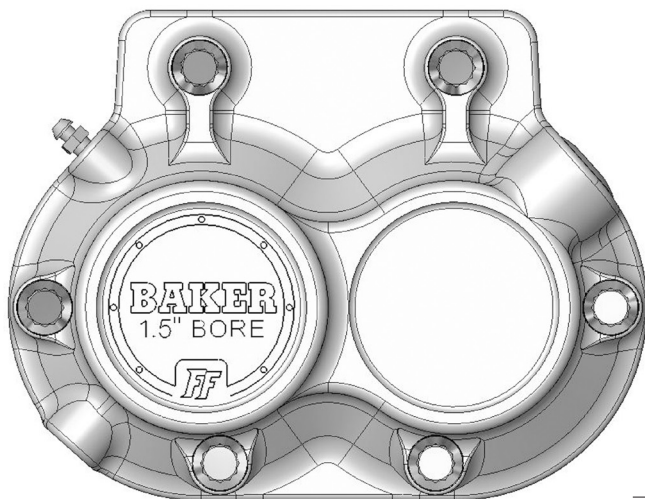
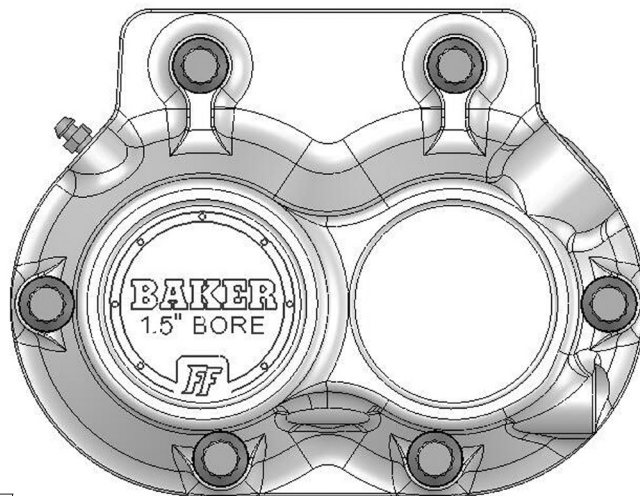




