INDUSTRIAL MAGNETICS
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Magnetic Rail Installation Procedure

CAUTION!

The magnetic force of these rails is very strong and rails can "slam" together, causing serious injury. Handle Magnetic Rails Carefully. Magnetic Rails should be kept separated by non-ferrous spacers until needed for installation. The magnet material is brittle and can be damaged if the rail is dropped or something heavy or sharp falls on the rail. Damaged magnet material will greatly reduce the magnetic strength of the rail.

INSTALLATION

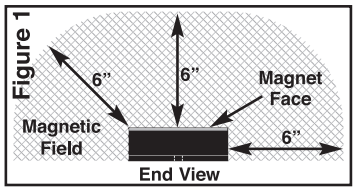
1. Eliminate any mild steel within the magnetic field near the magnet face or sides of the rail section. Any mild steel within the magnetic field of the magnets working face may cause a weak area in the magnet. ***Figure 1***

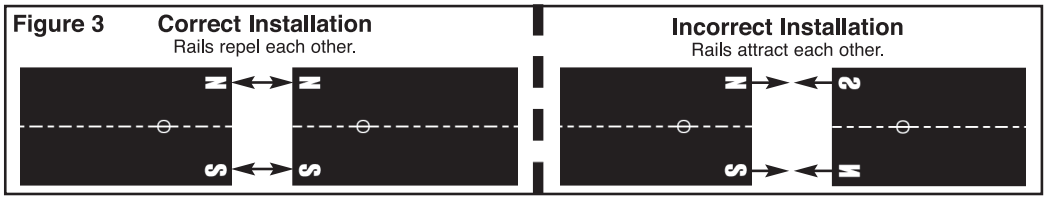
2. Mount the rails using only the holes provided by IMI, if specified. Use screws that will not exceed depth specified. Tapped holes are located in safe areas of the magnet during construction. Tapping holes into other areas of the rail may damage magnet material and destroy the rail circuit. Some standard rail configurations have spacing down the center of the rail so that mounting holes can be added through the back plate of the magnet. **When tapped holes are not provided, contact IMI before drilling any mounting holes.** ***Figure 2***

3. The magnet's flow is marked on the back plate of the rail. Rails used individually can be installed without regard to flow. All rails used in multiple rail systems must be installed with the correct flow alignment. Conveyor rails are magnetized all north on the right side and all south on the left side of the conveyor looking in the direction of the flow. Rails must be joined with a north pole joining a north pole and a south pole joining a south pole. This causes the rails to repel each other. If the ends of two rails attract each other, one of the rails is installed incorrectly. ***Figure 3***

4. Rails installed in a system must be assembled with minimal gap at each joint. A large space between the rails will cause erratic movement of some parts being transferred on the conveyor. ***Figure 4***

5. **Do Not** weld on the magnet. Heat from welding can destroy magnetic material (temperatures over 300ºF). Use mounting holes to attach brackets for installation modifications.





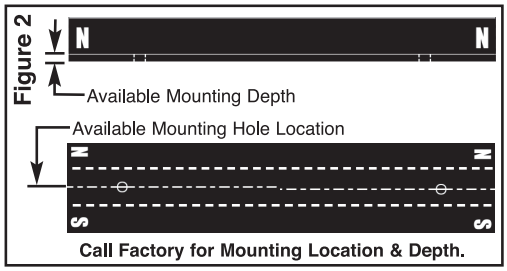
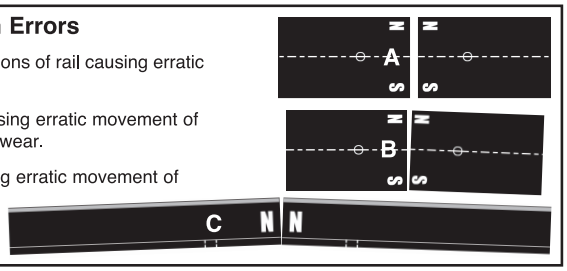


Figure 4: Typical Installation Errors

A. A large gap is left between two sections of rail causing erratic movement of conveyed parts

B. The rail is not aligned properly, causing erratic movement of conveyed parts and premature belt wear.

C. The rail pieces are not level, causing erratic movement of conveyed parts and premature belt wear.



TROUBLESHOOTING

1. If a conveying problem develops, carefully inspect the rails to make sure there is no damage or wear to the slider face of the rail.
2. If products are not being transferred properly, check to see if the problem is isolated to one rail or if the problem is on the whole line. If only one section of rail is bad, the rail may need to be replaced or re-magnetized.
3. If the conveyed product jumps or hesitates at the joints, the rails probably are not making contact. Check all joints. Also verify that the polarity of the rail sections lines up properly (north to north and south to south). Figure 3
4. Products hesitating or jumping in mid rail may indicate a dead spot or damage to a particular area of the magnet. A dead spot may be able to be re-magnetized. Adamaged area will need to be rebuilt.
5. If flow tags are not visible to verify polarity continuity along the entire length of the conveyor, a small hand held magnet can be used to check it. Place one pole of the small magnet near one side of the rail. The magnet will be attracted or repelled. Whichever way the magnet reacts, the magnet must react the same way on that side, the entire length of the conveyor.