

# Special SERVICE TOOLS

HARLEY-DAVIDSON  
**25<sup>+</sup>**  
YEARS  
SPX KENT-MOORE

RIDING TOGETHER  
FOR MORE THAN  
**25 YEARS**

*Developing Special Service Tools and  
Diagnostic Equipment for Harley-Davidson's  
Worldwide Dealer Network*



**SPX KENT-MOORE**



**SPX****KENT-MOORE**

CALL TOLL FREE: 1-800-345-2233

# INTRODUCTION

This catalog contains all the special service tools and equipment as specified by Harley-Davidson Inc. for maintenance, overhaul, and repair of their complete line of motorcycles.

The special service tools and equipment listed here and any new items that may be offered in the future are developed in cooperation with the Service Department of Harley-Davidson and are pictured and described in Harley-Davidson's maintenance manuals and technical service bulletins.

For added convenience, this tool catalog follows the Harley-Davidson maintenance manual table of contents and general format. In certain instances it does deviate from the manual, but only to make it easier to locate the tools and equipment you may require.

## Doing Business With SPX Kent-Moore

### Ordering Information

Reference tool information in this catalog and/or Harley-Davidson and Buell service manuals for correct tool part numbers. Harley-Davidson tool numbers are prefixed with "HD-". Buell tool numbers are prefixed with "B-". Be sure to add the correct prefix when ordering. It will avoid delays in processing your order.

International Dealers see following page.

All Harley-Davidson U.S. dealers should submit orders to:

**SPX Corporation • Kent-Moore**  
**Attention: Customer Service**  
**28635 Mound Road • Warren, MI 48092**  
**Toll Free: 1-800-345-2233 • Fax: 586-578-7375**

U.S. Dealers can visit [harleytools.spx.com](http://harleytools.spx.com) for latest product information and ordering.

Direct all product returns and warranty to:

**SPX Kent-Moore • Attn: Returned Goods**  
**2100 Park Drive • Owatonna, MN 55060**

**NOTE:** You must first call 1-800-345-2233 to obtain a Returned Goods Authorization number.

<b>TERMS</b>	Open Account (approved credit). MasterCard, Visa, American Express, Discover, or cash (check attached)
<b>TAXES</b>	State and local sales and/or use tax will be added to order if applicable.
<b>SHIPMENTS</b>	Shipment will be made F.O.B., Shipping Point
<b>ROUTING</b>	Shipments will be made by United Parcel Service or truck unless otherwise specified.

## Information and Specifications

All information and specifications in this catalog are effective July 1, 2006 and are subject to change without notice. SPX Kent-Moore reserves the right to make changes in design and construction of the tools and equipment without obligation to incorporate such changes in tools and equipment previously purchased.

## Service Parts

Prices and part numbers of service parts or individual tools making up a tool set are shown in this catalog and price list. Most SPX Kent-Moore products are serviced and replacement items are available from stock. To order or obtain price information on unidentified parts, please describe the required part as thoroughly as possible using whatever tool numbers are available.

## Inspection

All SPX Kent-Moore tools and equipment are thoroughly inspected before leaving our plants and each customer is assured of receiving a new tool of equal quality and design as that furnished to everyone else. Every tool must conform to rigid standards.

## Returned/Repaired Goods Policy

- All goods returned to SPX Kent-Moore for any reason must be shipped PREPAID.
- Please make all claims for SHORTAGES and DAMAGES within ten (10) days from receipt of shipment. CLAIMS after this period may not be honored.
- To expedite return/repair processing, please include a copy of the invoice and/or packing slip with the tool.
- Drop shipped items should be returned directly to the manufacturer. Please call our Customer Service Department for instructions on how to return drop shipped items, 1-800-345-2233.
- All returns will be inspected and must be received within 30 days of invoice date to avoid a restocking fee.
- Any return received after 30 days of the invoice date is subject to a 20% restocking fee.
- Returns will not be credited after 90 days of invoice date.
- Send Returns/Repairs to:
 

<b>U.S.A. Address</b> SPX Corporation Kent-Moore Attn: Returned Goods 2100 Park Drive Owatonna, MN 55060	<b>Canada Address</b> SPX Corporation Kent-Moore c/o INTEX Attn: Returned Goods 434 Tecumseh Road East Windsor, Ontario N8X 2R6
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- For electronic tool repairs** call 1-800-345-2233 and ask for the Repairs Dept. Directions will be provided as to the shipping location for the tool repair. Include a note describing symptoms, if any, of the tool problem, and your name and address for tool return shipment.

# INTERNATIONAL ORDER INFORMATION

## TERMS

- 1. Prepayment**
  - Check (USA funds drawn on USA bank)
  - Telegraphic Transfer
- 2. MasterCard, Visa**
- 3. Open Account with approved credit (Net 30)**
  - U.S. Trade Reference required
  - Credit application available upon request
- 4. Sight Draft**

### KENT-MOORE PAYMENT REMIT TO:

**SPX Service Solutions**  
P.O. Box 406799  
Atlanta, GA 30384-6799  
ABA - 0710-0001-3  
Include your customer account  
number on the check.

## SHIPPING METHODS

### INTERNATIONAL DEALERS

Choose from several  
convenient direct  
shipment methods:

- Direct shipments:**
- Air Parcel Post
  - Air Freight
  - Ocean Freight
  - Courier
  - UPS International

Direct shipment offers a faster, more direct processing of orders. Shipments are direct from SPX Kent-Moore.

## To place your order choose from one of these nine convenient locations

**KENT-MOORE U.S.A.**  
SPX Corporation  
International Sales  
655 Eisenhower Drive  
Owatonna, MN 55060 U.S.A.  
Fax: 507-455-7063  
Phone: 507-455-7223

**JATEK, LTD.**  
5-53, Minowa-cho, 2-Chome  
Kohoku-ku, Yokohama  
Kanagawa 223-0051, JAPAN  
Fax: 81-45-562-7800  
Phone: 81-45-562-4483

**SPX UK LTD.**  
Genoa House  
Everdon Park  
Daventry, Northants  
England, NN11 5YJ  
Fax: +44 1327 706 632  
Phone: +44 1327 303 489

**SPX FRANCE**  
147 Avenue Paul Doumer  
92500 Rueil-Malmaison, FRANCE  
Fax: 01 47 51 29 19  
Phone: 01 47 51 87 14

**SPX IBÉRICA, S.A.**  
C/Francisco Arístio 158  
nave 72 (Nudo Oesste)  
19004 Guadalajara  
Espana

**SPX (Europe) GmbH**  
Porschestrasse 4  
63512 Hainburg  
GERMANY  
Fax: +49-6182 959 245  
Phone: +49-6182 959 149

**SPX (SCHWEIZ) AG**  
Oberneuhofstrasse 1  
6340 Baar  
SCHWEIZ  
Fax: 041-766-29 25  
Phone: 041-766 29 97

**SPX ITALY**  
Via Are 2  
43038 sala Baganza PR  
Fax: 0521-33 53 85 / 33 60 98

**SPX KENT-MOORE AUSTRALIA  
PTY, LTD.**  
28 Clayton Road  
Notting Hill  
Victoria 3168  
AUSTRALIA  
Fax: 61-3-9544-5222  
Phone: 61-3-9544-6222  
E-mail: sales@spx.com.au

**Payment terms and routings vary per quotation depending on US dollar value and gross weight.**



# DIGITAL TECHNICIAN

## DIGITAL TECHNICIAN HARLEY-DAVIDSON

Digital Technician is a complete self-contained diagnostic system for Harley-Davidson and Buell motorcycles that increases efficiency, productivity and fix-it-right-the-first-time percentages. Operates on a Panasonic Toughbook rugged laptop computer and communicates to motorcycle through Kent-Moore TechLink interface device. Digital Technician multimeter and accessory hardware shipped in a durable case with a custom protective foam liner. Digital Technician and the computer you select will arrive at the dealership together, completely configured and ready for use. Follow Quick Start Guide and User Guide (both included) to register software and begin to use. Technical support provided by Harley-Davidson, SPX, and Panasonic. Allow 1 week for computer assembly, configuration and shipment.

For ordering, contact the appropriate SPX order location described on pages i & ii to obtain the Digital Technician Order Form. U.S. Dealers can visit [harleytools.spx.com](http://harleytools.spx.com).

### Digital Technician functions and features:

- Easy-to-use Graphical User Interface (GUI) screens for quick access to any part of the software
- Communicates to vehicle using TechLink device.
- Pinpoint Diagnostics – diagnostic flowcharts integrated with electronic service manuals and Multiscope data readings
- Flash Reprogramming – selected ECM calibrations stored on hard drive can be downloaded to the vehicle instead of using Scanalyzer cartridges
- Internet Connection – Digital Technician updated with the latest service information, diagnostic procedures and calibrations through auto-sync sessions with Harley Intranet
- Feedback – vehicle diagnostic information and test results can be saved and printed for customers
- Vehicle Birth Certificate – vehicle data and original electronic configuration can be recorded and filed for future reference by service and sales
- Data Capture – record vehicle operating data for diagnosis of intermittent faults using TechLink and Road Test Kit.



TechLink Kit



Non-Touchscreen Laptop



Touchscreen Laptop

### Service Parts:

HD-44720	TSSM Adapter Cable
HD-44750-1	Replacement Software Program Disk
HD-44750-4DELL	Instruction Manual for Dell
HD-44750-4PAN	Instruction Manual for Panasonic
HD-44750-5	20' Cable, Scanalyzer to computer
HD-44750-6	Storage Case
HD-44750-7	Serial Data Card for Toughbook PCMCIA Slot
HD-44750-10	Extech Multiscope Test Leads
HD-44750-11	110 Volt Power Supply for Extech Multiscope
HD-44750-12	10' Cable, Extech Multiscope to Computer
HD-44750-15	USB Hub
HD-44750-21	Extech Multiscope NiCad Battery Set
HD-44750-22	220 Volt Power Supply for Extech Multiscope
HD-44750-23	Extech Multiscope Fuse, 400mA
HD-44750-24	Extech Multiscope Fuse, 20A
HD-44750-35	Loaded Volts Test Cable
HD-44750-36	Extech Alligator Clips (2 included)
HD-44750-40	Fluke Multimeter Kit
HD-44750-41	Fluke Multimeter (only)
HD-44750-42	Fluke Multimeter USB Cable
HD-44750-43	USB Extension Cable
HD-44750-44	Fluke Multimeter Test Leads
HD-44750-45	Fluke Multimeter Alligator Clips (2 included)
HD-44750-46	Fluke Multimeter Extended Battery Adapter
HD-44750-61	Recovery Disk Kit for Dell GX110 (CD and 3½ floppy)
HD-45208	ECM Adapter Cable for FLT models thru 2001
HD-45830	TechLink Kit (includes HD-45830-5 and HD-45830-10)
HD-45830-5	TechLink
HD-45830-10	25' Cable, Vehicle Interface
HD-45835	Road Test Kit (includes HD-45835-5 and HD-45835-10)
HD-45835-5	Trigger Cable
HD-45835-10	5' Cable, Vehicle Interface
J-44364	CF-27 Laptop Replacement Battery
HD-48263	Bar Code Reader

For Recovery CD's call SPX Technical Support 1-586-574-2332  
Ext. 7232 or 1-800-345-2233



# Tool Cabinet Storage and Control System

- High quality, rugged, all steel construction - Cabinets manufactured by Stanley Vidmar, a 150 year old company respected for a tradition of quality and rugged performance that has made it the industry leader.
- Two different cabinet systems available – 59" high cabinets (2 per system) or 44" high cabinets (3 per system).
- Uses minimum floor area – Footprint of each separate cabinet is 30" wide x 27.75" deep. 2 cabinet system: 60" x 27.75", 3 cabinet system: 90" x 27.75".
- Optional 35" high overhead shelf cabinets with locking doors – For storage of tools in plastic cases, large tools and shop items (chemicals, solvents, lubricants, service manuals, catalogs).
- Optional wood top – 30" x 90" workbench top for 44" cabinet set.



Shown here with black housing and grey drawers and doors.

## STORAGE CABINET SYSTEM BENEFITS:

- Tools are easy to find, easy to return – saves time, tools are more likely to be used, reduces chance of misplaced tools.
- Security – All drawer cabinets and overhead door cabinets in a set feature matching locks that are keyed alike with Stanley Vidmar's unique keying system.
- Every tool has its own storage location for quick access and easy inventory verification at the end of the workday.
- Conserves limited wall space
- Gives a professional appearance to your shop
- Security and loss prevention
- Convenient tool access
- All special service tools located in one area of the service department and within a small floor footprint
- Protects tools from damage

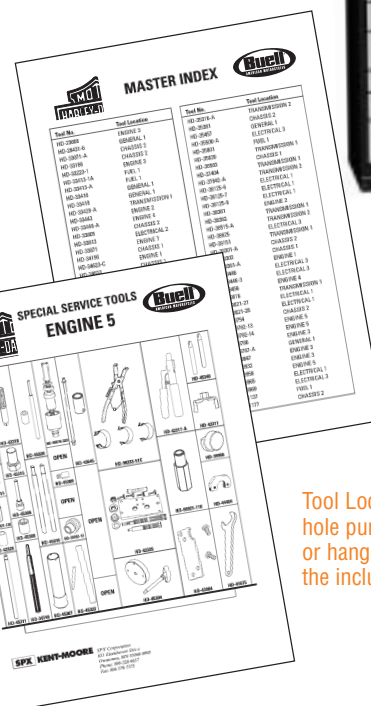


### Color options:

- Grey
  - Dark Blue
  - Off White
  - Black
  - Bright Blue
- Mix any 2 colors for 2-tone design.



Drawer handle ID labels with large typeface - Quick identification of drawer contents by vehicle component or system.



Tool Location Sheets and Master Index are 3 hole punched to either place in a 3 ring binder or hang from the side of the cabinets using the included self-adhesive hanger or ring.

Call 1-800-345-2233 for a special order form or U.S. Dealers can visit [harleytools.spx.com](http://harleytools.spx.com)



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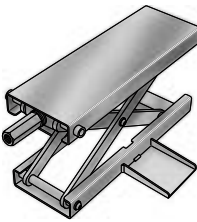


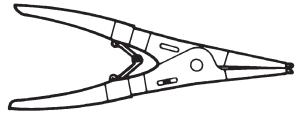
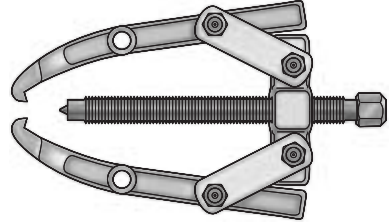
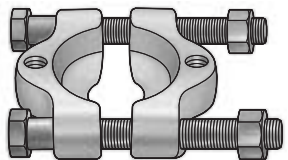


# V-TWIN GENERAL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	HD-33416 HD-44567 HD-45907	<b>12" UNIVERSAL DRIVER HANDLE</b> <b>7" UNIVERSAL DRIVER HANDLE</b> <b>4" UNIVERSAL DRIVER HANDLE</b>	All Models
	HD-94547-102	<b>4" DRIVER HANDLE</b>  Used to drive the following tools: HD-33071-A Wheel Bearing Race Remover/Installer HD-97273-60 Camshaft Needle Bearing Installer HD-39301-A Steering Head Bearing Race Remover HD-34810 Transmission Mainshaft Bearing Installer HD-48474 Balancer Outer Bearing Remover & Installer	
	HD-33418	<b>UNIVERSAL PULLER FORCING SCREW</b>	All Models
		1) HD-95716-19 Gear Puller Block 2) HD-95719-19 Gear Puller Screw 3) J-23444-A Thread Lube  Used with HD-96015-52.	
	HD-35518	<b>INTERNAL/EXTERNAL RETAINING RING PLIERS</b>	All Models
		HD-35518 will remove and install the Main Drive Gear Bearing Retaining Rings for 1980 and later vehicles equipped with 5-speed transmissions. Included are: Six pairs, color coded alloy steel tips in sizes .090, .108, and .120 bent 15° and 90° with hex wrench in plastic pouch. External ring size range is 1½"-4" Internal ring size range is 1⅜"-4"	
	HD-45967	<b>SHOP DOLLY</b>	Universal
		Supports bike on the frame down-tubes. Allows easy turning and moving of bike when disassembled. Heavy-duty construction with neoprene swivel wheels for due minimal rolling effort. Wide range of applications to adjustability. Dolly base width adjusts from 13" to 20". Height adjusts from 12" to 15". Four tie down attachment points allow bike to be securely strapped for stability. Rubber pads at each frame contact point protect bike paint and finish. Use HD-45968 Fat Jack to raise bike and slide Shop Dolly around Fat Jack and under bike frame. Lower and remove Fat Jack. Bike can be now easily rolled on shop floor.	



# V-TWIN GENERAL cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-45968</b>	<b>FAT JACK</b> <p>This scissors jack easily raises both the front and rear of the bike for wheel and suspension service. Its extra-wide 16"L x 10"W deck gives greater stability during lifting. Height is 13" fully extended. Collapses to just 3-1/2" to fit under low ground clearance frames. Features a high quality rubber non-skid pad and gold-zinc finish.</p>	VRSCA, FLH, FXE, and Softail Models
	<b>HD-48080</b>	<b>MOTORCYCLE LIFT</b> <p>This motorcycle lift has a 1,500 lb capacity that will lift the largest and widest cruisers. With a lift range of 3-1/2" to 16-3/4", removable handle, locking rear casters and other useful features your technician will turn out service repairs both quickly and easily.</p>	All Models
	<b>HD-48497</b>	<b>DOT 4 DIGITAL BRAKE FLUID TESTER</b> <p>Accurately determines the brake fluid quality by measuring water contamination. 5 LED's light up to indicate contamination level. Fast test that helps you promote periodic brake fluid changes with your customers. DOT4 usage only.</p>	All Models
	<b>HD-95017-61</b>	<b>EXTERNAL LOCK RING PLIERS</b> <p>For removal and installation of large external snap rings. .070 diameter pins.</p>	All Models
	<b>HD-95635-46</b>	<b>ALL-PURPOSE CLAW PULLER</b> <p>For many uses, such as pulling FL mainshaft bearing, starter crank gears, clutch release cover, mainshaft gears, etc.</p> <p>HD-95636-46 Center Cap HD-95635-100 Puller J-23444-A Thread Lube</p>	All Models
	<b>HD-95637-46B</b>	<b>WEDGE ATTACHMENT FOR CLAW PULLER</b> (Used with HD-95635-46) <p>New design updates HD-95636-46A to allow new larger bearing inner race to be removed from the main drive gear on 6-speed models.</p> <p>HD-95637-10 Bearing Separator Bolts HD-95637-15 Clamps</p>	All Models





# V-TWIN GENERAL cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-95760-69A</b>	<b>BUSHING &amp; BEARING PULLER</b>  Includes: 1) HD-95762-69A Bridge 2) HD-95763-69A Screw 3) HD-95764-69A Expander Pin (Not Shown) 4) HD-95765-69A Collet, 1/2" 5) HD-95766-69A Collet, 3/8" 6) HD-95767-69A Collet, 3/4" * 7) HD-95769-69 Collet, 1 1/8" * 8) HD-95770-69 Slide Hammer * 9) HD-95771-69 Shaft (Not Shown) * 10) HD-95768-69A Collet, 13/16" *Not included with HD-95760-69A but are available.	All Models
	<b>HD-95960-52C</b>	<b>MULTI-PURPOSE PULLER</b>  This tool supersedes HD-95960-52B & HD-95960-41A. Pulls "wet clutch" using the bolts from the clutch & pulls "dry clutch" using clutch studs with standard nuts.  J-23444-A Thread Lube HD-95563-41 Puller Screw HD-95565-41 Puller HD-95961-52C Puller Plate RS-9101-950 Cap Screw (4 required)	All Models
	<b>HD-96215-49</b>	<b>INTERNAL LOCK RING PLIERS</b>  1/2" diameter pins for small retaining rings (i.e. piston pins, etc.). Used for pistons and piston pins, bearings, races and shafts.	All Models

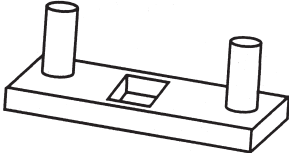
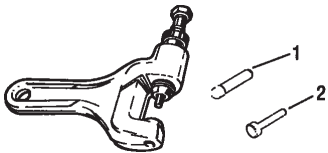



# V-TWIN CHASSIS/Chains

	<b>HD-33186</b>	<b>CHAIN/CLUTCH ACCESS PLUG TOOL</b>  For use on all XL and K models. This tool removes the access plug permitting inspection of the primary chain and clutch adjustments.	XL, K (1954-1985)
	<b>HD-35381-A</b>	<b>BELT TENSION GAUGE</b>  This tool is designed for use as an aid in properly adjusting belt tension on all Harley-Davidson model motorcycles equipped with a secondary drive belt. New design also works on narrow belts.  Update your HD-35381 to the "-A" version by ordering HD-35381-3 Adapter.	All Models

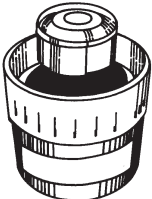

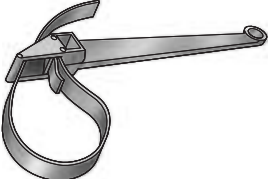


## V-TWIN CHASSIS/Chains cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-94557-55</b>	<b>COMPENSATING SPROCKET SHAFT NUT WRENCH</b>  Pin spanner wrench for compensating sprocket shaft nut.	FL (1955 to early 1970)  XL Models (1976 & earlier)
	<b>HD-95021-29D</b>	<b>CHAIN TOOL</b>  Removes front and rear chain links from all chains.  1) HD-95021-1 Replacement Tip 2) HD-95021-2 Punch	All Models
	<b>HD-97101-81</b>	<b>REAR CHAIN HOUSING BOOT REMOVER</b>  Used to remove rear chain housing boot with Allen socket fasteners.	FLT  FXRT (1980-1984)

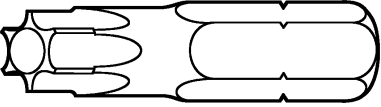
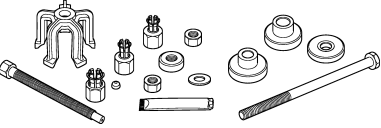
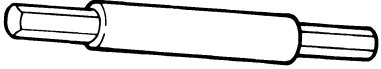
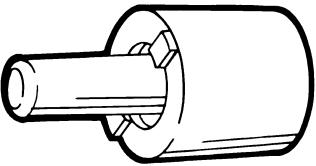
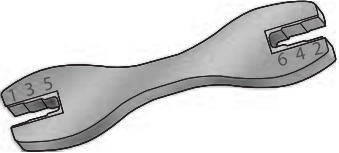
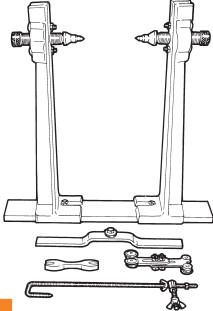


## V-TWIN CHASSIS/Wheels

	<b>HD-33067</b>	<b>WHEEL BEARING PACKER</b>  A universal wheel bearing packer forces out old grease replaces with new. Reservoir holds enough grease to do up to 65 bearings on one filling. Quick and easy to use.	All Models
	<b>HD-33071-A</b>	<b>WHEEL BEARING RACE REMOVER &amp; INSTALLER</b>  To remove and install wheel bearing races in cast wheels, use with HD-33416 driver handle.	All Cast Wheels (1999 & Earlier)
	<b>HD-41494</b>	<b>HUBCAP REMOVER &amp; INSTALLER</b>  This tool is used to remove and install the hubcap on the Heritage Springer.	FLSTS  Heritage Springer