**LEFT-SIDE-DRIVE  
HYDRAULIC SIDE COVER  
INSTALLATION MANUAL  
REAR FEED AND FRONT FEED MODELS**



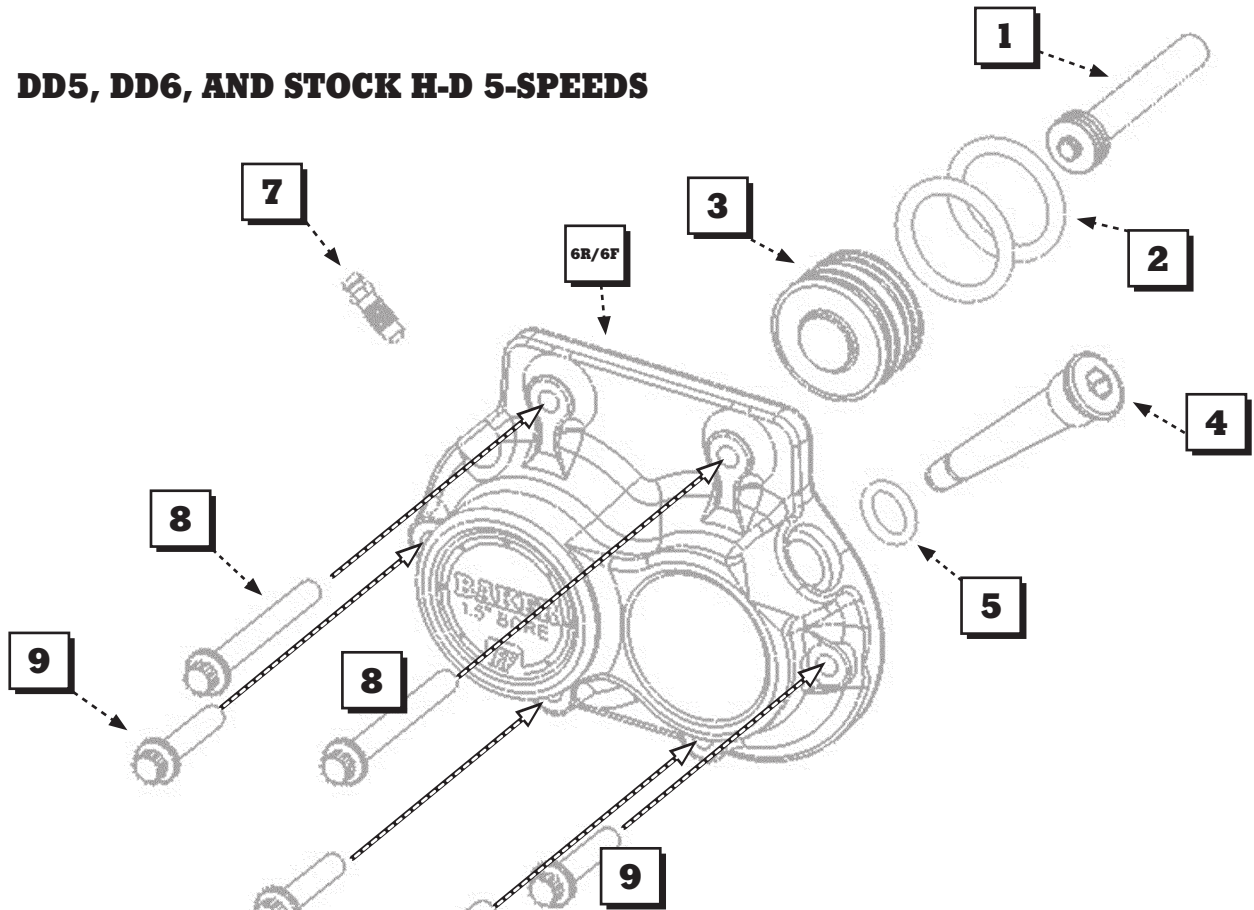
**REAR FEED**



**FRONT FEED**

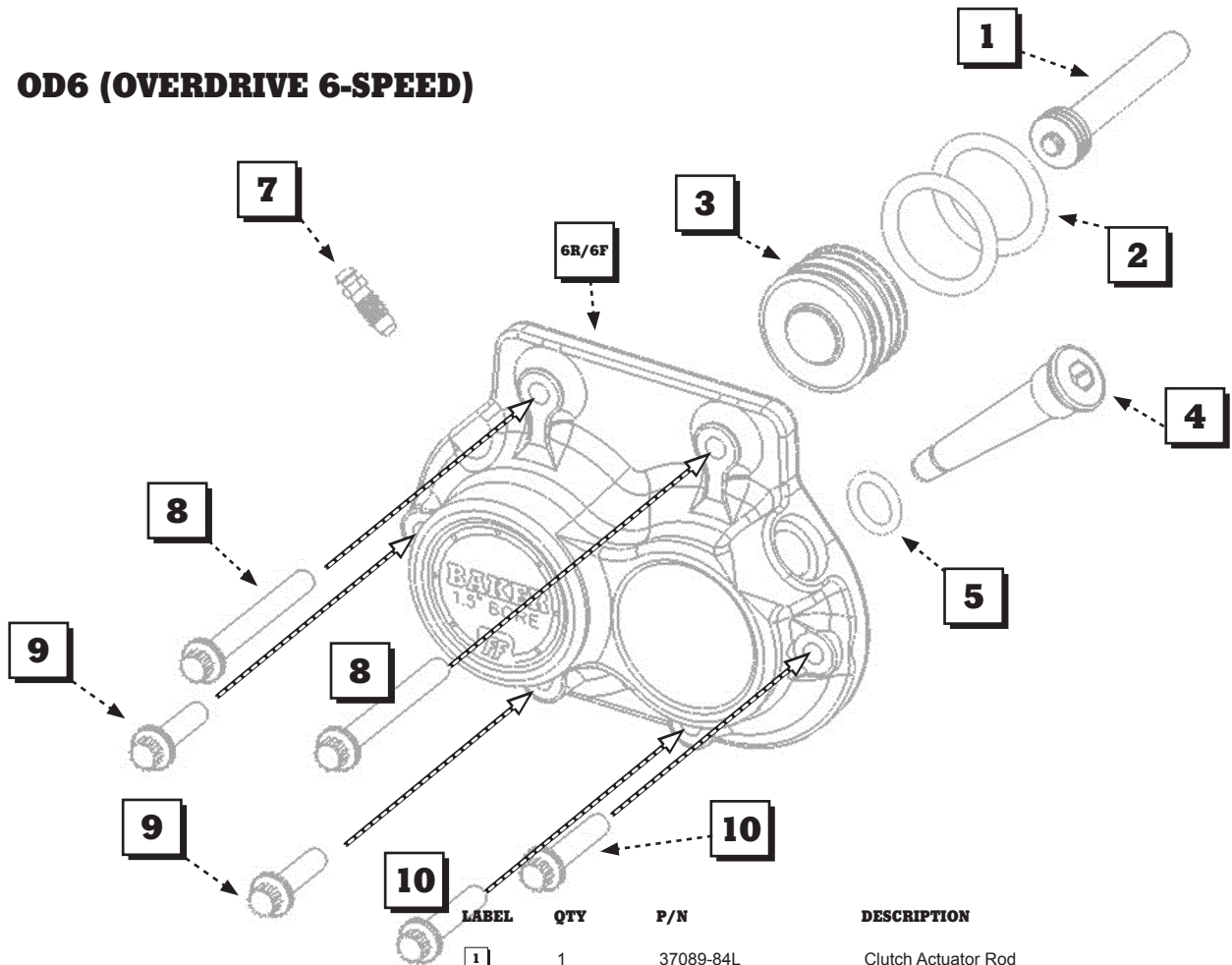
**FOR BAKER OD6, DD5, DD6, AND STOCK H-D 5-SPEEDS**

