

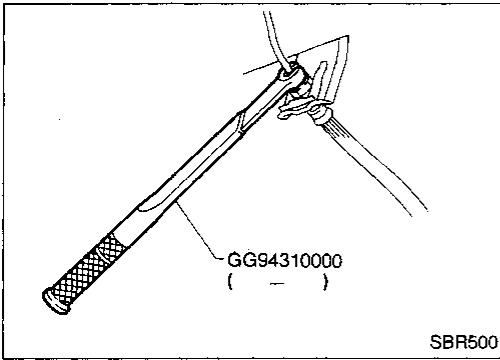
SECTION **CL**

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PRECAUTIONS AND PREPARATION



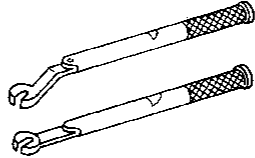
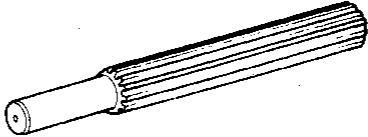
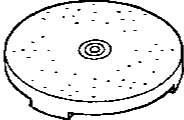
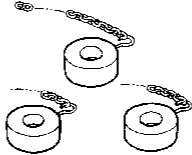
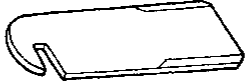
Precautions

- Recommended fluid is brake fluid "DOT 3".
- Never reuse drained brake fluid.
- Be careful not to splash brake fluid on painted areas.
- When removing and installing clutch piping, use Tool.
- Use new brake fluid to clean or wash all parts of master cylinder, operating cylinder and clutch damper.
- Never use mineral oils such as gasoline or kerosene. It will ruin the rubber parts of the hydraulic system.

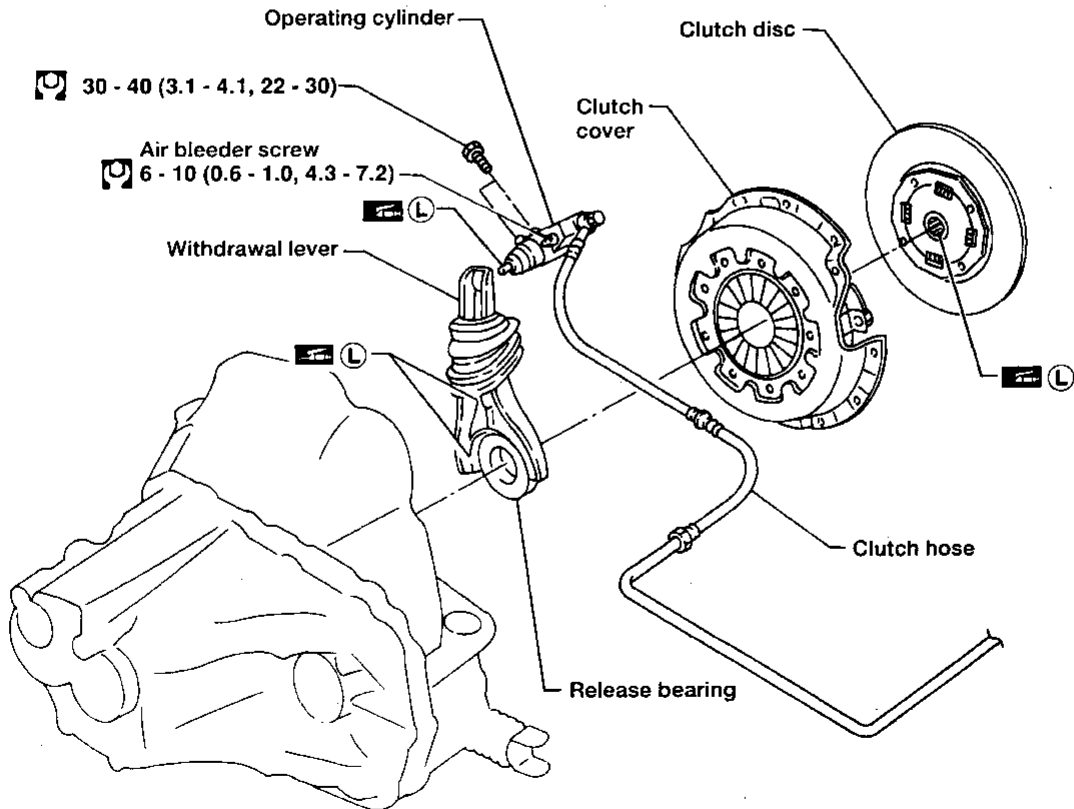
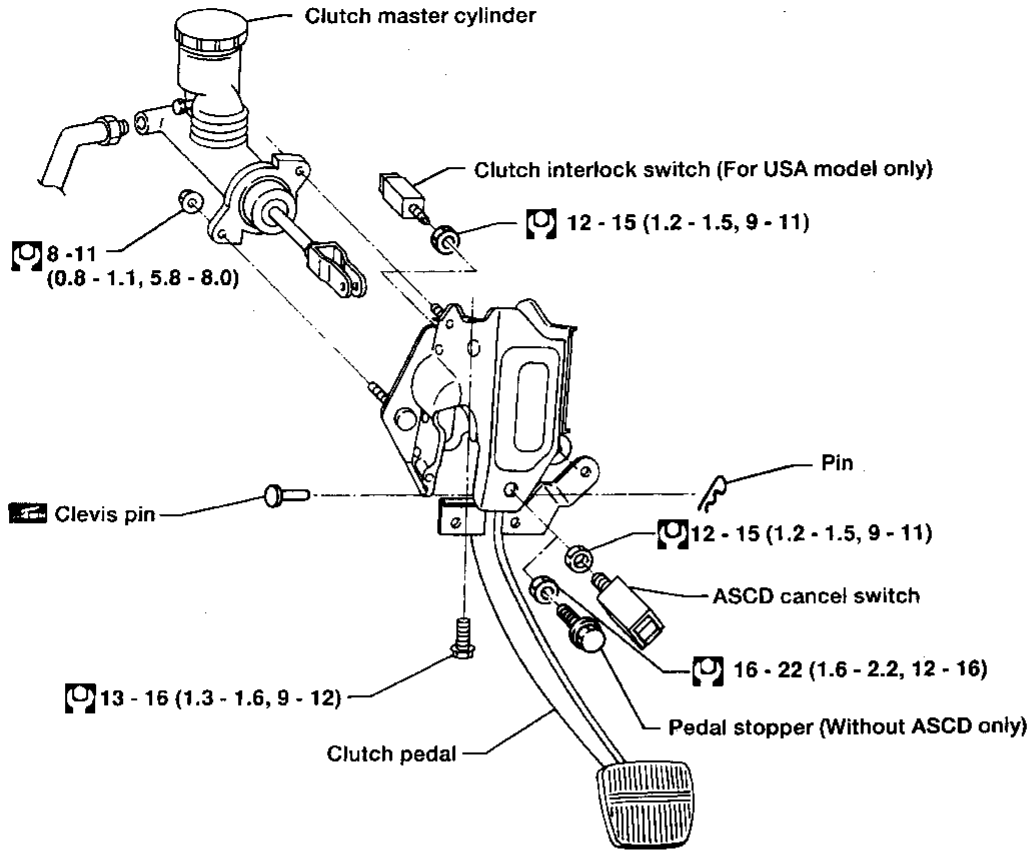
WARNING:

