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SECTION A

CLUTCH
43-44-45-46000 SERIES

CONTENTS

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DIVISION I TROUBLE DIAGNOSIS

71-1 CLUTCH TROUBLE DIAGNOSIS

Symptom and Probable Cause	Probable Remedy
FAILS TO RELEASE (PEDAL PRESSED TO FLOOR-SHIFT LEVER DOES NOT MOVE FREELY IN AND OUT OF REVERSE GEAR)	
a. Improper linkage adjustment.	a. Adjust linkage.
b. Improper pedal travel.	b. Trim bumper stop and adjust linkage.
c. Loose linkage.	c. Replace bushings.
d. Faulty pilot bearing.	d. Replace bearing.
e. Faulty driven plate.	e. Replace driven plate.
f. Fork off ball stud.	f. Install properly.
g. Clutch driven plate hub binding on main drive gear spline.	g. Repair or replace main drive.
SLIPPING	
a. Improper adjustment (no lash).	a. Adjust linkage.
b. Oil soaked driven plate.	b. Install new driven plate and correct oil leak at its source.
c. Worn facing or facing torn from driven plate.	c. Replace driven plate.
d. Warped pressure plate or flywheel.	d. Replace same.
e. Weak diaphragm spring.	e. Replace cover assembly.
f. Driven plate not seated in.	f. Make 20-50 normal starts.
g. Driven plate overheated.	g. Allow to cool-Check lash.
GRABBING	
a. Oil on facing or burned or glazed facings.	a. Install new driven plate.
b. Worn splines on main drive gear.	b. Replace transmission main drive gear.
c. Loose engine mountings.	c. Tighten or replace mountings.
d. Warped pressure plate or flywheel.	d. Replace pressure plate or flywheel.
e. Burned or smeared resin on flywheel or pressure plate.	e. Sand off if superficial, replace burned or heat checked parts.

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71-1 CLUTCH TROUBLE DIAGNOSIS (Cont'd.)

Symptom and Probable Cause	Probable Remedy
RATTLING—TRANSMISSION CLICK	
a. Clutch fork loose on ball stud or in bearing groove.	a. Check ball stud and retaining spring and replace if necessary.
b. Oil in driven plate damper.	b. Replace driven plate.
c. Driven plate damper spring failure.	c. Replace driven plate.
THROW-OUT BEARING NOISE WITH CLUTCH FULLY ENGAGED	
a. Improper adjustment.	a. Adjust linkage.
b. Throw-out bearing binding on transmission bearing retainer.	b. Clean, relubricate, check for burrs, nicks, etc.
c. Insufficient tension between clutch fork spring and ball stud.	c. Replace fork.
d. Fork Improperly installed.	d. Install properly.
e. Weak linkage return spring.	e. Replace spring.
NOISY	
a. Worn throw-out bearing.	a. Replace bearing.
b. Fork off ball stud (Heavy clicking).	b. Install properly.
PEDAL STAYS ON FLOOR WHEN DISENGAGED	
a. Bind in linkage.	a. Lubricate and free up linkage.
b. Spring weak in pressure plate.	b. Replace.
c. Weak Linkage return spring.	c. Replace.
HIGH PEDAL EFFORT	
a. Bind in linkage.	a. Lubricate and free up linkage.
b. Driven plate worn.	b. Replace driven plate.

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DIVISION II

DESCRIPTION AND OPERATION

71-2 DESCRIPTION AND OPERATION

A single plate, dry disc clutch is used on all manual transmission equipped Skylark, Skylark Custom, G.S., LeSabre, Centurion, Sportwagon and Estate Wagon Models.

The pressure plates for 250 and 350 cu. in. engines continue to use a straight finger type belleville spring for clutch release while the pressure plates for the 455 cubic inch engine as used in the G.S., Centurion, and Estate Wagons utilize a bent finger- type belleville spring. See Figure 71-3.

DIVISION III

ADJUSTMENTS AND MINOR SERVICE

71-3 CLUTCH LASH ADJUSTMENT

Pedal lash, free pedal, must be adjusted occasionally to compensate for normal wear of the clutch facing. As the driven plate wears thinner, pedal lash decreases.

To adjust pedal lash (All Series):

1. Make certain clutch fork is on ball stud.

2. For Skylark, Sportwagon, and G.S. Models, see Figure 71-4.

a. Unhook return spring from clutch fork.

b. Push and hold equalizer and release rod toward front of car while at the same time holding the clutch fork toward the rear of the car.

c. If clutch is properly adjusted, there will be 1/16" to 1/8" clearance between the end of the rod and the clutch fork. Lash at the pedal should be 5/8" to 7/8".

DIVISION IV

REMOVAL AND INSTALLATION

71-4 REMOVAL OF CLUTCH

A. Removal from Vehicle

1. Remove transmission.

2. Remove pedal return spring from clutch fork. See Figure 72-4.

a. On G. S. models, disconnect rod assembly from clutch fork. See Figure 71-5.

3. Remove flywheel housing.

4. Remove clutch throw-out bearing from clutch fork.

5. Disconnect clutch fork from ball stud by moving it toward the center of flywheel housing.

6. Mark clutch cover and flywheel so that cover can be reinstalled in the same position on flywheel to preserve engine balance.

7. Loosen clutch cover to flywheel attaching bolts one turn at a time each to avoid bending of clutch cover flange until spring pressure is released.

8. Support the pressure plate and cover assembly while removing last bolts, then remove pressure plate and clutch driven plate assemblies.

NOTE: *Use extreme care in keeping clutch driven plate clean.*

9. Should it be necessary to disassemble the pressure plate, proceed as follows:

a. Remove three drive-strap to pressure plate bolts and retracting spring. Then lift off clutch cover.

