

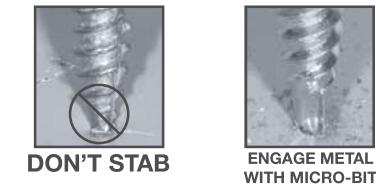



Micro-Bit Metal to Wood Fastener Guide

PROPER TECHNIQUE IS KEY

Whether using a pierce-point or self-drilling fastener, proper techniques must be followed for efficient installation and optimum fastener function. Punching or stabbing fasteners though the metal panel is not proper technique! Nails are meant to be driven. Fasteners are designed to be set without impact.




Deviation from proper technique will adversely affect the fastener's corrosion resistance, its ability to seal, and structural engineering values such as shear strength, pull-out and pull-over. Improper installation technique negates any applicable warranties.

<h3>STEP 1</h3>	<p>USE CORRECT TOOLS</p>  <p>SOCKET BATTERY OR ELECTRIC</p>	<ul style="list-style-type: none"> The proper tool for installing self-piercing or self-drilling metal-to-wood fasteners is a corded electric screw gun or cordless battery drill, each 0-2000 RPM. They should be fitted with a depth sensing nose cone or a torque release clutch. A hex magnetic socket driver should be used that is clean of all metal shavings. A spring retainer socket may be used for non-magnetic fasteners. The use of an impact drill driver is strongly discouraged. The use of these drivers will damage the protective barrier coat paint system. They will invalidate published structural values due to the excessive torque applied. They can adversely affect the sealing performance of the washer & damage the metal panel.
<h3>STEP 2</h3>	<p>SET PLACE DRILL</p> 	<ul style="list-style-type: none"> Proper installation technique is important to maximize the micro-bit performance. Place the point of the fastener on the work surface & pull the trigger on the drill or screw gun. By slowly increasing the RPM, the drill point will begin the cutting process. This will eliminate any potential for screws "walking" on a panel & provide 100% installation success.
<h3>STEP 3</h3>	<p>LET THE DRILL DO THE WORK</p>  <p>DON'T STAB ENGAGE METAL WITH MICRO-BIT</p>	<p>APPLY EVEN PRESSURE</p> <ul style="list-style-type: none"> At no time, should an installer try to use the fastener as a "punch" to start the drilling process. This will cause the fastener to "walk" on the metal, possibly scratching the metal panel, or flipping out of the drill driver completely. The trigger should not be taped in the "on" position, as this may cause the fastener to rotate before it has been placed on the work surface. Let the drill point do the work. It will consistently cut the metal, ejecting small shavings, not long metal "pigtaills" as with sharp point screws.
<h3>STEP 4</h3>	<p>SEAT WASHER PROPERLY</p>  <p>CORRECT OVERDRIVEN UNDERDRIVEN</p>	<p>VISUAL INSPECTION</p> <ul style="list-style-type: none"> To prevent damage to the wood substrate, causing potential strip out of the fastener, the washer should be compressed, but not overdriven. It should be rounded evenly under the flange of the HWH. Driving the fastener perpendicular to the work service will allow this to happen. If the washer is overly flat, misshapen, or cut indicates the fastener has been over driven. If there is a gap between the washer & the flange of the HWH, this indicates an under driving condition.

EVOLUTION OF FASTENERS FOR WOOD FRAME CONSTRUCTION

In the early 1900's, "pole barns" became popular in the United States. The name arose from the use of telephone poles as the primary structural member. They were less expensive than conventional construction methods at the time, & they

could be erected quickly. Corrugated steel, developed in the 1800's, quickly became the cladding of choice for pole barns.

		
<p>NAILS</p> <p>Initially, the panels were attached to the wood substructure with nails. These nails were fitted with a lead washer. The nails were driven into the apex of the high rib of the corrugation because the lead washer did not provide good sealing qualities. The nails, being hammered into the panels were unsightly and difficult to install. Nails were eventually replaced by self-piercing fasteners.</p> <p>THE MB MICRO-BIT POINT MAY GENERATE SMALL METAL SHAVINGS UPON INSTALLATION. IT IS RECOMMENDED TO CLEAN/ SWEEP THE METAL PANELS AFTER INSTALLATION TO PREVENT PREMATURE RUST SPECKS.</p>	<p>SELF PIERCING FASTENERS</p> <ul style="list-style-type: none"> Self-piercing fasteners are designed with a sharp point. The screw rotation helps the sharp point pierce the metal, allowing the threads to engage the metal panel & the wood. A rubber & metal washer combination will create a tight seal around the hole created. This allows the fastener to be installed in the flat of the metal panel instead of the high rib, creating a stronger connection. Fasteners do not require an impact to the head to be installed, unlike nails. This protects the paint finishes & corrosion resistant coatings on the metal panels & fasteners. Fasteners are installed with an electric screw gun or battery drill. They can be painted to match any panel color creating a more aesthetic appearance. These panels have evolved with high quality paint systems & finishes, & are no longer only used on pole barns. The primary complaint about self-piercing fasteners is the inconsistency of the drilling process. The points may not penetrate the steel panel quickly. This leads to a slow drill or no drill situation. The introduction of the WOODBINDER® Micro-Bit point resolves this issue. 	<p>SELF-DRILLING FASTENERS (NEW TECHNOLOGY)</p> <ul style="list-style-type: none"> The Kwikseal® MB™ Woodbinder® combines metal to metal fastener point technology with ST Fastening Systems' unique deep crested thread design for maximum holding strength in all wood substrates. The Micro-Bit point acts as a drill bit, consistently drilling single or multiple thicknesses of high strength steel panels. It requires less end pressure to penetrate the metal & engage the wood. The Micro-Bit will eliminate the metal "pigtaills" commonly formed by self-piercing screws, which can embed themselves in the rubber washer, tearing the rubber. These can cause premature corrosion or a roof leak. The Micro-Bit creates small metal shavings that are ejected away from the fastener hole, which can easily be swept off the roof each day.