



OPERATION AND INSTRUCTION MANUAL ON/OFF MAGNETIC 90 DEGREE WELDING ANGLE

MAG-MATE®

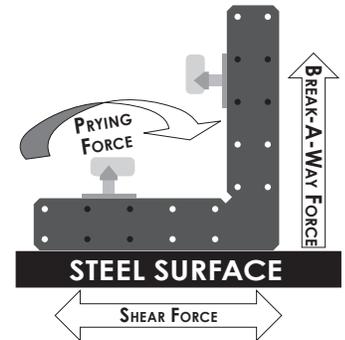
TOLL FREE: 888.582.0822

TO USE THE 90 DEGREE ANGLE

- Always **test the connection** before attempting to use the Magnetic Welding Angle to ensure that it is capable of holding the material securely.
- **Numerous factors can negatively affect the strength** of the magnetic bond. Dirt, debris, oils and grease, painted surfaces and any gap between the Magnets and the metal surface will decrease the bond. **Ensure that the metal is clean** and free of these factors.
- **Thicker metals will be held more strongly than thinner metals.** E.g.: 1/4" steel will be held more strongly than thin gauge metals.
- **Never exceed the rated capacity** of the device or attempt to alter the device in any way. Each of the WSF0150R Magnetic Bases have up to 150 lbs of Break-Away Force. Each of the WSF0450R Magnetic Bases have up to 450 lbs of Break-Away Force, under ideal conditions. Tested in accordance with International Magnetics Association testing methods and represents a straight Break-Away pull. Actual in-use results will vary greatly and **user must test every bond to determine the suitability of the magnet** to hold the material.
- Holes are provided in these Magnets, for best results **DO NOT attach Ferromagnetic metals** to the Magnetic Base device
- **We recommend that Stainless Steel screws be used to attach non-Ferromagnetic materials** to the sides when used as a holder for your Jig or Fixture. **Wood, Plastics and Aluminum** are all non-Ferromagnetic materials that make for excellent attachments. Steel may be attached if a non-Ferromagnetic spacer is inserted between the Ferromagnetic material and the magnet.
- When mounting this 90 Degree Angle to a fixture or steel table, **use of non-Ferromagnetic spacers between the Ferromagnetic metal and the 90 Degree Angle** will allow the magnet to retain its full power for material holding.
- **Avoid sudden jerking or Shock force** as this will cause the Magnets to lose its hold.
- **This 90 Degree Angle is not designed to be used as a welding ground clamp** or as part of an electrical circuit.
- For safe operation, **the bottom surface of the Magnet must always be Flat and Smooth.** If necessary, it is possible to sand the Magnet face smooth using 400 grit sandpaper and a flat surface. **Always file any burrs** that would interfere with full contact.

90 DEGREE ANGLE OPERATION

- This Magnetic 90 Degree Welding Angle is capable of **exceptional Break-Away force** holding power; the Magnets are exceptionally strong in **Shear Force** as well. **Prying force is the least powerful** of the holding capabilities and great care must be used when attempting to use this device with Pry force. **See Illustration.**



90 DEGREE ANGLE USAGE

» This 90 Degree Angle is capable of holding up to 4 Mag90 in a precise 90 degree orientation. It is perfectly suited to work-holding applications when you are holding any Ferromagnetic substance such as steel plate, angle iron, pipe, and rod and bar stock.

» As with all precision devices, damage can occur from dropping, bumping and impact. Industrial Magnetics, Inc. recommends periodic inspection by the user to ensure that the 90 degree angle is still accurate and fits their needs.

» While these Angles are sold with Two Mag90 up to two additional Mag90 of the same size can be added to provide greater hold and greater stability.

» All Magnets can be turned to provide for Inside or Outside 90 degree angles. Attach the magnets using the upper holes in the magnet only.

» To adjust the magnets. Always place the 90 degree Angle on a flat Ferromagnetic surface, turn the magnets "ON" to secure them to the surface. Push down on the side plates until they are flat on the surface and hold while tightening the screws. Check that the magnet bottoms are flush to the side plates for proper performance.

» It is important to ensure that all four Magnets are oriented the same way. **All "ON" indicators face the same way** or the magnetic fields can interact resulting in dramatically reduced holding power.

» To use the 90 Degree Angle, simply position the material, and then turn the handle clockwise 180 degrees until it locks in place to the "ON" position. As you turn the handle, the magnetic grip increases allowing for accurate positioning until fully held in place.

» When welding pipe, where the cuts are not at exactly 90 degrees, it is possible to loosen the screws in the holes. Lightly tighten the screws, adjust the metal until the joint fits, and turn the magnets "ON". Tighten the screws and continue. Repetitive assemblies will require no further adjustment.

» **Never** turn the magnets "ON" when not in contact with metal. Sudden impact to the metal can occur causing personal injury or damage to the surfaces.

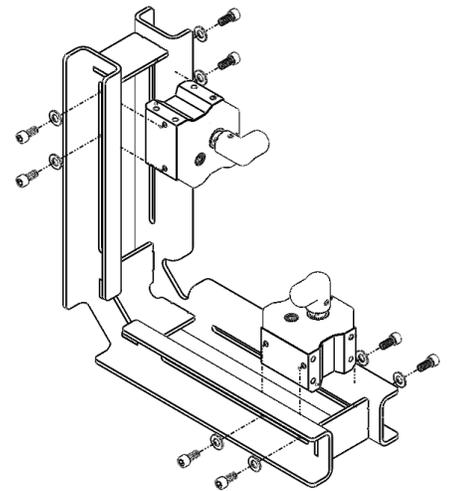
» Always test the hold of the Magnets to ensure that it is sufficient to secure the material in place without slipping or falling.

» When finished, push down and turn the Magnets handle counter clockwise 180 degrees to the "OFF" position, taking care that nothing will fall or become a hazard as the magnets will release their hold immediately.

» When used for material holding for metals that are to be welded, be careful not to overheat the magnets. Temperatures above 180 degrees Fahrenheit internal will permanently degrade the magnetic power and holding strength. Industrial Magnetics, Inc. recommends a tack weld only to keep the heat transfer to a minimum. Industrial Magnetics, Inc. also recommends a minimum of 3 inches from the magnet to the weld point, and that the magnet be removed immediately after the tack weld to reduce heat transfer.

» The magnets can also be reversed for inside or outside holding. Always use the stainless steel screws included when adding additional magnets.

» WSF0150R Squares require fasteners. Holes are approximately 1/4" (6 mm) deep. WSF0450R Squares require fasteners. Holes are approximately 3/8" (9 mm) deep. Additional screws and washers are included for mounting additional Mag90.



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