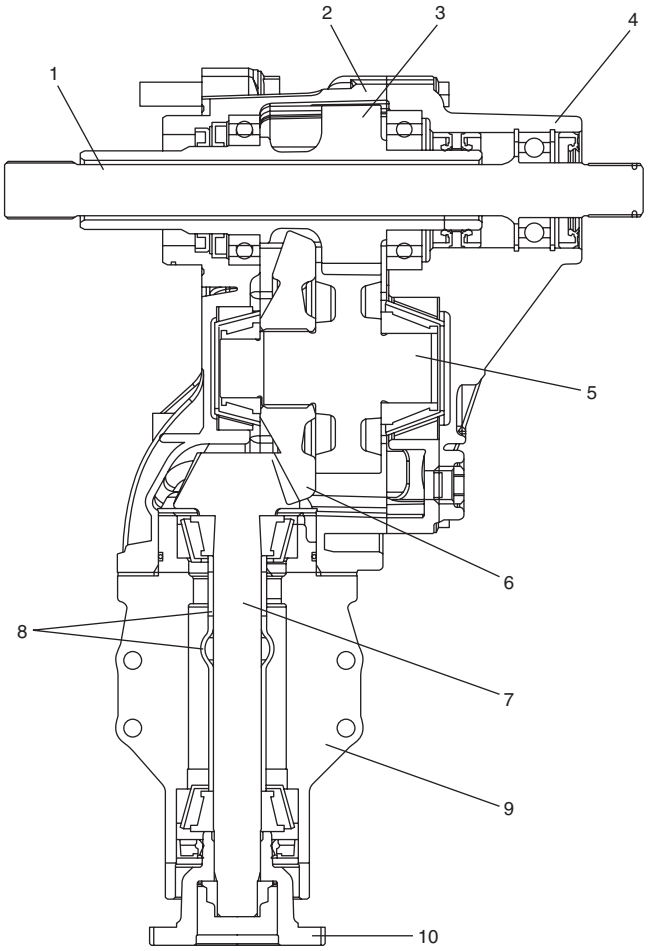
Transfer

General Description

Transfer Description

S6RW0C3301001

The transfer is mounted on transaxle case by fastening bolt with reduction drive gear in transfer and differential case in transaxle coupled by involute spline. Driving force from transaxle is transmitted to propeller shaft through reduction drive gear, reduction driven gear and bevel gear of transfer. As bevel gears, which change the direction of driving torque axis to the direction of the angle with 90 degrees, hypoid gears are provided. Hypoid gears have an advantage of preventing gear noise, at the same time, they require accurate adjustment of tooth contact and backlash.



I5RW0A330001-01

1. Intermediate shaft	5. Reduction driven gear	9. Transfer output retainer
2. Left case	6. Bevel gear	10. Transfer output flange
3. Reduction drive gear	7. Bevel pinion	
4. Right case	8. Spacer	

Diagnostic Information and Procedures

Transfer Symptom Diagnosis

S6RW0C3304001

Condition	Possible cause	Correction / Reference Item
Noise	Inadequate or insufficient lubricant	*Replenish.*
	Damaged or worn bearing(s)	*Replace.*
	Damaged or worn gear(s)	*Replace.*
	Preload of taper roller bearing is reduced	*Adjust.*

Repair Instructions

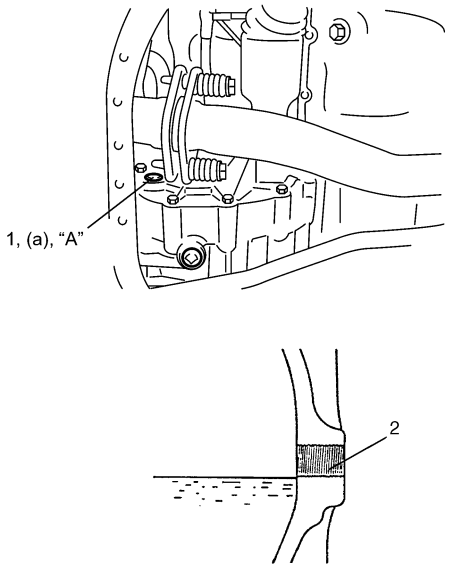
Transfer Oil Level Check

S6RW0C3306001

1) Lift up vehicle and check oil leakage. Repair leaky point, if any.
2) Remove oil level / filler plug (1) and check oil contamination and oil level is lower end of oil level / filler plug hole (2).
   If oil is excessive dirty or insufficient, replace oil or pour specified oil up to plug hole.
3) Apply sealant to thread of level / filler plug, and then tighten it to specified torque.

   "A": Sealant 99000–31260 (SUZUKI Bond No.1217G)

   Tightening torque
   Transfer oil level / filler plug (a): 23 N·m (2.3 kgf-m, 17.0 lb-ft)



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Transfer Oil Change

S6RW0C3306002

1) Before changing oil, be sure to stop engine and lift vehicle horizontally.
2) Check leakage.
   If leakage exists, correct it.

   NOTE

   Whenever vehicle is hoisted for any other service work than oil change, also be sure to check for oil leakage.

3) Remove oil filler plug (2).
4) Remove drain plug (1), and drain oil.
5) Apply sealant to thread of drain plug (1), and tighten it to specified torque.

   "A": Sealant 99000–31260 (SUZUKI Bond No.1217G)

   Tightening torque
   Transfer oil drain plug (a): 23 N·m (2.3 kgf-m, 17.0 lb-ft)

6) Pour new specified oil up to lower end of oil level / filler plug hole (3).

   NOTE

   It is highly recommended to use API GL-5 80W-90 gear oil.

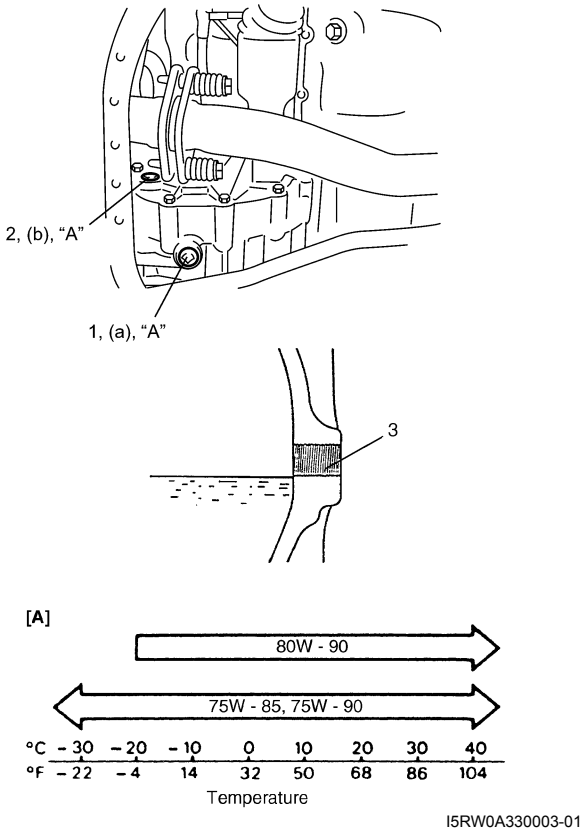
   Transfer oil specification
   : API GL-5 (For SAE classification, refer to viscosity chart [A] in figure.)

   Transfer oil capacity
   Reference: 0.6 liters (1.2/1.0 US/Imp. pt)

7) Apply sealant to thread of level / filler plug, and then tighten it to specified torque.

