

Your Elijah Tooling, Inc. Invert-A-Bolt™ (IVB) fastener has been manufactured to provide low cost, high value performance combined with ease of use. The IVB fastener is a patented product, ideal for connecting two materials or objects together especially when an unobtrusive connection is desired. The IVB fastener features finishes that improve appearance and reduce rust as well as providing closely held tolerances on threads and internal dimensions to insure that it meets your exacting expectations.

**OPERATING INSTRUCTIONS**

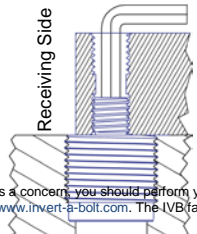
Usage of your IVB fastener requires simple preparation of the "holding" side for the housing threads and preparation of the "receiving" side for the stud threads.  
 For Flush Mount:

**1 Prepare the "holding" side in the following manner:**

<p>Drill a 12 mm diameter (thru) hole                  C'Bore 18.5 mm x .37 mm R (max)                  to a depth of 29 mm</p>	<p>Tap (or Thread)                  M20X1.5 6H                  to a depth of 24 mm</p>
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**2 Prepare the "receiving" side for the stud threads:**  
 Tap Drill 8.5mm diameter thru. C'sink 15mm dia. x 45 degrees. Tap M10x1.5 6H 12mm deep.

For better resistance against vibration, use a Spirallock® tap. Once the "holding" side and the "receiving" side have been prepped, simply screw your IVB fastener into the M20x1.5 threaded hole with P/N IVB-METRIC-INSTALL insertion tool. Place the "receiving" side M10x1.5 tapped hole directly above the IVB fastener. Reach through the M10x1.5 hole with your hex head wrench until contacting the hex head broach in the IVB stud. Start turning counterclockwise lifting your hex head wrench at the same time. The stud will proceed into the M10x1.5 tapped hole.



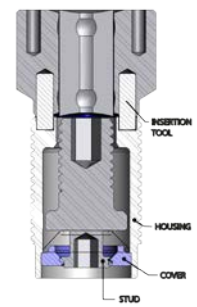
**Proviso:** The IVB fastener is not certified to any specification. If loading is a concern, you should perform your own load analysis prior to usage in an application. Shear and Tensile Load information for some Invert-A-Bolt™ products is available on our website at [www.invert-a-bolt.com](http://www.invert-a-bolt.com). The IVB fastener should be used in only two positions – fully engaged and fully dis-engaged.

Tighten until the stud is fully engaged (approximately 12mm into the "receiving" side). Use a feeler gauge to insure that the "receiving" side material is pulled down properly.

**REPLACEMENT PARTS & MAINTENANCE**

Periodically remove IVB fastener for cleaning. The fastener can be disassembled by removing the cover in the base of the product, which then can be blown out to clean out accumulated metal chips and debris. Also, for faster cleaning, simply hose water through the top of the fastener, allowing the debris to pass through the slots in the base of the product. Inspect for worn parts and purchase refurbishment parts as applicable. Reassemble & Reinstall. If necessary, refurbishment parts to replace any or all of the internal components of the IVB fastener are available for sale. Refer to part number IVB-M10x1.5-021RFB for entire kit. Inquire or check [www.invert-a-bolt.com](http://www.invert-a-bolt.com) regarding part numbers for the individual components.

*Cross section of IVB fastener with insertion tool*



**LIMITED WARRANTY**

We warrant that within 90 days from the date of shipment, if the product manufactured by us and sold by us (or an authorized distributor) is in the possession of the original buyer, we will replace or repair, at our option, free of charge, any part or parts which upon examination are found to be defective in workmanship or material, and not due to normal wear, provided that, upon our request, the product or parts thereof are returned to our location, with accompanying documentation that the product has been installed, used and maintained in accordance with instructions and has not been subject to abuse. We shall not be liable or responsible for any expense or liability for repairs, additions, or modifications made upon the product without our written consent.

This warranty is in lieu of all other express or implied warranties (including without limitation any warranty of merchantability or fitness for a particular purpose.) In no event shall we be liable for any indirect, special, or consequential damages (including, but not limited to, lost profits or other damages from loss of production) caused by defective material, or by unsatisfactory performance of the product, or by any other breach of contract by us.

The Elijah Tooling, Inc. Warranty shall apply in all cases to all products manufactured by us and sold by us. Elijah Tooling, Inc. reserves the right to modify or change the design of products shown in this specification/instruction sheet, without notice. Such modifications or changes may include, but are not limited to, changes in finish, materials, specifications, etc., from descriptions and illustrations of products listed herein.

