

WORKSHOP MANUAL

KB

SECTION 07A

CLUTCH



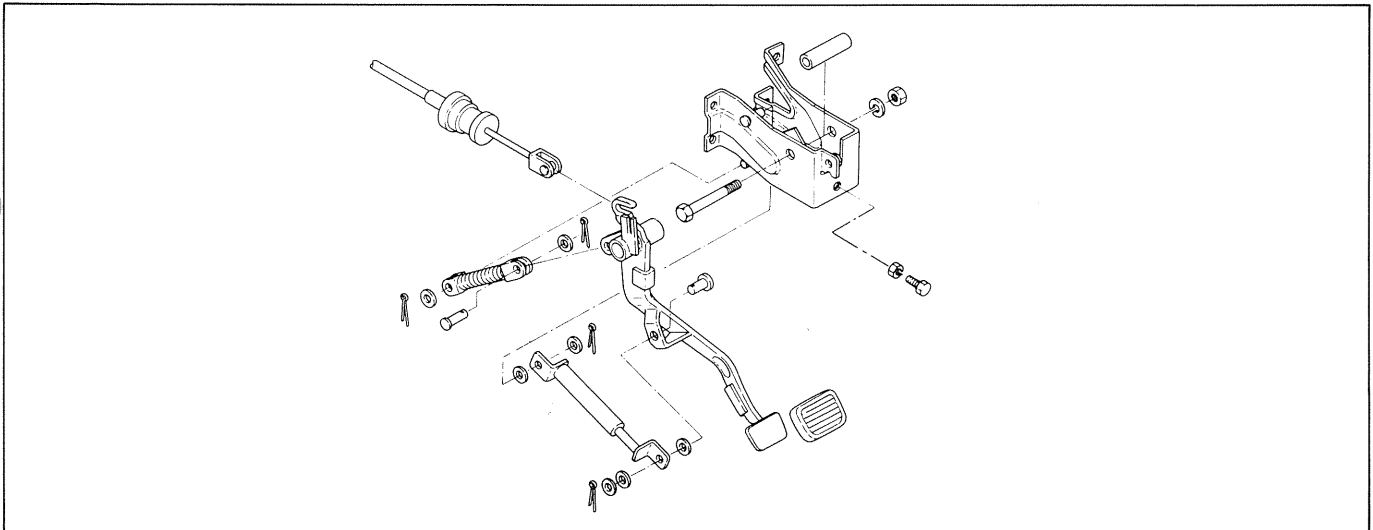
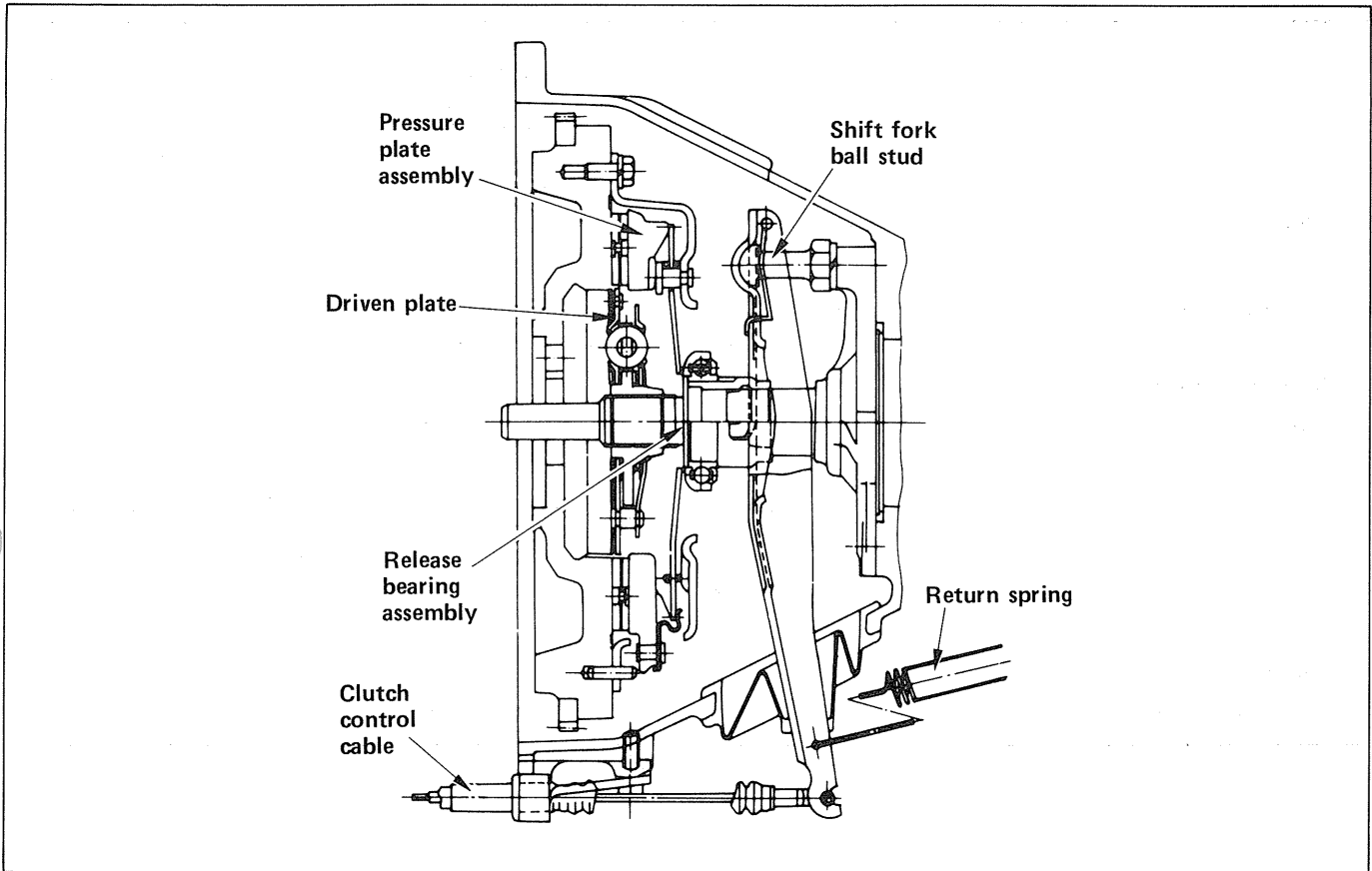
ISUZU MOTORS LIMITED