NOTE: *Alignment marks should be made on clutch cover and pressure plate for assembly purposes to maintain balance.*

b. The clutch belleville spring and two pivot rings are riveted to the clutch cover. The spring, rings and cover should be inspected for wear or damage. If necessary, replace the complete cover assembly.

71-5 LUBRICATION AND INSPECTION OF CLUTCH

A. Inspection of Clutch

Wash all metal parts of clutch, except release bearing and driven plate in suitable cleaning solution to remove dirt and grease. Soaking release bearing in cleaning solution would permit solution to seep into bearing and destroy the lubricant. Soaking driven plate in cleaning solution would damage the facings.

1. *Flywheel and Pressure Plate.* Examine friction surfaces of flywheel and pressure plate for scoring or roughness. Slight roughness may be smoothed with fine emery cloth, but if surface is deeply scored or grooved the part should be replaced.

2. *Clutch Driven Plate.* Inspect driven plate for condition of facings, loose rivets, broken or very loose torsional springs, and flattened cushion springs.

If facings are worn down near rivets or are oily, the plate

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assembly should be replaced. A very slight amount of oil on clutch facings will cause clutch grab and chatter. A large amount of oil on facings will cause slippage. Removal of oil by solvents or by buffing is not practical since oil will continue to bleed from facing material when hot.

When oil is found on driven plate facings, examine transmission drainback hole, pilot bushing, engine rear main bearing and other points of oil leakage.

Test the fit of driven plate hub on transmission main drive gear for any easy sliding fit.

Regardless of whether the old plate or a new one is to be installed, the plate should be checked for run- out. This check can be made by following steps outlined in Figures 71-1 and 71-2.

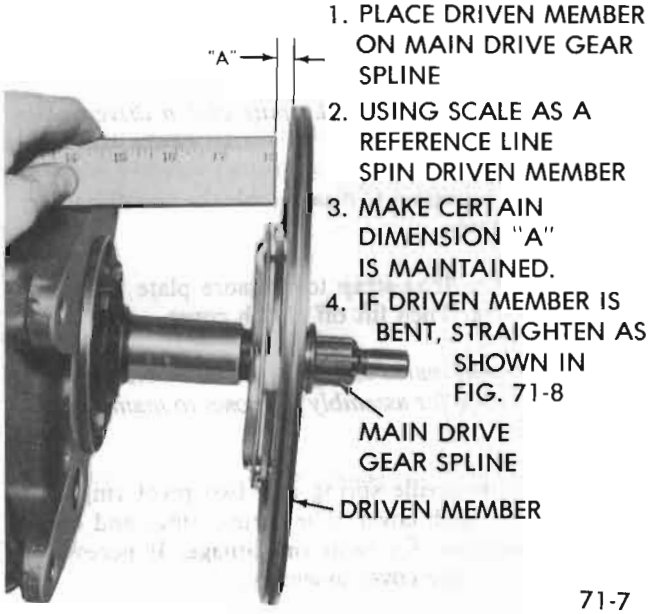

Figure 71-1 - Checking Driven Plate Run-Out

3. *Bearings* Inspect clutch throw-out bearing for scoring or excessive wear on front contact face. Test for roughness of balls and races by pressing and turning front race slowly. Inspect main drive gear pilot bushing in crankshaft. If bushing is rough or worn it should be replaced.

B. Lubrication of Clutch

1. Very sparingly apply wheel bearing lubricant in pilot bushing in crankshaft.

NOTE: *If too much lubricant is used, it will run out on face of flywheel when hot and ruin the driven plate facings.*

2. Make sure that splines in the driven plate hub are clean and apply a light coat of wheel bearing lubricant. Apply a light coat of wheel bearing lubricant on transmission

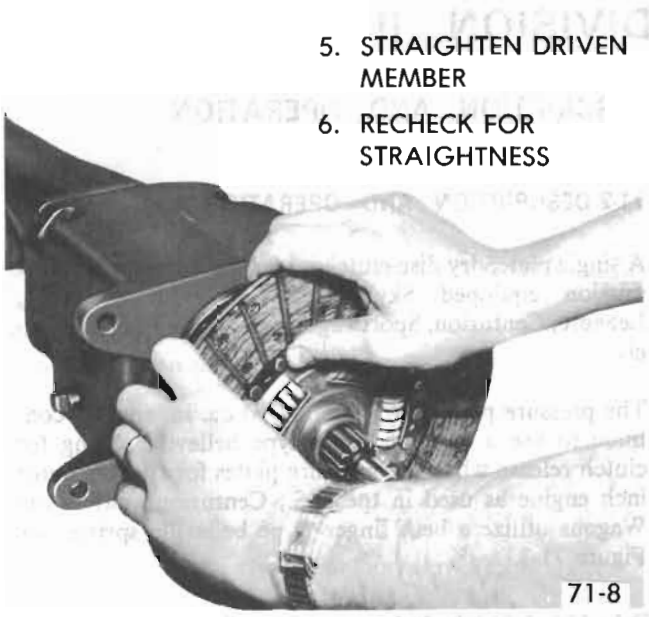

Figure 71-2 - Checking Driven Plate Run-Out

drive gear splines. Slide driven plate over transmission drive gear several times. Remove driven plate and wipe off all excess lubricant pushed up by hub of plate.

NOTE: *Driven plate facings must be kept clean and dry.*

3. Fill groove in throw-out bearing with wheel bearing lubricant. Make certain transmission front bearing retainer is clean and apply a light coat of wheel bearing lubricant. Slide throw-out bearing over transmission retainer several times. Remove throw- out bearing and wipe off all excess lubricant pushed up by hub of bearing.

