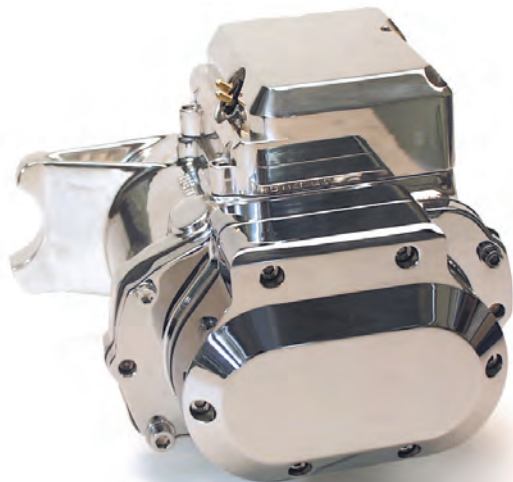




A DIVISION OF THIESSEN PRODUCTS, INC.

**INSTRUCTION SHEET FOR 4-5-SPEED PRECISION CUT TRANSMISSION**

INSTRUCTION SHEETS FOR PART NUMBERS 8028 AND 8030



All 4/5-Speed transmissions come with close ratio 1st gear, JIMS® chrome top and side covers, chrome hardware and JIMS® 7075T billet chrome trapdoors.

**Precision-Cut 4/5 Speed**

Application/ Year	Part No.	Case
FX & FL 1970 early '84	<b>8028</b>	Plain Aluminum
FX & FL 1970 early '84	<b>8030</b>	Polished Aluminum

**Parts Included With Trans Assembly In Box**

- No. 8051 *Bearing Sleeve (Inner Primary)*
- No. 8050 *Inner primary bearing*
- No. 11179 *Clutch cable o-ring*
- No. 1230 *Qt. 80W90 trans oil*
- No. 36801-87A *Side cover gasket*

**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
7. This transmission has no provisions for mechanical or electrical speedo sensors.

**JIMS 5-SPEED IN A 4-SPEED STYLE CASE**

JIMS® 4/5-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® 4/5-speed transmissions are assembled by JIMS® with JIMS® shafts and gears. All JIMS® transmissions are sealed with JIMS® gaskets and seals.

JIMS® **Precision-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.

**\*\*\*Parts Required, But Not included\*\*\***

- |   |   |
|---|---|
| • No. 2226 <i>Clutch release bearing kit (JIMS®)</i>      | • No. 33715-85AC <i>Shifter lever (JIMS®)</i>                           |
| • No. 37089-79 <i>Right clutch pushrod (H-D®)</i>         | • No. 35211-36 <i>Nut, main drive gear (H-D®) or JIMS® No. 35211-91</i> |
| • No. 37088-79 <i>Center clutch pushrod (H-D®)</i>        | • No. <b>Aftermarket*</b> <i>Forward controls (H-D® or equivalent)</i>  |
| • No. 37090-79 <i>Left clutch pushrod (H.D)</i>           | • No. 12018 <i>Inner Primary Seal (H-D®)</i>                            |
| • No. 38607-87A <i>Clutch cable (H-D®)</i>                | • <i>Front wheel speedo drive unit</i>                                  |
| • No. 45031-65 <i>Clutch cable pivot pin (H-D®)</i>       | <i>*Optional per model</i>  |
| • No. 33336-83 <i>Sprocket (H-D®)</i>                     |   |
| • No. 31479-79 <i>Starter bracket 1980 to 1983 (H-D®)</i> |   |

NOTE: IT IS THE BUILDER'S RESPONSIBILITY TO CHECK AND CONFIRM ALL OPERATING CLEARANCES WHEN INSTALLING ANY JIMS® PRODUCT.

