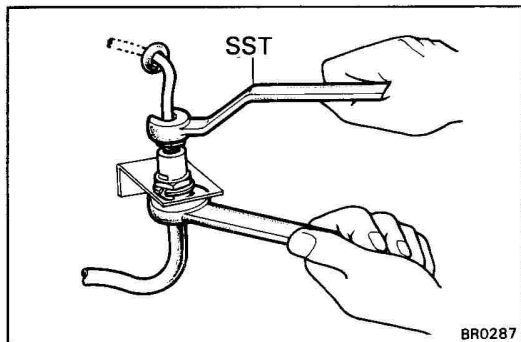
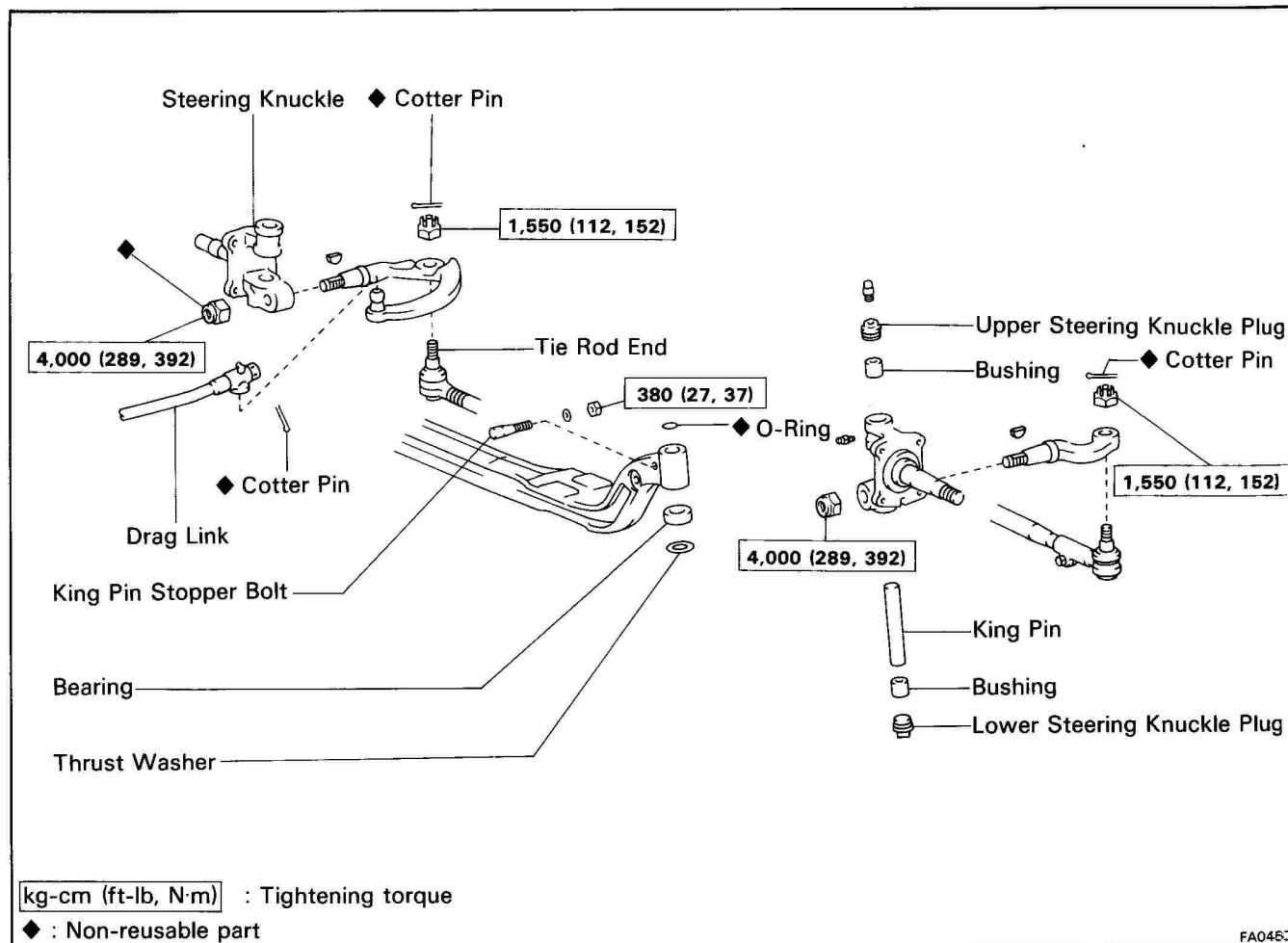
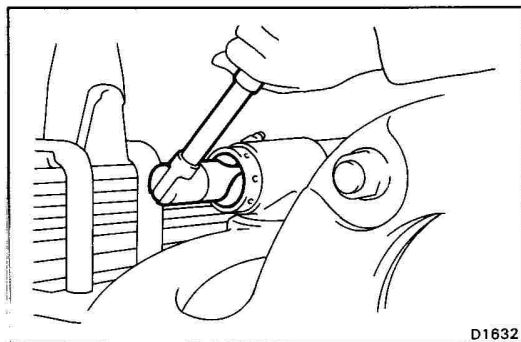


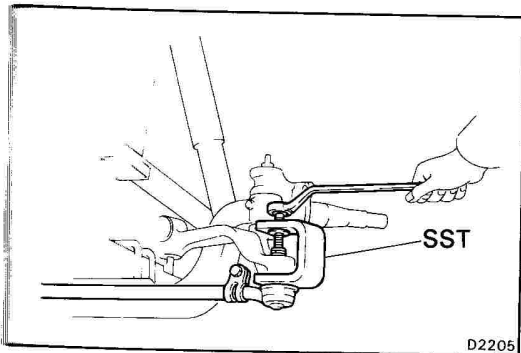
STEERING KNUCKLE (BU, YU, RU series) COMPONENTS



REMOVAL OF STEERING KNUCKLE

1. REMOVE AXLE HUB
(See page FA-6)
2. REMOVE FRONT BRAKE ASSEMBLY
 - (a) Using SST, disconnect the brake tube.
SST 09751-36011
 - (b) Remove the mounting bolts and the front brake assembly from the knuckle.
3. DISCONNECT DRAG LINK FROM KNUCKLE ARM
 - (a) Remove the cotter pin.
 - (b) Loosen the adjusting plug and disconnect the drag link from the knuckle arm.

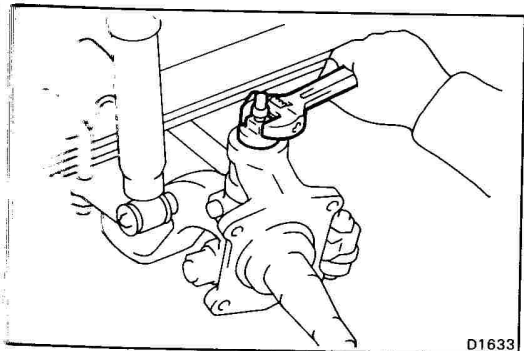




4. DISCONNECT TIE ROD END FROM KNUCKLE ARM

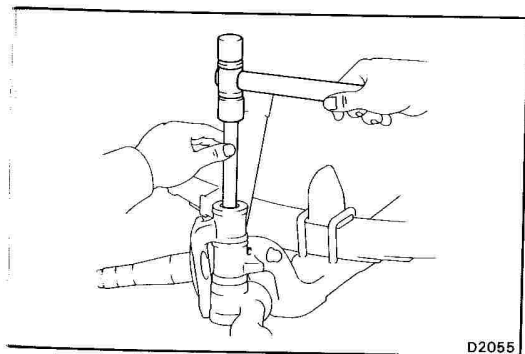
- (a) Remove the cotter pin and nut.
- (b) Using SST, disconnect the tie rod end from the knuckle arm.

SST 09611-36020

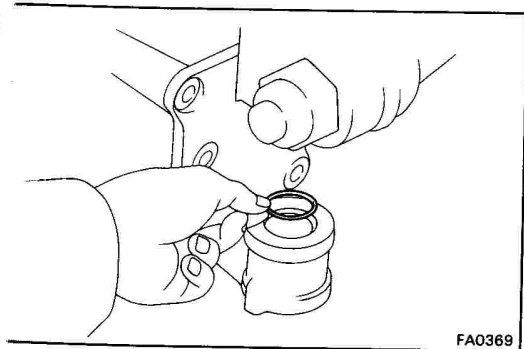


5. REMOVE STEERING KNUCKLE

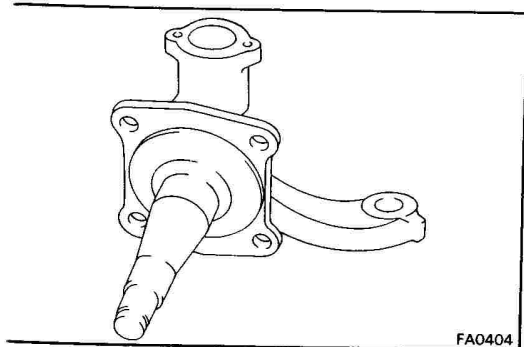
- (a) Remove the upper and lower steering knuckle plug.
- (b) Remove the king pin stopper pin.



