


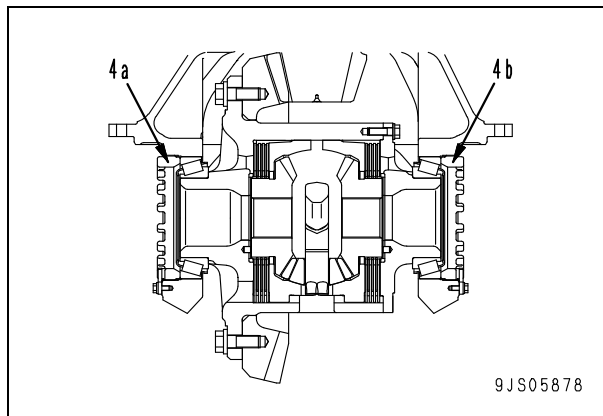


- 4) Install shim (38) removed for disassembly.  
Shim adjustment allowance:  
**0.71 – 2.21 mm**
- 5) Fit the O-ring and install pinion assembly (37).  
 O-ring: **Grease (G2-LI)**  
 Pinion assembly: **103 kg**
- 6) Tighten 18 mounting bolts (36).  
 Mounting bolt:  
**245 – 309 Nm {25 – 31.5 kgm}**

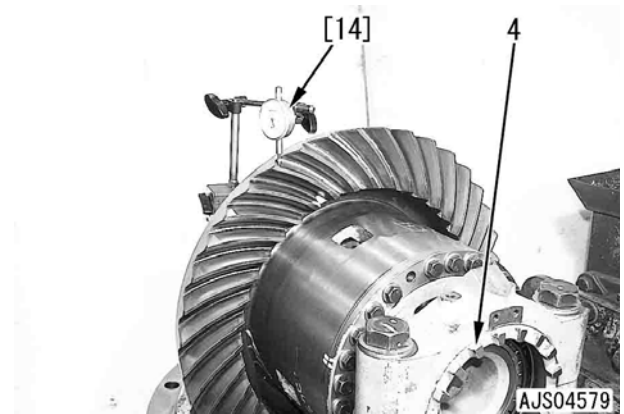
### 13. Adjusting tooth contact and backlash

Adjust the backlash and tooth contact simultaneously.

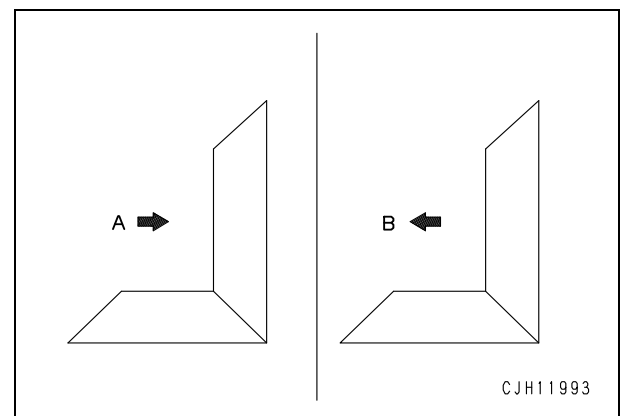
- 1) Adjust the backlash according to the following procedure.
  - 1] Move the bevel gear with adjustment nuts (4a) and (4b).
  - ★ Rotate adjustment nuts (4a) and (4b) by the same quantity in the same direction so that the adjusted preload on the bearing will not change.



- 2] Apply dial gauge [14] perpendicularly to the tooth surface on the reverse side at the outer end of the bevel gear.
- 3] Adjust adjustment nut (4) so that dial gauge [14] will indicate the following range (backlash).  
Standard backlash: **0.36 – 0.51 mm**  
★ Adjust the backlash at 3 – 4 places and measure it with the pinion gear fixed.



- **When backlash is less than standard range**  
Loosen the adjustment nut on the bevel gear side and tighten the adjustment nut on the opposite side by the same angle (to move the bevel gear in direction (A)).
- **When the backlash is above standard range**  
Loosen the adjustment nut on the opposite side and tighten the adjustment nut on the bevel gear side by the same angle (to move the bevel gear in direction (B)).



