Western Instruments

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Magnetic Pit Gauges

Western offers 3 models of our standard Dial Pit Depth Gauges as magnetic models, namely the Basic Plus, Reaching, and Reaching Plus pictured below. These magnetic models utilize our unique Magnetic Cartridges that are adjusted with a standard 5/16" Allan Key. The cartridges can be easily adjusted, disengage (retracted), or removed from the blades with this Allan Key. The cartridges can be easily adjusted, disengage (retracted), or removed from the blades with this Allan Key. To get the maximum attractive benefit from the magnets, they must be in close proximity to the ferromagnetic surface.

The most basic application of a Magnetic Pit Gauge is on a flat surface, where the proximity of the magnets to the surface is least important. On a flat, the attractive area of the magnets is at its greatest. The proximity of the magnets is not that important until gravity starts to take its effect. When the Magnetic Pit Gauge is inverted, the magnets should be adjusted to within 0.05mm or 0.010" closer from the surface. A quick reference for checking the proximity of the magnets to the surface is to gently rock the Pit Gauge from Side to side. When rocking, there will be a resistance when the edge of the magnet contacts the surface, if there is no resistance, the clearance for the magnets should be reduced.

When being used on a convex surface (as illustrated on the left) the magnets should be positioned closer than on a flat surface as the area of the magnet, in close proximity to the surface, is reduced. A small diameter tube or a corner with a radius would be such a case. If the magnet is not in intimate proximity, with the convex surface it may not hold in a vertical position, and then certainly not in an inverted position.

When the Magnetic Pit Gauges is used on a concave surface (above right), the inspector must adjust the magnets so the outer edge of the magnet is as close as possible to the concave surface. Here the rocking method, for checking the magnets proximity to the surface, can be utilized. If the rocking of the Magnetic Pit Gauge is excessive, the magnets can be lowered, however if the Pit Gauge does not rock, the magnets must be backed off.

Note: This article does not discuss our 6 versions of Bridging Pit Gauges, where magnetic features are also offered.