



INSTRUCTIONS

-J00091

REV. 10-1-94

Kit Number 40111-91B

XLH 5-SPEED BELT DRIVE KIT

General

This kit is designed for installation on 1991 and later XLH 883 Hugger and Standard model vehicles with 5-speed transmission and chain-drive original equipment.

This kit contains the following components:

QTY	DESCRIPTION
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1	Cotter pin, 1 1/2 in.
1	Cotter pin, 3/4 in.
3	Screw, hex flange lock, 1/4-28 x 1/2 in.
2	Screw, hex, 7/16-14 x 1-1/2 in.
5	Screw, hex, 1/4 x 5/8 in.
5	Washer, 0.0448 in.
1	Strap, cable
1	Seal, quad
1	Seal, oil
1	Spacer
1	Nut, sprocket
1	Belt, rear
1	Sprocket, final drive
1	Lockplate
1	Sprocket, front
1	Debris deflector
1	Belt guard
1	Loctite® 271

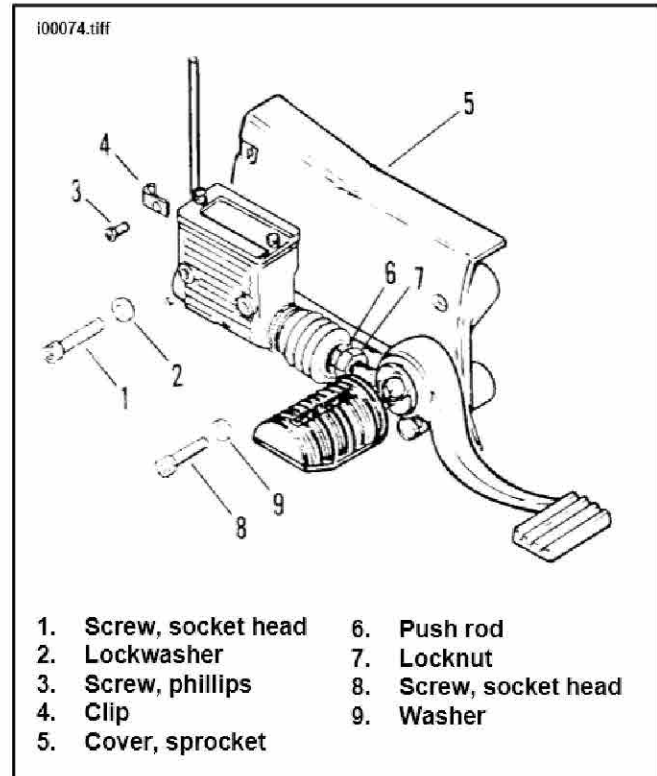


Figure 1. Remove Sprocket cover

Removal/Disassembly

- Place vehicle on center stand, or raise vehicle with suitable blocking under frame, so rear wheel is raised off floor several inches.
- See Figure 1. Remove the two socket head screws (1) and washers (2) attaching master cylinder to sprocket cover (5).
- At rear brake linkage, loosen locknut (7) and turn push rod (6) at flats until rod end is free of push rod.
- Remove exhaust shields.
- Remove nuts and lockwashers from cylinder head exhaust studs.
- Remove nut from the stud which attaches exhaust bracket to sprocket cover.
- Remove the bolt and nut which secure muffler to muffler support bracket. Remove exhaust system.
- Remove phillips screw (3) and clip (4) attaching brake line to sprocket cover.
- Remove the three socket head screws (8) and washers (9) attaching sprocket cover (5) to case. Remove sprocket cover (5) with footrest and brake pedal.
- Remove right lower shock absorber bolt and chain guard. Save hardware.
- See Figure 2. Remove cotter pin (1), axle nut (2), and washers from rear axle. Discard cotter pin.
- Remove axle, drive chain, and wheel assembly.

NOTE

Transmission sprocket nut has left hand threads.

- See Figure 3. Remove transmission sprocket nut locking screw.
 - Lock transmission sprocket with SPROCKET LOCKING TOOL, Part No. HD-41321.
 - Remove and discard sprocket nut and transmission sprocket.

