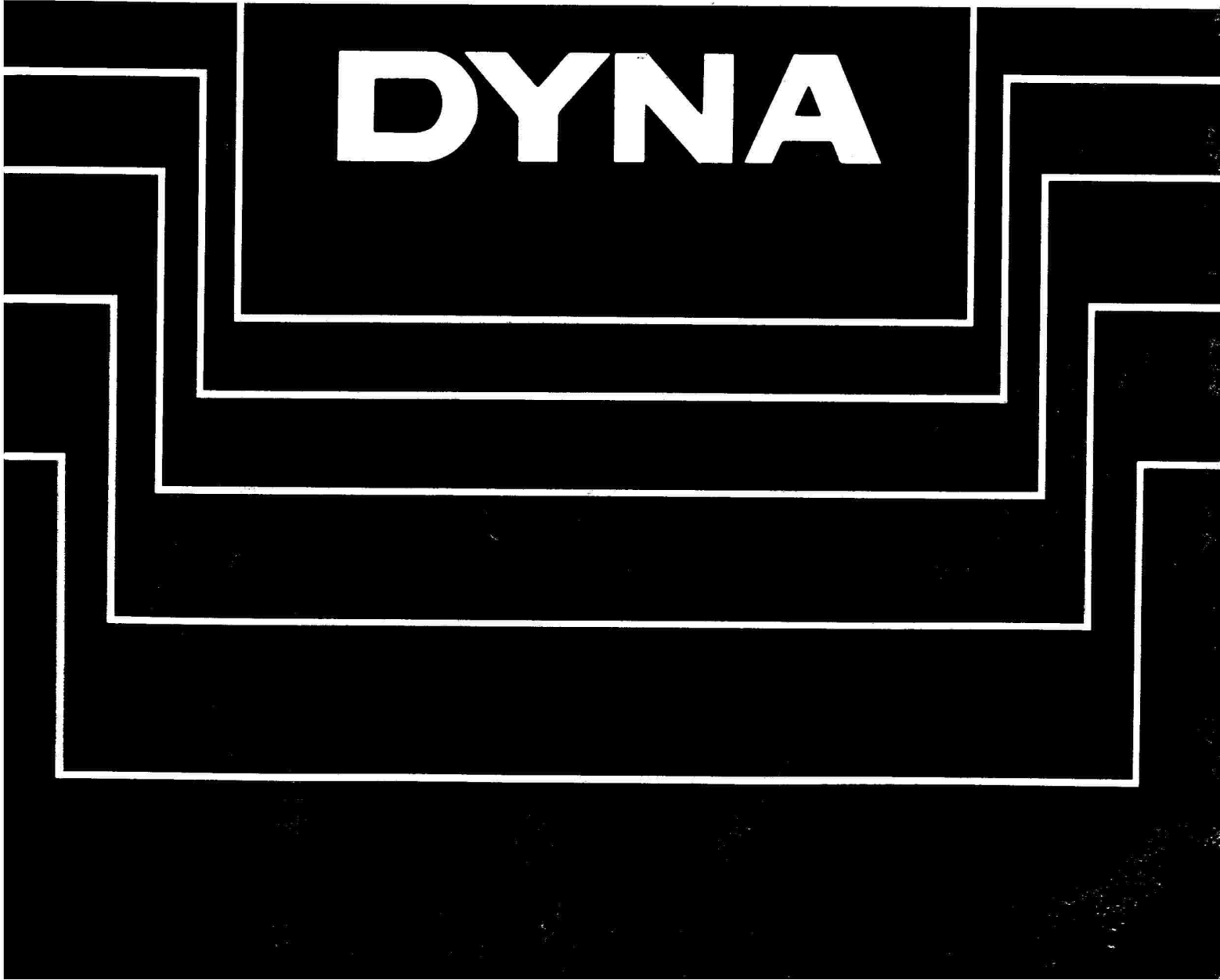


TOYOTA

REPAIR MANUAL FOR CHASSIS & BODY

A large, stylized graphic of the Toyota Dyna logo. It features a black background with a white rectangular border. Inside the border, the word "DYNA" is written in a bold, white, sans-serif font. The border is composed of several nested rectangles, creating a stepped effect.

DYNA

FOREWORD

This repair manual has been prepared to provide information covering general service repairs for the chassis and body of the TOYOTA DYNA.

Applicable models:

BU60 series	BU82 series
BU61 series	BU85 series
BU62 series	RU75 series
BU63 series	RU85 series
BU65 series	YU60 series
BU70 series	YU61 series
BU75 series	YU70 series
BU76 series	YU80 series
BU80 series	WU90 series
BU81 series	WU95 series

For service of the TOYOTA DYNA, refer to the following repair manuals.

21R, 22R Engines Repair Manual	(Pub. No. 36056E)
B series Engine Repair Manual	(Pub. No. 36047E)
11B, 13B Engine Repair Manual	(Pub. No. 36252E)
1W Engine Repair Manual	(Pub. No. 36215E)
2Y, 2Y-C, 3Y Engine Repair Manual	(Pub. No. 36211E)

For instructions on how to use this manual, please refer to page IN-2. All information contained in this manual is up-to-date at the time of publication. However, specifications and procedures are subject to change without prior notice.

TOYOTA MOTOR CORPORATION

TOYOTA DYNA REPAIR MANUAL FOR CHASSIS & BODY

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REAR AXLE AND SUSPENSION	RA
BRAKE SYSTEM	BR
STEERING	SR
DUMP MECHANISM	DM
BODY ELECTRICAL SYSTEM	BE
BODY	BO
AIR CONDITIONING SYSTEM	AC
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INTRODUCTION

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IN

HOW TO USE THIS MANUAL

To assist in finding your way through the manual, the Section Title and major heading are given at the top of every page.

An **INDEX** is provided on the first page of each section to guide you to the item to be repaired.

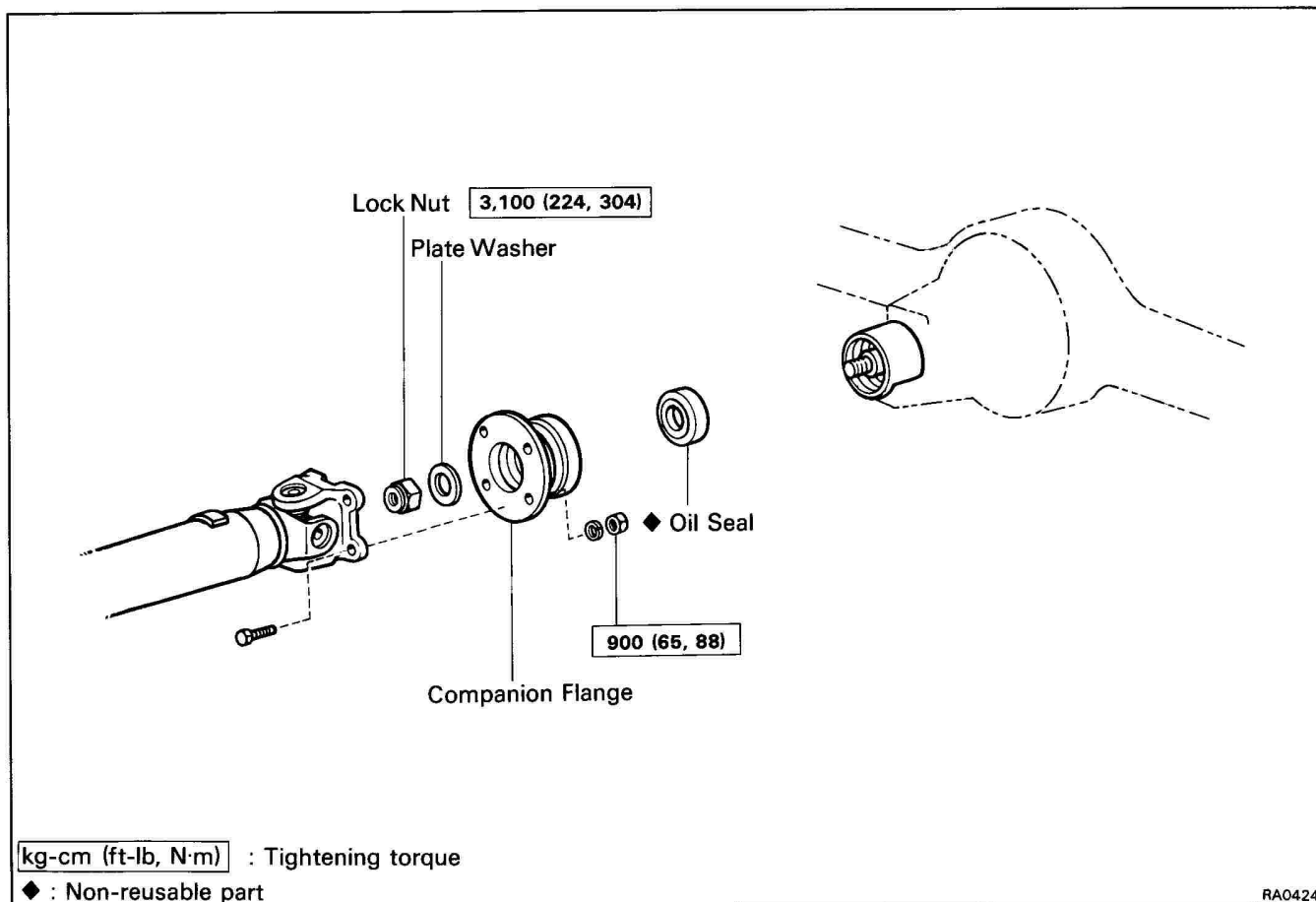
At the beginning of each section, **PRECAUTIONS** are given that pertain to *all* repair operations contained in that section. *Read these precautions before starting any repair task.*

TROUBLESHOOTING tables are included for each system to help you diagnose the system problem and find the cause. The repair for each possible cause is referenced in the remedy column to quickly lead you to the solution.

REPAIR PROCEDURES

Most repair operations begin with an overview illustration. It identifies the components and shows how the parts fit together.

Example:



The procedures are presented in a step-by-step format:

- The illustration shows *what* to do and *where* to do it.
- The task heading tells *what* to do.
- The detailed text tells *how* to perform the task and gives other information such as specifications and warnings.

Example:

Illustration:
what to do and where

Task heading: what to do

**CONNECT PROPELLER SHAFT FLANGE TO
COMPANION FLANGE**

- (a) Align the marks on the flanges and connect the flanges with four bolts and nuts.
- (b) Torque four bolts and nuts.

Detail text: how to do it

Torque: 600 – 750 kg-cm (44 – 54 ft-lb, 59 – 73 N·m)

Specification

This format enables the experienced technician to have a FAST TRACK. He can read the task headings and only refer to the detailed text when he needs it. Important specifications and warnings always stand out in bold type.

REFERENCES

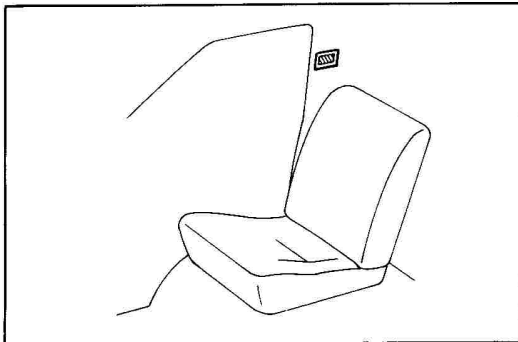
References have been kept to a minimum. However when they are required you are given the *page* to go to.

SPECIFICATIONS

Specifications are presented in bold type throughout the text in the applicable step. You never have to leave the procedure to look up your specs. All specifications are also found in Appendix A, Specifications for quick reference.

