw is loosened completely.

1. Screw in rear housing cover completely and back it off by 180° to 360°. Then turn pinion a few rotations and then measure pinion starting torque.



SST218A

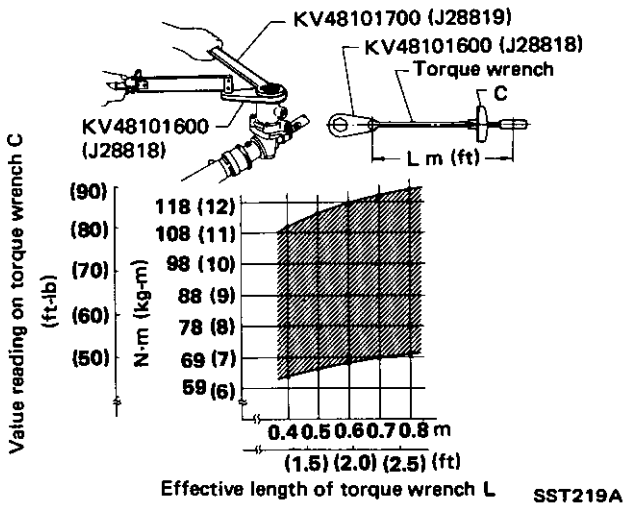
Pinion starting torque T_1 :
0.7 N·m (7 kg-cm, 6.1 in-lb) or less

Free play should not be allowed for pinion.

2. Screw in rear housing cover until pinion starting torque reaches "T_2"; then tighten lock nut.

$T_2 = T_1 + 0.5$ N·m (5 kg-cm, 4.3 in-lb)

: **Lock nut**
78 - 137 N·m
(8.0 - 14.0 kg-m, 58 - 101 ft-lb)



SST219A

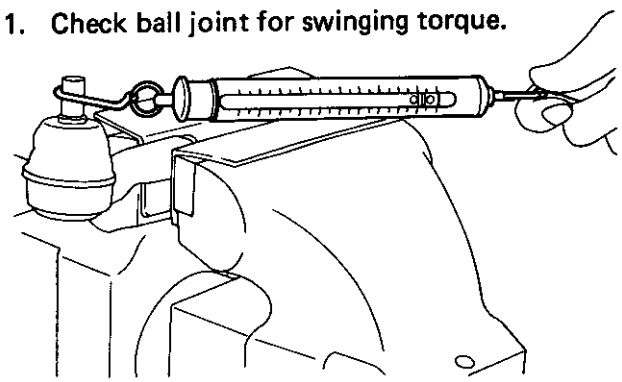
3. Measure pinion starting torque T_3 to make sure it is within specified range.

T_3 :
0.8 N·m (8 kg-cm, 6.9 in-lb) or less and
T_1 + [0.10 - 0.25 N·m (1.0 - 2.5 kg-cm, 0.87 - 2.17 in-lb)]

4. If T_3 does not meet the above two values, repeat step 2 and re-adjust pinion preload.

TIE-ROD OUTER SOCKET

1. Check ball joint for swinging torque.


SST130A

Inspection and Adjustment (Cont'd)

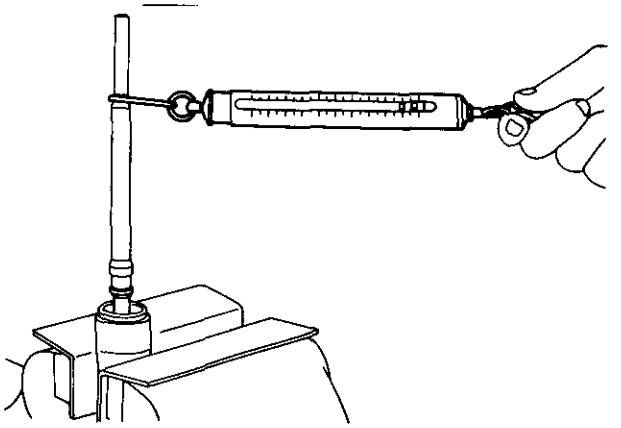
Tie-rod outer socket:
Swinging torque
0.15 - 2.94 N·m
(1.5 - 30 kg-cm, 1.3 - 26.0 in-lb)

2. Check condition of dust cover. If it is cracked excessively, replace.

TIE-ROD INNER SOCKET

Check inner socket for swinging torque and axial play. If ball stud is worn and play in axial direction is excessive or joint is hard to swing, replace as a complete unit.