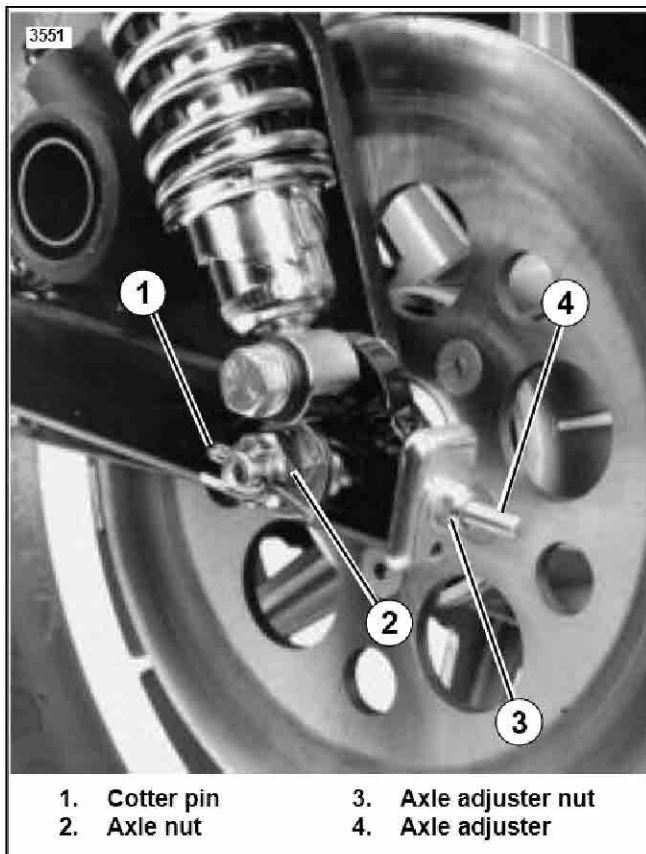


Figure 2. Axle Nut Assembly

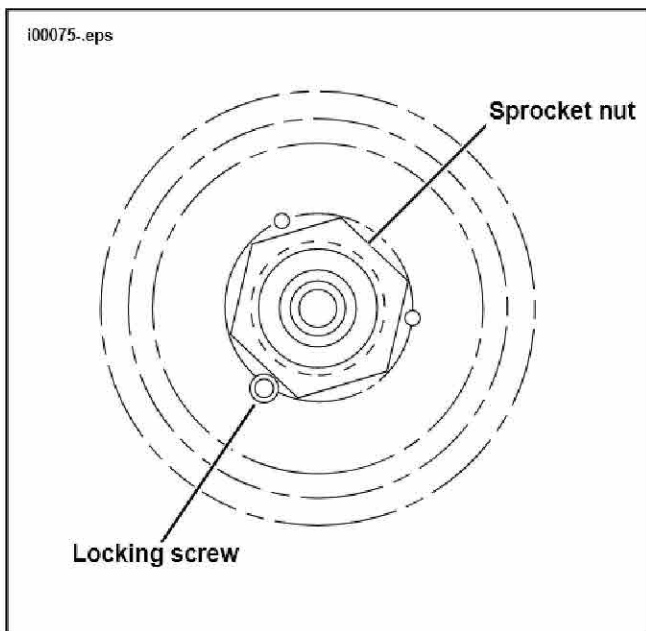


Figure 3. 1991 and Earlier Transmission Sprocket Nut

14. See Figure 4. Remove spacer sleeve (6) from main drive gear, using the appropriate Service Manual procedure.
15. Remove and discard quad seal (7) and oil seal (8) from transmission housing, using the appropriate Service Manual procedure.

Assembly/Installation

DRIVE COMPONENTS

⚠ CAUTION

Do not mix old and new oil seal, quad seal or spacer sleeve. Mixing these parts will allow lubricant to leak from the transmission.

NOTE

Once Loctite® 271 is applied, finish assembly without delay to prevent Loctite 271 from setting prematurely.

