

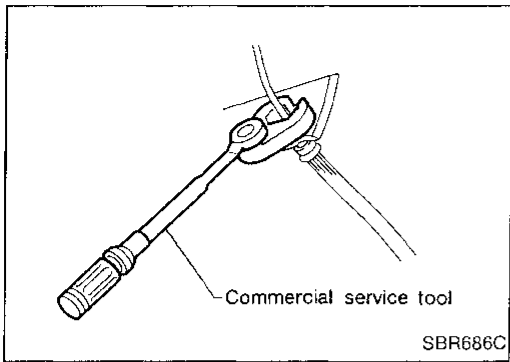
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PRECAUTIONS AND PREPARATION



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.

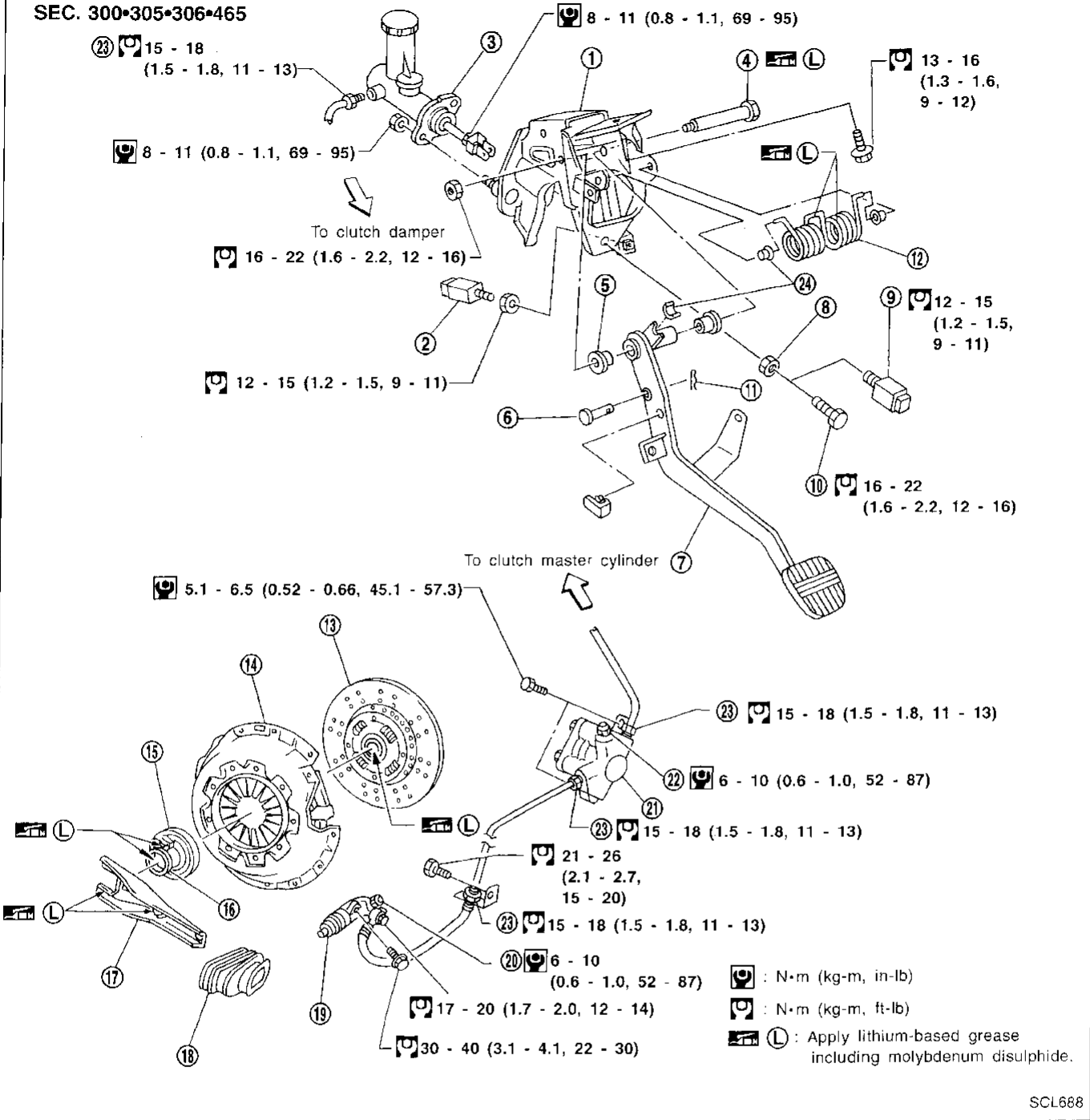
| Tool number (Kent-Moore No.) Tool name | Description | |
|--|-------------|---|
| ST20630000 (J26366) Clutch aligning bar | | Installing clutch cover and clutch disc a: 15.9 mm (0.626 in) dia. b: 22.8 mm (0.898 in) dia. c: 55 mm (2.17 in) |
| ST20050240 (—) Diaphragm spring adjusting wrench | | Adjusting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