# DD5, DD6, AND STOCK H-D 5-SPEEDS



LABEL	QTY	P/N	DESCRIPTION
<b>1</b>	1	37089-84	Clutch Actuator Rod
<b>2</b>	2	66855	O-Ring, Hydraulic Piston
<b>3</b>	1	124-56L	BAKER Hydraulic Piston, LSD
<b>4</b>	1	130-56BS	BAKER LSD Dipstick
<b>5</b>	1	66825	O-Ring, Dipstick
<b>6R</b>	1	452-DP-56	BAKER Hydraulic Side Cover, Rear Feed, LSD
<b>6F</b>	1	451-DP-56	BAKER Hydraulic Side Cover, Front Feed, LSD
<b>7</b>	1	94-5404	Bleeder Release Valve
<b>8</b>	2	2AL2.250-12SL	1/4-20 x 2.25 12pt. ARP Bolt, Stainless
<b>9</b>	4	2AL1.250-12SL	1/4-20 x 1.25 12pt. ARP Bolt, Stainless

# OD6 (OVERDRIVE 6-SPEED)



LABEL	QTY	P/N	DESCRIPTION
1	1	37089-84L	Clutch Actuator Rod
2	2	66855	O-Ring, Hydraulic Piston
3	1	124-56L	BAKER Hydraulic Piston, LSD
4	1	130-56BS	BAKER LSD Dipstick
5	1	66825	O-Ring, Dipstick
6R	1	452-DP-56	BAKER Hydraulic Side Cover, Rear Feed, LSD
6F	1	451-DP-56	BAKER Hydraulic Side Cover, Front Feed, LSD
7	1	94-5404	Bleeder Release Valve
8	2	2AL2.250-12SL	1/4-20 x 2.25 12pt. ARP Bolt, Stainless
9	2	2AL1.000-3SL	1/4-20 x 1.00 12pt. ARP Bolt, Stainless
10	2	2AL1.250-12SL	1/4-20 x 1.25 12pt. ARP Bolt, Stainless

# BAKER LSD HYDRAULIC SIDE COVER, INSTRUCTIONS

## FEATURES:

The new line of BAKER Hydraulic Side Covers follows the very exciting launch of the Torquebox line of Transmissions early in 2006 down the BAKER Drivetrain Function Formed Design path. Utilizing our years of technical and high performance functional design experience, matched with our keen eye for race inspired aesthetic design; we wrapped the outer billet aircraft aluminum skin of the parts around the technical components within the package. In straight English, there is no extra material or bullshit other than the absolutely necessary parts to make it function precisely and look damn good doing it.

