

CLUTCH

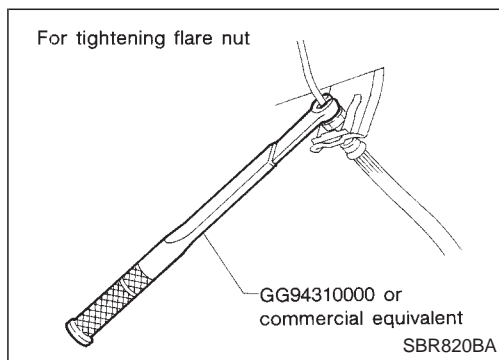
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PRECAUTIONS AND PREPARATION



Precautions

- Recommended fluid is brake fluid “DOT 3”.
- Do not 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:

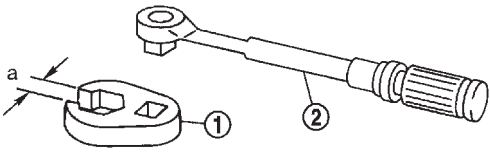
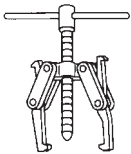
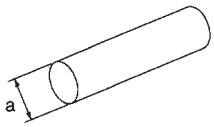
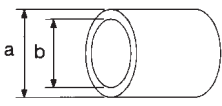
After cleaning clutch disc, wipe it with a dust collector. Do not use compressed air.

Special Service Tools

Tool number Tool name	Description
ST20050010 Base plate	<p>Inspecting diaphragm spring of clutch cover</p> <p>NT403</p> <p>a: 357 mm (14.06 in) dia. b: 43 mm (1.69 in)</p>
ST20050100 Distance piece	<p>Inspecting diaphragm spring of clutch cover</p> <p>NT402</p> <p>a: 25 mm (0.98 in) dia. b: 7.8 mm (0.307 in)</p>
GG94310000 Flare nut torque wrench	<p>Removing and installing each clutch piping</p> <p>NT406</p> <p>a: 10 mm (0.39 in) ⚙️: 16.2 N·m (1.65 kg-m, 11.9 ft-lb)</p>
ST20600000 Clutch aligning bar	<p>Installing clutch cover and clutch disc</p> <p>NT405</p> <p>a: 16.0 mm (0.630 in) dia. b: 22.8 mm (0.898 in) dia. c: 55 mm (2.17 in)</p>
ST20050240 Diaphragm spring adjusting wrench	<p>Adjusting unevenness of clutch cover diaphragm spring</p> <p>NT404</p> <p>a: 150 mm (5.91 in) b: 25 mm (0.98 in)</p>

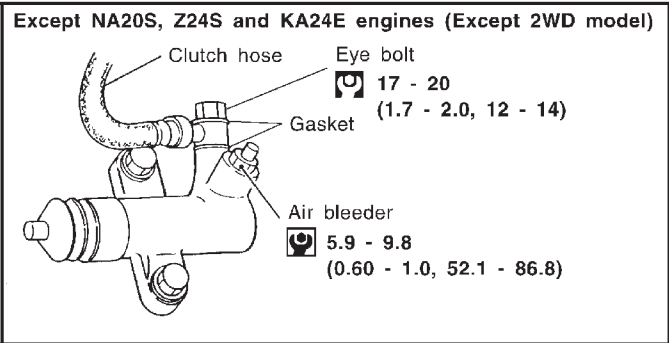
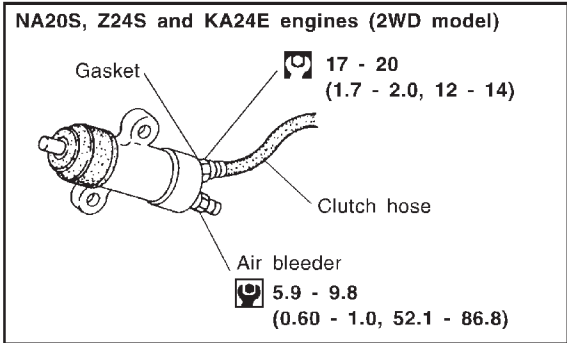
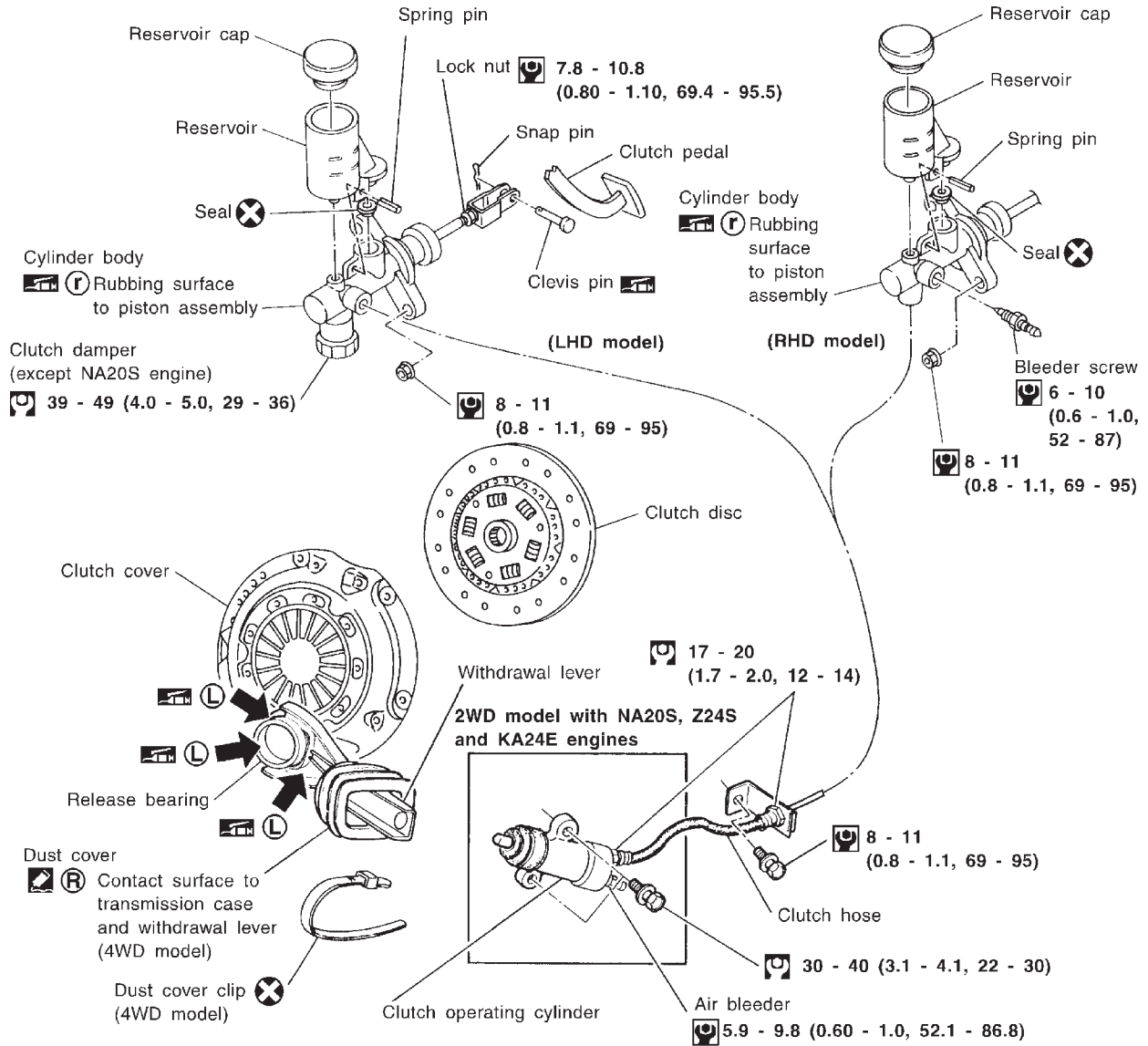
PRECAUTIONS AND PREPARATION

