



GENERAL: These instructions are based on installing a 7/16" repair stud to replace a failed head stud without the need to remove the head. The instructions are equally applicable for replacing a failed manifold stud without the need to remove the manifold. In the event that you are using a 7/16" repair stud during a rebuild, or at any other time when the engine is disassembled, it's very helpful to temporarily install the head or manifold to use as a guide in getting the stud installed as straight as possible. In these cases, it is not necessary to install all of the studs, nor is it necessary to torque them down. Install just enough of the remaining studs to secure the head or manifold.

NOTE: MMI markets a small kit of tools to facilitate the installation of these repair studs. The instructions indicate where these tools are used in the event that you have one of these kits.

OVER DRILLING THE STUD HOLE IN THE HEAD AND RE-TAPPING THE BLOCK: The diameter of a 7/16" tap is just slightly larger than the holes in a head. For this reason, it is best to run a 7/16" drill bit through the head so that you will be able to feel when the tap is entering the top of the block, and so that the stud will slip freely through the head on installation.

- 1) Install a mechanical stop ring on the drill bit so as to avoid drilling into the top of the block (stop ring and 7/16" drill bit included in kit). Without a stop ring, the drill can be marked with tape to serve as a depth gauge so as not to drill past the bottom of the head. The depth of the drill below the stop ring or tape mark is usually no more than 1 - 13/16", and in all cases the drill should be held beside the head (or manifold) to double check the setting of the stop ring or tape ring.
- 2) Carefully drill through the thickness of the head until reaching the stop ring or marking tape. Because the drill is removing very little metal around the inside of the hole, there is some tendency for the drill to catch on the way through the head. Using regular motor oil on the drill bit will greatly minimize this tendency of the drill to catch and pull ahead.
- 3) Re-tap the defective hole in the block to 7/16" coarse threads. A regular tapered tap should be used to get a good (straight) start on the threads, and a blunt tap (a "bottoming" tap) can be used in cases where there is insufficient space below the threaded part of the hole to accommodate the end of the tapered tap (both taps are included in the kit).

If the original 3/8" threads are completely stripped out, the tap can be used without over-drilling the original hole in the block. If much of the original threads are still in place, it may be necessary to drill the defective threads out using a 3/8" drill bit (3/8" drill bit is not included in the kit). Each of the stud holes on top of the block enter into the water jacket except for the center hole in the rear of the block just ahead of the coil bracket.

In some cases, a very hard calcified deposit of crud will build up in the stud hole, just ahead of the stud, which can give the impression that a piece of the stud has broken off and is still in the hole. You can quickly resolve that issue by taking an ice pick or small screw driver and tapping your way through the hole and into the water jacket.

INSTALLING THE REPAIR STUD:

- 1) Apply JB Weld to the 7/16" threads on the stud and in the block. A common screwdriver can be marked with tape in the same way the drill bit was marked to aid in applying the JB Weld to the proper depth through the head and directly onto the threads in the block.
- 2) Install the repair stud through the head until it seats firmly in the block. The top of the threaded area of the stud has been machined to provide resistance so that you will know when the coarse-threaded bottom of the stud is fully in place. All 7/16" repair studs come with extra length on top of the stud, so you can usually seat the stud all the way to the top of the lower threaded section by "double nutting" the top of the stud. Double nutting is done by tightening two nuts against each other on top of the stud, and then using an open ended wrench on the top nut to turn the stud into the block.

NOTE: If the repair stud is being installed during a rebuild, you can remove the head for a sneak preview of the base of the stud and adjust the depth as necessary so that the top of the 7/16" threads are nice and flush with the top of the block, and then reinstall the head for the final step.

- 3) Install the nut on top of the repair stud and tighten it just above hand-tight to insure that the stud will be as straight as possible after the JB Weld hardens. If time permits, it's best to allow the JB Weld to cure overnight before final torquing. After the job is finished you can leave the stud full length or cut the excess stud off with a hack saw.