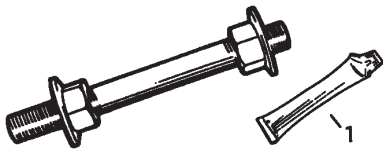
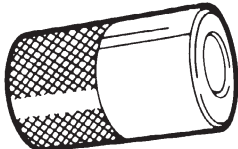
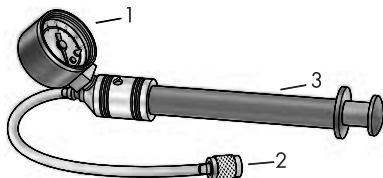
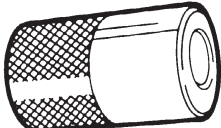
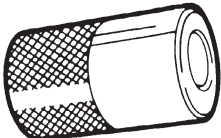
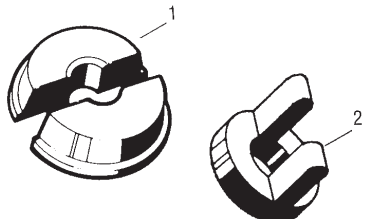


# V-TWIN CHASSIS/Wheels cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-42135-A</b>	<b>SPOKE NIPPLE DRIVER</b>  This 30IP Torx Plus driver is used to remove the spoke nipple on the new laced wheels. Use with HD-42508.	Laced Wheels
	<b>HD-44060-A</b>	<b>WHEEL BEARING REMOVER &amp; INSTALLER</b>  Used to remove and install the sealed wheel bearings.  1) 280856 11" Forcing Screw (w/o bearing) 2) HD-44060-3A Remover, (3/4") 3) HD-44060-1 Back-up Plug 4) HD-44060-6 Installer, (3/4") 5) HD-44060-4 6" Forcing Screw (w/o bearing) 6) HD-44060-5 Bridge 7) J-23444-A Thread Lube 8) HD-44060-7A Remover, (1") 9) HD-44060-8 Installer, (1") 10) HD-44060-10 Remover, (25mm) 11) 217801 Nice Bearing	All Models (2000 & Later)
	<b>HD-94437-79</b>	<b>REAR WHEEL SPROCKET WRENCH</b>  To remove and install sprocket mounting screws on rear wheel.	FLT FXRT
	<b>HD-94630-67A</b>	<b>WHEEL BEARING LOCKNUT WRENCH</b>  Fits wheel bearing slotted locknut (laced wheels).	G, KH XL Models (1979 & Earlier) FL (1967-1972)
	<b>HD-94681-80</b>	<b>SPOKE NIPPLE WRENCH</b>  Used to loosen and tighten wheel rim spokes during truing adjustments.	All Models
	<b>HD-99500-80</b>	<b>WHEEL TRUING &amp; BALANCING STAND</b>  Adjustable stand for truing and balancing all type wheels.	All Models



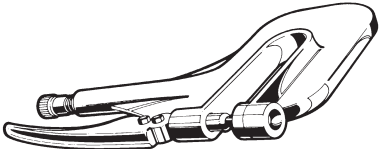
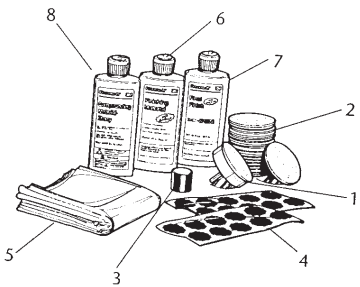
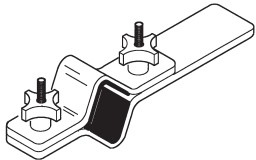
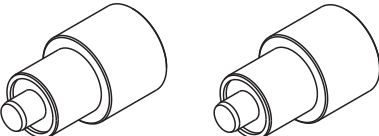


# V-TWIN CHASSIS/Forks & Frame

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-33805</b>	<b>CLEVEBLOCK SPREADING TOOL</b> This tool facilitates installation of swing arms. 1) J-23444-A Thread Lube	All Five Speed Rubber Mount Big Twins (1980-2001) (Except Dyna Models)
	<b>HD-34190</b>	<b>FORK BUSHING AND SEAL INSTALLER</b> Installs bushing and seal without damaging components.	FXRT (1983 & 1987) XR & (1983-1987) FX (1984-1987)
	<b>HD-34633</b>	<b>AIR SUSPENSION PUMP AND GAUGE</b> Accurately fills air suspensions without pressure loss when disconnecting. (Improved design) 1) HD-34633-3 Gauge 2) HD-34633-4 Hose & Fitting 3) HD-34633-5A Plunger	All Air Suspension Equipped Models
	<b>HD-34634</b>	<b>FORK BUSHING AND SEAL INSTALLER</b> Installs bushing and seal without damaging components.	FLT FXWG (1984-Later)
	<b>HD-36583</b>	<b>FORK BUSHING AND SEAL INSTALLER</b> Installs bushing and seal without damaging components.	FXLR/FXRS (1987 & Later) XL Models (1988 & Later) FXD Dyna Models (1992 & Later)
	<b>HD-39301-A</b>	<b>STEERING HEAD BEARING RACE REMOVER</b> Used to remove steering head bearing outer races. HD-39301-1 Removal Tool HD-39301-2 Driver Handle Adapter	FXST (1988 & Later) XL Models (1982 & Later) FXD Dyna Models, FLT (1992 & Later)



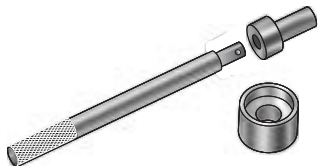
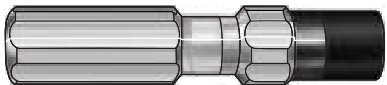
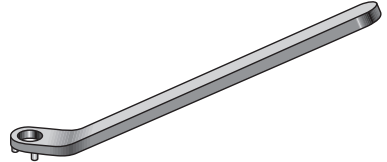



# V-TWIN CHASSIS/ Forks & Frame cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-39302</b>	<b>STEERING HEAD BEARING RACE INSTALLER</b>  Used to install steering head outer races.	FXST (1988 & Later)  XL Models (1982 & Later)  FXD Dyna Models (1992 & Later)  FLT (1993 & Later)
	<b>HD-39754</b>	<b>FXST FORK SPREADING TOOL</b>  This tool spreads the dog bones on the Springer front end to allow installation of the front fender.	FXSTS (1993 & Later)  FXSTSB (1995 & Later)
	<b>HD-39787-A</b>	<b>RIVET TOOL</b>  HD-39787-A is great for rivets on all fiberglass components, i.e. Tour Paks, etc. Old rivets are drilled out and discarded. New rivets are nice and snug when using HD-39787-A.	All Models
	<b>HD-39994-A</b>	<b>PAINT REPAIR KIT</b>  This kit is used to repair surface imperfections on painted steel or fiberglass parts. No need to repaint or replace components when this kit is used.	All Models with clear coat paint
		<ul style="list-style-type: none"> <li>1) HD-39994-4 Hookit Pad</li> <li>2) HD-39994-5 Buff Pad</li> <li>3) HD-39994-6 Sanding Block</li> <li>4) HD-39994-7 10 Micro Fine Discs</li> <li>5) HD-39994-8 Wipes</li> <li>6) HD-39994-9 Finishing Material</li> <li>7) HD-39994-10 Final Finish</li> <li>8) HD-39994-11A Medium Cut Material</li> </ul>	
	<b>HD-41177</b>	<b>FORK HOLDING TOOL</b>  The HD-41177 is used to hold the fork legs during normal service procedures when removed from the chassis.	All Models
	<b>HD-45327</b>	<b>SWINGARM BEARING INSTALLER</b>  Installs both left and right side swingarm bearings squarely on their bores to the installed depth.	FL Models (2002 & Later)

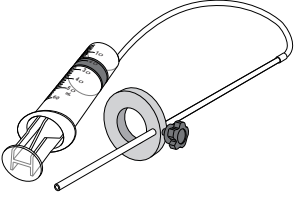
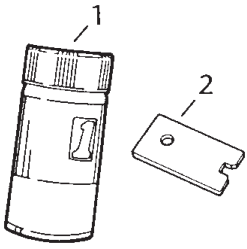
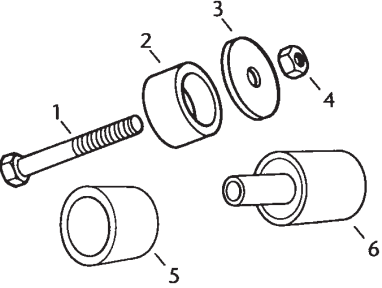


# V-TWIN CHASSIS/ Forks & Frame cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-45966</b>	<b>FRONT FORK COMPRESSOR</b>  Used for quick and easy compression of cartridge style front forks for service repairs. Mounts in a vise and includes an adapter for FL forks to eliminate direct contact with spring coil. Also includes a special rod to pull up the fork damper rod. Fits models with lowering kits.  HD-45966-2 Collar	All Models with cartridge style forks
	<b>HD-46247-A</b>	<b>VEHICLE ALIGNMENT TOOL</b>  Vehicle alignment is very important to ensure proper handling and vibration control. Use of HD-46247 greatly reduces the time required to perform the alignment procedure. New -A version includes -7 & -8 for 2007 models.  HD-46247-1 Left Side (1993-2006) HD-46247-2 Right Side (1993-2006) HD-46247-7 Left Side (2007 & Later) HD-46247-8 Right Side (2007 & Later)	All FL Models (1993 & Later)
	<b>HD-46281</b>	<b>SWINGARM BEARING REMOVER &amp; INSTALLER</b>  Removes and installs spherical swingarm bearings.	XL Models (2004 & Later)
	<b>HD-47190</b>	<b>SEAT MOUNTING SCREW TOOL</b>  Tool encapsulates the seat mounting screw to avoid slipping off the screw and damaging the rear fender paint.	Softail
	<b>HD-47255</b>	<b>STEERING BEARING ENDPLAY WRENCH</b>  Adjusts the preload on Springer steering head bearings.	FX Springer Models
	<b>HD-47925</b>	<b>REAR AXLE WRENCH</b>  Allows a secure hold on the rear axle nut for loosening or removal of the rear axle without removal of the exhaust system.	FL Models VRSC Models

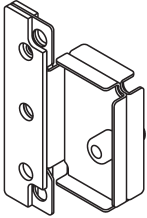
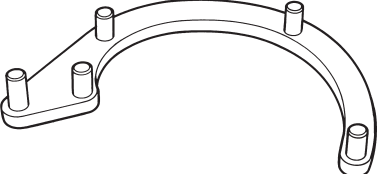


# V-TWIN CHASSIS/ Forks & Frame cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-59000-B</b>	<b>OIL LEVEL GAUGE</b>  This tool is used for accurate fork oil level adjustment.	Cartridge Fork Models
	<b>HD-93330</b>	<b>IGNITION FORK LOCK TOOL WITH PAINT</b>  Correctly spaces fork lock and adjustment screw and prevents mispositioning of screw while tightening.  1) HD-93330-1 Touch-Up Paint 2) HD-93330-2 Ignition Fork Gauge	FLT Models (1980-1992)
	<b>HD-96200-80</b>	<b>REAR SWING ARM ASSEMBLY TOOL</b>  To remove and install rear swing arm pivot components.  1) HD-96209-80 Draw Bolt 2) HD-96204-80 Inside Press Collar 3) HD-96210-80 Washer 4) Nut (7/16 - 20) 5) HD-96202-80 Press Collar 6) HD-96208-80 Press Plug	FLT Models (1980-2001)



# V-TWIN CHASSIS/Brakes

	<b>HD-43293-A</b>	<b>BRAKE CALIPER PISTON REMOVER</b>  This tool will remove the pistons from four piston brake calipers.	All Models (2000 & Later)
	<b>HD-97168-77</b>	<b>ALIGNMENT GAUGE</b>  Used to align rear brake disc and brake pads.	FL, FX (1973-1979)



# V-TWIN CHASSIS/ Shock Absorbers

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-34633</b>	<b>AIR SUSPENSION PUMP AND GAUGE</b>  Accurately fills air suspensions without pressure loss when disconnecting.  1) HD-34633-3 Valve 2) HD-34633-4 Hose & Fitting 3) HD-34633-5A Plunger	All Air Suspension Models
	<b>HD-94700-52C</b>	<b>SHOCK ABSORBER SPANNER WRENCH</b>  Used to adjust shock absorbers for more or less spring compression.	K, KH  FL  XL Models (1967-1974)  FXD Dyna Models (1991 & Later)  XL Sport (1996 & Later)
	<b>HD-94820-75A</b>	<b>REAR SHOCK SPANNER WRENCH</b>  Adjusts spring compression.	XL Models (1975 & Later)  FLT  FXR







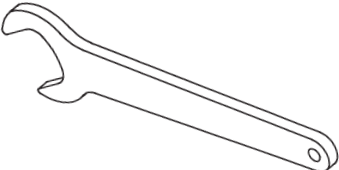
# V-TWIN ENGINE/General

	<b>HD-28431-C</b> <b>HD-28431-6A</b> <b>HD-28431-16</b>	<b>(24) 1-OZ. FLUORESCENT ADDITIVES (OIL)</b> <b>(6) 1-OZ. FLUORESCENT ADDITIVES (OIL)</b> <b>(1) 16 OZ. FLUORESCENT ADDITIVE (OIL)</b>  Improved additive shows brighter under black light.	All Models
	<b>HD-34816</b>	<b>OIL FILTER SWITCH WRENCH</b>  This tool will easily install and remove oil pressure switches without damage to the switch itself. The extension handle is not used when servicing Sportsters.	All 1340 cc Evolution Models except FLT & FLHT  XL Models (Late 1983-1985)





# V-TWIN ENGINE/General cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-35457</b>	<b>BLACK LIGHT LEAK DETECTOR</b>  The Black Light Oil Leak Detector provides an effective time saving method for pinpointing engine oil leaks. Simply add 1 oz. of fluorescent oil additive to the engine crankcase (6 oz. included). Run the engine for ten minutes to circulate the fluorescent oil additive throughout the engine. Oil leak will fluoresce a bright yellow when illuminated with HD-35457 Black Light.	All Models
	<b>HD-39565</b>	<b>ELECTRONIC LISTENING TOOL, ENGINE EAR®</b>  The Engine EAR® helps to amplify sounds and also shuts out surrounding noises. Very helpful in identifying worn components and internal engine noises. Comes with carrying case.	All Models
	<b>HD-39964</b>	<b>COOL TOOL</b>  This cutting fluid works well with both taps and reamers.	All Models
	<b>HD-41417</b>	<b>PROPANE ENRICHMENT KIT</b>  Checks for suspected leaks in engine intake by changing engine tone when propane enters source of leak. Kit comes with all necessary components except for propane bottle.	All Models
	<b>HD-41675</b>	<b>OIL PRESSURE SENDING UNIT WRENCH</b>  The oil pressure sending unit on all 1995 to current vehicles can be difficult to remove because of its location on the engine.	XL Sport (1996 & Later)

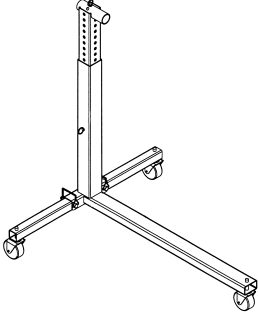
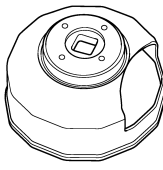
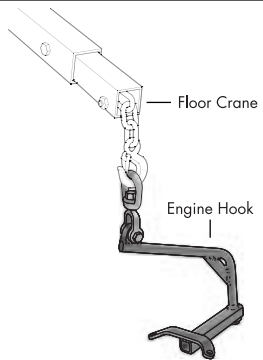
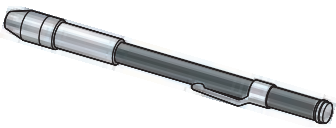
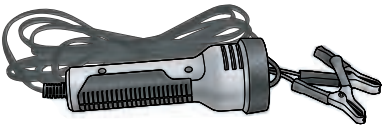
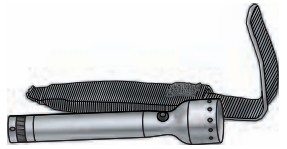


# V-TWIN ENGINE/General cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-42310</b>	<b>ENGINE/TRANSMISSION STAND</b>	See Below
		<p>The Engine/Transmission Stand will make engine repair easier than ever before. Engines and transmissions can be rotated and tilted into various work positions. Crankcases can even be split to perform complete engine overhauls. Transmissions can also be supported for easy maneuverability. HD-42310-200 Wing Nut firmly locks cradle in stand for crankcase main bearing lapping.</p>	
		<ul style="list-style-type: none"> <li>B-43987 Engine Cradle (Blast 2004 &amp; Later) &amp; (XB9R Firebolt 2003 &amp; Later)</li> <li>HD-42310 Benchtop Stand (Cradles Not Included)</li> <li>HD-42310-1 Evolution/Shovelhead Cradle</li> <li>HD-42310-2B Twin Cam 88 Cradle (Slotted holes for easy attachment)</li> <li>HD-42310-3 Sportster Engine Cradle (thru 2003)</li> <li>HD-42310-20A 5-Speed Transmission Cradle</li> <li>HD-42310-25A Twin Cam 88B Cradle</li> <li>HD-42310-40 V-Rod Cradle</li> <li>HD-42310-45 Sportster Engine Cradle (2004 &amp; Later)</li> <li>HD-42310-50A 6-Speed Transmission Cradle</li> <li>HD-42310-200 Cradle Lock Wing Nut</li> </ul>	
	<b>HD-42310-150</b>	<b>ENGINE STAND DRIP TRAY</b>	All Models
		<p>This tool is used with the HD-42310 Engine Stand to catch engine and transmission oil.</p>	
	<b>HD-42311</b>	<b>OIL FILTER WRENCH</b>	All Models
		<p>Use to remove oil filters.</p>	
	<b>HD-42508</b>	<b>TORX PLUS BIT KIT</b>	1997 Models
		<p>Torx Plus fasteners were used on 1997 model year vehicles. The HD-42508 Torx Plus Bit Kit includes T-40 I.P. &amp; T-45 I.P. tools necessary to service these fasteners.</p>	
		<ul style="list-style-type: none"> <li>1) HD-42508-1 Holder</li> <li>2) HD-42508-2 T-40 Torx Bit</li> <li>3) HD-42508-3 T-45 Torx Bit</li> </ul>	


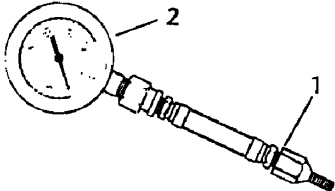


# V-TWIN ENGINE/General cont.


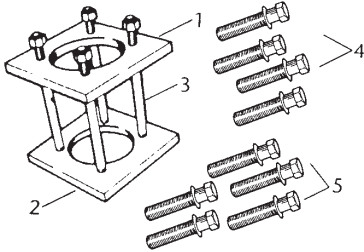
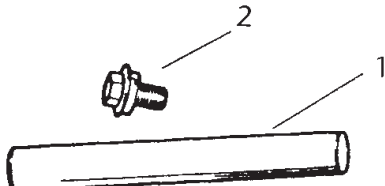
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-43646-A</b>	<b>ROLLING ENGINE STAND</b>  This engine stand uses the cradles from the Bench Top Engine stand and can be rolled around the service department. The engines can be tilted into various positions and is height adjustable. HD-43646-A includes wide span leg for V-Rod engine.  HD-43646-50 Wide Span Leg For V-Rod Engine (for previous stand HD-43646) HD-43646-10 Oil Drip Tray	All Models
	<b>HD-44067-A</b>	<b>OIL FILTER WRENCH</b>  Allows access around the crank position sensor to remove the oil filter. New improved version allows removal of filters attached to an accessory oil cooler adapter.	All Models
 <p>Floor Crane</p> <p>Engine Hook</p>	<b>HD-46284</b>	<b>ENGINE HOOK</b>  Lifts XL engine from chassis during removal and installation. Used with floor crane or chainfall.	XL Models (2004 & Later)
	<b>HD-47183</b>	<b>LEAK DETECTOR PENLIGHT</b>  Small penlight design permits leak detection in very tight areas.	All Models
	<b>HD-47184</b>	<b>LEAK DETECTOR FLASHLIGHT</b>  Convenient flashlight design permits leak detection in tight places. Clips to battery terminal for 12 volt power.	All Models
	<b>HD-47187</b>	<b>TECHNICIAN PENLIGHT</b>  Provides bright white light source in poorly lit areas.	All Models



# V-TWIN ENGINE/General cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-47188</b>	<b>TECHNICIAN FLEX LIGHT</b>  Flexible neck provides bright white light source in hard-to-reach areas.	All Models
	<b>HD-96950-68</b>	<b>VACUUM GAUGE</b>  Measures front chain case vacuum to detect air leaks (30 in. water, 1.05 P.S.I.).  1) HD-96955-68 Fitting 2) HD-96952-68 Gauge	FL (1965 & Earlier)  FLT (1984½ & Earlier)  FX

# V-TWIN ENGINE/Cylinder Head & Cylinder

	<b>HD-33223-1</b>	<b>CYLINDER COMPRESSION GAUGE</b>  This new compression gauge features a quick disconnect coupler for easy handling. Used for all models.	All Models
	<b>HD-33446-B</b>	<b>CYLINDER BORING TORQUE PLATES</b>  This tool properly stresses the cylinder to simulate engine operating conditions. It is required to properly hone, bore, and measure the cylinder. Used in conjunction with HD-33446-86 (included) for XL Evolution.  1) HD-33446-1 Top Plate 2) HD-33446-2 Bottom Plate 3) HD-33446-4 Evolution Bolts (4) & Washers (4) 4) HD-33446-5 Shovelhead Lower Bolts (4) & Washers (4) 5) HD-33446-6 Shovelhead Upper Bolts (5) & Washers (5)	All Big Twin Evolution  Sportster Evolution  Shovelhead
	<b>HD-34624</b>	<b>CYLINDER HEAD STUD INSTALLER</b>  This tool installs the cylinder studs into the engine case to the proper depth. (Early 1340cc Evolution only)  1) HD-34624-1 Guide Spacer Tube 2) HD-34624-2 Screw Assembly	Early 1340cc Evolution Only







# V-TWIN ENGINE/ Cylinder Head & Cylinder cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-35667-A</b>	<b>CYLINDER LEAKDOWN TESTER</b>  HD-35667-A will test for defective piston rings, cylinder walls, valves, gaskets and all related leakage problems. HD-35667-A uses existing shop air and pinpoints the exact defect.	All Models
	<b>HD-39782-A</b>	<b>CYLINDER HEAD SUPPORT STAND</b>  The cylinder head support stand kit includes adapters to fit all Harley-Davidson cylinder heads. These stands are especially nice for use when removing or installing valve guides. They make it easy to use an arbor press to push the guides in and out on a straight line.  1) HD-39782-1 Stand 2) HD-39782-2 Adapter 3) HD-39782-6 Adapter 4) HD-39782-7 Adapter 5) HD-39782-3 Adapter 6) HD-39782-4 Adapter 7) HD-39782-5 Adapter 8) HD-39782-13 V-Rod Intake Adapter 9) HD-39782-14 V-Rod Exhaust Adapter	All Models
	<b>HD-39786</b>	<b>CYLINDER HEAD HOLDING FIXTURE</b>  The cylinder head holding fixture is a double ended tool. The ends are threaded into the spark plug hole of the cylinder to allow you to clamp the head into a vise. This is especially handy when reaming and honing valve guides.	All Models
	<b>HD-42324-A</b>	<b>CYLINDER TORQUE PLATES</b>  Permits accurate measurement of bore to check for conditions of wear, taper, and out-of-round.  1) HD-42324-1A Lower Plate 2) HD-42324-2A Upper Plate 3) HD-42324-4 Bolt (4 Required)	Twin Cam 88
	<b>HD-48116</b>	<b>HEAD TEMP SENSOR SOCKET</b>  Used to remove head temperature sensor.	XL Models (2007 & Later)  Buett Models (1999 & Later)