Commercial Service Tools

Tool name	Description	
① Flare nut crowfoot ② Torque wrench	 <p>NT684</p> <p>a: 10 mm (0.39 in)</p>	GI MA EM LC
Bearing puller	 <p>NT077</p>	EC FE
Bearing drift	 <p>NT063</p> <p>a: 50 mm (1.97 in) dia.</p>	CL MT
Bearing drift	 <p>NT474</p> <p>a: 52 mm (2.05 in) dia. b: 45 mm (1.77 in) dia.</p>	TF PD FA

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CLUTCH SYSTEM

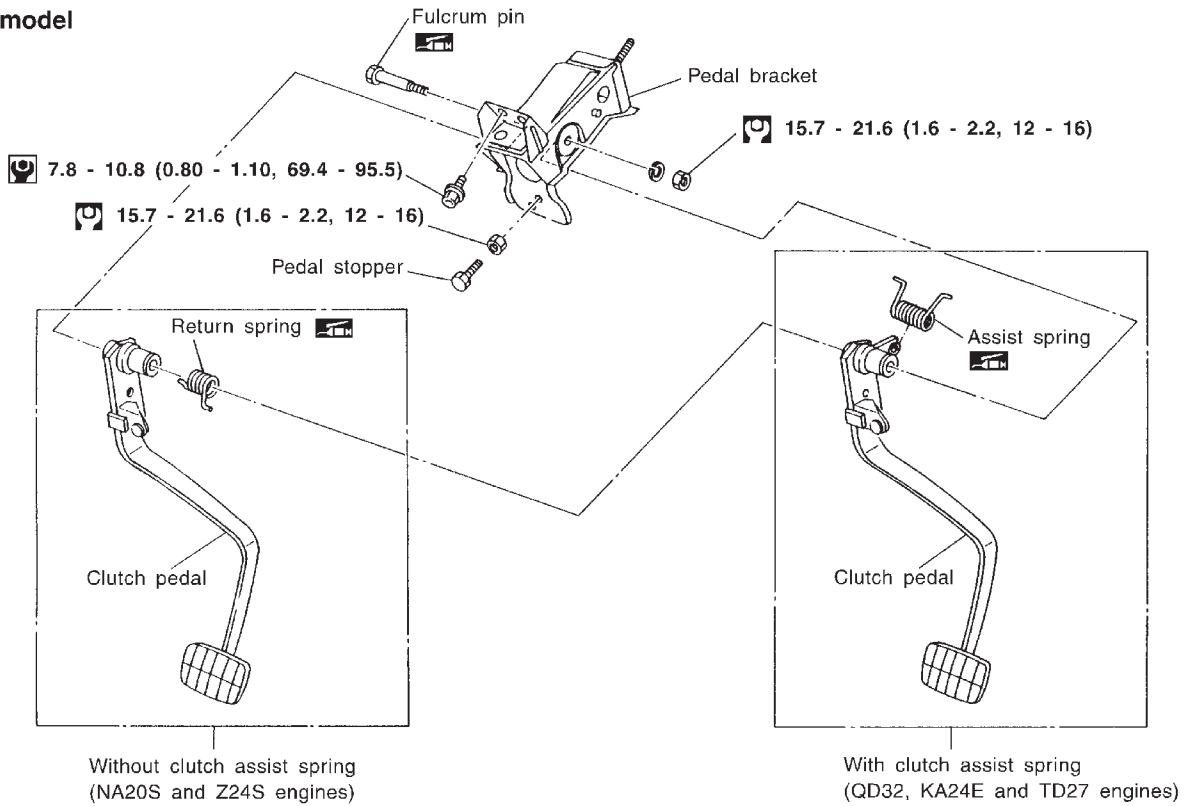


- : N·m (kg-m, ft-lb)
- (R) : Apply recommended sealant (Nissan genuine part: KP115-00100) or equivalent.
- : N·m (kg-m, in-lb)
- (L) : Apply lithium-based grease including molybdenum disulphide.
- (R) : Apply rubber lubricant.

