

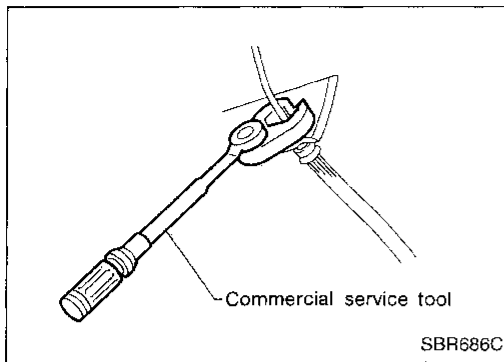
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## SECTION **CL**

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## PRECAUTIONS AND PREPARATION



### Precautions

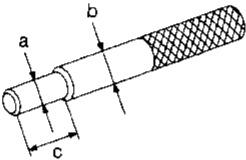
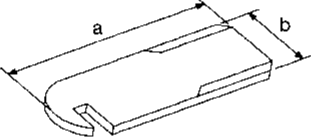
- Recommended fluid is brake fluid “DOT 3”.
- Never reuse drained brake fluid.
- Be careful not to splash brake fluid on painted areas.
- When removing and installing clutch piping, use Tool.
- Use new brake fluid to clean or wash all parts of master cylinder, operating cylinder and clutch damper.
-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

### WARNING:

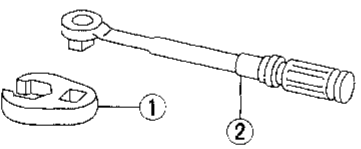
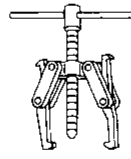
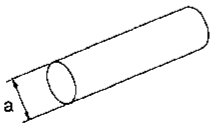
After cleaning the clutch disc, wipe it with a dust collector. Do not use compressed air.

### Special Service Tools

The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here.

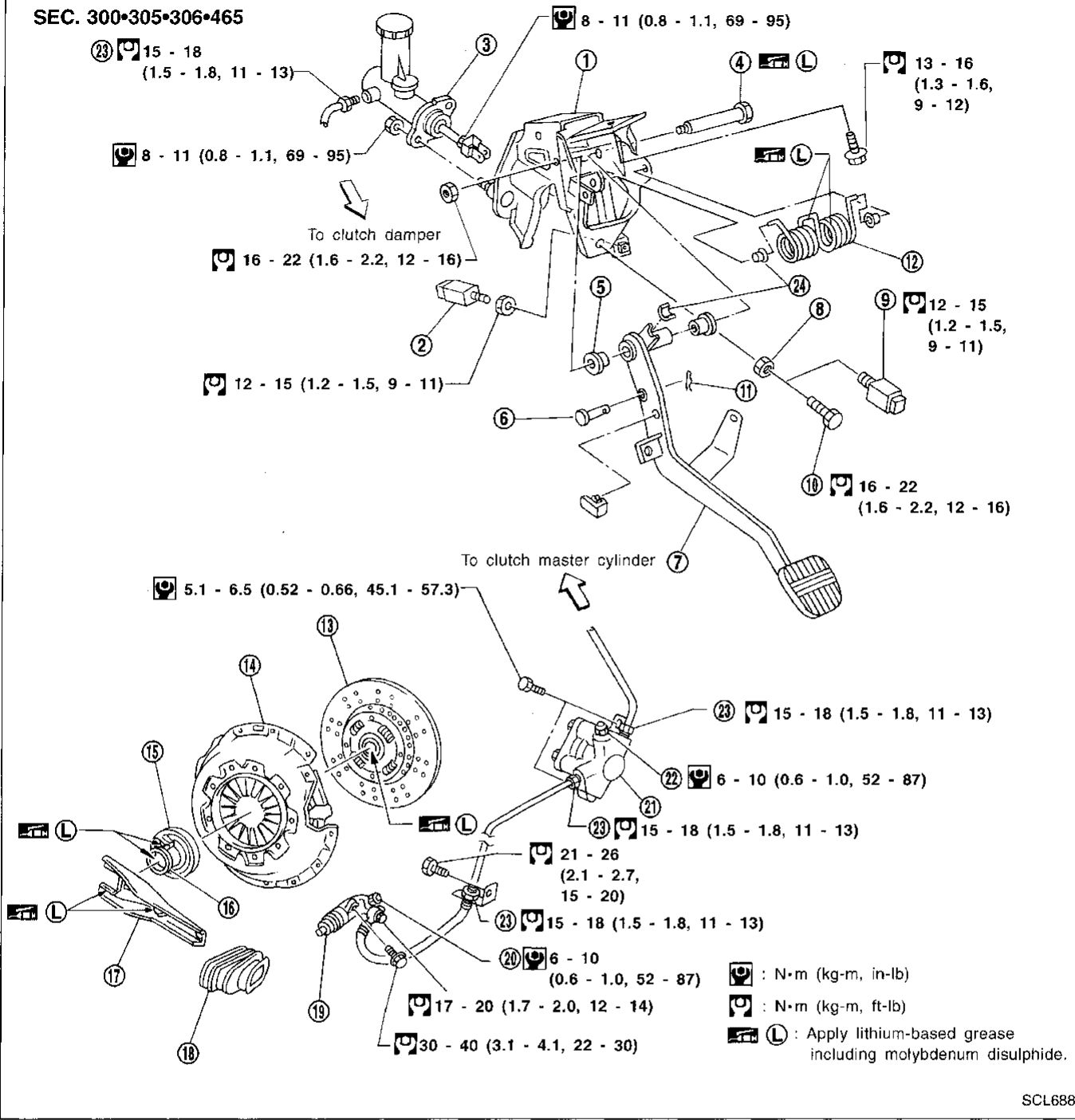
Tool number (Kent-Moore No.) Tool name	Description
ST20630000 (J26366) Clutch aligning bar	 <p>NT405</p> <p>Installing clutch cover and clutch disc</p> <p>a: 15.9 mm (0.626 in) dia. b: 22.8 mm (0.898 in) dia. c: 55 mm (2.17 in)</p>
ST20050240 ( — ) Diaphragm spring adjusting wrench	 <p>NT404</p> <p>Adjusting unevenness of diaphragm spring of clutch cover</p> <p>a: 150 mm (5.91 in) b: 25 mm (0.98 in)</p>