## FITMENT:

The BAKER Hydraulic Side Covers will fit the following models right out of the box:

91-99 EVO Softails, Dyna & FXR's

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2000-2006 Twin Cam Softails

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1998-2006 BAKER OD6, DD6 & DD5 Models

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2000-2005 Dyna

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The BAKER Hydraulic Side Covers will fit the following models with the additional purchase of a BAKER FL Engine Oil Spout and Dipstick. RELEASE DATE OF FALL 06: (This is due to interference between the Bleeder Valve and Hydraulic Banjo with the existing stock oil spout and cover assembly)

91-99 EVO FL & Touring Models

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2000-2006 Twin Cam FL & Touring Models

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Designed for use with a 11/16" Bore Hydraulic Clutch Lever, AN-3 brake line, 10mm banjo fitting and a 3/8"-24 Banjo Bolt.

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## NECESSARY KNOWLEDGE, PARTS AND RESOURCES

It is strongly recommended by BAKER Drivetrain when performing this task or any other task related to the Drivetrain components on your motorcycle, that you have a correct and current Factory Service manual on hand for your specific model of motorcycle.

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You normal set of hand tools are all that you need for installation, no specialty tools are required.

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Transmission Fluid, We recommend Redline Heavy Duty Shockproof Gear Oil (BAKER pn: LRL-56)

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Hydraulic Fluid: We recommend H-D DOT 5 Brake Fluid (H-D pn: 99902-77)

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## **DISASSEMBLY:**

- 1) Remove and set aside any exhaust, saddlebags, brackets, passenger foot pegs or any other part in direct line of removing the current side cover on your motorcycle.

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- 2) Drain the oil out of the transmission. If unsure about the location of the drain plug seek reference in the Factory Service manual.

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- 3) Loosen all 6 of the socket head cap screws holding the side cover onto the bearing door on the right side of your motorcycle. Then actuate the clutch at the handlebar to break the seal of the side cover to the transmission case and the case dowel pins.

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- 4) Unscrew the side cover from the clutch cable and pull out the actuator rod and washer assembly from the mainshaft and set aside. Unbolt the clutch cable from the hand lever and set aside. Remove clutch lever from handlebars and set aside. Also pull the 2 split dowel pins out of the bearing door with a set of pliers.

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- 5) Before beginning to install your new BAKER LSD Hydraulic Side Cover, make sure to inspect the bearing door gasket surface that it is free of any debris or old gasket material in order to help ensure a good seal with the new gasket and to prevent leaks in the future.

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- 6) Remove the derby cover from your outer primary and loosen the clutch adjustment nut in the center and back the nut off to the end of the rod.

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## **ASSEMBLY:**

- 1) Using a dead blow hammer, gently tap the provided split pins into the bearing door.

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- 2) Put the provided BAKER side cover gasket in place on the bearing door using the split pins to aid as locaters and to hold the gasket in place while placing the BAKER LSD Hydraulic Side Cover on the bearing door.

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- 3) Place the provided clutch actuator rod assembly into the hole in the end of the mainshaft in preparation for side cover installation.

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- 4) Remove the hydraulic piston from the side cover. The best way is to use the light touch of an air blow gun in the hydraulic feed port. It should be noted that you should have the side cover back side down on a couple of towels on the work bench when doing this as the piston will shoot out. When you have the piston out, give it a bath of H-D DOT 5 Brake Fluid making sure to fully coat the o-rings in the brake fluid.

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**FAILURE TO TAKE PRECAUTIONS TO NOT DAMAGE THE PISTON WILL RESULT IN HYDRAULIC BORE DAMAGE AND SUBSEQUENT PART FAILURE.**

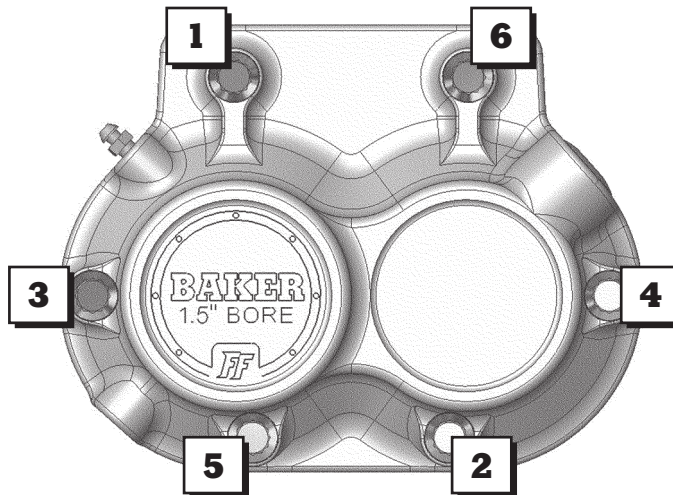
- 5) Double check that the inside of the hydraulic bore is free of debris and dirt. Also check the entire inside surface

