

NOTE

Service wear limits are given as a guideline for measuring components that are not new. For measurement specifications not given under SERVICE WEAR LIMITS, see NEW COMPONENTS.

Table 6-1. Primary Drive Specifications

ITEM	NEW COMPONENTS	SERVICE WEAR LIMITS
PRIMARY DRIVE ENGINE-TO-TRANSMISSION		
Engine sprocket – number of teeth	35	N/A
Clutch sprocket – number of teeth	56	N/A
Ratio*	1.60:1	N/A

Table 6-2. Final Drive Specifications

ITEM	NEW COMPONENTS	SERVICE WEAR LIMITS
FINAL DRIVE (TRANSMISSION-TO-REAR WHEEL)		
Transmission sprocket – number of teeth	27	N/A
Rear wheel sprocket – number of teeth	80	Replace at 15,000 mi (24,000 km)
Secondary drive belt – number of teeth	139	Replace at 15,000 mi (24,000 km)
Ratio	2.96:1	N/A

Table 6-3. Transmission Specifications

ITEM	NEW COMPONENTS	SERVICE WEAR LIMITS
TRANSMISSION		
Primary drive / transmission lubricant capacity	32 fl. oz. (946 ml)	N/A
OVERALL GEAR RATIOS**		
First gear (low)	12.74	N/A
Second gear	8.77	N/A
Third gear	6.79	N/A
Fourth gear	5.60	N/A
Fifth gear (high)	4.74	N/A

* Internal gear ratios indicate number of mainshaft revolutions required to drive output sprocket one revolution.

** Overall gear ratios indicate number of engine revolutions required to drive rear wheel one revolution.

Table 6-4. Clutch Specifications

WET CLUTCH/MULTIPLE DISC		
CLUTCH PLATE THICKNESS		NEW COMPONENTS
ITEM		SERVICE WEAR LIMITS
Friction plate (fiber) (in.)		0.0866 + 0.0031
Friction plate (fiber) (mm)		2.200 + 0.079
Steel plate (in.)		0.0629 + 0.0020
Steel plate (mm)		1.598 + 0.051
Clutch pack (in.)		N/A
Clutch pack (mm)		N/A
MAXIMUM ALLOWABLE WARPAGE		
Friction plate (fiber) (in.)		N/A
Friction plate (fiber) (mm)		N/A
Steel plate (in.)		N/A
Steel plate (mm)		N/A

TORQUE VALUES

ITEM	TORQUE		NOTES
Battery terminal bolts	72-96 in-lbs	8-11 Nm	Page 6-6
Clutch mainshaft nut	70-80 ft-lbs	95-109 Nm	Loctite Threadlocker 271 (red), left hand threads, Page 6-15
Crankcase 1/4 in. screws	180-100 in-lbs	9.0-12.4 Nm	Loctite Threadlocker 271 (red), Page 6-36
Crankcase 5/16 in. screws	15-19 ft-lbs	20-25 Nm	Loctite Threadlocker 271 (red), Page 6-36
Engine sprocket nut	190-210 ft-lbs	258-285 Nm	Loctite Threadlocker 271 (red), Page 6-15
Magnetic drain plug	14-30 ft-lbs	19-40.7 Nm	Metric, Page 6-6
Primary chain limiting screw jam nut	20-25 ft-lbs	28-33 Nm	Page 6-5
Primary cover bolts	100-120 in-lbs	11-14 Nm	Follow torque sequence, Page 6-6
Shift lever pinch fastener	12-14 ft-lbs	16-19 Nm	Page 6-6
Shifter shaft assembly locknuts	90-110 in-lbs	10-12 Nm	Bottom nut first, same torque for top, Page 6-38
Transmission sprocket nut	See NOTES	See NOTES	Loctite Threadlocker 271 (red), left hand threads, special torque turn method, Page 6-41
Transmission sprocket screws	90-110 in-lbs	10-12 Nm	Replace after 3 removals, Page 6-41

GENERAL

An opening between the primary drive and transmission compartments allows the same lubricant supply to lubricate moving parts in both compartments.

Since the primary chain runs in lubricant, little service will be required other than checking lubricant level and chain tension. If, through hard usage, the primary chain does become worn, it must be replaced. Remove and install the chain following the procedure under [6.4 PRIMARY DRIVE/CLUTCH](#).

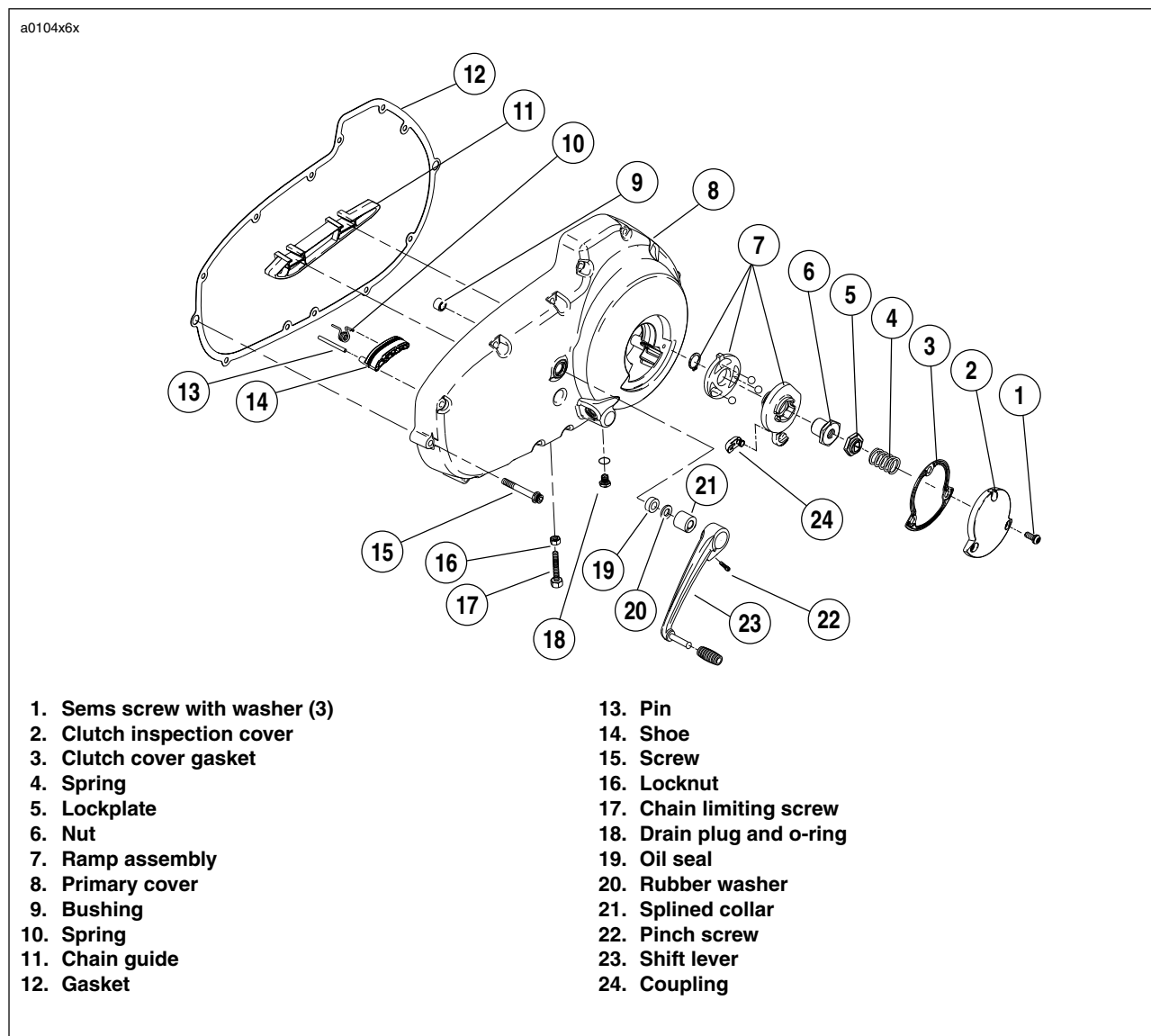


Figure 6-1. Primary Cover and Shifter Assembly

REMOVAL

Primary Cover

1. Remove seat. See [2.28 SEAT](#).

⚠ WARNING

To prevent accidental vehicle start-up, which could cause death or serious injury, disconnect negative (-) battery cable before proceeding. (00048a)