   "A": Sealant 99000–31260 (SUZUKI Bond No.1217G)

   Tightening torque
   Transfer oil level / filler plug (b): 23 N·m (2.3 kgf-m, 17.0 lb-ft)



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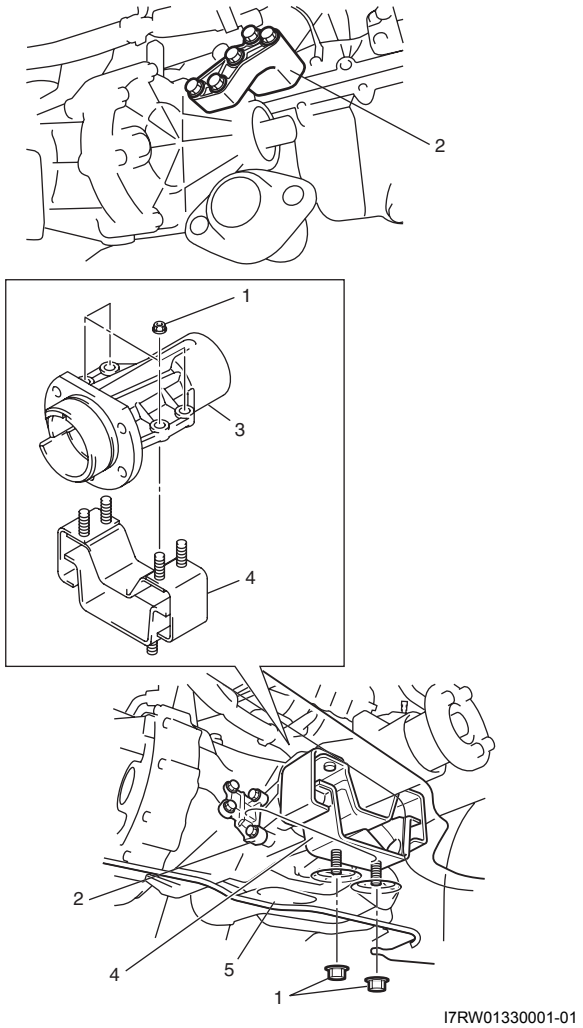
Transfer Dismounting and Remounting

S6RW0C3306003

Dismounting

1) Disconnect negative (–) cable at battery.
2) Drain transaxle oil and transfer oil.
3) Remove drive shaft assembly referring to “Front Drive Shaft Assembly Removal and Installation in Section 3A”.
4) Remove exhaust No.1, No.2 and center pipes referring to “Exhaust Pipe and Muffler Removal and Installation in Section 1K”.
5) Remove propeller shaft referring to “Propeller Shaft Assembly Removal and Installation in Section 3D”.
6) Remove engine rear mounting upper nut (1), lower nut (3) and stiffeners (2).



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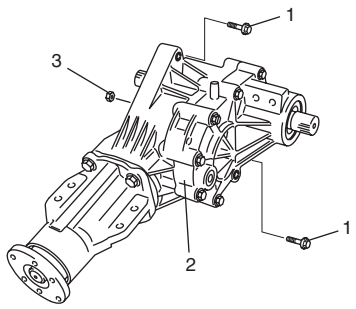
3.	Transfer
4.	Engine rear mounting
5.	Front suspension frame

7) Carry out Step 2) to 12) of “Removal” under “Front Suspension Frame, Stabilizer Bar and/or Bushing Removal and Installation (2WD Model) in Section 2B” in order to lower transfer with front suspension frame.
8) Remove front suspension frame front mounting bolt and loosen front suspension frame rear mounting bolt a little.
9) Remove transfer to transaxle bolts (1) and nut (3) (A/T model), and then separate transfer (2) with engine rear mounting from transaxle.

NOTE

When separate transfer and engine rear mounting from transaxle, check front suspension frame for dent. If any dent is found on it, apply rust retardant it.



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10) Remove front suspension frame rear bolt.

⚠ CAUTION

When removing transfer, be careful not to drop it. Otherwise, transfer damage and personal injury may result.

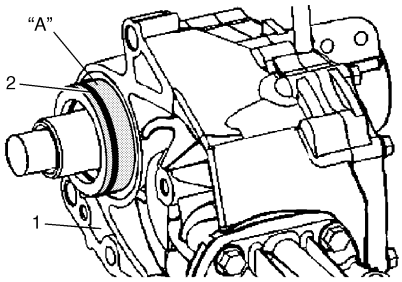
11) Lower front suspension frame with steering gear case and transfer, and then remove transfer.

Remounting

Reverse dismounting procedure for remounting of transfer, noting the following points.

- Apply grease to left case (1) and new O-ring (2) as shown in figure.
- Use new O-ring.
- Apply grease to O-ring (2).

  "A": Grease 99000–25010 (SUZUKI Super Grease A)



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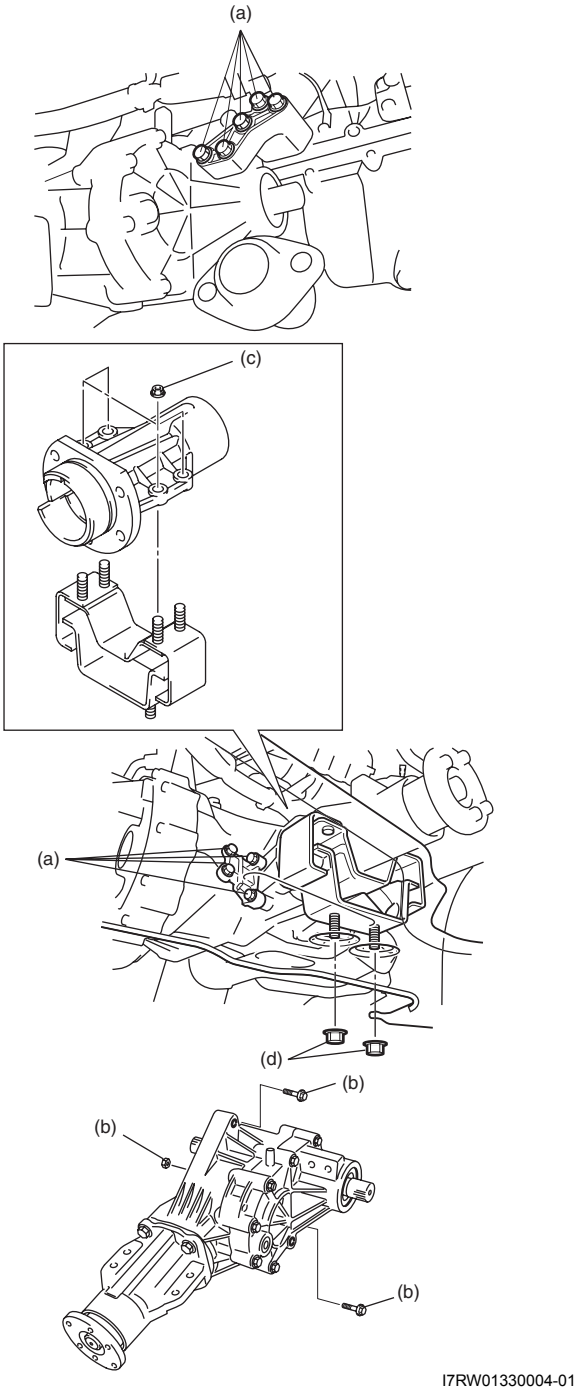
- Tighten front suspension bolts to specified torque referring to "Front Suspension Construction in Section 2B".
- Tighten bolts and nut specified torque as follows.

  Tightening torque
  Stiffener No.1 bolt and No.2 bolt (a): 55 N·m (5.5 kgf-m, 40.0 lb-ft)
  Transfer to transaxle bolt (b): 98 N·m (9.8 kgf-m, 71.0 lb-ft)
  Engine rear mounting upper nut (c): 25 N·m (2.5 kgf-m, 18.0 lb-ft)
  Engine rear mounting lower nut (d): 55 N·m (5.5 kgf-m, 40.0 lb-ft)



