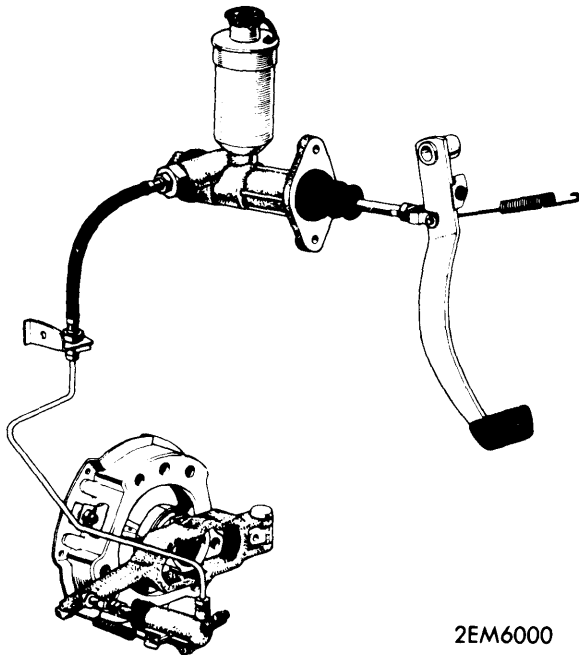


## 1965-73 TOYOTA CARINA, CELICA, COROLLA 1600, CORONA, CORONA MK II & CROWN

**Carina (1971-73)**  
**Celica (1971-73)**  
**Corolla 1600 (1971-73)**  
**Corona (1966-73)**  
**Corona Mk II (1969-73)**  
**Crown (1965-72)**

### DESCRIPTION

With the exception of some early model Corona and Corona MKII models, clutches are dry, single plate, diaphragm spring type. Some early Corona and Corona MKII models utilize a coil spring type clutch. All models utilize a hydraulic system to engage and disengage clutch. A pre-lubricated clutch release bearing is also employed.



CLUTCH COMPONENTS (TYPICAL)

### REMOVAL & INSTALLATION

#### CLUTCH ASSEMBLY

**Exc. 1970 & Earlier Corona** – 1) Disconnect positive battery cable. Remove air cleaner and starter. Disconnect accelerator control rod and linkage.

2) On Corolla 1600, Carina and Celica models, remove shift lever boot from inside drivers compartment. Remove shift lever and cover hole with a clean shop towel.

3) On all models, drain cooling system and remove radiator hoses. Raise vehicle and place safety stands under front and rear.

4) Remove protective cover from under engine (if equipped). Remove clutch slave cylinder but do not disconnect hydraulic line. Disconnect exhaust pipe support bracket from transmission.

5) On all models except Corolla 1600, Carina and Celica, disconnect shift rods at transmission. On all models, disconnect speedometer cable and back-up light connection.

6) Disconnect drive shaft at differential and pull drive shaft from transmission. Install a suitable plug in transmission to prevent loss of transmission oil.

7) Remove clutch protective cover from clutch housing (if equipped). Disconnect overdrive solenoid (if equipped). Disconnect parking brake cable on 1969 and earlier Crown models.

8) Support transmission with a floor jack and remove rear support crossmember. Lower jack and remove bolts securing transmission to engine.

9) Lower jack and remove transmission toward rear of vehicle. Remove bolts securing clutch assembly to flywheel and remove clutch assembly.

10) To install clutch assembly and transmission, reverse removal procedure. Make sure clutch is aligned properly before installing transmission.

**1970 & Earlier Corona** – 1) Disconnect exhaust pipe at manifold. Disconnect clutch slave cylinder hydraulic line bracket from engine.

2) Raise vehicle and support front and rear with safety stands. Remove parking brake bracket and disconnect speedometer cable. Remove clutch housing cover.

3) Disconnect shift levers at cross shaft. Remove bolts securing cross shaft to frame and remove cross shaft. Remove clutch fork return spring and remove push rod.

4) Remove slave cylinder from transmission but do not disconnect hydraulic line. Remove "U" bolt clamp from exhaust pipe. Disconnect drive shaft at differential.

5) Pull drive shaft from transmission and install a suitable plug in transmission to prevent loss of transmission oil. Place a jack under oil pan with a block of wood inserted between jack and pan.

6) Raise jack slightly for support and remove rear support crossmember. From inside driver compartment, remove plate to gain access to upper transmission retaining bolts.

7) Remove remaining transmission retaining bolts, lower jack and remove transmission out toward rear of vehicle. Remove bolts securing clutch assembly to flywheel and remove clutch assembly.

8) To install clutch assembly and transmission, reverse removal procedure. Make sure clutch is aligned properly before installing transmission.

#### CLUTCH MASTER CYLINDER & SLAVE CYLINDER

1) Disconnect hydraulic line at master cylinder and disconnect push rod at pedal. Remove return spring and remove master cylinder.