### Commercial Service Tools

Tool name	Description
① Flare nut crowfoot ② Torque wrench	 <p>Removing and installing clutch piping</p> <p>a: 10 mm (0.39 in)</p>
Bearing puller	 <p>NT077</p> <p>Removing release bearing</p>
Bearing drift	 <p>NT063</p> <p>Installing release bearing</p> <p>a: 50 mm (1.97 in) dia.</p>

# CLUTCH SYSTEM — Hydraulic Type

SEC. 300•305•306•465



- |                           |                          |                      |
|---------------------------|--------------------------|----------------------|
| ① Clutch pedal bracket    | ⑨ ASCD cancel switch     | ⑰ Withdrawal lever   |
| ② Clutch interlock switch | ⑩ Pedal stopper          | ⑱ Dust boot          |
| ③ Clutch master cylinder  | ⑪ Snap pin               | ⑲ Operating cylinder |
| ④ Fulcrum pin             | ⑫ Assist spring          | ⑳ Air bleeder        |
| ⑤ Bushing                 | ⑬ Clutch disc            | ㉑ Clutch damper      |
| ⑥ Clevis pin              | ⑭ Clutch cover           | ㉒ Air bleeder        |
| ⑦ Clutch pedal            | ⑮ Release bearing        | ㉓ Flare nut          |
| ⑧ Lock nut                | ⑯ Release bearing sleeve | ㉔ Bushing            |

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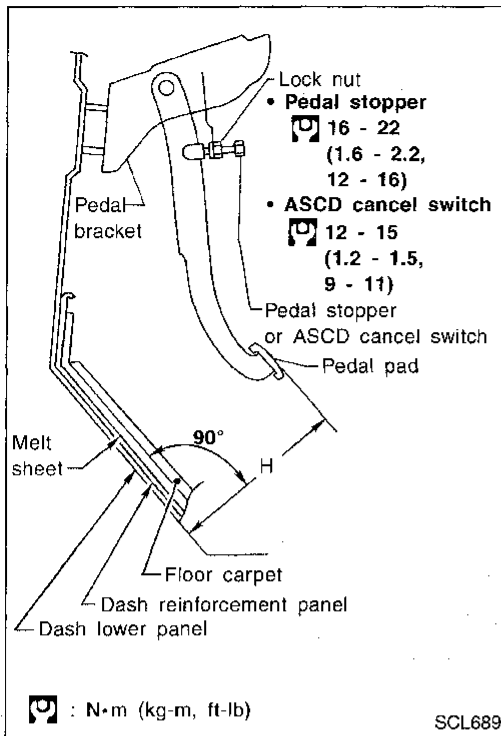
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## Adjusting Clutch Pedal

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

**Pedal height "H":**

**181 - 191 mm (7.13 - 7.52 in)**



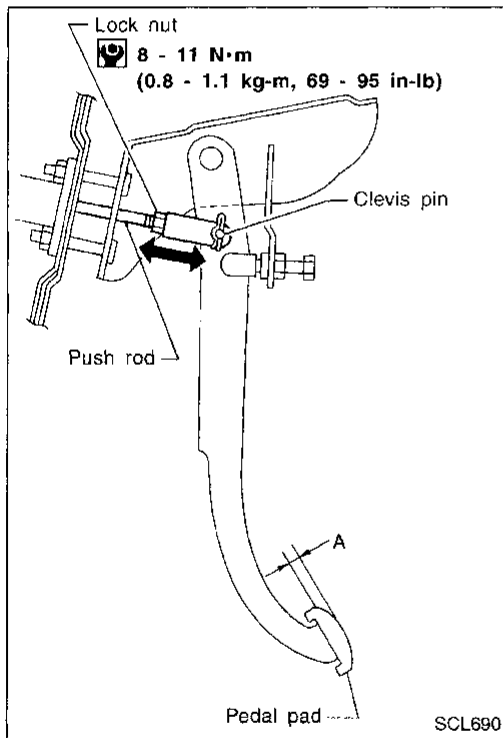
2. Adjust pedal free play with master cylinder push rod. Then tighten lock nut.

