



INSTRUCTION FOR JIMS® 4/6-SPEED PRO CUT /CLEAN CUT TRANSMISSIONS , SUPER KITS, & 4/5 CASE

INSTRUCTION SHEETS FOR PART NUMBERS 8028C6, 8030C6, 8101, 8028P6, 8030P6 & 8101P, 8096, 8096P



All 4/6-Speed transmissions come with close ratio 1st gear, JIMS® billet pillow blocks, JIMS® chrome top and side covers, chrome hardware and JIMS® 7075T billet chrome trapdoors.

Clean-Cut 4/6 Speed

Application/ Year	Part No.	Case
FX & FL 1970 early '84	8028C6	Plain Aluminum
FX & FL 1970 early '84	8030C6	Polished Aluminum
FX & FL 1970 early '84	8101	Super kit (No Case)

Pro-Cut 4/6 Speed

Application/ Year	Part No.	Case
FX & FL 1970 early '84	8028P6	Plain Aluminum
FX & FL 1970 early '84	8030P6	Polished Aluminum
FX & FL 1970 early '84	8101P	Super kit (No Case)

4/5 Speed Transmission Case

Application/ Year	Part No.	Case
FX & FL 1970 early '84	8096	Plain Aluminum
FX & FL 1970 early '84	8096P	Polished Aluminum

Required (but not included) components for complete transmissions & Super kit

37088-79	Center clutch pushrod (H.D.®)
38607-87A	Clutch cable (H.D.®)
45031-65	Clutch cable pivot pin (H.D.®)
2226	Clutch release bearing kit (JIMS®)
74420-94*	Electronic Speedo Sensor
Aftermarket*	Speedo with built in calibrator
Aftermarket*	Forward controls (H.D.®) or equivalent)
12018	Inner Primary Seal (H-D®)
37090-79	Left clutch pushrod (H.D.®)
35126-36	Lock washer, MDG (JIMS®)
72405-98BK	Neutral switch connector (H.D.®)
72405-98TN	Neutral switch connector (H.D.®)
35211-36	Nut, main drive gear (H.D.®)
37089-79	Right clutch pushrod (H.D.®)
33715-85AC	Shifter lever (JIMS®)
33336-83*	Sprocket 23T or larger (Aftermarket)
9037	Primary Bearing (H.D.®)

*Optional, may be used with aftermarket equivalent

WARNING: Read all instruction before performing work!

Application Requirements

For use on FX & FL style frames, 1970 - Early 1984 only

1. Dry clutch as used on 4-speed tapered I.D. clutch hubs.
2. Chain final drive (Transmission to rear wheel)
3. 5-Speed style clutch cable
4. Electric start only (No provisions for kickers)
5. Designed to use OEM style forward controls and mid controls available through aftermarket.
6. May be used with either primary belt or primary chain drive

JIMS 6-SPEED IN A 4-SPEED STYLE CASE

JIMS® 4/6-speed transmission will deliver increased gas mileage, prolonged engine life, smoother shifting, increased torque, freed horsepower, and smoother cruising speeds while still using a 4-speed style case.

JIMS® 4/6-speed transmissions are assembled by JIMS® with JIMS® shafts and gears incased in a JIMS® case. All JIMS® transmissions are sealed with JIMS® gaskets and seals.

JIMS® Clean-Cut gears feature back cut shift dogs with lead-in ramping on mating gears for smooth shifting. Each gear in this kit (Close ratio first gear, 2.94) is precision machined from forged aerospace material and is matched to their corresponding gear.

JIMS® Pro-Cut gears provide smoother more positive shifting with their precision machined and matched mating gears. Each Pro-Cut Gear utilizes a steeper back cut shift dog angle than Clean Cut gears for quicker engagement during high speed acceleration. All gears are American made by JIMS® under stringent tolerances.

Note: See page 3 for important case information

Additional required (but not included) components for Super kits 8101 & 8101P only

8978*	Bearing, Main drive case (JIMS®)
8996*	Bearing, Main drive case (JIMS®)
2371CK*	Clutch release cover, clutch mechanism and hardware (JIMS®)
36801-87K*	Gasket, Side cover (10pk) (JIMS®)
33902-98*	Neutral switch (JIMS®)
11057K	Retaining ring,(10pk) (JIMS®)
11161*	Retaining ring (10pk) (JIMS®)
12067A*	Seal, Main drive case (JIMS®)
805*	Seal, Main drive case (JIMS®)
33119-79A*	Shifter arm adjuster screw (10 pk JIMS®)
7515K*	Shifter arm adjuster nut (JIMS®)
2384*	Shifter pawl assembly (JIMS®)
8089*	Spacer, Main drive (JIMS®)
33334-79*	Spacer, Main drive (JIMS®)
8999CK*	Top cover & fasteners (JIMS®)
8096,8096P*	Transmission Housing (JIMS®)
11165*	Quad seal (JIMS®)

*Optional, may be used with aftermarket equivalent

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TRANSMISSION INSTALLATION INSTRUCTIONS

WARNING: ALWAYS REMOVE NEGATIVE CABLE FROM BATTERY BEFORE PERFORMING ANY WORK!

Pre-installation procedures (Complete Transmission Assembly)

Read all Instructions before performing any work

1. Unpack and inspect all parts for damage, or missing components. Immediately notify the JIMS® dealer you purchased this transmission from for appropriate actions. Use the parts list on page 12-13 of these instruction sheets for inventory reference. Use JIMS® tool No.1008-TL trans holder for performing pre-installation work.
2. Remove original transmission according to your Harley-Davidson® Service manual.
3. Clean and inspect all reusable parts and components, and replace parts as needed.
4. Check all parts for correct fitment before installing transmission.
5. Remove the side cover (No.2371C) from trans assembly. Lube and install three clutch pushrods (H.D.® 37089-79 right, H.D.® No 37088-79 center, and HD.® No.37090-79 left) inside main shaft, also attach clutch release bearing kit (JIMS® No2226) to right pushrod (No.37089-79). Attach clutch cable o-ring (No.11179) and clutch cable to side cover (No.2371C). Also connect end of clutch cable-to-cable coupler (No.34920-86) and attach to inner ramp inside side cover. Now you are ready to mount gasket (No.36801-87A) and side cover (No.2371C) to trans assembly. Lube and torque side cover screws to 10-12 ft-lbs.
6. (Optional) Install JIMS® No.74420-94 electronic speedo sensor into the trap door speedo hole. **NOTE: Early transmissions used a mechanical drive from the trans case to drive the speedo, while later 4-speed transmissions used a mechanical drive from the front wheel . JIMS® new 4/6-speed was designed to be used with JIMS® No.74420-94 electronic speedo sensor in conjunction with one of the many aftermarket electronic speedos (with a built in calibrator).**
7. (Optional) If you decide not to use JIMS® electronic speedo sensor you must install JIMS® No.8042 speedo sensor hole block-off plate (included in kit with gasket and screw), or aftermarket equivalent.