4. Clean and apply wheel bearing lubricant to ball stud in flywheel housing and to the seat in clutch fork.

5. Check clutch pilot bearing for excessive wear or damage. If replacement is necessary, remove bearing with Puller J-1448. For installation use Driver J- 1522.

NOTE: *Very sparingly apply wheel bearing lubricant in pilot bushing. If too much lubricant is used, it will run out on face of flywheel when hot and ruin the driven plate facings.*

71-6 INSTALLATION OF CLUTCH

A. Installation of Clutch (Refer to Figures 71-4, 71-5, 71-6, 71-7, and 71-8)

1. If the pressure plate was disassembled, follow steps a and b.

a. Install the pressure plate in the cover assembly, lining up the groove on the edge of the pressure plate with the groove on the edge of the cover.

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b. Install pressure plate retracting springs and drive-strap to pressure plate bolts and lock washers and tighten to 16 lb.ft. torque. The clutch is now ready to be installed.

2. Install the pressure plate and driven plate. Support both assemblies with a spare main drive gear.

NOTE: *Be sure to align marks on clutch cover with the mark made on the flywheel at disassembly.*

3. Install all bolts so that clutch is drawn in place square with flywheel. Each bolt must be drawn one turn at a time to avoid bending the clutch cover flange. Torque bolts to 30-40 lb.ft.

4. Lubricate the ball stud and clutch fork with wheel bearing lubricant and install clutch fork.

NOTE: *Check and insure that fork retaining spring is tight on pivot ball stud.*

5. Lubricate the recess on the inside of the throw- out bearing collar.

CAUTION: *Be careful not to use too much lubricant.*

6. Install throw-out bearing assembly.

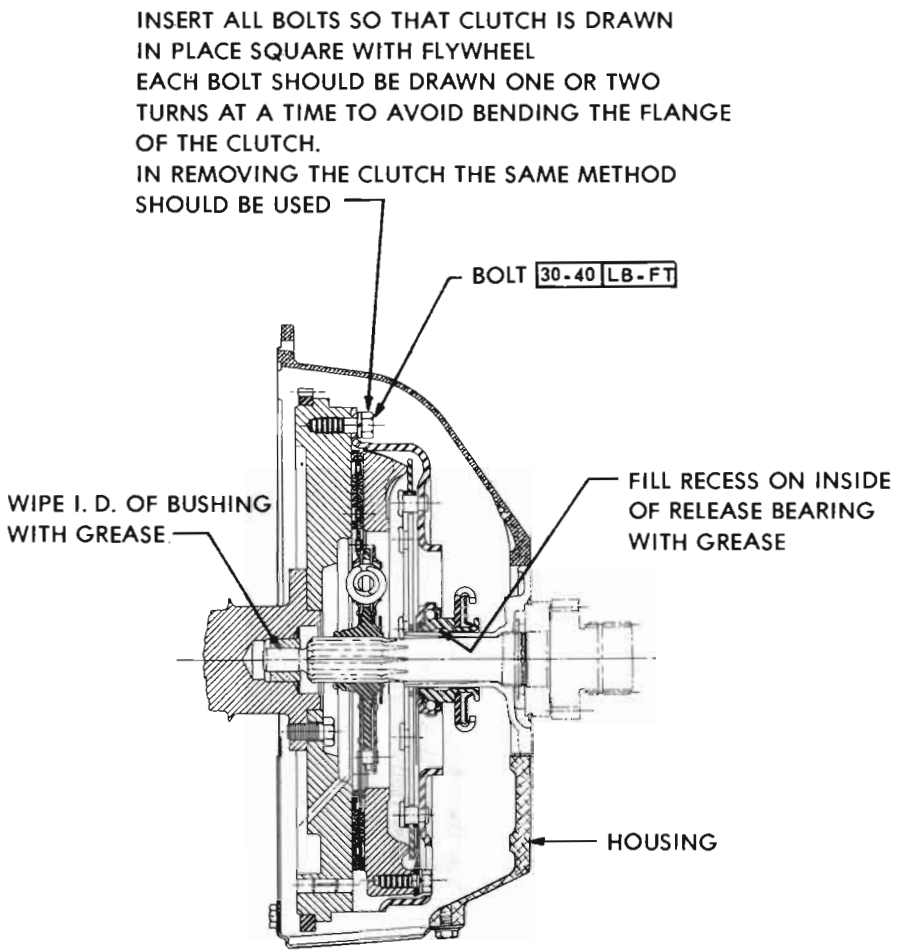
7. Install flywheel housing.

