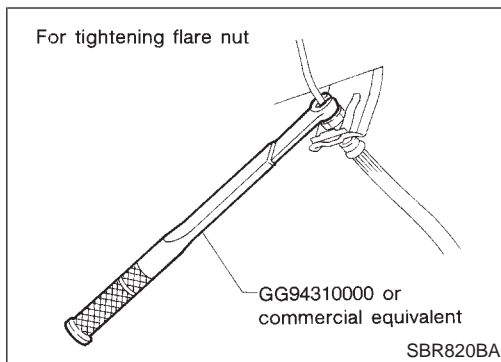


## IDX

[illegible]

# PRECAUTIONS

## Precautions



## Precautions

NOCL0001

- Recommended fluid is brake fluid “DOT 3” or “DOT 4” (Europe). Refer to MA-15, “Fluid and Lubricants”.
- 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 and operating cylinder.
- Never use mineral oils such as gasoline or kerosene. It will ruin the rubber parts of the hydraulic system.

### **WARNING:**

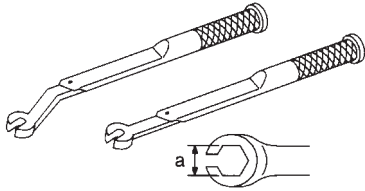
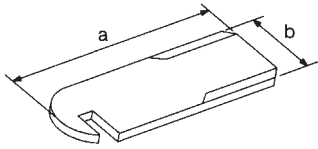
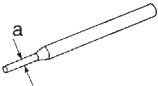
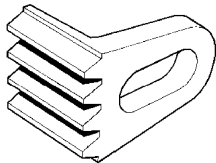
After cleaning clutch disc, wipe it with a dust collector. Do not use compressed air.

# PREPARATION

Special Service Tools

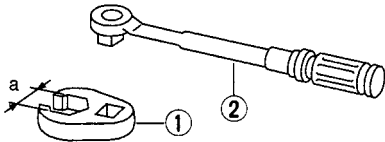
## Special Service Tools

NOCL0002

NISSAN Tool number (RENAULT tool No.) Tool name	Description	
GG94310000 Flare nut torque wrench	 <p>NT406</p>	<p>Removing and installing clutch piping <b>a: 10 mm (0.39 in)</b></p>
ST20050240 Diaphragm spring adjusting wrench	 <p>NT404</p>	<p>Adjusting unevenness of diaphragm spring of clutch cover <b>a: 150 mm (5.91 in)</b> <b>b: 25 mm (0.98 in)</b></p>
KV32101000 Pin punch	 <p>NT410</p>	<p>Removing and installing spring pin <b>a: 4 mm (0.16 in) dia.</b></p>
KV113B0060 (Mot. 582-01) Ring gear stopper	 <p>MBIB0363E</p>	<p>Removing and installing clutch cover and flywheel</p>

## Commercial Service Tools

NOCL0003

Tool name	Description	
1 Flare nut crowfoot 2 Torque wrench	 <p>NT360</p>	<p>Removing and installing clutch piping <b>a: 10 mm (0.39 in)</b></p>

NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

NVH Troubleshooting Chart

NVH Troubleshooting Chart

NOC10004S07

Use the chart below to help you find the cause of the symptom. The numbers indicate the order of the inspection. If necessary, repair or replace these parts.

CLUTCH

NOC10004S07.01

Reference page	CL-6	CL-7	CL-9	CL-12	Refer to EM-164.	CL-13	CL-14	CL-14	CL-14	CL-14	CL-14	CL-14	CL-14	CL-14	CL-14	CL-14	CL-14	CL-14
SUSPECTED PARTS (Possible cause)																		
Symptom	Clutch grabs/chatters	—	—	—	—	1	—	—	—	2	—	—	—	2	2	2	—	—
	Clutch pedal spongy	—	1	2	2	—	—	—	—	—	—	—	—	—	—	—	—	—
	Clutch noisy	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—
	Clutch slips	1	—	—	—	—	—	—	—	—	2	—	—	2	—	—	4	5
Clutch does not disen-		1	2	3	4	—	—	5	5	5	5	5	5	—	—	5	6	—
gage																		

