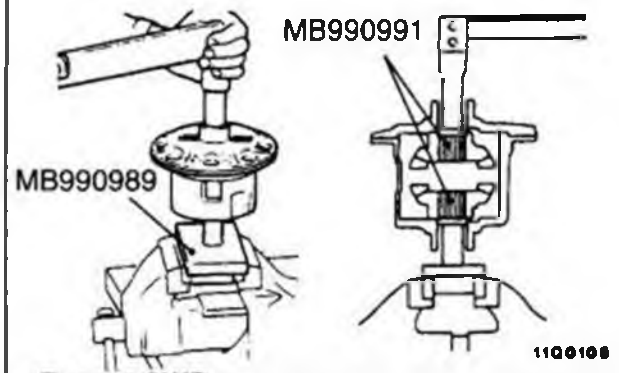
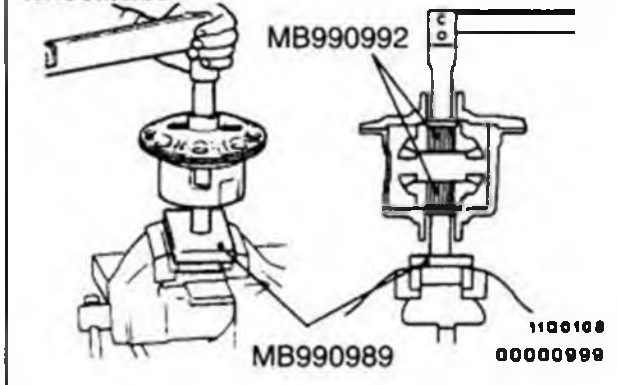
Item			Standard value	Limit
Limited slip differential starting torque Nm	2WD 4G63	When a new clutch plate is used	49–78	–
		When re-installing current clutch plate	34–78	–
	Except 2WD vehicles with 4G63 engine	When a new clutch plate is used	39–74	–
		When re-installing current clutch plate	25–74	–
Friction plate and friction disc warping (flatness) mm			–	0.08
Friction plate and friction disc wear (difference in the thickness of the friction surface and the projections) mm			–	0.1
Horizontal difference between friction plate and friction disc thickness mm			0–0.05	–
Clearance between friction plate and friction disc mm		2WD 4G63	0.05–0.20	–
		Except 2WD vehicles with 4G63 engine	0.06–0.20	–
Difference between left and right dimensions from back thrust face of pressure ring to end of thrust washer mm		Except 2WD vehicles with 4G63 engine	0–0.05	–
Clearance in side gear axial direction mm		Except 2WD vehicles with 4G63 engine	0.05–0.20	–

2WD 4G63 Standard wheelbase



<Except 2WD vehicles with 4G63 Standard wheelbase>



INSPECTION

DIFFERENTIAL PRELOAD INSPECTION

1. Use the special tool to measure the differential preload.

   Standard value:

	When installing a new clutch plate Nm	When reinstalling the current clutch plate Nm
2WD 4G63 Standard wheelbase	49–78	34–78
<Except 2WD vehicles with 4G63 Standard wheelbase>	39–74	25–74

2. If the differential preload is not within the standard value, disassemble the differential case assembly and repair or replace the parts.

LIMITED SLIP DIFFERENTIAL CASE ASSEMBLY <Except 2WD Vehicles with 4G63 Engine>

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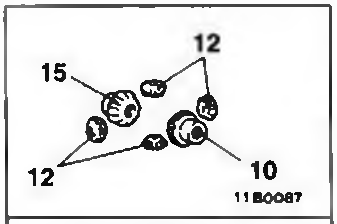
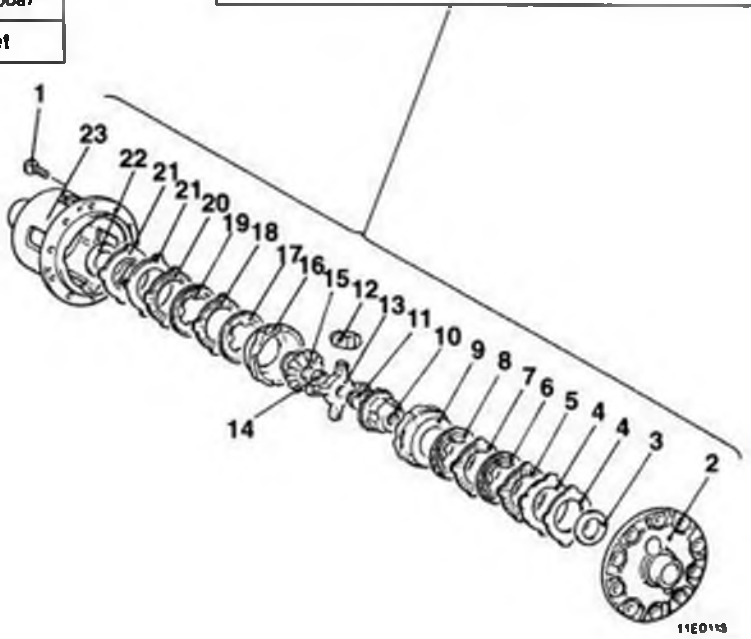
DISASSEMBLY AND REASSEMBLY



