



BACK TO THE BASICS

HUB PULLERS & ADAPTORS

WHAT ARE HUB PULLERS & ADAPTORS?

Hub pullers and adaptors are used to simplify the removal of many industrial and automotive applications such as fans and blower wheels. They provide a solid connection between the puller and the motor. There are many hub pullers on the market however most are application specific and used only for certain jobs.

Adaptor sets such as Posi Lock's HP-2 (A) consist of a collar like adaptor that is mounted onto the fan hub. The collars have specially machined grooves that provide a precise pulling surface. These adaptors are designed especially for use with a Posi Lock general purpose gear and bearing puller.

Other sets (B) require the use of hooks. The hooks are attached to the specific hub puller. They slide between the fan blade and take two or three hands to align and tighten the center bolt.

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(A) In this example by Posi Lock, the hub adaptors are specifically designed to be used with their Model 104 general purpose puller.

Set screws attach the collar adaptor to the fan hub. The Posi Lock puller is adjusted and fitted into grooves on the collar to create a solid connection.



(B) In this example, special pulling hooks are attached to the hub puller.

The flat end of the hooks slide between the fan blade and takes 2 users to mount and tighten the puller.

Posi Lock's hub adaptor sets have advantages over traditional hub pullers such as tool versatility, increased tool life and ease of use which results in saving on labor time and maintenance costs.

***Posi Lock Puller is the only manufacturer that offers the patented Safety Cage® design.**

HOW DOES THE POSI LOCK HUB ADAPTOR WORK?

The process for proper removal with a Posi Lock hub adaptor set is as follows:

Select the proper puller and adaptor

The technician examines the part to be pulled and selects the proper size puller and hub collar adaptor for the application.

Adjust and fit the hub collar adaptor

The hub collar adaptor is placed over the fan hub, creating a solid connection between the puller and the fan hub. The technician locks the collar in place by tightening set screws.

Position the tip reducer/extender

The technician preps the puller by placing the appropriate tip protection on the end of the center-bolt.

** The tip reducer/extender is designed for small diameter shafts.*

Adjust and fit the puller on the adaptor

The jaws and T-handle of the puller are adjusted so that the puller jaws grip tightly around the hub collar adaptor groove.

Position the center bolt

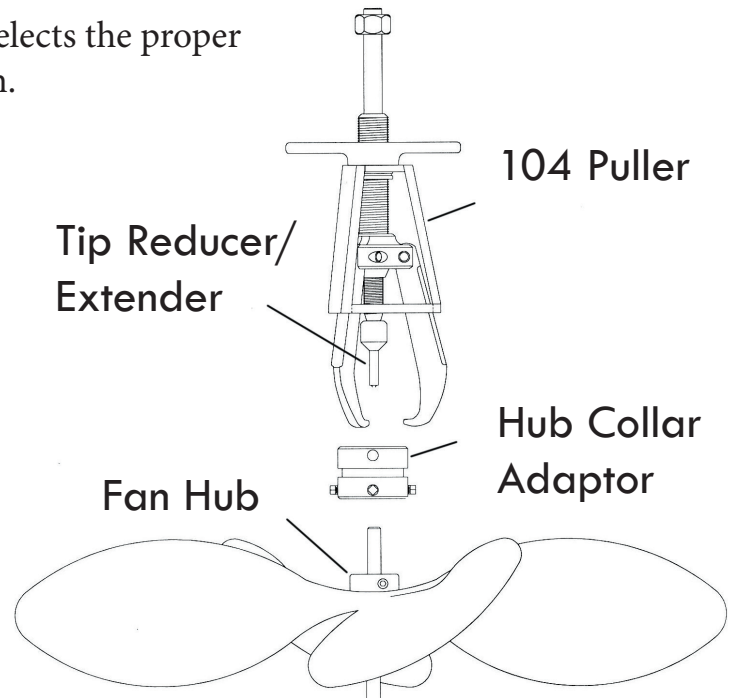
The technician turns the center bolt down to touch the shaft, taking careful consideration to adjust the jaws and T-handle until the point of the center bolt is in the center of the shaft.

Turn the center bolt

The technician then turns the center bolt slowly and carefully applying force onto the shaft.

Remove the part

The process continues with turning of the center bolt and results in pulling the component.