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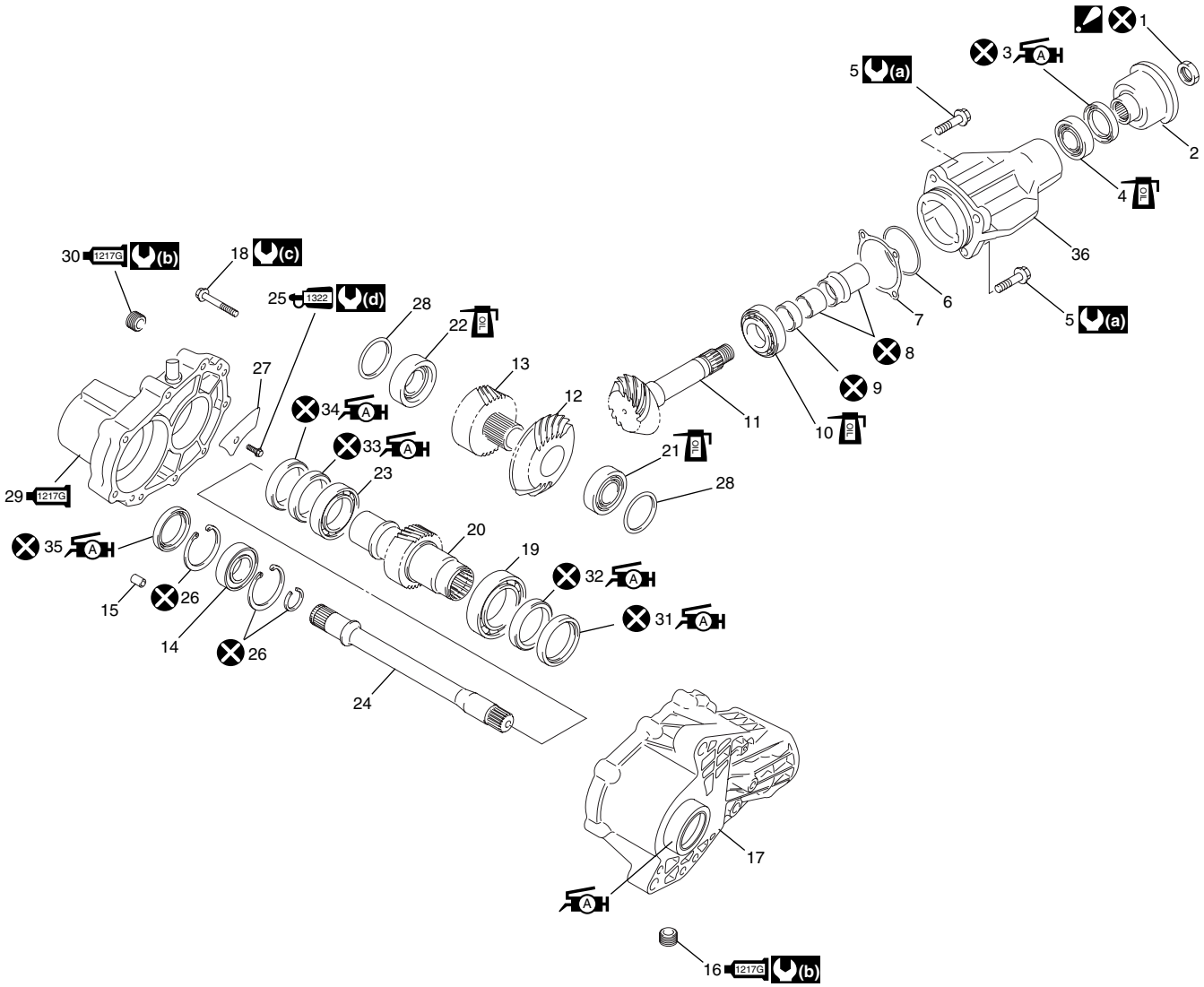
- Pour transaxle oil and transfer oil referring to "Manual Transaxle Oil Change in Section 5B" or "A/T Fluid Change in Section 5A" and "Transfer Oil Change".
- Confirm front wheel alignment referring to "Front Wheel Alignment Inspection and Adjustment in Section 2B".

Transfer Assembly Components

S6RW0C3306004



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1. Transfer output flange nut : After tightening nut so as rotational torque of bevel pinion to be in specified value, caulk nut securely.	15. Dowel pin	1217G 29. Transfer right case : Apply sealant 99000-31260 to mating surface with right case.
2. Transfer output flange	1217G 16. Oil drain plug : Apply sealant 99000-31260 to thread part.	1217G 30. Oil level / filler plug : Apply sealant 99000-31260 to thread part.
A 3. Oil seal : Apply grease 99000-25010 to oil seal lip.	A 17. Transfer left case : Apply grease 99000-25010 to left case.	A 31. Left case oil seal No.1 : Apply grease 99000-25010 to oil seal lip.
4. Pinion shaft rear taper roller bearing	18. Transfer case bolt	A 32. Left case oil seal No.2 : Apply grease 99000-25010 to oil seal lip.
5. Transfer output retainer bolt	19. Reduction drive gear left bearing	A 33. Right case oil seal No.3 : Apply grease 99000-25010 to oil seal lip.
A 6. O-ring : Apply grease 99000-25010 to all around surface.	20. Reduction drive gear	A 34. Right case oil seal No.2 : Apply grease 99000-25010 to oil seal lip.
7. Shim	21. Reduction driven gear left taper roller bearing	A 35. Right case oil seal No.1 : Apply grease 99000-25010 to oil seal lip.
8. Spacer	22. Reduction driven gear right taper roller bearing	36. Transfer output retainer
9. Pump seal	23. Reduction drive gear right bearing	(a) : 55 N·m (5.5 kgf-m, 40.0 lb-ft)
10. Pinion shaft front taper roller bearing	24. Intermediate shaft	(b) : 21 N·m (2.1 kgf-m, 15.5 lb-ft)
11. Bevel pinion	1322 25. Oil protect plate bolt : Apply thread lock cement 99000-32110 to thread part.	(c) : 23 N·m (2.3 kgf-m, 17.0 lb-ft)

12. Bevel gear	26. Snap ring	: 9 N·m (0.9 kgf-m, 6.5 lb-ft)
13. Reduction driven gear	27. Oil protect plate	: Do not reuse.
14. Intermediate shaft bearing	28. Shim	: Apply transfer oil.

Transfer Assembly Disassembly and Reassembly

S6RW0C3306005

Disassembly

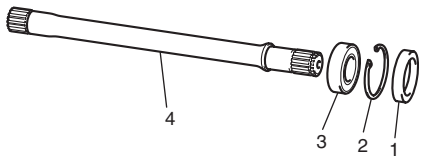
NOTE

It is possible to disassemble transfer assembly without removing intermediate shaft with Step 1) to 4) performed if not necessary.

1) Remove right case oil seal No.1 (1) from transfer right case using special tool.

Special tool
: 09913–50121

2) Remove snap ring (2) by using snap ring pliers.
3) Remove intermediate shaft (4) with intermediate shaft bearing (3) from transfer assembly.
4) Remove intermediate shaft bearing (3) from intermediate shaft (4) by using bearing puller and hydraulic press.



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5) Remove transfer output retainer assembly (1) and shim (3) by removing retainer bolts (2).
6) Remove transfer case bolts (4).
7) Separate transfer right case (5) from transfer left case (6) by using special tool.

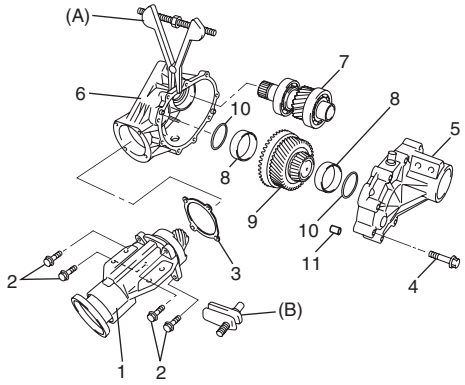
Special tool
(A): 09912–34510

8) Remove reduction drive gear assembly (7) and reduction driven gear assembly (9).
9) Remove shim (10) and bearing outer races (8).

NOTE

When it is difficult to remove bearing outer races from cases, remove them with special tool.

Special tool
(B): 09944–96011



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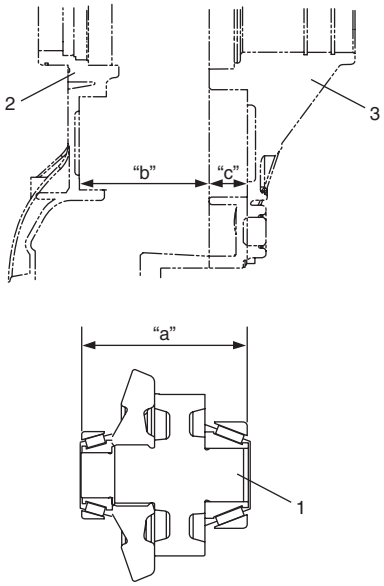
11. Dowel pin

Reassembly

1) Select appropriate shim as follows.
   a) Measure distance “a” between taper roller bearing outer races of reduction driven gear assembly (1).
   b) Measure depth “b” of left case (2) and “c” of right case (3).
   c) Obtain adjusting shim thickness by the following equation.

Necessary shim thickness	=	Depth “b”	+	Depth “c”	–	Distance “a”	+	0.1 mm (0.004 in.)



