

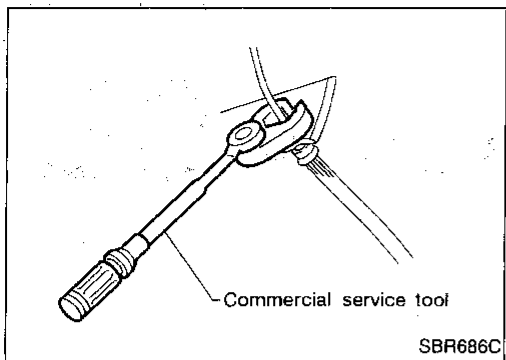
SECTION **CL**

GI
MA
EM
LC
EC
FE
CL
MT
AT
FA
RA
BR
ST
RS
BT
HA
EL
IDX

CONTENTS

PRECAUTIONS AND PREPARATION	2	Clutch Disc.....	9
Precautions	2	Inspection	9
Special Service Tools.....	2	Installation.....	9
CLUTCH SYSTEM — Hydraulic Type	3	Clutch Cover and Flywheel.....	10
INSPECTION AND ADJUSTMENT	4	Inspection And Adjustment	10
Adjusting Clutch Pedal.....	4	Flywheel Inspection	10
For USA model only	5	Installation.....	10
Bleeding Procedure	5	SERVICE DATA AND SPECIFICATIONS (SDS)	11
HYDRAULIC CLUTCH CONTROL	6	General Specifications	11
Clutch Master Cylinder	6	Clutch Control System.....	11
Disassembly And Assembly	6	Clutch Master Cylinder	11
Inspection	7	Clutch Operating Cylinder	11
Operating Cylinder	7	Clutch Disc	11
Inspection	7	Clutch Cover.....	11
CLUTCH RELEASE MECHANISM	8	Inspection and Adjustment.....	11
Inspection	8	Clutch Pedal	11
Lubrication	8	Clutch Disc	11
CLUTCH DISC AND CLUTCH COVER	9	Clutch Cover.....	11

PRECAUTIONS AND PREPARATION



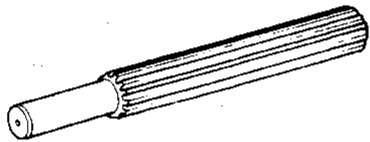
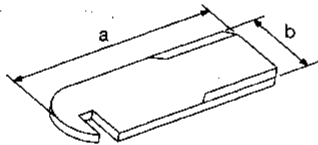
Precautions

- Recommended fluid is brake fluid "DOT 3".
- Never reuse drained brake fluid.
- Be careful not to splash brake fluid on painted areas.
- Use flare nut wrench when removing and installing clutch piping.
- 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.

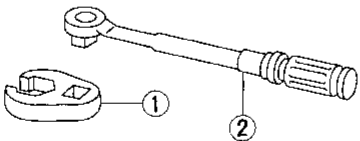
WARNING:

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

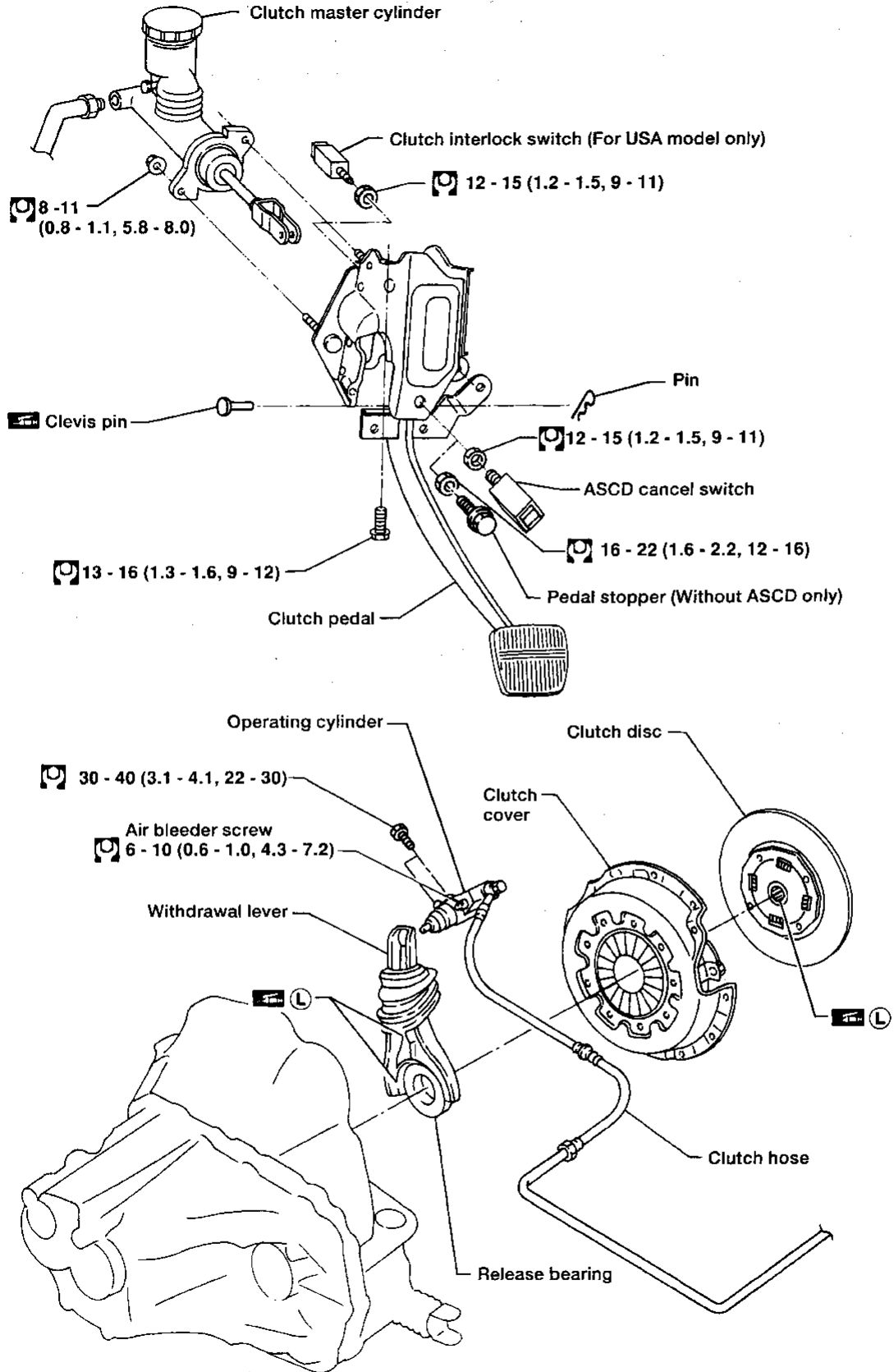
Special Service Tools

Tool number (Kent-Moore No.) Tool name	Description
KV30101000 (J33213) Clutch aligning bar	 <p style="text-align: right;">Installing clutch cover and clutch disc</p>
ST20050240 (—) Diaphragm spring adjusting wrench	 <p style="text-align: right;">Adjusting unevenness of diaphragm spring of clutch cover</p> <p style="text-align: right;">a: 150 mm (5.91 in) b: 25 mm (0.98 in)</p>

Commercial Service Tools

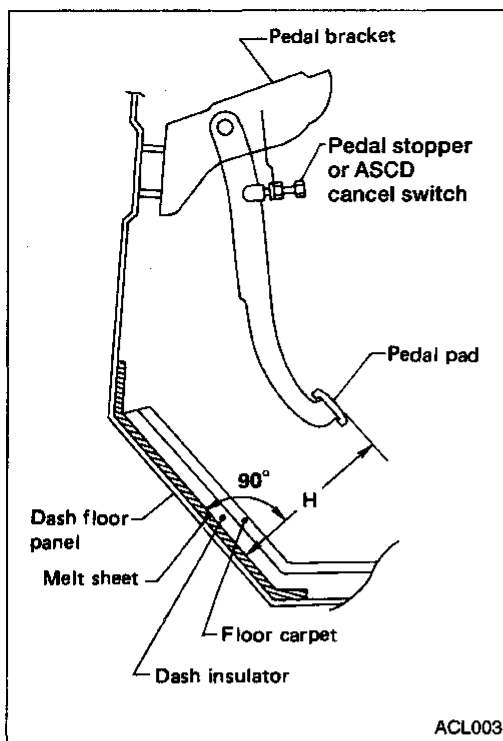
Tool name	Description
① Flare nut crows foot ② Torque wrench	 <p style="text-align: right;">Removing and installing clutch piping</p> <p style="text-align: right;">a: 10 mm (0.39 in)</p>