⚠ WARNING

Disconnect negative (-) battery cable first. If positive (+) cable should contact ground with negative (-) cable connected, the resulting sparks can cause a battery explosion, which could result in death or serious injury. (00049a)

2. Disconnect negative battery cable from battery.
3. See [Figure 6-1](#). Place a drain pan under the engine. Remove drain plug and drain lubricant from primary drive.
4. Remove shifter lever assembly and rubber washer. Do not scratch primary cover.
5. See [ADJUSTMENT](#) under [1.9 CLUTCH](#). Add freeplay to clutch cable.
6. See [Figure 6-2](#). Loosen locknut. Turn chain adjuster screw counterclockwise (outward).
7. Remove left foot peg support bracket. See [2.21 FOOT-PEGS AND FOOTPEG SUPPORT BRACKETS](#).
8. Remove three sems screws with washers and clutch inspection cover.
9. Remove and discard gasket from groove in primary cover.
10. Slide spring with attached hex lockplate from flats of clutch limiting screw.
11. See [Figure 6-3](#). Turn clutch adjusting screw clockwise to release ramp and coupling mechanism. As the limiting screw is turned, ramp assembly moves forward. Unscrew nut from end of limiting screw.
12. Remove hook of ramp from button to the rear of cable end coupling. Remove cable end from slot in coupling. Remove coupling and ramp assembly.
13. Remove screws which secure primary cover. Remove cover and gasket.
14. Discard gasket.
15. Remove and discard shifter lever oil seal.

Primary Chain Adjuster

1. Loosen locknut from chain limiting screw. Turn limiting screw out of threaded boss in primary cover.
2. See [Figure 6-2](#). Remove primary cover.
3. See [Figure 6-3](#). Slide shoe outward and remove.
4. Remove chain tensioner spring.

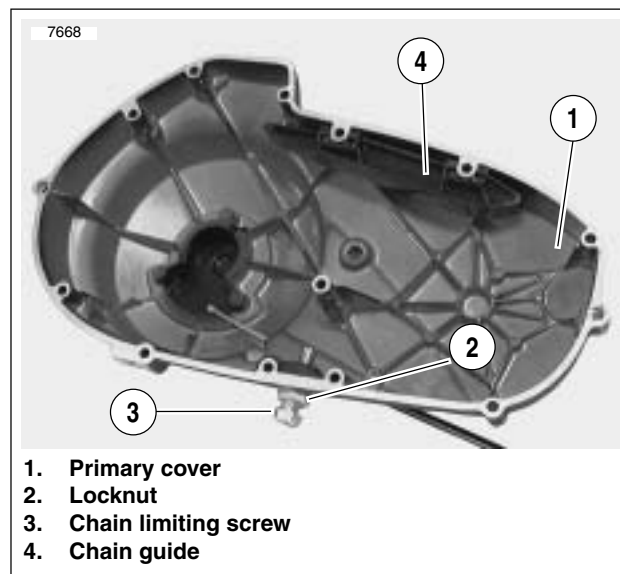


Figure 6-2. Removing Primary Chain Adjuster

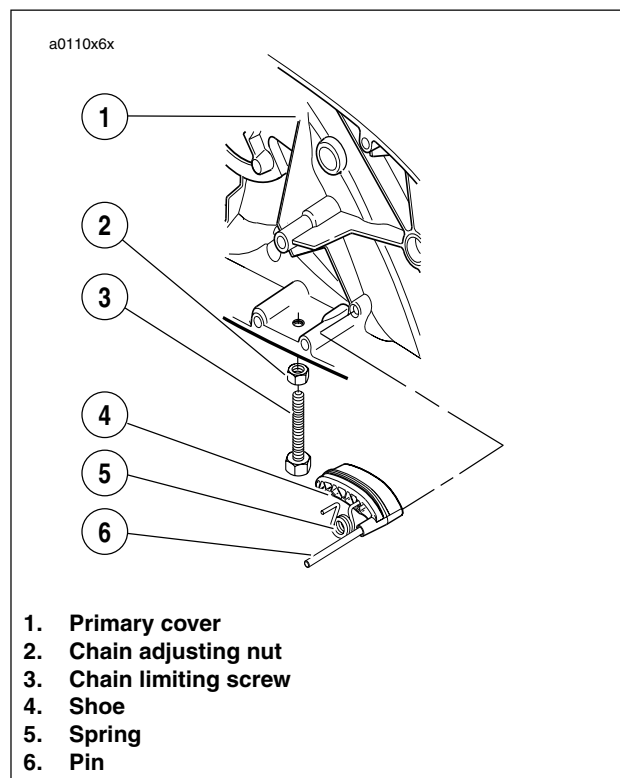


Figure 6-3. Primary Chain Adjuster

INSTALLATION

Primary Chain Adjuster

1. See [Figure 6-3](#). If shoe is badly worn, replace it.
2. Install chain tensioner spring over pin and into hole in crankcase.
3. While prying the tensioner spring down, slide shoe onto pin and tensioner spring.
4. Press shoe inward.
5. Install primary cover. See [Primary Cover](#) in [6.2 PRIMARY CHAIN](#).

Primary Chain Adjustment

See [Figure 6-4](#). Buell Blast Models are shipped with a spacer between the primary chain limiting screw and the locknut. The spacer is used to quickly get proper adjustment during production. This spacer should be removed and discarded at the first adjustment interval.

1. See [Figure 6-5](#). Back-off jam nut (3) and chain limiting screw (1). Remove spacer (2).

IMPORTANT NOTE

*Be certain to use **Inch-Pound** Wrench. Chain adjuster shoe can be damaged by excessive force.*

2. See [Figure 6-6](#). Tighten chain limiting screw to 24 in-lbs (2.7 Nm).
3. Back-off chain limiting screw 3/4 turn (4 1/2 "flats").
4. Hold chain limiting screw while tightening jam nut. Tighten to 20-25 ft-lbs (28-33 Nm).

