

BAKER FACTORY 6 KICKER INSTALLATION INSTRUCTIONS



Factory 6-Speed Kicker kit



678-HR-K Shown



BAKER FACTORY 6 KICKER INSTALLATION INSTRUCTIONS

FEATURES

- 6061 T-6 Aluminum Billet Bearing Door in Show Polish, Raw Finish, Black Finish
- 6061 T-6 Aluminum Billet Side Cover in Show Polish
- Modern Clutch Actuation Available in Ball and Ramp Cable Type or Hydraulic
- Hardened 8620 Kicker Gears
- 4140 Pinion Gear Quill With Smooth Micro Finish For Superior Function
- Hardened 8620 Ratchet Hub Encapsulates Mainshaft To Prevent Breaking
- Straight Stainless steel kick arm with 5/8" 4140 spindle and bronze kicker pedal

PART NUMBERS/DESCRIPTIONS

- 678-MR-K; F6K w/ silver door & polished cover, cable type
- 678-HR-K; F6K w/ silver door & polished cover, hydraulic type
- 678-MB-K; F6K w/ black door & polished cover, cable type
- 678-HB-K; F6K w/ black door & polished cover, hydraulic type
- 678-MP-K F6K w/ polished door & cover, cable type
- 678-HP-K; F6K w/ polished door & cover, hydraulic type

APPLICATION

- 2007-2009 Softails™, FLT/FLH™
- 2006 Dyna™ Models
- Factory Cruise Drive 6 Speeds

NOTES

- BAKER™ Factor 6 Kicker will not clear stock exhaust systems due to the extended length of the transmission door and kicker. Aftermarket systems with
- The kicker arm will not clear the stock right side passenger floor board on FLT/FLH™ models. Installation of foot pegs or smaller footboards are required.
- Twin Cam models require installation of a cam-based ignition. See BAKER 2008-2009 Supplement for ignition alternatives or consult a BAKER sales tech.
- Fuel injected models require retrofit to carburetor retrofit