Tie-rod inner socket:
Swinging torque
0.1 - 7.8 N·m
(1 - 80 kg-cm, 0.9 - 69.4 in-lb)
Axial play
0 mm (0 in)



SST106A

BOOT

Check condition of boot. If it is cracked, replace boot.

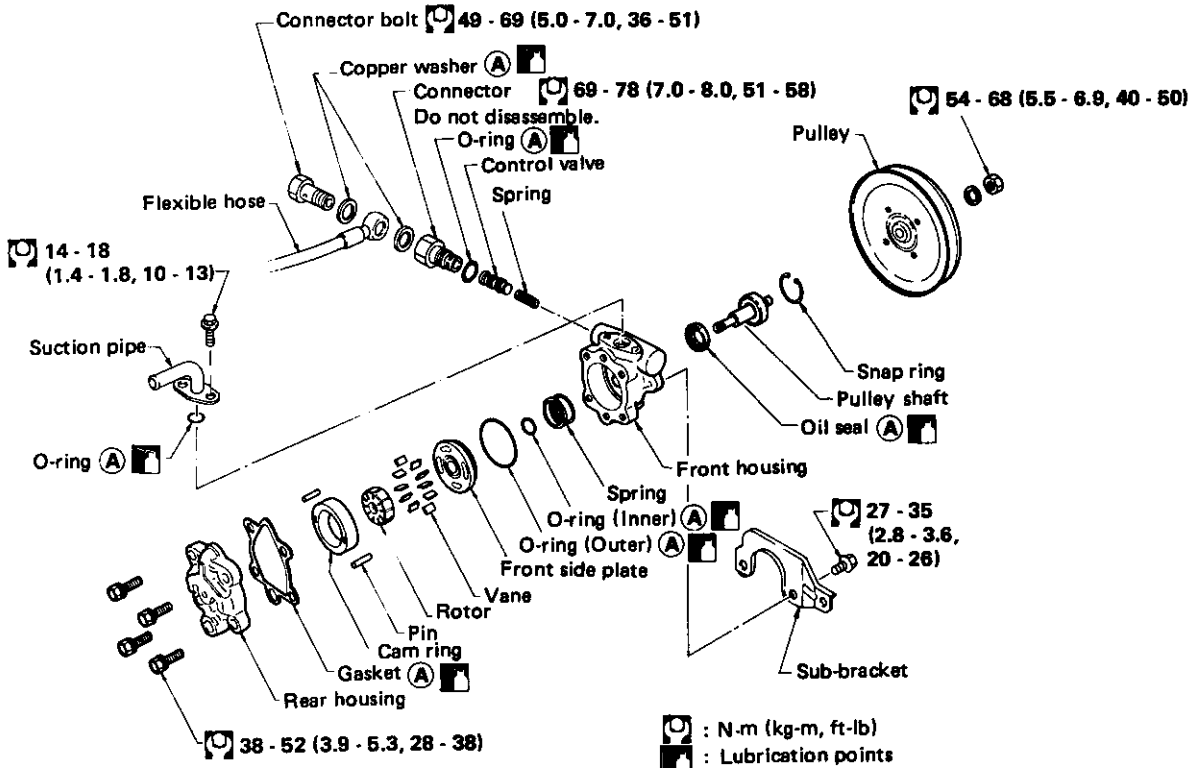
CYLINDER TUBES AND BREATHER HOSE

Check cylinder tubes and breather hose for scratches or other damage.
Replace if necessary.

STEERING GEAR COMPONENT PARTS

Thoroughly examine steering gear component parts. If those parts are damaged, cracked or worn, replace steering gear as an assembly.

POWER STEERING OIL PUMP

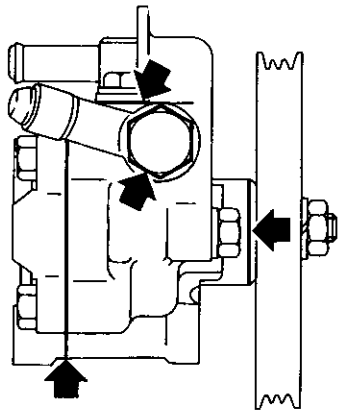


SST979A

Pre-disassembly Inspection

The power steering oil pump should be disassembled only if any of the following conditions are observed.

