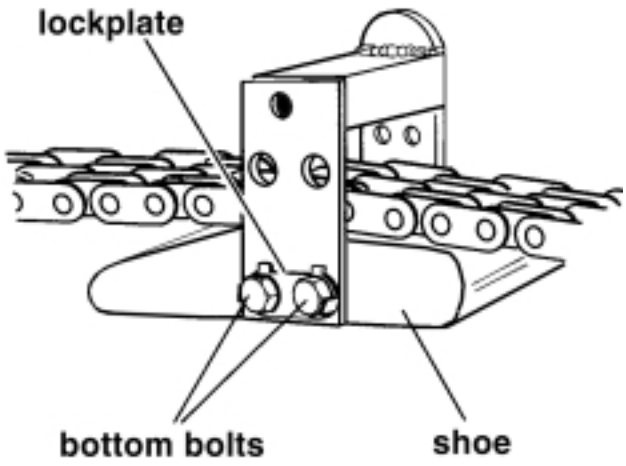
RIVERA ENGINEERING'S
CHAIN DRIVE INSTALLATION INSTRUCTIONS

PLEASE NOTE: primary chain, compensating sprocket, clutch basket group, & chain tensioner must be installed simultaneously as a complete assembly.



1) Assemble & install the chain tensioner assembly over the primary chain as shown in figure 1.

2) Install the compensator sprocket with extender & spacer (numbers 5, 6, & 7, FIG 2)(#7 is not included in this kit), primary chain, chain tensioner, and clutch basket simultaneously onto the motor drive shaft & transmission main shaft. Rotate the chain drive slightly as needed to allow the splines to line-up.

3) Install the chain tensioner nut loosely on the chain tensioner bolt.

The hex spacer (#7) and spacer (#2) as seen in fig.2 are not provided in Rivera Engineering's chain drive kit. These components are required with some applications, and can be purchased from your local Harley-Davidson dealer.

4) Install the sliding cam onto the compensator sprocket, & slide the compensating sprocket cover-assembly (#3) over the cam.

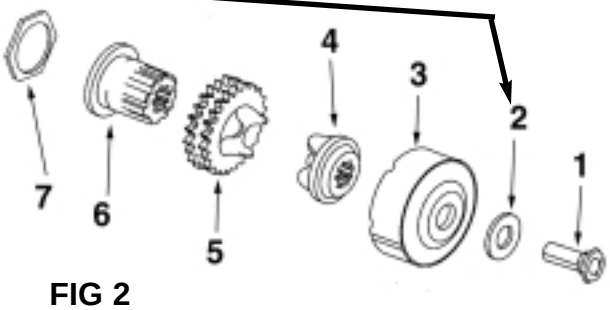
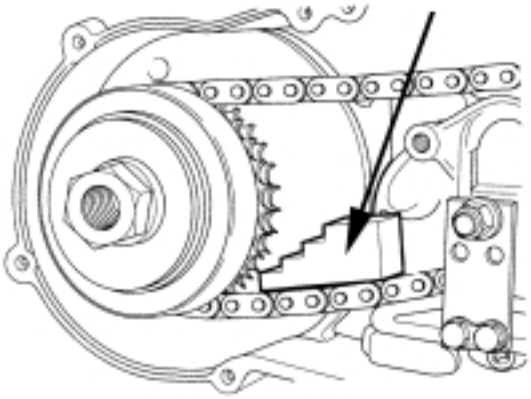


FIG 2

1. Nut
2. Spacer
3. Cover assembly
4. Sliding cam
5. Compensating sprocket
6. Shaft extension
7. Hex spacer (0.070 in. thick)

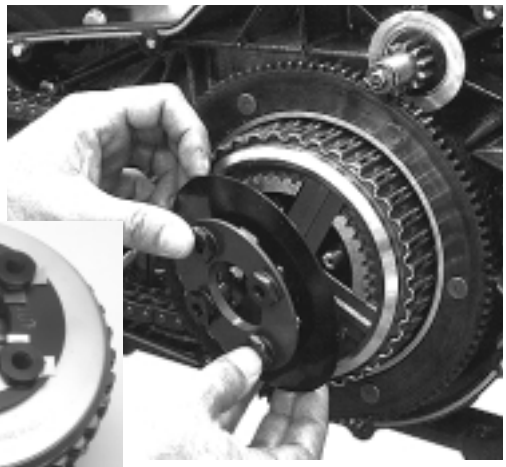
5) Apply 2 drops of **Rivera** "Red" thread-lock on the threads of the motor drive shaft, & install the motor nut loosely with the fingers at this time.

6) Apply 2 drops of **Rivera** "red" thread-lock on the threads of the transmission main-shaft and loosely install the clutch hub nut (left hand threads).



7) Place the HD "Primary Drive Locking Tool" HD-41214 on the primary chain as shown in figure XXX and tighten the motor sprocket nut to 150-165 foot-pounds.

8)Turn the locking tool 180 degrees and move it to the clutch sprocket. Tighten the clutch hub nut to 70-80 foot pounds (left-hand thread). Adjust chain tension so that the top strand has 5/8”-to-7/8” of up and down play (cold drive train). Tighten the center bolt nut to 21-29 foot pounds of torque.



9) Install the clutch plates, steel first then fiber, alternating until all are installed. The last plate in should be a steel plate.

10) Install the pressure plate, diaphragm clutch spring, spring retainer, lock-clips, & four shouldered nuts.

11) Tighten the shoulder nuts until they bottom, and no tighter. Bend the locking tabs up against the nuts.

12) Adjust the clutch by loosening the cable adjuster until there is a large amount of play in the cable. Install the clutch adjustment screw and lock nut into the pressure plate. Turn the screw taking up all free play in the the push rod. Turn clockwise unitl lightly seated. Back out the adjusting screw (counterclockwise) 1/2-to-1 full turn. Tighten the locknut while holding the adjuster screw with an allen wrench. Squeeze the clutch handle to it’s maximum limit 3 times to set the ball and ramp mechanism. Turn the cable adjuster taking the slack out until there is 1/16”-to-1/8” of free play between the cable ferrule and the clutch lever bracket.

13) Install the outer primary case, derby cover, & inspection cover.

14) Fill the chaincase with the required amount of chaincase lubricant.

RIVERA ENGINEERING
(562) 907-2600