Installation Instructions for KPMI Part No: **20-20412**
HARLEY DAVIDSON • TWIN CAM™ 88"-103" • 1999-'16
Black Diamond™ Cylinder Studs

1)* Using two standard 3/8-16 UNC nuts, remove old cylinder studs from cases. Remove the studs by tightening both nuts back to back on the stud. With a wrench on the lower nut, back out the old stud.

2) Properly clean case stud holes using a 3/8-16 UNC G3 bottoming tap. Be careful if the engine is assembled, not to allow the debris into the lower crank case. KPMI suggests using a small paint brush to apply the grease on the tap and then generously apply grease on the flywheel, straddling the grease to the cases. Slowly move the flywheel to position, greased section directly under the hole to be cleaned. After tapping the hole, rotate the flywheel back again and carefully remove the grease and any chips that may now be adhering to the grease from the tapping process. This grease operation will not be necessary on models with blind holes.

3) Apply a "neversieze" compound to the studs prior to installation.

4) Each end of the cyclinder stud has a different thread type; one standard and one interference. The interference end is marked with a dimple (additionally the OEM head nut will not screw completely onto the interference end). *Install Black Diamond® studs by reversing the stud removal process, paying careful attention that the **interference end is threaded into the case**. Achieve the following stud height upon installation: 5.040" - 5.060"

5) KPMI recommends using Loctite™ (blue) on case studs only when threads in the case are worn or loose. If threads are too loose or worn, proper case repair must be made.

6) It is absolutely necessary that a small amount of neversieze, oil or grease is applied to the head nut end of the stud prior to torquing the head. Using a **criss-cross pattern,** torque the head nuts in **12 lbs increments** to a range of **36 lbs minimum** to **38 lbs maximum**. **Never allow nuts to remain outside this range.**

Packaged By:_____   Date:_____