PEDAL SYSTEM AND CONTROL CABLES

4-5

SUBARU

1988

MECHANISM AND FUNCTION

Pedal Effort Reducing Mechanism (2700 cc model)

A. CONSTRUCTION

Two arms are welded on the clutch pedal. One end of each arm is equipped with a spring.

B. OPERATION

When the clutch pedal is depressed, the two arms also move and spring hooks change position. When the arms move past the line (between the stationary position of the hook and the centerline of shaft), the effort required to depress the clutch pedal is reduced.

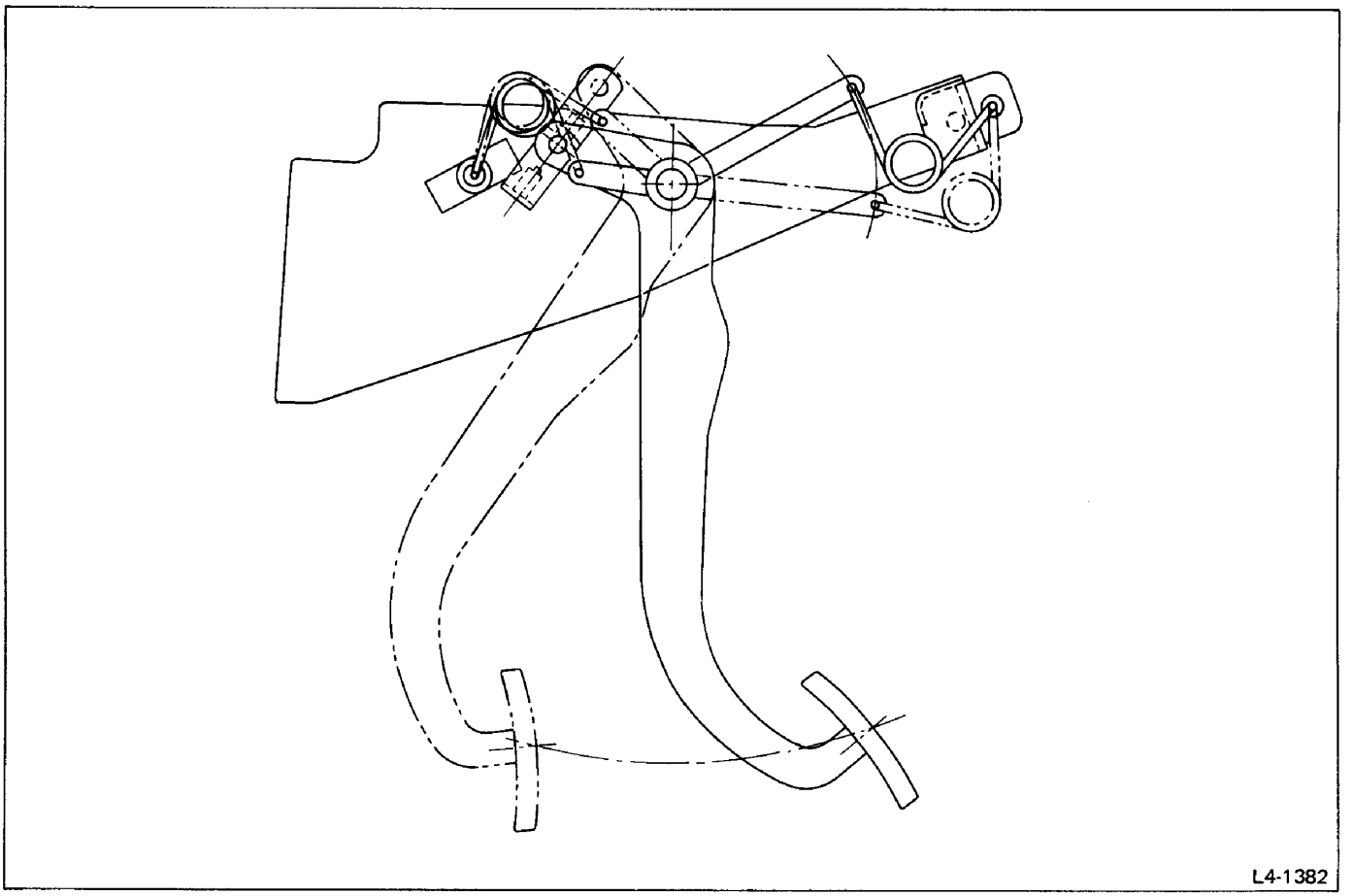


Fig. 1

SPECIFICATIONS AND SERVICE DATA

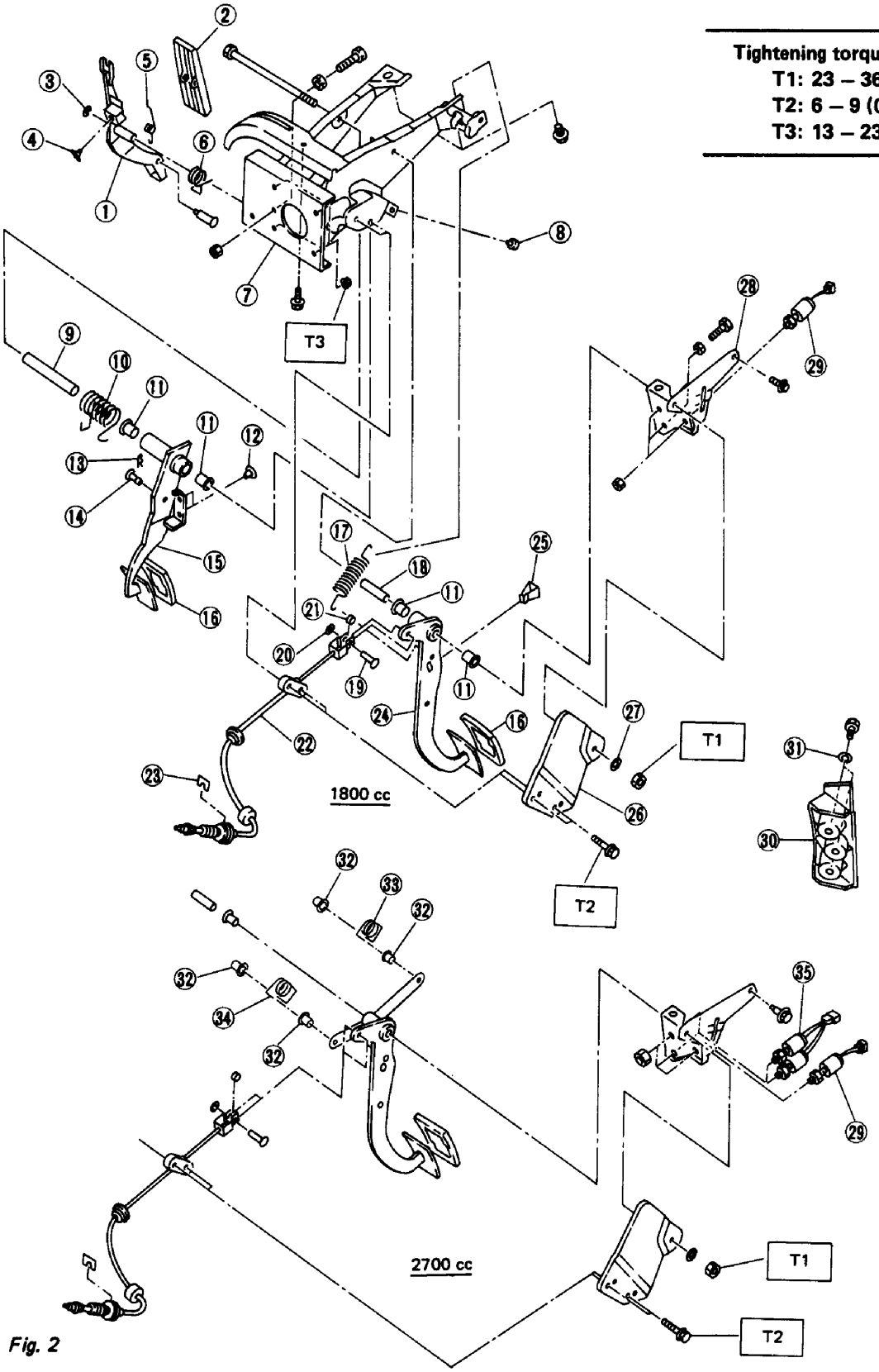
MAINTENANCE STANDARDS

Brake pedal	Free play Reserve distance (Remaining clearance)		0.5 – 2.5 mm (0.020 – 0.098 in) More than 120 mm (4.72 in)/294 N (30 kg, 66 lb)
Clutch pedal	Free play	At clutch pedal pad	10 – 20 mm (0.39 – 0.79 in)
		At center of cable on clutch release fork	4WD: 3 – 4 mm (0.12 – 0.16 in) FWD: 2 – 3 mm (0.08 – 0.12 in)