Step- 1 Mount Transmission

With primary covers removed, align transmission-mounting studs with transmission plate mounting holes and anchor the transmission to the transmission mounting plate with nuts and washers. Tighten nuts enough to lock transmission in place. Do not tighten to proper torque. **CAUTION: Protect mounting stud threads while mounting. All JIMS® transmissions are shipped with a main shaft spline protector, this protector should be left in place until transmission is fully mounted and secured.**

Step- 2 Install main drive gear final drive sprocket

1. Place final drive sprocket No.33336-83 (H.D.® ref.) on main drive gear with convex side of sprocket (**Note: must use 23 tooth or larger**) facing outward with lock washer H.D.® No.35126-36 and nut H.D.® No. 35211-36.
2. Lock sprocket with chain and JIMS® tool no.2234, and tighten sprocket nut to 110-120 ft-lbs. of torque. Bend one tab on lock washer.
3. Install shifter arm, JIMS® No. 33715-85AC on to shifter spline shaft. Tighten shifter arm bolt to 18-22 ft-lbs of torque. **NOTE: JIMS® suggest positioning the shifter arm slightly off center pointing up and forward. (11:55 on a clock)**

Step- 3 Assemble inner primary cover to engine/transmission

1. Replace old inner primary bearing and seal. Install new bearing (H.D.® No.9037) and (H-D® No.12018) seal. **NOTE: You must support the inner primary bearing bore as you install the new bear-**

Continued on page 3 -->

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ing and seal.

2. Loosen transmission-mounting nuts. **NOTE:** *There must be enough play to position transmission, inner primary cover, and frame to prevent any binding.*
3. Align inner primary cover with transmission mounting studs and secure it with anchoring nuts and bolts to H.D.® factory specs per H.D.® manual.
4. Before continuing, check the clearance between inner primary cover, and the final drive sprocket with the chain on, it should be with 0.05" – 0.06". **NOTE:** *Some chains require more room and you may need to make clearance. Also check nut no.35211-36 to seal No.12018 for having at least .050" of clearance*
5. Tighten transmission to transmission mount plate. Torque to factory H.D.® manual specs. **NOTE:** *Check No.8049 mounting stud, shim if needed to sit level on frame. (Shim between frame and 5th mount)*
6. Pre-assemble clutch hub and mount on main shaft. Check for clearance between clutch hub and inner primary cover, and relieve as necessary to maintain a clearance of .020" to .050". Finish up assembly of clutch, primary chain, adjuster, etc. per H.D.® service manual.
7. Attach clutch cable to handle lever assembly using H.D.® No.45031-65 clutch cable pivot pin. Clutch cable length may vary per risers or handlebars. Check clutch adjustment per H.D.® manual for 1987 and later BT 5-speed models.
8. Use H.D.® No.72405-98TN and No.72405-98BK connector and wiring for connecting neutral switch wiring to top of trans.
9. For ease of installation and cost use front wheel drive units to drive Speedo or see your dealer for electronic Speedos and calibration units. Some fabrication will be required.
10. **IMPORTANT!** Add approximately 20-24 oz. Of 80W-90 transmissions gear oil, Jims No. 1230, to transmission through filler hole. After running transmission, allow bike to sit for a few minutes, and double check oil level. Fill as needed. Change trans oil after 1st 500 miles of use and then change oil at normal H.D service intervals.

Super Kit Pre-installation procedures

We have included the following instructions for the installing JIMS® No.8101 and No.8101P Super kits into JIMS® No.8096, or 8096P transmission case. If using another manufactures case, please read super kit note below. These instructions also apply to the disassembly and reassembly of JIMS® No.8028C6, 8028P6, 8030C6 and 8030P6 complete transmissions.

SUPER KIT NOTE

Depending on the manufacturer of the case you are using, you will need to measure the diameter of the hole where the main drive gear bearing sits in the case. If you have a dimension of approximately 2.95" diameter then you will need to use the following in the main drive gear area.

- A. 2.95" Main drive gear case bearing**
 - 8978- bearing, Main drive case (JIMS®)
 - 11057K- Retaining ring, (10pk) (JIMS®)
 - 805- Seal, Main drive case (JIMS®)
 - 33334-79- Spacer, Main drive (JIMS®)
- B. 3.345" Main drive gear bearing (8096 & 8096P Kits)**
 - 8996- Bearing, Main drive case (JIMS®)
 - 11161- Retaining ring (JIMS®)
 - 8089- Spacer, Main drive (JIMS®)
 - 11165- Quad seal (JIMS®)
 - 12067A- Seal, Main drive case (JIMS®)

JIMS® TRANSMISSION CASE NOTE

No.8096 & 8096P Pre-Assembly Procedures 5-Speed transmission installation

Note: Some assembly required (See pages 13-16). If you are building a 5-speed transmission using JIMS® 5-speed superkits No.8100 or No.8100P, or an aftermarket equivalent you will not need to modify this case. However, you should always check for running clearances when mixing products from other manufactures. Refer to the super kit note to the left for main drive gear differences. Refer to pages 13-16 for the listing of all parts associated with the 8096/8096P transmission case kit.

6-Speed Transmission Installation

If you are installing JIMS® 6-speed Super Kits No.8101 or 8101P you will need to read and follow the entire instruction sheet No.8028C6. Please note that JIMS® 6-speed super kits No.8101 and No.8101P require case modifications for proper case to gear clearances.

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JIMS® SPECIAL TOOLS

#2234	Primary Drive Locking Tool
#94660-37A	Main shaft Sprocket Wrench
#2260	Big Twin Sprocket Locker
#35316-80	5-speed Transmission Main Drive
#2189	5-Speed Shaft Installer
#2362	Lock ring pliers
#1078	Door Bearing Remover / Installer

WARNING

(NOTE: Read all instructions before performing work)

Prior to installation of this kit, please read and follow the procedures and safety precautions to reduce the risk of personal injury. Refer to your bike's year and model H.D.® Service Manual during installation of this kit. Read these instructions completely so you understand before performing any steps. Always disconnect battery cables to prevent injury. Your work place should be clean and well lit. Wear safety glasses and protective clothing when working around power tools and compressed air. Be careful with chemicals when cleaning parts. Protect your skin from solvents and use only in a well ventilated area. Degreasers are flammable and are a fire hazard. Just use common sense and exercise good judgment.

This kit is basically easy to install, but does require some special tools (See tool list).

Use a 5-speed Big Twin H.D.® Service Manual and parts book for reference. If you are not sure about the procedures in these instructions, have a reputable H-D® repair shop perform those procedures for you.

INSTALLATION INSTRUCTIONS

Case Preparation / Gear set Removal

If Super kit is replacing or refreshing an existing 4/5-speed, refer to your early 5-speed H.D.® Service Manual for removal of your 5-speed gear set.

The JIMS® 4/6-speed Super kit is designed to fit into JIMS® and other 4/5-speed transmission cases with some modifications. These modifications require that you remove case material in key clearance areas. Please read all instructions completely before attempting modifications.

Note: these modifications will not limit your ability to use a 4/5-speed gear set in the future.

CAUTION: Before grinding or filing (cover or remove all bearings and seals, and any motor or transmission parts in the area.)

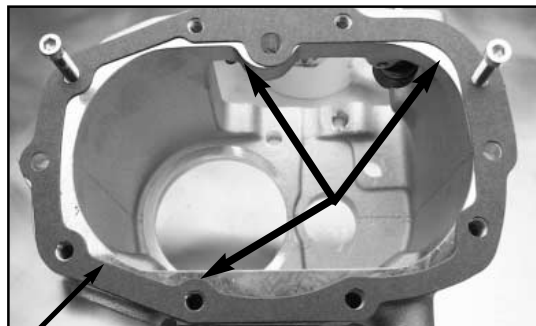
Check No.1 - Main shaft 6th gear clearance check (Note: You must maintain a .060" of gear to case clearance at all times)

Placed the side door gasket provided onto the dowel pins of the case. Figures 2-5 shows the areas of concern that has to be checked.

If the material of the case around the 5/16 -18 screw hole is above the profile of the gasket, the material must be removed from the case.

