

STEERING

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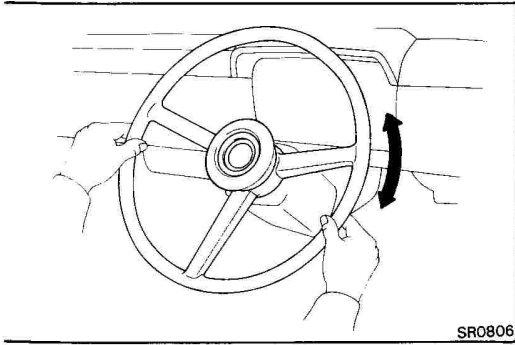
SR

PRECAUTION

Care must be taken to replace parts properly because they could affect the performance of the steering system and result in a driving hazard.

TROUBLESHOOTING

Problem	Possible cause	Remedy	Page
Hard steering	Tires improperly inflated	Inflate tires to proper pressure	A-6,7
	Wheel alignment incorrect	Check front end alignment	FA-3
	Steering linkage worn or bent	Check linkage	SR-54
	King pin bushing worn	Replace king pin bushing (BU, YU, RU) (WU)	FA-18 FA-23
	Steering column out of center	Inspect steering column	
	Steering gear out of adjustment or broken	Adjust or repair steering gear	SR-17
	Power steering belt loose	Adjust belt	SR-29
	Fluid level in reservoir low	Add power steering fluid	SR-29
	Insufficient lubricant	Lubricate suspension and steering linkage	
	Power steering unit faulty	Replace power steering unit	SR-29
Poor recovery	Tires improperly inflated	Inflate tires to proper pressure	FA-3
	Wheel alignment incorrect	Check front end alignment	FA-3
	Steering column out of center	Inspect steering column	
	Steering gear out of adjustment or broken	Adjust or repair steering gear	SR-17
	Insufficient lubricant	Lubricate suspension and steering linkage	
Excessive play	Linkage worn	Inspect linkage	SR-54
	Steering gear housing loose	Tighten gear housing mounting bolts	
	Steering shaft worm yoke bolt loose	Tighten worm yoke bolt	SR-16
	King pin bushing worn	Replace king pin bushing (BU, YU, RU) (WU)	FA-18 FA-23
	Steering gear out of adjustment or broken	Adjust or repair steering gear	SR-17
	Center support or idler support bushings worn	Replace bushings	
Power steering noisy	Fluid level in reservoir low	Add power steering fluid	SR-29
	Power steering belt loose	Adjust belt	SR-29
	Air in power steering system	Bleed air	SR-31
	Fluid is foamy or emulsified	Bleed air	SR-31
	Power steering pump faulty	Repair or replace power steering pump	SR-33
	Power steering gear housing faulty	Replace gear housing	SR-46



SR0806

ON-VEHICLE INSPECTION

STEERING WHEEL FREEPLAY

1. CHECK THAT STEERING WHEEL FREEPLAY IS CORRECT

With the vehicle stopped and pointed straight ahead, rock the steering wheel gently back and forth with light finger pressure. Freeplay should not exceed the maximum limit.

Maximum play: 40 mm (1.57 in.)

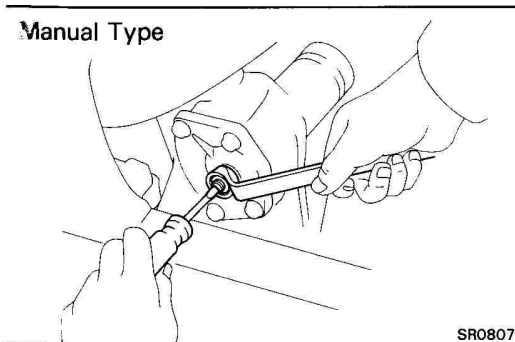
If incorrect, adjust or repair as required.

2. LIFT AND SUPPORT FRONT END

Raise the vehicle enough to lift the front wheels off the ground.

3. POINT WHEELS STRAIGHT AHEAD

4. IF NECESSARY, REMOVE FRONT GRILL



SR0807

5. ADJUST STEERING GEAR BOX

(a) Loosen the lock nut.

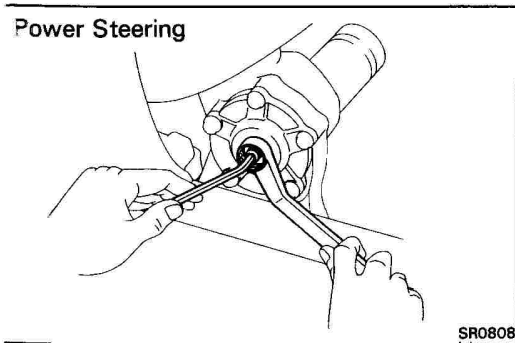
(b) Turn the adjusting screw clockwise to decrease wheel freeplay and counterclockwise to increase it.

NOTE: Turn the adjusting screw in small increments and check the wheel freeplay between each adjustment.

6. CHECK THAT STEERING DOES NOT BIND

Turn the steering wheel half way around in both directions.

Check that the freeplay is correct and steering is smooth and without rough spots.



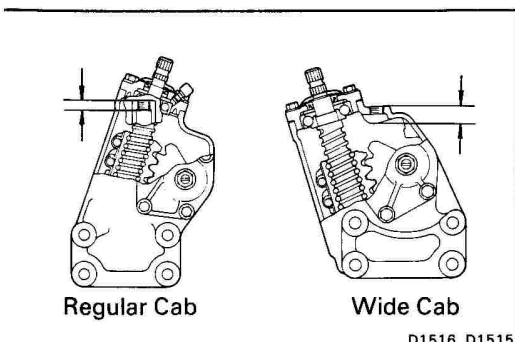
SR0808

7. HOLD ADJUSTING SCREW AND TIGHTEN LOCK NUT

Torque:

Manual 350 kg-cm (25 ft-lb, 34 N·m)

Power 1,000 kg-cm (72 ft-lb, 98 N·m)



Regular Cab

Wide Cab

D1516 D1515

OIL LEVEL

CHECK STEERING GEAR BOX OIL LEVEL

Oil level: from top

Regular Cab 0 – 10 mm (0 – 0.39 in.)

Wide Cab 14 – 17 mm (0.55 – 0.67 in.)

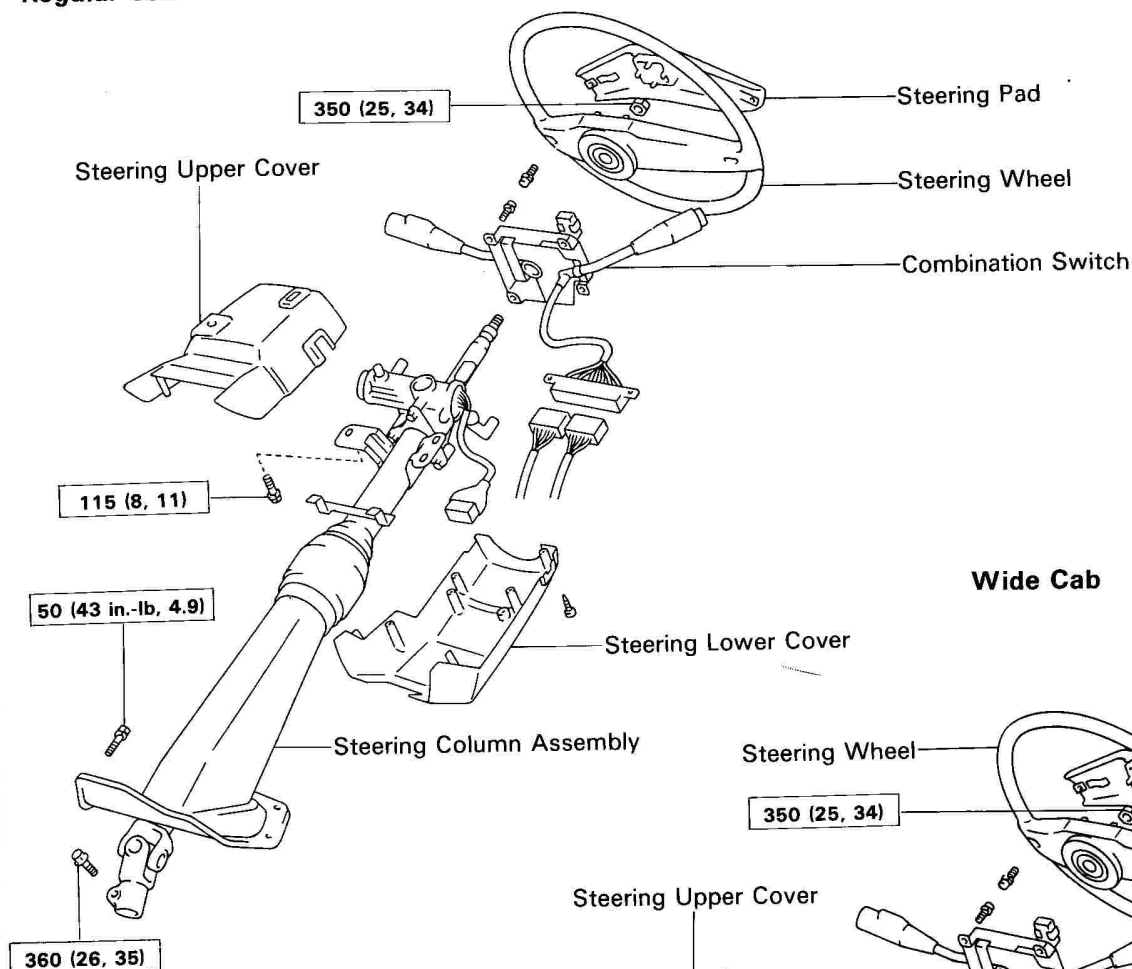
If low, fill with gear oil and check for oil leaks.

NOTE: See page SR-30 for power steering fluid level check.

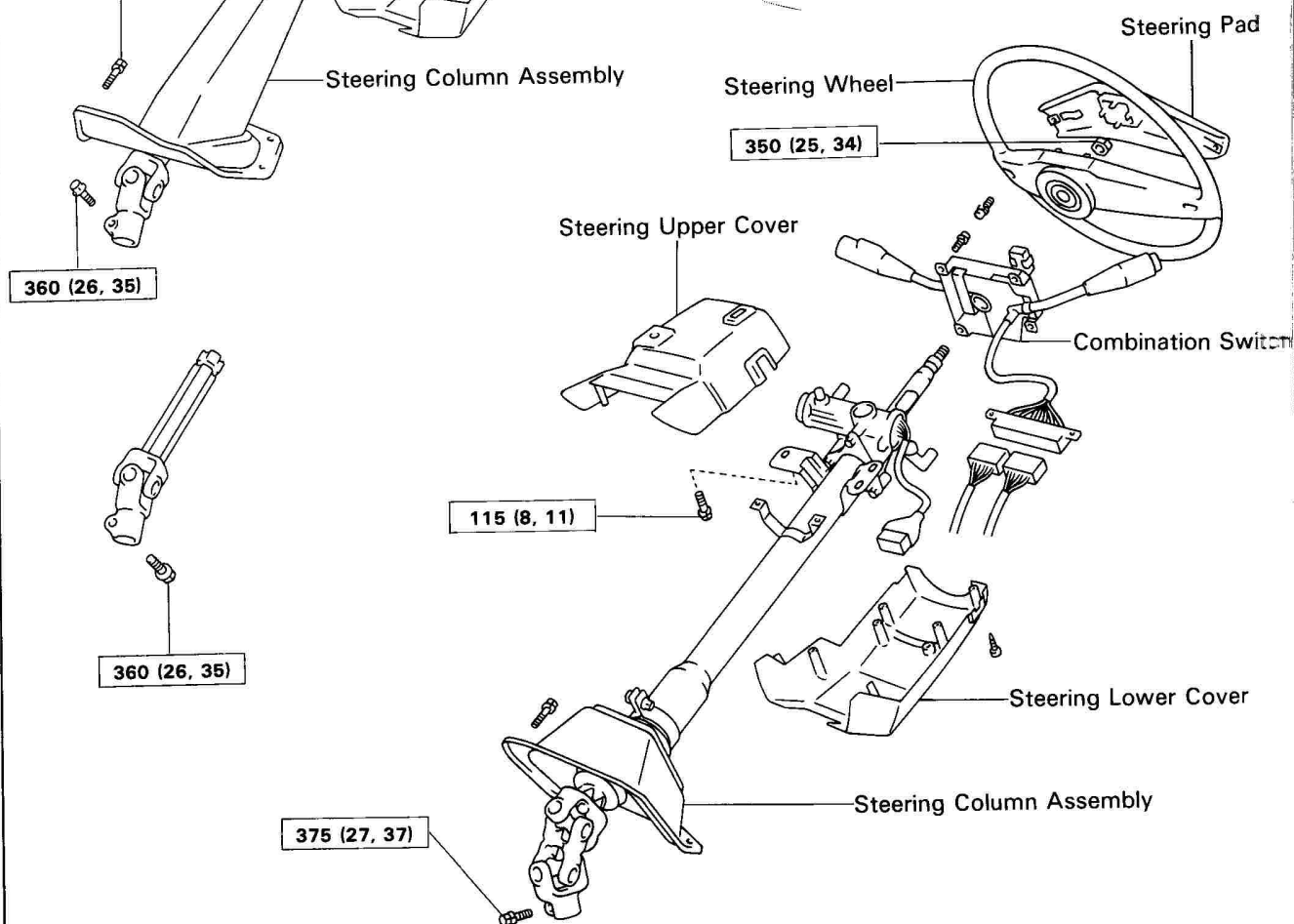
STEERING COLUMN ASSEMBLY

REMOVAL OF STEERING COLUMN ASSEMBLY

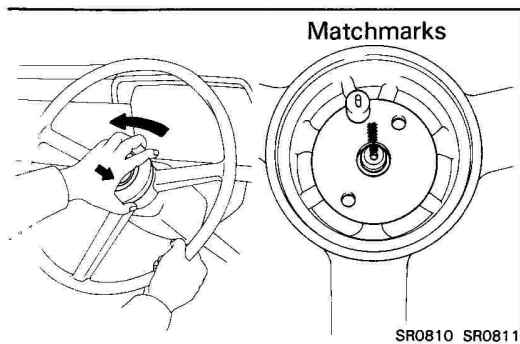
Regular Cab



Wide Cab



kg-cm (ft-lb, N·m) : Tightening torque



1. DISCONNECT NEGATIVE CABLE FROM BATTERY

2. REMOVE STEERING WHEEL

3 Spoke Type:

- (a) Push down on the horn button and turn it counterclockwise. Then remove it.
- (b) Remove the steering wheel nut and plate.
- (c) Place matchmarks on the steering wheel and shaft to ensure correct reassembly.