**Pedal free play (measured at pedal pad) "A":**

**9 - 16 mm (0.35 - 0.63 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.
3. Make sure that clevis pin can rotate smoothly.  
If not, readjust pedal free play with master cylinder push rod.



# INSPECTION AND ADJUSTMENT

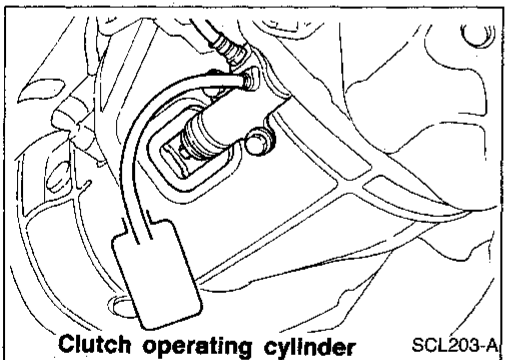
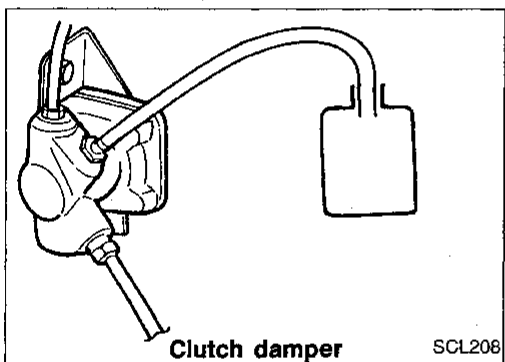
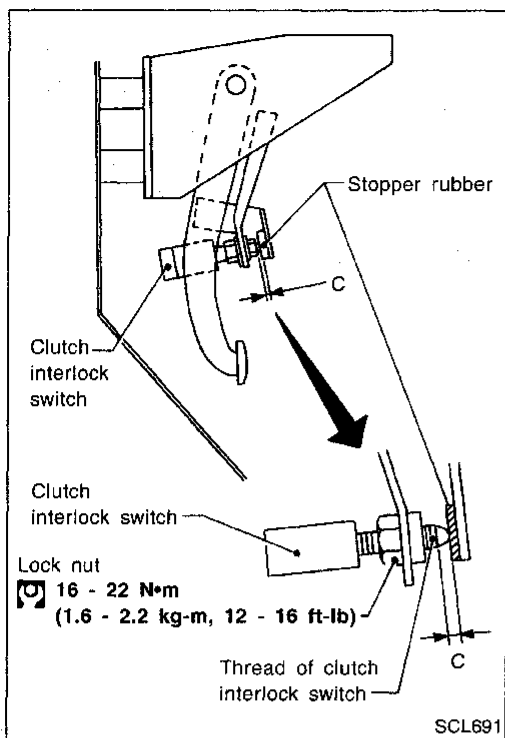
## Adjusting Clutch Pedal (Cont'd)

### — MODELS WITH CLUTCH INTERLOCK SYSTEM —

4. Adjust clearance "C" shown in the figure while fully depressing clutch pedal.

Clearance C:

0.3 - 1.0 mm (0.012 - 0.039 in)



## Bleeding Procedure

1. Bleed air from clutch operating cylinder according to the following procedure.
  - **Carefully monitor fluid level at master cylinder during bleeding operation.**
  - a. Top up reservoir with recommended brake fluid.
  - b. Connect a transparent vinyl tube to air bleeder valve.
  - c. Fully depress clutch pedal several times.
  - d. With clutch pedal depressed, open bleeder valve to release air.
  - e. Close bleeder valve.
  - f. Repeat steps c through e above until brake fluid flows from air bleeder valve without air bubbles.
2. Bleed air from clutch damper according to the above procedure.
3. Repeat the above bleeding procedure 1 and 2 several times.