CLUTCH SYSTEM — Hydraulic Type



L : Apply lithium-based grease including molybdenum disulphide.
 : N·m (kg-m, ft-lb)

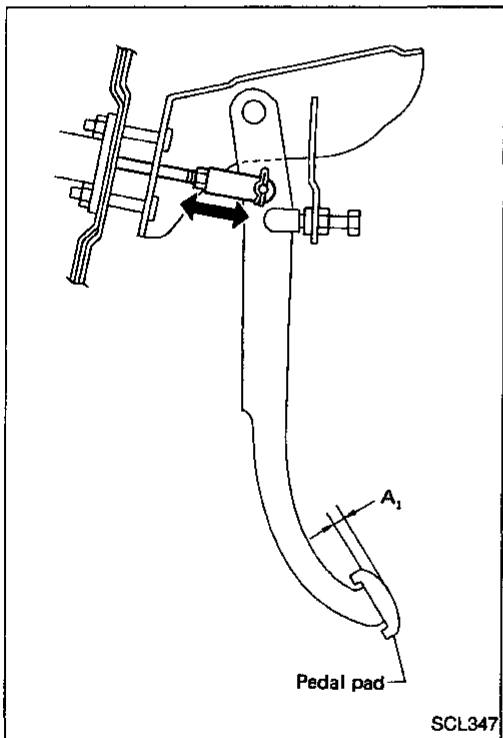
GI
 MA
 EM
 LC
 EC
 FE
CL
 MT
 AT
 FA
 RA
 BR
 ST
 RS
 BT
 HA
 EL
 IDX



Adjusting Clutch Pedal

1. Adjust pedal height with pedal stopper or ASCD cancel switch.

Pedal height "H":
168 - 178 mm (6.61 - 7.01 in)



2. Adjust pedal free play with master cylinder push rod. Then tighten lock nut.

Pedal free play is play due to clevis pin and clevis pin hole.

Pedal free play (measured at pedal pad) "A₁":
9 - 16 mm (0.35 - 0.63 in)

INSPECTION AND ADJUSTMENT

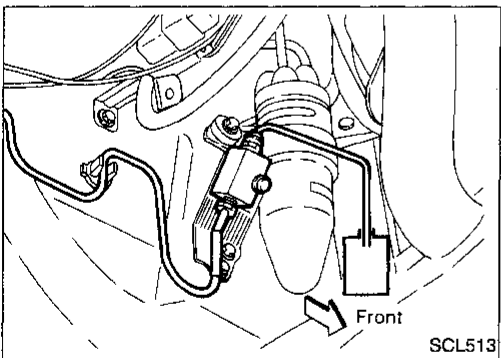
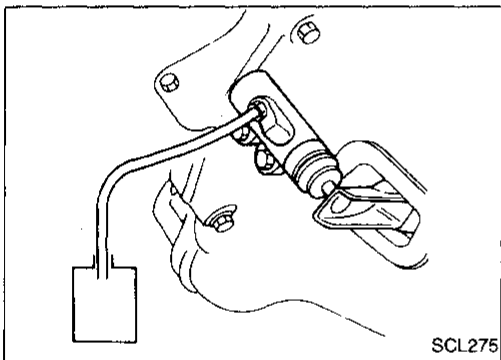
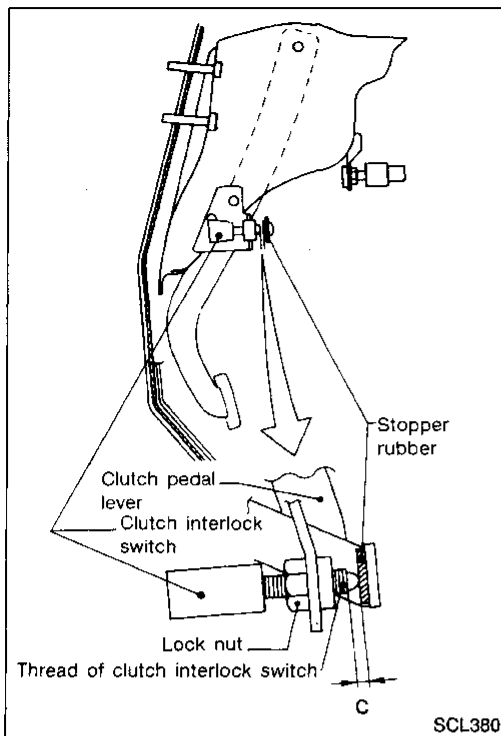
Adjusting Clutch Pedal (Cont'd)

For USA model only

- Adjust clearance "C" between stopper rubber and threaded end of clutch interlock switch while depressing clutch pedal fully.