WARNINGS, CAUTIONS, NOTES:

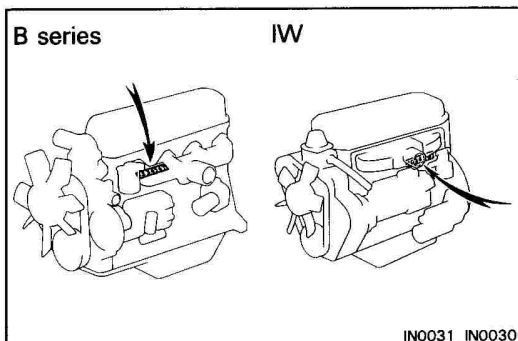
- **WARNINGS** are presented in bold type, and indicate there is a possibility of injury to you or other people.
- **CAUTIONS** are also presented in bold type, and indicate the possibility of damage to the components being repaired.
- **NOTES** are separated from the text but do not appear in bold. They provide additional information to help you efficiently perform the repair.



IDENTIFICATION INFORMATION

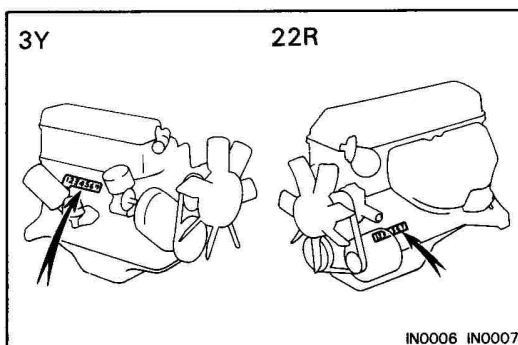
VEHICLE IDENTIFICATION NUMBER

The vehicle identification number is stamped on the base of the passenger seat. It is also stamped on the frame near the right front fender.



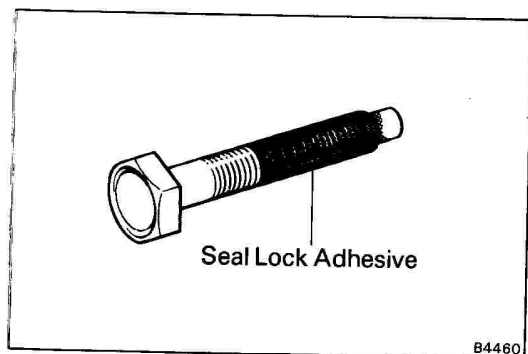
ENGINE SERIAL NUMBER

The engine serial number is stamped on the cylinder block, as shown.



GENERAL REPAIR INSTRUCTIONS

1. Use fender, seat and floor covers to keep the vehicle clean and prevent damage.
2. During disassembly, keep parts in order to facilitate reassembly.
3. Observe the following:
 - (a) Before performing electrical work, disconnect the cable from the battery terminal.
 - (b) If it is necessary to disconnect the battery for inspection or repair, always disconnect the cable from the negative (—) terminal which is grounded to the vehicle body.
 - (c) To prevent damage to the battery terminal post, loosen the terminal nut and raise the cable straight up without twisting it or prying it.
 - (d) Clean the battery terminal posts and cable terminals with a shop rag. Do not scrape them with a file or such.

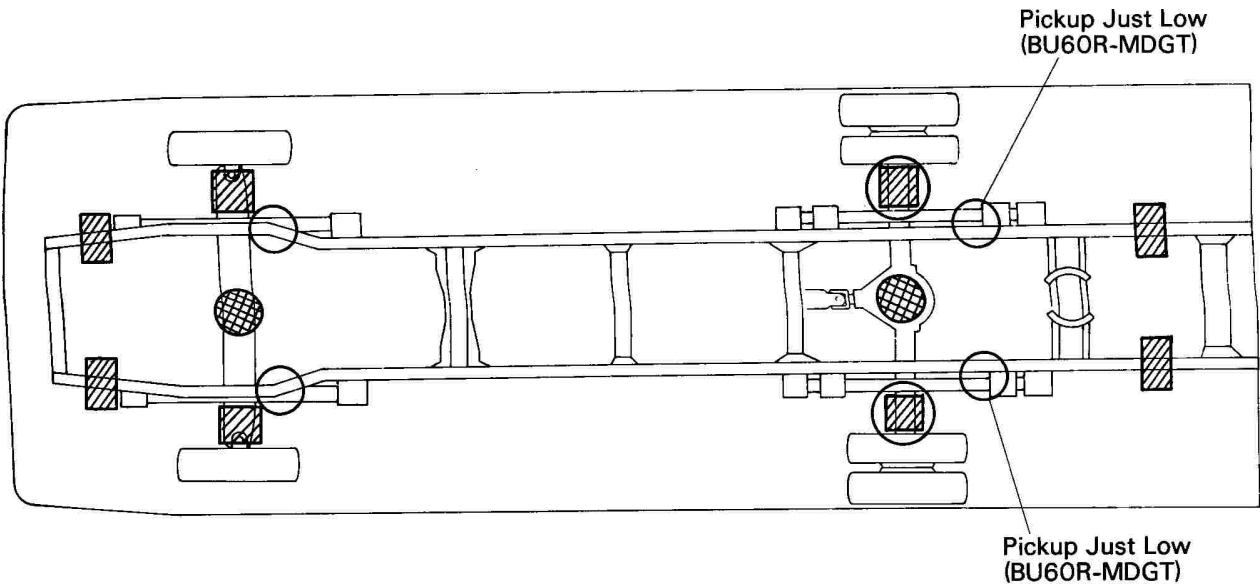


- (e) Install the cable terminal to the battery post with the nut loose, and tighten the nut after installation. Do not use a hammer or such to tap the terminal onto the post.
 - (f) Be sure the cover for the positive (+) terminal is properly in place.
4. Check hose and wiring connectors to make sure that they are secure and correct.
5. Non-reusable Parts
 - (a) Always replace cotter pins, gaskets, O-rings and oil seals etc. with new ones.
 - (b) Non-reusable parts are indicated in the component illustrations by the symbol "◆".
6. Precoated Parts

Precoated parts are the bolts, nuts, etc. which are coated with a seal lock adhesive at the factory.

 - (a) If a precoated part is retightened, loosened or caused to move in any way, it must be recoated with the specified adhesive.
 - (b) Recoating of Precoated Parts
 - (1) Clean off the old adhesive from the bolt, nut or installation part threads.
 - (2) Dry with compressed air.
 - (3) Apply the specified seal lock adhesive to the bolt or nut threads.
 - (c) Precoated parts are indicated in the component illustrations by the symbol "★".
7. When necessary, use a sealer on gaskets to prevent leaks.
8. Carefully observe all specifications for bolt tightening torques. Always use a torque wrench.
9. Use of special service tools (SST) and special service materials (SSM) may be required, depending on the nature of the repair. Be sure to use SST and SSM where specified and follow the proper work procedure. A list of SST and SSM can be found at the back of this manual.
10. When replacing fuses, be sure the new fuse is the correct amperage rating. DO NOT exceed the fuse amp rating or use one of a lower rating.
11. Care must be taken when jacking up and supporting the vehicle. Be sure to lift and support the vehicle at the proper locations (See page IN-6).
 - (a) If the vehicle is to be jacked up only at the front or rear end, be sure to block the wheels to ensure safety.
 - (b) After the vehicle is jacked up, be sure to support it on stands. It is extremely dangerous to do any work on the vehicle raised on jack alone, even for a small job that can be finished quickly.

VEHICLE LIFT AND SUPPORT LOCATIONS



- JACK POSITION** _____ ●
- Front Center of crossmember
- Rear Center of rear axle housing
- OIL JACK POSITION** _____ ○
- SUPPORT POSITION**
- Safety stand ▨

ABBREVIATIONS USED IN THIS MANUAL

DSPV	Deceleration Sensing Proportioning Valve
ELR	Emergency Locking Retractor
EX	Exhaust (manifold, valve)
Ex.	Except
IN	Intake (manifold, valve), Inch
IG	Ignition
LH	Left-hand
LHD	Left-hand Drive
MP	Multipurpose
M/T, MTM	Manual Transmission
NR	Non Retractor
OPT	Option
P.T.O	Power Take-off
PS	Power Steering
RH	Right-hand
RHD	Right-hand Drive
SSM	Special Service Materials
SST	Special Service Tools
STD	Standard
S/W	Switch
T/M	Transmission
VSV	Vacuum Switching Valve
w/	With
w/o	Without

CLUTCH

	Page
TROUBLESHOOTING	CL-2
CHECK AND ADJUSTMENT OF CLUTCH	
PEDAL	CL-3
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BOOSTER	CL-4
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CLUTCH MASTER CYLINDER	CL-5
CLUTCH BOOSTER	CL-9
CLUTCH RELEASE CYLINDER	CL-16
CLUTCH UNIT	CL-18

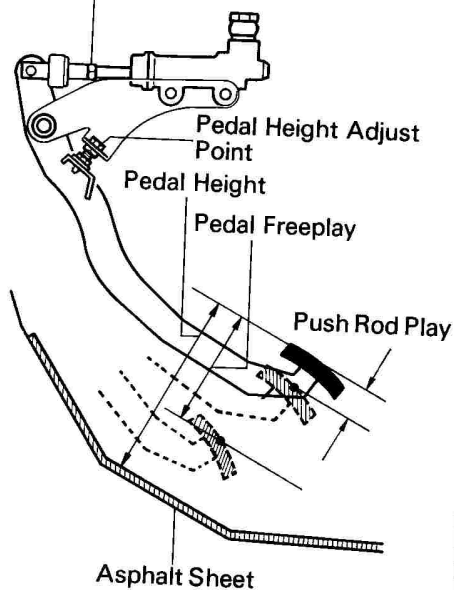
CL

TROUBLESHOOTING

Problem	Possible cause	Remedy	Page
Hard to shift or will not shift	Clutch pedal freeplay excessive	Adjust pedal freeplay	CL-3
	Clutch booster faulty	Inspect clutch booster	CL-12
	Clutch release cylinder faulty	Repair release cylinder	CL-16
	Clutch master cylinder faulty	Repair master cylinder	CL-5
	Clutch disc out of true, lining greasy or broken	Inspect clutch disc	CL-19
	Splines on input shaft or clutch disc dirty or burred	Repair as necessary	CL-19
	Clutch pressure plate faulty	Replace clutch cover	CL-18
Transmission jumps out of gear	Pilot bearing worn	Replace pilot bearing	CL-20
Clutch slips	Clutch pedal freeplay insufficient	Adjust pedal freeplay	CL-3
	Clutch booster faulty	Inspect clutch booster	CL-12
	Clutch disc lining oily or worn out	Inspect clutch disc	CL-19
	Pressure plate faulty	Replace clutch cover	CL-18
	Release fork binds	Inspect release fork	CL-19
Clutch grabs/chatters	Clutch booster faulty	Inspect clutch booster	CL-12
	Clutch disc lining oily or worn out	Inspect clutch disc	CL-19
	Pressure plate faulty	Replace clutch cover	CL-18
	Clutch diaphragm spring bending	Align clutch diaphragm	CL-21
	Engine mounts loose	Repair as necessary	
Clutch pedal spongy	Air in clutch lines	Bleed clutch system	CL-4
	Clutch release cylinder faulty	Repair release cylinder	CL-16
	Clutch master cylinder faulty	Repair master cylinder	CL-5
Clutch noisy	Loose part inside housing	Repair as necessary	
	Release bearing worn or dirty	Replace release bearing	CL-20
	Pilot bearing worn	Replace pilot bearing	CL-20
	Release fork or linkage sticks	Repair as necessary	

w/o Clutch Booster

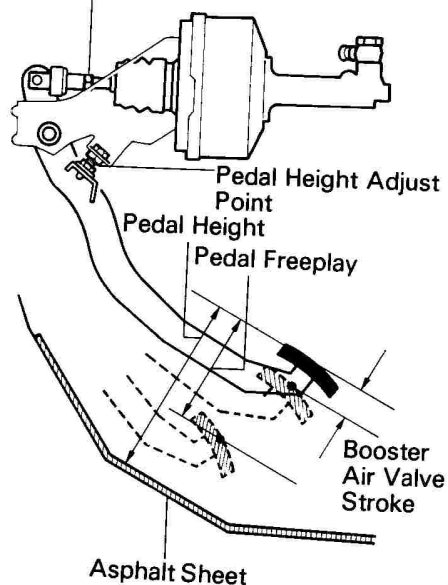
Push Rod Play Adjust Point



CL0062

w/ Clutch Booster

Booster Air Valve Stroke Adjust Point



CL0063

CHECK AND ADJUSTMENT OF CLUTCH PEDAL

1. CHECK THAT PEDAL HEIGHT IS CORRECT

Pedal height from asphalt sheet:

Regular cab 189mm (7.44 in.)