Commercial Service Tools

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

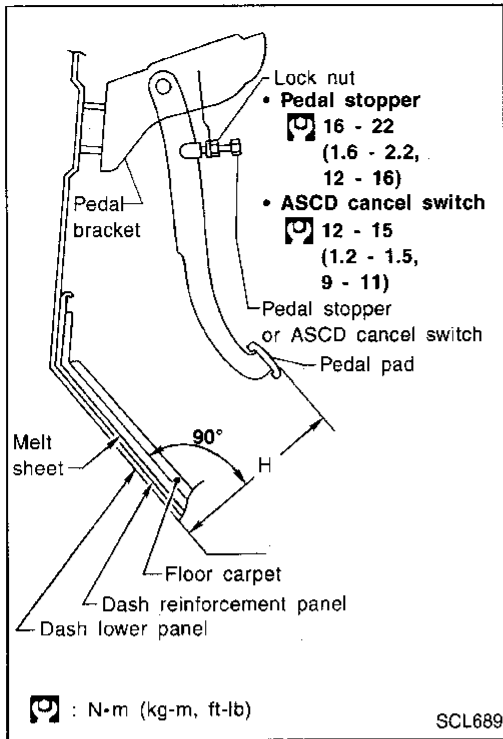
CLUTCH SYSTEM — Hydraulic Type

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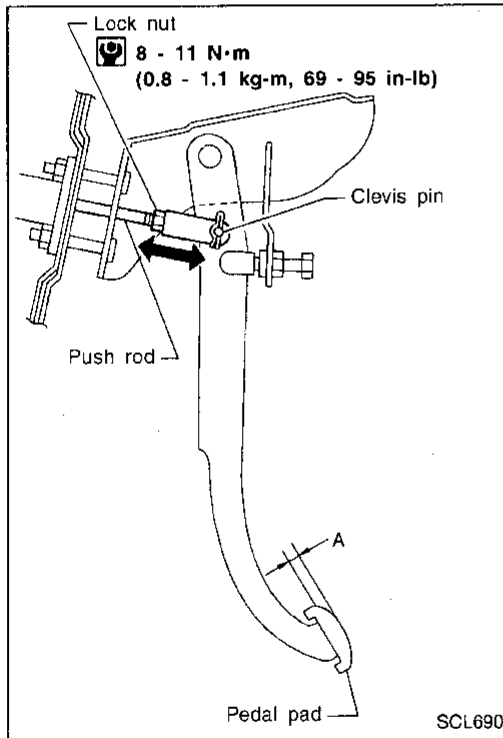
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|---------------------------|--------------------------|----------------------|
| ① Clutch pedal bracket | ⑨ ASCD cancel switch | ⑰ Withdrawal lever |
| ② Clutch interlock switch | ⑩ Pedal stopper | ⑱ Dust boot |
| ③ Clutch master cylinder | ⑪ Snap 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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Adjusting Clutch Pedal

- Adjust pedal height with pedal stopper or ASCD cancel switch.
Pedal height "H":
 181 - 191 mm (7.13 - 7.52 in)



- 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.
- Make sure that clevis pin can rotate smoothly.
 If not, readjust pedal free play with master cylinder push rod.