Clearance C:

0.1 - 1.0 mm (0.004 - 0.039 in)



Bleeding Procedure

Bleed air according to the following procedure.

- Carefully monitor fluid level at master cylinder during bleeding operation.
- Top up reservoir with recommended brake fluid.
 - Connect a transparent vinyl tube to air bleeder valve of clutch operating cylinder.
 - Fully depress clutch pedal several times.
 - With clutch pedal depressed, open bleeder valve to release air.
 - Close bleeder valve.
 - Repeat steps 3 through 5 above until clear brake fluid comes out of air bleeder valve.

GI

MA

EM

LC

EC

FE

CL

MT

AT

FA

RA

BR

ST

RS

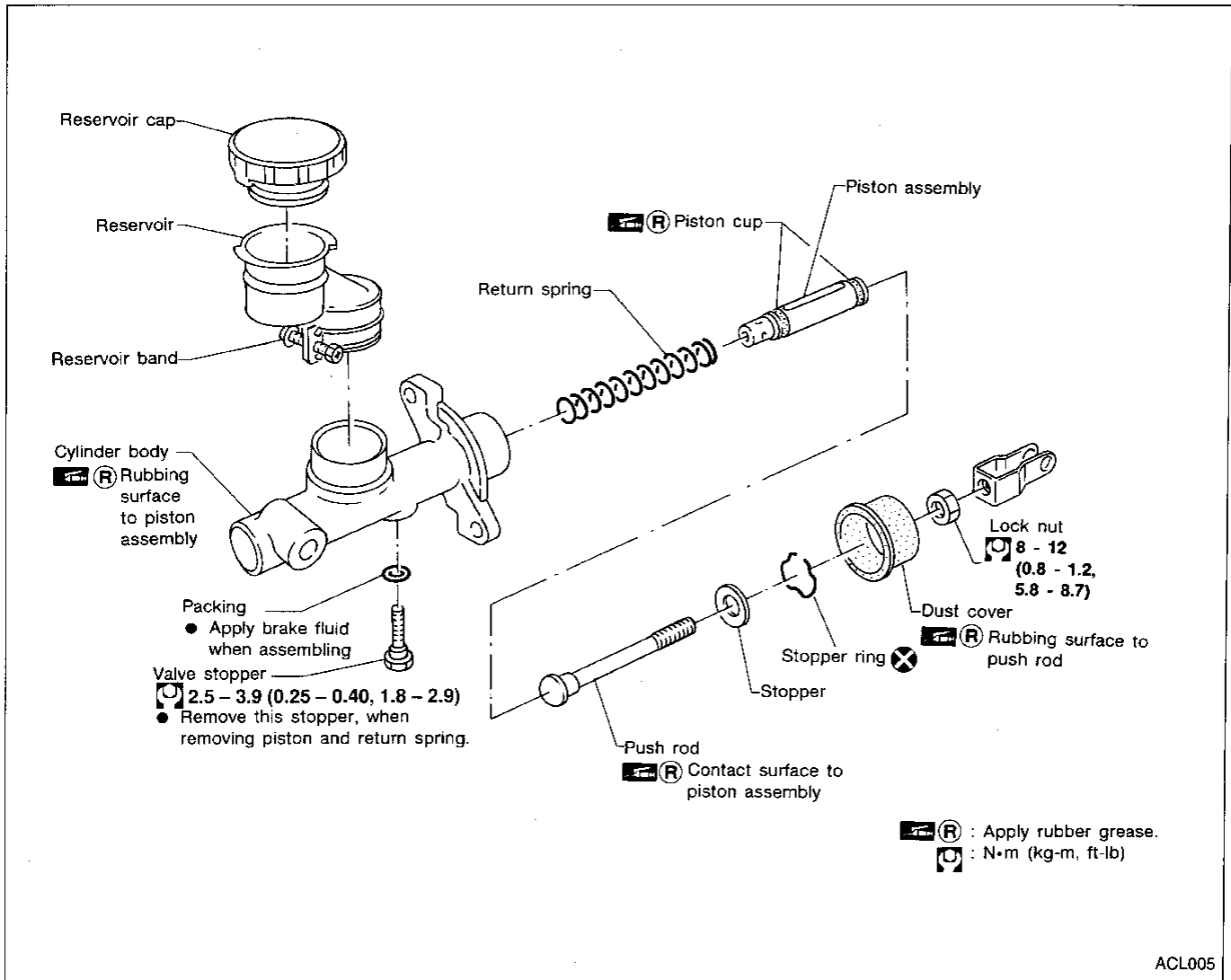
BT

HA

EL

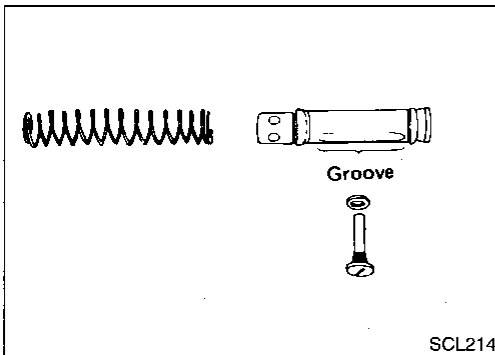
IDX

Clutch Master Cylinder



DISASSEMBLY AND ASSEMBLY

- Push piston into cylinder body with screwdriver when removing and installing valve stopper.



- Align piston assembly groove and valve stopper when installing valve stopper.
- Check direction of piston cups.

HYDRAULIC CLUTCH CONTROL

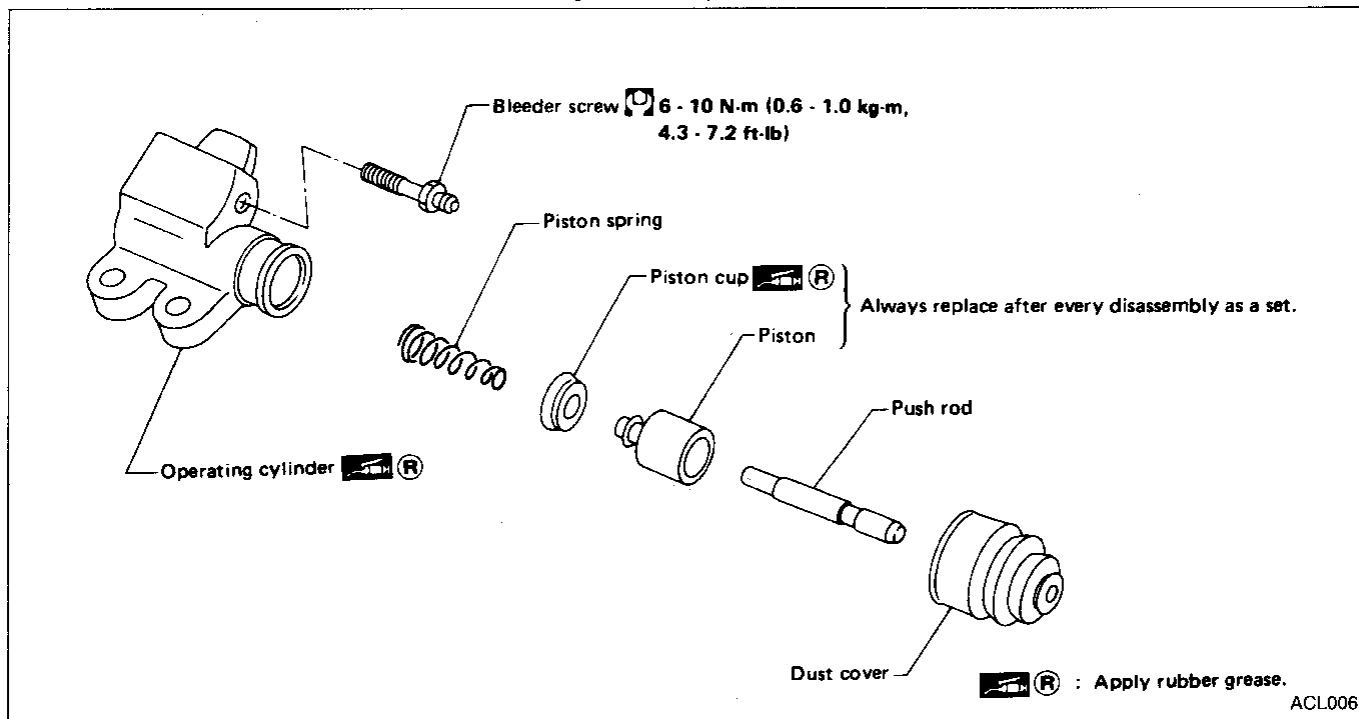
Clutch Master Cylinder (Cont'd)