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GENERAL DESCRIPTION

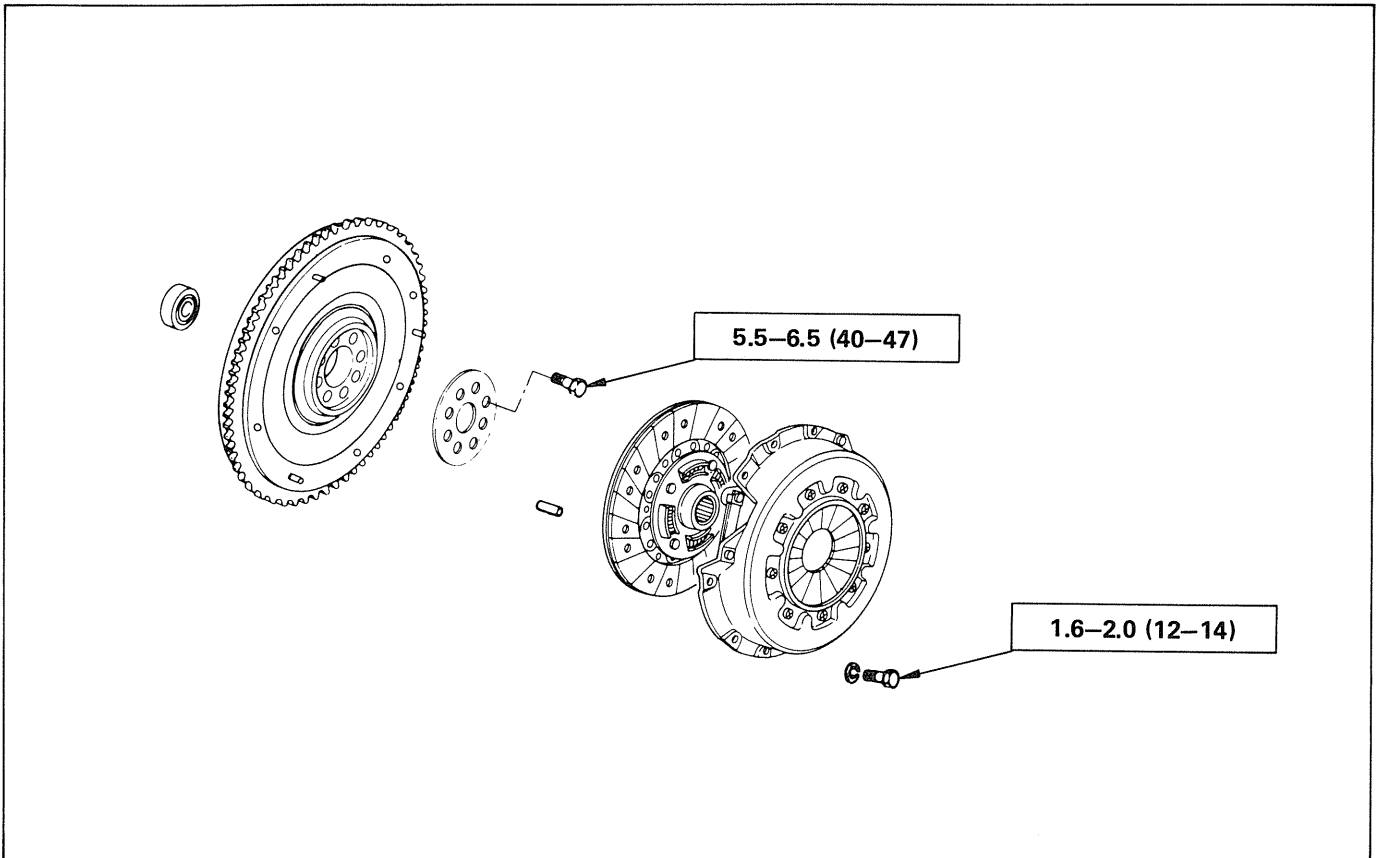


SPECIFICATIONS

Model		4x4 & 4x2 with G161Z/C190	4x4 with G200/C223 4x2 with C223 (Payload 0.5t)	4x2 with C223 (Payload 1t)	4x4 & 4x2 with 4ZD1
Type		Dry single plate type with diaphragm			
Size	mm(in.)	200 (7.88)		215 (8.47)	
Clamping force	kg(lbs.)	330 (727.65)	380 (837.9)	330 (727.65)	486 (1071.63)
Outside dia x inside dia x thickness	mm(in.)	200x130x3.5 (7.881x5.12x0.14)		215x150x3.5 (8.47x5.91x0.14)	215x154x3.5 (8.47x6.068x0.138)
Thickness of driven plate					
When free	mm(in.)		8.5 (0.335)		
When compressed	mm(in.)		7.8 (0.307)		
Facing material			Semimold SF105M		Semimold DR8
Total friction area	cm ² (in ²)	181.5 x 2 (28.13 x 12)		186 x 2 (28.83 x 2)	
Clutch control type			Mechanical		
Clutch pedal free play	mm(in.)		20 (0.78)		
Clutch pedal height	mm(in.)	LHD: 174—184 (6.85—7.25) , RHD: 183—193 (7.21—7.60)			

FIXING TORQUE

kg·m(ft.lbs.)