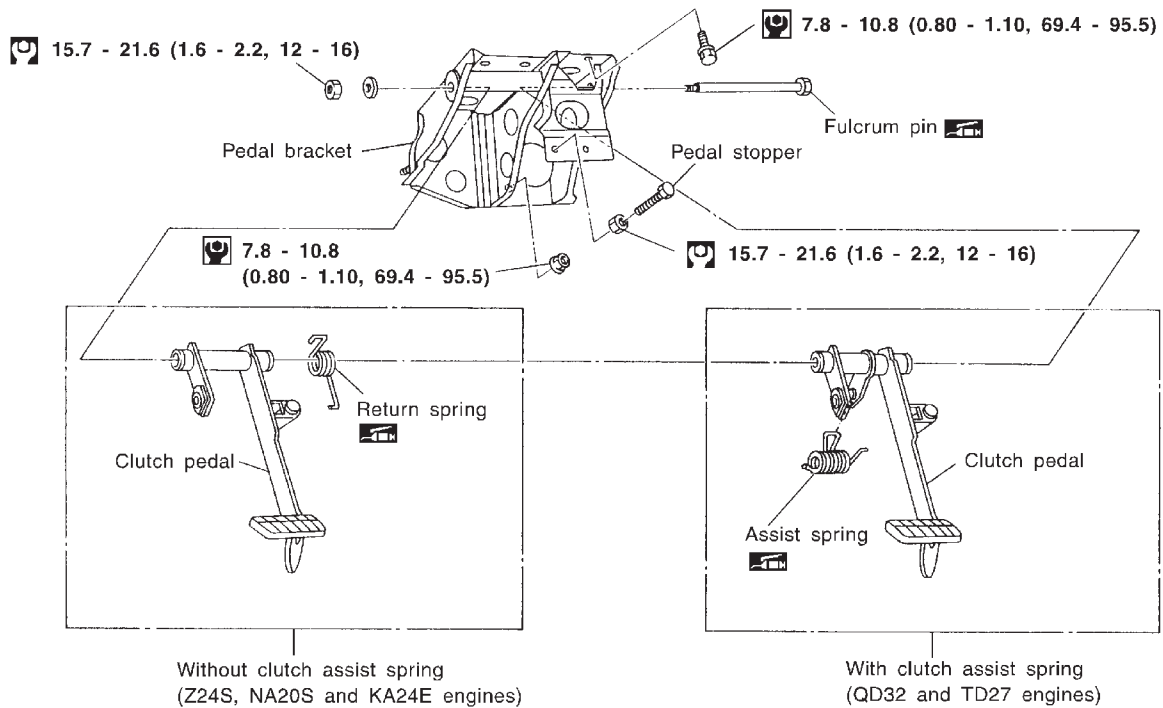
CLUTCH SYSTEM

Clutch Pedal

LHD model



RHD model



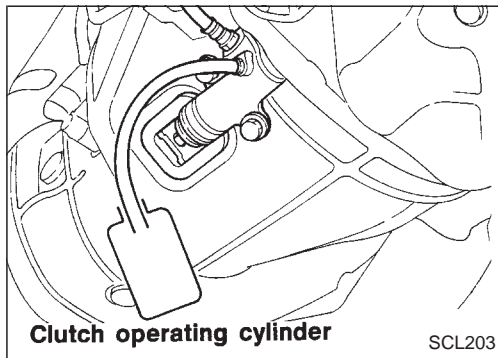
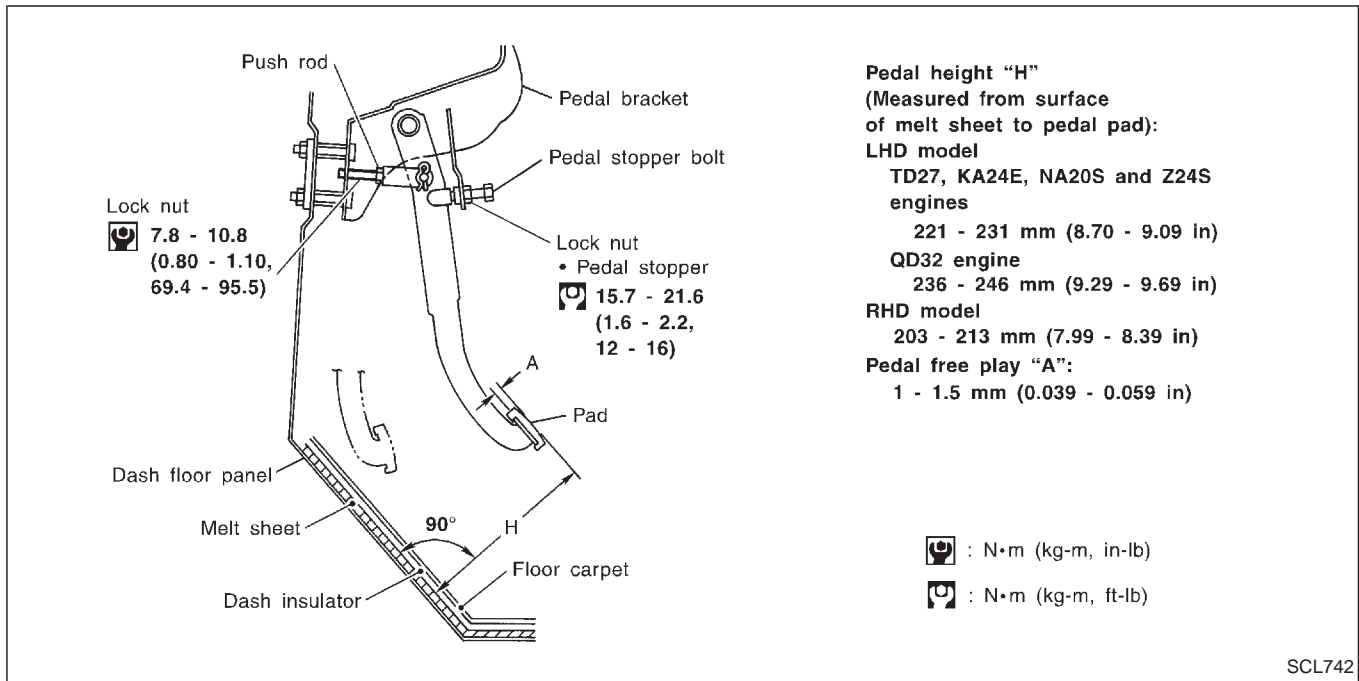
: N·m (kg-m, in-lb)

: N·m (kg-m, ft-lb)

