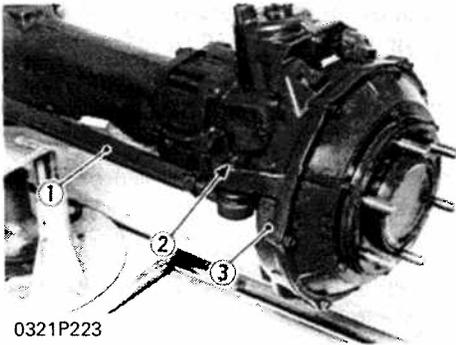
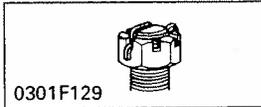


DISASSEMBLING AND ASSEMBLING



0321P223

- (1) Tie-rod
- (2) Tie-rod End Slotted Nut
- (3) Front Axle Case



Tie-rod

1. Remove the front wheels.
2. Pull out the cotter pin, and remove the tie-rod end slotted nut.
3. Remove the tie-rod using the tie-rod end lifter (Code No:07909-39051).

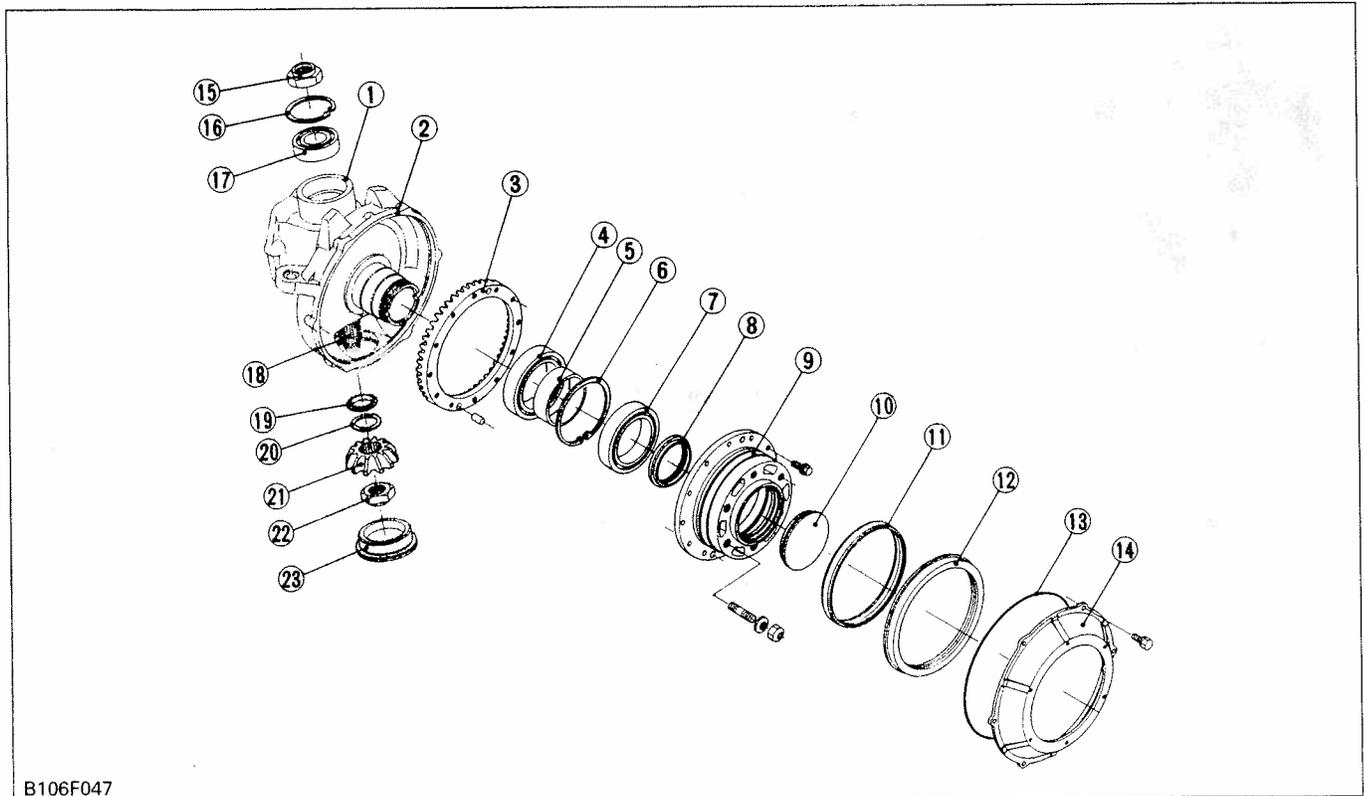
(When reassembling)

- Replace the cotter pin with a new one.