Differential gear set

Gear oil:
MITSUBISHI Genuine Gear Oil Part No. 8149630EX, CASTROL HYPOY LS (GL-5, SAE 90), SHELL-LSD (GL-5, SAE 80W-90) or equivalent

Caution
Apply the specified gear oil to each component especially careful to coat contact surfaces and sliding surfaces.



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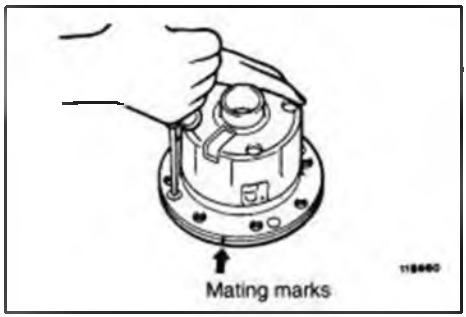
Disassembly steps

- ▶C◀ • Differential preload of limited slip differential
- ◀A▶ ▶B◀ 1. Screw
- 2. Differential case (A)
- 3. Thrust washer
- 4. Spring plate
- 5. Friction plate
- 6. Friction disc
- 7. Friction plate
- 8. Friction disc
- 9. Pressure ring
- 10. Side gear
- 11. Thrust block
- 12. Differential pinion gear
- 13. Differential pinion shaft
- 14. Thrust block
- 15. Side gear
- 16. Pressure ring
- 17. Friction disc
- 18. Friction plate
- 19. Friction disc
- 20. Friction plate
- 21. Spring plate
- 22. Thrust washer
- ▶A◀ 23. Differential case (B)

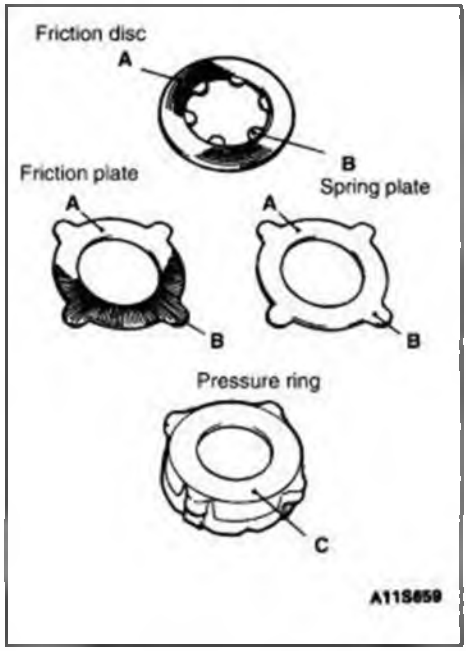


DISASSEMBLY SERVICE POINT

◀A▶ SCREW REMOVAL

1. Check the mating marks.

   NOTE
   The mating marks are represented by one of the following methods.
   (1) Engraving by a punch or electric pen.
   (2) Identical arabic numerals.
2. Loosen the mounting screws for differential case (A) and (B) evenly, step by step.
3. Separate differential case (B) and differential case (A), and take out the parts inside. Do not confuse the left and right spring plates, spring discs, friction plates and friction discs for further reassembly.