- (d) Using SST, remove the steering wheel.

SST 09609-20011

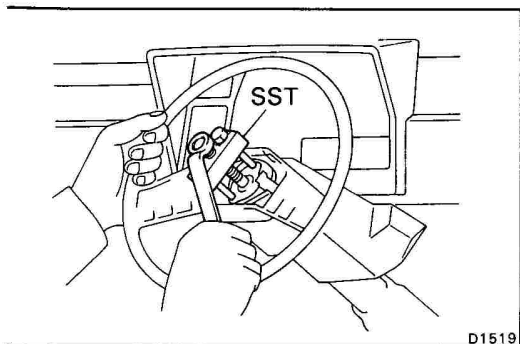
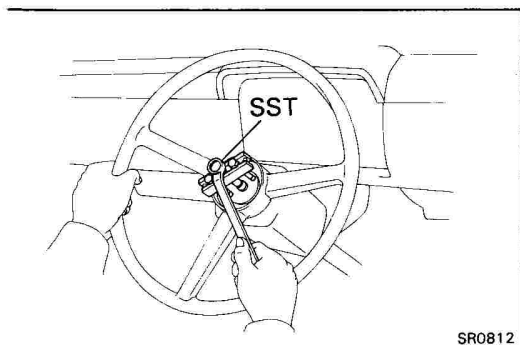
2 Spoke Type:

- (a) Remove horn button screws on the back of the steering wheel and pull off the button.
- (b) Remove the two screws and disconnect the horn connectors from the steering pad.
- (c) Remove the steering wheel nut.
- (d) Place matchmarks on the steering wheel and shaft to ensure correct reassembly.

- (e) Using SST, remove the steering wheel.

SST 09609-20011

3. REMOVE FRONT GRILL



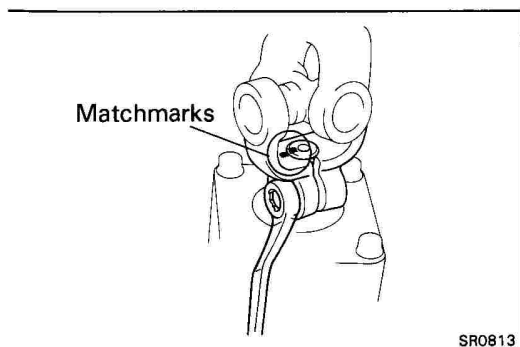
4. REMOVE WORM YOKE BOLT

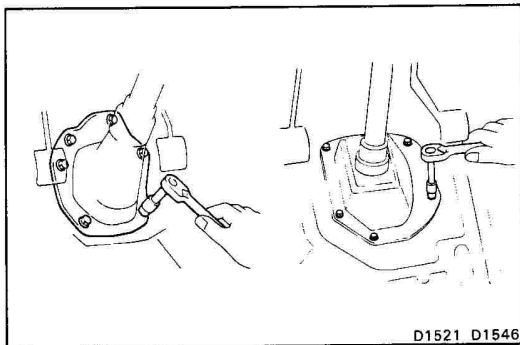
Wide Cab:

- (a) Place matchmarks on the worm yoke and worm shaft to ensure correct reassembly.
- (b) Loosen the set bolt.

Regular Cab:

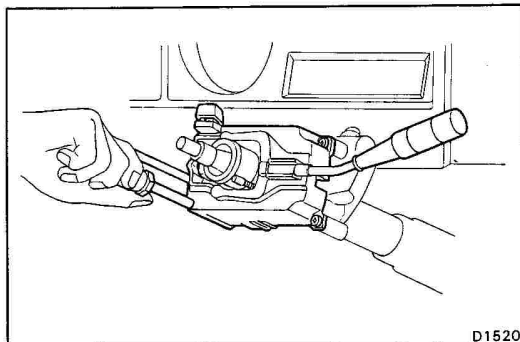
- (a) Place matchmarks on the worm shaft and main shaft to ensure correct reassembly.
- (b) Loosen the set bolt.





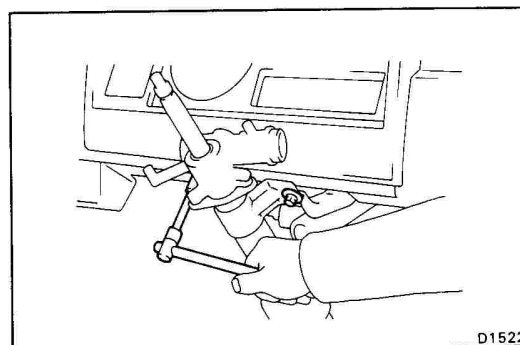
5. REMOVE FIVE OR SIX MOUNTING BOLTS FROM COLUMN HOLE COVER

6. REMOVE STEERING LOWER COVER AND UPPER COVER



7. REMOVE COMBINATION SWITCH

- (a) Disconnect the ignition switch and combination switch connectors.
- (b) Remove the four screws and combination switch.

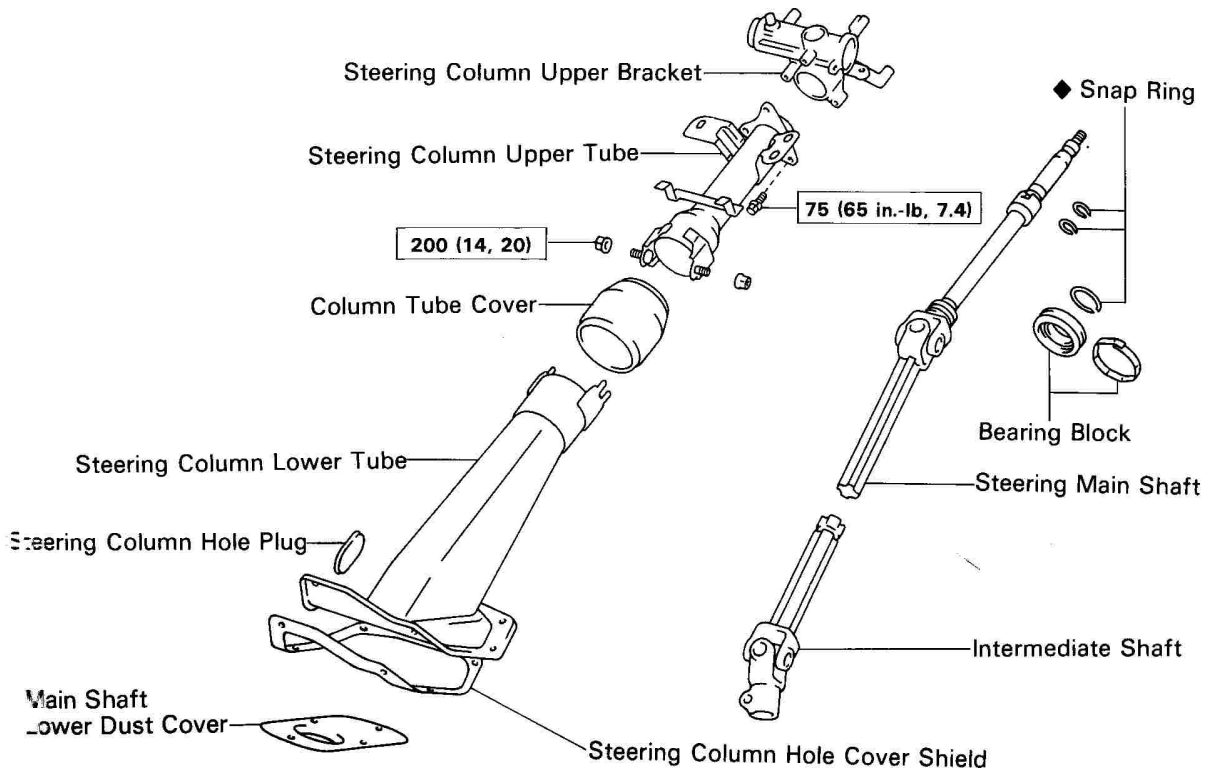


8. REMOVE COLUMN BRACKET MOUNTING BOLTS AND PULL OUT MAIN SHAFT

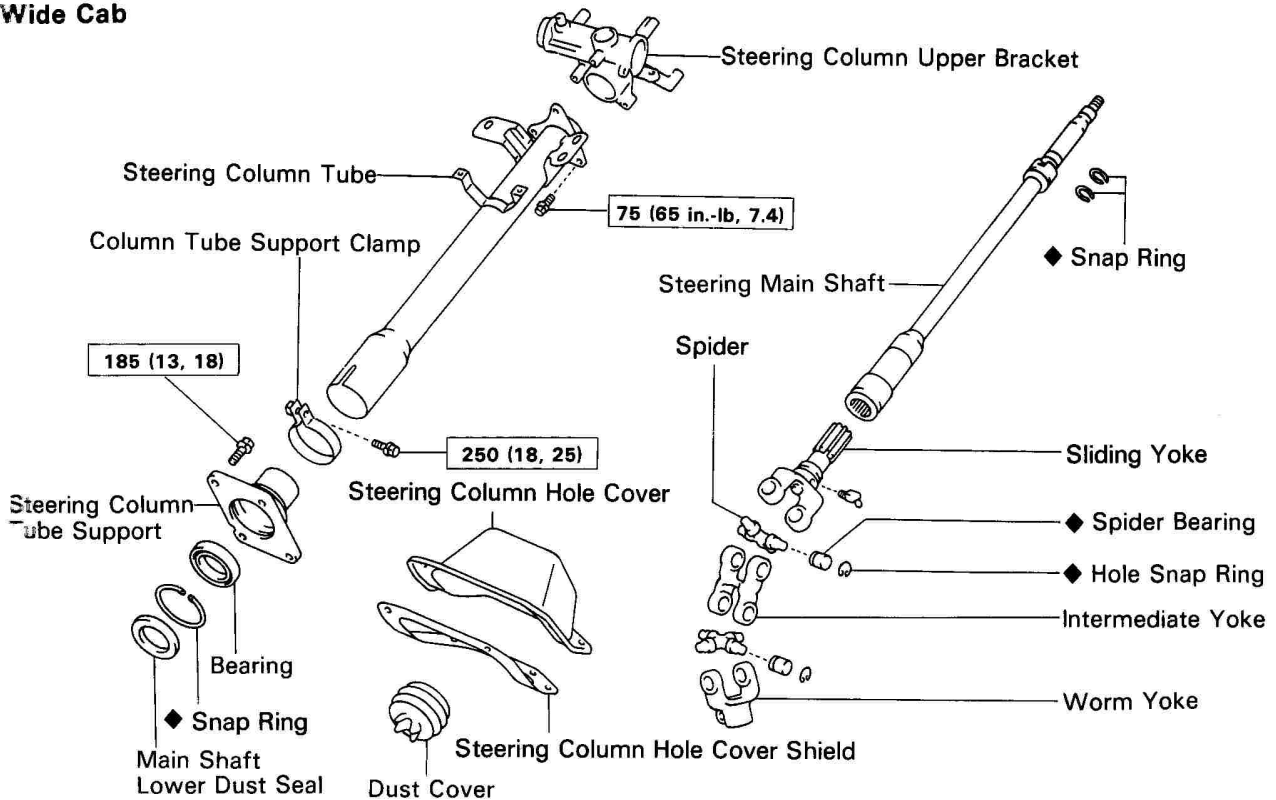
- (a) Remove the three bracket mounting bolts.
- (b) Pull out the main shaft assembly.

