

SECTION **CL**

MODIFICATION NOTICE:

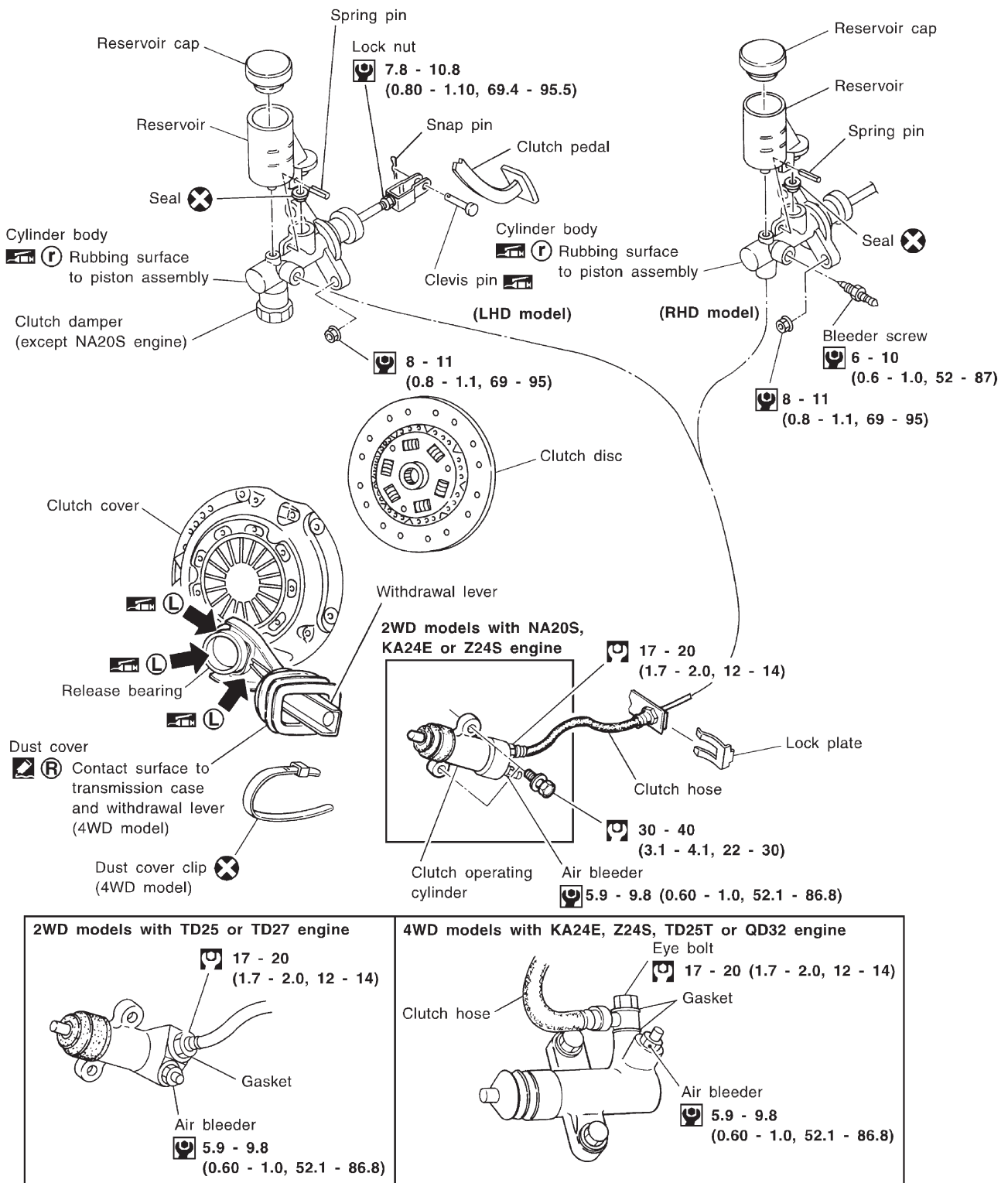
TD25T engine model has been added.

