

Metalworking Heavy Vices

DT Workshop Equipment Reference — D&T / STEM resource for school workshops | Metalworking Machines



Photo: Pittigrilli — CC0 — via Wikimedia Commons
(Medium-sized_bench_vise_(engineer's_vise,_metalworking_vise)_on_display_in_hardware_store,_without_lever.jpg)

A heavy metalworking vice is a cast-iron or steel vice mounted on a workbench with a screw-driven jaw and a swivel base, built to hold metal stock firmly for filing, sawing, drilling and chisel work. Its weight and rigid jaws absorb heavy blows that would wreck a woodworking vice.

Key Features

- Jaw widths 75-150 mm typical
- Swivel bases for angle positioning
- Acme-thread screws with quick release
- Hardened or replaceable jaw plates
- Anvil surfaces on some models

Typical Uses in the Workshop

- Hold metal stock for filing and hacksawing
- Clamp work for drilling, tapping and chiselling
- Support pieces for marking out
- Absorb heavy hammer and chisel blows

Safe Operation

1. Mount the vice firmly through the bench
2. Clean the swarf from the jaws before closing
3. Tighten the work upright and level
4. Close the jaws evenly - do not overtighten
5. Release immediately after use

SAFETY NOTES

- Do not use the vice as an anvil for heavy sledge blows
- Do not overhang the bench edge
- Keep fingers out of the jaw path
- Check the jaw faces are not hardened chips
- Secure the bench before heavy work

Maintenance & Consumables

- Oil the screw and slide periodically
- Clean the swarf from the slide surfaces
- Check the swivel and lock handle work
- Replace worn jaw plates
- Tighten the mounting bolts

Specification & Buying Notes

A 100 mm jaw cast-iron vice with a swivel base suits school metalwork. Quality castings absorb vibration; cheap vices flex and rock. Mount through-bolted to a heavy bench.