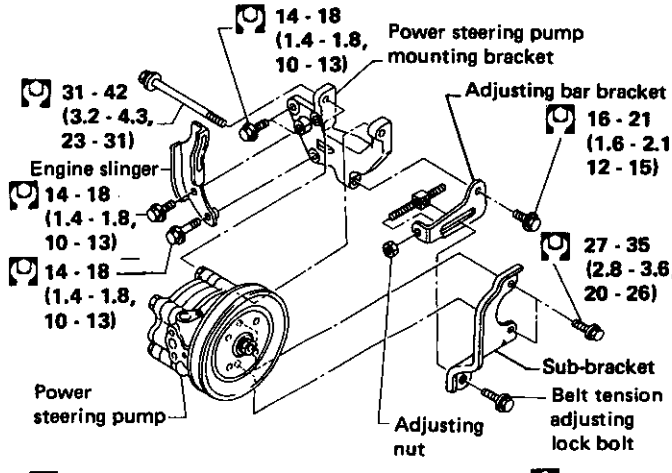
- Oil leak at the following points



SST984A

- Deformed or damaged pulley

Oil Pump Installation



SST221A

- After installing oil pump, adjust belt tension. Refer to MA section.

POWER STEERING OIL PUMP

Disassembly

CAUTION:

- **The parts which can be disassembled are strictly limited. Never disassemble parts other than the specified ones.**
- **Disassembly should be performed in a place as clean as possible.**
- **Do not use a rag. Be sure to use nylon or paper cloth.**
- **When disassembling and reassembling, do not allow any foreign material to enter or contact any parts.**

1. Remove rear cover upward.

- **Be careful not to lose the 2 pins as they often stick to rear cover.**

2. Carefully remove cam ring, rotor and vanes.
3. Remove snap ring, then draw pulley shaft out.

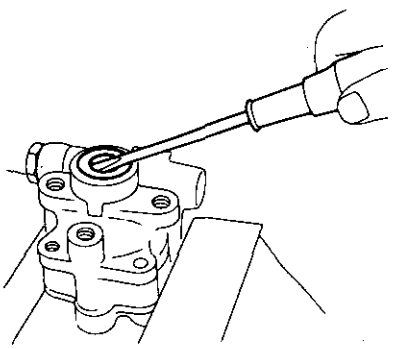
- **Be careful not to drop pulley shaft.**
- **Be careful not to damage rotor. If damaged, replace as a pump assembly.**

4. Remove front side plate.

- **Do not damage inside of front housing.**

5. Remove oil seal from front housing.

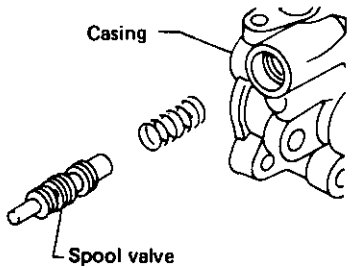
- **Be careful not to damage front housing.**



SST034A

6. Remove connector bolt.
7. Remove connector.

- **Be careful not to drop spool valve.**



SST036A

8. Remove suction pipe, then remove O-ring.

Inspection

Clean all disassembled parts (inside pump) with suitable cleaning solvent.

INSIDE PARTS

If there are any cracks or flaws, replace pump assembly.

PULLEY AND PULLEY SHAFT

- **If pulley is cracked or deformed, replace it.**
- **If an oil leak is observed around pulley shaft oil seal, replace it.**
- **If serration of pulley or pulley shaft is deformed or worn, replace it.**

OIL PRESSURE SWITCH
(Non-turbocharged model)

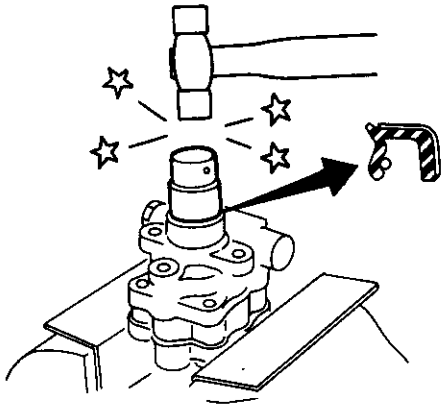
High-pressure side hydraulic line pressure kPa (kg/cm^2, psi)	Operation
Increasing to 1,961 - 2,942 (20- 30, 284 - 427)	Turn ON
Decreasing to Approx. 981 - 2,942 (10 - 30, 142 - 427)	Turn OFF

Refer to "Hydraulic System Check" in "POWER STEERING SYSTEM – Checking".