After cleaning clutch disc, wipe it with a dust collector. Do not use compressed air.

Special Service Tools

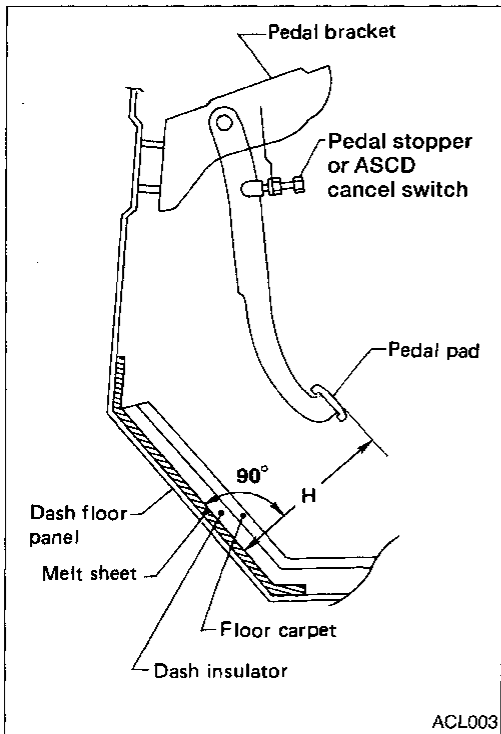
Tool number (Kent-Moore No.) Tool name	Description	
GG94310000 (-) Flare nut torque wrench	Removing and installing clutch piping	
KV30101000 (J33213) Clutch aligning bar	Installing clutch cover and clutch disc	
ST20050010 (-) Base plate	Inspecting diaphragm spring of clutch cover	
ST20050100 (-) Distance piece	Inspecting diaphragm spring of clutch cover	
ST20050240 (-) Diaphragm spring adjusting wrench	Adjusting unevenness of diaphragm spring of clutch cover	

CLUTCH SYSTEM — Hydraulic Type



L : Apply lithium-based grease including molybdenum disulphide.
 : N·m (kg·m, ft·lb)

