



# Instructions

## Exhaust Manifold Repair

**Congratulations on your purchase of a ProMAXX® engineered performance device!** Our tools have the highest quality and precision in the market delivering the most productive repair. All ProMAXX® tools are manufactured in the United States of America from American materials and craftsmanship. We proudly provide limited lifetime warranties and free unlimited technical support. **Need help with the repair? Contact ProMAXX Technical Support @ 724-941-0941**

1. Mount the ProPlate™ to the cylinder head using the included ProFasteners (PPF008375 or PPF008500) according to the enclosed cylinder head schematic. Torque ProFasteners to a minimum of 20 FT-LBS.
2. Insert the ProBushing™ into the ProPlate™. Then insert the corresponding ProDrill™ machine grade tooling bit (included) into an air-powered, angled-style drill. Using drill depth gauge, machined into the ProPlate™, set the proper depth of the bit and mark if necessary. Apply one drop of ProLube™ (PPL001).

**AVOID USING PENETRATING OIL/SPRAY OR OTHER LUBRICANTS WHICH ELEVATE CUTTING EDGE TEMPERATURES CAUSING THE BIT TO BURN AND CEASE CUTTING.**

3. Insert the prepared ProDrill™ into the mounted ProBushing™ by slowly and manually turning the drill chuck until the ProDrill™ slips into the bushing and makes contact with the surface of the damaged stud. *(This will ensure the cutting edge is not damaged.)* \*Repeat this procedure for each sequential step in your application
4. **SET THE CUTTING EDGE: Important step to avoid drill bit breakage.** While applying light pressure, **activate your drill both on and off five times in one second intervals (ten times if utilizing an air ratchet). This is the MOST CRITICAL step of this repair, creating precise alignment (a seat) for the tooling bit to stay on center and not follow the angular broken surface of the stud. Moreover, this step allows the surface of the stud to conform to the cutting edge of the bit, distributing the load evenly across the entire cutting edge, which is essential for cutting extremely hard surfaces and extending the life of the cutting tool.**
5. After **Step 4**, run drill continuously at proper RPM (see cutting speeds below). While the bit is turning, slightly **extract the bit in and out of the damaged stud** to “clean” or “excavate” cutting debris from the stud (commonly referred to as *peck drilling*). Repeat this step progressively, exerting more pressure until drill reaches the marked depth.
6. **Inserting ProTractor (PPT125):** Remove the ProPlate™ and place the optional ProCutter (PPC007A) in drill. Insert the protruding portion of the arbor into drilled hole. Toggle the drill on and off five times to remove the burr and clean the tapped hole. With ProTractor (PPT125), place a mark approximately ¼” from the end and lightly hammer the ProTractor (PPT125) into the remnant, to the ¼” depth line. **DO NOT INSERT THE PROTRACTOR ANY FURTHER THAN 1/4" depth line.** Place the included slip-nut over the ProTractor™ and slide it up against the cylinder head. While holding the opposite end of the ProTractor™ and using a high-quality calibrated torque wrench, slowly and carefully apply torque, first in the clockwise direction, and then in the counterclockwise direction to loosen the damaged stud. Repeat this motion several times **NOT EXCEEDING 75 IN-LBS OF TORQUE FOR THE PPT125 OR 150 IN-LBS FOR THE PPT188.** **If the damaged stud fails to release, STOP and remove the ProTractor™ and proceed to the next step**
7. **Inserting ProTractor PPT188:** using the larger (optional) ProDrill™ and corresponding ProBushing™, **repeat steps 3-5** to prepare in using the larger extractor (PPT118).

**NOTE:** In the unlikely event an extractor fails or breaks, **contact technical support at 724-941-0941 for recommendations and procedures.** ProKits can also be upgraded to be an “extractorless” repair: Repeating drilling instructions above and chasing threads clean with a machine grade tap.

**NOTE:** ProMAXX® **does not** recommend tapered left-handed screw extractors as they have the potential to deform the remnant in the cylinder head increasing complexity of extraction. In addition, these extractors cannot be turned clockwise to unlock the damaged remnant. Approximate tooling cutting speeds (Under load): MIN: SSSC125/PLT125@500 RPM, SSSC188/PLT188@300, SSSC266/270/ PLT270@250.

**NOTE:** **Some air ratchets may not generate sufficient RPM under load to be effective.** See ProMAXX® ProRatchet PPR5260 or PowerDrill™ PPD2800 at [www.promaxxtool.com](http://www.promaxxtool.com) for optimum efficiency and maximum productivity.