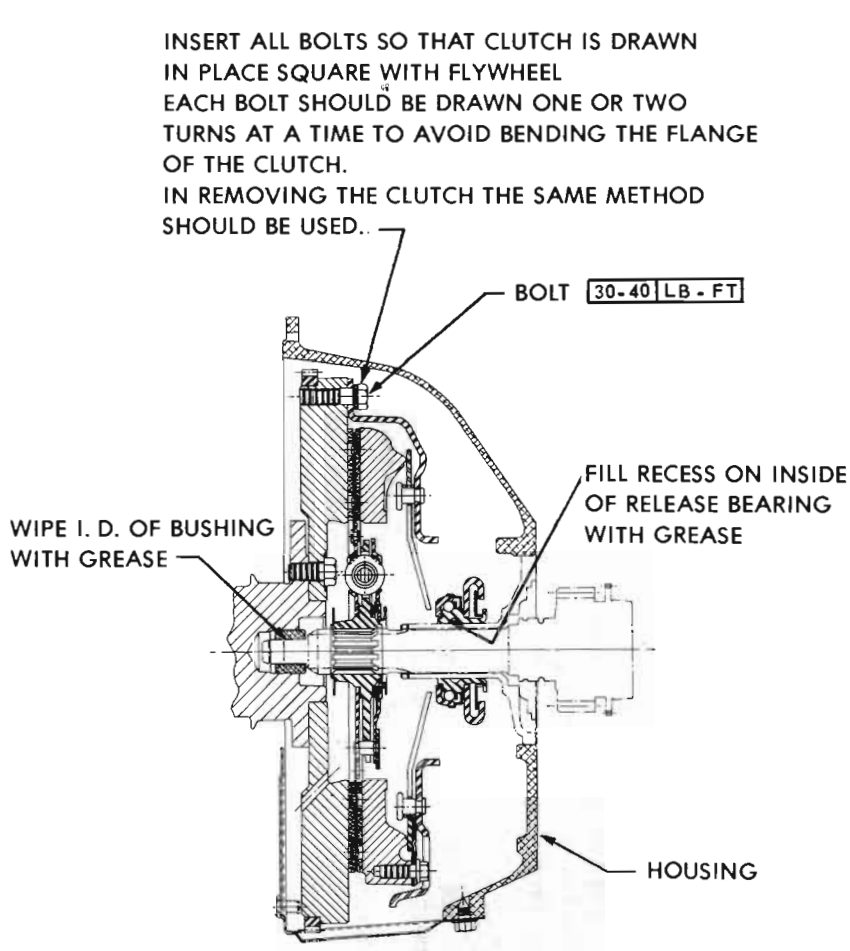
CAUTION: *Insure that dowel pins are in place in crank-case.*

NOTE: *Make certain throw-out bearing is seated in clutch fork.*

8. Install transmission.

9. Connect and adjust clutch linkage. See paragraph 71-3.





71-3

Figure 71-3 Clutch Assemblies (L-6, 350 and 455 Engines)

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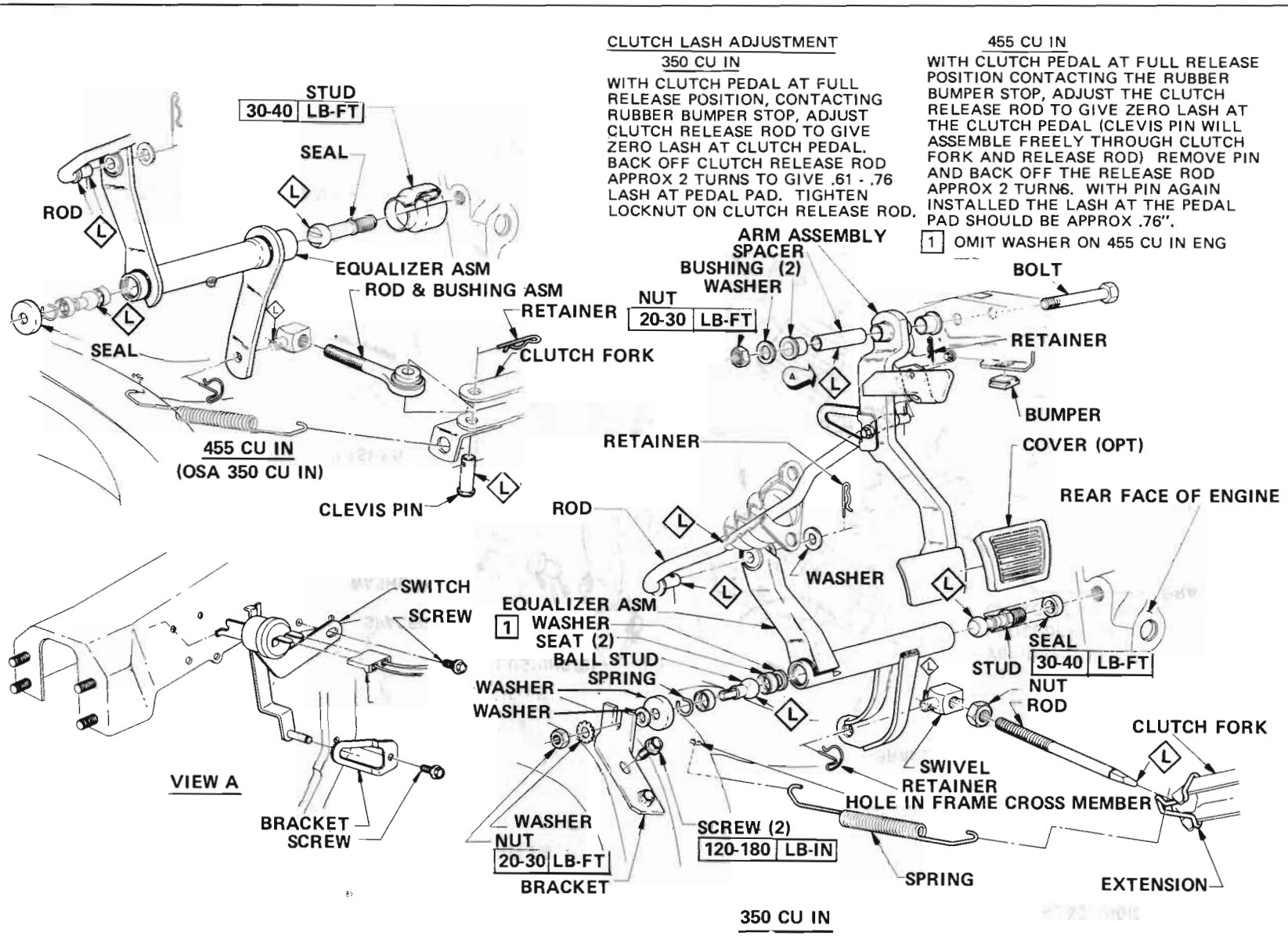

