

CLUTCH

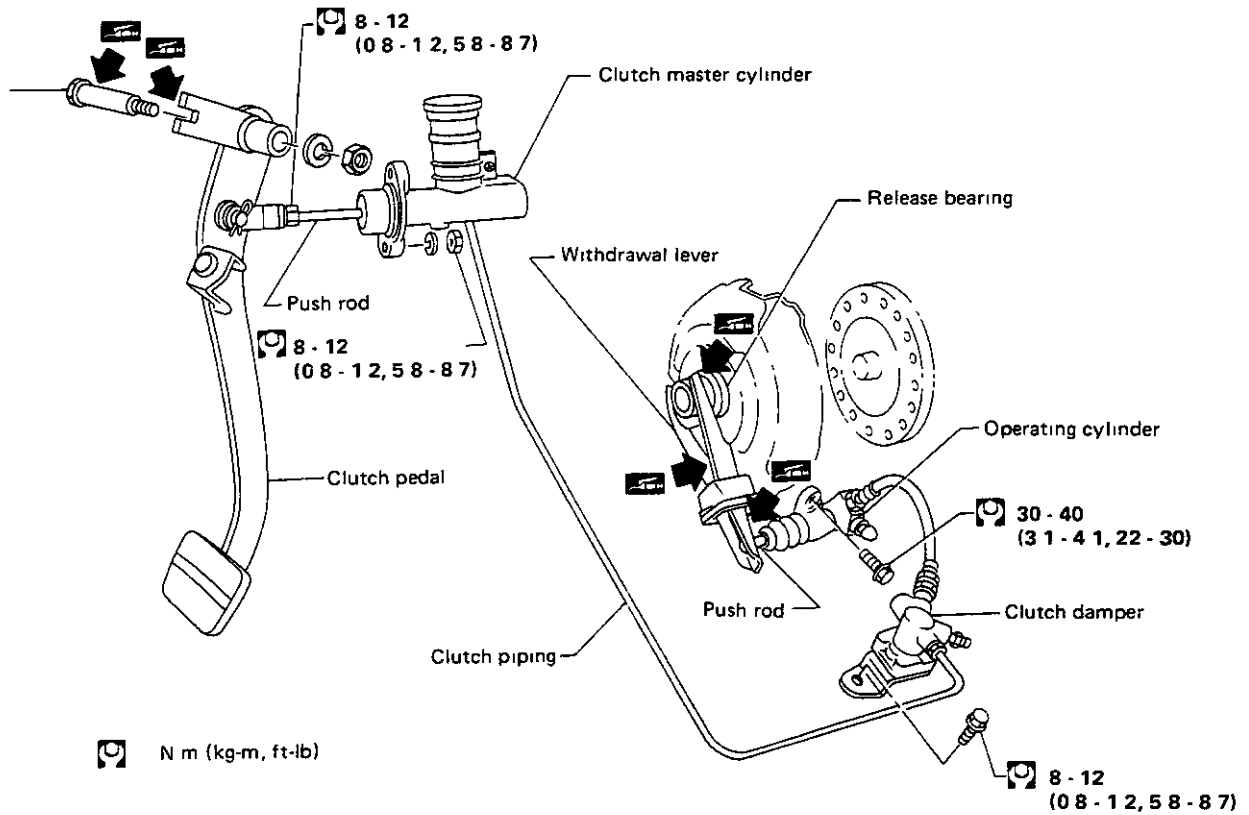
SECTION CL

CONTENTS

HYDRAULIC CLUTCH CONTROL	CL- 2
CLUTCH UNIT	CL- 7
SERVICE DATA AND SPECIFICATIONS (S D S)	CL-10
SPECIAL SERVICE TOOLS	CL-12



HYDRAULIC CLUTCH CONTROL



SCL161

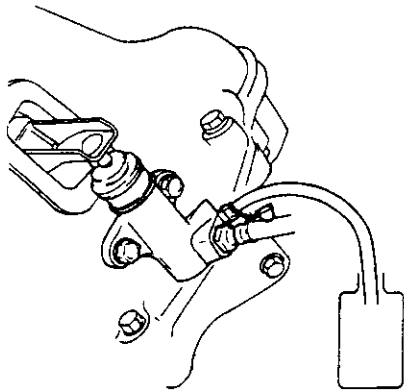
Precautions

- 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 tube, use Tool GG94310000.
- To clean or wash all parts of master cylinder, operating cylinder and clutch damper, clean brake fluid must be used.
- Never use mineral oils such as gasoline or kerosene. It will ruin the rubber parts of the hydraulic system.