—: Not applicable

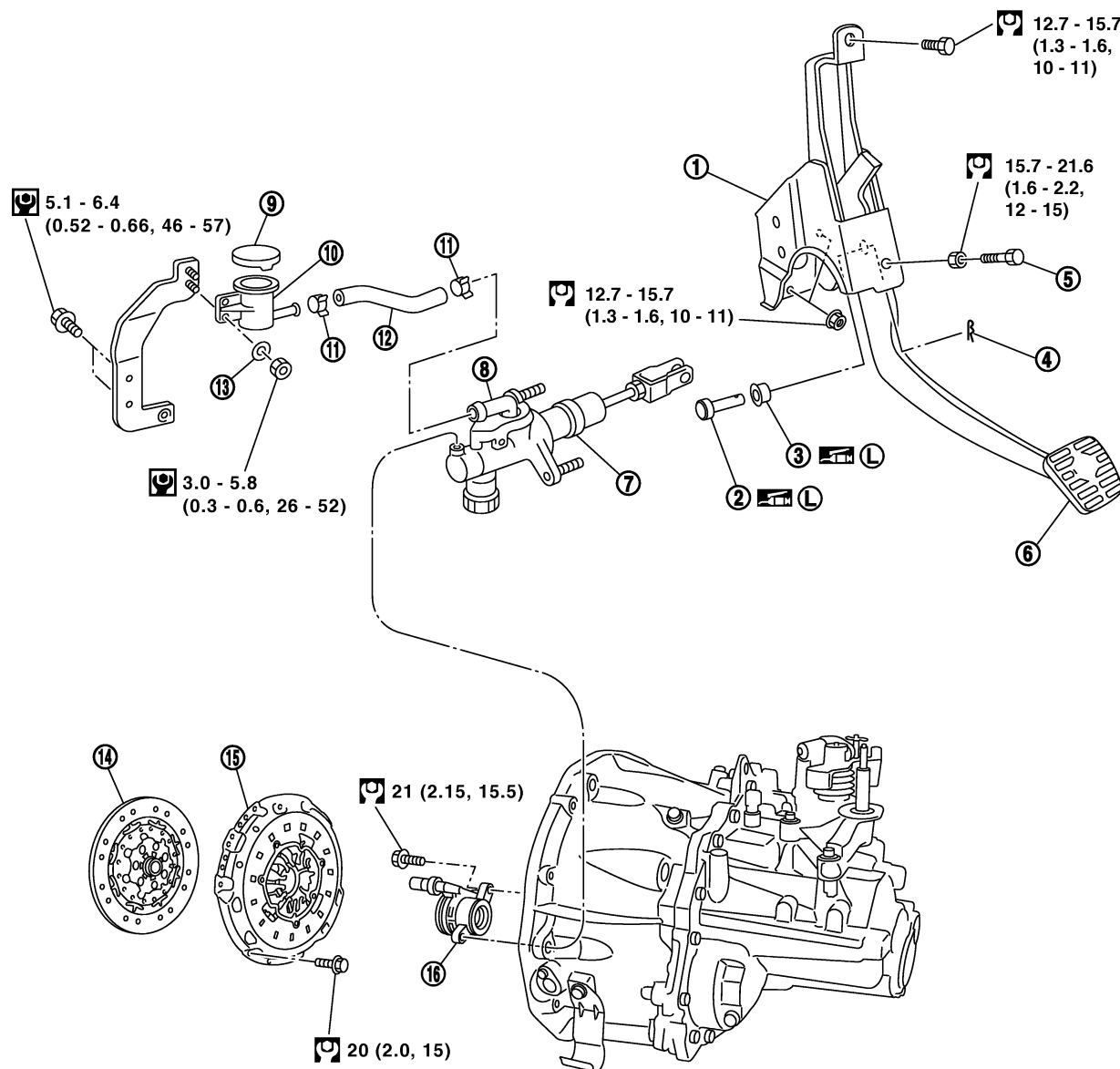
# CLUTCH SYSTEM

Components — LHD Model with F9Q Engine —

## Components — LHD Model with F9Q Engine —

NOCL0050

SEC. 300•305•306•465



YCL074

- |                         |                           |                               |
|-------------------------|---------------------------|-------------------------------|
| 1. Clutch pedal bracket | 7. Clutch master cylinder | 12. Hose                      |
| 2. Clevis pin           | 8. Nipple                 | 13. Washer                    |
| 3. Bushing              | 9. Reservoir cap          | 14. Clutch disc               |
| 4. Snap pin             | 10. Reservoir tank        | 15. Clutch cover              |
| 5. Pedal stopper bolt   | 11. Hose clamp            | 16. Clutch operating cylinder |
| 6. Clutch pedal         |                           |                               |

