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Tilt-Back Tire Changer

Installation and Operation Manual

Manual P/N 5900346 — Manual Revision C1 — September 2021

Models:

- R76LT
- R76ATR

R76LT

R76ATR

Designed and engineered in Southern California, USA. Made in China.

DANGER

Read the *entire* contents of this manual ***before*** using this product. Failure to follow the instructions and safety precautions in this manual can result in serious injury or death. Make sure all other operators also read this manual. Keep the manual near the product for future reference. ***By proceeding with setup and operation, you agree that you fully understand the contents of this manual and assume full responsibility of product use***.

Manual. R76LT/ATR Tilt-Back Tire Changers, *Installation and Operation Manual*, Manual P/N 5900346, Manual Revision C1, released September 2021.

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Limitations. Every effort has been made to have complete and accurate instructions in this manual. However, product updates, revisions, and/or changes may have occurred since this manual was published. BendPak Ranger reserves the right to change any information in this manual without incurring any obligation for equipment previously or subsequently sold. BendPak Ranger is not responsible for typographical errors in this manual. You can always find the latest version of the **manual for your product on the Ranger website**.

Warranty. The BendPak Ranger warranty is more than a commitment to you: it is also a commitment to the value of your new product. For full warranty details, contact your nearest BendPak Ranger dealer or visit **bendpak.com/support/warranty**. Go to **bendpak.com/support/register-your-product/** and fill out the online form to register your product (be sure to click **Submit**).

Safety. Your new product was designed and manufactured with safety in mind. Your safety also depends on proper training and thoughtful operation. Do not set up, operate, maintain, or repair the unit without reading and understanding this manual and the labels on it; ***do not use this product unless you can do so safely!***

Owner Responsibility. In order to maintain your product properly and to ensure operator safety, it is the responsibility of the product owner ***to read and follow these instructions***.

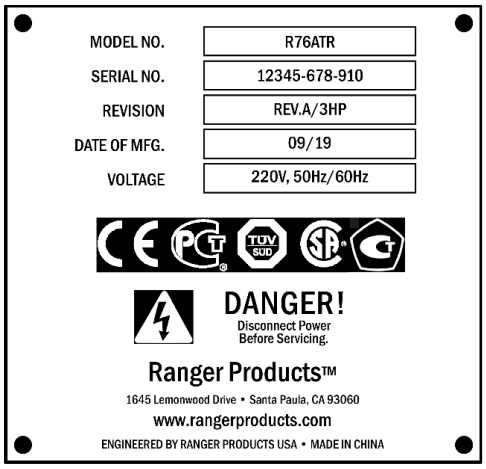
- Follow all installation, operation, and maintenance instructions.
- Make sure product installation and operation conforms to all applicable local, state, and federal codes, rules, and regulations, such as state and federal OSHA regulations and electrical codes.
- Read and follow all safety instructions. Keep them readily available for operators.
- Make sure all operators are properly trained, know how to safely operate the unit, and are properly supervised.
- Do not operate the product until you are certain that all parts are in place and operating correctly.
- Carefully inspect the product on a regular basis and perform all maintenance as required.
- Service and maintain the unit only with approved replacement parts.
- Keep the manual with the product and make sure all labels are clean and visible.
- **Only use this product if it can be used safely!**

Unit Information. Enter the Model Number, Serial Number, and the Date of Manufacture from the label on your unit. This information is required for part or warranty issues.

Model: _____

Serial: _____

Date of Manufacture: _____



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Introduction

This manual describes the following models in the R76 Series of Tilt-Back Tire Changers:

- **R76LT**. Tilt-Back Tire Changer, no Assist Tower.
- **R76ATR**. Tilt-Back Tire Changer with Assist Tower.

More information about BendPak Ranger products is available at **rangerproducts.com**.

This manual is mandatory reading for all users of the R76 Series of Tire Changers, including anyone who sets up, operates, maintains, or repairs them.

You can always find the latest version of the **manual for your product on the Ranger website**.

⚠ **DANGER** Be very careful when setting up, operating, maintaining, or repairing this equipment; failure to do so could result in property damage, product damage, injury, or (in very rare cases) death. Make sure only authorized personnel operate this equipment. All repairs must be performed by an authorized technician. Do not make modifications to the unit; this voids the warranty and increases the chances of injury or property damage. Make sure to read and follow the instructions on the labels on the unit.

Keep this manual on or near the equipment so that anyone who uses or services it can read it.

Technical support and service for your Tire Changer is available from your distributor or by calling **BendPak Ranger at (805) 933-9970**. You may also call regarding parts replacement (please have the serial number and model number of your unit available).

Shipping Information

Your equipment was carefully checked before shipping. Nevertheless, you should thoroughly inspect the shipment ***before*** you sign to acknowledge that you received it.

When you sign the bill of lading, it tells the carrier that the items on the invoice were received in good condition. *Do not sign the bill of lading until **after** you have inspected the shipment.* If any of the items listed on the bill of lading are missing or damaged, do not accept the shipment until the carrier makes a notation on the bill of lading that lists the missing or damaged goods.

If you discover missing or damaged goods ***after*** you receive the shipment and have signed the bill of lading, notify the carrier at once and request the carrier to make an inspection. If the carrier will not make an inspection, prepare a signed statement to the effect that you have notified the carrier (on a specific date) and that the carrier has failed to comply with your request.

It is difficult to collect for loss or damage after you have given the carrier a signed bill of lading. If this happens to you, file a claim with the carrier promptly. Support your claim with copies of the bill of lading, freight bill, invoice, and photographs, if available. Our willingness to assist in helping you process your claim does not make us responsible for collection of claims or replacement of lost or damaged materials.

Safety Considerations

Read this manual carefully before using your new product. Do not set up or operate the product until you are familiar with all operating instructions and warnings. Do not allow anyone else to operate the product until they are also familiar with all operating instructions and warnings.

⚠ **WARNING** **California Proposition 65 Warning**. This product can expose you to chemicals including styrene and vinyl chloride which are on the list of over 900 chemicals identified by the State of California to cause cancer, birth defects or reproductive harm. **ALWAYS** use this product in accordance with BendPak's instructions. For more information go to **www.P65Warnings.ca.gov**.

⚠ **WARNING** There are many moving parts on a Tire Changer; keep clear of these moving parts and the Tire being changed. In particular, when inflating a Tire, never lean over the Tire; if it were to explode (which does happen), the force could injure or kill the Operator or bystanders. During inflation, the Operator should be as far away from the Tire as possible and all bystanders must be at least 30 feet away.

Safety Information

Please note the following:

- The product is a Tire Changer. ***Use it only for its intended purpose.***
- The product ***must*** only be operated by authorized, trained, properly supervised personnel. Keep children and untrained personnel at least 30 feet away from the product when it is in use.
- Always follow all applicable local, state, and federal codes, rules, and regulations, including (but not limited to) OSHA standard 1910.177 (Servicing multi-piece and single piece rim wheels).
- You ***must*** wear OSHA-approved (publication 3151) personal protective equipment at all times when installing, using, maintaining, or repairing the Tire Changer: leather gloves, steel-toed work boots, eye protection, back belts, and hearing protection ***are mandatory***.

- Do not use the product while tired or under the influence of drugs, alcohol, or medication.
- Do not use the product in the presence of cigarette smoke, dust, or flammable liquids or gases. Use the product indoors in a well-ventilated area. This equipment has internal arcing or sparking components which should not be exposed to flammable vapors. This machine should not be located in a recessed area or below floor level.
- Guard against electric shock. This equipment must be grounded to protect the operator. Never connect the green power cord wire to a live terminal.
- The motor on this machine contains high voltage. Disconnect power at the receptacle before performing any electrical repairs.
- Do not make any modifications to the product; this voids the warranty and increases the chances of injury or property damage. ***Do not modify any safety-related features in any way***.
- Make sure all Operators read and understand this *Installation and Operation Manual*. Keep the Manual near the device at all times.
- Make a visual inspection of the product every day. Do not use the product if you find any missing or damaged parts. Instead, take the unit out of service, then contact an authorized repair facility, your distributor, or **BendPak Ranger at (805) 933-9970**.
- BendPak Ranger recommends making a ***thorough*** inspection of the product once a month. Replace any damaged or severely worn parts, decals, or warning labels.

Symbols

Following are the symbols that may be used in this manual:

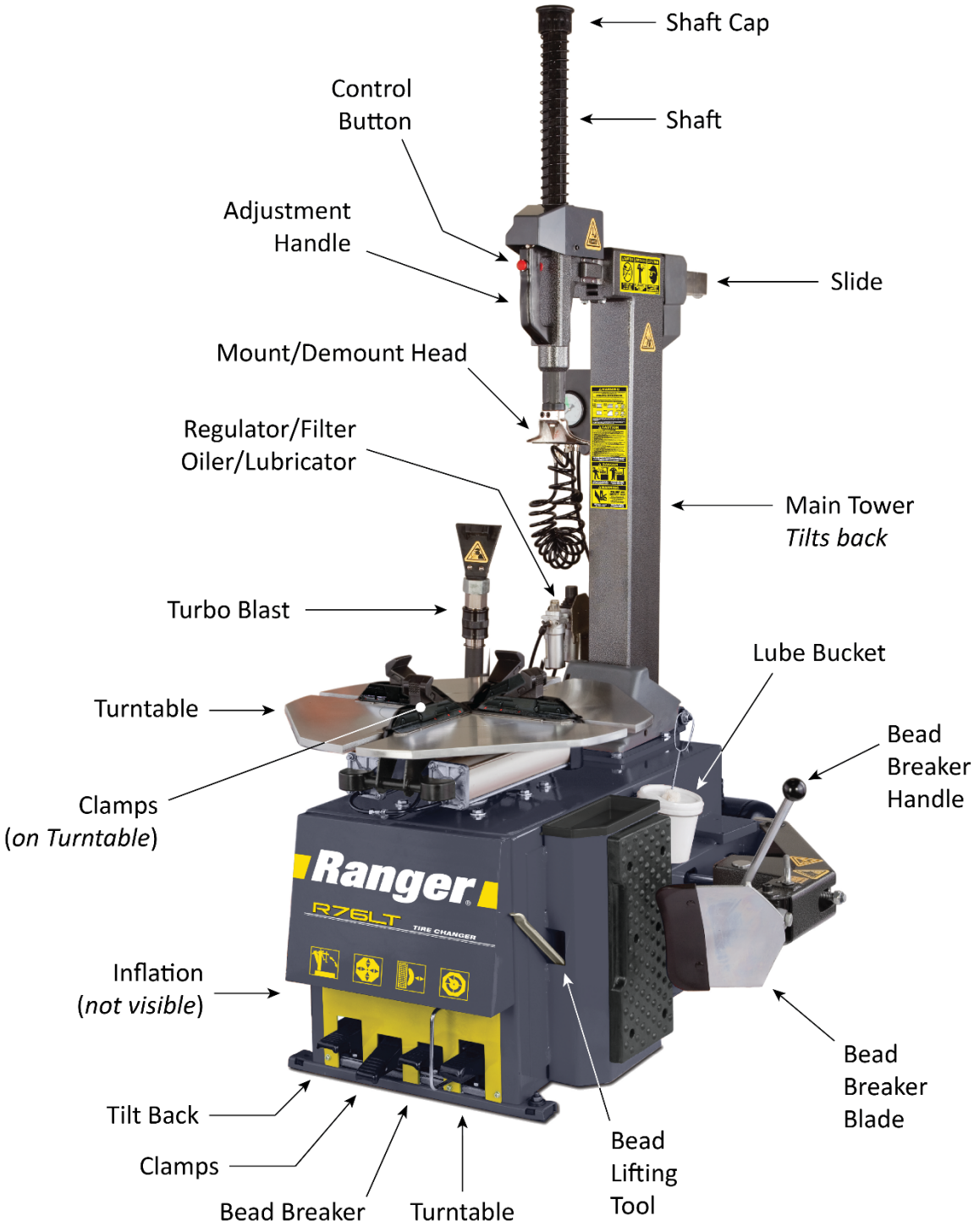
⚠ **DANGER**	Calls attention to a hazard that **will** result in death or injury.
⚠ **WARNING**	Calls attention to a hazard or unsafe practice that **could** result in death or injury.
⚠ **CAUTION**	Calls attention to a hazard or unsafe practice that could result in personal injury, product damage, or property damage.
NOTICE	Calls attention to a situation that, if not avoided, could result in product or property damage.
Tip	Calls attention to information that can help you use your product better.

BendPak Ranger Inc. assumes **no** liability for damages resulting from:

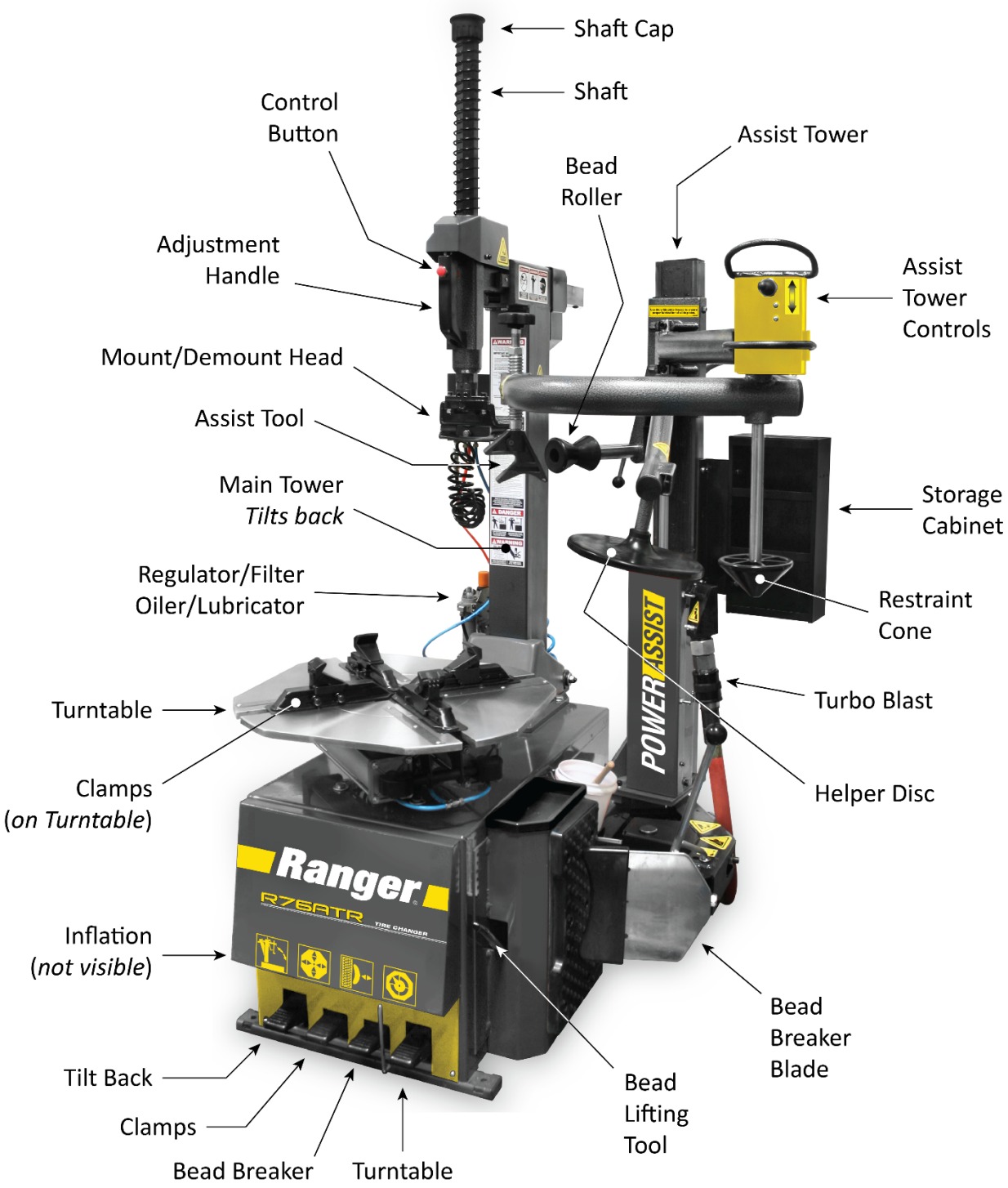
- Use of the product for purposes other than those described in this manual.
- Modifications to the equipment without prior, written permission from BendPak Inc.
- Injury or death caused by modifying, disabling, overriding, or removing safety features.
- Damage to the equipment from external influences.
- Incorrect operation of the equipment.

Components

The following graphic identifies the main components of the R76LT Tire Changer.



The following graphic identifies the main components of the R76ATR Tire Changer.



Tire Changer components include:

- **Turntable**. Holds the Wheel.
- **RimGuard™ Wheel Clamps**. Durable, hardened plastic Clamps do not damage expensive Wheels as they hold the Wheel in place.
- **Main Tower**. Holds the Mount/Demount Head, tilts back so you can get it out of the way.
- **Mount/Demount Head**. Located on the bottom of the Shaft on the Main Tower, the Mount/Demount Head is used to both mount and demount Tires. The Tire Changer comes with two Mount/Demount Heads, one alloy-steel and one plastic polymer.
- **Shaft**. Moves the Mount/Demount Head up and down.
- **Shaft Cap**. Use to move the Shaft down to the desired height.
- **Control Button**. Locks and unlocks the Shaft and the Slide.
- **Bead Breaker**. Used to break the Beads of Tires before you demount them. Includes a Handle, Blade, and adjustable mechanism for pushing the Blade inwards to break the Bead.
- **Bead Lifting Tool**. Basically a Tire Iron you use to pull the Bead edge of a Tire over the Mount/Demount Head so the Tire can be demounted from the Wheel. Can also be used to hold down a Tire Sidewall during Tire mounting.
- **Inflation Gauge**. Shows the amount of air pressure in the tire. Includes an Air Chuck with self-gripping clip, so you do not have to hold the Air Chuck in place as you inflate a Tire.
- **Turbo-Blast™ Bead Sealer**. Directs a burst of air pressure to help seal a difficult Bead.
- **Clamps Foot Pedal**. Moves the Clamps to the opposite position. If in, they move out. If out, they move in.
- **Bead Break Foot Pedal**. Moves the Bead Breaker Blade in.
- **Inflation Foot Pedal**. Controls putting air into a Tire. On left side of unit, not the front.
- **Turntable Foot Pedal**. Rotates the Turntable. Press down and hold down to rotate the Turntable clockwise, press up and hold up to rotate the Turntable counter-clockwise.
- **Tilt Foot Pedal**. Press and release to move the Main Tower to the opposite position: if close, moves it back; if back, moves it close.
- **Regulator/Filter and Oiler/Lubricator**. Control and route the incoming air.
- **Assist Tower**. R76ATR only. Holds several tools that can be used during mounting and demounting.
- **Restraint Cone**. R76ATR only. Used to hold the Wheel in place during inflation or to press down on the Wheel for external clamping.
- **Bead Roller**. R76ATR only. Holds the Sidewall of a Tire down during mounting; stays in a fixed position on the Tire as the Turntable turns the Tire.
- **Assist Tool**. R76ATR only. Holds the Sidewall of a Tire down during mounting; stays on the same spot as the Turntable turns the Tire.
- **Helper Disc**. R76ATR only. Holds up the Tire so it can be demounted.
- **Assist Tower Controls**. R76ATR only. Raises and lowers the Assist Tower Arms.
- **Storage Cabinet**. R76ATR only. For storing things you want to have nearby.

Tire Changer accessories include:

- **Lube Bucket**. Holds Tire Lubricant.
- **Lube Brush**. Spreads Tire Lubricant.
- **Extra Air Line Parts**. Provided in case they are needed in the future.
- **Extra Yellow Plastic Pieces**. Provided in case they are needed in the future.

Frequently Asked Questions

Question: What does a Tire Changer do?

Answer: A Tire Changer takes Tires off of Wheels (called demounting) and puts Tires onto Wheels (called mounting).

Q: What is the difference between a Tire, Wheel, and Rim?

A: A Wheel is the round ***metal*** piece that attaches to the Vehicle's axle. A Tire is the round ***rubber*** piece that surrounds the Wheel. The outer edge of the Wheel, where the Tire attaches to the Wheel, is called the Rim. Some people use Wheel and Rim interchangeably.

Q: The Tire Changer is described as "tilt back", what does that mean?

A: It means the Main Tower literally leans backwards, moving the Mount/Demount Head out of the way. How is this a good thing? It allows you to set up the Mount/Demount Head in the right place for the Tire you are demounting/mounting, then move it out of the way, then bring it right back to the right place for the next Tire (Tires are generally demounted/mounted in sets of four) without having to adjust the Mount/Demount Head again.

Q: What does "break the Bead" mean?

A: A Tire is held on the Rim of a Wheel by the Tire Bead sitting between the Rim Lip and the Bead Retainer on the Rim. The air pressure in the Tire holds it in place once the Bead is seated (during mounting). When you "break the Bead", you move the Tire Bead out of the location where it was seated, which is required before you can take the Tire off the Wheel.

Q: What are the steps in the process of demounting a Tire and then mounting a new Tire?

A: The steps are: deflate the old Tire, break the Bead, secure the Wheel on the Turntable, demount the old Tire, mount the new Tire, inflate the new Tire, then remove the Wheel from the Turntable.

Q: Can I break the Bead without fully deflating the Tire first?

A: No. ***Always fully deflate a Tire before attempting to break its Bead***. The air pressure energy in a Tire, even if not fully inflated, can be considerable. If you were to attempt to break the Bead of a Tire not fully deflated, that air pressure energy would be released all at once, possibly injuring or, in rare cases, killing the Operator or bystanders.

Q: What thing should I always do when working with the Tire Changer?

A: You must exactly match Rim Width with the Tire you are mounting. The result of a mismatch is that the Tire could literally explode off the Wheel when you inflate it or while the Vehicle is being driven. In both cases, people could be injured or killed.

Q: Where should I put my Tire Changer?

A: What you want is a flat Concrete floor with room around it that is also near where you work on Tires. Ideally, you want it a little off the beaten path, as you must – for safety – keep everyone away from the Tire Changer while it is in use. No one other than the Operator should be within 30 feet of the Tire Changer while it is in use.

Q: Why isn't there a plug on the end of the Power Cord?

A: 220 VAC plugs vary by region, so if you are going to use a Power Cord with Plug, you need to use a Plug that is appropriate for the power outlet you will be using. The other power option is to wire the Tire Changer directly into the facility's power system. You ***must have*** a licensed Electrician perform all electrical work in accordance with all applicable electrical codes.

Specifications

Model	R76ATR	R76LT
Motor	3 HP, 208-240 VAC, 50/60 HZ, 1 Ph. Use 30 amp plug.	
Power Cord Length	96 in (8 feet) / 2,438 mm	
Drive System Type	Electric / Air	
Air Requirement	140 – 165 PSI (9.6 – 11.4 BAR)	
Wheel Clamping	4 Clamps – Internal / External	
Table Clamping	Dual Pneumatic Cylinders	
Bead Breaking	Pneumatic Power / Adjustable Blade	
Tower Design	Tilt Back	
Assist Tower	Single Assist Tower, Four Additional Tools	No Assist Tower
Bead Sealing	Turbo Blast	
Internal Rim Clamping	10 – 30 in (254 – 762 mm)	
External Rim Clamping	9 – 28 in (229 – 711 mm)	
Turntable Tire Width Capacity (Mounting)	4 – 18 in (102 – 457 mm)	
Bead Breaker Tire Width Capacity (Demounting)	1.5 – 13 in (38 – 330 mm)	
Maximum Tire Diameter	43 in (1,092 mm)	
Sound	<70 dB	
Dimensions	75 in wide***** by 66 in deep****** by 79 in high 1,905 mm wide***** by 1,677 mm deep****** by 2,007 mm high	41 in wide by 66 in deep****** by 79 in high 1,042 mm wide by 1,677 mm deep****** by 2,007 mm high

***** With Assist Arms at full extended width.

****** With Main Tower tilted back and Slide all the way back.

Specifications subject to change without notice.

Installation Checklist

Following are the steps needed to install the Tire Changer. Perform them in the order shown.

☐ 1. Review the installation Safety Rules.

☐ 2. Make sure you have the necessary Tools.

☐ 3. Find an appropriate Location.

☐ 4. Make sure there is adequate Clearance around and above.

☐ 5. Unpack the Tire Changer.

☐ 6. Install the Tilt Tower, Inflation Gauge and Bead Breaker (R76LT Only).

☐ 7. Anchor the Tire Changer.

☐ 8. Connect to Power. ***Requires a licensed Electrician***.

☐ 9. Connect to Air.

☐ 10. Prepare the Lube Bucket.

☐ 11. Grease the Assist Tower Post (R76ATR only).

☐ 12. Test the Tire Changer.

☐ 13. Review the Final Checklist.

Installation

This section describes how to install your Tire Changer. Perform the tasks in the order presented.

⚠ DANGER When you even hear the words "Tire Changer," you need to remember that being in close proximity to one is a serious endeavor with potentially life-threatening risks. Only allow appropriately trained, authorized, supervised personnel to install the Tire Changer. ***Do not assume that nothing bad is going to happen this time just because nothing bad happened last time***.

Installation Safety Rules

Pay attention at all times during installation. Use appropriate tools and equipment. Stay clear of moving parts. Keep hands and fingers away from pinch points. ***Safety is your top priority***.

⚠ WARNING You ***must*** wear OSHA-approved (publication 3151) personal protective equipment at all times when installing, using, maintaining, or repairing the Tire Changer: leather gloves, steel-toed work boots, eye protection, back belts, and hearing protection.

Use caution when unpacking the Tire Changer from its shipping container and setting it up. The Tire Changer is heavy and the weight is not evenly distributed; dropping or knocking over the unit may cause equipment damage and personal injury.

Only experienced, trained technicians may install the Tire Changer. In particular, all electrical work ***must*** be done by a licensed, certified Electrician in accordance with all national and local electrical codes.

⚠ CAUTION Certain parts of installing the Tire Changer are difficult for just one person. BendPak Ranger **strongly** recommends having at least two or more persons work together to install the Tire Changer.

Tools

You may need some or all of the following tools:

- Open end Metric Wrenches
- Hex Keys, Metric
- Pliers
- Hammer or Mallet
- Pry Bar
- Utility Knife
- Screwdriver set, Slot and Phillips
- Rags
- Shop Crane or Forklift

Finding a Location

Keep the following in mind when deciding on a location:

- **Power source**. The Tire Changer needs to be near an appropriate power source.
- **Floor**. The Tire Changer is best used on a flat, Concrete floor.
- **Clearance**. The Tire Changer requires space around it. Refer to **Clearance** for more information.
- **Accessibility**. You need some space to move the Wheels whose Tires you are changing to and from the Tire Changer.
- **Danger**. When a Tire is on the Tire Changer, especially during Inflation, you need to keep everyone far away from it; only the Operator should be within 30 feet of the Tire Changer when it is in use.

  Do not set up the Tire Changer in a well-travelled area.

- **No water**. The Tire Changer has electronic components. If the Tire Changer gets wet while turned on, those electronic components will most likely short circuit and have to be replaced.