1. See Figure 1. Install new oil seal (8) in bore of transmission housing. Concave (hollow) side of seal faces inboard.
2. Install quad seal (7) on main drive gear (5).
3. Apply a small amount of H-D transmission lubricant to outside diameter surface of new spacer sleeve (6). Install new spacer sleeve (6), with chamfer facing inboard, over main drive gear (5)
4. See Figure 4. Use a wire brush to clean main drive gear splines.
 - a. See Figure 4. Apply a few drops of Loctite 271 from kit to main drive gear splines and new transmission belt sprocket (4), keeping Loctite away from seal.
 - b. Apply Loctite 271 to threads of new sprocket nut (3).

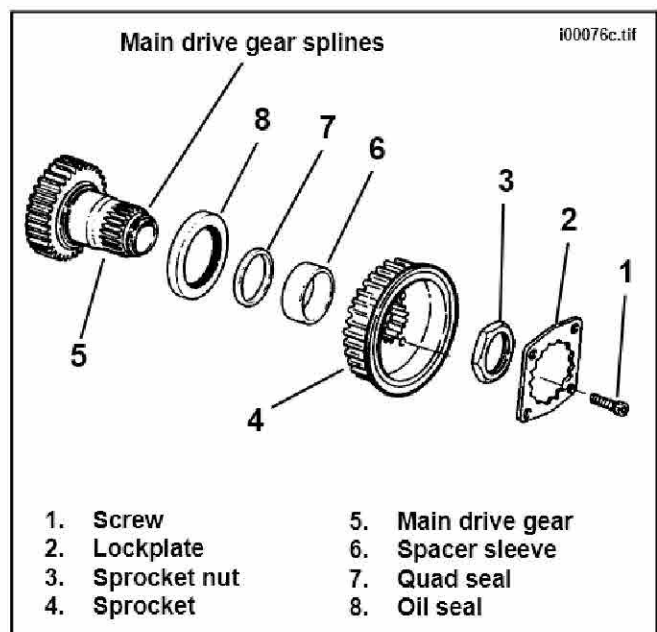


Figure 4. 1992 and Later Transmission Sprocket Nut

5. Install sprocket on shaft with flange to the outside.
6. Lock transmission sprocket with SPROCKET LOCKING TOOL, Part No. HD-41321.

NOTE

Transmission sprocket nut has left hand threads.

TRANSMISSION SPROCKET NUT TIGHTENING PROCEDURE

7. See Figure 4. Thread the nut (3) counterclockwise onto main drive gear, with flanged side facing transmission sprocket (4).

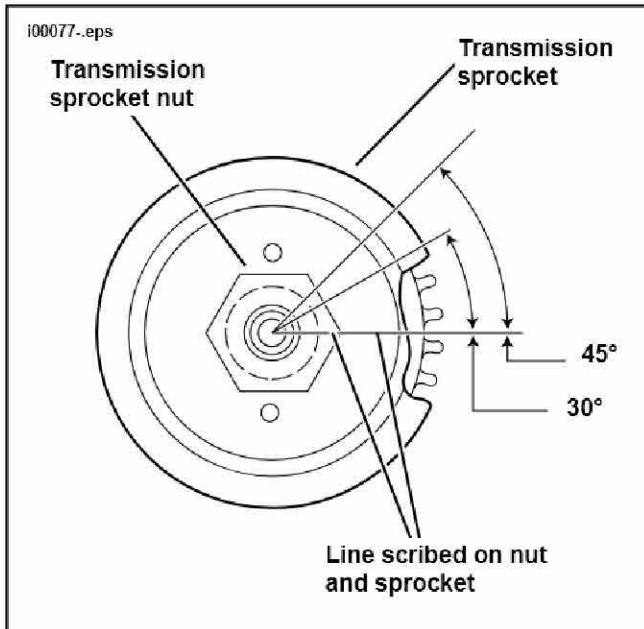


Figure 5. Transmission Sprocket Nut Final Tightening Procedure

- 7a. Using MAINSHAFT LOCKNUT WRENCH, Part No. HD-94660-37B, and a torque wrench, tighten the nut to 50 ft-lbs.
- 7b. See Figure 5. Scribe a line on the transmission sprocket nut and continue the line on the transmission sprocket as shown.
- 7c. Tighten the transmission sprocket nut an additional 30° - 40°.
- 7d. See Figure 4. Install lockplate (2) over nut (3) so that two of lockplate's four drilled holes (diagonally opposite) align with sprocket's (4) two tapped holes.

