

# MULL ENGINEERING

## Race Technologies Division

### Banshee Billet Shift Star Installation

Thanks for purchasing another great product by Mull Engineering. Your new shifting star was designed to help ease and improve shifting action under hard acceleration conditions, and decrease problems hitting neutral between 1<sup>st</sup> and 2<sup>nd</sup> gear. The shift star also has lengthened drive pins so the shift claw will never jump off the shift star. Though it may look simple in design, our new billet shift star has many innovative features including a special compound radius at critical shift points to aid in smooth, positive shifting. The installation is very straight forward and generally takes only 20-40 min to complete.

1. Drain engine oil and coolant from your bike
2. Remove the shifting lever, kick start arm, RH foot peg, rear brake lever, and the bolts securing the RH clutch cover to the engine.
3. Lightly tap the clutch cover with a wood or soft faced mallet and remove.
4. Remove the clutch by first removing the 6 spring loaded bolts on the pressure plate followed by the center nut that secures the inner clutch hub.
5. Now remove the shifting shaft by pushing from the LH side (where the shift lever attached) straight through to the RH side of the engine.
6. Locate the shifting star and remove by removing the center screw retaining it. You do not need to remove the spring loaded detent arm that runs over the star.
7. Now simply replace the old shifting star with your new one. Always use a light thread lock on the retaining screw. We recommend blue Loctite but do not use red. You must force the detent arm down for reinstallation of the shift star. Be careful not to bend the detent arm. Also ensure that the locating dowel pin is installed on the new shifting star.
8. Simply reverse steps for reassembly and refill fluids. Make sure to torque clutch and cover bolts to manufacturer specs and use a new clutch cover gasket during reinstallation. That's it.

NOTE: Due to tighter tolerances from CNC manufacturing, some stars may fit tighter on the shift drum than others. The star should install with a slight interference fit on the shift drum. If it does not, you may need to lightly sand the ID bore of your new star for proper fitment.

Due to the high performance nature and/or the fact that we are not installing this product, Mull Engineering will not be liable for any damages or injuries. Please understand that this product carries no expressed or implied warranty once installed.

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