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Adjusting Clutch Pedal

1. Adjust pedal height with pedal stopper.
2. Adjust pedal free play with push rod.



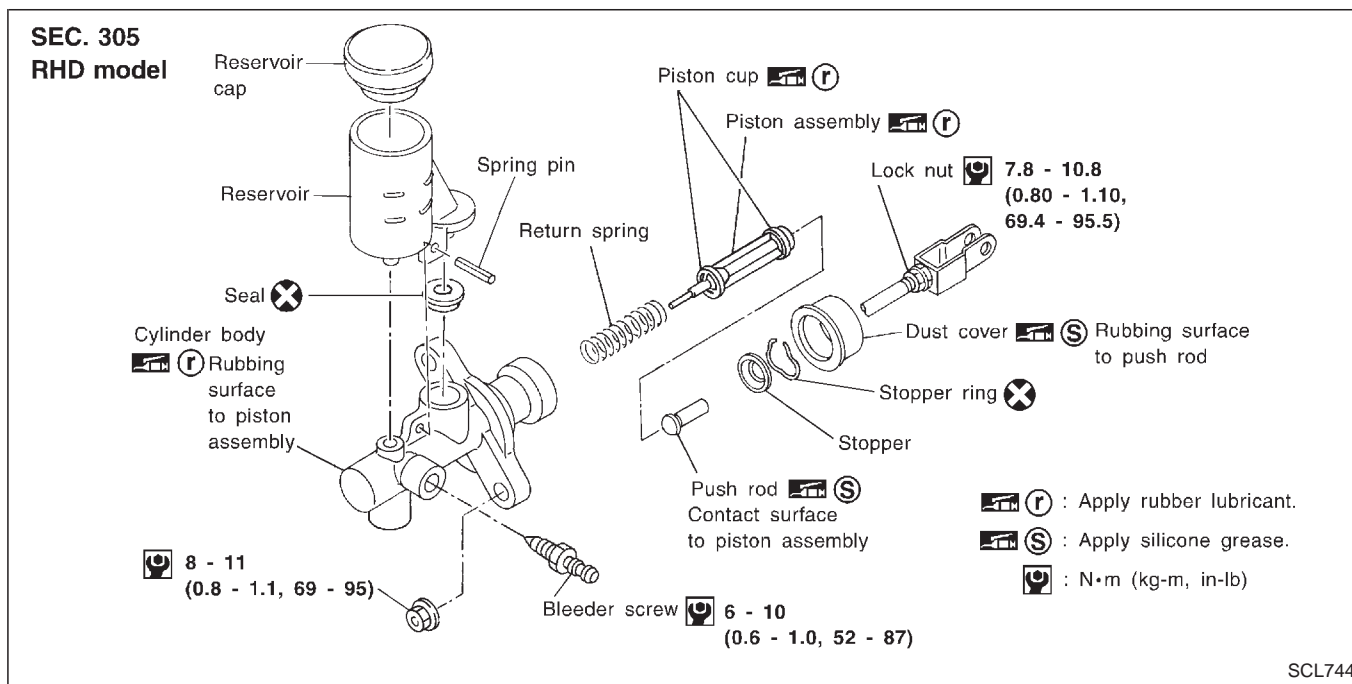
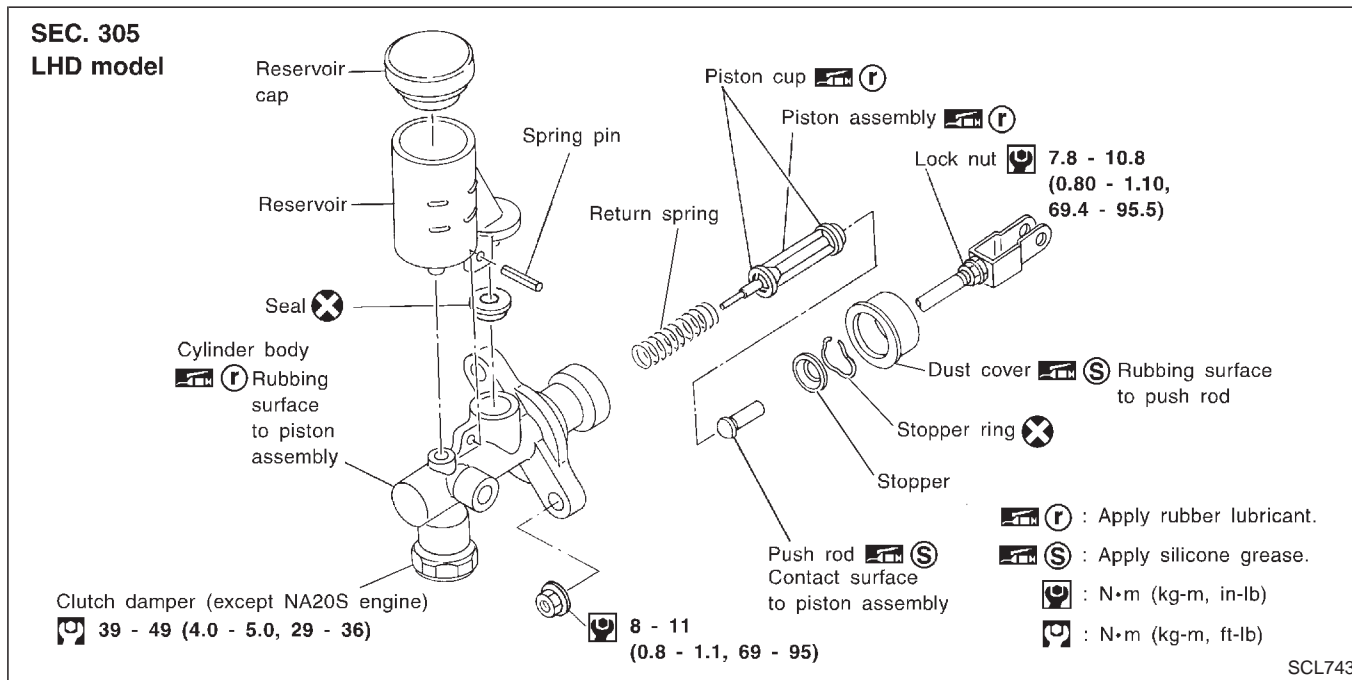
Bleeding Procedure

Bleed air according to the following procedure. Bleed the air from the master cylinder (RHD models only) and then the operating cylinder.

1. Fill the master cylinder reservoir tank with new brake fluid.
2. Connect a transparent vinyl hose to the air bleeder.
3. Slowly depress the clutch pedal to its full stroke length and release it completely. Repeat this operation several times at 2 to 3 second intervals.
4. Open the air bleeder with the clutch pedal fully depressed.
5. Close the air bleeder.
6. Release the clutch pedal and wait at least 5 seconds.
7. Repeat steps 3 through 6 above until air bubbles no longer appear in the brake fluid.

HYDRAULIC CLUTCH CONTROL

Clutch Master Cylinder



DISASSEMBLY AND ASSEMBLY

- Use a screwdriver to remove stopper ring while pushing push rod into cylinder.
- When installing stopper ring, tap in lightly while pushing push rod into cylinder.

