CLUTCH

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N06BAAD

CAUTION

When servicing clutch assemblies or components, do NOT create dust by sanding, grinding or by cleaning clutch parts with a dry brush or with compressed air. (A water dampened cloth should be used.) The clutch disc contains "Asbestos Fibers" which can become airborne if dust is created during service operations. Breathing dust containing "Asbestos Fibers" may cause serious bodily harm.

GENERAL INFORMATION

The clutch is the dry single-plate diaphragm type; hydraulic pressure is used for the clutch control. The clutch control is composed of the clutch pedal, the clutch master cylinder, the clutch tube, the release cylinder, etc. Note that the clutch pedal is the suspended type.

SPECIFICATIONS

GENERAL SPECIFICATIONS

N06CA--

ltems	Specifications	
Clutch operating method	Hydraulic type	
Inside diameter of clutch master cylinder mm (in.)	15.87 (.6248)	
Clutch disc		
Туре	Single dry disc type	
Facing Size (outside x inside) mm (in.)	225 x 150 (8.9 x 5.9)	
Number of torsion springs	4	
Clutch cover assembly		
Type ·	Diaphragm spring, strap drive type	
Setting load N (lbs.)	3,432 (772)	
Mounting bolt circle diameter mm (in.)	264 (10.4)	
Clutch release bearing		
Туре	Self-centering type	
Free travel mm (in.)	0 (0)-Constant contact type	
Clutch release cylinder		
Cylinder bore diameter mm (in.)	19.05 (.75)	

SERVICE SPECIFICATIONS

N06CB--

Items	Specifications	
Standard values		
Clutch pedal height mm (in.)	186–191 (7.3–7.5)	
Clutch pedal clevis pin play mm (in.)	1–3 (.04–.12)	
Clutch pedal free play mm (in.)	8–16 (.31–.63)	
Clearance between clutch pedal and floorboard when pedal is depressed mm (in.)	35 (1.38) or more	
Limit		
Master cylinder to piston clearance mm (in.)	0.15 (.0059)	
Clutch disc rivet sink mm (in.)	0.3 (.012)	

TORQUE SPECIFICATIONS

N06CC--

Items	Nm	ft.lbs.
Clutch to flywheel	15–22	11–16
Release cylinder to transmission case	31–42	22–30
Fulcrum	31–42	22–30
Clutch pedal to pedal bracket	25–35	18–25
Eye bolt	20–25	15–18
Clutch tube flare nut	13–17	10–12
Clutch master cylinder to firewall	7–9	5–7
Clutch pedal bracket	18–25	13–18
Push rod lock nut	8–12	6–9

LUBRICANTS

N06CD--

ltems	Specified lubricants	Quantity
Fluid	DOT 3	As required
Clutch master cylinder push rod, clevis pin and washer	Wheel brearing grease SAE J310, NLGI No. 2	As required
Clutch pedal shaft and bushings	Multipurpose grease SAE J310, NLGI No.3	As required
Clutch disc spline	MITSUBISHI Genuine Grease Part No. 0101011	As required
Clutch release fork shaft bearing	MITSUBISHI Genuine Grease Part No. 0101011	As required
Clutch release bearing inner surface	MITSUBISHI Genuine Grease Part No. 0101011	As required
Release cylinder inner diameter	DOT 3	As required