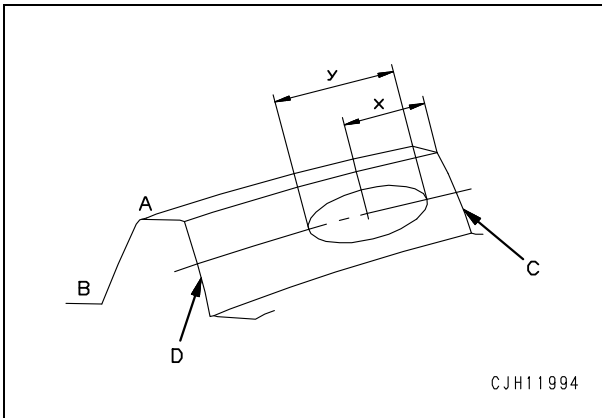
## 2) Checking tooth contact

1] Apply red lead thinly to the surface of the pinion gear and turn the bevel gear in the forward and reverse directions, and then check the tooth contact pattern on the bevel gear.

2] The center of the tooth contact must be at the middle of the tooth height and at a point about 33% of the tooth length (x) from small end (C), and the tooth contact width must be 30 – 60% of the tooth length (y).

Check that there is not a strong contact at tip (A), bottom (B), small end (C) or large end (D).

★ If the tooth contact is adjusted in this way, the teeth come in contact with each other correctly when they are loaded.



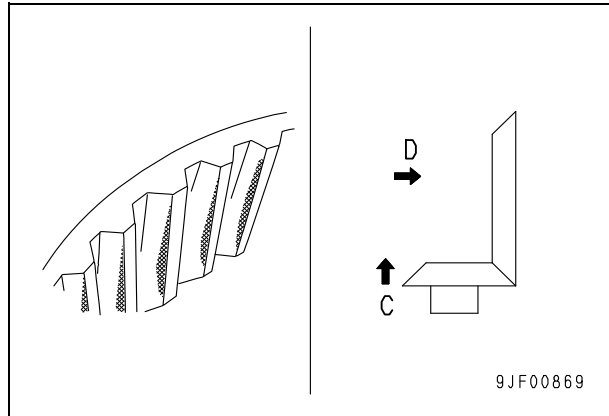
## 3) Adjusting tooth contact

If the tooth contact pattern is not proper, adjust it according to the following procedure.

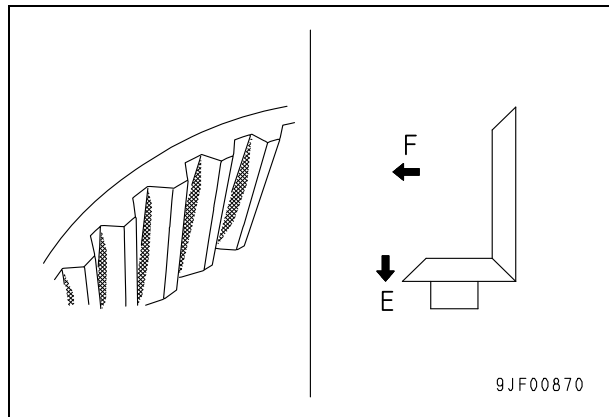
★ After adjusting the tooth contact, check the backlash again.

**If bevel pinion is too far from bevel gear**

- ★ The tooth contact pattern is as follows.
- Decrease the shims of the bevel pinion to move the bevel pinion in direction (C).
  - Move the bevel gear in direction (D).

**If bevel pinion is too close to bevel gear**

- ★ The tooth contact pattern is as follows.
- Increase the shims of the bevel pinion to move the bevel pinion in direction (E).
  - Move the bevel gear in direction (F).

**If bevel gear is too close to bevel pinion**

- ★ The tooth contact pattern is as follows.
- Decrease the shims of the bevel pinion to move the bevel pinion in direction (C).
  - Move the bevel gear in direction (D).