NOTE

Lockplate is shaped to fit around the six corners of nut. Lockplate can be rotated to a number of positions, and can be positioned with either side facing sprocket, to allow for easy alignment.

- 7e. If lockplate will not align with holes, tighten nut to 45° maximum as shown in Figure 5.
8. Install two sprocket screws through two of the four holes in lockplate (4), then into two corresponding tapped holes in sprocket.

CAUTION

Maximum allowable tightening of sprocket nut is 45° of counterclockwise rotation, after initially tightening to 50 ft-lbs. Do not loosen sprocket nut while attempting to align the screw holes. If you cannot align lockplate and sprocket screw holes, nut may be additionally tightened until screw holes line up, but do not exceed 45° as specified above. Tightening too much or little may cause the nut to come loose during vehicle operation.

9. If screws do not quite align with the desired mounting hole, do not loosen sprocket nut; instead, tighten nut further to attain proper alignment (maximum 150 ft-lbs). Tighten screws to 7-9 ft-lbs.
10. Remove chain sprocket from rear wheel.
11. Place final drive belt sprocket in position on rear wheel with cast flange away from wheel.
 - a. Use new 7/16 x 1 1/2 in. bolts and 1/2 in. washers in kit. Place a 1/2 in. washer on each 7/16 in. bolt.
 - b. Insert bolt through sprocket and thread into tapped holes in wheel. Tighten bolts to 45 - 50 ft-lbs.
12. Position belt on transmission sprocket.
13. Position rear wheel with brake disc between caliper, and belt over wheel sprocket. Be sure disc is positioned between brake pads.
14. Apply Loctite ANTISEIZE to axle shaft. Insert axle through right side of swing arm, through the spacer, the wheel, rear caliper bracket and left side of rear fork. Install original flat washer, lockwasher, and nut.
15. Verify that wheel is centered in rear fork and is aligned with transmission sprocket. Leave axle nut hand-tight until belt tension adjustment is made.

DEBRIS DEFLECTOR

1. See Service Parts Illustration. Place debris deflector (17) from kit in position under rear fork with holes aligned.
2. Insert the three 1/4-28 x 1/2 in. flange lockscrews (3) through the debris deflector and thread into tapped holes under swing arm. Tighten lockscrews to 6 ft-lbs.

BELT GUARD

1. See Service Parts Illustration. Position belt guard (16) with rear mounting bracket inboard of shock absorber mounting lug and with front bracket inboard of original chain guard mounting lug.
2. Insert original shock mounting bolt through washer, shock absorber, mounting lug on rear fork, and belt guard rear bracket. Secure with stock nut. Tighten to 50 - 55 ft-lbs.

- Place original washer on original bolt removed from front chain guard mount. Insert bolt through front bracket at swing arm and through bracket at front of belt guard. Thread original nut onto bolt and tighten to 12 ft-lbs.

SPROCKET COVER, BRAKE PEDAL AND EXHAUST SYSTEM

- See Figure 1. Hold cover (5), footrest and brake pedal assembly in place and install three mounting screws (8) with washers (9). Tighten screws (8) to 90-110 in-lbs.
- Attach brake line to sprocket cover with clip (4) and Phillips screw (3).
- Place exhaust system in position with clamp rings over studs in cylinder heads and front muffler tab over stud in sprocket cover.
- Place washers over cylinder studs and thread on nuts. Tighten nuts to 60-80 in-lbs, using extension and flex socket.
- Install nut on sprocket cover stud and tighten to 20-40 ft-lbs.
- Insert bolt through rear muffler tab and hole in muffler support. Thread on nut and tighten to 19 ft-lbs.
- Place lockwashers (2) on master cylinder mounting screws (1). Insert screw through master cylinder master cylinder stiffener and thread into tapped holes in sprocket cover (5). Tighten mounting screws (1) to 155-190 in-lbs.
- If you removed brake pedal clevis, install clevis pin and replace small cotter pin
- Install heat shields.
- Adjust brake pedal to horizontal position and tighten locknut (7).