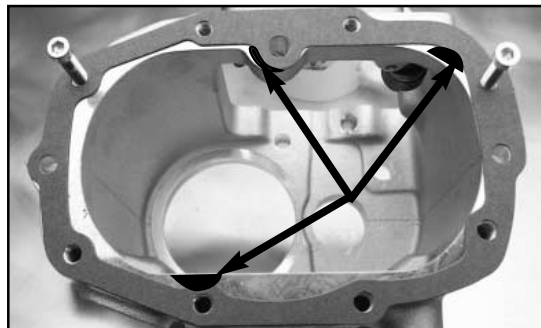
To accomplish this, mark the area with a black felt pen and draw around the gasket as shown in figure 3. Remove the marked material 1/2" inward (perpendicular to gasket surface) from the gasket surface of the case. A die grinder

FIGURE NO.2



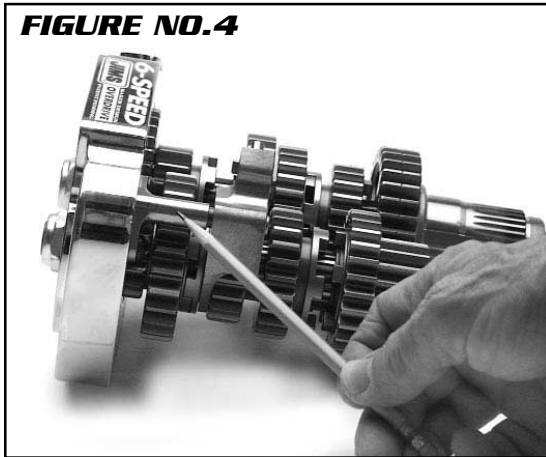
gasket

FIGURE NO.3



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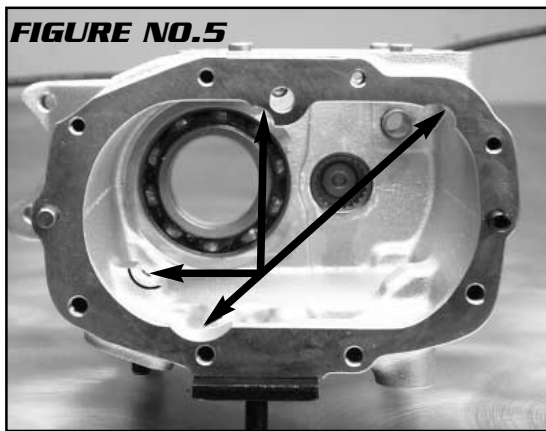
with a carbide burr tool for aluminum cutting can be used or a course flat file also works well.

Check No.2 - Auxiliary fork shaft bridge clearance

The auxiliary fork shaft bridge comes installed on the inside of the side door as shown in figure 4. The fork shaft bridge functions as the support for the 4th C/S gear fork shaft.

Again, with the gasket still in place on the dowels, notice the upper right hand corner of the gasket, and if any aluminum is present below the gasket, as shown in figures 2&3, remove the material inward (perpendicular to gasket surface) 1-3/8" from the gasket surface. A large, coarse round file works well.

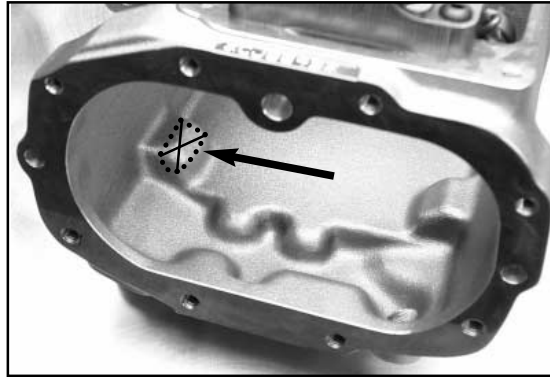
Clearancing must also be done internally on the right rear mounting stud perch. (*Note: This is for the third gear counter shaft clearance. You*



must maintain a .060" of gear to case clearance at all times) Remove approximately a .625" radius perpendicular to the trap door.

See figure 5 and 6.

FIGURE NO.6



Note: The stud hole will become partially exposed while clearancing the above area. Some contact with the steel stud may occur and it is important that you use a die grinder bit suitable for both aluminum and steel. All base studs have been coated with locking compound prior to installation to prevent oil bypassing through this expose stud hole.

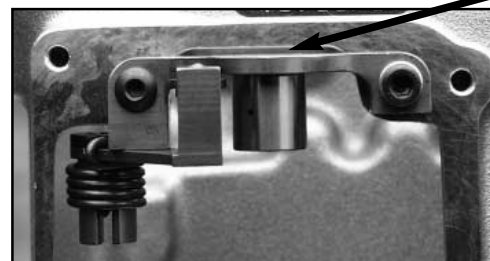
Check No.3 - Right side pillow block clearance

The right side pillow block/roller detent assembly needs to be checked for proper fit to the case. The face of the pillow block to case clearance - see figure 7. Minimum clearance .010, maximum clearance is .060.

The pillow block / detent assembly must also fit squarely down over the dowels.

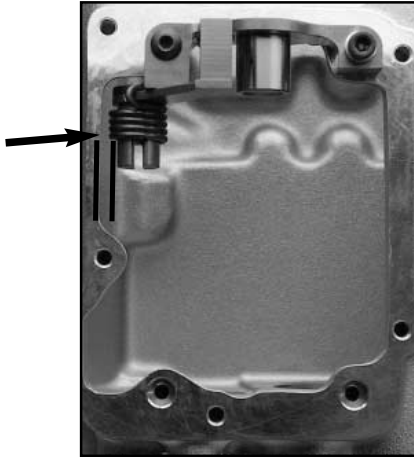
Also check to make sure that some gap

FIGURE NO.7



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**FIGURE NO.8**

exists (approximately. 1/16" - 1/8") between the torsion spring and the side of the case as shown in figure 8.

Check #4 - Primary fork rod boss clearance

The boss, in which the fork rod slides through, must be checked for clearance for the main shaft 6th gear. Once again, use the side door gasket for this check. Figure 2 & 9 shows the area of concern. If the material of the case is outside the profile of the gasket, remove material below gaskets, 1/2" inward (perpendicular to gasket surface.) A large, coarse flat file works best

CAUTION: REMOVE ALL METAL FILINGS FROM INSIDE OF CASE BEFORE FINAL ASSEMBLY.

ADJUSTMENTS / SET-UP AND CHECKS

FIGURE NO.9

NOTE: (See figure 1 for reference)

The JIMS® 6-speed Overdrive has only two adjustments, just like the 5-speed. The first adjustment required is the shift drum end play which is different than the 5-speed. The second adjustment is the shifter pawl adjusting screw which is identical to early 5-speed and is performed as one of the last steps in the installation.

In the 5-speed design, axial thrust from the shift drum (during shifting) is controlled by the right side pillow block only. Both pillow blocks (left and right side) control the axial thrust on the 6-speed Overdrive. The shim to properly set-up the end play is placed adjacent to the left side pillow block,

see figure 10.

Two shims are provided (a .030" and a .025" shim) to set-up this clearance - end play spec is .005" + / - .003.

Start by putting the .025 thick shim on the end of the shift drum. Install the shift drum. The kit includes (4) Allen Head bolts to hold the pillow blocks in place, 3 of the bolts are 1/4"-20"x1 1/4" socket head Allen, and one bolt is a 1/4"-20"x1 1/4" button head Allen.

