

Pneumatic Impact Driver



Agriculture Power and Technology

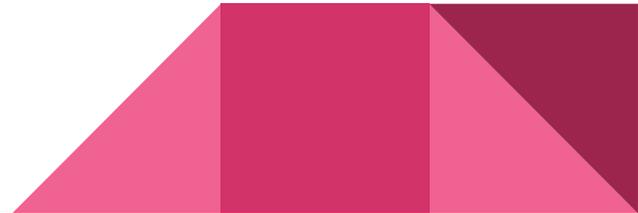
Technical Manual

Pneumatic Impact Driver



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Tool components and Materials

- Pneumatic Impact Driver
- ½ Drive
- Composite Housing
- 1/4 " inlet
- Forward/Reverse Button
- Coupler
- Plug
- Trigger



To prevent accidental injury when working with compressed air.

- Always wear your Personal Protective Equipment (PPE).



- **Helmet** (we have some to borrow. Hard hats are okay. Or you can purchase at www.thefirestore.com/store/category.cfm?cid=1501)

- **Ear protection** (we'll supply these)

- **Eye protection** (sunglasses are okay)

- **Long sleeve shirt**

- **Work gloves**

- **Long pants** (army surplus stores sell cargo/emit pants)

- **Boots** (preferably steel toe)

Additional protective padding is optional (knees, elbows).

Purposes

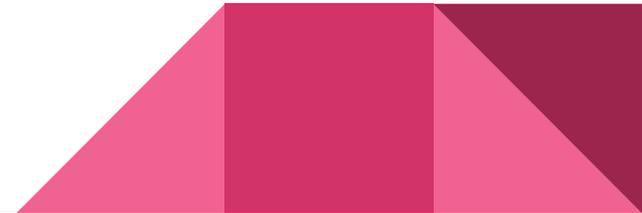
A **pneumatic impact driver** is a handy tool for various home projects and automotive work. It creates a firm hold on an item, hence greater mechanical advantage. Some impact wrenches utilize electricity to operate while others can be manually operated. The pneumatic version uses compressed air. Perhaps you're considering which type of wrench to purchase. Below are 5 benefits of using the pneumatic wrench.



Uses

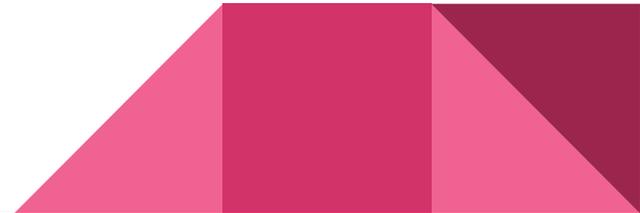
The pneumatic Impact Driver is used in Automotive mainly Automotive and Diesel applications as well as general industrial use.

- Tool uses high foot poundage to torque and extract bolts
- Works on Mainly wood and metal.
- Depending on drive size it is recommended to use small sizes on softer metals such as Aluminum, and larger drive sizes on large bolts of stainless and carbon steel applications.



Safe Operations

- The hose that feeds air to the Pneumatic tool must be secured to the tool so it cannot become accidentally disconnected and flail around, hurting someone. Impact Socket must be used - usage of chrome socket sets will result in breakage of the socket and possible injury to the operator. Sockets must be secured to Pneumatic Impact Driver.



Energy Requirements

- Compressed Air
- Potential Energy
- Mechanical Energy



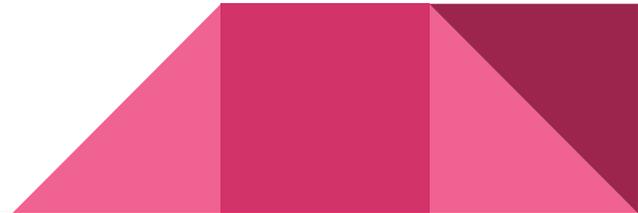
Energy Output

Pneumatic tools work by air pressure. This force is what causes the system to work; in other words, it is the power that drives the machine. Air pressure is provided by an air compressor. This machine has a gas-powered pump mechanism that continually forces air into a steel container tank until the air becomes pressurized. The pneumatic tool is hooked up to a hose that is attached to the tank via an air valve. The energy created is mechanical energy.



Simple Machines

A simple vane motor is almost always used, usually with four to seven vanes, and various lubrication systems, the most common of which uses *oiled air*, while others may include special oil passages routed to the parts that need it and a separate, sealed oil system for the hammer assembly. Most impact wrenches drive the hammer directly from the motor, giving it fast action when the fastener requires only low torque. Other designs use a gear reduction system before the hammer mechanism, most often a single-stage planetary gearset usually with a heavier hammer, delivering a more constant speed and higher "spin" torque.



Maintenance Plan

1. REDUCE OR ELIMINATE CONDENSATION (MOISTURE) FROM THE AIR SUPPLY • Water traps and drains
• After-coolers • Refrigerated air dryer
2. PREVENT DEBRIS FROM ENTERING THE AIR MOTOR • Filter the air. • Keep the air inlet connections, plugs and couplers clean, free of dust and debris. • Keep exhaust mufflers and elements in place. Muffler elements provide a barrier that will prevent dust from being pulled into the air motor. • Do not use compressed air to blow-off the tool, this could force debris into bearings.
3. LUBRICATE THE AIR MOTOR • Use an automatic lubricator to supply the correct weight and amount of air motor oil. • Supply the air motor oil manually, directly into the air inlet. Apply 2-3 drops throughout the day. i.e., start-up mid-morning lunch mid-afternoon end of the day



Troubleshooting

- ELIMINATE ANY BLOCKAGE OF AIRFLOW, IN OR OUT
- KEEP THE TOOL'S AIR INLET CLEAR OF ANY DEBRIS 2. CLEAN OR REPLACE EXHAUST MUFFLER ELEMENTS AS NEEDED LUBRICATE GEARS, SLEEVES, BEARINGS AND SLIDERS
- USE THE MANUFACTURER'S SPECIFIED LUBRICANT
- Apply the suggested amount at the recommended interval. Note: This is usually found in technical support literature, i.e., tool manuals, parts pages, etc



References

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