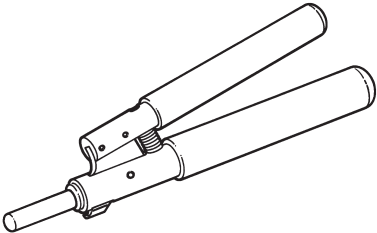



# V-TWIN ENGINE/ Cylinder Head & Cylinder cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-48262</b>	<b>O2 SENSOR WRENCH</b> Used to remove O2 Sensor.	All Models w/ O2 Sensor
	<b>HD-94585-30</b>	<b>CYLINDER BASE NUT WRENCH</b> Fits 5/8" nuts.	All Shovelhead Models
	<b>HD-94589-29B</b>	<b>CYLINDER BASE NUT AND HEAD BOLT WRENCH</b> Fits 9/16" nuts.	WL, G KH, XL All Shovelhead Models
	<b>HD-94590-73</b>	<b>SOCKET HANDLE, CYLINDER HEAD BOLT WRENCH</b> 3/8" square drive for use with standard socket.	U, K KH, XL All Shovelhead Models

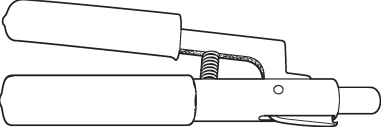
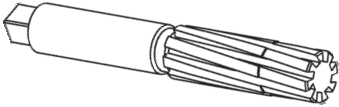
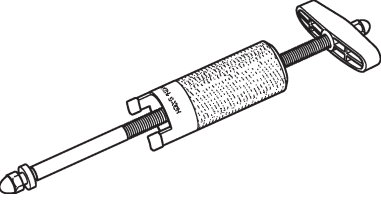
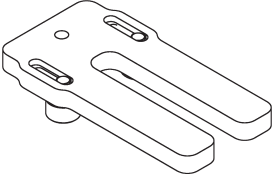

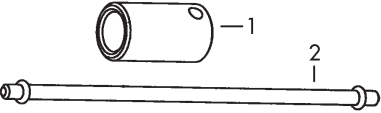


# V-TWIN ENGINE/Piston & Connecting Rod

	<b>HD-34623-C</b>	<b>PISTON PIN RETAINING RING INSTALLER</b> This tool takes the frustration out of piston service by allowing a convenient means to install retaining rings quickly and easily on all 1983-Later Evolution pistons and Shovelhead pistons 1983-later. Also works on late 1985 1000cc piston. New version adapts to redesigned Buell XB9R Firebolt piston pin.	All Evolution Shovelhead XL Models (Late 1985)
	<b>HD-35102</b>	<b>PISTON PIN BUSHING HONE (20mm)</b> This tool finish sizes wrist pin bushings after reaming. Used for all models.	All Models




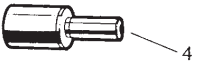

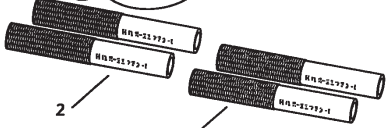
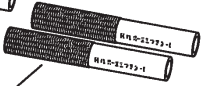
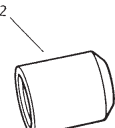
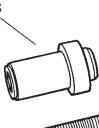
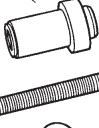




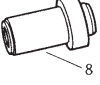
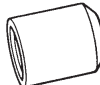


# V-TWIN ENGINE/Piston & Connecting Rod cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-42317-A</b>	<b>PISTON PIN RETAINING RING INSTALLER</b> Used to install piston pin retaining clips.	Twin Cam 88/B
	<b>HD-42318</b>	<b>CONNECTING ROD BUSHING REAMER</b> Reamer sizes replacement connecting rod bushings to size.	Twin Cam 88/B
	<b>HD-42320-A</b>	<b>PISTON PIN EXTRACTOR</b> Removal of the piston pin can be time consuming. With the HD-42320-A Pin Extractor, the job is easy. Position the pin extractor next to a piston pin and turn the handle. The piston pin will be removed in seconds. New version removes redesigned Buell Firebolt piston pins.	All Models - (1965 & Later)
	<b>HD-42322</b>	<b>PISTON SUPPORT PLATE</b> Used to provide a stable platform for the piston during piston ring installation and cylinder installation.	All Models
	<b>HD-42569</b>	<b>CONNECTING ROD BUSHING HONE</b> Hone achieves final surface finish on bushing after it has been reamed.	Twin Cam 88/B
	<b>HD-43645</b>	<b>REAMER DRIVE SOCKET</b> Used with HD-42318 Connecting Rod Bushing Reamer & HD-42316 Crankshaft Bushing Reamer to turn reamer shank.  1) HD-43645-1 Socket 2) HD-43645-4 Handle	Twin Cam 88/B



# V-TWIN ENGINE/Piston & Connecting Rod cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-94800-26A</b>	<b>CONNECTING ROD BUSHING REAMER SET</b>	
		Used for reaming pistons and upper connecting rod bushings.	
	1) HD-94800-1	.7922/.7920	Reamer 73-83 FL Shovelhead 84-Later Evolution 1340
	2) HD-94800-2	.7916/.7914	Reamer 57-85 XL 86 & Later Evolution XL
	3) HD-94800-3	.767	Pilot 73-83 Shovelheads 84-Later Evolution 1340
	4) HD-94800-4	.773	Pilot 57-85 XL 86-Later Evolution XL
	<b>HD-95952-33C</b>	<b>CONNECTING ROD CLAMPING TOOL</b>	All Models
		Holds connecting rod when fitting piston pin bushing.	
	1) HD-95954-33 Base		
	2) HD-95952-1 (pkg of 2)		XL Models (1996 & Later) Twin Cam 88 (1999 & Later)
	3) HD-95952-3 (pkg of 2)		1340 Evolution Models (1984 & Later)
	4) RS-9400-810 Thumb Screw (2 required)		
	<b>HD-95970-32D</b>	<b>PISTON PIN BUSHING TOOL</b>	All Models
		Used to remove and replace piston pin bushings without removing connecting rod from crankcase.	
	1) HD-95970-101	Washer	
	2) HD-95984-32B	Receiver Cup	
	3) HD-95986-32B	Remover/Installer	
	4) J-28668-5	Bolt	
	5) J-23444-A	Thread Lube	
	6) J-22342-18	Nice Bearing	
	7) RS-3600-450	Nut (3/8 -16)	
	8) HD-95986-99	Remover/Installer	
	9) HD-95984-99	Receiver Cup	





# V-TWIN ENGINE/Piston & Connecting Rod cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-96333-51E</b>	<b>PISTON RING COMPRESSING TOOL</b>  To insert pistons with rings into cylinders. Compresses rings to bore size.  1) HD-96333-100 Ring Compressor Pliers 2) HD-96333-101 Band 2 $\frac{7}{8}$ -3 $\frac{1}{8}$ 3) HD-96333-102 Band 3 $\frac{1}{8}$ -3 $\frac{3}{8}$ 4) HD-96333-103 Band 3 $\frac{3}{8}$ -3 $\frac{7}{8}$ 5) HD-96333-105 Band 3 $\frac{7}{8}$ -4 $\frac{1}{8}$ 6) HD-96333-106 Band 4 $\frac{1}{8}$ -4 $\frac{3}{8}$ VRSC Models 1250 cc Engine	All Models

	<b>HD-96740-36</b>	<b>CONNECTING ROD LAPPING ARBOR</b>  For lapping connecting rod bearing races when fitting new rollers.  1) HD-96746-36 1 $\frac{1}{2}$ " Lap (FL, XL, K, KH, XR, FXU, FLT, FX) 2) HD-96741-17 Lapping Arbor 3) HD-96745-17 Adjusting Nut 4) HD-96743-17 Lock Nut 5) HD-96744-17 Adjusting Collar	FL XL K, KH U FLT
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# V-TWIN ENGINE/Flywheel & Crankcase


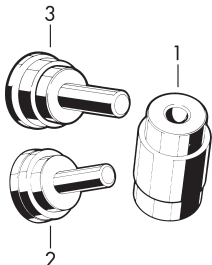
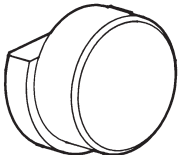
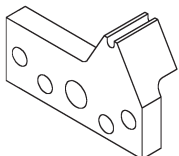
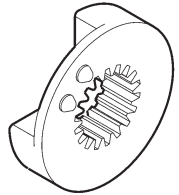
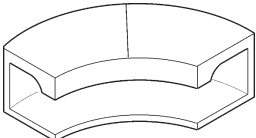
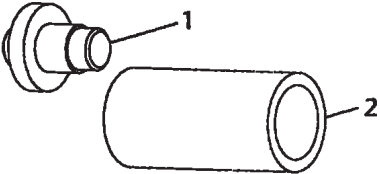
	<b>B-45655</b>	<b>CRANKCASE BEARING REMOVER &amp; INSTALLER</b>  Used with HD-42720 to remove and install crankcase main bearings.	Twin Cam 88/B (2003 & Later)  XB9/XB12 Firebolt (2003 & Later)  XL Models (2004 & Later)
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	<b>HD-34813</b>	<b>ROWE FLYWHEEL REBUILDING JIG</b>  This tool is used to remove and replace the mainshaft, crank pin nut, and upper flywheel. It is also used to tighten the crank pin nut.	All Models
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	<b>HD-38871</b>	<b>CRANKSHAFT BUSHING PLATE PILOT AND REAMER</b>  Reams inboard Camshaft crankcase bushings.  1) HD-38871-4 Plate 2) HD-38871-2 Reamer 3) HD-38871-5 Screws	XL Models (1991 & Later)
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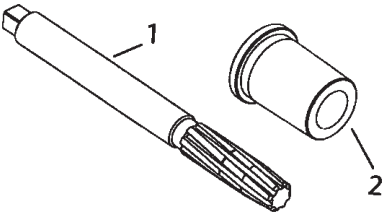
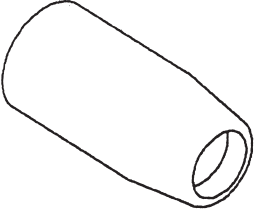
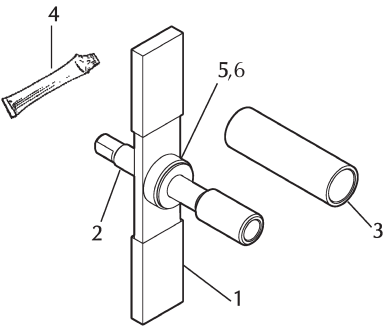
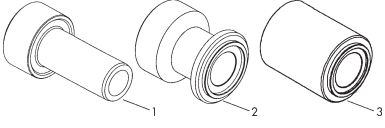
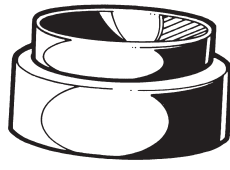
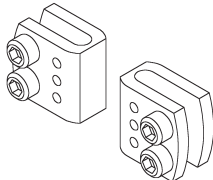


# V-TWIN ENGINE/ Flywheel & Crankcase cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-39361-B</b>	<b>BIG TWIN SPROCKET SHAFT SEAL INSTALLER</b>  Installs sprocket shaft seal. Use with HD-97225-55B.  New -B version works on all models including 2006 & later models.	FL/FX (1969 & Later)
	<b>HD-39458</b>	<b>SPROCKET SHAFT BEARING OUTER RACE INSTALLER</b>  Used with a shop press to simply and easily install the Timkin bearing races to the correct depth.  1) HD-39458-1 Base 2) HD-39458-2 Sportster Pilot 3) HD-39458-3 Big Twin Pilot	Big Twins (1969-2002)  XL Models (1977-2003)
	<b>HD-39958</b>	<b>PINION BEARING RACE REMOVAL &amp; INSTALLATION TOOL</b>  This tool is used to remove and install the pinion bearing outer race on 1958 to current models.	Big Twins (1958 & Later)
	<b>HD-41492-A</b>	<b>CRANKSHAFT LOCKING TOOL</b>  The HD-41492-A locks the crankshaft by engaging the pinion shaft splines. This permits the removal and torquing of the pinion nut during installation.	All Big Twins (Except Twin Cam 88)
	<b>HD-41506</b>	<b>CRANKSHAFT LOCKING TOOL</b>  The HD-41506 locks the crankshaft by engaging the pinion shaft splines. This permits the removal and torquing of the pinion nut during installation.	XL Models (1991-1999)
	<b>HD-42122</b>	<b>FLYWHEEL PROTECTIVE COVER</b>  The HD-42122 is used to protect the flywheel when removing the crankpin.	Fuel Injected Engines (1995-1998)
	<b>HD-42315</b>	<b>CRANKSHAFT BUSHING REMOVER &amp; INSTALLER</b>  Removes and installs crankshaft bushing in support plate.  1) HD-42315-1 Remover/Installer 2) HD-42315-2 Base	Twin Cam 88

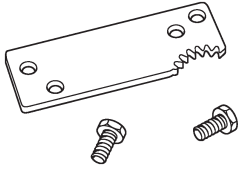
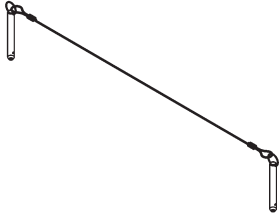
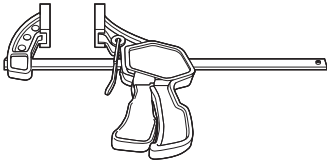
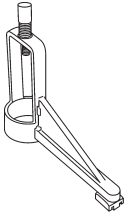
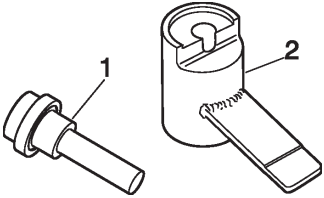
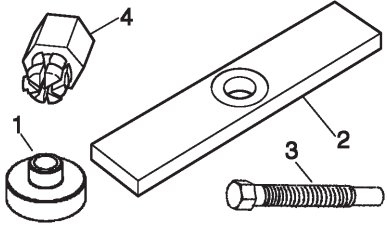


# V-TWIN ENGINE/ Flywheel & Crankcase cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-42316</b>	<b>CRANKSHAFT BUSHING REAMER</b>  Tool reams replacement crankshaft bushings.  1) HD-42316-1 Reamer 2) HD-42316-2 Pilot	Twin Cam 88
	<b>HD-42326-A</b>	<b>CRANKSHAFT GUIDE</b>  Spreads crankcase pinion bearing rollers during crankcase reassembly.	All Twin Cam 88/B  XB9/XB12 Firebolt (2003 & Later)  XL Models (2004 & Later)
	<b>HD-42579</b>	<b>SPROCKET SHAFT BEARING INSTALLER</b>  This tool will install the Sprocket Shaft Bearing to the proper depth.  1) HD-42579-4 Handle 2) HD-42579-2 Screw 3) HD-42579-3 Collar 4) J-23444-A Thread Lube 5) 12702 Bearing 6) 12330 Washer	XL Models (1977-2003)
	<b>HD-42720-A</b>	<b>CRANKCASE BEARING REMOVER &amp; INSTALLER</b>  Removes and installs right crankcase main bearing.  1) HD-42720-1 Installer 2) HD-42720-2 Base 3) HD-42720-5 Base (2003 TC88/B)	Twin Cam 88
	<b>HD-42774</b>	<b>SPROCKET SHAFT SEAL INSTALLER</b>  The HD-42774 will install the sprocket shaft seal. Used with HD-42579 Sprocket Shaft Bearing Installer.	XL Models (1977-2001)
	<b>HD-43720</b>	<b>TIMKEN SNAP REMOVER &amp; INSTALLER</b>  Removes and installs the Timken outer race snap ring in the left crankcase half.	Big Twin Models (1969 & 2002)



# V-TWIN ENGINE/ Flywheel & Crankcase cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-43984</b>	<b>CRANKSHAFT LOCKING TOOL</b>  Tool will lock the crankshaft by engaging the pinion gear splines. This permits the removal and torquing of the pinion shaft nut.	XL Models (2000 & Later)
	<b>HD-44062</b>	<b>BALANCER SHAFT RETENTION PINS</b>  Tool secures the balancers during servicing of counterbalancer components.	Twin Cam 88B
	<b>HD-44063</b>	<b>HYDRAULIC TENSION COMPRESSOR</b>  Tool will compress the hydraulic tensioner assembly to permit balancer chain removal.	Twin Cam 88B
	<b>HD-44064-A</b>	<b>BALANCER SHAFT SPROCKET ALIGNMENT TOOL</b>  Verifies proper alignment of the crankshaft and balancer's three sprockets.	Twin Cam 88B
	<b>HD-44065</b>	<b>CRANKCASE BEARING REMOVER &amp; INSTALLER</b>  Removes and installs the right crankcase main bearing.  1) HD-44065-1 Installer 2) HD-44065-4 Base	Twin Cam 88B (2000-2002)
	<b>HD-44066</b>	<b>BALANCER SHAFT INNER/OUTER BEARING REMOVER &amp; INSTALLER</b>  Removes and installs the balancer's inner & outer support bearings.  1) B-43993-6 Installer 2) HD-44066-2 Cross Plate 3) HD-44066-4 Forcing Screw 4) HD-44066-5 Collet 5) J-23444-A Thread Lube (not shown)	Twin Cam 88B



# V-TWIN ENGINE/ Flywheel & Crankcase cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-44069</b>	<b>TIMKEN SNAP RING REMOVER &amp; INSTALLER</b>  Removes and installs the Timken outer race snap ring in the left crankcase half.	XL Models (1977-2003)
	<b>HD-44358</b>	<b>FLYWHEEL SUPPORT FIXTURE</b>  Used to support all straight crankpin flywheels during servicing.  1) HD-44358-1      Bracket 2) HD-44358-2      Hold Down Assembly 3) HD-44358-3      Button (10-24 thread) 4) HD-44358-8      Button (3/8-16 thread)	Twin Cam 88 (1999 & Later),  Twin Cam 88B (2000 & Later),  XL Models (2000 & Later)
	<b>HD-44404</b>	<b>TIMKEN BEARING REMOVER</b>  Used with the HD-34902-B to remove the inner Timken bearing from the flywheel.	XL Models (2000-2003)
	<b>HD-44408</b>	<b>HYDRAULIC TENSIONER RETAINERS</b>  Secures the tensioner in a compressed position during servicing.	Twin Cam 88B
	<b>HD-45206</b>	<b>SPROCKET SHAFT SEAL INSTALLER</b>  Installs sprocket shaft seal to the correct depth in the crankcase without damage to the seal lip and case bore. Used with the HD-42579 Sprocket Shaft Bearing Installer.	XL Models (2002-2003)
	<b>HD-46287</b>	<b>LAPPING TOOL ADAPTER</b>  Adapts HD-96710-40D for lapping of the right main bearing outer race. Included in HD-96710-40D Lapping Kit.	XL Models (2004 & Later)  XB12/XB9 (2003 & Later)


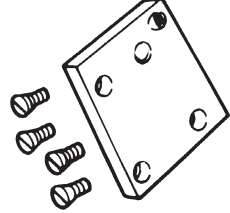
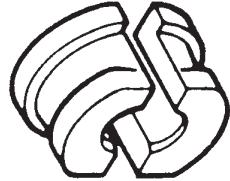
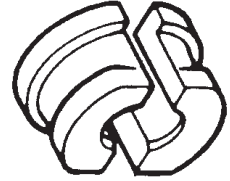
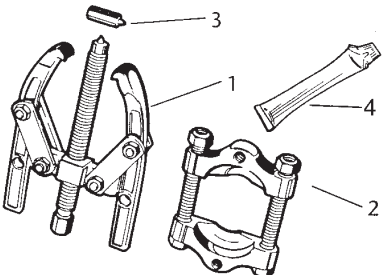


# V-TWIN ENGINE/ Flywheel & Crankcase cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-46663</b>	<b>CRANKCASE BEARING REMOVER ADAPTER</b>  Used with the HD-42720-5 Base and B-45655 Bearing Remover to remove the late style crankcase bearing.	XL Models (2004 & Later),  XB9/XB12 Firebolt
	<b>HD-47256</b>	<b>CRANKSHAFT ROTATING WRENCH</b>  Six splines engage the crankshaft to simplify rotating the engine during service.	XL, Buell Models
	<b>HD-47257</b>	<b>CRANKSHAFT ROTATING WRENCH</b>  Ten splines engage the crankshaft to simplify rotating the engine during service.	Twin Cam 88/88B  FL Models (1999-2006)  FX Models (2000-2006)  Dyna Models (1999-2005)
	<b>HD-48283</b>	<b>CRANKSHAFT ROTATING WRENCH</b>  24 splines engage the crankshaft to simplify rotating the engine during service.	Twin Cam 88/88B  Dyna Models (2006 & Later)  FL/FX Models (2007 & Later)
	<b>HD-48309</b>	<b>BALANCER BEARING INSTALLER</b>  Installs balancer and inner bearing as a single unit.	Big Twins (2007 & Later)
	<b>HD-48457</b>	<b>COUNTER BALANCER REMOVER</b>  Removes new style counter balancer.	Big Twins (2007 & Later)

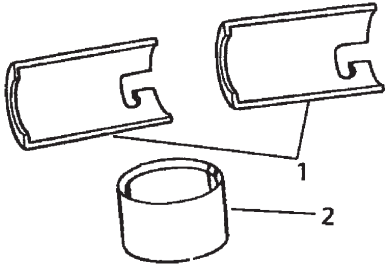
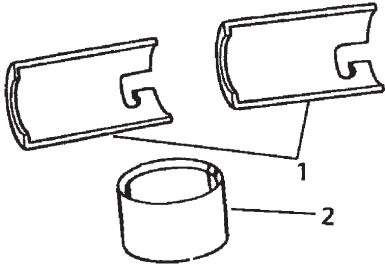
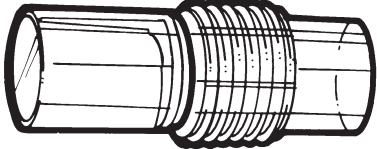
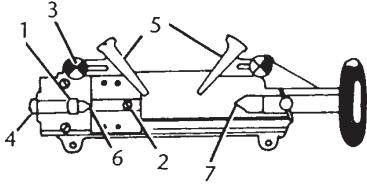