- (c) Drive out the king pin.
- (d) Remove the steering knuckle, thrust washer and bearing.



- (e) Remove the O-ring from the steering knuckle.

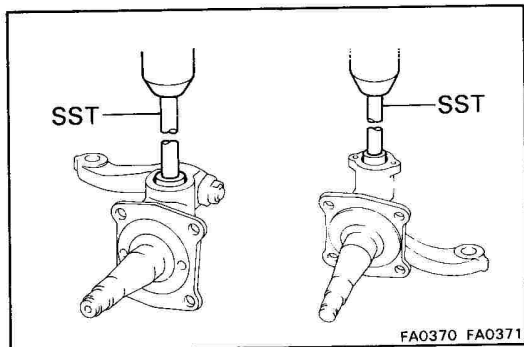


INSPECTION OF STEERING KNUCKLE

INSPECT STEERING KNUCKLE AND KNUCKLE ARM

Inspect the steering knuckle and knuckle arm for damage or cracks.

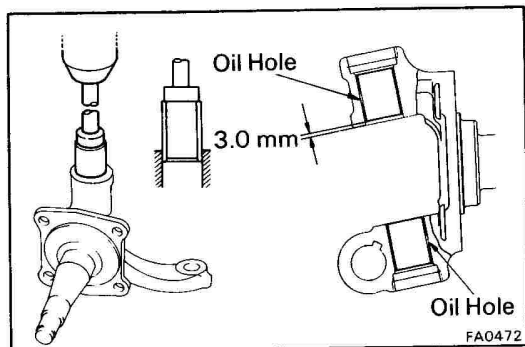
NOTE: It is recommended that a flaw detector or liquid penetrate be used for this inspection. If either the steering knuckle or knuckle arm is damaged or cracked, replace it.



REPLACEMENT BUSHING

1. REMOVE UPPER AND LOWER BUSHING

Using SST, press out the upper and lower bushing.
SST 09601-37010

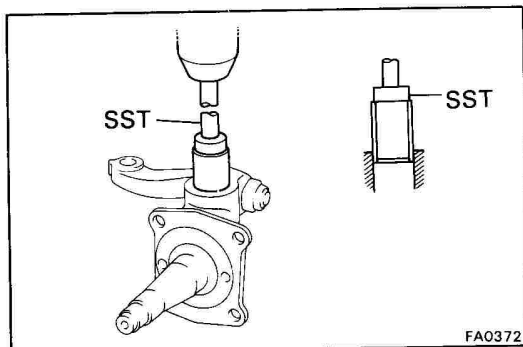


2. INSTALL UPPER AND LOWER BUSHING

- (a) Using SST, press in the new upper bushing until the bushing edge is 3.0 mm (0.118 in.) in from the knuckle outer edge.

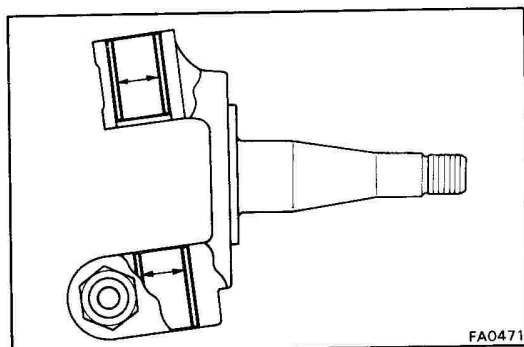
SST 09601-37010

NOTE: Press the bushing in with the oil hole facing inward.



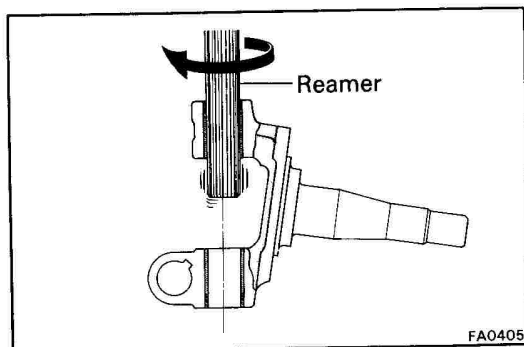
- (b) Using SST, press in the new bushing until the bushing and knuckle edge surfaces are even.

NOTE: Press the bushing in with the oil hole facing outward.

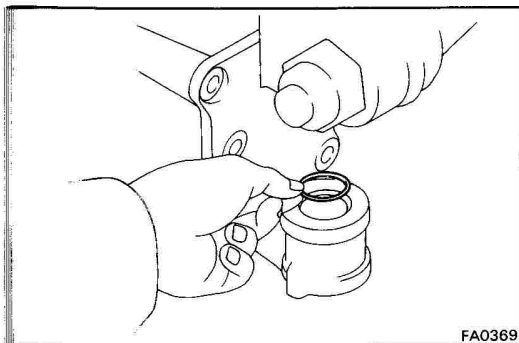


- (c) Inspect the bushing inner diameter.

Inner diameter: 28.01 – 28.03 mm
(1.1028 – 1.1035 in.)



- (d) If necessary, using a reamer refinish the bushing.



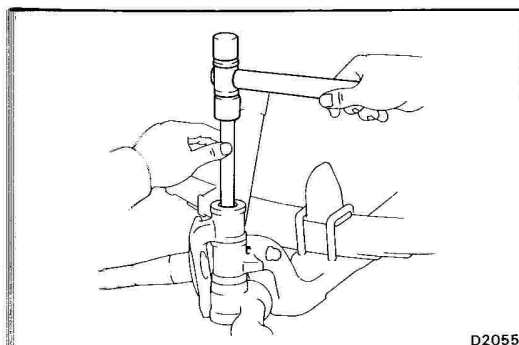
INSTALLATION OF STEERING KNUCKLE

(See page FA-16)

1. INSTALL O-RING

Put the O-ring on the lower side of the upper bushing.

2. POSITION STEERING KNUCKLE

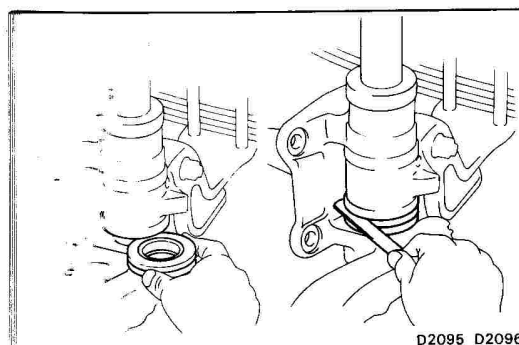


3. INSTALL KING PIN

(a) Position the hole downward and the notched portion of the king pin toward the hole side.

(b) Using a plastic hammer, drive in the king pin until the lower edge is even with the I-beam.

NOTE: Apply chassis grease to the bushing, I-beam and bearing inside.



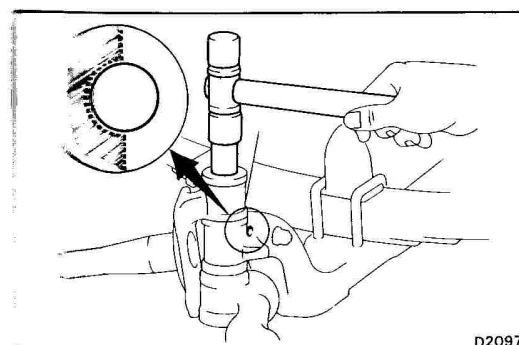
(c) Position the bearing, and using a thickness gauge, measure the clearance between the bearing and knuckle.

Thrust clearance: Less than 0.10 mm (0.0039 in.)

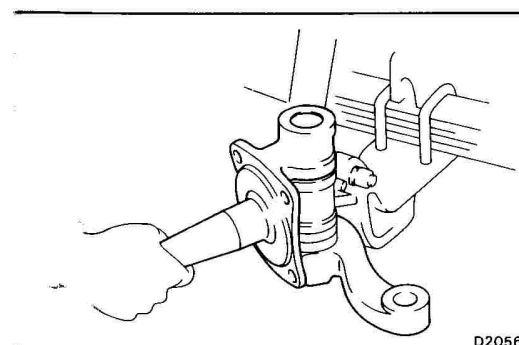
(d) Select the thrust washer and install it between the steering knuckle and bearing.

Thrust washer thickness mm (in.)

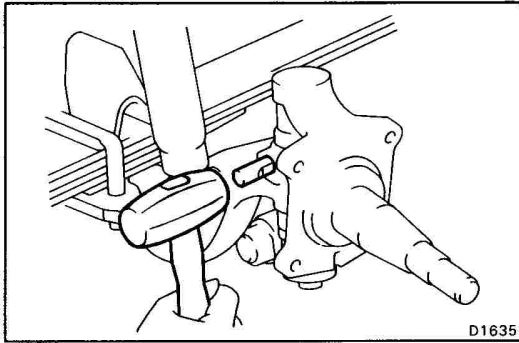
Thickness	Thickness
0.20 (0.0079)	0.35 (0.0138)
0.25 (0.0098)	0.40 (0.0157)
0.30 (0.0118)	0.45 (0.0177)



(e) Using a plastic hammer, drive in the king pin until the holes align.