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CLUTCH SYSTEM



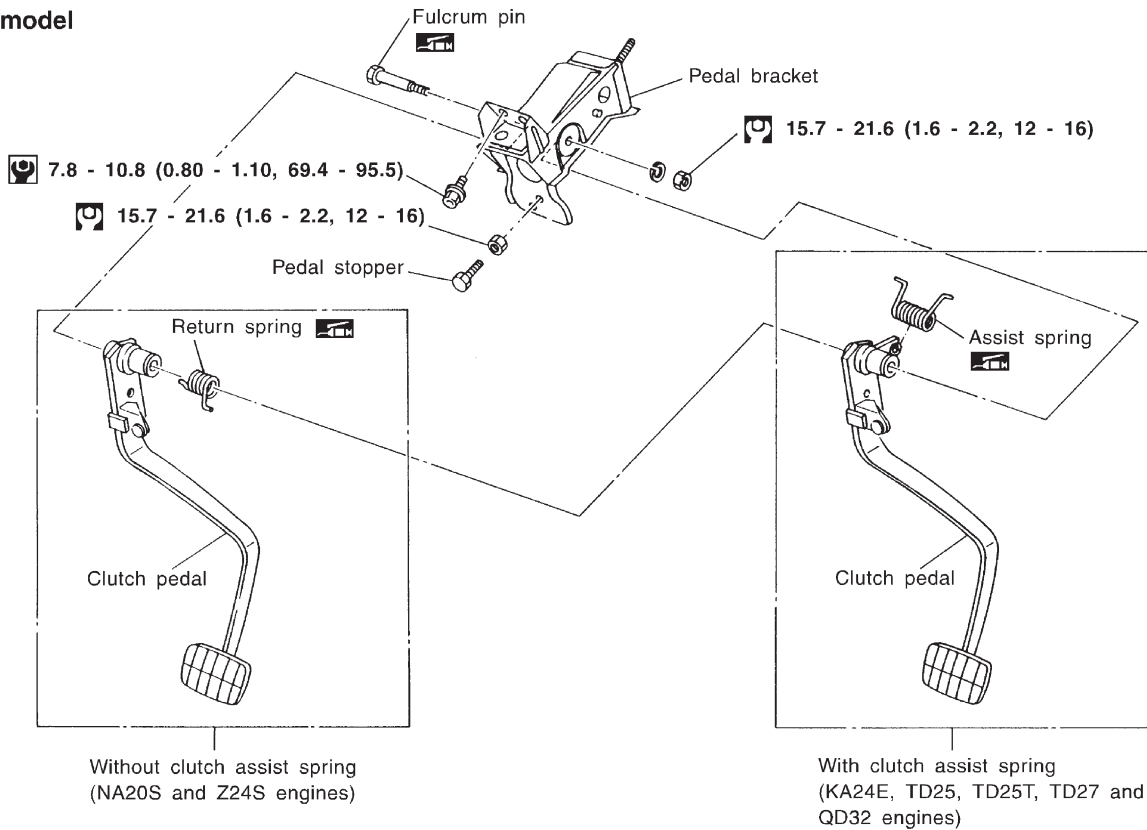
: N•m (kg-m, ft-lb)
 : N•m (kg-m, in-lb)

(R) : Apply recommended sealant, Nissan genuine part: KP115-00100, Three Bond TB1212 or equivalent.
(L) : Apply lithium-based grease including molybdenum disulphide.
(F) : Apply rubber lubricant.