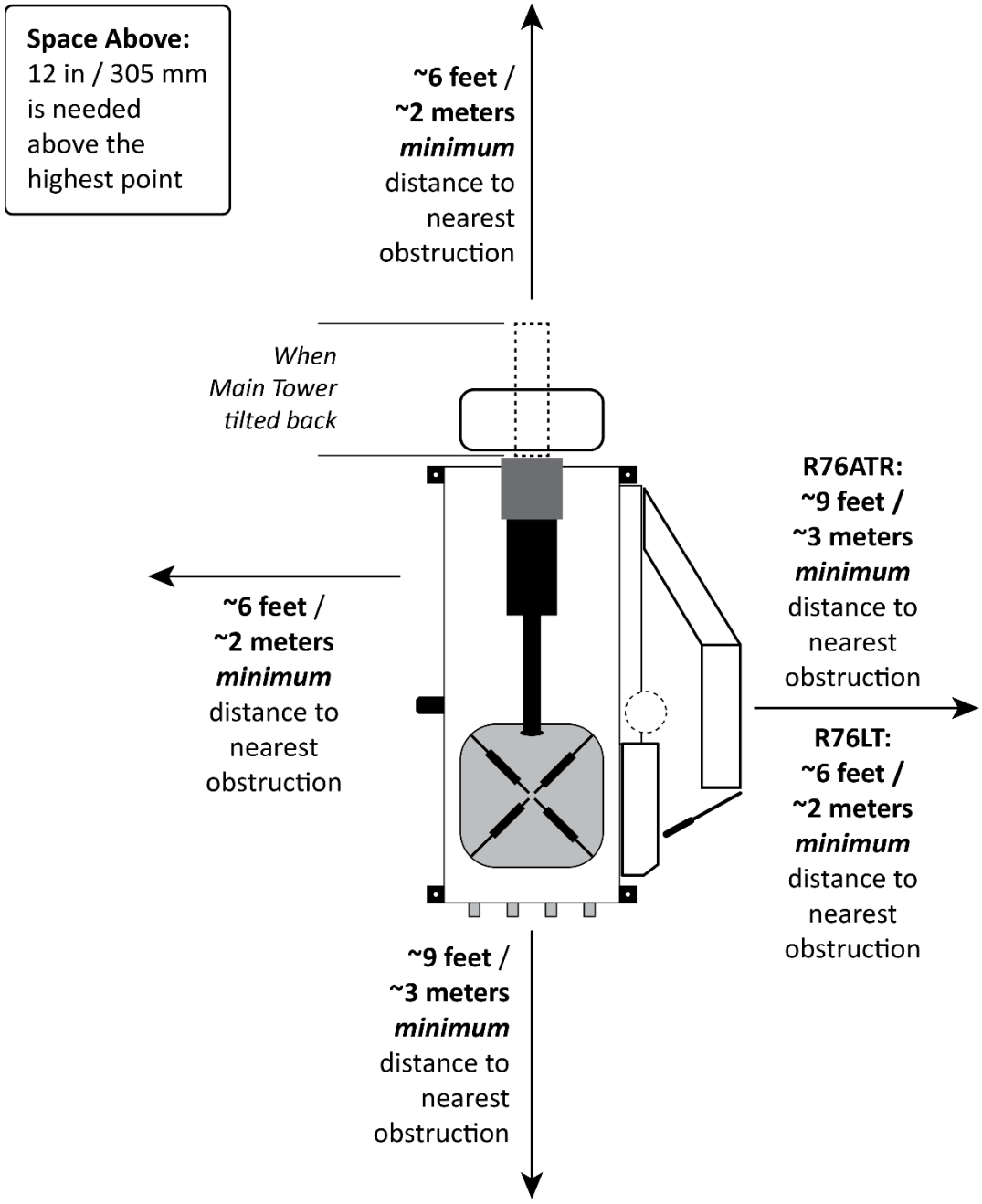
  Set up the Tire Changer in a location where it will stay dry.

⚠ **WARNING** Do not use the Tire Changer if it is sitting in water. You will short circuit the electronic components in the Tire Changer and you could electrocute yourself or bystanders.

Clearance

A certain amount of space around the Tire Changer is required.

⚠ WARNING The Clearance values shown below allow enough space to operate the Tire Changer. ***For safety purposes, only the Operator should be within 30 feet of the Tire Changer while it is in use.***



Top view. The additional room on the right for the R76ATR is for the Assist Arms.

Unpacking the R76LT and the R76ATR

Once you have found an appropriate location for the Tire Changer, you can move it into position, take off the Cover, and then take it off the Pallet.

Use caution when taking the Tire Changer out of its shipping container. You do not want to damage the unit, misplace any of the components that come with it, or hurt anyone.

⚠ **WARNING** Make sure to use an appropriate lifting device, such as a Forklift or Pallet Jack, to move the Tire Changer while it is on its Pallet. Make sure ***only*** personnel who are trained in and experienced with material handling procedures are allowed to move the Tire Changer. The Tire Changer is heavy and the weight is not evenly distributed; dropping or knocking over the unit may cause equipment damage or personal injury. BendPak Ranger recommends having at least two people work together to move the Tire Changer.

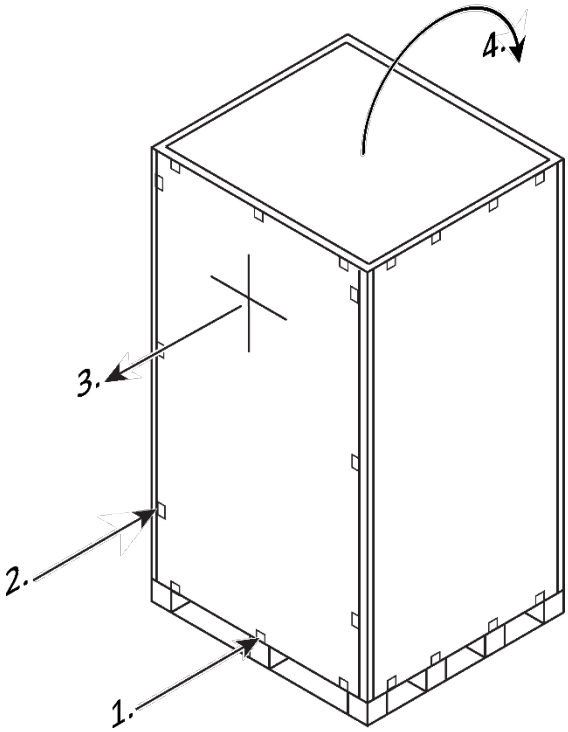
We recommend unpacking the Tire Changer as close as possible to where you are going to set it up.

To unpack the Tire Changer:

1. The Tire Changer is attached to a pallet and protected with a thin wood Cover. At the bottom of the Cover, use a Pry Bar or Screwdriver to push the metal tabs all the way down, on all four sides.

   You may have to apply some force to get all of the metal tabs free; they sometimes stick. Refer to the figure below.

2. Use a Pry Bar or Hammer to bend the metal tabs on all four sides of one panel. You may have to apply some force to get all of the metal tabs free; they sometimes stick. Refer to the figure below.
3. Remove that one panel.
4. Rotate the Cover off and set aside.



5. On the R76ATR, move the Tire Changer off the Pallet, then move it to the desired location.

   The R76ATR may be moved off the Pallet using a Forklift under the left side or by lifting it using an appropriate lifting device (such as a Shop Crane) with a strap secured around the top of the Main Tower ***and*** the Assist Tower for the R76ATR.

   Use care when moving the Tire Changer off the Pallet.

6. Remove the plastic wrap around the R76ATR and other components.
7. Free the components that are tied together on top of the R76ATR Tire Changer.

Installing the Tilt Tower, Inflation Gauge and Bead Breaker on the Tire Changer (R76LT Only)

The R76LT requires the Tilt Tower, Inflation Gauge and Bead Breaker to be installed at this point. After removing the shipping cover as described above, remove the components from where they are secured on the shipping pallet and install the Tower/Swing Arm, Inflation Gauge and Bead Breaker on the Tire Changer Cabinet as described below.

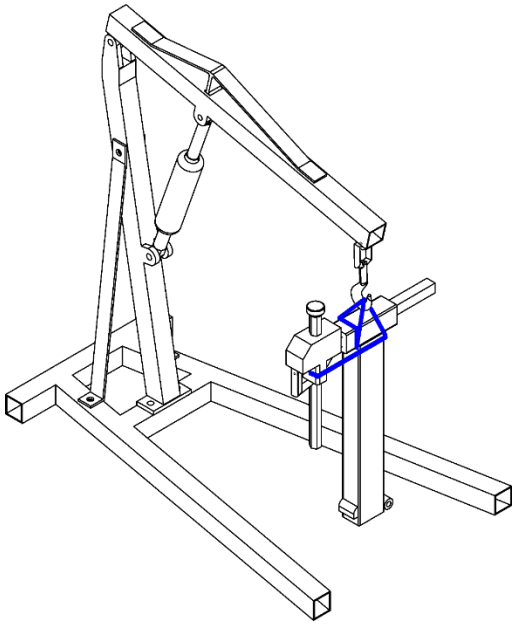
To Install the Tilt Tower on the Tire Changer:

⚠ **WARNING** Wear OSHA-approved (publication 3151) Personal Protective Equipment: leather gloves, steel-toed work boots, back belts, hearing protection, and ANSI-approved eye protection (safety glasses, face shield, or goggles). Keep rags nearby to remove excess grease.

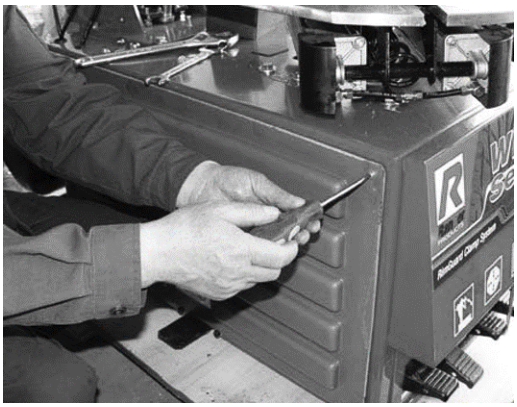
1. Remove the Accessories and Covers on top of the Tire Changer and store in a safe place for later use.
2. Carefully remove the plastic wrapping the Tire Changer, but do not free the Tilt Tower located on the side of the Tire Changer.
3. Retain any parts located in bubble wrap or plastic bags and store with the Accessories previously removed.
4. The Tilt Tower is secured to the shipping pallet in several locations. ***Carefully*** remove the plastic and strap that secures the Tilt Tower to the Tire Changer.

⚠ **WARNING** Use care when moving the Tilt Tower. The Tower is top heavy and the weight is not distributed evenly. If it is dropped, you could injure yourself, bystanders and damage the equipment.

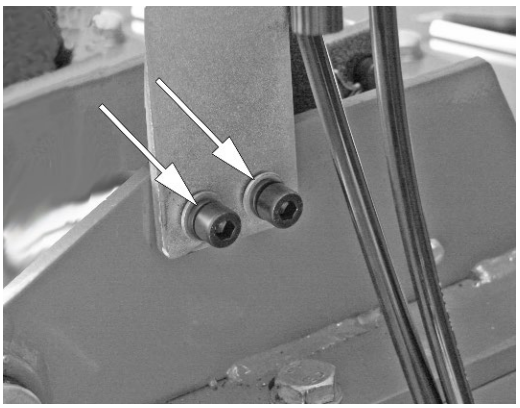
5. Use a lifting strap capable of supporting the Tilt Tower. Secure and orient the Tower using a Shop Crane or Forklift as shown below. Adjust the Lifting Straps or Chains to hold the Tilt Tower securely, oriented with the Tilt Tower base downwards.



6. Move the Tilt Tower out of the way and secure from movement where it cannot fall and injure anyone. Do not remove the Lifting Straps or Chains until the Tower is secured on the Tire Changer.
7. Remove the side Service Access Panel (7 Screws).

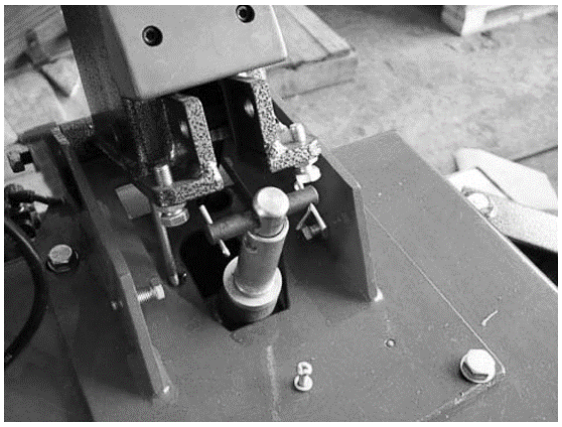


8. Remove the Air Regulator and Oiler (2 screws). Set aside where they will not be lost.

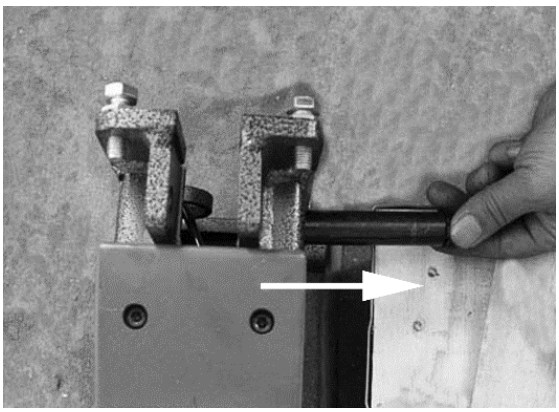


9. Remove the Tilt Tower Main Pivot Pin, Nuts and Washers from the Tire Changer. Set the Main Pivot Pin, Nuts and Washers aside to prevent loss.

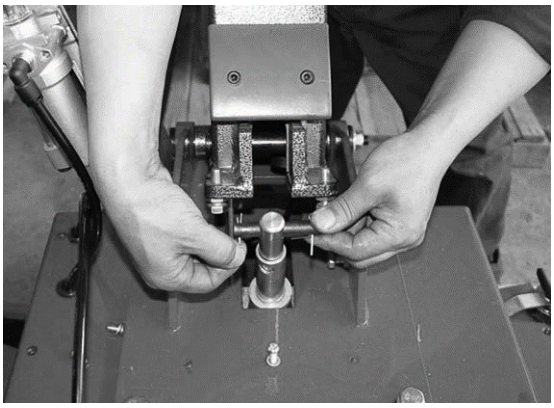
10. Carefully move the Tilt Tower into place over the Tire Changer using a Forklift or Shop Crane. Take care to not damage the bottom of the Tilt Tower or the Air Line exiting the Tilt Tower.



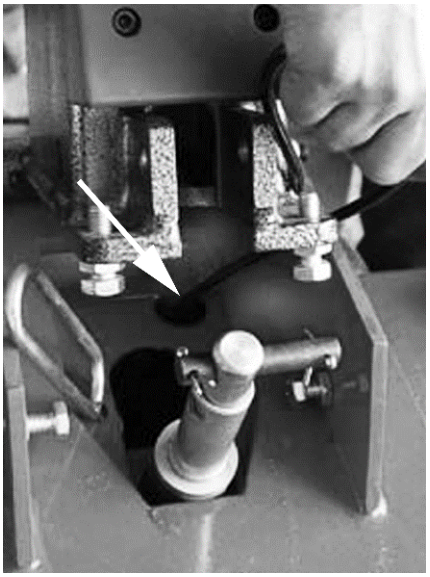
11. Remove one of the Snap Rings securing the Safety Pin and remove the Safety Pin from the Tilt Tower. Set these parts aside where they will not be lost.



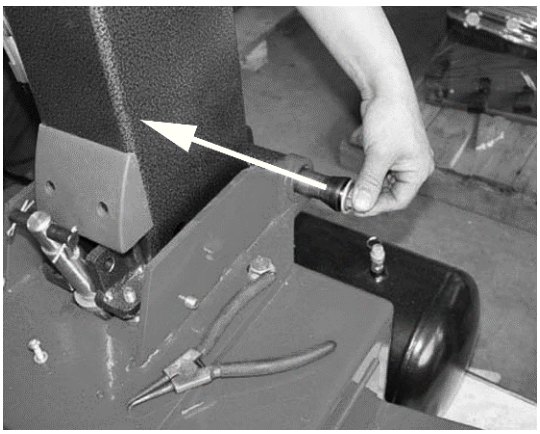
12. Remove Cotter Pins from the Tilt Tower Cylinder Pin and remove the Pin. Set aside where they will not be lost.



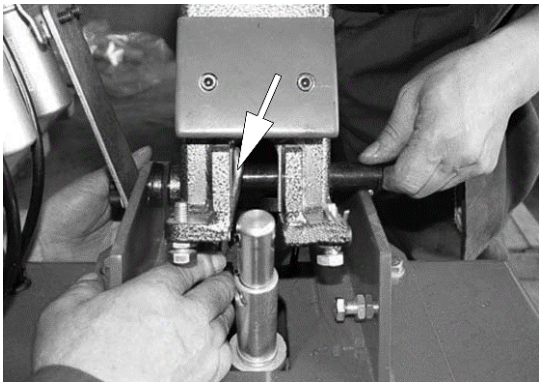
13. Feed the Air Line from the Tilt Tower into the Tire Changer base.



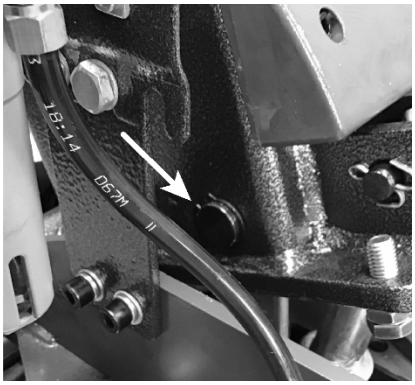
14. Insert the Main Pivot Pin through the holes in the Tire Changer Base and Tilt Tower. You may need to tap the Pivot Shaft lightly with a Hammer or Mallet to drive the Main Pivot Pin into place. Secure the Pivot Pin with the Washers and Nuts previously removed.



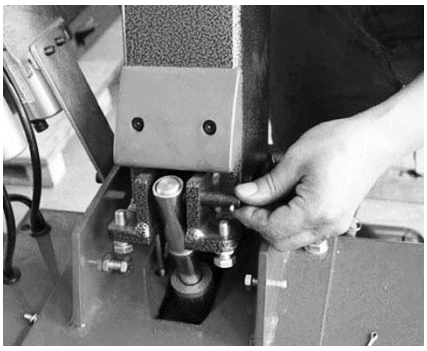
15. Align the Tilt Tower and the Safety Hook. Push the Tilt Tower Safety Pin through the Tower, and Safety Hook.



16. Verify the Pin passes through the Safety Hook. Secure the Safety Pin with Snap Rings.

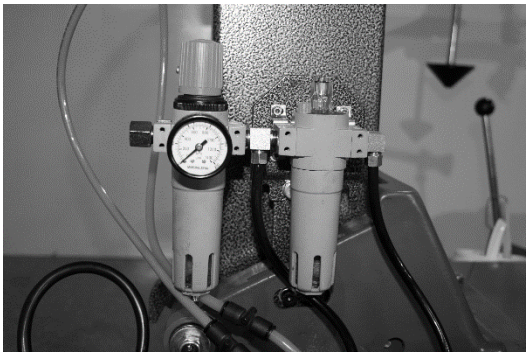


17. Align the Cylinder Shaft, Cylinder Pin and Tilt Tower opening. Insert the Cylinder Pin through the holes and secure with the Cotter Pins removed earlier. Bend to lock Cotter Pins in place.

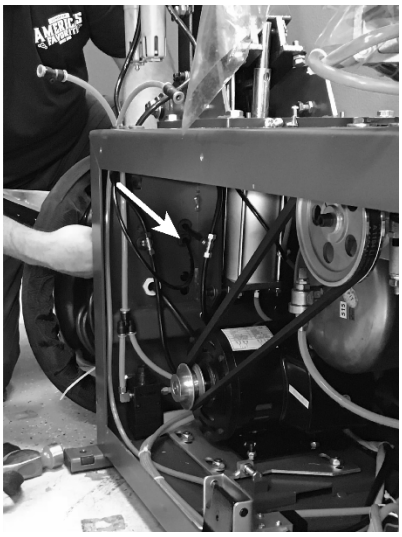


18. When the Tilt Tower is secure, you may remove the Lifting Straps or Chains from the Tilt Tower and move the Shop Crane or Forklift away from the work area.

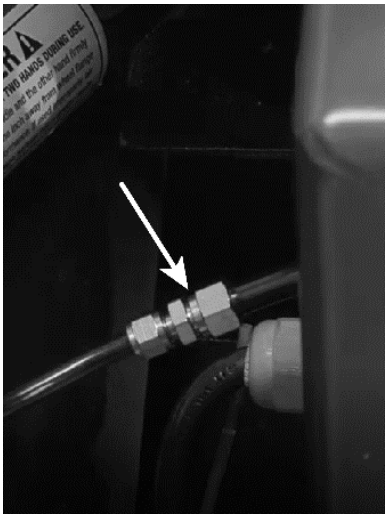
19. Mount the Air Regulator and Oiler Back on Tire Changer Mount (2 Screws and Washers).



20. Locate the Black Air Line from the Tower inside the Tire Changer. Route the Air Line from the Tilt Tower out the back of the Tire Changer through the open hole with a Grommet.



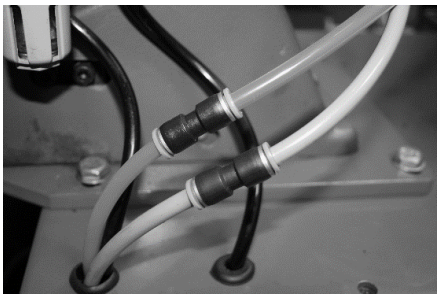
21. Connect the Black Air Line from the Tilt Tower to the Hose Compression Coupling on the back of the Tire Changer and tighten. Refer to the photo below.



To Install the Inflation Gauge:

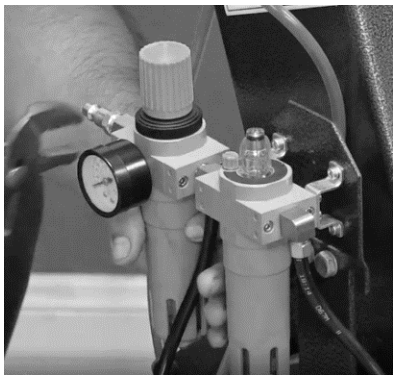
1. Locate the Inflation Gauge mounting on the left side of the Tilt Tower. Remove and retain the two M6 Machine Screws, Lock Washers and Washers from the Tilt Tower.
2. Retrieve the Inflation Gauge from its bag or protective wrap. Orient the Inflation Gauge so the Air Lines are exiting at the bottom and the Gauge faces forward. Secure the Inflation Gauge to the Tilt Tower using the M6 Screws, Lock Washers and Washers removed in the previous step. Refer to the photo below.

3. Route the Blue and Orange Air Lines from the Inflation Gauge behind the Air Pressure Regulator and Oiler into the push-to-connect Pneumatic Couplings on the Blue and Orange Air Lines coming out of the Tire Changer.

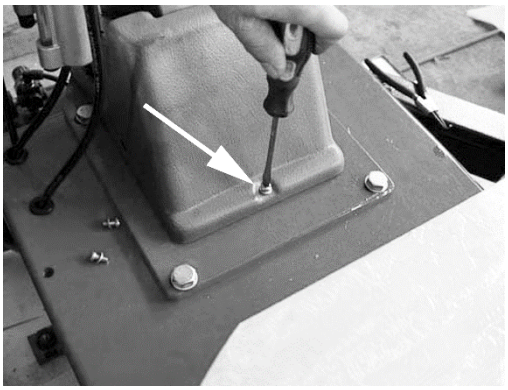


⚠ **WARNING** The Tire Changer uses pneumatic and electrical energy; if your organization has Lockout/Tagout policies, implement them once the unit is connected to the Air Source.

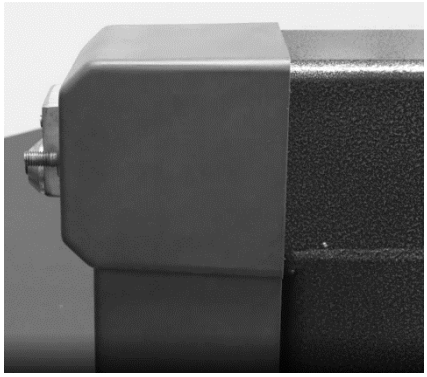
4. Install the Air Line Quick Disconnect using either PTFE Thread Sealant or Teflon® Tape.



5. Replace the Service Access panel (seven M6 Machine Screws).
6. Remove the Air Regulator and Oiler to provide installation clearance for the plastic Tilt Tower Base Cover.
7. Install the Tilt Tower Base Cover (M6 Phillips Machine Screw).

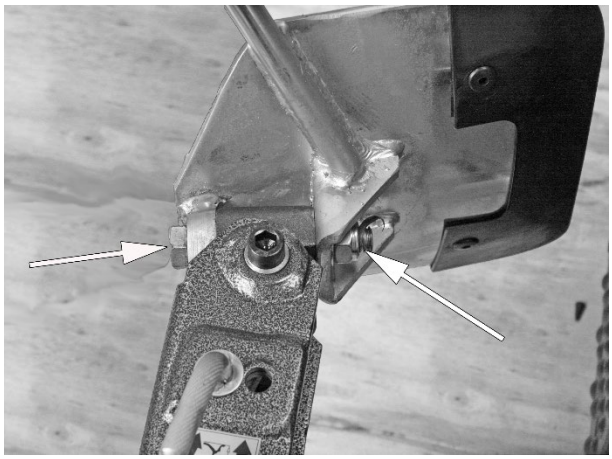


8. Install Air Regulator and Oiler.
9. Install back cover (two Hex Nuts).



To Install the Bead Breaker:

1. Retrieve the Bead Breaker Blade from its plastic bag. Remove excess shipping grease, if required.
2. Remove the M14 x 95 mm Bolt, Lock Washer and Lock Nut from the Bead Breaker assembly.
3. Insert the Bead Breaker Blade on to the Bead Breaker Arm and secure with the M14 Bolt, Lock Washer and Nut just removed.

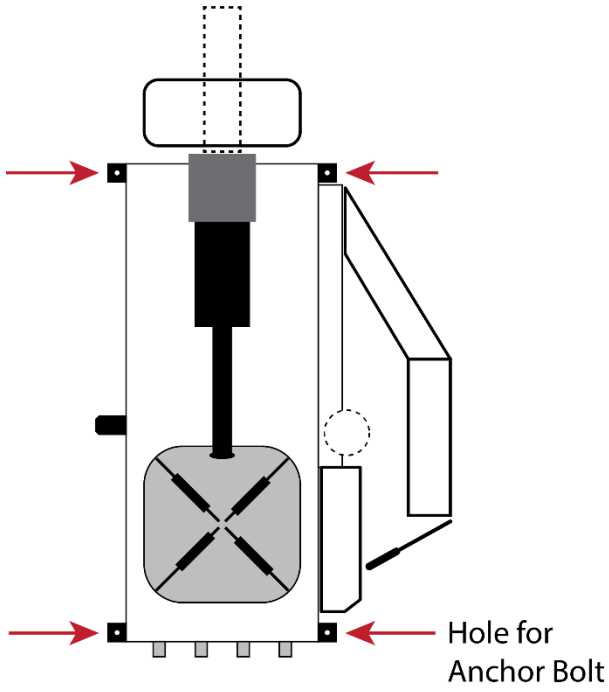


Anchoring the Tire Changer

The Tire Changer has holes for anchoring it into place; anchoring is optional.

Note: You are not required to anchor your Tire Changer. BendPak Ranger recommends doing so, as the Tire Changer uses force at various times during the changing of a Tire. Anchoring it ensures it will not move during operation.

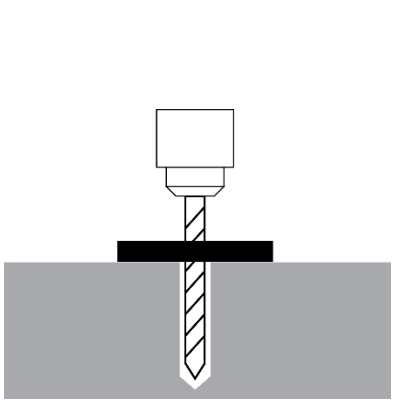
The .5 in / 12.7 mm holes for anchoring are located in the four corners of the Tire Changer base.

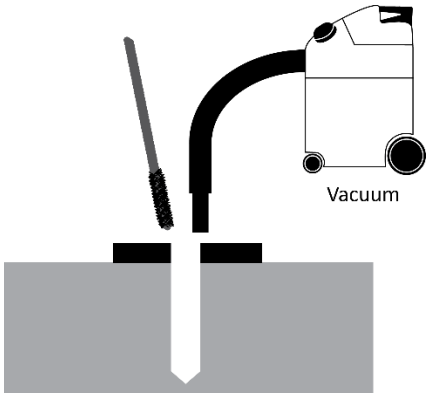


The Anchor Bolts (sometimes called Wedge Anchors) mentioned in the following procedure are ***not*** supplied with the Tire Changer. You could, for example, use 3/8 in. diameter by 3 in. long Anchor Bolts to secure the Tire Changer, drilling the hole approximately 2.5 in. / 63.5 mm into the Concrete.