# CLUTCH SYSTEM

## Inspection and Adjustment

### CLUTCH PEDAL INSPECTION

NOCL0006

NOCL0006S03

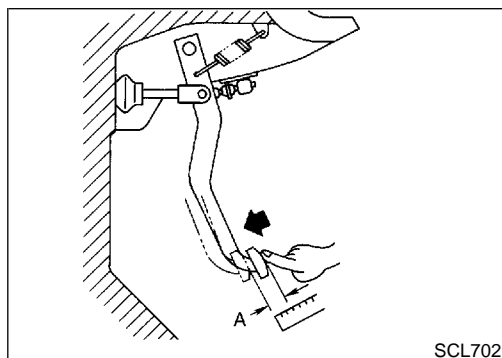
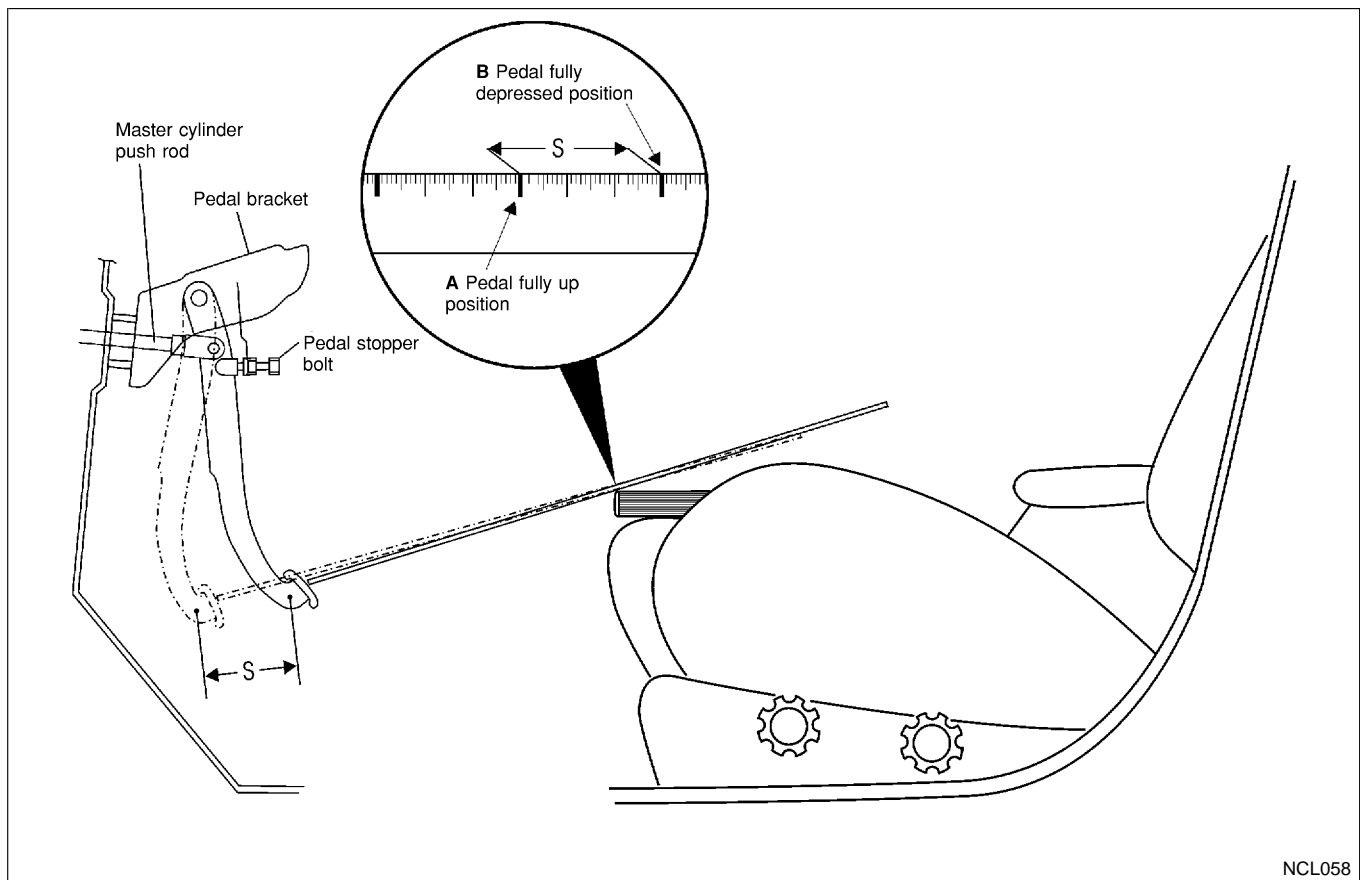
#### Pedal Stroke

NOCL0006S0301

Check clutch pedal stroke by using a 1-meter rule to measure the total pedal stroke. Place end of rule onto the middle of the clutch pedal pad. Place a book/clipboard on the driver's seat to set a reference point, ensure the book/clipboard does not move during pedal depression. Mark (A) the pedal fully up position on the rule. Depress the clutch pedal and mark (B) the rule again next to the reference point on the book/clipboard. Measure the distance between the marks (A and B), this is the actual pedal stroke (S). Check the specified pedal stroke in the table, adjust actual pedal stroke if necessary (refer to “**CLUTCH PEDAL ADJUSTMENT**”).

#### NOTE:

- Do not use steering wheel as a reference point, angle gives incorrect reading.
- Ensure there is no interference between the floor carpet and clutch pedal when fully depressed.



#### Pedal Free Play

NOCL0006S0302

Check pedal free play, if out of specification refer to “**CLUTCH PEDAL ADJUSTMENT**”

- Push on the clutch pedal until resistance is felt, and check the distance the pedal moves.

# CLUTCH SYSTEM

Inspection and Adjustment (Cont'd)

## CLUTCH PEDAL ADJUSTMENT

NOCL0006S04

### Pedal Stroke

NOCL0006S0401

1. Loosen the pedal stopper bolt completely (so there is no contact between pedal and stopper bolt).
2. Adjust pedal stroke to the specified value with the master cylinder push rod.
3. Adjust the pedal stopper bolt until it is just in contact with the pedal, then tighten the lock nut.
4. Once stroke is set to specification, adjust clutch pedal free play.