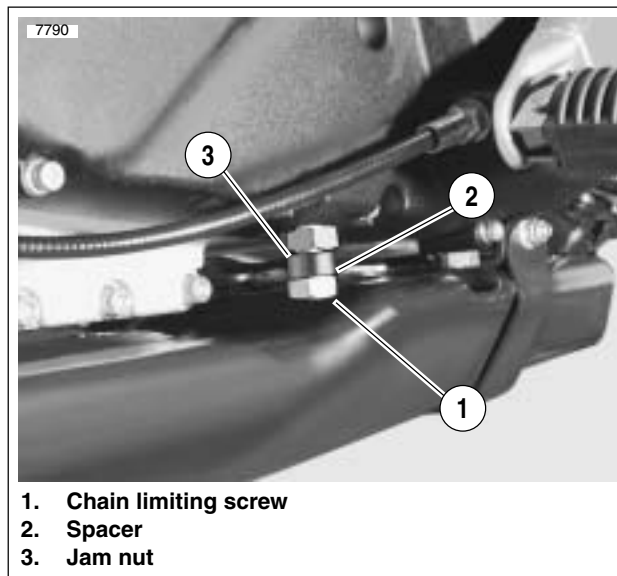


Figure 6-4. Adjustment Nut-with Spacer

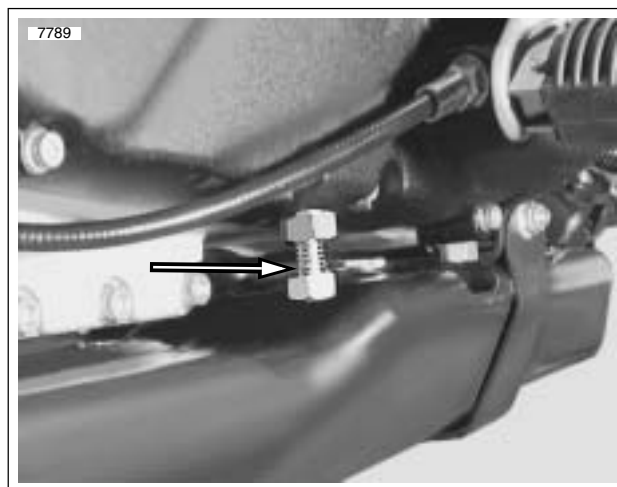


Figure 6-5. Chain Limiting Screw-without Spacer



Figure 6-6. Torquing Chain Limiting Screw

Primary Cover

1. Remove foreign material from magnetic drain plug. Apply Loctite 565 thread sealant and install plug and tighten to 14-30 ft-lbs (19-40.7 Nm).
2. Wipe gasket surface clean. Install **new** gasket on primary cover.
3. See [Figure 6-7](#). Install primary cover and gasket onto left crankcase half using mounting screws and tighten to 100-120 **in-lbs** (11-14 Nm) in sequence shown.
4. See [Figure 6-1](#). Install **new** shifter lever oil seal.
5. Fit coupling over cable end with rounded side inboard and the ramp connector button outboard. With retaining ring side of ramp assembly facing inward, place hook of ramp around coupling button and rotate assembly counterclockwise until tang on inner ramp fits in slot of primary cover.
6. Thread nut on adjustment screw until slot of screw is accessible with a screwdriver. Fit nut hex into recess of outer ramp and turn adjustment screw counterclockwise.
7. Adjust clutch. See [ADJUSTMENT](#) under **1.9 CLUTCH**.
8. Adjust primary chain tension. See **6.2 PRIMARY CHAIN**.
9. Fill transmission to proper level with fresh lubricant. See [TRANSMISSION](#) under section **1.10 TRANSMISSION/PRIMARY FLUID**.
10. Install clutch inspection cover with **new** gasket and three sems screws with washers. Tighten screws in a cross-wise pattern to 84-108 **in-lbs** (10-12 Nm).
11. See [Figure 6-1](#). Install rubber washer and shifter lever assembly and tighten pinch screw to 12-14 ft-lbs (16-19 Nm)
12. Install left footpeg support bracket. See **2.21 FOOT-PEGS AND FOOTPEG SUPPORT BRACKETS**.

WARNING

Connect positive (+) battery cable first. If positive (+) cable should contact ground with negative (-) cable connected, the resulting sparks can cause a battery explosion, which could result in death or serious injury. (00068a)

13. Connect negative battery cable to battery terminal. Tighten fastener to 72-96 **in-lbs** (8-11 Nm).

WARNING

After installing seat, pull upward on front of seat to be sure it is in locked position. While riding, a loose seat can shift causing loss of control, which could result in death or serious injury. (00070a)

14. Install seat. See **2.28 SEAT**.

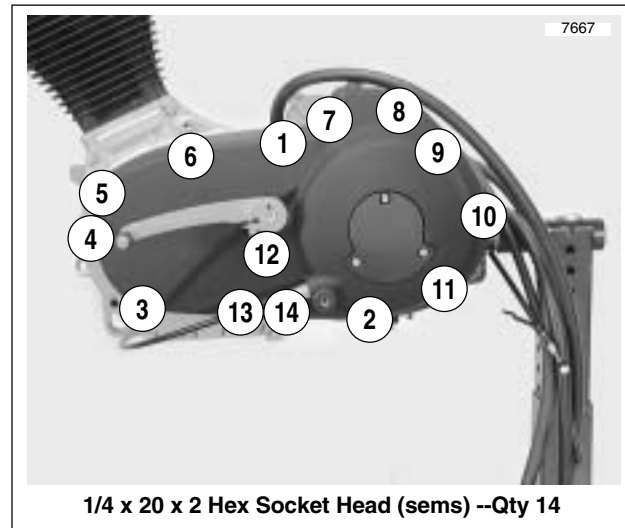


Figure 6-7. Primary Cover Tightening Sequence

CLUTCH RELEASE MECHANISM

6.3

DISASSEMBLY

NOTE

For clutch adjustment procedure, See [1.9 CLUTCH](#).

1. Remove seat. See [2.28 SEAT](#).

WARNING

To prevent accidental vehicle start-up, which could cause death or serious injury, disconnect negative (-) battery cable before proceeding. (00048a)

2. Disconnect negative battery cable.
3. Pull clutch cable ferrule (end of cable housing) away from clutch hand lever bracket. Gap between ferrule and bracket should be 0.0625-0.125 (1.6-3.2 mm). Adjust freeplay by turning cable adjuster.
4. Remove left footpeg support bracket. See [2.21 FOOTPEGS AND FOOTPEG SUPPORT BRACKETS](#).
5. See [Figure 6-8](#). Remove three sems screws with washers (1) and clutch inspection cover (2).

6. Slide spring (4) with attached screw lockplate (5) from flats of adjusting screw.
7. Turn adjusting screw clockwise to release ramp (7) and coupling mechanism (20). As the adjusting screw is turned, ramp assembly moves forward. Unscrew nut (6) from end of adjusting screw.

CLEANING AND INSPECTION

1. Thoroughly clean all parts in cleaning solvent.
2. See [Figure 6-8](#). Inspect three balls of release mechanism and ball socket surfaces of inner and outer ramps for wear, pitting, surface breakdown and other damage. Replace parts as necessary.
3. Check hub fit of inner and outer ramps. Replace ramps if excessively worn.
4. Check clutch cable for frayed or worn ends. Replace cable if damaged or worn.
5. Change or add transmission fluid if necessary. See [1.10 TRANSMISSION/PRIMARY FLUID](#).