TROUBLESHOOTING

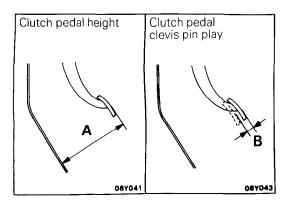
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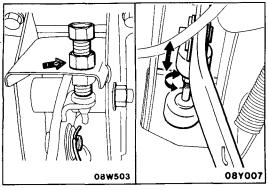
Sympto	m	Probable cause	Remedy	Reference page
Clutch slipping Vehicle will not respond to engine speed during acceleration. Improper vehicle speed Lack of power during uphill driving		Improper pedal free play	Adjust	6-6
		Excessive wear of clutch disc facing	Replace	6-14
		Hardened clutch disc facing, or oil on surface	Replace	6-14
		Damaged pressure plate or flywheel	Replace	6-14, 9-60
		Weak or broken pressure spring	Replace	6-14
Clutch drags or does not release		Excessive clutch pedal free play	Adjust	6-6
		Interference between pedal and floor panel	Correct	6-6
		Pilot bearing worn or broken	Replace	9-57
		Clutch disc warped	Replace	6-14
		Pressure plate, disc or throwout bearing damaged	Replace	6-14
		Hydraulic system fluid leakage or air mixed in	Repair or replace	6-6
Difficult gear shifting		Excessive pedal free play	Adjust	6-6
(gear noise during shifting)	Hydraulic system fluid leakage or air mixed in	Repair or Replace	6-6	
		Unusual wear or corrosion of clutch disc spline	Replace	6-14
		Excessive vibration (distortion) of clutch disc	Replace	6-14
Clutch	When clutch is not used	Improper play of clutch pedal	Adjust	6-6
noisy		Excessive wear of clutch disc facing	Replace	6-14
	A noise is heard after clutch is disengaged	Unusual wear and/or damage of release bearing	Replace	6-14
	A noise is heard when clutch is disengaged	Improper grease on the sliding surface of bearing sleeve	Repair	6-14
		Improperly installed clutch assembly or bearing	Repair	6-14
	A noise is heard when vehicle is sud- denly rol- led of with clutch partially engaged	Damaged pilot bearing	Replace	9-60

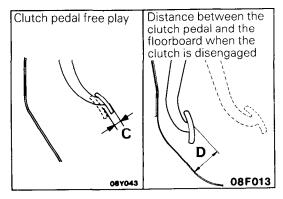
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CLUTCH – Troubleshooting

Symptom	Probable cause	Remedy	Refernce page
Clutch chatters	Facing hardened	Replace	6-14
	Facing stained with oil or grease	Repair or replace	6-14
	Weak or broken disc damper springs	Replace	6-14
	Improper facing contact or disc runout	Replace	6-14
	Pressure plate or flywheel warped	Replace	6-14, 9-62
	Loose engine mounting	Repair or replace	9-20, 21
Hard pedal effort	Improper lubrication of clutch pedal shaft	Repair	6-7
	Improper lubrication of clutch disc spline	Repair	6-17
	Improper lubrication of clutch release lever shaft	Repair	6-12
	Improper lubrication of front bearing retainer	Repair	Refer to GROUP 21.
Clutch operation erratic or rough	Facing stained with grease or oil	Repair or replace	6-14
	Facing worn or rivet loose	Replace	6-14
	Torsion spring deteriorated or broken	Replace	6-14
	Improper lubricant on clutch pedal pivot	Lubricate	6-7







SERVICE ADJUSTMENT PROCEDURES INSPECTION AND ADJUSTMENT OF CLUTCH PEDAL NOGFAAH

 Measure the clutch pedal height (from the face of the pedal pad to the floorboard) and the clutch pedal clevis pin play (measured at the face of the pedal pad).

Standard value (A) : 186–191 mm (7.3–7.5 in.) Standard value (B) : 1–3 mm (.04–.12 in.)

- 2. If either the clutch pedal height or the clutch pedal clevis pin play are not within the standard value range, adjust as follows:
 - (1) Turn the stopper bolt to adjust the clutch pedal height to agree with the standard value and then secure the bolt with the lock nut.
 - (2) Turn the push rod to adjust the clutch pedal clevis pin play to agree with the standard value and then secure the push rod with the lock nut.

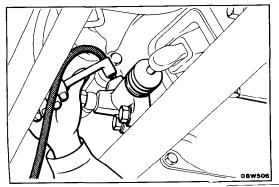
Caution

When adjusting the clutch pedal clevis pin play, be careful not to push the push rod toward the master cylinder.

3. After completing the adjustments, confirm that the clutch pedal free play (measured at the face of the pedal pad) and the distance between the clutch pedal (the face of the pedal pad) and the floorboard when the clutch is disengaged are within the standard value ranges.

Standard value (C): 8-16 mm (.31-.63 in.) Standard value (D): 35 mm (1.38 in.) or more

4. If the clutch pedal free play and the distance between the clutch pedal and the floorboard when the clutch is disengaged do not agree with the standard values, it is probably the result of either air in the hydraulic system, or a faulty master cylinder or clutch. Bleed the air, or disassemble and inspect the master cylinder or clutch.