# V-TWIN ENGINE Flywheel & Crankcase cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-48474</b>	<b>COUNTER BALANCER OUTER BEARING REMOVER &amp; INSTALLER</b>  Removes and installs outer bearing for new style counter balancer.	Big Twins (2007 & Later)
	<b>HD-94461-81</b>	<b>CRANKCASE OIL PASSAGE DRILLING JIG</b>  Replacement oil pumps have a relocated oil passage outlet. This tool allows accurate drilling of a matching passage into the crankcase for proper engine oiling. Contains six mounting screws. Two ¼ - 24 screws for 1973 to 1975 models.	Big Twins (1973-1980)
	<b>HD-94547-100</b>	<b>SPROCKET SHAFT BEARING RACE REMOVAL &amp; INSTALLATION TOOL</b>  To remove and install engine sprocket shaft bearing outer races from crankcase. Use with HD-94547-102 Driver Handle.	Big Twins (1969-2002)
	<b>HD-94547-101</b>	<b>SPROCKET SHAFT BEARING RACE REMOVAL &amp; INSTALLATION TOOL</b>  To remove and install engine sprocket shaft bearing outer races from crankcase. Use with HD-94547-102 Driver Handle.	XL Models (1977-2003)
	<b>HD-95715-19C</b>	<b>SPROCKET SHAFT EXTENSION AND BEARING PULLER</b>  Used to remove sprocket shaft extension and sprocket shaft Timken bearing inner race. Also pulls front wheel speedometer drive gear.  1) HD-95635-46 Puller 2) HD-95637-46A Bearing Separator 3) HD-95636-46 Adapter 4) J-23444-A Thread Lube	All Big Twins



# V-TWIN ENGINE Flywheel & Crankcase cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-96015-52</b>	<b>SPROCKET SHAFT TIMKEN BEARING INNER RACE PULLER</b>  Fits between sprocket shaft inner race and flywheel.  1) HD-96017-52 Puller Halves 2) HD-96018-52 Puller Collar  *Use with HD-33418 Universal Puller Forcing Screw.	K, KH  XL Models (1976 & Earlier)
	<b>HD-96015-77B</b>	<b>SPROCKET SHAFT TIMKEN BEARING INNER RACE PULLER</b>  Fits between sprocket shaft inner race and flywheel.  1) HD-96017-77 Puller Halves 2) HD-96018-52 Puller Collar  *Use with HD-33418 Universal Puller Forcing Screw.	XL Models (1977 - Early 1981)
	<b>HD-96295-65D</b>	<b>TIMING MARK VIEW PLUG</b>  The clear plastic plug threads into the crankcase timing hole for accurate ignition timing with strobe timing light, HD-33813. Allows easy viewing without danger of getting oil all over.	All Models
	<b>HD-96650-80</b>	<b>FLYWHEEL TRUING STAND</b>  Used to true crankshaft alignment. Measures and indicates to .002"  1) Screw (not sold separately) 2) Screw (not sold separately) 3) Washer (not sold separately) 4) Nut (not sold separately) 5) Set of Indicators (not sold separately) 6) HD-96652-19 Stationary Center (sold separately) 7) HD-96660-41 Moveable Center (sold separately)	All Models





# V-TWIN ENGINE Flywheel & Crankcase cont.

ILLUSTRATION

TOOL NUMBER

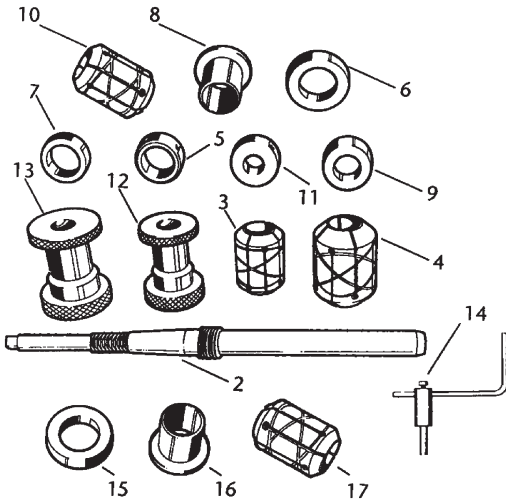
DESCRIPTION

APPLICATION

**HD-96710-40D**

**CRANKCASE MAIN BEARING LAPPING TOOL**

All Models



For aligning right and left main bearing races and lapping. Also used to lap pinion shaft bearing race on engines with Timken bearings.

- 1) HD-96710-51 Collar Spanner Wrenches
- 2) HD-96712-40A Lapping Arbor
- 3) HD-96718-40A Lap, 1 $\frac{1}{8}$ "
- 4) HD-96718-58A Lap, 1 $\frac{1}{4}$ "
- 5) HD-96719-40A Nut
- 6) HD-96719-87 Spacer
- 7) HD-96720-40A Collar
- 8) HD-96720-87 Adapter Sleeve
- 9) HD-96721-40A Collar
- 10) HD-96721-87A Lap, 1 $\frac{5}{8}$ "
- 11) HD-96722-40A Nut
- 12) HD-96728-56A Guide Sleeve & Sleeve Nut
- 13) HD-96727-56A Guide Sleeve & Sleeve Nut
- 14) HD-96710-50 Handle Assembly
- 15) HD-96719-87 Spacer XL (1987-2003)
- 16) HD-96720-87 Adapter Sleeve XL (1987-2003)
- 17) HD-96721-87A Lap, 1 $\frac{5}{8}$ " XL (1987-2003)
- 18) HD-46287 Lapping Tool Adapter XL (2004 & Later), XB12/XB9 (2003 & Later)

**HD-97225-55C**

**SPROCKET SHAFT BEARING INSTALLER**



For installing flywheel assembly into crankcase Timken bearing.

Big Twins  
(1955 & Later)

Presses main bearing into inner race to correct depth.

Dyna Models  
(2006 & Later)

- 1) HD-97227-55A Screw
- 2) HD-97228-55A Collar
- 3) RS-25100-300 Bearing
- 4) 212434 Washer
- 5) HD-97229-55 Handle
- 6) J-23444-A Thread Lube (not shown)
- 7) HD-97225-1 Sprocket Shaft Adapter
- 8) HD-97225-2 Collar

FL/FX Models  
(2007 & Later)



# V-TWIN ENGINE/Camshaft, Valves & Valve Train

**B-45523**

**VALVE GUIDE REAMER (7mm)**

XL Models  
(2004 & Later)

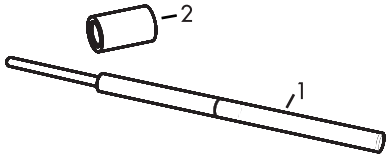



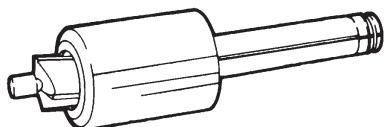
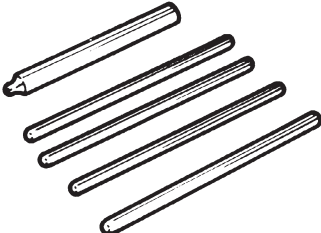



Reams replacement intake and exhaust valves guides to the proper size.

XB9/XB12 Firebolt


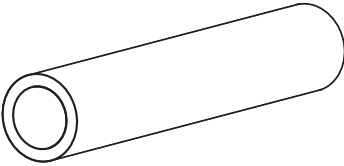
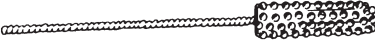
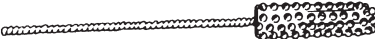

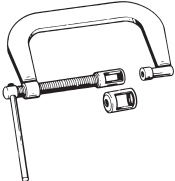


# V-TWIN ENGINE/Camshaft, Valves & Valve Train cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>B-45524-A</b>	<b>VALVE GUIDE REMOVER / INSTALLER (7mm)</b>  Removes worn guides and installs replacement guides to the correct height.  1) B-45524-1 Remover 2) B-45524-2A Installer	XL Models (2004 & Later)  XB9/XB12 Firebolt
	<b>B-45525</b>	<b>VALVE GUIDE HONE (7mm)</b>  Applies final surface finish and crosshatch to replacement guides.	XL Models (2004 & Later)  XB9/XB12 Firebolt
	<b>HD-33443</b>	<b>BIG TWIN TAPPET GUIDE ALIGNMENT TOOL</b>  This tool aligns the tappet guides to the engine case. The result is proper alignment of the cam lobes to the valve tappets. (1340cc Evolution only).	1340cc Evolution
	<b>HD-33871</b>	<b>SPORTSTER VALVE GUIDE INSTALLER</b>  Installs shoulderless valve guides to correct depth.  *Use with HD-34740 Driver & Remover Handle.	XL Models (1957-1985)
	<b>HD-34107</b>	<b>VALVE GUIDE DEPTH/CUTTING TOOL</b>  Obtains proper clearance between exhaust valve head and guide.	All Shovelhead Models
	<b>HD-34199-A</b>	<b>PUSHROD HEIGHT GAUGE</b>  This tool allows the technician to quickly and accurately determine the proper size push rod when servicing the valve train. Used in conjunction with HD-34199-86 for XL Evolution.	All Evolution Models (1984-1990)
	<b>HD-34199-86</b>	<b>PUSHROD HEIGHT GAUGE ADAPTER</b>  This tool when used with HD-34199 (previously essential) allows the technician to quickly and accurately determine the proper size pushrod when servicing the valve train.	XL Models (1986-1990)


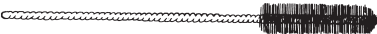


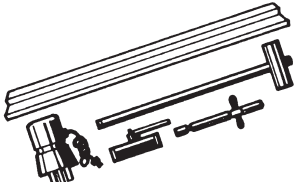


# V-TWIN ENGINE/Camshaft, Valves & Valve Train cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-34641</b>	<b>FXST REAR INTAKE VALVE SPRING COMPRESSOR</b>  This tool compresses intake valve spring on the rear cylinder of the FXST so that the rocker box can be removed while the engine is still in the frame. It does this without damage to the valve stem, valve spring, or rocker cover.	All Softail Models
	<b>HD-34643-A</b>	<b>EVOLUTION SHOULDERLESS VALVE GUIDE SEAL INSTALLER</b>  This tool installs the valve guide seals securely without damage to the seal itself on all Evolution models.	All EVO (1984 & Later)  Twin Cam 88/88B (2000-2004)
	<b>HD-34723</b>	<b>8mm VALVE GUIDE FLEX HONE</b>  Used to properly finish valve guides (.315). The hone is made of 180 grit silicon carbide to ensure a smooth finish.	XL Models Evolution - All  Twin Cam 88/88B
	<b>HD-34724-A</b>	<b>10mm VALVE GUIDE FLEX HONE</b>  Used to properly finish valve guides (.394). The hone is made of 180 grit silicon carbide to ensure smooth finish.	All Shovelhead Models
	<b>HD-34731</b>	<b>EVOLUTION VALVE GUIDE INSTALLER</b>  This tool takes the guesswork out of valve guide installation and insures that the guide is installed to the proper depth on all Evolution models.	All EVO Models (1984 & Later)  Twin Cam 88/88B (2000-2004)
	<b>HD-34736-B</b>	<b>VALVE SPRING COMPRESSOR</b>  Compresses valve springs on all cylinder heads. Forcing screw design allows gradual, controlled compressing.	All Models

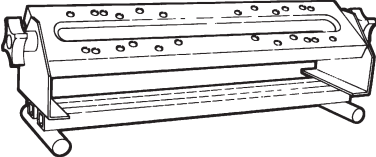
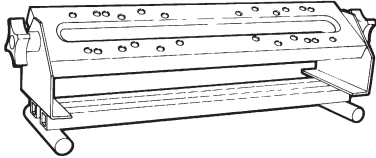
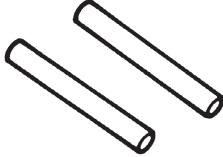
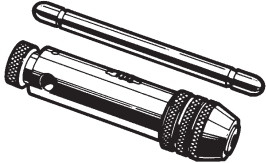
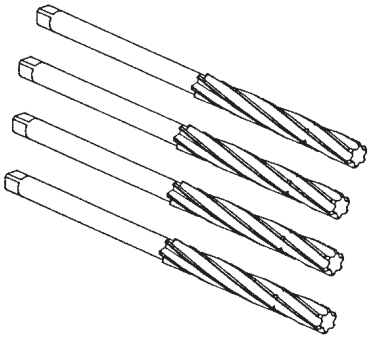


# V-TWIN ENGINE/Camshaft, Valves & Valve Train cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-34740</b>	<b>VALVE GUIDE &amp; VALVE GUIDE SEAL HANDLE</b>  Use to remove shoulderless valve guides on XL's and the Evolution engine. (Also used as driver for HD-33871, HD-34643, HD-34731, and HD-35103.)	All XL Models (1957 & Later)
	<b>HD-34751</b>	<b>VALVE GUIDE CLEANING BRUSH</b>  Hand held 1/2" dia. nylon brush for cleaning valve guides after honing.	All Models
	<b>HD-35103</b>	<b>BIG TWIN VALVE GUIDE SEAL INSTALLER</b>  This tool installs the valve guide seals to proper height without damage. For all Shovelheads. Use with HD-34740 Handle.	All Shovelhead Models
	<b>HD-35758-C</b>	<b>NEWAY VALVE SEAT CUTTER SET</b>  HD-35758-C is approved and recommended by the Harley-Davidson Service Department. This special cutter set is reasonably priced and consists of one of each of the following Neway part numbers.  Includes:  Neway No.      Description 622              Cutter, 1 1/2" dia. (31° x 46°) 205              Cutter, 1 1/2" dia. (60°) 293              Cutter, 1 3/4" dia. (60°) 642              Cutter, 1 3/4" dia. (31° x 46°) 140-5/16        Solid Pilot - 5/16" dia. -3, -2, -1, Std., +1 140-11/16      Solid Pilot - 11/32" dia. -4, -3, -2, -1 Std., +1 140-3/8         Solid Pilot - 3/8" dia. -2, -1, -2, Std., +1, +2, +3, +4 503              T-Wrench 160              Molded Storage/Carrying Case 14060          HD-35758-51 6mm Pilot 203              HD-35758-53 Exhaust Seat Cutter, 1 1/4 dia. (31° x 46°) 271              HD-35758-54 Intake Seat Cutter, 1 1/2 dia. (70°) PM140702      B-35758-52A 7mm Pilot	All Models
	<b>HD-35759</b>	<b>NEWAY MODEL 1700 POWER HEAD</b>  Features Include: *115V, 60 RPM Drive *Used with HD-35761, Track Mounted Headstand and HD-35758 Cutter Set	All Models



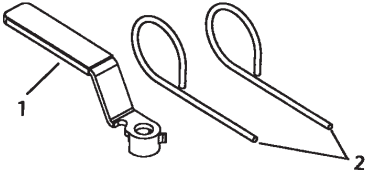
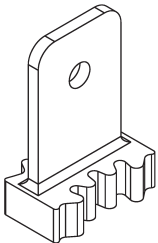
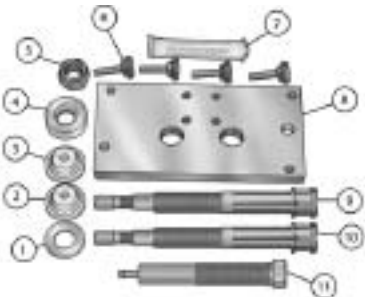
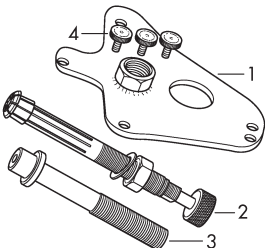
# V-TWIN ENGINE/Camshaft, Valves & Valve Train cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION	
	<b>HD-35760</b>	<b>BENCH MOUNT HOLDING FIXTURE</b>  For hand or stone cutters. Used with HD-35758 Cutter Set.	All Models	
	<b>HD-35761</b>	<b>TRACK MOUNT HOLDING FIXTURE</b>  For use with HD-35759 Neway Power Head & HD-35758 Cutter Set.	All Models	
	<b>HD-38361</b>	<b>CAM GEAR GAUGE PIN SET .108"</b>  Used to measure and verify cam gear sizes and color coding.	1340cc Models (1990 & Later)  XL Models (1991 & Later)	
	<b>HD-39847</b>	<b>RATCHETING TAP HANDLE</b>  This is a universal ratcheting tap handle. Also works extremely well with reamers.	All Models	
	<b>HD-39932</b> <b>HD-39933</b> <b>HD-41201</b>	<b>VALVE GUIDE REAMERS</b>  These reamers are used to finish ream newly installed valve guides.		
	1) a. <b>HD-39932</b> b. <b>HD-39932-CAR</b>	Spiral Flute Spiral Flute	High Speed Steel Carbide	EVO All/Iron XL INT (1957-1985) Twin Cam 88/88B (2000-2004) EVO All/Iron XL INT (1957-1985) Twin Cam 88/88B (2000-2004)
	2) a. <b>HD-39933-INT</b> b. <b>HD-39933-INT-CAR</b>	Spiral Flute Spiral Flute	High Speed Steel Carbide	Shovelhead Intake Shovelhead Intake
	3) a. <b>HD-39933-EXH</b> b. <b>HD-39933-EXH-CAR</b>	Spiral Flute Spiral Flute	High Speed Steel Carbide	Shovelhead Exhaust Shovelhead Exhaust
	4) a. <b>HD-41201</b> b. <b>HD-41201-CAR</b>	Spiral Flute Spiral Flute	High Speed steel Carbide	Iron XL Exhaust (1957-1985) Iron XL Exhaust (1957-1985)

NOTE: Carbide reamers can be resharpened.

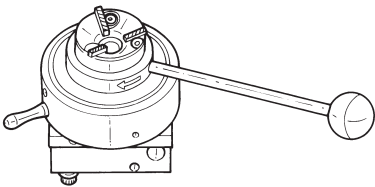
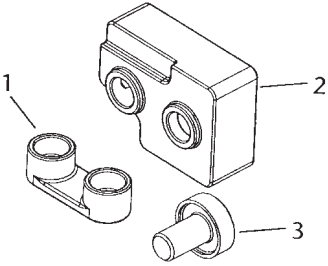

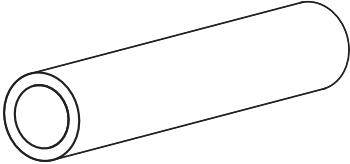





# V-TWIN ENGINE/Camshaft, Valves & Valve Train cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-42313</b>	<b>CAM CHAIN TENSIONER UNLOADER</b>  Removes cam chain tensioner pressure from cam chain during disassembly and reassembly.  1) HD-42313-1 Tensioner Unloader 2) HD-42313-2 Retaining Pin (1 pin)	Twin Cam 88/88B
	<b>HD-42314</b>	<b>CAMSHAFT/CRANKSHAFT SPROCKET LOCKING TOOL</b>  Locks camshaft/crankshaft sprockets during disassembly & reassembly to permit proper torquing.	Twin Cam 88/88B
	<b>HD-42325-A</b>	<b>CAMSHAFT NEEDLE BEARING REMOVER &amp; INSTALLER TOOL</b>  Used to remove and replace the camshaft's two inner needle bearings.  1) HD-42325-3 Removal Collet 2) HD-42325-5 Plate Assembly 3) HD-42325-6 Installer 4) HD-42325-7 Installer Forcing Screw 5) HD-42325-8 Thumb Screw (4 required) 6) 10213 Hex Nut 7) 13324 Washer 8) 15427 Bearing 9) J-23444-A Thread Lube 10) HD-52325-12 Removal Collet (1") 11) HD-52325-13 Installer (1")	Twin Cam 88/88B
	<b>HD-42928</b>	<b>CAMSHAFT NEEDLE BEARING REMOVING &amp; INSTALLING TOOL</b>  Used to remove and install camshaft needle bearings.	FX  FL, FLT (1958-1999)


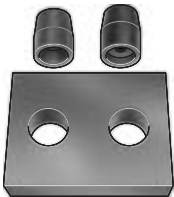
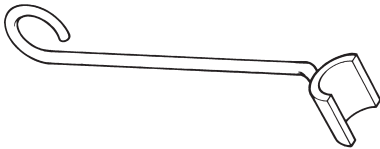
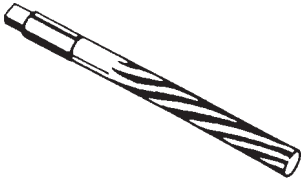
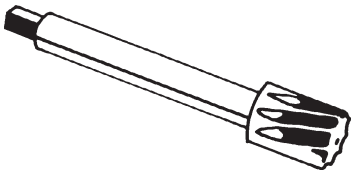
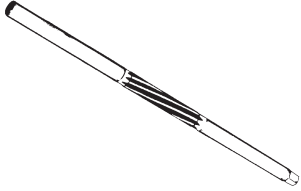
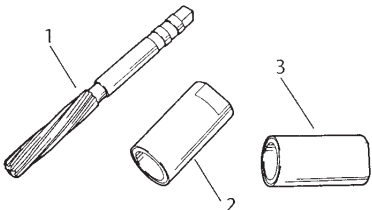


# V-TWIN ENGINE/Camshaft, Valves & Valve Train cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-43419</b>	<b>GIZMATIC 3</b>  Uses tungsten carbide cutters to machine the valve face. This unique tool allows quick resurfacing of valves by hand. The high and low spots common to traditional valve grinding equipment are virtually eliminated. Grinding valves leaves a crosshatch pattern on the valve face which is not the optimum surface for valve-to-head seating. The Gizmatic-3 leaves a concentric pattern on the valve face. This is the best surface for proper valve seating in the head. Use Gizmatic-3 for the valves and the HD-35758-B Valve Seat Cutter Set for the heads.	Universal
	<b>HD-43644</b>	<b>CAMSHAFT REMOVER &amp; INSTALLER</b>  This three piece tool is used to remove and install front and rear cylinder camshafts and install bearings in the support plate.  1) HD-43644-1 Camshaft Remover/Installer 2) HD-43644-2 Bearing Support Plate 3) HD-43644-3 Bearing Installer	Twin Cam 88/88B
	<b>HD-46583</b>	<b>VALVE GUIDE INSTALLER</b>  Presses replacement valve guides to the correct height in 103 cu. in. models.	103 cu. in. Powertrains
	<b>HD-46584</b>	<b>VALVE GUIDE SEAL INSTALLER</b>  Installs replacement valve guide seals to the correct installed height in 103 cu. in. models.	103 cu. in. Powertrains
	<b>HD-47248</b>	<b>LOWER ROCKER BOX WRENCH</b>  Permits easy access to fasteners when servicing the lower rocker box.	Twin Cam 88/88B  XL, Buell Models
	<b>HD-47250</b>	<b>INTAKE MANIFOLD WRENCH</b>  Used for easy access to remove and install the intake manifold fasteners.	All Models
	<b>HD-47258</b>	<b>UPPER ROCKER BOX WRENCH</b>  Permits easy access to fasteners with engine in chassis when servicing the upper rocker cover.	All Models