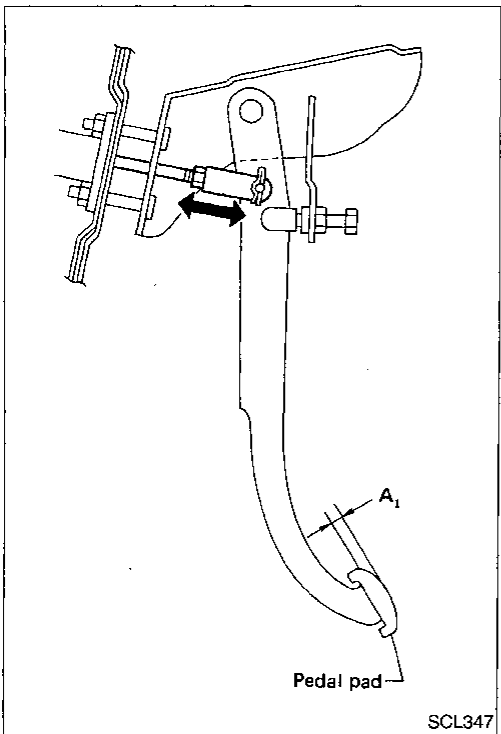
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Adjusting Clutch Pedal

1. Adjust pedal height with pedal stopper or ASCD cancel switch.

Pedal height "H":
165 - 175 mm (6.50 - 6.89 in)



2. Adjust pedal free play with master cylinder push rod. Then tighten lock nut.

Pedal free play "A₁":
1.0 - 3.0 mm (0.039 - 0.118 in)

Pedal free play means the following total, measured at position of pedal pad.

- Play due to clevis pin and clevis pin hole in clutch pedal.

INSPECTION AND ADJUSTMENT

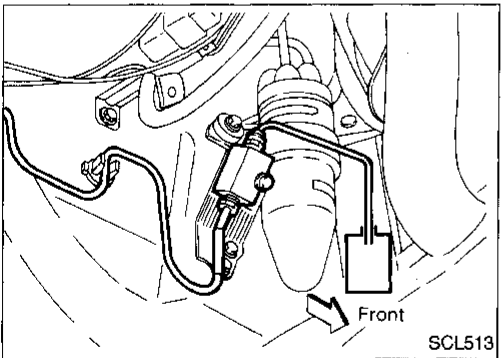
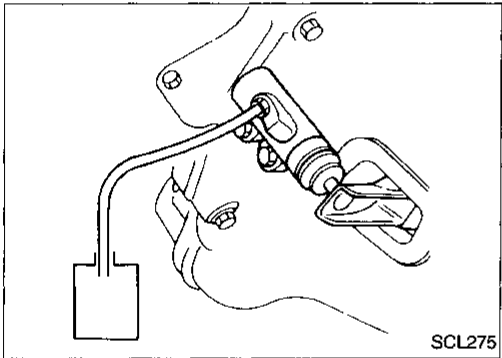
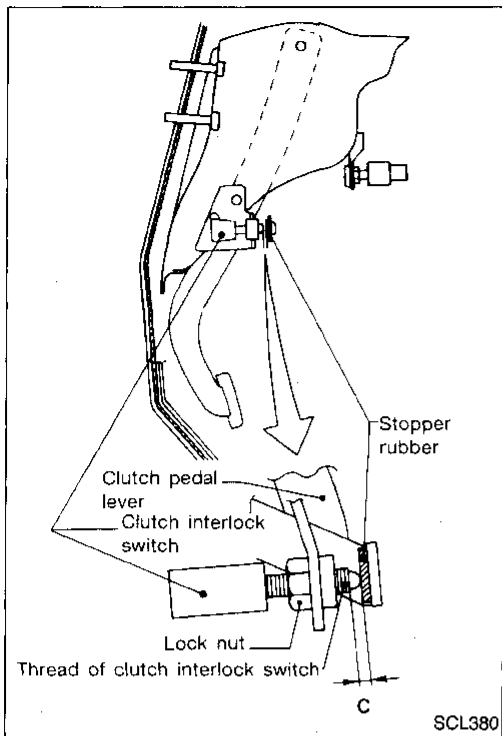
Adjusting Clutch Pedal (Cont'd)

For USA model only

- Adjust clearance "C" between stopper rubber and threaded end of clutch interlock switch while depressing clutch pedal fully.

