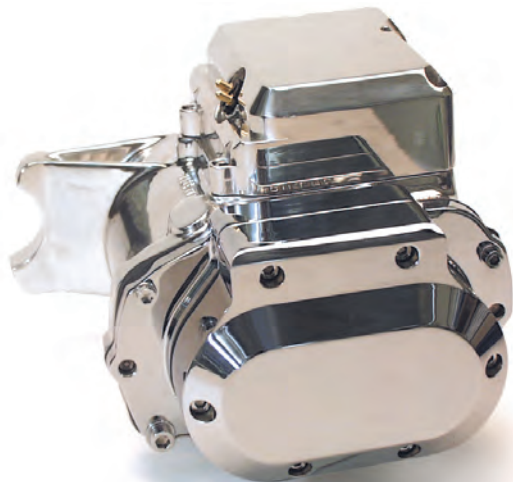




## INSTRUCTION SHEET FOR 4-5-SPEED PRECISION CUT TRANSMISSION

### INSTRUCTION SHEETS FOR PART NUMBERS 8028 AND 8030



#### 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.

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

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

\*Optional per model

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  
VISIT US ON THE WEB AT WWW.JIMSUSA.COM



A DIVISION OF THIESSEN PRODUCTS, INC.

## 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  
VISIT US ON THE WEB AT WWW.JIMSUSA.COM



A DIVISION OF THIESSEN PRODUCTS, INC.

## 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 cleared. 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.

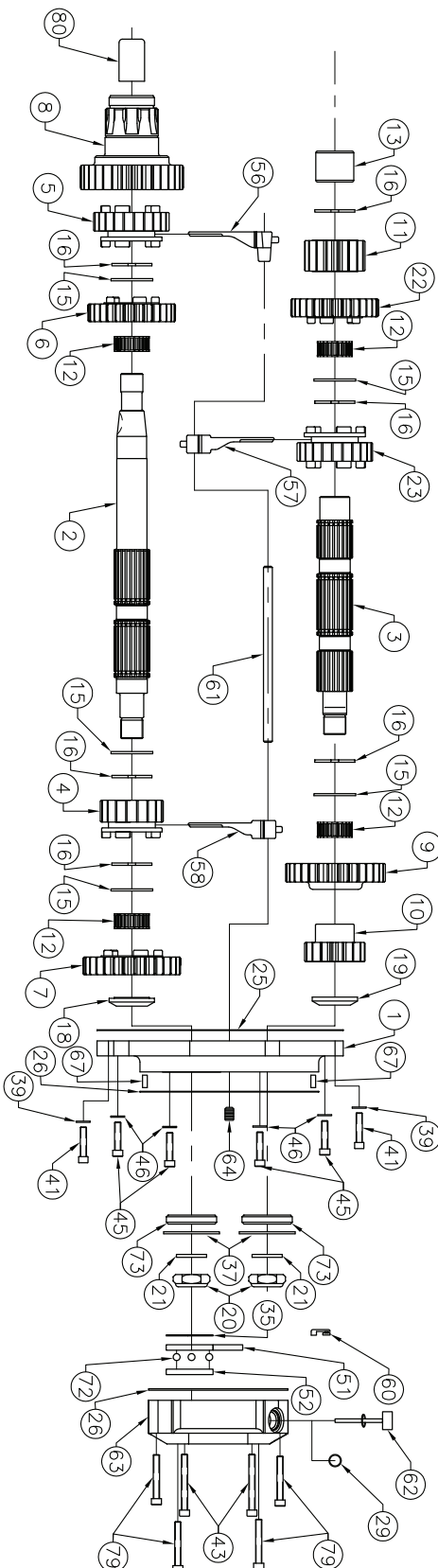
*Performance Parts For Harley-Davidson® Motorcycles*

555 DAWSON DRIVE, CAMARILLO, CA 93012 PHONE 805-482-6913 • FAX 805-482-9224  
VISIT US ON THE WEB AT WWW.JIMSUSA.COM



A DIVISION OF THIESSEN PRODUCTS, INC.