Wide cab 188mm (7.40 in.)

2. IF NECESSARY, ADJUST PEDAL HEIGHT

Loosen the lock nut and turn the stopper bolt or clutch switch until the height is correct. Tighten the lock nut.

NOTE: After adjusting the pedal height, check and adjust the pedal freeplay and push rod play or booster air valve stroke.

3.-1 (w/o Clutch Booster)

CHECK THAT PEDAL FREEPLAY AND PUSH ROD PLAY ARE CORRECT

(Pedal Freeplay)

Push in on the pedal until the clutch begins to resist.

Pedal freeplay: 5 – 18 mm (0.20 – 0.71 in.)

(Push Rod Play)

Push in on the pedal with a finger softly until the resistance begins to increase a little.

Push rod play at pedal top:

1 – 5 mm (0.04 – 0.20 in.)

3.-2 (w/ Clutch Booster)

CHECK THAT PEDAL FREEPLAY AND BOOSTER AIR VALVE STROKE

(Pedal Freeplay)

Push in on the pedal until the clutch begins to resist.

Pedal freeplay: 10 – 25 mm (0.39 – 0.98 in.)

(Booster Air Valve Stroke)

(a) Stop the engine and depress the clutch pedal several times until there is no vacuum left in the clutch booster.

(b) Push in on the pedal with a finger softly until the resistance begins to increase a little.

Booster air valve stroke at pedal top:

5 – 9 mm (0.20 – 0.35 in.)

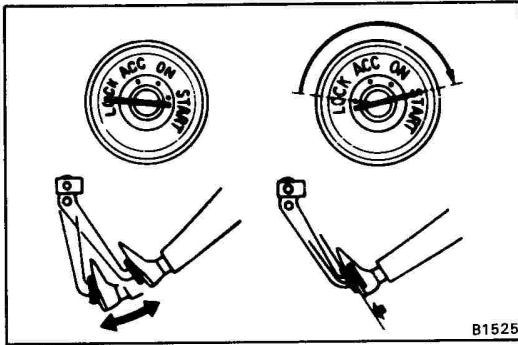
NOTE: The booster air valve is the amount of the stroke until the booster piston is moved by the booster air valve.

4. IF NECESSARY, ADJUST PEDAL FREEPLAY AND PUSH ROD PLAY OR BOOSTER AIR VALVE STROKE

(a) Loosen the lock nut and turn the push rod until the freeplay and push rod play or booster air valve stroke are correct.

(b) Tighten the lock nut.

(c) After adjusting the pedal freeplay, check the pedal height.



OPERATIONAL TEST OF CLUTCH BOOSTER

NOTE: If there is leakage or lack of vacuum, repair before testing.

1. OPERATING CHECK

With the engine stopped, depress the clutch pedal several times. Then, with the pedal at the mid point, start the engine and confirm that the pedal sinks down slightly.

2. AIR-TIGHT CHECK

- Depress the clutch pedal several times with the engine stopped. Then, start the engine and depress the clutch pedal and check that there is a slight difference in pedal effort.
- Start the engine and turn it off after there is sufficient vacuum in the booster. Depress the clutch pedal and confirm that the effort required for at least one time is equal to that with the engine running.

NOTE: If (a) and (b) are not as stipulated, inspect the vacuum check valve and, if necessary, the clutch booster also.

BLEEDING OF CLUTCH SYSTEM

NOTE: If any work is done on the clutch system, or if air is suspected in the clutch lines, bleed the system of air.

CAUTION: Do not let brake fluid remain on a painted surface. Wash it off immediately.

1. FILL BRAKE RESERVOIR WITH BRAKE FLUID

Check the reservoir after bleeding. Add fluid, if necessary.

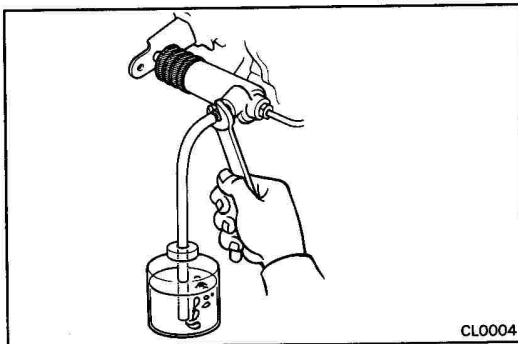
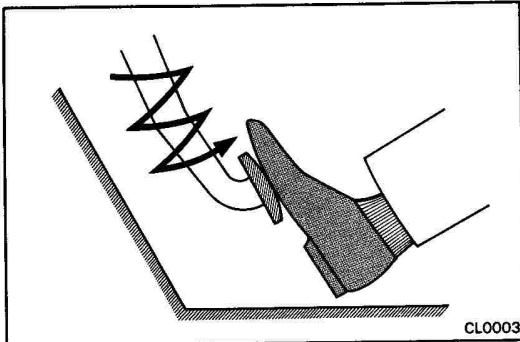
2. CONNECT VINYL TUBE TO RELEASE CYLINDER BLEEDER PLUG

Insert the other end of the tube in a half-filled container of brake fluid.

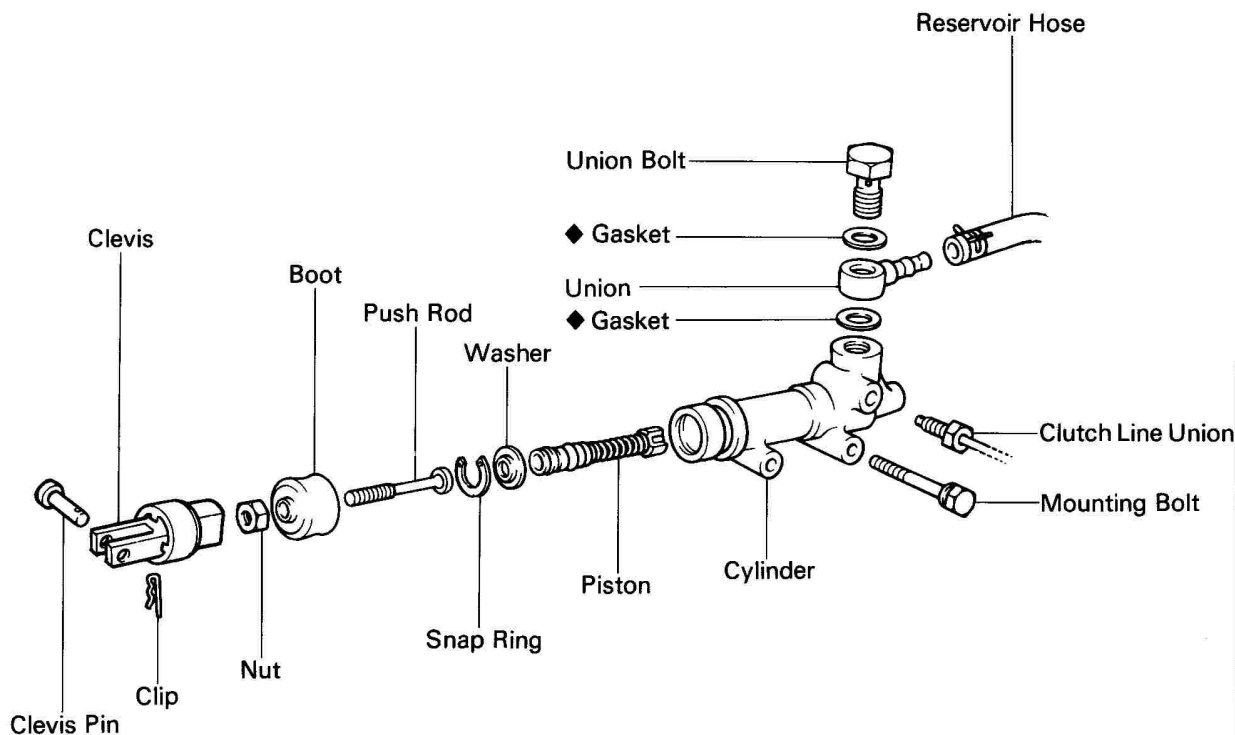
3. BLEED CLUTCH LINE

- Slowly pump the clutch pedal several times.
- While having an assistant press on the pedal, loosen the bleeder plug until fluid starts to run out. Then close the bleeder plug.
- Repeat this procedure until there are no more air bubbles in the fluid.
- Torque the bleeder plug.

Torque: 110 kg-cm (8 ft-lb, 11 N·m)



CLUTCH MASTER CYLINDER (w/o Clutch Booster) COMPONENTS

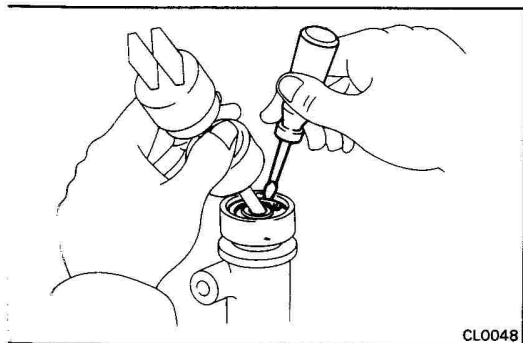


◆ : Non-reusable part

CL0047

REMOVAL OF MASTER CYLINDER

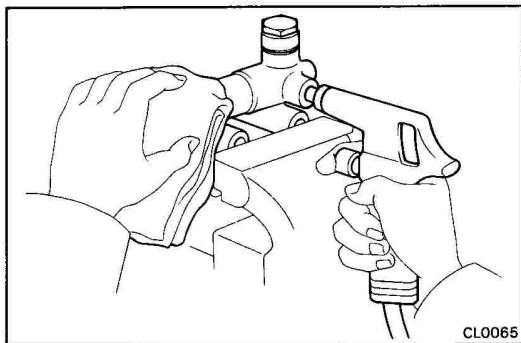
1. DRAW OUT FLUID WITH SYRINGE
2. (Wide Cab : LHD only)
DISCONNECT AIR SIDE LH DUCT
3. REMOVE CLEVIS PIN AND CLIP
4. DISCONNECT RESERVOIR HOSE
5. DISCONNECT CLUTCH LINE UNION
Using SST, disconnect the union.
SST 09751-36011
6. REMOVE MASTER CYLINDER
Remove the mounting bolts and pull off the master cylinder.



CL0048

DISASSEMBLY OF MASTER CYLINDER

1. REMOVE PUSH ROD AND SNAP RING
 - (a) Pull back the boot and using a screwdriver, remove the snap ring.
 - (b) Pull off the push rod and washer.



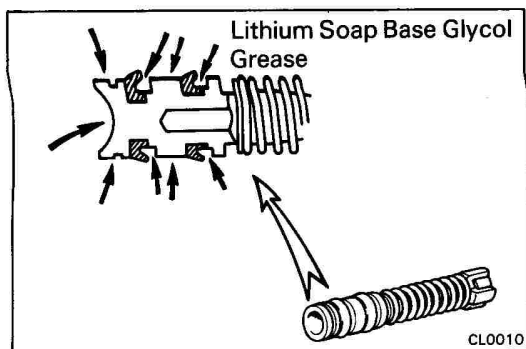
2. REMOVE PISTON

Using compressed air, remove the piston from the cylinder.

3. REMOVE UNION

INSPECTION OF MASTER CYLINDER

Inspect the disassembled parts for wear, rust, or damage.



ASSEMBLY OF MASTER CYLINDER

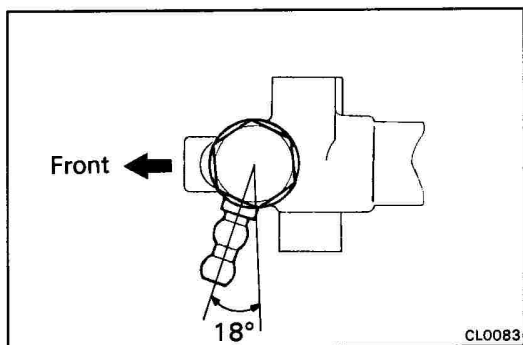
1. COAT PARTS WITH LITHIUM SOAP BASE GLYCOL GREASE
2. INSERT PISTON INTO CYLINDER
3. INSTALL PUSH ROD ASSEMBLY WITH SNAP RING

4. INSTALL UNION

(a) Install the union as shown.