Figure 71-4 Clutch Controls - 43-44000 Series

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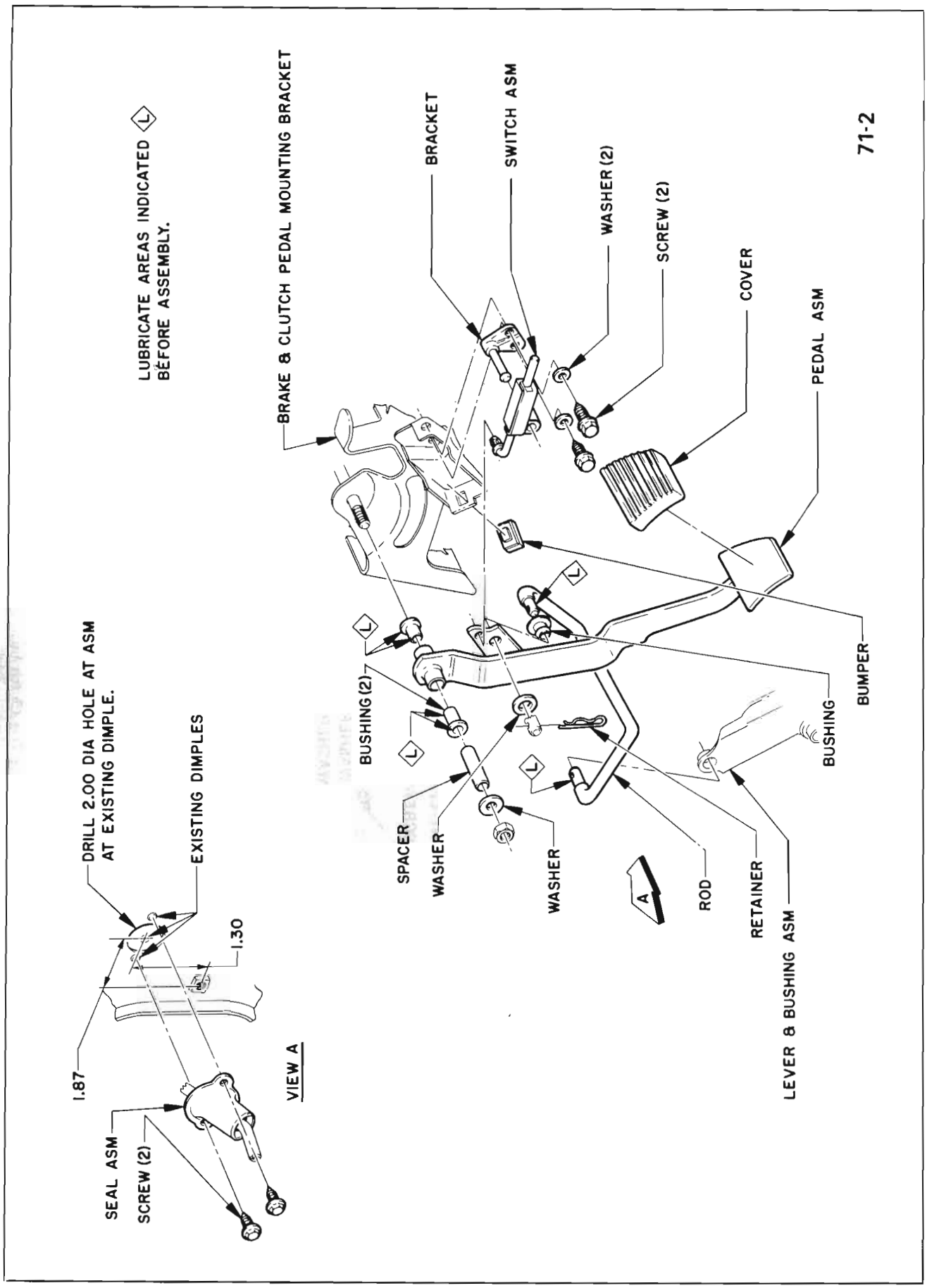

