CLUTCH

CONTENTS

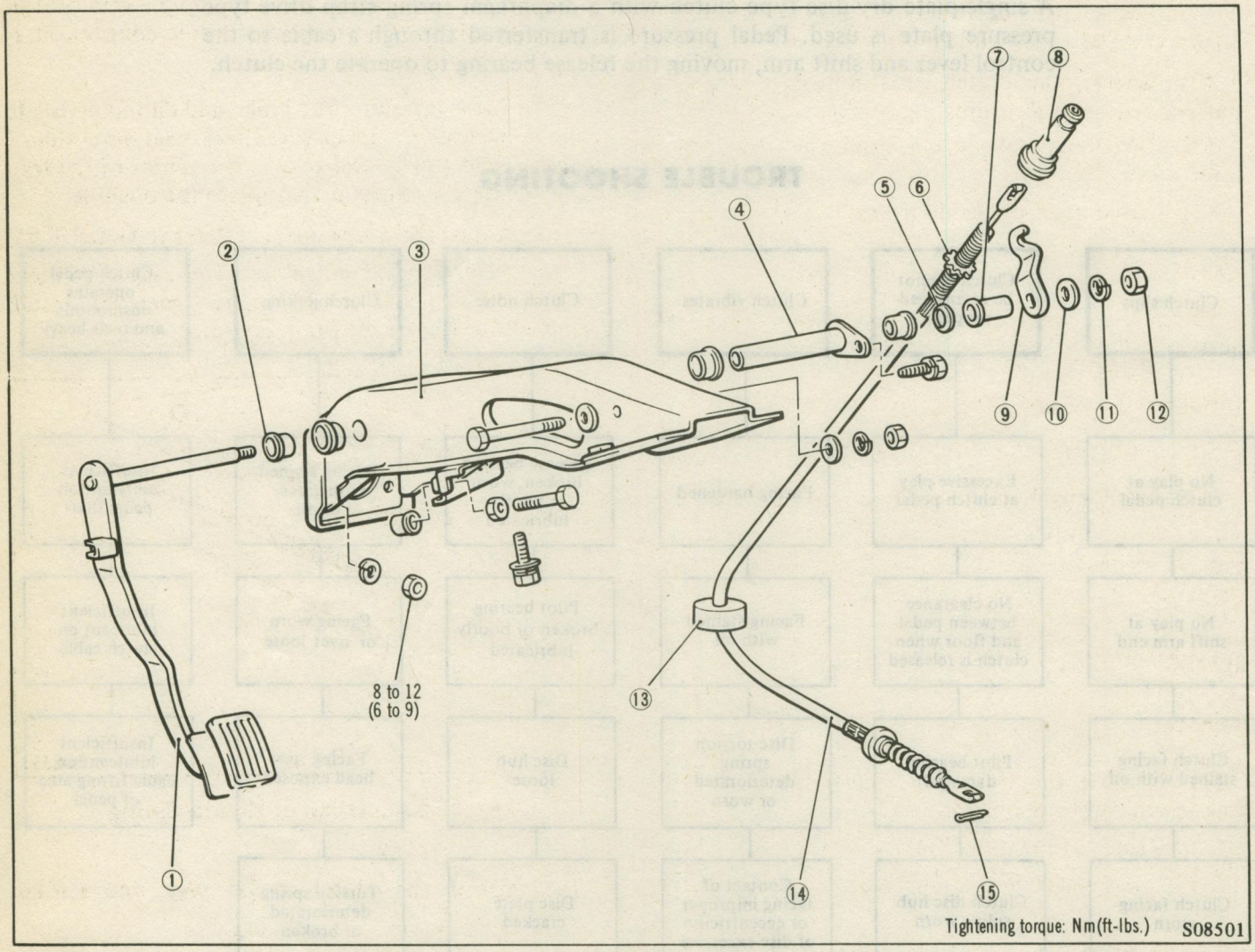
GENERAL INFORMATION

A single-plate dry-disc type clutch with a diaphragm spring strap drive type pressure plate is used. Pedal pressure is transferred through a cable to the control lever and shift arm, moving the release bearing to operate the clutch.