BELT DRIVE ADJUSTMENT

Adjust drive belt as follows:

- See Figure 2. Remove cotter pin (1) and loosen axle nut (2).
- Turn each adjusting nut (3) an equal amount. Turn clockwise to tighten, and counterclockwise to loosen, in order to adjust belt tension.
- See Figure 6. Apply force to belt using Belt Tension Gauge; Harley-Davidson Part No. HD 40006-85.

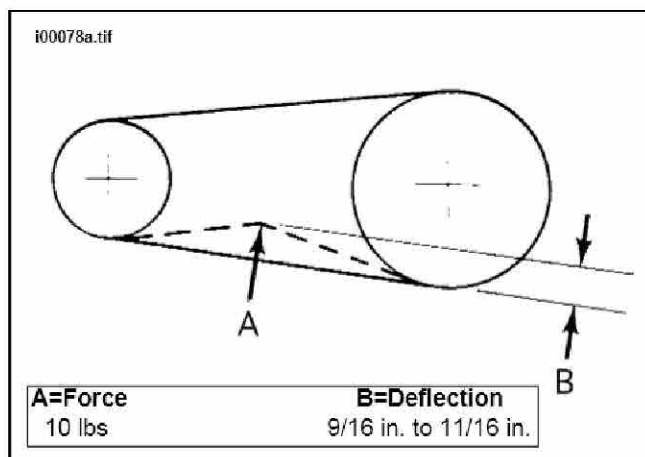


Figure 6. Belt Deflection

- See Figure 2. Tighten the axle nut (2) to 60 - 65 ft-lbs. Insert new, large cotter pin (1) from kit. Bend cotter pin over nut flats.

DETERMINING BELT DEFLECTION ON VEHICLES WITH AFTER-MARKET SHOCKS

NOTE

This procedure should be carried out during kit assembly. This will avoid duplicating the process of disconnecting/connecting the shocks and loosening/tightening the axle nut.

- Place vehicle on stand, or raise vehicle with suitable blocking under frame, so rear wheel is raised off floor.
- Disconnect lower shock bolts at rear fork.
- With a scissors jack or blocking, raise rear wheel so that rear fork is aligned with the centers of pivot bolt and transmission sprocket; as illustrated by line "B" in Figure 6. Check alignment. See Service Manual
- Adjust the rear axle to give 3/8 in. deflection with 10 lbs of force on the belt, midway between sprockets. Apply force using Belt Tension Gauge; Harley-Davidson Part No. HD 40006-85.
- Tighten the rear axle nut to 60 - 65 ft-lbs. Insert new, large cotter pin from kit. Bend cotter pin over nut flats. Connect shock absorber lower bolts.
- Lower vehicle to the ground. Rest vehicle on jiffy stand. Do not place any weight on the motorcycle.
- Measure the deflection with 10 lbs of force applied midway between sprockets. This deflection measurement will be used during all future belt adjustments. Mark the deflection measurement in the chart for future reference.

TESTING

Test ride vehicle and check for any belt interference or signs of misalignment. Check brakes for proper operation and inspect for brake line leaks.

BELT DRIVE PRECAUTIONS/MAINTENANCE

- Clean belt with rag that is slightly damp with light cleaning agent.
- Inspect belt and sprockets on a regular basis for damage, misalignment, overheating, and wear.
- Replace belt when there are signs of cracking, unusual wear, or tooth loss.
- Maintain proper belt alignment.

- Replace any sprocket that shows unusual wear, broken teeth or damaged flange.
- Keep grease and oil off belt surfaces.
- Never pry belts onto or off sprockets. Never bend belts backward or into loops smaller than 5 in. diameter. Mishandling can damage a belt, even before it is put into use on the motorcycle. Damaged belts must be replaced.

CAUTION

Never operate motorcycle with belt guards and/or debris deflectors removed. Rocks or debris thrown up by the tires could damage belt.

