Features Overview

- Zinc Plated Steel Pulleys for lifetime durability
- 10 plate BAKER clutch design eliminates ‘Neutral Rattle’
- Optional forged outboard bearing support with oversized radial ball bearings
- Proprietary 2.4” wide belt handles the torque through massive 14mm belt teeth.
- Available in Show Polish or Black Anodized finishes

Fitment

- 1990-2006 Stock Softails
- Custom LSD & RSD Frames with 0” and .500” (left) Transmission offset
**TOOLS**

No special tools are required to complete the installation. However the following common mechanic’s tool are necessary to do the job in addition to standard every guy tools.

- Primary Inner Race Service Tool (BAKER pn TOOL B-56)
- Torque Wrench
- ½” Impact Gun (Pneumatic or Electric)
- 1-3/16”, 1-½” and 1-5/16” Sockets
- Blue and Red Loctite will be required for the installation.

**REFERENCE MATERIALS**

- A Factory Service Manual should be referred to for removal of the stock wet primary unit and for proper clutch adjustment procedure.

No additional hardware is required to complete the BAKER Synchronous Belt Drive Installation.
## BAKER SBD- INCLUDED PARTS:

### OUTBOARD SUPPORT EXPLODED VIEW

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>QTY</th>
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<tbody>
<tr>
<td>A</td>
<td>Outboard Support Assy</td>
<td>1</td>
</tr>
<tr>
<td>B</td>
<td>Outboard Support ‘Position Jacks’</td>
<td>2</td>
</tr>
<tr>
<td>C</td>
<td>Jackshaft Cover</td>
<td>1</td>
</tr>
<tr>
<td>D</td>
<td>BAKER Softail Belt</td>
<td>1</td>
</tr>
<tr>
<td>E</td>
<td>28T Pulley Assy</td>
<td>1</td>
</tr>
<tr>
<td>F</td>
<td>43T Pulley &amp; Clutch Assy</td>
<td>1</td>
</tr>
<tr>
<td>G</td>
<td>Motor Plate</td>
<td>1</td>
</tr>
<tr>
<td>H</td>
<td>Motor Plate Spacer</td>
<td>1</td>
</tr>
<tr>
<td>I</td>
<td>Motor Plate Standoffs</td>
<td>2</td>
</tr>
<tr>
<td>J</td>
<td>Starter Ear</td>
<td>1</td>
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### BAKER SBD-INCLUDED PARTS:

![Diagram of BAKER SBD-Included Parts](image)

#### NO OUTBOARD SUPPORT EXPLODED VIEW

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>QTY</th>
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<tbody>
<tr>
<td>A</td>
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<tr>
<td>B</td>
<td>43T Pulley Cover</td>
<td>1</td>
</tr>
<tr>
<td>C</td>
<td>Belt Edge Guard</td>
<td>1</td>
</tr>
<tr>
<td>D</td>
<td>Jackshaft Cover</td>
<td>1</td>
</tr>
<tr>
<td>E</td>
<td>Belt Edge Guard Standoffs</td>
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</tr>
<tr>
<td>F</td>
<td>BAKER Softail Belt</td>
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<tr>
<td>G</td>
<td>28T Pulley Assy</td>
<td>1</td>
</tr>
<tr>
<td>H</td>
<td>43T Pulley + Clutch Assy</td>
<td>1</td>
</tr>
<tr>
<td>I</td>
<td>Motor Plate</td>
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</tr>
<tr>
<td>J</td>
<td>Motor Plate Spacer</td>
<td>1</td>
</tr>
<tr>
<td>K</td>
<td>Motor Plate Standoffs</td>
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</tr>
<tr>
<td>L</td>
<td>Starter Ear</td>
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## REAR PULLEY & CLUTCH

<table>
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<th>Item</th>
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<td>A</td>
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<td>B</td>
<td>Keyway Fitting Assy</td>
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<tr>
<td>C</td>
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<td>D</td>
<td>Clutch Nut</td>
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<td>E</td>
<td>Clutch Retainer</td>
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<td>F</td>
<td>Diaphram Spring</td>
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<td>G</td>
<td>Wear Ring</td>
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<td>Pressure Plate</td>
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<td>Clutch Steel, .121” Thick</td>
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<td>J</td>
<td>Clutch Friction</td>
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<tr>
<td>K</td>
<td>Clutch Steel, .059” Thick</td>
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<tr>
<td>L</td>
<td>Clutch Friction Dampening Assy</td>
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</tr>
<tr>
<td>M</td>
<td>43T Pulley &amp; Clutch Hub Assy</td>
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</tbody>
</table>
BAKER SBD- PREPARATION:

Please refer to the Factory Service Manual for your model of bike for disassembly and removal of the stock primary unit. The short version of the disassembly process goes as follows.