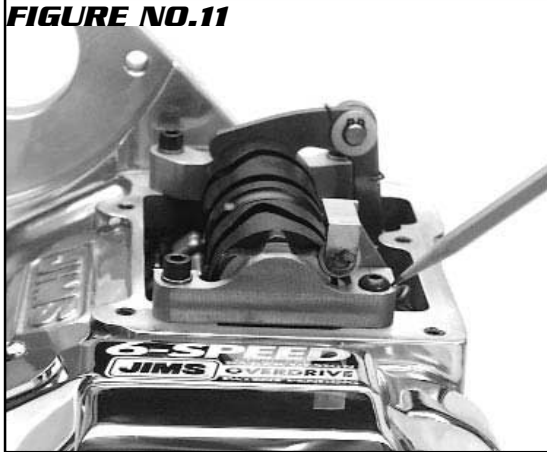
Also, there are 3 A-N type washers, these are used on the socket head Allen. The button head bolt does not use a washer. The button head bolt is used on the right side pillow block in



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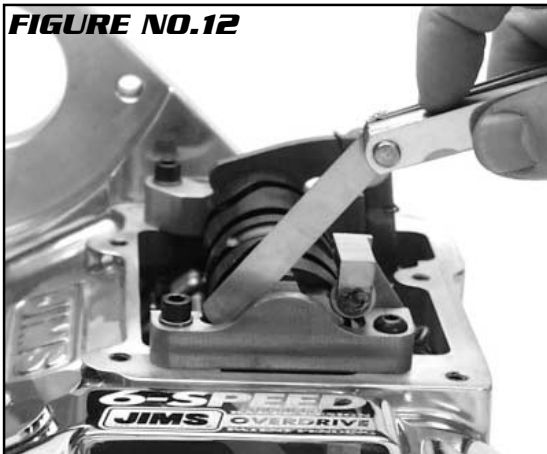
**FIGURE NO.11**

the forward position, below the detent roller. See Figure 11.

Apply a small amount of assembly lube to dowels. Put the Allen bolts into the pillow block holes and tighten down the shift drum / pillow block assembly squarely. 'Squarely' means tighten down the bolt, one turn each at a time to pull down the pillow blocks over the dowels*. A circular pattern for tightening the four bolts works best.

**The right side pillow block may be stubborn in making its way over the dowels. Tightening down the pillow block bolts in a circular pattern, as specified above, is usually sufficient to overcome this.*

Measure the end play next to the right side pillow block as seen in figure 12.

FIGURE NO.12

If the measured value is within spec., discard the other shim and remove the shift drum / pillow block assembly. If it is greater than .008", repeat procedure with the other (thicker) shim. In the unlikely event it is less than the lower limit of .002 this is due to a variation in your housing, tolerance stack-up of the JIMS® hardware, or a combination of both.

Regardless of the cause, it needs to be corrected. Please call JIMS® and have some vernier calipers available to take measurements during your conversation to assist with diagnosis. If we determine that the difficulty is with your case, we will advise you how to remedy the situation. If the difficulty is with our hardware, we will ship replacement hardware to remedy the situation.

With the preceding checks and set-ups out of the way, you are now ready to begin installation.

GEAR SET INSTALLATION FOR CLEAN CUT & PRO CUT GEARS 6-SPEEDS

Note: Apply assembly lube to all moving parts, from your seals to your bearings.

(**Note:** Some aftermarket 4/5 transmissions cases may use other year main drive gear bearings. See page 3 Super Kit note.) NEVER install the bearing into the case by applying pressure to the inner race, you will destroy the bearing. Install the new retaining ring, JIMS® No.11067K with the bevel facing out. For a new case, install the main drive gear bearing with assembly lube and retaining ring as indicated. Install the main drive gear into the main drive gear bearing using the same JIMS® tool No.35316-80. Hang the side door gasket onto the case dowel pins and carefully push it down to seat against the case gasket surface.

Apply some spray lube JIMS® No.1226 or equivalent to the main drive gear seal and to the main shaft (on the portion adjacent to the splines).

CAUTION: MAKE SURE THE SEAL PROTECTOR IS STILL ON THE END OF THE MAIN SHAFT, BEFORE SLIDING THROUGH THE MAIN DRIVE GEAR.

(see figure 1)

Install the gear set by sliding the main

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shaft through the main drive gear and slowly pushing the whole trap door / gear set assembly until the case dowel pins contact the dowel holes in the side door. A rubber hammer is helpful to tap the side door over the case dowel pins without risking any damage to the aluminum / chrome of the side door.

Install the four 5/16" SHCS (socket head cap screws, with lube on the threads) in the lower 4 screw holes and torque them to 13-16 ft-lbs. Install the two 1/4" SHCS in the screw holes above each dowel and torque them to 7-9 ft-lbs.

Shift Fork Installation

Figure 1 details the names of the 4 shift forks that are provided with this kit. Page 11 details where these forks belong on the gear set. The 3rd C/S, 2nd M/S, and 1st M/S forks will ride on the primary fork rod (like 5-speed). The 4th



C/S fork rides on the auxiliary shaft that will be pushed through the door.

First, install the 1st M/S fork. You must slide the 1st gear away from the door and engage the dogs of the adjacent gear (4th) to allow room for the fork to slide, see Figure 13.

Next, install the 4th C/S fork.

Install the 3rd C/S and 2nd M/S forks in the positions specified. Slide the primary fork rod through the 1st M/S fork, 3rd C/S fork, and 2nd M/S fork.

Insert shift fork shaft No. 8075, with a

small amount of lube No.1226 on small end of shaft only, through trap door and into shift fork No. 8069A C/S 4th fork.

NOTE: While pushing the auxiliary fork shaft through, hold onto the 4th C/S gear fork and make sure the fork is positioned correctly to receive the auxiliary fork shaft that is simultaneously being pushed through.

Install set screw No.3784C with 2 drops of Thread locking compound No. 242 on screw and in threaded hole. To hold shaft No.8075 in place. Torque to 2-4 Ft Lbs.

Function check

With the 4 forks and the primary and secondary fork rods installed, check to make sure that the forks slide freely on the fork rods by moving them back and forth with your fingers. In particular, if you experience any binding of the 4th C/S fork, you most likely need to go back and perform clearance check #2 in the case clearance checks section.

SHIFT DRUM / DETENT SYSTEM / PILLOW BLOCK INSTALLATION

Install the shift drum assembly as detailed in the Adjustments / Set-Up and Checks section. This time, however, you must be careful to make sure the fork pins are in the grooves in which they belong. As mentioned before, it is recommended that you tighten down the Allen bolts in a circular pattern. Monitor closely the pins of the forks relative to the shift drum grooves. Application of Thread locking compound No. 242 to all four bolts is recommended. Set the adjustment on the shifter pawl adjustment screw per H.D.® Service Manual Section 7, SHIFTER LINKAGE Adjustment.

Clutch Rod End - Right Side

Refer to the Pre-installation procedures on page 2.

CLUTCH RELEASE COVER INSTALLATION

Install clutch release cover onto the side door. **Note:** that two of the screw holes in the side door that receive two clutch cover screws have a threaded depth of 1/2". This means, if you are using an O.E.M. style clutch cover, you must use

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the two 1/4-20x2" SHCS that are provided, or any other SHCS with a 2" length. The positions of these two screw holes are shown in **figure 15**. If you are installing a JIMS® billet cover the correct length screws are supplied with the cover kit. If you are using any other custom cover, check and make sure the screws do not bottom out in the side door holes.