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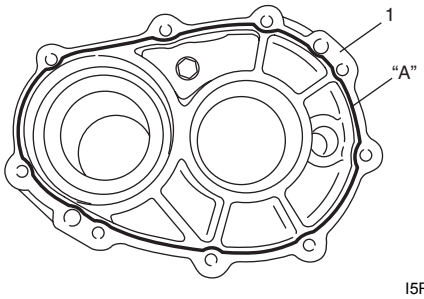
d) Select a shim which is close to half thickness of the calculated value (necessary shim thickness) from among the available shims to install it between bearing and case at each of right and left sides.
For example:
Measure distance “a” is 110.75 mm (4.360 in.).
Measure depth “b” is 85.8 mm (3.378 in.).
Measure depth “c” is 26.55 mm (1.045 in.).
Necessary shim thickness = 85.8 mm (3.378 in.) + 26.55 mm (1.045 in.) – 110.75 mm (4.360 in.) + 0.1 mm (0.004 in.) = 1.7 mm (0.067 in.)
1.7 mm (0.067 in.) ÷ 2 = 0.85 mm (0.033 in.)
Calculated thickness of new shim = 0.85 mm (0.033 in.)

Available reduction driven gear shim thickness
0.60, 0.65, 0.70, 0.75, 0.80, 0.85, 0.90, 0.95, 1.00 and 1.05 mm (0.024, 0.026, 0.028, 0.030, 0.031, 0.033, 0.035, 0.037, 0.039 and 0.041 in.)

2) Clean mating surface of right and left cases, and apply sealant to right case (1) as shown in figure by such amount that its section is 1.2 mm (0.047 in.) in diameter.

“A”: Sealant 99000–31260 (SUZUKI Bond No.1217G)



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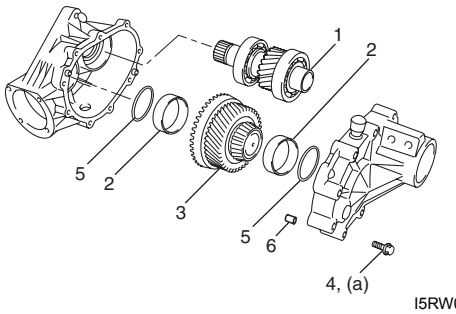
3) Assemble the following parts in right and left cases by reversing disassembling procedure.
- Reduction drive gear assembly (1)
- Reduction driven gear assembly (3)
- Bearing outer races (2)
- Reduction driven gear shims (5)
- Dowel pin (6)

4) Tighten transfer case bolts (4) to specified torque.

Tightening torque
Transfer case bolt (a): 23 N·m (2.3 kgf-m, 17.0 lb-ft)



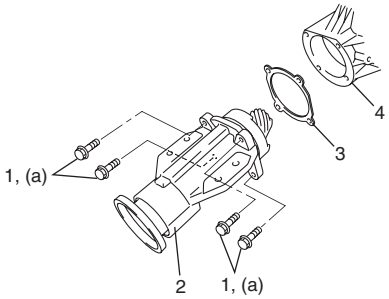
I5RW0A330012-02

5) Select bevel pinion shim (3) referring to step 1) of “Reassembly” under “Transfer Output Retainer Assembly Disassembly and Reassembly”.

6) Inspect tooth contact according to “Bevel Gear Tooth Contact Inspection”.

7) Install transfer output retainer assembly (2) with bevel pinion shim (3) to transfer left case (4) by tightening retainer bolt (1) to specified torque.

Tightening torque
Transfer output retainer bolt (a): 55 N·m (5.5 kgf-m, 40.0 lb-ft)



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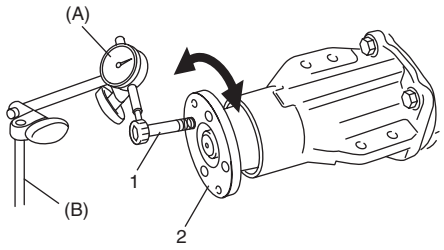
8) Install bolt to bolt hole of flange (2), set dial gauge measuring tip at right angles to bolt (1) as shown in figure. Holding reduction driven gear by hand, take measurement backlash of pinion and bevel gear.

NOTE

If backlash exceeds specification given below, adjust it by changing thickness ratio of shims assembled in right and left cases in Step 3).

Special tool
(A): 09900–20607
(B): 09900–20701

Bevel pinion & bevel gear backlash
: 0.1 – 0.2 mm (0.0039 – 0.0078 in.)



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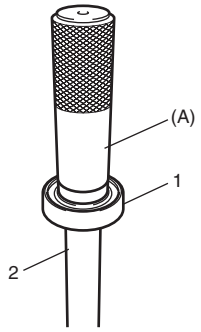
9) Install intermediate shaft bearing (1) to intermediate shaft (2) by using special tool.

Special tool
(A): 09913–84510



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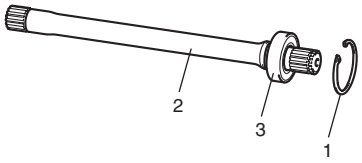
10) Install intermediate shaft (2) with bearing (3) in transfer.

11) Install new snap ring (1) to transfer right case by using snap ring pliers.



I5RW0A330016-02

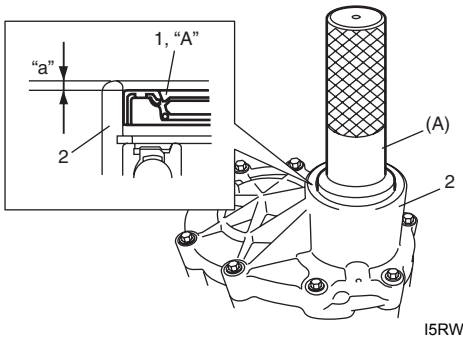
12) Apply grease to new right case oil seal No.1 lip.

"A": Grease 99000–25010 (SUZUKI Super Grease A)

13) Drive right case oil seal No.1 (1) in transfer right case (2) by using special tool and hammer.

Special tool
(A): 09925–15410

Intermediate output oil seal installing depth
"a": 1.0 – 1.5 mm (0.04 – 0.06 in.)



I5RW0A330017-02

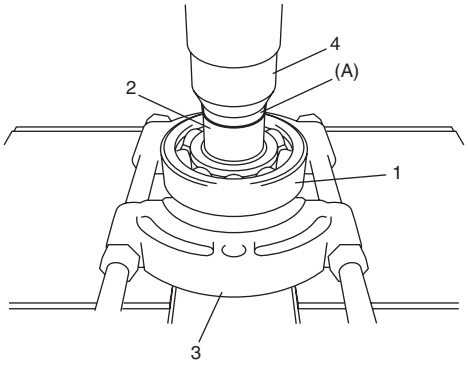
Reduction Drive Gear Assembly Disassembly and Reassembly

S6RW0C3306006

Disassembly

Remove bearings (1) from reduction drive gear (2) using special tool, bearing puller (3) and hydraulic press (4).

Special tool
(A): 09913–85230



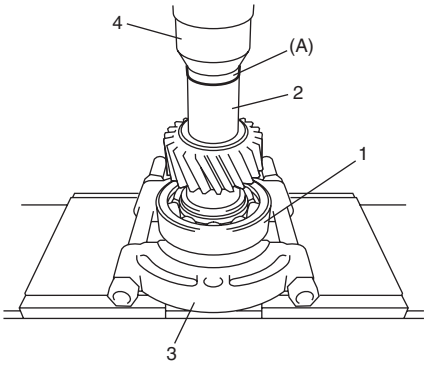
I5RW0A330018-01

Reassembly

1) Clean all components thoroughly, inspect them for any abnormality and replace with new one as necessary.

2) Install bearings (1) to reduction drive gear (2) using special tool, bearing puller (3) and hydraulic press (4).

Special tool
(A): 09913–85230



I5RW0A330019-01

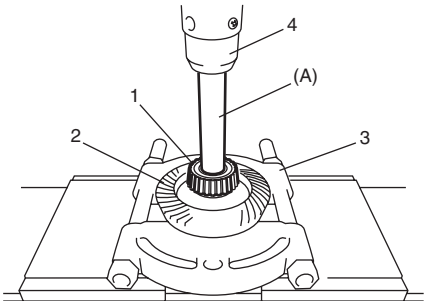
Reduction Driven Gear Assembly Disassembly and Reassembly

S6RW0C3306007

Disassembly

1) Remove left bearing (1) and bevel gear (2) using special tool, bearing puller (3) and hydraulic press (4).

