



WHITE PAPER

"SOLSONS" / "POP PROW" WRENCH – SPANNER (# SP1541)



PRODUCT

Invented Hand Tool for professionals & industries. Fits upon any nut or bolt SAE, Metric or Imperial. Also useful as DIY tool and is perfect for Engineering, Automobile, Garden equipment, Boating & Specialty jobs.

Introduction

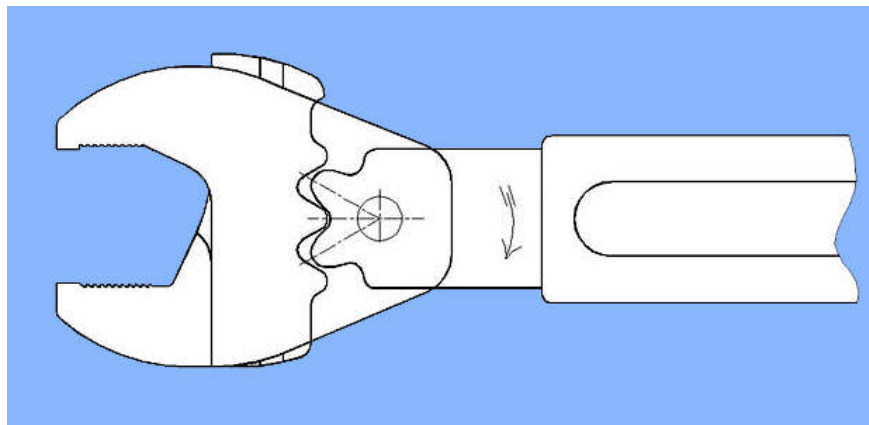
This wrench eliminates the guess work of selecting right size of conventional wrench from 31 open double ended-DE wrenches, to operate a Nut / Bolt. This wrench **automatically sizes** 62 types of popular nuts & bolts in SAE American type, in Inch type & in Metric type.



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 5/8" till 1 5/8" **and** AF 15 mm till 41 mm **and** 3/8" till 1 1/8" BSW nuts / bolts. Eventually, this wrench can operate 62 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 ± 2 HRc) up to 1 mm depth and the core of both the jaws is deliberately kept soft (25 ± 2 HRc) to remove brittleness of the tool.

Torque

The entire tool can withstand amazingly very high Torque force of 250 lbFt. / 340 Nm.

Strongest Pin / Rivet

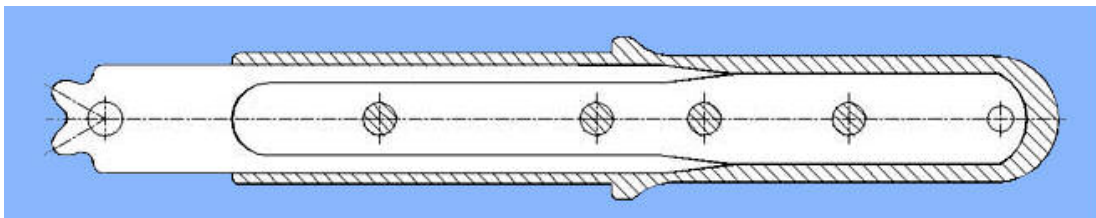
The Pin is formed from a solid stainless steel bar by orbital riveting process which is the strongest part of the wrench.

Ratchet Action

One need not take out & refit the wrench while operating a nut / bolt. Two high tensile springs are 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 molding, 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 carburizing and Induction hardening. The surface upon the teeth is hardened up to min. 48 ± 2 HRC by Induction hardening to sustain wear & tear and the core is hardened up to 25 ± 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 molded by Nylon-6 grade of polymer which cannot be broken by hammer or cut by knives or sharp tools. While molding, 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

Two springs are fitted between the jaws & the handle. They are specially designed for this tool to provide initial grip across nut / bolt and the ratchet mechanism. They are made out of EN 47 alloy and perfectly hardened.

Packaging

This wrench is packed in an eco-friendly card pack (without any pvc shrink pack or bubble pack). Here, one can feel the tool. Twenty (20) numbers of such card pack 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.
- Please see the animation on this product page on www.solsonsusa.com.

Applications



Copyrights : # A-58305/2001, # A-58306/2001 & # A-58307/2001
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Note: All above mentioned specifications are subject to change without notice.

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