TROUBLE SHOOTING

- Clutch slips
  - No play at clutch pedal
  - No play at shift arm end
  - Clutch facing stained with oil
  - Clutch facing worn
  - Pressure spring deteriorated
  - Pressure plate flywheel distorted
- Clutch cannot be disengaged properly
  - Excessive play at clutch pedal
  - No clearance between pedal and floor when clutch is released
  - Pilot bearing damaged
  - Clutch disc hub spline wofn
- Clutch vibrates
  - Facing hardened
  - Facing stained with oil
  - Disc torsion spring deteriorated or worn
  - Contact of facing improper or eccentricity of disc excessive
  - Pressure plate flywheel distorted
  - Engine mounting loose
  - Disc rivet loose
- Clutch noise
  - Release bearing broken, worn or poorly lubricated
  - Pilot bearing broken or poorly lubricated
  - Disc hub loose
  - Disc plate cracked
  - Torsion spring deteriorated or broken
- Clutch jerking
  - Facing stained with grease or oil
  - Facing worn or rivet loose
  - Facing rivet head exposed
  - Torsion spring deteriorated or broken
- Clutch pedal operates unsmoothly and feels heavy
  - Insufficient lubricant on pedal shaft
  - Insufficient lubricant on clutch cable
  - Insufficient lubricant on cable fitting area of pedal

CLUTCH CONTROL



(1) Clutch pedal
(2) Bushing
(3) Support member
(4) Pedal rod
(5) Spring (Coned disc)
(6) Adjusting wheel
(7) Spacer
(8) Insulator
(9) Lever
(10) Washer
(11) Spring washer
(12) Nut
(13) Pad
(14) Clutch cable
(15) Cotter pin

Fig. 1 Exploded View of Clutch Control System

CLUTCH CABLE

Removal

(1) Loosen the cable adjusting wheel inside the engine compartment while pulling the cable.

(2) Loosen the clutch pedal adjusting bolt lock nut and back out the adjusting bolt.

(3) Disconnect the cable from the clutch shift lever.

(4) Disconnect the cable from the pedal lever.

Inspection

Check the cable for damage. Replace it, if broken or damaged.

Installation

When installing the cable, observe the following:

(1) Apply engine oil to cable as required.

(2) After installing the cable, install the isolating pad so as to touch the rear side of engine mount insulator.

CLUTCH PEDAL

Removal

(1) Remove the clevis pin connecting the power brake push rod to the brake pedal.

(2) Remove the power brake lock nuts.

(3) Disconnect the clutch cable from the clutch pedal.

(4) Remove the pedal support attaching bolts, the pedal support and the pedal assembly.

(5) Remove the clutch pedal shaft retaining nuts; then remove the clutch pedal from the pedal support.

Inspection

(1) Inspect bushing, pedal, shaft and pad for wear, deformity or damage, repair or replace if defective.

(2) Check pedal for bent or twist, repair or replace if defective.

Installation

(1) Apply adequate chassis grease (MOPAR Multi-mileage Lubricant Part Number 2525035 or equivalent) to the pedal shaft, and also apply a thin coat of the same lubricant to the clutch cable connection at the tip of the clutch pedal arm.

(2) After installing the brake and clutch pedals to the support, check to be sure there is no more than 3 mm (.12 in.) of lateral play at the center of the foot pads. If there is excess play, replace the bushing.

(3) Adjust the brake pedal. (Refer to GROUP 5)

(4) After confirming smooth and easy movement of the clutch pedal on the support member, install the return spring as shown in Fig. 2.

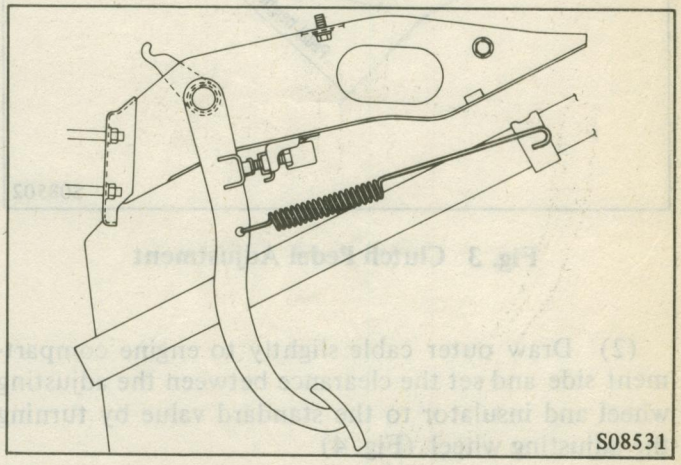


Fig. 2 Installation of Return Spring

(5) Adjust the clutch pedal play and stroke.