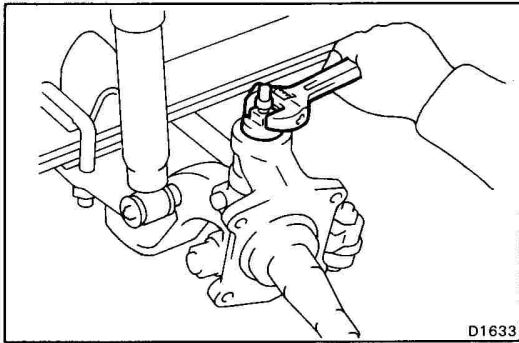


(f) Make sure that the knuckle turns smoothly.

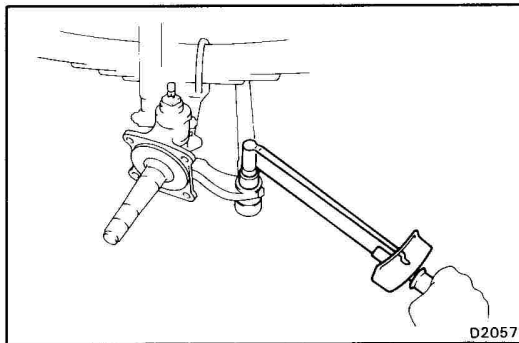


(g) Drive in the king pin stopper pin and install the nut.

Torque: 380 kg-cm (27 ft-lb, 37 N·m)

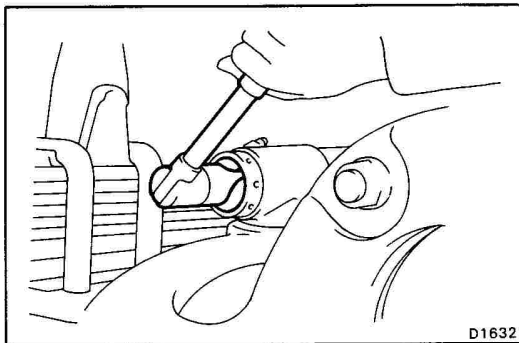


4. INSTALL UPPER AND LOWER STEERING KNUCKLE PLUG



5. CONNECT TIE ROD END

Torque: 1,550 kg-cm (112 ft-lb, 152 N·m)



6. CONNECT DRAG LINK

- (a) Connect the drag link to the knuckle arm.
- (b) Tighten the adjusting plug completely and then loosen it 1-11/3 turns.
- (c) Install the cotter pin.

7. APPLY CHASSIS GREASE TO NIPPLE

8. INSTALL FRONT BRAKE ASSEMBLY

- (a) Install the brake assembly and the mounting bolts.

Torque: 1,300 kg-cm (94 ft-lb, 127 N·m)

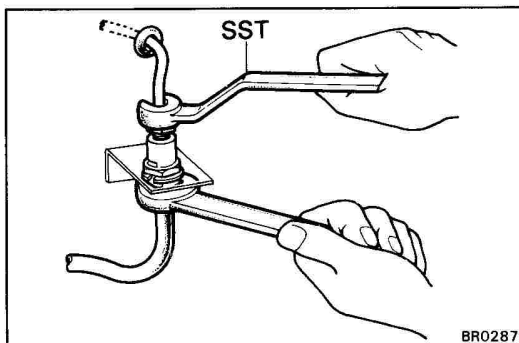
- (b) Using SST, connect the brake tube.

SST 09751-36011

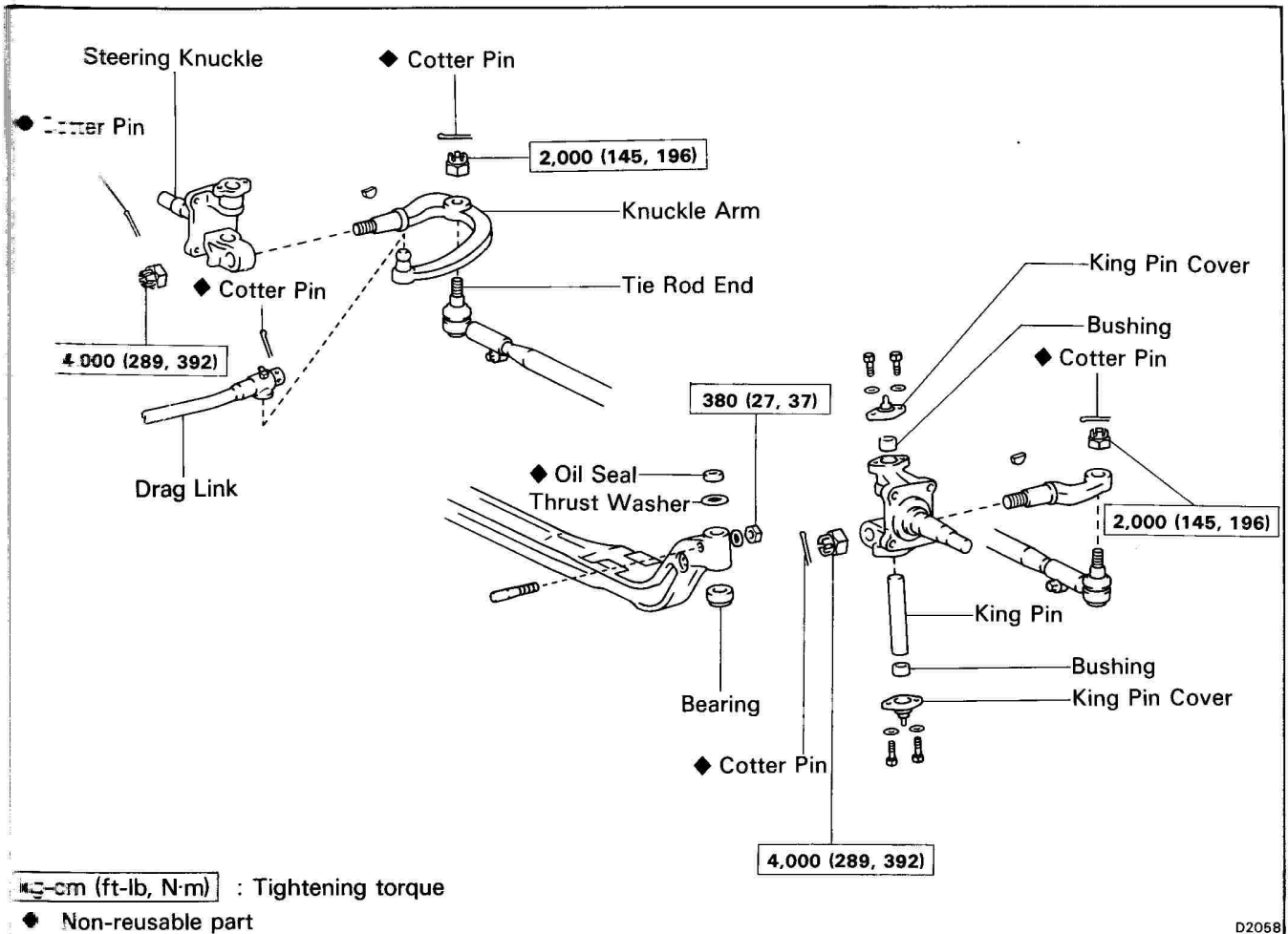
Torque: 155 kg-cm (11 ft-lb, 15 N·m)

9. INSTALL AXLE HUB (See page FA-9)

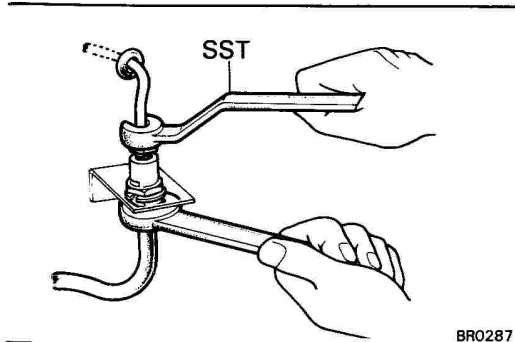
10. ADJUST FRONT WHEEL ALIGNMENT (See page FA-3)