Clearance C:

0.1 - 1.0 mm (0.004 - 0.039 in)



Bleeding Procedure

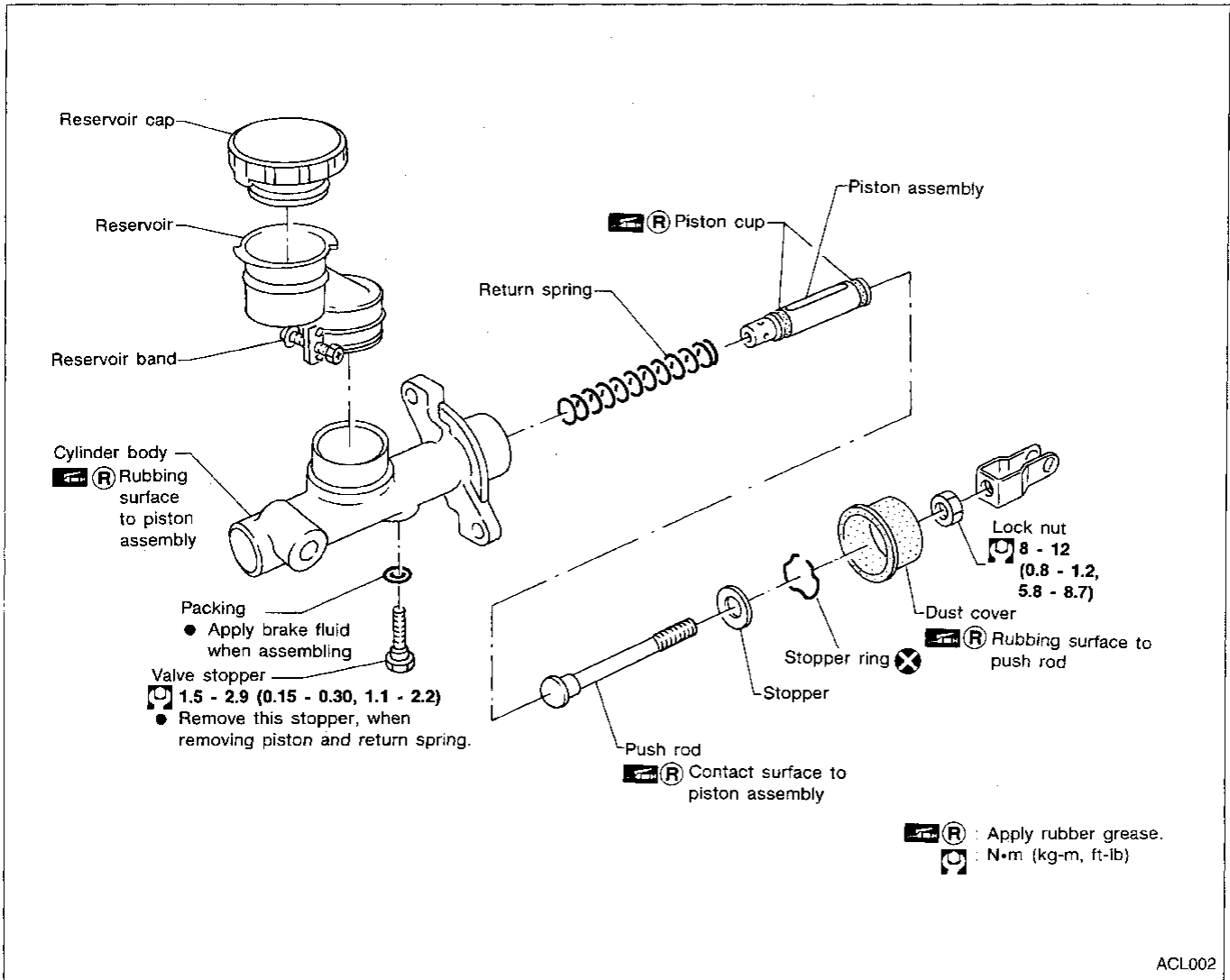
Bleed air according to the following procedure.

- Carefully monitor fluid level at master cylinder during bleeding operation.

- Top up reservoir with recommended brake fluid.
- Connect a transparent vinyl tube to air bleeder valve of clutch operating cylinder.
- Fully depress clutch pedal several times.
- With clutch pedal depressed, open bleeder valve to release air.
- Close bleeder valve.
- Repeat steps 3 through 5 above until clear brake fluid comes out of air bleeder valve.

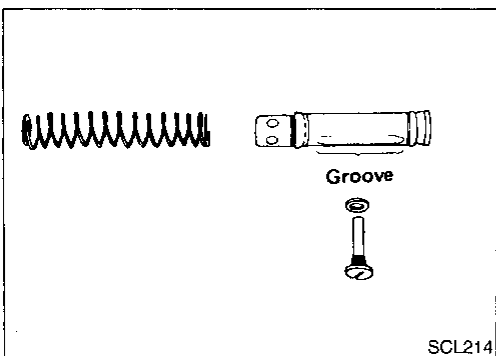
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Clutch Master Cylinder



DISASSEMBLY AND ASSEMBLY

- Push piston into cylinder body with screwdriver when removing and installing valve stopper.



- Align piston assembly groove and valve stopper when installing valve stopper.
- Check direction of piston cups.