To anchor the Tire Changer:

1. Make sure the Tire Changer is in the desired location.
2. Using the holes in the base as guides, drill a 2.5 in. / 63.5 mm deep hole for each Anchor Bolt.





Use a drill bit that is the same diameter as the Anchor Bolt. So if you are using a 3/8 in diameter Anchor Bolt, for example, use a 3/8 in diameter drill bit.

Go in straight; do not let the drill wobble. Use a carbide-tipped drill bit (conforming to ANSI B212.15).

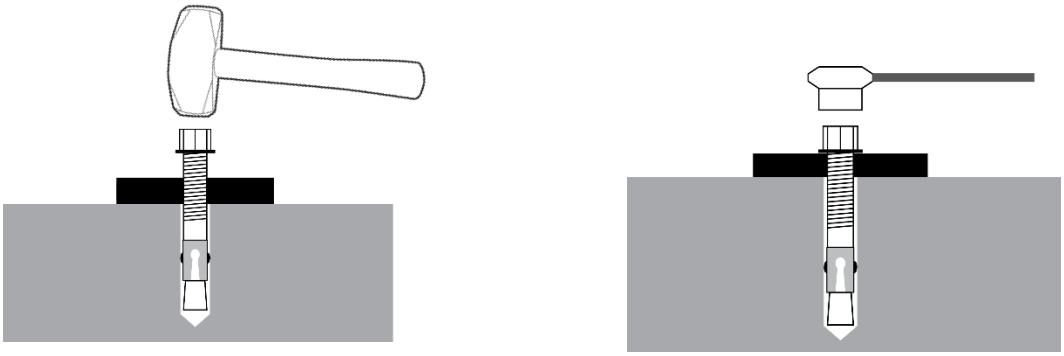
3. Thoroughly clean each hole.

   BendPak recommends using a wire brush and a vacuum to get the hole very clean.

   Do ***not*** ream the hole. Do ***not*** make the hole any wider than the drill bit made it.

4. Make sure the Washer and Nut are in place, then insert the Anchor Bolt into the hole.

   The Expansion Sleeve of the Anchor Bolt may prevent the Anchor Bolt from passing through the hole in the base of the Tire Changer; this is normal. Use a hammer or Mallet to get the Expansion Sleeve through the base and down into the hole.



   Even using a hammer or Mallet, the Anchor Bolt should only go into the hole part of the way; this is normal. If the Anchor Bolt goes all the way in with little or no resistance, the hole is too wide.

   Once past the hole in the base, the Anchor Bolt eventually stops going down into the hole as the Expansion Sleeve contacts the sides of the hole; this is normal.

5. Hammer or Mallet the Anchor Bolt the rest of the way down into the hole.

   Stop when the Washer is snug against the base of the Tire Changer.

6. Use a torque wrench to tighten each Nut ***clockwise*** to the torque recommended by the manufacturer of the Anchor Bolt.

   If no torque is specified, BendPak Ranger recommends ~55 lbf-ft / 74 N-m for a 3/8 in diameter Anchor Bolt.

Important: Do ***not*** use an *impact* wrench to torque the Anchor Bolts.

Wrenching the Nut forces the Wedge up, forcing out the Expansion Sleeve and pressing it tightly against the Concrete.

Connecting to Power

The Tire Changer must be connected to a 208-240 VAC power source.

A Power Cord with ***no Plug*** on the end is provided with the unit. You need to have a licensed, certified Electrician either:

- Wire the open end of the Power Cord to an appropriate 208-240 VAC NEMA 30 Amp Plug, which is then plugged in to an appropriate 208-240 VAC outlet.

  or

- Wire the open end of the Power Cord directly into the facility's electrical system.

⚠ **WARNING** The Tire Changer uses pneumatic and electrical energy; if your organization has Lockout/Tagout policies, implement them once the unit is connected to a power source.

Refer to **Wiring Information** for additional wiring information.

⚠ **DANGER** ***All*** electrical work ***must*** be done by a licensed, certified Electrician in accordance with all national and local electrical codes. If you do not use a licensed, certified Electrician, you void your warranty and put everyone who uses the Tire Changer in danger of injury or, in rare cases, death.

Additional electrical information:

- Make sure wiring is done in accordance with National Electric Code (NEC) and local codes and standards covering electrical apparatus and wiring.
- Operation with no Ground can damage electronics and could create a shock hazard. ***You must ground the unit***.
- Damage caused by improper electrical installation (not grounding the unit, for example) is **not covered** by the warranty.
- Make sure adequate wire sizes are used, service is of adequate amp rating, the supply line has the same electrical characteristics (voltage, cycles, and phase) as the motor, and that no other equipment is operated from the same line.
- Electrical codes in your area may require "hard-wiring" if the machine is anchored to the floor. Consult a licensed Electrician regarding the applicable codes for your location.

⚠ **WARNING** ***Disconnect power before performing troubleshooting or maintenance***. Make sure the unit cannot be reenergized until you are done. This equipment has internal arcing or sparking parts that should not be exposed to flammable vapors. The unit must ***not*** be located in a recessed area or below floor level.

Connecting to Air

The Tire Changer requires a 15 to 25 CFM Air Source with an operating air pressure of 140 to 165 PSI (9.6 to 11.4 bar).

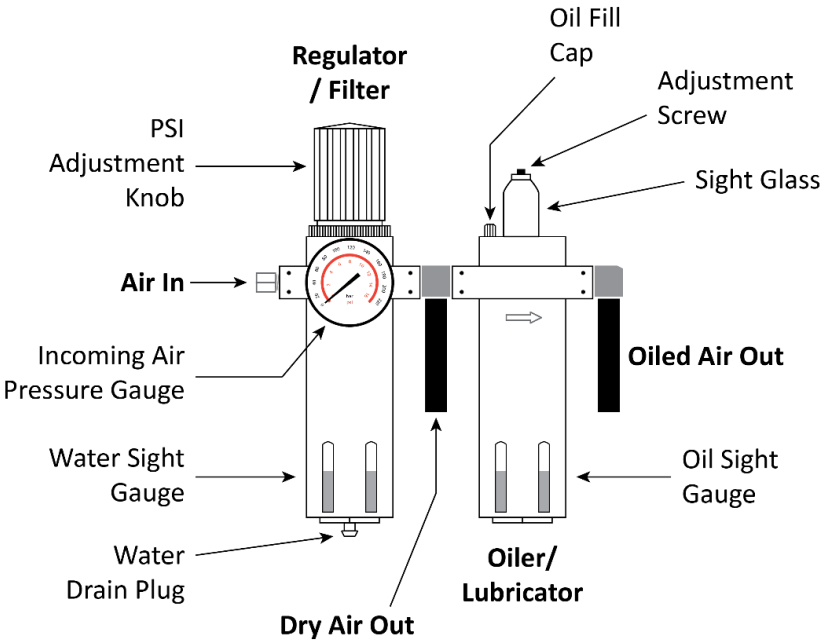
⚠ **WARNING** The Tire Changer uses pneumatic and electrical energy; if your organization has Lockout/Tagout policies, implement them once the unit is connected to the Air Source.

The air lines leaving the Regulator/Filter and Oiler/Lubricator should already be connected.

The incoming Air Source connects to the Tire Changer via the Air In connector on the Regulator/Filter. You need to provide a fitting for the Air In connector; it is not supplied.

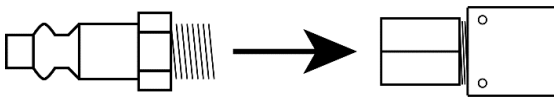
⚠ **WARNING** Clear everything off the Turntable, and out of the path of the Tilt Tower ***prior*** to connecting the Tire Changer to pressurized air.

⚠ **WARNING** Stay clear of pinch points and moving components. Once Air Pressure is provided to the Tire Changer, the Tilt Tower will return to its upright position and the Wheel Clamps on the Turntable will move to the outside of the Turntable.



Drawing not necessarily to scale. Not all components shown.

The following drawing shows a quick-connect air fitting (shown on the left, below) that connects to the Air In connector (shown on the right, below). The fitting is ***not*** supplied with the Tire Changer.



The **Regulator / Filter** removes contaminants from the incoming air. It also includes a gauge that shows the operating air pressure of the incoming air. If you see water in the Water Sight Gauge, you can drain it using the Water Drain Plug. Refer to **Maintenance** for more information.

The **Oiler / Lubricator** puts pneumatic oil, for lubrication, into the incoming air that reaches it. This lubricated air is routed to pneumatic components of the Tire Changer.

Prepare the Lube Bucket

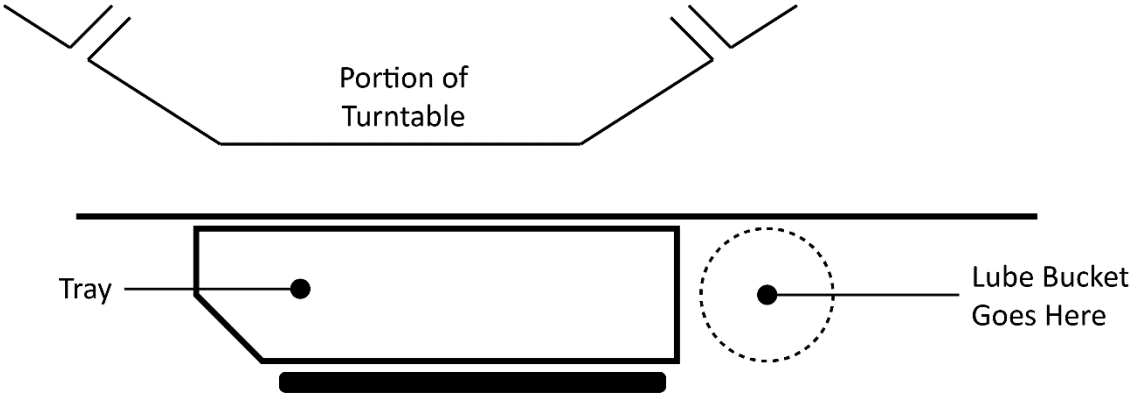
The Tire Changer comes with a Lube Bucket (to hold your Tire Lubricant) and a Lube Brush (to apply your Tire Lubricant).

BendPak Ranger does not include any Tire Lubricant with the Tire Changer, as there are many options available.

⚠ **CAUTION** Only use Tire Lubricant that is approved by the Tire manufacturer for the Tire you are changing. Using non-approved Tire Lubricant could corrode the Wheel or cause Tire/Wheel slippage and vibration issues.

Be sure to use enough Tire Lubricant without using too much. The point of Tire Lubricant is to ***temporarily*** reduce the friction between the Tire Bead area and the Rim. What you are looking for is a Tire Lubricant that is slippery when wet but not slippery once dried. If you notice excessive amounts of Tire Lubricant on the Tire or Rim, remove the excess.

There is a location on the Tire Changer specifically for the Lube Bucket.



Top view. Not necessarily to scale. Not all components shown.

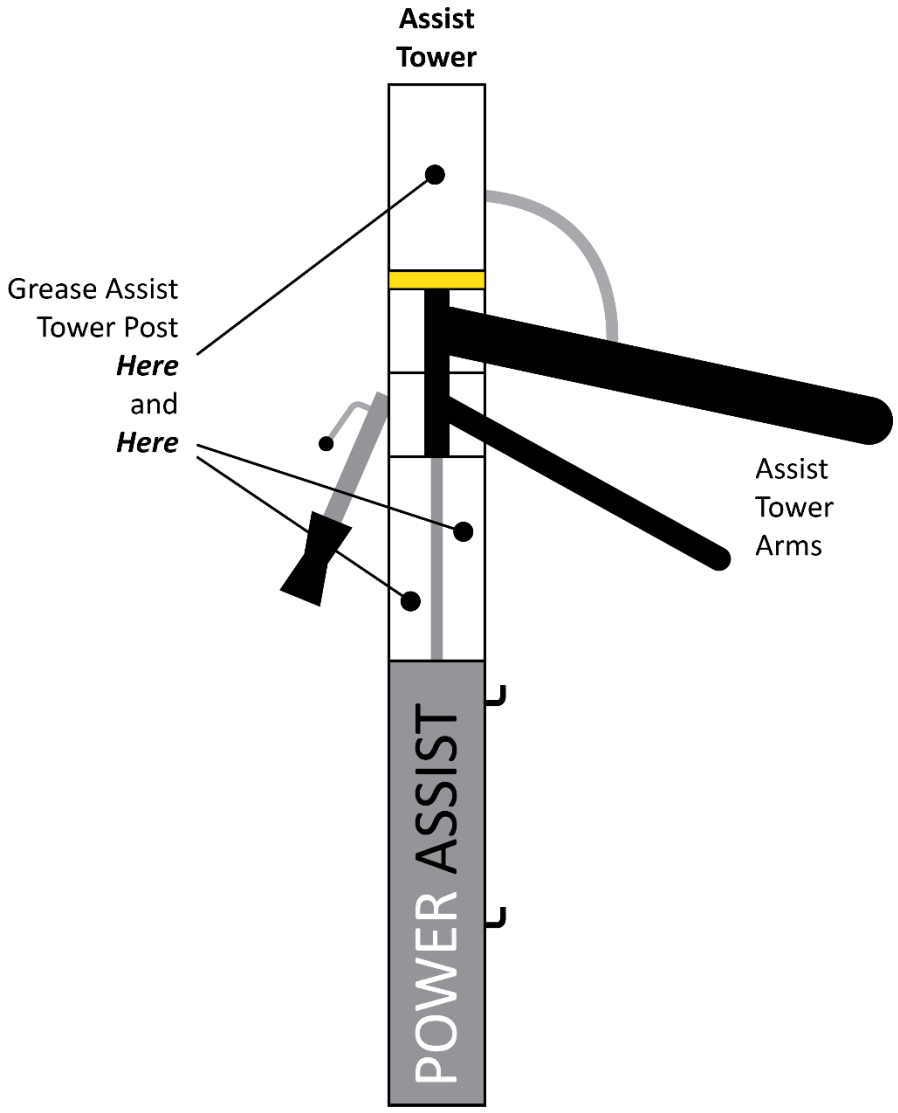
Grease the Assist Tower Post (R76ATR Only)

The Assist Tower Post on the R76ATR needs to be greased in certain locations so the Assist Tower Arms can easily slide up and down.

The Tire Changer comes from the factory with the Assist Tower Post already greased, but eventually it is going to need to be re-greased.

BendPak Ranger recommends a lithium-based grease that includes molybdenum and graphite. For example, Extreme Pressure Moly-Graph® Multi-Purpose Grease from CRC/Sat-Lube®.

⚠ **CAUTION** The lithium-based grease for greasing the Assist Tower Post is ***not*** a Tire Lubricant. Do not use it to lube Tires. Once the Assist Tower Post is greased up, try not to lean on it or touch it; this uses it up faster.



Side view. Not necessarily to scale. Not all components shown.

Test the Tire Changer

Make sure the following items have been done ***before*** putting the Tire Changer into normal operation:

- **Check for pneumatic (air) pressure**. The Tire Changer requires pneumatic energy to perform certain functions.

  To see if the Tire Changer has air pressure, take the Air Chuck and lightly step on and hold down the Inflation Foot Pedal. If air comes out, the Air Source is connected and working.

- **Test the power source**. Other Tire Changer functions require electric power. Step on and hold down the Turntable Foot Pedal to check for electric power. If the Turntable turns, you have power.
- **Make sure there is Tire Lubricant available**. Your shop probably has a brand of Lube that it prefers. Make sure some is in the Lube Bucket on the Tire Changer. Always use Lube; it makes changing Tires easier and helps prevent damage to the Tire and the Wheel.
- **Test the Tool Arms on the Assist Tower (R76ATR only)**. Manually move each Tool Arm separately from side to side. Use the Assist Tower Controls to raise and lower the Tool Arms (they move up and down together). If the Tool Arms can do these things, they are working correctly.
- **Change some non-customer Tires**. To get used to the Tire Changer, BendPak Ranger strongly recommends that all potential Operators change multiple *non-customer Tires of different types* ***before*** letting them change customer tires.

Final Checklist Before Operation

Do the following things ***before*** putting your Tire Changer into normal operation:

- Review the Installation Checklist to make sure all steps have been performed.
- Make sure the Tire Changer is supplied electrical and pneumatic power.
- Check to see that all Anchor Bolts are in position and tightened, if installed.
- Make sure the Tire Changer has been used to change some non-customer Tires.
- Leave the Manual with the owner/operator.

Operation

This section describes how to use your Tire Changer.

It shows and describes the main Tire Changer components involved in demounting and mounting Tires, followed by the necessary procedures.

⚠ DANGER Being in close proximity to a Tire Changer is a serious endeavor with potentially life-threatening risks. Only trained, authorized, supervised personnel may be within 30 feet of the Tire Changer while it is in use. ***Do not assume you are going to be safe using the Tire Changer this time just because nothing happened last time***.

Usage Precautions

Keep the following in mind while you use your Tire Changer:

- Make sure all employees receive specific training in Tire demounting and mounting ***before*** they are allowed to use the Tire Changer, that their training is verified through a testing program, and that all training is documented. All others, including children and untrained personnel, must be kept at least 30 feet away from the Tire Changer while it is in use.
- Make sure new employees are trained and supervised in the performance of their duties.
- Never perform any service on an *inflated* Tire; ***always*** fully deflate the Tire by removing the Valve Core and letting all air escape before beginning work.
- Never mount or change ***damaged*** Tires or Wheels.
- When mounting Tires, identify the maximum allowed inflation pressure; it should be on the sidewall of the Tire. ***Do not exceed the maximum allowed inflation pressure of the Tire***.
- Make sure the Tire is restrained for inflation: either internally clamped, held down by the Restraint Cone (R76ATR only), or in a Tire Inflation Cage (such as the **RIC-4716 4-Bar Tire Inflation Cage from BendPak Ranger**). Do not inflate a Tire if it is *externally* clamped; external clamping interferes with inflation.
- When using the Tire Changer, be careful of your hands; there are multiple pinch point dangers on the unit. ***Do not rest your hands on any part of the Tire Changer while using it***.

⚠ WARNING The Air Chuck has a self-gripping clip so you can clip it on when inflating a Tire, which means you do not have to hold it in place during inflation. ***Do not hold the Air Chuck with your hand while you are inflating a Tire***. This leaves you very close to the Tire, which could result in injury if there were a problem during the inflation. Instead, clip the Air Chuck into position, move away from the Tire, then press and hold down the Inflation Foot Pedal.

- You ***must*** wear OSHA-approved (publication 3151) personal protective equipment at all times when installing, using, maintaining, or repairing the Tire Changer. Leather gloves, steel-toed work boots, eye protection, back belts, and hearing protection are ***mandatory***.
- When using the Tire Changer, the operator must wear ***ANSI-approved*** eye protection at all times: safety glasses, a face shield, or protective goggles.

⚠ WARNING Always wear ANSI-approved eye protection. An accident could cause significant injuries to your eyes.

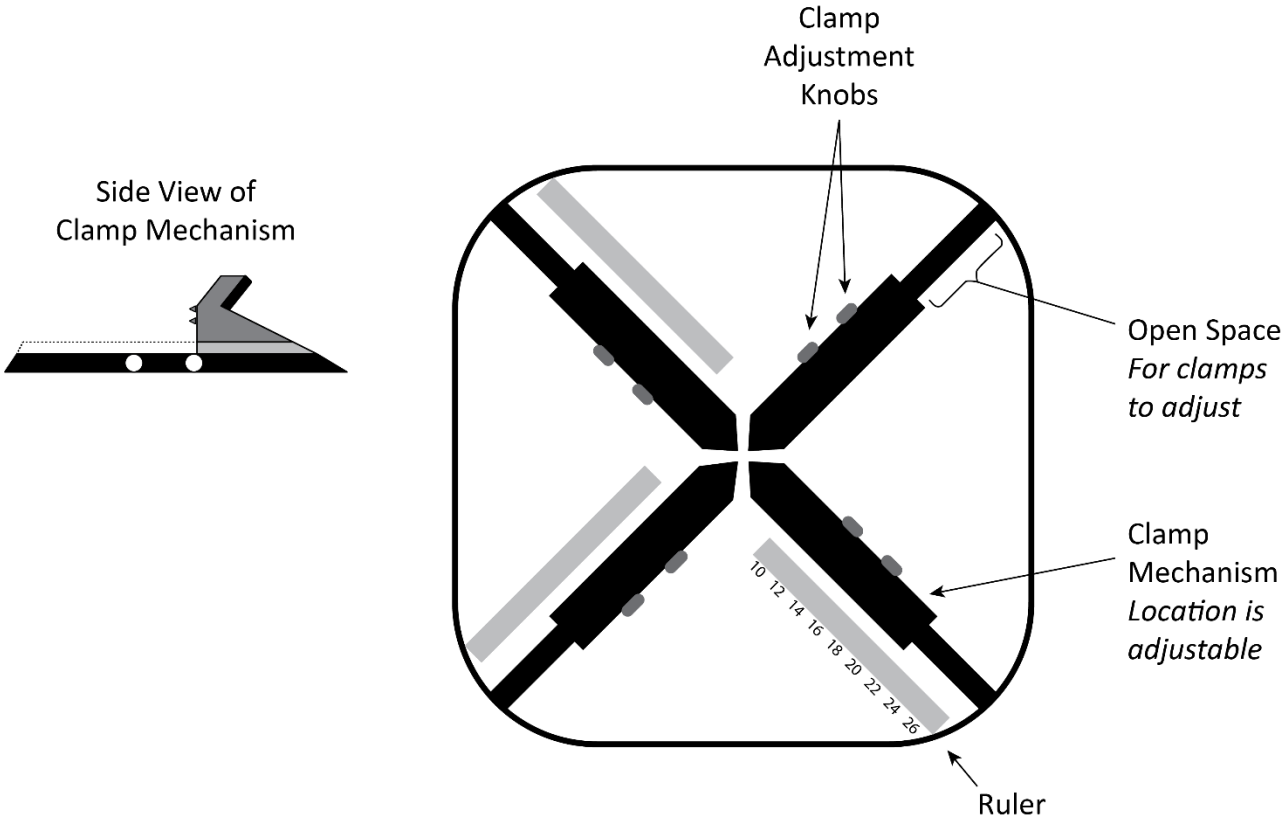
- The Tire Changer may work differently than other Tire Changers you have used. BendPak Ranger strongly recommends that all potential Operators practice using non-customer Tires to get familiar with how the product works ***before*** starting work on customer Tires.
- Keep the work area clean and well lit. Dirty, cluttered, and dark work areas increase the chances of an accident happening.
- Do not access the inside of the unit unless instructed to do so by BendPak Ranger Support.

⚠ **WARNING** Be especially careful when inflating Tires. This is a dangerous time when using a Tire Changer. If the Tire and Wheel are mismatched or there is a defect in the Tire, it could explode, injuring or killing the Operator or bystanders. ***Do not lean over the Tire when inflating a Tire***. Move away from the Tire during inflation.

- Do not use the Tire Changer in a wet environment or expose it to rain or excess moisture.
- If you need to use an extension cord to get power to the unit, use one with a current rating equal to or greater than that of the Tire Changer. Cords rated for less current than the Tire Changer could overheat. If used, arrange the extension cord so that it will not be tripped over or pulled out.
- Do not use anything flammable on the Beads or Rims as lubrication; instead, use non-flammable vegetable or soap-based lubricant.
- Do not use the Tire Changer in the vicinity of open containers of flammable liquids.
- Clean the unit according to the instructions in **Maintenance**.
- Read the entire *Installation and Operation Manual* **before** using the Tire Changer.
- Make a visual inspection of the Tire Changer ***before each use***. Do not operate the Tire Changer if you find any issues. Instead, take it out of service, then contact your dealer, visit **bendpak.com/support**, or call Bendpak Ranger at **(805) 933-9970**.

Turntable

The Turntable is where you put the Wheel whose Tire you are demounting or mounting.



Side and top views. Not necessarily to scale. Not all components shown.

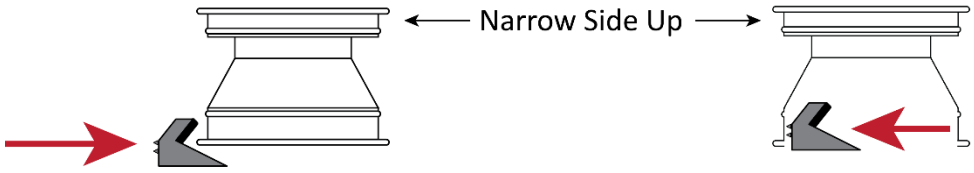
There are several important things to know about the Turntable:

- **Flat, steel piece**. This is the actual Turntable. It holds the other components. It can rotate either clockwise or counter-clockwise.

  To rotate the Turntable clockwise: Press ***down*** and hold down the Turntable Foot Pedal.

  To rotate the Turntable counter-clockwise: Press ***up*** and hold the Turntable Foot Pedal.

- **Clamp Mechanism**. Each Clamp mechanism includes a Clamp and two Clamp Adjustment Knobs. The Clamp Mechanism moves in and out to clamp Wheels either externally or internally. "External" and "Internal" clamping refer to the location of the Clamp in relation to the Wheel.



External Clamping
Clamps on outside, pressing in

Internal Clamping
Clamps on inside, pressing out

Side view. Some components exaggerated for clarity. Large arrows show direction Clamps are pressing. Only one of the four Clamps shown. Not necessarily to scale. Not all components shown.

As a general rule, you clamp steel Wheels internally (Clamps push out against Wheel) and custom and mag Wheels externally (Clamps push in against outside Rim edge). Check with your Supervisor if you are unclear about which method to use for a particular set of Wheels.

To clamp externally: If necessary, use the Clamps Foot Pedal to move the Clamps all the way out (they may be all the way out already), put the Wheel between the Clamps, then press down on the Clamps Foot Pedal to move the Clamps in until the Wheel is being firmly held in place.

To clamp internally: If necessary, use the Clamps Foot Pedal to move the Clamps all the way in (they may be all the way in already), position the Wheel over the Clamps, then press down on the Clamps Foot Pedal to move the Clamps out until the Wheel is being firmly held in place.

Note: The Clamps Foot Pedal works as follows: If the Clamps are in the middle of the Turntable (all the way in), pressing down and then releasing the Clamps Foot Pedal moves them all the way out. If the Clamps are all the way out, pressing down and then releasing the Clamps Foot Pedal moves them all the way in.

- **Clamp Adjustment Knobs**. Move the Clamp between three different positions within the Clamp Mechanism to accommodate Wheels of different sizes.

Clamp *outer position* | Clamp *center position* | Clamp *inner position*

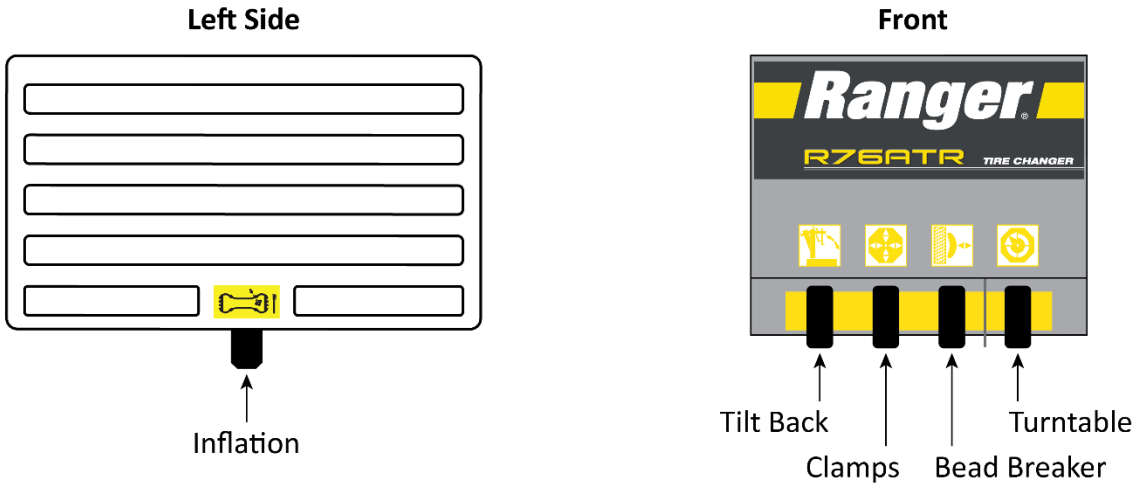
To move a Clamp: Pull out and hold out the Clamp Adjustment Knob closest to the direction you want to move the Clamp, slide the Clamp in the desired direction, release the Clamp Adjustment Knob. If you want to move the Clamp again in the same direction, repeat the same procedure with the other Clamp Adjustment Knob.