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HYDRAULIC CLUTCH CONTROL

Clutch Master Cylinder (Cont'd)

INSPECTION

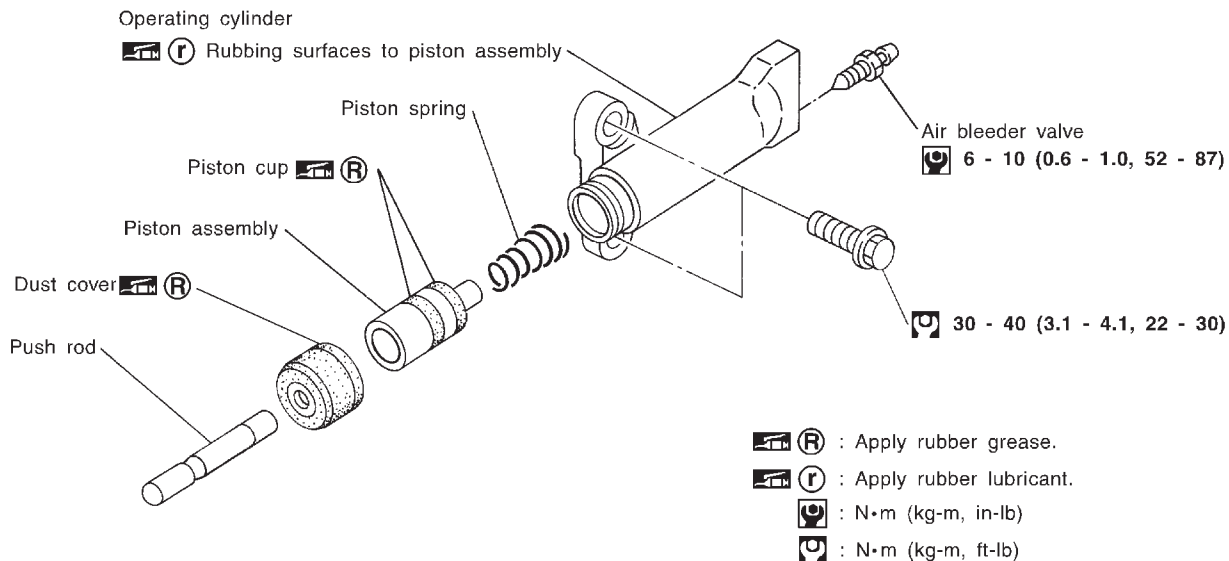
Check the following items, and replace as necessary.

- 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

SEC. 306

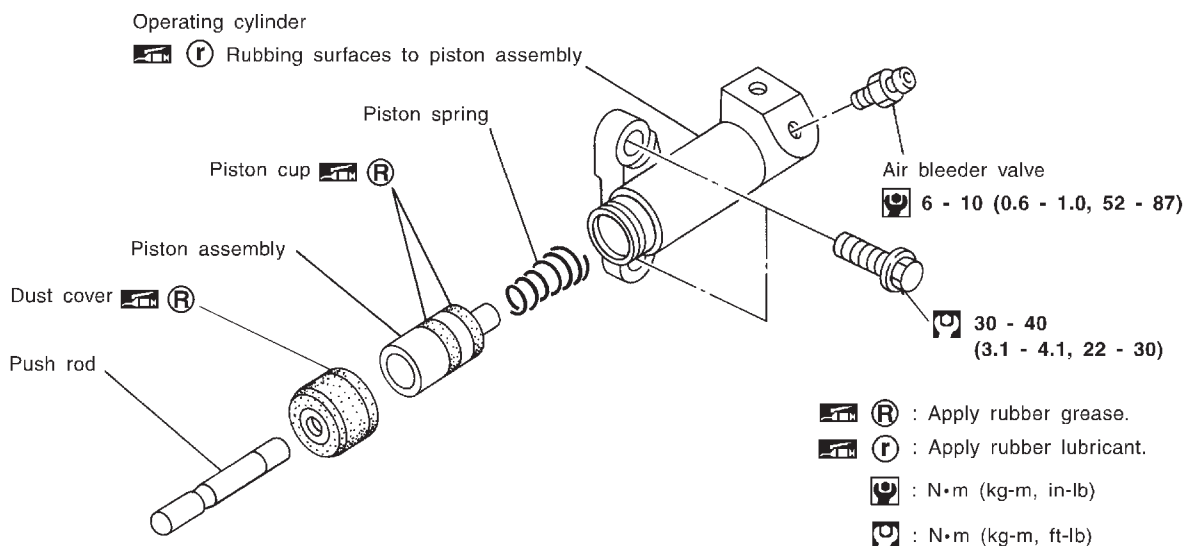
NA20S, Z24S and KA24E engines (2WD models)



SCL745

SEC. 306

Except NA20S, Z24S and KA24E engines (Except 2WD models)