STEERING KNUCKLE (WU series) COMPONENTS

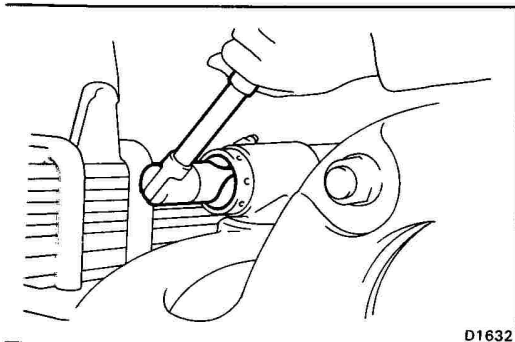


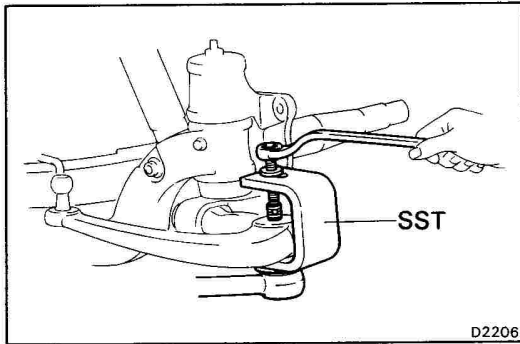
D2058



REMOVAL OF STEERING KNUCKLE

1. REMOVE AXLE HUB (See page FA-6)
2. REMOVE FRONT BRAKE ASSEMBLY
 - (a) Using SST, disconnect the brake tube.
SST 09751-36011
 - (b) Remove the mounting bolts and the front brake assembly from the knuckle.
3. DISCONNECT DRAG LINK FROM KNUCKLE ARM
 - (a) Remove the cotter pin.
 - (b) Loosen the adjusting plug and disconnect the drag link from the knuckle arm.

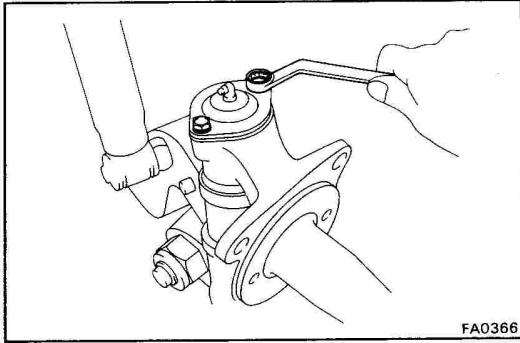




4. DISCONNECT TIE ROD END FROM KNUCKLE ARM

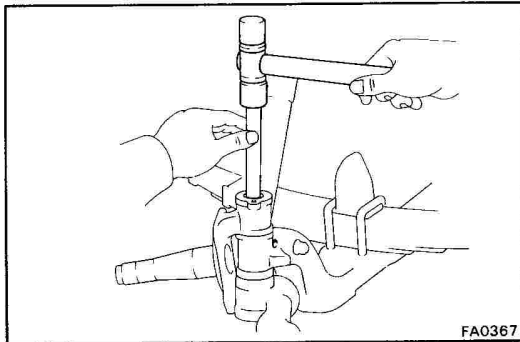
- (a) Remove the cotter pin and nut.
- (b) Using SST, disconnect the tie rod end from the knuckle arm.

SST 09611-36020

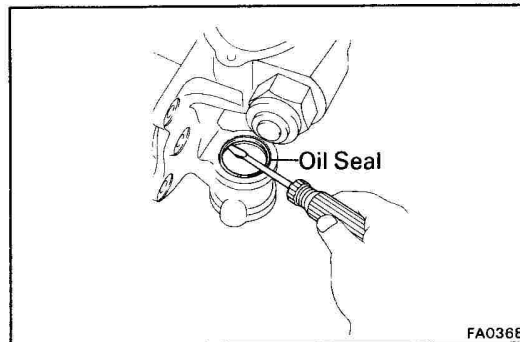


5. REMOVE STEERING KNUCKLE

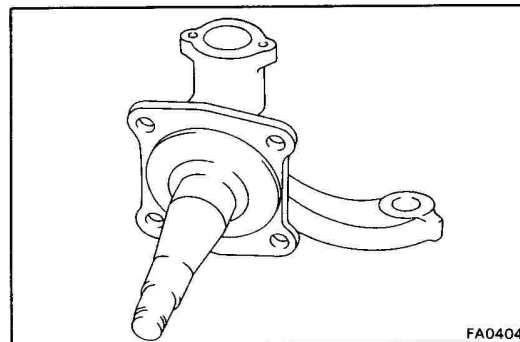
- (a) Remove the upper and lower king pin cover.
- (b) Remove the king pin stopper pin.



- (c) Drive out the king pin.
- (d) Remove the steering knuckle, thrust washer and bearing.



- (e) Remove the oil seal from the steering knuckle.

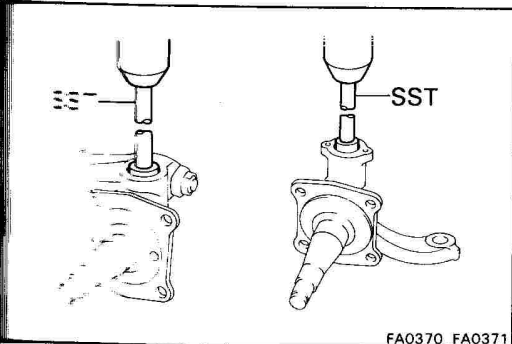


INSPECTION OF STEERING KNUCKLE

INSPECT STEERING KNUCKLE AND KNUCKLE ARM

Inspect the steering knuckle and knuckle arm for damage or cracks.

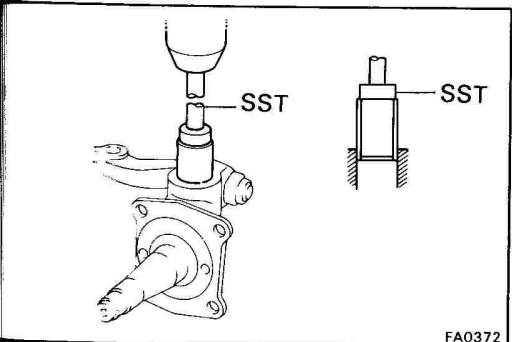
NOTE: It is recommended that a flaw detector or liquid penetrate by used for this inspection. If either the steering knuckle or knuckle arm is damaged or cracked, replace it.



REPLACEMENT BUSHING

1. REMOVE UPPER AND LOWER BUSHING

Using SST, press out the upper and lower bushing.
SST 09601-67010



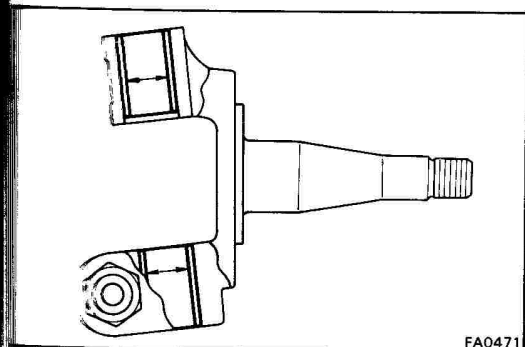
2. INSTALL UPPER AND LOWER BUSHING

(a) Using SST, press in the upper and lower bushing.
SST 09601-67010

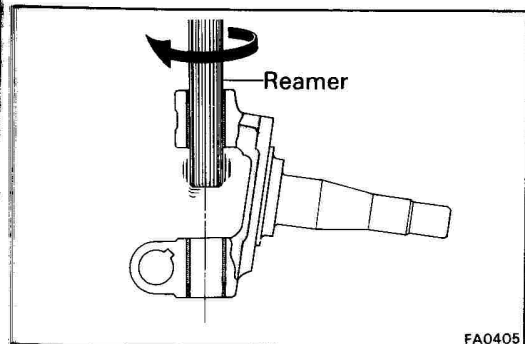
NOTE: Press in until the knuckle and bushing edge surfaces are even.

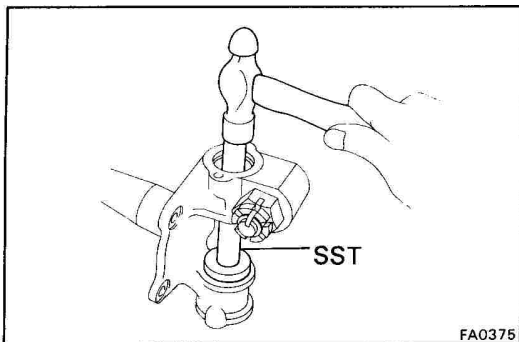
(b) Inspect the bushing inner diameter.

Inner diameter: 34.98 – 35.06 mm
(1.3772 – 1.3803 in.)



(c) If necessary, using a reamer refinish the bushing.