**Pedal stroke "S".**

**Refer to "SDS", CL-16.**

### Pedal Free Play

NOCL0006S0402

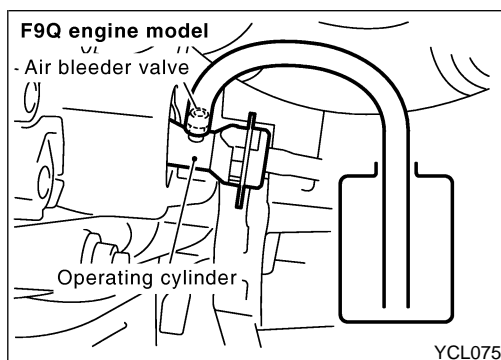
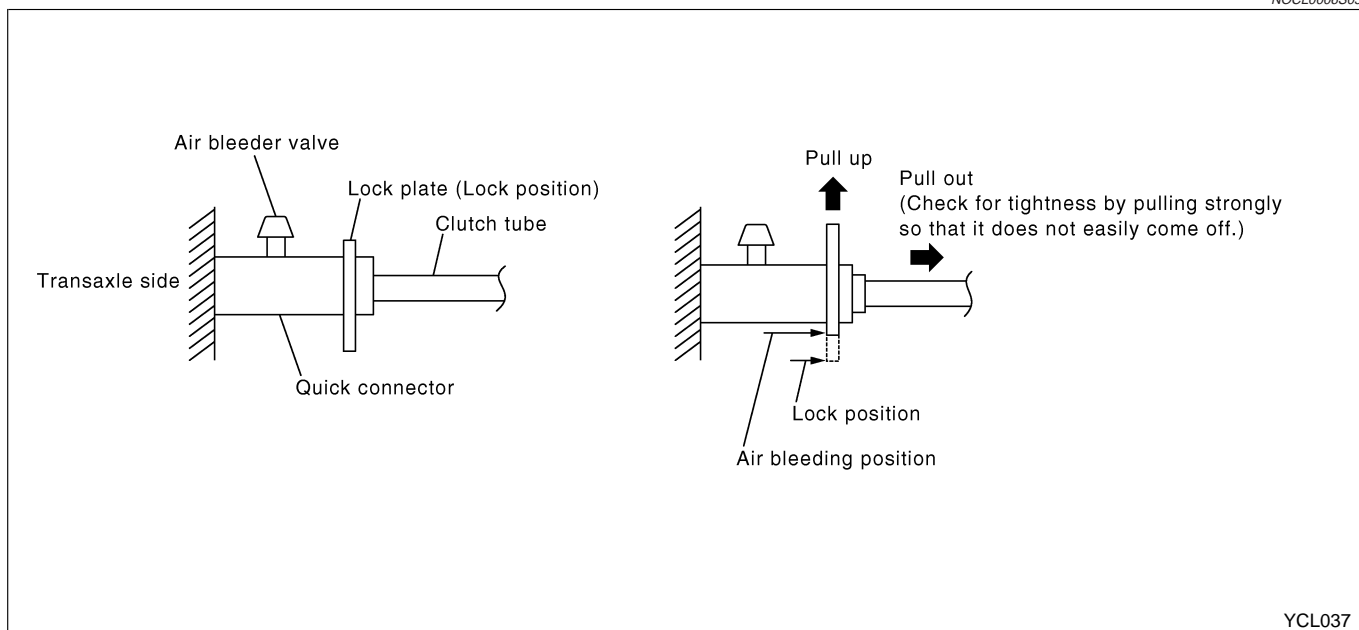
1. Adjust pedal free play to the specified value with the master cylinder push rod.
2. Tighten lock nut of the master cylinder push rod.
- Push on the clutch pedal until resistance is felt, and check the distance the pedal moves.

**Pedal free play "A".**

**Refer to "SDS", CL-16.**

## AIR BLEEDING PROCEDURE (FOR F9Q ENGINE MODEL)

NOCL0006S05



1. Bleeding air from clutch operating cylinder according to the following procedure.
  - Should be done by two operators.
  - Carefully monitor fluid level at master cylinder during bleeding operation.
2. Top up reservoir with recommended brake fluid.
3. Connect transparent vinyl tube to air bleeder valve.
4. Pull up quick connector and pull clutch tube. (Do not remove lock plate that keeps lifting. Make sure clutch tube is not removed when it is pulled strongly.)
5. Pull clutch tube and open bleeder valve.