COMPONENTS

Regular Cab



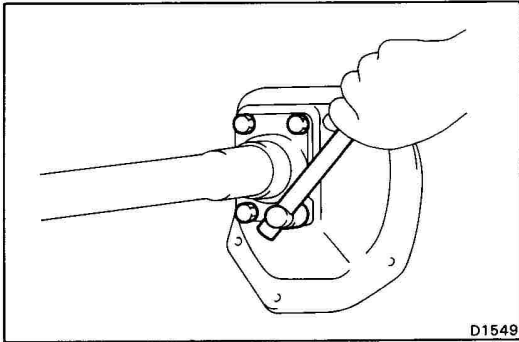
Wide Cab



⚙️-cm (ft-lb, N·m) : Tightening torque

◆ Non-reusable part

D1543
D1547

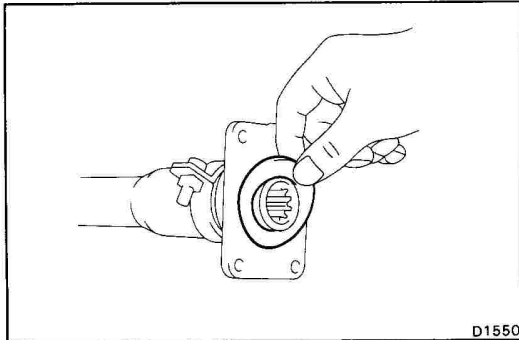


DISASSEMBLY OF STEERING COLUMN ASSEMBLY

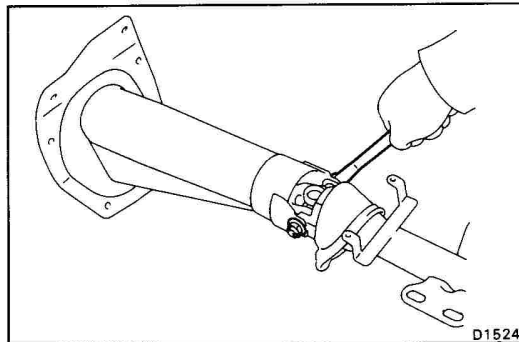
1. (Wide Cab)
REMOVE DUST COVER

2. (Wide Cab)
REMOVE COLUMN HOLE COVER

- (a) Remove the four bolts.
- (b) Remove the column hole cover.
- (c) Remove the column hole cover shield from the hole cover.

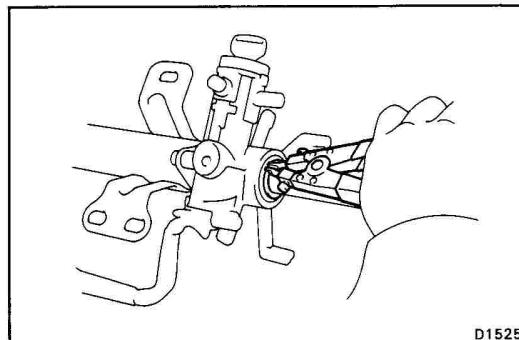


3. (Wide Cab)
REMOVE DUST SEAL



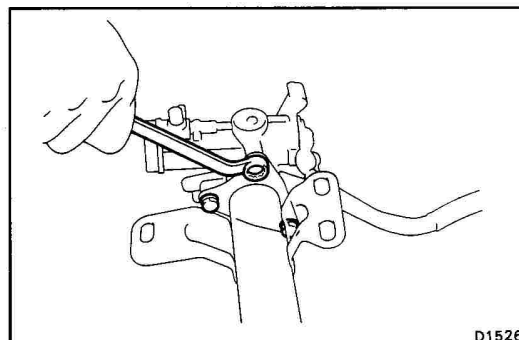
4. (Regular Cab)
REMOVE LOWER TUBE

- (a) Move the tube cover upward.
- (b) Remove the two nuts and lower tube.
- (c) Remove the dust cover and column hole cover shield from the lower tube.



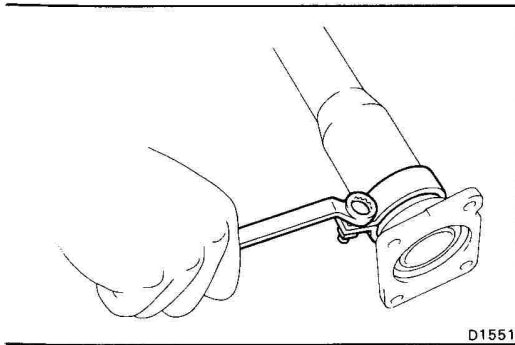
5. PULL OUT STEERING MAIN SHAFT

- (a) Using snap ring pliers, remove the snap ring.
- (b) Pull out the steering main shaft from the upper tube.
- (c) Using snap ring pliers, remove the snap ring.

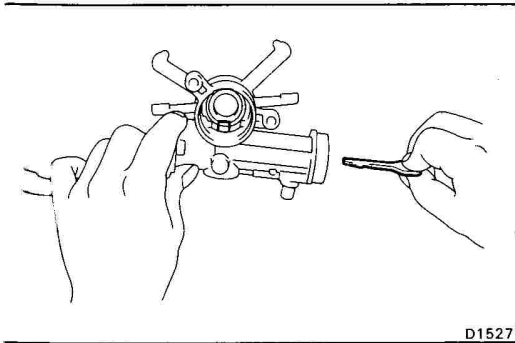


6. REMOVE UPPER BRACKET FROM COLUMN TUBE

- (a) Remove the three bolts.
- (b) Remove the upper bracket.



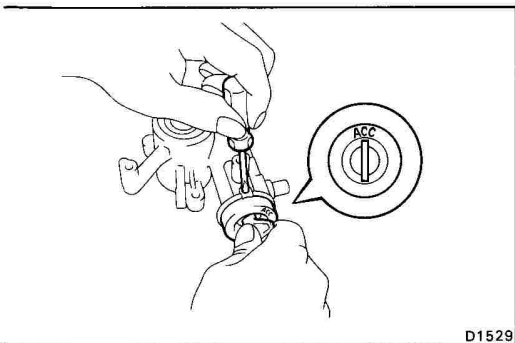
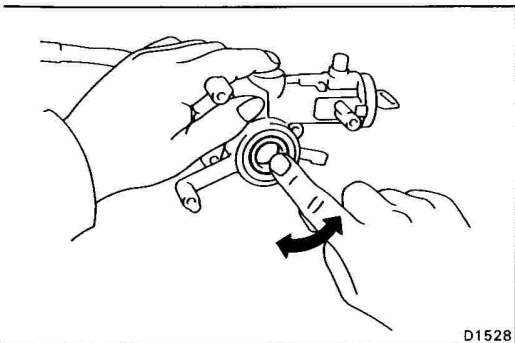
7. (Wide Cab)
REMOVE COLUMN TUBE SUPPORT
- Loosen the clamp.
 - Remove the column tube support.



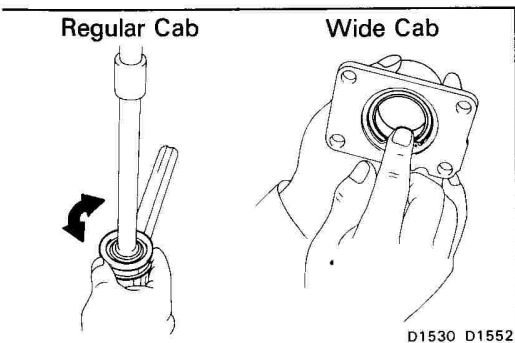
INSPECTION AND REPAIR OF STEERING COLUMN ASSEMBLY

1. INSPECT UPPER BRACKET

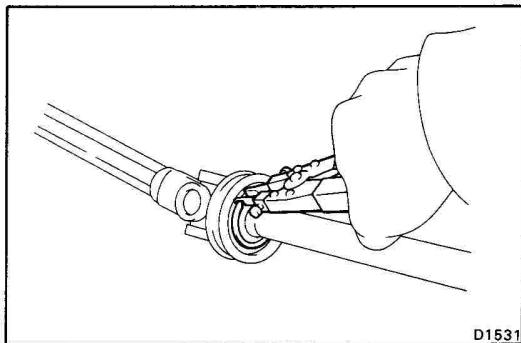
- Check that the steering lock mechanism operates properly.
- Check the upper bearing rotation condition and check for abnormal noise.
If the bearing is worn or damaged, replace the upper bracket.



2. **IF NECESSARY, REPLACE IGNITION KEY CYLINDER**
- Place the ignition key at the ACC position.
 - Push down the stop key with a thin rod, and pull out the key cylinder.
 - Install the new key cylinder.
 - Check that the steering lock mechanism operates properly.



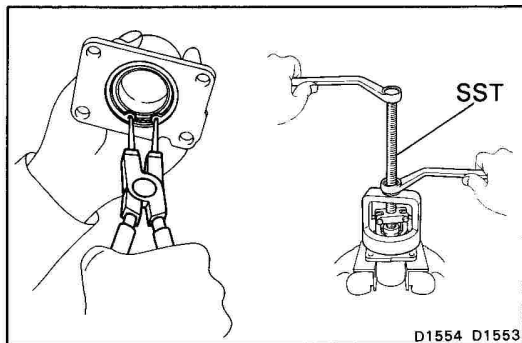
3. **CHECK LOWER BEARING ROTATION CONDITION**
If the bearing does not rotate smoothly, replace it.



4. IF NECESSARY, REPLACE LOWER BEARING

Regular Cab:

- (a) Remove the ring.
- (b) Using snap ring pliers, remove the snap ring.
- (c) Remove the lower bearing block.
- (d) Install the new bearing block to the main shaft.
- (e) Using snap ring pliers, install the new snap ring.
- (f) Install the ring.



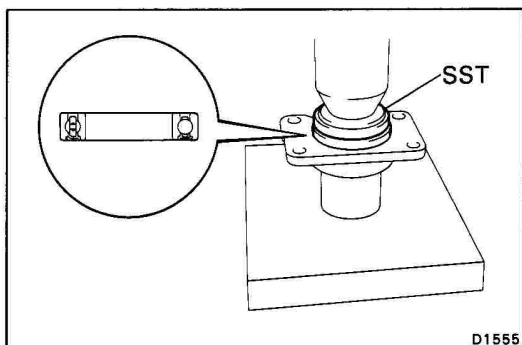
Wide Cab:

- (a) Using snap ring pliers, remove the snap ring.
- (b) Clamp the column tube support in a vise.

CAUTION: Do not tighten the vise too tight.

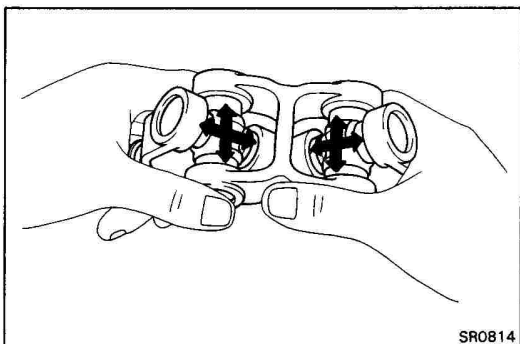
- (c) Using SST, remove the bearing.

SST 09612-65013



- (d) Using SST and a press, press in the new bearing.
- SST 09608-12010

- (e) Using snap ring pliers, install the new snap ring.



INSPECTION AND REPLACEMENT OF SPIDER BEARING (Wide Cab)

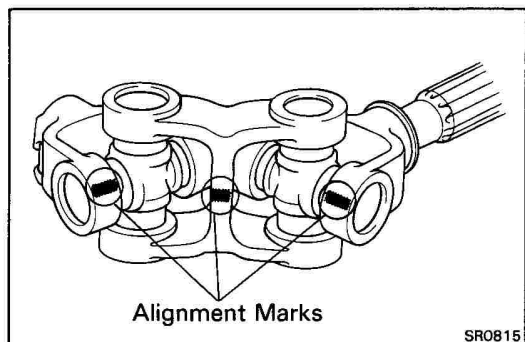
1. INSPECT SPIDER BEARING

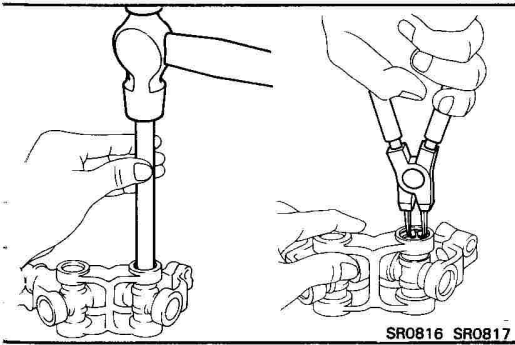
- (a) Inspect the spider bearings for wear or damage.
- (b) Check the spider bearing axial play by turning the worm yoke or sliding yoke while holding the intermediate yoke tightly.

Bearing axial play: Less than 0.05 mm (0.0020 in.)

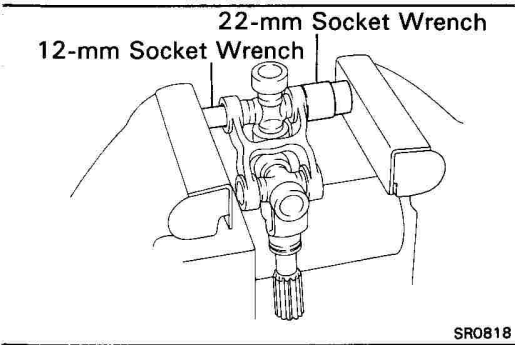
If necessary, replace the spider bearing.