HYDRAULIC CLUTCH CONTROL

Bleeding Procedure

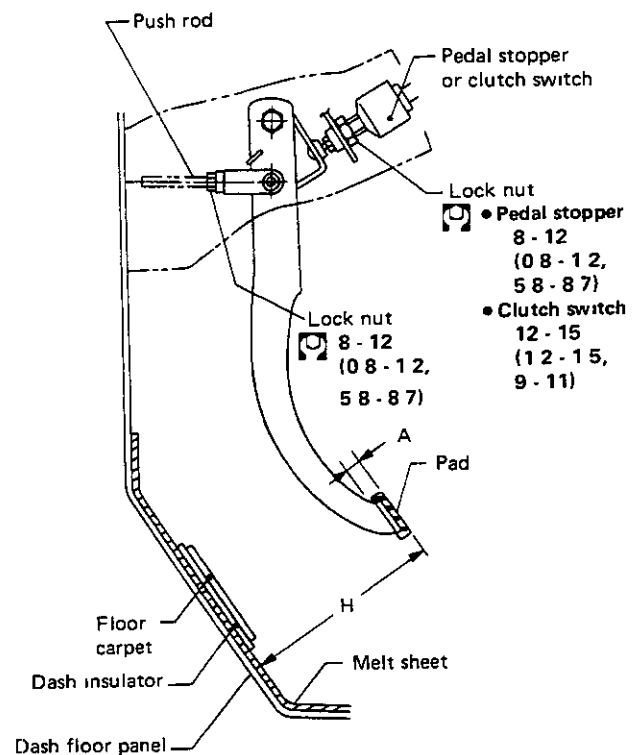
- Carefully monitor fluid level at master cylinder during bleeding operation.
- 1 Top up reservoir with recommended brake fluid
 - 2 Connect a transparent vinyl tube to air bleeder valve of operating cylinder




SCL009

3. Fully depress clutch pedal several times
- 4 With clutch pedal depressed, open bleeder valve to release air
- 5 Close bleeder valve.
6. Repeat steps 3 through 5 above until clear brake fluid comes out of air bleeder valve

Adjusting Clutch Pedal



 N m (kg-m, ft-lb)

SCL162

Pedal height "H"

195 - 205 mm (7.68 - 8.07 in)