(b) Torque the union.

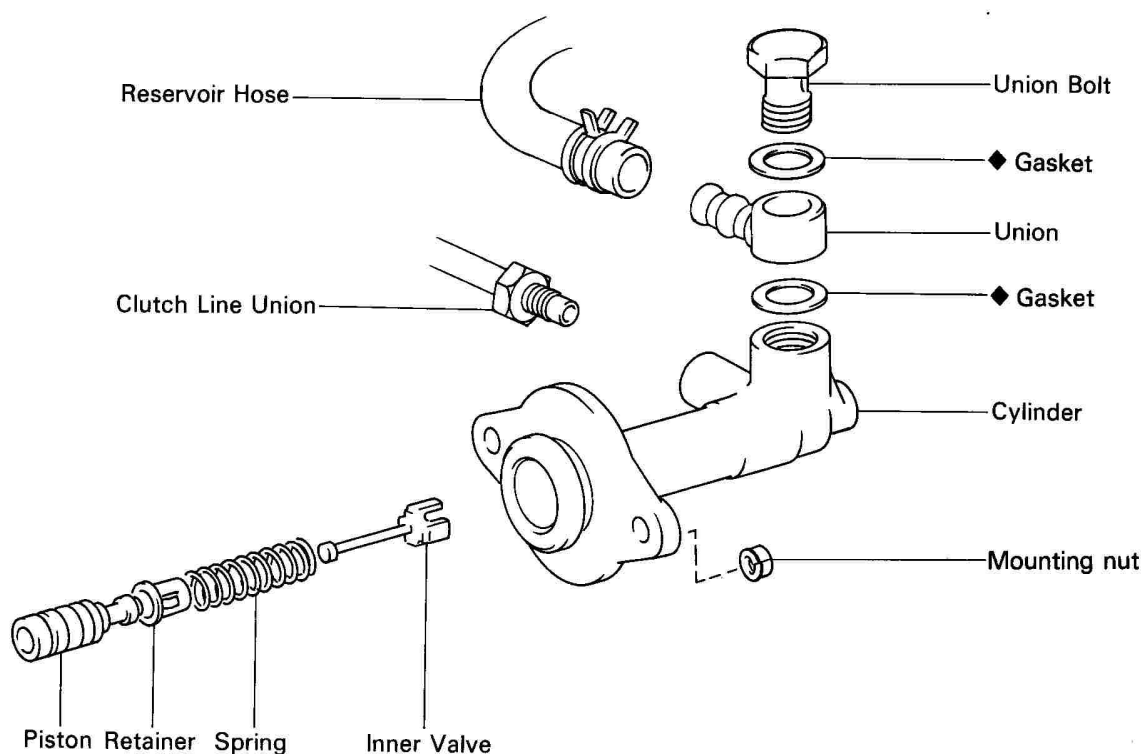
Torque: 550 kg-cm (40 ft-lb, 54 N·m)



INSTALLATION OF MASTER CYLINDER

1. INSTALL MASTER CYLINDER WITH MOUNTING BOLTS
2. CONNECT CLUTCH LINE UNION
Using SST, connect the union.
SST 09751-36011
3. CONNECT RESERVOIR HOSE
4. INSTALL CLEVIS PIN AND CLIP
5. ADJUST CLUTCH PEDAL AND BLEED SYSTEM
(See page CL-3)
6. (Wide Cab : LHD only)
CONNECT AIR SIDE LH DUCT

(w/ Clutch Booster) COMPONENTS



◆ : Non-reusable part

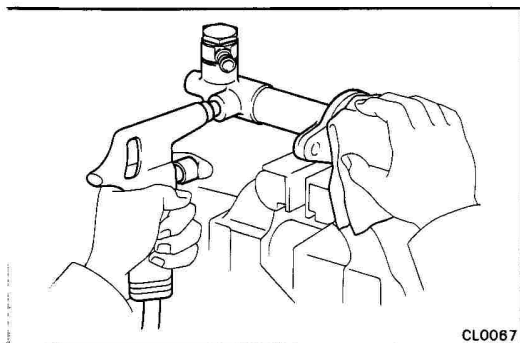
CL0066

REMOVAL OF MASTER CYLINDER

1. DRAW OUT FLUID WITH SYRINGE
2. (Wide Cab : LHD only)
DISCONNECT AIR SIDE LH DUCT
3. DISCONNECT RESERVOIR HOSE
4. DISCONNECT CLUTCH LINE UNION
Using SST, disconnect the union.
SST 09751-36011

5. REMOVE MASTER CYLINDER

Remove the mounting nuts and pull off the master cylinder.



CL0067

DISASSEMBLY OF MASTER CYLINDER

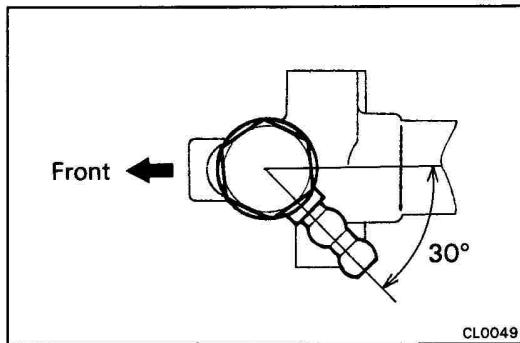
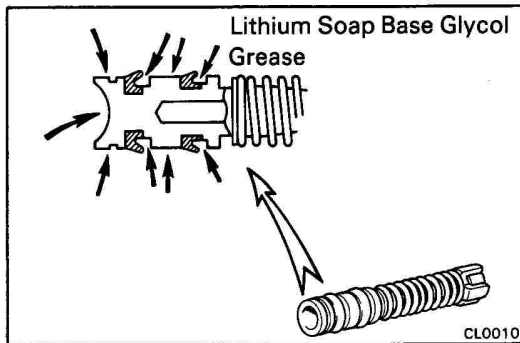
1. REMOVE MASTER CYLINDER

Using compressed air, remove the piston from the cylinder.

2. REMOVE UNION

INSPECTION OF MASTER CYLINDER

Inspect the disassembled parts for wear, rust or damage.



ASSEMBLY OF MASTER CYLINDER

1. COAT PARTS WITH LITHIUM SOAP BASE GLYCOL GREASE
2. INSERT PISTON INTO CYLINDER

3. INSTALL UNION

- (a) Install the union as shown.
- (b) Torque the union.

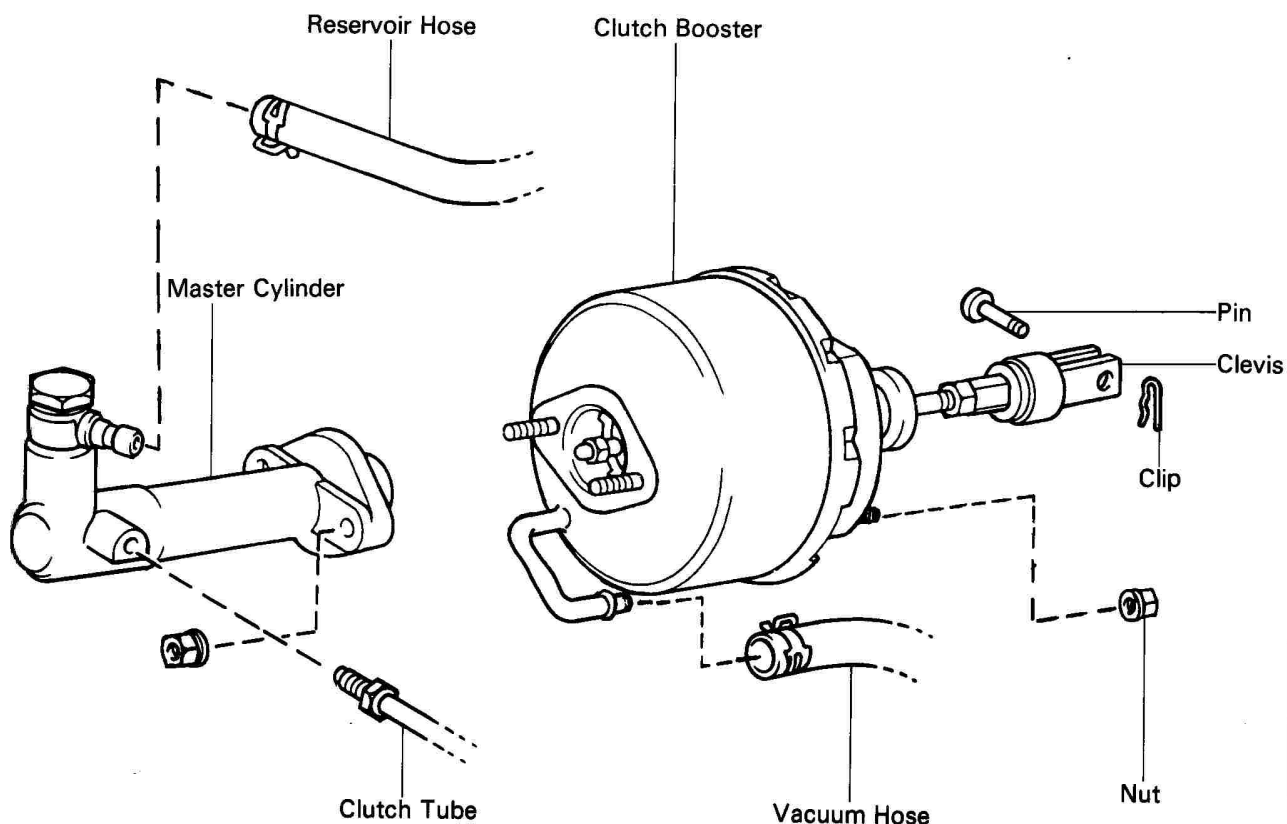
Torque: 550 kg-cm (40 ft-lb, 54 N·m)

INSTALLATION OF MASTER CYLINDER

1. ADJUST LENGTH OF CLUTCH BOOSTER PUSH ROD
(See step 1 on page CL-15)
2. INSTALL MASTER CYLINDER WITH MOUNTING NUTS
3. CONNECT CLUTCH LINE UNION
Using SST, connect the union.
SST 09751-36011
4. CONNECT RESERVOIR HOSE
5. ADJUST CLUTCH PEDAL AND BLEED SYSTEM
(See pages CL-3, 4)
6. (Wide Cab : LHD only)
CONNECT AIR SIDE LH DUCT