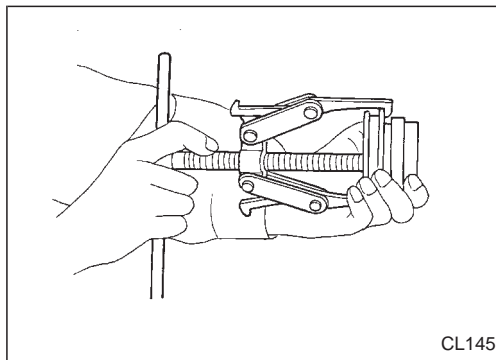
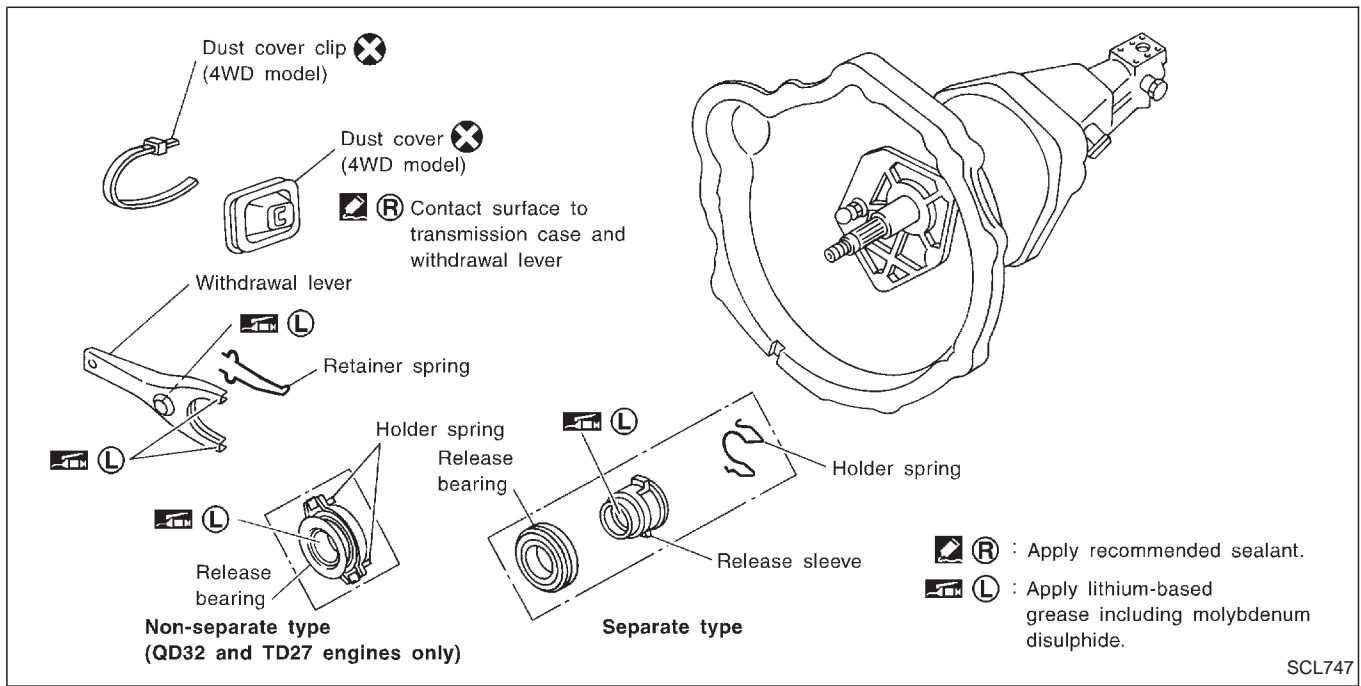


SCL746

INSPECTION

- Check rubbing surface of cylinder for wear, rust or damage. Replace if necessary.
- Check piston with piston cup for wear or damage. Replace if necessary.
- Check piston spring for wear or damage. Replace if necessary.
- Check dust cover for cracks, deformation or damage. Replace if necessary.

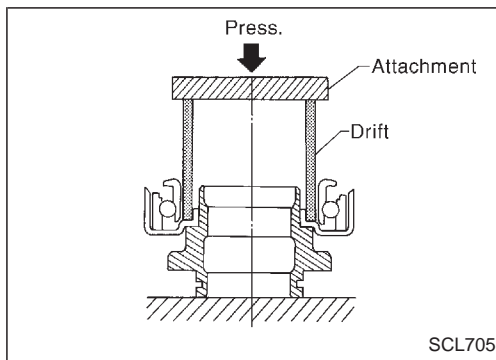
CLUTCH RELEASE MECHANISM



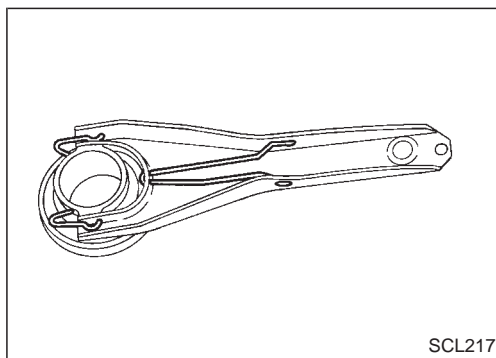
REMOVAL AND INSTALLATION

Separate type

- Remove release bearing.

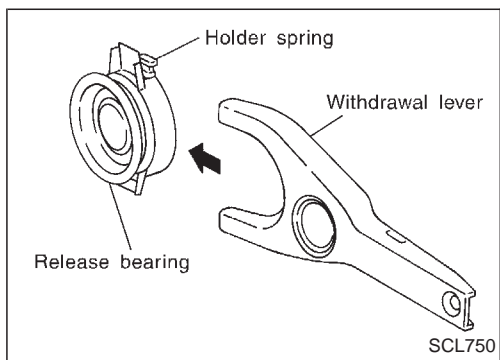


- Install release bearing with suitable drift.



- Install retainer spring and holder spring.

CLUTCH RELEASE MECHANISM



Non-separate type

- Install the holder spring to the release bearing as shown in the figure at the left and insert the withdrawal lever from the direction of the arrow.

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INSPECTION

Check the following items, and replace as 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

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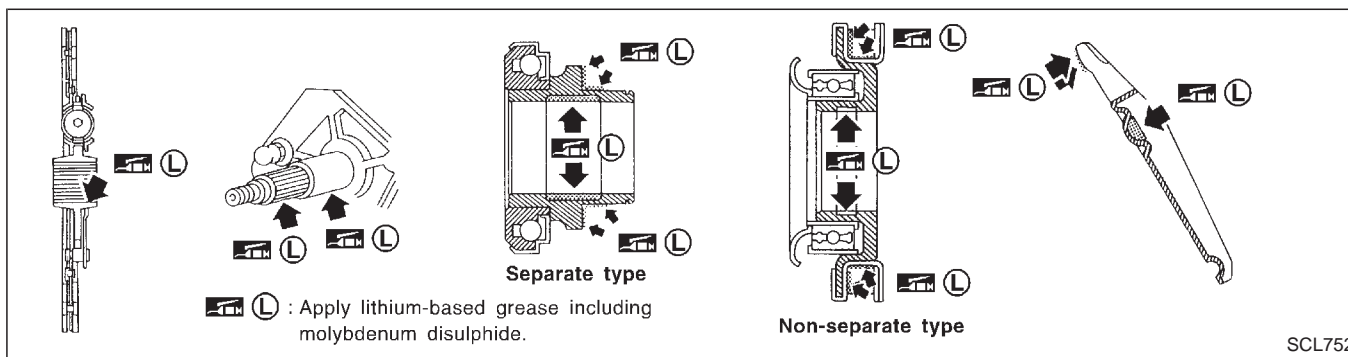
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LUBRICATION

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

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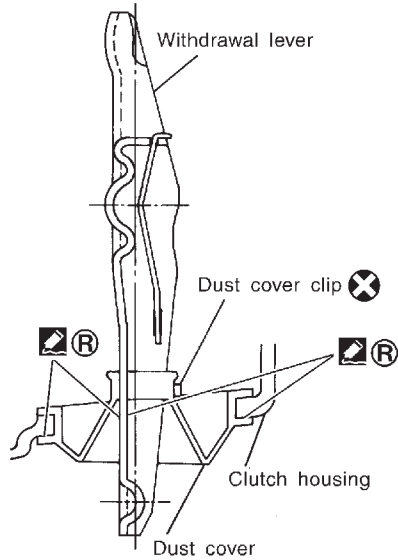
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CLUTCH RELEASE MECHANISM

Diesel engine models



 ® : Apply recommended sealant.