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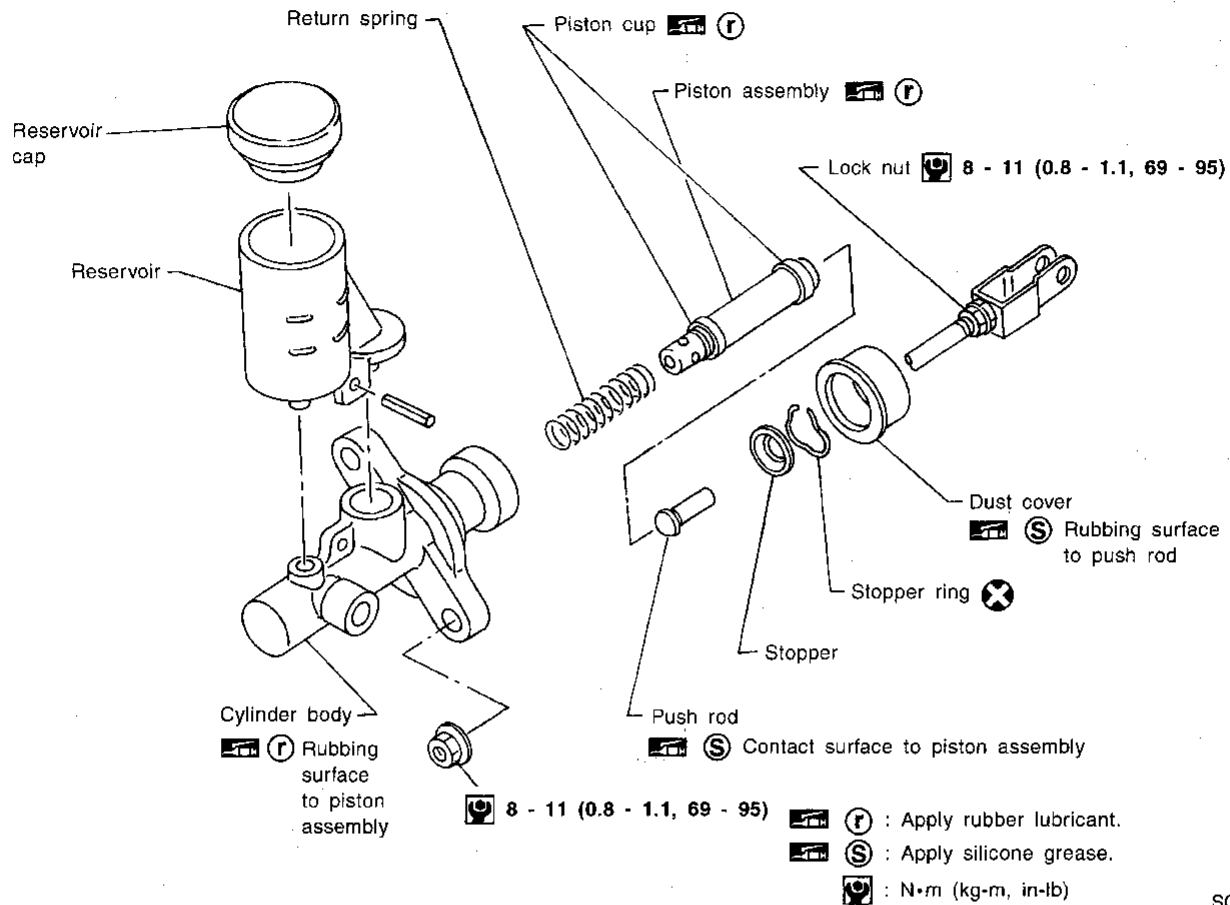
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## Clutch Master Cylinder

SEC. 305



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### DISASSEMBLY AND ASSEMBLY

- When removing and installing stopper ring, pry it off with screwdriver while pushing push rod into cylinder.