	Full stroke	At center of cable on clutch release fork	4WD: 25.5 – 27 mm (1.004 – 1.063 in) FWD: 17 – 18 mm (0.67 – 0.71 in)
Accelerator pedal	Free play	At pedal pad	0 – 4 mm (0 – 0.16 in)
	Stroke	At pedal pad	46 – 50 mm (1.81 – 1.97 in)
		At cable end	33 – 38 mm (1.30 – 1.50 in)

COMPONENT PARTS

Pedal (Manual Transmission)

Tightening torque: N·m (kg-m, ft-lb)
T1: 23 – 36 (2.3 – 3.7, 17 – 27)
T2: 6 – 9 (0.6 – 0.9, 4.3 – 6.5)
T3: 13 – 23 (1.3 – 2.3, 9 – 17)

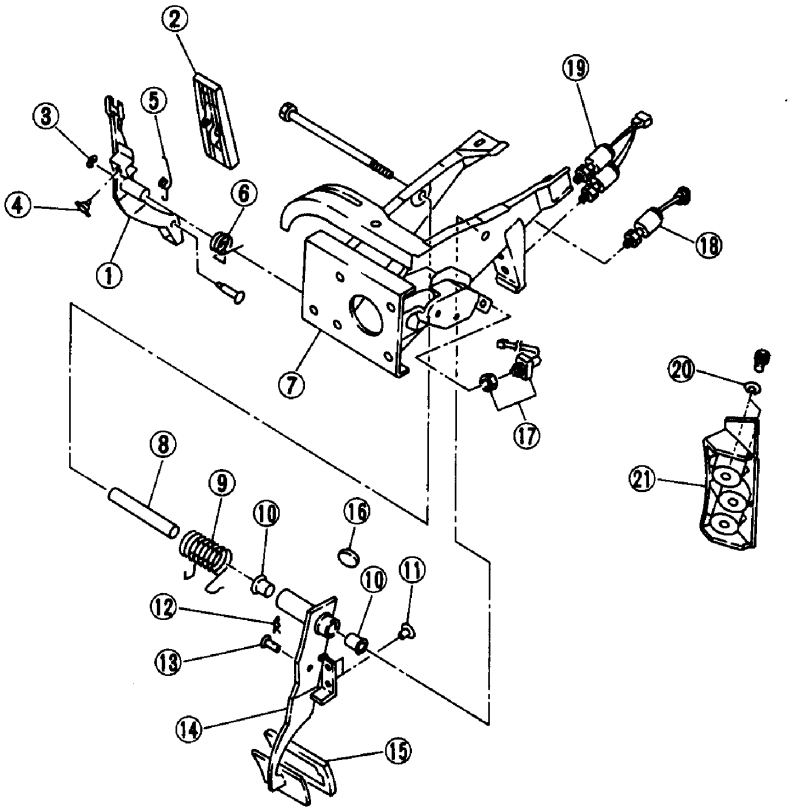


1 Accelerator pedal CP
2 Accelerator pedal pad
3 Clip
4 Stopper
5 Spring (accelerator pedal pad)
6 Spring (accelerator pedal)
7 Bracket CP
8 Stopper
9 Spacer
10 Spring (brake)
11 Bushing
12 Stopper
13 Snap pin
14 Clevis pin
15 Brake pedal
16 Pad
17 Spring (clutch)
18 Spacer
19 Clevis pin
20 Clip
21 Bushing
22 Clutch cable
23 Clamp
24 Clutch pedal
25 Stopper
26 Bracket
27 Spring washer
28 Clamp
29 Stop lamp switch
30 Footrest
31 Washer
32 Bushing
33 Spring
34 Spring
35 Stop & brake switch (cruise)