HYDRAULIC CLUTCH CONTROL

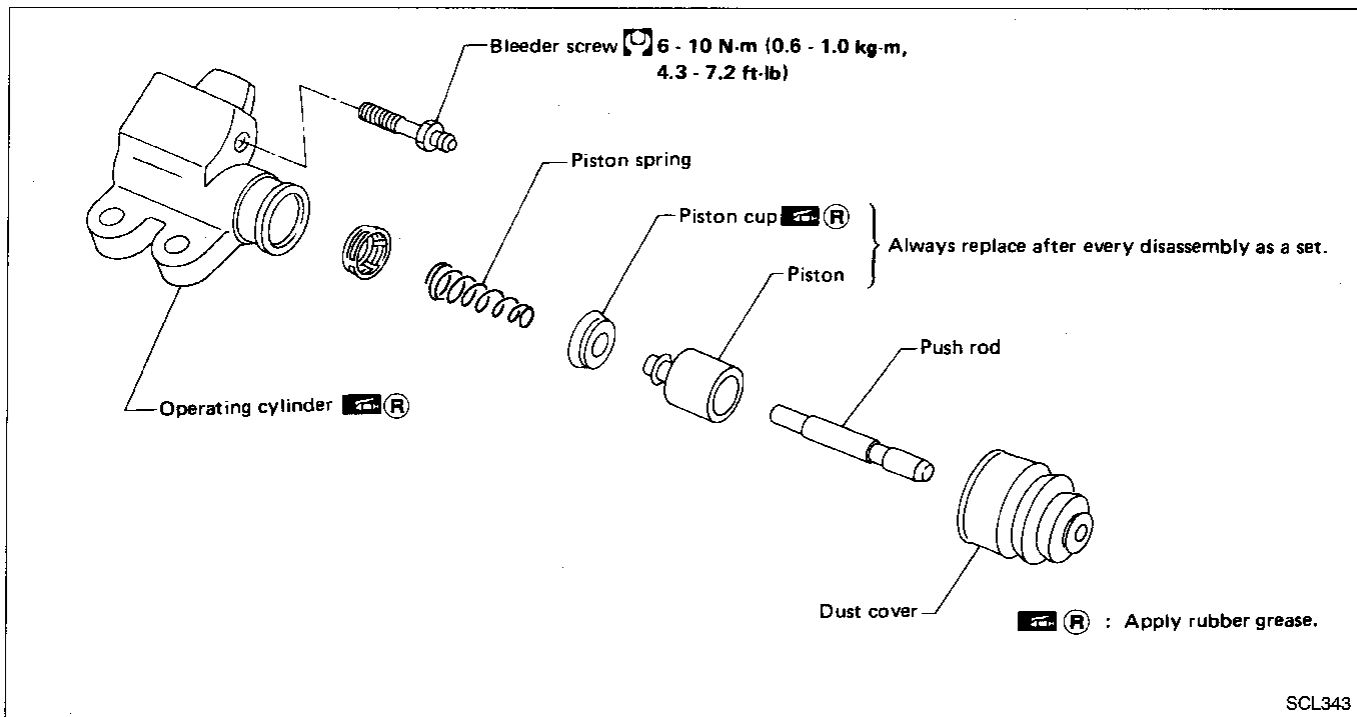
Clutch Master Cylinder (Cont'd)

INSPECTION

Check the following items, and replace if necessary.

- Rubbing surface of cylinder and piston, for uneven wear, rust or damage
- Piston with piston cup, for wear or damage
- Return spring, for wear or damage
- Dust cover, for cracks, deformation or damage
- Reservoir, for deformation or damage