SPEED SENSOR INSTALLATION

If you have a transmission case with speed sensor provisions, install one of the sensor block-off plate kits No. 8042K in the case. Relocate the speed sensor to the provision in the side door. If you are not running a speed sensor, use another block off plate kit No. 8042K, in the side door. You may require a speed sensor signal conversion box to correctly calibrate the speedo head. Dakota Digital speed recalibration units (model SGI - 6) are available through: *Dakota Digital, 3421 W. Hovland Ave., Sioux Falls, SD 57107 Phone: (605) 332-6513 Fax: (605) 339-4106*

Fluid Fill

Fill the assembled gearbox with 20-24 oz. of Torco 80W-90W oil, JIMS® No. 1230. Change oil at 500 miles. Refill case with Torco 75W-140 Synthetic, JIMS® No.1232

DISASSEMBLY

In general, disassembly of your JIMS® 6-speed Overdrive is the reverse of content of the Installation Instructions with only one note; to remove the auxiliary fork shaft No.8075, you may need a slide hammer with a 10-32 threaded tip.

WARRANTY

All JIMS® parts are guaranteed to the original purchaser to be free of manufacturing defects in material and workmanship for a period of six (6) months from the date of purchase. Merchandise that fails to conform to these conditions will be repaired or replaced at JIMS® option if the parts are returned to us by the purchaser within the six (6) months warranty period or within ten (10) days thereafter.

In the event warranty service is required, the original purchaser must call or write JIMS® immediately with the problem. Some problems can be rectified by a telephone call and need no further course of action. A part suspected of being defective must not be replaced by a dealer without prior authorization by JIMS®. If it is deemed necessary for JIMS® to make an evaluation to determine whether the part is defective, it must be packaged properly to prevent further damage and be returned pre-paid to JIMS® with a copy of the original invoice of purchase and a detailed letter outlining the nature of the problem, how the part was used and the circumstances at the time of failure. If after an evaluation has been made by JIMS® and the part was found to be defective, repair, replacement or credit will be granted.

ADDITIONAL WARRANTY PROVISIONS

1. JIMS® shall have no obligation in the event a JIMS® part is modified by person or organization.
2. JIMS® shall have no obligation if a JIMS® part becomes defective in whole or in part as a result of improper installation, improper maintenance, improper use, abnormal operation, or any other misuse or mistreatment of the part.
3. JIMS® shall not be liable for any consequential or incidental damages resulting in the failure of a JIMS® part, the breach of any warranties, the failure to deliver, delay in delivery, delivery in non-conforming condition, or for any other breach of contract or duty between JIMS® and a customer.
4. JIMS® parts are designed exclusively for use in Harley-Davidson® motorcycles. JIMS® shall have no warranty or liability obligation if JIMS® part is used in any other application.
5. Any JIMS® parts or tools that are returned and replaced become the property of JIMS® and will not be returned under any circumstance.

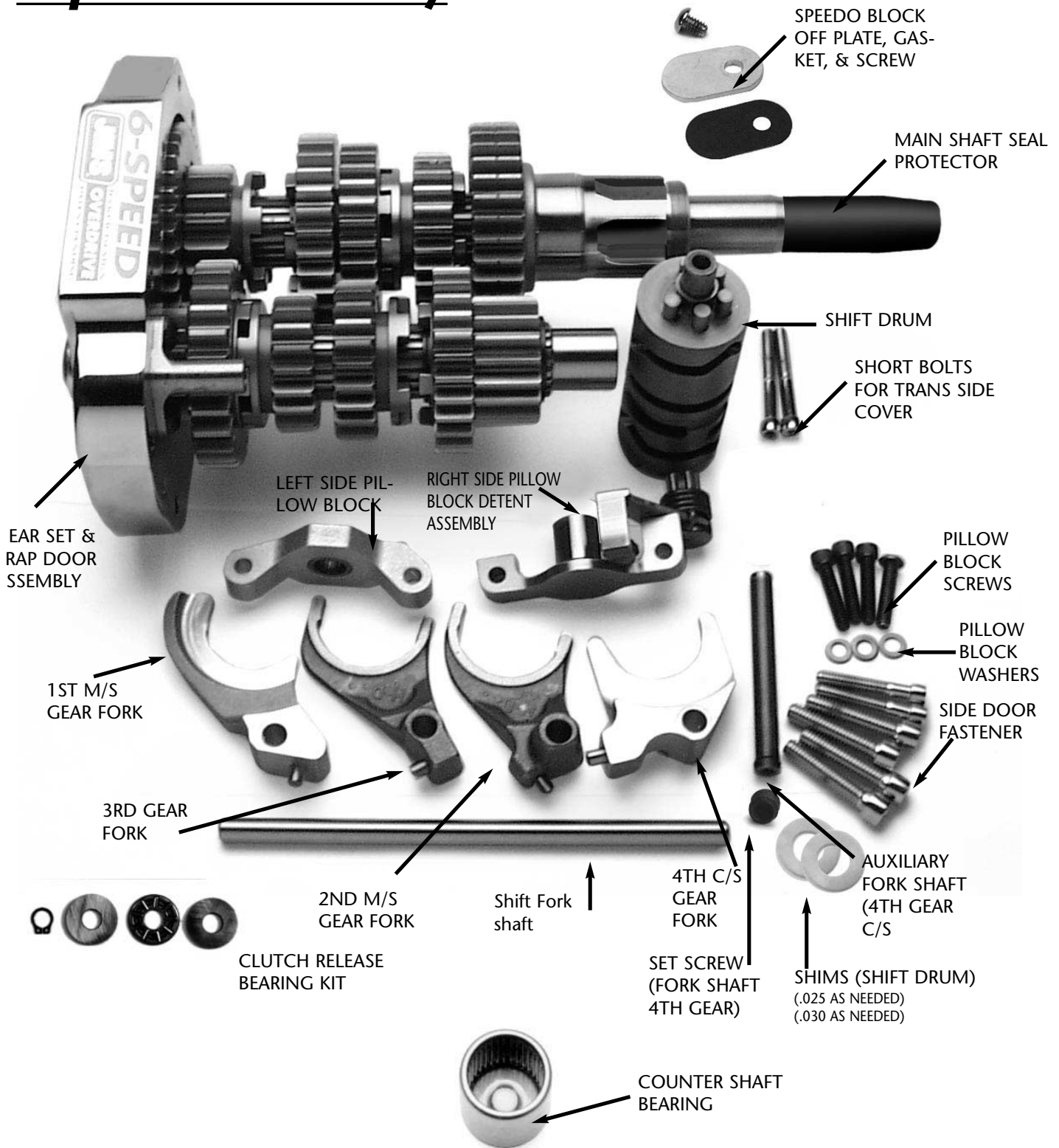
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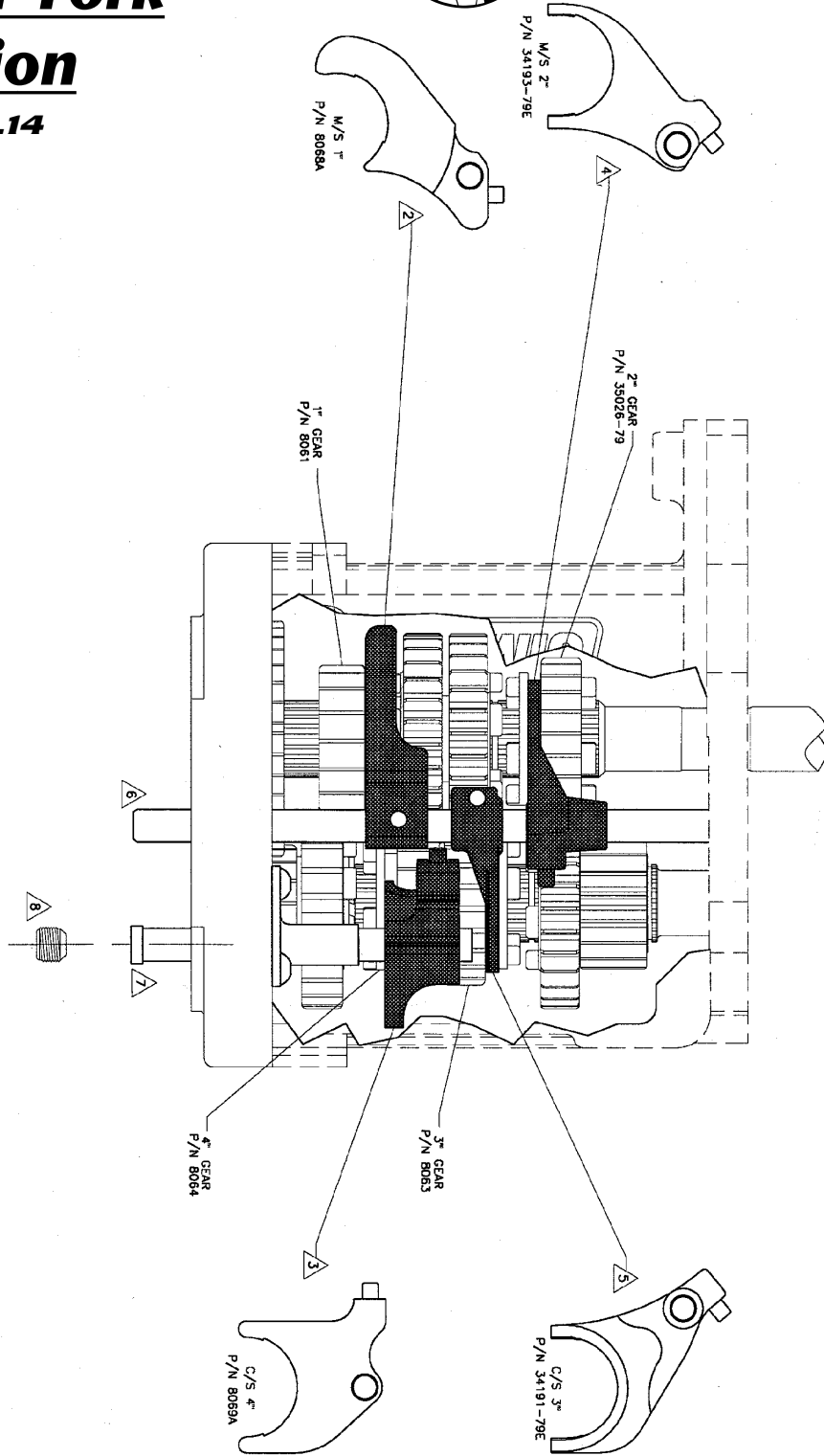
Super kit Assembly