Fig. 2

L4-1384

Pedal (Automatic Transmission)



1 Accelerator pedal CP
2 Accelerator pedal pad
3 Clip
4 Stopper
5 Spring (accelerator pedal pad)
6 Spring (accelerator pedal)
7 Bracket
8 Spacer
9 Spring (brake)
10 Bushing
11 Stopper
12 Snap pin
13 Clevis pin
14 Brake pedal
15 Pad
16 Plug toe board
17 Kick down switch
18 Stop lamp switch
19 Stop & brake switch (cruise)
20 Washer
21 Foot rest

L4-1226

Fig. 3

SERVICE PROCEDURE

Pedal

ON-CAR SERVICE

1) BRAKE PEDAL

1) Check position of pedal pad.
If it is not within specified value, adjust it by adjusting brake booster operating rod length.

Reserve distance (Remaining clearance):
More than 120 mm (4.72 in)/294 N (30 kg, 66 lb)

Check free play by operating pedal by hand.
If it is not within specified value, adjust it by adjusting position of stop lamp switch.

Be careful not to rotate stop lamp switch.

Brake pedal free play:
0.5 – 2.5 mm (0.020 – 0.098 in)

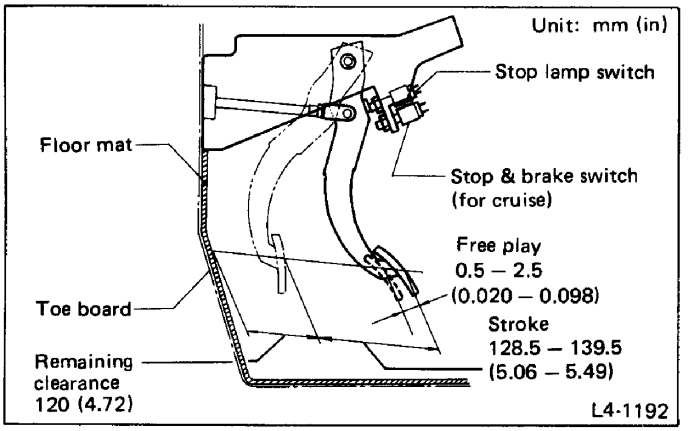


Fig. 4

2) Apply grease to operating rod connecting pin to prevent it from wearing.

2) CLUTCH PEDAL

1) Check clutch pedal free play by operating pedal by hand.
If it is not within specified value, adjust it by turning adjusting nut on engine side end of clutch cable.

Free play:
at clutch pedal pad
10 – 20 mm (0.39 – 0.79 in)
at center of cable on clutch release fork
FWD: 2 – 3 mm (0.08 – 0.12 in)
4WD: 3 – 4 mm (0.12 – 0.16 in)

Lock nut tightening torque:
5.4 – 9.3 N·m (0.55 – 0.95 kg-m, 4.0 – 6.9 ft-lb)

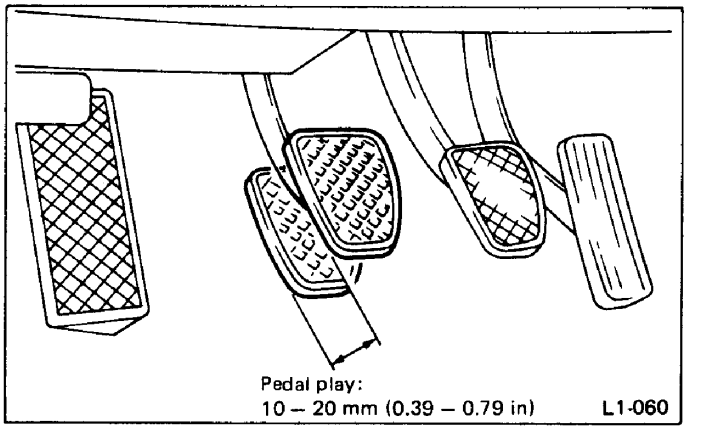


Fig. 5

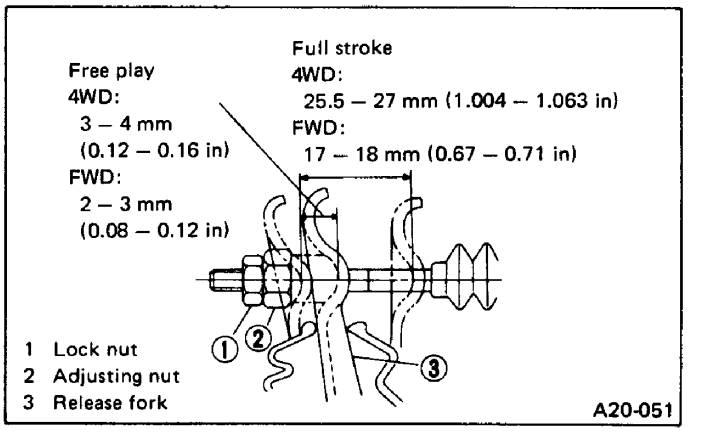


Fig. 6

2) Apply grease to connecting portion of clutch pedal and clutch cable and contact point of clutch release fork and clutch cable nut.

3) ACCELERATOR PEDAL

Check pedal stroke and free play by operating accelerator pedal by hand.
If it is not within specified value, adjust it by turning nut connecting accelerator cable to throttle body.