2) To remove slave cylinder, raise front of vehicle and support with safety stands. Remove protective cover under engine (if equipped).

3) Remove return spring and disconnect hydraulic line. Back off push rod and remove slave cylinder retaining bolts. Remove slave cylinder.

# Clutches

## 1965-73 TOYOTA CARINA, CELICA, COROLLA 1600, CORONA, CORONA MK II & CROWN (Cont.)

4) To install master cylinder and slave cylinder, reverse removal procedure. Bleed hydraulic system. See *Hydraulic System Bleeding*. Check and adjust all components related to slave cylinder and master cylinder. See *appropriate stories in Adjustment section*.

### CLUTCH RELEASE BEARING

1) With transmission removed, check clutch release bearing for freedom of rotation while still installed on hub. To remove, remove retaining clips and remove bearing with hub.

2) To remove bearing from hub, press off using a suitable mandrel. Press new bearing onto hub. **NOTE** - *Bearing is pre-lubricated, do not wash in any kind of solution.*

3) Install bearing and hub on clutch fork and insert new retaining clips. Apply grease to bearing contact points before installing transmission.

### PILOT BEARING

1) With transmission and clutch removed as previously outlined, inspect pilot bearing in crankshaft for roughness or noise during rotation.

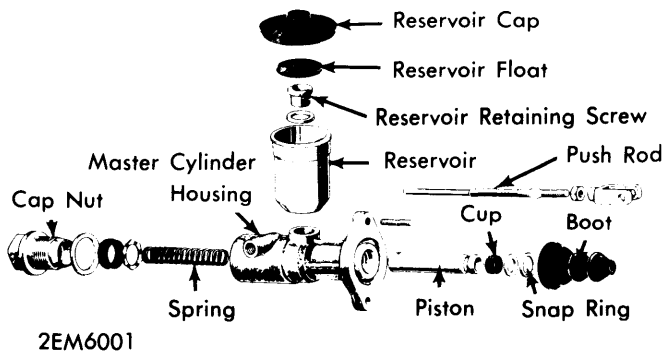
2) If pilot bearing is found defective, pull out of crankshaft using a suitable puller (09303-35010). Apply grease to new bearing and drive in using a suitable driver (09304-12011 Carina, Celica and Corolla 1600 and 09304-30012 all others).

## OVERHAUL

### CLUTCH MASTER CYLINDER & SLAVE CYLINDER

1) Remove clutch master and slave cylinders as previously outlined. Remove reservoir cap and float. Remove nut from inside reservoir and remove reservoir.

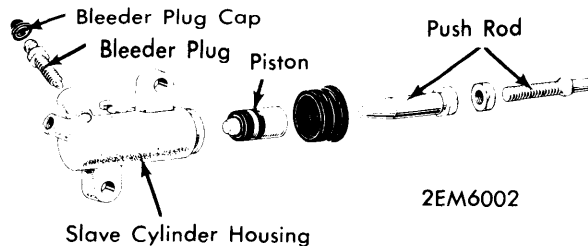
2) Remove cap nut from end of master cylinder and remove spring. Remove rubber boot from opposite end and remove snap ring, piston and cup.



**MASTER CYLINDER COMPONENTS (TYPICAL)**

3) Remove rubber boot from slave cylinder and withdraw push rod. Remove piston and cup from slave cylinder. Thoroughly clean and inspect components of both cylinders.

4) Inspect bores in both cylinders for signs of scoring or possible out-of-round conditions. Inspect pistons and cups for signs of scoring or wear.



**SLAVE CYLINDER COMPONENTS (TYPICAL)**

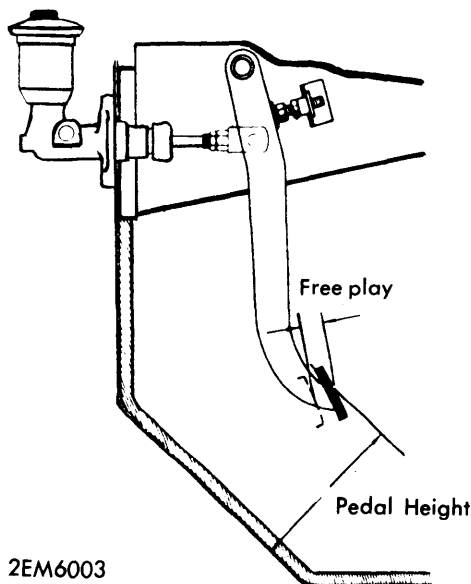
5) Coat all components in brake fluid before reassembling. To reassemble master cylinder and slave cylinder, reverse removal procedure.

## ADJUSTMENT

### PEDAL HEIGHT

Adjust pedal stop bolt at top of pedal assembly until specified pedal height is obtained. Pedal height is measured from floor mat to top of pedal pad.