Shifter Fork Location

FIGURE NO.14



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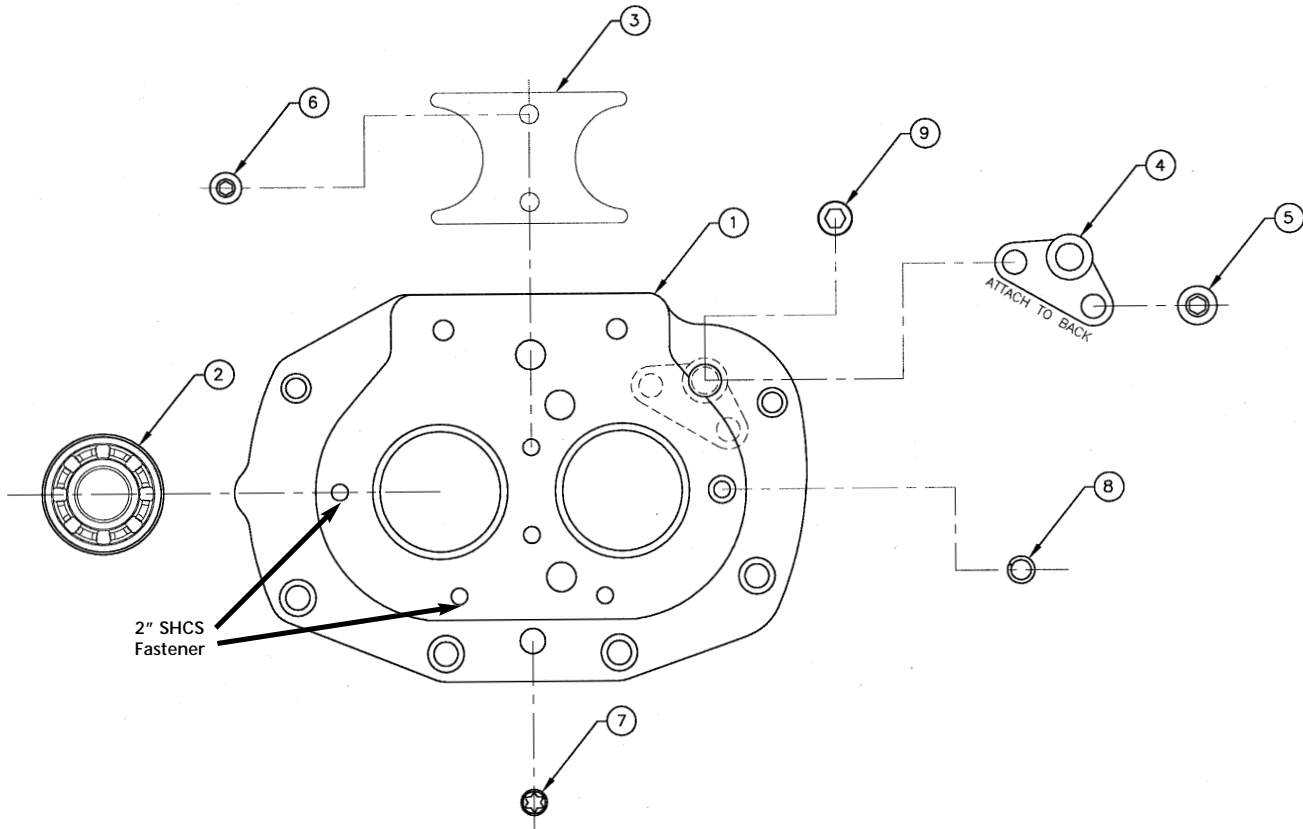
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Trap Door Assembly