## CLUTCH SYSTEM

*Inspection and Adjustment (Cont'd)*

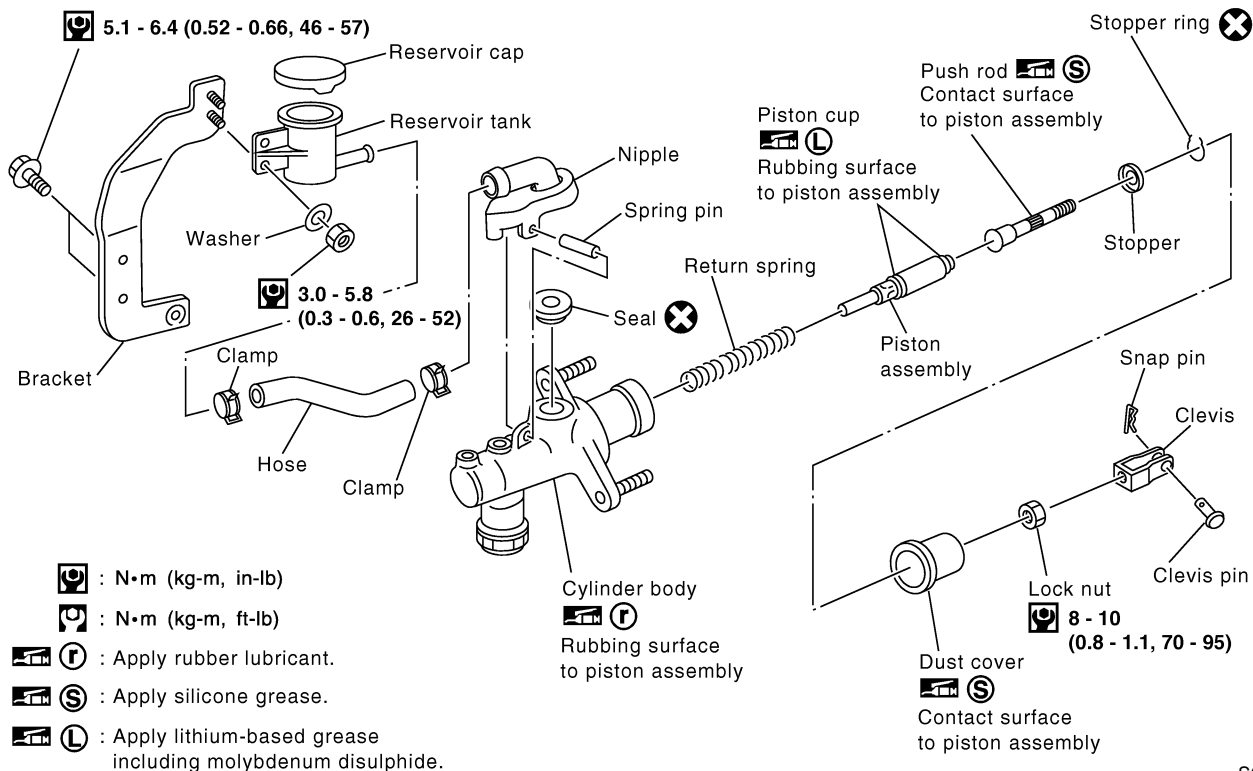
---

6. Depress clutch pedal slowly and keep it depressed.
7. When the flows of air and brake fluid in vinyl tube stop, insert clutch tube to quick connector and hold it by hand.
8. Release clutch pedal.
9. Repeat steps 5 to 8 several times. When the air in vinyl tube is completely bled, insert clutch tube and inset lock plate to lock position.
10. Depress clutch pedal about 20 times, perform full-stroke operation.
11. Repeat steps 4 to 9 again. Make sure that the air does not bleed.
12. Insert lock plate to lock position.
13. Remove vinyl tube from bleeder valve. Install rubber cap.
14. Depress clutch pedal about 20 times again. Check that the disengagement and engagement of the clutch are functioning properly.



## Components

NOCL0007

SEC. 305  
LHD model

SCL847-A

## Removal

1. Drain brake fluid.

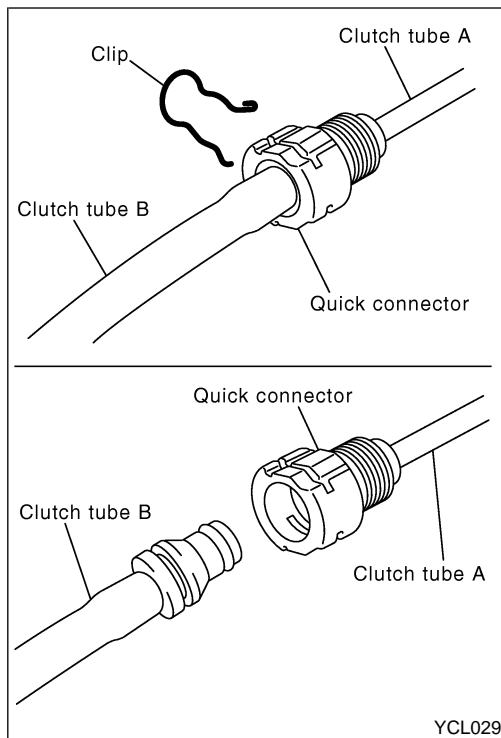
**CAUTION:**

Be careful not to splash brake fluid on painted areas; it may cause paint damage. If brake fluid is splashed on painted areas, wash it away with water immediately.

NOCL0008

# CLUTCH MASTER CYLINDER

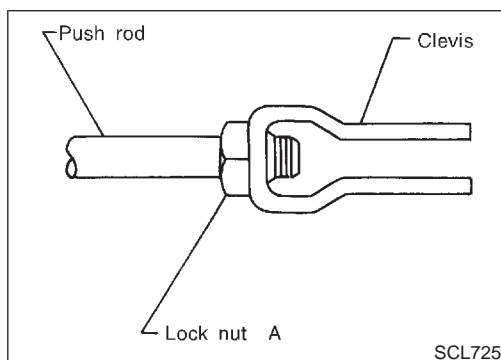
## Removal (Cont'd)



2. Remove clutch tube using a flare nut wrench (Except for K9K engine model). Remove clip, and then disconnect the quick connector (For K9K engine model).
3. Remove snap pin between clutch pedal and push rod, and remove clevis pin.
4. Unscrew master cylinder assembly mounting nuts and remove master cylinder assembly from vehicle.

## Installation

1. Connect clutch tube to master cylinder assembly, and hand-tighten flare nut. NOCL0009
2. Install master cylinder assembly to vehicle, and tighten mounting nuts to the specified torque.  
**⚙️ : 11 - 14 N·m (1.1 - 1.5 kg-m, 8 - 10 ft-lb)**
3. Connect the quick connector, and then install clip.
4. After installing clevis pin, install snap pin to connect clutch pedal to push rod.
5. After finishing the operation, bleed air from clutch piping connector and operating cylinder. (Refer to "Air Bleeding Procedure", CL-7.)



## Disassembly

1. Loosen push rod lock nut A to remove clevis and lock nut A. NOCL0010
2. Remove dust cover.
3. Remove stopper ring and stopper, and remove push rod from cylinder body. During removal, keep push rod depressed, to prevent piston inside master cylinder from popping out.
4. Remove piston assembly from cylinder body.

Inspection

NOCL0011

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

GI

MA

EM

LC

Assembly

NOCL0012

1. Apply rubber lubricant to the sliding part of piston assembly, and insert piston assembly.
2. After installing stopper to push rod, install stopper ring while keeping piston assembly depressed by hand, so that piston assembly will not pop out.