2. PLACE ALIGNMENT MARKS ON INTERMEDIATE YOKE, WORM YOKE AND SLIDING YOKE

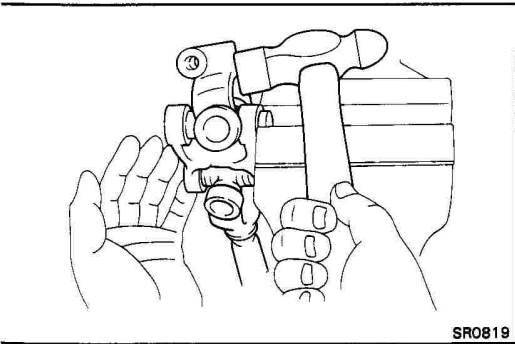


**3. REMOVE SNAP RINGS**

- (a) Slightly tap in the bearing outer races.
- (b) Using snap ring pliers, remove the four snap rings from the grooves.

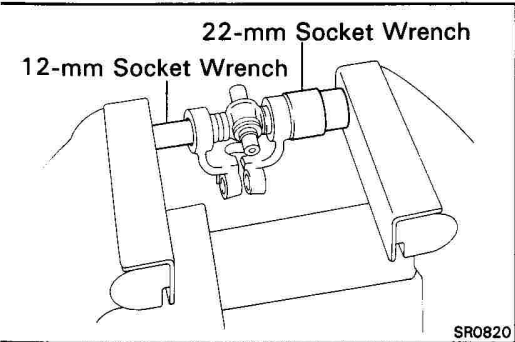
**4. REMOVE SPIDER BEARINGS**

- (a) Using a 12-mm and 22-mm socket wrench and vise, press out the bearing.

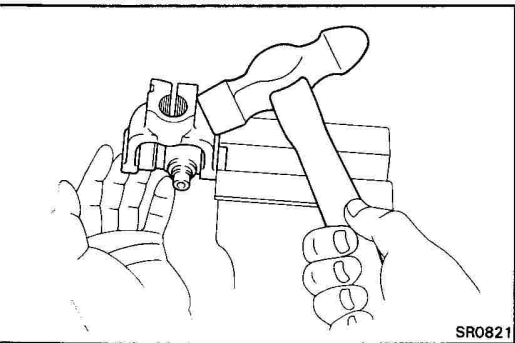


- (b) Clamp the outer bearing race in a vise and tap off the intermediate yoke with a plastic or copper hammer.

NOTE: Remove the bearing on the opposite side in the same procedure.

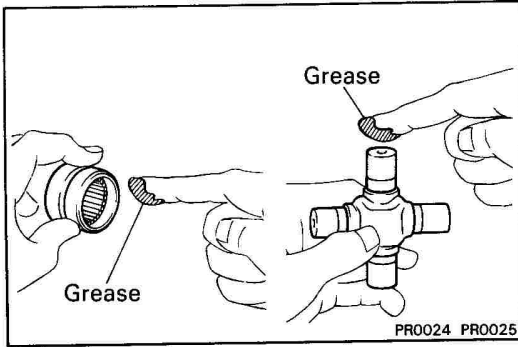


- (c) Using a 12-mm and 22-mm socket wrench and vise, press out the bearing.



- (d) Clamp the outer bearing race in a vise and tap off the sliding yoke or worm yoke with plastic or copper hammer.

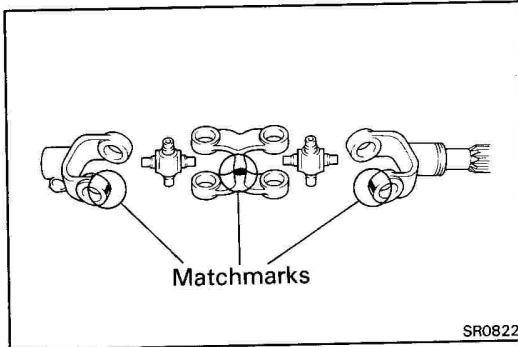
NOTE: Remove the bearing on the opposite side in the same procedure.



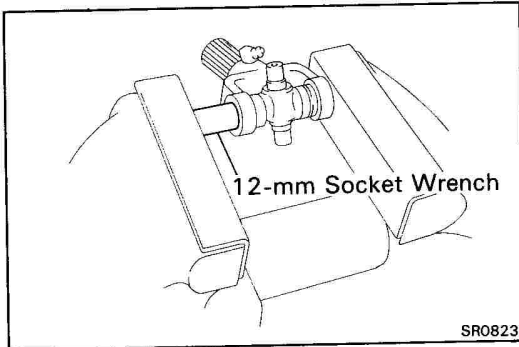
5. INSTALL SPIDER BEARINGS

- (a) Apply molybdenum disulphide lithium base grease to the spider and bearings.

NOTE: Be careful not to apply too much grease.

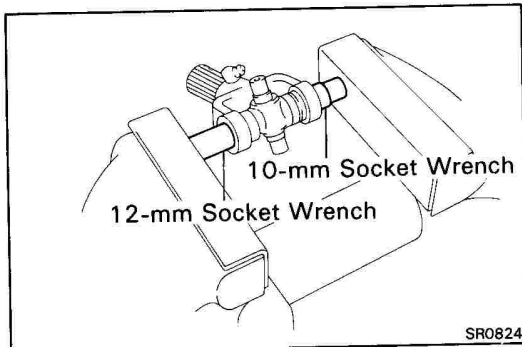


- (b) Align the matchmarks on the sliding yoke, worm yoke and intermediate yoke.

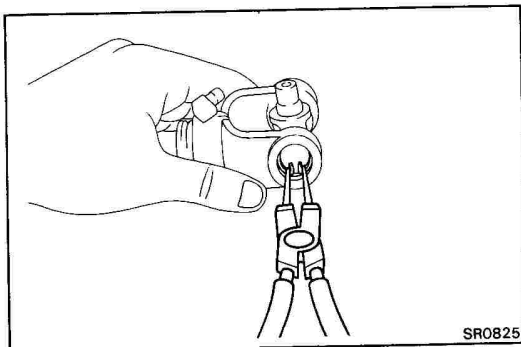


- (c) Fit a new spider into the yoke.

- (d) Using a 12-mm socket wrench and vise, press the bearings into the spider.



- (e) Using a 10-mm and 12-mm socket wrench, adjust both bearings so that the snap ring grooves are at maximum and equal widths.



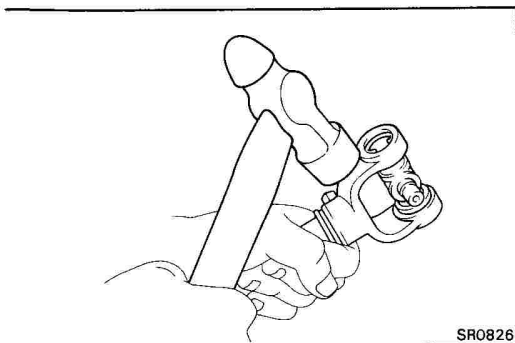
6. INSTALL SNAP RINGS

- (a) Install two snap rings of the same thickness which will allow 0 – 0.05 mm (0 – 0.0020 in.) of axial play.

NOTE: Do not reuse the snap rings.

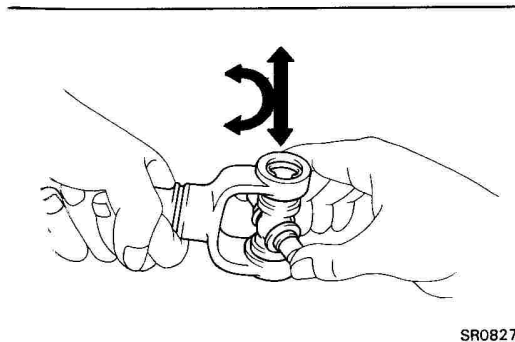
Snap ring thickness mm (in.)

Thickness	
1.20	(0.0472)
1.25	(0.0492)
1.30	(0.0512)



SR0826

- (b) Using a plastic or copper hammer, tap the yoke until there is no clearance between the bearing outer race and snap ring.



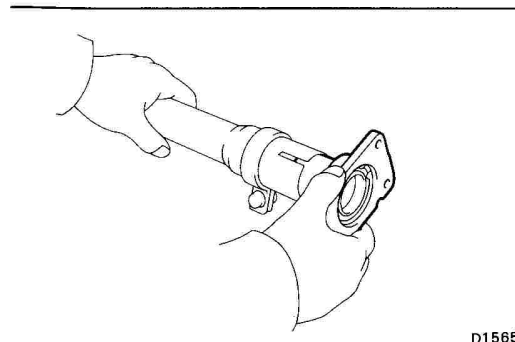
SR0827

7. CHECK SPIDER BEARING

- (a) Check that the spider bearing moves smoothly.
 (b) Check the spider bearing axial play.

Bearing axial play: Less than 0.05 mm (0.0020 in.)

NOTE: Install new spider bearings in the shaft side using the procedure above.



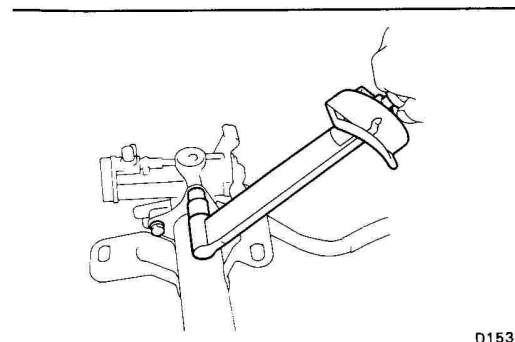
D1565

ASSEMBLY OF STEERING COLUMN ASSEMBLY

1. (Wide Cab)

INSTALL COLUMN TUBE SUPPORT

Install the column tube support and clamp to the column tube. Provisionally install the clamp bolt.

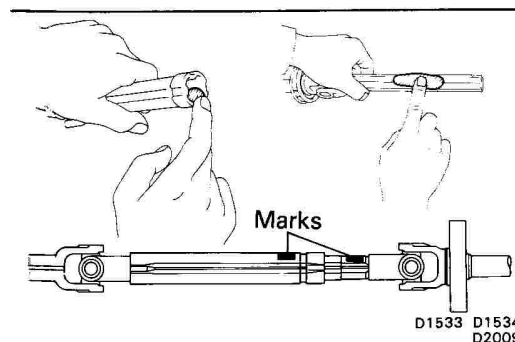


D1532

2. INSTALL UPPER BRACKET TO COLUMN TUBE

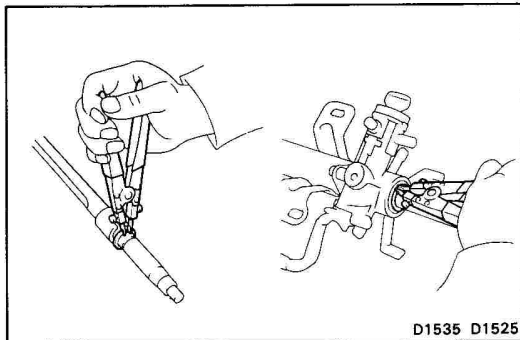
Install the upper bracket and tighten the bolts.

Torque: 75 kg-cm (65 in.-lb, 7.4 N·m)

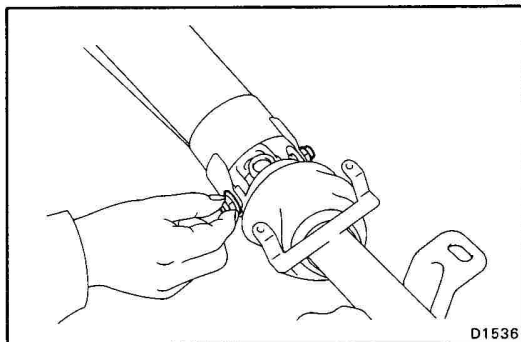
D1533 D1534
D2009

3. INSTALL MAIN SHAFT

- (a) (Regular Cab)
 Apply molybdenum disulphide lithium base grease to the intermediate shaft oil seal and main shaft spline.
- (b) (Regular Cab)
 Align the marks on the main shaft and intermediate shaft, and install the intermediate shaft to the main shaft.
- (c) (Regular Cab)
 Check that the intermediate shaft slides smoothly.
- (d) Install the ignition key cylinder, and turn the key to ACC position.

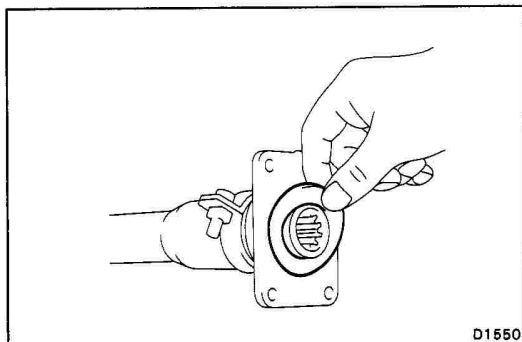


- (e) Using snap ring pliers, install the snap ring to the main shaft.
- (f) Install the main shaft to the column tube.
- (g) Using snap ring pliers, install the snap ring.



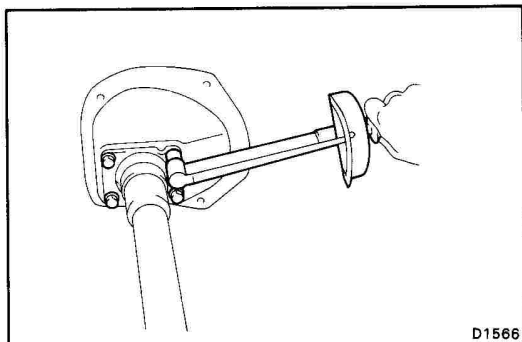
**4. (Regular Cab)
INSTALL COLUMN LOWER TUBE**

- (a) Install the lower dust cover to the lower tube with the hole cover shield and screws.
- (b) Install the column tube cover to the upper tube, and move it toward the upper bracket side.
- (c) Install the lower tube to the upper tube and provisionally install the new lock nut.