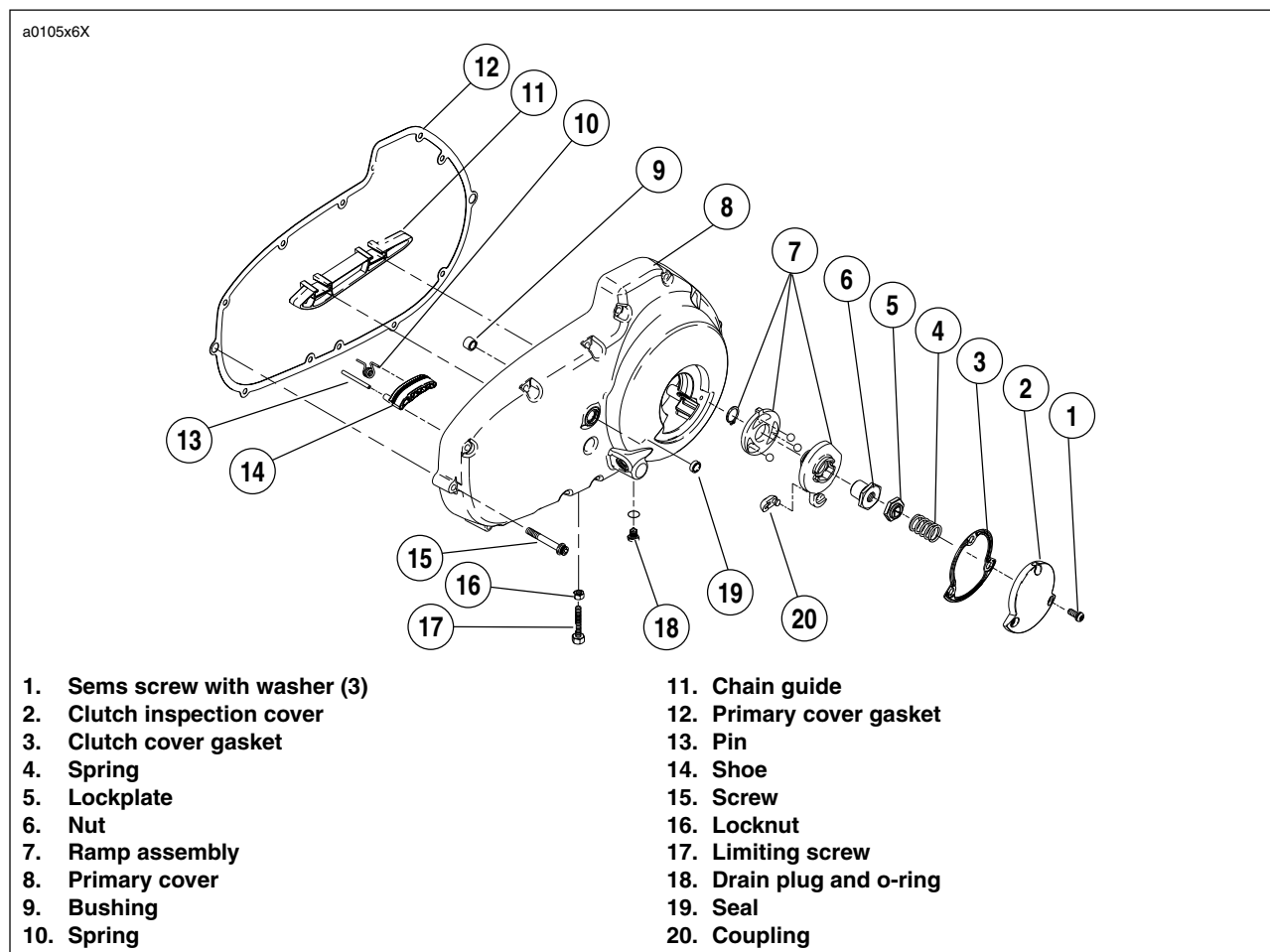


Figure 6-8. Clutch Release Mechanism

ASSEMBLY

1. See [Figure 6-9](#). Assemble inner and outer ramp.
 - a. Apply multi-purpose grease to balls and ramps.
 - b. Insert balls in sockets of outer ramp.
 - c. Install inner ramp on hub of outer ramp with tang 180° from hook of outer ramp.
 - d. Install **new** retaining ring in groove of outer ramp hub.
2. See [Figure 6-10](#). Install ramp assembly.
 - a. Fit coupling over cable end with rounded side inboard, the ramp connector button outboard.
 - b. With retaining ring side of ramp assembly facing inward, place hook of ramp around coupling button.
 - c. Rotate assembly counterclockwise until tang on inner ramp fits in slot of primary cover.
3. Secure assembly in place.
 - a. Thread nut on adjusting screw until slot of screw is accessible with a screwdriver.
 - b. Turn adjusting screw counterclockwise until resistance is felt.
 - c. Adjust clutch release mechanism. See [1.9 CLUTCH](#).
 - d. Fit nut hex into recess of outer ramp.
4. Install left footpeg support bracket. See [2.21 FOOT-PEGS AND FOOTPEG SUPPORT BRACKETS](#).

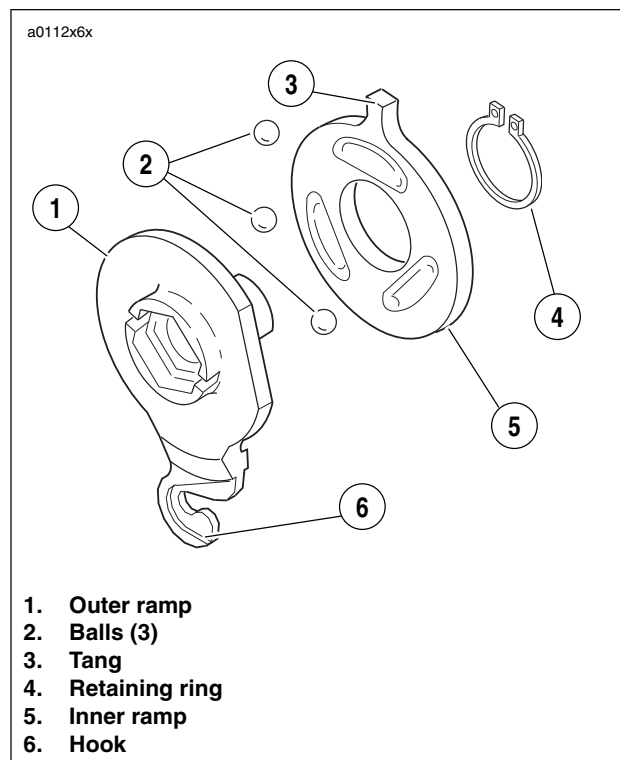


Figure 6-9. Inner & Outer Ramp

WARNING

Connect positive (+) battery cable first. If positive (+) cable should contact ground with negative (-) cable connected, the resulting sparks can cause a battery explosion, which could result in death or serious injury. (00068a)

5. Connect negative battery cable to battery terminal. Tighten fastener to 72-96 in-lbs (8-11 Nm).

WARNING

After installing seat, pull upward on front of seat to be sure it is in locked position. While riding, a loose seat can shift causing loss of control, which could result in death or serious injury. (00070a)

6. Install seat. See [2.28 SEAT](#).

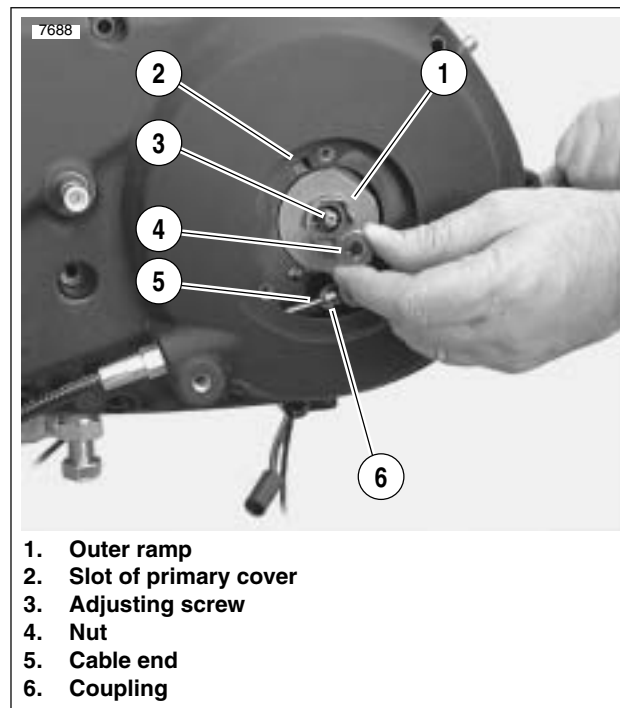


Figure 6-10. Nut & Outer Ramp

GENERAL

The purpose of the clutch is to smoothly disengage and engage the engine from the rear wheel for starting, stopping and shifting gears.

See [Figure 6-11](#). The clutch is a wet, multiple-disc clutch with five steel plates and five fiber (friction) plates stacked alternately in the clutch shell. The order of plate assembly, from inboard to outboard, is as follows:

St - F - St - F - St - F - St - F - St - F

(St = Steel plate, F = Fiber plate)

The fiber plates (clutch driving plates) are keyed to the clutch shell, which is driven by the engine through the primary chain. The steel plates (clutch driven plates) and the centrally located spring plate (also a clutch driven plate) are keyed to the clutch hub, which drives the rear wheel through the transmission and secondary drive belt.

When the clutch is engaged (clutch lever released), the diaphragm spring applies strong inward force against the pressure plate. The pressure plate then presses the clutch plates together, allowing no slippage between the plates and causing the plates to turn as a single unit. The result is that the rotational force of the clutch shell is fully transmitted through the “locked” clutch plates to the clutch hub. As long as the transmission is set in a forward gear, power from the engine will be transmitted to the rear wheel.