EC

FE


CAUTION:

Stopper ring cannot be reused. Always use a new stopper ring for assembly.

CL

3. Install dust cover.
4. Install clevis to push rod, and tighten lock nut A to the specified torque.

MT

 : 7.8 - 11.8 N·m (0.8 - 1.2 kg-m, 69 - 104 in-lb)

AT

5. Install spring pin using a pin punch.

AX

SU

BR

ST

RS

BT

HA

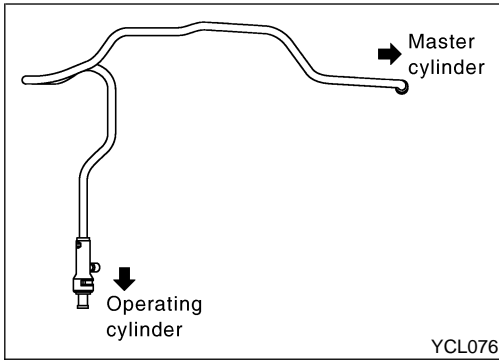
SC

EL

IDX

# PIPING

## Removal



YCL076

## Removal

NOCL0042

1. Remove fuel filter mounting bracket.
2. Remove air cleaner and air duct.
3. Drain brake fluid.

### CAUTION:

Be careful not to splash brake fluid on painted areas; it may cause paint damage. If brake fluid is splashed on painted areas, wash it away with water immediately.

4. Remove clip, and then disconnect the quick connector.
5. Remove clutch hose and clutch tube.

## Installation

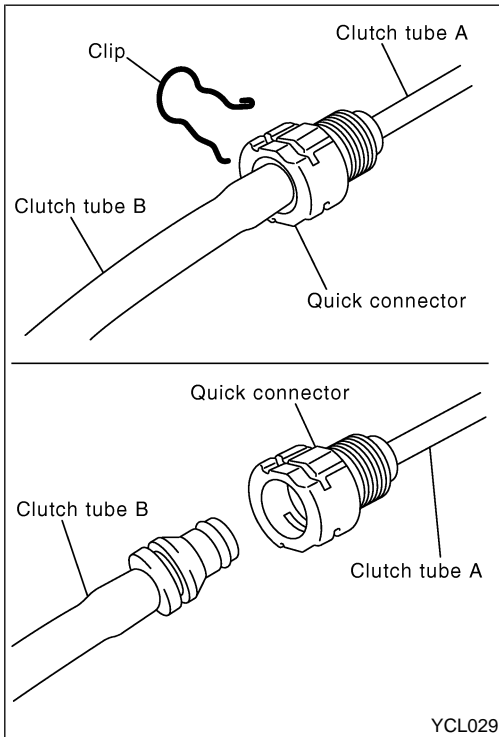
NOCL0043

1. When installing clutch hose to bracket, face lock plate in the correct direction as shown to secure clutch hose.

### CAUTION:

Install clutch hose without twisting or bending it.

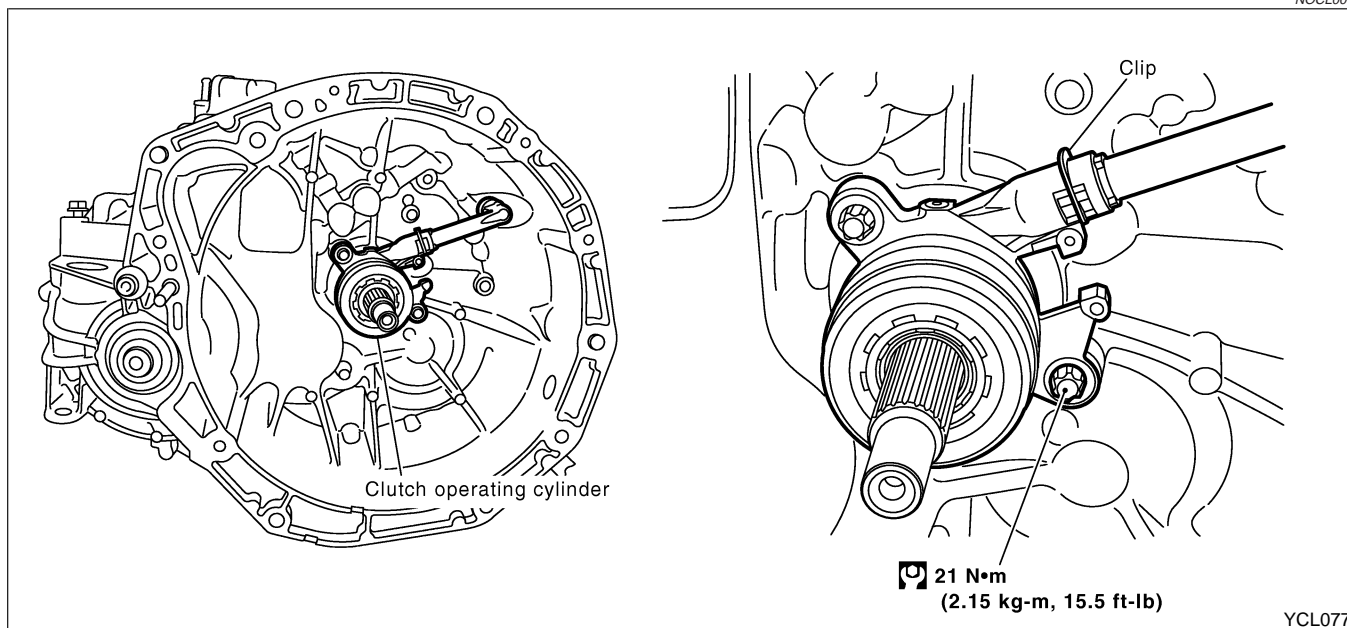
2. Connect the quick connector, and then install clip.
3. After finishing the operation, bleed air from the clutch piping. Refer to "Air Bleeding Procedure", CL-7.