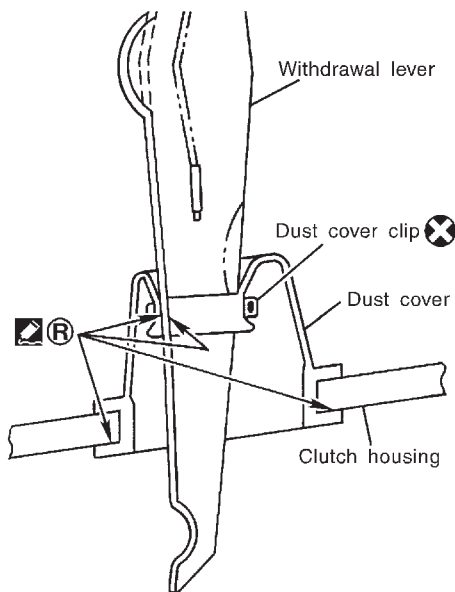
SCL760


WATERPROOF — for 4WD model

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

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

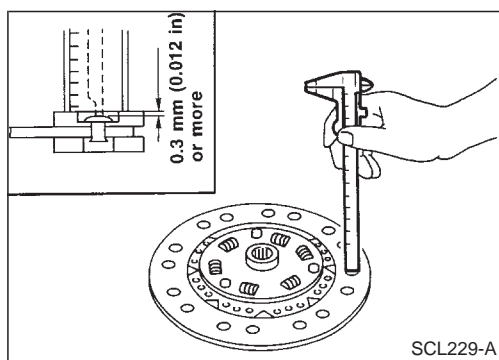
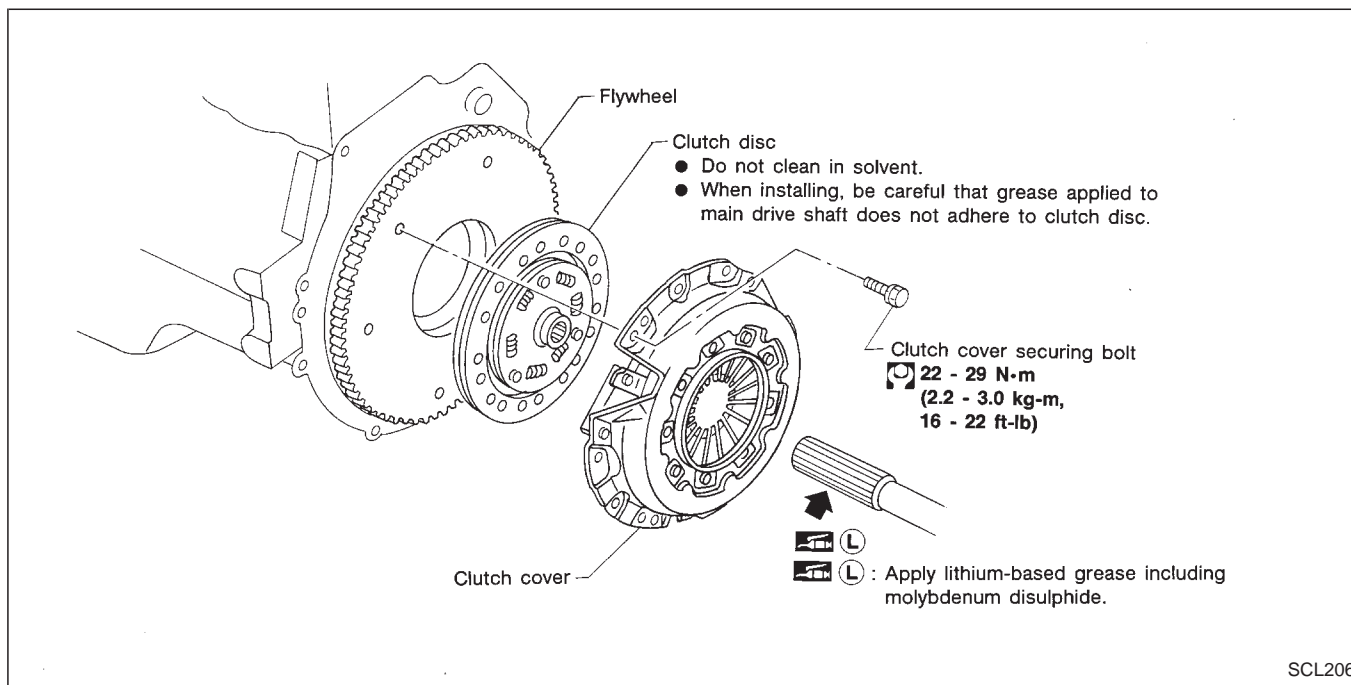
Gasoline engine models



 ® : Apply recommended sealant.

SCL761

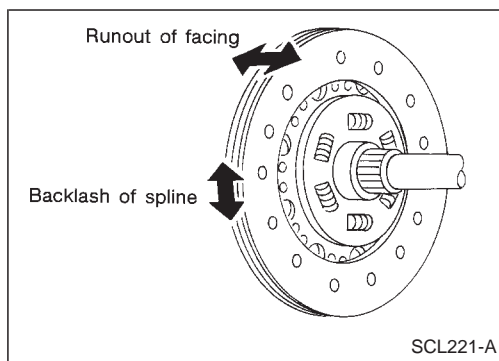
CLUTCH DISC AND CLUTCH COVER



Clutch Disc and Flywheel

INSPECTION

- Check 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):
240 1.0 mm (0.039 in)
250 1.0 mm (0.039 in)
Runout limit:
0.7 mm (0.028 in) TD27 engine only
1.0 mm (0.039 in) Except TD27 engine
Distance of runout check point (from hub center):
240 115 mm (4.53 in)
250 120 mm (4.72 in)
- Check clutch disc for burns, discoloration or oil or grease leakage. Replace if necessary.
- Check contact surface of flywheel for slight burns or discoloration. Repair flywheel with emery paper.
- Check flywheel runout. Refer to EM section.