PROMAXX™ machine grade tooling is specially engineered to close tolerances of (+) .000” and (-) .001” and ground straight to ensure accurate and repeatable results in using your new device. **Specify PROMAXX® genuine replacement parts and tooling for optimum performance and extended warranty coverage.** Always use appropriate OSHA approved safety glasses/goggle and protective gloves while using this device and performing this operation.



For video instruction, check out the QR code to the left! Simply hover your phone camera over the image and it will connect you to our fast, easy Youtube tutorial.



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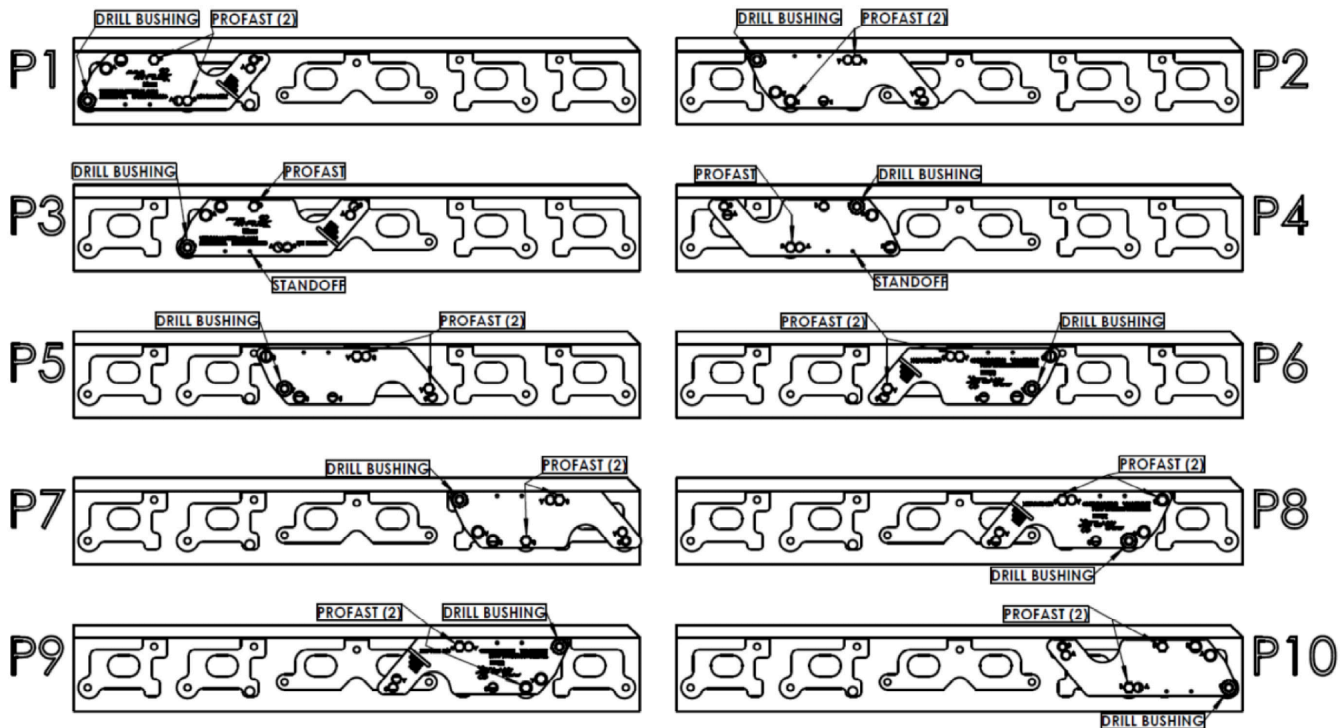
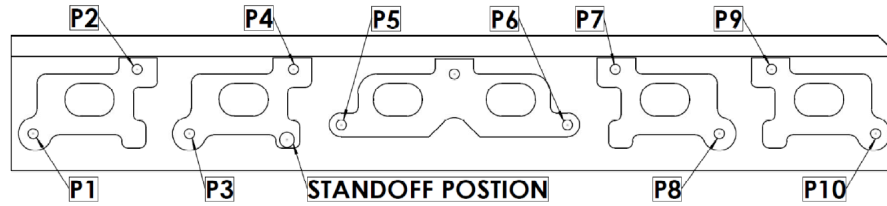
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