of the side cover to eliminate introducing dirt or packing material into your transmission. With the inside of the part checked and determined to be clean, coat the inside walls of the hydraulic bore with the same H-D DOT 5 Brake Fluid used to lubricate the o-rings.



**THESE EXTRA STEPS OF LUBRICATION MAKE A VERY DRAMATIC DIFFERENCE IN THE WEAR LIFE OF THE SEALING O-RINGS IN YOUR BAKER LSD HYDRAULIC SIDE COVER AND ARE NECESSARY FOR CORRECT PART FUNCTION.**

- 6) Using a gentle touch, slide the piston back in the side cover until it bottoms out. Take care to not force the piston into place, in such a way that o-ring damage could occur on the edge or opening of the Hydraulic Bore.
- 7) With the piston, lubricated and placed into the side cover, put the side cover in place over the locating split pins on the bearing door. Using a rubber mallet, gently tap the BAKER LSD Hydraulic Cover into place flush against the gasket against the bearing door.
- 8) Using the provided ARP 12 pt stainless steel fasteners, snug the side cover down to the bearing door. Refer to the attached exploded view parts diagram for the locations of the various length bolts. Once all of the bolts are snugged up and the side cover is evenly pressed against the gasket torque the bolts to 110 in-lbs. See



attached bolt torque sequence diagram.

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- 9) Now bolt the Hydraulic Clutch lever of your choice to the handlebars. The BAKER LSD Hydraulic Side Cover is designed to work with the stock clutch master cylinder bore size of 11/16". Attach and route the AN-3 brake line of your choice while using a 3/8"-24 threaded banjo bolt at the side cover. The Rear Feed model BAKER LSD Hydraulic Side Cover is designed for use with a 35° 10mm, AN-3 fitting, enabling the hydraulic line to be routed forward on the motorcycle under the side cover. The Front Feed model BAKER LSD Hydraulic Side Cover is designed to allow use of any neck style 10mm banjo fitting, including straight, 35° and 90°. The fitting angle and Banjo bolt at the Clutch lever are dependent on the brand and model of clutch lever that you decided to use. That information needs to come from the manufacturer of the clutch lever.



**TAKE THE NECESSARY TIME AND PROPER PRECAUTIONS TO ROUTE THE HYDRAULIC LINE AWAY FROM MOVING PARTS AND ANY EXHAUST PIPES THAT COULD DAMAGE THE LINE IN ANY WAY. FAILURE TO DO SO COULD RESULT IN PART FAILURE, PERSONAL INJURY OR DEATH.**

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## **BLEEDING THE HYDRAULIC SIDE COVER ASSEMBLY**



**BAKER DRIVETRAIN MAKES THE STRONG RECOMMENDATION THAT A POWER BLEEDER SYSTEM BE UTILIZED, WHETHER THAT IT IS A HAND OPERATED PUMP OR PNEUMATIC, TO BLEED THE HYDRAULIC CLUTCH SYSTEM ON YOUR MOTORCYCLE. IT IS THE MOST EFFECTIVE AND ONLY SUREFIRE WAY TO ENSURE THAT ALL THE AIR BUBBLES ARE PURGED FROM THE SYSTEM. IF YOU DO NOT OWN A POWER BLEEDER, THE FOLLOWING SET OF INSTRUCTIONS WILL ENABLE YOU TO BLEED YOUR CLUTCH SYSTEM. GREAT CARE NEEDS TO BE PAID TO THE FOLLOWING STEPS TO ENSURE A PROPERLY BLED AND FUNCTIONING SYSTEM TO ENSURE YOUR SAFETY AS A RIDER.**

- 1) Before you can bleed the Hydraulic Clutch system you need to adjust the free play and rod length at the clutch. Using an allen wrench, run the adjuster bolt (center of the clutch) inboard until it can be felt to bottom the piston out in the side cover. You will also know that you have hit the bottom point as the clutch will begin the move. At the point where it is fully bottomed out, back the bolt off ½ to 1 full turn. The closer to the 1 full turn point that you adjust it too, the more reserve you will have in the lever before the motorcycle begins to move, with the full engagement of the clutch being proportionally closer to the end of the sweep of the lever. This amount can be adjusted to rider comfort and riding style. Tighten the jam nut to 120 in-lbs while holding the adjuster screw

from rotating.