**5. (Wide Cab)
INSTALL DUST SEAL**

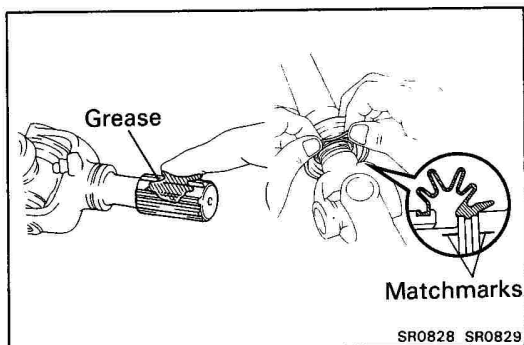
- (a) Apply MP grease to the new dust seal.
- (b) Install the dust seal to the tube support.



**6. (Wide Cab)
INSTALL COLUMN HOLE COVER**

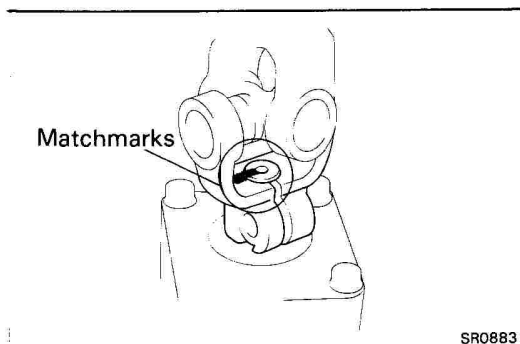
- (a) Install the hole cover shield to the hole cover.
- (b) Install the hole cover to the column tube.
- (c) Torque the four bolts.

Torque: 185 kg-cm (13 ft-lb, 18 N·m)



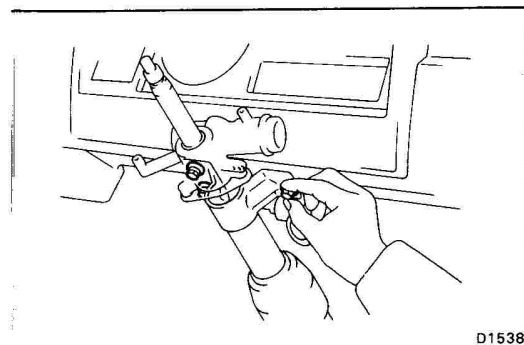
**7. (Wide Cab)
INSTALL YOKE TO MAIN SHAFT**

- (a) Apply molybdenum disulphide lithium base grease to the yoke and insert the main shaft.
- (b) Be sure to align the matchmarks on main shaft and yoke.
- (c) Install the boot to main shaft and yoke.



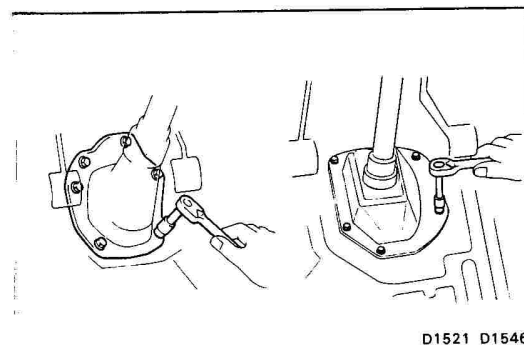
INSTALLATION OF STEERING COLUMN ASSEMBLY

1. (Wide Cab)
INSTALL WORM SHAFT TO WARM YOKE
2. (Regular Cab)
INSTALL WORM SHAFT TO MAIN SHAFT



3. PROVISIONALLY, INSTALL MAIN SHAFT TO COLUMN BRACKET

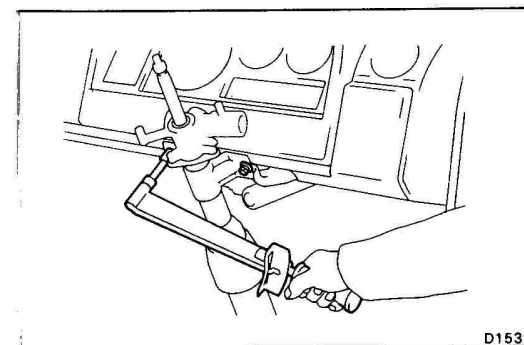
Install the main shaft assembly to the column bracket with three mounting bolts.



4. INSTALL STEERING COLUMN HOLE COVER BOLTS

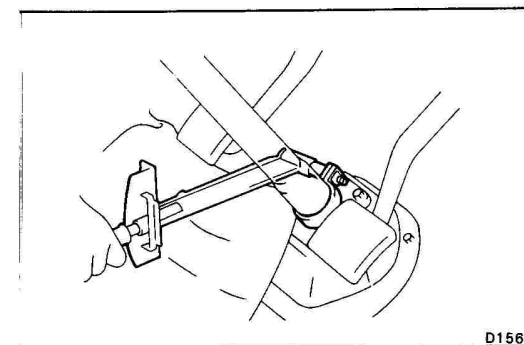
Tighten the five or six bolts in a diagonal pattern.

Torque: 50 kg-cm (43 in.-lb, 4.9 N·m)



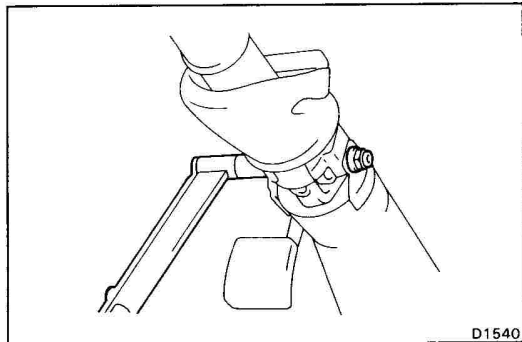
5. TORQUE THREE COLUMN BRACKET MOUNTING BOLTS

Torque: 115 kg-cm (8 ft-lb, 11 N·m)



6. (Wide Cab)
TORQUE COLUMN TUBE SUPPORT CLAMP BOLT

Torque: 250 kg-cm (18 ft-lb, 25 N·m)



**7. (Regular Cab)
TORQUE LOCK NUTS**

- (a) Torque the column lower tube lock nuts.

Torque: 200 kg-cm (14 ft-lb, 20 N·m)

8. INSTALL COMBINATION SWITCH

- (a) Install the combination switch in place.
(b) Connect the ignition switch and combination switch connectors.

9. INSTALL STEERING LOWER COVER AND UPPER COVER

10. INSTALL STEERING WHEEL

3 Spoke Type:

- (a) Align the matchmarks on the steering wheel and shaft, and install the steering wheel to the shaft.

- (b) Install the plate and nut, and torque the nut.

Torque: 350 kg-cm (25 ft-lb, 34 N·m)

- (c) Push down on the horn button and turn it clockwise.

2 Spoke Type:

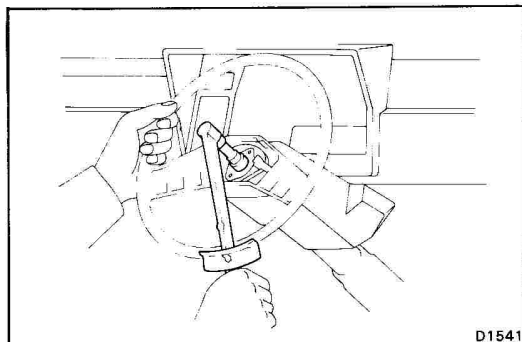
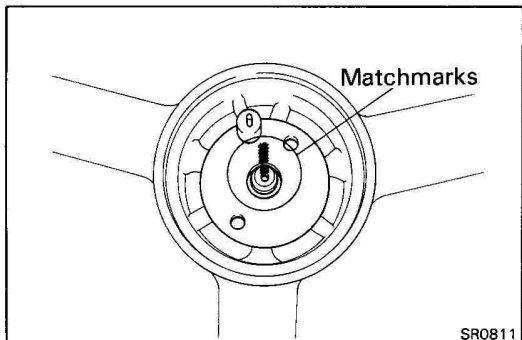
- (a) Align the matchmarks on the steering wheel and shaft, and install the steering wheel to the shaft.

- (b) Install and torque the steering wheel nut.

Torque: 350 kg-cm (25 ft-lb, 34 N·m)

- (c) Connect the horn connectors to the steering pad with two screws.

- (d) Install the steering pad with two screws.

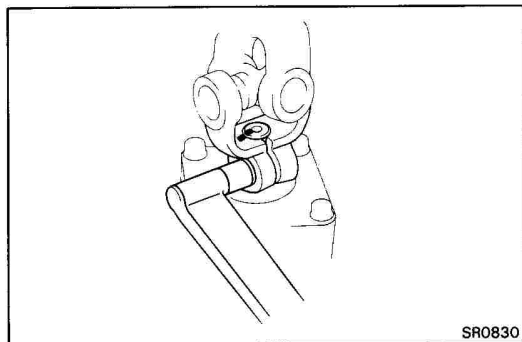


11. TORQUE WORM YOKE BOLT

Torque:

Wide Cab	375 kg-cm (27 ft-lb, 37 N·m)
Regular Cab	360 kg-cm (26 ft-lb, 35 N·m)

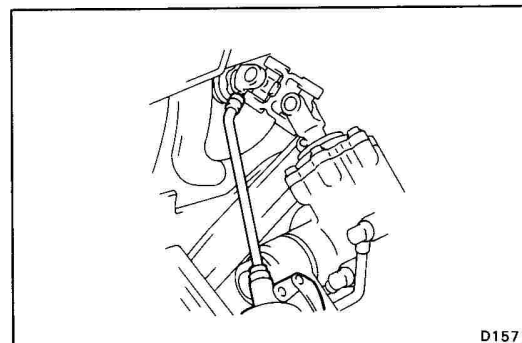
12. CONNECT NEGATIVE CABLE TO BATTERY



**13. (Wide Cab)
APPLY GREASE TO SLIDING PARTS**

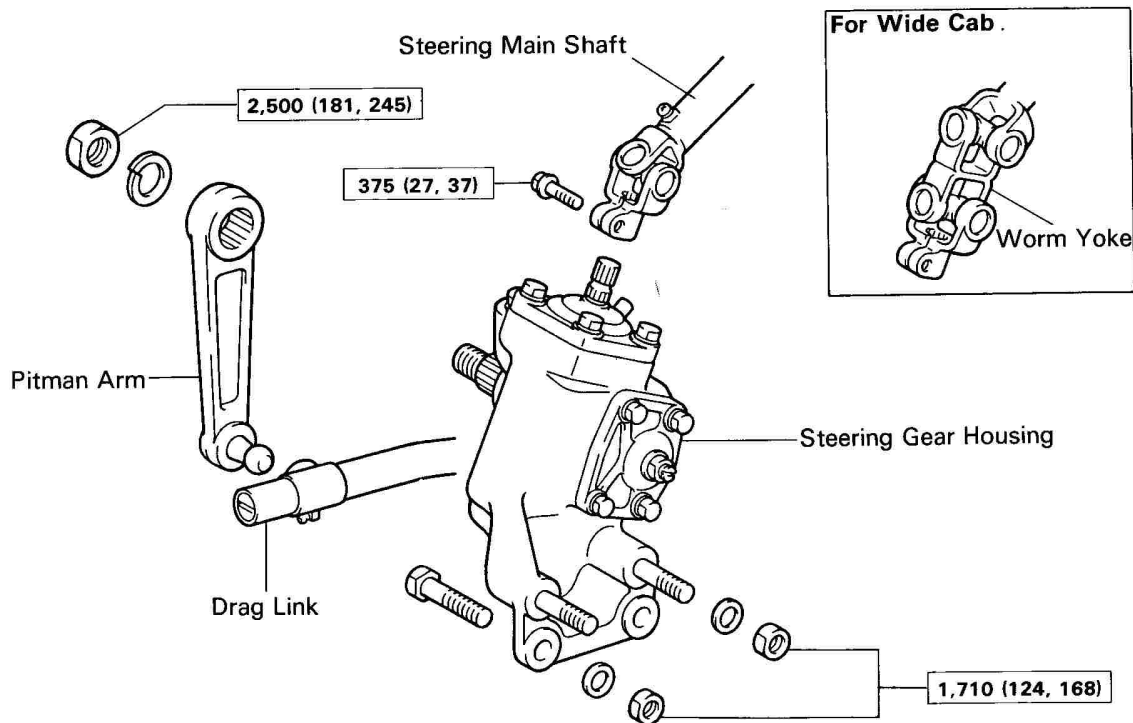
- (a) Apply molybdenum disulphide lithium base grease to the sliding yoke.

- (b) Check that the sliding yoke slides smoothly when the cab is tilted up and down.