*Performance Parts For Harley-Davidson® Motorcycles*



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## TRANSMISSION INSTALLATION INSTRUCTIONS

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

### Pre-installation procedures

#### 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 4 - 6 for inventory reference. Use JIMS® No. 1008-TS 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, replace parts as needed.
4. Check all parts for correct fitment before installing transmission.
5. Remove 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 mainshaft. Attach clutch release bearing kit (JIMS® No. 2226) to right pushrod (No. 37089-79). Attach clutch cable o-ring (No. 11179) and clutch cable to side cover (No. 2371C). Connect clutch cable coupler (No. 34920-86) to inner ramp inside side cover. Mount gasket (No. 36801-87A) and side cover (No. 2371C) to trans assembly. Lube and torque side cover screws to 10-12 ft-lbs.

Builders Note: If installed on any motorcycle other than one that came stock with a dry clutch, it will be the responsibility of the builder to install proper parts needed to make this transmission installation work and function safely. For example: Primary Drive and other related parts.

### Step- 1 Mount Transmission

With primary covers removed, align transmission-mounting studs with transmission plate mounting holes and anchor transmission to 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 mainshaft 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 H-D® No. 33336-83 on main drive gear with convex side of sprocket facing outward using lock washer H-D® No. 35126-36 and nut H-D® No. 35211-36.
2. Lock sprocket and chain with JIMS® tool No. 2234, and tighten sprocket nut to 110-120 ft-lbs. Bend one tab on lock washer.
3. Install shifter arm, JIMS® No. 33715-85AC to shifter spline shaft. Tighten shifter arm screw to 18-22 ft-lbs.  
**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. Remove old inner primary bearing and seal. Install new bearing (No. 8050), bearing sleeve (No. 8051) and (H-D® No. 12018) seal. **NOTE:** *You must support inner primary bearing bore as you install bearing 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 *Continued on page 3 -->*

NOTE: IT IS THE BUILDER'S RESPONSIBILITY TO CHECK AND CONFIRM ALL OPERATING CLEARANCES WHEN INSTALLING ANY JIMS® PRODUCT.

*Performance Parts For Harley-Davidson® Motorcycles*

555 DAWSON DRIVE, CAMARILLO, CA 93012 PHONE 805-482-6913 • FAX 805-482-9224  
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## TRANSMISSION INSTALLATION INSTRUCTIONS

<-- Continued from page 2

- with anchoring nuts and bolts to H-D® factory specs per H-D® manual.
4. Before continuing, check clearance between inner primary cover, and final drive sprocket with chain on, it should be 0.05" – 0.06". **NOTE:** Some chains require more room and may need inner primary clearanced. 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 mainshaft. 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 hand 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. We have provided wiring to connect neutral switch. Connect one wire assembly to existing neutral switch wiring and other wire assembly to ground.
  9. For ease of installation and cost, use front wheel drive unit 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 transmission gear oil, JIMS No. 1230, to transmission through filler hole. After running transmission, allow bike to sit for a few minutes, and check oil level. Fill as needed. Change trans oil after 1st 500 miles and then at normal H-D service intervals.

### 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 prepaid 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

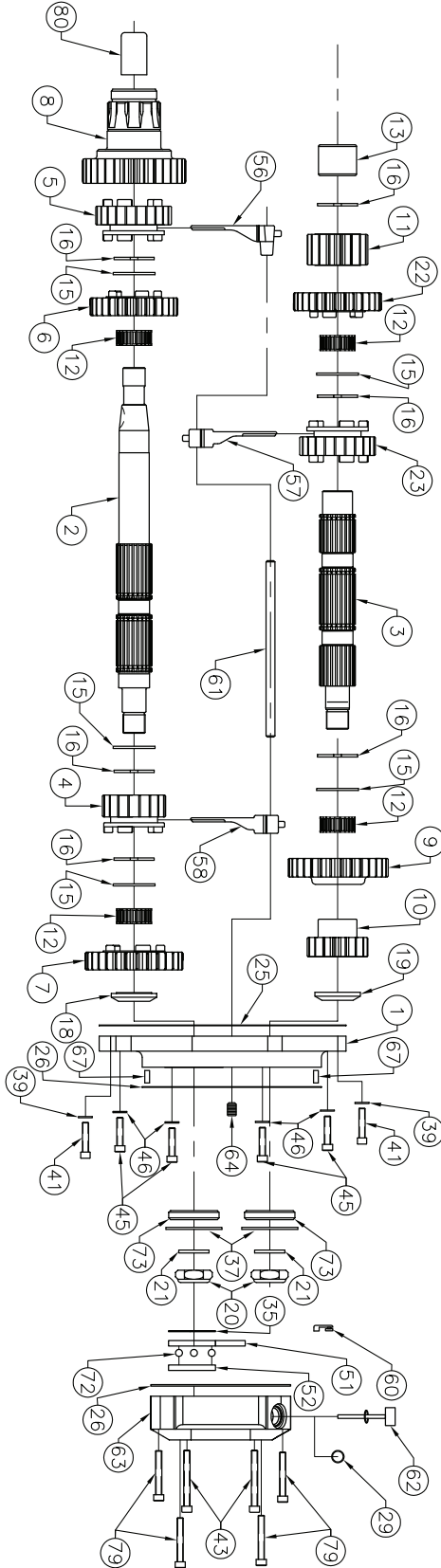
1. JIMS® shall have no obligation in the event a JIMS® part is modified by person or organization.
2. JIMS® shall have no obligation if a JIMS® part becomes defective in whole or in part as a result of improper installation, improper maintenance, improper use, abnormal operation, or any other misuse 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 nonconforming 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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SEE PAGE 6 FOR PARTS LIST