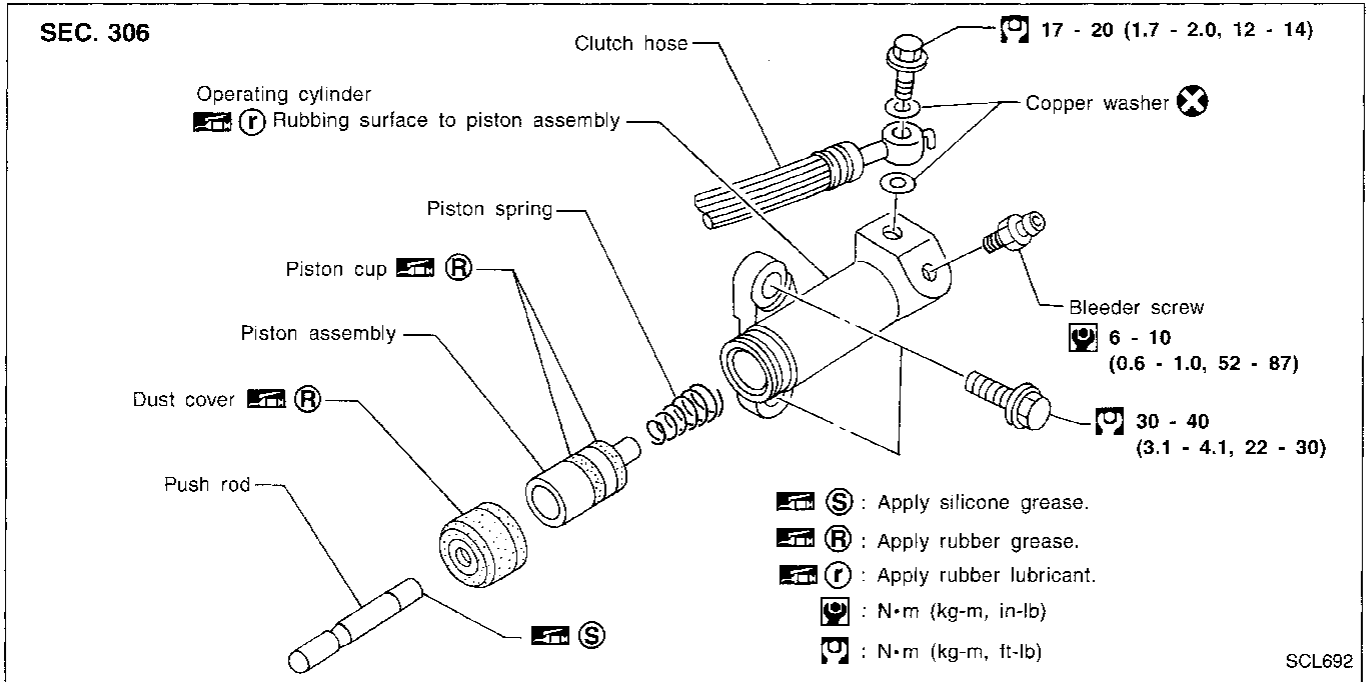
### INSPECTION

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
- Return spring, for wear or damage
- Dust cover, for cracks, deformation or damage
- Reservoir, for deformation or damage