BLEEDING

N06FBAE

Whenever the clutch tube, the clutch hose, and/or the clutch master cylinder have been removed, or if the clutch pedal is spongy, bleed the system.

Caution

Use the specified brake fluid. Avoid using a mixture of the specified fluid and other fluid.

Specified brake fluid: DOT 3

CLUTCH PEDAL

REMOVAL AND INSTALLATION

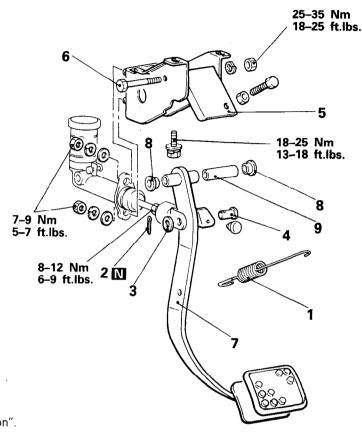
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Post-installation Operation
■ Adjustment of Clutch Pedal (Refer to P.6-6.)

Removal steps

- 1 Return spring
- 2. Cotter pin
- 3. Washer
- 4. Clevis pin
 - 5. Clutch pedal bracket
- 6. Pedal shaft
 - 7. Clutch pedal
- ◆◆ 8. Bushing
- 9. Spacer



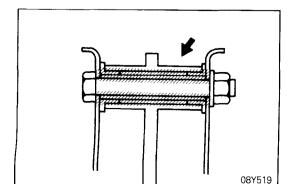


INSPECTION

N06PCAC

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- Check the pedal shaft bushing for wear.
- Check the pedal arm for bend or torsion.
- Check the return spring for deterioration.



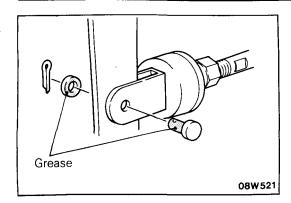
SERVICE POINTS OF INSTALLATION

9. APPLICATION OF GREASE TO SPACER/8. BUSHING/6. PEDAL SHAFT

Apply specified grease to the pedal shaft, spacer and bushings.

Specified Grease: Multipurpose grease SAE J310, NLGI No. 3

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4. APPLICATION OF GREASE TO CLEVIS PIN/3. WASHER

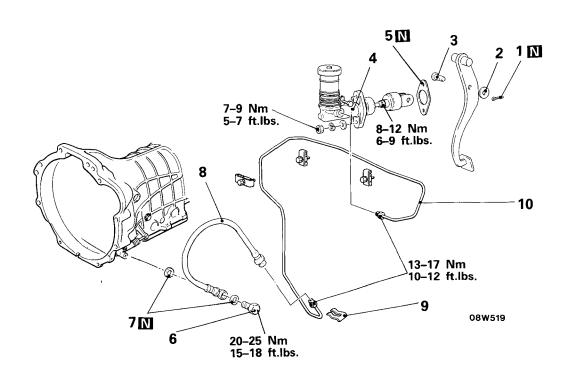
Apply the specified grease to the outer surface of the spacer and the inner surface of the bushing.

Specified grease: Wheel bearing grease SAE J310,

NLGI No. 2

CLUTCH MASTER CYLINDER AND TUBE REMOVAL AND INSTALLATION

N06MA--



Clutch master cylinder removal steps

- 1. Cotter pin
- 2. Washer
- 3. Clevis pin
 - 4. Clutch master cylinder
 - 5. Sealer

Clutch line removal steps

- 6. Eye bolt
- 7. Gasket
- 8. Clutch hose
 - 9. Hose clip
 - 10. Clutch tube

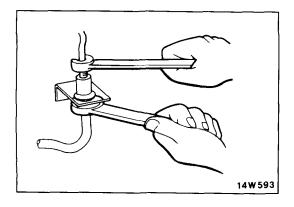
Pre-removal OperationDraining of Clutch Fluid

Post-installation Operation

- Supplying Clutch Fluid
- Bleeding
- (Refer to P.6-6.)
- Adjustment of Clutch Pedal (Refer to P.6-6.)