Free play at pedal pad:
0 – 4 mm (0 – 0.16 in)
Stroke:
at pedal pad 46 – 50 mm (1.81 – 1.97 in)
at cable end 33 – 38 mm (1.30 – 1.50 in)

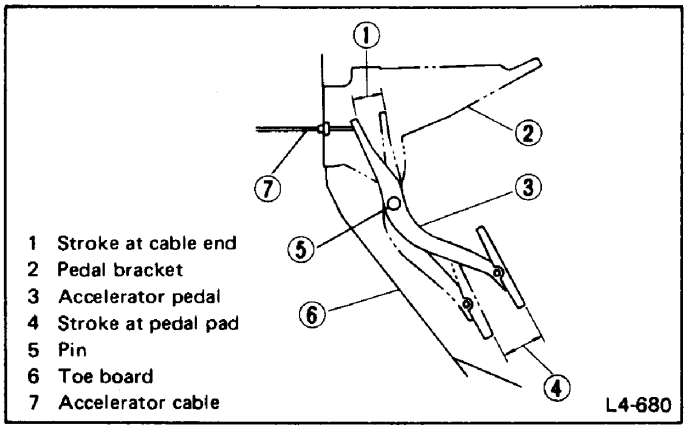


Fig. 7

REMOVAL AND DISASSEMBLY

1) Disconnect ground cable from battery.
2) Disconnect accelerator cable from throttle body.
3) Disconnect/detach clutch cable from the following parts.
   (1) Clutch release fork
   (2) Clamp on transmission case
   (3) Grommet of toe board
4) Detach trim panel and lower steering column.
5) Disconnect the following parts from pedal bracket.
   (1) Operating rod of brake booster
   (2) Electrical connectors (for stop light switch, etc.)
   (3) Accelerator cable

Be careful not to kink accelerator cable.

6) Remove pedal bracket ASSY along with clutch cable while supporting brake booster in engine room.
7) Detach following parts from pedal bracket ASSY.
   (1) Accelerator pedal return spring
   (2) Accelerator pedal
   (3) Clutch cable
   (4) Brake pedal return spring
   (5) Clutch pedal return spring (vehicle with Hill-Holder)
   (6) Circlip retaining pedal shaft
   (7) Clutch pedal and brake pedal
   (8) Stop light switch

INSPECTION

1) PEDAL SHAFT AND BUSHING

1) Clean off grease and dust, and inspect for wear and damage.
2) Inspect play between bushing and shaft; replace bushing and/or shaft with new one if defective.

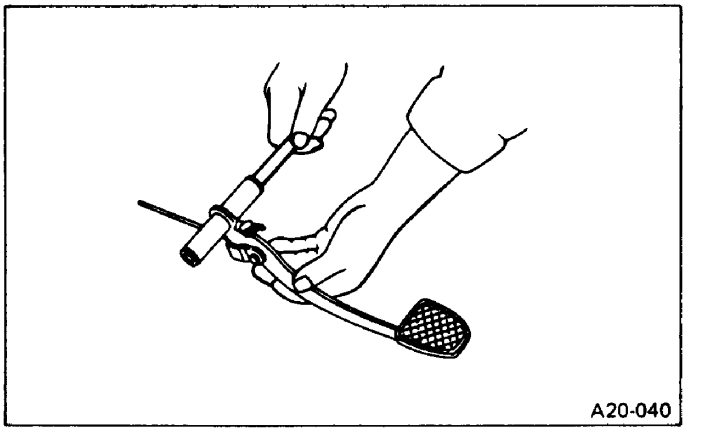


Fig. 8

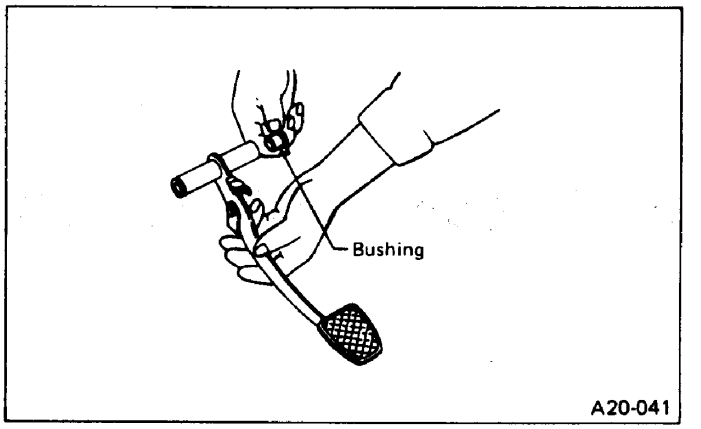


Fig. 9

2) ACCELERATOR PEDAL

Clean all parts and inspect for wear and damage.
Replace it with new one if defective.

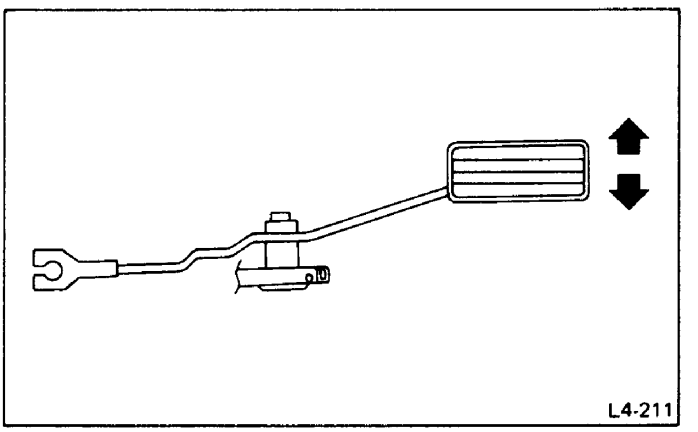


Fig. 10

3) STOP LIGHT SWITCH

Inspect switch stroke and operation.
If operation is not smooth and/or stroke is not within specified value, replace it with new one.

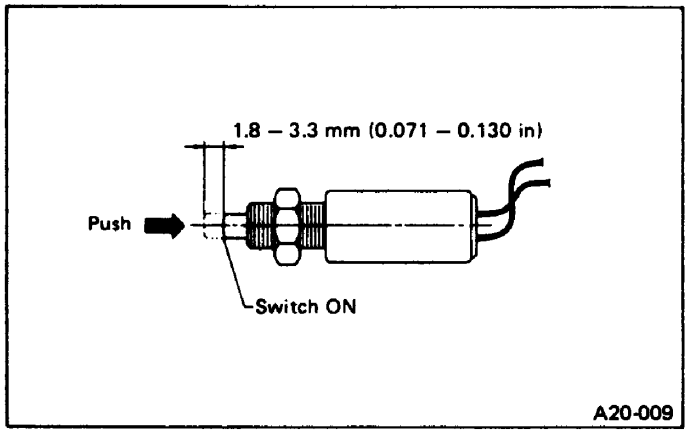


Fig. 11

ASSEMBLY

1) Attach stop light switch, etc. to pedal bracket temporarily.
2) Clean inside of bores of clutch pedal and brake pedal, apply grease, and set bushings into bores.
3) Align bores of pedal bracket, clutch pedal and brake pedal, attach brake pedal return spring and clutch pedal return spring (vehicle with Hill-Holder), and then install pedal shaft completely to prevent it from rotating.