If the Clamp is in the center position, you can only move the Clamp one position in either direction.

Pedals

The Tire Changer has multiple Foot Pedals:

- **Inflation Foot Pedal**. Supplies air through the Air Pressure Gauge Cord. All by itself on the left side of the Tire Changer. Press down and hold to inflate a Tire.
- **Tilt Back Foot Pedal**. Controls the Main Tower: moves it forwards or backwards. Press down and release to move the Main Tower back (if it is forward) or forward (if it is back).
- **Clamps Foot Pedal**. Moves the Clamps in or out. Press down and release to move the Clamps in (if they are out) or out (if they are in).
- **Bead Breaker Foot Pedal**. Press down and hold to move the Bead Breaker Blade in; moves back out when you release.
- **Turntable Foot Pedal**. Rotates the Turntable. Press down and hold to go clockwise, press up and hold to go counter-clockwise.



Side and top views. Not necessarily to scale.

Air Pressure Gauge

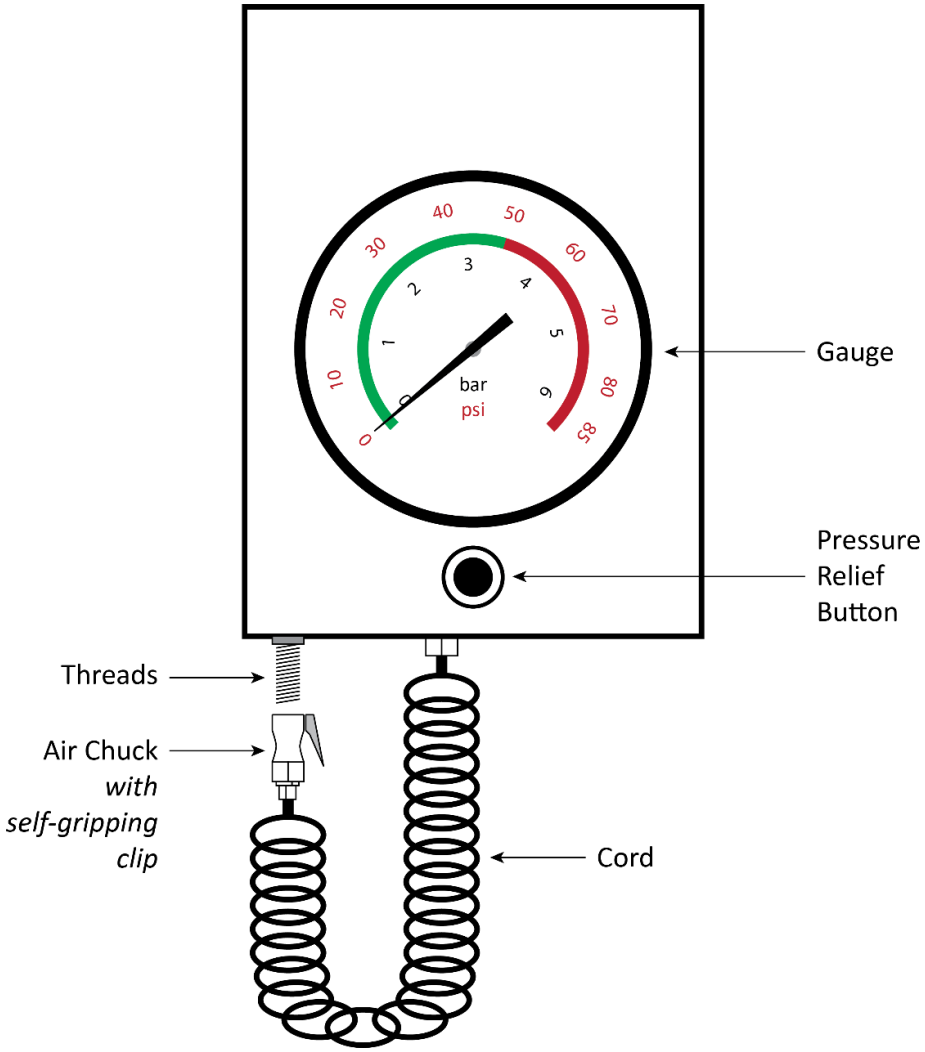
Shows the air pressure in Tires to which the Air Chuck is attached.

The components of the Air Pressure Gauge are:

- **Gauge**. Displays air pressure in the Tire to which the Air Chuck is attached.
- **Pressure Relief Button**. Removes air if a Tire gets overinflated.
- **Cord**. Extends and retracts so you can get the Air Chuck to the Tire.
- **Air Chuck**. Attaches to the threads on the Valve Stem. Includes a self-gripping clip so you do ***not*** have to hold the Air Chuck in place during inflation.

⚠ **WARNING** ***Do not hold the Air Chuck while you are inflating a Tire***. This leaves you close to the Tire, which could result in injury if there is a problem during inflation.

- **Threads**. Store the Air Chuck here using the self-gripping clip.



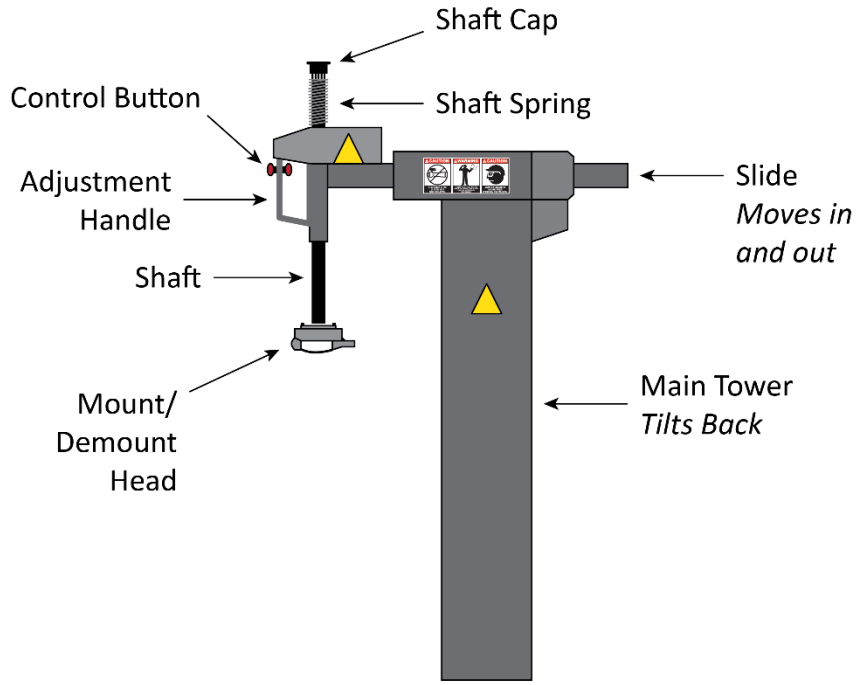
Front view. Not necessarily to scale. Not all components shown.

To see the pressure in a Tire: Attach the Air Chuck to the Tire; the Air Gauge shows the air pressure currently in the Tire. You do ***not*** need to press the Inflation Foot Pedal.

To see pressure during Tire inflation: Attach the Air Chuck, move away from the Tire, then press down the Inflation Foot Pedal. The Air Gauge shows the air pressure in the Tire as it inflates.

Main Tower

The Main Tower holds the main Tire Changer tool, the Mount/Demount Head. It tilts back out of the way when you do not need it.



Side view. Not necessarily to scale. Not all components shown.

The main parts of the Main Tower are:

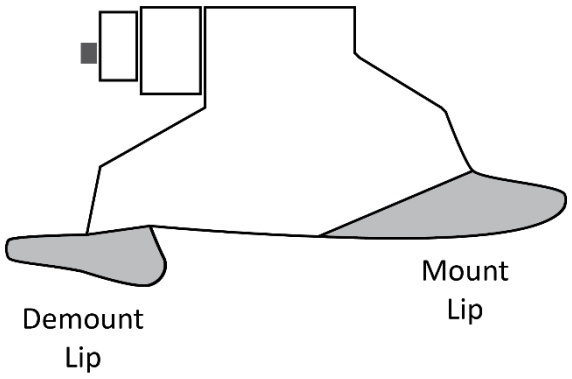
- **Mount/Demount Head**. Attaches to the Bottom of the Shaft. The entire purpose of the Main Tower is to let you get the Mount/Demount Head to where you need it.
- **Shaft**. Moves the Mount/Demount Head up and down.
- **Slide**. Moves the Mount/Demount Head in and out.
- **Control Button**. When pressed on the outside, locks the Shaft and Slide at their current positions. When pressed on the inside, unlocks the Shaft and Slide.
- **Shaft Cap**. Use it to move the Mount/Demount Head down. Do not grab the Shaft Spring or the part of the Shaft just above the Mount/Demount Head; they are not for controlling the Shaft height.
- **Shaft Spring**. Automatically pushes the Shaft back up when you unlock the Shaft using the Control Button.
- **Adjustment Handle**. Moves the Slide in and out.
- **Main Tower**. Tilts backwards and forwards. Controlled by the Tilt Back Foot Pedal. Press down and release on the Tilt Back Foot Pedal to move the Main Tower back (if it is forward) or forward (if it is back).

Mount/Demount Heads

The Mount/Demount Head is the main tool on the Tire Changer for demounting and mounting Tires.

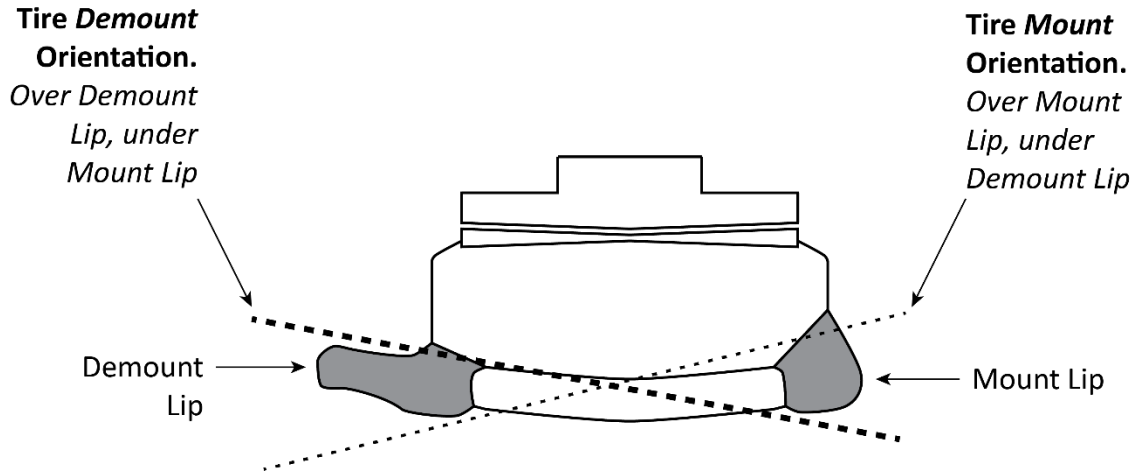
The Tire Changer comes with two Mount/Demount Heads:

- **Alloy Steel**. Silver in color. Includes plastic inserts on the inside to avoid damaging Rims.
  The following drawing shows the location of the Demount and Mount Lips.



  Side view. Set Screws on other side. Not necessarily to scale. Not all components shown.

- **Plastic Polymer**. Dark gray color. Non-marring surface will not scratch or otherwise damage paint or powder coating on Wheels.
  The following drawing shows the location of the Demount and Mount Lips. It also shows where the Tire Bead goes during demounting and mounting.



  Side view. Set Screws on other side. Not necessarily to scale. Not all components shown.

The Demount Lip and Mount Lip work as follows:

- **During *demounting***. The Tire Bead goes ***over the Demount Lip*** and *under* the *Mount Lip*.
- **During *mounting***. The Tire Bead goes ***over the Mount Lip*** and *under the Demount Lip*.

You can easily switch between the two Mount/Demount Heads using the two Set Screws and a 6 mm hex wrench. Loosen the Set Screws, slide the Head down and off, replace it with the other one, and then tighten the Set Screws.

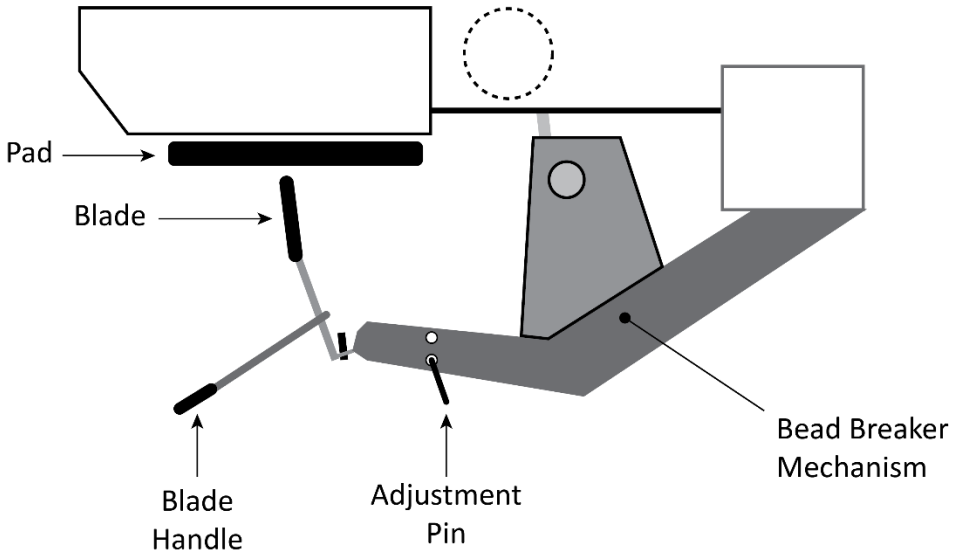
Note: The Alloy Steel Mount/Demount Head includes an additional installation bolt that gets put into place from underneath.

Bead Breaker

Use the Bead Breaker to break the Beads of the Tires you are changing.

Remember that the Beads of a Tire must be broken on ***both sides*** of the Tire.

⚠ **WARNING** ***Do not break the Beads of a Tire until you are certain the Tire is fully deflated***. Breaking the Bead of a Tire with air still in it could injure you or others nearby. The best way to be sure the Tire is fully deflated is to remove the Valve Core and wait for all of the air to come out.



Top view. Not necessarily to scale. Not all components shown.

⚠ **WARNING** ***There is a risk of crushing with the Bead Breaker***. Do not hold onto the Blade Handle when the Bead Breaker is moving. After positioning the Bead Breaker Blade, move away from the Bead Breaker, and make sure the area is completely clear ***before*** pressing the Bead Breaker Foot Pedal.

The main parts of the Bead Breaker are:

- **Bead Breaker Mechanism**. Moves in and out under the control of the Bead Breaker Foot Pedal. Moves with great force; make sure you are completely clear of the Blade and the Bead Breaker Mechanism ***before*** pressing the Bead Breaker Foot Pedal.
- **Blade**. The part of the Bead Breaker that contacts the Tire and actually breaks the Bead.
- **Blade Handle**. Controls the Blade, moving it side to side and in and out.
- **Pad**. The side of the Tire whose Bead is ***not*** being broken goes up against the Pad.
- **Adjustment Pin**. Allows you to accommodate Tires of different sizes by controlling the location of the Blade.

  To use the Adjustment Pin: remove it from its current location, then slide it into the other location.

Bead Lifting Tool

Use the Bead Lifting Tool to pull the Tire's Bead up and over the Mount/Demount Tool to help demount the Tire.

You can also use the Bead Lifting Tool to push down the Tire's Bead — to the left of the Mount/Demount Head — during the mounting of a Tire.

The Bead Lifting Tool has an angled and a hooked end. You can use either end.

Turbo-Blast™ Bead Sealing System

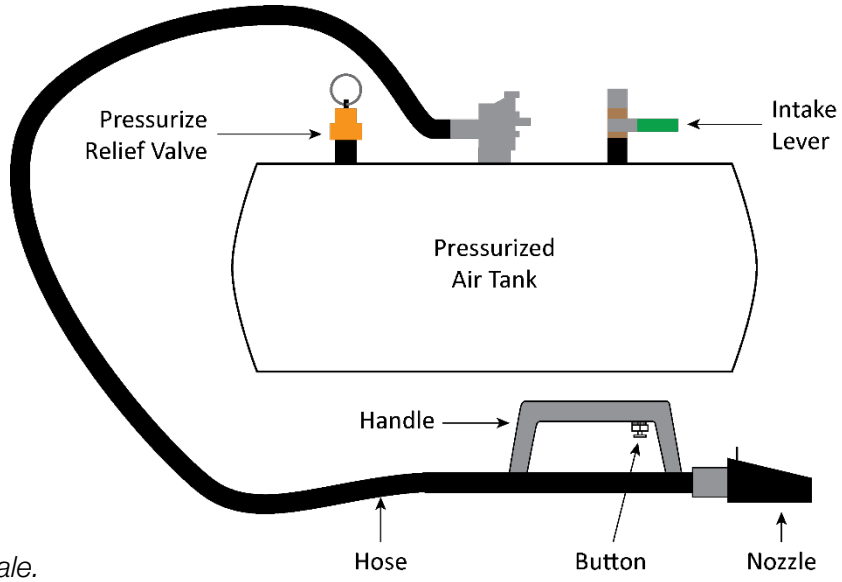
The Turbo-Blast Bead Sealing System, located on the back of the Tire Changer, provides a very strong blast of pressurized air that is useful for sealing a stubborn bead.

The system includes:

- **Pressurized Air Tank**. Holds the pressurized air, enough for multiple blasts of pressurized air.
- **Intake Lever**. When open, air from the incoming air source goes into the Pressurized Air Tank. When closed, no air can get into the tank.
- **Pressure Relief Valve**. Releases air pressure from the tank if the pressure gets too high.
- **Hose**. Moves the pressurized air from the tank to the Nozzle.
- **Nozzle**. Where the pressurized air comes out.

⚠ **DANGER** Use extreme care with the TurboBlast Bead Sealing System. You could cause product damage, personal injury, or death. Never point the Nozzle at a person or thing. Do not use the TurboBlast System for anything except sealing a bead.

- **Handle**. Gives you an easy way to position the Nozzle. ***Use both hands***.
- **Button**. Press to release a powerful blast of air.



Not to scale.

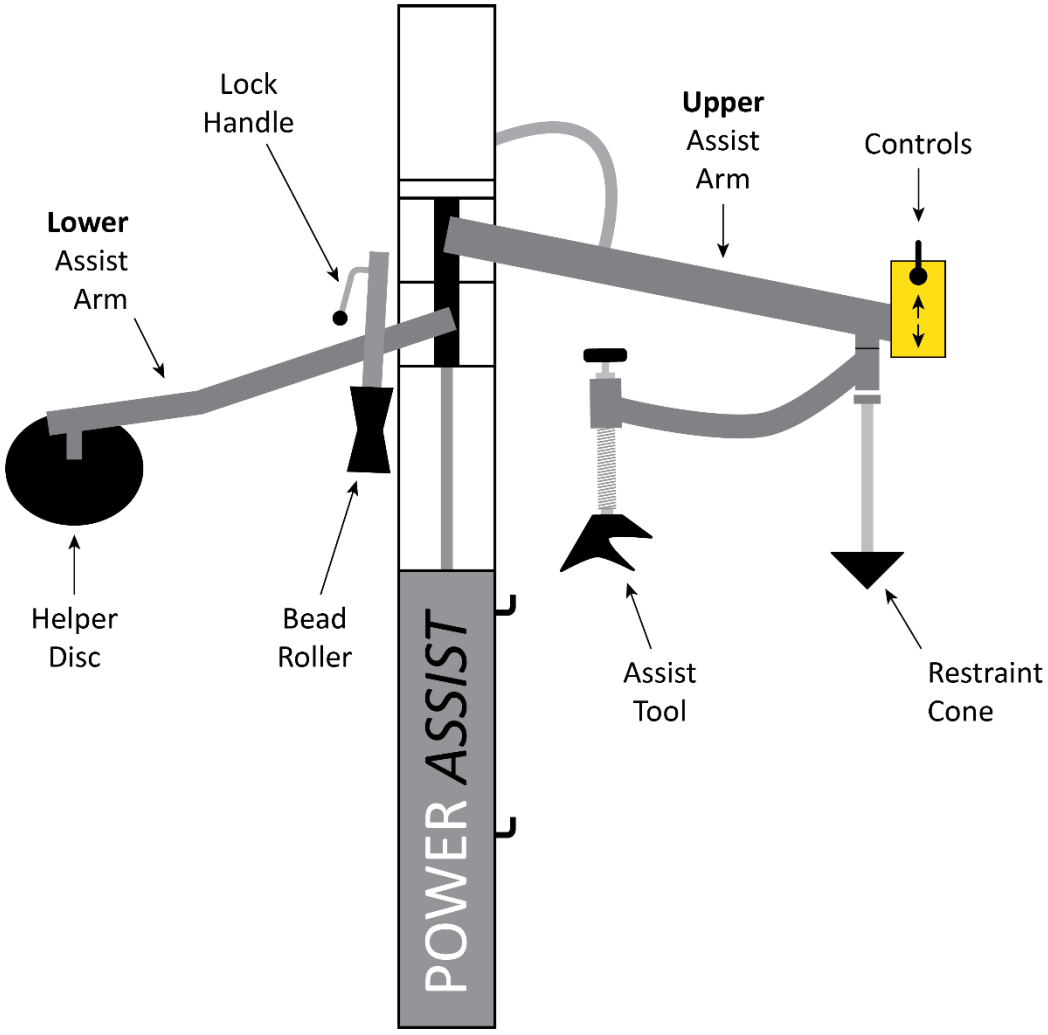
Assist Tower (R76ATR Only)

The Assist Tower holds extra Tools that make it easier to dismount, mount, and inflate Tires.

The two Assist Tower Arms move up and down *as one*, but move side to side **independently**.

The components of the Assist Tower are:

- **Controls**. Moves the two Assist Tower Arms up and down together.
- **Bead Roller**. Holds down the top Bead during mounting.
- **Upper Assist Arm**. Holds two Tools and the Controls.
  The two Tools are:
  - *Restraint Cone*. Used in two ways. First, when mounting a Tire, use the Restraint Cone to push the Tire down (helpful when clamping a Wheel externally). Second, when inflating a Tire, use to hold the Wheel in position on the Turntable.
  - *Assist Tool*. Used to hold down the top Bead during mounting. Travels with the Tire.
- **Lower Assist Arm**. Holds a single Tool:
  - *Helper Disc*. Used to hold up the bottom Bead during demounting.



Front view. Not necessarily to scale. Not all components shown.

Before You Change a Tire

⚠ **DANGER** Do not use the Tire Changer unless you have been properly trained and have read the entire *Installation and Operation Manual*. Tire changing must only be done by trained, authorized, supervised personnel. ***Failure to understand and follow proper procedures will result in injury or death***.

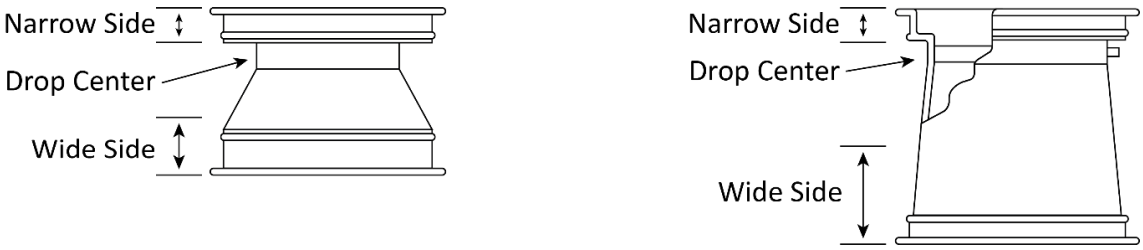
Before you change a Tire, you should:

- **Remove weights**. Check the Wheel to make sure that all clip-on and adhesive weights (from having the Tire balanced) have been removed.
- **Deflate the Tire**. This is required. **You must *fully* deflate Tires before demounting them**.

  To make sure a Tire is *fully deflated*, remove the Valve Core from the Valve Stem and then wait for all of the air to come out. You should use a Valve Core Tool for this, but if you do not have one, you may be able to use needle-nosed pliers.
- **Have Tire Lubricant ready**. Tire Lubricant makes the process of demounting and mounting Tires much easier. If you do not use Tire Lubricant, you significantly increase the chances of damaging the Wheel and the Tire. Tire Lubricant is not provided with the Tire Changer.
- **Check for damage**. Especially with expensive Wheels, make sure to check them for any damage ***before*** changing the Tire. Depending on the circumstances, if you find damage you might want to discuss that damage with the owner of the Vehicle and/or photograph the damage. If you work in a shop, talk to your Supervisor regarding policies in this area.

  Additionally, damaged Wheels and Tires are dangerous to work with. If you are not sure whether a Wheel or Tire is too damaged to work with, talk to your Supervisor.
- **Understand Performance Wheels**. Before servicing performance Wheels, review the Performance Wheels section of this manual and your shop's policies for them.
- **Identify the Narrow Side/Drop Center of the Wheel**. The rule is: the Narrow Side/Drop Center side of the Wheel gets put onto the Tire Changer facing **up**. For most Wheels, this means the side of the Wheel facing the *outside* of the Vehicle goes on top, because that's where the Narrow Side/Drop Center side is on most (but not all) Wheels.

  The following drawing shows two Wheels and identifies the Narrow Side, Drop Center, and Wide Side of each.



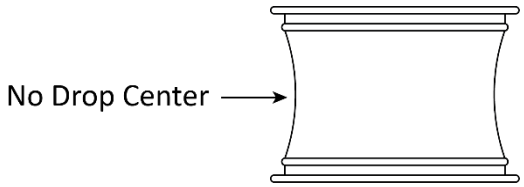
  Some aftermarket and OEM performance Wheels are **reverse** drop-center Wheels, meaning the Narrow Side/Drop Center side of the Wheel is the side closer to the *inside* of the Vehicle. The rule still holds for these Vehicles: the Narrow Side/Drop Center side of the Wheel gets put onto the Tire Changer facing up.
- **Ask your Supervisor**. If you have concerns about a Tire you have been asked to demount or mount, or about how to use the Tire Changer, consult with your Supervisor ***before*** starting work.

Working with Custom and Special Wheels

This section covers working with Alloy Wheels with no drop center, European performance Wheels, and Wheels with tire pressure monitoring systems.

Alloy Wheels

Some manufacturers offer Wheels with little or no drop center. These types of Wheels are almost never Department of Transportation approved.



⚠ **DANGER** The Tire, Wheel, or both can be damaged and the Tire could explode under pressure, resulting in serious injury or death. ***BendPak Ranger recommends you not try to demount or mount this type of Wheel***. If you do attempt to demount or mount this type of Wheel, **proceed with extreme caution**.

European Performance Wheels

Some European performance Wheels have very large humps except near the Valve Hole.

On these Wheels, the Beads should be broken at the Valve Hole on both the upper and lower sides first.

Wheels with Tire Pressure Monitoring Systems (TPMS)

Some Wheels have a pressure sensor located behind the Valve Stem. On these Wheels, the Beads should be loosened opposite the Valve Stem on both upper and lower sides first, before breaking the Beads on the rest of the Tire.

Performance Wheels on some Vehicles (including Corvette, BMW, and Lamborghini Diablo) have a pressure sensor strapped to the Wheel *opposite* the Valve Stem. On these Wheels, the Beads should be loosened at the Valve Stem on both sides first, before breaking the Beads on the rest of the Tire.

Be mindful of the TPMS sensor when breaking a Tire's Bead, demounting a Tire, and mounting a new Tire. If your shop does not have specific recommendations for handling these situations, BendPak Ranger recommends:

- **When breaking a Tire's Bead**. Keep the TPMS sensor away from where the Bead is being broken. Put the sensor at 12 o'clock high (relative to the ground) when breaking the Bead.
- **When demounting a Tire**. Put the TPMS sensor just to the right of the Mount/Demount Head.
- **When mounting a Tire**. Put the TPMS sensor just to the left of the Mount/Demount Head.

