User Guide

www.ProMAXXtool.com

ProMAXX engineered performance tools are proudly made in the United States of America by American craftsman using American materials.

Mikki™ User Guide

LIMITED LIFETIME WARRANTY

The ProMAXX® ProPlate™ included in this repair kit is a quality precision tool designed and manufactured in the USA and is backed by a LIMITED LIFETIME warranty. ProMAXX® warrants this product to the original purchaser for its useful life against deficiencies in material and workmanship. This LIMITED LIFETIME WARRANTY does not cover normal wear and tear, and if it is used incorrectly, abused, altered or repaired. Deficient products will be replaced or repaired. For more information about ProMAXX® and our line of precision machine tools and tooling, visit www.ProMAXXtool.com.

(Mikki B Model 2/17) 9/28/2017

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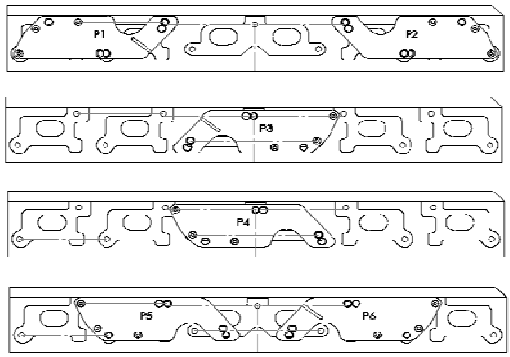
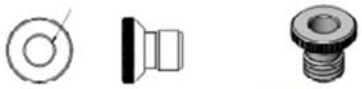


ProBushing Accessories

Precision Bushing - Hardened PPB030II/PMXPPB030- STD.
Use with ProMAXX tooling SSSC030/PMXSSSC030

Precision Bushing - Hardened PPB188II/PMXPPB188II - OPT.
Use with ProMAXX tooling SSSC188/PMXSSSC188 - OPT.



Precision Bushing - Hardened PPB266II/PMXPPB266II - OPT.
Use with ProMAXX tooling SSSC266/PMXSSSC266 -OPT.

