

PRODUCT

Invented Hand Tool for DIY market having professional quality. Fits upon any nut or bolt SAE, Metric or Imperial. Useful as DIY tool and is also perfect for Engineering, Automobile, Garden equipment, Boating & Specialty jobs.

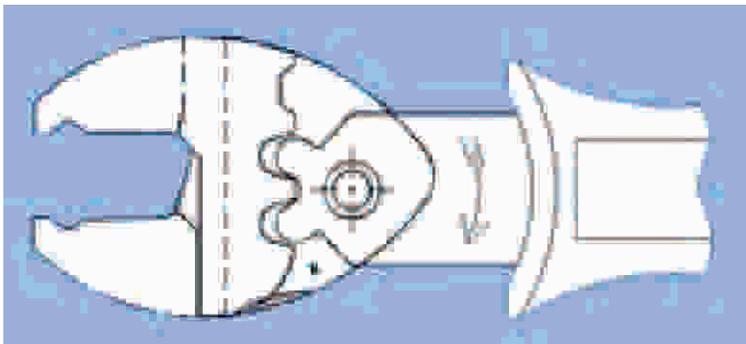
INTRODUCTION

This wrench eliminates the guess work of selecting right size of conventional wrench from 21 open double ended-DE wrenches, to operate a Nut / Bolt. This wrench **automatically sizes** 42 types of nuts & bolts like 14 popular size in SAE American type, 12 popular sizes in Inch type of 16 popular sizes in Metric type.

THE DESIGN APPROACH

RACK & PINION

This Wrench is Invented on the principle of Rack & Pinion design as shown below.



SLIP-FREE GRIP

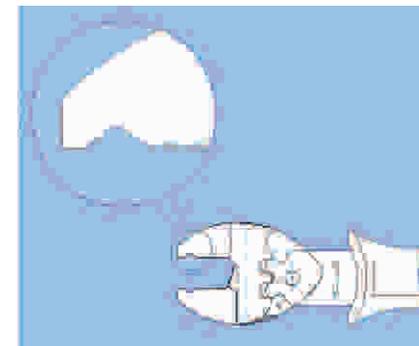
Due to this Rack & Pinion design, the harder one turns the handle, the tighter it grips between the Jaws. Thus the wrench becomes slip-free as more the force applied on the handle, there will be more grip across flat of a nut / bolt.

OPERATES COUNTLESS NUTS

The design is such that there is a step-less movement between Rack & Pinion and the wrench can clamp any standard or non-standard size of nut / bolt falling between 1/4" till 7/8" and AF 6 mm till 22 mm and 5/32" till 1/2" BSW nuts / bolts. Eventually, this wrench can operate 42 std. Sizes falling under SAE, Metric & Imperial and countless non-std. sizes or stripped & worn-out nuts / bolts.

ANGULAR TEETH

The teeth of both the jaws are designed angular and opposite in direction for a firm & slip-less grip.



HARDENED TEETH

The teeth are locally hardened minimum (48 \pm 2 HRC) upto 1 mm depth and the core of both the jaws is deliberately kept soft (25 \pm 2 HRC) to remove brittleness of the tool.

TORQUE

The entire tool can withstand amazingly Torque force of 100 lbFt. / 135 Nm.

STRONGEST PIN / RIVET

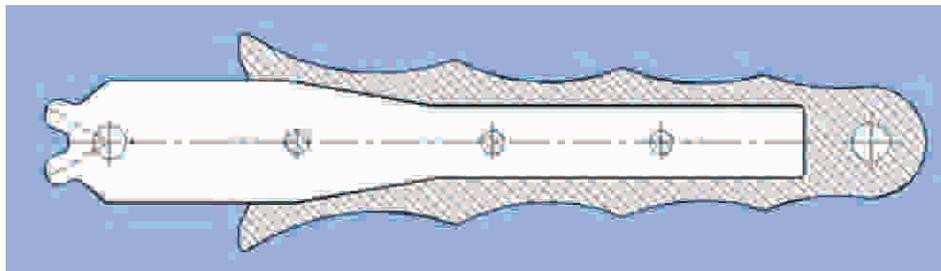
The Pin is formed from a solid stainless steel bar by orbital riveting process, which is the strongest part of the wrench.

RATCHET ACTION

One need not take out & refit the wrench while operating a nut / bolt. A high tensile spring is fitted in the wrench, which provides such ratchet action. However, always the tightening torque is transmitted through Rack & Pinion only.

INSULATION

The handle is shock proof up to 1000 volts and is made from Nylon-6 grip reinforced upon a full length steel flat bar. While moulding, the nylon passes through the holes of steel flat bar and becomes a slip-less grip which does not come out like a sleeve.



MATERIAL & PARTS

JAWS

Both the jaws are made out of high alloy steel (SAE 8620). They are machined, heat treated by Case carburising and Induction hardening. The surface upon the teeth is hardened up to min. 48 \pm 2 HRC by Induction hardening to sustain wear & tear and the core is hardened upto 25 \pm 2 HRC and is kept ductile.

HANDLE

The handle is made out of high alloy steel (EN 24), perfectly machined for the gear teeth and then moulded by Nylon-6 grade of polymer which cannot be broken by hammer or cut by knives or sharp tools. While moulding, the nylon passes through the holes of steel flat bar and becomes a slip-less grip which does not come out like a sleeve. This nylon grip also provides insulation up to 1000 volts.

RIVET / PIN

The Pin is formed from a solid stainless steel bar by orbital riveting process which is the strongest part of the wrench.

SPRING

Spring is fitted between the jaws & the handle. It is specially designed for this tool to provide initial grip across nut / bolt and the ratchet mechanism. It is made out of EN 47 and perfectly hardened.

PACKAGING

This wrench is packed in an Award Winning interactive packaging wherein one can operate the wrench and feel the ratchet mechanism. This packaging is un-breakable and was awarded First Place out of 250,000 tools exhibited at the Hardware Show at Chicago, USA. Fifty numbers of such interactive packaging fit in a carton.

How does it operate ?

Just push open jaws with the help of your thumb or index finger and place the wrench on a nut/ bolt for **automatic sizing** & initial grip.

Rotate the handle in a circulation motion with reference to the center of the Nut/ Bolts. Here, **circular rotation is very essential**. The force should not be applied on the handle in a straight direction otherwise, you may feel that the jaws open up !!

If the wrench is operated on clock wise then it can ratchet on the counter clock wise and vice versa. This means one need not take out the wrench while making every rotation of nut/ bolt.



ANIMATION

Please see the animation on www.solsonstools.com

Applications