■ IMPORTANT

- After tightening the slotted nut to the specified torque, install the cotter pin and bend it as shown in the figure.

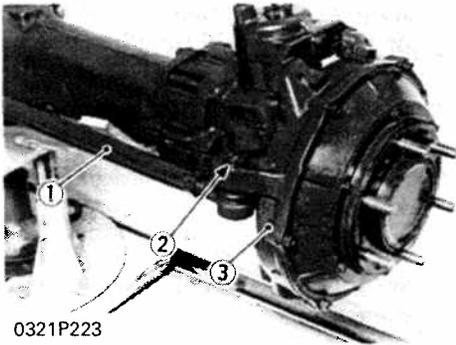
Tightening torque	Tie-rod end slotted nut	77.5 to 90.2 N·m 7.9 to 9.2 kgf·m 57.1 to 66.5 ft-lbs
	Front wheel mounting nut	167 to 185 N·m 17.0 to 19.0 kgf·m 123 to 135 ft-lbs



B106F047

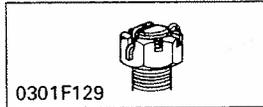
- | | | | |
|------------------------|--------------------------------|-------------------------|-------------------------------|
| (1) Bevel Gear Case | (8) Front Axle Case Nut | (13) O-ring | (17) Ball Bearing |
| (2) Front Axle Case | (80 mm, 3.15 in. DIA) | (14) Oil Seal Cover | (18) Bevel Pinion Shaft |
| (3) 43T Bevel Gear | (9) Front Axle | (15) Staking Nut | (19) Collar |
| (4) Ball Bearing | (10) Cap (100mm, 3.93 in. DIA) | (30mm, 1.18 in. DIA) | (20) Shim |
| (5) Collar | (11) Oil Seal Sleeve | (16) Internal Snap Ring | (21) 12T Bevel Gear |
| (6) Internal Snap Ring | (12) Oil Seal | | (22) Cap (90mm, 3.54 in. DIA) |
| (7) Ball Bearing | | | |