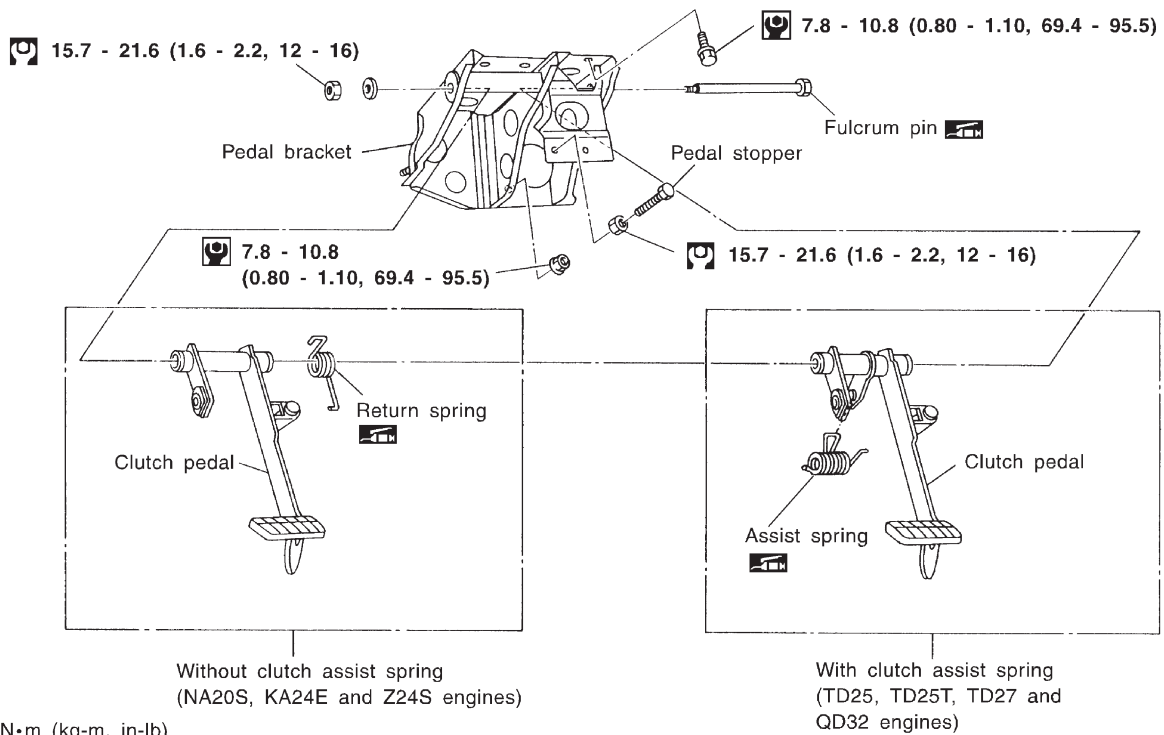
CLUTCH SYSTEM

Clutch Pedal

LHD model



RHD model



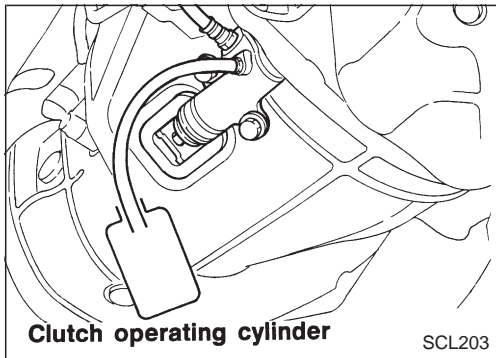
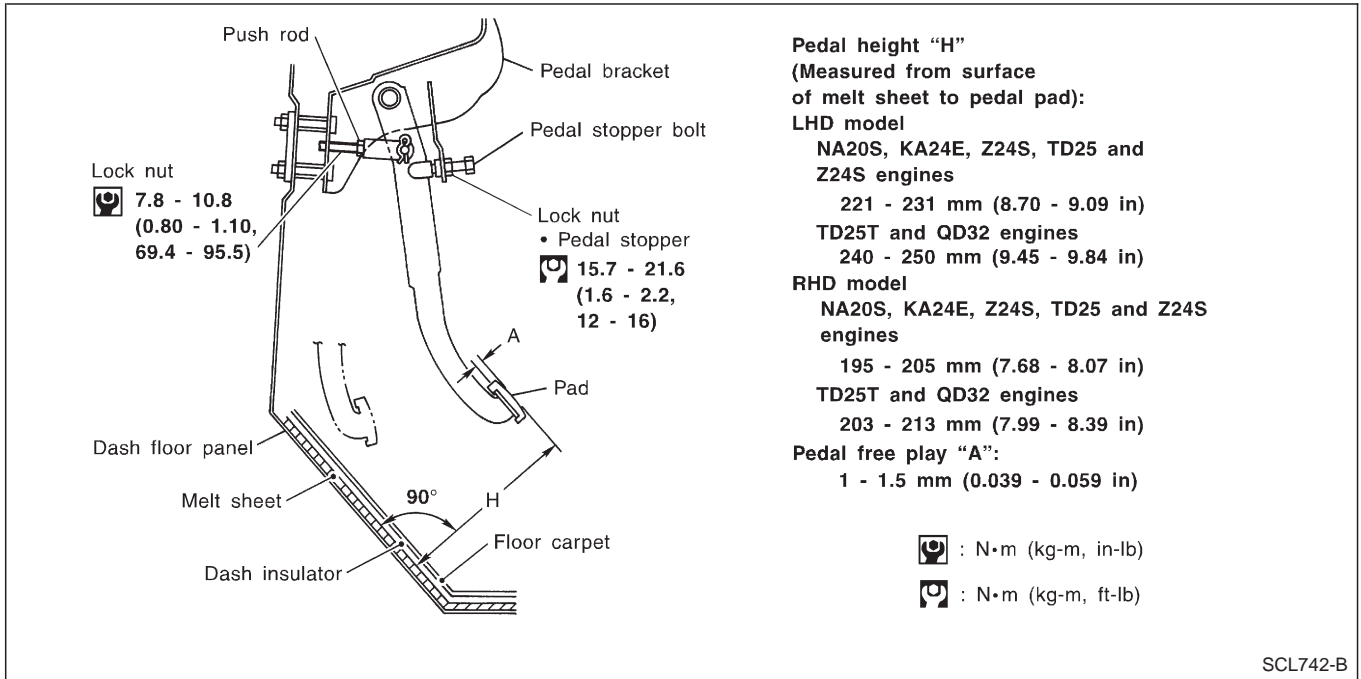
: N·m (kg-m, in-lb)

: N·m (kg-m, ft-lb)

INSPECTION AND ADJUSTMENT

Adjusting Clutch Pedal

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



Air Bleeding Procedure

Bleed air according to the following procedure.