SEE PAGE 6 FOR PARTS LIST

**JIMS® Tools Required:**

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

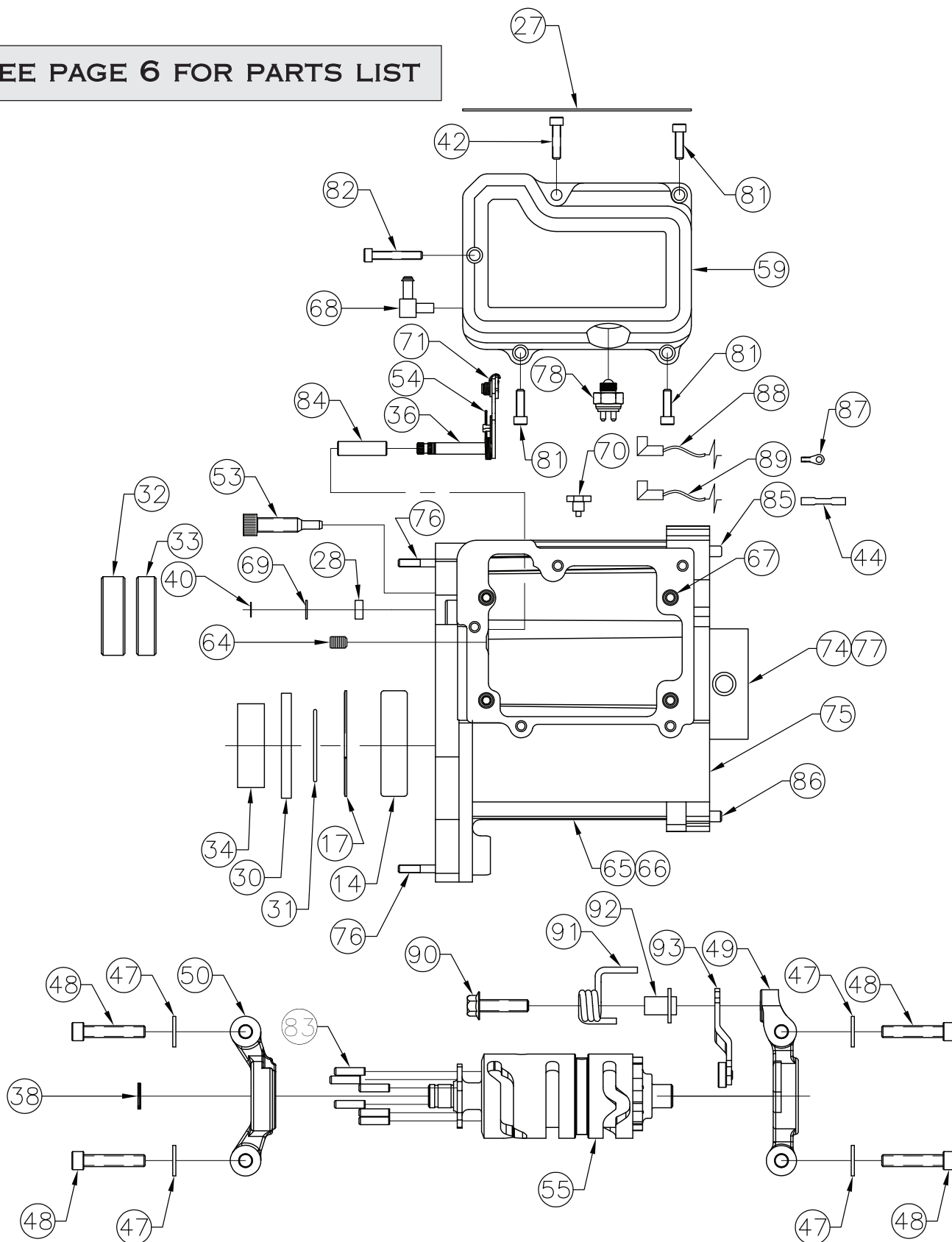
*Performance Parts For Harley-Davidson® Motorcycles*

555 DAWSON DRIVE, CAMARILLO, CA 93012    PHONE 805-482-6913 • FAX 805-482-9224  
VISIT US ON THE WEB AT [WWW.JIMSUSA.COM](http://WWW.JIMSUSA.COM)



A DIVISION OF THIESSEN PRODUCTS, INC.

SEE PAGE 6 FOR PARTS LIST



*Performance Parts For Harley-Davidson® Motorcycles*

A DIVISION OF THIESSEN PRODUCTS, INC.