YCL029

## Components

NOCL0051



YCL077

## Removal and Installation

NOCL0052

**CAUTION:**

Be careful not to splash brake fluid on painted areas; it may cause paint damage. If brake fluid is splashed on painted areas, wash it away with water immediately.

Refer to MT-10, "REMOVAL AND INSTALLATION".

## Inspection

NOCL0053

**NOTE:**

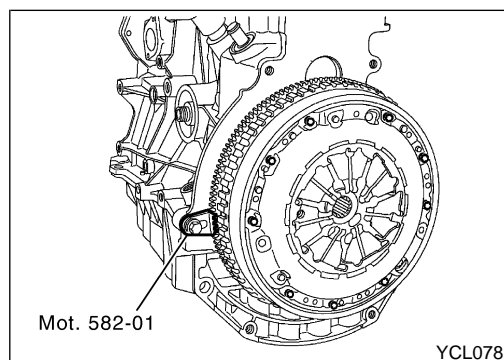
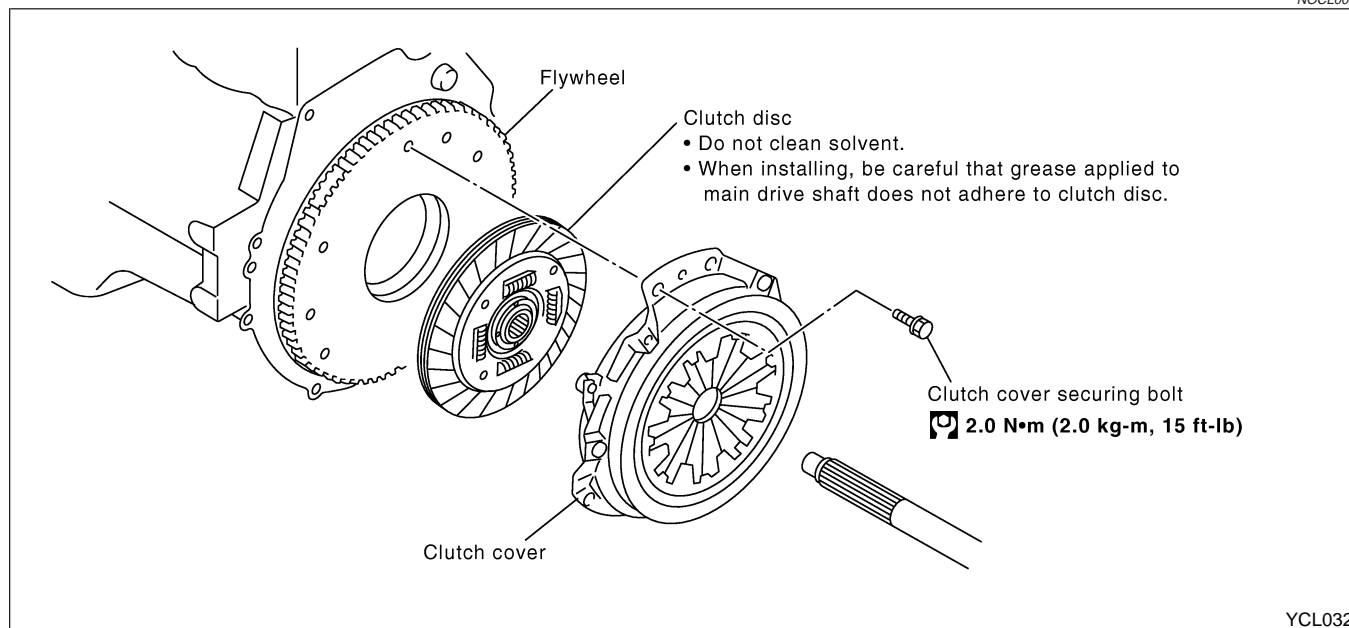
- Cannot disassemble operating cylinder and release bearing because they are integral parts. Replace them as an assembly.

Inspect for the following, and replace parts if necessary

- Operating cylinder: damage, foreign material, wear or pinholes on the cylinder outer surface.
- Release bearing: damage, incorrect rotation direction, or has poor aligning function, and dust seal is deformed or cracked.

## Components

NOCL0055



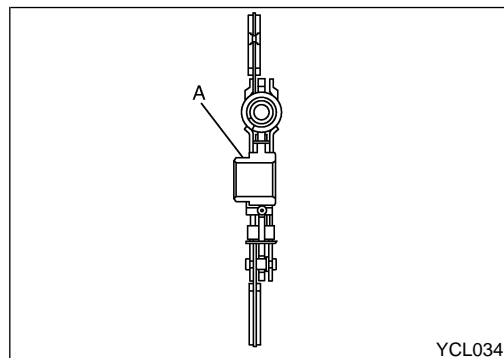
## Inspection

NOCL0056

## CLUTCH DISC

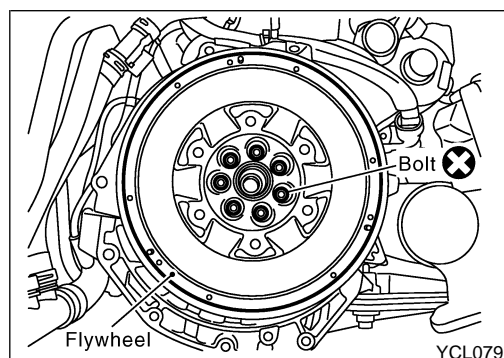
NOCL0056S01

Install flywheel fixing tool (SST: Mot. 582-01), and then remove clutch cover and clutch disc.