SELECTING A MANUAL PULLER

When choosing the proper puller for a specific application, several points must be considered:

Puller Reach

Puller reach is the available *distance between the pulling surface of the jaw and the jaw head of the puller*. This distance varies and decreases as jaws are opened. When choosing a puller, make certain the reach is sufficient to attach the puller.

Puller Spread

Puller spread is *twice the distance from the center bolt to the pulling surface of the jaw*. In choosing the proper puller make certain the puller has a large enough spread to attach to the object being removed.

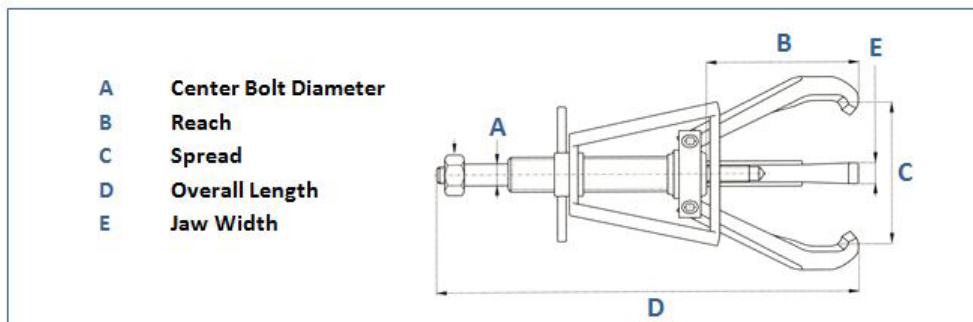
Tonnage

Tonnage is the *amount of pulling force that can be safely exerted by the puller*. Tonnage may be estimated by looking at the torque curves. **One rule of thumb in choosing a puller is the center bolt diameter must be at least $\frac{1}{2}$ the diameter of the shaft from which the object is being removed.** It is impossible to predict the exact force needed for every pulling situation. The amount of press fit and force of removal can vary greatly between jobs. The setup requirements along with the size, shape, and condition of the parts being pulled are variables which must be considered.

Safety | OPERATOR SAFETY COMES FIRST!

Study each pulling application before you select a puller. A significant amount of force can be exerted with a puller. Respect these forces and always observe safety precautions.

- Always select the proper puller for each pulling job. A puller equal to or larger than required.
- Inspect the puller before each use. Replace any worn or damaged parts with authorized parts.
- Always wear safety goggles when using pullers.
- Always use hand tools with mechanical pullers.
- Never apply heat or alter the puller by welding, cutting, or grinding.
- Support the puller and object being pulled.



*Illustration of a Posi Lock model 104 puller.

TARGET MARKETS

Hub puller adaptors are popular throughout the HVAC industry as well as these other markets:

Manufacturing
Wind farms
Paper mills
Laundry cleaners

Building Maintenance
Railroad
City/County/State dept.
Automotive shops
Appliance Maintenance

HVAC
Hospitals
Hotels & Restaurants
Casinos
Recycling centers

Processing plants
Dry cleaners
Vending
Aviation

APPLICATIONS

Posi Lock's unique hub collar design allows their model 104 puller to be utilized on any heating and or air conditioning equipment such as:

Chillers
Freezers
Condensers
Ice Machines
Furnace Fans
Convection Ovens
Ice Cream Machines

Defrost & AC Fans
Dietary Equipment
Auto/Truck Heaters
Squirrel Cages
Blower Wheels
Laundry Equipment

Power roofing ventilators
Heat exchangers
Unit heaters
Heat pumps
Axle Shafts
Frozen Hubs
Exhaust Fans



Posi Lock's hub collars
range in diameter from
0 - 3 inches.



WHY POSI LOCK?

Nut recessed to avoid mushrooming and disfiguration from impact

Cage guides jaws for **fast setup, solid contact** and **superior safety**



T-handle **locks jaws** precisely where you set them

Leverage up front for **vise-like power** and **no slippage**

Slim tapered jaws allow for **easier gripping** and **better access** to tight spots

Posi Lock hub adaptors paired together with the manual gear and bearing puller adds quickness, ease and convenience to any fan hub, blower or motor repair. The adaptors are designed to provide a solid connection between the puller and the motor.