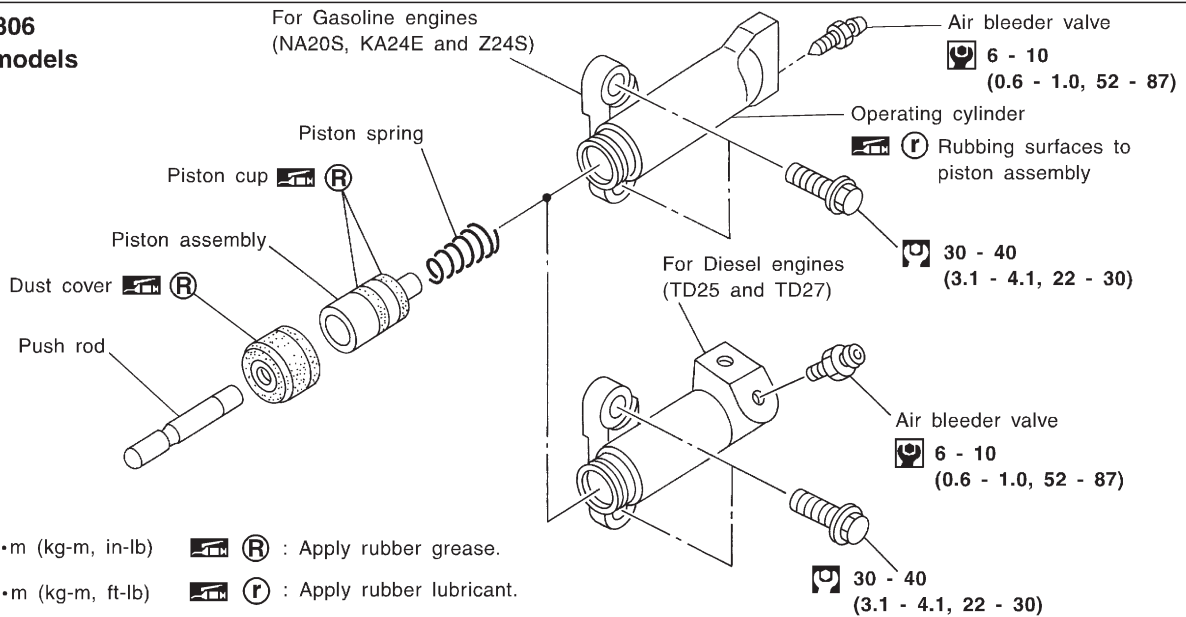
Bleed the air from the master cylinder (RHD models only) and then the operating cylinder.