INSTALLATION OF STEERING KNUCKLE

(See page FA-11)

1. INSTALL OIL SEAL

Using SST, install the oil seal to the knuckle.
SST 09550-10012

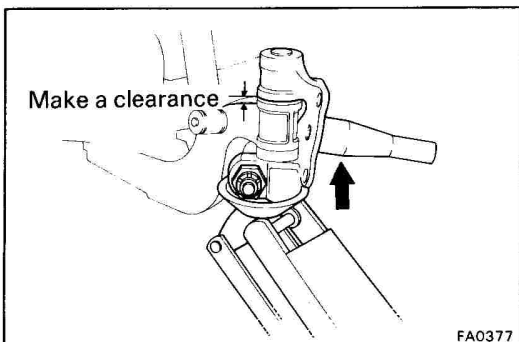
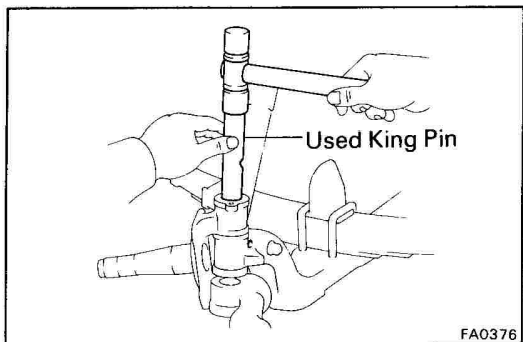
2. POSITION STEERING KNUCKLE TO I-BEAM

3. INSTALL THRUST WASHER AND BEARING

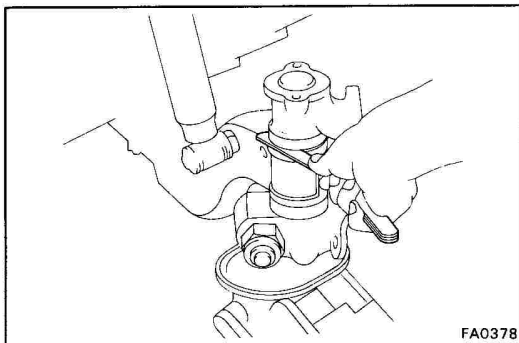
4. INSTALL KING PIN

(a) Using a plastic hammer, drive in the used king pin.

NOTE: Apply chassis grease to the bushing, I-beam and bearing inside.



(b) Using a jack, raise the steering knuckle.



(c) Measure the clearance between the steering knuckle and I-beam.

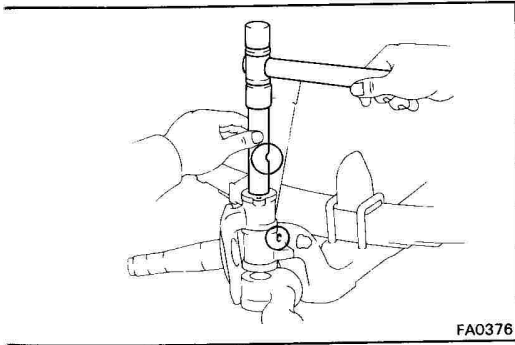
Thrust clearance: Less than 0.10 mm (0.0039 in.)

(d) Select the thrust washer.

Thrust washer thickness mm (in.)

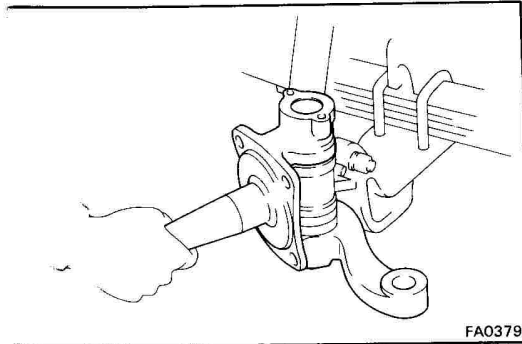
Thickness	Thickness
1.9 (0.075)	2.3 (0.091)
2.0 (0.079)	2.4 (0.094)
2.1 (0.083)	2.5 (0.098)
2.2 (0.087)	2.6 (0.102)

(e) Remove the jack.

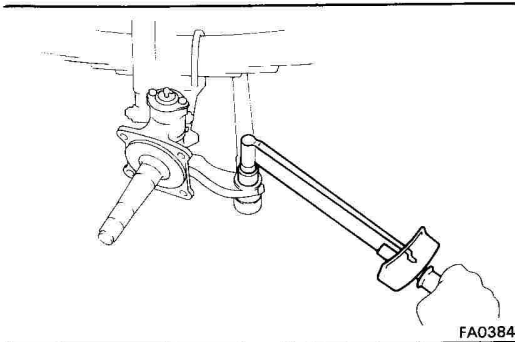


- (f) Drive out the king pin.
- (g) Install the thrust washer.
- (h) Using a plastic hammer, drive in the king pin until the holes align.
- (i) Drive in the stopper pin and install the nut.

Torque: 380 kg-cm (27 ft-lb, 37 N·m)



- 5. **MAKE SURE THAT KNUCKLE TURNS SMOOTHLY**
- 6. **INSTALL KING PIN COVERS**

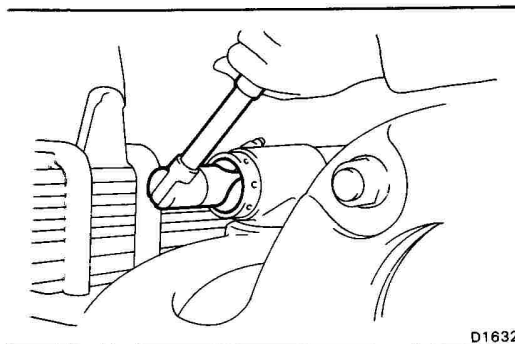


7. CONNECT TIE ROD END

- (a) Install and torque the nut.

Torque: 2,000 kg-cm (145 ft-lb, 196 N·m)

- (b) Install the cotter pin to the nut.



8. CONNECT DRAG LINK

- (a) Connect the drag link to the knuckle arm.
- (b) Tighten the adjusting plug completely and then loosen it 1-11/3 turns.
- (c) Install the cotter pin.

9. APPLY CHASSIS GREASE TO NIPPLE

10. INSTALL FRONT BRAKE ASSEMBLY

- (a) Install the brake assembly and the mounting bolts.

Torque: 1,850 kg-cm (134 ft-lb, 181 N·m)

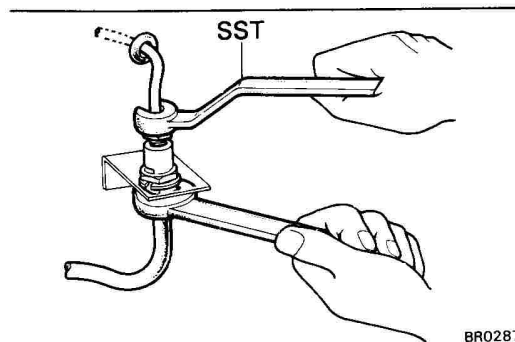
- (b) Using SST, connect the brake tube.

SST 09751-36011

Torque: 155 kg-cm (11 ft-lb, 15 N·m)

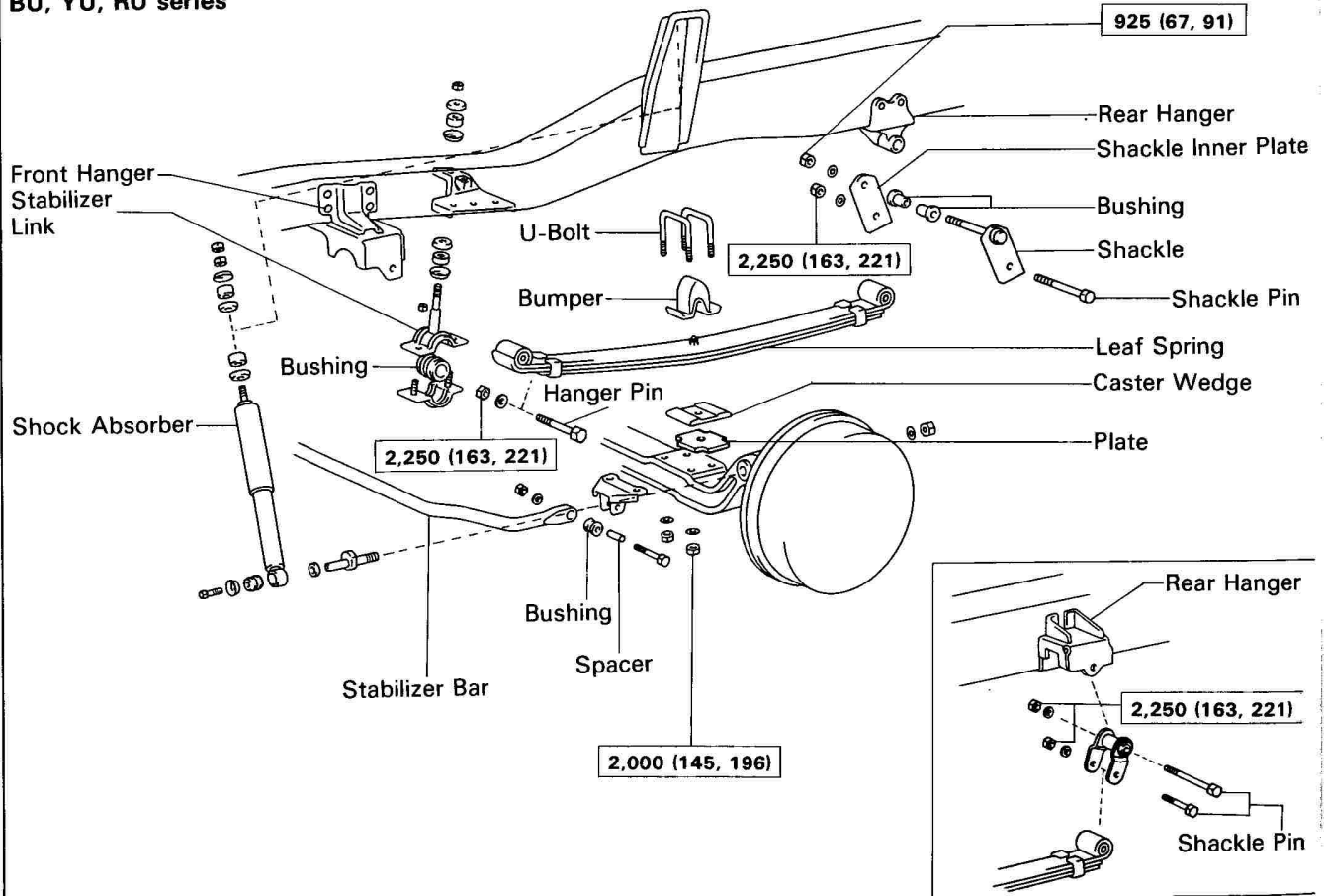
11. INSTALL AXLE HUB (See page FA-8)