Special tool
(A): 09925–98220

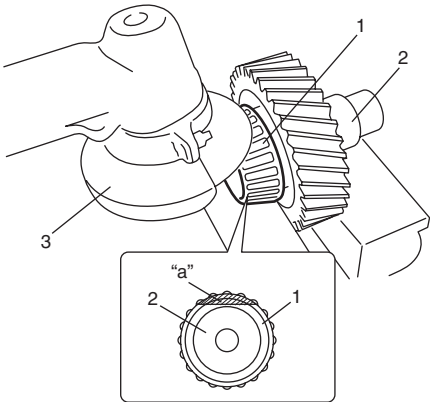


I5RW0A330020-02

2) In order to remove right bearing (1) from reduction driven gear (2), grind with a grinder (3) one part “a” of bearing as illustrated till it becomes thin.

⚠ CAUTION

Be careful not to grind too far not to damage reduction driven gear.



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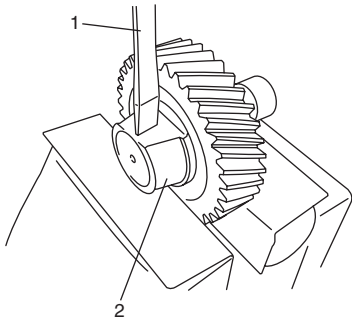
3) Break with a chisel (1) the thin ground bearing (2), and it can be removed.



I5RW0A330022-01

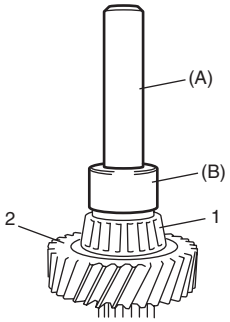
Reassembly

⚠ CAUTION

- **Bevel gear and pinion must be replaced as a set when either replacement becomes necessary.**
- **When replacing taper roller bearing, replace as inner race and outer race assembly.**

1) Install right bearing (1) to reduction driven gear (2) using special tools and hydraulic press.

Special tool
(A): 09924–74510
(B): 09925–16310



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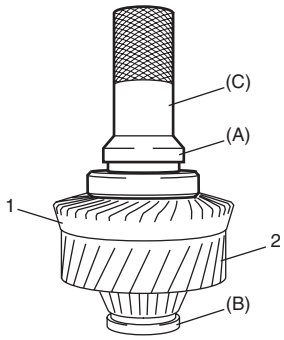
2) Install bevel gear (1) to reduction driven gear (2) using special tools and hydraulic press.

Special tool
(A): 09924–07710
(B): 09924–84510–005
(C): 09925–15410



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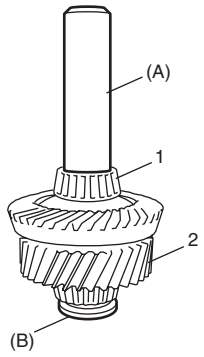
3) Install left bearing (1) to reduction driven gear (2) using special tools and hydraulic press.

Special tool
(A): 09913–84510
(B): 09924–84510–005



I5RW0A330025-02

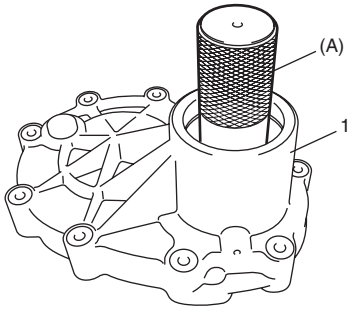
Transfer Right Case and Left Case Disassembly and Reassembly

S6RW0C3306008

Disassembly

1) Remove oil seals from right case (1) using special tool, if necessary.

Special tool
(A): 09925–15410



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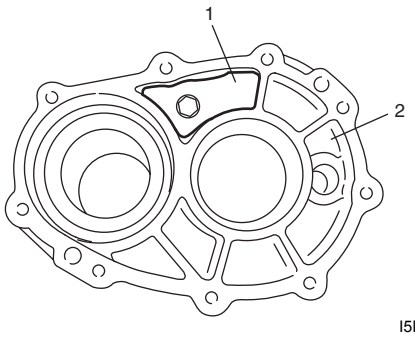
2) Remove oil plate (1) from right case (2), if necessary.



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3) Remove oil seals from left case using flat end rod or the like, if necessary.

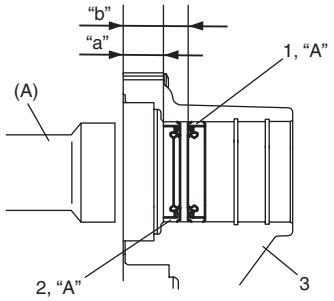
Reassembly

1) When installing oil seal No.2 (1) and No.3 (2) to right case (3) using special tool, use care so that oil seals in proper direction and position as shown in figure. Apply grease to oil seal lip.

Special tool
(A): 09925–15410

"A": Grease 99000–25010 (SUZUKI Super Grease A)

Oil seals installing depth
"a": 23.5 – 24.0 mm (0.925 – 0.945 in.)
"b": 38.0 – 39.0 mm (1.496 – 1.535 in.)



I5RW0A330028-01

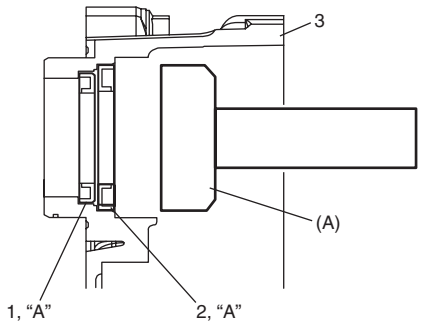
2) Install oil plate to right case.

Tightening torque
Oil plate bolt: 9 N·m (0.9 kgf-m, 6.5 lb-ft)

3) When installing new oil seal No.1 (1) and No.2 (2) to left case (3) using special tool, use care so that oil seals in proper direction as shown in figure. Apply grease to oil seal lip.

Special tool
(A): 09913–85210 (For oil seal No.1)
(A): 09944–88210 (For oil seal No.2)

"A": Grease 99000–25010 (SUZUKI Super Grease A)



I5RW0A330029-01

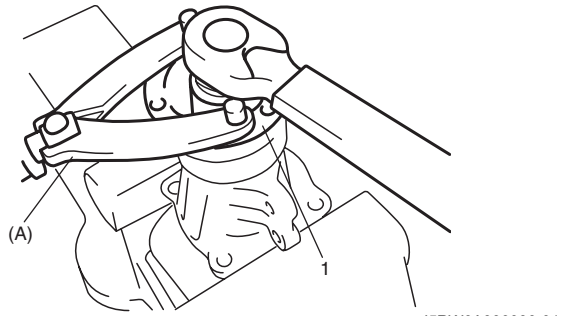
Transfer Output Retainer Assembly Disassembly and Reassembly

S6RW0C3306009

Disassembly

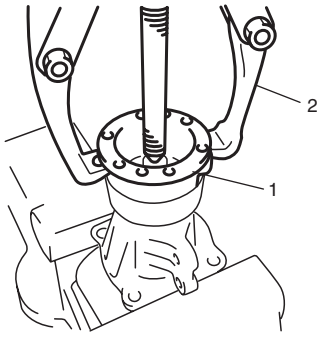
1) Uncaulk transfer output flange nut.
2) Remove transfer output flange nut while holding flange (1) by using special tool.

Special tool
(A): 09930–40113



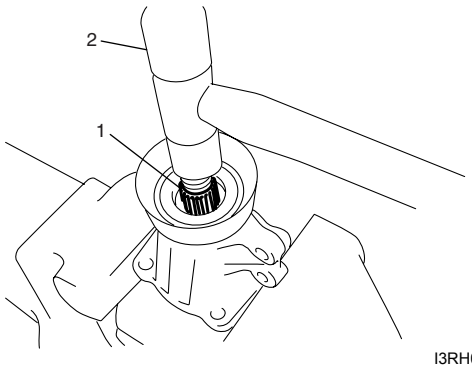
I5RW0A330030-01

3) Remove transfer output flange (1) by bearing puller (2).