Congratulations on your purchase of the new ProMAXX® Exhaust Manifold Repair Kit! We engineered this kit for fast and easy removal and replacement of broken exhaust manifold mounting studs in the in the GM 2.5L, 2.8L, 3.5L, 3.7L, and 4.2L inline engines. Used properly, this device can significantly reduce repair time. Before use, it is recommended that the cylinder head be free from debris prior to mounting the ProMAXX® ProPlate™. Once cleaned, mount the ProMAXX® ProPlate™ to the cylinder head in any one of the positions shown above using the included ProFast™ PPF008 precision stainless steel fasteners. Insert the proper ProBushing and corresponding ProDrill™ (see above) precision-machined tooling bit into an air-powered drill and use the drill depth gauge machined into the ProPlate™ to set the proper depth of the bit. Open the cap on the ProLube™ PPL001 machinist cutting oil and insert the small tooling bit in through the cap and retract. The bottle is design to deliver the precise amount of oil necessary for the operation. For larger tooling and subsequent machining, use just one drop placed on the end of the ProDrill™ and ProCutter™ when necessary. AVOID PENETRATING OIL/SPRAY OR OTHER LUBRICANTS. Insert the mounted ProDrill™ into the hardened steel drill bushing first by slowly and manually turning the chuck until the ProDrill slips into the bushing and contacts the surface of the damaged stud. This will ensure the cutting edge is maintained. While applying light pressure, activate your drill both on and off in approximately one second intervals for five to ten seconds. This initial process is critical in that it creates a "seat" for the bit to rest and ensures that the bit will stay on stud center and not follow the angular surface of the damaged stud. This reduces the probability of tooling bit breakage and drilling off center of the damaged stud. Retract the bit and clean the debris from the bit with a shop towel which will remove steel fragments that have been case hardened and extend the life and cutting action of the tooling bit. Once again, place one drop of ProLube™ PPL001 to the end of the bit and reinsert the bit into the ProPlate™ manually as described previously above. While continuously running your drill at the proper RPM, slowly apply more pressure for eight to ten second intervals and while the bit is turning, extract the bit while maintaining it in the bushing to allow the bit to "clean" cutting debris from this operation. Repeat this step for approximately every five to six seconds progressively exerting more pressure until the drill chuck is approximately ¼" from contacting the bushing mounted in the ProPlate™. Once the machining operation is complete, remove the ProPlate™ and replace the SSSC125 ProDrill™ with the optional ProCutter™ PPC007A. Add two drops of ProLube™ PPL001 to the end of the cutter blade and insert the projecting pin of the arbor into the hole created from the ProDrill™. Apply moderate pressure, toggling your drill on and off for five to ten seconds. This operation will remove the burr and corrosion that often restrict removal of the damaged stud thereby increasing your immediate success of extracting the damaged remnant. Utilize the optional splined ProTractor™ PPT125 by placing a mark approximately ¼" from the end of the extractor. Tap the ProTractor in to the depth of the 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 counter-clockwise direction to loosen the damaged stud. DO NOT EXCEED 80 IN-LBS OF TORQUE. Repeat this motion several times slowly increasing applied torque and being careful NOT TO EXCEED safe torque limitations stated above. If the damaged stud fails to release, **STOP** and remove the ProTractor™. In more challenging cases, ProMAXX® offers and recommends (highly recommended for GM engines, using the optional ProDrill SSC188 and corresponding ProBushing PP188II (see above) followed by the ProTractor PPT188. In extreme cases, utilize the optional ProMAXX® ProDrill™ SSSC266 and PPB266II ProBushing™ tooling to follow the SSSC188. This step will leave only the steel threated portion of the stud and is designed not to interfere with the factory tapped hole. Simply blow the debris clean and follow with the optional high-quality ProMAXX® ProChaser™ PPC009 or ProTap™ PPT008 (Recommended) to clean the remaining threads free of all debris. Use a drill depth stop collar for larger bits. In the unlikely event an extractor fails, contact technical support at 724-941-0941 for recommendations and procedures. NOTE: ProMAXX® *does not* recommend tapered left-handed screw extractors as they are very fragile and have the potential to deform the remnant in the cylinder head increasing complexity to make the repair. USE ONLY GENUINE PROMAXX® PARTS.

In extreme cases, applying heat via cutting torch tip installed in an acetylene and oxygen cutting torch in a circular pattern approximately ½" radius about the diameter of the tapped hole housing the broken stud may soften the locktite® used when the engine is assembled. Apply heat for a minimum of four (4) minutes and insert PPT188 ProTractor™ and repeat instructions above. Tooling cutting speeds (Under load): MIN: SSSC125/SSSC030 @300 RPM, SSSC188@200, SSSC266@150. MAX: SSSC125@900 RPM, SSSC188@300, SSSC266@250. OPTIMUM: SSSC125/SSSC030@500 RPM, SSSC188@250, SSSC266@200. NOTE: Some air ratchets may not generate sufficient RPM under load to be effective. SEE ProMAXX® ProRatchet™ #PPR5250 Use the included ProPin™ PPP380 where only one tapped hole is available. Mount ProPlate™ with one ProFast™ fastener in any open hole.

PROMAXX® TOOLING IS SPECIALLY ENGINEERED TO CLOSE TOLERANCES (+) .000" AND (-) .002" TO ENSURE ACCURATE AND REPEATABLE RESULTS USING YOUR OWN DEVICE. SPECIFY PROMAXX® GENUINE REPLACEMENT PARTS AND TOOLING FOR OPTIMUM PERFORMANCE AND EXTENDED WARRANTY COVERAGE.

SAFETY PROCEDURE: ALWAYS USE APPROPRIATE SAFETY EQUIPMENT INCLUDING OSHA APPROVED SAFETY GLASSES/GOGGLE AND PROTECTIVE GLOVES WHILE USING THIS DEVICE AND PERFORMING THIS OPERATION.