CLUTCH

SECTION CL

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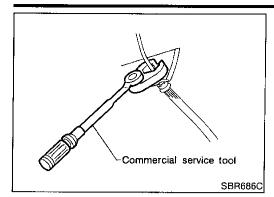
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Precautions

NACL0001

- 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.

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The actual shapes of Ken	Special Service t-Moore tools may differ from those of special service	NACL000.	. Gi
Tool number (Kent-Moore No.) Tool name	Description		MA
ST20630000 (J26366) Clutch aligning bar	a b	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)	ew lc
	NT405		EC
ST20050240 (—) Diaphragm spring adjust ing wrench	a b	Adjusting unevenness of diaphragm spring of clutch cover a: 150 mm (5.91 in) b: 25 mm (0.98 in)	FE
•	NT404		CL

Commercial Service Tools

		1.00	NACL0003
Tool name	Description		TIF
1 Flare nut crowfoot 2 Torque wrench	a	Removing and installing clutch piping a: 10 mm (0.39 in)	 PC
	NT360		AX.
Bearing puller		Removing release bearing	 Sl
			BF
<u> </u>	NT077		ST
Bearing drift		Installing release bearing	ા
	a b	a: 52 mm (2.05 in) dia. b: 45 mm (1.77 in) dia.	RS
	NT474		
	· · · · · · · · · · · · · · · · · · ·		Bī

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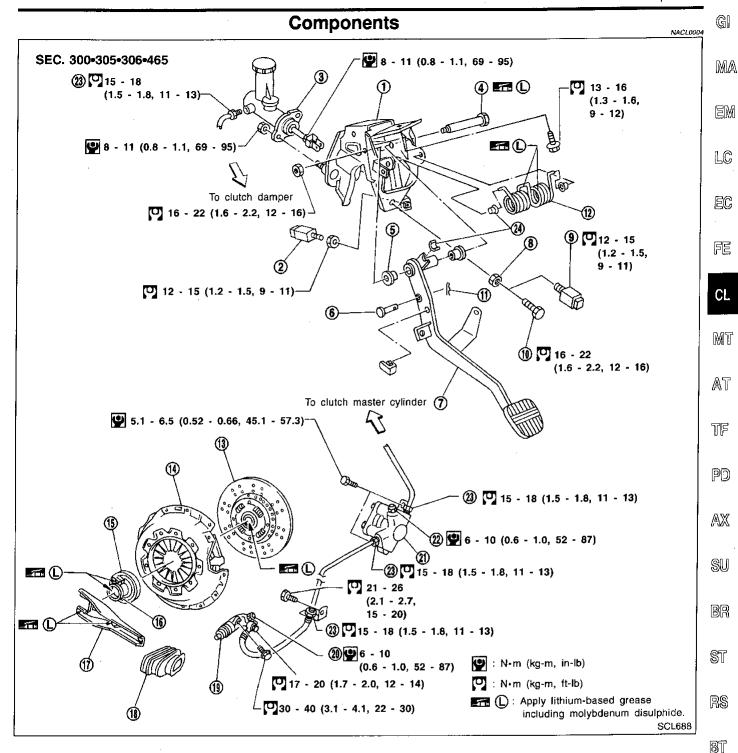
NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

NVH Troubleshooting Chart

NVH Troubleshooting Chart

Use the chart below to help you find the cause of the problem. The numbers indicate the priority of the likely cause of the problem. Check each part in order. If necessary, repair or replace these parts.

Reference	page (CL-)	6	7	8	9	Refer to EM section.	11	13	13	13	13	13	13	13	13	13	13	13	14
SUSPECTE cause)	ED PARTS (Possible	CLUTCH PEDAL (Free play out of adjustment)	CLUTCH LINE (Air in line)	MASTER CYLINDER PISTON CUP (Damaged)	OPERATING CYLINDER PISTON CUP (Damaged)	ENGINE MOUNTING (Loose)	RELEASE BEARING (Worn, dirty or damaged)	CLUTCH DISC (Out of true)	CLUTCH DISC (Runout is excessive)	CLUTCH DISC (Lining broken)	CLUTCH DISC (Dirty or burned)	CLUTCH DISC (Oily)	CLUTCH DISC (Worn out)	CLUTCH DISC (Hardened)	CLUTCH DISC (Lack of spline grease)	DIAPHRAGM SPRING (Damaged)	DIAPHRAGM SPRING (Out of tip alignment)	PRESSURE PLATE (Distortion)	FLYWHEEL (Distortion)
	Clutch grabs/chatters			,		1			2			2	2	2			2		
	Clutch pedal spongy		1	2	2														
Symptom	Clutch noisy						1						į					Î	
Ala	Clutch slips	1	j									2	2			3		4	5
	Clutch does not disengage	1	2	3	4			5	5	5	5	5			5	6	6	7	