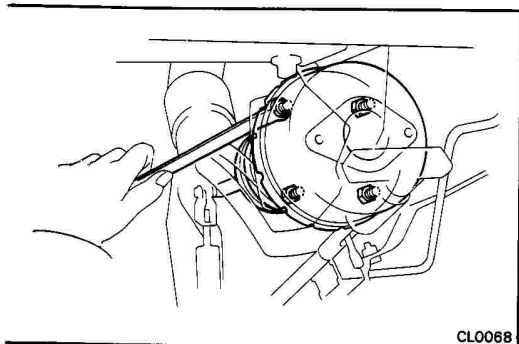
CLUTCH BOOSTER

REMOVAL OF CLUTCH BOOSTER

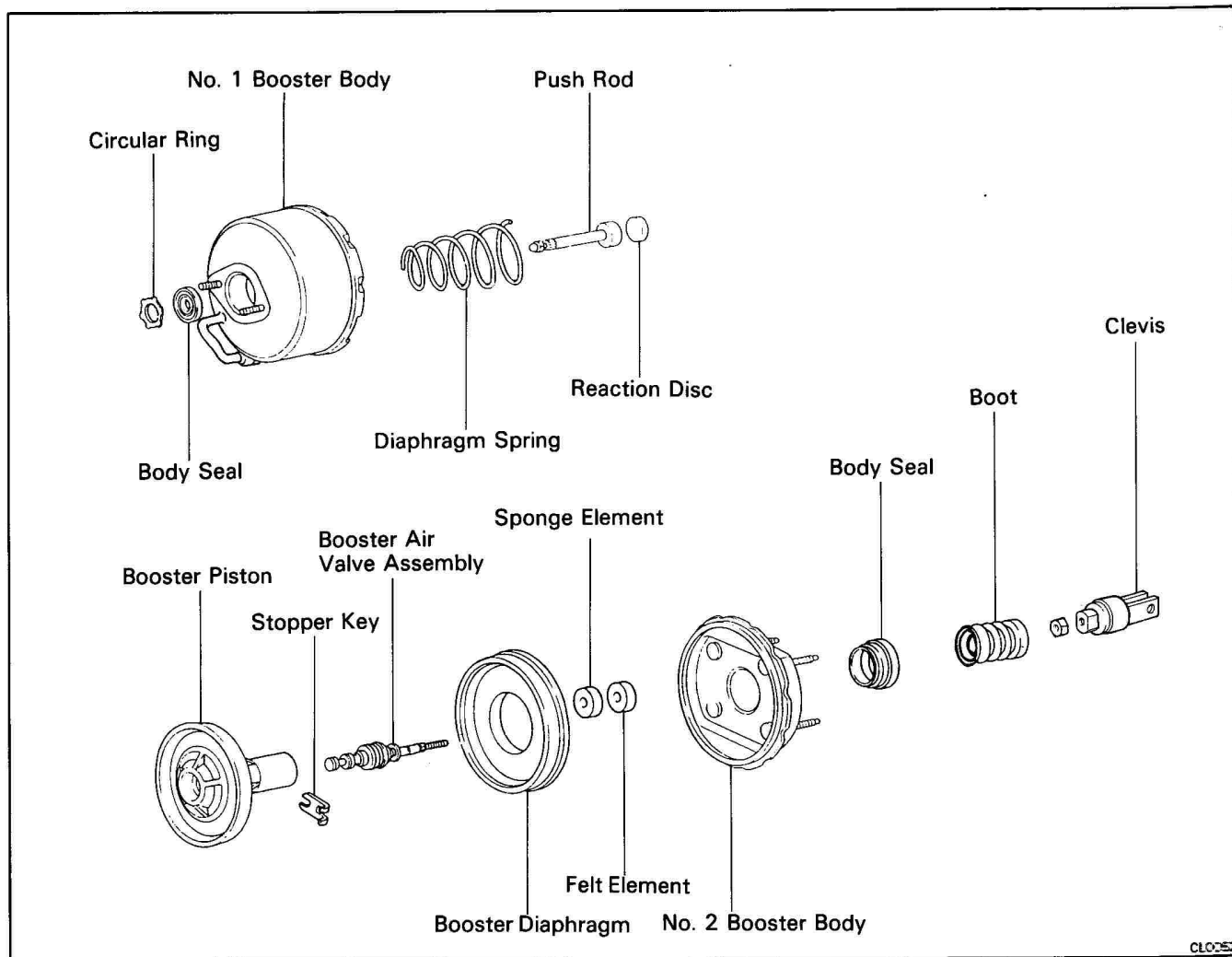


CL0051

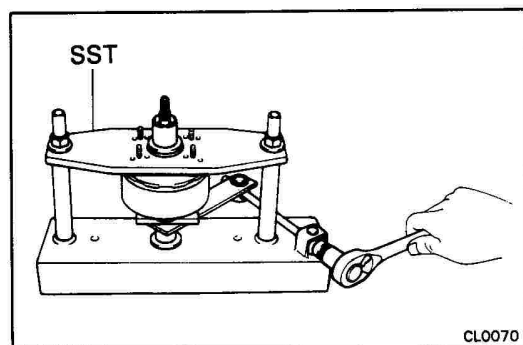
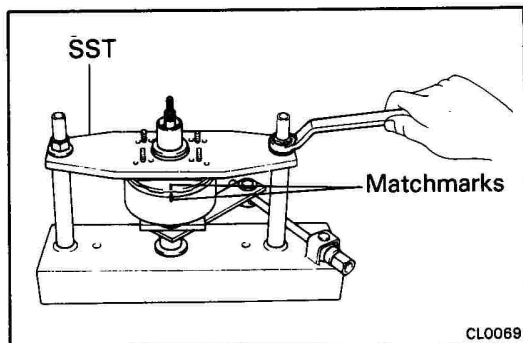
1. **REMOVE MASTER CYLINDER** (See page CL-7)
2. **DISCONNECT VACUUM HOSE FROM CLUTCH BOOSTER**
3. **REMOVE PEDAL RETURN SPRING FROM CLUTCH PEDAL**
4. **DISCONNECT CLEVIS FROM CLUTCH PEDAL**
Remove the clip and clevis pin.
5. **REMOVE CLUTCH BOOSTER**
Remove the four nuts and pull off the clutch booster.



COMPONENTS

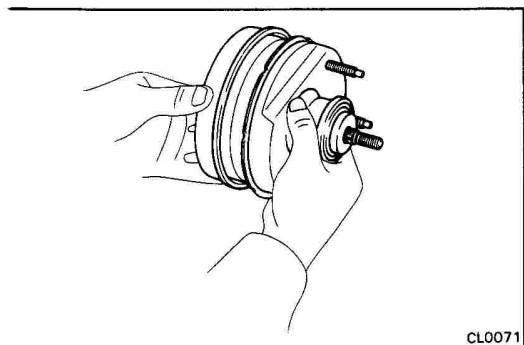


CLO057

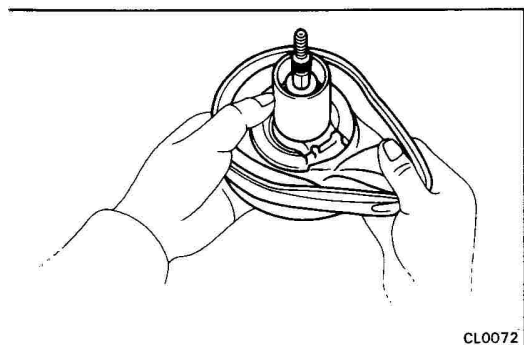


DISASSEMBLY OF CLUTCH BOOSTER

1. REMOVE CLEVIS
2. REMOVE BOOT
3. REMOVE SPONGE AND FELT ELEMENTS
4. SEPARATE NO. 1 AND NO. 2 BOOSTER BODIES
 - (a) Put matchmarks on the No. 1 and No. 2 booster bodies.
 - (b) Set the booster in SST.
SST 09753-00012
 - CAUTION:** Be careful not to tighten the two nuts of the SST too tight.
 - (c) Turn the No. 1 booster body clockwise, until the No. 1 and No. 2 booster bodies separate.

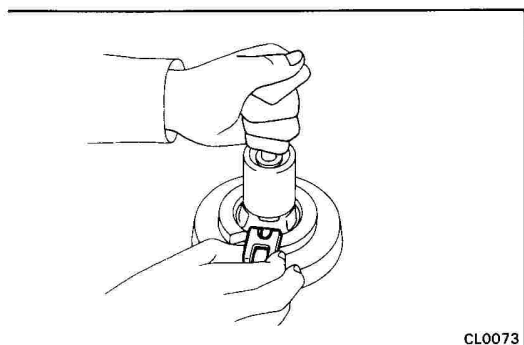


- 5. REMOVE BOOSTER PISTON ASSEMBLY FROM NO. 2 BOOSTER BODY**



- 6. REMOVE BOOSTER DIAPHRAGM FROM BOOSTER PISTON**

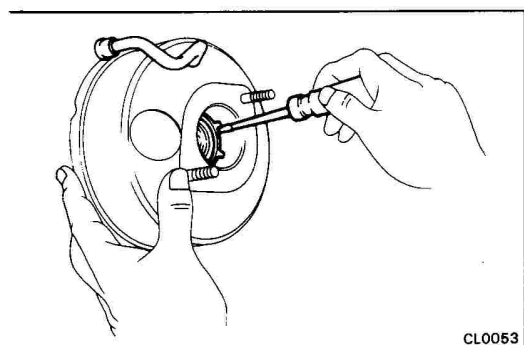
Pull off the diaphragm.



- 7. REMOVE BOOSTER AIR VALVE ASSEMBLY FROM BOOSTER PISTON**

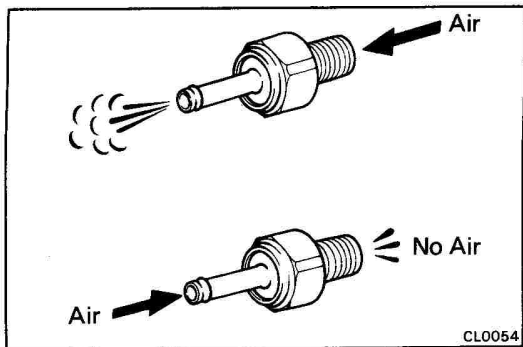
- (a) Push down the booster air valve in the booster piston and remove the stopper key.
- (b) Pull off the booster air valve assembly.

- 8. REMOVE REACTION DISC FROM BOOSTER PISTON**



- 9. REMOVE BODY SEAL FROM NO. 1 BOOSTER BODY**

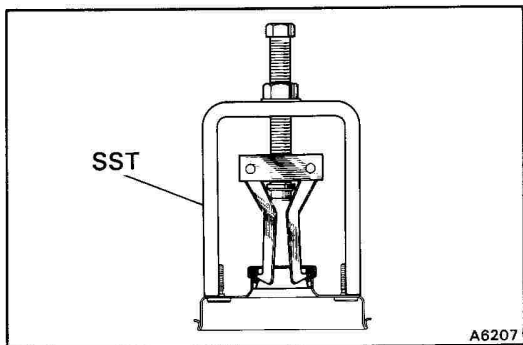
Using a screwdriver, pry out the circular ring and remove the body seal.



INSPECTION AND REPLACEMENT OF CLUTCH BOOSTER

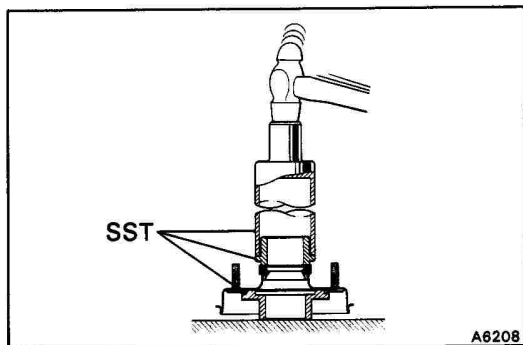
1. INSPECT CHECK VALVE OPERATION

- Check that air flows from the vacuum tank side to the vacuum hose side.
- Check that air does not flow from the vacuum hose side to the vacuum tank side.