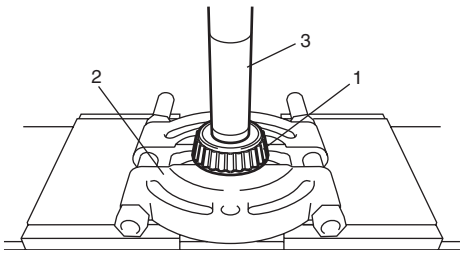
I5RW0A330031-01

4) Drive out bevel pinion (1) from transfer output retainer by tapping it with plastic hammer (2).



I3RH01332019-01

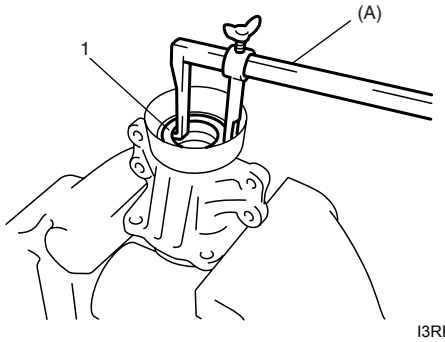
5) Drive out front taper roller bearing (1) from bevel pinion (3) by using bearing puller (2) and hydraulic press.



I5RW0A330032-01

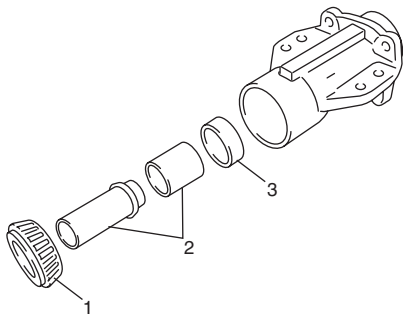
6) Remove oil seal (1) by using special tool.

Special tool
(A): 09913–50121



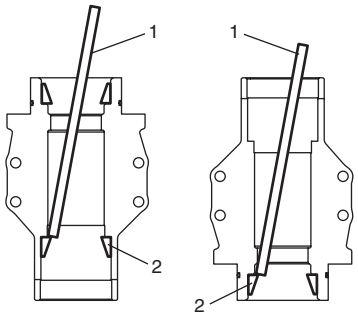
I3RH01332020-01

7) Remove rear taper roller bearing (1), pump seal (3) and spacers (2).



I5RW0A330033-03

8) Drive out outer races (2) (front and rear) by using brass bar (1).



I5RW0A330034-01

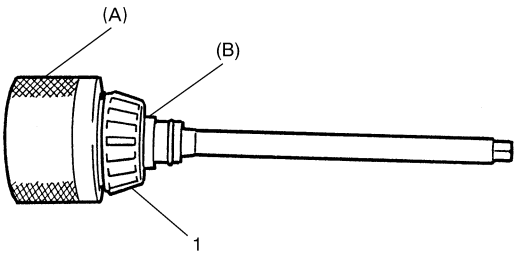
Reassembly

⚠ CAUTION

- **Bevel gear and pinion must be replaced as a set when either replacement becomes necessary.**
- **When replacing taper roller bearing, replace as inner race and outer race assembly.**

1) To mesh bevel gears correctly, it is prerequired to install bevel pinion to transfer output retainer properly by using adjusting shim (bevel pinion shim) as follows.
   a) Install front taper roller bearing (1) to bevel pinion dummy (special tools).

      Special tool
      (A): 09922–76140
      (B): 09922–76430



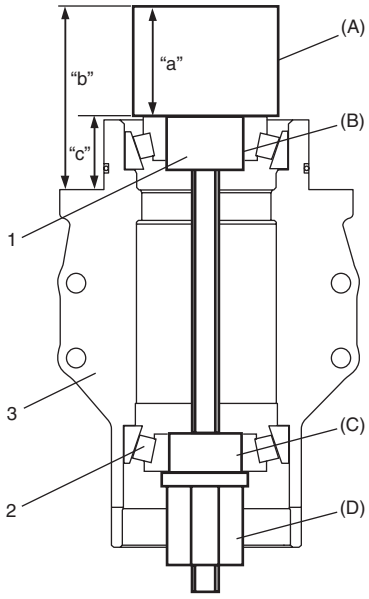
I3RH01332053-01

   b) Install bevel pinion dummy (1), rear taper roller bearing (2) and special tools to transfer output retainer (3).

      Special tool
      (A): 09922–76140
      (B): 09922–76430
      (C): 09922–76340
      (D): 09922–76150

NOTE

This installation requires no spacer or oil seal.



I5RW0A330035-01

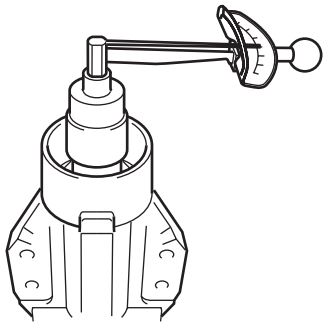
"a":	Pinion dummy height 40 mm (1.575 in.)
"b":	Height from retainer installation face to top surface of pinion dummy
"c":	Distance from retainer installation face to end face of bearing race

   c) Tighten bevel pinion nut (special tool) so that specified bearing preload is obtained.

NOTE

Before taking measurement, check for rotation by hand more than 15 revolutions.

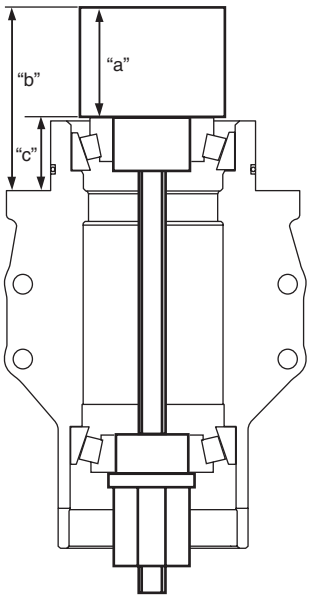
Tightening torque
Rotational torque of bevel pinion (Bearing preload): 0.50 – 1.30 N·m (0.05 – 0.13 kgf-m, 0.35 – 0.95 lb-ft)



I5RW0A330036-02

d) Measure height “b” in figure by using vernier caliper.
Calculate “c” by using measured value.

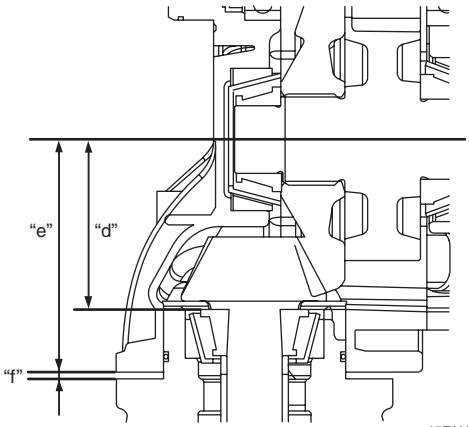
Distance “c”	=	Height “b”	–	Height “a” 40 mm (1.575 in.)



I5RW0A330046-01

e) Obtain adjusting shim thickness by the following equation.

Necessary shim thickness “f”	=	Distance “c”	+	Distance “d” 74.0 mm (2.913 in.)	–	Distance “e” 101.95 mm (4.014 in.)



I5RW0A330037-01

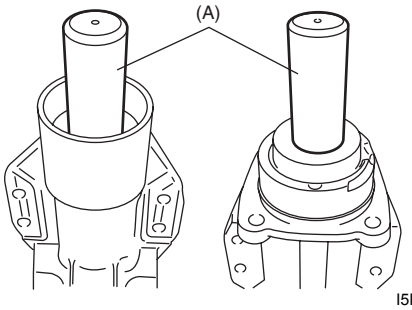
“d”:	Pinion shaft mounting distance 74.0 mm (2.913 in.)
“e”:	Distance from end face of left case to axis of reduction driven gear 101.95 mm (4.014 in.)
“f”:	Necessary shim thickness

f) Select a shim closest to the calculated value (necessary shim thickness) from among the available shims or combine shims to become closest to calculated value.
For example:
Measure distance “b” is 69.95 mm (2.754 in.).
“c” = 69.95 mm (2.754 in.) – 40.0 mm (1.757 in.) = 29.95 mm (1.179 in.)
“f” = 29.95 mm (1.179 in.) + 74.0 mm (2.913 in.) – 101.95 mm (4.014 in.) = 2.0 mm (0.079 in.)
Calculated thickness of new shim = 2.0 mm (0.079 in.)