INSPECTION AND ADJUSTMENT

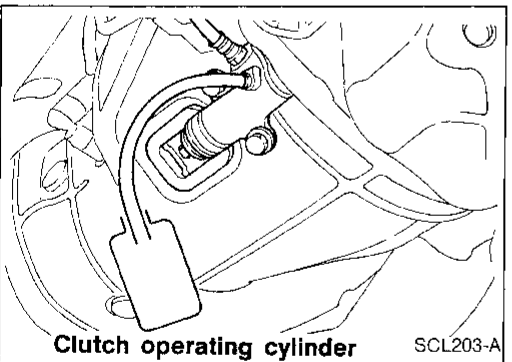
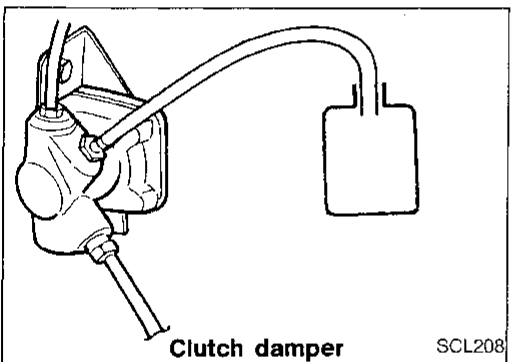
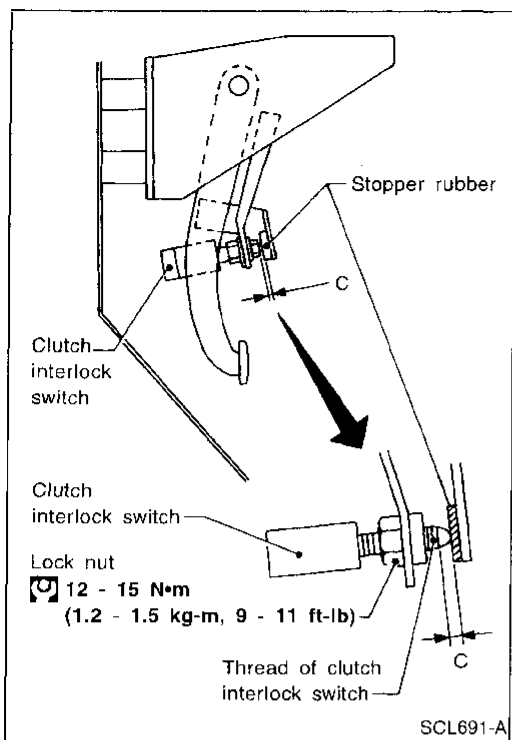
Adjusting Clutch Pedal (Cont'd)

— MODELS WITH CLUTCH INTERLOCK SYSTEM —

- 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

- 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.
- Bleed air from clutch damper according to the above procedure.
- Repeat the above bleeding procedure 1 and 2 several times.

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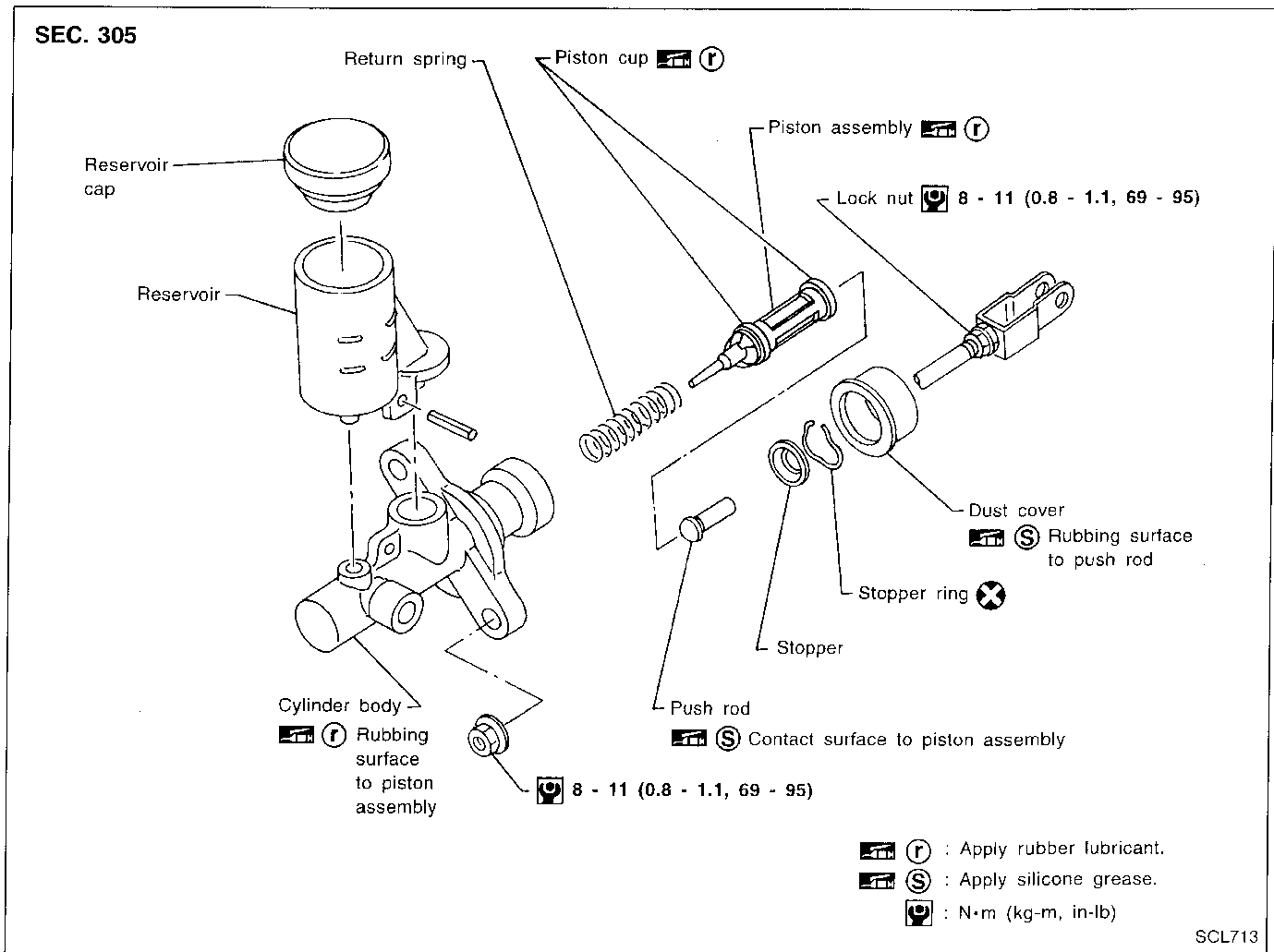
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Clutch Master Cylinder