# HYDRAULIC CLUTCH CONTROL

## Operating Cylinder



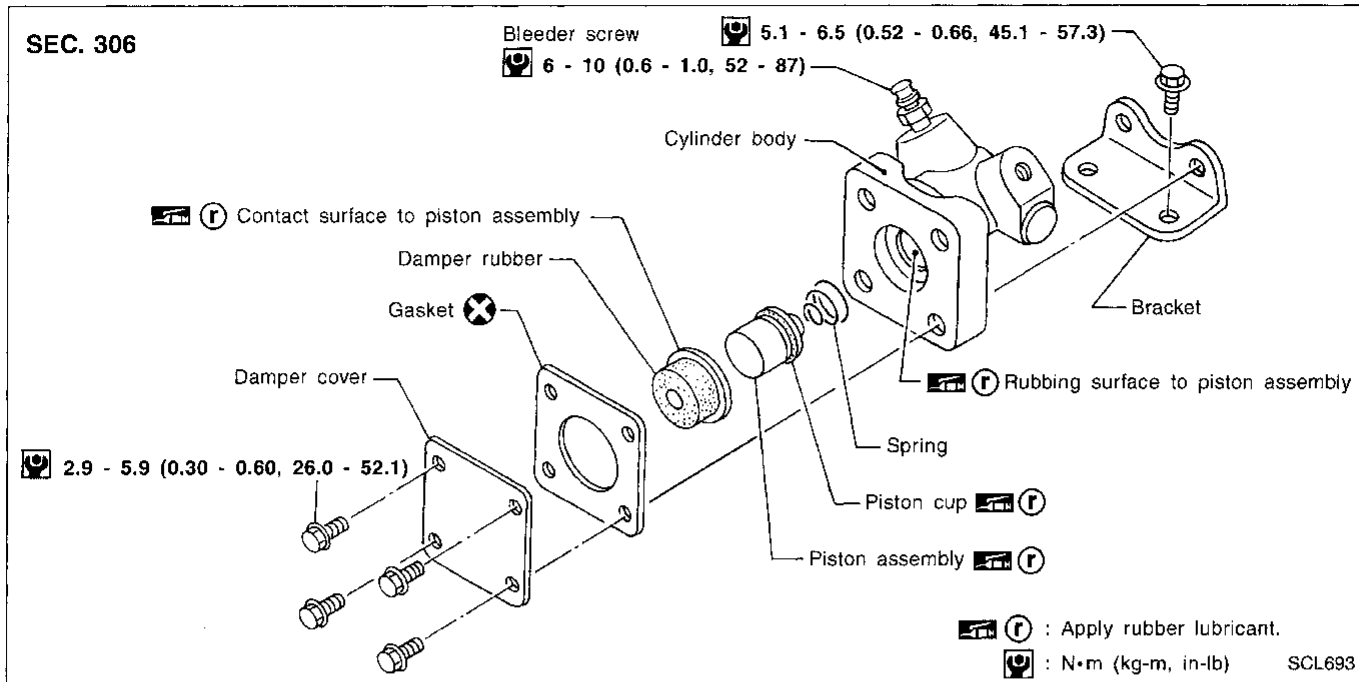
### INSPECTION

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

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## Clutch Damper



### INSPECTION

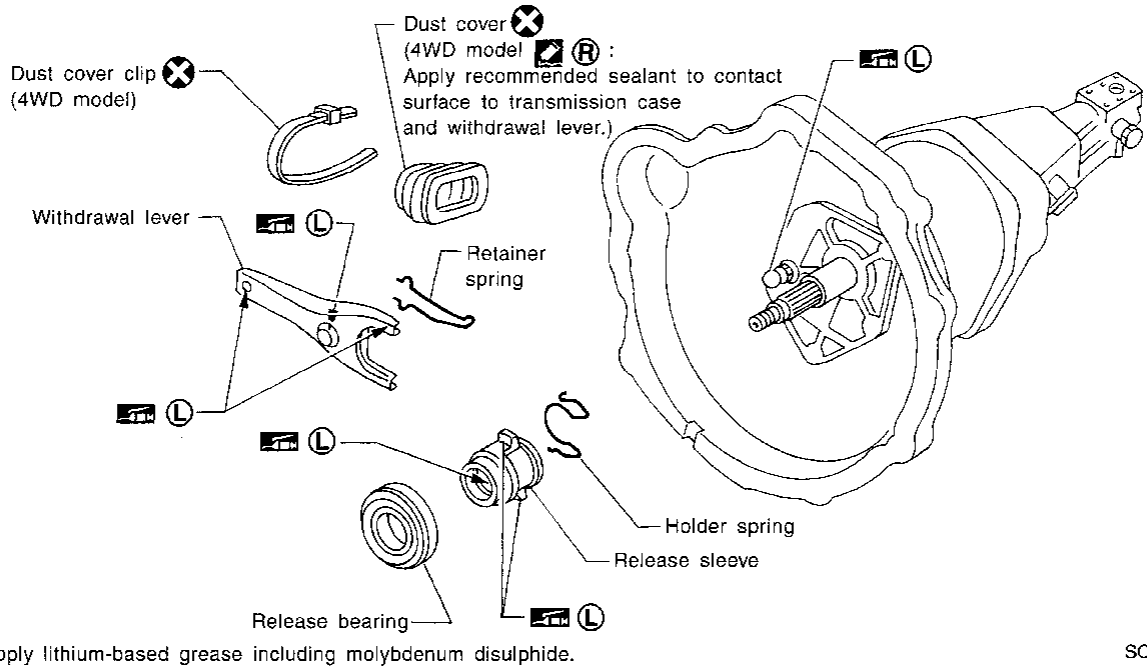
Check the following items, and replace if necessary.

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

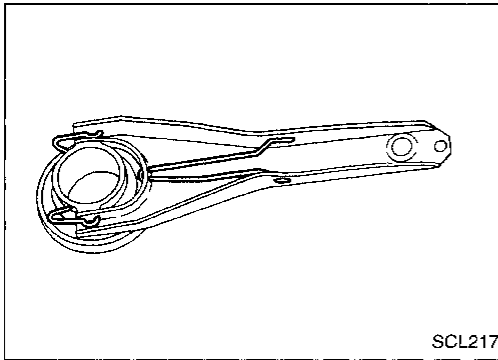


# CLUTCH RELEASE MECHANISM

## SEC. 321

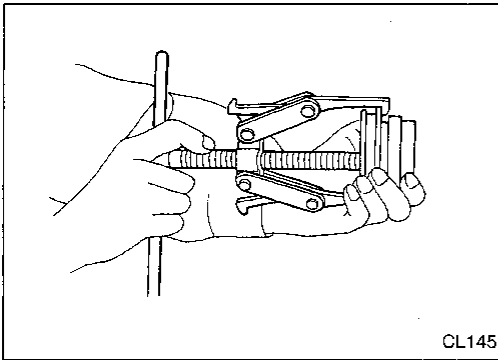


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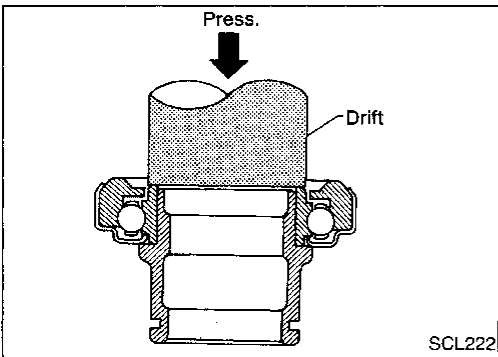


## REMOVAL AND INSTALLATION

- Install retainer spring and holder spring.



- Remove release bearing.



- Install release bearing with suitable drift.

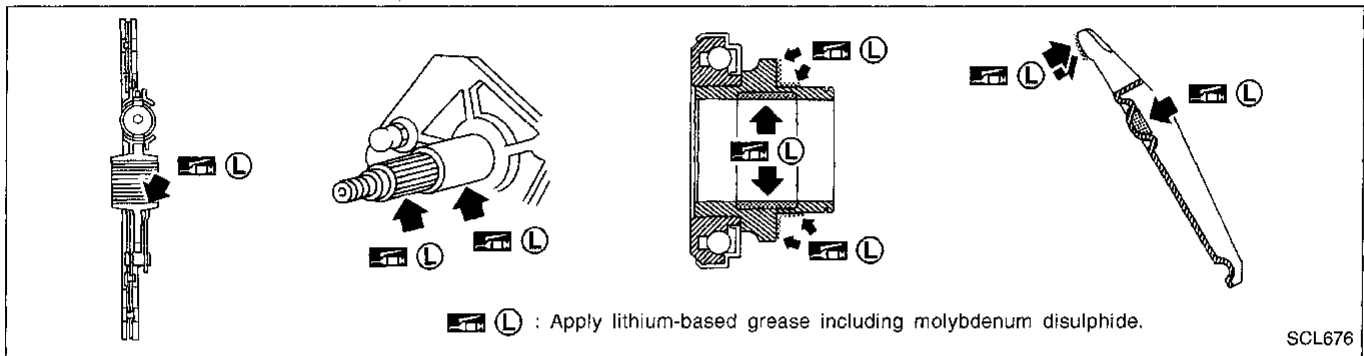
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# CLUTCH RELEASE MECHANISM