Adjustment

(1) Adjust the pedal height to the standard value with adjusting bolt and check the pedal stroke and distance A. (Fig. 3)

CAUTION:
Insufficient pedal stroke results in insufficient clutch release.

Description	Standard value mm (in.) U-engine	W-engine
Distance A	22 (.9)	20 (.8)
Pedal height	166 (6.5)	176 (6.9)
Pedal stroke	140 (5.5)	150 (5.9)

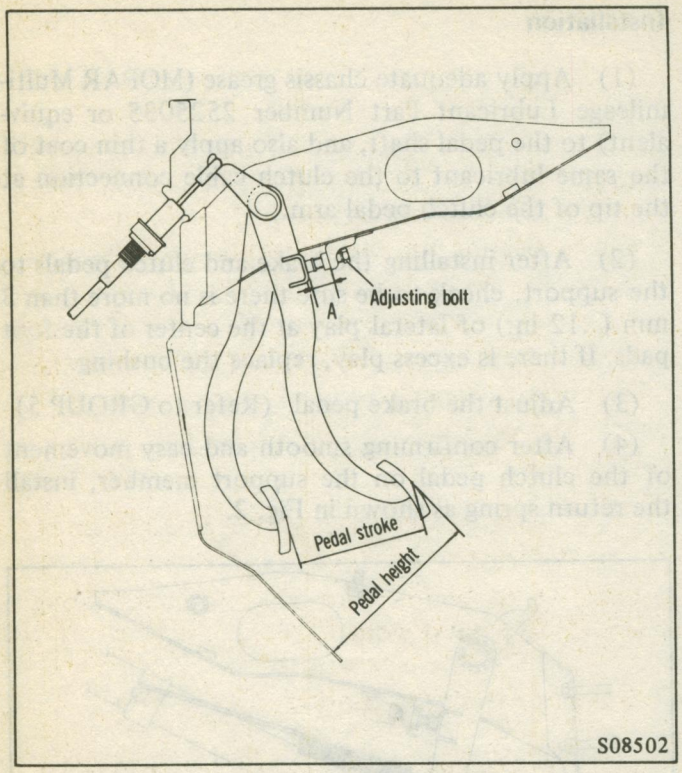


Fig. 3 Clutch Pedal Adjustment

(2) Draw outer cable slightly to engine compartment side and set the clearance between the adjusting wheel and insulator to the standard value by turning the adjusting wheel. (Fig. 4)

(3) Check to see if the pedal free play is within the standard value.

Description	Standard value mm (in.)
Adjusting wheel-to-insulator clearance	3 to 4 (.12 to.16)
Clutch pedal free play	20 to 35 (.8 to 1.4)