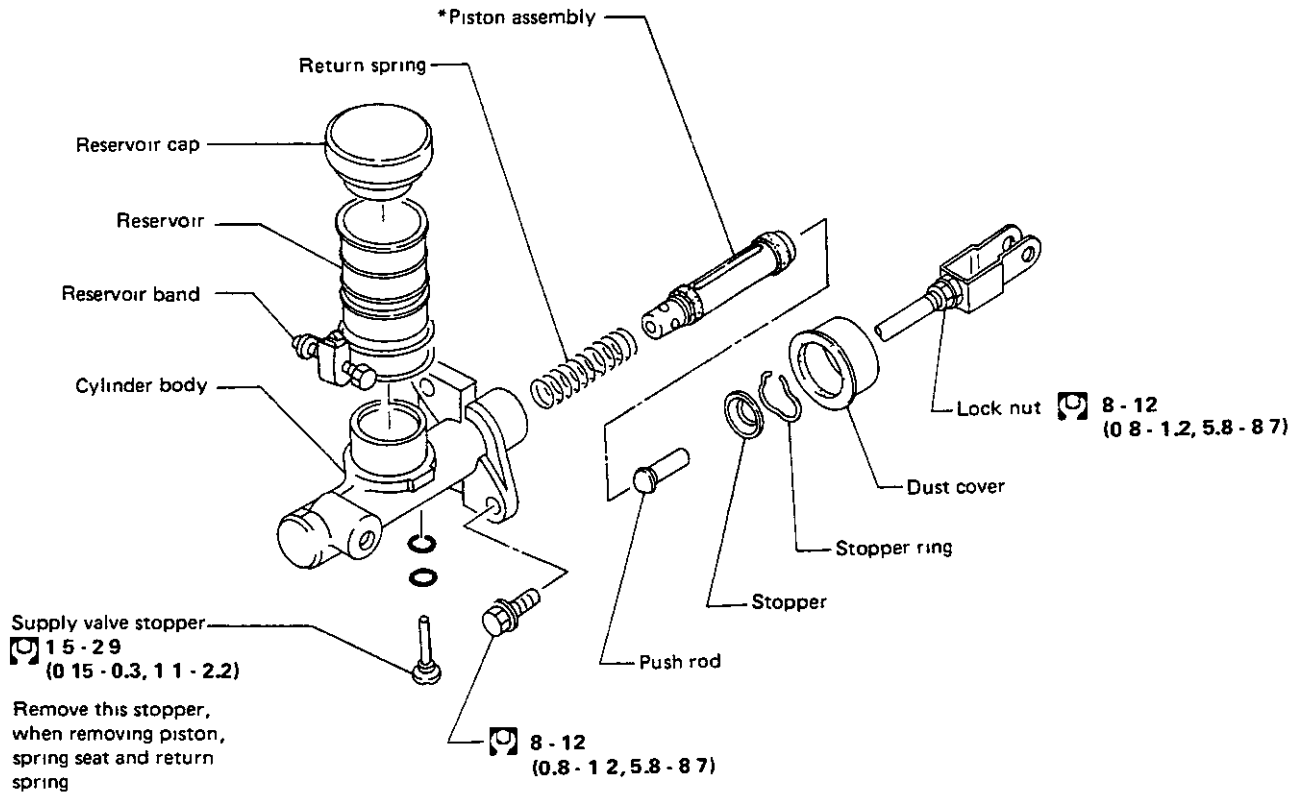
Pedal free play "A"

1 - 3 mm (0.04 - 0.12 in)


- 1 Adjust pedal height with pedal stopper or clutch switch
- 2 Adjust pedal free play with push rod

HYDRAULIC CLUTCH CONTROL

Clutch Master Cylinder



* Do not reuse it after removal

 N m (kg-m, ft-lb)

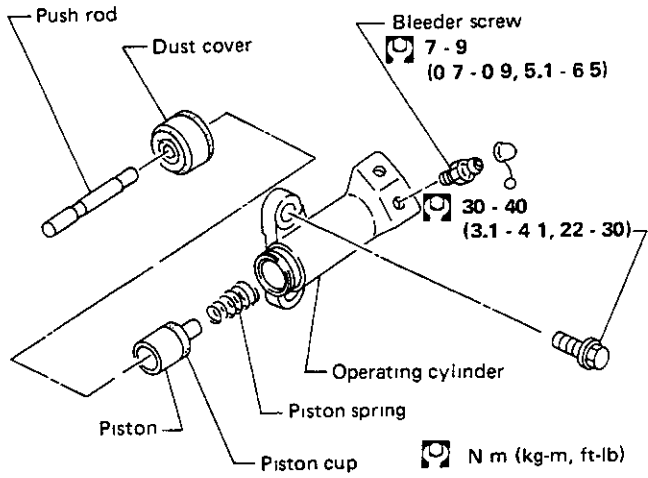
SCL163

INSPECTION

- Check parts for wear or damage. Replace if any of above conditions are observed.