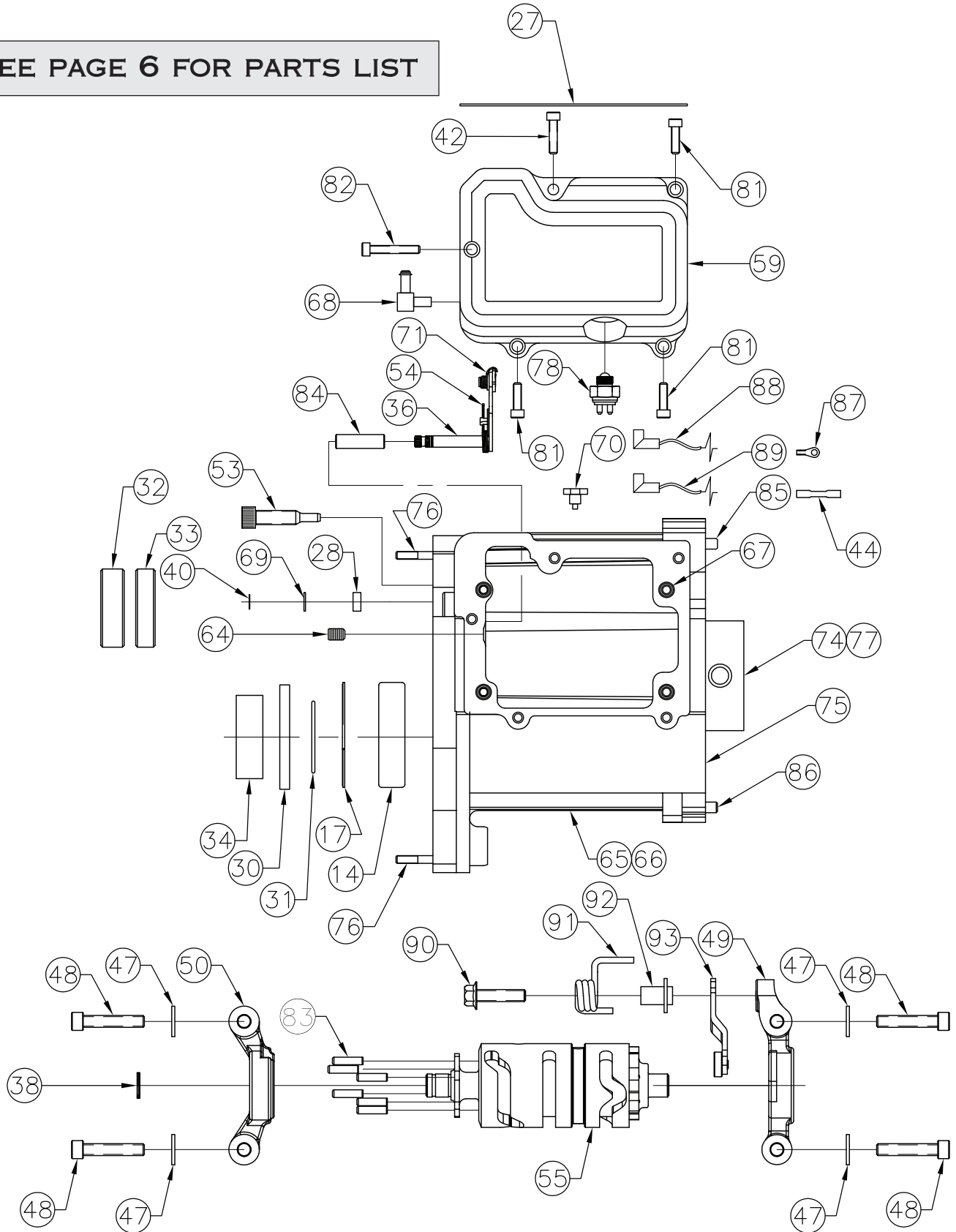
<b>JIMS® Tools Required:</b>	
#2234	Primary Drive Locking Tool
#94660-37A	Main shaft Sprocket Wrench
#35316-80	5-Speed Transmission Main Drive Seal Installer
#95660-85	5-Speed Shaft Installer
#2189	Door puller
#2283	Lock ring pliers
#2362	Door Bearing Remover / Installer
#1014	