Assembly

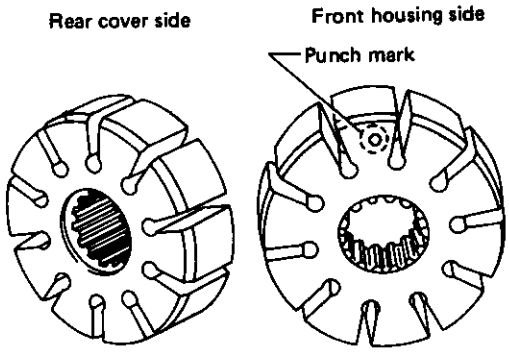
Assemble oil pump in the reverse order of disassembly, noting the following instructions.

- Before installing O-rings and oil seal, apply a thin coat of A.T.F. (Automatic Transmission Fluid) to them.
- Make certain that O-rings and oil seal are installed properly.
- Always install new O-rings and an oil seal.
- Be careful of oil seal direction.



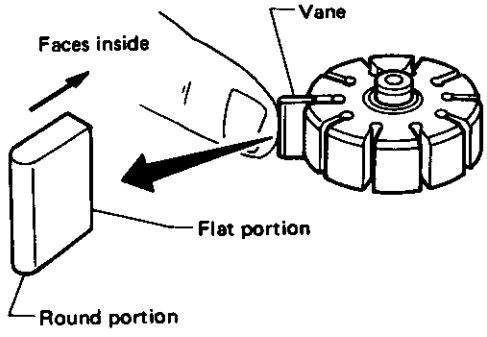
SST038A

- Pay attention to the direction of rotor.



SST289A

- Install vanes the correct way round.

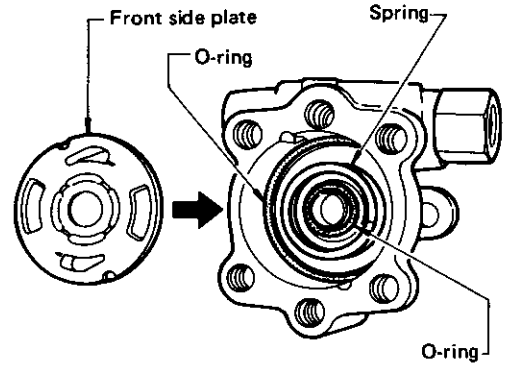


SST843A

- Apply A.T.F.* to O-rings and front side plate.

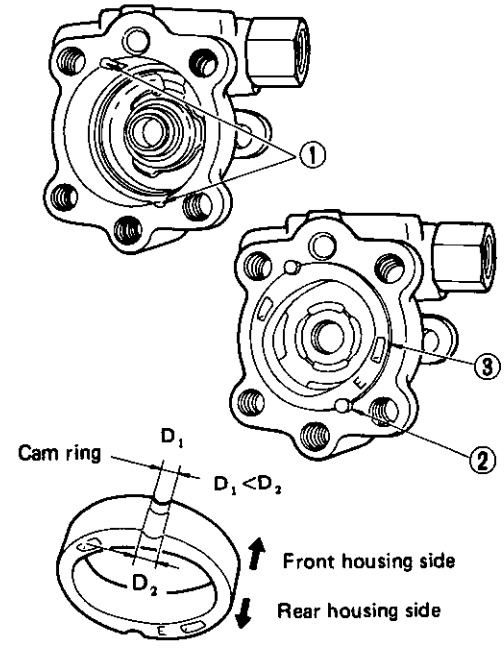
*: Automatic Transmission Fluid

- Take care to fit front side plate the correct way round and do not scratch inside front housing when installing.



SST536A

- Insert pins ② into pin grooves ① of front housing and rotor. Then install cam ring ③ as shown below taking care to fit it the correct way round.



SST497A

SERVICE DATA AND SPECIFICATIONS (S.D.S.)

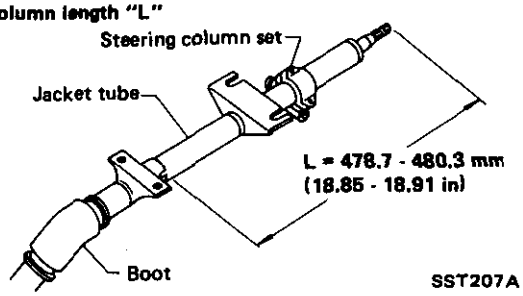
General Specifications

Steering gear type	PR24S [Power steering]
Steering column Type	Collapsible

Column length: L

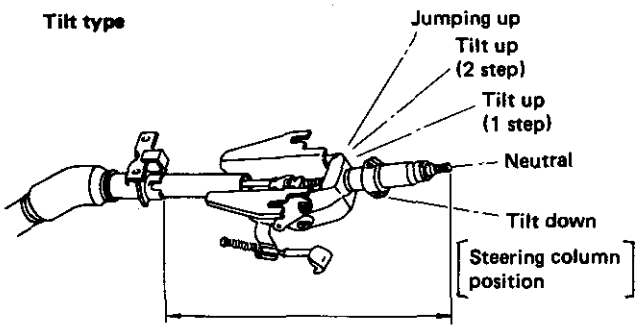
Non-tilt type

Column length "L"