INSPECTION

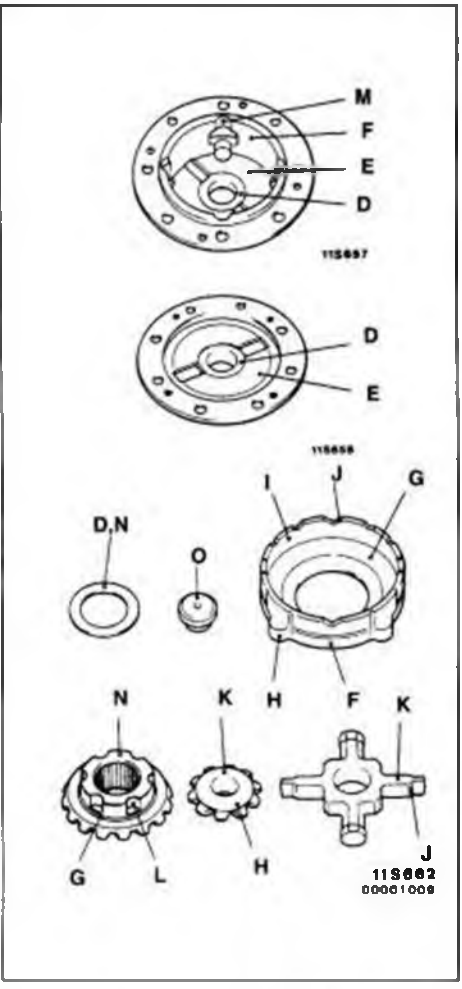
DIFFERENTIAL CASE COMPONENT CONTACT SLIDING SURFACE INSPECTION

1. Clean the disassembled parts with cleaning oil and dry them with compressed air.
2. Check the following items for each plate and disc and for the pressure ring.
   A. The friction surfaces of the friction plate, friction disc, spring plate.
      If there are any signs of seizure, severe friction, or colour change from the heat, it will adversely affect the locking performance; replace the part with a new one.

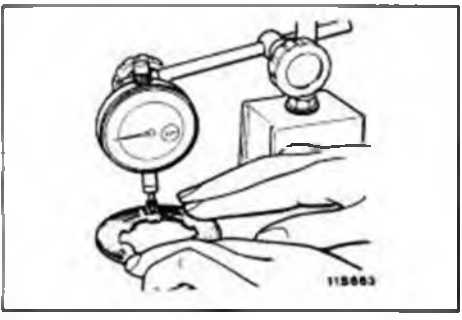
      NOTE
      The strong contact on the inner circumference of the friction surfaces is because of the spring plate; this wear is not abnormal.

   B. Inside and outside projections of friction disc, friction plate and spring plate.
      Replace any cracked or damaged parts.
   C. The friction surface of the friction disc and pressure ring. If there are nicks or scratches, repair the part by first grinding with an oil stone and then polishing with rubbing compound on a surface plate.

      NOTE
      The strong contact on the inner circumference of the friction surface is because of the spring plate; this wear is not abnormal.



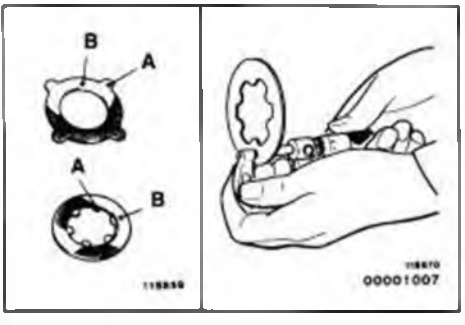
3. Inspect the contact and sliding surfaces listed below, and repair any nicks and burrs by using an oil stone.
   D. The sliding surfaces of the thrust washer and the case.
   E. The spring contacting surface of the differential case and spring plate.
   F. The contact surfaces of the outer circumference of the pressure ring and the inner circumference of the differential case.
   G. The sliding surfaces of the hole in the pressure ring and the outer circumference of the side gear.
   H. The projection on the outer circumference of the pressure ring.
   I. The spherical surface of the differential pinion gear and the inner diameter of the pressure ring.
   J. The V-shaped groove in the pressure ring, and the V-shaped part in the pinion shaft.
   K. The outer diameter of the pinion shaft and the hole of the differential pinion gear.
   L. The outer circumference groove of the side gear.
   M. The inner circumference groove of the differential case.
   N. The sliding surface of the thrust block.
   O. The sliding part of the thrust block.



WARPING OF THE FRICTION PLATE AND FRICTION DISC

Using a dial indicator, measure the amount of warping (the flatness) of the friction plate and the friction disc on a surface plate by turning the friction plate or disc.

Limit: Max. 0.08 mm



WEAR OF THE FRICTION PLATE SPRING PLATE AND FRICTION DISC

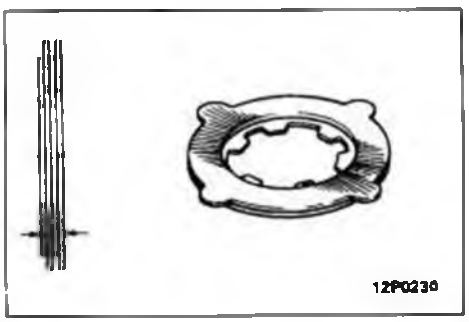
1. Measure the thickness of the friction surfaces (B) and projections (A) of the friction disc, spring disc and plate in several places. Then check that the differences between A and B are within the limit.