When the clutch is disengaged (clutch lever pulled to left handlebar grip), the pressure plate is pulled outward (by clutch cable action) against the diaphragm spring, thereby compressing the diaphragm spring. With the pressure plate retracted, strong inward force no longer squeezes the clutch plates together. The fiber plates are now free to rotate at a different relative speed than that of the steel and spring plates (i.e. – Slippage between the clutch plates occurs). The result is that the rotational force of the clutch shell is no longer fully transmitted through the “unlocked” clutch plates to the clutch hub. The engine is free to rotate at a different speed than the rear wheel.

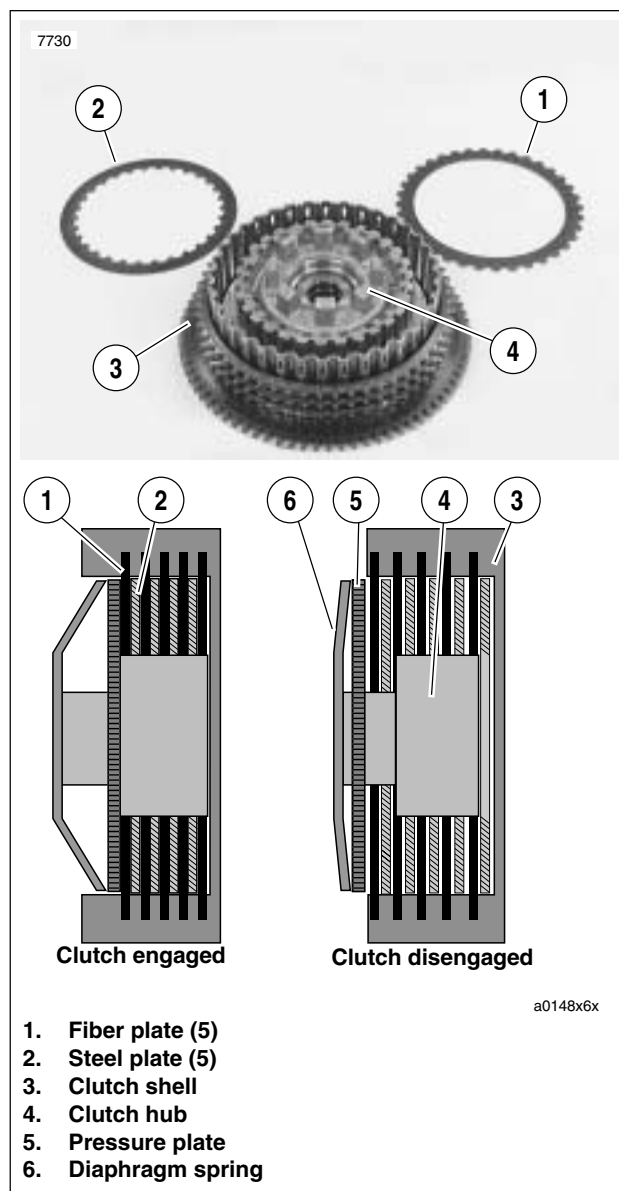


Figure 6-11. Clutch Plates and Hub/Shell Assembly

Table 6-5. Clutch Troubleshooting

SYMPTOM	CAUSE (CHECK IN FOLLOWING ORDER)	REMEDY
Clutch slips.	Incorrect clutch release adjustment. Worn clutch plates.	Check and adjust clutch release mechanism. Check service wear limits. Replace plates.
Clutch drags.	Incorrect clutch release adjustment. Worn clutch release ramps or balls. Warped clutch steel plates. Blade worn or damaged clutch gear splines. Overfilled primary.	Check and adjust clutch release mechanism. Replace release ramps and/or balls. Replace clutch steel plates. Replace clutch gear or hub as required. Drain lubricant to correct level.

REMOVAL/DISASSEMBLY

Clutch Pack

1. Remove seat. See [2.28 SEAT](#).

WARNING

To prevent accidental vehicle start-up, which could cause death or serious injury, disconnect negative (-) battery cable before proceeding. (00048a).

2. Disconnect negative battery cable.
3. Remove primary cover. See [6.2 PRIMARY CHAIN](#).

WARNING

Disassemble clutch using a spring compressing tool. The diaphragm spring is compressed and, if removed without proper tools can fly out, which could result in death or serious injury. (00292a)

4. See [Figure 6-12](#). Attach tools to compress clutch diaphragm spring (2).
 - a. Thread the CLUTCH SPRING FORCING SCREW (4) (Part No. HD-38515-91) onto the clutch adjusting screw.
 - b. Place the bridge (3) of SPRING COMPRESSING TOOL (Part No. HD-38515-A) against diaphragm spring.
 - c. Install bearing (5) and washer (6).
 - d. Thread the tool handle (1) onto end of forcing screw (4).

IMPORTANT NOTE

See [Figure 6-13](#). Turn compressing tool handle only the amount required to release spring seat and remove snap ring. Excessive compression of diaphragm spring could damage clutch pressure plate.

5. Remove pressure plate assembly.
 - a. Place a wrench on the clutch spring forcing screw flats to prevent the forcing screw (9) from turning.
 - b. Turn compressing tool handle (1) clockwise until tool relieves pressure on snap ring (6) and spring seat (8). Remove and discard snap ring (6).
 - c. Unseat spring seat (8) from the groove in clutch hub prongs.
 - d. Remove pressure plate assembly (7).
6. See [Figure 6-14](#). Remove the clutch pack from the hub/shell assembly. The pack consists of five fiber plates and five steel plates.