NOTE

- (1) Reverse the removal procedures to reinstall.
- ◆ : Refer to "Service Points of Removal". ◆ : Refer to "Service Points of Installation".
 - : Non-reusable parts

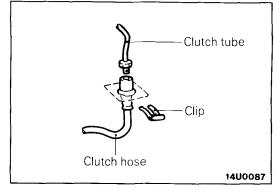


SERVICE POINTS OF REMOVAL

N06MBAD

8. REMOVAL OF CLUTCH HOSE

(1) Holding the nut at the clutch hose side, loosen the flare nut of the clutch tube.

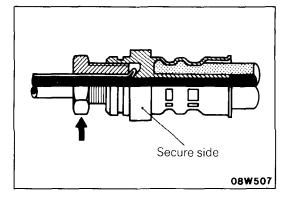


(2) Pull off the clutch hose clip and remove the clutch hose from the bracket.

INSPECTION

N06MCAA

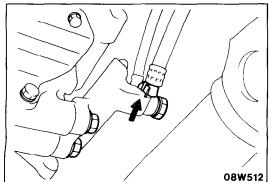
- Check the master cylinder or clutch hose for fluid leakage.
- Check the clutch hose or tube for cracks or clogging.



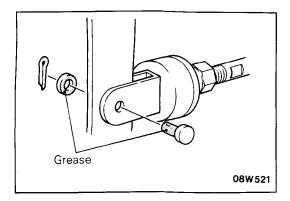
SERVICE POINTS OF INSTALLATION NO. 10. INSTALLATION OF CLUTCH TUBE/8. CLUTCH HOSE

N06MDAE

(1) Temporarily tighten the clutch tube flare nut by hand, and then tighten it to the specified torque, being careful that the clutch hose does not become twisted.



- (2) Connect the clutch hose to the release cylinder at the stepped portion shown in the illustration.
- (3) After tightening the clutch tube flare nut and eye bolt, check to be sure there is no leakage of the clutch fluid.



3. APPLICATION OF GREASE TO CLEVIS PIN/2. WASHER

Apply the specified grease to the outer surface of the spacer and the inner surface of the bushing.

Specified grease: Wheel bearing grease SAE J310, NLGI No. 2

DISASSEMBLY AND REASSEMBLY

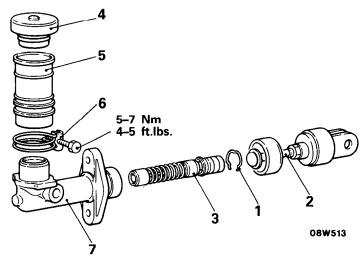
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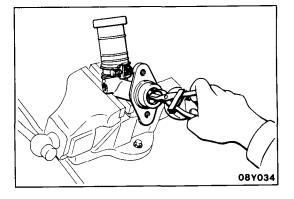
Disassembly steps

- 1. Piston stop ring
 - 2. Damper and push rod
- 3. Piston assembly
 - 4. Reservoir cap
 - 5. Reservoir
 - 6. Reservoir band
 - 7. Master cylinder body

NOTE

- (1) Reverse the disassembly procedures to reassemble.
 (2) Refer to "Service Points of Disassembly".
 (3) Refer to "Service Points of Reassembly".





SERVICE POINTS OF DISASSEMBLY

NO6NBAA

1. REMOVAL OF PISTON STOP RING

Remove the piston stop ring.

3. REMOVAL OF PISTON ASSEMBLY

Pull out the piston assembly.

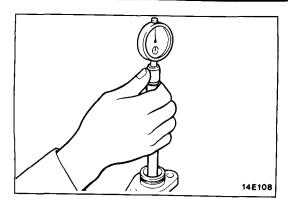
Caution

- 1. Do not damage the master cylinder body and piston assembly.
- 2. Do not disassemble piston assembly.

INSPECTION

N06NCAB

- Check the inside cylinder body for rust or scars.
- Check the piston cup for wear or deformation.
- Check the piston for rust or scars.



CLEARANCE BETWEEN MASTER CYLINDER INNER DIAMETER AND PISTON OUTER DIAMETER

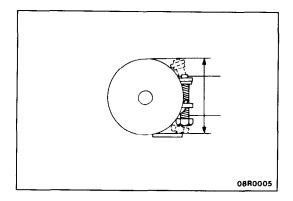
(1) Measure the master cylinder inside diameter and the piston outside diameter with a cylinder gauge and a micrometer.

Limit: 0.15 mm (.0059 in.)

NOTE

Measure the inside diameter of the master cylinder at three-places (bottom, middle, and top), each in two perpendicular directions.