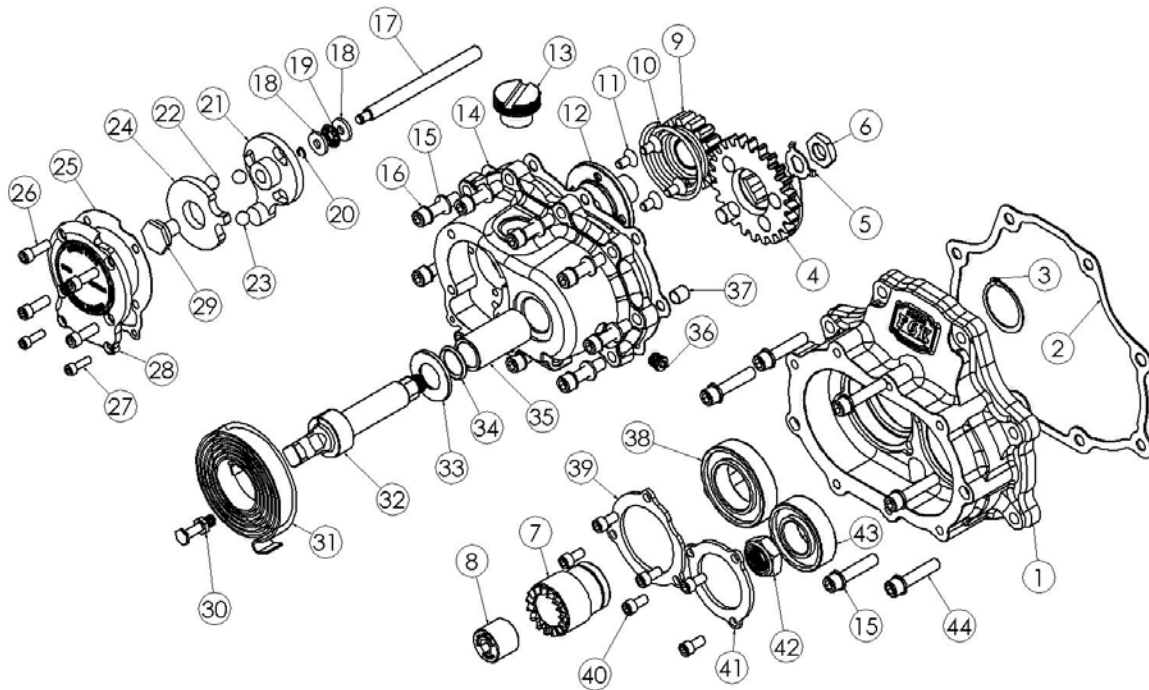
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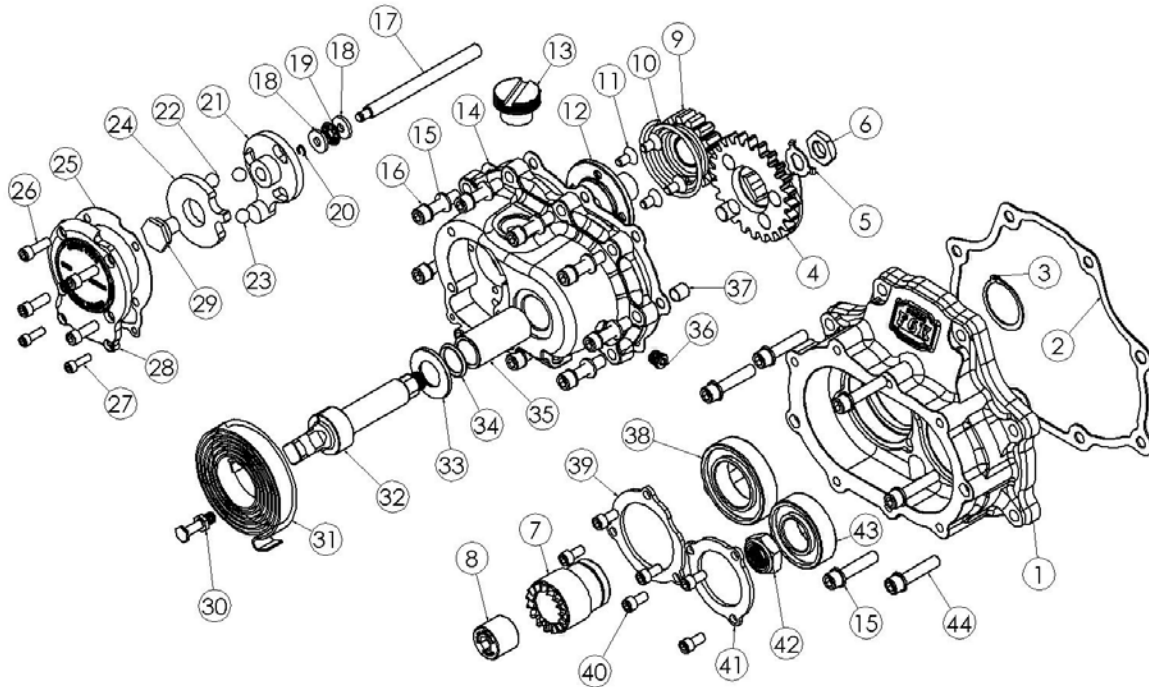
MECHANICAL CABLE TYPE: pn's 678-56M(P,R,B)-K