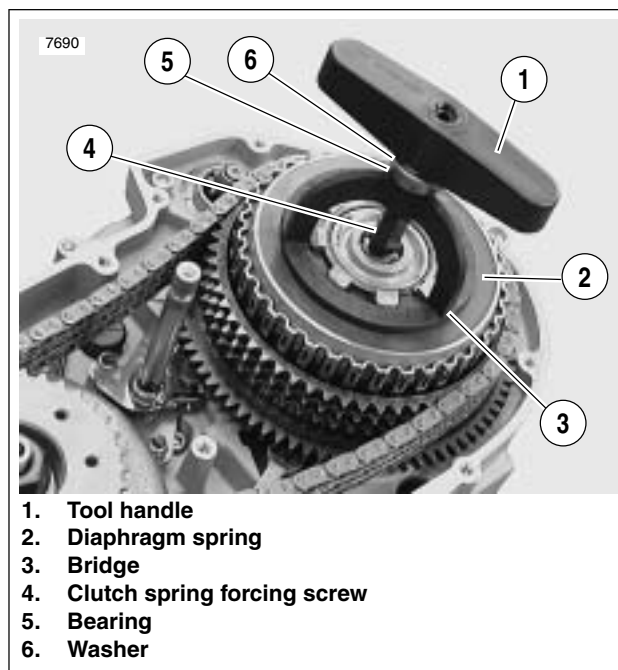


Figure 6-12. Compressing Clutch Diagram Spring

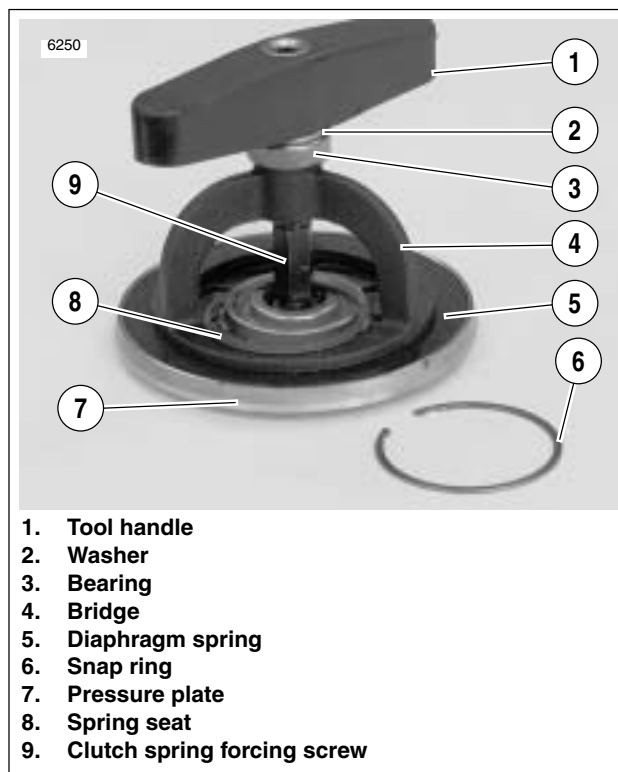
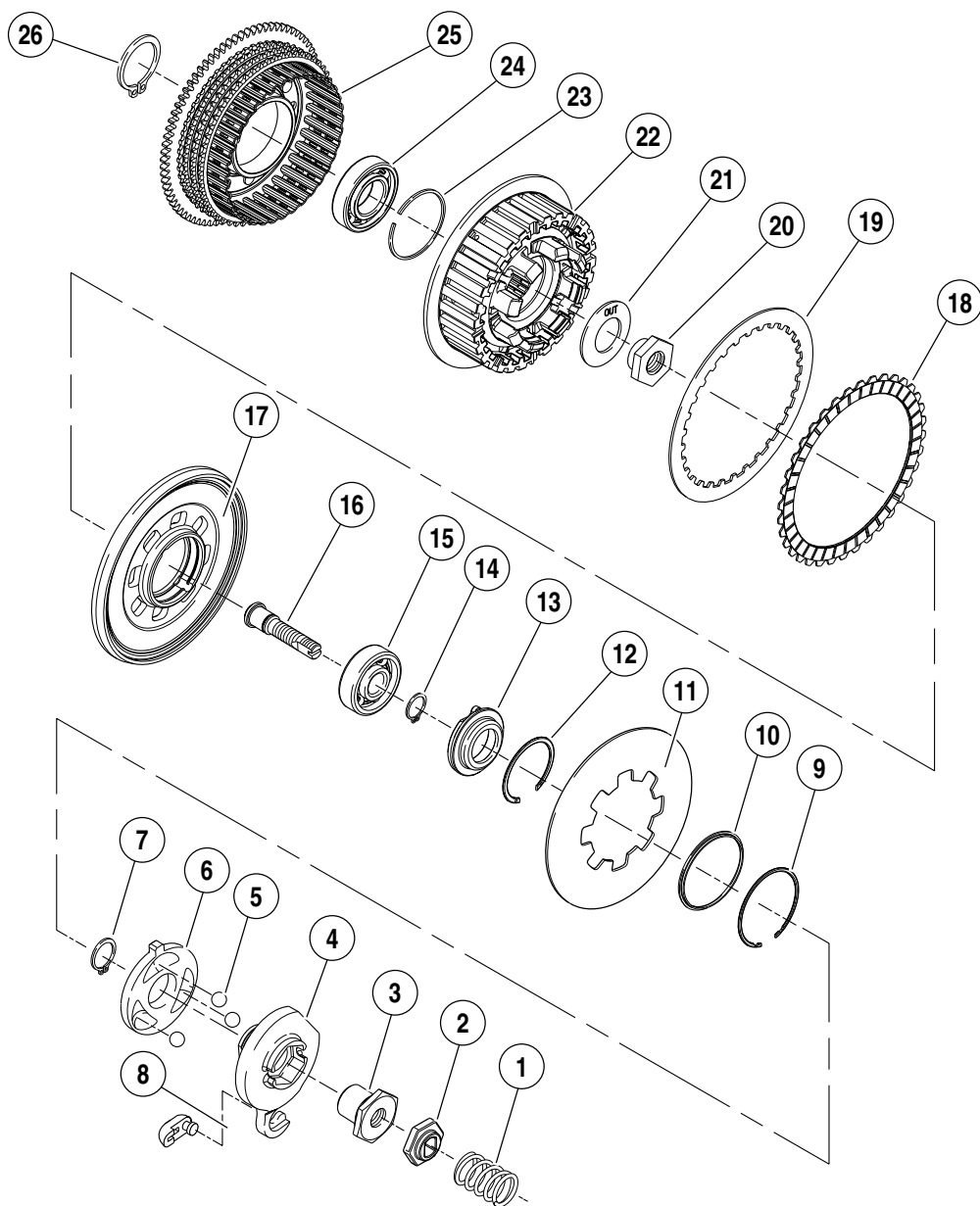


Figure 6-13. Pressure Plate Assembly

a0114x6x



- | | |
|----------------------|--------------------------------|
| 1. Spring | 14. Retaining ring |
| 2. Lockplate | 15. Bearing |
| 3. Nut | 16. Adjusting screw |
| 4. Outer ramp | 17. Pressure plate |
| 5. Ball (3) | 18. Friction plate (paper) (5) |
| 6. Inner ramp | 19. Steel plate (5) |
| 7. Retaining ring | 20. Mainshaft nut |
| 8. Coupling | 21. Washer, labeled "out" |
| 9. Retaining ring | 22. Clutch hub |
| 10. Spring seat | 23. Retaining ring |
| 11. Diaphragm spring | 24. Bearing |
| 12. Retaining ring | 25. Clutch shell and sprocket |
| 13. Release plate | 26. Retaining ring |

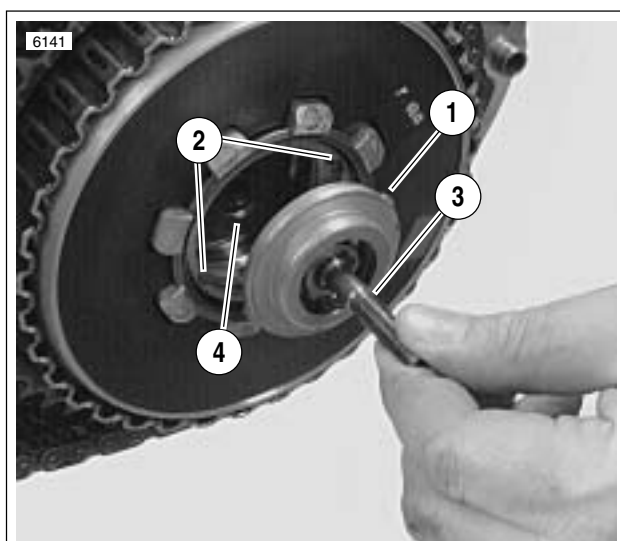
Figure 6-14. Clutch Assembly

Primary Chain/Drive

⚠ WARNING

To prevent accidental vehicle start-up, which could cause death or serious injury, disconnect negative (-) battery cable before proceeding. (00048a)

1. Remove negative battery cable from battery.
2. Remove primary cover. See 6.2 PRIMARY CHAIN.
3. Loosen engine sprocket.
 - a. Install SPROCKET LOCKING LINK (Part No. HD-38362).
 - b. Remove the engine sprocket nut.
 - c. Loosen, but do not remove, engine sprocket. If necessary, use the slotted portion of TWO CLAW PULLER (Part No. HD-97292-61) and two bolts to loosen the engine sprocket.



1. Tabs on release plate (2)
2. Recesses
3. Adjusting screw assembly
4. Mainshaft nut

Figure 6-15. Aligning Tabs

4. See Figure 6-15. Remove adjusting screw assembly.
 - a. Remove large retaining ring.
 - b. Remove adjusting screw assembly from pressure plate.

IMPORTANT NOTE

See Figure 6-15. Mainshaft nut has left-hand threads. To prevent damage, turn nut clockwise to loosen and remove from mainshaft.