12. ADJUST FRONT WHEEL ALIGNMENT (See page FA-3)

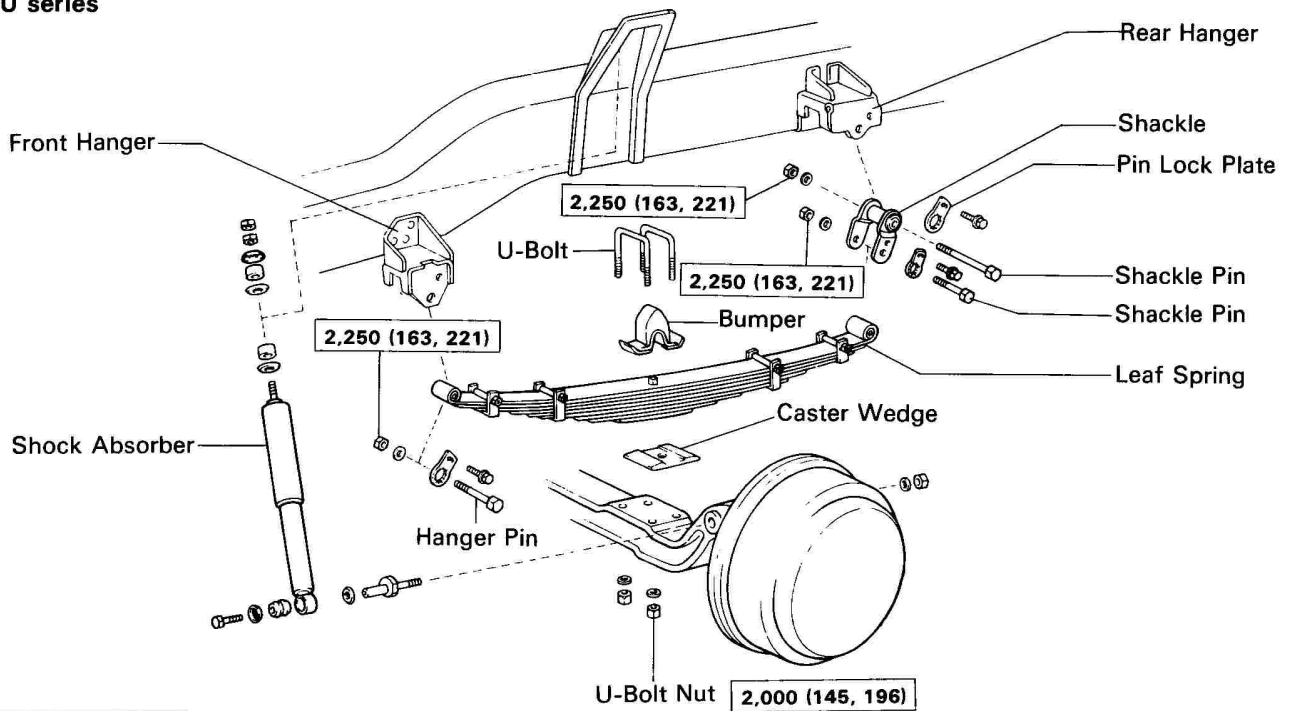


FRONT SUSPENSION COMPONENTS

BU, YU, RU series

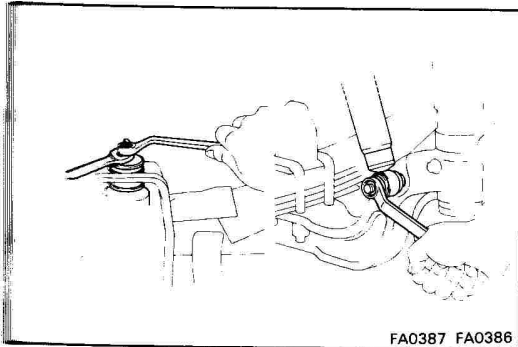


WU series



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

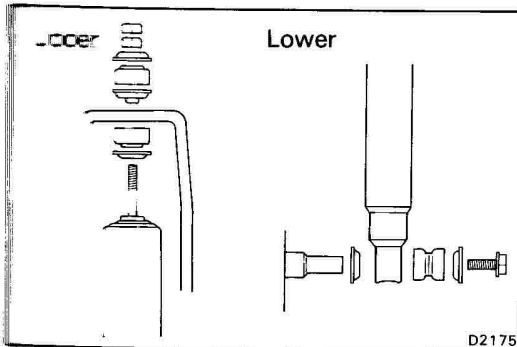
D1E3E
D1E3



Front Shock Absorber

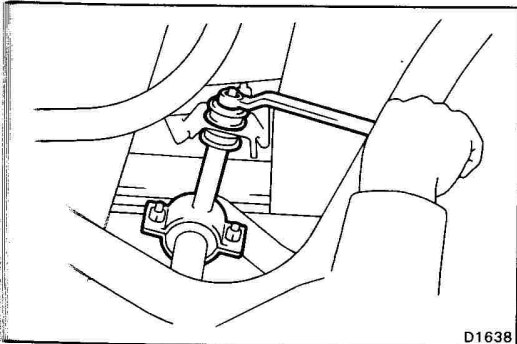
REMOVAL OF FRONT SHOCK ABSORBER

1. DISCONNECT SHOCK ABSORBER FROM I-BEAM
2. DISCONNECT SHOCK ABSORBER FROM FRAME



INSTALLATION OF FRONT SHOCK ABSORBER

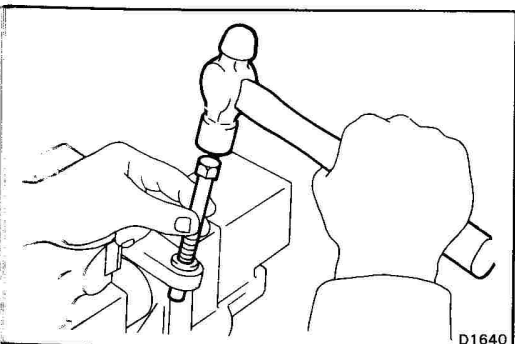
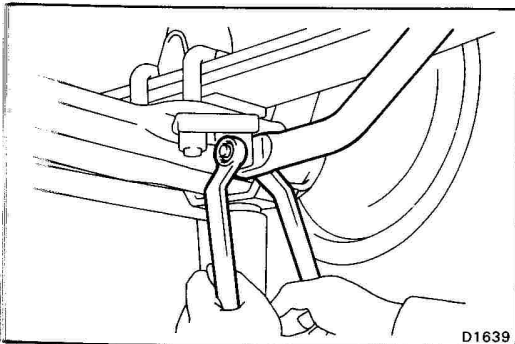
1. CONNECT SHOCK ABSORBER TO FRAME
Torque: 240 kg-cm (17 ft-lb, 24 N·m)
2. CONNECT SHOCK ABSORBER TO I-BEAM
Torque: 380 kg-cm (27 ft-lb, 37 N·m)

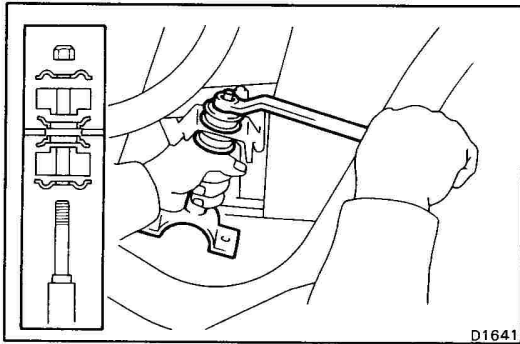


Stabilizer Bar

REMOVAL OF STABILIZER BAR

1. REMOVE TWO STABILIZER LINKS FROM FRAME
 - (a) Raise the vehicle until the stabilizer bar force is free.
 - (b) Remove the two stabilizer links from the frame.
2. REMOVE STABILIZER BAR FROM I-BEAM
 - (a) Remove the nuts and bolts.
 - (b) Remove the stabilizer bar with the links from the I-beam.
3. REMOVE STABILIZER LINK AND BUSHING FROM STABILIZER BAR
4. REMOVE SPACER AND BUSHING FROM STABILIZER BAR
 - (a) Using a bolt (12 mm or 0.47 in.), drive out the spacer from the stabilizer bar.
 - (b) Using a brass bar, drive out the bushing from the stabilizer bar.