DISASSEMBLY AND ASSEMBLY

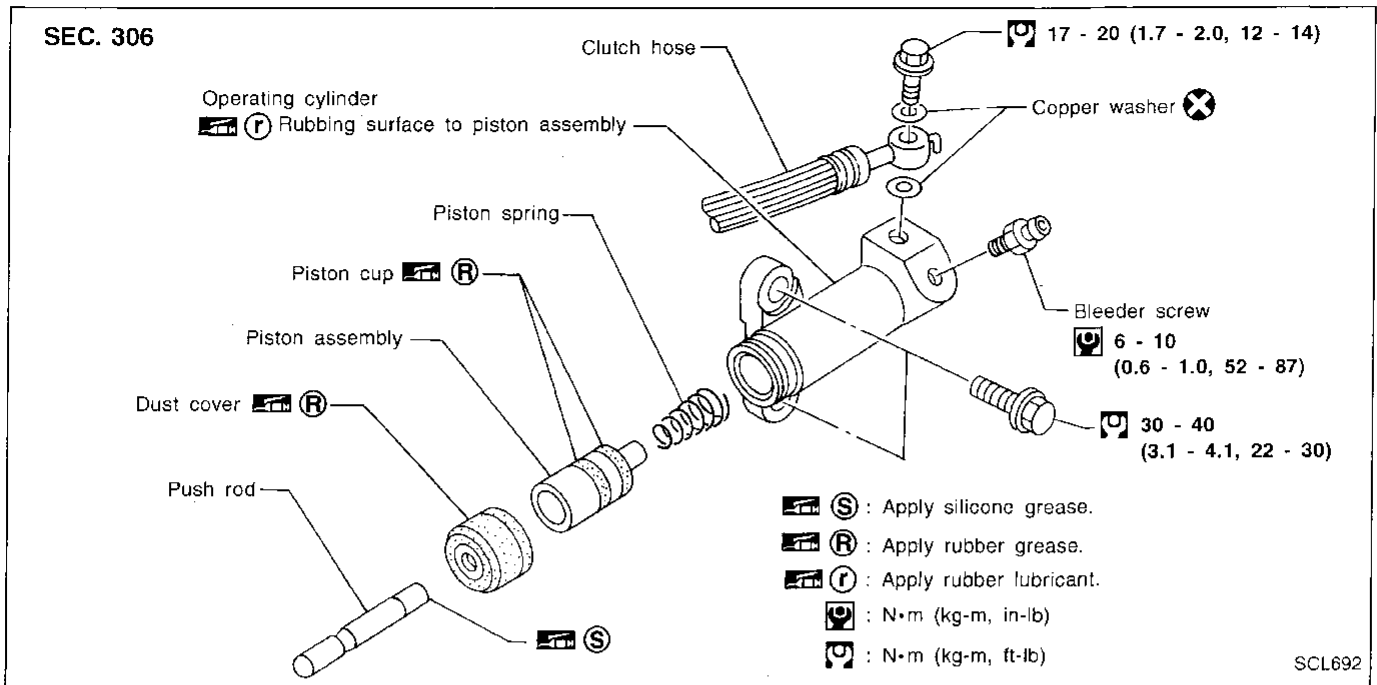
- When removing and installing stopper ring, pry it off with screwdriver while pushing push rod into cylinder.