DISASSEMBLING AND ASSEMBLING



0321P223

- (1) Tie-rod
- (2) Tie-rod End Slotted Nut
- (3) Front Axle Case



Tie-rod

1. Remove the front wheels.
2. Pull out the cotter pin, and remove the tie-rod end slotted nut.
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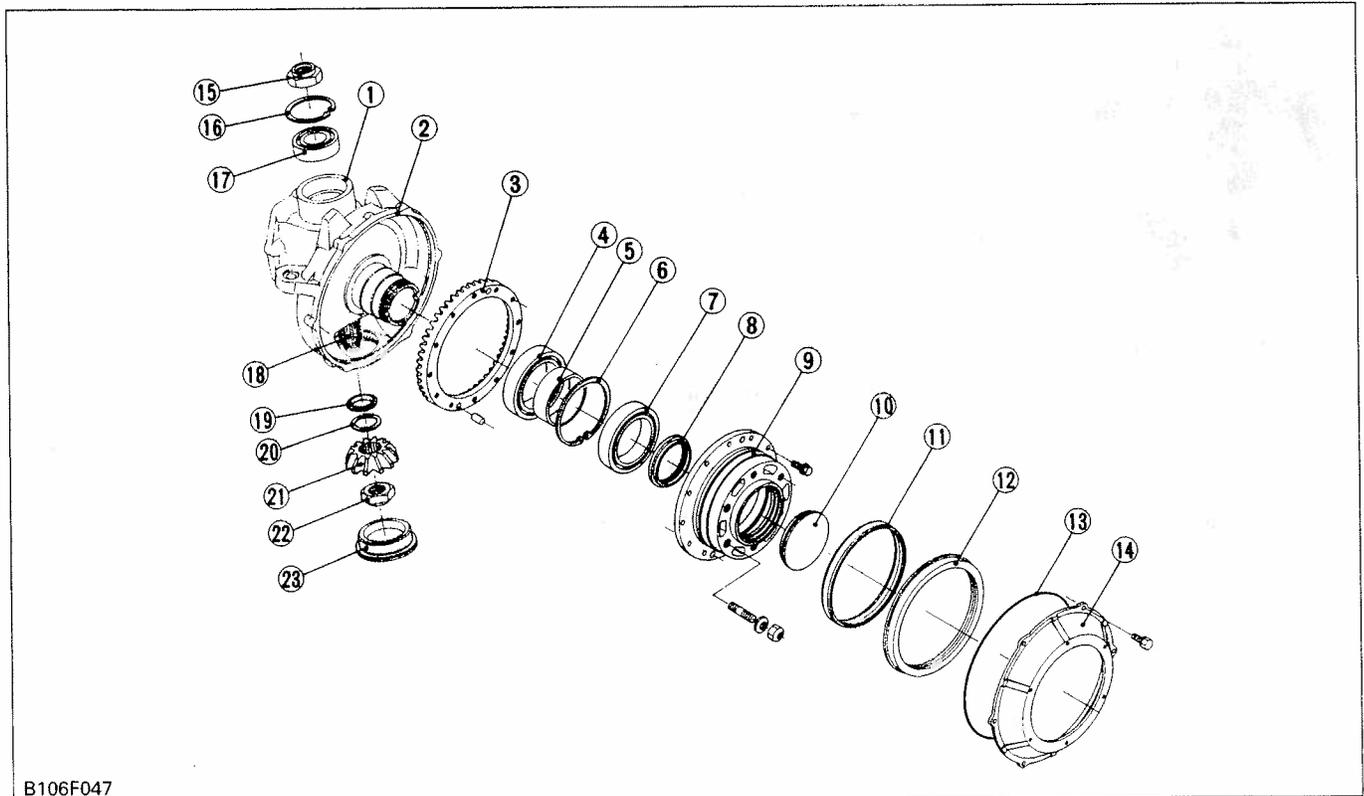
(When reassembling)

- Replace the cotter pin with a new one.

■ IMPORTANT

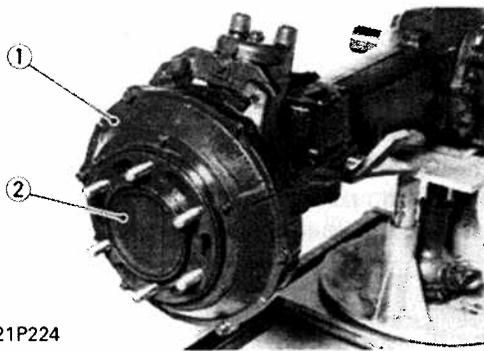
- After tightening the slotted nut to the specified torque, install the cotter pin and bend it as shown in the figure.

Tightening torque	Tie-rod end slotted nut	77.5 to 90.2 N·m 7.9 to 9.2 kgf·m 57.1 to 66.5 ft-lbs
	Front wheel mounting nut	167 to 185 N·m 17.0 to 19.0 kgf·m 123 to 135 ft-lbs

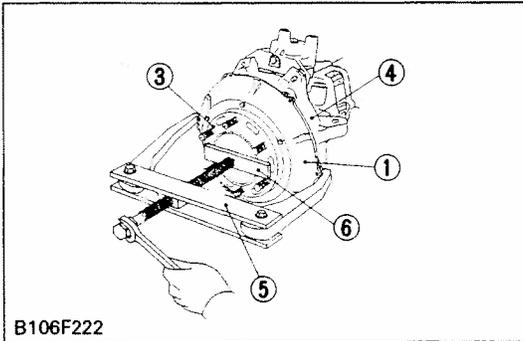


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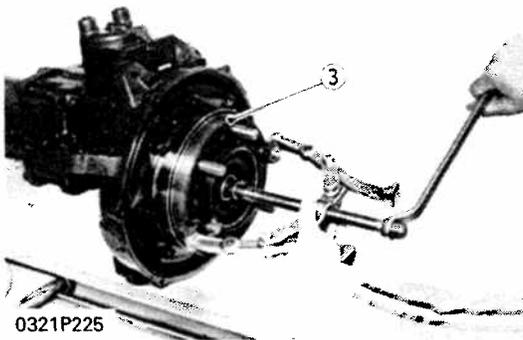
- | | | | |
|------------------------|--|---|-------------------------------|
| (1) Bevel Gear Case | (8) Front Axle Case Nut
(80 mm, 3.15 in. DIA) | (13) O-ring | (17) Ball Bearing |
| (2) Front Axle Case | (9) Front Axle | (14) Oil Seal Cover
(30mm, 1.18 in. DIA) | (18) Bevel Pinion Shaft |
| (3) 43T Bevel Gear | (10) Cap (100mm, 3.93 in. DIA) | (15) Staking Nut | (19) Collar |
| (4) Ball Bearing | (11) Oil Seal Sleeve | (16) Internal Snap Ring | (20) Shim |
| (5) Collar | (12) Oil Seal | | (21) 12T Bevel Gear |
| (6) Internal Snap Ring | | | (22) Cap (90mm, 3.54 in. DIA) |
| (7) Ball Bearing | | | |