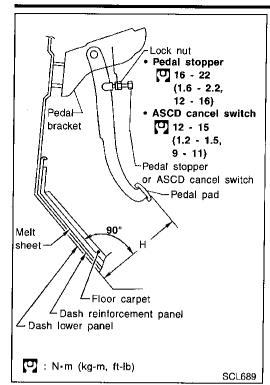
- Clutch pedal bracket
- 2. Clutch interlock switch
- 3. Clutch master cylinder
- Fulcrum pin 4.
- 5. Bushing
- 6. Clevis pin
- 7. Clutch pedal
- Lock nut

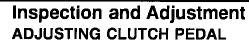
- ASCD cancel switch
- 10. Pedal stopper
- 11. Snap pin
- Assist spring
- 13. Clutch disc
- 14. Clutch cover
- 15. Release bearing
- 16. Release bearing sleeve

- 17. Withdrawal lever
- 18. Dust boot
- 19. Operating cylinder
- 20. Air bleeder
- 21. Clutch damper
- 22. Air bleeder
- 23. Flare nut
- 24. Bushing

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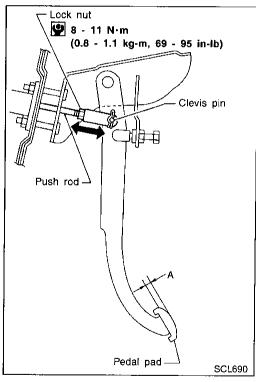


NACL0005

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":

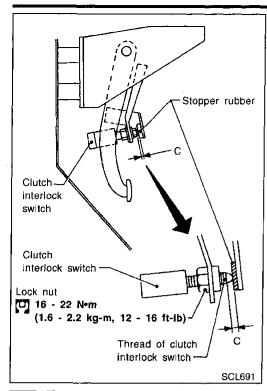
9 - 16 mm (0.35 - 0.63 in)

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.

CLUTCH SYSTEM — HYDRAULIC TYPE

Inspection and Adjustment (Cont'd)





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

Clearance C:

0.3 - 1.0 mm (0.012 - 0.039 in)



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Bleed air from clutch operating cylinder according to the fol-TF

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Connect a transparent vinyl tube to air bleeder valve.

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Fully depress clutch pedal several times. C. d.

Top up reservoir with recommended brake fluid.

AIR BLEEDING PROCEDURE

lowing procedure.

bleeding operation.

With clutch pedal depressed, open bleeder valve to release air.

Carefully monitor fluid level at master cylinder during air

Close bleeder valve.

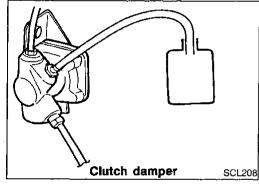
a.

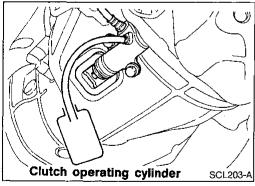
b.

Repeat steps c through e above until brake fluid flows from air bleeder valve without air bubbles.

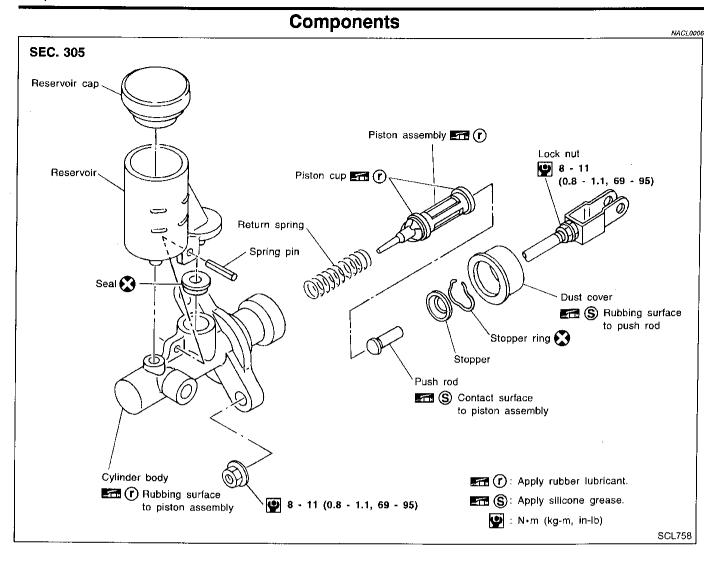
2. Bleed air from clutch damper according to the above proce-

Repeat the above air bleeding procedure 1 and 2 several times.