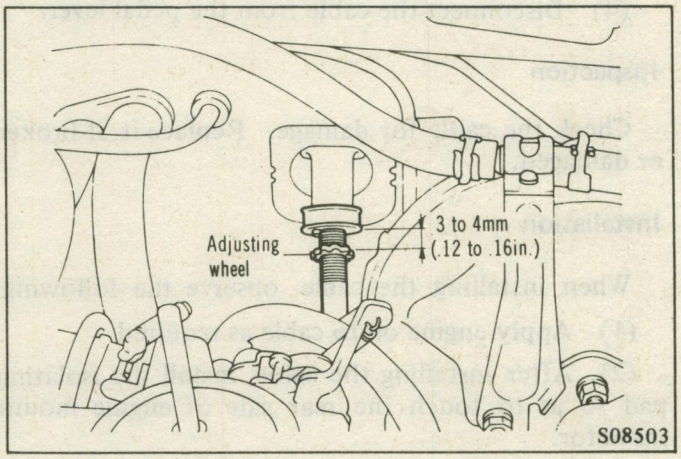


Fig. 4 Adjusting the Pedal Free Play

CLUTCH

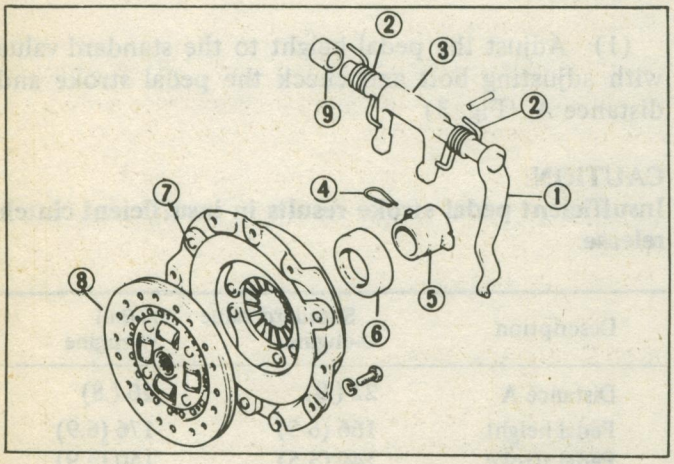


Fig. 5 Clutch System

(1) Clutch control lever and shaft assembly
(2) Return spring
(3) Clutch shift arm
(4) Return clip
(5) Release bearing carrier
(6) Release bearing
(7) Clutch cover assembly
(8) Clutch disc
(9) Felt packing

REMOVAL

(1) Remove the transmission. For removal procedures, see GROUP 21, Transmission–Manual, "Transmission Removal".

(2) With the clutch disc guide (special tool MD998017), or main drive gear of transmission inserted in the center hole to prevent dropping clutch disc, loosen bolts holding the clutch cover assembly one by one diagonally and remove the clutch cover assembly.

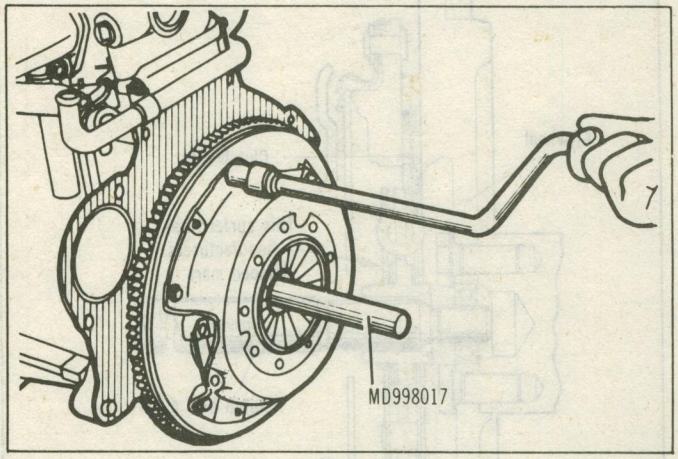


Fig. 6 Removing the Clutch

(3) Remove the clutch disc and tool.

(4) Remove the return clip on the transmission side and remove the release bearing carrier and bearing.

(5) Using a 4.8 mm (3/16 in.) punch, remove the shift arm spring pin and control lever shaft assembly. Remove clutch shift arm, two felt packings and two return springs. (Fig. 7)

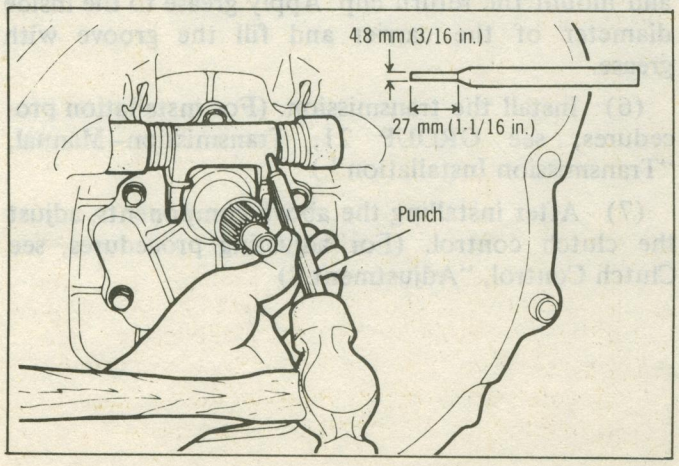


Fig. 7 Removing Spring Pins

INSPECTION

Release Bearing

Do not clean the release bearing with cleaning solution because grease has been sealed inside. Clean the replace bearing using compressed air. Then, check the release bearing for the following and replace if defective:

(1) Damage, noise, sluggish rotation, etc.

(2) Abnormal wear of contact face against the diaphragm spring claw.