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

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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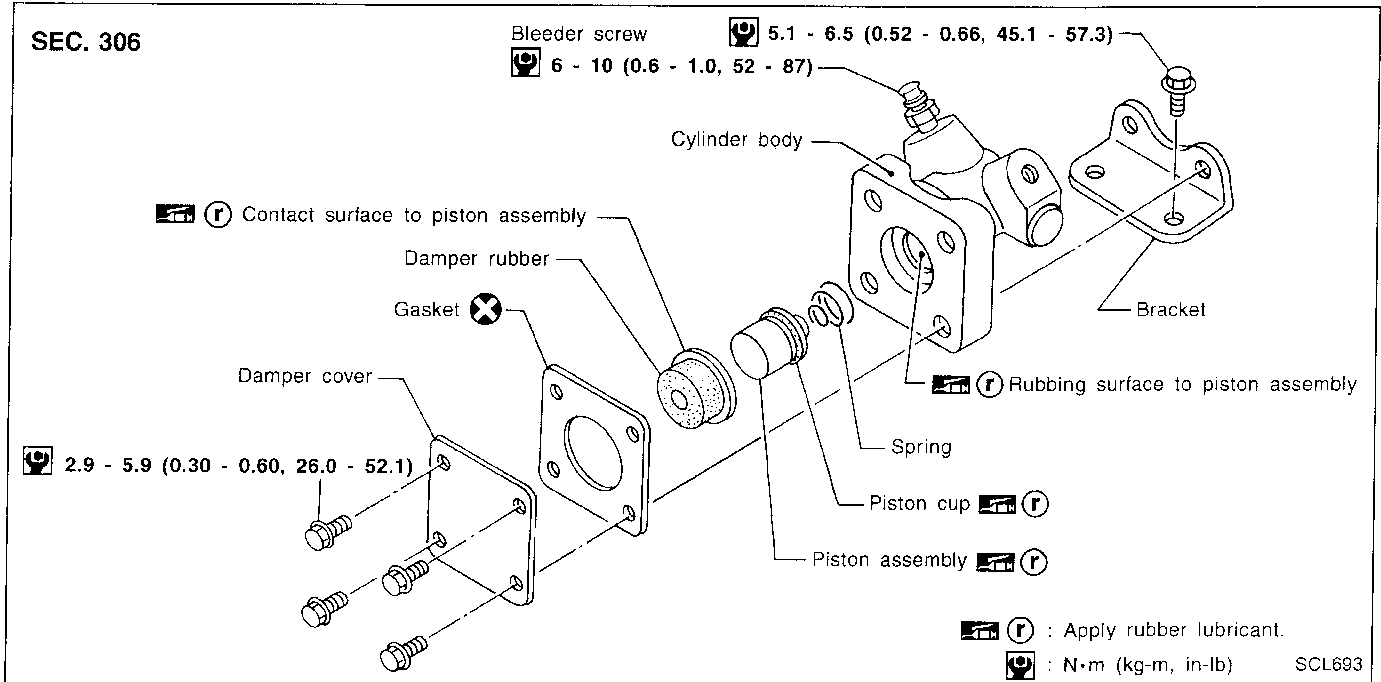
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Clutch Damper