Available bevel pinion shim thickness
0.30, 1.85, 1.88, 1.91, 1.94, 1.97, 2.00, 2.03, 2.06, 2.09, 2.12 and 2.15 mm (0.012, 0.072, 0.074, 0.075, 0.076, 0.077, 0.078, 0.079, 0.081, 0.082, 0.083 and 0.084 in.)

2) Press-fit outer races (front and rear) by using special tool and hydraulic press.

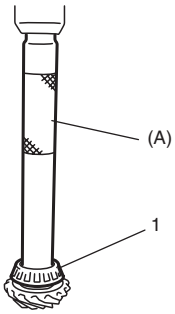
Special tool
(A): 09913–75520



I5RW0A330038-01

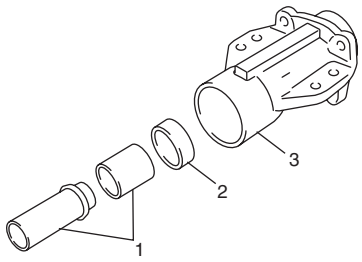
3) Press-fit front taper roller bearing (1) by using special tool and hydraulic press.

Special tool
(A): 09925–18011



I5RW0A330039-01

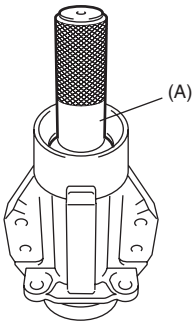
4) Install bevel pinion with new pinion shaft spacers (1) and new pump seal (2) to transfer output retainer (3).



I5RW0A330040-02

5) Drive in rear taper roller bearing by using special tool and tapping lightly with plastic hammer.

Special tool
(A): 09913–84510



I5RW0A330041-02

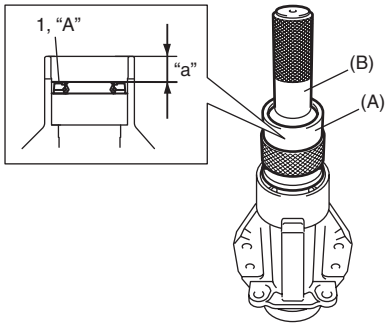
6) Apply grease to new oil seal lip.

"A": Grease 99000–25010 (SUZUKI Super Grease A)

7) Drive in oil seal (1) by using special tools and hammer.

Special tool
(A): 09940–54910
(B): 09913–76010

Transfer output flange oil seal installing depth
"a": 21.0 – 22.0 mm (0.82 – 0.86 in.)



I5RW0A330042-02

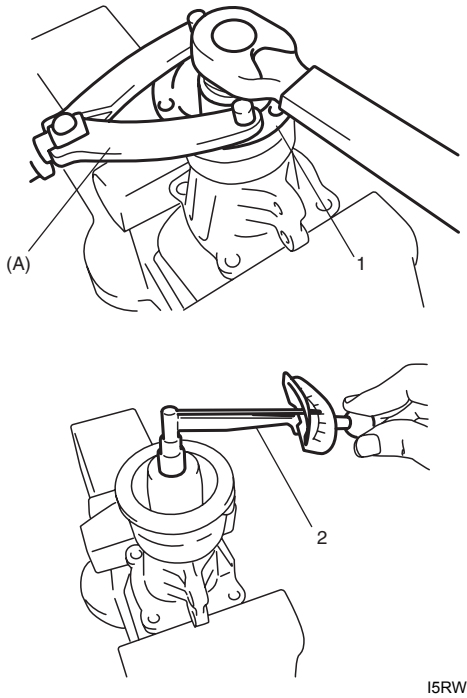
8) Install transfer output flange (1) by tapping with plastic hammer and tighten transfer output flange nut gradually so as rotational torque of bevel pinion to be in specified value.

NOTE

- **If rotational torque of bevel pinion exceeds specification given in the following, replace pinion shaft spacers and tighten flange nut.**
- **Before taking measurement of rotational torque, rotate pinion over ten rounds in advance.**

Bevel pinion bearing preload
: 0.5 – 1.3 N·m (0.05 – 0.13 kgf-m, 0.35 – 0.95 lb-ft)

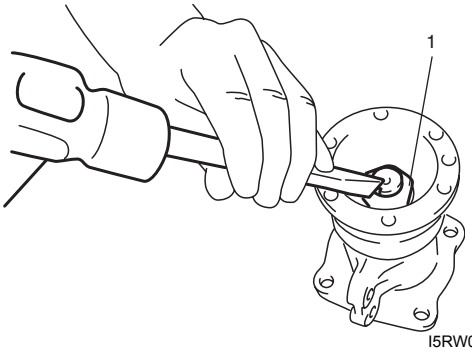
Special tool
(A): 09930–40113



I5RW0A330043-01

2. Torque wrench

9) Caulk transfer output flange nut (1).



I5RW0A330044-01

Transfer Assembly Inspection

S6RW0C3306010

- Check each bearing for smooth rotation, wear or discoloration
  If found abnormal, replace.
- Check oil seal for leakage and its lip for excessive hardness
  If either is found, replace.
- Check transfer case for cracks.
- Check bevel pinion and bevel gears for wear or cracks.

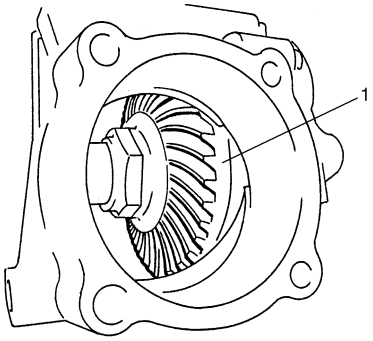
Bevel Gear Tooth Contact Inspection

S6RW0C3306011

1) After cleaning tooth surface of bevel gear (1), paint them with gear marking compound evenly by using brush or sponge etc.

NOTE

When applying red lead paste to teeth, be sure to paint tooth surfaces uniformly. The paste must not be too dry or too fluid.



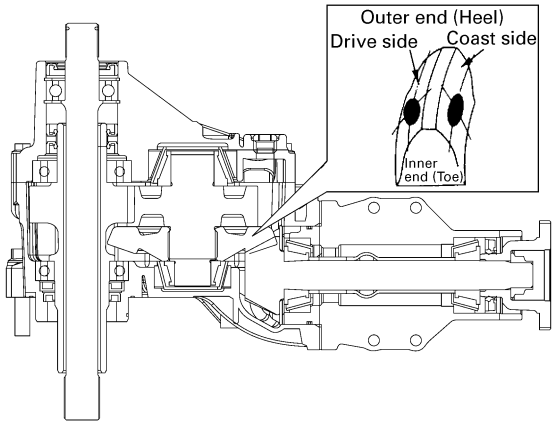
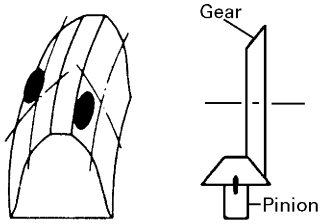
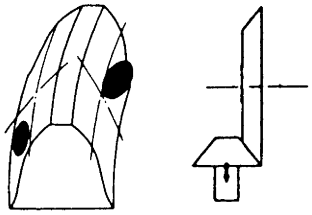
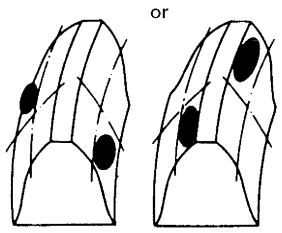
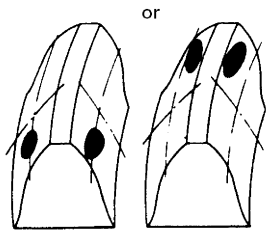
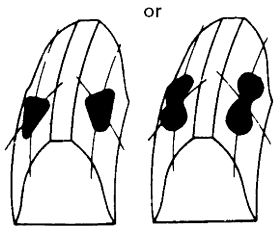
I3RH01332043-01

2) Install transfer output retainer assembly referring to “Transfer Assembly Disassembly and Reassembly”.
3) Turn transfer output flange clockwise and counterclockwise repeatedly, and remove transfer output retainer assembly and bevel gear shims from transfer assembly.
4) Bring painted part up and check contact pattern referring to the following chart. If contact pattern is not normal, readjust or replace as necessary according to instruction in chart.