## Check clutch disc as follows;

- The hubs of the clutch discs are nickle plated to improve their sliding performance.
- Clean the splines of the clutch shaft and install the assembly without lubricant.
- Degrease the friction face of the flywheel.
- Install the clutch disc [offset (A) from the hub on the flywheel side].



## FLYWHEEL

NOCL0056S03

Replace the flywheel if it has been damaged.

**CAUTION:**

- Reworking on the clutch face is not permitted.
- Clean the threads of the flywheel mounting bolts on the crankshaft.
- Degrease the bearing face of the flywheel on the crankshaft.
- Apply the new flywheel mounting bolts using "Loctite FRENATANCH" or equivalent.

## Installation

1. Lock the flywheel with tool KV113B0060 (Mot. 582-01) or KV113B0410 (Mot. 1677) depending on the cylinder block (large or small side). NOCL0057
2. Install the flywheel, tightening the new bolts to a torque of 30 N·m (3.1 kg-m, 22 ft-lb), then tighten to an angle of  $56^{\circ} \pm 6^{\circ}$  for a double mass flywheel 55 N·m (5.6 kg-m, 41 ft-lb) for a standard flywheel.

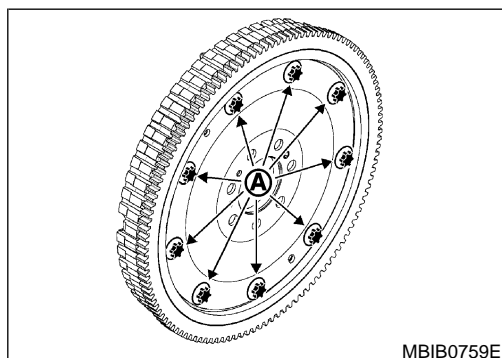
**CAUTION:**

Use an angle wrench (special service tool) to check tightening angle. Do not make judgment by visual inspection.

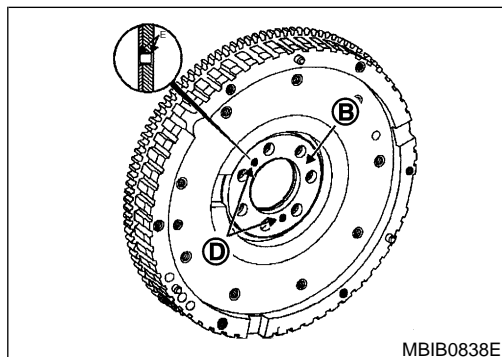
3. Flexible flywheel:

**NOTE:**

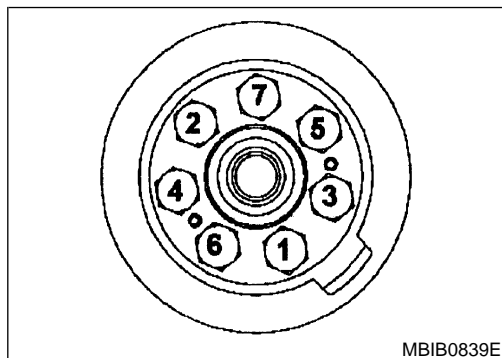
Under no circumstances should bolts (A) be removed.



MBIB0759E



MBIB0838E



MBIB0839E

4. It is essential to replace the flywheel mounting bolts.
  - Tighten the engine flywheel bolts in the numerical order as shown to a torque of 65 N·m (6.6 kg-m, 48 ft-lb).
5. Proceed in the reverse order to removal.

6. Install the clutch, tightening the bolts to a torque of 20 N·m (2.0 kg-m, 15 ft-lb).
7. Withdraw the flywheel immobilizer KV113B0060 (Mot. 582-01) or KV113B0410 (Mot. 1677).

# SERVICE DATA AND SPECIFICATIONS (SDS)

## Clutch Control System

Clutch Control System		NOCL0034
Type of clutch control	Hydraulic	

## Clutch Master Cylinder

NOCL0035  
Unit: mm (in)

Engine	F9Q
Inner diameter	17.46 (11/16)

## Clutch Operating Cylinder

NOCL0036  
Unit: mm (in)

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

## Clutch Disc

NOCL0038  
Unit: mm (in)

Engine	F9Q
Model	—
Facing size (Outer dia. × inner dia. × thickness)	—
Thickness of disc assembly with load	—
Wear limit of facing surface to rivet head	—
Wearing thickness of facing	—
Runout limit of facing	—
Distance of runout check point (from the hub center)	—
Maximum backlash of spline (at outer edge disc)	—

## Clutch Cover

NOCL0039  
Unit: mm (in)

Engine	F9Q
Model	—
Full-load	—
Uneven limit of diaphragm spring toe height	—

## Clutch Pedal

NOCL0040  
Unit: mm (in)

Pedal strokes "S"	140 - 150 (5.512 - 5.906)
Pedal free play "A"	1 - 3 (0.039 - 0.118)

\*: Measured from surface of dash lower panel to surface of pedal pad