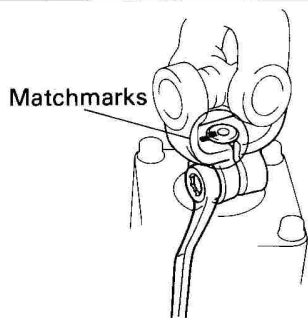
STEERING GEAR HOUSING

REMOVAL OF STEERING GEAR HOUSING



kg-cm (ft-lb, N·m) : Tightening torque

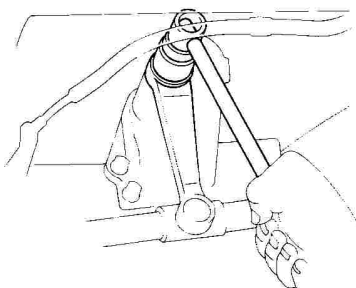
D1616



SR0813

1. DISCONNECT YOKE FROM WORM SHAFT

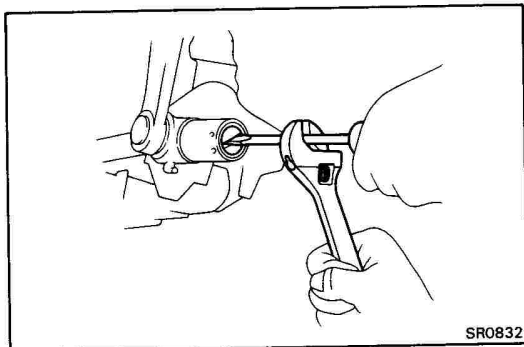
Remove the set bolt and disconnect the worm yoke from the worm shaft.



SR0831

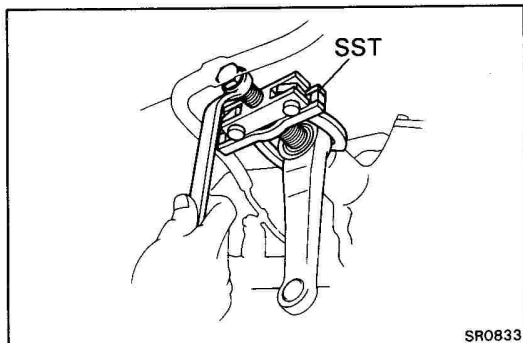
2. DISCONNECT DRAG LINK FROM PITMAN ARM

(a) Loosen the pitman arm set nut.



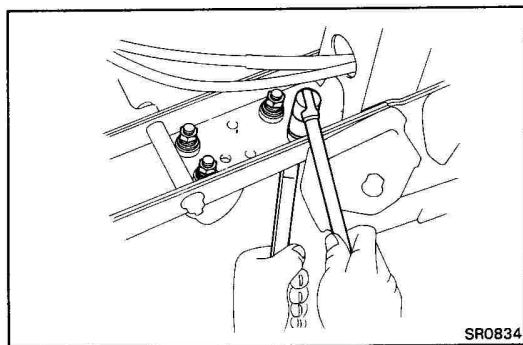
- (b) Remove the cotter pin.
- (c) Remove the drag link adjust plug on the pitman arm side.
- (d) Disconnect the drag link from the pitman arm.

**3. (Diesel Engine)
IF NECESSARY, REMOVE VACUUM TANK**



4. REMOVE PITMAN ARM

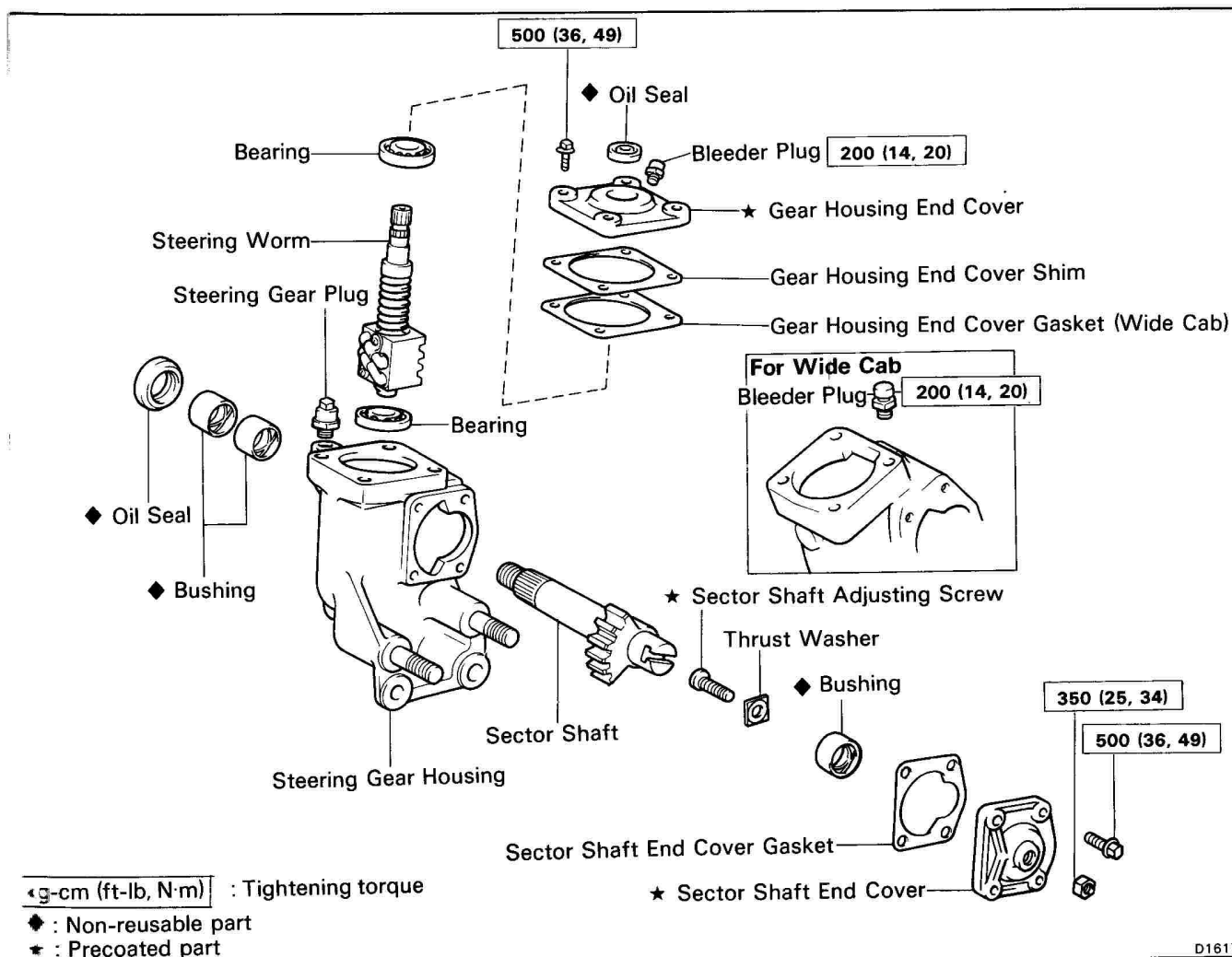
Using SST, remove the pitman arm from the gear housing.
SST 09950-20015



5. REMOVE GEAR HOUSING

Remove the four nuts and two bolts, then remove the gear housing.

COMPONENTS



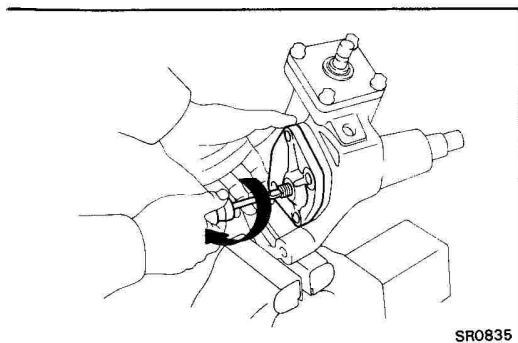
D1617

DISASSEMBLY OF STEERING GEAR HOUSING

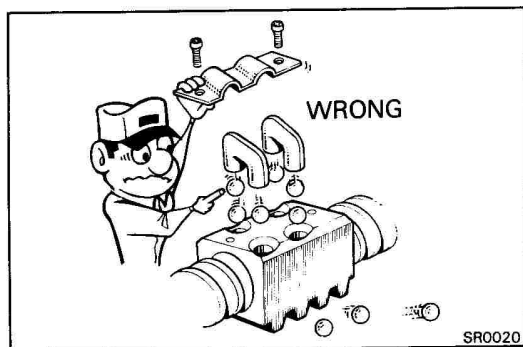
1. REMOVE OIL PLUG AND DRAIN GEAR HOUSING OIL

2. REMOVE END COVER AND SECTOR SHAFT

- Remove the adjusting screw lock nut and four bolts.
- Set the worm nut in neutral position.
- Remove the end cover and gasket by turning the adjusting screw clockwise.
- Pull the sector shaft from the housing.



SR0835



3. REMOVE END COVER AND WORM SHAFT

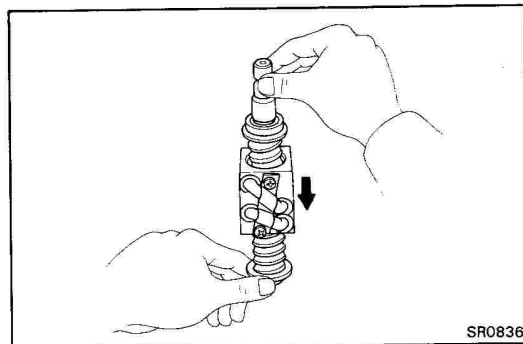
(a) Remove the dust cover, end cover, shims and gasket.

NOTE: Record the number and thickness of shims used.

(b) Remove the worm shaft and the two bearings.

NOTE: Keep the bearings in proper order so that they can be reassembled to their initial positions.

CAUTION: Do not disassemble the ball nut from the steering worm shaft.



INSPECTION AND REPAIR OF STEERING GEAR HOUSING

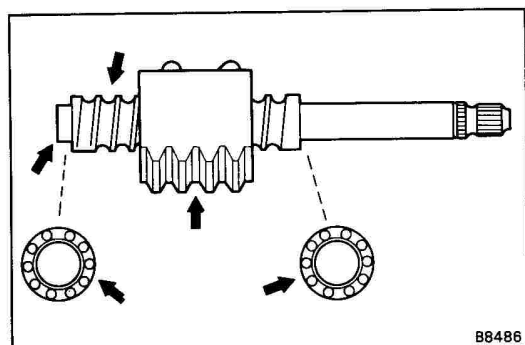
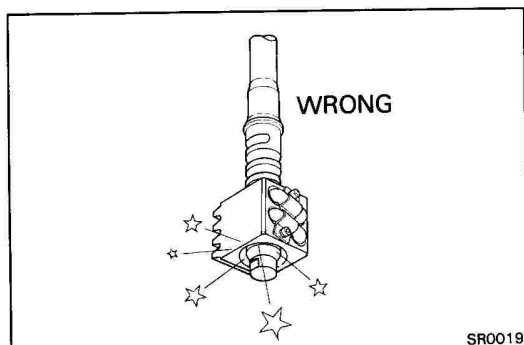
1. INSPECT WORM SHAFT AND BALL NUT

(a) Check the worm shaft and ball nut for wear or damage.

(b) Check that the nut rotates smoothly down the shaft by its own weight.

CAUTION: Do not allow the ball nut to hit the end of the worm shaft.

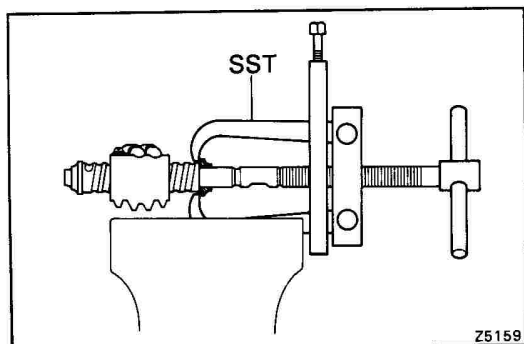
If a problem is found, replace the worm shaft.



2. INSPECT WORM BEARINGS AND RACES

Check for wear or damage.

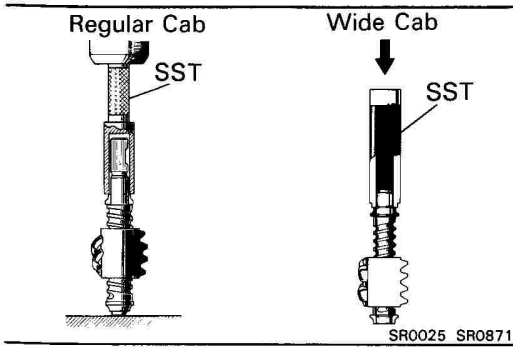
If a problem is found, replace the bearings, bearing races and oil seal.



3. IF NECESSARY, REPLACE INNER RACES

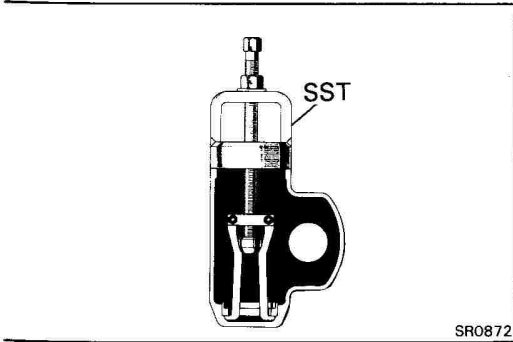
(a) Using SST, remove the bearing inner races from the worm shaft.