Disassembly and Assembly

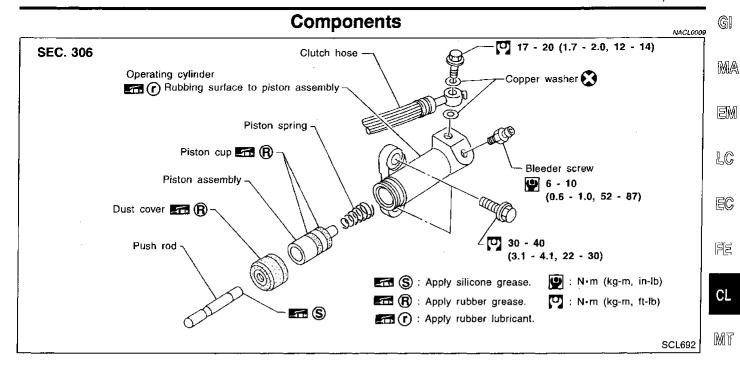
When removing and installing stopper ring, pry it off with screwdriver while pushing push rod into cylinder.

Inspection

NACL0008

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



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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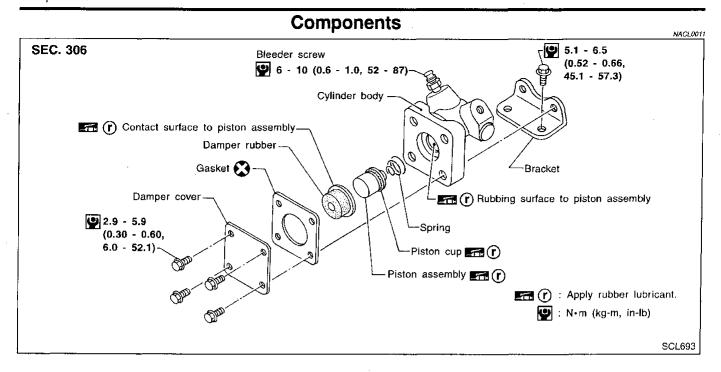
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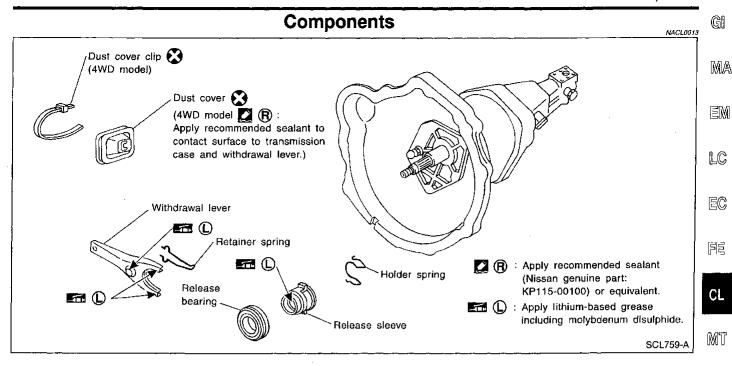


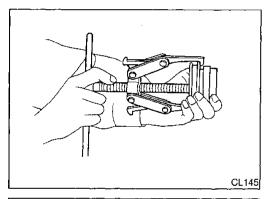
Inspection

NACL0012

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







Remove release bearing.

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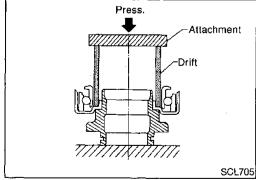
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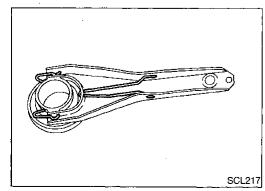
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Install release bearing with suitable drift.

Install retainer spring and holder spring.