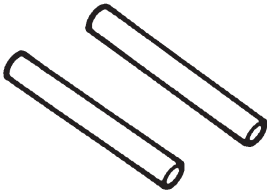
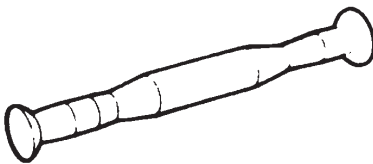
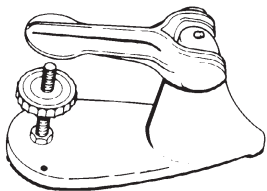
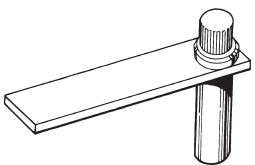
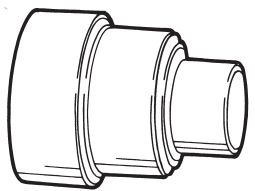
# V-TWIN ENGINE/Camshaft, Valves & Valve Train cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-47941</b>	<b>CAMSHAFT LOCKING TOOL</b>  Locks camshaft/crankshaft sprockets during disassembly and reassembly to permit proper torquing.	Dyna Models (2006 & Later)
	<b>HD-47956</b>	<b>CAMSHAFT ASSEMBLY TOOL</b>  HD-47956 is a three-piece tool including a 1.5" Guide (HD-47956-1), a 1.35" Guide (HD-47956-2), and a Support Plate (HD-47956-3). The tool is used to hold the camshafts and secondary cam chain while the cam support plate is installed on the camshafts.	Dyna Models (2006 & Later)
	<b>HD-94438-79</b>	<b>HYDRAULIC LIFTER GAUGE</b>  Used to check pushrods for correct adjustment.	All Shovelhead Models
	<b>HD-94802-36A</b>	<b>CAM GEAR SHAFT BUSHING REAMER—.812 DIA.</b>  Used to fit cam gear shaft bushings.	FL (1969 & Earlier)
	<b>HD-94803-67</b>	<b>REAR INTAKE CAMSHAFT COVER BUSHING REAMER—1.125 DIA.</b>  For reaming timer shaft bushings in gear case cover.	G XL XR
	<b>HD-94804-57</b>	<b>ROCKER ARM BUSHING REAMER—.555 DIA.</b>  Used to line ream replacement rocker arm bushings to size.	XL FL FLT FX
	<b>HD-94812-77A</b>	<b>PINION SHAFT BUSHING REAMER AND PILOT</b>  Reams pinion shaft bushing in gear cover.  1) HD-94812-1 Reamer .563 dia. 2) HD-94812-2 Pilot (1977-1986) 3) HD-94812-87 Pilot (1987-Later)	XL Models (1977 & Later)





# V-TWIN ENGINE/Camshaft, Valves & Valve Train cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-95632-79</b>	<b>CAM GEAR GAUGE PIN SET .105"</b>  Used to select proper cam gear size and verify color coding.	All Models
	<b>HD-96550-36A</b>	<b>VALVE LAPPING TOOL</b>  Suction cup secures to valve head while lapping.	All Models
	<b>HD-96796-47</b>	<b>VALVE SPRING TEST FIXTURE</b>  Has adjustable platform for various length springs. A tone device indicates when to read scale. Used with torque wrench (not included).	All Models
	<b>HD-97102-81</b>	<b>VALVE LIFTER REMOVER</b>  Simplifies removal of loctited hydraulic valves.	All Shovelhead Models
	<b>HD-97273-60</b>	<b>CAMSHAFT NEEDLE BEARING INSTALLER</b>  Used to install camshaft needle bearings. *Use with HD-33416 Driver Handle.	XL Models (1957-1990)

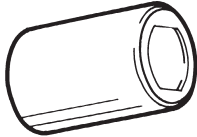
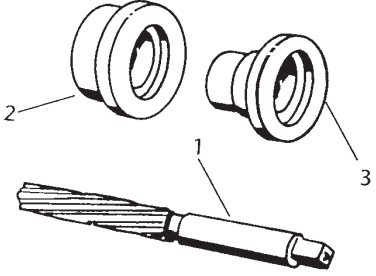
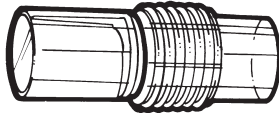
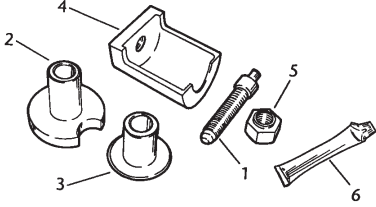
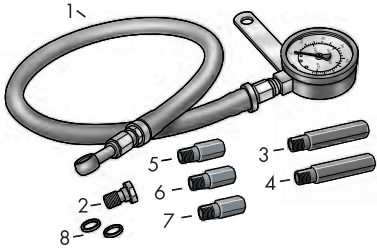


# V-TWIN ENGINE/Gearcase

	<b>HD-44455</b>	<b>OIL LINE REMOVER/OIL LINE RETAINER INSTALLER</b>  Removes oil lines and installs replacement retainer clips.	Softail Models (2000 & Later)
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# V-TWIN ENGINE/Gearcase cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-94555-55C</b>	<b>PINION GEAR SHAFT NUT SOCKET</b>  Fits pinion gear nut which secures pinion to gear shaft.	All Big Twins (1954-1992)
	<b>HD-94805-57</b>	<b>PINION SHAFT BUSHING REAMER AND TWO PILOTS</b>  Used to size pinion shaft gear case cover bushing on FL, FLT, FX and idler gear bushing on XL.  1) HD-94806-57 .562 Dia. Reamer 2) HD-94815-58 Reamer Pilot (1964 & later-FL, FLT and FX) 3) HD-94807-57 Reamer Pilot (XL)	FLT, FX  FL Models (1964 & Later)  XL Models
	<b>HD-96295-65D</b>	<b>TIMING MARK VIEW PLUG</b>  Clear plastic plug threads into crankcase timing hole for accurate ignition timing with strobe timing light.	All Models
	<b>HD-96830-51B</b>	<b>PINION GEAR PULLER AND COLLARS</b>  Used to remove and install pinion gear.  1) HD-96831-51A Screw Assembly 2) HD-96836-57 Collar (G, XL, K, KH) 3) HD-96836-51 Collar (FL, FLT, FX) 4) HD-96832-51A Body 5) HD-96830-100 Nut 6) J-23444-A Thread Lube	All Big Twins (1954 -1989)
	<b>HD-96921-52C</b>	<b>OIL PRESSURE GAUGE SET</b>  A complete oil pressure tester that includes adapters for V-Twin applications. The tool checks oil pump pressure under operating conditions. Gauge is graduated 0-60 psi. Includes adapters:  1) HD-96921-100A Gauge Assembly 2) HD-96940-53 Banjo Bolt 3) HD-96921-120 Twin Cam 88B 4) HD-96921-110 Twin Cam 88 5) HD-96921-106 1/2-20 Threaded Adapter 6) HD-96925-58 XL (1986 to 1990) 7) HD-96940-52A Banjo Bolt 8) HD-96921-104 Washer (2 req'd)	All Models



# V-TWIN ENGINE/Gearcase cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-96921-110</b>	<b>OIL PRESSURE GAUGE ADAPTER</b>  This tool is used with HD-96921-52B to accurately check oil pressure.	Twin Cam 88
	<b>HD-96921-120</b>	<b>OIL PRESSURE GAUGE ADAPTER</b>  This tool is used with HD-96921-52B to accurately check oil pressure.	Twin Cam 88B
	<b>HD-96925-58</b>	<b>OIL PRESSURE GAUGE ADAPTER</b>  This tool, when used with HD-96921-52B, will allow the technician to connect the tool using the threaded crankcase access hole.	XL Models (1986-1990)
	<b>HD-97080-77A</b>	<b>PINION SHAFT RACE INSTALLER</b>  Tool for installing inner race on pinion gear shaft.	XL Models (1977 - Early 1981)

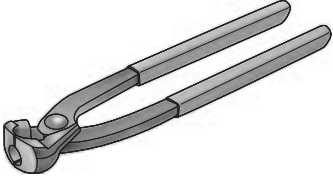
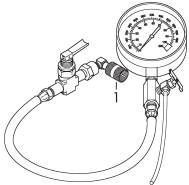
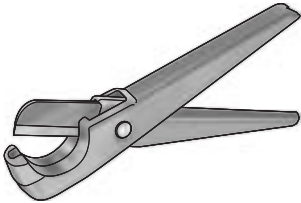
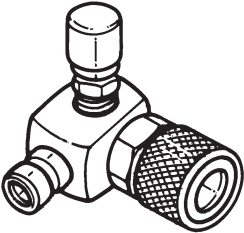
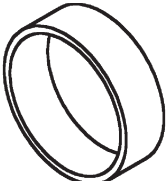


# V-TWIN ENGINE/Fuel System

	<b>HD-33413-A</b>	<b>CARBURETOR IDLE ADJUSTMENT TOOL</b>  Easily adjusts fast and slow idle setting without air cleaner removal. HD-33413-1 replacement tip & bit.  1) HD-33413-1A Replacement Tip	All Models
	<b>HD-35801</b>	<b>INTAKE MANIFOLD SCREW WRENCH</b>  This extra long bolt wrench allows the technician to remove and install the 1/4" socket head cap intake manifold screws quickly and easily without having to remove vehicle components.	All Evolution Models



# V-TWIN ENGINE/ Fuel System cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-41137</b>	<b>HOSE CLAMP PLIERS</b>  For tightening band type metal clamps on fuel and oil lines.	All Models
	<b>HD-41182</b>	<b>FUEL PRESSURE GAUGE</b>  HD-41182 is a 0-100 psi fuel pressure gauge. It comes with a special adapter that attaches to the fuel lines of injected models for injector and system pressure diagnosis.  1) J-34730-16A 90° Hose End Fitting	Fuel Injected Models (1995½ & Later)
	<b>HD-41185</b>	<b>HOSE CUTTING TOOL</b>  This is universal hose cutting tool. It has a replaceable blade and will cut hose diameters up to 1". (Replacement Blade HD-41185-1)	All Models
	<b>HD-44061</b>	<b>FUEL PRESSURE GAUGE ADAPTER</b>  Used with the HD-41182 Fuel Pressure Gauge to check fuel pressure with "quick connect" fuel lines.	All Models
	<b>HD-47114</b>	<b>FUEL TANK CONSOLE ALIGNMENT RING</b>  This tool is used with a fuel tank filler cap to align the replacement console on the fuel tank.	XL 1200 Custom Models

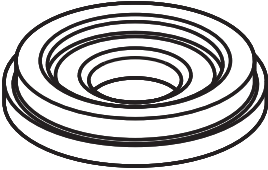
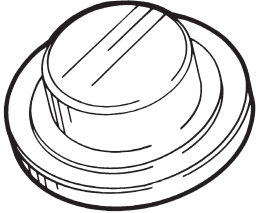
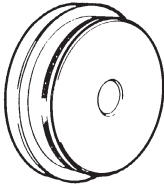
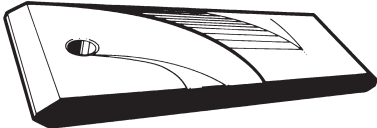
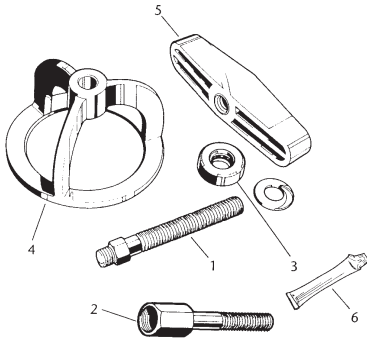
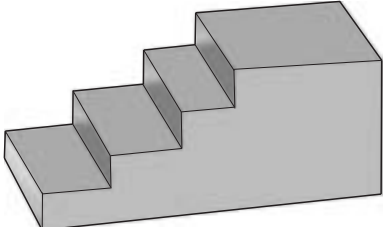


# V-TWIN ENGINE/ Fuel System cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-48030</b>	<b>FUEL INJECTION CLEANING KIT</b>  Clogged fuel injectors cause sluggish engine performance, poor fuel economy and rough idle. This kit allows you to easily correct these issues without replacing costly fuel injectors. Use this as a money making tool during scheduled maintenance procedures. Includes all adapters for Harley and Buell Fuel Injected Models.  <b>NOTE:</b> Fuel Injector Cleaner NOT included in Kit. Order HD-48030-10.  1) HD-48030-30 Quick Disconnect 2) HD-48030-40 Fuel Fitting 3) HD-48030-50 Fuel Return Line Plug (Female) 4) HD-48030-60 Fuel Return Line Plug (Male) 5) HD-48030-70 Removal Tool 6) HD-49182-1 Fuel Tank Adapter 7) HD-48030-20 Fuel Injector Cleaner Canister	All Fuel Injected Models
	<b>HD-48030-10</b>	<b>FUEL INJECTION CLEANING FLUID</b>  Used with HD-48030 to clean clogged fuel injectors.  <b>NOTE:</b> This is not a fuel additive. Do not pour into tank. Case of 12 cans. Use 1/2 can per engine.	All Fuel Injected Models
	<b>HD-94752-77A</b>	<b>CARBURETOR FLOAT GAUGE</b>  For setting carburetor float level.	All Models
	<b>HD-97087-65B</b>	<b>HOSE CLAMP PLIERS</b>  These hose clamp pliers are smaller than HD-41137 and can be used in those hard to get at places.	All Models

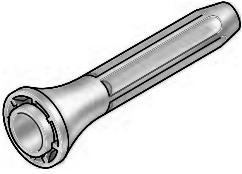



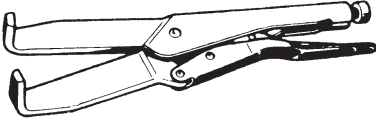
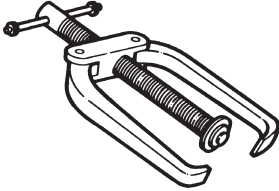
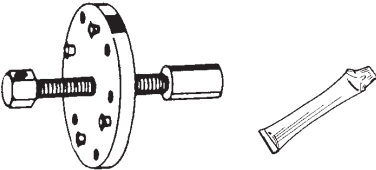


# V-TWIN DRIVE/TRANSMISSION/ Primary Drive/Clutch

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>B-45676</b>	<b>SPROCKET SHAFT SEAL INSTALLER</b>  Used with HD-42579 to install replacement seals to the correct depth. Buell dealers received this tool in the XB9R essential program and will not be shipped again.	XL Models (2004 & Later)  XB9/XB12 Firebolt
	<b>HD-33428-A</b>	<b>BIG TWIN 4-SPEED MAIN DRIVE GEAR BEARING INSTALLER</b>  Used with arbor press. Installs bearing in transmission case to correct depth without damaging components.	Big Twin 4-speeds (1979 & Later)  FX, FLH
	<b>HD-34761</b>	<b>SPORTSTER 4-SPEED CLUTCH SPRING COMPRESSOR</b>  Relieves diaphragm spring tension for removal and installation.	XL Models (1984½-1990)
	<b>HD-38362</b>	<b>SPORTSTER 5-SPEED SPROCKET LOCKING LINK</b>  Locks engine sprocket and clutch shell for sprocket and shaft nut and hub removal and installation.	XL Models (1991-2003)  Buell Models (1995-2003)
	<b>HD-38515-A</b>	<b>BIG TWIN/SPORTSTER CLUTCH DIAPHRAGM SPRING COMPRESSOR</b>  This tool is required for efficient servicing of the 1340cc clutch. The compressor relieves spring pressure for disassembly during servicing.  1) HD-38515-1 Forcing Screw (1340cc) 2) HD-38515-91 Forcing Screw (XL) 3) J-22825-BRG Bearing 4) J-23327-1 Bridge 5) J-28467-34 Handle 6) J-23444-A Thread Lube	1340 cc Models (1990-1997)  XL Models (1991 & Later)  Buell Models (1995 & Later)
	<b>HD-41214</b>	<b>PRIMARY DRIVE LOCKING TOOL</b>  This tool is made from a special composition plastic. It is used as a wedge type device to hold the primary drive gear to allow the technician to apply the proper torque without damaging the primary gear.	All Big Twins

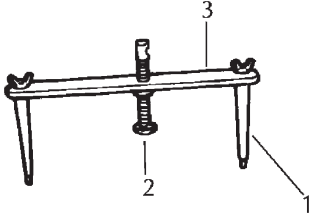
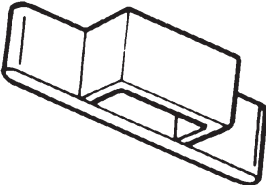


# V-TWIN DRIVE/TRANSMISSION/ Primary Drive/Clutch cont.

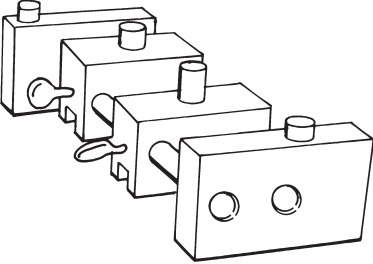
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-41496</b>	<b>MAIN DRIVE GEAR SEAL INSTALLER</b> Used to install the large main drive gear seal.	All Models (1994 & Later)
	<b>HD-46283</b>	<b>PRIMARY DRIVE LOCKING TOOL</b> Securely locks the primary drive when removing and torquing the motor sprocket and clutch hub nuts with 38/57 ratios.	XL Models (2004 & Later) XB9/XB12 Firebolt
	<b>HD-47977</b>	<b>PRIMARY DRIVE LOCKING TOOL</b> Securely locks the primary drive when removing and torquing the motor sprocket and clutch hub nut.	Dyna Models (2006 & Later)
	<b>HD-48219</b>	<b>PRIMARY DRIVE LOCKING TOOL</b> Securely locks the primary drive when removing and torquing the motor sprocket bolt or clutch hub nut.	FL/FX Models (2007 & Later)
	<b>HD-91042</b>	<b>CLUTCH HOLDING TOOL</b> When applying nut torque during reassembly this tool is used to prevent the rotation of clutch shells and final drive sprockets (supersedes HD-97173-71 and HD-97175-55 clutch lock plates). Used for early 1984 and earlier XL's and late 1984 FL, FX and FLT's.	XL Models (1984 & Earlier) 1340cc Models (1984 & Later)
	<b>HD-95650-42</b>	<b>MAINSHAFT STARTER CLUTCH AND BEARING PULLER</b> One end used to remove mainshaft starter clutch, other end for pulling mainshaft ball bearing.	U FL FX
	<b>HD-95960-52C</b>	<b>MULTI-PURPOSE PULLER</b> This tool supersedes HD-95960-52B & HD-95960-41A. Pulls "wet clutch" using the bolts from the clutch & pulls "dry clutch" using clutch studs with standard nuts.  1) J-23444-A Thread Lube	All Models



# V-TWIN DRIVE/TRANSMISSION/ Primary Drive/Clutch cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-97178-71A</b>	<b>SPORTSTER 4-SPEED CLUTCH SPRING COMPRESSOR</b>  Used to disassemble clutch.  1) HD-97182-71 Stud (2) 2) HD-95964-52 Screw Seat 3) HD-97179-100 Support	XL Models (1971 & Early 1984)  XR (1983-1984)
	<b>HD-97200-55A</b>	<b>SPORTSTER 4-SPEED SPROCKET LOCKING LINK</b>  Locks engine sprocket and clutch sprocket teeth to prevent rotation when nuts are removed or installed.	XL  XR (1957-1990)

# V-TWIN DRIVE/TRANSMISSION/Shifter

	<b>HD-96385-78A</b>	<b>FORK SHIFTER GAUGE</b>  Used to set and align transmission shifter forks on plate-type shifters.	Big Twin 4-speeds (Mid 1979 & Later)
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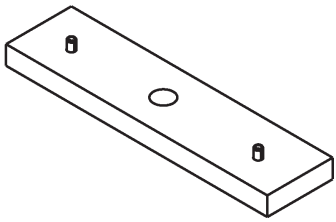
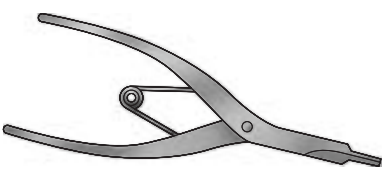
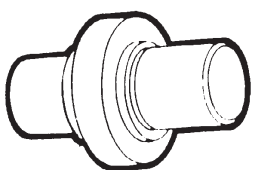
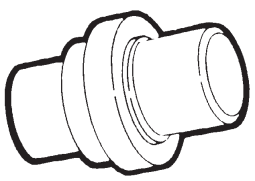
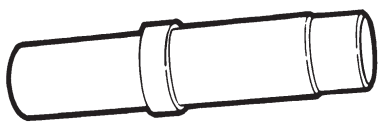
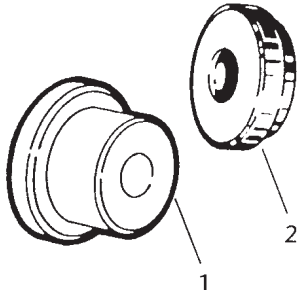
# V-TWIN DRIVE/TRANSMISSION/ Transmission Case

	<b>B-45520</b>	<b>GEAR DETENT ASSEMBLY AID</b>  Moves gear detent to permit crankcase reassembly. Buell dealers received this tool in the XB9R essential program and will not be shipped again.	XL Models (2004 & Later)  XB9/XB12 Firebolt
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# V-TWIN DRIVE/TRANSMISSION/ Transmission Case cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>B-45847</b>	<b>CROSS PLATE</b>  Used with HD-35316-A to remove and install the mainshaft 5th gear and roller bearing from the right crankcase. Buell dealers received this tool in the XB9R essential program and will not be shipped again.	XL Models (2004 & Later)  XB9/XB12 Firebolt
	<b>J-5586-A</b>	<b>TRANSMISSION SHAFT RETAINING RING PLIERS</b>  Installs new retaining rings on transmission shafts without damage to rings or shaft.	XL  XR  All 5-speed Models
	<b>HD-34733</b>	<b>BIG TWIN 4-SPEED TRANSMISSION COUNTERSHAFT GEAR BEARING INSTALLER</b>  When used with an arbor press, this tool installs both needle bearings within the countershaft gear to the correct depth. For all mid-1977 and later 4-speed Big Twin transmissions.	4-speeds Big Twin Transmission (1977 & Later)
	<b>HD-34734</b>	<b>EARLY BIG TWIN 5-SPEED MAIN DRIVE GEAR BEARING AND SEAL INSTALLER</b>  When used with an arbor press, one end of this tool installs both the needle bearing on the transmission side of the gear and the bearing seal on the clutch side. The other end installs the needle bearing on the clutch side.	5-speeds (1980-1990)
	<b>HD-34735</b>	<b>BIG TWIN 4-SPEED TRANSMISSION MAIN DRIVE GEAR BUSHING REMOVER AND INSTALLER</b>  When used with an arbor press, this tool removes and installs the main drive gear bushing quickly and easily. For all Big Twin 4-speed transmissions.	All Big Twin 4-speeds
	<b>HD-34810</b>	<b>SPORTSTER 4-SPEED TRANSMISSION MAINSHAFT BEARING INSTALLER</b>  The tool consists of a pilot and driver head. When used with universal Driver Handle HD-33416 (not included), HD-34810 will align and install bearing without damage to case or bearing.  1) HD-34810-1 Driver Head 2) HD-34810-2 Pilot	XL Models (Late 1984-1990)

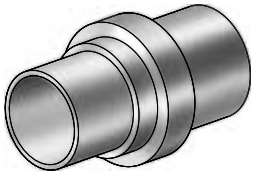
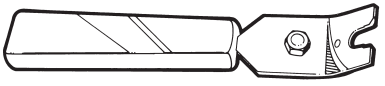
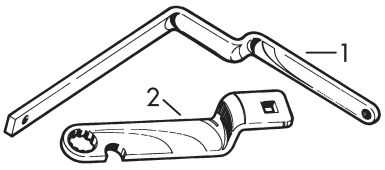
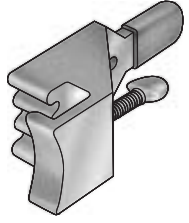
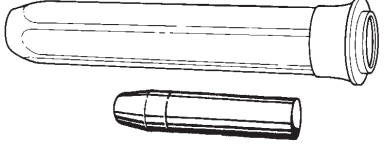
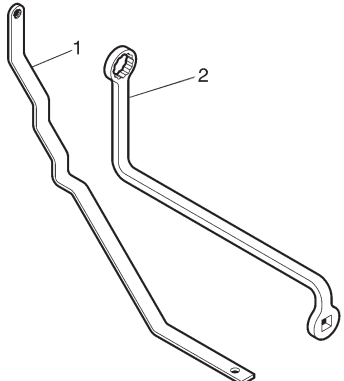