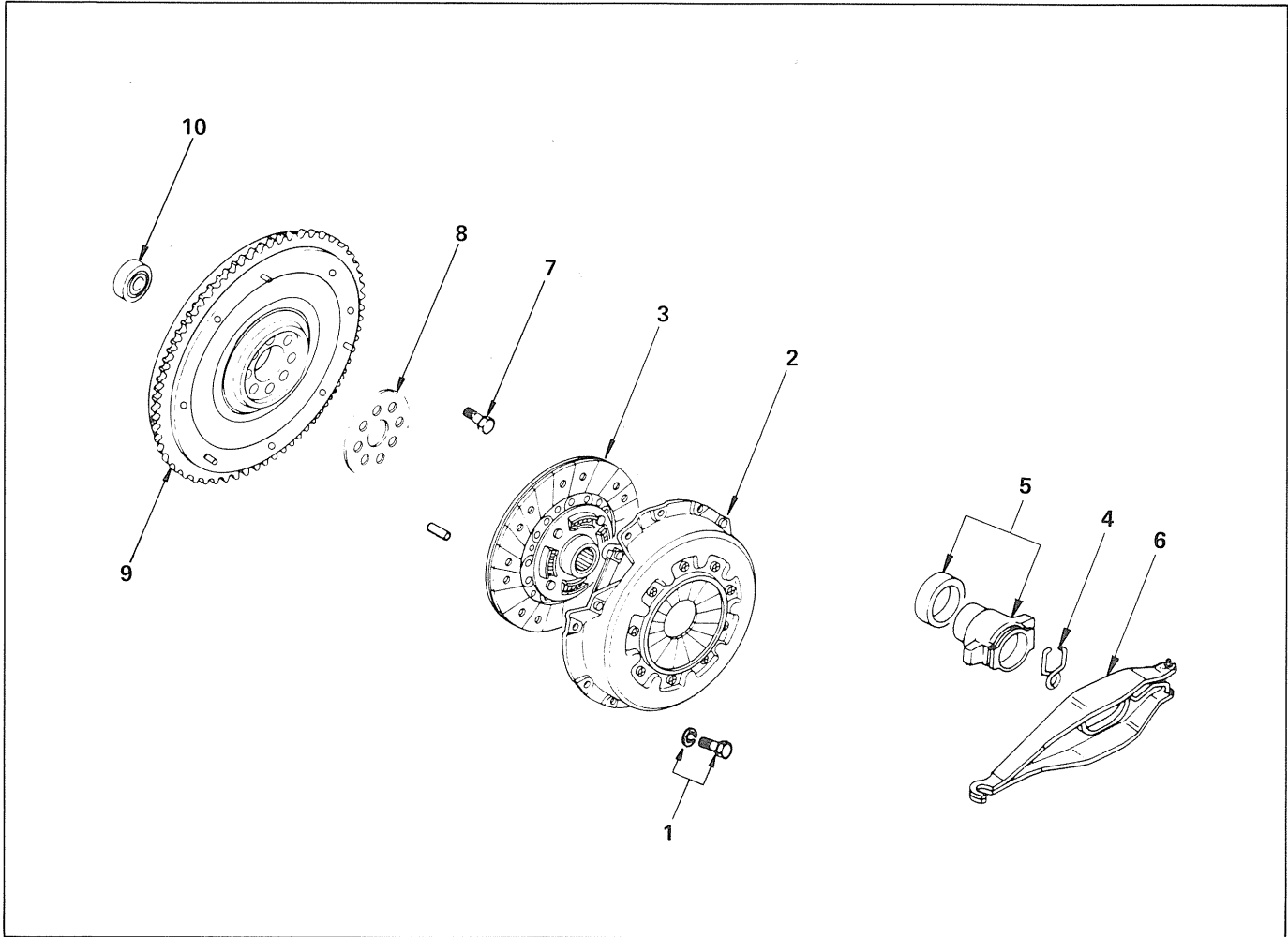
CLUTCH ASSEMBLY



DISASSEMBLY

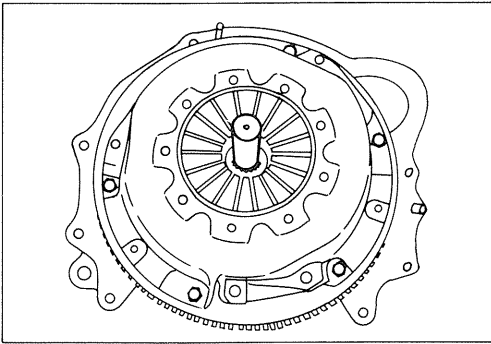
After removal of transmission assembly, follow the steps outlined below. (Refer to Transmission workshop manual).

This illustration is based on 215 mm (8.471 in.) diameter clutch.



Disassembly steps

- | | |
|--|----------------------------------|
| 1. Bolt | 6. Fork assembly ; clutch shift |
| ▲ 2. Plate assembly ; clutch, pressure | 7. Bolt ; flywheel fixing |
| 3. Disc assembly ; clutch driven | 8. Washer ; flywheel |
| 4. Spring | 9. Flywheel assembly |
| 5. Collar ; shift, with bearing | ▲ 10. Bearing ; ball, crankshaft |



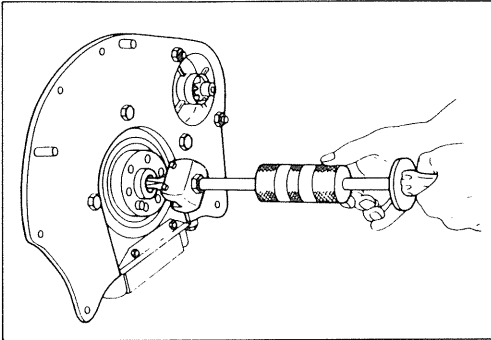
Important operations



2. Plate assembly ; clutch pressure

Aligner : 5-8525-3001-0
(J-24547)

Do not permit oil or grease to come in contact with the working face of the clutch driven plate.



10. Bearing ; ball, crankshaft

Do not remove unless absolutely necessary.

Remover : 5-8840-0019-0
(J-23907)



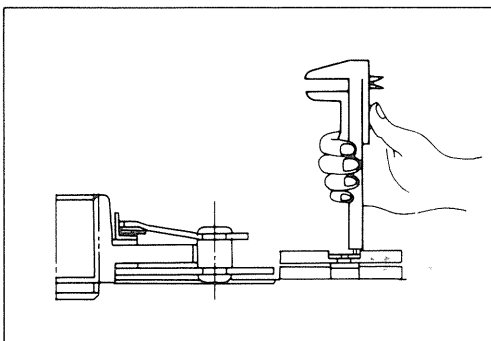
INSPECTION AND REPAIR

Make necessary adjustments, repairs, and part replacements if wear, damage, or other problems are discovered during inspection.



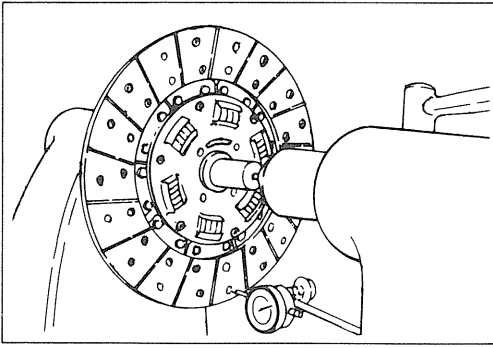
Driven plate

Check the surface of the facing for cracks, hardening due to heat, and contamination with oil or grease. Replace if play is found in the damper springs.



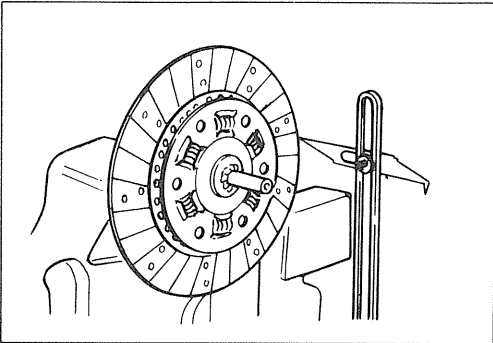
Depression of rivet head from surface

mm(in.)	
Standard	Limit
1.2 (0.047)	0.2 (0.008)



Driven plate warpage

		mm(in.)
Standard		Limit
0.7 (0.028)		1.0 (0.039)



Wear in splines

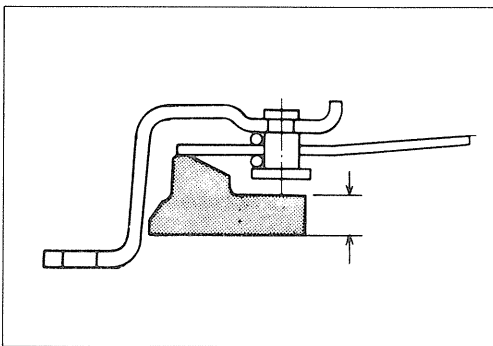
Install the driven plate on the top gear shaft splines and check the amount of wear at the circumference of the driven plate.

		mm(in.)
Standard		Limit
0.5 (0.020)		1.0 (0.039)



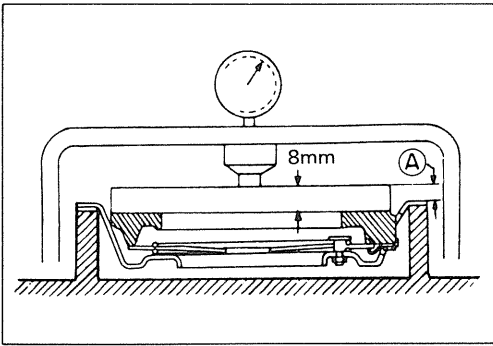
Pressure plate assembly

Check the cover for cracks and distortion, and the diaphragm spring for heat distortion, loosened rivets. Check the wire ring for wear.



Pressure plate thickness

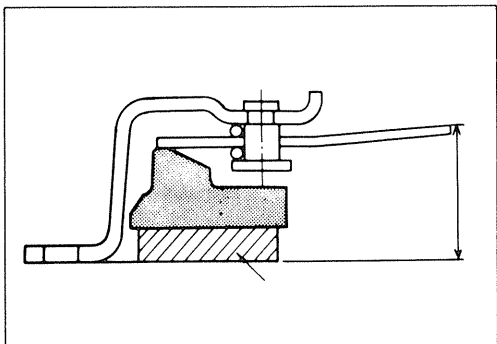
Standard	mm(in.)	
		13 (0.51)



Measurement of damping force

Compress a new driven plate or 8 mm (0.315 in.) plate and read the load when dimension A is 0. If the reading is less than the limit, replace the spring.
kg(lbs.)

