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EdgeHugger® anatomy

EdgeHugger clamps are simple, subminiature hold-down clamps designed specifically for CNC workholding. The clamp screw doubles as the clamp frame, making the clamp assembly amazingly compact.



EdgeHugger clamps used with aluminum T-track

The clamp-head body is injection-molded from one of the strongest and stiffest engineering-grade thermoplastic materials available, and is heavily reinforced with glass fiber. In the event of accidental contact, the reinforced plastic will not damage a carbide router bit.

To help prevent the clamp heads from slipping on the workpiece while tightening the clamp screws, a sandpaper texture is molded directly into the clamp pads. These

textured surfaces grip wooden workpieces securely, but won't mar them at normal clamping forces.

A hardened, load-bearing stainless-steel liner clip keeps the clamp head perpendicular to the clamp screw. It fully protects the clamp head from the clamp-screw threads, even at extreme clamping forces.

Hardware requirements

EdgeHugger clamp heads must be positioned directly against the side of the workpiece, which in general requires T-slots in the spoilboard or machine bed. Compatible T-slot types include extruded-aluminum T-track, extruded-aluminum CNC-bed T-slots, and Hornbeam™ T-slots milled directly into the spoilboard.

EdgeHugger clamp screws are standard M6-1 flat-head machine screws. For maximum convenience, ToolQuest offers complete EdgeHugger workholding kits that include sets of clamp screws in 5 mm length increments, covering all workpiece thicknesses from 6 to 42 mm (1/4" to 1-5/8").

For full EdgeHugger compatibility, T-nuts must have M6-1 thread with at least 3 full threads, and the top thread must be a minimum of 8 mm (5/16") above the bottom of the T-slot.

To ensure compatibility with the T-slots on your CNC machine, ToolQuest recommends the following T-nuts:

T-Nut	Compatible T-slots
ToolQuest Track Boss™ T-nuts	☒ Extruded-aluminum T-track ☒ Onefinity QCW frames
ToolQuest Shark Boss™ T-nuts	☒ Next Wave CNC Shark extruded-aluminum beds
Carbide 3D Teez Nutz	☒ Carbide 3D hybrid tables
ToolQuest Hornbeam™ M6-1 T-nuts (coming soon)	☒ Hornbeam T-slots
McMaster 90510A212	☒ certain Laguna IQ T-slots

EdgeHugger® clamp operation

EdgeHugger clamps are surprisingly easy to use – simply follow the steps below.

1. To quickly and easily find the perfect clamp-screw length, use digital calipers to measure from the top of the workpiece to the bottom of the T-slot. Then round that measurement up to the nearest 5 mm screw-length interval.
2. Insert the selected clamp screw through the clamp head, and thread a T-nut onto the screw by about two turns.
3. Insert the T-nut into the desired T-slot. It's generally easiest to insert the rear-side clamps from the front of the spoilboard.
4. Place the workpiece in position on the spoilboard.
5. Place the first clamp head on the workpiece edge with one hand, using a finger lobe to prevent it from rotating. With your other hand, use a hex screwdriver to snug the clamp screw until the textured clamp pads grip the workpiece. Then repeat the process for the other clamps.
6. Now securely tighten each clamp screw, in turn.

Recommended tools

For the very best ergonomics, we recommend using a 4 mm ball-end hex screwdriver to tighten the clamp screws. A 5/32" hex screwdriver is almost exactly the same size, however, and is an acceptable substitute for use with EdgeHugger clamps.

Specifications

Clamp head dimensions

- Width: 25.4 mm (1")
- Jaw height: 6 mm (0.236")
- Jaw projection onto workpiece: 6.35 mm (0.25")

Minimum clamping thickness: 6 mm (0.236")

- For thinner workpieces, place a small scrap of material between the clamp jaws and the workpiece.

Rated clamping force: 110 kg (250 lb.) per clamp, or approximately 1.2 Nm (11 in-lb.) of screwdriver torque.

Failure force (ultimate load): approximately 450 kg (1,000 lb.) per clamp.

Care and maintenance

All metal parts of EdgeHugger clamps are maintenance-free stainless steel.

Avoid scrubbing the clamp pads on the workpiece. Just like real sandpaper, the molded-in sandpaper texture can load up or become dulled.

- Press the clamp heads firmly against the edge of the workpiece while snugging the clamp screws.
- Never intentionally force a clamped workpiece to break free.
- If the molded-in clamp-pad sandpaper texture becomes loaded with wood fibers and/or resins, it can be cleaned with your favorite blade-and-bit cleaner and a toothbrush.
- If the sandpaper texture becomes damaged, you can purchase replacement heads, or you can CA-glue a small piece of 150 or 180 grit wet-or-dry sandpaper directly to the clamp pads.

Use only M6 flat-head screws for clamp screws. Any other type of screw will compromise clamping performance, and may damage the clamp head.

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