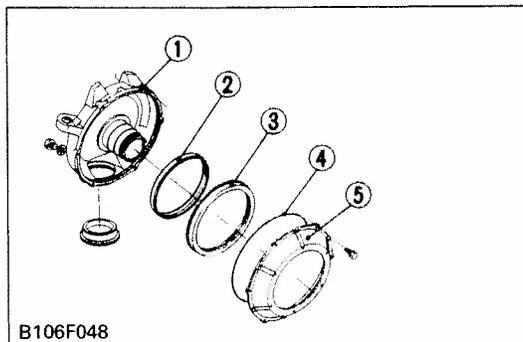
0321P224



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0321P225



B106F048

- (1) Front Axle Case
- (2) Oil Seal Sleeve
- (3) Oil Seal
- (4) O-ring
- (5) Oil Seal Cover

Front Axle

1. Remove the M8 screw for the oil seal cover (1).
2. Slightly rotate the oil seal cover so that the gear puller pawl (5) will fit.
3. Apply a plate (6) for the gear puller center bolt to the end face of the front axle and pull out the oil seal cover (1).
4. Remove the front axle cap (2) (100 mm, 3.9 in. DIA).
5. Remove the stake of front axle case nut (80 mm, 3.15 in. DIA), using F.A. case nut socket (Code No: 07916-52872).
6. Remove the front axle (3) and bevel gear as a unit from front axle case (4) with a universal puller.

(When reassembling)

- Replace the front axle cap with a new one, and when installing it, apply gear oil to the front axle cap.

■ IMPORTANT

- **Screw the front axle case nut into the front axle until the axial play between front axle case and front axle is eliminated, and stake it firmly.**

(Reference)

Tightening torque	Front axle case nut	9.8 to 29.4 N·m 1.0 to 3.0 kgf·m 7.23 to 21.7 ft-lbs
	Oil seal cover mounting screw	23.6 to 27.4 N·m 2.4 to 2.8 kgf·m 17.4 to 20.2 ft-lbs

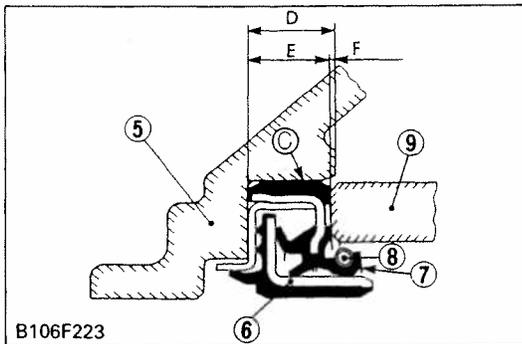
- (1) Oil Seal Cover
- (2) Front Axle Cap
- (3) Front Axle
- (4) Front Axle Case
- (5) Gear Puller
- (6) Plate

Oil Seal and Sleeve of Front Axle ※

1. Remove the oil seal (3) from oil seal cover (5).
2. Remove the oil seal sleeve (2) from the front axle.

(When reassembling)

- Press fit the oil seal to the oil seal cover firmly.
 - Apply gear oil to the oil seal cover, and apply grease to the inside lip of oil seal.
 - Replace the oil seal sleeve with a new one.
- ※ Serial No. affected : L4350;60001 ~ 61168, L4850;60001 ~ 60368, L5450;60001 ~ 60689



B106F223

Oil Seal of Front Axle

(L4350;61169~, L4850;60369~, L5450;60690~)

1. Remove the oil seal from the oil seal cover (5).

(When reassembling for reinforced oil seal)

1. Clean the oil seal press-in portions of the oil seal cover (5) and front axle (10).
2. Coat a slight amount of grease on inner face © and press the oil seal into the oil seal cover (5).
3. The oil seal direction shall be as shown in the left figure.
4. When pressing the oil seal into the oil seal cover, use the jig (9) as shown in S.G-30, so as not to damage the oil seal lip (7) and lip spring (8) and not to incline the oil seal.