(2) If master cylinder-to-piston clearance exceeds the limit, replace the master cylinder and/or piston assembly.

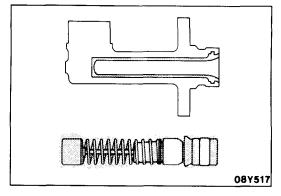


SERVICE POINTS OF REASSEMBLY

N06NDAG

6. INSTALLATION OF RESERVOIR BAND

After installing the reservoir, tighten the reservoir band in the range shown in the figure.



3. APPLICATION OF CLUTCH FLUID TO PISTON ASSEM-BLY

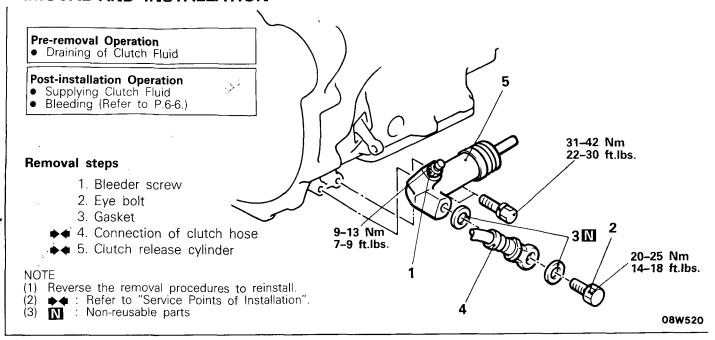
Apply specified clutch fluid to the inner surface of the cylinder and to the entire periphery of the piston assembly.

Specified clutch fluid: DOT 3

CLUTCH RELEASE CYLINDER

REMOVAL AND INSTALLATION

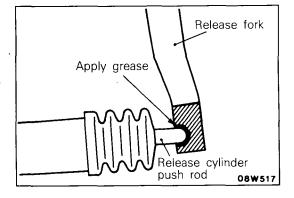
N06HA--



INSPECTION

N06HCAA

- Check the clutch release cylinder for fluid leakage.
- Check the clutch release cylinder boots for damage.



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SERVICE POINTS OF INSTALLATION

N06HDAE

5. APPLICATION OF GREASE TO CLUTCH RELEASE CYL-INDER

Apply a coating of the specified grease to the contact parts of the release fork and release cylinder push rod.

Specified Grease: MITSUBISHI Genuine Grease Part No. 0101011

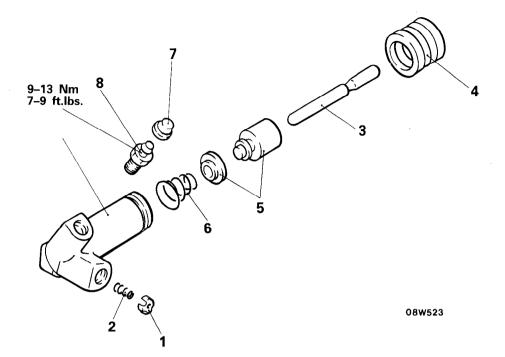
4. CONNECTION OF CLUTCH HOSE

- (1) Connect the clutch hose to the release cylinder at the stepped portion shown in the illustration.
- (2) After tightening the eye bolt, check to be sure there is no leakage of the clutch fluid.

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DISASSEMBLY AND REASSEMBLY

NO6LA-

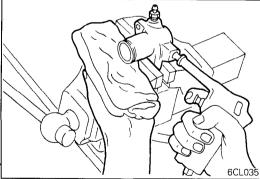


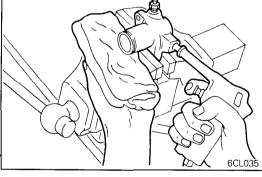
Disassembly steps

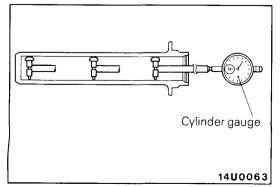
- 1. Valve plate
- 2. Spring
- 3. Push rod
- 4. Boots
- 5. Piston and cup
 - 6. Conical spring
 - 7. Cap
 - 8. Bleeder plug
 - 9. Release cylinder

NOTE

- (1) Reverse the disassembly procedures to reassemble.
- Refer to "Service Points of Disassembly". Refer to "Service Points of Reassembly".







