

How Do Under Road Boring Machines Work?

1. Boring

The process of boring is one that's only become possible with modern technology. Traditionally tunnels were dug by hand, or in the cases of larger scale they were blasted with dynamite. This would of course destroy anything that had already been built. Modern boring machines operate like drills, boring a hole through soil and rock. The scale of boring can be large enough for a man sized tunnel, or it can be small enough to run cables beneath a highway. The process though doesn't change except that it will be on a larger or a smaller scale.

2. Parts of the Machine

A boring machine is a very straightforward piece of equipment. The front part of this mechanical earthworm is made up of a cutting head. This cutting head looks almost like a fan, with several blades that rotate at an angle like a drill. Around the blades and the area behind the blades are cylindrical metal shields. These shields will stop drilled material from flying wildly, and it will brace the boring machine against the walls of the tunnel that it's creating. Other systems, such as dirt removal and control, are even further behind the drilling head.

3. Drilling and Boring

Once the path of the tunnel has been marked out (such as on a road that it will be boring under), the machine is started up. The cutting head pushes forward, and bores away at the earth that's in the way. The chunks of bored earth are then pulled back behind the blades and within the shields. If it's only dirt, then there's usually a system which will soak the bored earth with water to turn it into thick, muddy slurry. The boring machine continues until it reaches the other side of the pre-determined path, leaving behind it a tunnel through which conduit or other objects could be run, depending on the size of the earth borer used