2. IF NECESSARY, REPLACE BODY SEAL FOR NO. 2 BOOSTER BODY

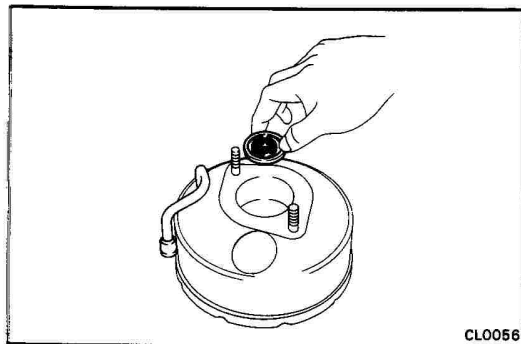
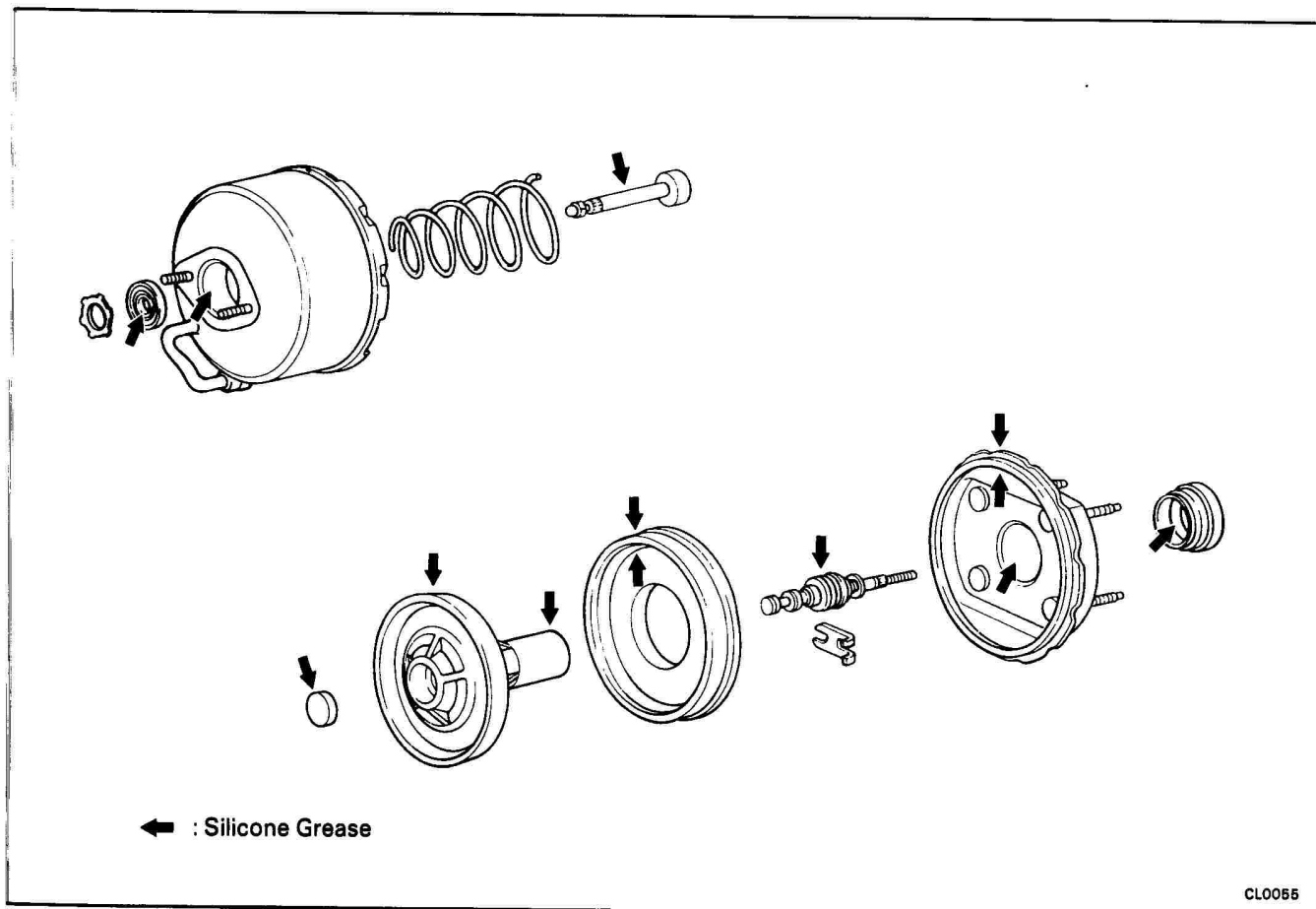
- Using SST, remove the body sealer.
SST 09514-35011



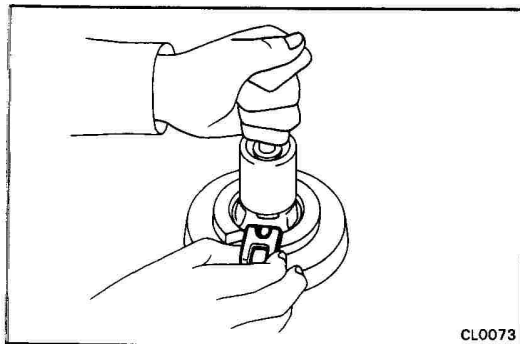
- Using SST, drive in the body sealer.
SST 09316-60010

ASSEMBLY OF CLUTCH BOOSTER

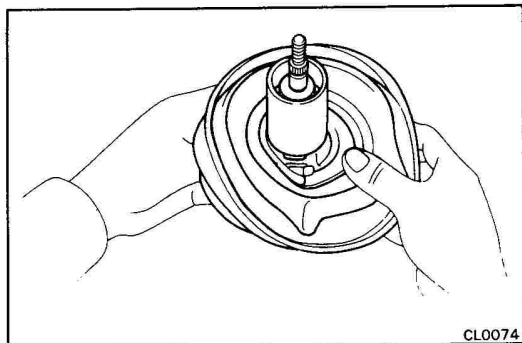
(See page CL-10)

1. APPLY SILICONE GREASE TO PARTS SHOWN BELOW**2. INSTALL BODY SEAL TO NO. 1 BOOSTER BODY**

- (a) Place the body seal in position.
- (b) Secure the body seal with the circular ring.

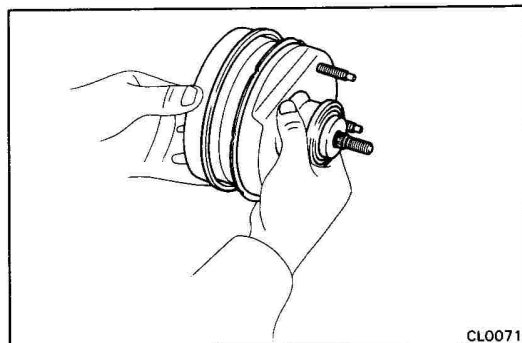
**3. INSTALL BOOSTER AIR VALVE ASSEMBLY TO BOOSTER PISTON**

- (a) Insert the booster air valve in the booster piston.
- (b) Push the booster air valve in the booster piston and install the stopper key.



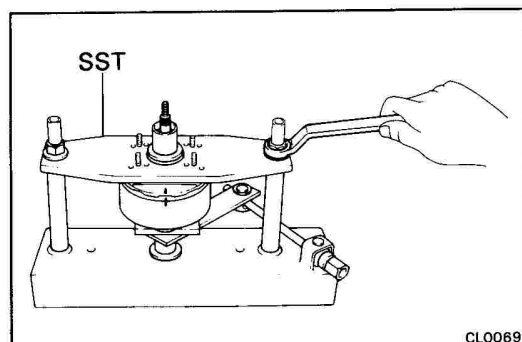
4. INSTALL DIAPHRAGM TO BOOSTER PISTON

Push in the bead of diaphragm.



5. INSTALL BOOSTER PISTON ASSEMBLY TO NO. 2 BOOSTER BODY

6. INSTALL REACTION DISC TO BOOSTER PISTON



7. ASSEMBLY NO. 1 AND NO. 2 BOOSTER BODIES

(a) Place the No. 1 booster body on SST.

SST 09753-00012

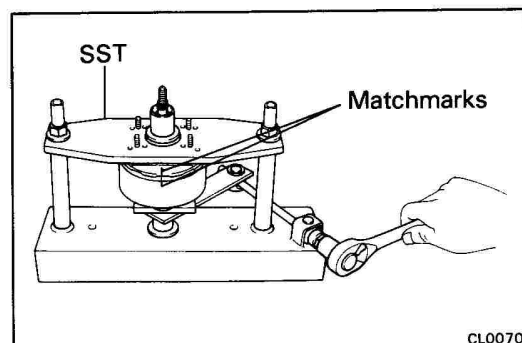
(b) Place the push rod, diaphragm spring and No. 2 booster body in the No. 1 booster body.

(c) Compress the diaphragm spring between the No. 1 and No. 2 booster bodies.

CAUTION: Be careful not to tighten the two nuts of the SST too tight.

(d) Turn the No. 1 booster body counterclockwise, until the matchmarks match.

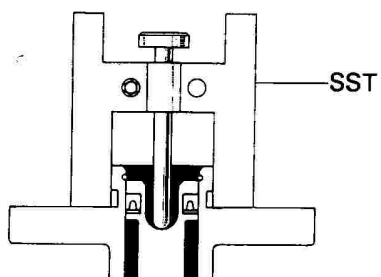
NOTE: If the No. 1 booster body is too tight to be turned, apply more silicone grease on the diaphragm edge that contacts the No. 1 and No. 2 booster bodies.



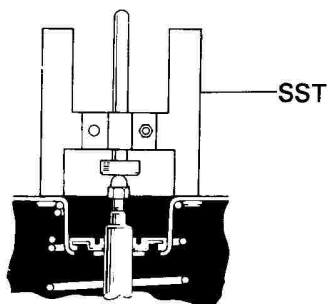
8. INSTALL SPONGE AND FELT ELEMENTS

9. INSTALL BOOT

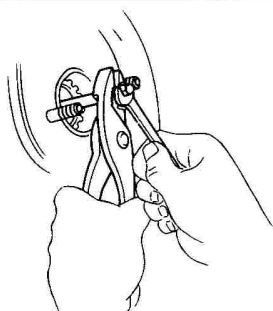
10. INSTALL CLEVIS



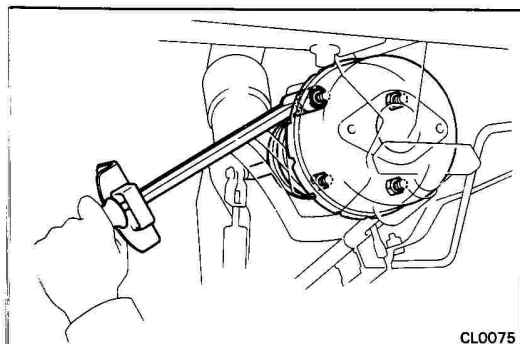
BR0419



B1255



BR0021



CL0075

INSTALLATION OF CLUTCH BOOSTER

(See page CL-9)

1. ADJUST LENGTH OF BOOSTER PUSH ROD

- (a) Set SST on the master cylinder, and lower the pin until its tip slightly touches the piston.

SST 09737-00010

- (b) Turn SST upside down, and set it on the booster.

SST 09737-00010

- (c) Adjust the booster push rod length until the push rod lightly touches the pin head.

Clearance: 0 mm (0 in.)

2. INSTALL CLUTCH BOOSTER WITH FOUR NUTS

Torque: 130 kg-cm (9 ft-lb, 13 N·m)

3. CONNECT CLEVIS TO CLUTCH PEDAL

Connect the clevis with the clevis pin and clip.