# V-TWIN DRIVE/TRANSMISSION/ Transmission Case cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-34902-B</b>	<b>BIG-TWIN MAINSHAFT PRIMARY BEARING RACE REMOVER AND INSTALLER</b>	Big Twin (Late 1984 & Later)
		<ol style="list-style-type: none"> <li>1) HD-34902-1 Extender Shaft</li> <li>2) HD-34902-2 Installer Sleeve</li> <li>3) HD-34902-3B Puller Plate (improved B version for durability)</li> <li>4) HD-34902-7 End Cap</li> <li>5) J-7830-5 Bridge</li> <li>6) J-21686-12 Forcing Screw</li> <li>7) J-23444-A Thread Lube</li> <li>8) RS-9104-775 6" Bolt (2 Req'd)</li> <li>9) 10258 Washer (2 Req'd)</li> </ol>	
	<b>HD-35316-C</b>	<b>5-SPEED &amp; 6-SPEED MAIN DRIVE GEAR BEARING REMOVER &amp; INSTALLER</b>	5-Speed Big Twin (1980 & Later)
		<p>This tool will install Main Drive Gear Bearings for 1980 and later 5-speed transmissions and will also install and remove the Main Drive Gear from its bearing for all 5-speed models. It does all this without having to remove the transmission case from the motorcycle saving you time and money.</p>	XL Models (1991 & Later)  Buell Blast (2000 & Later)  Buell XB9R Firebolt (2003 & Later)  6-Speed Models (2006 & Later Dynas) (2007 & Later FL/FX)
	<b>HD-35820</b>	<b>EVOLUTION SPORTSTER GEAR SPACING TOOL</b>	XL Models Evolution (1986 - 1990)
		<p>Aligns transmission shafts when performing gear spacing.</p>	
	<b>HD-37404</b>	<b>SPORTSTER COUNTERSHAFT GEAR SUPPORT PLATE</b>	XL Models (1991-2003)
		<p>Properly supports countershaft 4th gear during countershaft removal.</p>	

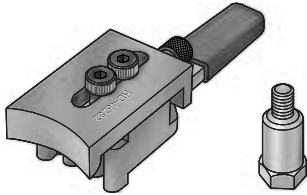
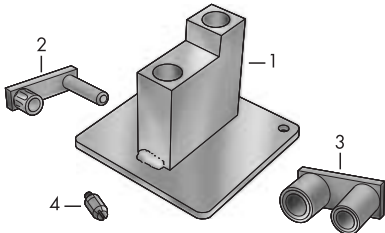
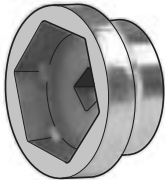
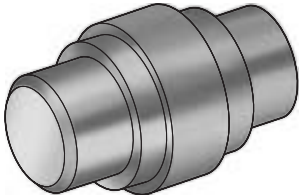

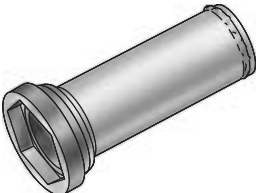


# V-TWIN DRIVE/TRANSMISSION/ Transmission Case cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-37842-A</b>	<b>5-SPEED INNER AND OUTER MAIN DRIVE GEAR NEEDLE BEARING INSTALLER</b>  Installs inner and outer mainshaft 5th gear needle bearing to correct depth.	Big Twin (1991 & Later)  XL Models (1991 & Later)
	<b>HD-39151</b>	<b>SPORTSTER SHIFT DRUM RETAINING RING INSTALLER</b>  Installs shift drum snap rings.	XL Models 5-Speeds (1991-2003)
	<b>HD-39618</b>	<b>TRANSMISSION SHIFT PAWL ADJUSTER</b>  Two pieces make up this tool. One is to loosen the jam nut on the pawl adjuster, the other adjusts the shifter pawl.  1) HD-39618-1 2) HD-39618-2	5 Speed (1992½ - 2000)
	<b>HD-41184</b>	<b>FINAL DRIVE TOOL</b>  The Final Drive Tool HD-41184 is the one tool every technician must have. It holds the Final Drive Sprocket so that the technician can apply the proper torque to the nut.	All Big Twin Models (Belt Driven) (1980 & Later)
	<b>HD-41405</b>	<b>MAIN DRIVE GEAR SEAL INSTALLER</b>  HD-41405 is a two piece tool. It consists of a seal protector and a seal driver. This tool will install the main drive gear seal to the proper depth without requiring removal of the main drive gear from the mainshaft.	All 1340cc Models 5 Speed Models
	<b>HD-42465</b>	<b>TRANSMISSION SHIFT PAWL ADJUSTER</b>  Two pieces make up this tool. One to loosen the jam nut on the pawl adjuster the other adjusts the shifter pawl.  1) HD-42465-1 ¼" Pawl Wrench 2) HD-42465-2 1½" Pawl Wrench	FLSTS Heritage Springer Models (1997 - 1999)



# V-TWIN DRIVE/TRANSMISSION/ Transmission Case cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-46282</b>	<b>FINAL DRIVE SPROCKET LOCKING TOOL</b>  Secures belt sprocket when torquing sprocket nut. Supersedes HD-42321. Also works on 1991 to 2003 XL models.	XL Models (1991 & Later)
	<b>HD-46285</b>	<b>TRANSMISSION FIXTURE</b>  Supports transmission shafts during assembly into left crankcase.  1) HD-46285-1 Fixture Base 2) B-43985-1 Remover 3) B-43985-3 Installer 4) B-43985-4 Guide	XL Models (2004 & Later)  XB9/XB12 Firebolt
	<b>HD-46288</b>	<b>MAINSHAFT LOCKNUT WRENCH</b>  New short design removes and installs left-hand thread mainshaft locknut without wrench slippage. This short version is better suited for the Sportster than the longer Big Twin tool, HD-94660-37B.	XL Models (1991 & Later)
	<b>HD-47855</b>	<b>MAIN DRIVE GEAR NEEDLE BEARING INSTALLER</b>  Installs inner and outer main drive gear needle bearings to correct depth.	Buell Models (2006 & Later) (except Blast)  XL Models (2006 & Later)
	<b>HD-47856</b>	<b>MAIN DRIVE GEAR SEAL INSTALLER</b>  This is a six-piece tool including an installer (HD-47856-1), a pilot (HD-47856-2), two adapters (HD-47856-3 & HD-47856-4), a nut (HD-47856-6) and a Crow's Foot Wrench (HD-47856-7). This tool is used to install the large main drive gear seal.	Buell Models (2006 & Later) (except Blast)  Dyna Models (2006 & Later)  XL Models (2006 & Later)  FL/FX Models (2007 & Later)
	<b>HD-47910</b>	<b>MAINSHAFT LOCKNUT WRENCH</b>  Removes and installs new larger right-hand thread mainshaft locknut.	Dyna Models (2006 & Later)  FL/FX Models (2007 & Later)

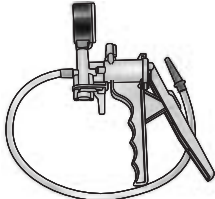
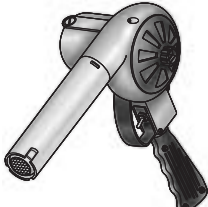


# V-TWIN DRIVE/TRANSMISSION/ Transmission Case cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-47932</b>	<b>MAIN DRIVE GEAR NEEDLE BEARING INSTALLER</b>  Installs inner and outer main drive gear needle bearings to correct depth.	Dyna Models (2006 & Later)
	<b>HD-47933</b>	<b>MAIN DRIVE GEAR SEAL INSTALLER</b>  This tool will install the small main drive gear seal to the proper installed depth without requiring removal of the main drive gear from the mainshaft.	Dyna Models (2006 & Later)
	<b>HD-94660-37B</b>	<b>MAINSHAFT LOCKNUT WRENCH</b>  This tool has been redesigned to accommodate the longer mainshafts specified for 1984 and later Big Twins. The two-piece design (pilot and wrench body) allows the technician to easily remove the left hand thread mainshaft locknut without wrench slippage.  1) HD-94660-1A Wrench Body 2) HD-94660-2 Pilot	1340 Models (1984-1999)  Twin Cam 88/88B (2000 & Later)


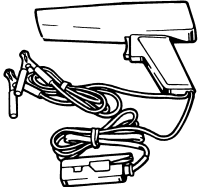
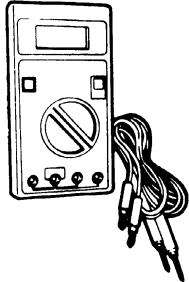
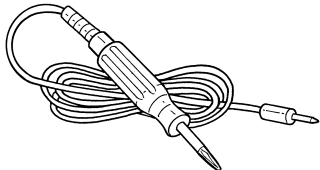
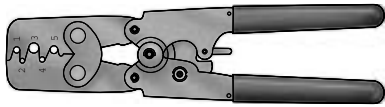
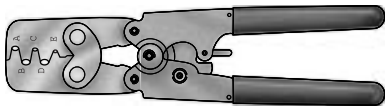
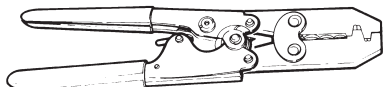


# V-TWIN ELECTRICAL

	<b>HD-23738-A</b>	<b>MITY-VAC® HAND PUMP</b>  Our most economical yet durable model. High impact PVC; a self-lubricating, maintenance-free, sealed, non-corrosive unit. Pumping rate of one cu. in./stroke and attains a vacuum of 25 inches of mercury in a few seconds.	All Models
	<b>HD-25070</b>	<b>HEAT GUN</b>  This heat gun is universal and can be used for many functions. It is especially handy for sealing the silicone filled terminals that are now being used to provide a waterproof connection in crucial areas. (Use with HD-41183 shown on page 34)	All Models



# V-TWIN ELECTRICAL cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-26792</b>	<b>TEST SPARKPLUG</b>  The HD-26792 checks for spark output without removing spark plug from the engine.	All Models
	<b>HD-33813</b>	<b>INDUCTIVE TIMING LIGHT</b>  Accurately times ignition systems. Features a metal covered inductive pickup with a heat resistant covering over the lead wire for durability.	All Models
	<b>HD-35500-B</b>	<b>DIGITAL MULTIMETER (Fluke 23)</b>  This multimeter provides the accuracy and features of more expensive meters plus the convenience of autoranging. Simply set the rotary switch to volts or resistance and the HD-35500-A automatically sets the required range.  HD-41334 RPM Inductive Pick-up (optional accessory)	All Models
	<b>HD-35616-210</b>	<b>TEST LIGHT</b>  Non-powered test light for voltage and continuity checks. Banana jacks allow for easy connection to terminal adapters in HD-41404-A Test Connector Kit.	All Models
	<b>HD-38125-6</b>	<b>PACKARD TERMINAL CRIMP TOOL</b>  This crimping tool is used for the sealed crimp style Packard terminals. Instructions for use are included with the tool.	All Models (1994 & Later)
	<b>HD-38125-7</b>	<b>PACKARD TERMINAL CRIMPER</b>  This crimping tool is used for the non-sealing Packard terminals. Dies for crimping are for A thru E. Instructions for use are included.	All Models (1994 & Later)
	<b>HD-38125-8</b>	<b>PACKARD CRIMPING TOOL</b>  This crimping tool is used for the non-sealing Packard terminals F and G. Instructions included.	All Models (1994 & Later)

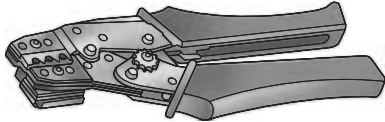

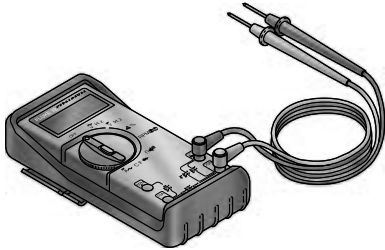

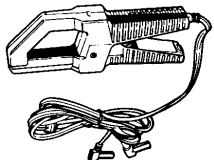



# V-TWIN ELECTRICAL cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	HD-38625	<b>CRUISE CONTROL TEST HARNESS</b> Use to diagnose cruise control.	FL Ultra Model (1989-1992)
	HD-39448-LNR	<b>CB MICROPHONE &amp; TRANSCEIVER LOAD DEVICE – LOANER TOOL</b> <b>(This tool is no longer available for purchase. It has been set up to loan as a service for Harley-Davidson dealers.)</b>  This tester is used in the diagnosis of CB pod or transceiver failures. Includes CB Microphone and Load Device.	All Models with CB (1993-1997)
	HD-39448-3	<b>CB POD ADAPTER</b> <b>(This tool is no longer available for purchase. It has been set up to loan as a service for Harley-Davidson dealers.)</b>  This adapter is necessary to diagnose 1993 and later CB radios. Used with HD-39448.	All Models with CB (1993-1997)
	HD-39617	<b>FLUKE AC/DC CURRENT PROBE</b>  Used with HD-35500-A, HD-39978 & HD-39200 to measure current draw.  400A DC/400A AC 600 Volts Cat III Output: 1 millivolt per ampere	All Models
	HD-39621-A	<b>TERMINAL REPAIR KIT</b>  This kit includes a wide variety of replacement Amp terminals and two special terminal release tools, HD-39621-27 and HD-39621-28. For terminal crimping use HD-38125-7 (not included).	All Models
	HD-39621-28	<b>PIN TERMINAL TOOL</b>	All Models
	HD-39621-27	<b>SOCKET TERMINAL TOOL</b>  Simplifies removal of Amp pin & socket type terminals from terminal housing. Both included in HD-39621-A Repair Kit.	All Models



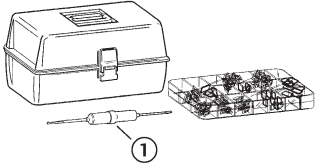
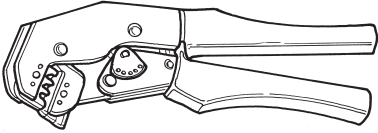
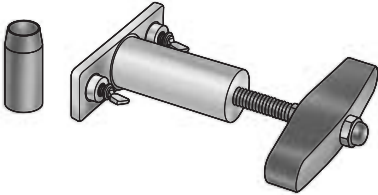
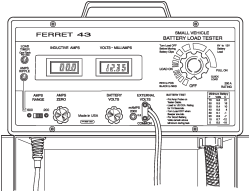

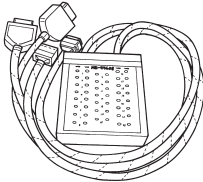
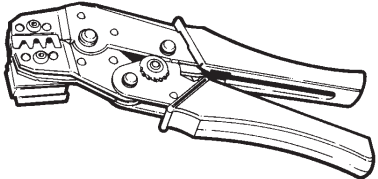
# V-TWIN ELECTRICAL cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-39965</b>	<b>DEUTSCH TERMINAL CRIMP TOOL</b>  This terminal crimping tool is specifically designed to crimp the Deutsch connectors that are now being used on all Harley-Davidson's.	All Models
	<b>HD-39969</b>	<b>ULTRA-TORCH</b>  Miniature butane torch HD-39969 can be used with the shrink attachment for the new splice connectors. Uniformly heats connectors all the way around to insure a good seal.	All Models
	<b>HD-39978</b>	<b>DIGITAL MULTIMETER (FLUKE 78)</b>  The Fluke 78 provides many of the same features as the more expensive Fluke meters at an affordable price. You can measure frequency, RPM, duty-cycle, dwell (direct reading), temperature and Min/Max.  HD-41334 RPM Inductive Pick-up (optional accessory).	All Models
	<b>HD-41183</b>	<b>HEAT SHIELD ATTACHMENT</b>  This is an attachment that is designed to be used in conjunction with the HD-25070 heat gun shown on page 31 for providing a uniform heat source for sealing the new silicone filled terminals. Its spoon shaped design directs heat around the terminal to provide a good flow of silicone.	All Models
	<b>HD-41334</b>	<b>RPM INDUCTIVE PICKUP</b>  Allows Fluke Multimeter to be used for RPM readings.	All Models
	<b>HD-41354</b>	<b>SPEEDOMETER TESTER</b>  This speedometer tester plugs into the harness and can be used to read inputs and outputs from the electronic speedometer. It can also test the calibration of the unit.  233570 Replacement Cable Assembly	All Models with Electronic Speedometers



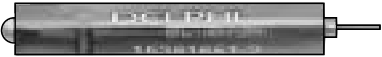
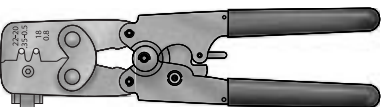

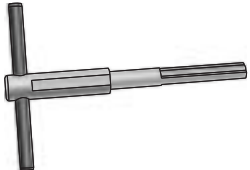
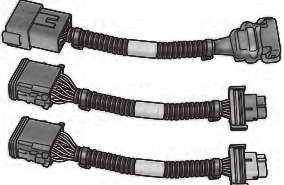
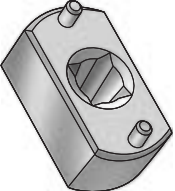
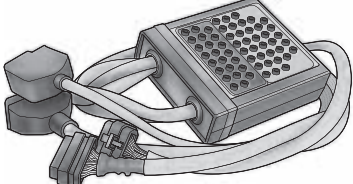


# V-TWIN ELECTRICAL cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-41475</b>	<b>DEUTSCH TERMINAL REPAIR KIT</b>  The HD-41475 is a complete set of Deutsch terminals used on Harley-Davidson vehicles organized in durable storage case  1) HD-41475-100 Flat Blade L-Hook	All Models
	<b>HD-41609</b>	<b>AMP MULTI-LOCK CRIMPER</b>  The HD-41609 is used to crimp the Multi-lock terminals.	All Models with Multi-Lock Terminals (1996 & Later)
	<b>HD-41771</b>	<b>ALTERNATOR ROTOR REMOVER &amp; INSTALLER</b>  This tool removes and installs the alternator rotor on the FL Ultra model.	FL Ultra (1997 - 2006)  Dyna Police Models FXDP (2002-2004)
	<b>HD-42376</b>	<b>BATTERY LOAD TESTER</b>  A versatile volts-amps-load tester made especially for troubleshooting power systems on motorcycles.  Includes HD-42388 Battery Load Tester Stand.	All Models
	<b>HD-42879</b>	<b>ELECTRICAL CRIMP TOOL</b>  This crimper is used for the Deutsch Solid Barrel terminals.	FL (1998 & Later)
	<b>HD-44608</b>	<b>RADIO BREAKOUT BOX</b>  This tool is designed to perform circuit diagnosis on the radio system.	FL Radio Equipped Models (1998 & Later)
	<b>HD-44695</b>	<b>TERMINAL CRIMPER</b>  This crimper is used for the smaller multi-lock terminals.	All Models Equipped With Fuel Gauges (2000 & Later)

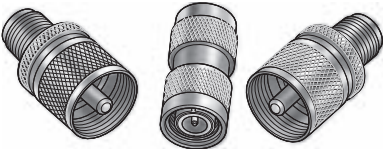


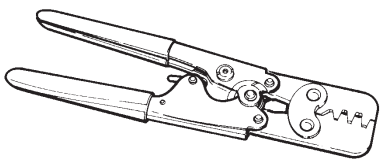
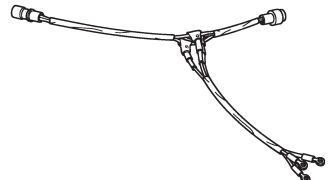
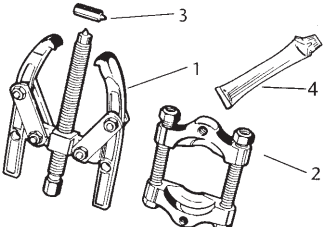


# V-TWIN ELECTRICAL cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-45928</b>	<b>TERMINAL REMOVER</b> Removes new Micro Pack 64 terminal from connector without damage to connector body.	All Harley Models
	<b>HD-45929</b>	<b>TERMINAL CRIMPER</b> Securely crimps new Micro Pack 64 terminals for wire harness repair procedures.	All Harley Models
	<b>HD-45961</b>	<b>IGNITION SWITCH CONNECTOR REMOVER</b> Removes connector without damage to the switch.	FL (2003 & Later) VRSC (2002 & Later)
	<b>HD-45962</b>	<b>IGNITION SWITCH ALIGNMENT TOOL</b> Aligns switch for installation.	FL (2003 & Later) VRSC (2002 & Later)
	<b>HD-46601</b>	<b>BREAKOUT BOX ADAPTERS</b> Used to connect HD-42682 Breakout Box to speedometer and tachometer for diagnostic service.	XL & FX Models (2004 & Later)
	<b>HD-47853</b>	<b>IGNITION SWITCH WRENCH</b> Used to remove and install new style ignition switch.	Dyna Models (2006 & Later)
	<b>HD-47918</b>	<b>ADVANCED AUDIO SYSTEM BREAKOUT BOX</b> Designed to perform circuit analysis on new Advanced Audio System.	FL Models (2006 & Later)

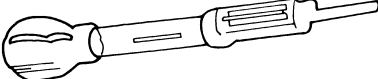


# V-TWIN ELECTRICAL cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-48037</b>	<b>SWR METER ADAPTERS</b>  These adapters allow connection of SWR Meter with PL-259 connectors to mate with the TNC connector used on 2006 models.	FL Models (2003 & Later)
	<b>HD-48053</b>	<b>ELECTRICAL SYSTEM ANALYZER WITH WIRELESS PRINTER</b>  Electrical Tester used for warranty reimbursement on batteries in US and Canada. Also used to test the starting and charging systems of the motorcycles. <ul style="list-style-type: none"> <li>1) HD-48053-10 Electrical System Analyzer w/o Wireless Printer</li> <li>2) HD-48053-20 Wireless Printer</li> <li>3) HD-48053-30 Replacement Test Leads</li> <li>4) HD-48053-40 Printer Mounting Bracket (not pictured)</li> <li>5) HD-48053-50 Rubber Protective Boot (not pictured)</li> <li>6) HD-48053-60 Battery Warranty Bags</li> </ul>	All Models
	<b>HD-48114</b>	<b>TERMINAL REMOVER</b>  Removes Molex terminal from connector without damage to connector body.	All Models (2007 & Later)
	<b>HD-48119</b>	<b>TERMINAL CRIMPER</b>  This crimper is used for Molex terminals.	All Models (2007 & Later)
	<b>HD-94465-81</b>	<b>IGNITION TEST ADAPTER</b>  Connects into wiring harness for ignition system troubleshooting using a volt/ohm meter.	All Models (1980 & Later)
	<b>HD-95715-19C</b>	<b>GENERATOR GEAR PULLER</b>  Removes generator drive gears. <ul style="list-style-type: none"> <li>1) HD-95635-46 Claw puller</li> <li>2) HD-95636-46 Center Cap</li> <li>3) HD-95637-46A Bearing Separator</li> <li>4) J-23444-A Thread Lube</li> </ul>	G  XL  FL  XR