SERVICE POINTS OF DISASSEMBLY

N06LBAA

5. REMOVAL OF PISTON AND CUP

Remove the piston from the release cylinder using compressed air.

Caution

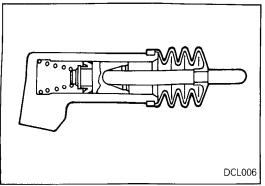
- 1. Cover with rags to prevent the piston from popping
- 2. Apply compressed air slowly to prevent brake fluid from splashing.

INSPECTION

N06LCAA

- Check the release cylinder bore ofr rust and damage.
- Measure the release cylinder bore at three locations (bottom, middle and top) with a cylinder gauge and replace the release cylinder assembly if the clearance to the piston outside exceeds the limit.

Limit: 0.15 mm (.006 in.)



5. Return clip

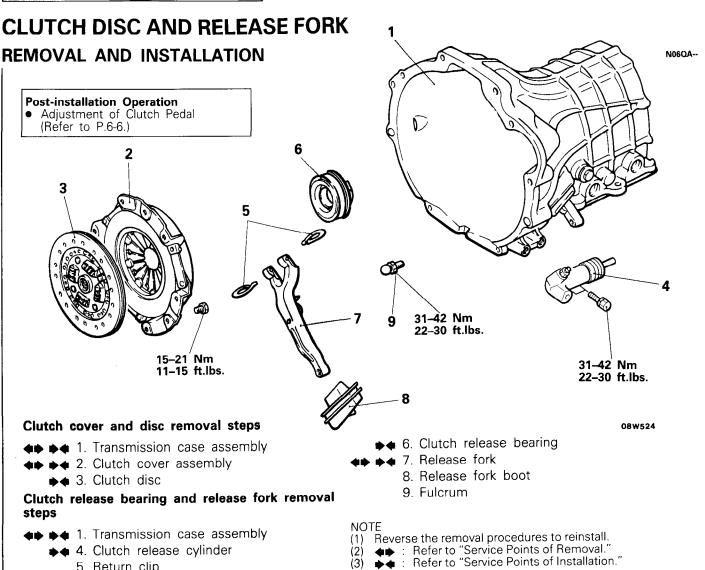
SERVICE POINTS OF REASSEMBLY

N06LDAB

5. APPLICATION OF FLUID TO PISTON AND CUP

After applying a coating of the specified brake fluid to the inner surface of the release cylinder body and to the entire circumference of the piston and cup, insert the piston and cup into the release cylinder.

Specified brake fluid: DOT 3

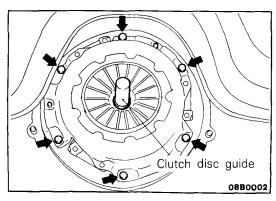


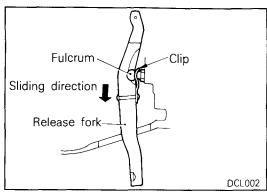
SERVICE POINTS OF REMOVAL

N06QBAB

1. REMOVAL OF TRANSMISSION CASE ASSEMBLY

Refer to GROUP 21 TRANSMISSION - Transmission case Assembly.





2. REMOVAL OF CLUTCH COVER ASSEMBLY

- (1) Insert clutch disc guide, or main drive gear of transmission in center spline to prevent dropping of clutch disc.
- (2) Diagonally loosen bolts retaining clutch cover to flywheel.

Back off bolts, one or two turns at a time, in succession, to avoid bending cover flange.

Caution

DO NOT clean clutch disc or release bearing with cleaning solvent.

7. REMOVAL OF RELEASE FORK

Slide release fork in direction of arrow to disengage fulcrum from clip.

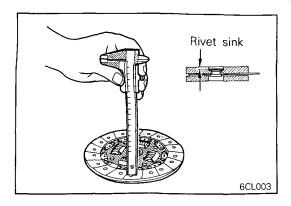
Caution

Attempting to remove release fork by sliding it in other direction will result in damage to clip.