Figure 71-5 Clutch Pedal - '45-46000 Series

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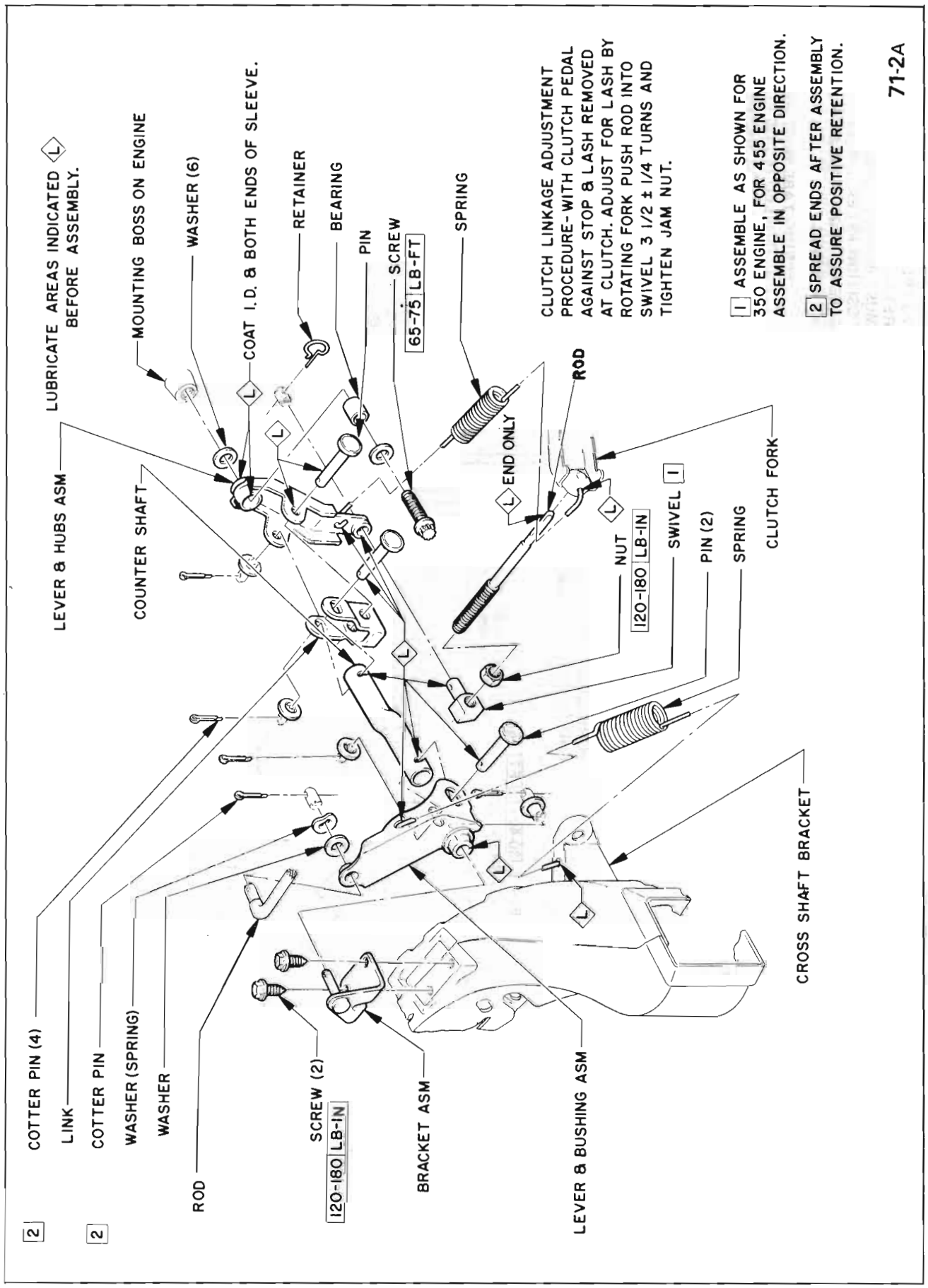

Figure 71-5A Clutch Controls - 45-46000 Series

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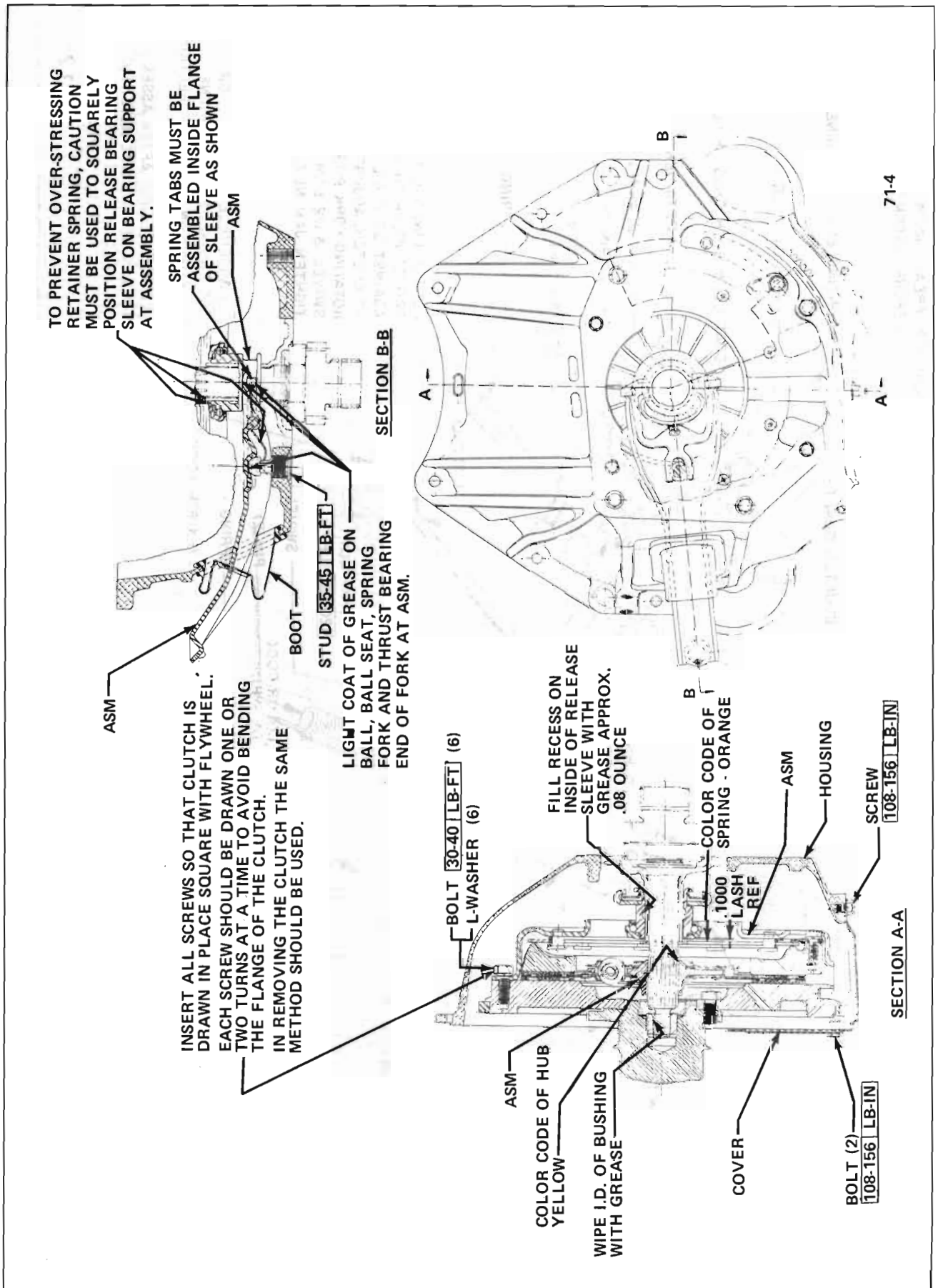

