# TECHNOLOGYSTUDENT.COM MOBILE REVISION

#### **HAND-HELD GRIPPING TOOLS**

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# 1. THE HAND VICE 2. ADJUSTABLE SPANNER /

HAND-HELD GRIPPING TOOLS

WRENCH

3. OPEN ENDED SPANNER /

WRENCH
4. COMBINATION PLIERS

5. CARPENTER'S PINCERS

6. QUICK ADJUST SLIP JOINT
PLIERS

7. MOLE GRIPS - LOCKING PLIERS

#### 8. STILLSON WRENCH / PIPE WRENCH

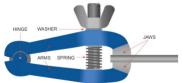
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## THE HAND VICE V.Rvan © www.technologystudent.com 2024

A hand vice is extremely useful, when holding

sheet metal and thin metal sections. This is especially the case when drilling. A machine vice, is not always the best way of holding materials. Sheet metal / thin sections can 'spin' out of machine vice when being drilled, because there is not enough surface area to hold it securely between the jaws. However, a hand vice is designed for holding thinner materials, with the jaws clamping the top and bottom surfaces (not the edges).

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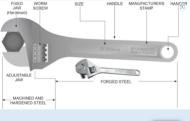


#### ADJUSTABLE SPANNER / WRENCH V.Rvan © www.technologystudent.com 2024

Adjustable spanners are used to loosen and

tighten nuts and bolts of various sizes. An adjustable spanner can be adjusted to fit a variety of sizes, by simply rotating the worm screw. They are ideal for general use, because there is no need to have / carry around a full set of spanners.

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#### OPEN ENDED SPANNER / WRENCH V.Rvan © www.technologystudent.com 2024

An open ended spanner, sometimes called a

wrench, has a head with an 'open profile', normally at each end. Each of the profiles are different sizes and have flat, parallel sides.

The head is normally angled at 15 degrees, which makes the rotation of the spanner easier. The spanner shown here is a double open ended spanner. Single open ended spanners are also available

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HEAD SHAFT



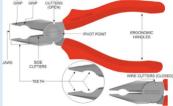
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# V.Rvan © www.technologystudent.com 2024

Typical use of a combination pliers' is to grip materials or hold components. Some are ideal for electrical work because they often have insulated handles. They are used to cut wires and cables to length. Swapping between cutting and gripping is quick due to the design and versatility of the pliers. This type of pliers can be used to 'compress' materials such as tube.

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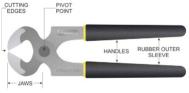


# CARPENTER'S PINCERS V.Rvan © www.technologystudent.com 2024

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Carpenter's pincers are related to pliers and are designed specifically for the removal of panel pins, tacks and nails from wood. They are occasionally referred to as nail pullers. Pincers are manufactured from forged carbon steel, which is hardened and tempered at the jaws. The jaws are machined, so that they come together accurately during use.

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# QUICK ADJUST SLIP JOINT PLIERS - WATER PUMP PLIERS

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Water pump pliers are manufactured from alloy steel, usually hardened carbon steel, for strength and wear resistance. Most pliers have an anti-rust, black oxide finish to the surface, which is produced through a chemical process, providing excellent corrosion resistance. The finish is visually appealing and resists everyday wear and tear.

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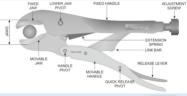




# MOLE GRIPS - LOCKING PLIERS V.Rvan © www.technologystudent.com 2024

Mole grips / locking pliers, are very useful hand tools, used by a range of skilled artisans, from engineers and metalworkers, to plumbers and builders. The adjustment screw is used to set the distance between the jaws and the lever action of the movable handle, locks the plier's jaws in place. After use, the quick release lever, 'releases' the lock of the pliers. They are extremely useful for griping materials and components.

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# STILLSON WRENCH / PIPE WRENCH V.Rvan © www.technologystudent.com 2024

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The Stillson wrench / pipe wrench, is used to grip and turn pipe / tube and cylindrical forms. The wrench is named after the original designer, Daniel Stillson (patented 1869). The serrated teeth are ideal for gripping the smooth surface of pipe. The slight movement / play in the jaws, help them grip effectively. Stillson wrenches are supplied in a range of sizes (determined by the maximum width of the material being gripped and overall length from jaws to the end of the handle), normally 150mm to 1200mm.

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