## INSPECTION

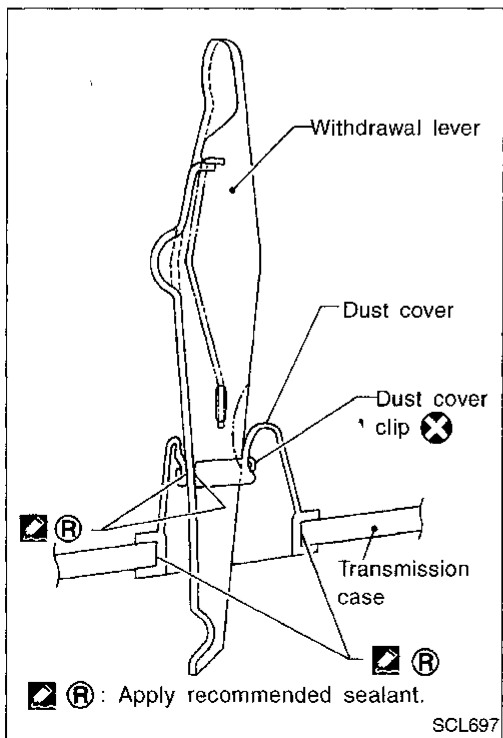
Check the following items, and replace if necessary.

- 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 damage.**

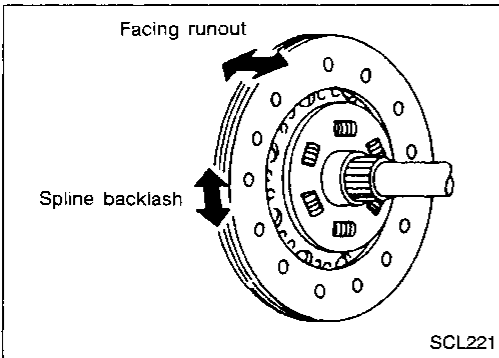
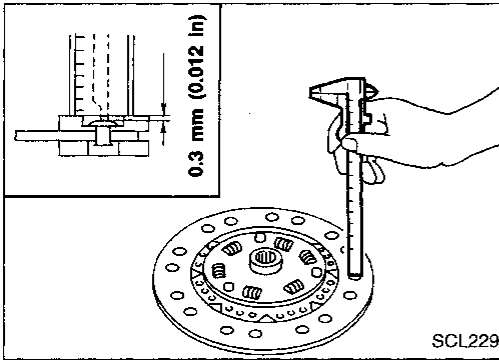
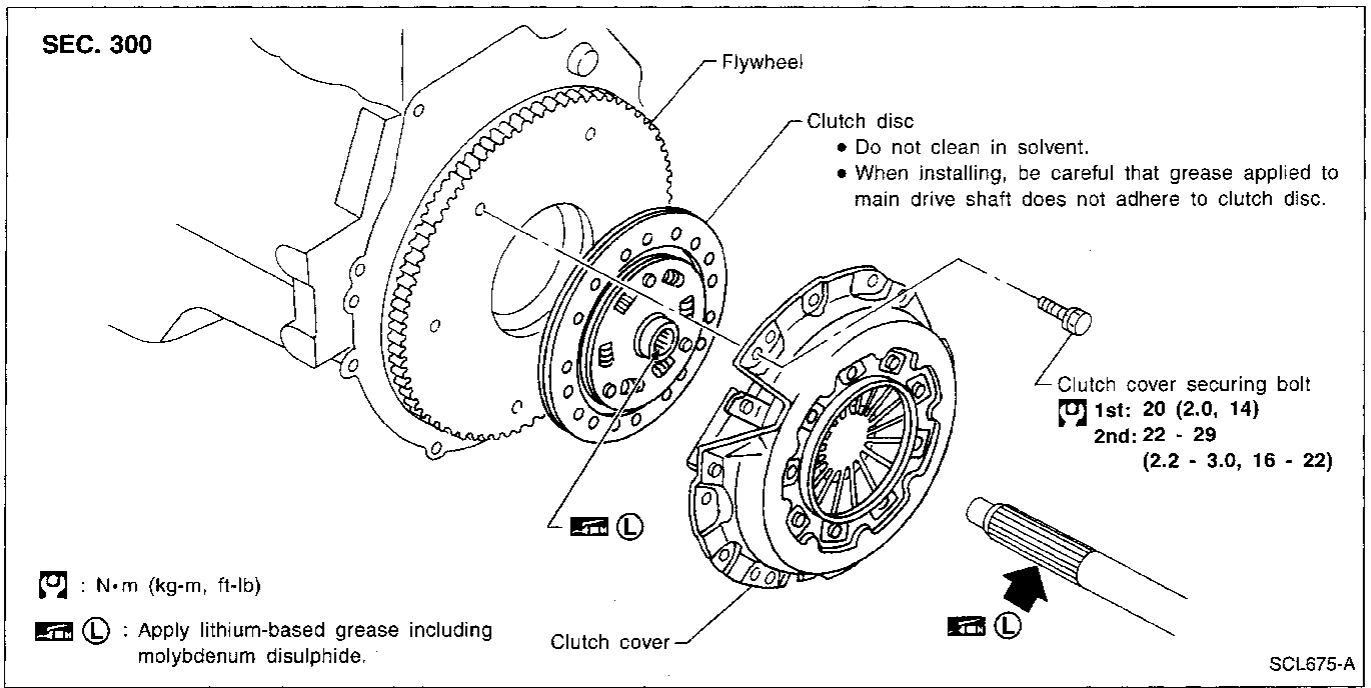