5. Remove mainshaft nut and washer.
6. Remove the clutch assembly, primary chain and engine sprocket as a unit.
 - a. Inspect primary chain and sprockets for damage or excessive wear.
 - b. Inspect stator and rotor. See 7.14 ALTERNATOR.
 - c. Replace damaged parts as necessary.
7. Install adjusting screw assembly into pressure plate.

- a. See Figure 6-15. Align two tabs on perimeter of release plate with corresponding recesses in pressure plate.
- b. See Figure 6-16. Secure the adjusting screw assembly with large retaining ring.
8. Attach tools to compress clutch diaphragm spring. See Step 2 of CLUTCH PACK under 6.4 PRIMARY DRIVE/CLUTCH.
9. Remove clutch pack components. See Steps 3-4 of CLUTCH PACK under 6.4 PRIMARY DRIVE/CLUTCH.
10. See Figure 6-13. Disassemble pressure plate.
 - a. Place a wrench on the clutch spring forcing screw flats to prevent the forcing screw from turning.
 - b. Turn the compressing tool handle counterclockwise until the handle spins off.
 - c. Remove washer, bearing and bridge.
 - d. Remove clutch spring forcing screw from clutch adjusting screw.
 - e. Remove spring seat and diaphragm spring from pressure plate.

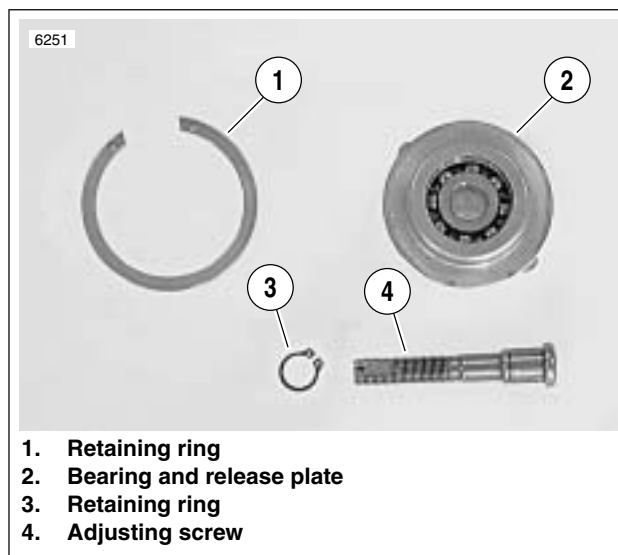


Figure 6-16. Adjusting Screw Assembly

11. See Figure 6-16. Remove and disassemble adjusting screw assembly.
 - a. Remove large retaining ring.
 - b. Remove adjusting screw assembly from pressure plate.
 - c. If necessary, disassemble adjusting screw assembly. Remove and discard small retaining ring and then separate the adjusting screw from the bearing and release plate. Remove bearing from release plate.

IMPORTANT NOTE

See [Figure 6-14](#). To prevent possible damage to the bearing, the clutch hub and shell assembly should not be disassembled unless the bearing, hub or shell require replacement. If the assembly is pressed apart, the bearing must be replaced.

12. Disassemble clutch hub and clutch shell if necessary.
 - a. Remove retaining ring from inboard end of clutch hub.
 - b. Using an arbor press, separate clutch hub from assembly of clutch shell, bearing and retaining ring.
 - c. Remove retaining ring from groove in clutch shell.
 - d. Press on the inboard side of bearing outer race to remove bearing from clutch shell.

INSPECTION

WARNING

Compressed air can pierce the skin and flying debris from compressed air could cause serious eye injury. Wear safety glasses when working with compressed air. Never use your hand to check for air leaks or to determine air flow rates. (00061a)

1. Wash all parts, except fiber (friction) plates and bearing, in cleaning solvent. Blow dry with compressed air. Examine the clutch components as follows:
 - a. Check all clutch plates for wear and discoloration.
 - b. Inspect each steel (drive) plate for grooves.
 - c. Place each steel plate on a flat surface. Using a feeler gauge, check for flatness in several places. Replace any plates that are damaged or are warped more than 0.006 in. (0.152 mm).
2. Check the diaphragm spring for cracks or bent tabs. Install a **new** spring if either condition exists.
3. See [Figure 6-18](#). Check fiber plates for thickness.
 - a. Wipe the lubricant from the five fiber plates and stack them on top of each other.
 - b. Measure the thickness of the five stacked fiber plates with a dial caliper or micrometer. The minimum thickness must be 0.413 in. (10.490 mm).
 - c. If the thickness is less than specified, discard the fiber plates and steel plates. Install a **new** set of both friction and steel plates.
4. See [Figure 6-17](#). Check the clutch shell.
 - a. Inspect primary chain sprocket (1) and the starter ring gear (2) on the clutch shell. If either sprocket or ring gear are badly worn or damaged, replace the clutch shell.
 - b. Check the slots (3,4) that mate with the clutch plates on both clutch shell and hub. If slots are worn or damaged, replace shell and/or hub.
 - c. If clutch shell was removed from motorcycle, check the bearing for smoothness. Rotate the clutch shell while holding the clutch hub. If bearing is rough or binds, it must be replaced.

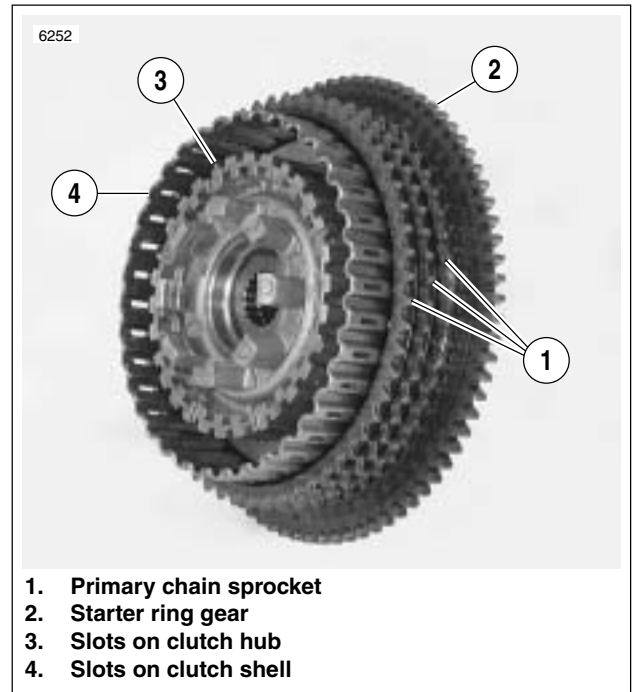


Figure 6-17. Checking Clutch Shell



Figure 6-18. Measuring Friction Plates

ASSEMBLY

Clutch Pack

- See [Figure 6-14](#). Install the clutch pack which consists of five fiber plates and five steel plates, into the clutch hub. The order of plate assembly, from inboard to outboard, is as follows:

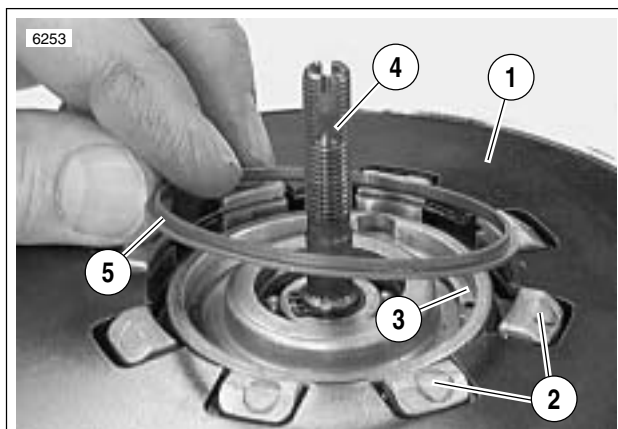
St - F - St - F - St - F - St - F - St - F

(St = Steel plate, F = Fiber plate)

IMPORTANT NOTE

See [Figure 6-13](#). Turn compressing tool handle only the amount required to install spring seat and snap ring. Excessive compression of diaphragm spring could damage clutch pressure plate.