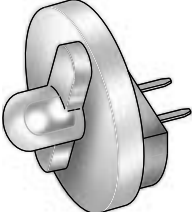
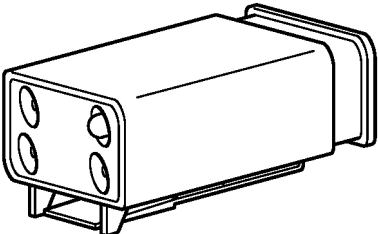
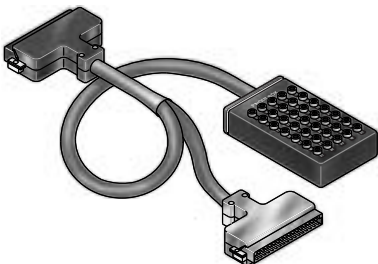
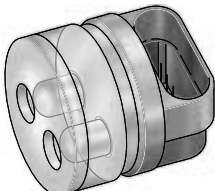


## V-TWIN ELECTRICAL cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-96910-35</b>	<b>MOTORCYCLE BATTERY HYDROMETER</b> For testing battery state of charge.	All Models



## V-TWIN ENGINE MANAGEMENT

	<b>HD-34730-2C</b>	<b>INJECTOR TEST LIGHT</b> This test light plug directly into the injector harness connector. It has an LED that will flash and confirm that you are receiving voltage to the injector.	Fuel Injected Models (1995 $\frac{1}{2}$ & Later)
	<b>HD-41197</b>	<b>DIAGNOSTIC CODE LIGHT</b> This diagnostic code light plugs into the diagnostic connector of fuel injected models. It is used to read diagnostic trouble codes. HD-41197 has an LED that will flash at specific intervals when connected to the bike. These flashes must be counted by the technician to determine the individual codes.	Fuel Injected Models (1995 $\frac{1}{2}$ to 2001)
	<b>HD-41198</b>	<b>BREAK-OUT BOX</b> This tool is designed to perform circuit diagnosis on ECM controlled engine management systems. It plugs directly into the 35 pin ECM connector and allows diagnosis of the wiring harness without probing wires with sharp objects. Hooks in line so that the motorcycle can be run during testing. Connections can be tested, as well as wiring harness integrity. Use with a DVOM, not included.	Fuel Injected Models (1995 $\frac{1}{2}$ to 2001)
	<b>HD-41199-3</b>	<b>ISC TEST LIGHT</b> This test light plugs directly into the ISC connector. It has a red and a green LED that will flash to determine that the proper voltage is reaching the ISC Actuator.	Fuel Injected Models (1995 $\frac{1}{2}$ to 2001)



# V-TWIN ENGINE MANAGEMENT cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-41298-A</b>	<b>FUEL TANK PLUGS</b>  Tool number HD-41298-A consists of two threaded plugs with washers. These plugs are used to stop the leakage of fuel from the gas tank when it is removed for service.	Fuel Injected Models (1995 <sup>1</sup> / <sub>2</sub> to 2001)
	<b>HD-41320</b>	<b>FUEL INJECTOR PULLER</b>  This specially designed fuel injector puller is used to remove the injectors from the induction module.	Fuel Injected Models (1995 <sup>1</sup> / <sub>2</sub> to 2001)
	<b>HD-41325-D</b>	<b>SCANALYZER</b>  The first scan tool ever developed for Harley-Davidson Motorcycles. HD-41325-D plugs into the diagnostic connector and allows you to read error codes and perform diagnostic tests.  Includes: 509582 Scanalyzer HD-42921-B Cable HD-41325-95C Cartridge HD-41325-4 User Manual HD-41325-5 Storage Case  Optional Accessories: HD-41325-25 Printer Cable HD-41325-26 Printer w/o Cable HD-41325-29 Printer Ribbon HD-41325-30 Printer Paper 212535 Scanalyzer to PC Cable (20')	Fuel Injected Models (1995 <sup>1</sup> / <sub>2</sub> to 2007)  XL Sport (1998 & 2003)  1450 Carbureted Models (1999 to 2006)
	<b>HD-41325-95C</b>	<b>SCANALYZER SOFTWARE CARTRIDGE</b>  This cartridge updates the Scanalyzer tester to work on all 2001 and prior model year vehicles.  Included with HD-41325-D	Fuel Injected Models (1995 <sup>1</sup> / <sub>2</sub> to 2003)  XL Sport (1998 to 2003)
	<b>HD-41402</b>	<b>IGNITION COIL TEST LIGHT</b>  This test light plug directly into the ignition coil connector. It has flashing LED's that assist the technician by determining if proper voltage is being received by the ignition coil.	Fuel Injected Models (1995 <sup>1</sup> / <sub>2</sub> to 2001)

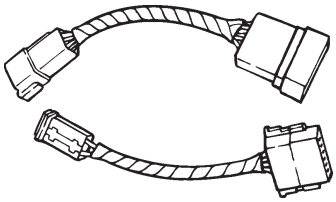
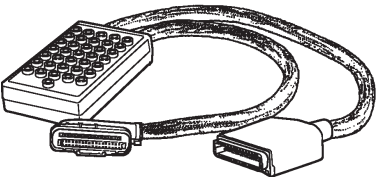
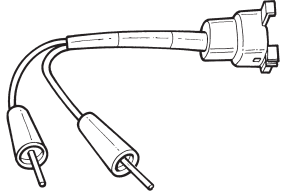
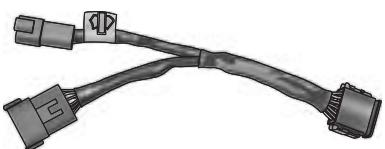


# V-TWIN ENGINE MANAGEMENT cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-41404-B</b>	<b>TEST CONNECTOR KIT</b>  This test connector kit includes several jumper wires and probe connectors for use with a DVOM (not included) to test connector and wiring harness integrity.  Includes the following adapters:  J-35616-20      4 Stackable Banana Jack Patch Cords J-35616-22A    3 Pieces 150 METRI-PACK Male (Gray) J-35616-23    3 Pieces 150 METRI-PACK Female (Gray) J-35616-24    3 Pieces 280 METRI-PACK Male (Purple) J-35616-25    3 Pieces 280 METRI-PACK Female (Purple) J-35616-26    2 Pieces MICRO-PACK Male (Brown) J-35616-27    2 Pieces MICRO-PACK Female (Brown) J-35616-48    2 Pieces 630 METRI-PACK Male (Red) HD-41404-10   3 Pieces DEUTSCH 1060-16-0122 Male (Black) HD-41404-11   3 Pieces DEUTSCH 1062-16-0122 Female (Black) HD-41404-46   2 Pieces 480 METRI-PACK Male (Dark Blue) HD-41404-15   2 Pieces AMP Male (Orange) HD-41404-20   2 Pieces MOLEX Male (Light Blue)	Fuel Injected Models (1995 <sup>1/2</sup> & Later)
	<b>HD-41538</b>	<b>CHECK VALVE REMOVER &amp; INSTALLER</b>  This tool removes and installs check valves from fuel injected engines.	All Fuel Injected Models
	<b>HD-42682</b>	<b>BREAKOUT BOX</b>  This tool is designed to perform circuit diagnosis on Sportster engine management systems.	Fuel Injected. Models (1998 & Later)
	<b>HD-42921-B</b>	<b>SCANALYZER CABLE</b>  The Scanalyzer cable is used with the Scanalyzer to communicate with the vehicle's electronic control module. Included with HD-41325-D.	Softail Models (2001 & Later)  Fuel Injected Models (1995 <sup>1/2</sup> & Later)  XL Sport (1998-2003)

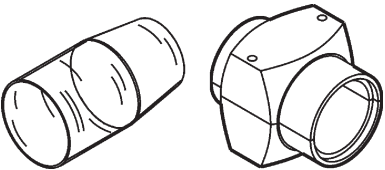
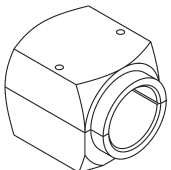


# V-TWIN ENGINE MANAGEMENT cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-42962</b>	<b>BREAK-OUT BOX ADAPTER</b>  This tool is used with the HD-42682 Breakout Box. These adapters permit Breakout Box interface with XL Custom and standard 1200/883 models.	XL Models (1998 & Later) (except Sport)
	<b>HD-43876</b>	<b>BREAK-OUT BOX</b>  This tool is designed to perform circuit diagnosis on ECM controlled engine management systems.	Softail Models Fuel Injected and Carbureted (2001 & Later)
	<b>HD-44687</b>	<b>IGNITION COIL CIRCUIT TEST ADAPTER</b>  Used with the Breakout Box (HD-43876) and Injection Test Light (HD-34730-2C) to diagnose the coil circuit.	All Models (2001 & Later)
	<b>HD-44720</b>	<b>TSSM ADAPTER CABLE</b>  Use with Digital Technician to diagnose Turn Signal Security Module.	All Models equipped with TSSM

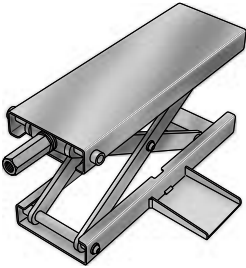
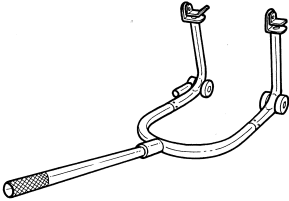
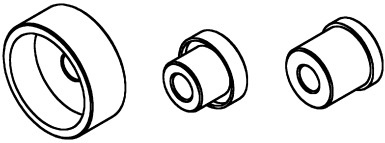
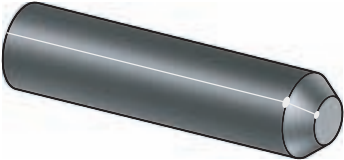




# V-ROD CHASSIS

	<b>B-42571</b>	<b>FORK SEAL DRIVER AND DUST BOOT INSTALLER</b>  Used to install the 45mm front fork seal squarely into the fork housing bore without damage to the polished fork shaft surface and without nicks to the seal lip. Tool reverses for dust cover installation.	VRSCR Models  M2 Cyclone Models (1997 & Later)  2005 XB (except XB12)
	<b>HD-45305</b>	<b>FORK SEAL DRIVER</b>  Used to install the 45mm front fork seal squarely into the fork housing bore without damage to the polished fork shaft surface and without nicks to the seal lip. Tool reverses for dust cover installation.	VRSC Models



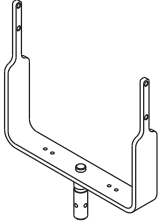
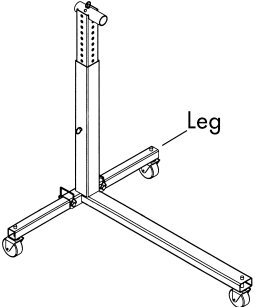
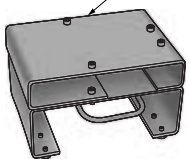
# V-ROD CHASSIS cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	HD-45968	<b>FAT JACK</b> <p>This scissors jack easily raises both the front and rear of the bike for wheel and suspension service. Its extra-wide 16"L x 10"W deck gives greater stability during lifting. Height is 13" fully extended. Collapses to just 3-1/2" to fit under low ground clearance frames. Features a high quality rubber non-skid pad and gold-zinc finish.</p>	VRSC, FLH, FXE, and Softail Models
	HD-45969	<b>REAR WHEEL STAND</b> <p>Place under swingarm to lift bike for rear wheel and suspension service. Can also be used in showroom to add stability and support to bikes that customers may sit on. Gold-zinc finish. Removable handle conveniently stores on the frame of the stand.</p>	VRSC Models
	HD-47175	<b>SWINGARM BEARING &amp; BUSHING REMOVER &amp; INSTALLER</b> <p>Removes and installs both the spherical bearing and bushing on 2005 swingarms.</p>	VRSC Models
	HD-47176	<b>SWINGARM ASSEMBLY GUIDE</b> <p>Supports external spacer during swingarm pivot shaft installation.</p>	VRSC Models
	HD-47852	<b>INNER FORK NUT REMOVER/INSTALLER</b> <p>Used to remove and install the inner fork nut in the front fork assembly.</p>	VRSCR Models
	HD-48287	<b>TRIPLE TREE WEDGE</b> <p>Spreads triple tree to allow installation and removal of painted fork tubes without scratching.</p>	VRSCR Models



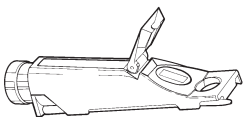
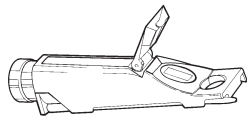


# V-ROD ENGINE/General

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-42310-40</b>	<b>ENGINE CRADLE</b>  Adapts the V-Rod engine to either the HD-42310 Bench Top Engine Stand or the HD-43646 Rolling Engine Stand. The engine can then be rotated in various positions for service.	VRSC Models
	<b>HD-43646-50</b>	<b>ROLLING ENGINE STAND WIDE SPAN LEG</b>  Use to update HD-43646 Stand with a longer leg for added stability when servicing V-Rod Revolution engine. Updates HD-43646 to -A version.	All Models
	<b>HD-45317-A</b>	<b>ENGINE ASSEMBLY SUPPORT FIXTURE</b>  Supports entire engine assembly for removal and installation into chassis.  Includes HD-45317-10 VRSCR Adapter.	VRSC Models  VRSCR


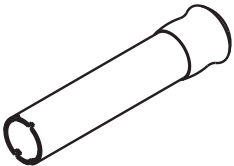
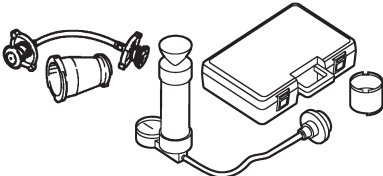


# V-ROD ENGINE/Cooling

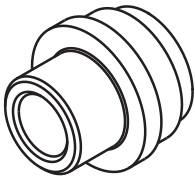
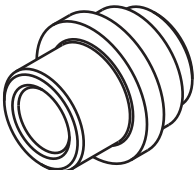
	<b>HD-23688</b>	<b>COOLANT TESTER (F)</b>  Used to determine freeze protection rating of cooling system in degrees Fahrenheit.	VRSC Models
	<b>HD-26568</b>	<b>COOLANT TESTER (C)</b>  Used to determine freeze protection rating of cooling system in degrees Centigrade.	VRSC Models



## V-ROD ENGINE/Cooling cont.

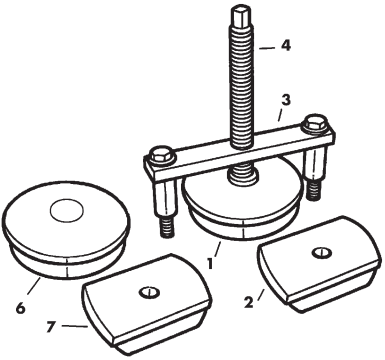
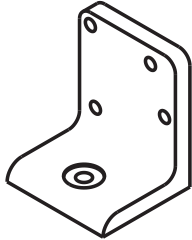
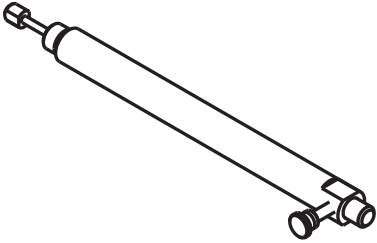
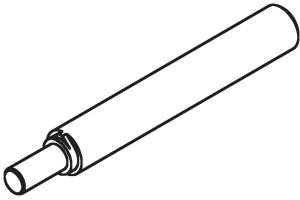
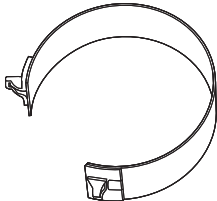
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	HD-29545-6A	<b>FLUORESCENT ADDITIVE (COOLANT)</b>  Added to coolant and circulated through engine. Fluorescent dye additive glows under a black light at point of external leakage. This dye has no impact on the chemical properties and cooling efficiency of the coolant. Used with Black Light Leak Detectors. Improved additive shows brighter under black light. (6) 1-oz. bottles.	VRSC Models
	HD-45307	<b>THERMOSTAT REMOVER/INSTALLER</b>  Compresses spring and securely engages thermostat during removal and installation from housing without damage to thermostat.	VRSC Models
	HD-45335	<b>COOLANT SYSTEM PRESSURE TESTER</b>  Used to pressurize engine coolant system to check for and locate source of leakage. Also pressure tests radiator cap.	VRSC Models

## V-ROD ENGINE/Cylinder Head & Cylinder

	HD-39782-13	<b>CYLINDER HEAD SUPPORT ADAPTER (INTAKE)</b>  Supports cylinder head when removing and installing intake valve guides. Included in HD-39782-A Cylinder Head Support Stand Set.	VRSC Models
	HD-39782-14	<b>CYLINDER HEAD SUPPORT ADAPTER (EXHAUST)</b>  Supports cylinder head when removing and installing exhaust valve guides. Included in HD-39782-A Cylinder Head Support Stand Set.	VRSC Models



# V-ROD ENGINE/ Piston & Connecting Rod

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-45313-B</b>	<b>CYLINDER LINER REMOVER/INSTALLER</b>  Used to remove and install cylinder liners without damage to the liner, crankcase and water jacket O-rings.  1) HD-45313-1 Installer 2) HD-45313-A-2 Remover 3) HD-45313-A-3 Bridge 4) HD-45313-4 Forcing Screw 5) 217945 Bearing 6) HD-45313-6 1250 cc Installer 7) HD-45313-7 1250 cc Remover	VRSC Models
	<b>HD-45333</b>	<b>CYLINDER HEAD HOLDER</b>  Supports cylinder head for valve train servicing.	VRSC Models
	<b>HD-45653</b>	<b>TOP DEAD CENTER POSITIONING TOOL</b>  Threads into the spark plug hole and contacts top of piston to position crankshaft assembly at top dead center.	VRSC Models
	<b>HD-47189</b>	<b>PISTON PIN CLIP INSTALLER</b>  Installs new style piston pin clips.	VRSC Models
	<b>HD-96333-105</b>	<b>PISTON RING COMPRESSOR</b>  Used to compress the piston rings to allow installation of piston into cylinder bore without damage to engine components. Included with HD-96333-51E Piston Ring Compressing Tool.	VRSC Models


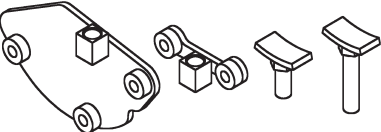


# V-ROD ENGINE/ Flywheel & Crankcase

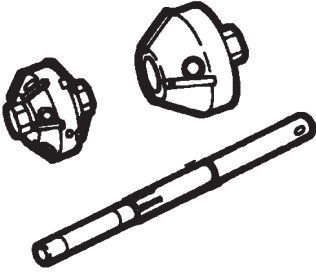
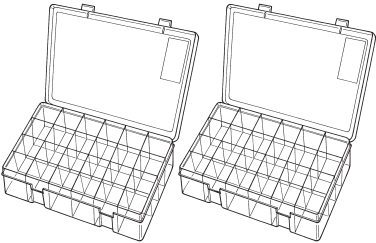
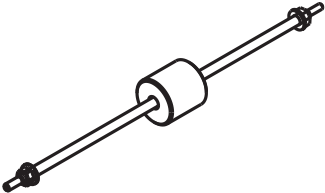
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-45306</b>	<b>CRANKSHAFT LOCKING PIN</b>  Allows precise positioning of piston and crankshaft assembly at top dead center for camshaft to crankshaft timing synchronization.	VRSC Models
	<b>HD-45311</b>	<b>COUNTERBALANCER ALIGNMENT PIN</b>  Used to position counter balancer in correct alignment with crankshaft during engine assembly.	VRSC Models
	<b>HD-45314-A</b>	<b>CRANKSHAFT ROTATING WRENCH</b>  Securely keeps crankshaft from turning while torquing the alternator rotor bolt. Also used to rotate the engine during valve lash adjustment.	VRSC Models
	<b>HD-45316</b>	<b>CRANKSHAFT ASSEMBLY RETAINER</b>  Securely holds the crankshaft on the engine crankcase when the case is split in half.	VRSC Models
	<b>HD-45490</b>	<b>BALANCER BEARING REMOVER/INSTALLER TOOLS</b>  Removes and installs balancer bearings without damage to the balancer assembly or the bearings.	VRSC Models
	<b>HD-46582</b>	<b>COUNTERBALANCER BEARING &amp; INNER RACE REMOVER &amp; INSTALLER</b>  Removes the outer counterbalancer bearing and race for inspection and installs the replacement parts.	VRSC Models



# V-ROD ENGINE/ Flywheel & Crankcase cont.

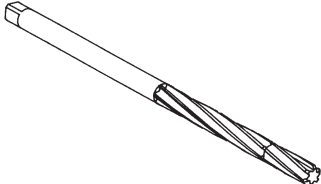
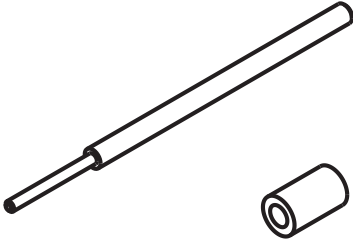

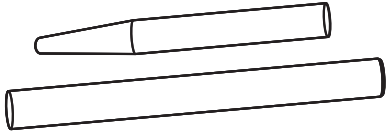
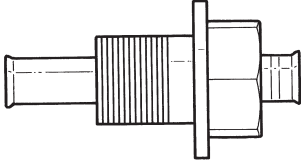
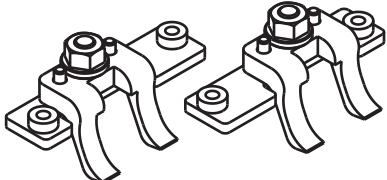
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-46503</b>	<b>OIL LINE REMOVER TOOL</b>  Removes new style oil lines from crankcase without damage to oil line and fitting.	VRSC Models
	<b>HD-47180</b>	<b>CRANKSHAFT LIFTING TOOL</b>  Separates crankshaft from upper crankcase to permit replacement of main bearings without top end disassembly.	VRSC Models

# V-ROD ENGINE/Camshaft, Valves & Valve Train

	<b>HD-35758-50</b>	<b>VALVE SEAT CUTTER SET</b>  Used with the HD-35758-B Newway Valve Seat Cutter Set to recondition and reface valve seats in the VRSC V-Rod engine. Included in HD-35758-B Kit.  HD-35758-50 includes: HD-35758-51 6mm Pilot HD-35758-53 Intake Seat Cutter, 1¼" diameter, (31° x 46°) HD-35758-54 Exhaust Seat Cutter, 1½" diameter, (70°)	VRSC Models
	<b>HD-45303</b>	<b>SHIM STORAGE CASES</b>  Used to conveniently store and organize valve tappet shims. Each compartment is labeled with the shim part number and metric size. Includes 2 Cases. Shims available through Harley-Davidson Parts & Accessories. Shims not included with storage cases.	VRSC Models
	<b>HD-45312</b>	<b>CAM CHAIN TENSIONER GUIDE PIN REMOVER/INSTALLER</b>  Removes and installs cam chain tensioner guide pins.	VRSC Models