These are general guidelines; be sure to use common sense and take into consideration the specifics of each situation. If you still have concerns, speak to your Supervisor.

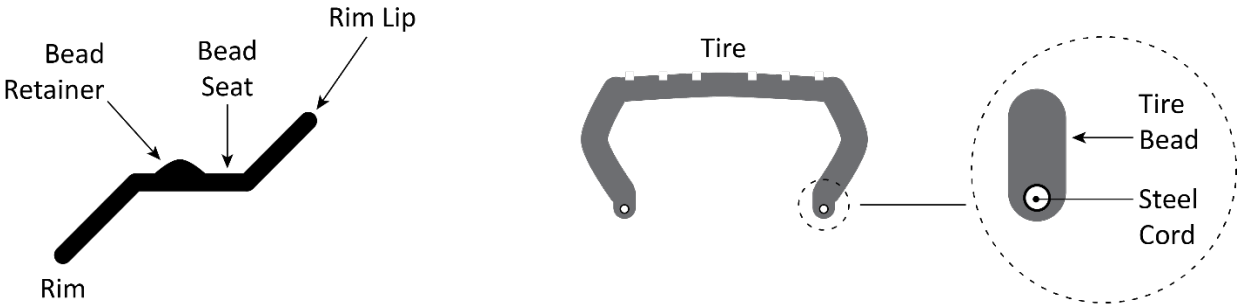
Important: When you are finished mounting a Tire with a TPMS sensor, make sure it is working. It is against the law to ***knowingly not*** re-install a working TPMS if the Vehicle arrived at the facility with a functioning TPMS. If a Vehicle came in with a functioning TPMS, it needs to leave with a functioning TPMS.

The Steps in Changing a Tire

Before you start working on a Tire, review the requirements in **Before You Change a Tire**.

Changing a Tire consists of multiple steps:

1. **Deflate the Tire**. There is a lot of energy stored in a Tire when it is inflated. You **must *fully*** deflate the Tire before you can demount it. If you do not, that energy will be released when you try to demount it, which could result in the Tire exploding, causing injury and even death to the Operator or bystanders. ***Never work on a Tire unless you have personally confirmed that it is fully deflated***. The best way to do this is to make sure the Valve Core has been removed from the Valve Stem, which lets the air out.
2. **Break the Bead**. Tires stay in position because the Tire Bead is seated between the Bead Retainer and the Rim Lip of the Wheel (called the Bead Seat). To demount a Tire, you must get the Bead out of the Bead Seat all the way around both sides of the Tire. This is called Breaking the Bead. Use care when Breaking the Bead of Wheels with a TPMS.

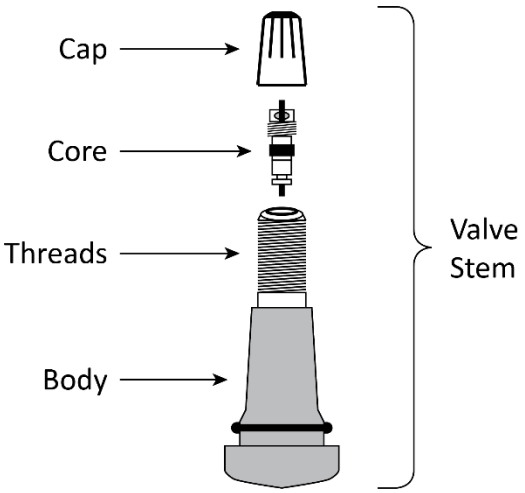


3. **Secure the Wheel on the Turntable**. It is important for the Wheel to stay in place on the Turntable. The Tire Changer supports both Internal and External Clamping.
4. **Demount the Tire**. Once the Bead is broken, you still have to slide both Beads of the Tire over the top Rim of the Wheel to get the Tire fully off. Once the Tire is demounted from the Wheel, you can move it out of the way and then mount the new Tire.
5. **Mount the new Tire**. Mounting a Tire is basically the opposite of demounting. You first need to get the Beads under the Rim (the opposite of demounting the Tire), get the Beads into position ***in*** the Bead Seats (the opposite of Breaking the Bead), and then inflate the Tire (the opposite of deflating the Tire).
6. **Inflate the Tire**. Three separate stages: Bead Seal, Bead Seat, Inflate. **Bead Sealing** is putting in a small amount of air pressure to push the Tire up against the Rim so that no more air leaks out. **Bead Seating** is putting in more air pressure to "pop" the Beads into position in the Bead Seats. **Inflation** is adding air pressure to the Tire manufacturer's recommended pressure after the Beads have been seated.

   Depending on how much air pressure was needed to seat the Bead, you may have to release some air ***out*** of the Tire to get to the recommended pressure for the Tire.
7. **Remove the Wheel from the Turntable**. Disengage the Clamps, then move the Wheel and Tire off the Turntable.

About Valve Stems

The following drawing shows a Valve Stem and its components.



This manual talks about Valve Cores and Valve Stems at multiple points:

- **When demounting a Tire**. Taking out the Valve Core lets the air out of the Tire, which ***must*** be done before you can demount a Tire.

  It is very dangerous to do any service on a Tire if there is air in it.

  There is a tool called a Valve Core Tool that makes it easy to remove a Valve Core.

- **When replacing the entire Valve *Stem***. Valve Stems are normally replaced when you mount a **new** Tire on a Wheel.

  When mounting a new Tire, BendPak Ranger recommends installing a new Valve Stem, but it is not required. The process for replacing a Valve Stem is to cut out or pull out the old Valve Stem, then install the new Valve Stem. This should be done after the old Tire has been demounted but before the new Tire is mounted.

  There is a tool called a Valve Stem Installer/Remover Tool (sometimes Valve Stem Puller/Remover Tool) that can be used to both remove an old Valve Stem and install a new Valve Stem.

  This tool is ***not*** the same tool as the Valve Core Tool, although sometimes they are sold together.

- **When inflating a Tire**. Before starting the first stage of inflating a Tire (sealing the Beads), remove the Valve Core. **Make sure to keep it**. Removing the Valve Core allows air to move more easily into the Tire.

  Once the *second* stage of inflating a Tire (seating the Beads) is *complete*, put the Valve Core back in.

  Sealing and seating the Beads do not put too much air pressure into the Tires. Inflating the Tire, the third stage, does. So you want the Valve Core in for the inflation stage, as that will keep the air from coming back out of the Tire.

  If you forget to put the Valve Core back in before inflating the Tire, you can put it back in when the Tire is inflated. Just note that when you unclip the Air Chuck, the air is going to start coming out of the Tire, which both lowers the pressure in the Tire and makes it difficult to put the Valve Core in.

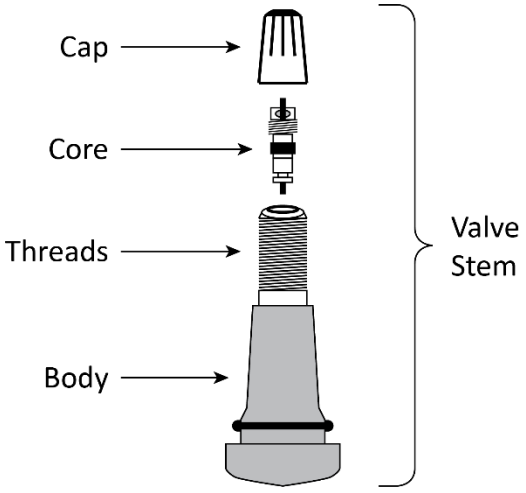
Deflate the Tire

You must ***fully deflate*** a Tire before you can demount it.

⚠ DANGER Never attempt to demount or mount an ***inflated*** Tire. They must be deflated. Attempting to demount or mount an inflated Tire could cause it to explode, which could result in injury or even death.

To deflate a Tire:

1. If the Valve Stem has a Cap on it, remove it.
2. Pull the Valve Core out of the Valve Body.



   Use a Valve Core Tool to remove the Valve Core. If a tool is not available, you may be able to use needle-nosed pliers.

   If you are going to use the same Valve Stem with the new Tire you are going to mount, keep the Valve Core you just took out.

   BendPak Ranger recommends installing a new Valve Stem when you mount a new Tire.

3. Make sure all of the air comes out of the Tire.

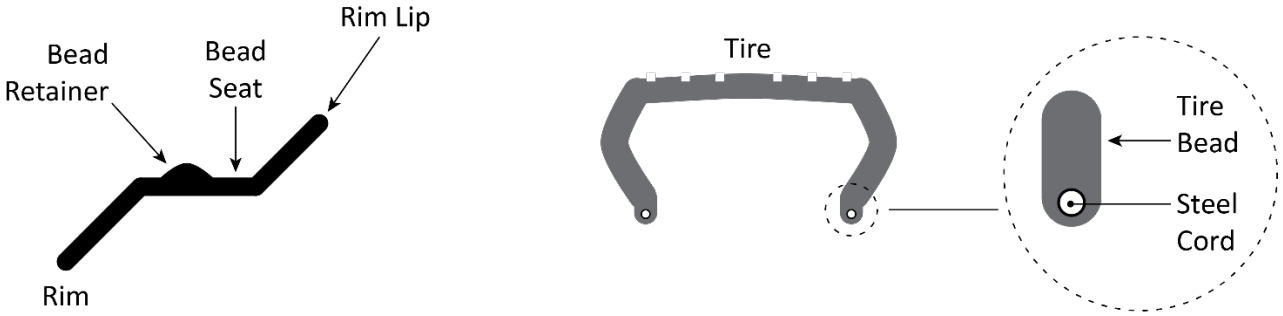
⚠ WARNING Do not proceed with any other Tire changing activity until you are certain the Tire is ***fully*** deflated. Do not demount a Tire until you yourself have made sure the Tire is fully deflated. In other words, do not take someone's word for it. If you are demounting a Tire, ***you*** must make sure it is ***fully*** deflated.

Break the Beads

The Beads must be broken (pushed out of their Bead Seats) – on both sides of a Tire – ***before*** the Tire can be demounted.

⚠ **WARNING** Do not break the Bead of a Tire until ***you*** have made sure the Tire is fully deflated. A Tire with air still in it could explode, injuring the Operator or bystanders.

The Bead is broken when the Tire Beads come out from between the Rim Lip and the Bead Retainer (the Bead Seat) all the way around the Tire, on ***both sides*** of the Tire.



To break a Tire's Beads:

1. Make sure you are wearing OSHA-approved (publication 3151) personal protective equipment: leather gloves, steel-toed work boots, back belts, hearing protection, and ANSI-approved eye protection (safety glasses, face shield, or goggles).
2. Check the Tire again to make sure it is ***fully*** deflated.
3. Check both sides of the Tire to make sure all Wheel weights (from balancing) have been removed. If they have not, remove them.

⚠ **CAUTION** Breaking the Beads of a Tire with Wheel weights could damage the Tire Changer and/or the Wheel.

4. Identify the Narrow side of the Tire whose Beads you are breaking; *break the Narrow side first*.
5. Move the Tire into position between the Pads and the Bead Breaker Blade, with the Narrow side of the Tire on the Blade side.
6. Depending on the size of the Tire whose Bead you are breaking, you may need to adjust the position of the Blade using the Adjustment Pin.

   Refer to **Bead Breaker** for more information.
7. If you are Breaking the Beads of a Tire with a TPMS, put the sensor at 12 o'clock high or 6 o'clock low (relative to the ground), to reduce the chances of damaging it.

   Note that your shop may have different policies for handling Tires with a TPMS.

8. Move the Blade so that it is on the side of the Tire, very close to, **but not touching**, the Rim.

⚠ **CAUTION** Make sure the Blade is ***not*** touching the Rim. The Bead Breaker Mechanism uses a great deal of force; you will damage the Rim if the Blade pushes on it instead of on the side of the Tire.

9. Step on and hold down the Bead Breaker Foot Pedal.

   The Blade pushes in, moving the Bead out of the Bead Seat and in towards the Drop Center of the Tire.

   When the Bead breaks, it frequently (but not always) makes an audible popping sound.

10. When the Blade cannot go any further in, release the Bead Breaker Foot Pedal.
11. If the Blade does not fully move the Bead out of the Bead Seat, adjust the Blade a little bit one way or the other and then try again.
12. When the Bead is broken at the first spot, rotate the Tire 180° and break the Bead at that location.

    Every Tire is different. With some Tires, the entire Bead on one side could be broken with the first use of the Bead Breaker Blade. Other Tires could take multiple attempts until the Bead is broken all of the way around the Tire.

13. When the Bead is completely broken all the way around on one side of the Tire, move the Tire out, turn it around, and then break the Bead on the second side of the Tire.

    Again, avoid breaking the Bead at the TPMS; you could damage the sensor.

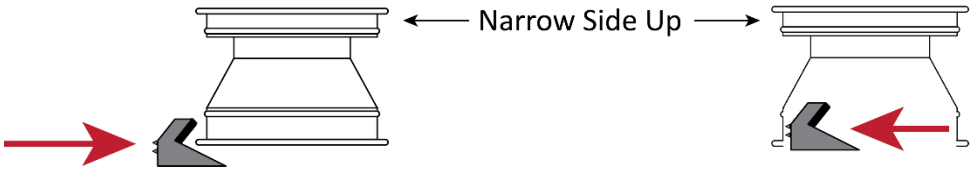
    Important: It may take you two or three times to break the Bead at any one spot. Nevertheless, keep going until you break the Bead all the way around the Tire and on both sides of the Tire. ***Do not proceed to demounting the Tire until the Bead is broken all the way around and on both sides of the Tire***.

Secure the Wheel on the Turntable

Before you can demount a Tire, you must secure the Wheel on the Turntable.

The Tire Changer supports two ways of securing the Wheel to the Turntable:

- **External clamping**. The Clamps are on the outside, pressing inwards.
- **Internal clamping**. The Clamps are on the inside, pressing outwards.



External Clamping
Clamps on outside, pressing in

Internal Clamping
Clamps on inside, pressing out

As a general rule, steel Wheels clamp internally and custom and mag Wheels clamp externally. Check with your Supervisor if you are unclear about which method to use.

To secure a Wheel on the Turntable:

1. Make sure you are wearing OSHA-approved (publication 3151) personal protective equipment: leather gloves, steel-toed work boots, back belts, hearing protection, and ANSI-approved eye protection (safety glasses, face shield, or goggles).
2. Identify the Narrow side of the Tire; this side goes up.
3. Determine which clamping method you are going to use and move the Clamps to the starting position for that clamping method:
   - If you are clamping ***externally***, move the Clamps all the way ***out***.
   - If you are clamping **internally**, move the Clamps all the way **in**.
4. Put the Wheel onto the Turntable, either between the Clamps that are all the way out for external clamping or over the Clamps that are all the way in for internal clamping.
5. Secure the Wheel by pressing down and then releasing the Clamps Foot Pedal.

Tip Clamping externally can be difficult on some Tires. If you are having problems getting the Clamps to clamp externally, either press down on the Wheel from above or, if you are using the R76ATR, use the Restraint Cone to push the Wheel down from above. Pushing down from above moves the Rim away from the Tire a little, making it easier for the Clamps to grab the Rim.

6. Check to make sure the Wheel is securely clamped.

Demount the Tire

Demounting a Tire is the process of taking a Tire off a Wheel. Specifically, you need to pull the top Bead over the **top** of the Rim, then pull the bottom Bead also over the **top** of the Rim.

⚠ **CAUTION** You ***must*** use Tire Lubricant; this helps the Tire demount more easily and helps to prevent damage to the Wheel and/or the Tire.

During demounting, the Bead goes over the Demount Lip of the Mount/Demount Head but stays under the Mount Lip. See **Mount/Demount Heads** for additional information.

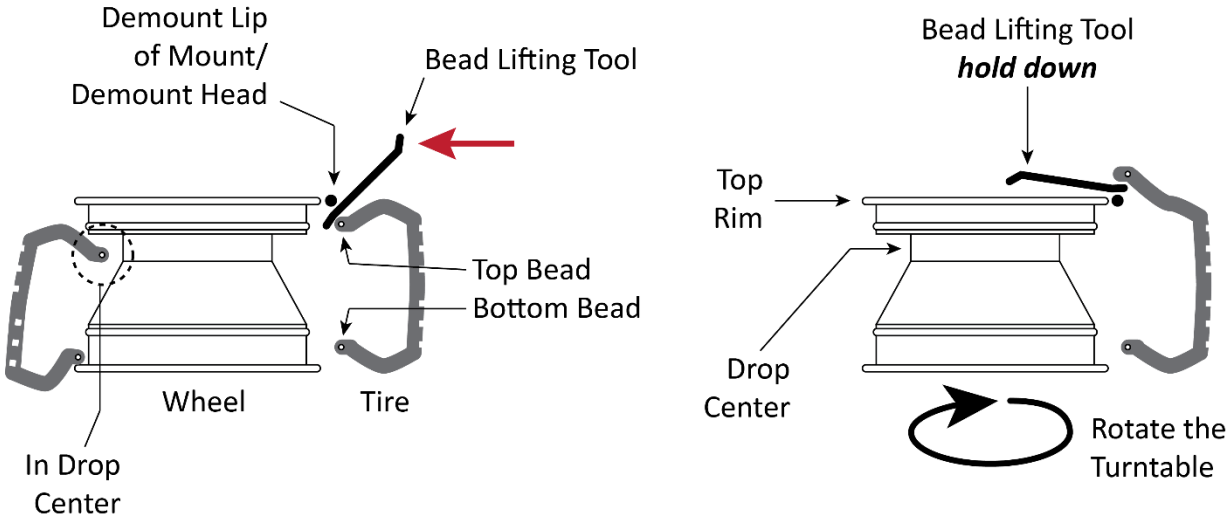
⚠ **WARNING** The following procedure ***requires*** that the Tire's Beads are broken on **both** sides. ***Do not*** try to demount a Tire whose Beads are not broken on both sides; you could damage the Wheel, the Tire, or even injure yourself or bystanders.

To demount a Tire:

1. Make sure you are wearing OSHA-approved (publication 3151) personal protective equipment: leather gloves, steel-toed work boots, back belts, hearing protection, and ANSI-approved eye protection (safety glasses, face shield, or goggles).
2. Verify that the Tire's Beads are completely broken on ***both sides*** of the Tire.
3. Apply Tire Lubricant to the Tire Beads and the top Rim.

   This helps the Beads slide over the Rims more easily.
4. Move the Mount/Demount Head into position, very close to the Rim ***but not touching it***, and lock it in position using the Control Button on the Adjustment Handle.
5. Push the top Bead on the side of the Tire *opposite* the Mount/Demount Head into the Drop Center of the Wheel.

   This gives you some extra room to help pull the top Bead over the Demount Lip.

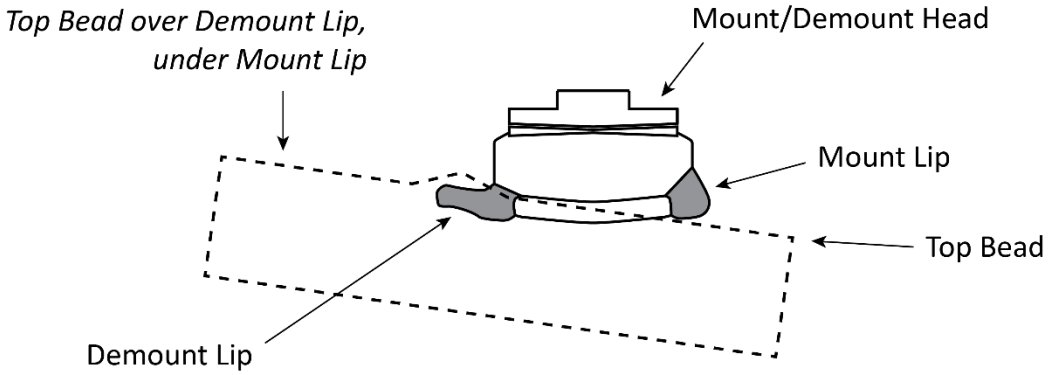


Tires not shown for clarity. Side view. Not necessarily to scale.

6. Take the Bead Lifting Tool, position one end on the outside of the Demount Lip of the Mount/Demount Head, then slide it down between the Demount Lip and the top Tire Bead until it is just past (and a little under) the Bead.
7. Carefully push the Bead Lifting Tool in towards the middle of the Wheel in an arc.

This pulls the top Bead over the Demount Lip, which is what you want.

Top Bead Demount Orientation.



⚠ **CAUTION** ***Hold on to the Bead Lifting Tool***. Depending on the Tire, it may take a good deal of force to move the Bead up and over the Demount Lip. If you were to release the Bead Lifting Tool at this point, it could easily injure the Operator or damage the Wheel, Tire, or the Tire Changer.

Check to make sure the Bead Lifting Tool is lifting the Tire Bead up and over the Demount Lip of the Mount/Demount Head. If the Tire Bead is **not** coming up and over the Demount Lip, pull the Bead Lifting Tool out and start again. *On some Tires, it may take multiple attempts*.

8. When the Bead Lifting Tool has moved all the way over to the middle of the Wheel, check the top Bead to make sure it is above the Demount Lip.

   The top Bead ***must*** be above the top of the Demount Lip to proceed.

   Continue holding the Bead Lifting Tool.

9. Press down and hold down the Turntable Foot Pedal; the Turntable begins turning clockwise.

   Note: If you have difficulty getting the Turntable to move clockwise, release the Turntable Foot Pedal, keep hold of the Bead Lifting Tool, and then press up on the Turntable Foot Pedal for few seconds to move the Turntable counterclockwise, then press down again to move clockwise. Repeat as necessary to clear up the difficulty.

   Watch the top Bead to make sure it is being pushed over the Rim, all the way around the Tire, as the Turntable moves.

10. Keep turning the Turntable until the entire top Bead pops over the top of the Rim.

11. When the top Tire Bead pops over the Rim, release the Turntable Foot Pedal and remove the Bead Lifting Tool.

    The top Bead is demounted.

    The next step is to demount the bottom Bead over the top Rim.

12. Make sure there is still lubricant on the bottom Bead and the top Rim.

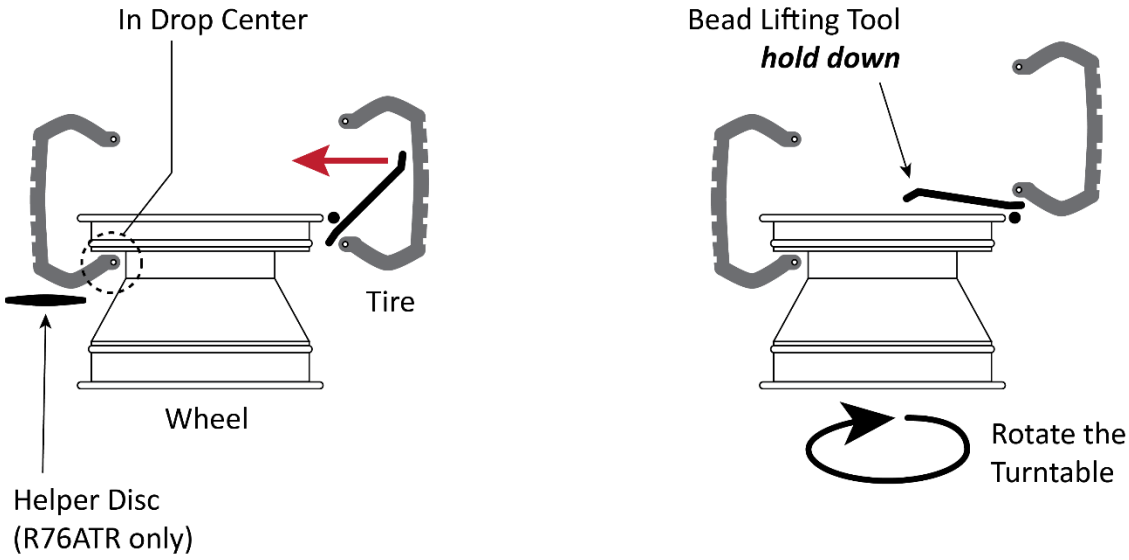
    If there is not, put some more on.

13. Push the bottom Bead up as much as possible all the way around the Wheel, then push the side of the Tire opposite the Mount/Demount Head into the Drop Center of the Wheel.

    If you are using the R76ATR, you can position the Helper Disc to help hold up the Tire. If you are using the R76LT, you can manually lift the Tire.

14. Take the Bead Lifting Tool, put it on the outside of the Demount Lip, then slide it down past and under the bottom Bead.

    Getting the Bead Lifting Tool into position may be trickier this time, as the rest of the Tire could be in the way as you are trying to get access to the bottom Bead.



    Tires not shown for clarity. Side view. Not necessarily to scale. Helper Disc location is adjustable.

15. Push the Bead Lifting Tool towards the middle of the Wheel in an arc, pulling the bottom Bead over the Demount Lip of the Mount/Demount Head.
16. While continuing to hold the Bead Lifting Tool, press down and hold down the Turntable Foot Pedal to move the Turntable clockwise.

    Watch the bottom Bead to make sure it is being pushed over the top of the Rim as the Turntable moves.

17. Keep turning the Turntable until the entire bottom Bead moves over the top Rim.

    The Tire is now dismounted and can be removed.

Wheel / Tire Mismatches

A Wheel / Tire mismatch is mounting a Tire where the Tire's Bead diameter does not ***exactly*** match the Diameter of the Wheel.

⚠ **DANGER** ***A Wheel / Tire mismatch is extremely dangerous***. A mismatched Tire and Wheel may separate or explode, resulting in injury or even death.

The differences can be subtle, so you must take care to get an ***exact match***.

For example, a 16 inch Tire goes on a 16 inch Wheel, not a 15.5 or a 16.5 inch Wheel. It may be possible to slide the 16 inch Tire over the Rim Lip of a 16.5 inch Wheel, but during inflation it will ***not*** seat properly.

⚠ **WARNING** **Do not** mount a Tire on a Wheel until you, ***yourself***, have positively identified and correctly matched the Tire and Rim diameters. If you try to seat a Tire Bead on a mismatched Wheel and Tire by inflating it, the Tire Bead may break with explosive force, which could result in serious injury or death.

Mount a New Tire

Mounting a Tire is the process of putting a Tire onto a Wheel.

⚠ WARNING Mounting a Tire can be hazardous if not done correctly. Do not mount a Tire unless you have been trained to do so. Failure to understand and follow proper procedures can result in injury or death.

During mounting, the Tire Bead goes over the Mount Lip of the Mount/Demount Head, but stays under the Demount Lip. See **Mount/Demount Heads** for additional information.

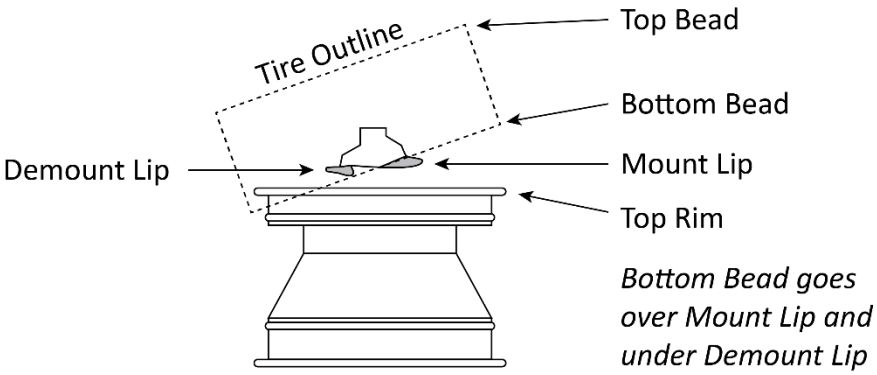
Review the following points ***before*** mounting a Tire:

- Check the Tire and Wheel to make sure they are an ***exact*** match.
- If desired, put in a new Valve Stem before mounting the Tire.
- Make sure the Wheel is both clean and free of balancing weights. Remove any weights and any corrosion you find on the Wheel; ***do not*** service heavily corroded Wheels.
- Check the Tire for damage; ***do not mount a damaged Tire***.
- Check the location of the TPMS and adjust the Tire if necessary. Do not damage the sensor.
- Check for yellow and red dots. If found, line them up with the appropriate locations on the Tire.
- Make sure the Tire is ***fully*** deflated.

When mounting a Tire, mount the bottom Bead first (over the top of the Rim), then the top Bead (also over the top of the Rim).