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

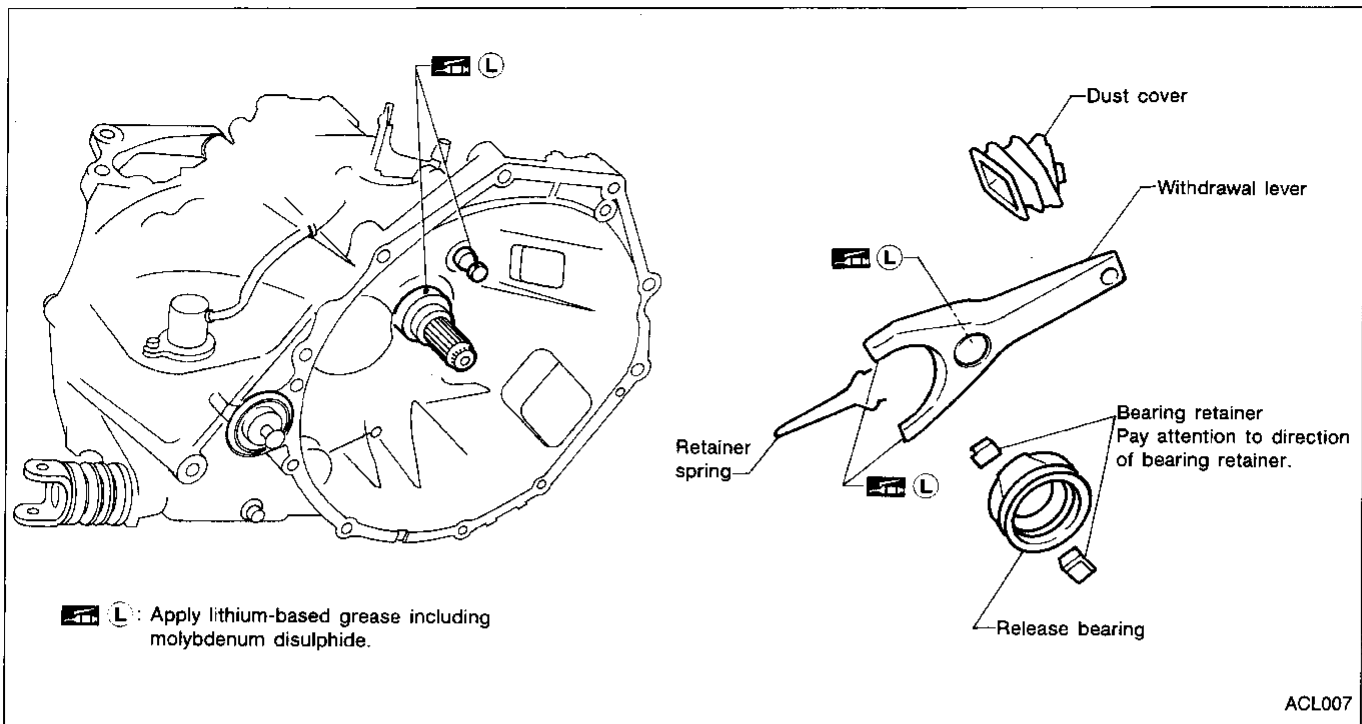


INSPECTION

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

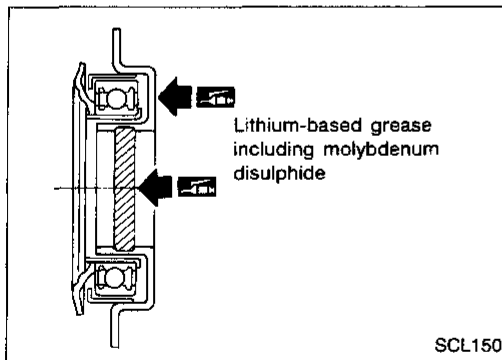
CLUTCH RELEASE MECHANISM



INSPECTION

Check the following items, and replace if necessary.