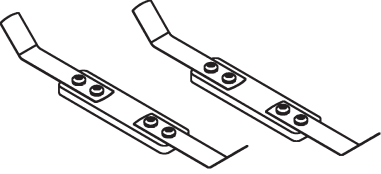


# V-ROD ENGINE/Camshaft, Valves & Valve Train cont.

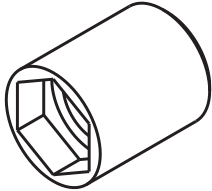

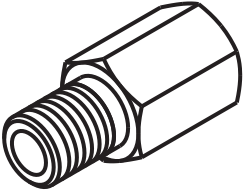
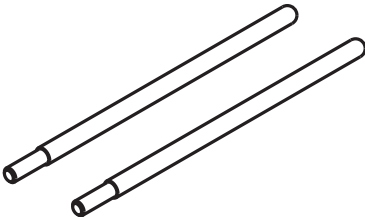
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-45319</b>	<b>VALVE GUIDE REAMER (6mm)</b>  Reams intake and exhaust valve guides to correct pre-honed diameter.	VRSC Models
	<b>HD-45320</b>	<b>VALVE GUIDE REMOVER/INSTALLER (6mm)</b>  Removes worn guides and precisely installs replacement 8mm guides to correct installed height.	VRSC Models
	<b>HD-45321</b>	<b>VALVE GUIDE FLEX HONE (6mm)</b>  Hones the intake and exhaust valve guides to the correct surface finish for proper valve stem-to-guide fit and lubrication.	VRSC Models
	<b>HD-45322</b>	<b>VALVE GUIDE SEAL INSTALLER</b>  Installs valve guide seals to correct position on valve guide without damage to the seal.	VRSC Models
	<b>HD-45334</b>	<b>SECONDARY CHAIN MEASURING TOOL</b>  Tensions the front cylinder secondary cam chain to measure chain stretch.	VRSC Models
	<b>HD-45491</b>	<b>TAPPET COMPRESSING TOOL</b>  Compresses valve tappets for shim replacement and valve train disassembly and assembly.	VRSC Models



# V-ROD ENGINE/Camshaft, Valves & Valve Train cont.

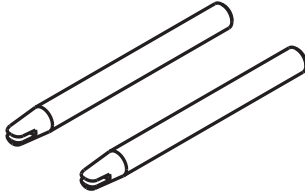
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-47181</b>	<b>VALVE LASH FEELER GAUGE SET</b>  Measures for proper valve clearance. HD-47181-1 Intake Gauge HD-47181-2 Exhaust Gauge  Blades are replaceable: HD-47181-195 Intake Gauge Blade (.195mm) HD-47181-240 Intake Gauge Blade (.240mm) HD-47181-295 Exhaust Gauge Blade (.295mm) HD-47181-345 Exhaust Gauge Blade (.345mm)	VRSC Models

# V-ROD ENGINE/Gearcase

	<b>HD-45300</b>	<b>OIL PRESSURE SENDING UNIT REMOVER/INSTALLER</b>  Allows access to oil pressure sending unit for removal and installation to allow the HD-45308 Oil Pressure Gauge and HD-45309 Adapter to be installed for oil pressure readings.	VRSC Models
	<b>HD-45308</b>	<b>OIL PRESSURE GAUGE</b>  This new gauge has a maximum pressure limit of 160 psi for measuring the higher pressure output of the VRSC engine. Used with HD-45309 Adapter (not included).	VRSC Models
	<b>HD-45309</b>	<b>OIL PRESSURE GAUGE ADAPTER</b>  Required to adapt fitting on end of HD-45308 Oil Pressure Gauge to sending unit hole in case.	VRSC Models
	<b>HD-45310</b>	<b>LOWER CRANKCASE ALIGNMENT DOWELS</b>  Necessary to align lower crankcase halves when assembling engine.	VRSC Models



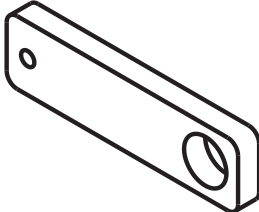
# V-ROD ENGINE/Gearcase cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-45340</b>	<b>GASKET ALIGNMENT DOWELS</b>  Used to support side cover gaskets when assembling engine.	VRSC Models

# V-ROD ENGINE/Fuel System

	<b>HD-45324</b>	<b>FUEL CAP REMOVER/INSTALLER</b>  Engages tangs on fuel cap for removal and installation without damage to cap.	VRSC Models
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# V-ROD DRIVE/TRANSMISSION

	<b>HD-45301</b>	<b>TRANSMISSION ASSEMBLY RETAINER</b>  Secures the transmission assembly in the crankcase when case halves are split for servicing.	VRSC Models
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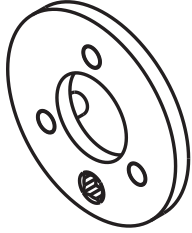
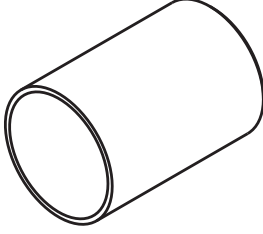
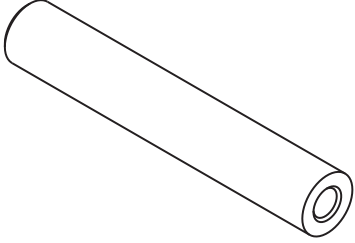
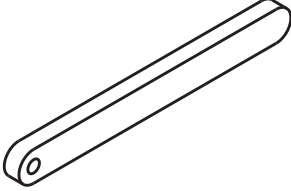
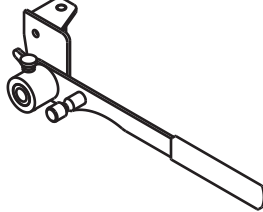
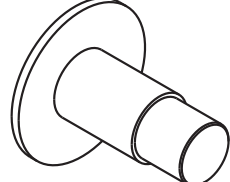
	<b>HD-45318</b>	<b>CLUTCH HUB HOLDER</b>  Securely holds clutch hub when removing and torquing clutch hub nut.	VRSC Models
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	<b>HD-45326</b>	<b>PRIMARY CHAIN TENSIONER RETAINER</b>  Inserts into the primary chain tensioner when required during service. Long handle avoids accidentally leaving tool in engine during assembly.	VRSC Models
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# V-ROD DRIVE/ TRANSMISSION cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-45331-A</b>	<b>FINAL DRIVE SPROCKET FLANGE LOCKING TOOL</b>  Engages into final drive sprocket flange and belt pulley during removal and installation of final drive sprocket nut. This redesigned version fits both past and current style flanges.	VRSC Models
	<b>HD-45332</b>	<b>FINAL DRIVE SPROCKET LOCKING DEVICE INSTALLER</b>  Installs sprocket nut locking device.	VRSC Models
	<b>HD-45337</b>	<b>SHIFT SHAFT SEAL INSTALLER</b>  Installs seal to correct position on the shaft without damage to seal lip.	VRSC Models
	<b>HD-45338</b>	<b>SHIFT LEVER SUBSTITUTE</b>  Permits shifting of transmission through each gear to check for proper operation before assembly of transmission.	VRSC Models
	<b>HD-45339</b>	<b>SHIFT MECHANISM/DETENT RETRACTOR</b>  Allows easy installation of shift drum without damage to components.  1) 18657 Nylon Strap (Not Shown)	VRSC Models
	<b>HD-45654</b>	<b>CLUTCH HUB ALIGNMENT TOOL</b>  Enables easy assembly of clutch installation to input shaft.	VRSC Models



# V-ROD ELECTRICAL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	<b>HD-45304</b>	<b>ALTERNATOR STATOR COVER REMOVER/INSTALLER TOOL</b>	VRSC Models
<p>Removes and installs the alternator stator cover and stator as an assembly preventing any contact or damage from the alternator rotor.</p>	<p>1) HD-45304-1 Plate 2) HD-45304-2 Forcing Screw</p>		
	<b>HD-45315</b>	<b>ALTERNATOR ROTOR REMOVER</b>	VRSC Models
<p>Removes the alternator rotor from the crankshaft taper.</p>			
	<b>HD-45325</b>	<b>JUMPER HARNESS</b>	VRSC Models
<p>Adapts HD-42682 Breakout Box for use to interface and diagnose the instrument cluster.</p>			

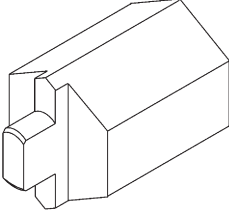
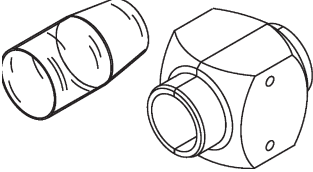
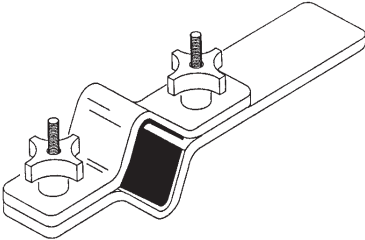
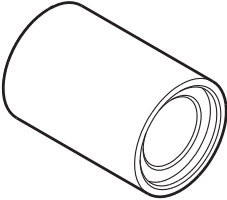
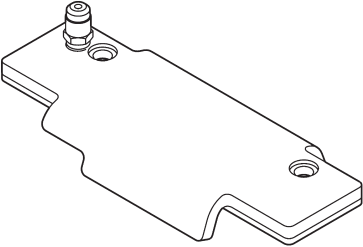
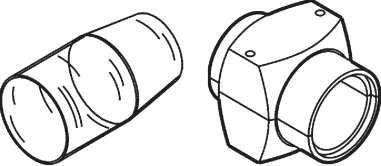


# BUELL CHASSIS

	<b>B-35316-5</b>	<b>SWINGARM BEARING RACE INSTALLER</b>	All Models
<p>B-35316-5 is used with special service tool HD-39302-A to draw the replacement outer races into place when doing swingarm service. The threaded rod included with HD-39302-A is not long enough for swingarm race replacement. Using this tool makes Timken bearing race installation fast and easy.</p>			
	<b>B-41174</b>	<b>REAR WHEEL SUPPORT STAND</b>	All Models
<p>The rear wheel support stand B-41174 has wheels attached to it so that you can roll the stand up under the swingarm. The rubber coated pads swivel and are spring-loaded. The stand gets the rear wheel off the ground for tire changes, brake work, vehicle transport, etc.</p>	<p>1) B-41174-2 Replacement Pads</p>		

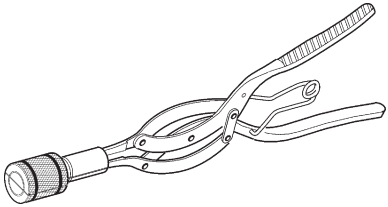
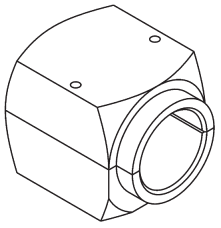
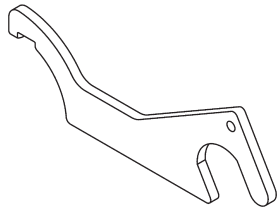
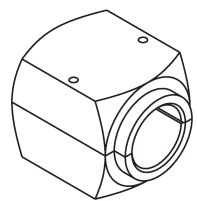
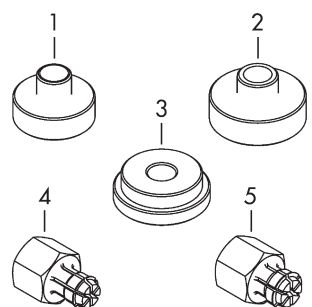


# BUELL CHASSIS cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	B-41175	<b>REAR SWINGARM BEARING ADJUSTMENT TOOL</b>  This tool is used to properly adjust the rear swingarm bearing preload.	S1/S2 Thunderbolt (1995-96)
	B-41176	<b>FRONT FORK BUSHING &amp; SEAL INSTALLER</b>  This is a dual function tool. One side is used to install the fork seal to the proper depth and the other side is used to install the bushing to the proper depth on the front fork.	S1/S2/S3 Thunderbolt (1995-98)
	B-41177	<b>FRONT FORK TUBE HOLDER</b>  This tool is used along with a vise to hold the front fork leg firmly during repair without causing damage to the fork assembly.	All Models
	B-41178-A	<b>REAR SHOCK COMPRESSOR ADAPTER</b>  B-41178-A is used with an arbor press to compress the spring of the rear shock sufficiently for disassembly and removal.	All Models (1995-1998)
	B-42079	<b>CALIPER PISTON REMOVAL TOOL</b>  The Caliper Piston Removal Tool will free the brake pistons from both caliper halves on all Buell motorcycles. With the use of low pressure shop air and the B-42079, brake caliper pistons can be removed in minutes.	All Models (1995-1997)
	B-42571	<b>FORK SEAL DRIVER AND DUST BOOT INSTALLER</b>  This is a dual function tool. One side is used to install the fork seal to the proper depth and the other side is used to install the dust boot to the proper depth on the front fork assembly.	M2 Cyclone Models (1997 & Later)  VRSCR  05 XB except XB12



# BUELL CHASSIS cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	B-42887	<b>BRAKE PISTON REMOVER</b>  Simply slide the B-42887 pliers into the opening of the brake piston. The tool will grab the inside of the piston without damaging the caliper or the piston.	All Models (1998 & Later)
	B-43721	<b>FORK SEAL DRIVER</b>  Used to install the fork seal to the proper depth.	X1 Lightning & S3 Thunderbolt (1999 & Later)  03-04 XB Models 05 XB12Scg
	B-43895	<b>REAR SHOCK SPANNER WRENCH</b>  Used to adjust the rear shock to proper suspension tension.	X1 Lightning & S3 Thunderbolt (1999 & Later)
	B-43991	<b>FORK SEAL DRIVER</b>  Used to install the fork seal and bushing to the proper depth.	Blast Models (2000 & Later)
	B-43993	<b>WHEEL BEARING REMOVER &amp; INSTALLER</b>  Used with HD-44060 to remove and install sealed wheel bearings in both front & rear wheels.	Blast Models (2000 & Later)

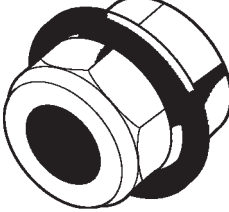
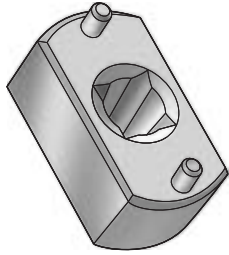
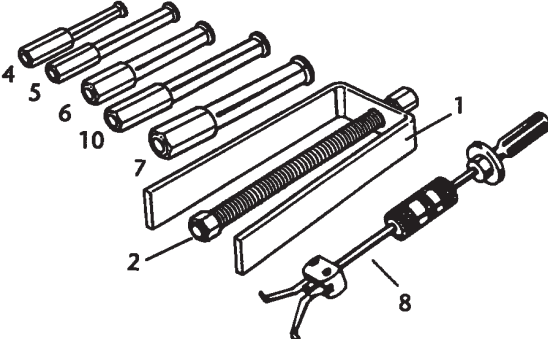


# BUELL CHASSIS cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	B-43993-50A	<b>WHEEL BEARING REMOVER/INSTALLER KIT</b>  Used with HD-44060 to remove and install sealed wheel bearings in both front & rear wheels. Includes custom storage case for B-43993-50 components and also storage areas for components for previously essential B-43993 Wheel Bearing Remover/Installer Kit.  <b>XB Models</b> 1) B-43993-7 Remover Collet, Front Bearing 2) B-43993-8 Remover Collet, Rear Bearing 3) B-43993-9 Bearing Installer, Rear Bearing 4) B-43993-10 Bearing Installer, Front Bearing 5) B-43993-11 Backing Plate, Front Bearing 6) B-43993-12 Backing Plate, Rear Bearing  <b>Blast Models</b> 1) B-43993-1 Remover Collet, Front Bearing 2) B-43993-2 Remover Collet, Rear Bearing 3) B-43993-4 Backing Plate 4) B-43993-5 Bearing Installer, Front Bearing 5) B-43993-6 Bearing Installer, Rear Bearing	XB9/XB12 Firebolt  Blast Models (2000 & Later)
	B-44623	<b>ISOLATOR REPLACEMENT TOOL</b>  Provides required clearance when installing replacement isolators.	All Models (2001 & Later)
	B-45110	<b>REAR SHOCK SPANNER WRENCH</b>  Used to adjust the spring preload on the rear shock.  1) B-45110-1 Shock Wrench (long) 2) B-45110-2 Shock Wrench (with square drive)	All Models (2001 & Later)
	B-45521	<b>STEERING HEAD BEARING INSTALLER SET</b>  Used with HD-39302 to install sealed steering head bearings.	XB9/XB12 Firebolt




# BUELL CHASSIS cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	B-46279	<b>AXLE WRENCH</b>  Used during removal and installation of front and rear wheels.	Buell XB (2003 & Later)
	HD-47853	<b>IGNITION SWITCH WRENCH</b>  Used to remove and install new style ignition switch.	Dyna Models (2006 & Later)
	HD-95760-69A	<b>BUSHING &amp; BEARING PULLER</b>  Use the 3/4" Collet HD-95767-69A for the front bearing removal. The 1 1/8" collet HD-95769-69A is used to remove rear wheel bearings.  Includes: 1) HD-95762-69A Bridge 2) HD-95763-69A Screw 3) HD-95764-69A Expander Pin (Not Shown) 4) HD-95765-69A Collet, 1/2" 5) HD-95766-69A Collet, 5/8" 6) HD-95767-69A Collet, 3/4" * 7) HD-95769-69 Collet, 1 1/8" * 8) HD-95770-69 Slide Hammer * 9) HD-95771-69 Shaft (Not Shown) * 10) HD-95768-69A Collet, 13/16" *Not included with HD-95760-69A but are available.	All Models



# BUELL ENGINE

	B-35758-52A	7.02MM PILOT (NEWAY PM140702)	All Models
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# BUELL ENGINE cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	B-43987	<b>ENGINE CRADLE</b>  Used with HD-42310 Bench Top Stand or HD-43646 Rolling Stand to support the engine and rotate into various positions for service.	Blast Models (2000 & Later)  XB9R Firebolt (2003 & Later)
	B-45522	<b>FUEL PRESSURE GAUGE ADAPTER</b>  Use with HD-41182 Fuel Pressure Gauge to permit fuel pressure readings from the DDFI system.	XB9/XB12 Firebolt
	B-45523	<b>VALVE GUIDE REAMER (7mm)</b>  Reams replacement intake and exhaust valve guides to proper size.	XB9/XB12 Firebolt  XL (2004 & Later)
	B-45524-A	<b>VALVE GUIDE REMOVER/INSTALLER (7mm)</b>  Removes worn guides and installs replacement guides to the correct installed height.  1) B-45524-1 Remover 2) B-45524-2A Installer	XB9/XB12 Firebolt  XL (2004 & Later)
	B-45525	<b>VALVE GUIDE HONE (7mm)</b>  Applies final crosshatch and surface finish to replacement valve guides.	XB9/XB12 Firebolt  XL (2004 & Later)
	B-45655	<b>CRANKCASE BEARING REMOVER/INSTALLER</b>  Used with HD-42720-2 Crankcase Bearing Base to remove and install left crankshaft main bearing.	XB9/XB12 Firebolt  XL (2004 & Later)



# BUELL ENGINE cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	B-45657	<b>FUEL PUMP PULLER</b>  Removes fuel pump assembly from the chassis.	XB9/XB12 Firebolt
	B-45676	<b>SPROCKET SHAFT SEAL INSTALLER</b>  Used with HD-42579 Sprocket Shaft Bearing Installer to install replacement seals to the correct installed depth.	XB9/XB12 Firebolt  XL (2004 & Later)
	HD-47956	<b>CAMSHAFT ASSEMBLY TOOL</b>  HD-47956 is a three-piece tool including a 1.5" Guide (HD-47956-1), a 1.35" Guide (HD-47956-2), and a Support Plate (HD-47956-3). The tool is used to hold the camshafts and secondary cam chain while the cam support plate is installed on the camshafts.	Dyna Models (2006 & Later)



# BUELL TRANSMISSION

	B-43982	<b>SPROCKET LOCKING TOOL</b>  Used to firmly hold the final drive sprocket while torquing the hold down nut.	Blast Models (2000 & Later)
	B-43983	<b>MAIN DRIVE GEAR REMOVER CROSS PLATE</b>  Used with HD-35316-B Main Drive Remover to remove the main drive gear assembly.	Blast Models (2000 & Later)



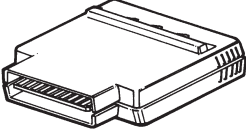
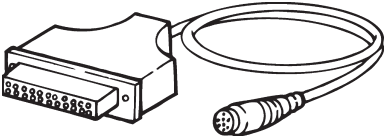


# BUELL TRANSMISSION cont.

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	B-43985	<b>TRANSMISSION REMOVAL &amp; INSTALLATION TOOL</b>  Used to remove and install the transmission assembly into the crankcase.  Includes: B-43985-1 Remover B-43985-3 Installer B-43985-4 Guide	Blast Models (2000 & Later)
	B-45520	<b>GEAR DETENT ASSEMBLY AID</b>  Moves gear detent to permit crankcase reassembly.	XB9/XB12 Firebolt  XL (2004 & Later)
	B-45659	<b>SPROCKET LOCKING TOOL</b>  Secures final drive sprocket during torquing of the belt pulley nut.	XB9/XB12 Firebolt  XL (2004 & Later)
	B-45847	<b>BEARING REMOVER CROSS PLATE</b>  Used with HD-35316-B Main Drive Remover to remove and install the mainshaft 5th gear and roller bearing from the right crankcase.	XB9/XB12 Firebolt  XL (2004 & Later)
	B-45926	<b>CLUTCH HUB BEARING REMOVER/INSTALLER</b>  Removes and installs the clutch shell bearing to the correct depth.  1) B-45926-1 Base 2) B-45926-2 Pilot	XB9/XB12 Firebolt
	HD-46285	<b>TRANSMISSION FIXTURE</b>  Supports transmission shafts during assembly into left crankcase.  Includes: 1) HD-46285-1 Fixture Base 2) B-43985-1 Remover 3) B-43985-3 Installer 4) B-43985-4 Guide	XB9/XB12 Firebolt  XL (2004 & Later)



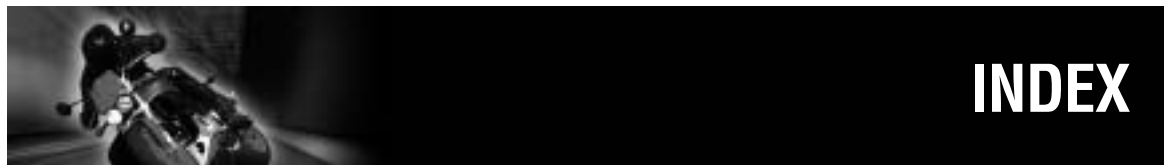
# BUELL ENGINE MANAGEMENT

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	APPLICATION
	B-41325-99	<b>SCANALYZER SOFTWARE CARTRIDGE</b>  Performs electrical diagnostics on 1999 and later E.F.I. Buell models. Not included in HD-41325-D Scanalyzer Kit.	X1 Lightning  S3 Thunderbolt (1999 & Later)
	HD-42921	<b>SCANALYZER CABLE</b>  Required with Scanalyzer, when used without Digital Technician, to communicate with Buell ECMs. HD-42921-A and HD-42921-B will not communicate. Not included in HD-41325-D Scanalyzer Kit.	Buell Models



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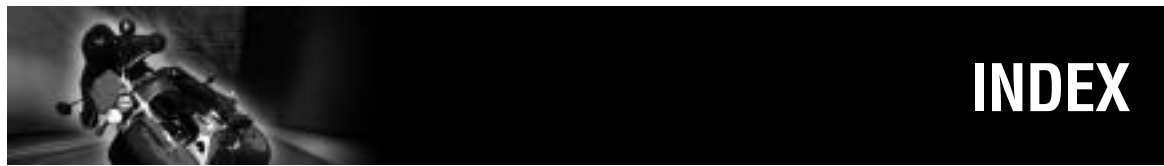
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