FIGURE NO.15



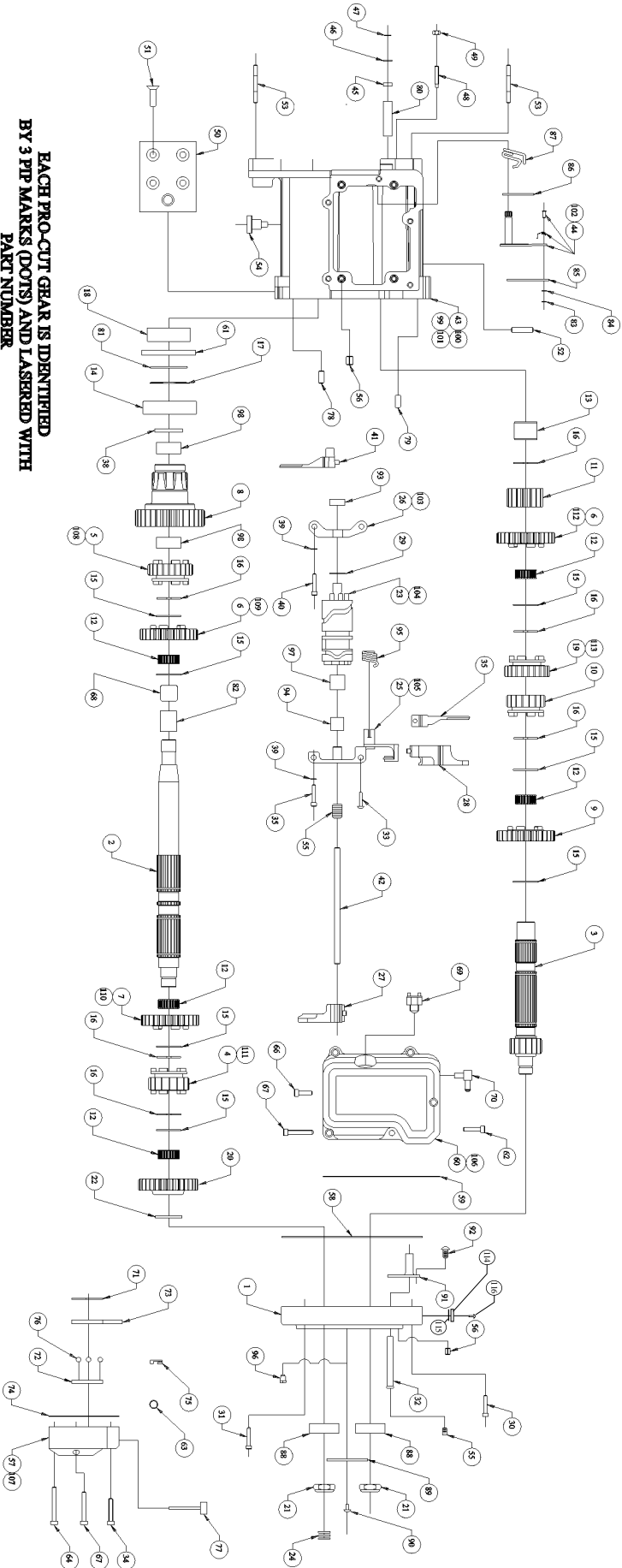
NO.	QTY.	TITLE OR DESCRIPTION	PART NO.
9	1	SET SCREW, CHROME	3784C
8	1	SPLIT PIN	609
7	1	MAGNETIC DRAIN PLUG	739A
6	2	SCREW, BUTTON HEAD	8090
5	2	SCREW, BUTTON HEAD	8091
4	1	BRIDGE SUPPORT	8074
3	1	RETAINER PLATE	8073
2	2	BEARING	8998
1	1	4/5/6 CHROME BILLET TRAP DOOR	8095C

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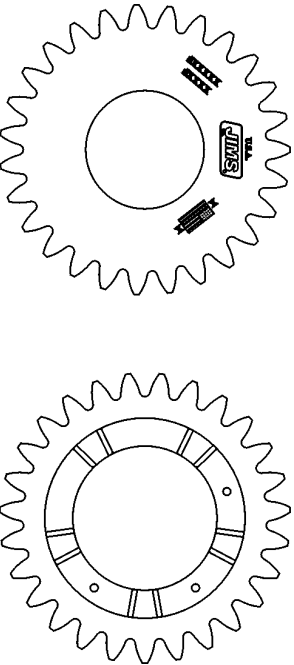
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FIGURE NO.16

Exploded View Pro-Cut & Clean-Cut



No.8028C6-IS



6-speed pro-cut gears sets must be assembled on the proper shaft, with the dogs facing the correct mating gear. Gears are lasered with part No.)

Note: Assemble pro-cut gears on the main shaft and counter shaft using assembly figure No.18. Check part number before and after gears are assembled on shafts. This step is essential for proper assembly of the transmission. Improper placement of the gears will result in the malfunction of the transmission and damage.

Customer Support: For any installation on service or Questions, please contact JIMS® technical Depart. @ 805-482-6913.



**4/5/6-Speed transmission parts list.
Clean-cut and Pro-cut gears.**

Parts List

No.	Qty.	Description	Part Number
1	1	Trap door, 4-5-6 Speed w/speedo hole	8095C
2	1	Main Shaft, 4-5-6 Speed	8072
3	1	Countershaft combo 5th gear, 4-5-6 Speed	8094
4	1	Gear, 1st, Mainshaft Close ratio 6-Speed, Clean-Cut	8061
5	1	Gear, 2nd, Mainshaft, Clean-Cut	35026-79
6	2	Gear, 3rd, Mainshaft, 2nd Countershaft, Clean-Cut	35027-79
7	1	Gear, 4th, Mainshaft, Clean-Cut	35028-79
8	1	Gear, 5th, Mainshaft, Clean-Cut	35029-79
9	1	Gear, 1st, Countershaft, Close Ratio	8062
10	1	Gear, 4th, Countershaft, Clean-Cut	8064
11	1	Gear, 5th, Countershaft, Clean-Cut	35626-79
12	5	Bearing, Mainshaft & Countershaft	8876A
13	1	Bearing, Countershaft end	8048
14	1	Bearing, Transmission Case	8996
15	7	Thrust Washer, Mainshaft & Countershaft	6003
16	8	Retaining Ring, Mainshaft & Countershaft	11067
17	1	Retaining Ring, Main Drive Gear Bearing	11161
18	1	Seal, Spacer	8089
19	1	Gear, 3rd, Countershaft, Clean-Cut	8063
20	1	Gear, 6th, Mainshaft, Clean-Cut	8065
21	2	Locknut, Mainshaft & Countershaft	35078-79
22	1	Thrust Washer, Mainshaft 6th Gear	8081
23	1	Shift Drum, 6-Speed, Late	8071-1L
24	1	Throwout Bearing Kit	2226
25	1	Pillow Block, Billet, Right Assembly, 6-Speed	8079W
26	1	Pillow Block, Billet, Left	2528-1
27	1	Shift Fork, 1st Gear Mainshaft, 6-Speed	8068A
28	1	Shift Fork, 4th Gear, Countershaft, 6-Speed	8069A
29	1	Thrust Washer, Shift Drum, .025"	8077-1
30	4	Screw, SHCS, Chrome, 5/16-18 x 1 1/4 (Door)	1118
31	2	Screw, SHCS, Chrome, 1/4-20 x 1 1/4 (Door)	1258
32	1	Rod, Shift Fork, 4th, 6-Speed	5075
33	1	Screw, BHCS, 1/4-20 x 1 (Pillow Block)	1287
34	2	Screw, SHCS, Chrome, 1/4-20 x 2 3/4 (End Cover)	1260
35	1	Screw, SHCS, 1/4-20 x 1 1/8	1213
36	1	Box, With Foam Insert	2393
37	1	Instructions Sheet	8028C6-IS
38	1	Seal, Main Drive Gear	12013A
39	3	Washer, AN 1/4" (Pillow Block)	1215
40	2	Screw, SHC, 1/4-20 x 1 1/4 (Pillow Block)	2135
41	1	Shift Fork, 2nd Gear, Mainshaft	34193-79E
42	1	Shaft, Shift Forks	34088-87
43	1	Case, Polished, W/Pins & Studs, Machined	8096MP
44	1	Lever Shaft	34084-86A
45	1	Seal, Shaft, Shifter Lever	12045
46	1	Washer, Shifter Shaft	6497HW
47	1	Lock Ring, Shifter Shaft	11150
48	1	Screw, Adjuster	33119-79A
49	1	Nut, Adjuster Screw	7515
50	1	Mount, Transmission	8049
51	4	Screw, Flathead, Mount	8054
52	4	Stud, Bottom, Mount	8052
53	4	Stud, Primary, Mount	8053
54	1	Plug, Magnetic, w/nylon washer	60348-65B
55	2	Screw, Set	3784C
56	6	Roll Pin	609
57	1	Cover, End, Chrome	2371C
58	1	Gasket, Door	35652-79
59	1	Gasket, Lid	34904-86