ITEM	QTY	PN	DESCRIPTION
1	1	F6K(R,P,B)	Transmission bearing door
2	1	35654-06-F	Bearing door to case gasket
3	1	137RRRE	External Snap ring, ratchet hub
4	1	33350-56	Crank gear assembly
5	1	292014	Lock Washer, crank gear
6	1	292015	Nut, Crank Gear
7	1	308-6	Ratchet Hub
8	1	RV-7050	Mainshaft lock nut
9	1	310-56K	Ratchet pinion gear
10	1	13-0128	Pinion gear spring
11	4	25C50KFC	1/4-20 x 1/2 Flat Socket cap screws
12	1	585-5	Pinion gear quill
13	1	292032	Filler plug
14	1	6N4-Side	Side cover gasket
15	17	6100	5/16 Washer
16	9	73496	5/16-18 x 1 1/4 SHCS,SS
17	1	125-5R	Actuator Rod
18	2	TWC411	Throw out washer
19	1	TC411	Throw out bearing
20	1	10705-01149	C-clip, throw out assembly
21	1	WT3096	Inner actuator ramp
22	3	987687	3/8" Actuator ball bearing
23	1	3094-DSSC	Actuator ferrule

BAKER FACTORY 6 KICKER INSTALLATION INSTRUCTIONS

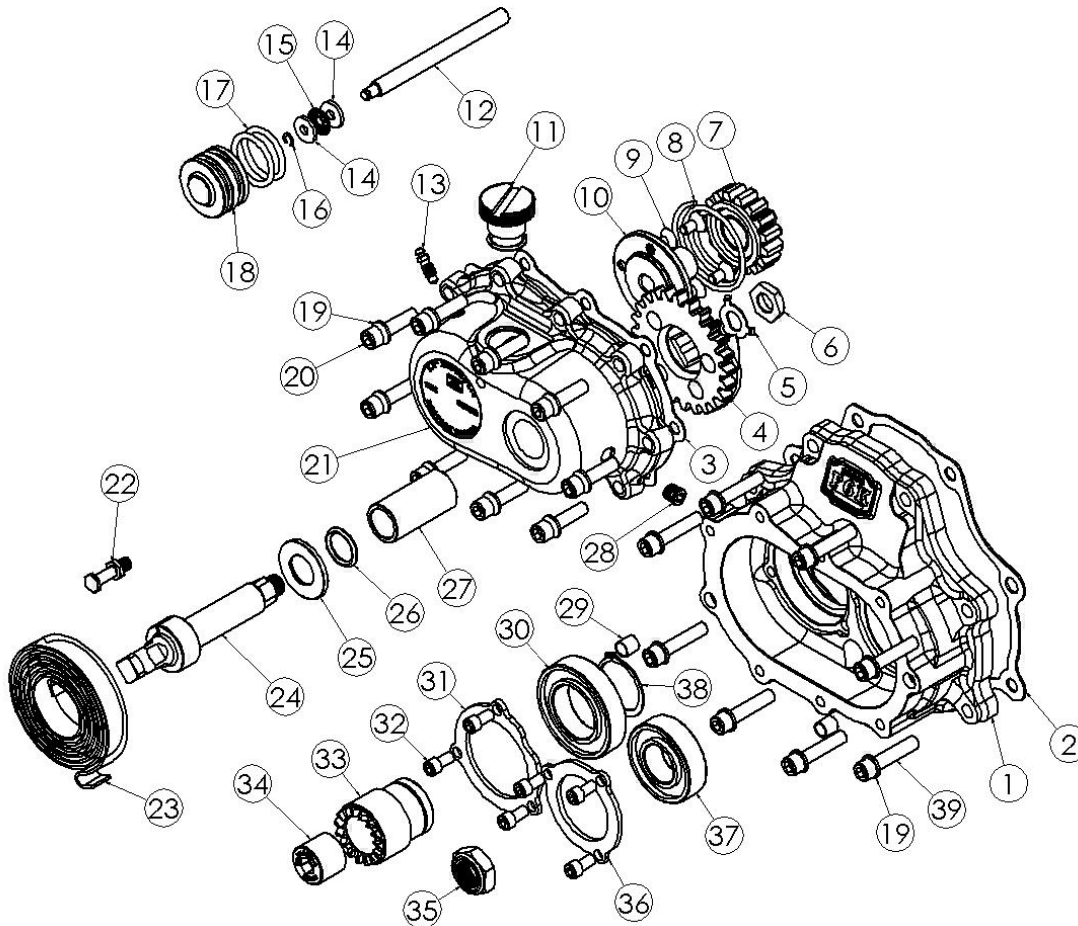
MECHANICAL CABLE TYPE: pn's 678-M(P,R,B)-K