Clean inside of bushes and apply grease before installing shaft.

4) Clean and apply grease to shaft and inside of bore of accelerator pedal. Install accelerator pedal onto pedal bracket.
5) Set brake pedal position by adjusting position of stop light switch.

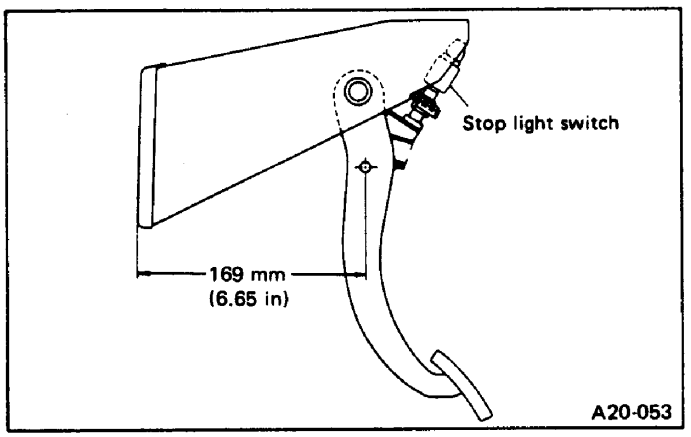


Fig. 12

Torque (Lock nut):
5.4 – 9.3 N·m (0.55 – 0.95 kg-m, 4.0 – 6.9 ft-lb)

6) Connect clutch cable to clutch pedal by using clevis pin and clip.

Clamp bolt torque:
5.9 – 8.8 N·m (0.60 – 0.90 kg-m, 4.3 – 6.5 ft-lb)

For connection of clutch cable of 2700 cc model, see the topic "Clutch Cable".

INSTALLATION

1) Insert clutch cable into hole on toe board, and set pedal bracket above steering column.

Be careful not to bend clutch cable too much.

2) Insert bolts of brake booster into holes on toe board, support it from engine room, and fit holes of pedal bracket onto the bolts.
At this time, operating rod of brake booster should be engaged with brake pedal.
3) While pushing pedal bracket upward firmly, tighten 4 nuts and 2 bolts at its upper surface.

Tightening torque:
13 – 23 N·m (1.3 – 2.3 kg-m, 9 – 17 ft-lb)

4) Connect operating rod of brake booster to brake pedal using clevis pin and snap pin.

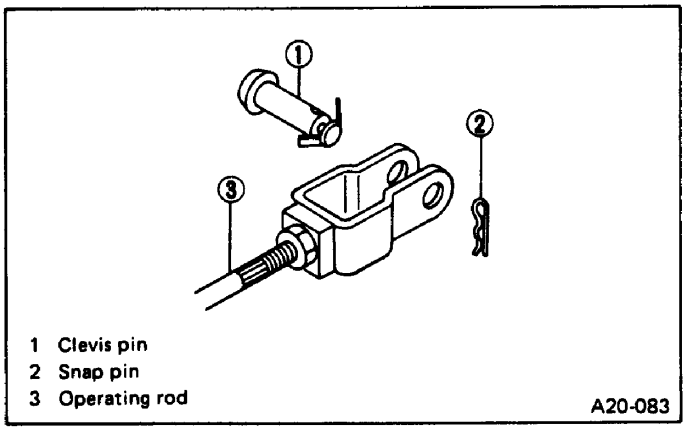


Fig. 13

5) Pull out accelerator inner cable to its maximum stroke, and attach it to accelerator pedal.
Pull accelerator cable from throttle body side.

Be careful not to kink accelerator cable.

6) Connect electrical connectors for stop light switch, etc.
7) Install steering column as before.
8) Connect accelerator cable to throttle body.

Make sure to check operation of accelerator cable by operating accelerator pedal by hand.

9) Attach clutch cable grommet to toe board, and then connect clutch cable to clutch release fork.

Never fail to cover outer cable end with boot.