HYDRAULIC CLUTCH CONTROL

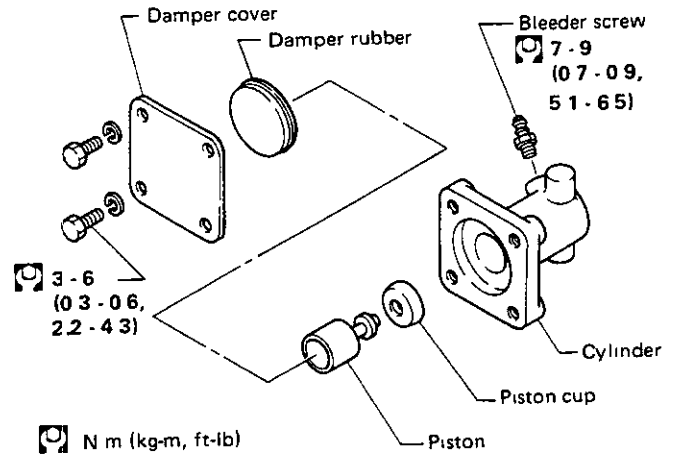
Operating Cylinder



SCL164

- Do not reuse piston cup and dust cover after removal

Clutch Damper



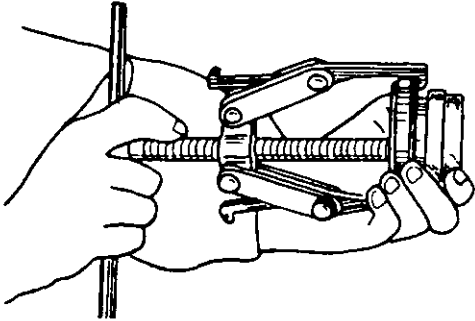
SCL165

- Do not reuse piston cup
- Do not let oil touch the damper rubber as it will ruin the rubber

HYDRAULIC CLUTCH CONTROL

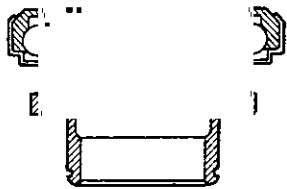
Release Bearing

REMOVAL AND INSTALLATION



CL145

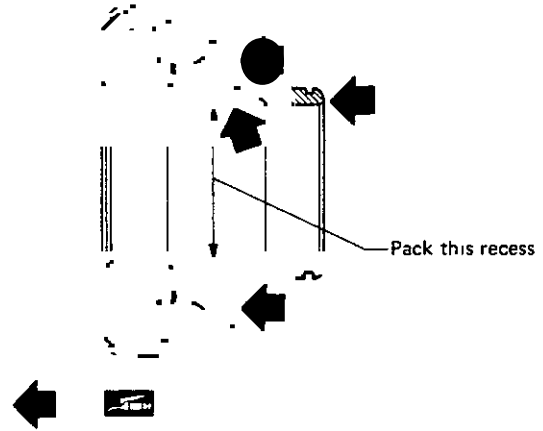
Press



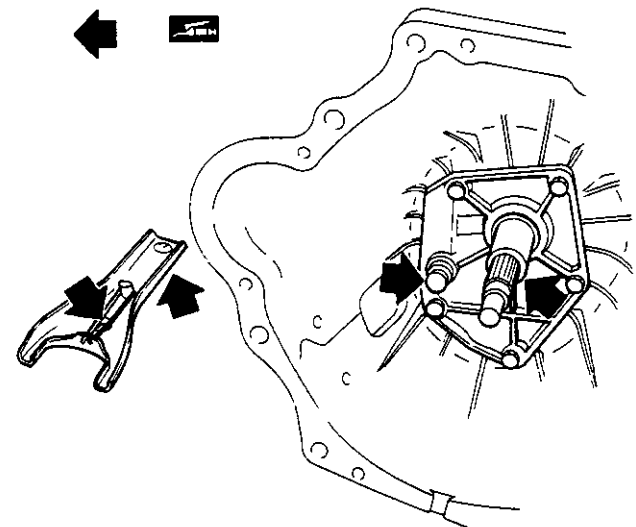
SCL166

LUBRICATION

- Apply recommended grease to contact surface and sliding surface
- A small amount of recommended grease should be applied