INSTALLATION OF STABILIZER BAR

1. INSTALL STABILIZER BUSHING AND SPACER

Apply soapy water to the new bushing and install it to the stabilizer bar with the spacer.

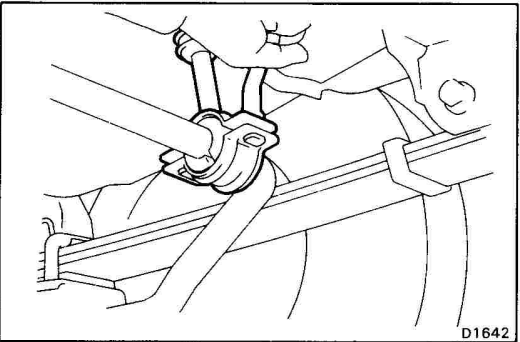
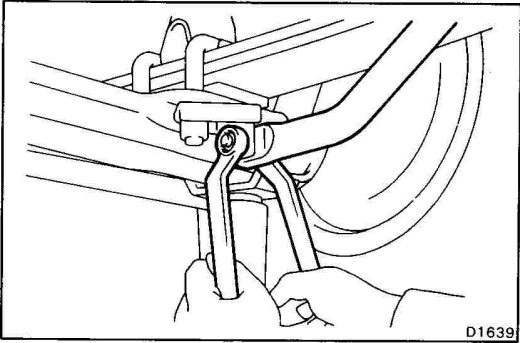
2. INSTALL STABILIZER LINK TO FRAME

- Place the cushion and spacer to the frame as shown.
- Install the link to the frame.

Torque: 175 kg-cm (13 ft-lb, 17 N·m)

3. INSTALL STABILIZER BAR TO I-BEAM

Torque: 380 kg-cm (27 ft-lb, 37 N·m)



4. INSTALL STABILIZER BAR TO STABILIZER LINK

Place the two bushings to the stabilizer bar and install it to the stabilizer link.

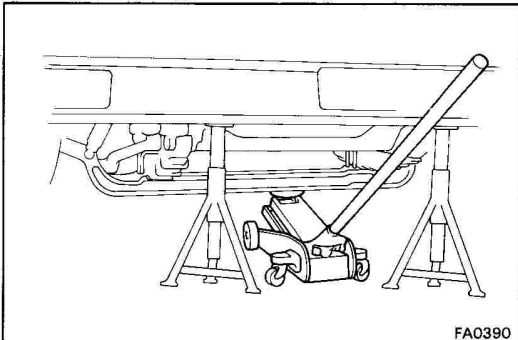
Torque: 170 kg-cm (12 ft-lb, 17 N·m)

Leaf Spring

REMOVAL OF LEAF SPRING

1. JACK UP AND SUPPORT VEHICLE

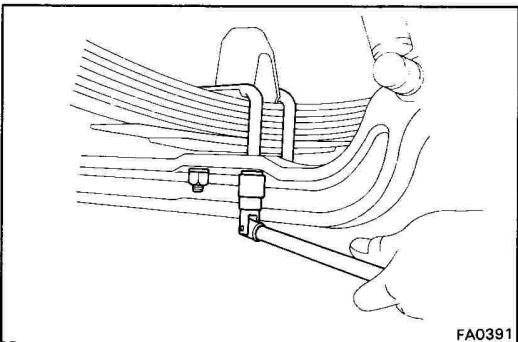
- Jack up and support the vehicle on the stand.
- Lower the I-beam until the leaf spring force is free and keep it at this position.

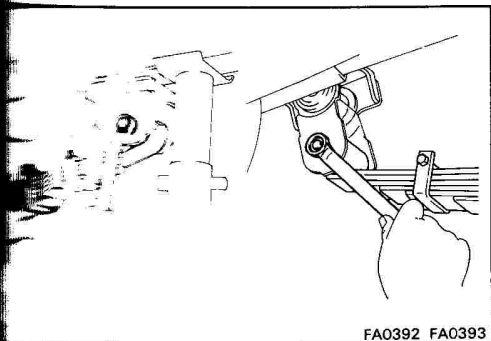


2. REMOVE U-BOLTS

- Remove the four U-bolt mounting nuts.
- Remove the following parts:
 - Two U-bolts
 - Spring bumper

3. LOWER I-BEAM





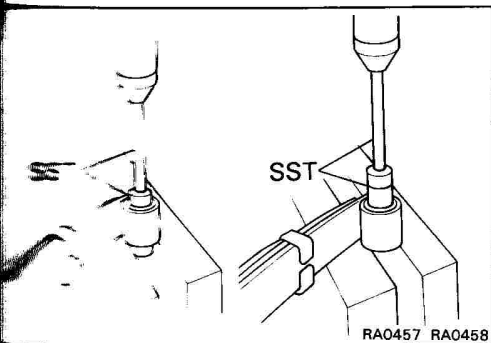
FA0392 FA0393

4. REMOVE LEAF SPRING

- (a) Remove the shackle pin from the leaf spring rear side.
- (b) Remove the hanger pin from the leaf spring front side.

5. REMOVE SPRING SHACKLE FROM REAR HANGER

- 6. (Regular Cab)
REMOVE BUSHING FROM REAR HANGER



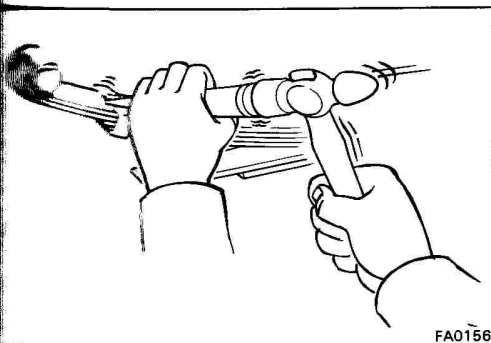
RA0457 RA0458

REPLACEMENT OF EYE BUSHING**1. REMOVE BUSHING**

Using a press and SST, remove the bushing.
SST 09550-10012

2. INSTALL BUSHING

Using a press and SST, install the bushing.
SST 09550-10012

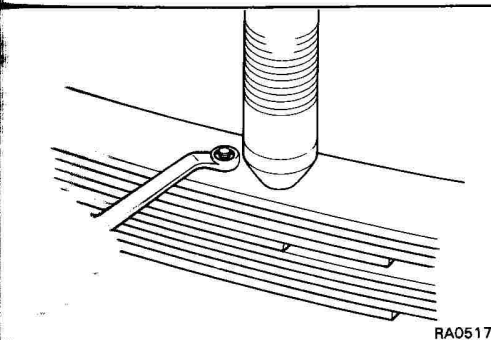


FA0156

REPLACEMENT OF LEAF

- 1. (Ex. Dump and WU series)
BEND OPEN SPRING CLIP

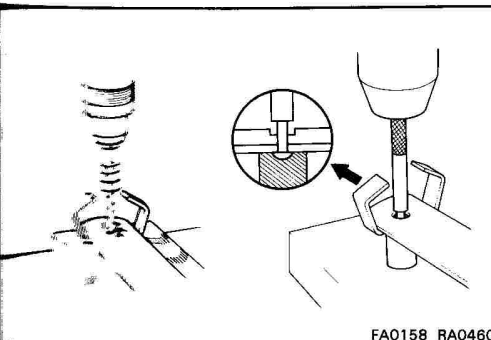
Using a chisel, pry up the spring clip.



RA0517

2. REMOVE SPRING CENTER BOLT

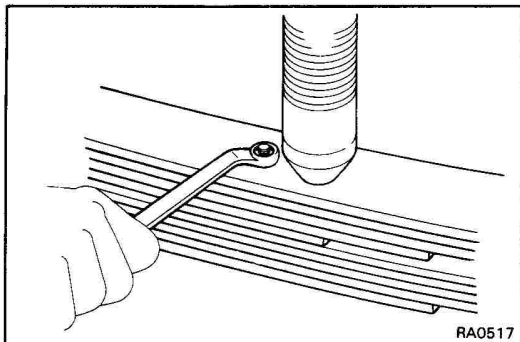
Secure the spring with a press and remove the spring center bolt.