Operating Cylinder

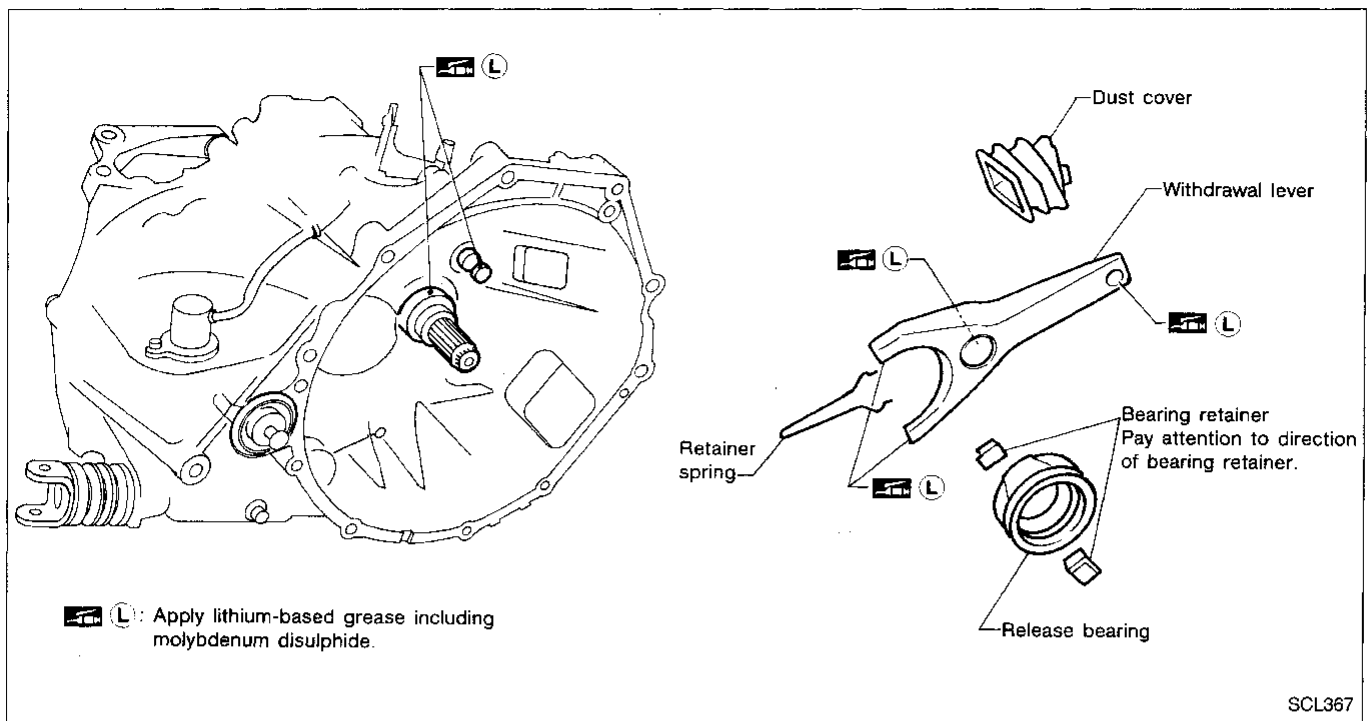


INSPECTION

Check the following items, and replace if necessary.

- Rubbing surface of cylinder and piston, for uneven wear, rust or damage
- Piston with piston cup, for wear or damage
- Piston spring, for wear or damage
- Dust cover, for cracks, deformation or damage

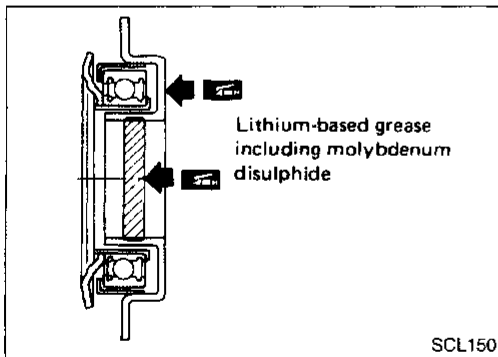
CLUTCH RELEASE MECHANISM



INSPECTION

Check the following items, and replace if necessary.

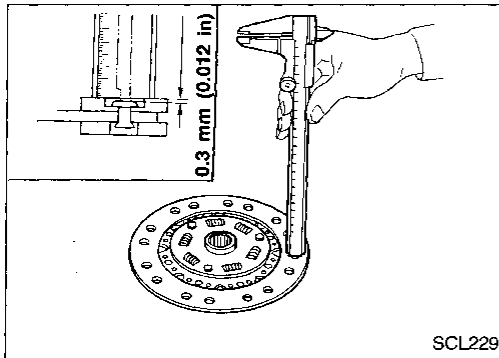
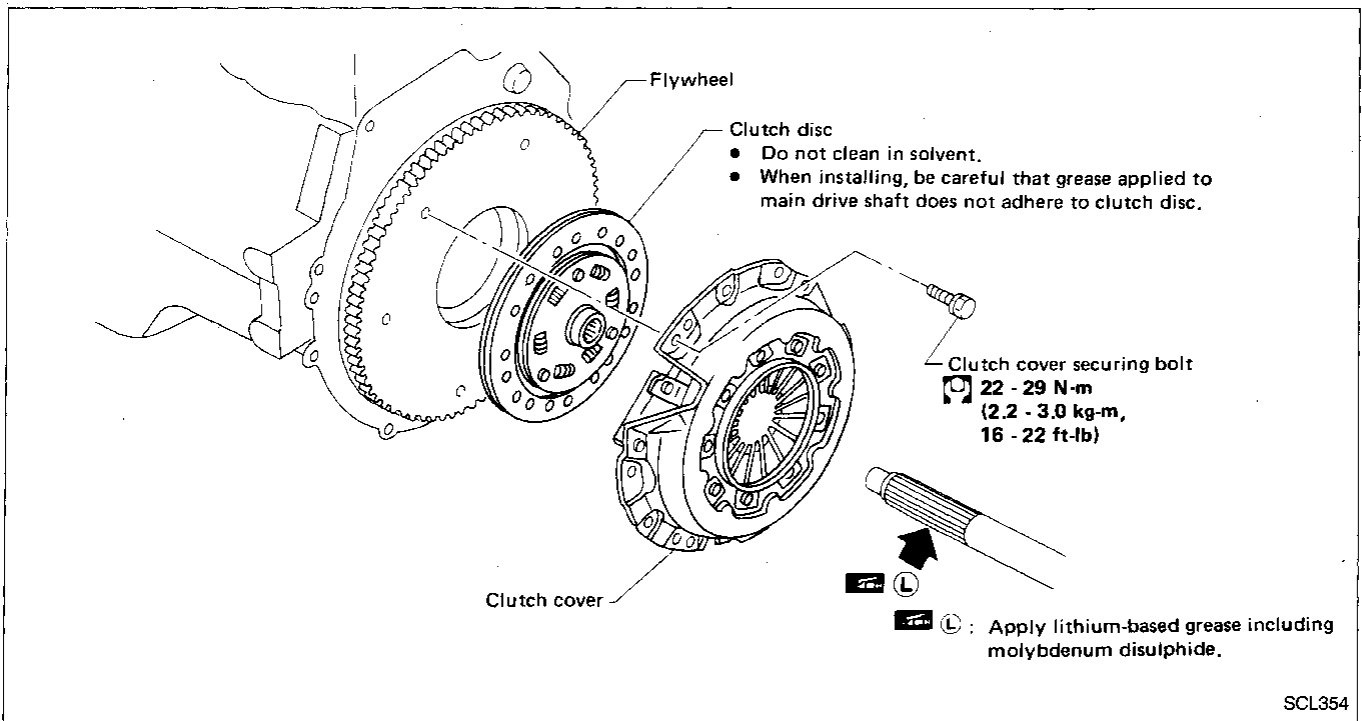
- Release bearing, to see that it rolls freely and is free from noise, cracks, pitting or wear
- Release sleeve and withdrawal lever rubbing surface, for wear, rust or damage