4. INSTALL PEDAL RETURN SPRING TO CLUTCH PEDAL

5. INSTALL MASTER CYLINDER TO CLUTCH BOOSTER (See page CL-8)

Torque: 130 kg-cm (9 ft-lb, 13 N·m)

6. CONNECT VACUUM HOSE TO CLUTCH BOOSTER

7. FILL CLUTCH RESERVOIR WITH BRAKE FLUID AND BLEED CLUTCH SYSTEM (See page CL-4)

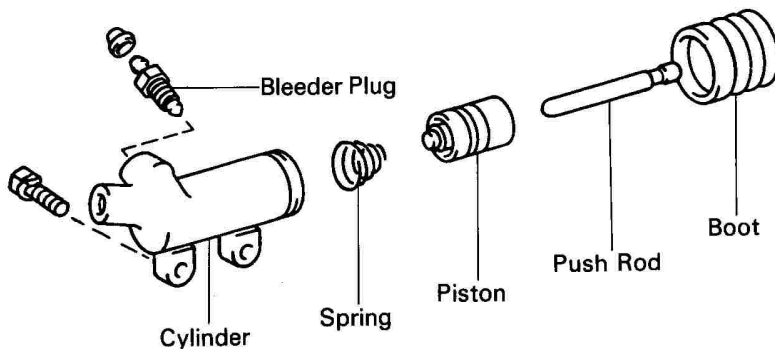
8. CHECK FLUID LEAKAGE

9. CHECK AND ADJUST CLUTCH PEDAL (See page CL-3)

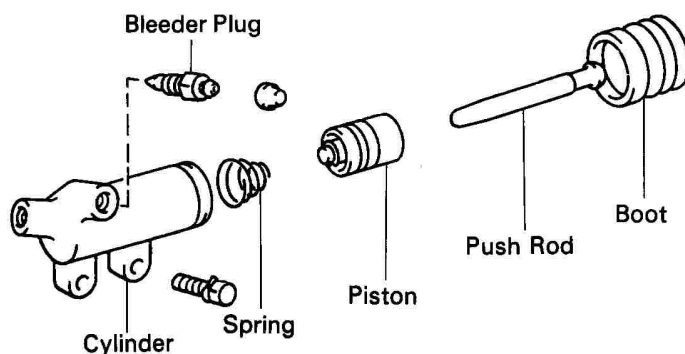
10. PERFORM OPERATIONAL CHECK (See page CL-4)

CLUTCH RELEASE CYLINDER COMPONENTS

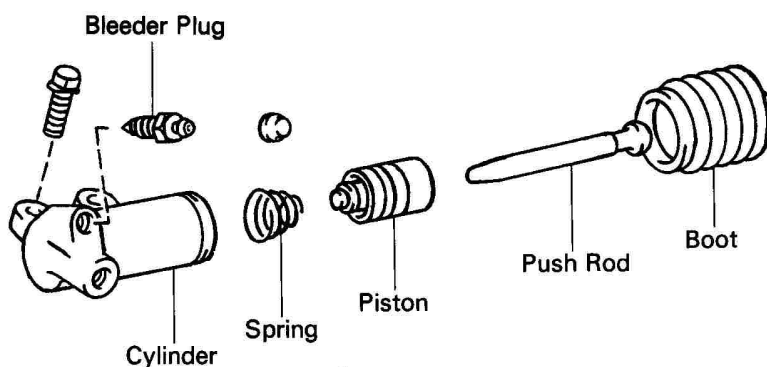
YU, RU series



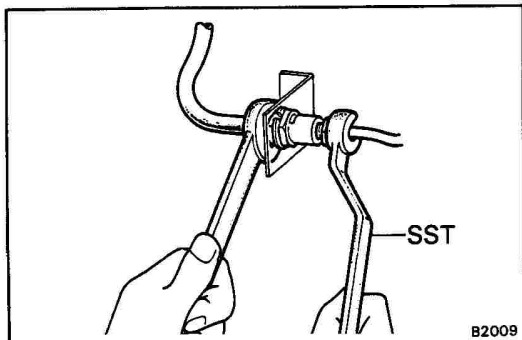
BU series



WU series



CL0076
CL0077
CL0078



REMOVAL OF RELEASE CYLINDER

1.-1 (YU, RU, WU series)

DISCONNECT FLEXIBLE HOSE

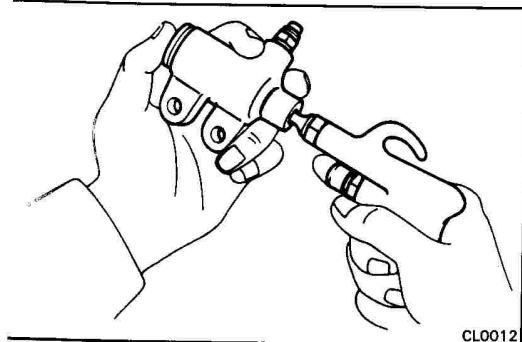
Using SST, disconnect the union.
SST 09751-36011

1.-2 (BU series)

DISCONNECT CLUTCH LINE UNION

Using SST, disconnect the union.
SST 09751-36011

2. REMOVE TWO BOLTS AND PULL OFF RELEASE CYLINDER



DISASSEMBLY OF RELEASE CYLINDER

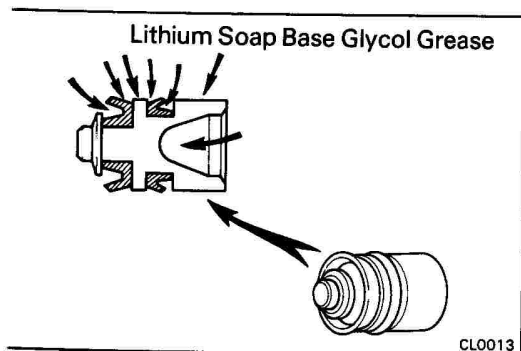
1. PULL OFF PUSH ROD
2. REMOVE BOOT
3. REMOVE PISTON

Using compressed air, remove the piston from the cylinder.

4. REMOVE SPRING

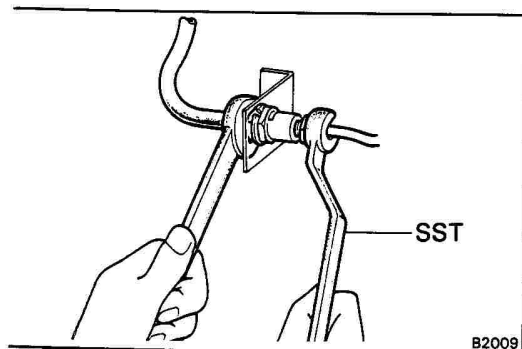
INSPECTION OF RELEASE CYLINDER

Inspect the disassembled parts for wear, rust, or damage.



ASSEMBLY OF RELEASE CYLINDER

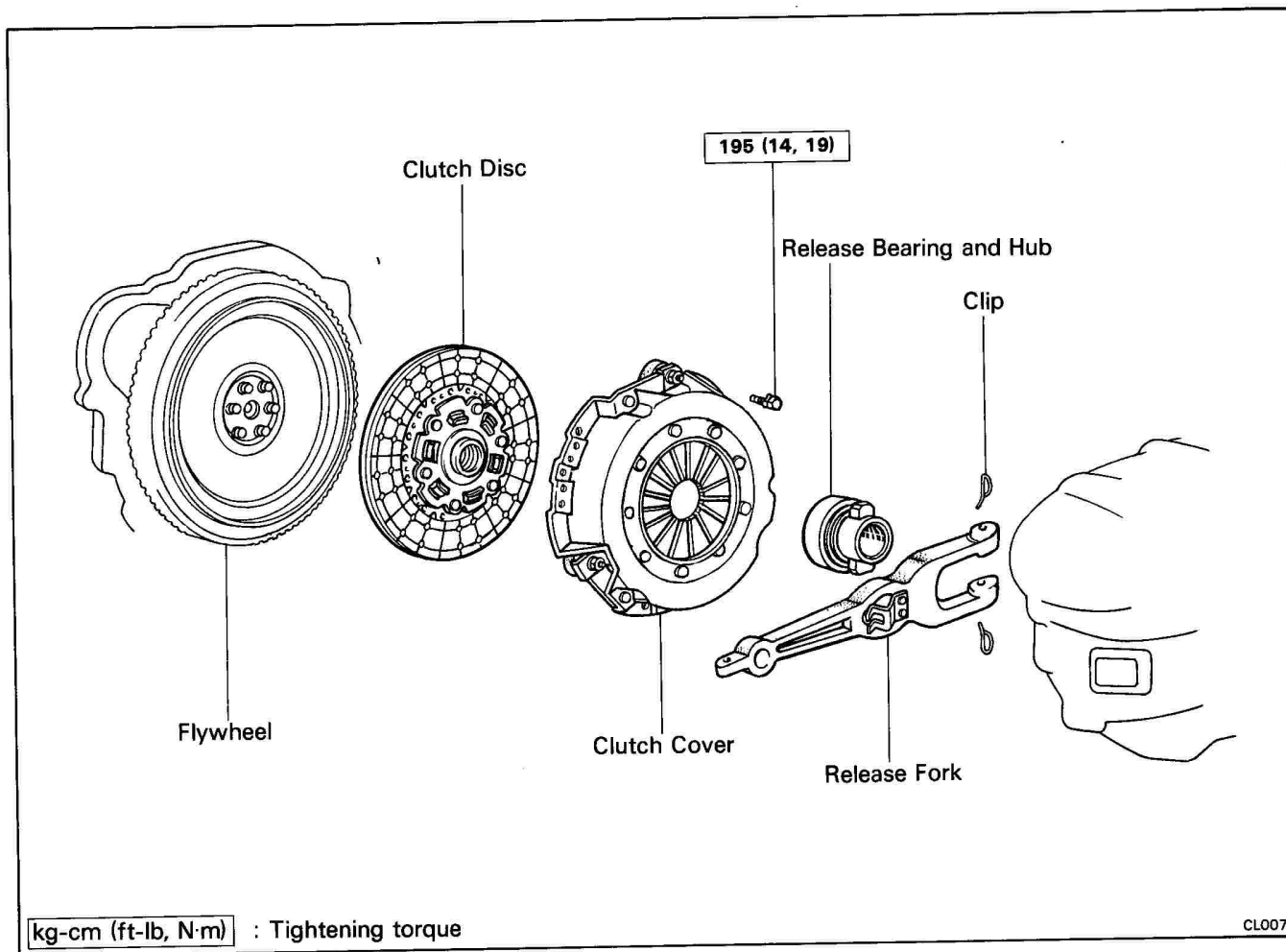
1. COAT PISTON WITH LITHIUM SOAP BASE GLYCOL GREASE, AS SHOWN
2. INSTALL SPRING
3. INSTALL PISTON
4. INSTALL BOOT AND INSERT PUSH ROD



INSTALLATION OF RELEASE CYLINDER

1. INSTALL RELEASE CYLINDER WITH TWO BOLTS
Torque: 120 kg-cm (9 ft-lb, 12 N·m)
- 2.-1 (YU, RU, WU series)
CONNECT FLEXIBLE HOSE
Using SST, connect the union.
SST 09751-36011
- 2.-2 (BU series)
CONNECT CLUTCH LINE UNION
Using SST, connect the union.
SST 09751-36011
3. BLEED CLUTCH SYSTEM
(See page CL-4)

CLUTCH UNIT COMPONENTS



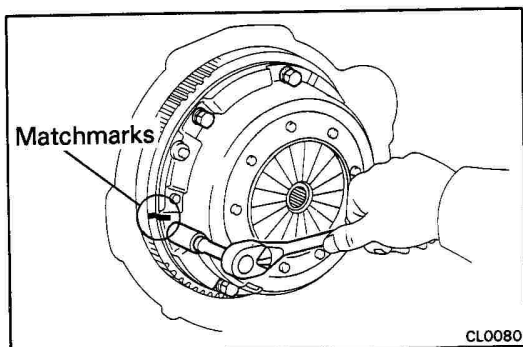
REMOVAL OF CLUTCH UNIT

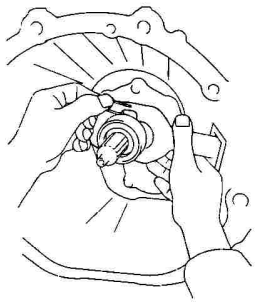
1. REMOVE TRANSMISSION (See page MT-3)

NOTE: Do not drain the transmission oil.

2. REMOVE CLUTCH COVER AND DISC

- Place matchmarks on the clutch cover and flywheel.
- Loosen the set bolts one turn at a time until the spring tension is released.
- Remove the set bolts and pull off the clutch cover and disc.

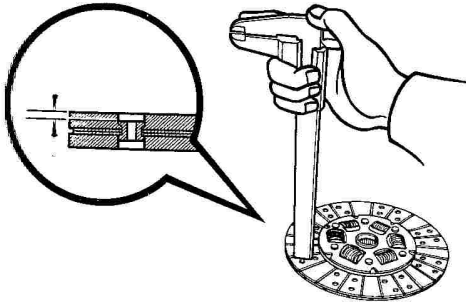




CL0017

3. REMOVE BEARING, HUB AND FORK FROM TRANSMISSION

- (a) Remove the retaining clip and pull off the bearing with hub.
- (b) Remove the fork and boot.



CL0018

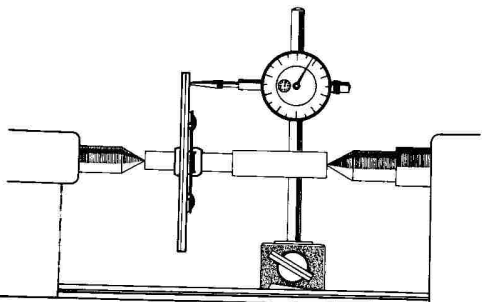
INSPECTION OF CLUTCH PARTS

1. INSPECT CLUTCH DISC FOR WEAR OR DAMAGE

Using calipers, measure the rivet head depth.