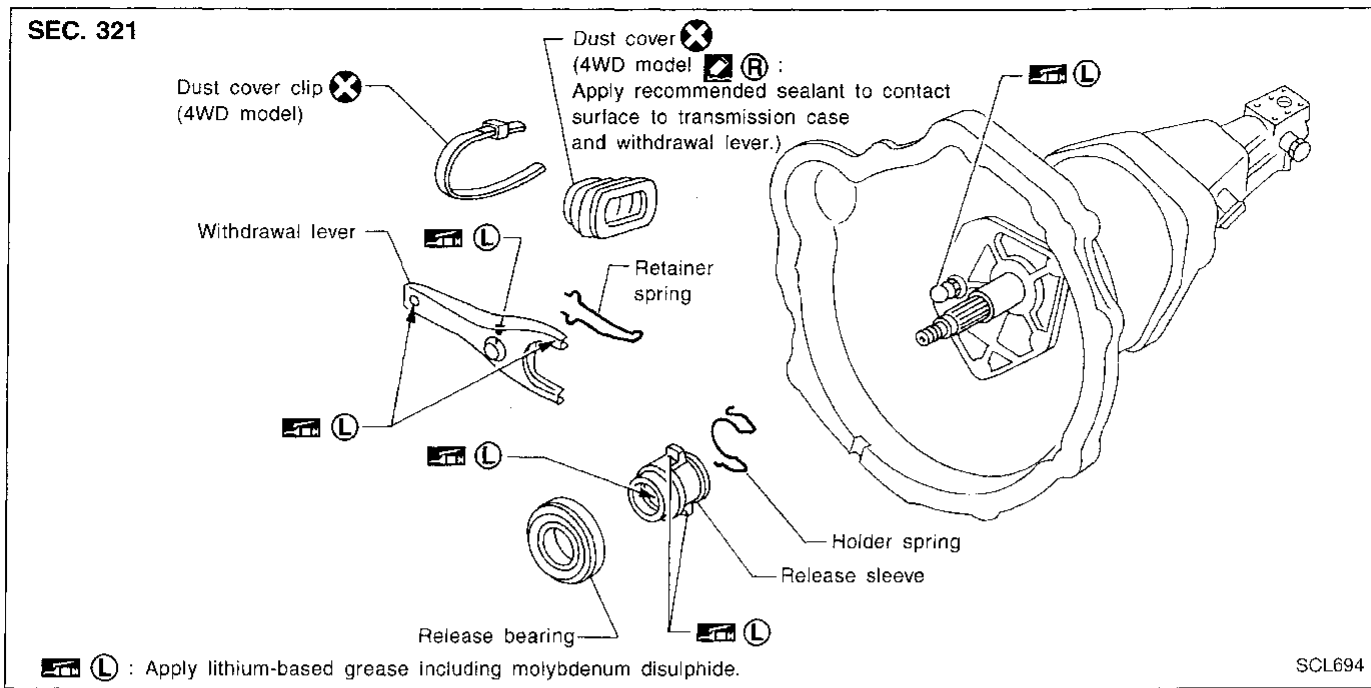


INSPECTION

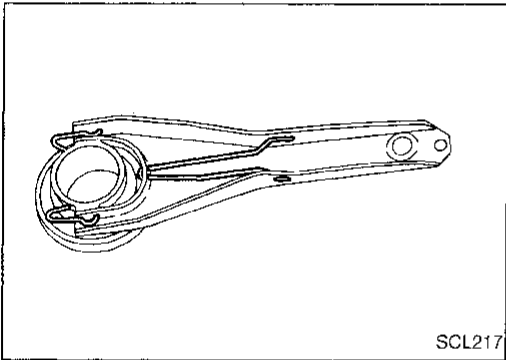
Check the following items, and replace if necessary.

- 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

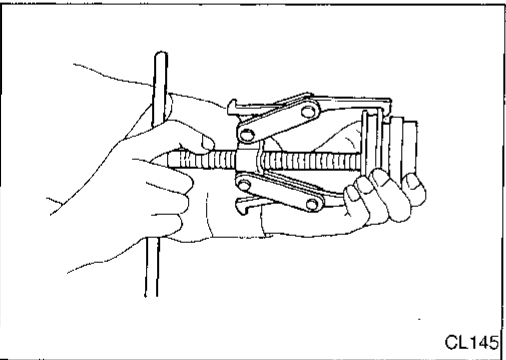


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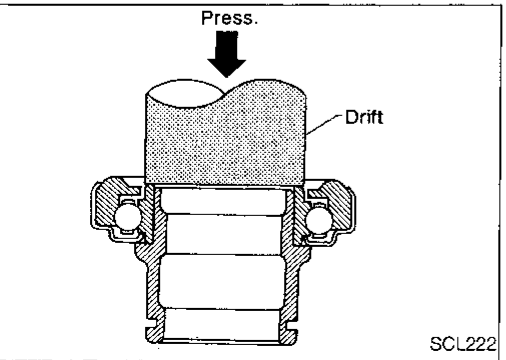


REMOVAL AND INSTALLATION

- Install retainer spring and holder spring.



- Remove release bearing.



- Install release bearing with suitable drift.

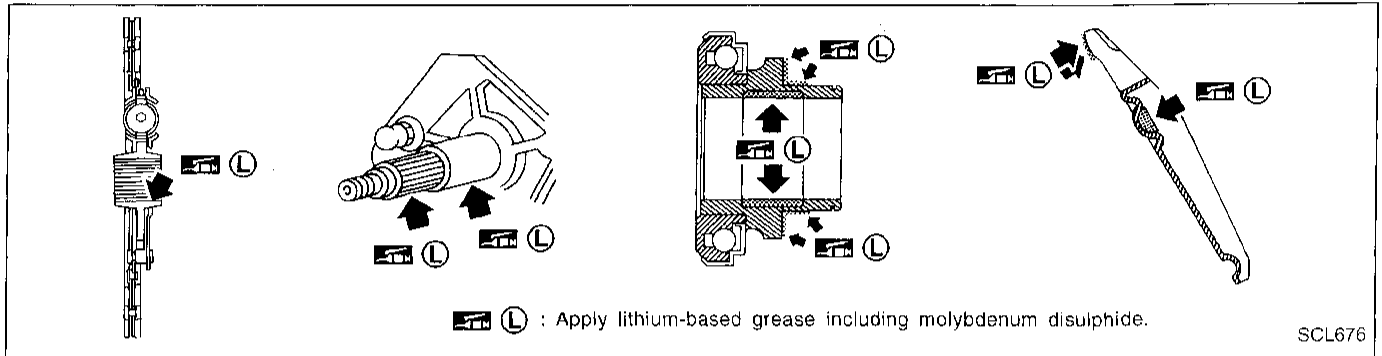
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CLUTCH RELEASE MECHANISM