SCL167

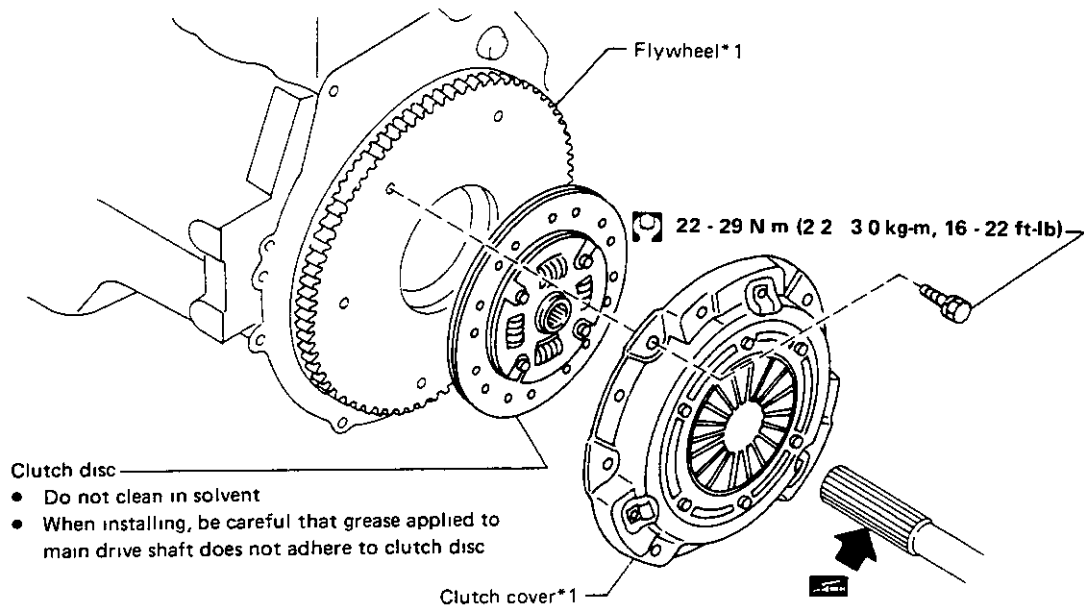


SCL168

CLUTCH UNIT

Clutch Unit

- *1 Slight burn or discoloration of contact surface with clutch disc can be fixed by polishing with emery paper



Clutch disc

- Do not clean in solvent
- When installing, be careful that grease applied to main drive shaft does not adhere to clutch disc

Clutch cover*1

SCL158

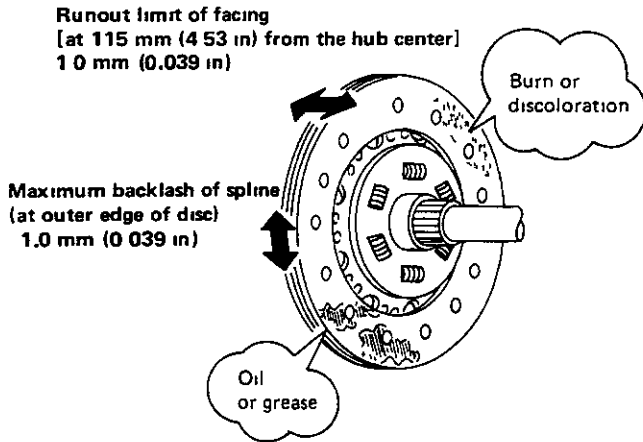
WARNING:

Clean away clutch disc dust using a dust collector after cleaning with a cloth. Do not use compressed air.

CLUTCH UNIT

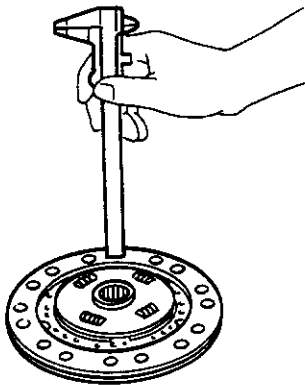
Inspecting Clutch Disc

Check clutch disc for runout, etc



SCL153

Check clutch disc for wear



- Measure the depth of rivet head
More than 0.3 mm (0.012 in)

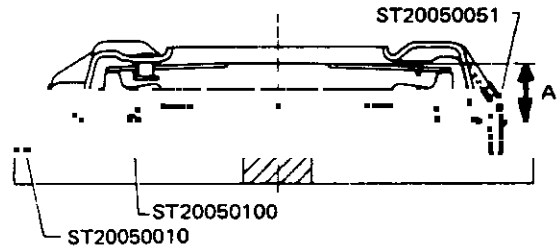
SCL169

Inspecting Clutch Cover

- Check height and unevenness of diaphragm spring after setting Tool.

Diaphragm spring height "A":
37.5 - 39.5 mm (1.476 - 1.555 in)

Unevenness:
Less than 0.5 mm (0.020 in)



SCL155

- Adjust unevenness of diaphragm spring with Tool.