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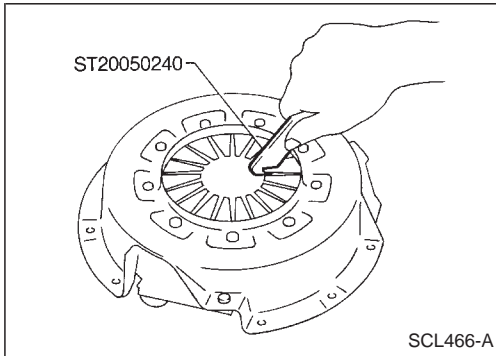
CLUTCH DISC AND CLUTCH COVER

Clutch Disc and Flywheel (Cont'd)

INSTALLATION

- Apply recommended grease to contact surface of spline portion.

Too much lubricant might cause clutch disc facing damage.



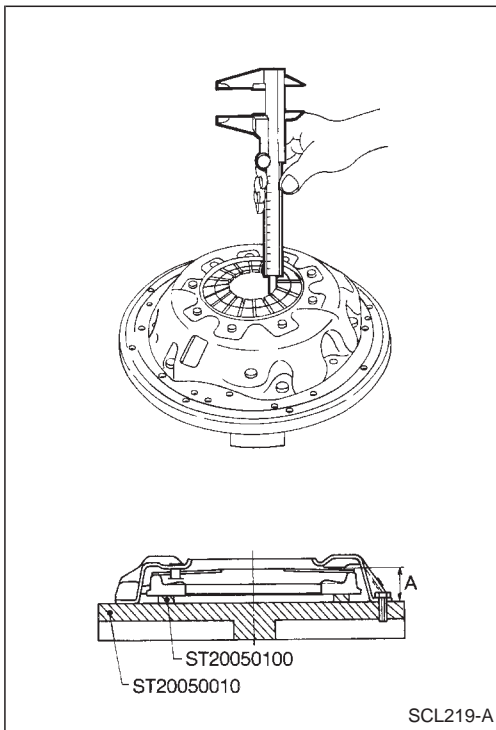
Clutch Cover

INSPECTION

- Adjust unevenness of diaphragm spring with Tool.

Uneven limit:

250	0.5 mm (0.020 in)
240	0.5 mm (0.020 in) Except TD27 engine
	0.7 mm (0.028 in) TD27 engine only



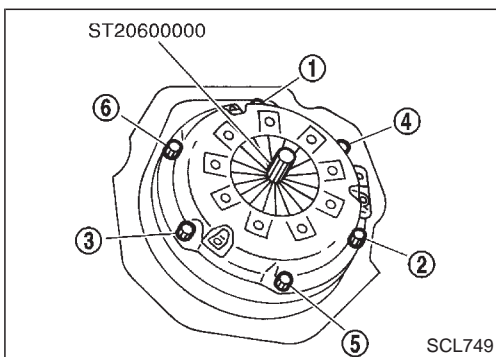
- Set Tool and check height and unevenness of diaphragm spring.

Set 0.2 mm (0.008 in) feeler gauges on distance pieces (ST20050100) when checking 240 or 250.

Diaphragm spring height "A":

240	37.5 - 39.5 mm (1.476 - 1.555 in)
250	37.0 - 39.0 mm (1.457 - 1.535 in)

- Check thrust rings for wear or damage by shaking cover assembly up and down to listen 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. Repair pressure plate with emery paper.
- Check pressure plate and clutch disc contact surface for deformation or damage. Replace if necessary.



INSTALLATION

- Insert Tool into clutch disc hub while 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 (All models)

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

Inner diameter	mm (in)	
LHD model		17.46 (11/16)
RHD model		19.05 (3/4)

CLUTCH DISC

Model	240		250
	NA20S, KA24E, Z24S	TD27	QD32
Engine			
Facing size mm (in) (Outer dia. x inner dia. x thickness)	240 x 150 x 3.5 (9.45 x 5.91 x 0.138)	240 x 160 x 3.5 (9.45 x 6.30 x 0.138)	250 x 160 x 3.5 (9.84 x 6.30 x 0.138)
Thickness of disc assembly With load mm (in)	7.6 - 8.0 (0.299 - 0.315) With 3,923 N (400 kg, 882 lb)	7.5 - 7.9 (0.295 - 0.311) With 3,923 N (400 kg, 882 lb)	7.9 - 8.3 (0.311 - 0.327) With 5,884 N (600 kg, 1,323 lb)

CLUTCH COVER

Model	240		250
	NA20S, TD27	KA24E, Z24S	QD32
Engine			
Full load N (kg, lb)	3,923 (400, 882)	4,413 (450, 992)	5,394 (550, 1,213)

Inspection and Adjustment

CLUTCH PEDAL

Unit: mm (in)

Pedal height "H"	
LHD model	
NA20S, Z24S, TD27 and KA24E engine models	221 - 231 (8.70 - 9.09)
QD32 engine model	236 - 246 (9.29 - 9.69)
RHD model	203 - 213 (7.99 - 8.39)
Pedal free play (at clevis pin)	1 - 1.5 (0.039 - 0.059)

*: Measured from surface of melt sheet to pedal pad

CLUTCH DISC

Unit: mm (in)

Model	240		250
	NA20S, KA24E, Z24S	TD27	QD32
Engine model			
Wear limit of facing surface to rivet head	0.3 (0.012) or more		
Runout limit of facing	1.0 (0.039)	0.7 (0.028)	1.0 (0.039)
Distance of runout check point (from the hub center)	115 (4.53)		120 (4.72)
Maximum backlash of spline (at outer edge of disc)	1.0 (0.039)		1.0 (0.039)

CLUTCH COVER

Unit: mm (in)

Model	240		250
	NA20S, KA24E, Z24S	TD27	QD32
Engine model			
Diaphragm spring height	37.5 - 39.5 (1.476 - 1.555)		37.0 - 39.0 (1.457 - 1.535)
Uneven limit of diaphragm spring toe height	0.5 (0.020)	0.7 (0.028)	0.5 (0.020)

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