

**For more information, see [www.cranecams.com](http://www.cranecams.com)**

1. The enclosed Crane Cams camshafts fit 1999-2000 Harley-Davidson Twin Cam engines. All Crane Cams camshafts require the use of the late model stock splined cam drive sprocket. For model year 1999 engines, the use of Screaming Eagle sprocket part number 25446-99 is required along with cam drive sprocket bolt part number 996 and washer part number 6294. It is also recommended that the crank flange bolt part number 898A, and washer part number 6278A, be replaced at the same time.
2. New camshaft ball bearings are not included with the camshafts. If the bearings should need replacing for some reason, they are available at bearing distributors under Fafnir or Torrington part number 9104K, or at your local Harley-Davidson dealer under part number 8990. Harley-Davidson installation tool part number 43644 is required for bearing replacement.
3. Before proceeding with the camshaft removal and installation, it is strongly recommended that the appropriate Harley-Davidson factory service manual and/or Screaming Eagle sprocket upgrade instructions be available due to the new procedures and tools required. Special attention should be paid to the proper method of removal, cleaning, thread Loctite, torque specifications, and torque sequence.
4. Crane Cams offers several different cam profile combinations for the Twin Cam engine. Depending upon the other modifications performed to the bike, it may be necessary to check clearances and specifications during installation. Crane Cams camshafts with .510" valve lift, or less, should not cause any clear-

ance issues. On higher lift profiles, valve train clearance must be checked to detect binding or inadequate travel. Crane Cams offers a full line of valve springs and retainers for high lift applications.

5. The stock Harley-Davidson Twin Cam valve train does not make any provision for adjusting lifter preload. When changing camshafts, it is often necessary to adjust lifter preload due to changes in the base circle size of the cam lobes. Crane Cams offers adjustable pushrods part number 4-0021 (chromemoly) or 4-0022 (aluminum) and Timesaver® pushrods part number 4-0031, for these applications. Recommended adjustment for Crane Cams pushrods is three turns (18 flats) after zero lash. This adjustment can be performed without removing the gas tank, rocker covers and rocker arms after the stock pushrods are removed using bolt cutters.



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