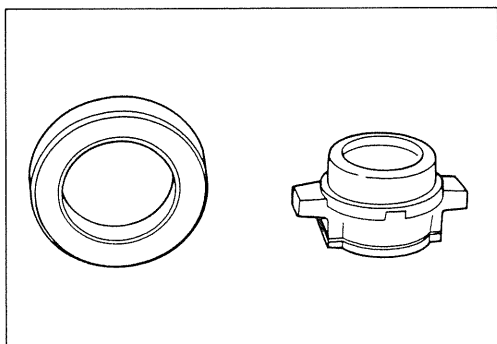
Models	Clamping force	
	Standard	Limit
4x4 & 4x2 with G161Z/C190 4 x 2 with C223 (Payload 1t)	330 (727.53)	297 (654.78)
4x4 with C223 4x2 with C223 (Payload 0.5t)	380 (837.76)	350 (771.61)
4x4 & 4x2 with 4ZD1	486 (1,071.44)	437 (963.41)



Height of diaphragm spring fingers

Compress the diaphragm spring with 7.8 mm (0.307 in.) a spacer positioned over the pressure plate. Measure the height of the fingers at their tip ends when the spring is compressed.

Standard mm(in.)	4ZD1	33.7—35.7 (1.33—1.40)
	Others	32—34 (1.26—1.34)

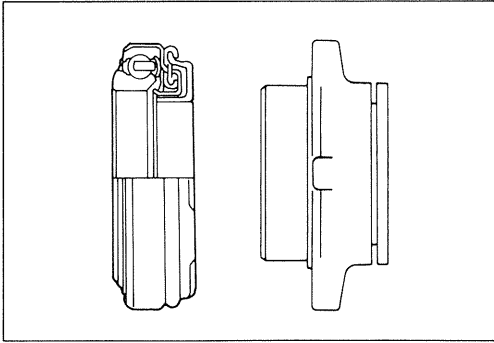


Shift collar — bearing replacement

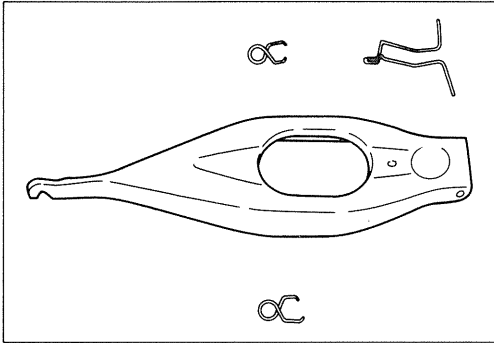
Visually check the parts for wear or other abnormal conditions prior to disassembly. When clutch operation is accompanied by abnormal noise or binding and replacement is necessary, remove the unit using special tools.

- Puller : 5-8840-0013-0
(J-22888)
- Adapter : 5-8840-0124-0
(J-2241-11)

07A-8 CLUTCH



Install the parts as illustrated after applying wheel bearing grease or multi-purpose type grease (NIGI No. 2 or No. 3).

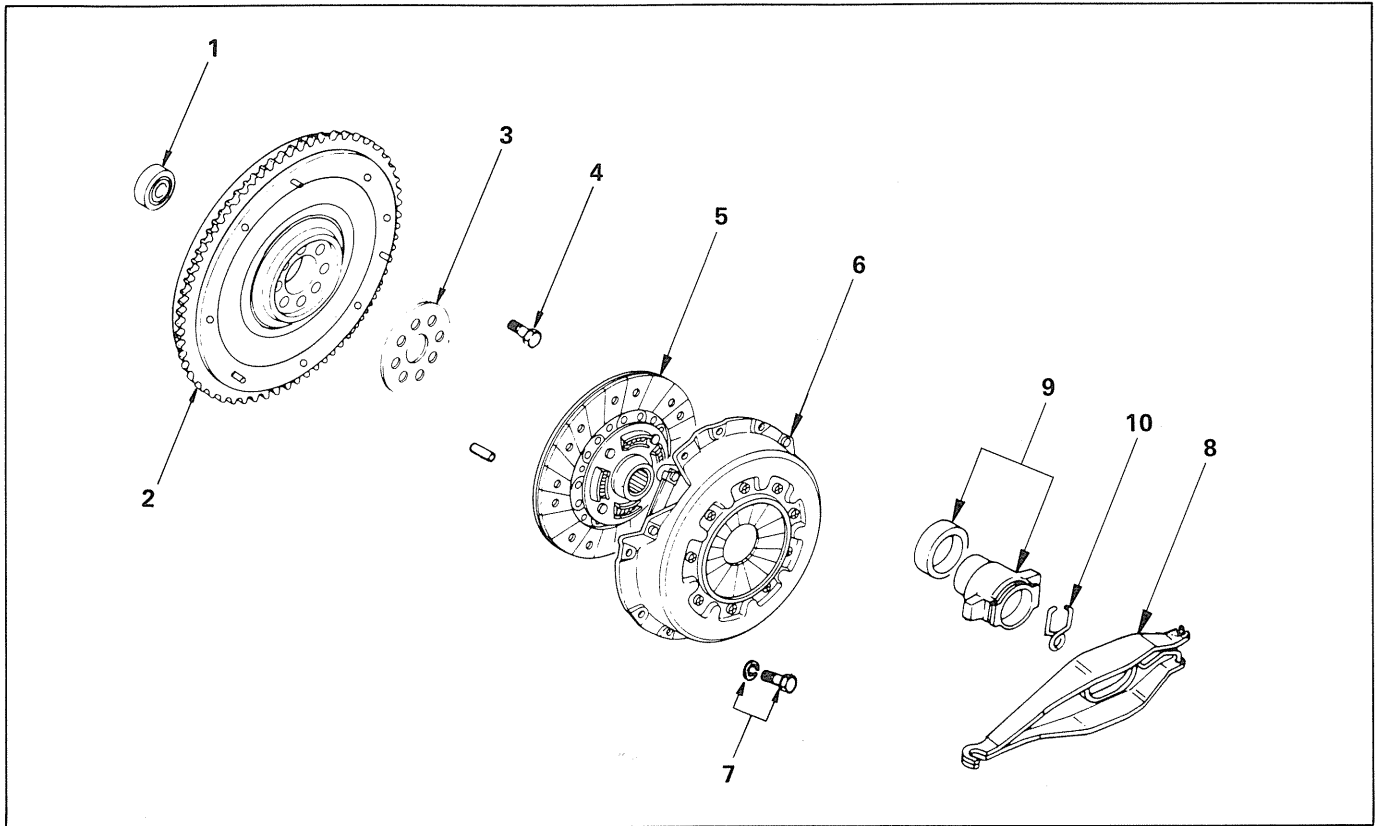


Shift fork

Replace the clutch fork when a considerable amount of wear or damage is found on the faces in contact with the shift block and pivot.