NOTE

- **Be careful not to turn bevel gear more than one full revolution, for it will hinder accurate check.**
- **If bevel gear back lash and bevel pinion shims are adjusted properly, correct tooth contact should be provided.**
  If correct tooth contact is not provided even when they are adjusted properly, however, there may be an abnormal condition in worn tooth, transfer case or retainer. Check each component and replace as necessary.

Gear tooth contact table

Tooth contact pattern	Diagnosis and remedy
 I5RW0A330045-01	Normal
 I3RH01332045-01	**High contact** Pinion is positioned too far from the center of drive bevel gear. • Decrease thickness of bevel pinion shim and position pinion closer to gear center. • Adjust drive bevel gear backlash to specification.
 I3RH01332046-01	**Low contact** Pinion is positioned too close to the center of drive bevel gear. • Increase thickness of bevel pinion shim and position pinion farther from gear center. • Adjust drive bevel gear backlash to specification.
 I3RH01332047-01	These contact patterns indicate that the “offset” of reduction driven gear is too much or too little. The remedy is to change the division of the bevel gear shim(s).
 I3RH01332048-01	These contact patterns, located on toe or heel on both drive and coast sides, mean that 1) both pinion and gear are defective, 2) retainer is not true, or 3) gear is not properly seated on transfer case. The remedy is to replace the defective member.
 I3RH01332049-01	Irregular patterns: If the pattern is not oval, it means that bevel gear is defective. High or low spots on tooth surfaces or on the seat of bevel gear are the cause of irregular patterns appearing on some teeth. The remedy is to replace the pinion and gear set and, if the seat is defective, so is transfer case.

Specifications

Tightening Torque Specifications

S6RW0C3307001

Fastening part	Tightening torque			Note
	N·m	kgf-m	lb-ft	
Transfer oil level / filler plug	23	2.3	17.0	☞ / ☞
Transfer oil drain plug	23	2.3	17.0	☞
Stiffener No.1 bolt and No.2 bolt	55	5.5	40.0	☞
Transfer to transaxle bolt	98	9.8	71.0	☞
Engine rear mounting upper nut	25	2.5	18.0	☞
Engine rear mounting lower nut	55	5.5	40.0	☞
Transfer case bolt	23	2.3	17.0	☞
Transfer output retainer bolt	55	5.5	40.0	☞
Oil plate bolt	9	0.9	6.5	☞
Rotational torque of bevel pinion (Bearing preload)	0.50 – 1.30	0.05 – 0.13	0.35 – 0.95	☞

NOTE

The specified tightening torque is also described in the following.
“Transfer Assembly Components”

Reference:
For the tightening torque of fastener not specified in this section, refer to “Fasteners Information in Section 0A”.

Special Tools and Equipment

Recommended Service Material

S6RW0C3308001

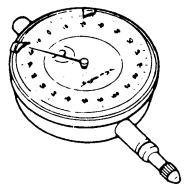
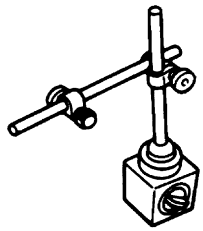
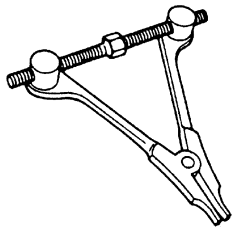
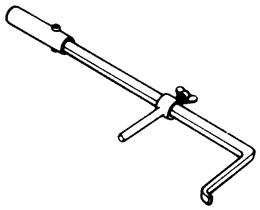
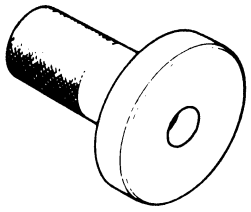
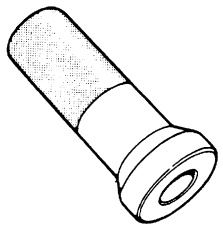
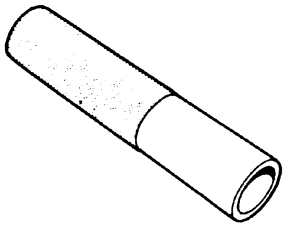
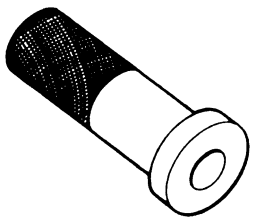
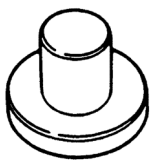
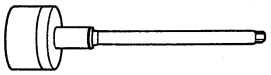
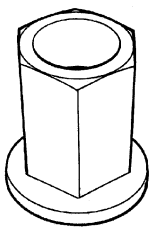
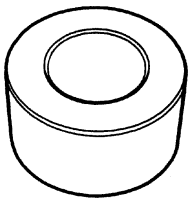
Material	SUZUKI recommended product or Specification		Note
Grease	SUZUKI Super Grease A	P/No.: 99000–25010	☞ / ☞ / ☞ / ☞ / ☞
Sealant	SUZUKI Bond No.1217G	P/No.: 99000–31260	☞ / ☞ / ☞ / ☞

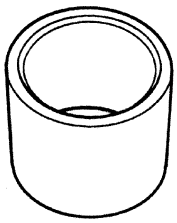
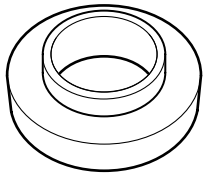
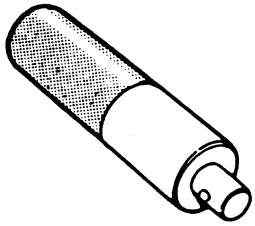
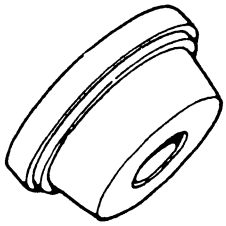
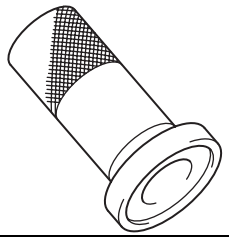
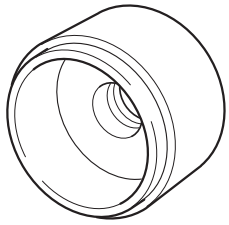
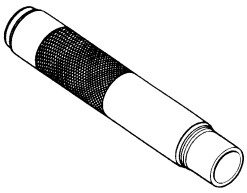
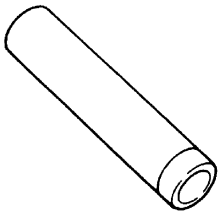
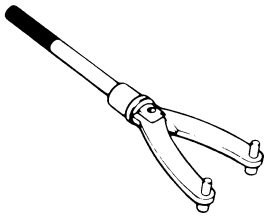
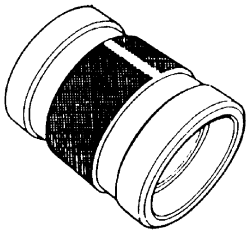
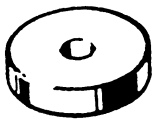
NOTE

Required service material is also described in the following.
“Transfer Assembly Components”

Special Tool

S6RW0C3308002

09900–20607 Dial gauge ☞		09900–20701 Magnetic stand ☞	
09912–34510 Case separator ☞		09913–50121 Oil seal remover ☞ / ☞	
09913–75520 Bearing installer ☞		09913–76010 Bearing installer ☞	
09913–84510 Bearing installer ☞ / ☞ / ☞		09913–85210 Bearing installer ☞	
09913–85230 Bearing remover tool ☞ / ☞		09922–76140 Bevel pinion shaft ☞ / ☞	
09922–76150 Bevel pinion nut ☞		09922–76340 Bevel pinion rear collar ☞	

09922–76430 Bevel pinion front collar ☞ / ☞ 	09924–07710 Synchronizer hub installer ☞ 
09924–74510 Bearing and oil seal handle ☞ 	09924–84510–005 Bearing installer attachment (D) ☞ / ☞ 
09925–15410 Oil seal installer ☞ / ☞ / ☞ / ☞ 	09925–16310 Bearing installer ☞ 
09925–18011 Transmission gear, bush and bearing installer ☞ 	09925–98220 Bearing installer ☞ 
09930–40113 Flywheel rotor holder ☞ / ☞ 	09940–54910 Front fork oil seal install driver ☞ 
09944–88210 Bearing housing installer ☞ 	09944–96011 Bearing outer race remover ☞