



**Darkhorse Crankworks**  
10629 Highway 42  
Newton, WI 53063  
Village of Osman

Since 1980

## **DARKHORSE INSTRUCTIONS**

P: 920-726-4990 F: 920-726-4991 E: John@Darkhorsecrankworks.com W: www.darkhorsecrankworks.com

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**All work** must be accompanied with a work order form. Work order forms may be downloaded from our **www.darkhorsecrankworks.com** website and copied for each job order. No dealer discounts are given without dealer application being approved and on file upon completion of work. Dealer applications may also be downloaded from that same page. Our procedures do not include parts cost, please do not assume it will be all-inclusive. We work on brand new to very old crankshafts and cases and it would be impossible for us to have set flat rates for our procedures and always make note for us to call with a quote, if needed.

**Timken bearing conversions:** If there are any questions or concerns regarding one of our Timken® bearing conversion cases in late model Twin Cam applications, please refer to Harley Davidson ®1999' or 2000' FLT Service and parts manual for FLHT, FLT and FLHR models, 99' or 00' Dyna Service and parts manual for any Dyna series and 2000' Service or parts manual only for Softail series bikes.

We will install races and pre-set Timken® bearing end-play between .001" - .003", **you must check this measurement** upon final installation into case \_ and make sure they are within factory specs of .001" - .005" This is very critical to the longevity of your motor and related parts.

We will supply corresponding correct sprocket shaft spacer unless notified at time of shipping.

**You can NOT interchange INA® bearing sprocket shaft spacers for Timken ® style bearing spacer.** This will cause damage to primary components and may cause injury or death.

**Case boring:** We will bore cases according to cylinder manufacturers tolerances. These vary and we have specific processes for each manufacturer. We may choose to position center case bolt as a through bolt vs. a tapped blind hole for added structural integrity. With case boring you will receive top center case bolt with cases that must be used, it is integrated to that specific bore and case, the positioning of this bolt is critical and must align with case opening so it does not distort cylinders upon installation. Weeping at center case bolt may occur if not sealed properly, we recommend a semi-drying liquid gasket and a clean surface behind the sealing washers of case bolt supplied to deter any weeping from occurring on either side.

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**Flywheel Install:** Our flywheels will install as any stock flywheel per the manufacturers recommendations. We hold strict tolerances according to or exceeding manufacturer's recommendations and ask that you do the same. We will pre-set Timken bearings in case 1/2s on request, but we will not ship flywheels installed in cases unless a complete motor assembly has been done. Flywheels that are not captured have a tendency to rock back and forth during shipment and damage associated parts. Shippers do not handle packages with care and we package with that expectation.

When we line bore cases, we ask to utilize your pinion shaft bearing race and will supply pinion bearing that must be used for proper fitment. We will not be responsible for improper fitment without our machinists being able to measure your pinion race. When pinion races do not meet our specs, we do have a pinion replacement service and tolerances must be checked and proper bearings fitted.

**Shipping:** We will insure package for estimated value of product plus services. If something exceeds normal value you must document the need for added insurance value on work order. All packages are shipped UPS regular ground unless requested and stated prices do NOT include any return shipping.

**Never hesitate to call, we always have a technician on hand to answer any question regarding our work or process's between 9AM - 5PM CST Monday through Friday.**