ITEM	QTY	PN	DESCRIPTION
24	1	WT3196	Outer Actuator Ramp
25	1	587-56M	Ball ramp cover gasket
26	4	25C50KLHS	¼-20 x ½ Low head cap screw
27	2	10C50KLHS	#10-24 x ½ Low head cap screw
28	1	584-56M	Ball ramp cover plate
29	1	588-56M	Actuator assembly bolt
30	1	292013	Kicker return spring bolt
31	1	291222	Spring, kick arm return
32	1	292003	Shaft, kicker
33	1	292016	Washer, kick shaft
34	1	9452K29	O-ring, kicker shaft
35	1	6391K269	Bushing, kicker shaft
36	1	51740-001	3/8-24 Drain plug
37	2	16583-00	10mm dowels
38	1	6007	Mainshaft bearing
39	1	407-RV07	Retainer Plate, Mainshaft
40	6	24050	¼-20 x 5/8 BHCS
41	1	406-RV07	Retainer Plate, Countershaft
42	1	37141	Nut, countershaft retainer
43	1	6304	Countershaft bearing
44	8	31C150KCSS/P	5/16-18 x 1 ½ SHCS,SS

BAKER FACTORY 6 KICKER INSTALLATION INSTRUCTIONS

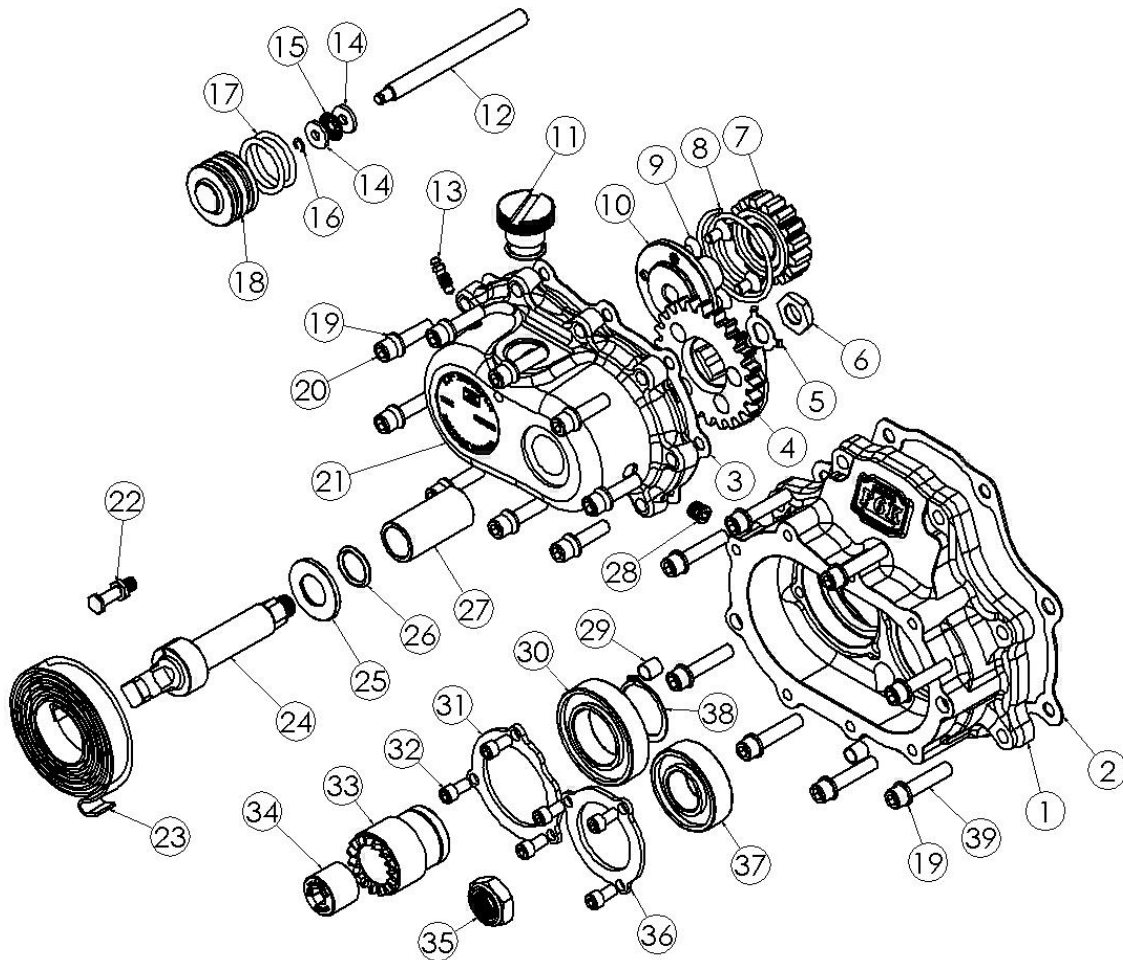
HYDRAULIC TYPE: pn's 678-H(P,R,B)-K



ITEM	QTY	PN	DESCRIPTION
1	1	F6K(R,P,B)	Transmission bearing door
2	1	35654-06-F	Bearing door to case gasket
3	1	6N4-Side	Side cover gasket
4	1	33350-56	Crank gear assembly
5	1	292014	Lock Washer, crank gear
6	1	292015	Nut, Crank Gear
7	1	310-56K	Ratchet pinion gear
8	1	13-0128	Pinion gear spring
9	4	25C50KFC	1/4-20 x 1/2 Flat Socket cap screws
10	1	585-5	Pinion gear quill
11	1	292032	Filler plug
12	1	125-5R	Actuator Rod
13	1	45-9404	1/4-28 Bleeder screw
14	2	TWC411	Throw out washer
15	1	TC411	Throw out bearing
16	1	10705-01149	C-clip, throw out assembly
17	2	66855	O-Ring