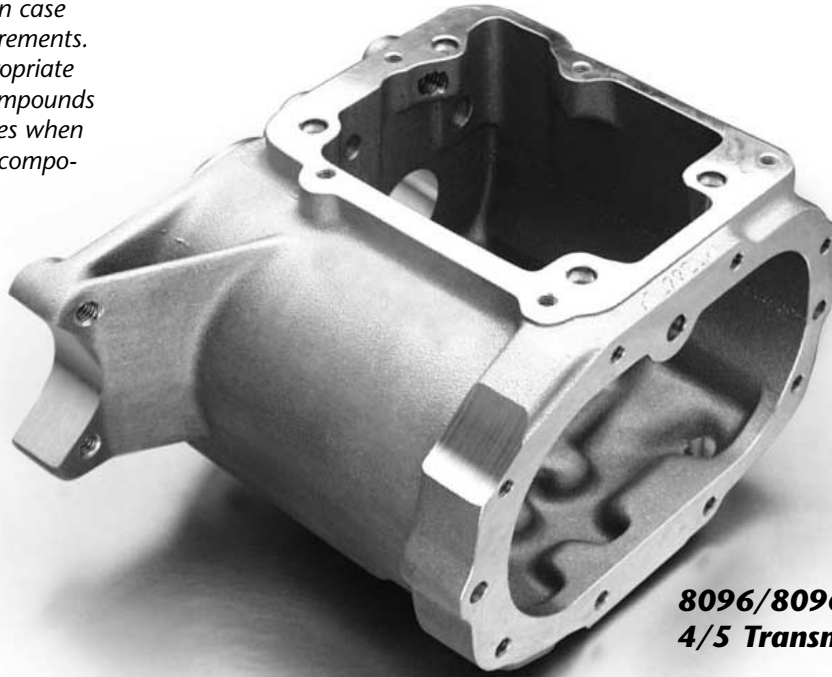


**4/5/6-Speed transmission parts list.
Clean-cut and Pro-cut gears.**

60	1	Cover, Top Lid, Chrome	8999C
61	1	Seal, Main Drive, Gear	12067A
62	1	Screw, SHCS, 1/4-20 x 1 (Lid)	1115
63	1	O-Ring, Clutch Cable	11179
64	2	Screw, SHCS, 1/4-20 x 3/4 (Side Cover)	1121
65	3	Oil, 1 Quart	1230
66	4	Screw, SCHS, 1/4-20 x 3/4 (Lid)	1259
67	3	Screw, SCHS, 1/4-20 x 1 1/2 (Lid & Side Cover)	1261
68	1	Cap, Plastic	2401
69	1	Switch, Neutral, late	33902-98
70	1	Vent, Fitting	62375-57
71	1	Retaining Ring, Ball Ramp	10998
72	1	Ramp, Inner	25452-87A
73	1	Ramp, Outer	25453-87A
74	1	Gasket, End Cover	36801-87A
75	1	Coupler, Cable	34920-86
76	3	Ball Bearing, Ramp	8873
77	1	Dip Stick	37075-87
78	1	Pin, Dowel	375
79	1	Pin, Roll	634
80	1	Bushing, Shifter Shaft	33114-79
81	1	Quad Seal	11165
82	1	Tubing, Shrink	8012
83	1	Ring, Retaining	11016
84	1	Washer	6016
85	1	Pawl, Shifting Shaft	35086-79
86	1	Plate, Shifter Shaft	35068-79J
87	1	Spring, Shifter Shaft	34087-79A
88	2	Bearing, Trapdoor	8998
89	1	Plate, Retaining	8073
90	2	Screw, BHSS 1/4-20 x 1/2	8090
91	1	Support, Bridge	8074
92	2	Screw, BHSS, 5/16-18 x 3/4	8091
93	1	Bearing, Pillow Block, Left	9115
94	1	Race, Inner	8082
95	1	Spring, Detent	8079-2
96	1	Plug, Magnetic Drain	739A
97	1	Bearing, Shift Drum	35961-52
98	2	Bearing, Main Drive Gear	8904
99	1	Case, Plain, W/Pins & Studs, Machined	8096M
100	1	Case, Plain, Assembly	8096
101	1	Case, Polished, Assembly	8096P
102	1	Shifter Lever Assembly	2384
103	1	Left Pillow Block Assembly	2528
104	1	Late Shift Drum Assembly	8071AL
105	1	Right Pillow Block Assembly	8079A
106	1	Chrome Lid Assembly	8999PK
107	1	Chrome Side Cover Assembly	2371CH
108	1	Gear, 2nd, Mainshaft, Pro-Cut	8058-3
109	1	Gear, 3rd, Mainshaft, Pro-Cut	8058-5
110	1	Gear, 4th, Mainshaft, Pro-Cut	8058-7
111	1	Gear, 1st, Mainshaft, Pro-Cut	8061P
112	1	Gear, 2nd, Countershaft, Pro-Cut	8058-2
113	1	Gear, 3rd, Countershaft, Pro-Cut	8063P
114	1	Speedo Sensor Block-Off Plate	8042
115	1	Gasket, Speedo Block-Off Plate	8041
116	1	Screw, Speedo Block-Off Plate	1120

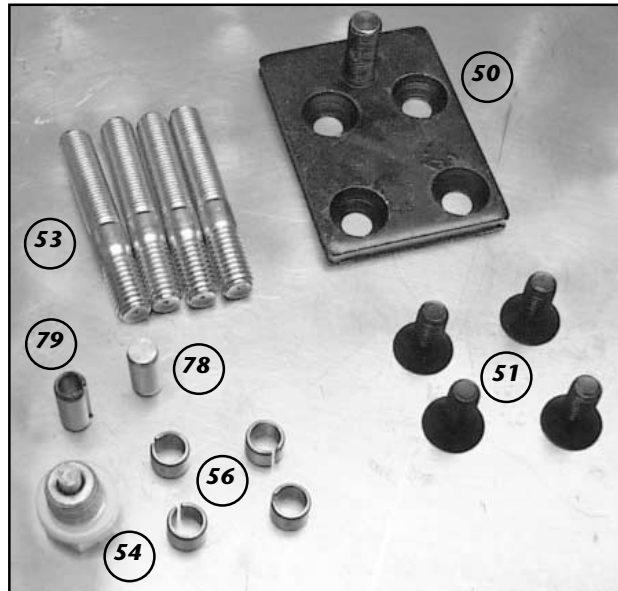


NOTE: Please see page 3 for transmission case application requirements. Please use appropriate thread locking compounds and press fit lubes when installing these components.



**8096/8096P
4/5 Transmission Case**

#	Part no.	Description	Qty.
53	8053	Stud, Primary cover	4
50	8049	Bracket, Bottom	1
54	60348-65B	Drain Plug	1
-	8096(P)	Case	1
79	634	Roll Pin, F-door	1
78	375	Dowel Pin, R-door	1
56	609	Pin, Lid	4
51	8054	Screws, Bracket	4



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