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

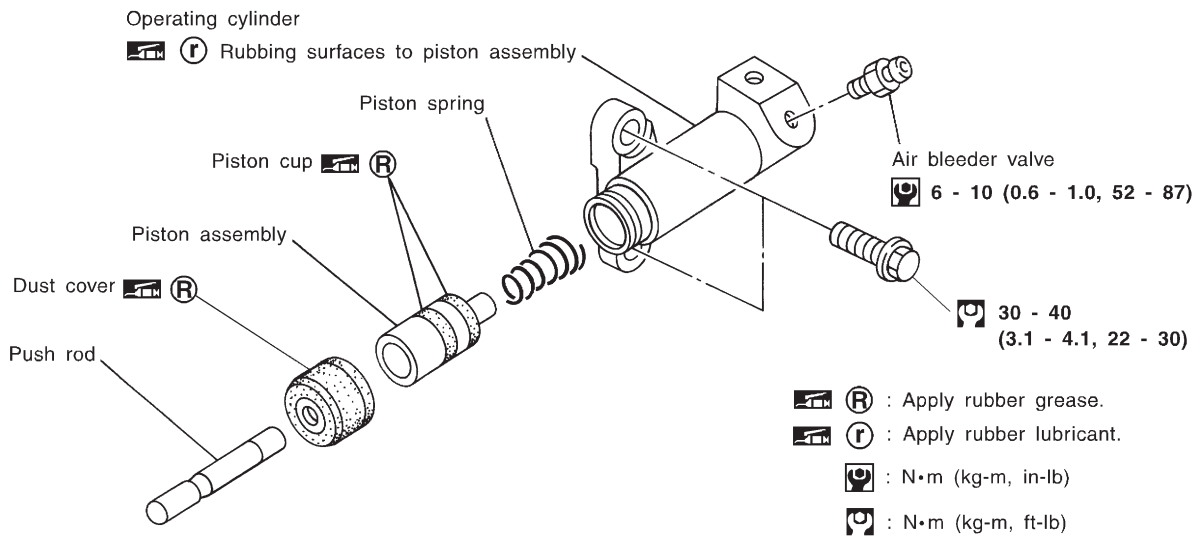
Operating Cylinder

SEC. 306 2WD models



SCL796

SEC. 306 4WD models with KA24E, Z24S, TD25T or QD32 engine



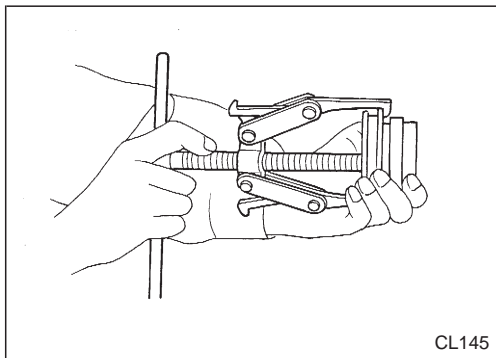
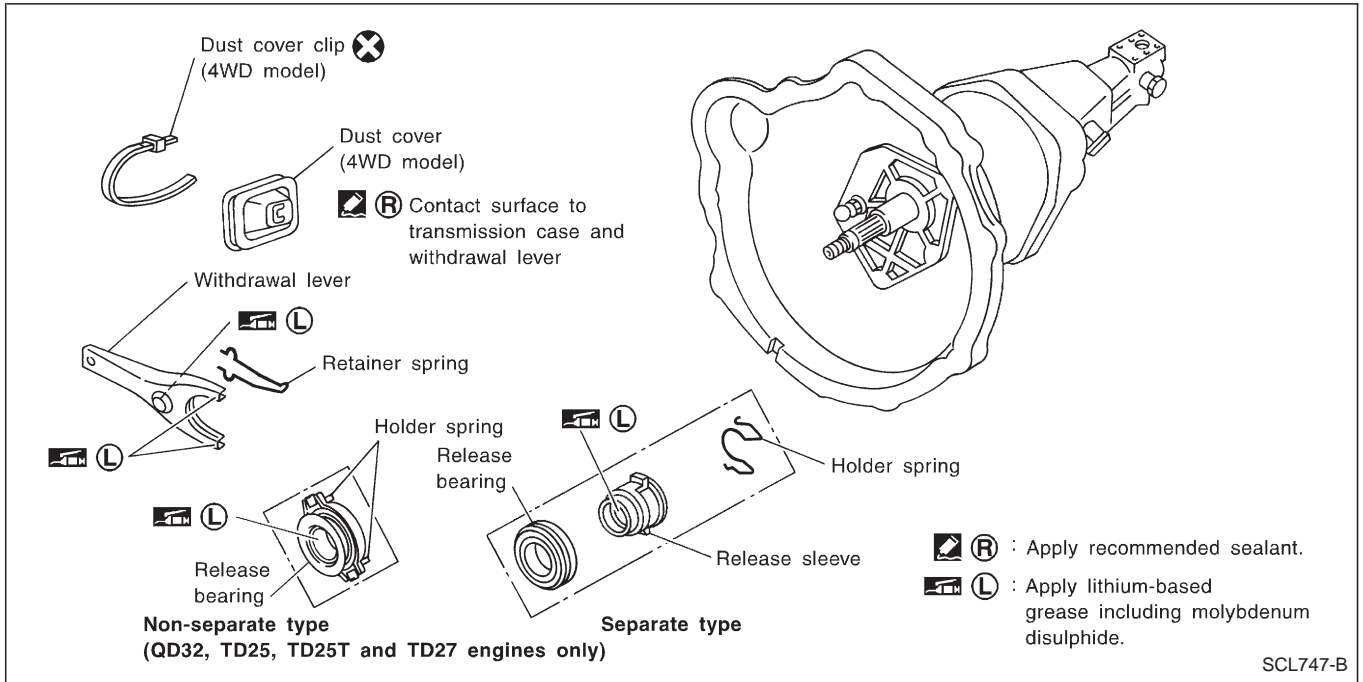
SCL746-B

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.