Bearing Carrier and Shift Arm

(1) Check the contact face of the bearing carrier shift arm and replace it if worn.

(2) Check the contact face of the shift arm bearing carrier and replace it if worn.

Clutch Control Shaft and Bearing

Check the clearance between shaft and bearing for indication of wear and damage.

Clutch Disc

Clean the clutch disc and check it for wear or damage. Correct or replace it as necessary.

(1) Check the play of the spline coupled with the main drive gear in the direction of rotation. If the play is found abnormal, replace the main drive gear, clutch disc or both.

(2) Check the facing for the following.

- Loose rivet
- Deterioration due to facing burn
- Facing stained with oil or grease.

Replace the facing if stained with oil or grease; however, as a rule, a slight stain may be removed with a gasoline moistened cloth.

(3) Check the torsion spring for damage.

(4) Check the facing for wear. Replace an excessively worn facing. The wear is measured from the surface of the facing to the rivet head. (Fig. 8)

Clutch Cover Assembly

(1) Inspect the diaphragm for excessive finger wear, looseness of strap rivets, and the pressure plate scoring. Replace if damaged.

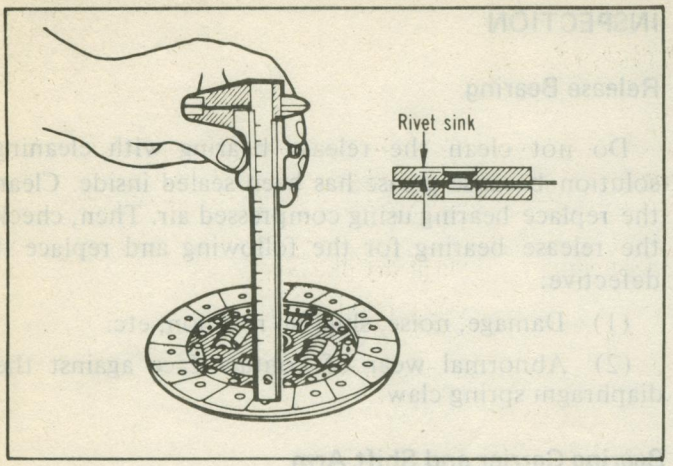


Fig. 8 Facing Wear Check

Description	Service limit mm (in.)
Rivet sink	0.3 (.012)

(2) Replace the assembly if the pivot ring is worn. If it sounds noisy when shaken, the pivot ring is worn.

INSTALLATION

(1) Insert the clutch control lever and shaft assembly into the transmission case from the left. Install the clutch shift arm, two felt packings and two return springs onto the shaft.

NOTES: 1. Apply grease to the inside surface of bushing and oil seal lips.

2. Apply engine oil to the two felt packings.

(2) Align the lock pin holes on the shift arm and control shaft and drive in two spring pins. When the spring pins are driven in, make sure that the spring pin slot direction is at right angles to the control shaft.

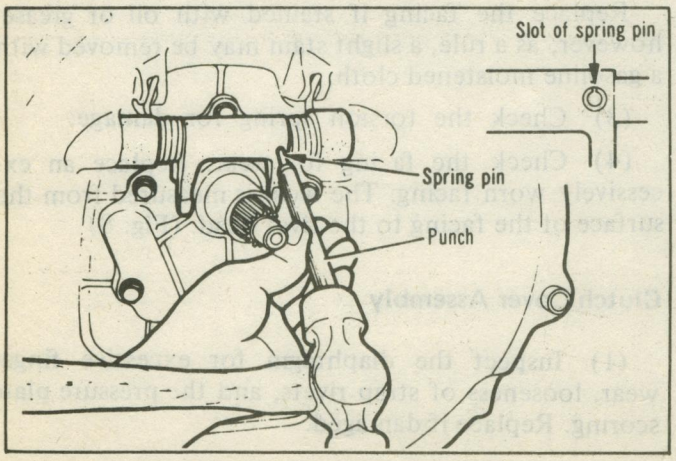


Fig. 9 Installing the Spring Pins

(3) Rub grease in the clutch disc spline and main drive gear spline.

(4) Using the clutch disc guide (special tool MD998017), or main drive gear of transmission, install the clutch disc and clutch cover assembly on the flywheel.

When installing the clutch disc, be sure that the surface with manufacturer's stamped mark is on the pressure plate side.