INSPECTION

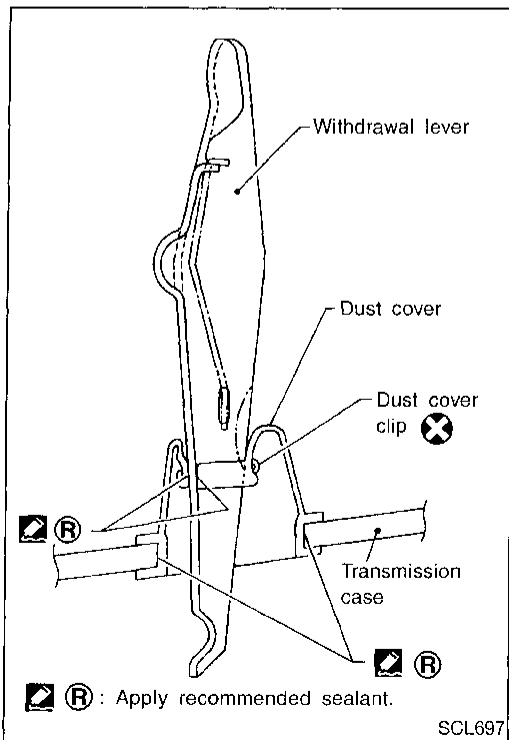
Check the following items, and replace if necessary.

- 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.**

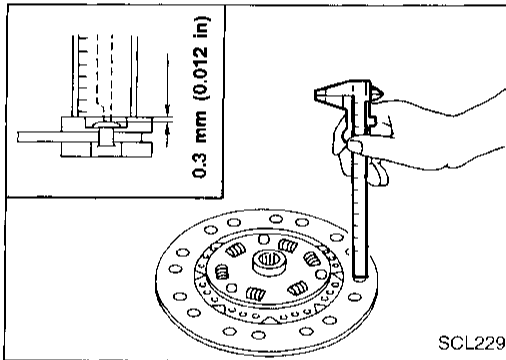
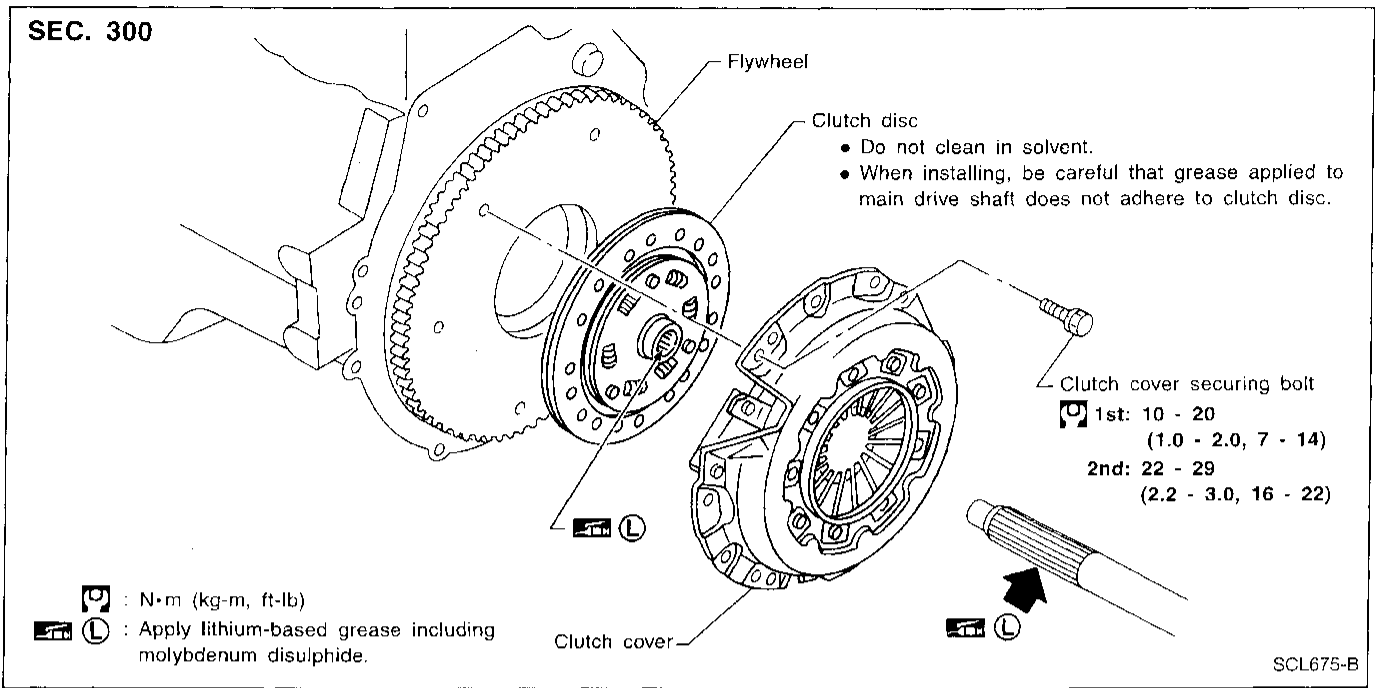