Cable

1. Clutch Cable

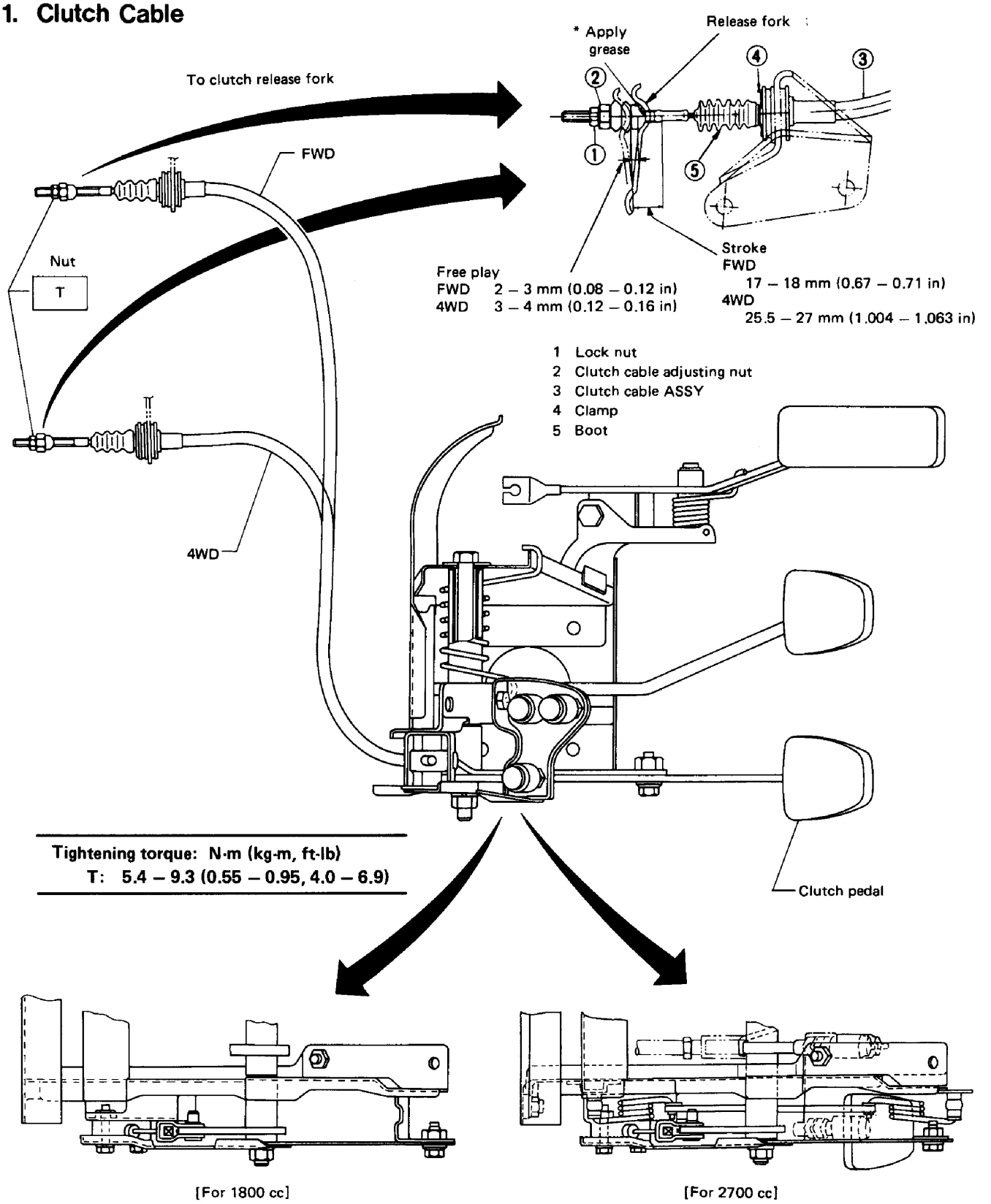


Fig. 14

L4-1385

CLUTCH CABLE (2700 cc)

1) Removal

(1) Disconnect clutch cable on transmission side. Push grommet into passenger compartment.

(2) Remove trim panel located under pedal shaft.

(3) Remove a nut at pedal shaft and two bolts which hold clamp with bracket, and detach clamp.

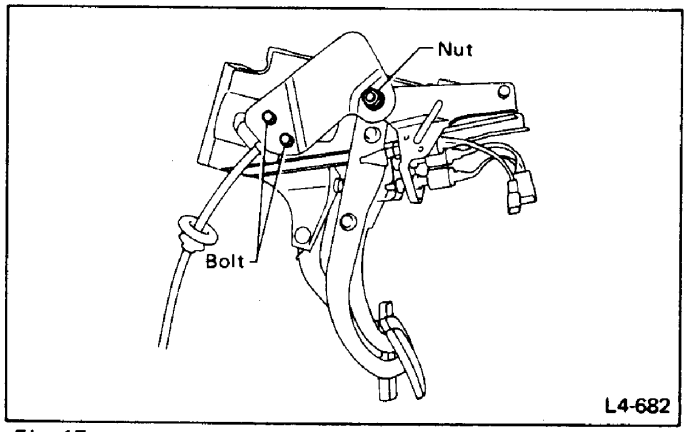


Fig. 15

(4) Remove clip from clevis pin which holds clutch cable to clutch pedal. Remove clevis pin and clutch cable.

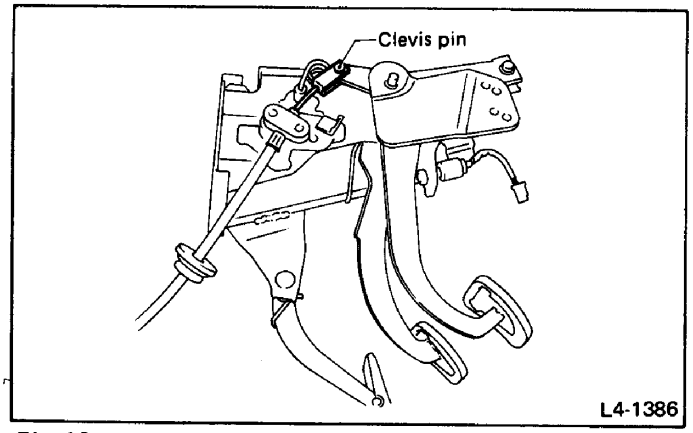


Fig. 16

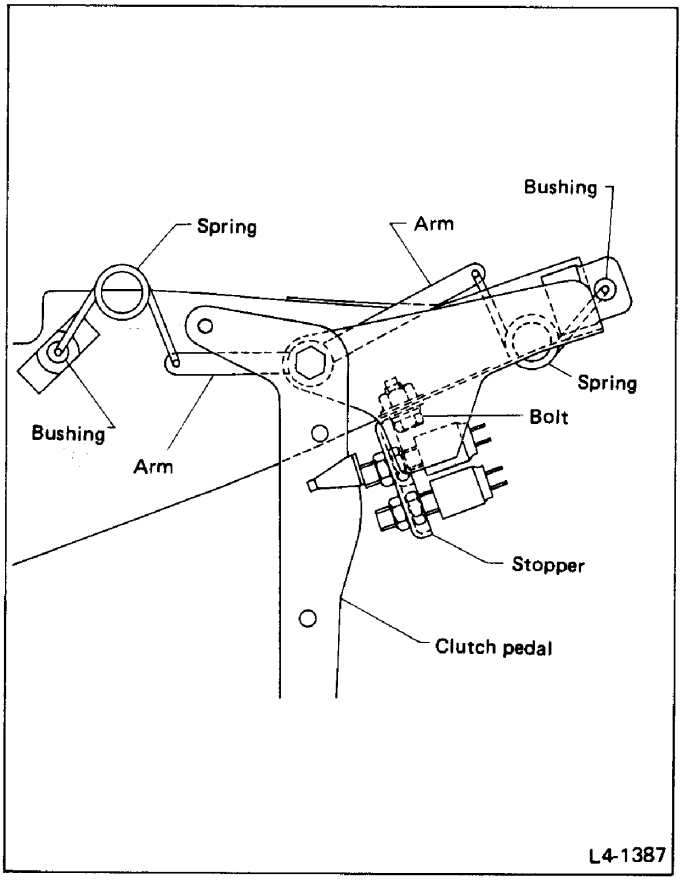


Fig. 17

(5) Remove spring-hook from bushing.