   Limit: 0.1 mm
2. If the parts are worn beyond the allowable limit, replace them with new parts.

REASSEMBLY SERVICE POINTS

▶A◀ DIFFERENTIAL CASE (B) INSTALLATION

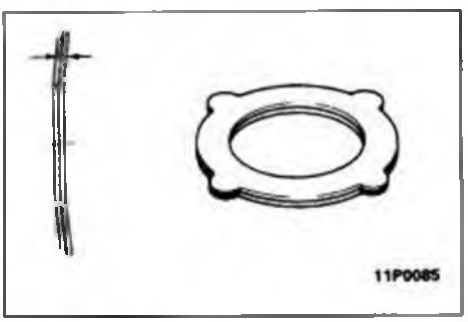
Before assembly, use the following method to adjust the clearance between the spring plates and differential cases (for adjustment of the clutch plate friction force), and to adjust the end play of the side gear when installing the internal components into the differential case.



(1) Arrange the two (each) friction discs and friction plates for each side, one on top of another, as shown in the figure, combining them so that the difference in thickness between the left and the right is the standard value.

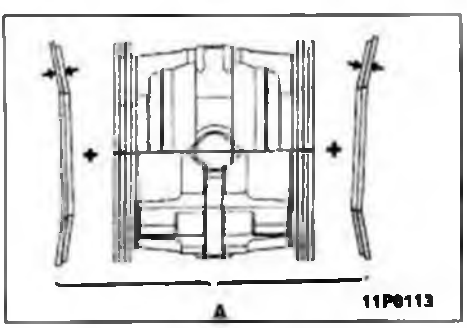
Standard value: 0–0.05 mm

NOTE
Two types of replacement parts are available:
Friction disc (with thicknesses of 1.6 mm and 1.7 mm)
Friction plate (with thicknesses of 1.75 mm and 1.85 mm)

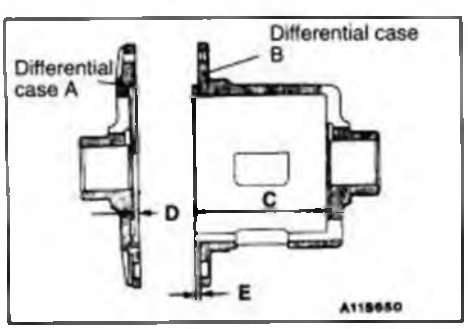


(2) Place the spring plates together as shown in the illustration, and use a micrometer to measure the thickness. Place the parts together in the combination that gives the least difference in thickness between the two sets.

NOTE
If replacing with new parts, the thickness of the spring plates and spring discs should be 1.75 mm.

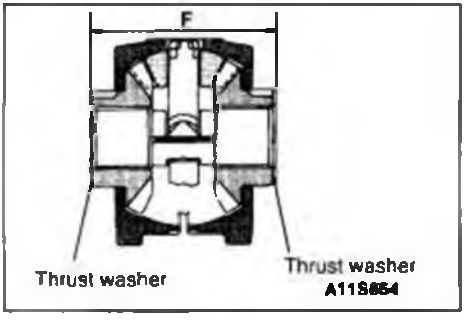


(3) Assemble the pressure ring's internal components (differential pinion shaft and pressure ring) and the friction discs and friction plates, and then as shown in the figure, measure the overall width.
(4) Calculate the total value (A) of the thickness of the spring disc and spring plate plus the value measured in (3) above.

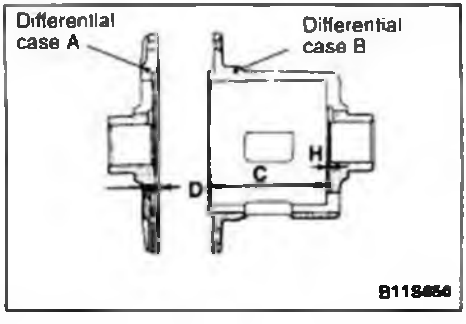


(5) Obtain the dimension (B) between the spring plate contact surfaces when differential cases (A) and (B) are combined. (B = C + D – E)
(6) Change the thickness of the friction disc so that the clearance (B – A) between the differential case and the spring plate becomes the standard value.

Standard value: 0.06–0.20 mm



(7) Remove the spring plates, spring discs, friction plates and friction disc.
(8) Measure the dimension (F) from the thrust washer end surface to end surface.