SST207A

Tilt type



SST208A

L = 478.7 - 480.3 mm (18.85 - 18.91 in) at steering column Neutral position

Turn of steering wheel (Lock to lock)	2.8
Steering overall gear ratio	15.3
Power steering fluid Type	Automatic transmission fluid "DEXRON type"
Capacity ℓ (US pt, Imp pt)	Approx. 0.9 (1-7/8, 1-5/8)
Normal operating temperature °C (°F)	60 - 80 (140 - 176)

Inspection and Adjustment

GENERAL

Steering wheel axial play mm (in)	0 (0)
Steering wheel play mm (in)	35 (1.38) or less
Power steering system Steering wheel turning force at 360° position from Neutral N (kg, lb)	39.2 (4.0, 8.8) or less
Oil pump belt deflection (Measured when engine is cold) mm (in)/98 N (10 kg, 22 lb)	New: 10 - 13 (0.39 - 0.51) Used: 13 - 16 (0.51 - 0.63) Limit: 21 (0.83) — Replace belt to new one.
Oil pump maximum pressure kPa (kg/cm², psi)	6,669 - 7,257 (68 - 74, 967 - 1,052)

Oil pressure switch operation

Hydraulic line pressure kPa (kg/cm², psi)	Operation
Increasing to 1,961 - 2,942 (20 - 30, 284 - 427)	Turn ON
Decreasing to 981 - 2,942 (10 - 30, 142 - 427)	Turn OFF

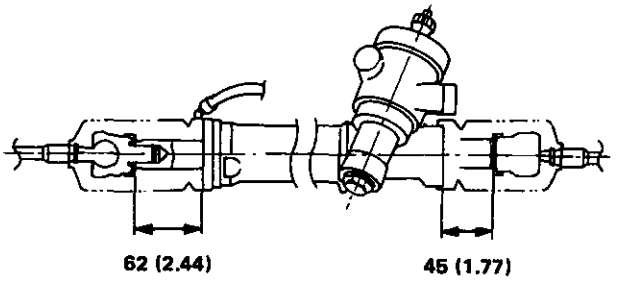
SERVICE DATA AND SPECIFICATIONS (S.D.S.)

Inspection and Adjustment (Cont'd)

STEERING GEAR AND LINKAGE (PR24S)

Tie-rod outer ball joint Swinging torque N·m (kg-cm, in-lb)	0.15 - 2.94 (1.5 - 30, 1.3 - 26.0)
Tie-rod inner ball joint Swinging torque N·m (kg-cm, in-lb)	0.1 - 7.8 (1 - 80, 0.9 - 69.4)
Axial play mm (in)	0 (0)

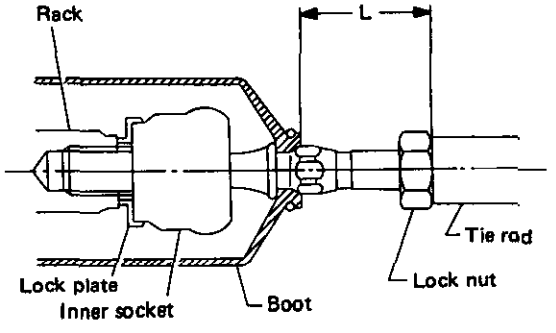
Rack stroke



Unit: mm (in)

SST841A

Tie-rod standard length



- Standard dimension L = 42.9 mm (1.689 in)
- When installing tie-rod or adjusting toe-in, be careful not to twist boots.
- Toe-in: Refer to MA section.