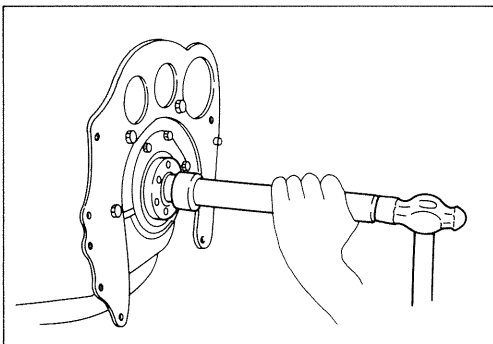


REASSEMBLY



Reassembly steps

- | | |
|-------------------------------------|--------------------------------------|
| ▲ 1. Bearing ; ball, crankshaft | 6. Plate assembly ; clutch, pressure |
| 2. Flywheel assembly | ▲ 7. Bolts |
| 3. Washer ; flywheel | ▲ 8. Fork assembly ; clutch shift |
| ▲ 4. Bolts ; flywheel fixing | 9. Collar ; shift, with bearing |
| ▲ 5. Disc assembly ; clutch, driven | 10. Spring |



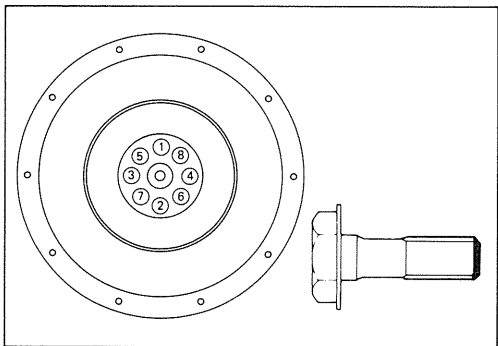
Important operations

1. Bearing ; ball, crankshaft

Clean and lubricate with wheel bearing grease or multi-purpose type grease (NLGI No. 2 or 3)

Installer : 5-8840-0125-0
(J-26516-A)

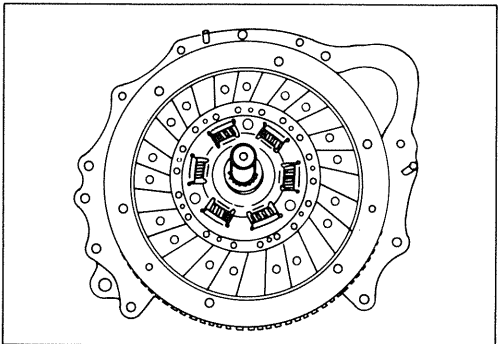
Grip : 5-8840-0007-0
(J-8092)



4. Bolt ; flywheel fixing

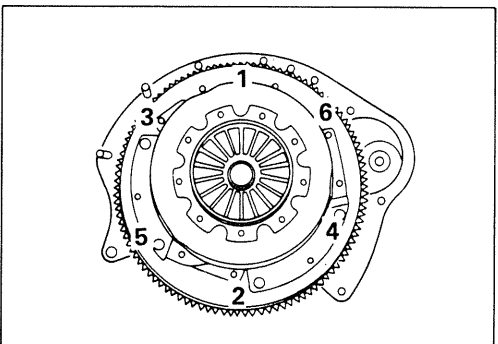
Torque	kg·(ft.lbs.)	5.5—6.5 (40—47)
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Apply locktite to the first one thread.



5. Disc assembly ; clutch, driven

Aligner : 5-8525-3001-0
(J-24547)



7. Bolt

Tighten the bolts holding the pressure plate assembly in the sequence specified.

Torque	kg·(ft.lbs.)	1.6—2.0 (12—14)
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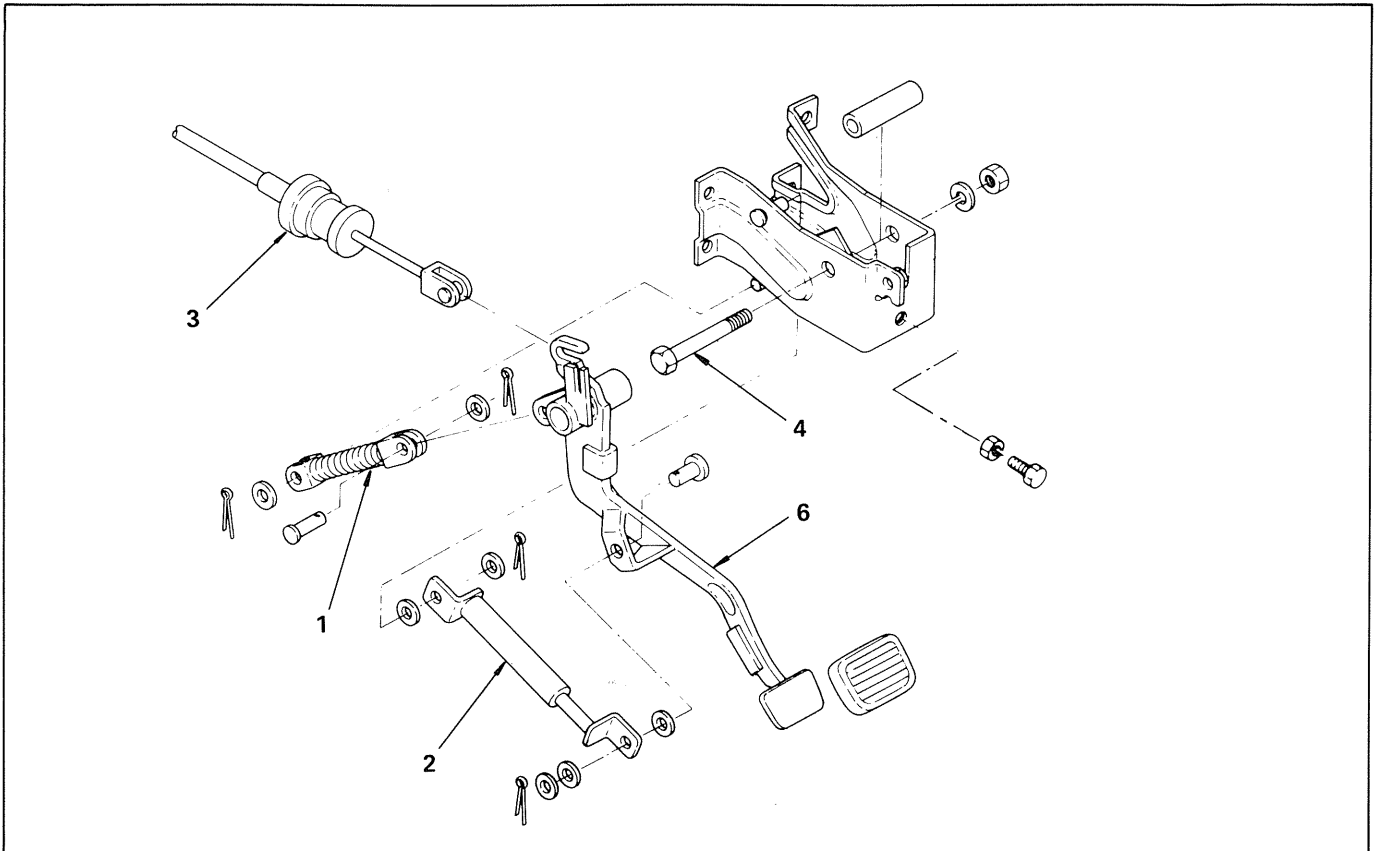
8. Fork assembly ; clutch shift

Lubricate with wheel bearing grease or multi-purpose type grease (NLGI No. 2 or 3).

CLUTCH CONTROL



DISASSEMBLY



Disassembly steps

- | | |
|------------------|------------------------|
| 1. Assist spring | 4. Bolt ; clutch pedal |
| 2. Clutch damper | 5. Clutch pedal |
| 3. Clutch cable | |



INSPECTION AND REPAIR

Make necessary adjustments, repairs, and part replacements if wear, damage, or other problems are discovered during inspection.