To mount a Tire:

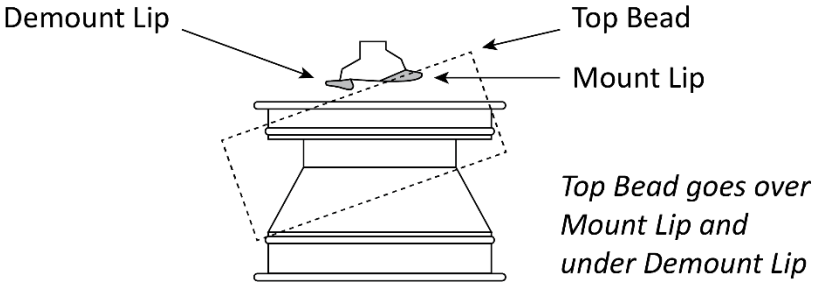
1. Make sure you are wearing OSHA-approved (publication 3151) personal protective equipment: leather gloves, steel-toed work boots, back belts, hearing protection, and ANSI-approved eye protection (safety glasses, face shield, or goggles).
2. If the Wheel is not already secured on the Turntable with the Narrow Side facing up, move the Wheel onto the Turntable and secure it internally or externally.
3. Apply Tire Lubricant to the top and bottom Beads and the top Rim.
4. Put the Tire over the Wheel, with the side that will be next to the Mount/Demount Head low and the other side high (above the top of the Wheel).
5. Move the Mount/Demount Head into position.
6. Bring up the low side of the Tire and put the ***bottom*** Tire Bead over the Mount Lip and under the Demount Lip.



Side view. Not necessarily to scale.

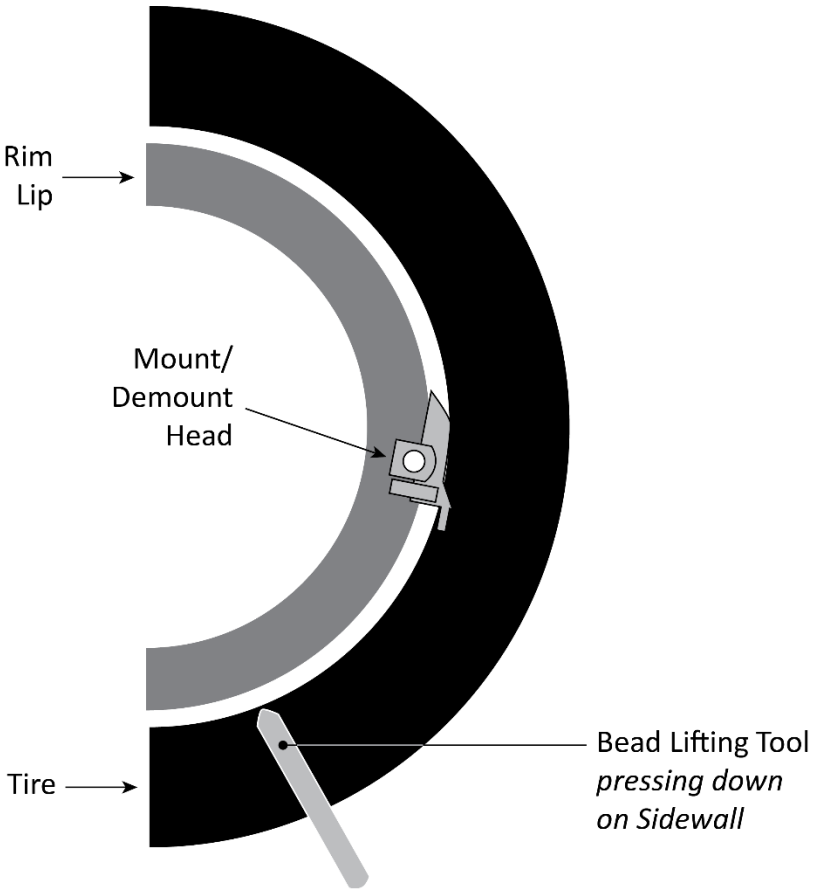
7. Push the side of the Tire furthest away from the Mount/Demount Head down over that side of the Rim and Wheel as far as it will go.
8. Press down on and hold down the Turntable Foot Pedal.

   The Turntable will turn clockwise and the bottom Tire Bead will drop over the top of the Rim.
9. Put the ***top*** Tire Bead over the Mount Lip and under the Demount Lip.



Side view. Not necessarily to scale.

10. If using the R76LT, position the Bead Lifting Tool to the left of the Mount/Demount Head (about 20 percent of the distance around the Tire), with the Bead Lifting Tool pushing down on the Sidewall of the Tire.

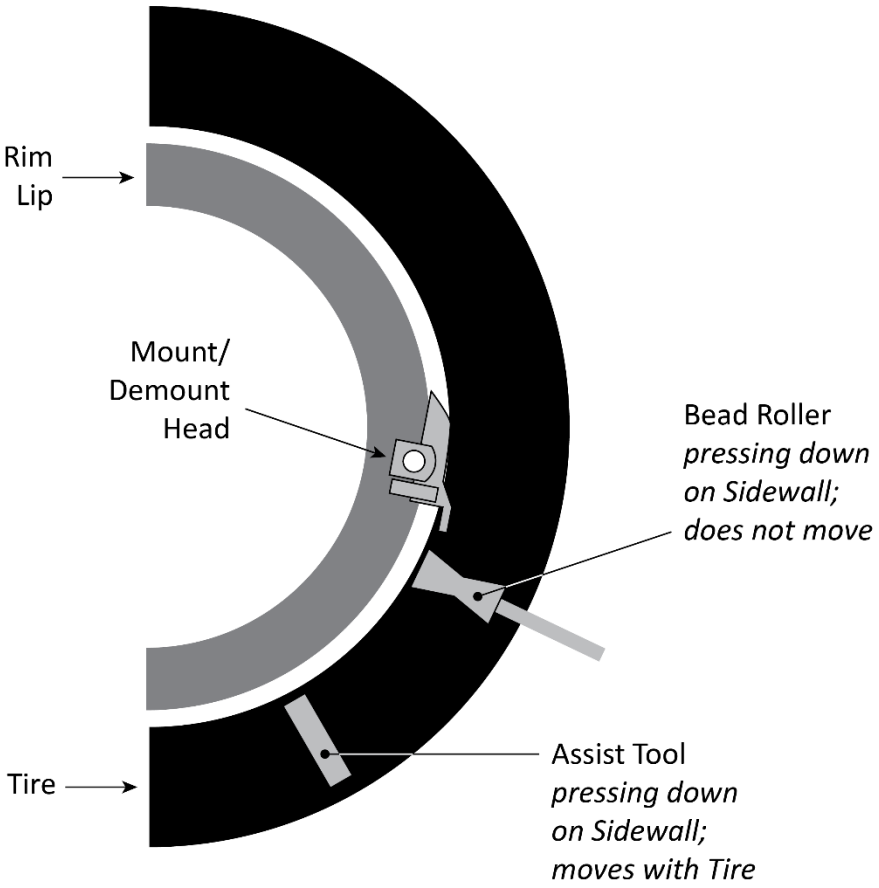


Top view. Not to scale.

11. When you start rotating the Tire, move the Bead Lifting Tool around as the Tire moves around, keeping the Tool at the same spot on the Tire.

12. If using the R76LT, position the Assist Tool, if desired, to the left of the Mount/Demount Head (about 20% of the total distance around the Tire), with it pushing down on the Sidewall of the Tire.

    Then position the Bead Roller, if desired, to the left of the Mount/Demount Head, with it also pushing down on the Sidewall of the Tire.



Top view. Not necessarily to scale.

When you start rotating the Tire, the Assist Tool, if used, moves with the Tire. The Bead Roller, if used, stays in the same spot.

13. Press down and hold down the Turntable Foot Pedal to move the Turntable clockwise.

    If using the Bead Lifting Tool or Assist Tool to hold down the Sidewall, move them around with the Tire as it rotates.

14. If you run into any difficulty as the Tire rotates, take your foot off the Turntable Foot Pedal to stop the Turntable, then press up on the Turntable Foot Pedal to move the Turntable counterclockwise. Make any necessary adjustments and then proceed.

    Eventually the top Bead slips under the Rim. How long this takes can vary, based on the Tire you are mounting. Some Tires are more difficult than others.

⚠ **CAUTION** ***Do not use excessive force***. If the Turntable slows and then stops while you are holding down the Turntable Foot Pedal, do not try to force it to continue. Using excessive force can damage the Tire, Wheel, or the Tire Changer and voids the Warranty.

Inflate the Tire

Tire inflation has three stages:

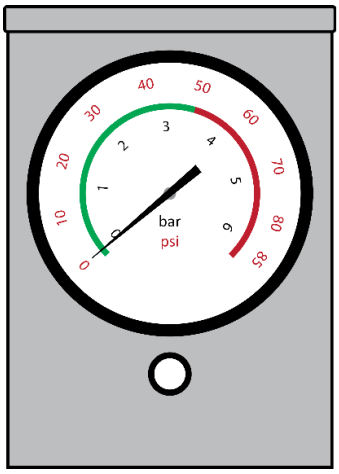
- **Bead *sealing*** is putting in a small amount of air pressure to push the Tire up against the Rim so the rest of the air you put in does not leak out. *Remove the Valve Core before beginning the Bead sealing*, as that allows more air to go in through the Valve Stem. Remember to put the Valve Core back in once both Beads are seated (before inflation). If you have difficulty sealing the Beads (you hear air escaping from between the Tire and the Rim), you can use the Turbo-Blast™ nozzle.
- **Bead *seating*** is putting more air pressure into the Tire until you hear a "pop", which indicates the Beads (on both sides of the Tire) have slipped over the Bead Retainer into their Bead Seats. *Put the Valve Core back in once the Beads are seated*.
- **Inflation** is adding more air pressure to the Tire to get the pressure up to the manufacturer's recommended pressure for the Tire. ***Do not stand over the Tire when inflating it***.

Each of these stages is covered separately below.

⚠ CAUTION The inflation process can produce noise. Wear ear protection when inflating a Tire.

⚠ WARNING Do not exceed the maximum air pressure specified by the Tire manufacturer. This increases the chances that the Tire could explode, causing injury or even death to the Operator and bystanders.

Use the Pressure Gauge on the Tire Changer to monitor the air pressure in the Tire you are inflating.



⚠ DANGER If you are inflating a Tire that requires more than 60 psi, you ***must*** use a **Tire Inflation Cage such as the RIC-4716** for safety purposes. If a Tire fails at high pressure, it can explode and cause serious injury or death to anyone near it. Using a Tire Inflation Cage helps reduce the danger.

Important inflation notes:

- Identify the **recommended** inflation pressure of the Tire (usually located on a sticker on the driver-side doorjamb) and the ***maximum*** inflation pressure of the Tire (usually located on the sidewall). When inflating, your goal is the recommended inflation pressure; do not exceed the maximum inflation pressure when inflating the Tire.
- Make sure the Tire is restrained for inflation: either *internally* clamped, held down by a Restraint Cone (R76ATR only), or in a Tire Inflation Cage. Do not inflate a Tire if it is ***externally*** clamped; external clamping interferes with inflation.

Bead Sealing

To seal a Tire's Beads, you put a small amount of air pressure into the Tire, which pushes the Tire up against the Rim so that additional air you put in does not leak out.

To Seal the Beads:

1. Make sure you are wearing OSHA-approved (publication 3151) personal protective equipment: leather gloves, steel-toed work boots, back belts, hearing protection, and ANSI-approved eye protection (safety glasses, face shield, or goggles).
2. Make sure the Valve Core has been removed.
3. Clip the Air Chuck to the Valve Stem.

   The Air Chuck includes a self-gripping clip so you do ***not*** have to hold it in place during inflation.

⚠ **WARNING** ***Do not hold the Air Chuck while you are inflating a Tire***. This leaves you close to the Tire, which could result in injury if there is a problem during inflation.

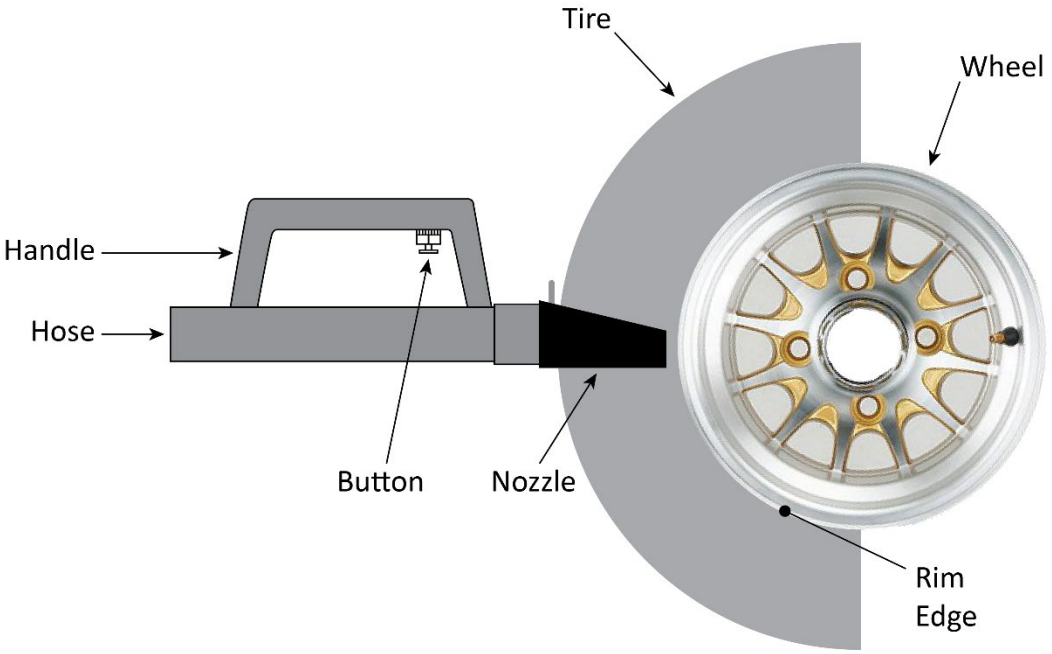
4. Press and hold down the Inflation Foot Pedal for a second or two, then release.

   Air goes into the Tire and seals the Bead.

   Bead Sealing takes very little air pressure, anywhere from 0 to 3 psi, which you can monitor on the Pressure Gauge.

   You know the Bead is sealed when you no longer hear the sound of air coming out from between the Wheel Rim and the Tire Beads.
5. Check to make sure the upper and lower Beads are sealed against the Rim.

   If the Beads are ***not*** sealed, try again, this time putting it slightly more air.
6. If the Bead is still not sealed, position the Turbo-Blast™ nozzle about an inch from where the Wheel meets the Rim Edge and press the Button. You want the air blast to go under the Rim and into the Tire, sealing the Bead.



Side view shown; nozzle must be held flat to use. Not to scale. Not all components shown.

Bead Seating

To seat a Tire's Beads, you put in additional air pressure until you hear a "pop", which indicates the Tire Beads have slipped over the Bead Retainers into their Bead Seats.

Remember that a Tire has Beads on *both sides* of the Tire. The Beads have to be seated on both sides. Bead Seating is not complete until the Beads are seated on both sides of the Tire.

⚠ WARNING ***Do not exceed 40 psi to seat a Bead***.

The following procedure assumes the Tire's Beads have already been sealed. Do not try to seat the Beads until the Beads have been successfully sealed.

To Seat the Beads:

1. Make sure the Air Chuck is clipped to the Valve Stem of the Tire.
2. Step back from the Tire.
3. Press and hold down the Inflation Foot Pedal.

   Air begins flowing into the Tire.

   After a few seconds, you should hear a "pop" as the Beads are seated.

   Bead Seating usually requires 7 psi or above.

   Some Beads are hard to seat, but never exceed 40 psi to seat the Bead.

   If air pressure in the Tire gets to 40 psi but the Beads are still ***not*** seated, use the Pressure Relief Button to remove air down to about 5 psi and then try again to seat the Beads. If you lower the psi too far, you may lose the Bead seal and have to do that again.
4. Release the Inflation Foot Pedal.
5. If the Beads do not seat on a second attempt, either:
   - get a different Tire
   - ask your Supervisor for instructions
   - let all of the air out of the Tire and start again (seal the Beads and then attempt to seat the Beads again)
6. If the amount of air pressure it takes to seat the Beads exceeds the manufacturer's recommended psi for the Tire, use the Pressure Relief Button to remove air pressure from the Tire, bringing it back down to the recommended psi for the Tire.
7. When the Beads are seated, remove the Air Chuck from the Valve Stem and **reinstall the Valve Core**.

Inflating the Tire

To inflate a Tire after sealing and then seating the Beads, add air pressure to the Tire to get the pressure to the manufacturer's recommended pressure.

Use the Pressure Gauge to monitor air pressure; do not 'guesstimate' the psi.

⚠ **DANGER** If you are inflating a Tire that requires more than 60 psi, you ***must*** use a **Tire Inflation Cage such as the RIC-4716** for safety purposes. If a Tire fails at high pressure, it can explode and cause serious injury or death to anyone near it. Using a Tire Inflation Cage helps reduce the danger.

The typical inflation pressure for automobile Tires is from approximately 25 to 45 psi. Light truck Tire inflation pressures typically cover a wider range.

Do not exceed the Tire manufacturer's **maximum** air pressure for a Tire. Your goal is to get to the Tire's ***recommended*** pressure.

The Tire Changer has an air pressure limiter that is set at the factory so that it does ***not*** exceed 60 psi. ***Do not override the pressure limiter***.

⚠ **DANGER** Inflating a Tire with a bypassed pressure limiter could result in the Tire exploding, which could injure or kill bystanders or the Tire Changer Operator.

To inflate a Tire:

1. Verify that both the upper and lower Beads are sealed and seated.
2. Verify that the Valve Core has been put back in.
3. Make sure the Air Chuck is clipped to the Valve Stem of the Tire using the self-gripping clip.
4. Step back from the Tire.

⚠ **DANGER** Do ***not*** stand over the Tire when inflating it. If the Tire explodes during inflation (which does not happen often, but does happen), you could be injured or killed if you are standing over the Tire when it explodes.

5. Press and hold down the Inflation Foot Pedal.

   Air begins flowing into the Tire.
6. Inflate the Tire to the manufacturer's **recommended** pressure by monitoring the Pressure Gauge.
7. Release the Inflation Foot Pedal.
8. Remove the Air Chuck from the Valve Stem.
9. Take the Wheel off the Tire Changer.

Maintenance

Make sure your Tire Changer is maintained on a regular basis.

⚠ **WARNING** Disconnect the Tire Changer from power and incoming air ***before performing any Maintenance***. Take whatever steps are necessary to make sure the unit cannot be re-energized until Maintenance is over (such as Lockout/Tagout). Because the unit uses electrical and pneumatic energy, you could be electrocuted or even killed if the unit is powered back on during Maintenance.

The Tire Changer uses pneumatic and electrical energy; if your organization has **Lockout/Tagout policies**, make sure to implement them before performing maintenance on the Tire Changer.

Regular Maintenance

- **Daily**: Make sure the unit is clean and dry.
- **Weekly**: Check all labels to make sure they are in place and legible. Contact BendPak Ranger if replacement labels are needed.
- **Weekly**: Check the water level of the Regulator/Filter. If the reservoir is one quarter (25%) or more filled with water, drain it. Refer to **Check the Water Level** for instructions.
- **Weekly**: Check the oil feed rate of the Oiler/Lubricator. It should be 1 to 2 drops per use of a pneumatic component. If it is above or below this level, you need to adjust it. Refer to **Check the Oil Feed Rate and Adding Oil** for instructions.
- **Weekly**: Check the amount of pneumatic oil in the Oiler/Lubricator reservoir. If it is under one half (50%) full, add oil. Refer to **Check the Oil Feed Rate and Adding Oil** for instructions.
- **Monthly**: Check the accuracy of the Inflation Gauge using a pressurized tire and a high-quality pressure gauge. Fix immediately if not working correctly.
- **Monthly**: Make sure all Anchor Bolts are tightened and secure, if used.
- **Monthly**: Make sure all components are in good operating condition. If you find a component that is ***not*** working correctly, take the Tire Changer out of service and refer to **Troubleshooting** for more information.
- **Twice a Year**: Have a licensed Electrician check the electronic components.
- **Yearly**: Take the Tire Changer out of service, disconnect it from power, and then thoroughly check and clean all components.

⚠ **WARNING:** Do not operate your Tire Changer if you find issues; instead, take the unit out of service, then contact your dealer, visit **rangerproducts.com/support/**, or call **(805) 933-9970**.

Check the Water Level

Water coming in via the incoming air is removed by the Regulator/Filter and dropped into the reservoir at the bottom.

This water needs to be drained periodically.

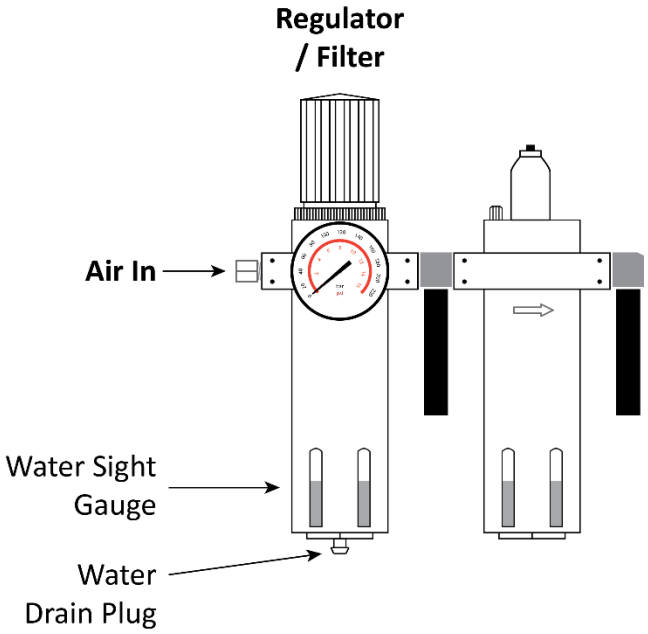
To drain water from the Regulator/Filter reservoir:

1. Check the Water Sight Gauge to see how much water is currently in the reservoir.

   If the reservoir is a quarter (25%) or more filled with water, you need to drain it.

2. Disconnect the incoming air at the Air In connector.

⚠ **WARNING** Make sure to disconnect the incoming air and make sure it cannot be reconnected until you are done draining the water from the Regulator/Filter. If the incoming air is reconnected during the procedure, it could damage the Regulator/Filter, the Tire Changer, and possibly injure bystanders.



3. Press upwards on the Water Drain Plug at the bottom of the reservoir.

   The water drains out.

4. Release the Water Drain Plug.
5. Re-connect the incoming air.

Check the Oil Feed Rate and Adding Oil

The built-in lubricator adds pneumatic oil to the incoming air. This ensures that all pneumatic components of the Tire Changer receive the necessary lubrication, which maintains operating performance, reduces wear, and extends service life.

It is very important to make sure the oil feed rate is correct, 1 or 2 drops of oil per use of pneumatic component (such as the Clamps Foot Pedal), and that there is enough pneumatic oil in the Oil Reservoir of the Oiler/Lubricator.

To check the oil feed rate on the Oiler/Lubricator:

1. With the Air Source connected, press down and then release the Clamps Foot Pedal.

   You do not need a Tire, you just need to use a pneumatic tool.

2. Watch the Sight Glass to see how much pneumatic oil comes out each time you use the Clamps Foot Pedal.

   Your goal is for 1 or 2 drops to come out for each use.

3. If you are getting ***fewer*** than 1 or 2 drops, turn the Adjustment Screw counter-clockwise (using a small flat-head screwdriver), then use the Clamps Foot Pedal again to check the output.

4. If you are getting ***more*** than 1 or 2 drops, turn the Adjustment Screw clockwise, then use the Clamps Foot Pedal again to check the output.

5. When you are getting 1 or 2 drops, stop turning the Adjustment Screw.

To add pneumatic oil to the Oiler/Lubricator:

1. Check the Oil Sight Gauge to see how much pneumatic oil is currently in the reservoir.

   If the reservoir is less than half (50%) filled with pneumatic oil, you need to add oil to it.

2. Disconnect the incoming air at the Air In connector.

3. Turn the Oil Fill Cap on the top of the Oil Reservoir counter-clockwise and pull it off.

4. Add SAE 10W Air Tool Oil or generic pneumatic oil to the reservoir.

5. Put the Oil Fill Cap back in place, turning it clockwise until tight.

6. Re-connect the incoming air.

Troubleshooting

⚠ **WARNING:** Disconnect the Tire Changer from power and incoming ***before performing any maintenance***. Take whatever steps are necessary to make sure the unit cannot be re-energized while maintenance is being performed on it (such as Lockout/Tagout). The unit uses pneumatic and electrical energy; if your organization has Lockout/Tagout policies, make sure to implement them before troubleshooting the Tire Changer.

Issue	**Action to Take**
The Turntable does not move when you step on the Turntable Foot Pedal.	Make sure the unit is getting power.
The unit is not getting power.	Have a licensed, certified Electrician check the electrical path from the supplied cord to the power source. If any issues are found, have them fixed. Refer to **Wiring Information** for additional information.
No air comes out when you step on the Inflate Foot Pedal.	Make sure the unit is correctly connected to a working incoming air source.
It is difficult to secure Tires when clamping externally.	Use the Restraint Cone to press the Tire down so the Clamps correctly grab the Rim of the Wheel. R76ATR only.
The Inflation Gauge is not working correctly.	Check the accuracy of the Inflation Gauge with a professional gauge. Fix immediately if the Inflation Gauge is not working correctly.
The Assist Arms (R76ATR only) move up and down slowly or make odd noises when moving.	Grease the Assist Tower Post, it has run out. Refer to **Grease the Assist Tower Post** for additional information.

If you continue to have problems with your Tire Changer, visit **www.bendpak.com/support/** or call **BendPak Ranger at (805) 933-9970**.

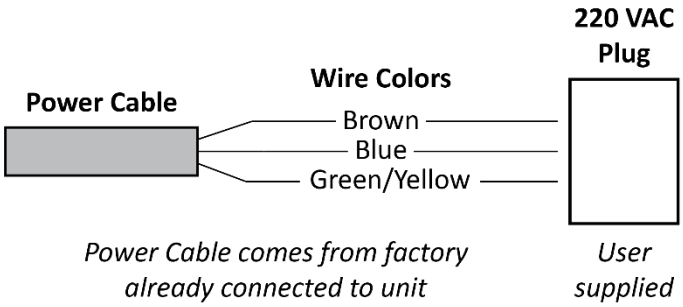
Wiring Information

The Tire Changer comes with a Power Cord that is connected inside the unit and with three exposed wires on the other end. The three exposed wires need to be hard-wired to the facility's power system or connected to a 208-240 VAC, 30 amp Plug (which is then connected to a power outlet).

⚠ **WARNING:** All electrical work, such as hard-wiring the unit to the facility's power system or attaching a Plug to a Power Cord, ***must be done by a licensed, certified Electrician*** in accordance with all applicable local electrical codes. Damage to the unit caused by improper electrical installation voids your warranty.

The Tire Changer does ***not*** come with a 208-240 VAC **Plug**; you must supply one.

The colors of the three exposed wires are Brown, Blue, and Green/Yellow, the European color code.



Important: To connect the three exposed wires to an appropriate Plug or to hard wire them, have your Electrician follow the electrical codes for the country in which you are using the unit and any local electrical codes.

For example, if you are using the unit in the United States, the color codes on the wiring that comes with the Tire Changer correspond to:

- **Brown**: Live
- **Blue**: Live
- **Green/Yellow**: Ground

If you were using the unit in a European country, the color codes on the wiring that comes with the Tire Changer correspond to:

- **Brown**: Live
- **Blue**: Neutral
- **Green/Yellow**: Ground

Information about color code conventions in other regions and countries is available online. Make sure your Electrician installs the Plug or hard wires the Tire Changer in accordance with all applicable local electrical codes.

Labels

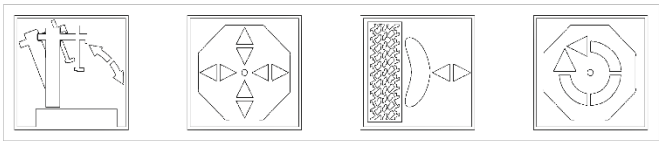
A

R76ATR version. R76LT says "R76LT".