Figure 71-6 Clutch Inner Controls - 43-44-45000 Series (L-6 and 350 Cu. In. Engine) Less G.S. Series

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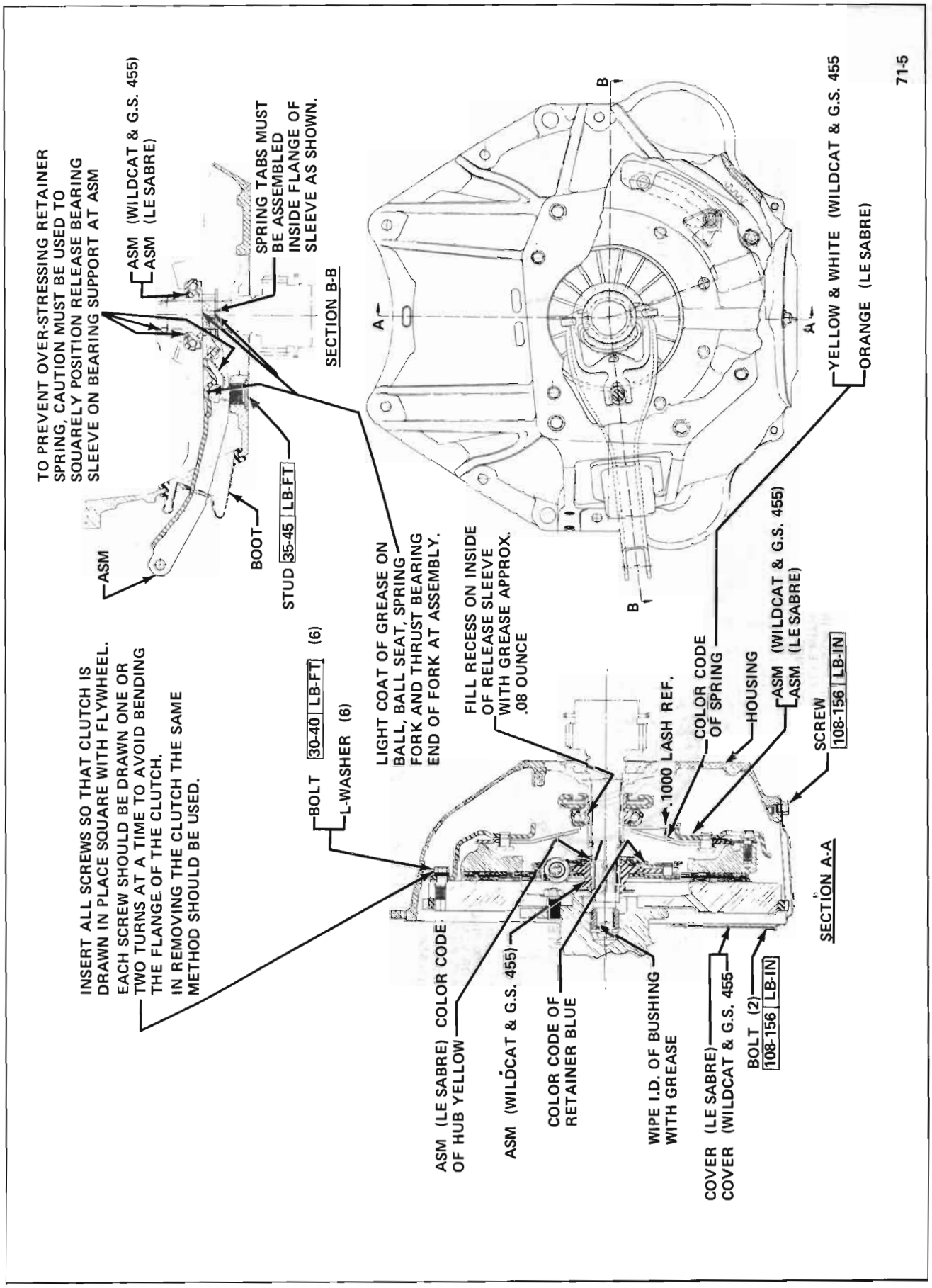

Figure 71-7 Clutch Inner Controls - G.S., Centurion and Estate Wagon (455 Engine)