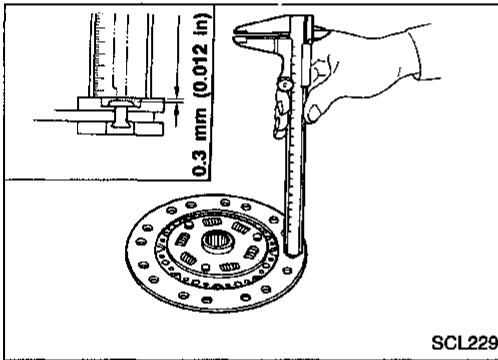
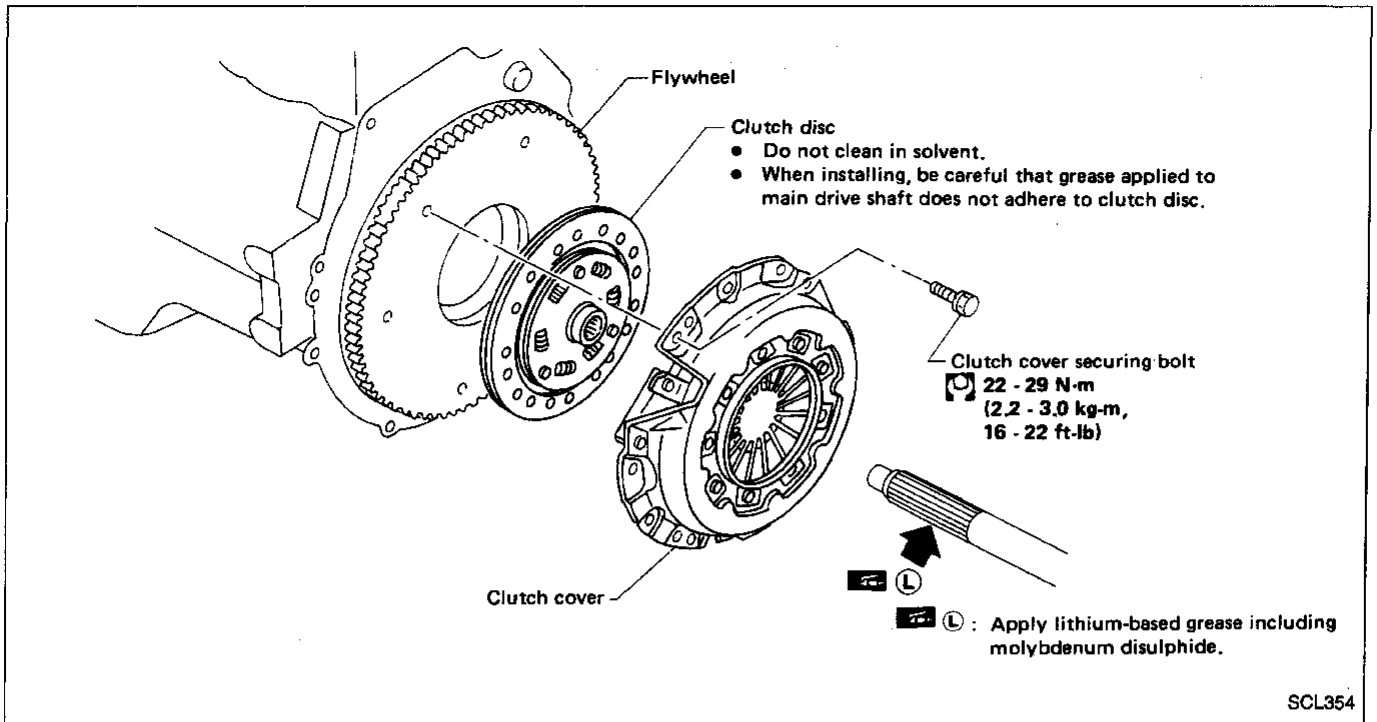
- Release bearing, to see that it rolls freely and is free from noise, cracks, pitting or wear
- Release sleeve and withdrawal lever rubbing surface, for wear, rust or damage



LUBRICATION

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

CLUTCH DISC AND CLUTCH COVER



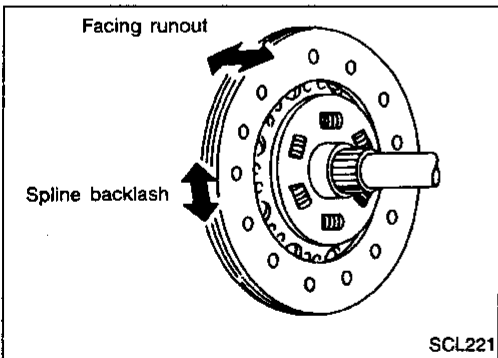
Clutch Disc

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)