(6) Remove two bolts which hold pedal switch stopper, and detach stopper.

(7) Remove clutch pedal.

2) Installation

(1) Apply a coat of grease to frictional/movable sections of spring bushing and install spring.

(2) Hold clutch pedal to lever.

(3) Install pedal switch stopper.

(4) Connect clutch cable. (Apply a coat of grease to clevis pin location.)

(5) Install spring.

(6) Align hole at clutch cable end with clamp hole, and install clamp.

(7) Install trim panel.

(8) Connect clutch cable on transmission side.

(9) Adjust free play of clutch pedal to 10 to 20 mm (0.39 to 0.79 in).

2. Accelerator Cable

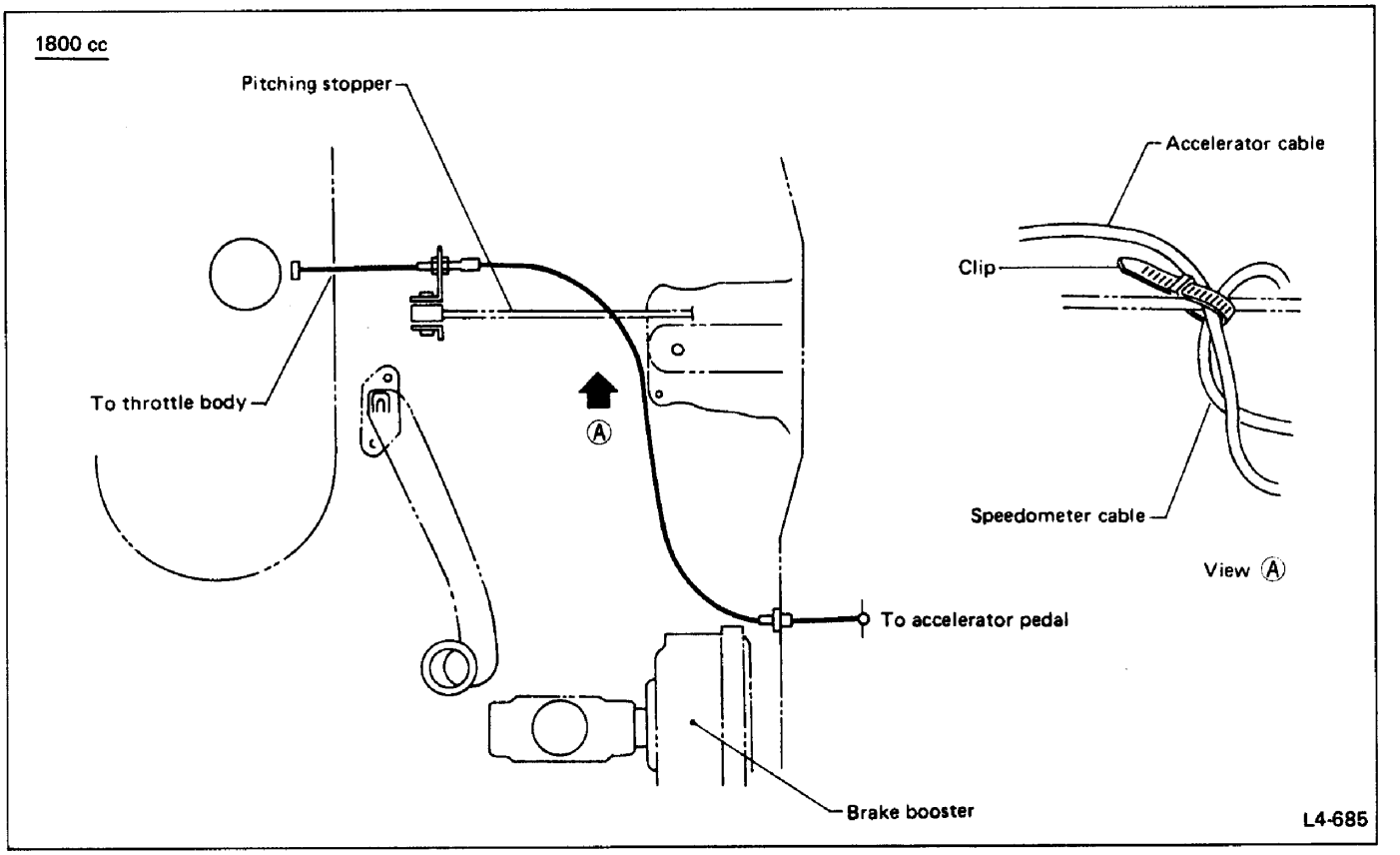


Fig. 18

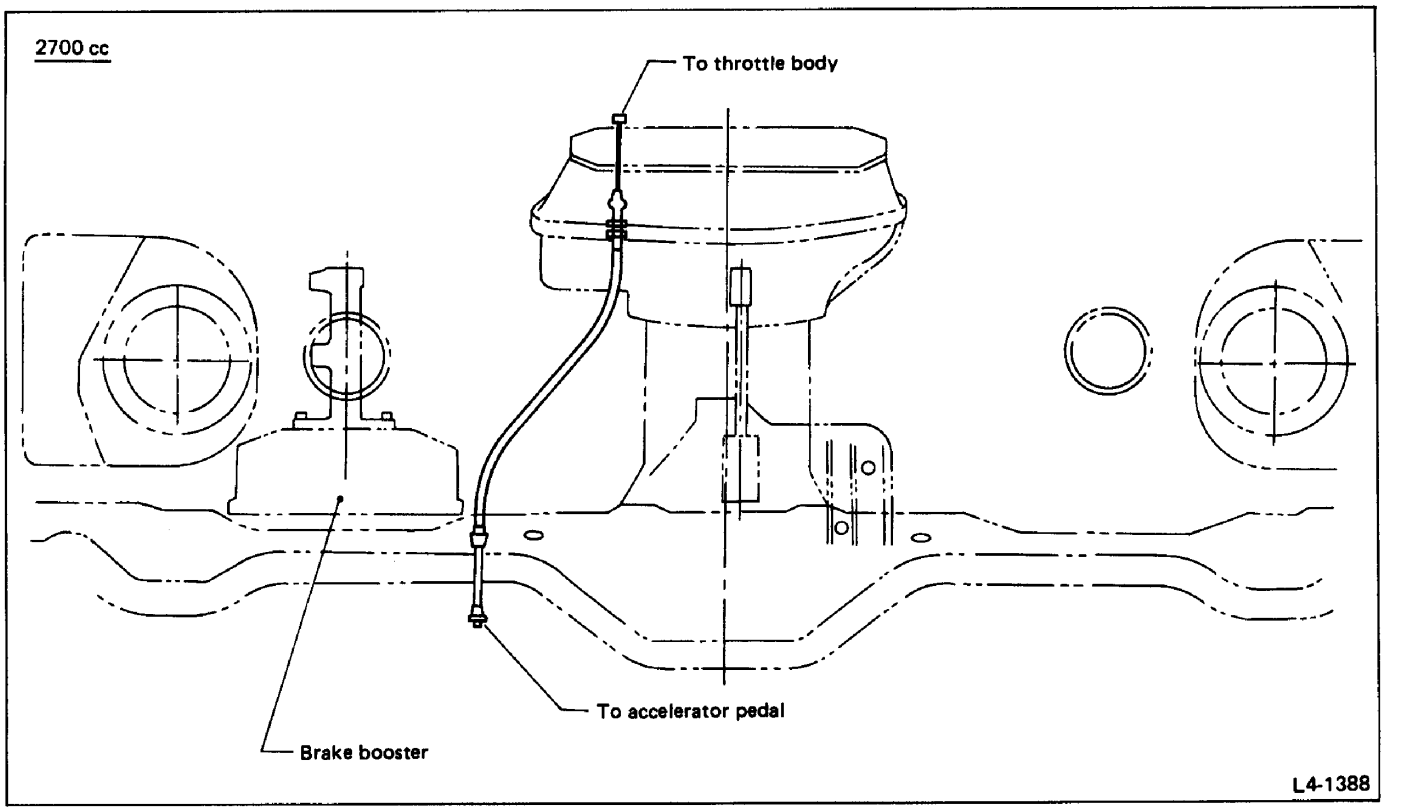


Fig. 19

3. Speedometer Cable

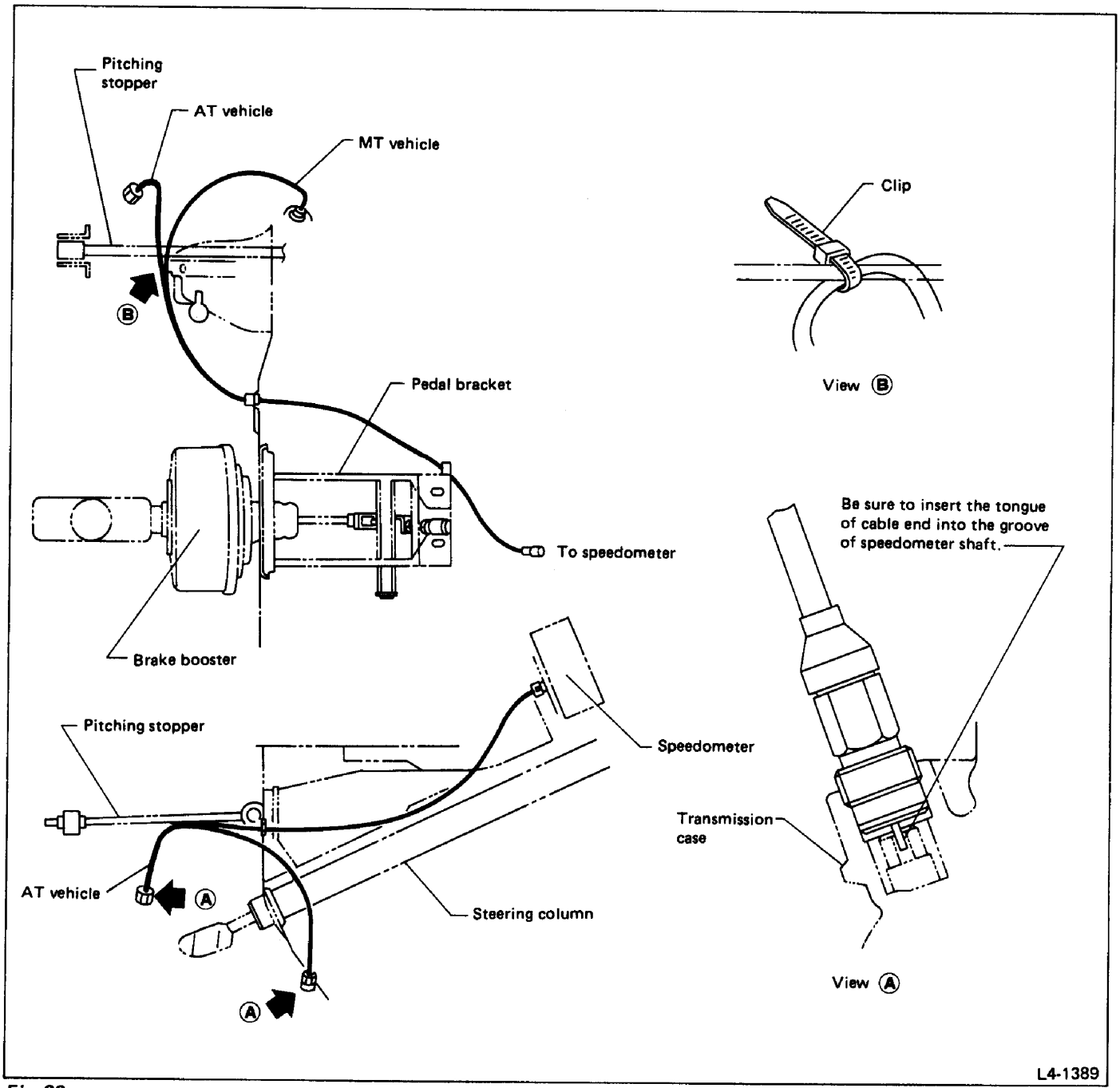


Fig. 20