SST 09950-20015



(b) Using SST and a press, install the bearing inner race.

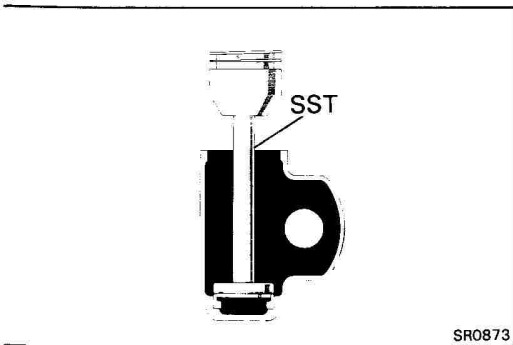
SST	Regular Cab	09620-30010
	Wide Cab	09613-26010



4. IF NECESSARY, REPLACE OUTER RACE

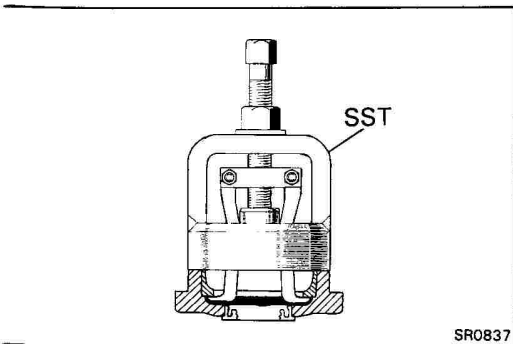
(a) Using SST, remove the bearing outer race from the gear housing.

SST 09612-65013



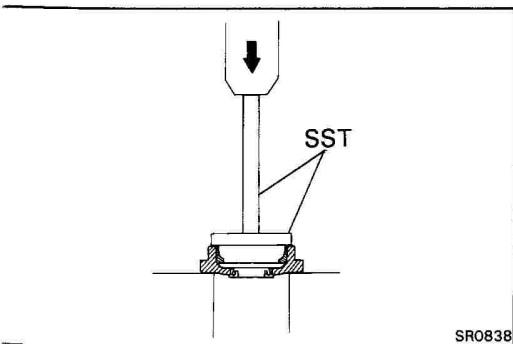
(b) Using SST and a press, install the bearing outer race.

SST	Regular Cab	09608-35013
	Wide Cab	09608-30011



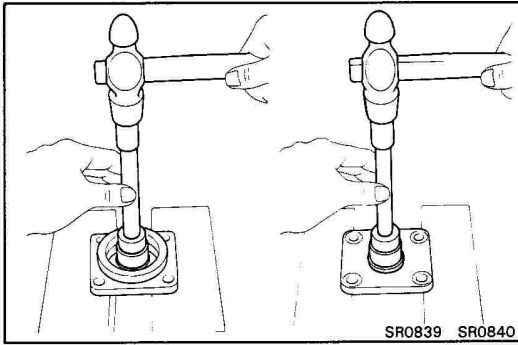
(c) Using SST, remove the bearing outer race from the end cover.

SST 09612-65013



(d) Using SST and a press, install the bearing outer race.

SST	Regular Cab	09608-35013
	Wide Cab	09608-30011



5. IF NECESSARY, REPLACE END COVER OIL SEAL

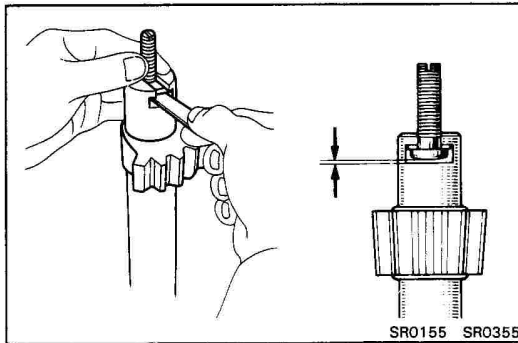
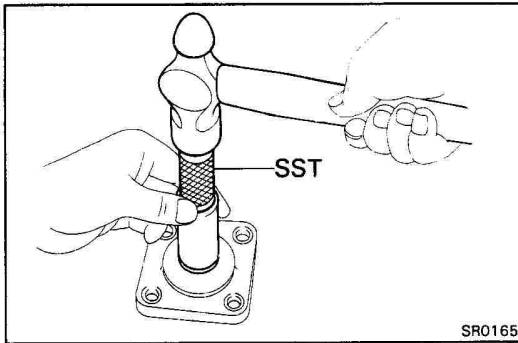
Wide Cab:

- Using a 24-mm socket wrench and hammer, remove the oil seal.
- Using a 27-mm socket wrench and hammer, install the oil seal.

Regular Cab:

Using SST, replace the oil seal.

SST 09620-30010



6. INSPECT SECTOR SHAFT

- Measure that thrust clearance with a feeler gauge

Maximum clearance: 0.1 mm (0.004 in.)

If necessary, install a new thrust washer to provide minimum clearance between the sector shaft and adjusting screw.

Thrust washer thickness mm (in.)

Thickness	
1.95	(0.0768)
2.00	(0.0787)
2.05	(0.0807)

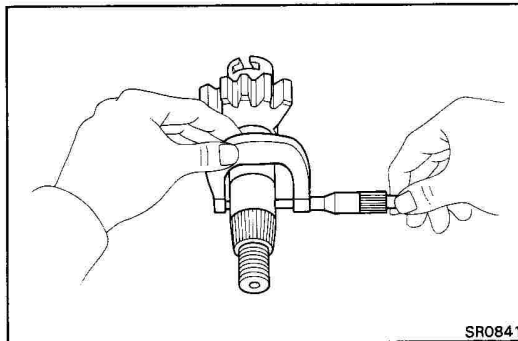
- Check the shaft, thrust washer and adjusting screw for wear or damage.

- Measure the shaft outer diameter.

Outer diameter:

STD 35.966 – 35.991 mm
(1.4160 – 1.4170 in.)

Limit 35.94 mm (1.4150 in.)

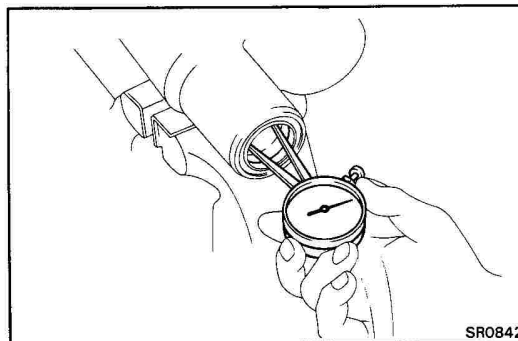


7. INSPECT GEAR HOUSING BUSHING

- Check the bushings for wear or damage.
- Using calipers, measure the gear housing bushing inner diameter.

Inner diameter:

STD 36.000 – 36.025 mm
(1.4173 – 1.4183 in.)

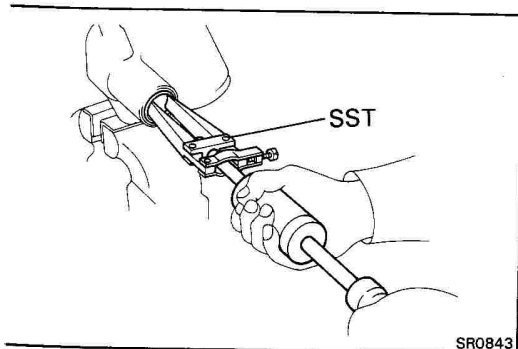


- (c) Calculate the oil clearance between the sector shaft and gear housing bushing.

Oil clearance:

STD 0.009 – 0.059 mm
(0.0004 – 0.0023 in.)
Limit 0.2 mm (0.0079 in.)

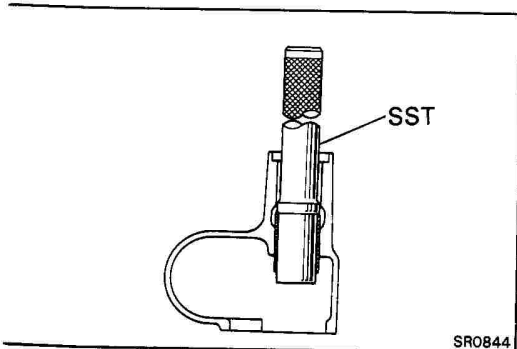
If necessary, replace the bushings.



8. IF NECESSARY, REPLACE BUSHINGS AND OIL SEAL

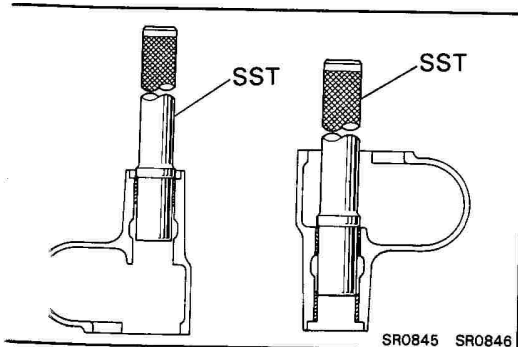
- (a) Using SST, remove the oil seal.

SST 09308-00010



- (b) Using SST and a press, remove the two bushings together in the same direction.

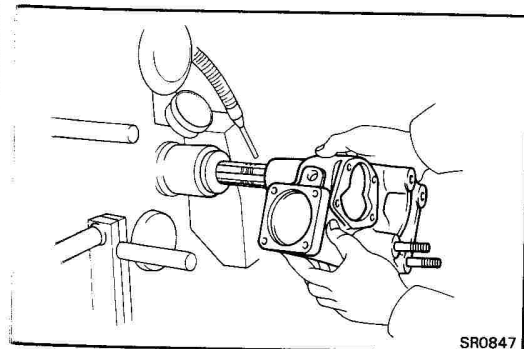
SST 09601-67010



- (c) Using SST and a press, install the outer bushing to the gear housing.

SST 09601-67010

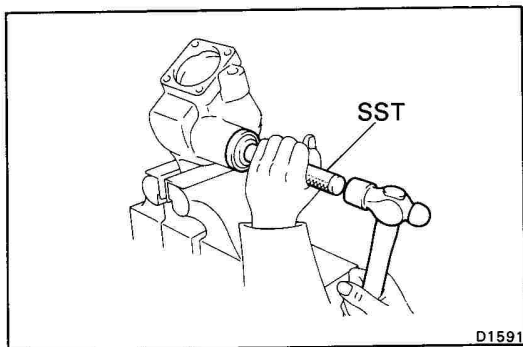
- (d) Install the inner bushing in the same procedure.



- (e) Hone the inner surface of the bushings until standard oil clearance is obtained between the bushings and sector shaft.

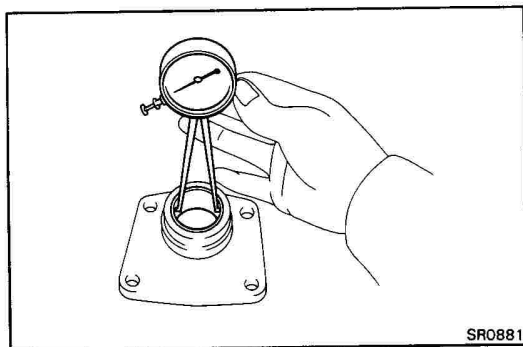
Standard oil clearance:

0.009 – 0.059 mm (0.0004 – 0.0023 in.)



- (f) Using SST and a press, install the new oil seal to the gear housing.

SST Regular Cab 09608-35013
Wide Cab 09608-30011



9. INSPECT END COVER BUSHING

- Check the bushing for wear or damage.
- Using calipers, measure the end cover bushing inner diameter.
- Calculate the oil clearance between the sector shaft and end cover bushing.

Maximum oil clearance: 0.2 mm (0.008 in.)

If the oil clearance is excessive or damage is found, the end cover must be replaced.

ASSEMBLY OF STEERING GEAR HOUSING

(See page SR-19)

1. APPLY MP GREASE TO BUSHINGS, OIL SEAL AND UPPER BALL BEARING

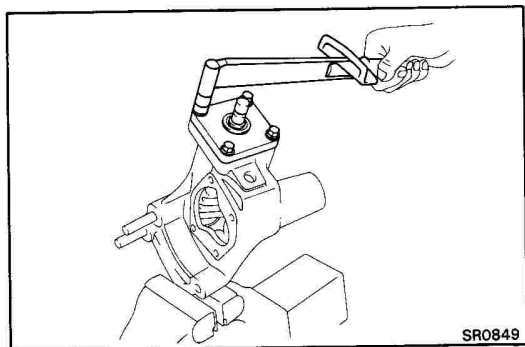
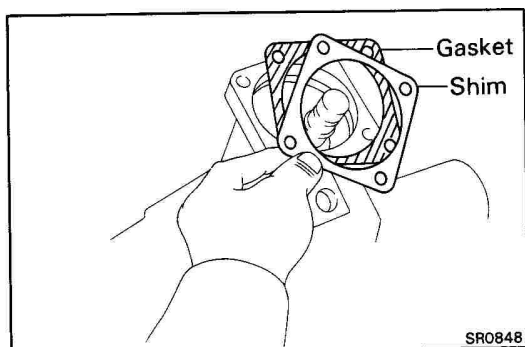
2. INSERT WORM SHAFT INTO GEAR HOUSING

Place worm bearings on the shaft and insert the shaft into the housing.

NOTE: Place the reused bearings in their initial position.