Minimum rivet depth: 0.3 mm (0.012 in.)

If a problem is found, replace the clutch disc.



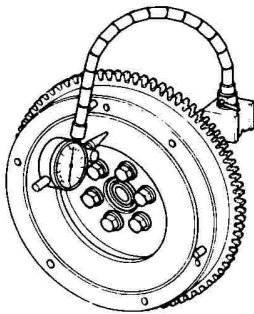
M1257

2. INSPECT CLUTCH DISC RUNOUT

Using a dial indicator, check the disc runout.

Maximum runout: 0.8 mm (0.031 in.)

If runout is excessive, replace the disc.



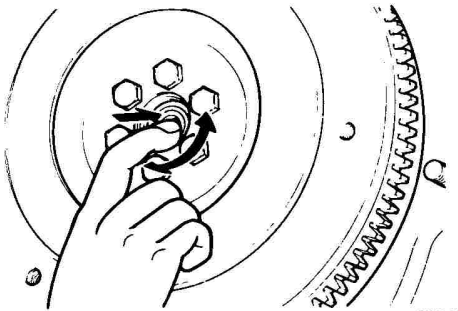
B2015

3. INSPECT FLYWHEEL RUNOUT

Using a dial indicator, check the flywheel runout.

Maximum runout: 0.2 mm (0.008 in.)

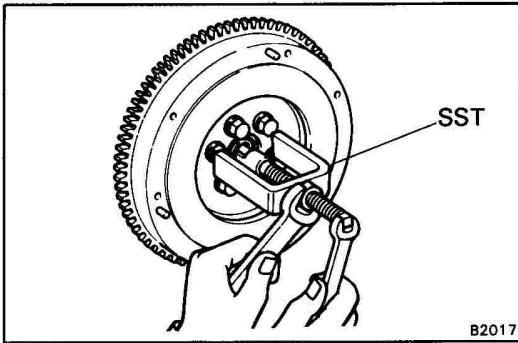
If runout is excessive, repair or replace the flywheel.



B2016

4. INSPECT PILOT BEARING

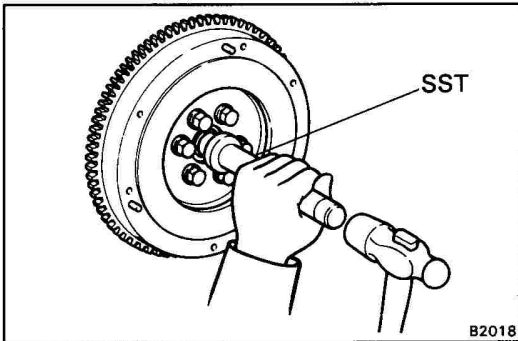
Turn the bearing by hand while applying force in the rotation direction.



5. IF NECESSARY, REPLACE PILOT BEARING

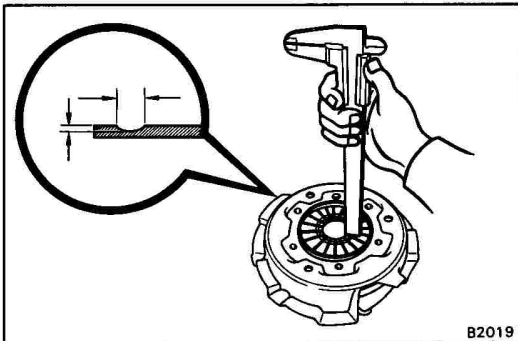
(a) Using SST, remove the pilot bearing.

SST 09303-35011



(b) Using SST, install the pilot bearing.

SST 09304-30012



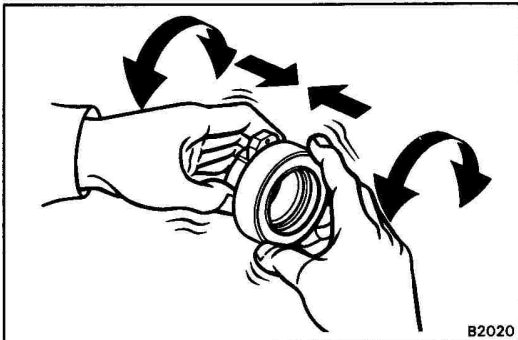
6. INSPECT DIAPHRAGM SPRING FOR WEAR

Using calipers, measure the diaphragm spring for depth and width of wear.

Limit: Depth 0.6 mm (0.024 in.)

Width 5.0 mm (0.197 in.)

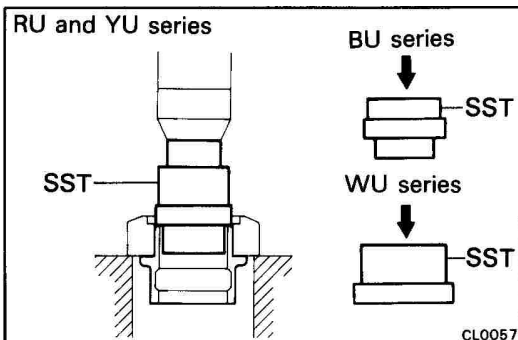
If necessary, replace clutch cover assembly.



7. INSPECT RELEASE BEARING

Turn the bearing by hand while applying force in the rotation direction.

NOTE: The bearing is permanently lubricated and requires no cleaning or lubrication.

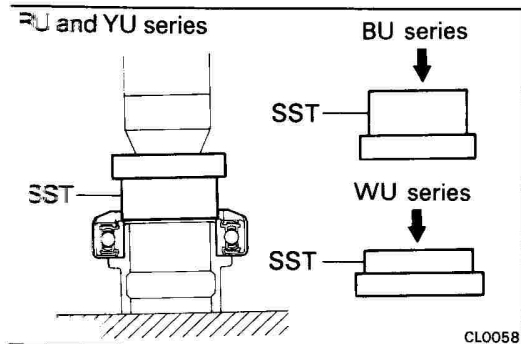


8. IF NECESSARY REPLACE RELEASE BEARING

(a) Using a press and SST, press the release bearing from the hub.

SST 09315-00010 (YU, RU, BU series)

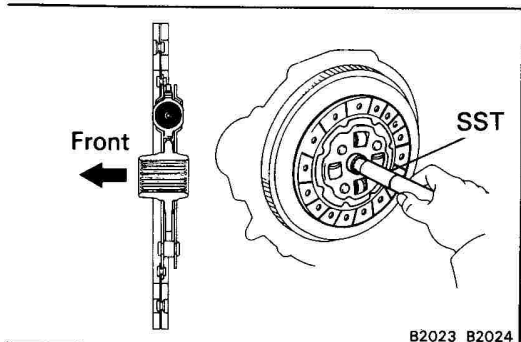
09315-00021 (WU series)



- (b) Using a press and SST, press a new release bearing into the hub.

SST 09315-00021

- (c) After installing the bearing, check that there is no drag on the bearing when it is turned under pressure.



INSTALLATION OF CLUTCH UNIT

(See page CL-18)

1. INSTALL DISC ON FLYWHEEL

Using SST, install the disc on the flywheel.

SST 09301-20020 (YU, RU, BU series)

09301-55022 (WU series)

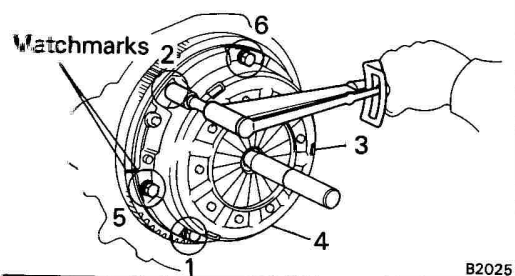
2. INSTALL CLUTCH COVER

- (a) Align the matchmarks on the clutch cover and flywheel.

- (b) Tighten the bolts evenly. Make several passes around the cover until it is snug. Torque the bolts.

Torque: YU, RU series 195 kg-cm
(14 ft-lb, 19 N·m)

BU, WU series 260 kg-cm
(19 ft-lb, 25 N·m)

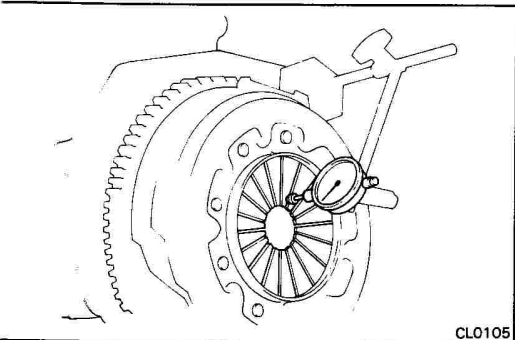


3. CHECK DIAPHRAGM SPRING TIP ALIGNMENT

Using a dial indicator and measuring point, check the diaphragm spring tip alignment.

Maximum gap: 1.0 mm (0.039 in.)

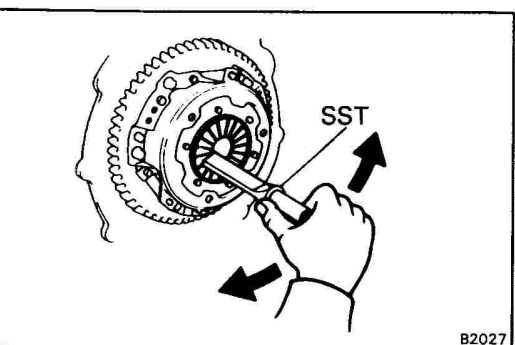
If gap is excessive, adjust as follows.

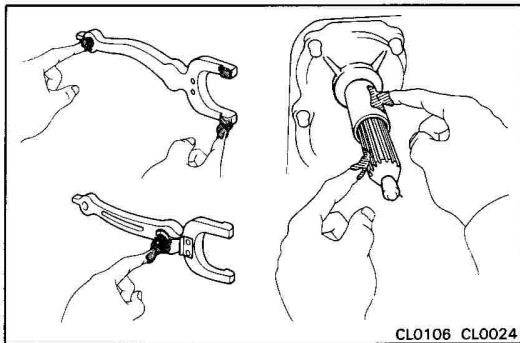


4. IF NECESSARY, ADJUST SPRINGS

Using SST, bend the springs until alignment is correct.

SST 09333-00012



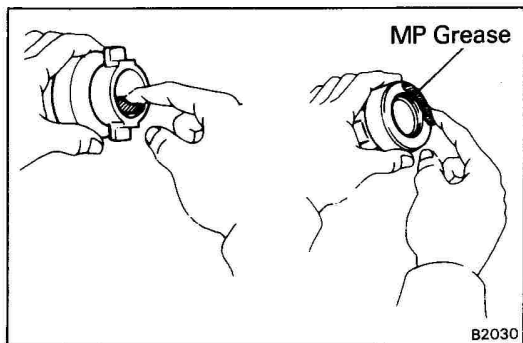


5. APPLY MOLYBDENUM DISULPHIDE LITHIUM BASE GREASE (NLGI NO. 2) OR MP GREASE

(a) Apply molybdenum disulphide lithium base grease to the following parts:

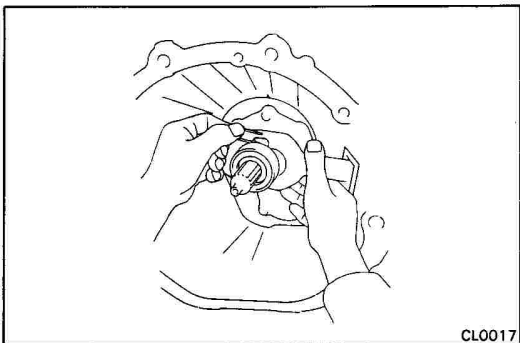
- Release fork and hub contact point
- Release fork and push rod contact point
- Release fork pivot point
- Clutch disc spline
- Release bearing hub inside groove

(b) Apply MP grease to release bearing front.



6. INSTALL BOOT, FORK AND HUB WITH BEARING ON TRANSMISSION

7. INSTALL TRANSMISSION
(See page MT-57)



MANUAL TRANSMISSION

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