Application	Pedal Height	Height
Carina & Celica	.....	6.3" (160 mm)
Corolla 1600	.....	6.4-6.8" (163-173 mm)
Corona	.....	5.7-6.1" (145-155 mm)
Corona Mk II	.....	6.0-6.2" (152-157 mm)
Crown (1965-70)	.....	5.7" (145 mm)
Crown (1971-72)	.....	6.8" (173 mm)



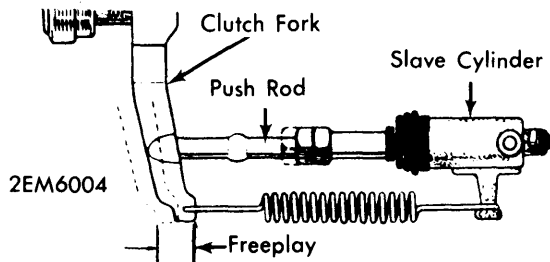
**PEDAL HEIGHT & FREE PLAY MEASURING POINTS**

## 1965-73 TOYOTA CARINA, CELICA, COROLLA 1600, CORONA, CORONA MK II & CROWN (Cont.)

### CLUTCH FORK FREE PLAY

Clutch fork free play determines the amount of clearance between clutch release bearing and clutch. To obtain specified endplay, loosen lock nut on slave cylinder push rod and screw push rod in or out until specified clearance is obtained between push rod and piston in slave cylinder.

Application	Clutch Fork Free Play	Free Play
Carina & Celica	.08-.13"	(2.0-3.3 mm)
Corolla 1600	.10-.14"	(2.5-2.6 mm)
Corona (1966-70)	.15"	(3.8 mm)
Corona (1971-73) & Crown	.08-.14"	(2.0-3.6 mm)
Corona Mk II	.08-.14"	(2.0-3.6 mm)
Corona Mk II (1972-73)	.08-.12"	(2.0-3.0 mm)



CLUTCH FORK FREE PLAY MEASURING POINTS

### MASTER CYLINDER PUSH ROD FREE PLAY

To obtain specified free play between pedal push rod and master cylinder, loosen lock nut on push rod. Screw push rod in or out until specified free play between push rod and piston in master cylinder is obtained.

Application	Master Cylinder Push Rod Free Play	Free Play
Carina & Celica	.04-.12"	(1.0-3.0 mm)
Corolla 1600	.02"	(.50 mm)
Corona	.02-.12"	(.50-3.0 mm)
Corona Mk II	.02-.10"	(.50-2.5 mm)
Crown (1965-70)	.02-.10"	(.50-2.5 mm)
Crown (1971-72)	.02-.12"	(.50-3.0 mm)

### PEDAL FREE PLAY

Pedal free play is total of clutch fork free play and master cylinder push rod free play as measured at pedal pad. If other measurements are to specifications, pedal free play should be as specified.

### Pedal Free Play

Application	Pedal Free Play	Free Play
Carina & Celica	1.0-1.75"	(25-44 mm)
Corolla 1600	1.0-1.8"	(25-46 mm)
Corona (1965-70)	.98"	(25 mm)
Corona (1971-73)	1.0-1.75"	(25-44 mm)
Corona Mk II (1969-71)	.79-1.58"	(20-40 mm)
Corona Mk II (1972-73)	1.2-1.8"	(30-46 mm)
Crown (1965-70)	1.4-2.0"	(36-51 mm)
Crown (1971-72)	1.2-1.8"	(30-46 mm)

### HYDRAULIC SYSTEM BLEEDING

- 1) Raise vehicle and support with safety stands. Make sure clutch master cylinder is full of brake fluid. Remove bleeder plug cap and loosen bleeder plug on slave cylinder.
- 2) Position finger on vent hole of bleeder plug and push pedal to bottom of stroke three or four times. With pedal fully depressed, remove finger and allow air to vent out.
- 3) Repeat procedure three or four times or until pressure is felt. Install a flexible tube on bleeder plug and insert other end in a container half full of brake fluid.
- 4) Push pedal to bottom of stroke, loosen bleeder plug and allow fluid to bleed into container. Tighten bleeder plug and release clutch pedal.
- 5) Repeat above procedure until air bubbles are no longer seen in container. When bubbles are no longer seen, depress clutch pedal and tighten bleeder plug.
- 6) With bleeding of system completed, depress pedal to bottom of stroke and check hydraulic line for possible leaks. Make sure master cylinder is full of brake fluid.

### TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (mkg)
<b>Clutch Cover-to-Flywheel</b>	
Carina & Celica	11-12 (1.5-1.7)
Corolla 1600	11-16 (1.5-2.2)
Corona & Corona Mk II	7-12 (1.0-1.7)
Crown	6-10 (.83-1.4)
<b>Clutch Housing-to-Engine</b>	
Carina & Celica	36-51 (5.0-7.0)
Corona & Corona Mk II	36-51 (5.0-7.0)
<b>Clutch Fork Bolts</b>	
Corolla 1600	14-29 (2.0-4.0)