# 8028 PARTS LIST

PART NUMBER		TITLE OR DESCRIPTION	
1	2347-75C	1	TRAP DOOR, CHROME
2	35042-79	1	MANSHAFT
3	35632S	1	COUNTERSHAFT
4	8289	1	GEAR, MAINSHAFT 1st, PRECISION CUT
5	8291	1	GEAR, MAINSHAFT 2nd PRECISION CUT
6	8292	1	GEAR, MAINSHAFT 3rd PRECISION CUT
7	8294	1	GEAR, MAINSHAFT 4th PRECISION CUT
8	8298-3	1	GEAR, MAINSHAFT 5th PRECISION CUT
9	8290	1	GEAR, COUNTERSHAFT 1st
10	8294	1	GEAR, COUNTERSHAFT 4th
11	8299	1	GEAR, COUNTERSHAFT 5th
12	8876A	4	BEARING, MAINSHAFT & COUNTERSHAFT
13	8048	1	BEARING, COUNTERSHAFT END
14	8996	1	BEARING, TRANSMISSION CASE
15	6003	5	THRUST WASHER, MAINSHAFT & COUNTERSHAFT
16	11067	6	RETAINING RING, MAINSHAFT & COUNTERSHAFT
17	11161	1	RETAINING RING, MAIN DRIVE GEAR
18	35064-79	1	SPACER, MAINSHAFT DOOR SIDE WITH SHOULDER
19	35629-79	1	SPACER, COUNTERSHAFT, DOOR SIDE
20	35078-79	2	LOCK NUT, MAINSHAFT & COUNTERSHAFT
21	35076-79	2	SPACER, COUNTERSHAFT/MAINSHAFT
22	8292	1	GEAR, COUNTERSHAFT, 2nd, PRECISION CUT
23	8291	1	GEAR, COUNTERSHAFT, 3rd, PRECISION CUT
24	1230	1	GEAR OIL, 80W90 (NOT SHOWN)
25	35652-79	1	GASKET, TRAP DOOR
26	36801-87A	1	GASKET, SIDE COVER
27	34904-86	1	GASKET, LID
28	12045	1	SEAL, SHIFTER SHAFT
29	11179	1	O-RING, CLUTCH CABLE
30	12067A	1	SEAL, CASE, MAIN DRIVE
31	11165	1	QUAD SEAL
32	8051	1	BEARING SLEEVE, INNER PRIMARY
33	8050	1	BEARING, INNER PRIMARY
34	8089	1	SPACER, MAINSHAFT SEAL, 4/5
35	10998	1	RETAINING, RING, RAMP
36	8324	1	SHIFTER LEVER ASSY
37	11020	2	RETAINING RING, DOOR BEARING
38	11342	1	RETAINING RING, SHIFT DRUM
39	1114	2	WASHER, CHROME, AN. 1/4", UPPER TRAPDOOR
40	11150	1	RETAINING RING, SHIFTER LEVER
41	1116	2	ALLEN SCREW, 1/4-20 x 1-1/8", UPPER TRAPDOOR
42	1115	1	ALLEN SCREW, 1/4-20 x 1", TOP LID
43	1117	2	ALLEN SCREW, 1/4-20 x 2-1/4", UPPER SIDE COVER
44	70585-93	1	WIRE CONNECTOR
45	1118	4	ALLEN SCREW, 5/16-18 x 1-1/4", CHROME LOWER TRAPDOOR
46	1119	4	WASHER, CHROME, AN. 5/16", LOWER TRAPDOOR
47	1215	4	WASHER, PLAN, AN. 1/4", PILLOW BLOCK

NO.	QTY	TITLE OR DESCRIPTION	PART NUMBER
48	4	ALLEN SCREW, PLAIN, 1/4-20 x 1-1/4", PILLOW 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	34088S
62	1	CHROME DIP STICK, W/O-RING	37075-87
63	1	CHROME SIDE COVER	2371C
64	2	SET SCREW	3784C
65	1	4/5 TRANS CASE, PLAIN	8096
66	1	4/5 TRANS CASE, POLISHED	8096P
67	6	ROLL PIN, LID & TRAP DOOR	609
68	1	ELBOW, CHROME	62375-57
69	1	WASHER, SHIFTER SHAFT	6497HW
70	1	MAGNETIC DRAIN PLUG, W/WASHER	60348-65B
71	1	SPRING, SHIFT PAWL	34977-02A
72	3	BALL, CLUTCH RAMP	8873
73	2	BEARING, TRAP DOOR	8998
74	1	BRACKET, BOTTOM MOUNT	8049
75	4	STUD, BOTTOM MOUNTING (NOT SHOWN)	8053
76	4	STUD, PRIMARY MOUNTING	8052
77	4	SCREW, 5/16-18 x 3/4", FHS, BOTTOM MOUNT (NOT SHOWN)	8054
78	1	NEUTRAL SWITCH	33902-98
79	4	ALLEN SCREW, 1/4-20 X 1-3/4", LOWER SIDE COVER	1121
80	1	SHRINK WRAP PROTECTOR	8012-1
81	3	ALLEN SCREW, 1/4-20 x 3/4"	1259
82	1	ALLEN SCREW, 1/4-20 x 1-1/2"	1261
83	6	DOWEL, SHIFT DRUM	8356
84	1	SLEEVE, SHIFTER SHAFT	7514
85	1	PIN, ROLL	634
86	1	PIN, DOWEL	375
87	1	WIRE EYELET	72241-94A
88	1	WIRE ASSEMBLY, BLACK	72405-98BK
89	1	WIRE ASSEMBLY, TAN	72405-98TN
90	1	SCREW, DETENT	33376-00
91	1	SPRING, DETENT ARM	33374-00
92	1	SLEEVE, DETENT ARM SPRING	33375-00A
93	1	DETENT FOLLOWER ASSEMBLY	33364-00A

# Performance Parts For Harley-Davidson Motorcycles