FA0158 RA0460

3. IF NECESSARY, REPLACE SPRING CLIP

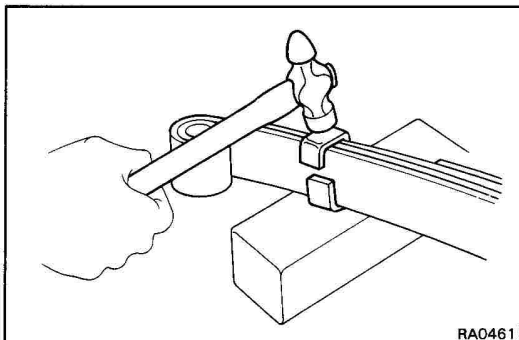
- (a) Drill off the head of the rivet, then drive it out.
- (b) Install a new rivet into the holes of the spring leaf and clip. Then rivet with a press.



4. INSTALL SPRING CENTER BOLT

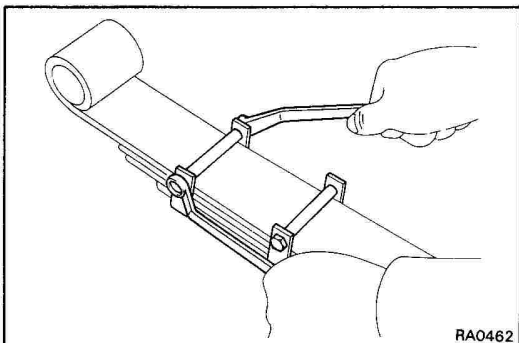
- (a) Align the leaf holes and secure the leaves with a press.
- (b) Install and tighten the spring center bolt firmly.

NOTE: For the just low, insert the spring center bolt from the upperside. For others, insert it from the underside.



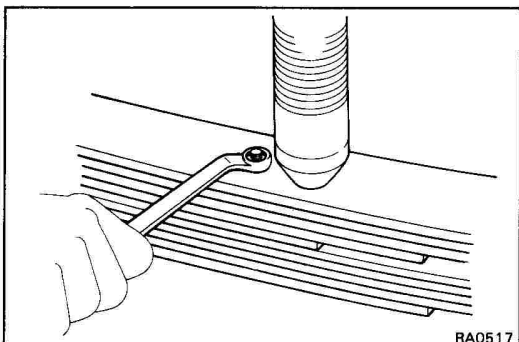
5. BEND SPRING CLIP

Using a hammer, bend the spring clip into position.



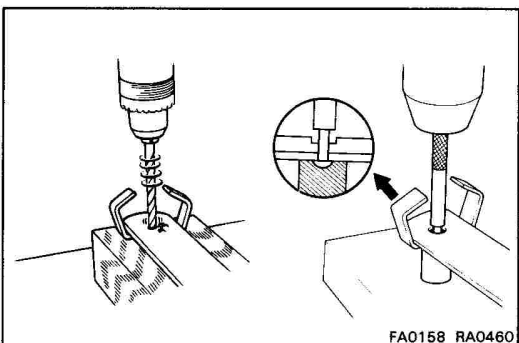
(Dump and WU series)

1. REMOVE SPRING CLIP BOLT AND CASE



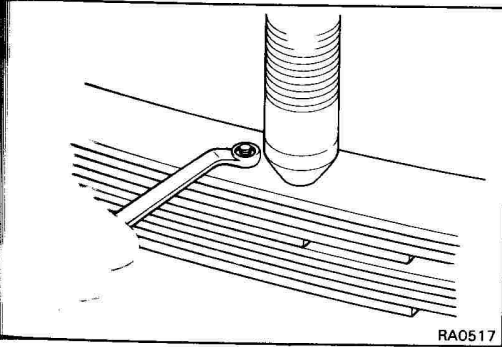
2. REMOVE SPRING CENTER BOLT

Secure the spring with a press and remove the spring center bolt.



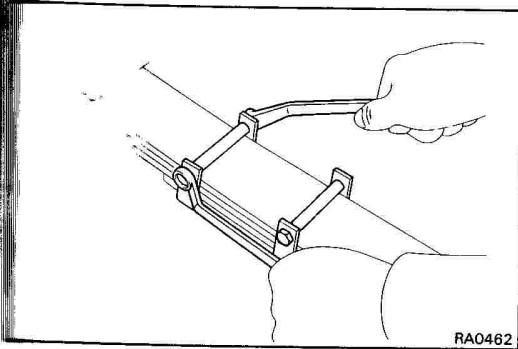
3. REPLACE SPRING CLIP

- (a) Drill off the head of the rivet and then drive out the rivet.
- (b) Install a new rivet into the holes of the spring leaf and clip. Then rivet with a press.



4. INSTALL SPRING CENTER BOLT

- (a) Align the leaf holes and secure the leaves with a press.
- (b) Install and tighten the spring center bolt firmly.



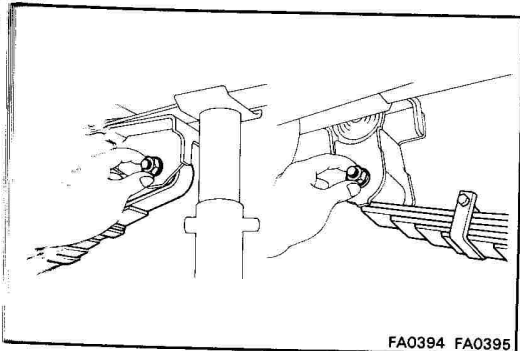
5. INSTALL SPRING CLIP BOLT AND CASE

- (a) Install the spring clip bolt and case.
- (b) Install and tighten the nut firmly.

INSTALLATION OF LEAF SPRING

1. INSTALL SHACKLE TO REAR HANGER

- (a) Install the bushing to the rear hanger (Regular Cab).
- (b) Place the shackle to the rear hanger and install the hanger pin.
- (c) Finger tighten the hanger pin nut.



2. INSTALL LEAF SPRING

- (a) Place the leaf spring front end into the front hanger and install the hanger pin.
- (b) Finger tighten the hanger pin nut.
- (c) Place the leaf spring rear end into the shackle and install the shackle pin.
- (d) Finger tighten the shackle pin nut.

3. PLACE CASTER WEDGE ON I-BEAM

4. RAISE I-BEAM UNTIL TOUCH LEAF SPRING

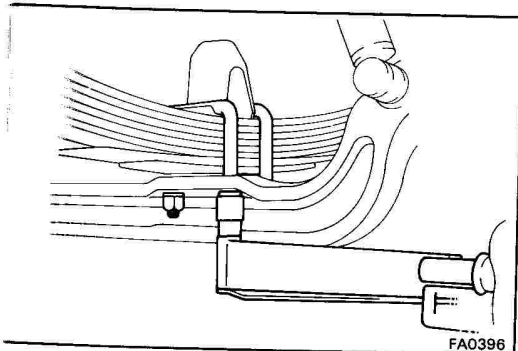
5. INSTALL U-BOLT

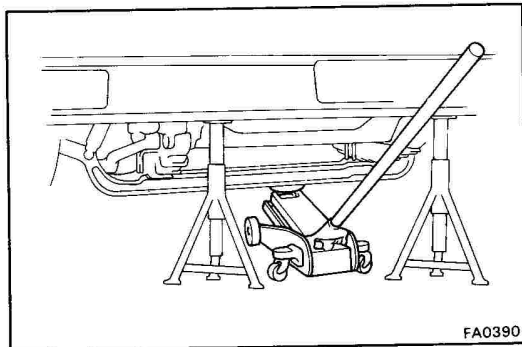
- (a) Install the following parts:

- Bumper
- Two U-bolts

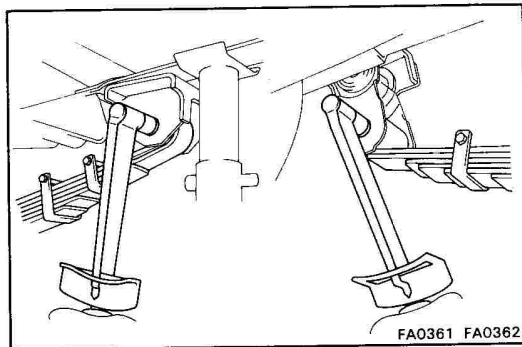
- (b) Torque the U-bolt mounting nuts.

Torque: 2,000 kg-cm (145 ft-lb, 196 N·m)



**6. LOWER VEHICLE**

Lower the vehicle and, using a jack, bounce it several times.

**7. TIGHTEN HANGER PIN AND SHACKLE PIN**

Tighten the hanger pin and shackle pin nuts.

Torque:

Shackle pin nut upper side

Regular cab 925 kg-cm (67 ft-lb, 91 N·m)

Wide cab 2,250 kg-cm (163 ft-lb, 221 N·m)

Shackle pin nut lower side and hanger pin nut

2,250 kg-cm (163 ft-lb, 221 N·m)