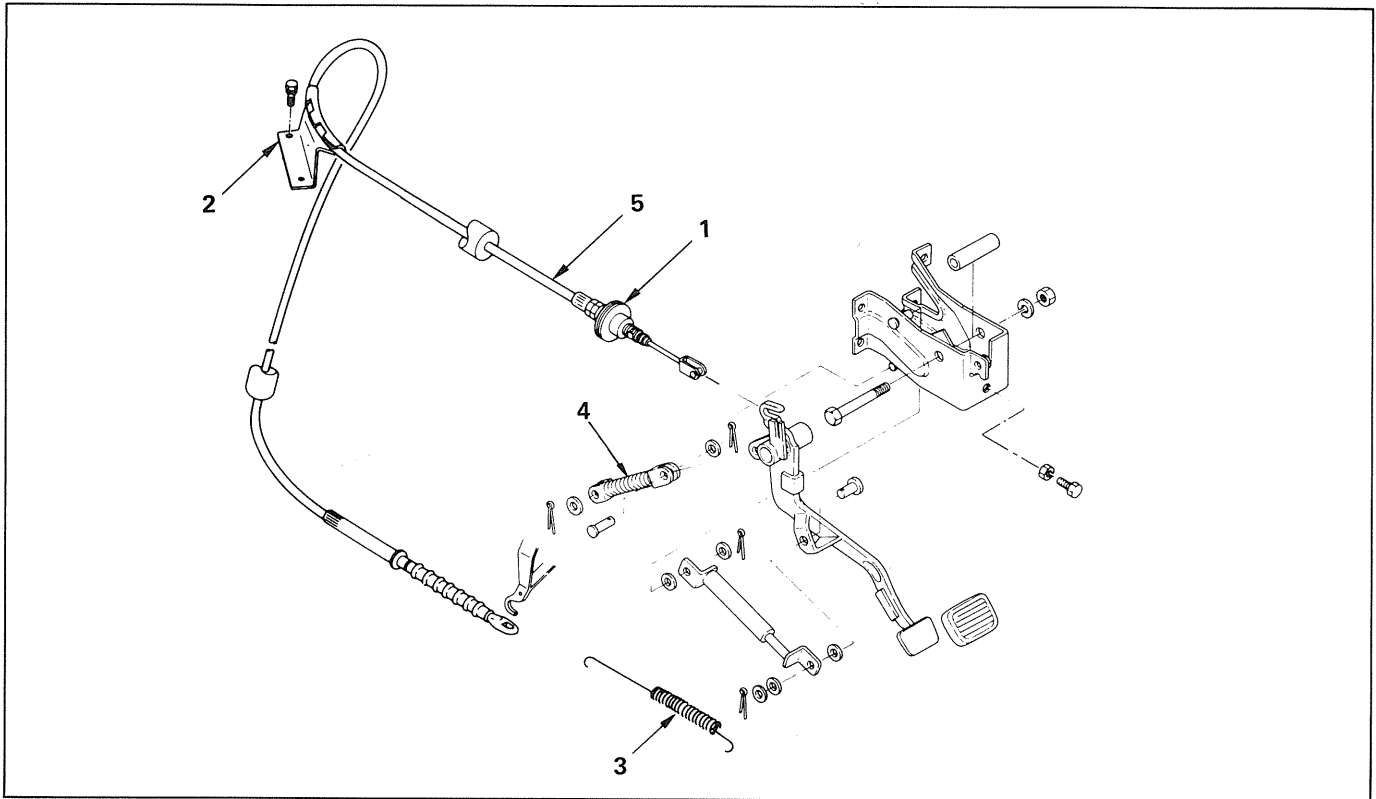
REASSEMBLY

To assemble, follow the disassembly procedures in reverse order.

CLUTCH CABLE



REMOVAL AND INSTALLATION



Removal steps

1. Clutch cable lock and adjusting nuts
2. Clutch cable clip
3. Return spring from shift fork end
4. Damper from clutch pedal
5. Clutch control cable

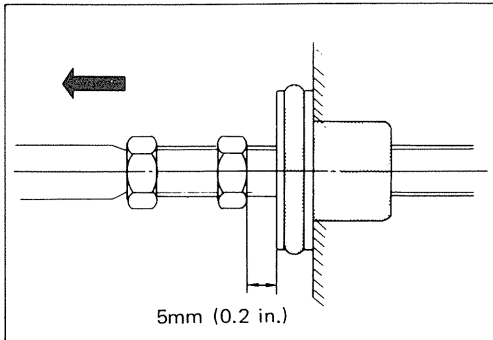
Installation steps

5. Clutch control cable
4. Damper from clutch pedal
3. Return spring from shift fork end
2. Clutch cable clip
1. Clutch cable lock and adjusting nuts



INSPECTION AND REPAIR

Make necessary adjustments, repairs, and part replacements if wear, damage, or other problems are discovered during inspection.



Adjustment

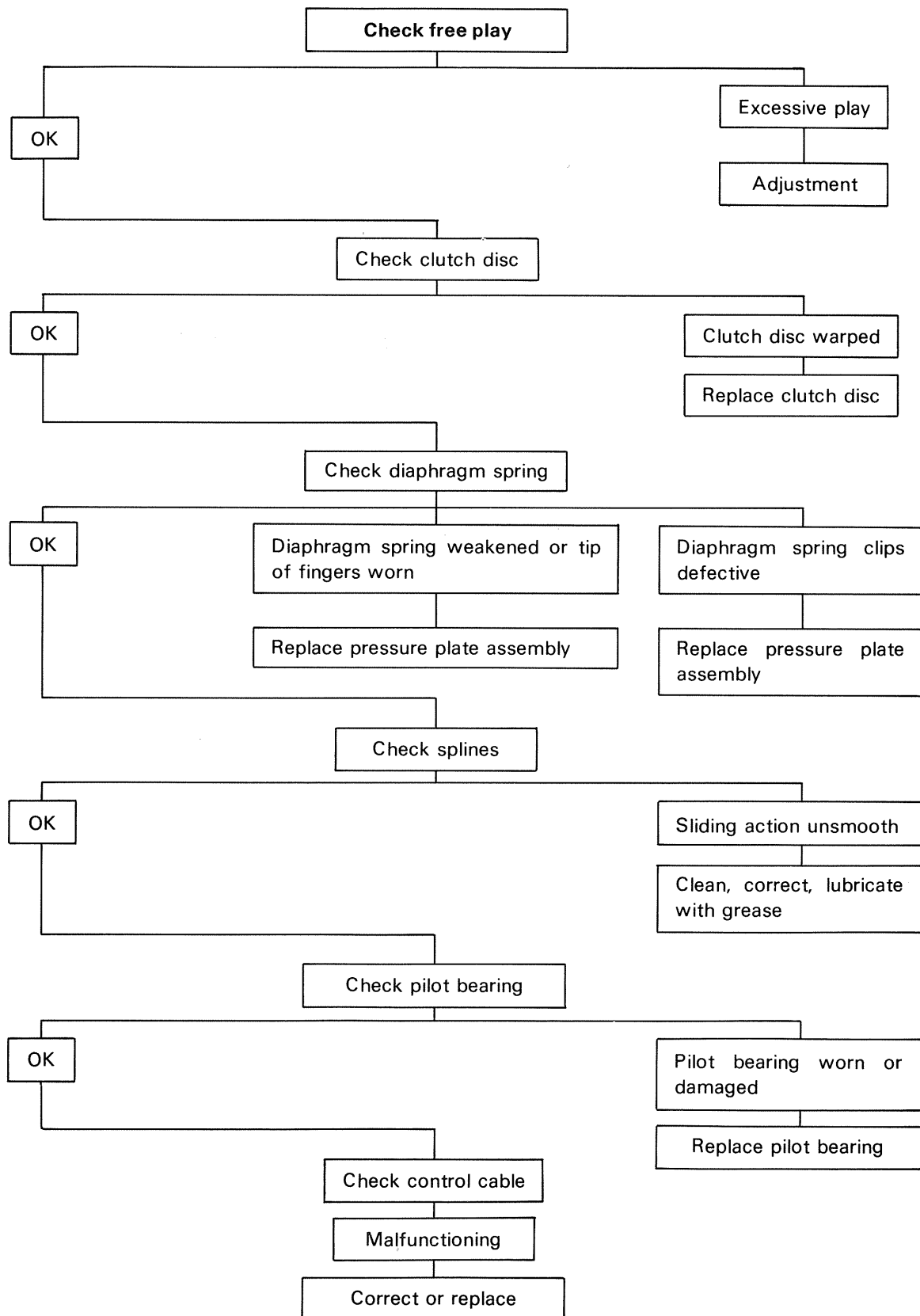
Clutch pedal height mm(in.)		206—216 (8.12—8.51)
Play	mm(in.)	5 (0.2)