- Place assembly of spring seat, **new** snap ring, diaphragm spring, pressure plate, adjusting screw components and compressing tool onto clutch hub and against clutch pack.
 - See [Figure 6-19](#). Align square openings of pressure plate and diaphragm spring so that the assembly can be installed over prongs of clutch hub.
 - Position spring seat with its larger O.D. side toward diaphragm spring.
 - See [Figure 6-20](#). Place a wrench on the clutch spring forcing screw flats to prevent the forcing screw from turning.
 - Turn compressing tool handle clockwise until diaphragm spring compresses just enough to install spring seat and **new** snap ring into the groove of clutch hub prongs.
 - With snap ring positioned against outboard side of spring seat, and fully seated in groove of clutch hub, carefully loosen and remove compression tool.



- Diaphragm spring (pressure plate below)
- Prongs on clutch hub
- Retaining ring
- Adjusting screw assembly
- Spring seat

Figure 6-19. Spring Seat Installation

Primary Drive

- See [Figure 6-20](#). Assemble clutch hub and shell if necessary.
 - Press **new** bearing in clutch shell. Secure bearing with a **new** retaining ring.
 - Press inboard end of clutch hub into shell bearing. Secure with **new** retaining ring on end of hub.
- Assemble pressure plate hardware.
 - See [Figure 6-16](#). Place bearing inside release plate. Insert adjusting screw through bearing and release plate. Secure with **new** retaining ring.
 - See [Figure 6-19](#). Position diaphragm spring with its concave side facing toward pressure plate onto pressure plate assembly.
 - Insert adjusting screw assembly into pressure plate. Secure with large retaining ring.
 - Position spring seat with its larger O.D. side toward diaphragm spring.
- Attach tools to compress clutch diaphragm spring. Do not tighten compressing tool against diaphragm spring at this time. See Step 2 of [CLUTCH PACK](#) under [6.4 PRIMARY DRIVE/CLUTCH](#).
- Install the clutch pack. Follow all instructions of [CLUTCH PACK](#) under [6.4 PRIMARY DRIVE/CLUTCH](#).

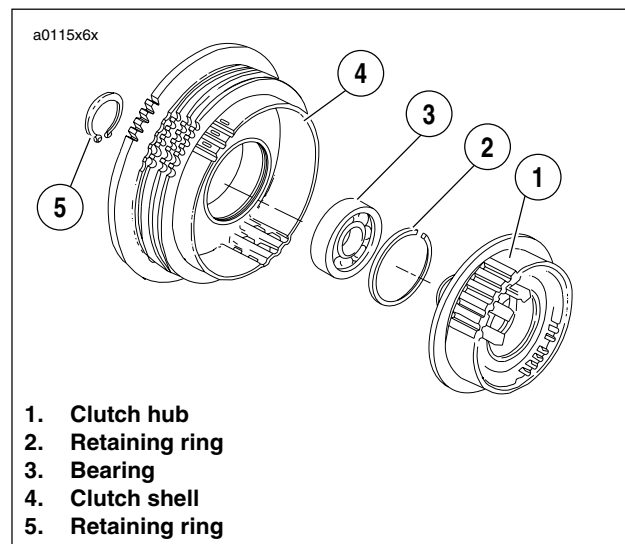


Figure 6-20. Clutch Hub and Shell Assembly

INSTALLATION

NOTE

If clutch pack replacement was the only service work performed, start with Step 5.

1. Install the engine sprocket, clutch assembly and primary chain as a unit into primary chaincase.
2. See Figure 6-21. Install the engine sprocket nut.
 - a. Place SPROCKET LOCKING LINK (Part No. HD-38362) between primary chain and engine sprocket.
 - b. Apply two or three drops of Loctite Threadlocker 271 (red) onto threads of sprocket shaft.
 - c. Install engine sprocket nut. Tighten to 190-210 ft-lbs (258-285 Nm).

IMPORTANT NOTE

See Figure 6-22. Washer must be installed with the word "out" facing the mainshaft nut or transmission may be damaged.

3. See Figure 6-22. Install mainshaft nut and washer.
 - a. Apply two or three drops of Loctite Threadlocker 271 (red) onto threads on end of mainshaft.
 - b. Place washer on mainshaft with the word "out" facing away from clutch hub.
 - c. Install nut (**left-hand threads**). Tighten to 70-80 ft-lbs (95-109 Nm).
4. Remove SPROCKET LOCKING LINK.
5. Install adjusting screw assembly into pressure plate.
 - a. See Figure 6-15. Align two tabs on perimeter of release plate with corresponding recesses in pressure plate.
 - b. See Figure 6-16. Secure the adjusting screw assembly with retaining ring.
6. Install primary cover. See 6.2 PRIMARY CHAIN.
7. Install left footpeg support bracket. See 2.21 FOOT-PEGS AND FOOTPEG SUPPORT BRACKETS.

⚠ WARNING

Connect positive (+) battery cable first. If positive (+) cable should contact ground with negative (-) cable connected, the resulting sparks can cause a battery explosion, which could result in death or serious injury. (00068a)

8. Connect negative battery cable to battery terminal. Tighten fastener to 72-96 in-lbs (8-11 Nm).

⚠ WARNING

After installing seat, pull upward on front of seat to be sure it is in locked position. While riding, a loose seat can shift causing loss of control, which could result in death or serious injury. (00070a)

9. Install seat. See 2.28 SEAT.

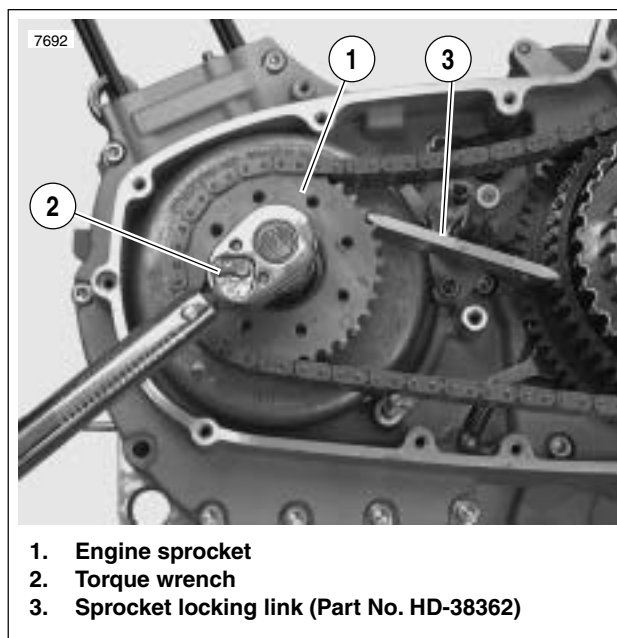


Figure 6-21. Sprocket Locking Link

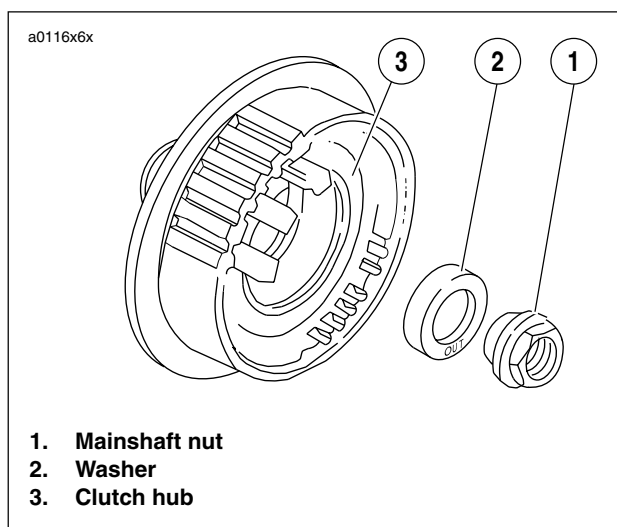


Figure 6-22. Mainshaft Nut and Washer

NOTES