- Disconnect the battery, remember, ground cable first and shut off the fuel at the tank. (on a carburetor bike)

- Remove the drain plug and drain the primary fluid.

- Remove the Outer Primary and set aside. On some models it is necessary to remove the floorboards/ pegs and the rear pipe on a true dual crossover exhaust system.

- Using a ½" impact gun and the 1-½” socket, remove the nut holding the compensating sprocket assembly on the motor.

- Remove the keyway fitting and snap ring in the middle of the clutch basket to access the clutch nut, remove the clutch nut with a ½” impact gun and 1-3/16” socket **NOTE: Left hand threads, clockwise to loosen.**

- Loosen the chain tensioner and drop the bracket to the bottom of the groove. Remove the clutch, motor sprocket and chain as a complete assy.

- Loosen the starter jackshaft and remove from the primary side of the bike.

- Moving over to the other side of the bike, loosen the bolts holding the starter to inner primary, and lay the starter on the back side of the tranny, in preparation for removing the inner primary.

- Remove all of the bolts holding the inner primary to the motor and the transmission, pull the inner primary off. Remove the o-ring around the snout on the inner primary mounting surface of the motor. On all 1990-1999 Softail models it is also necessary to loosen the rear axle and the 5 mounting nuts a couple of turns on the transmission in preparation for bolting up the BAKER Softail Belt Drive Motorplate. You will also need to remove the inner race from the transmission mainshaft using an Inner Primary Race Service Tool (BAKER pn TOOL-B56)

⚠️ **AFTER REMOVING THE INNER PRIMARY RACE, CHECK TO MAKE SURE THAT THE TRANSMISSION MAINSHAFT IS FREE OF RUST, GREASE AND ANY OTHER ITEMS THAT WOULD PREVENT THE CLUTCH HUB FROM SLIDING ON FREELY.**

Clean off and degrease the mating surfaces on the motor and transmission at this time as well.
Take the BAKER Softail motor plate, starter ear and motor plate standoffs out of the box and lay them out on a towel on your work bench. Within your hardware kit find the provided 10mm pass thru dowels, 4 pcs total, and lightly tap them into the back of the motor plate. Find 2 of the provided 5/16"-18 x 2.250 black oxide socket head cap screws. Using Blue Loctite, attach the stand offs to the back of the motor plate using the 10mm dowels to hold them in place while you torque the bolts to 220 in-lbs.

Place the starter ear into position on the motor plate using the two 1/4" diameter dowels to locate it properly. Attach the starter ear to the motor plate with the last provided 5/16"-18 x 2.250 black oxide socket head cap screw. Torque to 220 in-lbs using Blue Loctite.

You are now ready to bolt the motor plate and appropriate width motor spacer onto your bike. Depending on the offset that you ordered, 0" (Stock Softails and bikes with 180mm Tire or smaller) or 1/2" (most LSD 200mm Tire or RSD 250mm Tire bikes) you need a different motor spacer.

- 0" Offset units use a .500" thick motor spacer and four 5/16-18 x 1.500 SS SHCS’s
- 1/2" Offset units use a 1” thick motor spacer and four, 5/16-18 x 2.000 SS SHCS’s

Place the motor spacer in place and then slide the motor plate into place on top of it. Using the appropriate length hardware, bolt the motor plate to the crankcase. Torque to 220 in-lbs using Blue Loctite and tightening in an ‘X’ pattern.

Find within the provided hardware the 5/16-18 x 2.750 SS SHCS’s, 4 total. Using Blue Loctite, torque (220 in-lbs) the motor plate to the transmission in an ‘X’ pattern. (At this time on EVO models, you want to tighten the transmission studs back down to the tranny plate) You can also install the starter to the motor plate re-using your starter bolts at this time.
BAKER SBD-ASSEMBLY:

PULLEY INSTALLATION AND ALIGNMENT

Both the 0” and ½” units get the same clutch basket, rear belt pulley and clutch hub, where as there are
two versions of the front pulley to match the given offset.