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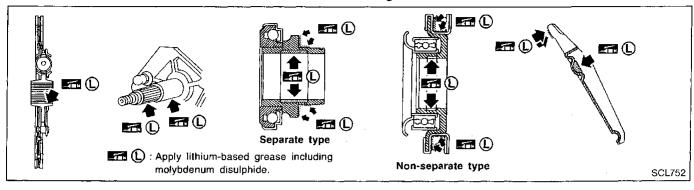
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Inspection

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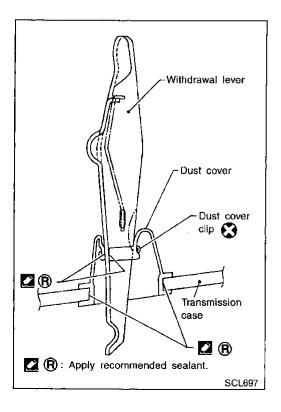
Check the following items, and replace if necessary.

- 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

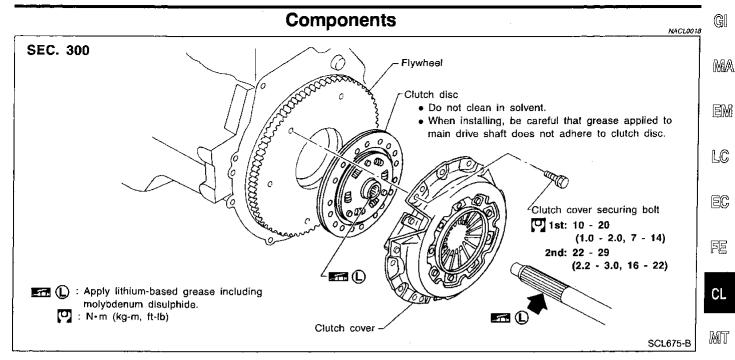
- Apply recommended grease to contact surface and rubbing surface.
- Too much lubricant might damage clutch disc facing dam-

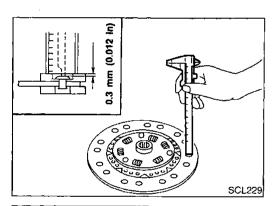


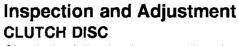
Waterproof — for 4WD Model

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







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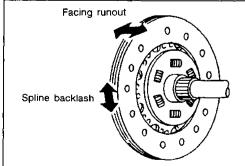
NACL0019S01

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)



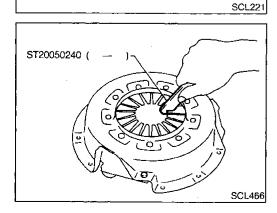
Clutch disc, for backlash of spline and runout of facing Maximum backlash of spline (at outer edge of disc): 1.0 mm (0.039 in)

Runout limit:

1.0 mm (0.039 in)

Distance of runout check point (from hub center):

120 mm (4.72 in)



CLUTCH COVER AND FLYWHEEL

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.

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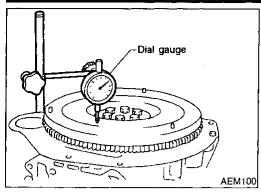
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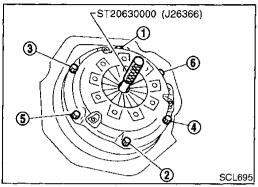
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CLUTCH DISC, CLUTCH COVER AND FLYWHEEL

Inspection and Adjustment (Cont'd)





FLYWHEEL INSPECTION CAUTION:

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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

NACL0020

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

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

SERVICE DATA AND SPECIFICATIONS (SDS)

Clutch Control System

Clutch	Control System							
Type of clutch control								
Clutch	Master Cylinder							
Inner diameter	15.87 mm (5/8 in)							
Clutch	Operating Cylinder							
Inner diameter	19.05 mm (3/4 in)							
Clutch	Damper							
Inner diameter	19.05 mm (3/4 in)							
Clutch								
Ciuten	NACL0023 Unit: mm (in)							
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)							
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 MCL0024 Unit: mm (in)							
Model	250							
Set-load	5,884 N (600 kg, 1,323 lb)							
Diaphragm spring height	36.5 - 38.5 (1.437 - 1.516)							
Uneven limit of diaphragm spring toe height	0.5 (0.020)							
Clutch I	Pedal NACLO025 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 nterlock switch (when depressing clutch pedal fully.)	0.3 - 1.0 (0.012 - 0.039)							
Measured from surface of dash lower panel to pedal pad.	•							



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