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SEE PAGE 6 FOR PARTS LIST



*Performance Parts For Harley-Davidson Motorcycles*



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8028 PARTS LIST

PARTS LIST			
NO.	QTY.	TITLE OR DESCRIPTION	PART NUMBER
1	1	TRAP DOOR, CHROME	2347-75C
2	1	MANNSHAFT	35042-79
3	1	COUNTERSHAFT	35652S
4	1	GEAR, MAINSHAFT 1st, PRECISION CUT	8289
5	1	GEAR, MAINSHAFT 2nd PRECISION CUT	8291
6	1	GEAR, MAINSHAFT 3rd PRECISION CUT	8292
7	1	GEAR, MAINSHAFT 4th PRECISION CUT	8294
8	1	GEAR, MAINSHAFT 5th PRECISION CUT	8298-3
9	1	GEAR, COUNTERSHAFT 1st	8290
10	1	GEAR, COUNTERSHAFT 4th	8294
11	1	GEAR, COUNTERSHAFT 5th	8299
12	4	BEARING, MAINSHAFT & COUNTERSHAFT	8876A
13	1	BEARING, COUNTERSHAFT END	8048
14	1	BEARING, TRANSMISSION CASE	8996
15	5	THRUST WASHER, MAINSHAFT & COUNTERSHAFT	6003
16	6	RETAINING RING, MAINSHAFT & COUNTERSHAFT	11067
17	1	RETAINING RING, MAIN DRIVE GEAR	11161
18	1	SPACER, MAINSHAFT DOOR SIDE WITH SHOULDER	35064-79
19	1	SPACER, COUNTERSHAFT, DOOR SIDE	35629-79
20	2	LOCK NUT, MAINSHAFT & COUNTERSHAFT	35076-79
21	2	SPACER, COUNTERSHAFT/MAINSHAFT	35076-79
22	1	GEAR, COUNTERSHAFT, 2nd, PRECISION CUT	8292
23	1	GEAR, COUNTERSHAFT, 3rd, PRECISION CUT	8291
24	1	GEAR OIL, 80W90 (NOT SHOWN)	1230
25	1	GASKET, TRAP DOOR	35652-79
26	1	GASKET, SIDE COVER	36801-87A
27	1	GASKET, LID	34904-86
28	1	SEAL, SHIFTER SHAFT	12045
29	1	O-RING, CLUTCH CABLE	11179
30	1	SEAL, CASE, MAIN DRIVE	12067A
31	1	QUAD SEAL	11165
32	1	BEARING, SLEEVE, INNER PRIMARY	8051
33	1	SPACER, MAINSHAFT SEAL, 4/5	8050
34	1	RETAINING RING, RAMP	80998
35	1	SHIFTER LEVER ASSY	8324
36	1	RETAINING RING, DOOR BEARING	11020
37	2	RETAINING RING, SHIFT DRUM	11342
38	1	WASHER, CHROME, AN, 1/4", UPPER TRAPDOOR	1114
39	2	RETAINING RING, SHIFTER LEVER	11150
40	1	ALLEN SCREW, 1/4-20 x 1-1/8", UPPER TRAPDOOR	1116
41	2	ALLEN SCREW, 1/4-20 x 1", TOP LID	1115
42	1	ALLEN SCREW, 1/4-20 x 2-1/4", UPPER SIDE COVER	1117
43	2	WIRE CONNECTOR	70565-93
44	1	WASHER, CHROME, AN, 5/16 x 1-1/4", CHROME LOWER TRAPDOOR	1118
45	4	WASHER, PLAIN, AN, 1/4", PILLLOW BLOCK	1215
46	4		
47	4		