- 0” Offset Units have a 1-5/8” diameter snout that sticks out .442” on the backside of the Front
  Pulley
- ½” Offset Units have a 1-5/8” and 2-3/8” diameter snout that sticks out a total .942” on the
  backside of the Front Pulley

Slide the Rear Pulley & Clutch Unit onto the transmission mainshaft. The snout on the back of the clutch
hub is a .001”-.002” slip fit to the mainshaft. It is tight to gain as much strength as possible while reducing
the lever arm length of the clutch and belt pulley mass acting on the mainshaft. Some persuasion with a
dead blow or rubber mallet may be necessary to seat the clutch all the way onto the mainshaft.

DO NOT USE A BALL PEEN OR ANYTHING OTHER METAL HEADED HAMMER TO TAP THE
REAR BELT PULLEY INTO PLACE ON THE TRANSMISSION MAINSHAFT. MAKING SURE
THAT THE SHAFT IS FREE OF RUST AND DEBRIS IS NECESSARY TO GET THE PROPER SLIP
FIT.

When you have the rear pulley fully onto the shaft and dead headed against the landing at the ‘bottom’
of the clutch splines, torque the pulley into place with the supplied clutch nut. (Remember that the Clutch
Nut is left hand threads, 80 ft/lbs, Red Loctite)

With the proper offset Front Pulley in hand, slide it onto the crank output of the motor and lightly tighten
the pulley with the supplied 7/8”-14 Black Oxide Hex Nut. Using a straight edge along the outside face of
the pulley and a pair of calipers, check to see that the two pulleys are axially located within .030” of each
other. Use the motor plate as a zero reference for measuring the pulley locations.

Motor sprocket shaft shims are supplied with the kit, select the appropriate shim or shims to gain the .030”
axial location. Once the axial pulley location is confirmed, remove the motor pulley nut and torque it to
150 ft/lbs using Red Loctite.
BAKER SBD-ASSEMBLY:

OUTBOARD SUPPORT MODELS

On a bench, screw the outer bearing support standoffs and locking nuts as far into the support as far as they will go with Blue Loctite. Temporarily install the outboard support to the pulleys with three (¼-20 x .875 SS) screws in each pulley. Extend (loosen) the stand offs until they lightly seat into the motor plate. The standoff height is now set. Remove the outer support from the pulleys.

BELT INSTALLATION

Install the belt over the pulleys. Slowly work it over the two pulleys and move it inboard with a top and bottom rocking motion. It may be necessary to remove the spark plugs to allow the pulleys to be rotated to walk the belt onto the pulleys just like walking a chain onto a bicycle sprocket. Use a rubber or dead blow mallet to tap it on past the outer surface of the pulleys. If it does not go on, even with the persuasion from the mallet, call the BAKER tech department.

CLUTCH ADJUSTMENT

Install the provided keyway fitting and adjust the clutch per the factory service manual. The BAKER 10 Plate Belt Drive Clutch requires a minimum or .065” of actuation for proper function.

PULLEY COVER INSTALLATION

If you are installing a BAKER Belt Drive with an Outboard Bearing support, use the provided ¼-20 x 4.500 SS SHCS’s and some Blue Loctite to hold the Outboard Bearing Support in place while you spin the pulley covers to line up all of the holes. It may be necessary to remove the spark plugs to enable the pulleys to be spun to access all 6 mounting holes on both pulley covers. When you have all 12 (¼-20 x.875 SS SHCS) pulley cover bolts in place, torque to 110 in-lbs using Blue Loctite in a ‘star’ pattern. When the pulley covers are sufficiently torqued, tighten the 2 center Outboard Bearing Support bolts to 110 in-lbs.

If you have a non outboard support model, tighten the pulley covers into place using the 12 provided ¼-20 x.875 SS SHCS’s. Torque to 110 in-lbs using Blue Loctite in a ‘star’ pattern. The belt guard is held in place with the 2 provided, ¼-20 x 3.500 SS Button Head Screws and the matching ¾ dia polished aluminum spacers. Torque the bolts to 110 in-lbs.
BAKER SBD-ASSEMBLY:

STARTER JACKSHAFT & COVER INSTALLATION

Slip the ID Splined washer onto the starter jackshaft that came with your BAKER SBD. Slide the provided spring into place in the back of the BAKER 1 Piece Jackshaft, then slide the whole unit in place over the starter jackshaft. Make sure, before you tighten the jackshaft, that the spring is seated over the splined shaft by pushing on the end of the jackshaft with your finger. If the jackshaft springs in and out, you are good to go. Depending on the model of your bike or the starter that you are using, tighten the provided bolt into place.