18	1	124-56LA	Hydraulic piston
19	17	6100	5/16 Washer
20	9	73496	5/16-18 x 1 1/4 SHCS,SS
21	1	578-56MP	Kicker cover, hydraulic

BAKER FACTORY 6 KICKER INSTALLATION INSTRUCTIONS

HYDRAULIC TYPE: pn's 678-H(P,R,B)-K



ITEM	QTY	PN	DESCRIPTION
22	1	292013	Kicker return spring bolt
23	1	291222	Spring, kick arm return
24	1	292003	Shaft, kicker
25	1	292016	Washer, kick shaft
26	1	9452K29	O-ring, kicker shaft
27	1	6391K269	Bushing, kicker shaft
28	1	51740-001	3/8-24 Drain plug
29	2	16583-00	10mm dowels
30	1	6007	Mainshaft bearing
31	1	407-RV07	Retainer Plate, Mainshaft
32	6	24050	1/4-20 x 5/8 BHCS
33	1	308-6	Ratchet hub, CD6
34	1	RV-7050	Mainshaft lock nut
35	1	37141	Nut, countershaft retainer
36	1	406-RV07	Retainer Plate, Countershaft
37	1	6304	Countershaft bearing
38	1	137RRRE	External Snap ring, ratchet hub
39	8	31C150KCSS/P	5/16-18 x 1 1/2 SHCS,SS

BAKER FACTORY 6 KICKER INSTALLATION INSTRUCTIONS

GETTING STARTED

The BAKER™ Factory 6 Kicker kit is designed to be easily installed by any competent mechanic or dealership technician. Having your H-D™ factory service manual is required in this installation as it is referred to in many sections of the instructions. While this kit is made to be as easy as possible to install there is no substitution for experience. To install the F5K kit, disassembly of the transmission down to the gearset is required. We recommend reading through these instructions, to the end, before proceeding with installation process.