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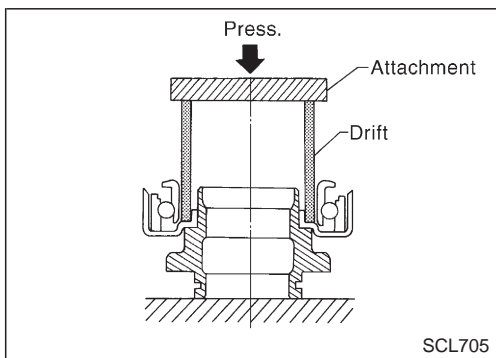
CLUTCH RELEASE MECHANISM



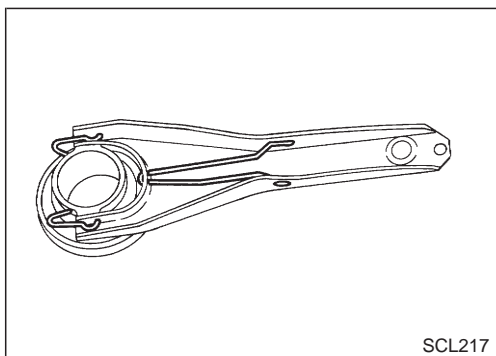
REMOVAL AND INSTALLATION

Separate type

- Remove release bearing.

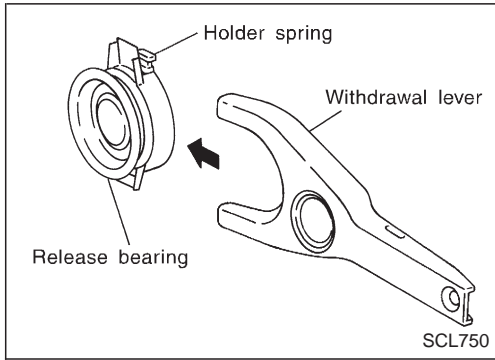


- Install release bearing with suitable drift.



- Install retainer spring and holder spring.

CLUTCH RELEASE MECHANISM



Non-separate type

- Insert the withdrawal lever from the direction of the arrow.

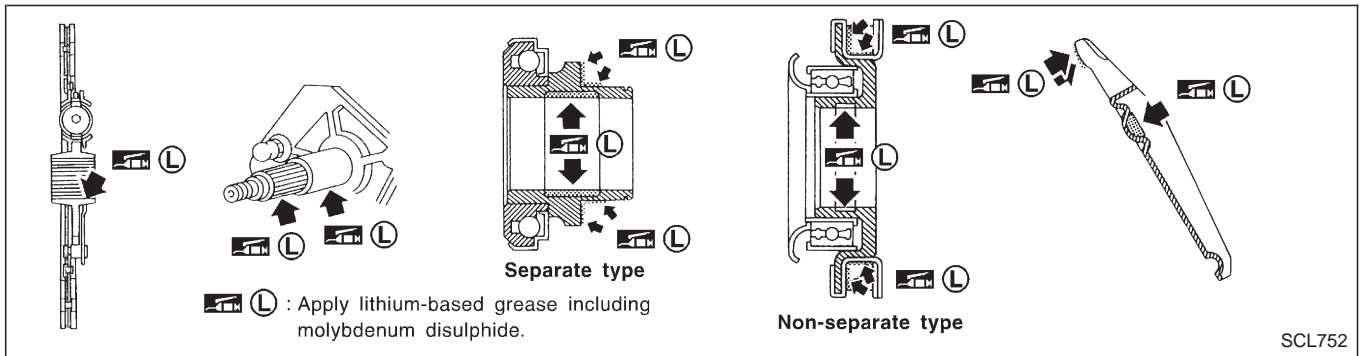
INSPECTION

Check the following items, and replace as necessary.