LUBRICATION

- Apply recommended grease to contact surface and rubbing surface.
- **Too much lubricant might damage clutch disc facing.**

CLUTCH DISC AND CLUTCH COVER



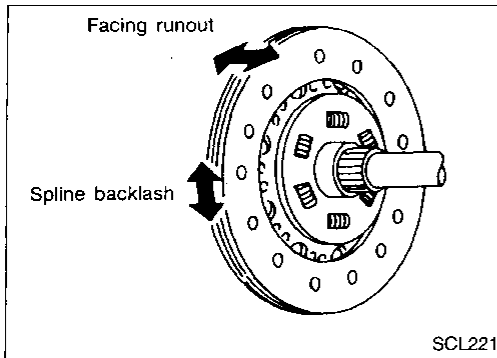
Clutch Disc

INSPECTION

Check the following items, and replace if necessary.

- Clutch disc, for burns, discoloration, oil or grease leakage
- Clutch disc, for wear of facing

Wear limit of facing surface to rivet head:
0.3 mm (0.012 in)



- Check clutch disc for backlash of spline and runout of facing.
Maximum backlash of spline (at outer edge of disc):
0.9 mm (0.035 in)

Runout limit:

1.0 mm (0.039 in)

Distance of runout check point (from hub center)

107.5 mm (4.23 in)

INSTALLATION

- Apply recommended grease to contact surface of spline portion.
- Too much lubricant might damage clutch facing.

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CLUTCH DISC AND CLUTCH COVER

Clutch Cover and Flywheel

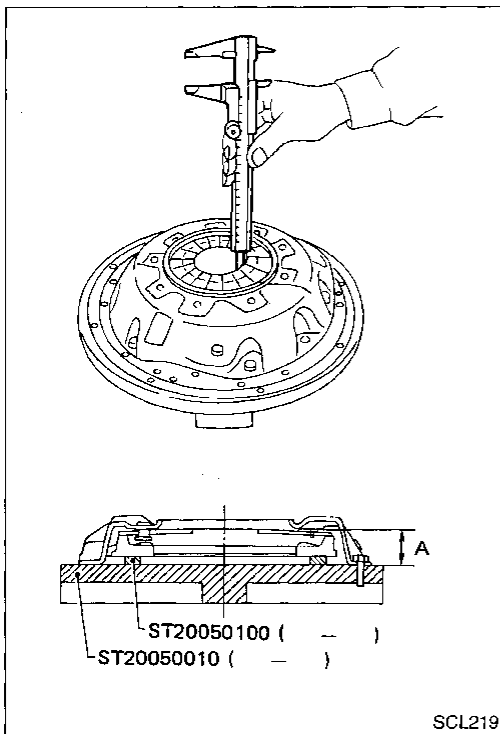
INSPECTION AND ADJUSTMENT

- Set Tool and check height and unevenness of diaphragm spring.
- Set 0.4 mm (0.016 in) feeler gauges on distance pieces (ST20050100) when checking diaphragm spring height.