TOOLS, RESOURCES, REQUIRED PARTS

- Factory Service Manual For Your Motorcycle
- Factory Parts Manual For Your Motorcycle
- Common Hand Tools Are All That Is Needed For This Installation
- BAKER™ TOOLB-56
- Hydraulic Press
- In-lbs Torque Wrench
- Brake Bleeder Pump (for hydraulic type)

FOR HYDRAULIC VERSION ONLY

- Hydraulic Fluid, BAKER™ Recommends:
H-D™ Dot 5 Brake Fluid, pn 99902-77
- AN -3 Brake Line
- 10mm Banjo Fitting for both ends of brake line
- 3/8"-24 Banjo Bolt for the side cover end of the brake line
- Banjo Fitting Washers
- 11/16" Diameter Bore Hydraulic Clutch Lever Assembly

BAKER FACTORY 6 KICKER INSTALLATION INSTRUCTIONS

DISASSEMBLY/TEAR DOWN

Whereas it may seem we are skimming over many of the steps, your factory service manual will lay out in detail the proper methods for removal and reassembly of the components listed out in the steps within these instructions. Softails, Dynas and FLT/FLHs are all different configurations and require a different order and method to accomplish the various steps.

⚠ WITH ANY DRIVETRAIN RELATED PROJECT, THE FIRST STEPS THAT YOU WANT TO TAKE ARE TO REMOVE THE SEAT AND DISCONNECT THE BATTERY FOR YOUR SAFETY.

Start with draining your transmission and primary lubricants. Refer to your Factory Service Manual for your drain plug locations.

Now remove the saddle bags, (if applicable), floorboards/foot controls and the exhaust system. Remove your starter. Remove your entire primary unit including outer primary, primary chain, clutch and inner primary. Use ToolB-56, Inner Race Service Tool, to pull the race off of the mainshaft. This needs to be done to remove gearset.

Loosen and remove the transmission side cover at this time. Remove the clutch cable from the side cover. The side cover and ball and ramp assembly will not be re-used in the BAKER™ Factory 6 Kicker.

⚠ REMOVE THE TRANSMISSION DIPSTICK AT THIS TIME; YOU CAN NOT REMOVE THE GEARSET WITH IT INSTALLED

Remove the transmission top cover. Use your top cover gasket per the Factory Service Manual to act as a pad to rest the shifter pawl on while removing your gearset.

Using a 1-¹/₁₆" 6 pt socket, you need to loosen the nylock jam nuts on both the countershaft and mainshaft before you remove the gearset from the case. A good trick is to stand with your right foot on the rear brake pedal while trying to loosen the jam nuts with a breaker bar.

Now you can unbolt the trap door from the case. Lightly tap on the end of the mainshaft on the primary side with a rubber mallet to loosen the entire gearset and trap door from the case and the 6th main needle bearings. You do not need to loosen the drive sprocket or remove the 6th main bottle gear to install this kit.

⚠ DO NOT HIT THE END OF THE MAINSHAFT WITH A BALL PEEN HAMMER, OR ANY OTHER METAL HEADED HAMMER. HITTING THE MAINSHAFT WITH A GREAT AMOUNT OF FORCE IN ANY MANNER, WITH ANY HAMMER, WILL DAMAGE THE THREADS. YOU MUST REUSE YOUR STOCK MAINSHAFT AND WANT TO TAKE GREAT CARE NOT TO DAMAGE IT IN ANYWAY. IF YOU FEEL THAT YOU DO NEED TO USE A GREAT DEAL OF FORCE TO REMOVE THE GEARSET, STOP AND LOOK OVER ALL OF YOUR PREVIOUS STEPS AS YOU MAY HAVE FORGOTTEN TO REMOVE A BOLT, THE MAINSHAFT BEARING

RACE, MOVED THE SHIFTER PAWL OR SOME OTHER SOLID OBJECT IS IMPEDING THE PATH OF THE GEARSET BEFORE YOU PROCEED.

