

396050**Radium III wide tire swingarm kit - 6 spd
Softail (2007 & Later)****Bill Of Materials:**

Zpn#	Description	
090470	CHROME BELT GUARD WITH HARDWARE KIT	1/ea
090471	S/STEEL SPLASH GUARD WITH HARDWARE	1/ea
090770	BLACK SWINGARM	1/ea
090771	AXLE WITH WASHER & NUT CHROME	1/ea
090474	SWINGARM SPACER - 2007 MODEL	1/kit
090772	SWINGARM SPACER - 2008 up FXST MODEL	1/kit
090476	CHROME FENDER STRUTS WITH HARDWARE	1/pr
090477	BLACK AXLE CAPS WITH SCREWS	1/ea
090478	11" RAW REAR FENDER WITHOUT HOLES	1/ea
396051	MOTOR/PRIMARY SPACER - 1/4" RAW ALUM	1/ea
396052	STARTER BOLTS (4/EA)	1/ea
396053	STARTER SPACER-RAW ALUM	1/ea
396054	COMPENSTATOR SPACER S/STEEL	1/ea
396055	MOTOR SPROCKET BOLT	1/ea
396056	CLUTCH SPACER S/STEEL	1/ea
396057	OFFSET BELT SPROCKET-32T	1/ea
396058	INNER/OUTER PRIMARY BOLTS & WASHERS	1/ea
396059	TRANS/PRIMARY SPACER-SPACERS	1/ea



Recommended Tools

This is a complex installation and will require several specialized tools to complete correctly.

- 1) Sawzall (can substitute hack saw)
- 2) Inner bearing race remover / installer .
- 3) Primary Drive Locking Tool (HD part no HD - 47977)
- 4) Mainshaft locknut wrench
- 5) Main drive gear remover / installer

Stock Component Removal

To install the kit it will be necessary to raise the motorcycle off the ground on a suitable lift .

Warning

Be sure to center the motorcycle on the lift so that it does not fall over when you raise it up or when you are working on it . Installation of the kit begins with the disassembly and removal of the rear end of the bike. Start with the simplest and most obvious components. For detailed information on removal of these parts , consult your factory manual.



Disconnect the battery , Drain oil from Primary

Remove :

- 1) Seat
- 2) Pipes & Munting Brackets
- 3) Fender Struts , Fender & Lights
- 4) Rear Wheel & Brake

Note

Oil Tank DOES NOT have to be removed .

Remove Stock Swingarm

The stock swingarm will be removed and discarded to make way for your new swingarm !

- 1) Remove rear shock absorbers
- 2) Remove pivot shaft and spacers
- 3) Remove swingarm from frame . See photo 4.

Note

Save all stock hardware & spacers , as some will be re-used .



Stock Component Removal (Continued)

The next stage involves the removal of the inner and outer primary . Please consult your factory manual for more detailed information

- 1) Begin by removing the outer primary cover.
- 2) Remove starter motor .
- 3) Remove primary chain tensioner .
- 4) Remove primary chain , clutch and compensating sprocket, as well as rotor

Note

Left Hand Threads On Mainshaft Nut !

- 5) Remove the 5 bolts securing the inner primary housing to the motor and transmission .
- 6) Remove inner primary .

Starter & Compensating Sprocket - Spacer Installation

- 1) Remove the 4 bolts holding the starter to the motor. Pull starter out slightly and place starter spacer between starter plate and motor
- 2) Reassembly using supplied hardware and red thread lock. Torque to 55-75 Inch LBS.

Starter Bolts

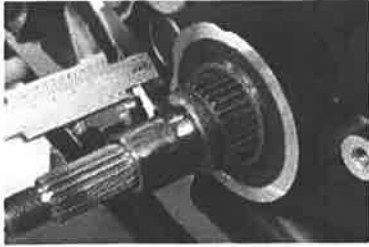


Compensator Spacer



Starter Spacer



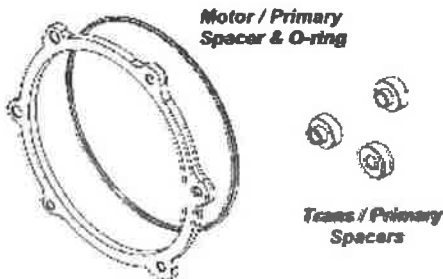


Transmission Belt Sprocket Removal
 The next stage involves the removals of transmission belt sprocket and requires specialized tools.
 Please consult your factory manual for more detailed information

- 1) Remove belt sprocket lock plate and nut
- 2) Remove belt sprocket
- 3) Using a puller, pull the transmission inner race away from the transmission 8.5 to 9mm

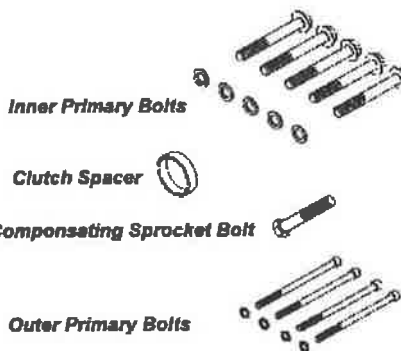
Transmission Belt Sprocket Installation

- 1) Install offset belt sprocket and tighten nut to 50lbs initial torque to seat sprocket. Loosen sprocket nut to remove initial torque and tighten back up to 35 ft lbs
- 2) Install lock plate per specs in HD manual and secure with thread lock.
- 3) Place final drive belt over sprocket.