SST936A

Pinion rotating torque (Pinion and rack gear assembly without fluid) N·m (kg-cm, in-lb)	1.9 (19, 16) or less
Rack sliding force in neutral position (Pinion and rack gear assembly without fluid) N (kg, lb)	245 (25, 55) or less

Tightening Torque

STEERING COLUMN

Unit	N·m	kg-m	ft-lb
Steering wheel nut	49 - 59	5.0 - 6.0	36 - 43
Steering column to body	13 - 18	1.3 - 1.8	9 - 13
Hole cover to dash panel	3 - 5	0.3 - 0.5	2.2 - 3.6
Column joint fixing bolt (Lower joint, column set)	24 - 29	2.4 - 3.0	17 - 22
Jacket lower tube to steering column clamp	16 - 21	1.6 - 2.1	12 - 15

STEERING GEAR & LINKAGE (PR24S)

Unit	N·m	kg-m	ft-lb
Tie-rod lock nut	78 - 98	8.0 - 10.0	58 - 72
Tie-rod inner socket to rack (With sealant)	78 - 98	8.0 - 10.0	58 - 72
Cylinder end cover	39 - 49	4.0 - 5.0	29 - 36
Rear housing cover lock nut	78 - 137	8.0 - 14.0	58 - 101
Retainer lock nut	39 - 59	4.0 - 6.0	29 - 43
Cylinder tube flare nut	20 - 26	2.0 - 2.7	14 - 20
Gear & linkage mounting	39 - 49	4.0 - 5.0	29 - 36
Tie-rod to knuckle arm	54 - 98	5.5 - 10.0	40 - 72

OIL PUMP

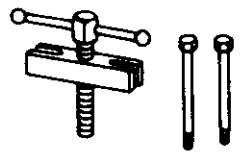
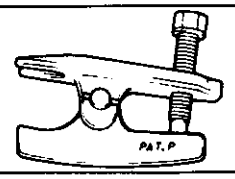
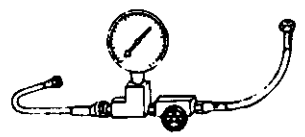
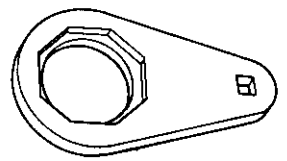
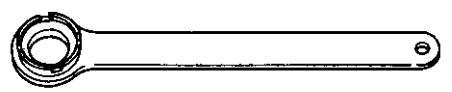
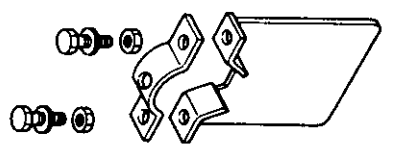
Unit	N·m	kg-m	ft-lb
Mounting bracket to engine	14 - 18	1.4 - 1.8	10 - 13
Oil pump to mounting bracket (Through bolt)	31 - 42	3.2 - 4.3	23 - 31
Oil pump front housing sub bracket	27 - 35	2.8 - 3.6	20 - 26
Adjusting bar bracket to mounting bracket	16 - 21	1.6 - 2.1	12 - 15
Sub bracket to adjusting bar	16 - 21	1.6 - 2.1	12 - 15
Pulley lock nut	54 - 68	5.5 - 6.9	40 - 50
Rear cover fixing bolt	31 - 42	3.2 - 4.3	23 - 31
Connector (Spool cover)	69 - 78	7.0 - 8.0	51 - 58
Connector (to flexible hose)	49 - 69	5.0 - 7.0	36 - 51
Suction pipe to casing	14 - 18	1.4 - 1.8	10 - 13

Tightening Torque (Cont'd)

HYDRAULIC LINE AND OIL PRESSURE SWITCH

Unit	N·m	kg-m	ft-lb
Low-pressure pipe to steering gear	27 - 39	2.8 - 4.0	20 - 29
High-pressure pipe to steering gear	15 - 25	1.5 - 2.5	11 - 18
High-pressure pipe connector bolt (At oil pump)	49 - 69	5.0 - 7.0	36 - 51
Oil pressure switch	16 - 24	1.6 - 2.4	12 - 17

SPECIAL SERVICE TOOLS

Tool number (Kent-Moore No.)	Tool name	
ST27180001 (J25726-A)	Steering wheel puller	
HT72520000 (J25730-A)	Ball joint remover	
ST27091000 (J26357)	Pressure gauge	
KV48101600 (J28818)	Rear housing lock nut wrench	
KV48101700 (J28819)	Rear cover wrench	
KV48102100 (J28817)	Power steering stand	
KV48100700 (J26364)	Torque adapter	

SPECIAL SERVICE TOOLS

Tool number (Kent-Moore No.)	Tool name
ST3127S000 (See J25765-A) ① GG91030000 (J25765-A) ② HT62940000 (–) ③ HT62900000 (–)	Preload gauge Torque wrench ① Socket adapter ② Socket adapter ③
KV48102000 (J28822)	End cover socket wrench