B

C

D



E

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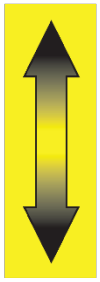

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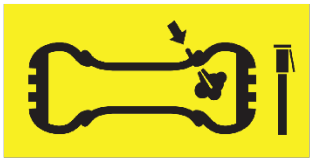


P

S

CALIFORNIA PROPOSITION 65

⚠ WARNING ⚠

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

ADVERTENCIA: Este producto contiene sustancias químicas reconocidas por el estado de California como causantes de cáncer y defectos de nacimiento u otros daños reproductivos.

For more information visit:
www.P65Warnings.ca.gov

Proposition 65 Label on packaging only.

T

BendPak 50 Year Label on Packaging only.

Q

⚠IMPORTANT

FILTER / REGULATOR LUBRICATOR INSTRUCTIONS

WARNING!

Failure to regularly drain water and maintain proper oil level and oil feed rate will damage internal pneumatic components and void product warranty.

The inline lubricator helps ensure that all pneumatic components inside this machine receive the required lubrication to maintain operating performance, reduce wear and prolong service life. It is designed to automatically provide the correct amount of oil feed rate required within the pneumatic system delivering a constant ratio of oil to CFM.

The filter/regulator is designed to remove airborne solid and liquid contaminants which may plug small orifices and hinder performance or cause excessive wear and premature equipment failure. The regulator provides controlled and consistent air pressure as required. NOTE: This model requires 15-25 CFM air source with a safe operating air pressure of 140-165 PSI for optimum machine performance.

Water Separator / Lubricator Maintenance

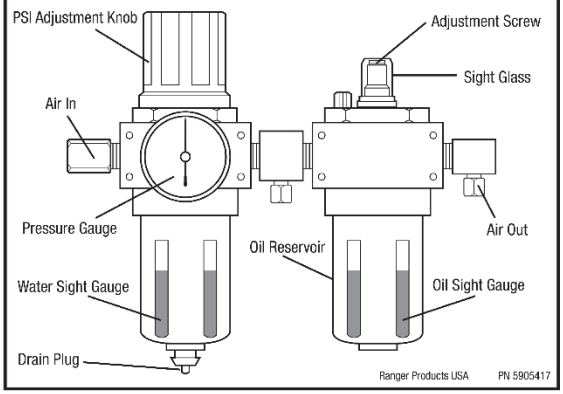
- Check oil and water levels regularly and perform these maintenance items weekly.
- Observe the water sight gauge on the water separator/filter unit. If water is observed, drain by pressing upwards on the drain plug at the bottom of the reservoir.
- Observe the sight glass and adjust the oil feed rate by turning the small adjustment screw on the top of the glass bowl so that 2-3 drops of oil drip through the site glass for each operation of the bead loosener pedal.

Adding Oil to Oiler / Lubricator

If oil level is low, add oil as follows:

1. IMPORTANT - First disconnect air source from machine.
2. Remove oil reservoir by unthreading reservoir from head of oiler/lubricator.
3. Add oil as necessary.
4. Replace reservoir making sure rubber O-ring is seated properly and reservoir is firmly tightened hand-tight.

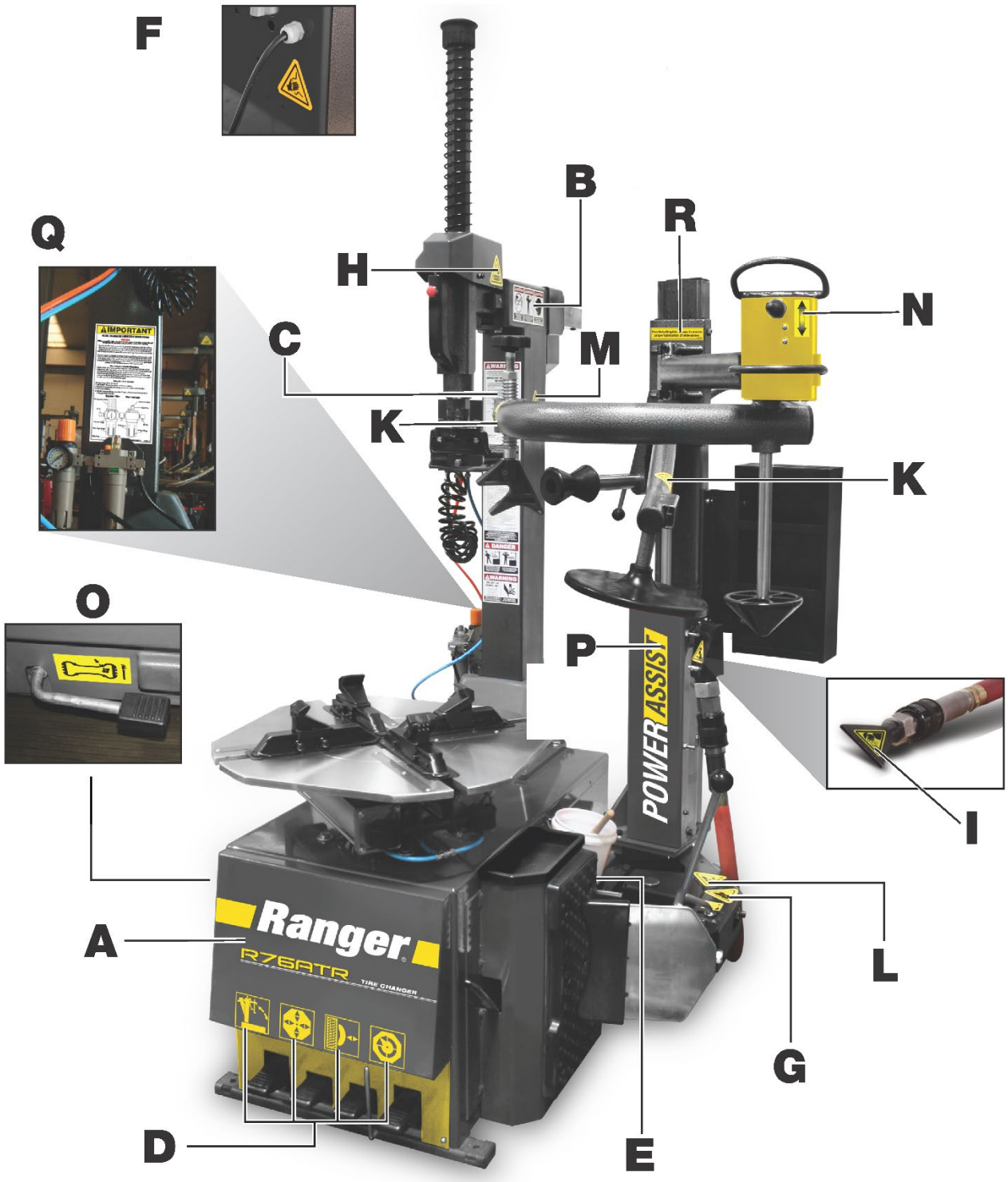
Regulator / Filter **Oiler / Lubricator**



R

Use Moly-Graphite Grease to ensure proper lubrication of slide plates.

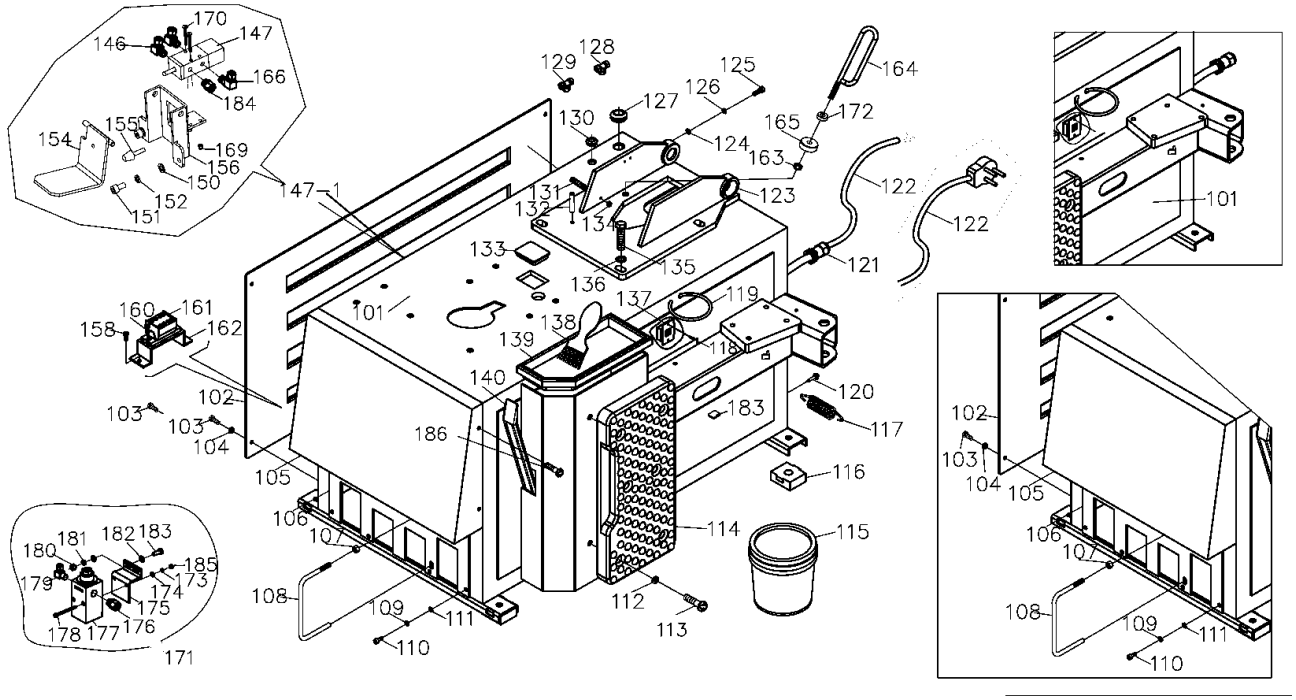
PN 5905386



The R76LT does not have an Assist Tower, so it also does not have the labels shown on the Assist Tower in the graphic above.

Parts

Cabinet

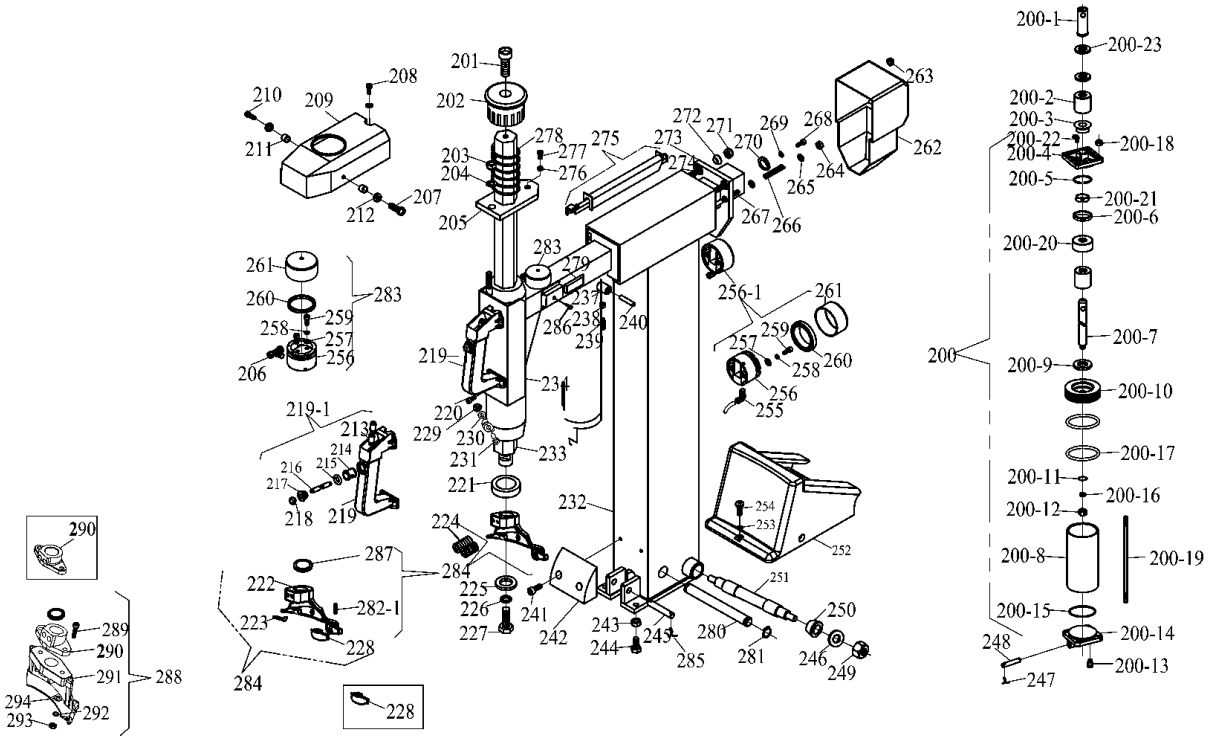


BendPak Part #	Drawing #	Description
	101	Chassis body
	101	Chassis body
	101	Chassis body
	101	Chassis body
5327131	102	Side cover
	103	SHCS, M6 x 16
	103	Cross groove large Flat Head Screw, M6 x 12
5400913	104	Washer, Ø6 Flat
	105	Pedal cover
	105	Pedal cover
	106	Chassis front board
	107	Nut, M8
5327721	108	Foot pedal divider
	109	Washer, M6 flat
5327730	110	SHCS, M6 x 16
5400913	111	Washer, M6 flat
	112	Washer, M6 flat
	113	Cross recessed pan head screw, M6 x 25
5327101	114	Wheel support pad
5400120	115	Soap bucket

5327307	116	Plastic foot pad
5327349	117	BB return spring, Ø3 x Ø25 x 23 x 140
	118	Cross recessed pan head screw, M3 x 10
5400119	119	Soap bucket retaining ring
	120	STS, M5.5 x 25
	121	Power cord grip
5401121	122	Power cord
	122	Power cord
	123	Vertical arm base
	124	Washer, Ø5 flat
	125	SHCS, M5 x 20
	126	Washer, Ø5 split lock
	127	Cable holder, Ø16
	128	Fitting, tee Ø8-Ø8-Ø8
	129	Fitting, G 1/8” Ø6
	130	Cable holder, Ø12
	131	Slotted flat head screw, M10 x 40
	132	Pin, Ø6 X 40
5327308	133	Tire changer body plug
	134	Nut, M10
	135	HHB, M12 x 70
	136	Washer, flat
5327444	137	Voltage switch, 110V/220V
5400121	138	Soap brush
5327348	139	Tool tray
5400110	140	Pry bar
5400933	146	Fitting, 8 mm x 1/8” 90°
	147	Inflation foot pedal Valve B
5327462	147-1	Tire inflator Valve assembly
	150	Washer, Ø8 flat
	151	SHCS, M8 x 16
	152	Washer, Ø 8 split lock
5327421	154	Inflation foot pedal weldment
	155	Inflation foot pedal limit block
5327420	156	Inflation pedal bracket
	163	Nut, M8
	164	Column limit rod
	165	Tilt tower bushing
5400007	166	Fitting, G1/4” Ø8 90°
	169	Lock nut, M4
	170	Cross recessed pan head screw, M4 x 35
	171	Inflation regulator assembly
	172	Washer, Ø8

	173	Washer, Ø4 split lock
	174	Washer, Ø4 flat
	175	Full flow inflation kit bracket
	176	Fitting, G1/4” Ø8
	177	Full flow inflation regulator
	178	SHCS, M4 x 50
5400007	179	Fitting, G1/4” Ø8 90°
	180	Nut, M6
	181	Washer, Ø6 split lock
	182	Washer. Ø 6 flat
	183	HHB, M6 x 20
	184	Fitting, G1/4” Ø8
	185	Nut, M4
	186	Cross recess pan head screw, M6 x 10
	187	Side wall

Main Tower



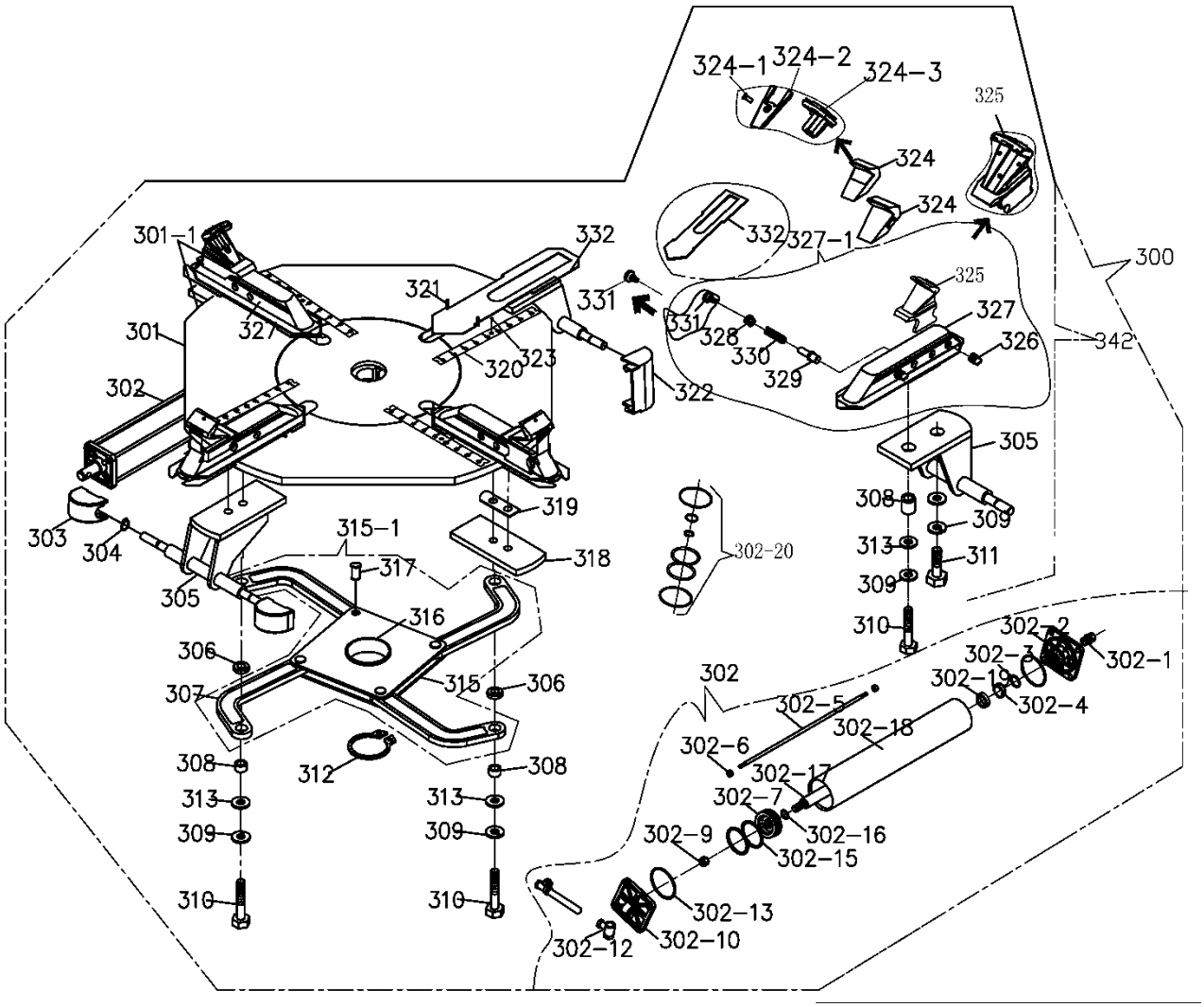
BendPak Part #	Drawing #	Description
5327390	200	Tilt back cylinder
	200-1	Tilt cylinder connector
	200-2	Tilt tower rubber spacer
	200-3	Rubber shock bushing
	200-4	Tilt tower cylinder front plate
	200-5	O-Ring, Ø25 x 3.1
	200-6	Y-Ring, Ø32 x 20 x 6
	200-7	Tilt tower cylinder rod
	200-08	Tilt tower cylinder
5327501	200-9	Washer
	200-10	Small cylinder piston
	200-11	O-ring, Ø16 x 2.4
	200-12	Nut, M12
	200-13	Fitting, G1/8” Ø8, straight
	200-14	Tilt tower cylinder rear plate
	200-15	O-ring, Ø75 x 2.65
	200-16	Washer, Ø12 split lock
5327645	200-17	O-ring, Ø75 x 5.7
	200-18	Nut, M8 x 1
5327502	200-19	Tilt back cylinder bolt
	200-20	Tilt cylinder front flange
	200-21	Tilt tower cylinder wear strip
	200-22	Fitting, G1/8” Ø8, 90°
	200-23	Washer

	201	SHCS, M10 x 25
5400240	202	Hex shaft cap
5400457	203	Nut, M10 NL
	204	Washer, Ø10 flat
5327416	205	Vertical shaft locking plate
5327549	206	Fitting, G1/8” Ø6, tee
5400957	207	SHCS, M6 x 20
5400957	208	SHCS, M6 x 20
5327340	209	Hex shaft lock cover
	209	Hex shaft lock cover
5327340	209	Hex shaft lock cover
5400959	210	SHCS, M6 x 30
5327329	211	Hex shaft lock cover bushing
	212	Washer, M6 flat
5400929	213	Fitting, Ø6, 1/8 straight
5327485	214	Locking Valve O-ring spacer
5327491	215	O-ring, Ø8 x 2.65
	216	Locking Valve shaft
5327563	217	Locking Valve metal spacer
5327516	218	Locking Valve button
5327350	219	Locking Valve handle
5327077	219-1	Locking Valve handle assembly
	220	SHCS, M5 x 12
5327310	221	Mount/Demount Head bushing
5327356	222	Metal duckhead
5328119	223	Duckhead insert, new
5327468	224	SSS, M12 x 16
5327436	225	Duckhead retaining Washer
	226	Washer, M10 SL
	227	HHB, M10 x 20
5327636	228	Roller insert
5327636	228	Roller Insert (A)
	229	Nut, M8
	230	Washer, Ø8
	231	SHCS, M8 x 35
	232	Tilt back tower
	232	Tilt back tower
	232	Tilt back tower
5327418	233	Hex shaft
	234	Horizontal arm unit
	234	Horizontal arm unit
	234	Horizontal arm unit
	234	Horizontal arm unit
5327496	237	Horizontal arm roller
	238	Nut, M8
	239	Inner Hexangular Set Screw, M8 x 40

5327497	240	Horizontal arm roller pin
	241	SHCS, M6 x 20
	242	Inner tilt tower cover
	243	Nut, M10
	244	HHB, M10 x 30
	245	Tilt tower cylinder upper pin
	246	Washer, M12
	246	Washer, M14
	247	Pin, Ø3.2 x 25
	248	Tilt tower cylinder lower pin
	249	Locknut, M12
	249	Locknut, M14
	250	Tapered metal bushing
	251	Tilt tower pivot pin
5328267	251	Tilt tower pivot pin
5327351	252	Outer tilt tower cover
	253	Washer, Ø6 flat
	254	Cross recessed pan head screw, M6 x 20
5327547	255	Fitting, G1/8” Ø6 90°
5327454	256	Arm lock cylinder base
5327392	256-1	Horizontal arm lock cylinder assembly
	257	Washer, M6 flat
5327490	258	O-ring, 7 x 1.9
	259	SHCS, M6 x 40 BOC
5327453	260	Arm lock cylinder seal
	261	Arm lock cylinder piston
5327128	262	Real lock cylinder cover
	263	Locknut, M8
	264	Nut, M8
	265	Washer, Ø8 flat
5327343	266	Rear lock plate spring
5327515	267	Threaded rod
	268	SHCS, M6 x 16
	269	Washer, M6 flat
	270	Rear lock plate bushing
5400457	271	Nut, M10
	272	Horizontal slide stop
5327633	273	Horizontal shaft locking plate
5327524	274	Threaded rod
5327342	275	Air line guard
	276	Nut, M12
5530061	277	SHCS, M12 x 25

5400237	278	Hex shaft spring
	279	Tilt tower rubber shock
	280	Tilt tower cylinder limit pin
5327525	281	Snap ring, Ø20
5327727	282-1	Duckhead roller pin
5327392	283	Vertical shaft lock cylinder assembly
	284	Mounting/demounting duckhead assembly (D)
	285	Pin, Ø4 x 28
	286	Cross recessed pan head screw, 4.2 x 13
	287	Mounting/demounting duckhead, Washer
	288	Plastic bird head assembly
	289	SHCS, M8 x 40
	290	Duckhead flange adapter kit
5328289	290	Demount head flange adapter, 15 degree angle
5150523	291	Plastic bird head
5545202	292	Washer, M8
5327884	293	Nut, M8
5402104	294	Washer, M8

Turntable

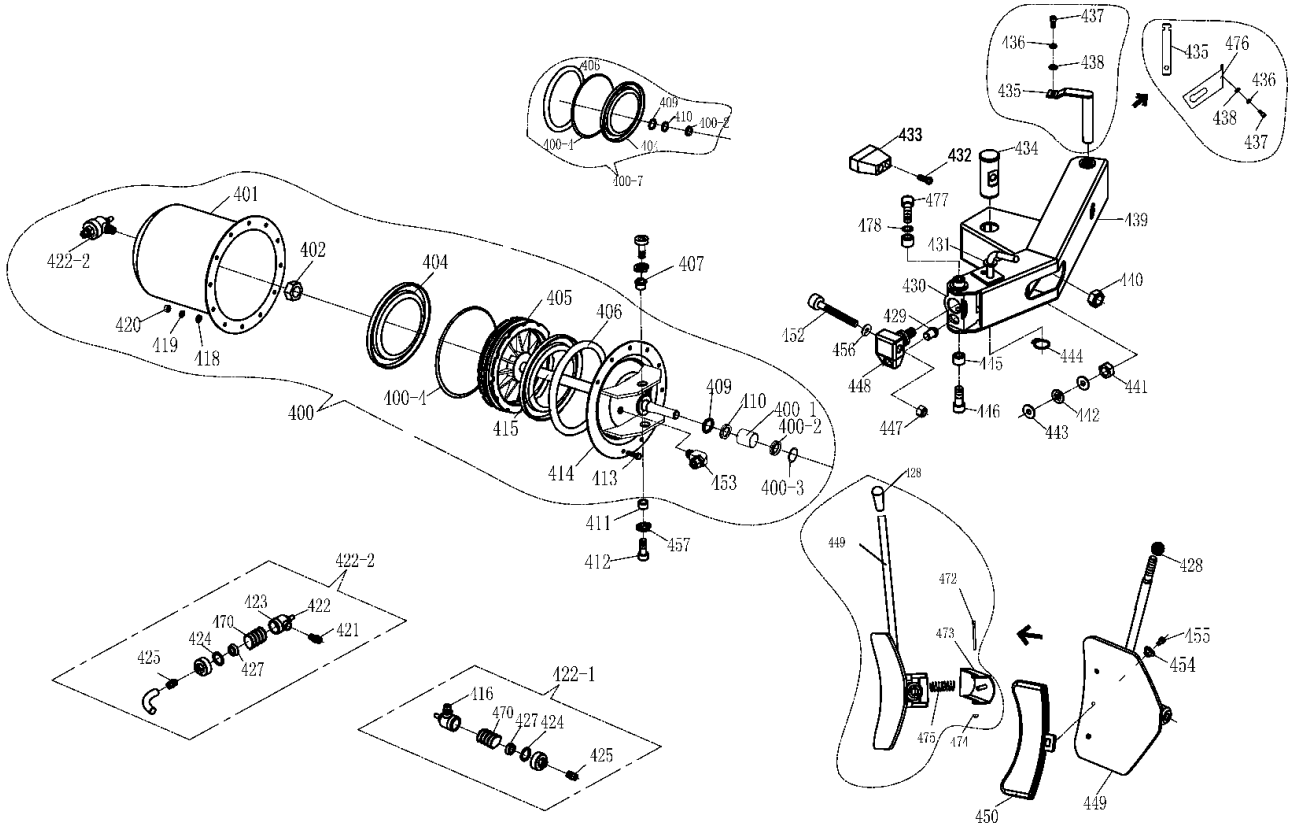


BendPak Part #	Drawing #	Description
5327465	300	Complete turntable assembly
	300	Complete turntable assembly
5327713	301	Turntable unit
	301-1	Plate assembly
5327300	302	Jaw clamp cylinder
5327470	302-1	Fitting, 1/8 8 mm, straight
5327365	302-2	Small front cylinder cover
5327487	302-3	O-ring, Ø25 x 3.1
5327540	302-4	Jaw clamp cylinder wear strip
	302-5	Double-headed bolt
	302-6	Locknut, M8
	302-7	Cylinder piston
	302-9	Locking nut, M12

