



KNIGHT PROWLER®



Alpha Lifters



TWIN CAM & MILWAUKEE 8

INSTRUCTIONS

1. Using factory HD service manual, install cams, cam support plate, oil pump and related parts.
2. Clean and lubricate lifter bores, lifter roller race and bearings. We use Kendall GT1 20W-50 oil.

MILWAUKEE 8 ONLY

**NOTE: FRONT CYL: KNIGHT PROWLER LOGO FACES REARWARD
REAR CYL: KNIGHT PROWLER LOGO FACES FORWARD**

NOTE: ALL TWIN CAMS: LOGO FACES ANTI ROTATION PIN

3. Install lifters in the case. Install lifter block covers.
4. Adjust rear cylinder.
 - A. Make sure piston is at TDC on compression stroke.
 - B. Install push rod and extend until there is zero lash. Be careful not to go past zero lash. If in doubt, loosen adjustment and extend slowly until there is zero lash.
 - C. Extend push rods to reach .120 to .140 total travel. Tighten push rod locking nut securely.
 - D. Wait until push rod turns freely to make sure lifter has bled down.
5. Repeat steps A, B, C, and D for front cylinder.

BELOW IS CHART OF PUSH ROD TRAVEL PER TURN

24 TEETH = .042 travel	36 TEETH = .028 travel
28 TEETH = .036 travel	40 TEETH = .025 travel
32 TEETH = .031 travel	

Example: 32 TEETH $[.125 \div .031 = \text{Approximately } 4 \text{ turns}]$

- ✓ **AFTER ADJUSTING FRONT AND REAR CYLINDERS ALWAYS DO A COMPRESSION CHECK ON THE ENGINE WITH **THROTTLE WIDE OPEN.****

SPECIAL NOTE: You will notice a longer time required to fill lifter body cavity. Slight lifter noise is normal until engine warms up. This increased fill time rate gives you performance like a solid lifter but with "**ANTI-PUMP UP**" hydraulic operation

Wood Performance

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WARNING

USE ONLY STOCK H-D LIFTER GUIDES

PRIMING LIFTERS

1. REMOVE SPARK PLUGS
2. INSTALL CAMS AND CAM COVER
3. CLEAN & OIL LIFTERS INCLUDING ROLLER BEARING
4. INSTALL LIFTERS:
 - a. TWIN CAM ENGINES - INSTALL LIFTER GUIDE PINS & BLOCKS
 - b. WM8 ENGINES - INSTALL LIFTER GUIDES
5. USING STARTER, SPIN ENGINE OVER UNTIL OIL FLOWS FROM TOP OF LIFTERS.
6. INSTALL AND ADJUST PUSHRODS TO RECOMMENDED TURNS FROM ZERO LASH
7. HIGHLY RECOMMEND CHECKING CRANKING COMPRESSION TO MAKE SURE EVERYTHING IS NORMAL. MAKE SURE THROTTLE BLADE ON CARB OR EFI IS WIDE OPEN!!!

WARNING

WOOD PERFORMANCE KNIGHT PROWLER CAMS

FINDING THE CORRECT TDC (TOP DEAD CENTER) COMPRESSION STROKE FOR ADJUSTING LIFTERS

- A. **REAR CYLINDER:** TURN ENGINE OVER AND WATCH REAR CYLINDER INTAKE LIFTER (CLOSEST LIFTER TO CYLINDER) GO UP AND ALL THE WAY DOWN.
- B. GO TO LEFT SIDE OF BIKE, INSTALL A LONG SCREWDRIVER OR WIRE ROD INTO REAR CYLINDER AND LET IT REST ON TOP OF PISTON. ROTATE REAR TIRE IN NORMAL DIRECTION UNTIL PISTON IS AT TOP DEAD CENTER.
- C. ADJUST THE REAR CYLINDER INTAKE AND EXHAUST PUSHRODS TO RECOMMENDED TURNS OUT FROM ZERO LASH
- D. SAME PROCEDURE FOR FRONT CYLINDER.