(9) Obtain the dimension (G) between the thrust washer contact surfaces when differential cases (A) and (B) are combined.
(G = C + D + H)

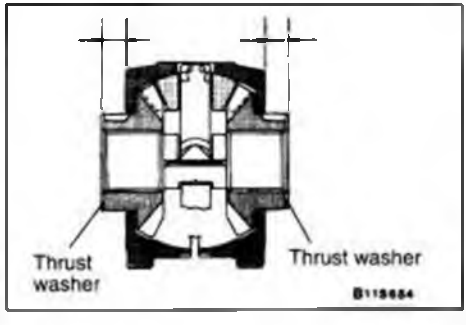
NOTE
Dimension (B) is the distance between the spring plate contact surfaces when differential cases (A) and (B) are combined. (Refer to P. 27-57.)

(10) Check that the clearance (G – F) in the side gear axial direction is within the standard value range.

Standard value:0.05–0.20 mm

(11) If the clearance is not within the standard value range, replace the thrust washers.

NOTE
1. Select washers in such a way that the clearances between the left and right pressure rings and the thrust washers remain the same as each other.
2. Three types of replacement parts are available: 1.50 mm, 1.60 mm and 1.70 mm.



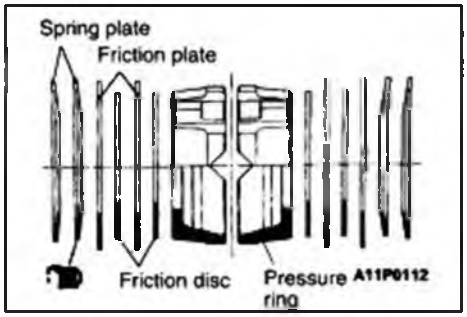
(12) Install the thrust washer as shown in the figure, and then select a thrust washer so that the difference between the left and right dimensions from the pressure ring rear face to the thrust washer end face is the standard value.

Standard value: 0–0.05 mm

NOTE
Measure the distance while squeezing the V-shaped groove manually.

(13) If the distance is not within the standard value, replace the thrust washers.

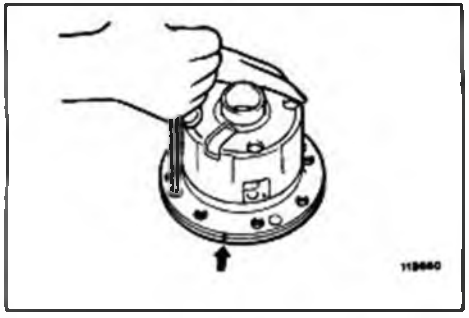
NOTE
Three types of replacement parts are available: 1.50 mm, 1.60 mm and 1.70 mm



(14)Apply specified gear oil to each part, and then insert each part into differential case (B) in the order shown in the illustration.

Gear oil: MITSUBISHI Genuine Gear Oil part No. 8149630EX, CASTROL HYPOY LS (GL-5, SAE 90), SHELL-LSD (GL-5, SAE 80W-90) or equivalent

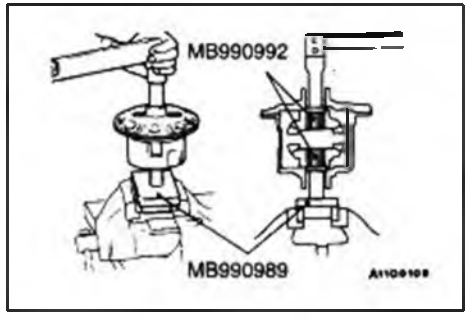
NOTE
Be particularly sure to apply oil to the contact surfaces and sliding surfaces.



▶B◀ SCREW INSTALLATION

1. Align the mating marks (the same numeral on each case) of differential case (A) and differential case (B).
2. Turning the screwdriver slowly several times, tighten the screw so that the cases are in close contact.

NOTE
If, even though the screw is tightened, the end surfaces of case (A) and case (B) do not come into close contact, probably the thrust washer and spring plate are not fit correctly into the groove, so make the assembly again.



▶C◀ DIFFERENTIAL PRELOAD INSPECTION FOR LIMITED SLIP DIFFERENTIAL

1. After assembly, in order to check the frictional force of the clutch plate, use the special tools to measure the starting torque.

Standard value:
When a new clutch plate is used
39–74 Nm
When the current clutch plate is reused
25–74 Nm

NOTE
Measure the starting torque after rotating slightly. When measuring the torque, do so at the beginning of movement.

2. If the starting torque is not within the standard value, disassemble the differential case assembly and repair or replace the parts.