CLEANING AND INSPECTION

N06QCAB

- Clean clutch dust from clutch housing with vacuum brush or shop towel. Do not use compressed air. Inspect for oil leakage through engine rear main bearing oil seal and transmission front oil seal. If leakage is noted, it should be corrected at this time.
- Friction face of pressure plate should be have a uniform appearance throughout entire disc contact area. If there is evidence of heavy contact on one portion of wear circle and a very light contact 180 degrees from that portion, pressure plate may be improperly mounted or sprung.
- Friction face of flywheel should also be free from excessive discoloration, burned areas, small cracks, deep grooves, or ridges.
- Wipe friction surface of pressure plate with a cleaning solvent.
- Using a straight edge, check pressure plate for flatness. The pressure plate friction area should be flat within 0.5 mm (.020 in.) and free from discoloration, burned area, cracks, grooves or ridges.
- Visually inspect the cover outer mounting flange for flatness. It should be free of nicks, burrs, dents or other damage.
- The three dowels on the flywheel should be tight and undamaged.
 - The cover stamping should be a snug fit on the dowels.
- If the clutch assembly does not meet these requirements, it should be replaced.

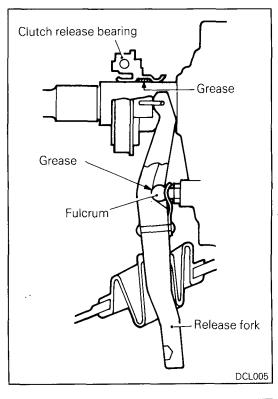


CLUTCH DISC

- (1) The disc assembly should be handled without touching facings. Replace disc if facings show evidence of grease or oil soakage.
- (2) Use the caliper gauge to measure the dimension from the facing surface to the rivet head.

Limit: 0.3 mm (.012 in.)

- (3) If the measured value is below the limit, replace the clutch disc.
- (4) The hub splines and splines on transmission input shaft should be a snug fit without signs of excessive wear.
- (5) Metallic portions of disc assembly should be dry and clean and show no evidence of having been hot. Each of the arched springs between facings should be unbroken and all rivets should be tight.



SERVICE POINTS OF INSTALLATION

N06QDAC

7. APPLICATION OF GREASE TO RELEASE FORK

Pack the release fork fulcrum hole with specified grease.

Specified grease: MITSUBISHI Genuine Grease Part No. 0101011

6. APPLICATION OF GREASE TO CLUTCH RELEASE BEAR-ING

Pack specified grease in groove on clutch release bearing

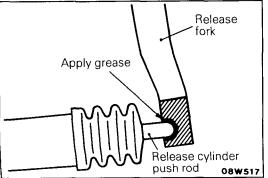
Specified grease: MITSUBISHI Genuine Grease Part No. 0101011 or equivalent

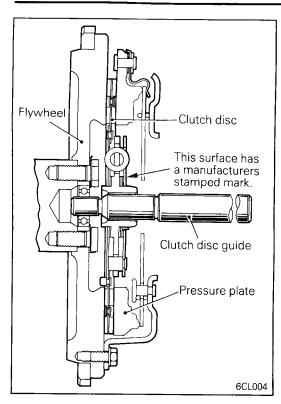
4. APPLICATION OF GREASE TO CLUTCH RELEASE CYL-INDER

Apply specified grease to release fork to release cylinder push rod contacting surfaces.

Specified grease: MITSUBISHI Genuine Grease Part

No. 0101011



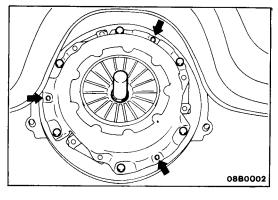


3. INSTALLATION OF CLUTCH DISC/2. CLUTCH COVER ASSEMBLY

- (1) If there are oils or greases on clutch facing and pressure plate, throughly wipe away with a dry cloth.
- (2) Lightly specified grease clutch disc spline.

Specified grease: MITSUBISHI Genuine Grease Part No. 0101011

- (3) Using clutch disc guide, or main drive gear of transmission, install clutch disc and clutch cover assembly on flywheel.
- (4) When installing clutch disc, be sure that surface having manufacturers stamped mark is on pressure plate side.



- (5) When installing the clutch cover assembly, align the clutch cover assembly's dowel pin hole and the flywheel's dowel pin, and then gradually tighten the bolts alternately.
- 1. INSTALLATION OF TRANSMISSION CASE ASSEMBLY Refer to GROUP 21 TRANSMISSION-Transmission case Assembly.