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- 2) Place a clear tube over the bleeder valve on the side cover and run it into a clean container.

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  - 3) Stand the motorcycle upright so that the master cylinder on the clutch lever is level. Remove the lid and gasket.

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  - 4) Add new DOT 5 Silicone Hydraulic Fluid to the master cylinder reservoir under to the fluid level is at or below the full line. **DO NOT OVERFILL THE MASTER CYLINDER.**

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  - 5) Squeeze the lever 5-10 times. Open the bleeder valve on the side cover and clutch fluid should flow through the tubing. If not, keep pumping the lever as it may take a few minutes for the fluid to make it all of the way through the line and cover. Once fluid begins to flow through the clear tube, close the bleeder valve. It may be necessary to add more fluid during this time even before any fluid begins to flow out of the clear tubing.

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  - 6) Squeeze the clutch lever and hold it against the handlebar to build up hydraulic pressure. Open the bleeder valve on the side cover about ½ turn. Clutch fluid will flow through the clear tubing. Close the bleeder when the clutch lever has traveled about 50-75% of its full travel. Wait for the clutch lever to return to its released position. Repeat step 6 as necessary until all air bubbles have been forced out of the system and there is no bubbles in the fluid within the clear tubing.

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  - 7) When the system has been fully bled and the clutch lever no longer feels mushy, fully tighten the bleeder valve on the side cover to 80 in-lbs. It may be necessary to fill the fluid in the reservoir to the full line at this time. **DO NOT OVERFILL THE MASTER CYLINDER.**

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  - 8) Place the cover back on the master cylinder and tighten down according to the control manufacturer's specifications. Check to make sure that the clutch line is tight at the clutch lever and the side cover at this time.

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  - 9) Replace the derby cover on the primary, referring to the factory service manual for the proper tightening sequence.
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## **FILLING THE TRANSMISSION WITH FLUID**

- 1) Remove the BAKER LSD Dipstick from the side cover with a 5/16 hex key. Using a measuring cup and funnel, fill the transmission with 20-24oz's of Redline Heavy Duty Shockproof Gear Oil.



**THE BAKER LSD DIPSTICK IS DIFFERENT FROM THE BAKER RSD AND BAKER LSD MECHANICAL SIDE COVER DIPSTICK, AS WELL AS THE STOCK DIPSTICK. IT READS 'FULL' WHEN IT IS SCREWED INTO THE THREADS RATHER THAN 'PLACED' AGAINST THE THREADS. USING THE BAKER LSD DIPSTICK IN THE TRADITIONAL V-TWIN DIPSTICK MANNER WILL RESULT IN AN OVERLY FULL TRANSMISSION, AND OIL BLOW BY AT ALL OF THE TRANSMISSION SEALS.**



- 2) Once the transmission has been filled to the proper level and verified with the dipstick using the BAKER LSD Hydraulic Cover method. You are complete.



**WITH THIS PROJECT AND OTHER PROJECT DEALING WITH DRIVETRAIN COMPONENTS, YOUR ATTENTION TO DETAIL IN FOLLOWING THESE PROVIDED DIRECTIONS AND KEEPING AN EYE OPEN FOR ANY OTHER SIGNS OF POSSIBLE PART FAILURE ISSUES NOT RELATED TO THE SIDE COVER CONVERSION PROJECT IS NECESSARY TO YOUR SAFETY AS A RIDER AND TO PROTECT YOUR VERY EXPENSIVE 2 WHEEL INVESTMENT.**

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- 3) Once the maiden voyage had been made around the block or down the road. Take the time to double check all fasteners and hydraulic fittings for tightness. Also with the bike as close to level as you can safely get it, and the transmission fluid warmed up, double check the level of the fluid using the BAKER LSD Hydraulic Side Cover Dipstick method. Drain off any excess fluid if the transmission is overly full.
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