PARTS LIST			
NO.	QTY.	TITLE OR DESCRIPTION	PART NUMBER
48	4	ALLEN SCREW, PLAIN, 1/4-20 x 1-1/4", PILLLOW BLOCK	2135
49	1	SUPPORT BLOCK, ASSY, RIGHT	33304-00
50	1	SUPPORT BLOCK, ASSY, LEFT	33301-00A
51	1	INNER RAMP	25452-87A
52	1	OUTER RAMP	25453-87A
53	1	SHIFTER ARM CENTERING PIN	34978-00A
54	1	SPRING, CENTERING	34064-00B
55	1	SHIFT DRUM	8080
56	1	SHIFT FORK	34191-79E
57	1	SHIFT FORK	34193-79E
58	1	SHIFT FORK	34195-79E
59	1	TRANS TOP LID, CHROME	8999C
60	1	COUPLER, CLUTCH CABLE	34920-86
61	1	SHIFT FORK SHAFT	34038S
62	1	CHROME DIP STICK, W/O-RING	37075-87
63	1	SET SCREW	2371C
64	2	4/5 TRANS CASE, PLAIN	3784C
65	1	ROLL PIN, LID & TRAP DOOR	8096
66	1	ELBOW, CHROME	8096P
67	6	MAGNETIC DRAIN PLUG, W/WASHER	609
68	1	WASHER, SHIFTER SHAFT	62375-57
69	1	SPRING, SHIFT PAWL	6497HW
70	1	BALL, CLUTCH RAMP	60348-65B
71	1	BEARING, TRAP DOOR	34977-02A
72	3	BRACKET, BOTTOM MOUNT	8873
73	2	STUD, BOTTOM MOUNTING (NOT SHOWN)	8049
74	1	STUD, BOTTOM MOUNTING	8052
75	4	NEUTRAL SWITCH	8053
76	4	SHRINK WRAP PROTECTOR	8054
77	4	ALLEN SCREW, 1/4-20 x 3/4", FSHS, BOTTOM MOUNT (NOT SHOWN)	33902-98
78	1	SHRINK WRAP PROTECTOR	1121
79	4	ALLEN SCREW, 1/4-20 x 1-3/4", LOWER SIDE COVER	8012-1
80	1	ALLEN SCREW, 1/4-20 x 3/4"	1259
81	3	DOWEL, SHIFT DRUM	1261
82	1	SLEEVE, SHIFTER SHAFT	8356
83	6	PIN, ROLL	7514
84	1	PIN, DOWEL	634
85	1	PIN, DOWEL	375
86	1	WIRE EYELET	72241-94A
87	1	WIRE ASSEMBLY, BLACK	72405-98BK
88	1	WIRE ASSEMBLY, TAN	72405-98TN
89	1	SCREW, DETENT	33376-00
90	1	SPRING, DETENT ARM	33374-00
91	1	SLEEVE, DETENT ARM ASSEMBLY	33375-00A
92	1	DETENT FOLLOWER ASSEMBLY	33364-00A
93	1		

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