Primary Installation

1. With o-ring pocket facing out, place supplied motor spacer against crankcase. Stock gasket is retained as well and captured between motor spacer and motor.
2. Place inner primary against motor spacer and capture transmission housing spacers between transmission and inner primary.
3. Using supplied hardware and red thread lock, install bolts and tighten to 16 ft lbs.



Primary Gear and Clutch Assembly ; Installation

1. Place clutch spacer onto the transmission input shaft.
2. Place clutch, chain, and compensating sprocket assembly into primary.
3. Use supplied bolt and original steel washer to install compensating sprocket and install primary assembly per HD manual.
4. Install Chain tensioner
5. Install starter motor

Outer Primary Installation

1. Install primary cover replacing the four longer bolts that thread into the crankcase with the supplied hardware.
2. Fill primary with HD specified oil

Remove Fender Struts

To accommodate the Kit, the OEM fender struts will have to be out off the frame. Cover all exposed motor parts to prevent contamination from metal chips. Remove the strut flush with the horizontal connector plate and grind smooth Paint the exposed metal to prevent corrosion.

———— NOTE ————

Fit Supplied Fender Struts to Frame to check fitment. Remove additional material if necessary



Photo 6



Photo 7

Install Swingarm

The Kit for 2007 and newer softails includes 3 swingarm spacers that are used in addition to the OEM spacer



Photo 8

- 1) Remove bearings from stock swingarm and install in new unit .
- 2) Insert left side long spacer from outside of frame .
- 3) Slide left side small spacer over long spacer from inside frame .
- 4) Insert third left side spacer (1.40" spacer) in swingarm bearing tube from inside swingarm .
- 5) Slide swingarm into frame .
- 6) Push left side outboard spacer through frame and into swingarm
- 7) Slide stock right side spacer from inside swingarm through bearing and into frame
- 8) Locate 2nd stock spacer between trans case inside of swingarm .
- 9) Install swingarm pivot bolt and tighten to factory specs .

Install Rear Fender & Struts



Photo 9

Install supplied strut studs into (apply drop of Threadlock) .
 Note step studs NOT used for Duece frames. Install supplied fender struts with acorn nuts. Install fender bolts (3/8" 16 x 3/4" button head with washer) from inside fender . Will not be accessible once wheel is mounted .

NOTE

Stock rear lights and license plate will not bolt directly to new fender . Will require custom fabrication if used .

Install Rear Brake & Wheel



Photo 10

Attach brake line to brake caliper (stock line can be used in most cases) .
 Some brake systems require the caliper be bled off of the bike (do this now) .
 Raise rear of bike high enough to allow rear wheel to slide under . Locate wheel and slide drive belt over pulley .
 Lower bike until swingarm axle holes line up with wheel .
 See photo 10 .
 Before locating caliper bracket any wheel spacers must be installed if used



Photo 11

On right side , insert wheel spacer against wheel bearing and slide caliper bracket between spacer and swingarm .
 See photo 11 .

NOTE

For Driveside brake systems , please reference the Driveside Installation sheet supplied with the brake system .
 Install supplied axle (coat axle with thin layer of grease) and insert into swingarm from left side on bike. Do not force axle, slight movement of wheel and spacers will aid in axle insertion .
 Install supplied star washer and nut. Using allen head wrench , align wheel and adjust belt tension to factory specifications and torque axle to 60-65 ft-lbs .



Drill holes in fender for ignition module (fit and for proper clearance , before mounting ignition module)



Fender Struts



Fender without License Plate

Confirm all electrical , as well as electrical breakers do not make contact with metal or moving parts .

NOTE

This is a good time to test fit your exhaust system , as some full length systems will interfere with the wider swingarm

We recommend any changes or modification to the rear fender be done at this point , as fender can not be removed without removing rear wheel as well . Always test fit fender before painting .

Install supplied splashguard into swingarm .



Photo 12

Install supplied axle caps on both sides of swingarm .

Do - install exhaust system .



Exceeding 65R. lbs will damage wheel bearings .

After installing the bit we strongly encourage you to do a system check of your bike .



Photo 13

1. While bike is still on a stand , slowly rotate wheels watching for any potential interference (disc to caliper , caliper to wheel , wheel to fender)
2. After properly bleeding brakes , lever or pedal feel should be firm and consistent .
3. Test at slow speeds , checking brakes in short intervals . Visually inspect disc , caliper and wheel before and after road testing . For the first 100 miles break in disc and pads by using light to medium braking . Avoid unnecessary hard braking . Braking power will progressively increase with less effort as brake pads and disc break in .

NOTE

Consult factory manual for detailed instructions explaining swingarm installation

SWINGARM - TOP VIEW