■ IMPORTANT

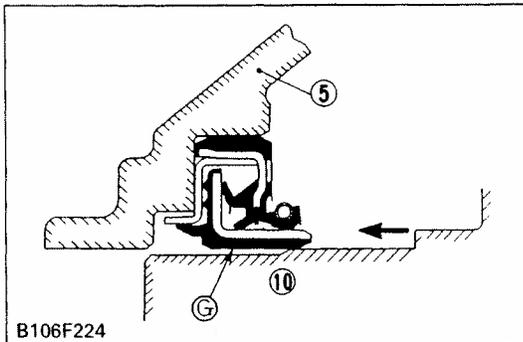
- Press the oil seal in until it comes into contact with the inner face.
- Before installation, measure dimension © of the oil seal cover and memorize the sinking margin © to prevent excessive pressing in.
- Dimension © of the oil seal is either 12 mm (0.472 in.) or 13 mm (0.512 in.), and the oil seal width is 12 mm (0.472 in.). Therefore, the sinking margin is 0 mm (0 in.) when © is 12 mm (0.472 in.) and 1 mm (0.04 in.) when © is 13 mm.
- 5. To facilitate assembly of the oil seal cover (5) and front axle case, apply a small amount of grease on inner face © of the oil seal.

When installing the oil seal cover to the front axle case, the final stage of pressing-in is facilitated by use of an M8×25 mm (1.0 in.) bolt which is longer by 5 mm (0.2 in.).

After the installation, replace the bolt with the regular one (M8×20 mm (0.79 in.)) and tighten it finally.

■ IMPORTANT

- Do not coat grease excessively on inner face ©.
- Never fail to set the O-ring for the oil seal cover.



B106F224

- | | | |
|---------------------|--------------------|------------------|
| (1) Front Axle Case | (4) O-ring | (7) Oil Seal Lip |
| (2) Oil Seal Sleeve | (5) Oil Seal Cover | (8) Lip Spring |
| (3) Oil Seal | (6) Inner Sleeve | (9) Jig |
| | | (10) Front Axle |

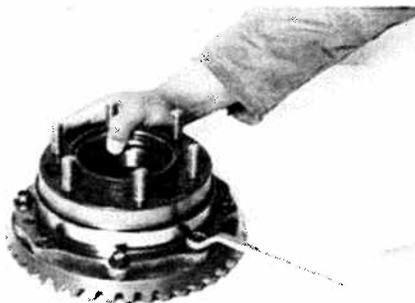
Bevel Gear

1. Remove the bevel gear mounting UBS screws, and remove the bevel gear.

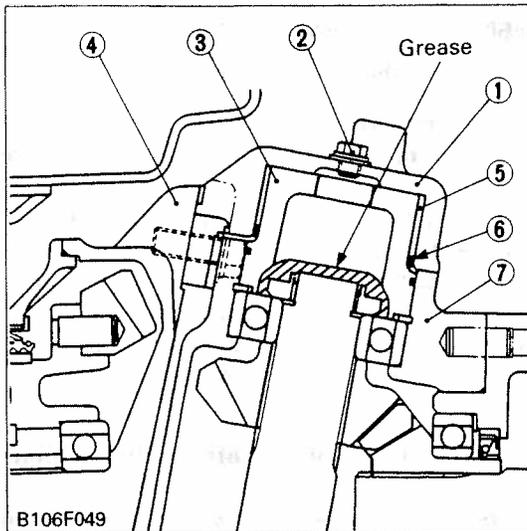
(When reassembling)

- Apply liquid lock (Three bond 1372 or equivalent) to the UBS screws.

Tightening torque	Bevel gear mounting UBS screw	78.5 to 93.1 N·m 8.0 to 9.5 kgf·m 58 to 68.5 ft-lbs
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0321P405



Front Axle Case Support

1. Remove the front axle case support (1).
2. Pull out the support shaft (3).

(When reassembling)

- Install the support shaft to the bevel gear case.
- Remove the air vent plug of front axle case support.
- Apply grease to the support shaft bushing.
- Before installing the front axle case support, apply gear oil to the O-ring and insert into it.
- Lift the front axle case to eliminate any gap in the axial direction and tighten the front axle support mounting screws.
- Apply grease (10 to 15 g, 0.4 to 0.5 oz.) to the bearing (TMB307Lu) and bevel gear shaft as shown in the figure.