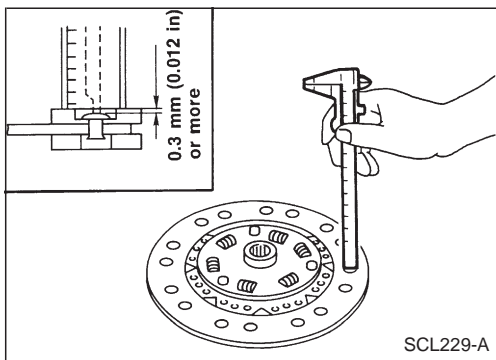
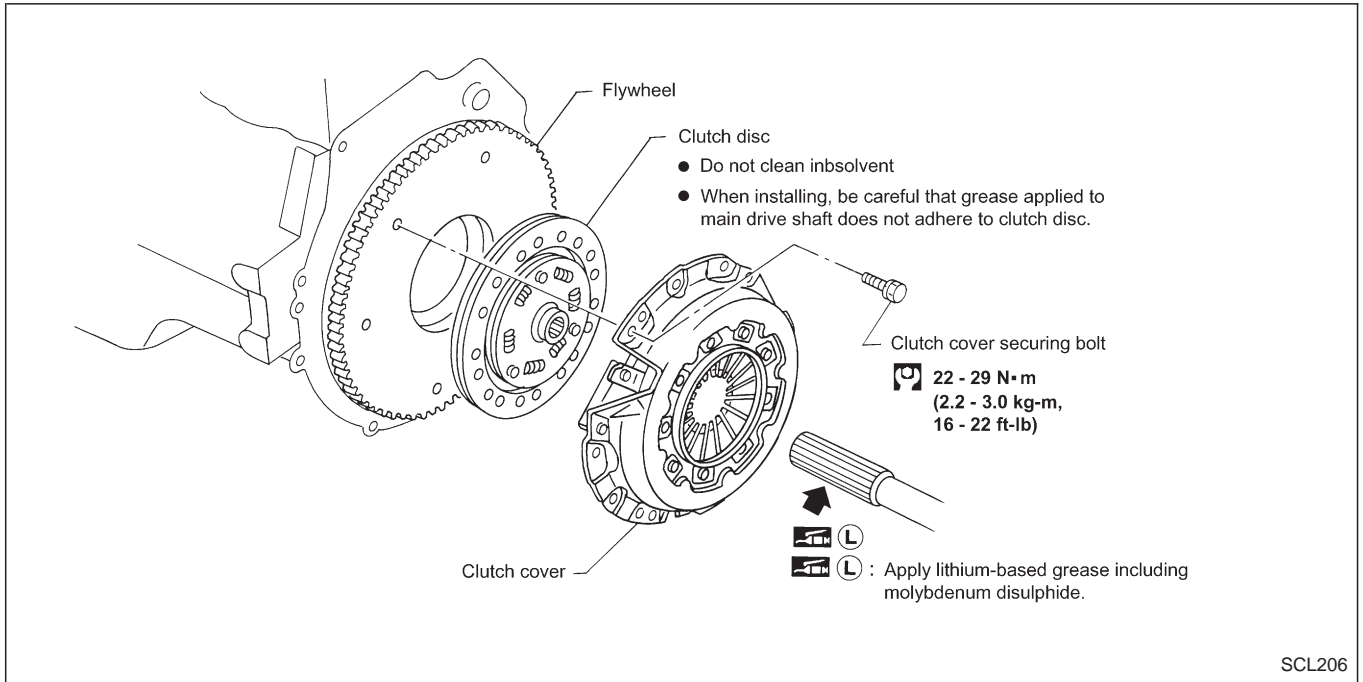
- Release bearing, to see that it rolls freely and is free from noise, cracks, pitting or wear
- Release sleeve and withdrawal lever rubbing surface, for wear, rust or damage

LUBRICATION

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



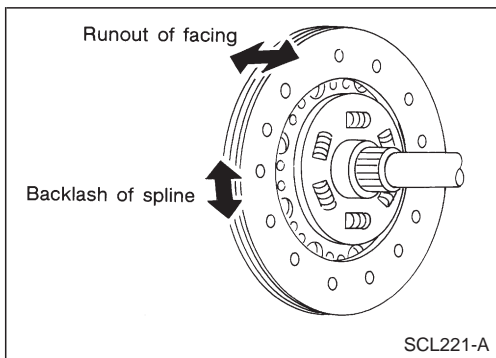
CLUTCH DISC AND CLUTCH COVER



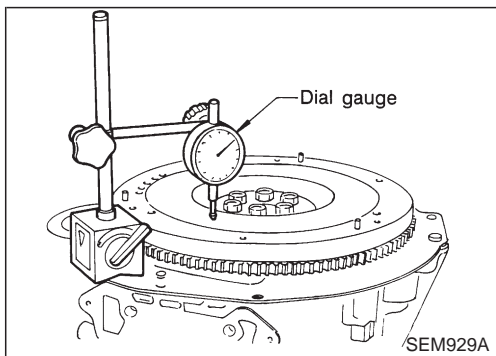
Clutch Disc and Flywheel

INSPECTION

- Check clutch disc for burns, discoloration or oil or grease leakage. Replace if necessary.
- 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) Except TD25T and QD32 engines
250 1.0 mm (0.039 in) TD25T and QD32 engines
Runout limit:
0.7 mm (0.028 in) TD25 and TD27 engines
1.0 mm (0.039 in) Except TD25 and TD27 engines
Distance of runout check point (from hub center):
240 115 mm (4.53 in) Except TD25T and QD32 engines
250 120 mm (4.72 in) TD25T and QD32 engines



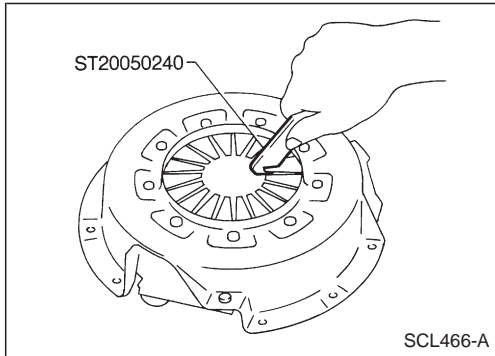
- Check flywheel and clutch disc contact surface for slight burns or discoloration. Repair flywheel with emery paper.
- Check flywheel runout.
Maximum allowable runout:
Refer to EM section ("Inspection", "CYLINDER BLOCK").