Adjustment of clutch cable

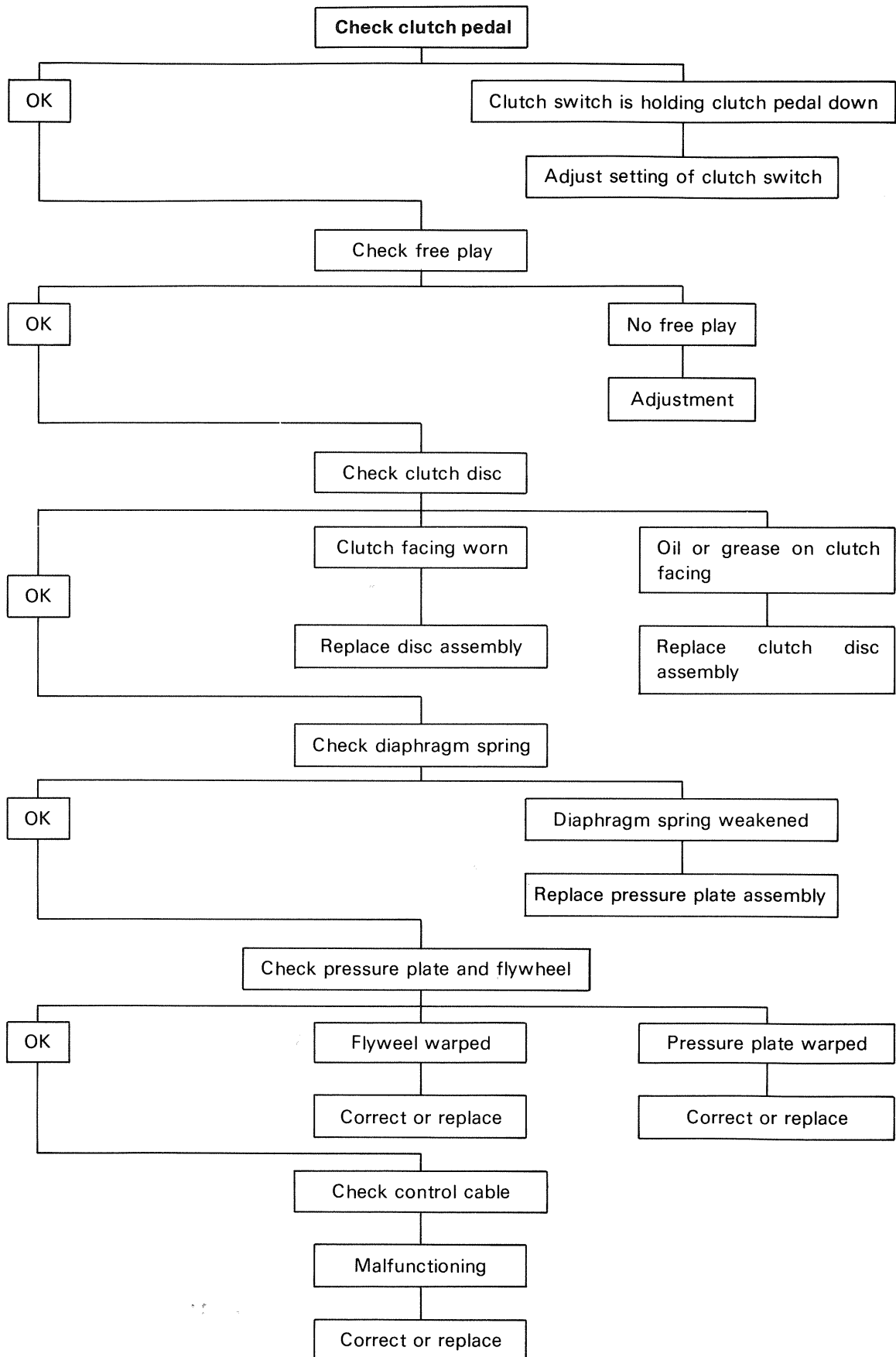
1. Pull the outer cable all the way forward and turn in the adjusting nut until the washer damper rubber is brought into contact with the dashboard.
2. Depress and release the clutch pedal repeatedly.
3. Pull the outer cable forward again and fully tighten adjusting the nut, and then back off to provide play of 5 mm (0.2 in.).
4. Release the outer cable and fully tighten the lock nut.

TROUBLE SHOOTING

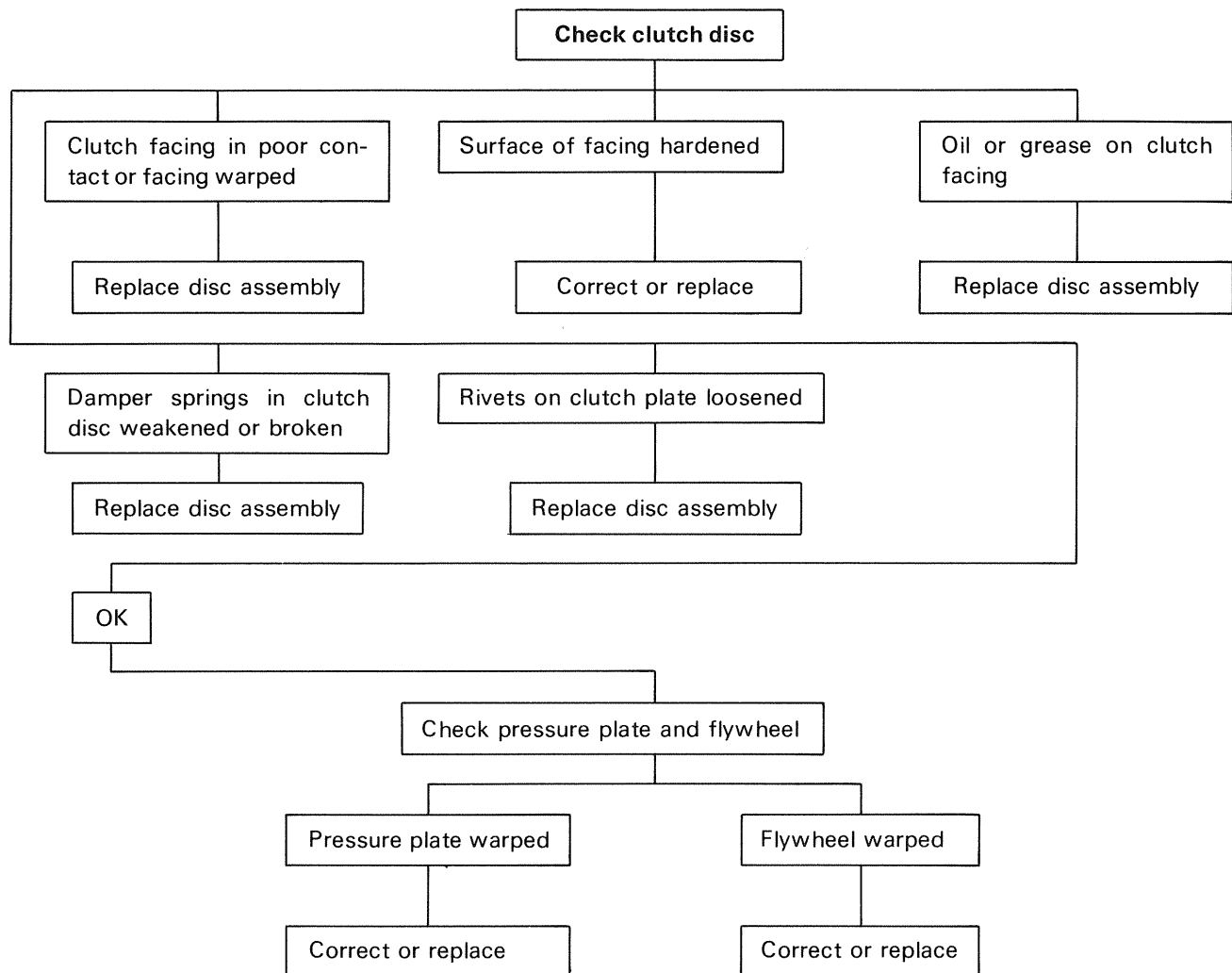
CLUTCH DRAGGING (GEARSHIFTING IS ACCOMPANIED BY GEAR GRATING NOISE)