- | | | |
|-----------------------------|---------------------------|---------------------|
| (1) Front Axle Case Support | (3) Support Shaft | (6) O-ring ※ |
| (2) Air Vent Plug | (4) Front Axle Case | (7) Bevel Gear Case |
| | (5) Support Shaft Bushing | |

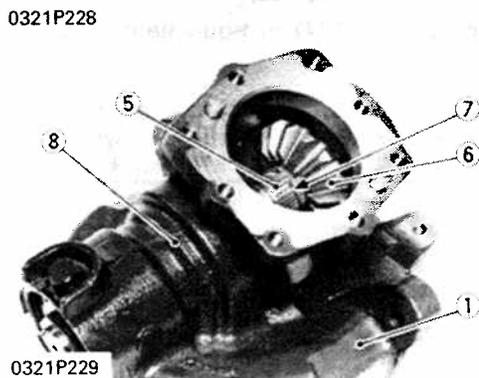
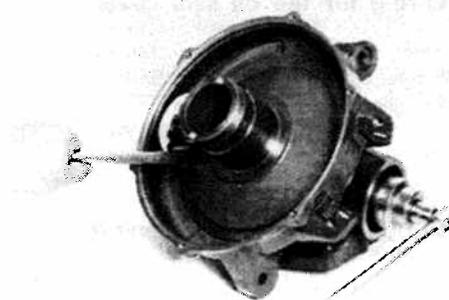
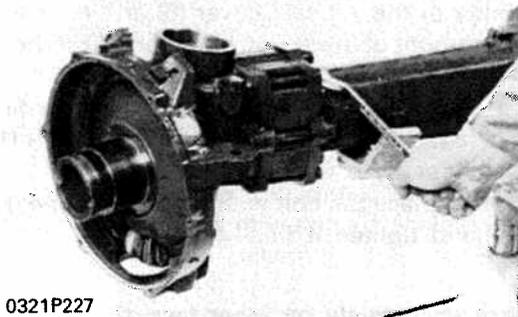
※ The oil seal is installed instead of this o-ring for the following tractor serial number.
L4350:61717~, L4850:60517~, L5450:60952~

Front Axle Case and Bevel Gear Case

1. Remove the front axle case and bevel gear case as a unit from the front axle box.

(When reassembling)

- Apply grease to O-ring and take care not to damage the O-ring.



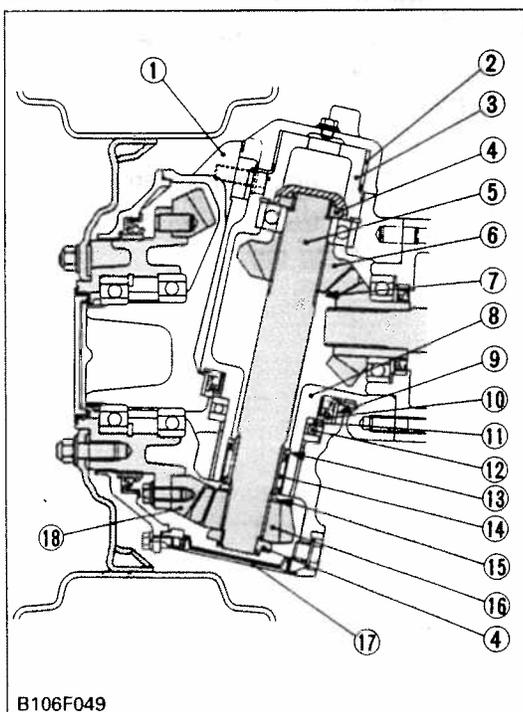
Bevel Gear Shaft

1. Remove the cap (80 mm, 3.1 in. DIA) (17) which is installed in the bottom of front axle case (1).
2. Remove the stake of staking nut (Screw size: 30 mm, 1.2 in. DIA) (4) of 15T bevel gear side (6).
3. Fix the bevel gear (18) with a brass rod and loosen the staking nut.
4. Remove the external snap ring (7).
5. Tap the bevel gear shaft (5) to downward, and draw out it and 12T bevel gear (16) as a unit.