- 1990-1993 Softails: ¼-20 x .500 hex head bolt, torque to 110 in-lbs, Blue Loctite
- 1994-2006 Softails: 10-32 x .500 SHCS and .203” ID x .546” DD washer, torque to 80 in-lbs, Blue Loctite.

Tighten the provided Jackshaft Cover into place with the remaining 10-24 x .500 SS SHCS’s, torque to 80 in-lbs using Blue Loctite.

You have successfully completed the BAKER Softail SBD Installation. You can now put your spark plugs back in, adjust your rear belt, if necessary, connect the battery and take your bike our for a test drive. If you have any questions or concerns, please call the BAKER Tech Department.

SERVICE

If the rear pulley and clutch assembly needs to be removed in the future, a bearing puller may need to be used similar to the figure below, due to rust and/or the tight slip fit of the clutch hub.
SPECIAL ORDERS

A minimum $500 deposit is required with all special orders. Special orders include unique case finishes, unique side door requests (i.e.; wrinkle black door or no logo).

ALL OTHER ORDERS

Orders can be pre-paid using VISA, Mastercard or American Express.

Prices shown are F.O.B. Haslett, MI. BAKER™ provides free UPS ground shipping on all retail orders for complete transmissions or transmission kit. UPS air shipment is available upon request. Customer is responsible for air shipment premiums.

LIMITED WARRANTY

BAKER™ Inc. SBD is guaranteed to the original purchaser to be free of manufacturing defects in materials and workmanship for a period of 2 years from the date of purchase.

If the product is found by BAKER™ to be defective, such products will, at the option of BAKER™, be replaced or repaired at cost to BAKER™.

In the event warranty service is required, the original purchaser must call or write BAKER™ immediately with the problem.

If it is deemed necessary for BAKER™ to make an evaluation to determine whether the transmission assembly or transmission kit is defective, the entire transmission assembly, whether originally purchased as an assembly or kit, must be properly packaged and returned prepaid to BAKER™ with a copy of the original invoice of purchase.

If after an evaluation has been made by BAKER™ and a defect in materials and/or workmanship is found, BAKER™ will, at BAKER’s option, repair or replace the defective part of the assembly.

Warranty card must be returned within 45 days of purchase to be valid.

ADDITIONAL WARRANTY PROVISIONS

This limited warranty does not cover labor or other costs or expenses incidental to the repair and or replacement of BAKER™ products. This warranty does not apply if one or more of the following situations is judged by BAKER™ to be relevant: improper installation, accident, modification (including but not limited to use of unauthorized parts), racing, high performance application, mishandling, misapplication, neglect (including but not limited to improper maintenance), or improper repair.

BAKER™ shall not be liable for any consequential or incidental damages arising out of or in connection with a BAKER™ transmission assembly, transmission kit, swingarm, fender, component or part. Consequential damages shall include without limitation, loss of use, income or profit, or losses sustained as the result of injury (including death) to any person or loss of or damage to property.

BAKER™ transmissions, transmission kits, and Wide Tire Kits are designed exclusively for use in Harley-Davidson® motorcycles. BAKER™ shall have no warranty or liability obligation if a BAKER™ part is used in any other application.

If it is determined that a BAKER™ transmission assembly has been disassembled during the warranty period for any reason, this limited warranty will no longer apply.
DISCLAIMER

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It is the sole responsibility of the user to determine the suitability of this product for his or her use, and the user shall assume all legal, personal injury risk and liability and all other as well as all other obligations, duties and risks associated therewith.

CUSTOMER SUPPORT

For any installation or service questions, please contact our BAKER technical department toll free: 1-877-640-2004.

FOR QUESTIONS, ORDERS OR SUPPORT:  
TOLL FREE: 1-877-640-2004  
WWW.BAKERDRIVETRAIN.COM

BAKER DRIVETRAIN
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HASLETT, MI 48840

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