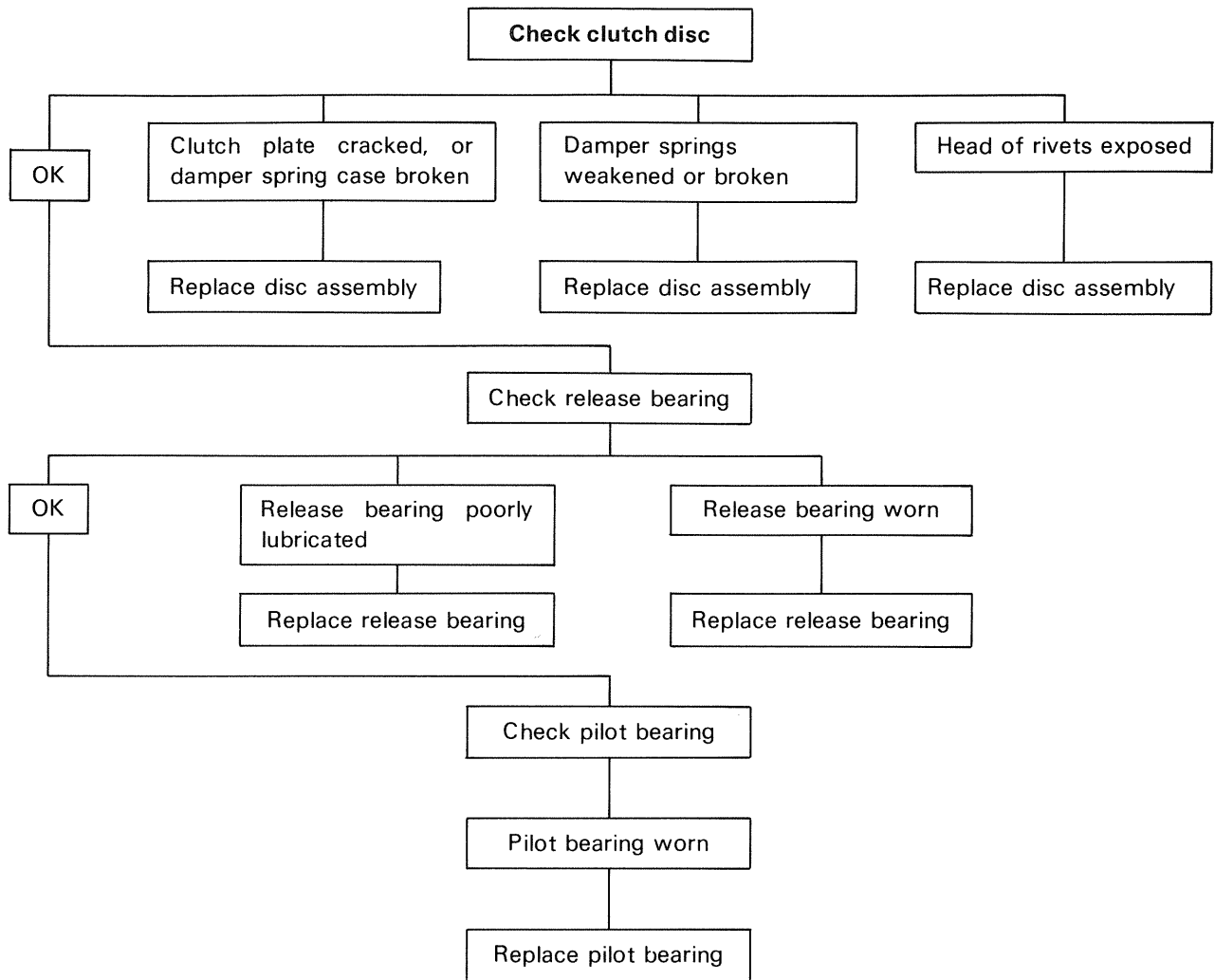
CLUTCH SLIPPAGE



CLUTCH CHATTER (BODY VIBRATES WHEN CLUTCH IS PARTIALLY ENGAGED FOR STARTING)



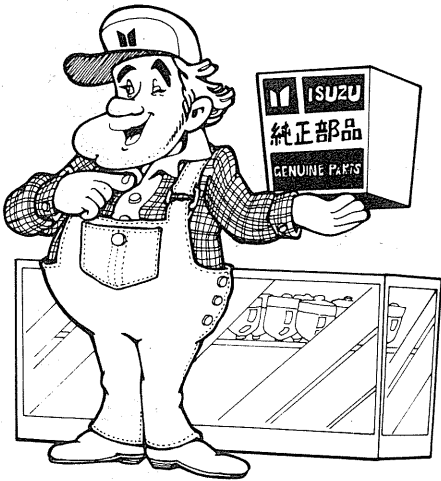
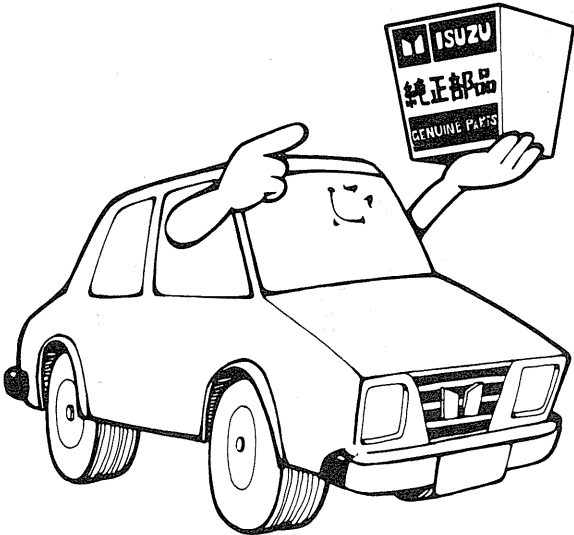
CLUTCH NOISY (DETERMINE CAUSE OF NOISE BY CHECKING WHETHER OR NOT CLUTCH MAKES NOISE WHEN DISENGAGED OR ENGAGED)



MEMO

Series of horizontal dotted lines for writing.

"QUALITY PARTS YOU CAN TRUST"



KBCLU-WE-65G

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