CLUTCH DISC AND CLUTCH COVER

Clutch Disc and Flywheel (Cont'd)

INSTALLATION

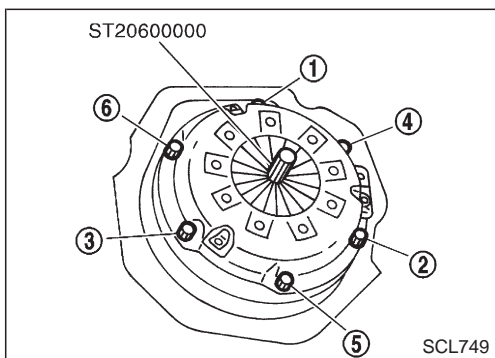
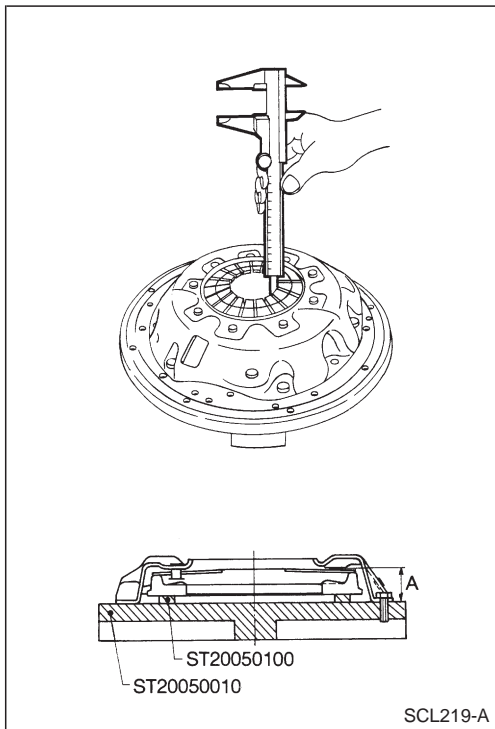
- Apply recommended grease to contact surface of spline portion.
- Too much lubricant might cause clutch disc facing damage.**



Clutch Cover

INSPECTION

- Adjust unevenness of diaphragm spring with Tool.
 - Uneven limit:**
 - 250 0.5 mm (0.020 in) TD25T and QD32 engines
 - 240 0.5 mm (0.020 in) Except TD25 and TD27 engines
 - 0.7 mm (0.028 in) TD25 and TD27 engines
- 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) Except TD25T and QD32 engines
 - 250 36.5 - 38.5 mm (1.437 - 1.516 in) TD25T engine
 - 37.0 - 39.0 mm (1.457 - 1.535 in) QD32 engine
- 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 CONTROL SYSTEM

Type of clutch control	Hydraulic
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CLUTCH MASTER CYLINDER (All models)

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

Unit: mm (in)			
Inner diameter	LHD model	Except TD25T engine	17.46 (11/16)
		TD25T engine	19.05 (3/4)
	RHD model		19.05 (3/4)

CLUTCH DISC

Destination	Australia, Middle East and General areas		
Model	240		250
Engine	NA20S, KA24E, Z24S	TD27	TD25T, QD32
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)

Destination	Europe		
Model	240		250
Engine	KA24E	TD25	TD25T
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 0.183)
Thickness of disc assembly With load mm (in)	7.8 - 8.2 (0.307 - 0.323) With 4,904 N (500 kg, 1,103 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
Engine	NA20S, TD25, TD27	KA24E, Z24S	TD25T, QD32
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, TD25, TD27 and KA24E engine models	221 - 231 (8.70 - 9.09)
TD25T and QD32 engine models	240 - 250 (9.45 - 9.84)
RHD model	
NA20S, Z24S, TD25, TD27 and KA24E engine models	195 - 205 (7.68 - 8.07)
TD25T and QD32 engine models	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
Engine model	NA20S, KA24E, Z24S	TD25, TD27	TD25T, QD32
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)

SERVICE DATA AND SPECIFICATIONS (SDS)

Inspection and Adjustment (Cont'd)

CLUTCH COVER

Unit: mm (in)

Model	240		250
Engine model	NA20S, KA24E, Z24S	TD25, TD27	TD25T, QD32
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)