BAKER FACTORY 6 KICKER INSTALLATION INSTRUCTIONS

DISASSEMBLY/TEAR DOWN CONTINUED

Once you have successfully removed the gearset from the case and have it sitting with the trap door on a workbench and the shafts pointing in the air, refer to your factory service manual for the safe and efficient way to strip the assembly down to the trap door. You will be reusing everything but the transmission bearing door. The figure below shows the parts needed to rebuild your new F6K assembly.



*Re-used Factory Parts

BAKER FACTORY 6 KICKER INSTALLATION INSTRUCTIONS

BEARING DOOR ASSEMBLY

- 1.) Remove the Factory 6 Kicker bearing door (pn F6K(P,R,B)) from the package. Clean your mainshaft and counter shaft threads with lacquer thinner and dry completely before pressing. Now take your countershaft assembly and support it vertically in the press with the threaded end facing up. Insure that the split securing segments are still in place. Now take your Factory 6 Kicker (pn F6K(P,R,B)) bearing door assembly and press the countershaft into the bearing (pn 6304). Use the bearing's inner race as the press point. Make sure your countershaft is perfectly vertical before pressing it in, damage to threads could incur if not vertical. Remove assembly from press. Apply thread 'Red' thread lock to the countershaft retainer nut (pn 37141) and torque to 45-55 ft/lbs.



*Countershaft Assembly Pressed In

- 2.) Take the mainshaft assembly with the clutch end facing down. Make sure the split securing segments are still in place and place the mainshaft in the press supported vertically. Now take the bearing door assembly and place it on to the mainshaft over the ratchet hub (pn 308-6). Once the mainshaft is parallel with the countershaft and the gears mesh, start pressing using the ratchet hub (pn 308-6) as the press point. Slowly press the mainshaft into the bearing door making sure all the gears spin freely. Once the mainshaft is seated, clean the threads with lacquer thinner and blow dry completely. Apply 'Red' thread lock to the mainhaft retainer nut (pn RV-7050) and torque to 45-55 ft/lbs. Your bearing door assembly is complete.



*Mainshaft and Countershaft Assembly Pressed In

BAKER FACTORY 6 KICKER INSTALLATION INSTRUCTIONS

BEARING DOOR ASSEMBLY CONTINUED

- 3.) You need to refer to your Factory Service Manual to finish the door assembly. Install the shift drum, shift forks, shift fork rods and detent pawl to the Factory Service Manual.
- 4.) Your gearset is now complete. Now is a good time to give your gearset a once over to make sure all the gears spin freely and are seated properly.



*Completed F6K bearing Door Assembly

BAKER FACTORY 6 KICKER INSTALLATION INSTRUCTIONS

GEARSET INSTALLATION

- 1.) Refer to your Factory Service Manual for proper gearset installation.
- 2.) Replace the bearing door assembly with the supplied gasket (pn 35654-06-F).
- 3.) Once the gearset is in the transmission case. Use the eight supplied 5/16-18 x 1-1/2 SHCS (pn 31C150KCSS/P) and eight 5/16 washers (pn 6100) in the eight holes of the bearing door. Using 'Blue' thread lock, torque the bolts to 13-16 ft/lbs (156-192 in/lbs).
- 4.) Install your top cover per your Factory Service Manual using the supplied top cover gasket (pn 34917-06-F).

CABLE TYPE KICKER COVER INSTALLATION: pn 678-M(P,B,R)-K

Refer to your Factory Service Manual to remove your clutch cable from your side cover ball and ramp assembly.