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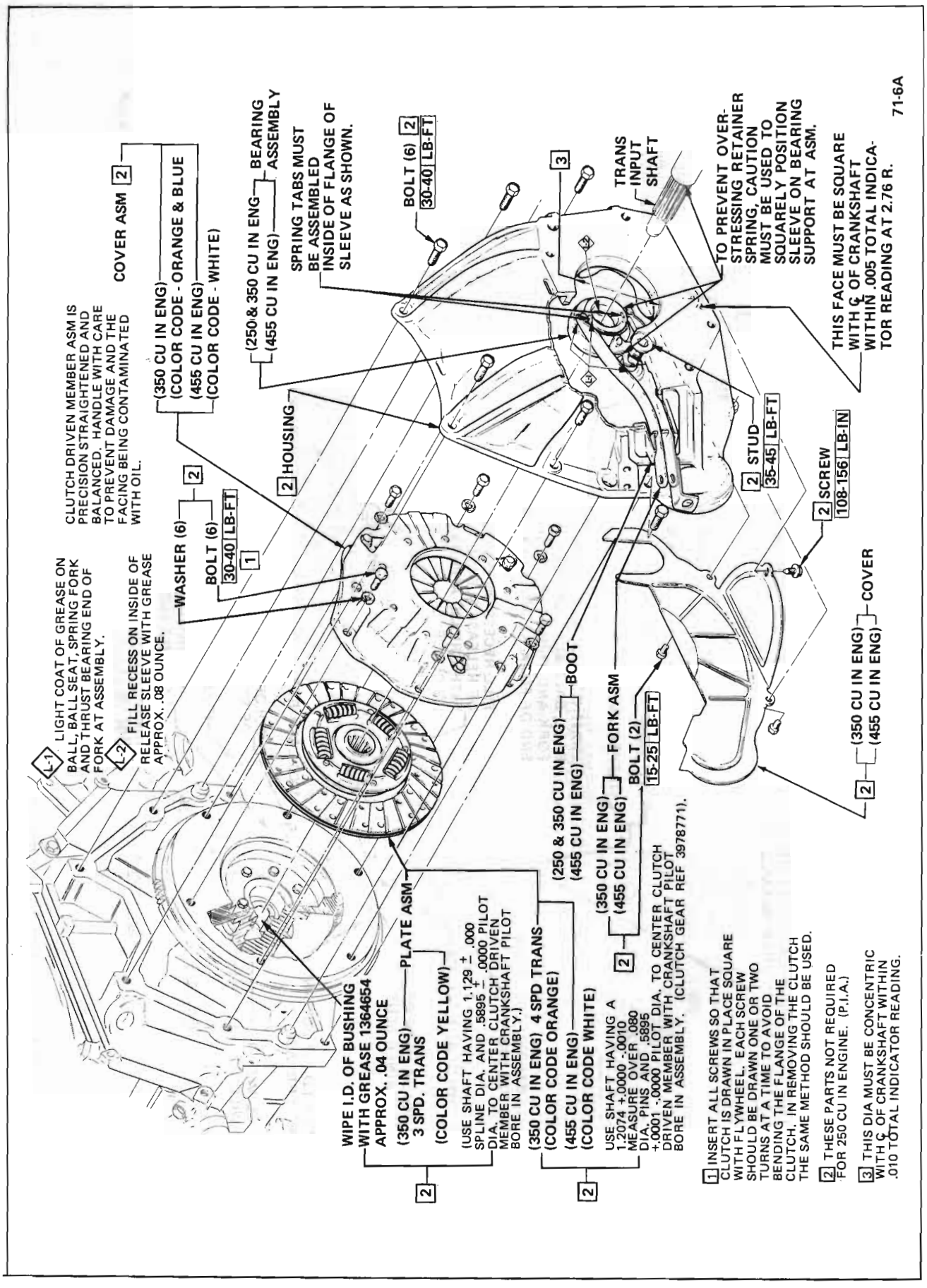

Figure 71-8 Clutch Build-Up

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DIVISION VI SPECIFICATIONS

71-7 GENERAL SPECIFICATIONS

a. Clutch Specifications	250 Cu. In.		350 Cu. In.	455 Cu. In.
Type		Single Plate—Dry Disc		
Pedal Pressure		28 to 35 lbs. (New)		
Pedal Lash	5/8" — 7/8"		5/8" — 7/8"	5/8" — 7/8"
Driven Plate Diameter	9 1/8"		10.4"	11"
Driven Plate Facings		Woven Asbestos		
Number of Facings		2		
Facing Attachment		Riveted		
Facing Area (Sq. In.)	71.88		103.5	123.7
Vibration Dampening		6 Torsional Springs		5 Torsional Springs

b. Bolt Tightening Specifications	Skylark, Skylark Custom and Sportwagon		G.S. Series		LeSabre, Centurion and Estate Wagon	
Location	Thread Size	Torque Lbs. Ft.	Thread Size	Torque Lbs. Ft.	Thread Size	Torque Lbs. Ft.
Clutch Cover to Flywheel	3/8-16 x 1	30-40	3/8-16 x 1	30-40	3/8-16 x 1	30-40
Clutch Release Fork Ball	13/16-16	35-45	13/16-16	35-45	13/16-16	35-45
Flywheel Housing to Clinder Block	3/8-16 x 1 1/4	45-60	3/8-16 x 1 1/4	45-60	3/8-16 x 1 1/4	45-60
Clutch Equalizer Ball Stud:						
To Engine	1/2-13	30-40	1/2-13	30-40	-	-
To Frame Bracket	3/8-16	20-30	3/8-16	20-30	3/8-16	20-30
To Trans. Bracket	-	-	-	-	3/8-16	20-30
Clutch Equalizer Bracket To Trans.	-	-	-	-	7/16-14	45-60
Trans. to Flywheel Housing	7/16-14	45-60	7/16-14	45-60	7/16-14	45-60
Clutch Equalizer Bracket To Frame	-	-	-	-	5/16-18 x 3/4	10-15
Clutch Adjustment Lock Nut	3/8-16	5-15	3/8-16	5-15	-	-