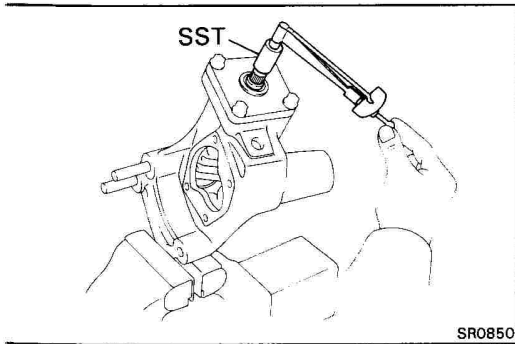
3. INSTALL SHIMS AND END COVER, AND ADJUST WORM BEARING PRELOAD

- Apply liquid sealer to the gear housing end and install the gasket.
- Install the same number of shims as there was before disassembly.



- Install the end cover and torque the four long bolts
Torque: 500 kg-cm (36 ft-lb, 49 N·m)

NOTE: While tightening the bolts, check the worm shaft to see that it turns properly.



- (d) Using SST and a torque wrench, measure the bearing preload in both directions.

SST 09616-00010

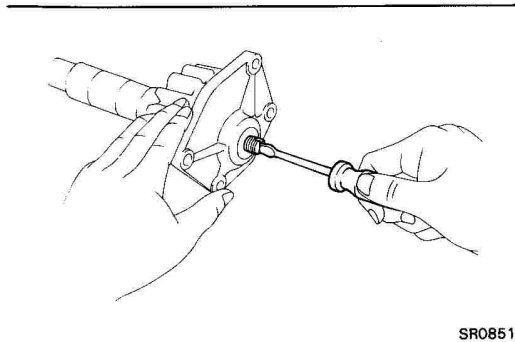
Preload (starting):

4 – 6 kg-cm (3.5 – 5.2 in.-lb, 0.4 – 0.6 N·m)

If the preload is not within limits, correct by selecting shims of proper thickness.

Shim thickness mm (in.)

Thickness	
0.05	(0.0020)
0.06	(0.0024)
0.07	(0.0028)
0.10	(0.0039)
0.20	(0.0079)
0.50	(0.0197)

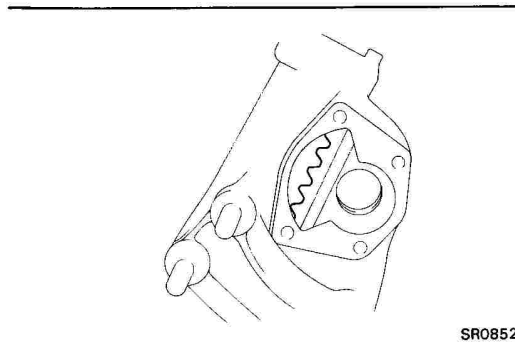


4. INSTALL SECTOR SHAFT AND END COVER

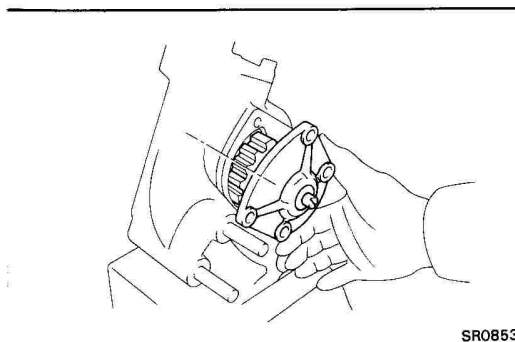
- (a) Apply liquid sealer to the adjusting screw threads and insert it in the thrust washer.
- (b) Assemble the sector shaft and adjusting screw to the end cover.

NOTE: Fully loosen the adjusting screw.

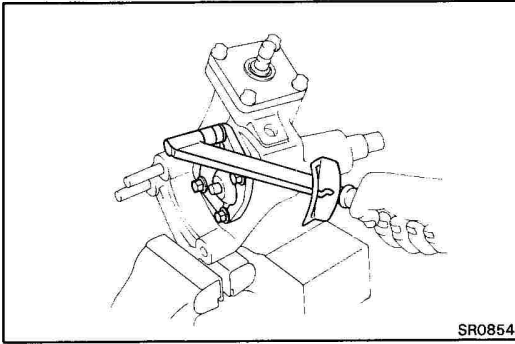
- (c) Apply liquid sealer to the gear housing end and install the gasket.



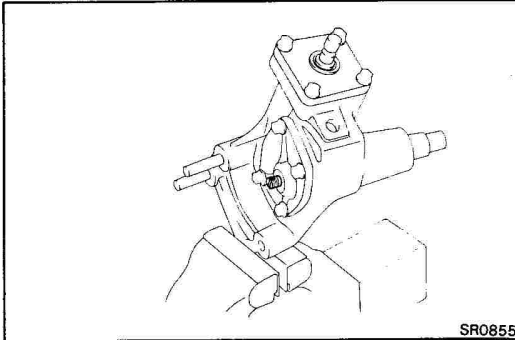
- (d) Set the ball nut at the center of the gear housing.



- (e) Insert the sector shaft into the gear housing so that the center teeth mesh together.



- (f) Install and torque the four end cover mounting bolts
Torque: 500 kg-cm (36 ft-lb, 49 N·m)

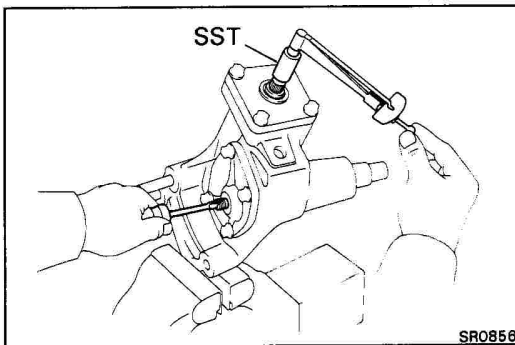


5. PLACE WORM SHAFT IN NEUTRAL POSITION

Count the total shaft revolutions and turn the shaft back half of that number. The worm shaft is now in neutral position.

6. MARK WORM SHAFT AND HOUSING

Place matchmarks on the worm shaft and housing to show neutral position.



7. ADJUST TOTAL PRELOAD

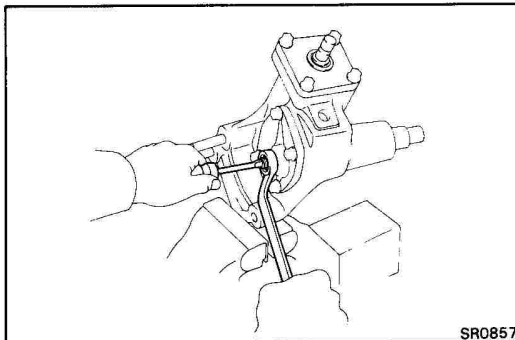
Using SST and a torque wrench, turn the adjusting screw while measuring the preload until it is correct.

SST 09616-00010

NOTE: Be sure that the worm shaft is in the neutral position.

Preload (starting):

Regular Cab	6 – 9 kg-cm (5.2 – 7.8 in.-lb, 0.6 – 0.9 N·m)
Wide Cab	8 – 11 kg-cm (6.9 – 9.5 in.-lb, 0.8 – 1.1 N·m)



8. TIGHTEN ADJUSTING SCREW LOCK NUT

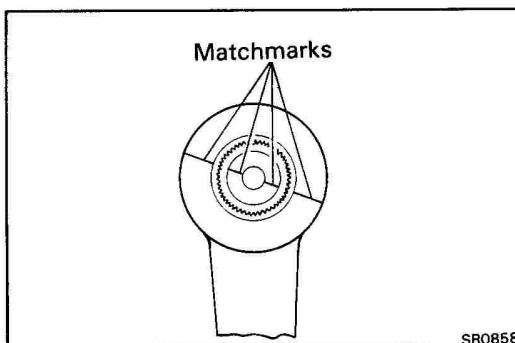
Hold the screw with a screwdriver while tightening the lock nut. Torque the lock nut.

Torque: 350 kg-cm (25 ft-lb, 34 N·m)

NOTE: Recheck that the preload is correct.

9. INSTALL DUST COVER

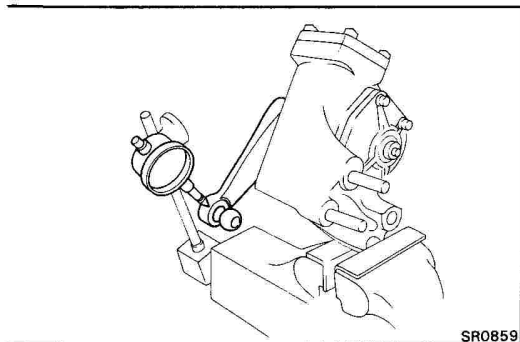
Apply MP grease to the dust cover inside and install it.



10. INSTALL PITMAN ARM

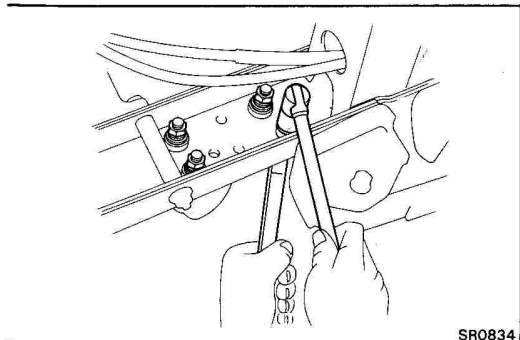
Align the matchmarks on the sector shaft with the pitman arm.

Install the pitman arm and lightly tighten the nut.



11. MEASURE SECTOR SHAFT BACKLASH

Install the backlash gauge. Check that the sector shaft has a backlash of 0 mm (0 in.).



INSTALLATION OF STEERING GEAR HOUSING

(See page SR-17)

1. INSTALL GEAR HOUSING

Install the housing with four nuts and two bolts.

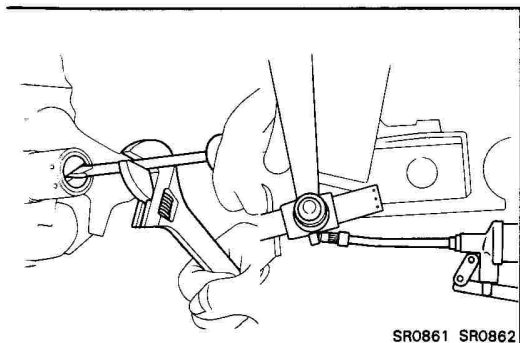
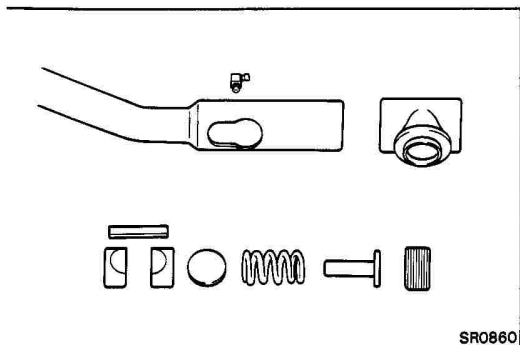
Torque the bolts and nuts.

Torque: 1,710 kg-cm (124 ft-lb, 168 N·m)

2. INSTALL WORM SHAFT TO WORM YOKE (See page SR-15)

3. CONNECT DRAG LINK TO PITMAN ARM

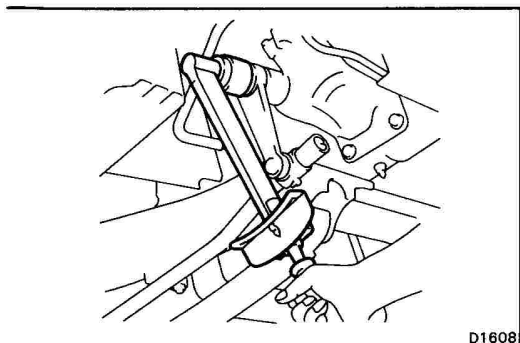
(a) Connect the pitman arm side as shown in the figure.



(b) Tighten the adjusting plug completely and then loosen it 1 – 1 1/3 turns.

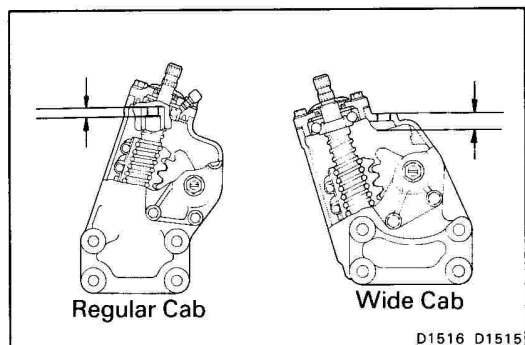
(c) Install the cotter pin.

(d) Apply the chassis grease to nipple.



4. TIGHTEN PITMAN ARM SET NUT

Torque: 2,500 kg-cm (181 ft-lb, 245 N·m)

**5. FILL GEAR HOUSING WITH GEAR OIL**

Oil level: from top
Regular Cab 0 – 10 mm (0 – 0.39 in.)
Wide Cab 14 – 17 mm (0.55 – 0.67 in.)

Capacity:
Regular Cab 690 cc (42.1 cu in.)
Wide Cab 860 cc (52.5 cu in.)

**6. (Diesel Engine)
INSTALL VACUUM TANK**