- 1.) Place the side cover gasket on the two 10mm dowels (pn 16583-00) on the bearing door assembly.
- 2.) While making sure the ratchet gear (pn 310-56K) is still retained by the kicker crank gear, place the side cover on to the two 10mm dowels (pn 16583-00). While holding the cover in place take the nine supplied 5/16-18 x 1 ¼ SHCS (pn 73496) with 5/16 washers (pn 6100) and apply 'blue' thread lock to the threads. Now torque the fasteners to 13-16 ft/lbs (156-192 in/lbs).
- 3.) Remove the six fasteners holding the ball and ramp cover on. Remove the ball and ramp cover and gasket at this time as well.
- 4.) Install the supplied clutch throw out rod at this time through the pinion gear quill.
- 5.) Thread your clutch cable into the side cover. Loosen the clutch cable adjustment all the way so there is maximum cable exposed in the side cover.
- 6.) With the cable fully extended in the side cover take the supplied ball and ramp assembly and slide it over the cable. Install the clutch cable ferrule (pn 3094-DSSC) and 'seat' the cable.
- 7.) Install the ball and ramp assembly with outer ramps 'tab' in the 2 'o'clock position.
- 8.) Now place the ball and ramp cover plate with gasket back into position.
- 9.) Using 'Blue' thread lock, install the six bolts. Torque the four ¼-20 x ¾ (pn 25C50KLHS) to 7-9 ft/lbs (84-108 in/lbs). Torque the two #10-24 x 5/8 (pn 10C50KLHS) to 4-5 ft/lbs (54-60 in/lbs).

HYDRAULIC KICKER COVER INSTALLATION: pn 678-H(P,R,B)-K

- 1.) Place the side cover gasket on the two 10mm dowels (pn 16583-00) on the bearing door assembly.
- 2.) Insure that the clutch throw out rod is installed in the ratchet gear quill (pn 585-5).
- 3.) While making sure the ratchet gear is still retained by the kicker crank gear, place the side cover on to the two 10mm dowels (pn 16583-00). While holding the cover in place take the nine supplied 5/16-18 x 1 ¼ SHCS (pn 73496) with 5/16 washers (pn 6100) and apply 'blue' thread lock to the threads. Now torque the fasteners to 13-16 ft/lbs (156-192 in/lbs).
- 4.) Install your 3/8-24 banjo bolt and 3AN brake line at this time.

BAKER FACTORY 6 KICKER INSTALLATION INSTRUCTIONS

KICK ARM INSTALLATION

- 1.) Install the kick arm on to the kicker crank gear shaft.
- 2.) Tighten the pinch bolt on the kicker crank gear shaft so that there is no sloppy movement in the kicker arm assembly.
- 3.) Either with your hand or leg, 'kick' the kick arm and run it through its motion to make sure everything is working properly.

FINAL ASSEMBLY

- 1.) Install your primary and adjust your clutch per your Factory Service Manual at this time.
- 2.) With the bike vertical fill your transmission with the supplied 32oz. bottle of Spectro™ 75W140.
- 3.) Follow your Factory Service Manual to finish assembly on your motorcycle.
- 4.) Your BAKER™ Factory 6 Kicker installation is complete.

BAKER FACTORY 6 KICKER INSTALLATION INSTRUCTIONS

TERMS:

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. transmission assemblies, transmission kits, and wide tire kits are 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™ 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.

BAKER FACTORY 6 KICKER INSTALLATION INSTRUCTIONS

DISCLAIMER

The words Harley™ and H-D™ are registered trademarks and are for reference only. Use of H-D™ model designations and part numbers are for reference only. BAKER™ Drivetrain has no association with, and makes no claim against, these words, trademarks, or companies.

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.



Baker Drivetrain
9804 E. Saginaw
Haslett, MI. 48840

On the web:
www.bakerdrivetrain.com