## WATERPROOF — for 4WD model

- Apply recommended sealant to contact surface of dust cover to transmission case and withdrawal lever and then install dust cover clip.

**Recommended sealant: Nissan genuine part (KP115-00100) or equivalent.**

# 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

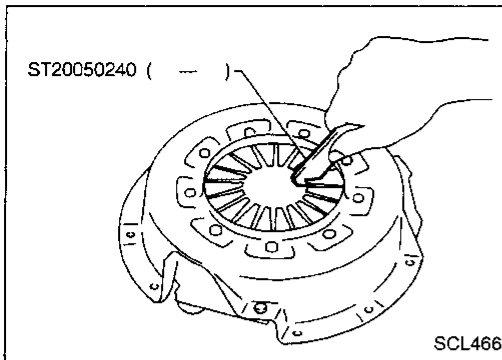
**Wear limit of facing surface to rivet head:**  
0.3 mm (0.012 in)

- Clutch disc, for backlash of spline and runout of facing  
**Maximum backlash of spline (at outer edge of disc):**  
1.0 mm (0.039 in)  
**Runout limit:**  
1.0 mm (0.039 in)  
**Distance of runout check point (from hub center):**  
120 mm (4.72 in)

### INSTALLATION

- Apply recommended grease to contact surface of splines.
- Too much lubricant may damage clutch disc facing.

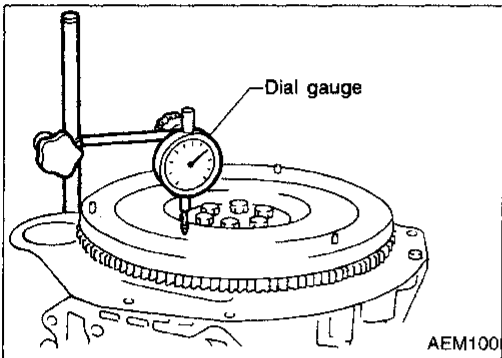
# CLUTCH DISC AND CLUTCH COVER



## Clutch Cover and Flywheel

### INSPECTION AND ADJUSTMENT

- Check clutch cover, installed on vehicle, for uneven diaphragm spring toe height.  
**Uneven limit:**  
**0.7 mm (0.028 in)**
- If out of limit, adjust the height with Tool.



### FLYWHEEL INSPECTION

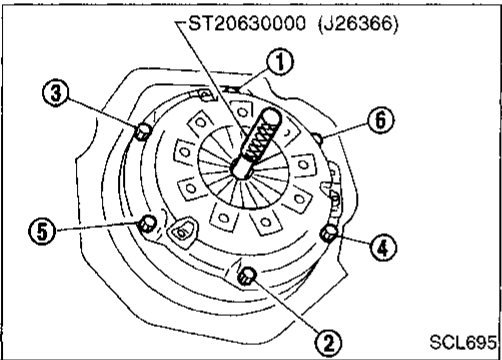
#### CAUTION:

Do not allow any magnetic materials to contact the ring gear teeth.

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

#### Maximum allowable runout:

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



### INSTALLATION

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

#### First step:

: 20 N·m (2.0 kg-m, 14 ft-lb)

#### Final step:

: 22 - 29 N·m (2.2 - 3.0 kg-m, 16 - 22 ft-lb)

# SERVICE DATA AND SPECIFICATIONS (SDS)

## General Specifications

### 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 DAMPER

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

Model	250
Facing size (Outer dia. x inner dia. x thickness)	250 x 160 x 3.5 (9.84 x 6.30 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	250
Set-load	N (kg, lb) 5,884 (600, 1,323)

## Inspection and Adjustment

### CLUTCH PEDAL

	Unit: mm (in)
Pedal height "H"	181 - 191 (7.13 - 7.52)
Pedal free play "A" (at pedal pad)	9 - 16 (0.35 - 0.63)
Clearance between pedal stopper bracket and threaded end of clutch interlock switch (when depressing clutch pedal fully.)	0.3 - 1.0 (0.012 - 0.039)

\*: Measured from surface of dash lower panel to pedal pad.

### CLUTCH DISC

	Unit: mm (in)
Model	250
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 hub center)	120 (4.72)
Maximum backlash of spline (at outer edge of disc)	1.0 (0.039)

### CLUTCH COVER

	Unit: mm (in)
Model	250
Diaphragm spring height	36.5 - 38.5 (1.437 - 1.516)
Uneven limit of diaphragm spring toe height	0.5 (0.020)