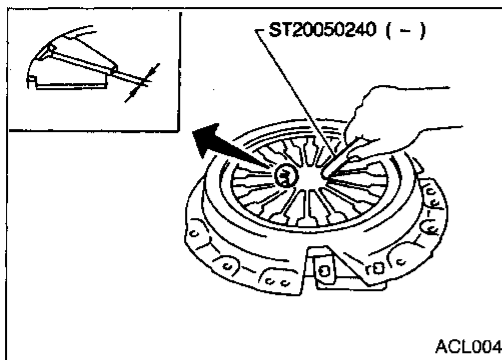


- Clutch disc, for backlash of spline and runout of facing.
 - Maximum backlash of spline (at outer edge of disc):**
0.9 mm (0.035 in)
 - Runout limit:**
1.0 mm (0.039 in)
 - Distance of runout check point (from hub center)**
107.5 mm (4.23 in)

INSTALLATION

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

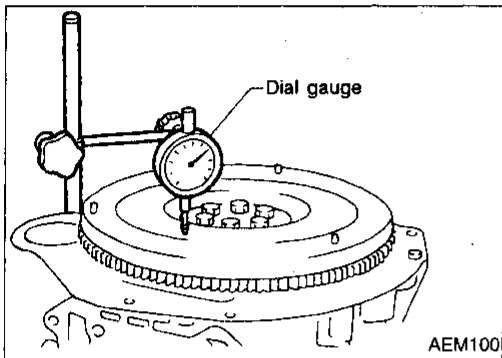
CLUTCH DISC AND CLUTCH COVER



Clutch Cover and Flywheel

INSPECTION AND ADJUSTMENT

- Check clutch cover installed on vehicle for unevenness of diaphragm spring toe height.
Uneven limit:
0.7 mm (0.028 in)
- If out of limit, adjust the height with Tool.



FLYWHEEL INSPECTION

CAUTION:

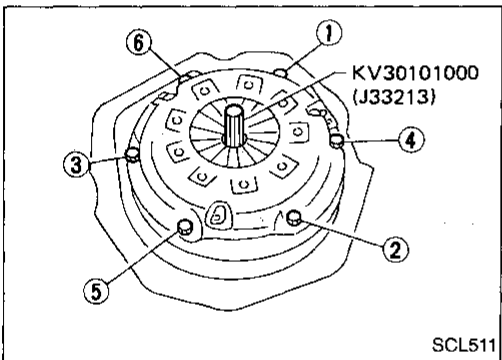
Do not allow any magnetic materials to contact the ring gear teeth.

- Check contact surface of flywheel for slight burns or discoloration. Clean flywheel with emery paper.
- Check flywheel runout.

Runout (Total indicator reading):

Flywheel

Refer to EM section ("Inspection", "CYLINDER BLOCK").



INSTALLATION

- Insert Tool into clutch disc hub when installing clutch cover and disc.
- Tighten bolts in numerical order.
- Be careful not to allow grease to contaminate clutch facing.

SERVICE DATA AND SPECIFICATIONS (SDS)

General Specifications

CLUTCH CONTROL SYSTEM

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

CLUTCH MASTER CYLINDER

Inner diameter	mm (in)	15.87 (5/8)
----------------	---------	-------------

CLUTCH OPERATING CYLINDER

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

CLUTCH DISC

Unit: mm (in)

Model	225
Facing size (Outer dia. x inner dia. x thickness)	225 x 150 x 3.5 (8.86 x 5.91 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	225
Full-load	N (kg, lb) 4,904 (500, 1,103)

Inspection and Adjustment

CLUTCH PEDAL

Unit: mm (in)

Pedal height*	168 - 178 (6.61 - 7.01)
Pedal free play (at pedal pad)	9 - 16 (0.35 - 0.63)
Clearance between pedal stopper rubber and clutch interlock switch threaded end while clutch pedal is fully depressed.	0.1 - 1.0 (0.004 - 0.039)

*: Measured from surface of dash reinforcement panel

CLUTCH DISC

Unit: mm (in)

Model	225
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 the hub center)	107.5 (4.23)
Maximum backlash of spline (at outer edge disc)	0.9 (0.035)

CLUTCH COVER

Unit: mm (in)

Model	225
Uneven limit of diaphragm spring toe height	0.7 (0.028)