WATERPROOF — for 4WD model

- 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



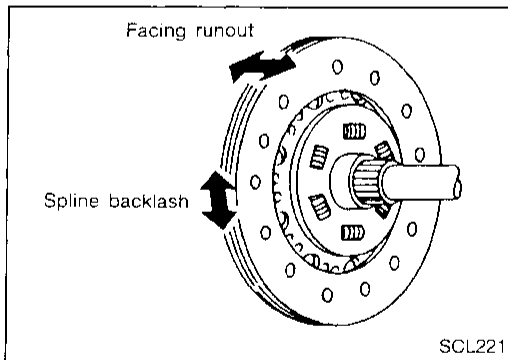
Clutch Disc

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)

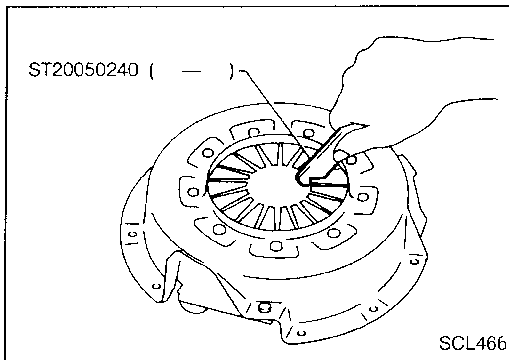


- Clutch disc, for backlash of spline and runout of facing
- Maximum backlash of spline (at outer edge of disc):**
1.0 mm (0.039 in)
- Runout limit:**
1.0 mm (0.039 in)
- Distance of runout check point (from hub center):**
120 mm (4.72 in)

INSTALLATION

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

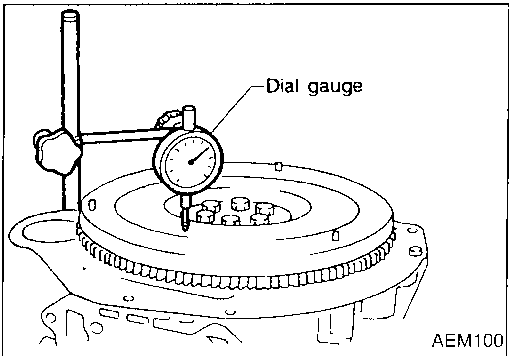
CLUTCH DISC AND CLUTCH COVER



Clutch Cover and Flywheel

INSPECTION AND ADJUSTMENT

- Check clutch cover, installed on vehicle, for uneven diaphragm spring toe height.
Uneven limit:
0.5 mm (0.020 in)
- If out of limit, adjust the height with Tool.



FLYWHEEL INSPECTION

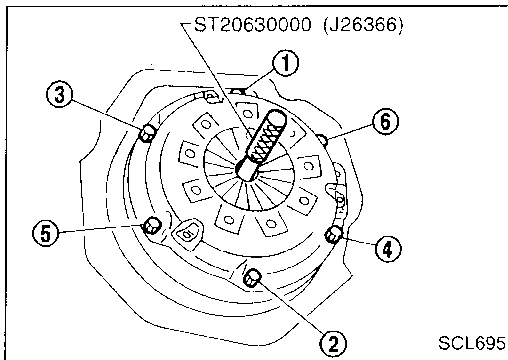
CAUTION:

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:

: 10 - 20 N·m (1.0 - 2.0 kg·m, 7 - 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) |
|----------------|---------|-------------|

CLUTCH OPERATING CYLINDER

| | | |
|----------------|---------|-------------|
| Inner diameter | mm (in) | 19.05 (3/4) |
|----------------|---------|-------------|

CLUTCH DAMPER

| | | |
|----------------|---------|-------------|
| Inner diameter | mm (in) | 19.05 (3/4) |
|----------------|---------|-------------|

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) |

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