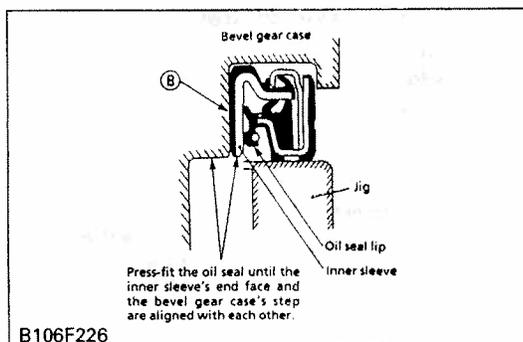
(When reassembling)

- When installing the thrust ball bearing (12), direct the fixed ring (11) of it to the bevel gear case (8) side.
- Direct the chamfer of thrust collar (15) to the needle bearing (14) side.
- After tightening the staking nut to the specified torque, stake it firmly.
- Apply gear oil to the cap (17).

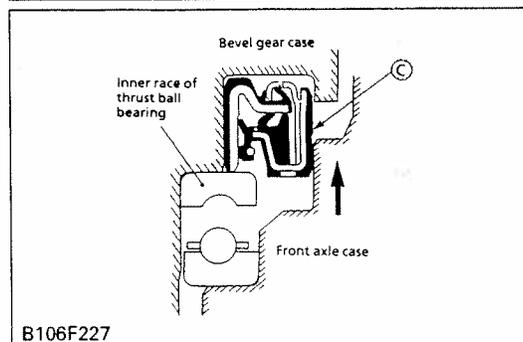
Tightening torque	Staking nut	39.2 to 58.8 N·m 4 to 6 kgf·m 28.9 to 43.4 ft·lbs
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B106F049



B106F226



B106F227

Oil Seal and Sleeve of Front Axle Case ※

(When reassembling)

- Apply gear oil to the oil seal sleeve (9) and front axle case (1).
- Direct the chamfer (inside) of oil seal sleeve to upward as shown in the figure.
- Apply grease to the oil seal (10) lip and install it, noting its direction.

※ Serial No. affected : L4350;60001 ~ 60997, L4850;60001 ~ 60364, L5450;60001~60671

Oil Seal and Needle Bearing of Bevel Gear Case

(When reassembling)

- Apply grease to the oil seal (13) and install it, noting its direction.
- Apply gear oil to the needle bearing (14).
- Direct the type mark on needle bearing the downward.

(1) Front Axle Case	(7) External Snap Ring	(13) Oil Seal
(2) Bushing	(8) Bevel Gear Case	(14) Needle Bearing
(3) Support Shaft	(9) Oil Seal Sleeve	(15) Thrust Collar
(4) Staking Nut	(10) Oil Seal	(16) 12T Bevel Gear
(5) Bevel Gear Shaft	(11) Fixed Ring	(17) Cap
(6) 15T Bevel Gear	(12) Thrust Ball Bearing	(18) Bevel Gear

Oil Seal of Front Axle Case

(L4350;60998~, L4850;60365~, L5450;60672~)

(When reassembling for reinforced oil seal)

1. Clean up the oil seal fitting zone on the bevel gear case and the front axle case.
2. Apply a small amount of grease over the inner surface **B**, and press the oil seal into the bevel gear case.
3. See left Fig. for positioning the oil seal.
4. Place a jig, See S.G-31, as shown in left Fig. to let the oil seal go straight into position.
Be careful not to scratch the oil seal lip.
5. Make sure that the end face of the inner sleeve is aligned with the step of the bevel gear case.
6. Press-fit the inner race of the thrust ball bearing into the bevel gear case.
7. Apply a small amount of grease over the outer surface **C** of the oil seal to move the bevel gear case and the front axle case smoothly in place.

■ IMPORTANT

- Do not apply too much grease over the outer surface **C**.
- 8. Keep the above two cases pressed together to allow no gap at the thrust ball bearing.
Now tighten up the UBS bolts of the front axle case support.

■ IMPORTANT

- Bear in mind that a gap might occur at the thrust ball bearing due to the resiliency of the oil seal rubber.
- Make the backlash adjustment for the 12T and 43T bevel gears with no gap at the thrust ball bearing.
Before this adjustment, fit the two cases perfectly tight.