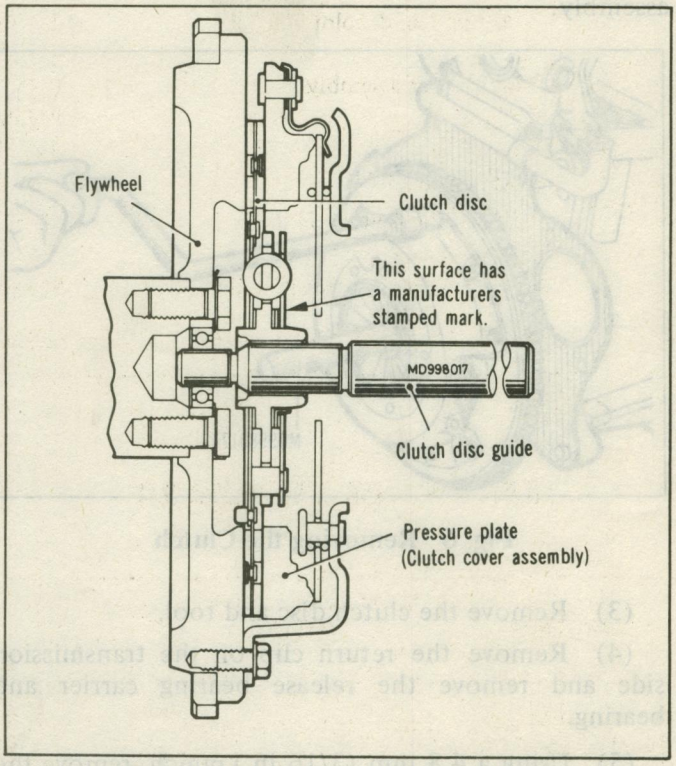


Fig. 10 Installing the Clutch Disc

(5) Install the clutch release bearing and carrier and mount the return clip. Apply grease to the inside diameter of the carrier and fill the groove with grease.

(6) Install the transmission. (For installation procedures, see GROUP 21, Transmission–Manual, "Transmission Installation".)

(7) After installing the above components, adjust the clutch control. (For adjusting procedures, see Clutch Control, "Adjustment.")

SPECIFICATIONS

Description		U-engine	W-engine
Clutch disc			
Type		Single dry disc type	Single dry disc type
Facing diameter (outside x inside)		215 x 140 mm (8.46 x 5.51 in.)	225 x 150 mm (8.86 x 5.91 in.)
Spring No. & color		2–Deep green 2–White	2–Brown 2–Green
Clutch cover assembly			
Type		Diaphragm spring strap drive type	Diaphragm spring strap drive type
Setting load		3,677N (827 lbs.)	4,020N (904 lbs.)
Mounting bolt circle dia.		247 mm (9.72 in.)	264 mm (10.39 in.)
Clutch cable			
Free length	Inner cable	825 mm (32.5 in.)	825 mm (32.5 in.)
	Outer cable	640 mm (25.2 in.)	640 mm (25.2 in.)

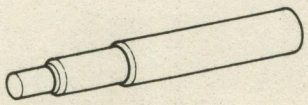
SERVICING STANDARD

Description	Standard dimension mm (in.) U-engine	Standard dimension mm (in.) W-engine	Service limit mm (in.)
Clutch control			
Pedal height	166 (6.5)	176 (6.9)	
Pedal stroke	140 (5.5)	150 (5.9)	
Clearance between adjusting wheel and insulator	3 to 4 (.12 to .16)		
Clutch disc			
Rivet sink			0.3 (.012)

TIGHTENING TORQUE

Description	Torque Nm (ft-lbs.)	Remarks
Transmission to engine bolts	43 to 53 (32 to 39)	Flange bolt
Exhaust pipe bracket bolts	20 to 26 (15 to 19)	Flange bolt
Clutch cable bracket bolt	20 to 26 (15 to 19)	Flange bolt
Clutch cover bolts	15 to 21 (11 to 15)	Bolt w/washer
Starter motor mounting bolts	22 to 31 (16 to 23)	Flange bolt

SPECIAL TOOL

Tool No.	Name of tool	Illustration	Use	Remarks
MD998017	Clutch disc guide		For centering fly-wheel and clutch disc	Use same tool.