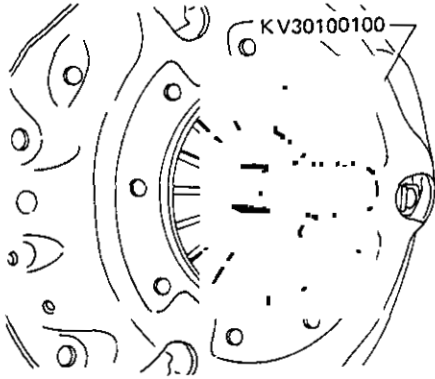


- Check thrust rings for wear or damage by shaking cover assembly up and down to listen for chattering noise, or lightly hammering on rivets for a slightly cracked noise.

CLUTCH UNIT

Installing Clutch Cover

- Insert Tool into clutch disc hub when installing clutch cover and disc



SCL170

SERVICE DATA AND SPECIFICATIONS (S.D.S.)

General Specifications

CLUTCH CONTROL SYSTEM

Type of clutch control	Hydraulic
------------------------	-----------

CLUTCH MASTER CYLINDER

Inner diameter	mm (in)	15 88 (5/8)
----------------	---------	-------------

CLUTCH OPERATING CYLINDER

Inner diameter	mm (in)	19 05 (3/4)
----------------	---------	-------------

CLUTCH DISC

Model	240TBL
-------	--------

Facing size	240 x 160 x 3 5
Outer dia x inner dia x thickness	mm (in) (9 45 x 6 30 x 0 138)

Thickness of disc assembly	
Free	mm (in) 8 6 - 9 3 (0 339 - 0 366)

With load 5,884 N (600 kg, 1,323 lb)	mm (in) 7 8 - 8 2 (0 307 - 0 323)
--------------------------------------	-----------------------------------

Number of torsion springs	6
---------------------------	---

CLUTCH COVER

Model	C240S
-------	-------

Full load	N (kg, lb)	
VG30E engine		5,688 (580, 1,279)

VG30ET engine		5,884 (600, 1,323)
---------------	--	--------------------

Inspection and Adjustment

CLUTCH DISC

Unit mm (in)

Model	240TBL
-------	--------

Wear limit of facing surface to rivet head	0 3 (0 012)
--	-------------

Runout limit	1 0 (0 039)
--------------	-------------

Distance of runout checkpoint (from the hub center)	115 (4 53)
---	------------

Maximum backlash of spline (at outer edge of disc)	1 0 (0 039)
--	-------------

CLUTCH COVER

Unit mm (in)

Model	C240S
-------	-------

Diaphragm spring height	37 5 - 39 5 (1 476 - 1 555)
-------------------------	-----------------------------

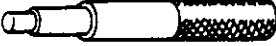
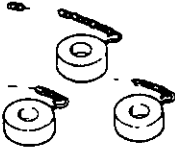
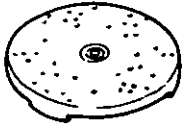


Unevenness of diaphragm spring toe height	Less than 0 5 (0 020)
---	-----------------------

SERVICE DATA AND SPECIFICATIONS (S.D.S.)

Tightening Torque

Unit	N m	kg-m	ft-lb
Pedal stopper lock nut	8 - 12	08 - 12	58 - 87
Clutch switch lock nut	12 - 15	12 - 15	9 - 11
Master cylinder push rod lock nut	8 - 12	08 - 12	58 - 87
Supply valve stopper	15 - 29	015 - 03	11 - 22
Master cylinder securing nut	8 - 12	08 - 12	58 - 87
Clutch tube flare nut	15 - 18	15 - 18	11 - 13
Bleeder screw	7 - 9	07 - 09	51 - 65
Operating cylinder securing nut	30 - 40	31 - 41	22 - 30
Clutch hose to operating cylinder securing nut	17 - 20	17 - 20	12 - 14
Damper cover to cylinder bolt	3 - 6	03 - 06	22 - 43
Clutch cover securing bolt	22 - 29	22 - 30	16 - 22

SPECIAL SERVICE TOOLS

Tool number (Kent-Moore No.)	Tool name
KV30100100 (-)	Clutch aligning bar 
ST20050100 (-)	Distance piece 
ST20050010 (-)	Base plate 
ST20050051 (-)	Set bolt 
ST20050240 (-)	Diaphragm spring adjusting wrench 
GG94310000 (-)	Flare nut torque wrench 