Diaphragm spring height "A":

33.0 - 35.0 mm (1.299 - 1.378 in)

- Check thrust rings for wear or damage by shaking cover assembly and listening for chattering noise, or lightly hammering on rivets for a slightly cracked noise. Replace clutch cover assembly if necessary.
- Check pressure plate and clutch disc contact surface for slight burns or discoloration. Clean pressure plate with emery paper.
- Check pressure plate and clutch disc contact surface for deformation or damage. Replace if necessary.

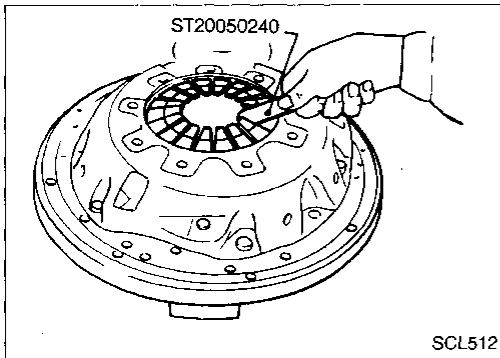


SCL219

- Adjust unevenness of diaphragm spring with Tool.

Uneven limit:

0.7 mm (0.028 in)



SCL512

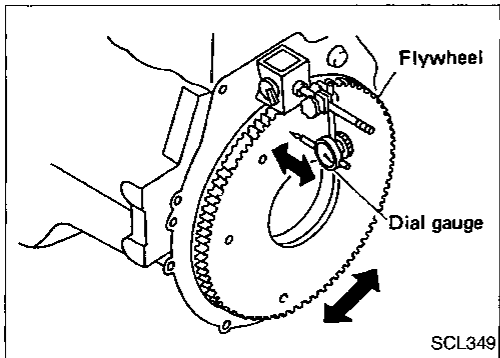
FLYWHEEL INSPECTION

- Check contact surface of flywheel for slight burns or discoloration. Clean flywheel with emery paper.
- Check flywheel runout.

Runout (Total indicator reading):

Flywheel

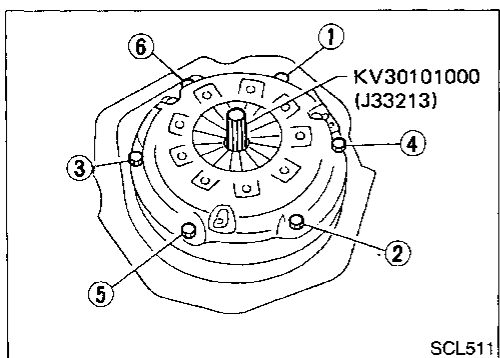
Refer to EM section ("Inspection", "CYLINDER BLOCK").



SCL349

INSTALLATION

- Insert Tool into clutch disc hub when installing clutch cover and disc.
- Tighten bolts in numerical order.
- Be careful not to allow grease to contaminate clutch facing.



SCL511

SERVICE DATA AND SPECIFICATIONS (SDS)

General Specifications

CLUTCH CONTROL SYSTEM

Type of clutch control	Hydraulic
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CLUTCH MASTER CYLINDER

Inner diameter	mm (in)	15.87 (5/8)
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CLUTCH OPERATING CYLINDER

Inner diameter	mm (in)	19.05 (3/4)
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CLUTCH DISC

		Unit: mm (in)
Model	225TBL	
Facing size (Outer dia. x inner dia. x thickness)	225 x 150 x 3.5 (8.86 x 5.91 x 0.138)	
Thickness of disc assembly With load	7.9 - 8.3 (0.311 - 0.327) with 4,904 N (500 kg, 1,103 lb)	

CLUTCH COVER

Model	T225S	
Full-load	N (kg, lb)	4,904 (500, 1,103)

Inspection and Adjustment

CLUTCH PEDAL

		Unit: mm (in)
Pedal height*	165 - 175 (6.50 - 6.89)	
Pedal free play	1.0 - 3.0 (0.039 - 0.118)	
Clearance between pedal stopper rubber and clutch interlock switch threaded end while clutch pedal is fully depressed.	0.1 - 1.0 (0.004 - 0.039)	

*: Measured from surface of melt sheet to pedal pad

CLUTCH DISC

		Unit: mm (in)
Model	225TBL	
Wear limit of facing surface to rivet head	0.3 (0.012)	
Runout limit of facing	1.0 (0.039)	
Distance of runout check point (from the hub center)	107.5 (4.23)	
Maximum backlash of spline (at outer edge disc)	0.9 (0.035)	

CLUTCH COVER

		Unit: mm (in)
Model	C225S	
Diaphragm spring height	33.0 - 35.0 (1.299 - 1.378)	
Uneven limit of diaphragm spring toe height	0.7 (0.028)	