5327364	302-10	Small rear cylinder cover
	302-11	Fitting Tee, Ø8 - Ø8 - Ø8
	302-12	Banjo bolt, G1/8", single"
5327488	302-13	O-ring, 75 x 2.65
5327489	302-15	O-ring, 75 x 5.7
5327486	302-16	O-ring, Ø16 x 2.4
5327407	302-17	Jaw clamp cylinder rod
5327406	302-18	Jaw clamp cylinder body
5327494	302-19	Y-ring, Ø32 x 20 x 6
	302-20	Grommet assembly
5327305	303	Small cylinder cover
5400905	304	Snap ring, Ø12
5327471	305	Guard compound piece
	306	Spacer
	307	Square turntable link
5327500	308	Metal bushing
5324269	309	Washer, M12 SL
	310	HHB, M12 x 50
	311	HHB, M12 x 25
	311	HHB, M12 x 30
	312	Snap Ring, Ø65
	313	Washer, Ø12
	315	Square turntable
5327450	315-1	Square turntable assembly
	316	Square turntable spacer
5327521	317	Square turntable press pin
	318	Slide guard board
5327461	319	Slide shim adjustment
	320	Turntable ruler
	321	Split pin, Ø4 X 16
	321	Pin, Ø4 X 16
5327306	322	Small cylinder cover
	323	Turntable ruler screw, M4 x 6
5327081	324	Jaw clamp cover set
5328234	324	Jaw clamp cover set
5328310	324-1	SHCS, M4 x 10
5328312	324-2	Plastic cover for jaw clamp
	324-3	Rubber cover for jaw clamp
5327404	325	Jaw clamp
5328311	325	Jaw clamp w/rubber insert
5328400	326	Special screw, M10 x 1
5327405	327	Jaw clamp support

	327-1	Boat on the assembly
	328	Jaw clamp inner adjustment knob
5327621	329	Jaw clamp inner adjustment pin
	330	Jaw clamp pin spring
5327623	331	Jaw clamp locking pin
5327623	331	Jaw clamp locking pin
5328328	332	Boat gasket
	342	Complete turntable

Bead Breaker

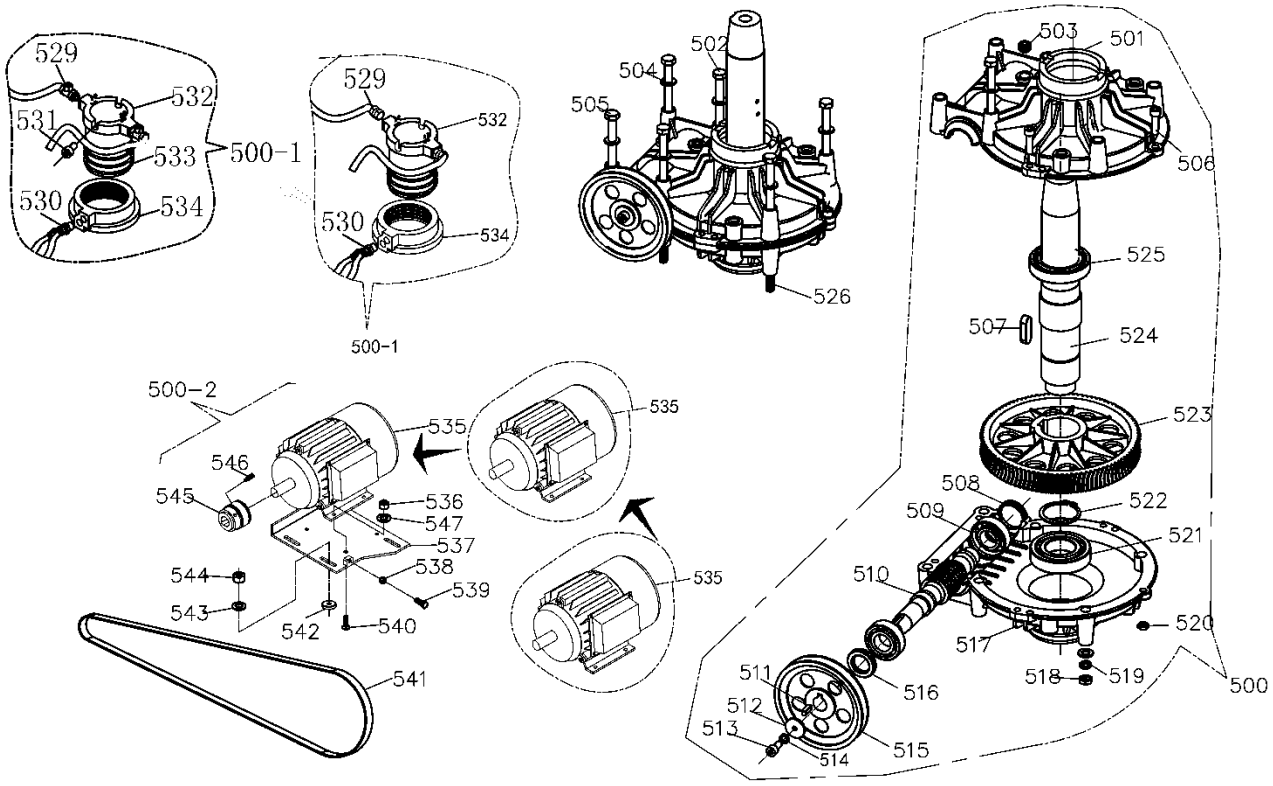


BendPak Part #	Drawing #	Description
5327271	400	BB cylinder
	400-1	Bearing, Ø23 x Ø20 x 20
	400-2	Seal ring, Ø30 x 20 x 7
	400-3	Type I hole with elastic ring, Ø32
	400-4	O-ring, Ø195 X 5.9
5327772	400-7	Pairs of large cylinder seal hair accessories
	401	Cylinder liner
	401	Cylinder liner
	402	Nut, M18 - thin threaded
5327682	404	Y-ring, Ø200 x 12 x 6
5327413	405	BB cylinder piston
5327537	406	O-ring, 193 x 5.7
	407	Two plate of eccentric sleeve
5327487	409	O-ring, 25 x 3.1
5327493	410	Y-ring, 25
5327500	411	Metal bushing
	412	SHCS, M12 x 30
	413	HHB, M6 x 16-8.8
	413	SHCS, M8 x 16-8.8

5401520	414	Bead breaker cylinder flange
5401520	414	Bead breaker cylinder flange
5327437	415	Bead breaker cylinder rod
	416	Fitting, G1/4” Ø10, straight
5400913	418	Washer, M6 flat
	419	Washer, M6 flat
	419	Washer
	420	Nut
	420	Nut
	421	Double nipple, G1/4’-G1/4”
5327561	422	Silencer, G1/4”
5327815	422-1	BB flow control Valve
5327459	422-2	BB flow control Valve
	423	Metal quick exhaust Valve
	424	Metal quick exhaust Valve leather cushion
	425	Fitting, G1/4” Ø10, straight
	427	Quick exhaust Valve metal cup
5327608	428	Bead breaker blade knob
	428	Bead breaker blade knob
5327529	429	BB blade stop pin
5327570	430	Bead breaker bracket
5327757	431	Bead breaker retaining pin
	432	SHCS, M6 x 25
5327183	433	BB rubber bushing
5327367	434	Bead breaker arm pivot pin
5328132	435	Breaker arm pin
	435	Breaker arm pin shaft
	436	Washer, M6 flat
	437	SHCS, M6 x 16
	437	SHCS, M6 x 12
5400913	438	Washer, M6 flat
5327722	439	Bead breaker arm
	440	Locking nut, M16
	441	Locking nut, M16
	442	Curved spring Washers, Ø16
	443	Washer, Ø16
	444	Snap ring, Ø35
5327508	445	Metal bushing
	446	SHCS, M12 x 25
5400947	447	Locking nut, M14
5327738	448	Bead breaker knuckle
5327097	449	Bead breaker blade

	449	Bead breaker blade
	449	Bead breaker blade
5327082	450	Bead breaker blade cover
5327609	452	BB bolt, M14 x 95
	453	Fitting, G1/4” Ø10, 90°
5328083	454	Bolted BB blade cover bushing assembly (includes 431-2 bolt)
	455	SHCS, M6 x 10 (included in assembly 5328083
	456	Washer, Ø14 split lock
	457	Washer, Ø12 split lock
	470	Metal quick exhaust Valve spring
	470	Quick exhaust Valve pressure spring
5328297	472	SHCS, M8 x 85
	473	Reset support, installed and welded
	474	Nut, M8
	475	Press spring
	476	Shovel arm pin baffle
	477	SHCS, M12 x 30
	478	Washer, Ø12 split lock

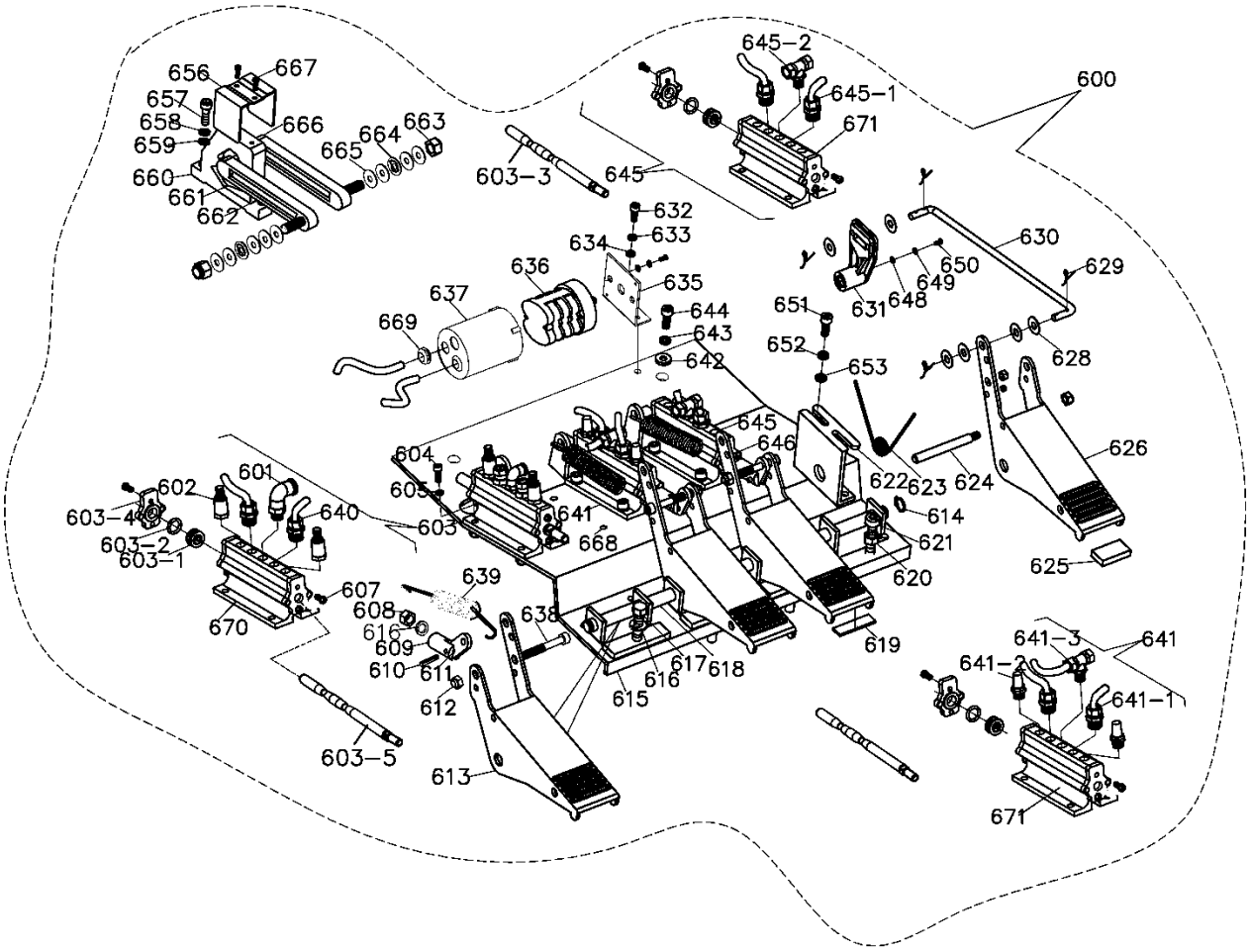
Gearing



BendPak Part #	Drawing #	Description
5327479	500	Transmission assembly
5327479	500	Gearbox assembly
5327175	500-1	Rotary joint block (A)
5327175	500-1	Rotary joint block
	500-2	Motor assembly
	500-2	Motor assembly
	501	Transmission front flange
5327520	502	HHB, M10 x 200
	503	Oil stud
	504	Washer, Ø10
	505	HHB, M10 x 180
	506	SHCS, M8 x 30
5327523	507	Transmission key, 14 x 9 x 40
	508	Oil block
	509	Cone roller bearing
	510	Gear stud
	511	Tab, 6 x 6 x 20
	512	Worm pressure pad
	513	SHCS, M8 x 16
	514	Washer, Ø8 split lock

5327976	515	Big size belt pulley
	516	Oil seal, Ø45 x 25 x 10
	517	Transmission back flange
	518	Nut, M10
	519	Washer, Ø10 split lock
	520	Nut, M8
	521	Bearing 6028
	522	Snap ring, Ø50
	523	Helical gear
	524	Spline shaft
	525	Bearing 6010
	526	HHB, M10 x 170
5327745	529	Fitting, G1/8” Ø8, straight
5328350	529	Fitting Ø8- Ø8-G1/8”
5327745	530	Fitting, G1/8” Ø8, straight
	531	Inner hexangular set screw, M6 x 20
	532	Rotary joint block inner piece
	532	Rotary joint block inner piece
	533	O-ring, Ø60 x 2.75
	534	Rotary Valve jacket
	534	Rotary Valve jacket
5327099	535	Motor
5328429	535	Motor
5328429	535	Motor
	535-1	Start capacitance
	535-2	Running capacitance
	536	Locking nut
	537	Motor base weldment
	538	Nut, M8
	539	HHB, M8 x 40
	540	Socket flat head screw, M8 x 30
5327613	541	V belt 1168
5400249	542	Washer
	543	Washer, Ø10, flat
5400457	544	Nut, M10
5327369	545	Motor pulley
	546	Inner hexangular set screw, M8 x 16
	547	Washer, Ø8 flat
	548	Core cable
5327877	549	Rotary Valve fixed set of device configuration diagram

Pedals

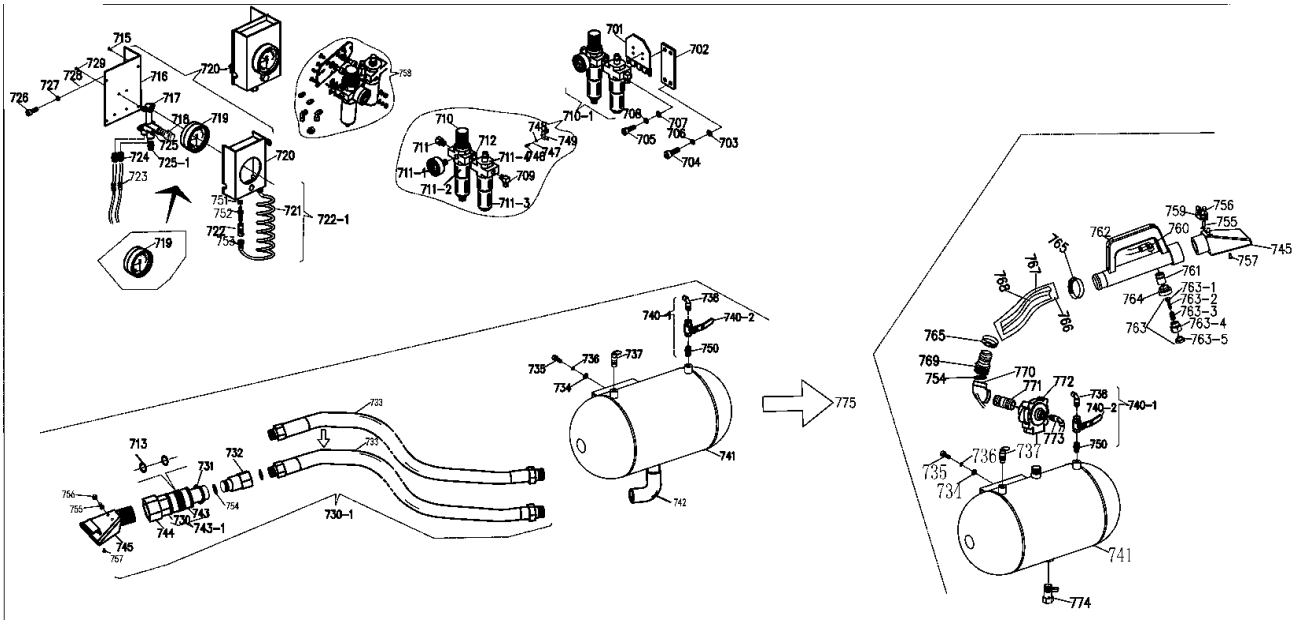


BendPak Part #	Drawing #	Description
5327103	600	Front foot pedal assembly
5400933	601	Fitting, G1/8” Ø8, 90°
5327545	602	1/8" Adjustable silencer
5327387	603	Tilt back air Valve
5327482	603-1	Air Valve O-ring spacer
5327536	603-2	O-ring, 17 x 4
	603-3	Large cylinder Valve stem
5327499	603-4	Air Valve end cap
5327531	603-5	Valve stem
	604	SHCS, M6 x 12
	605	Washer, M6, flat
	607	Cross recessed pan head screw, M4 x 10
	608	Nut, M8
5327374	609	Foot pedal link
5327554	610	Spring pin, M4 x 18

5327408	611	Air Valve connecting link
	612	Locking nut M6
	613	Foot pedal (right)
	614	Snap ring, Ø12
	615	Base board
	616	Washer, Ø8 Split lock
	617	HHB, M8 x 16
	618	Foot pedal shaft
	619	Control system adjusting pad
	620	Nut, M8
	621	SHCS, M8 x 50
	622	Torsion spring bracket
5327035	623	Foot pedal torsion spring
	624	Foot pedal limit rod
	625	Foot pedal rubber insert
5327033	626	Foot pedal (left)
	628	Spacer, Ø6
	629	Pin, Ø3.2 x 25
5327038	630	Directional switch cam linkage
5400324	631	Turntable direction switch cam
	632	SHCS, M6 × 12
	633	Washer, Ø6 split lock
	634	Washer, Ø6 flat
	635	Directional switch bracket
5400331	636	Directional switch, 220V/40A
	637	Directional switch cover
	638	SHCS, M6 x 55
5327034	639	Foot pedal return split lock
5327745	640	Fitting, G1/8” Ø8, straight
5327385	641	Jaw clamp air Valve
	641-1	Fitting, G1/4” Ø8, straight
	641-2	Silencer, G1/4”
	641-3	Fitting, Tee G1/4” Ø8
	642	Spacer, Ø8
	643	Washer, Ø8 split lock
	644	SHCS, M8 x 20
5327386	645	Bead breaker air Valve
	645-1	Fitting, G1/4" Ø10
	645-2	Fitting, Tee G1/4” Ø8
	646	Cylinder retaining bush
	648	Washer, Ø5 flat
	649	Washer, Ø5 split lock

	650	Cross recessed pan head screw, M5 x 16
	651	SHCS, M6 x 16
	652	Washer, M6 flat
5400913	653	Washer, M6 flat
5327412	656	Foot pedal cam cover
	657	SHCS, M6 x 20
	658	Washer, M6 flat
5400913	659	Washer, M6 flat
5327047	660	Foot pedal cam
5327048	661	Foot pedal cam leaf spring (left)
	662	Foot pedal cam leaf spring (right)
	663	Locking nut, M8
	664	Curved spring Washers, Ø8
	665	Washer, Ø8 flat
5327049	666	Foot pedal cam link
	667	Cross recessed pan head screw, M3 x 10
	669	Cable holder
	670	Air Valve (B)
	671	Air Valve (A)

Turbo-Blast™

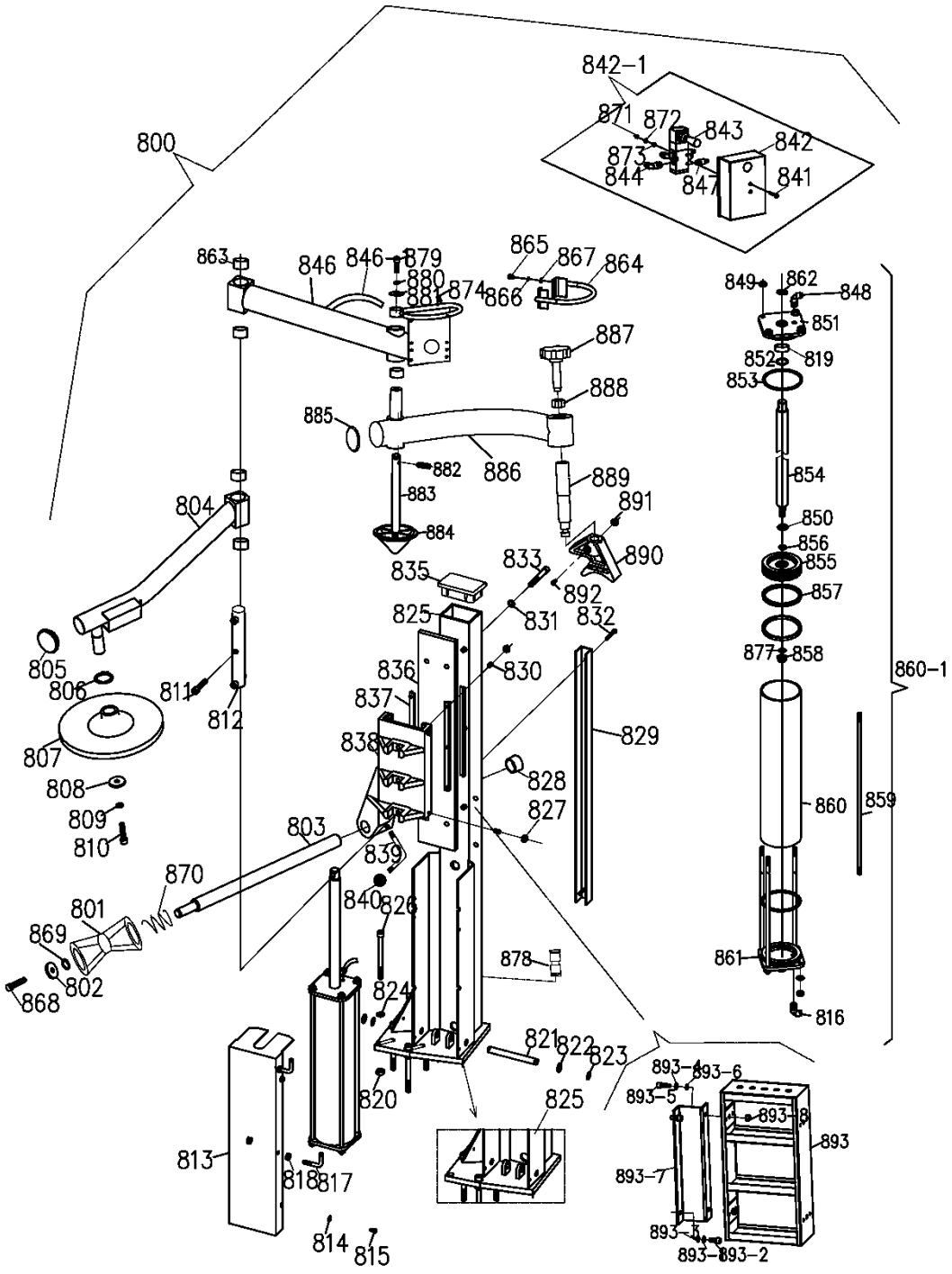


BendPak Part #	Drawing #	Description
	701	Upper air/oil reg bracket
	702	Lower air/oil reg bracket
	703	Washer, Ø8 Flat
	704	SHCS, M8 x 20
	705	SHCS, M8 x 16
	706	Washer, Ø8 split lock
	707	Washer, Ø8 flat
	708	Washer, Ø8 split lock
5400007	709	Fitting, 8 mm, 1/4", 90°
5327125	710	Air regulator w/gauge
	710-1	Air/oil regulator assembly
5327559	711	Air fitting spacer
	711-1	Pressure gauge
	711-2	Filter cup
	711-3	Oiler cup
	711-4	The big cups table oil mist detector
	711-4	Air regulator w/gauge
5327448	712	Fitting, 1/4" Tee
5327512	713	Turbo blast seal kit, Ø50 x Ø 40 x 6
5326270	713	O-Ring, Ø40 x 3.55
	715	Cross recessed pan head screw, M3 x 10
	716	Inflator assembly base
5327054	717	Tire inflator relief Valve
5327055	718	Air release Valve, G1/4”

5327769	719	Inflation gauge, G1/4”
5327769	719	Inflation gauge (damp), G1/4”
5327051	720	Inflation system plastic cover
5327463	720-1	Tire inflator box assembly
5327484	721	Coiled hose, air
5327130	721-1	Inflation hose assembly
5327538	722	Air Chuck, Ø8
5327538	722	Air Chuck, Ø8
	723	Quick plug, straight Ø8- Ø8
	724	Fitting, G1/8” Ø8
	725	Block, G1/8”
	725-1	Tower straight in, G1/4” - G1/8”
	726	SHCS, M6 x 20
	727	Washer, M6 flat
5400913	728	Washer, M6 flat
	729	Cross recessed pan head screw, M3 x 10
	730	1" Connector
5327892	730-1	Turbo blast hose assembly
5327611	731	M40 snap ring
5327335	732	Turbo blast handle / connector
5327603	733	Turbo blast 1" Hose
5327603	733	Turbo blast 1" Hose
5327603	733	Turbo blast 1" Hose
	734	Washer, Ø8 flat
	735	SHCS, M8 x 25
	736	Washer, Ø8 split lock
5327449	737	Pressure release Valve
5400931	738	Fitting, 8 mm x 1/4" 90°
	740-1	Ball Valve, G1/4" assembly
5327671	740-2	Ball Valve, G1/4"
5327460	741	Air tank
	741	Air tank
5400824	742	Fitting, 1" elbow
5324125	743	Turbo Blast Valve
	743-1	Turbo Blast Valve assembly
	743-1	Turbo Blast Valve assembly
5327102	744	Turbo Blast nozzle adapter
	746	SHCS, M4 x 12
	747	Washer, Ø4 split lock
	748	Washer, Ø4 flat
	749	Air/oil regulator bracket
	750	Screwed nipple, G1/4” - G1/4”

	751	Nut, M6
	752	Inflation hose plug
	753	Fitting, G1/8” Ø8
5327044	745	Jet blast nozzle
5328445	745	Blasting nozzle upper cover
	755	Cross recessed pan head screw, M6 x 12
	756	Acorn nut, M6
	757	Cross recessed head tapping screw, 4.2 x 13
	759	Cross recessed pan head tapping screws
	758	Air/oil regulator assembly
5328443	760	Lock nut
	761	Butt joint (G1/4" - G1/8")
	762	BB blade handle cover
	763	Vent Valve
	764	Lock nut
	763-1	O-Ring
	763-2	Piston
	763-3	Spring
	763-4	Valve body
	763-5	Button
5328444	765	Stainless steel tube button
	766	Nylon fabric jacket
	767	PVC steel wire tube
	768	PU straight pipe
5328442	754	O-Ring, Ø28 X 3.55
	769	Blasting Valve joint
	770	Elbow
	771	Butt joint, 1"
5328446	772	Blasting Valve
	773	Elbow, G1/4" Ø6 single
	774	Mother baby Valve
5400429	775	Turbo Blast assembly

Assist Tower (R76ATR Only)



BendPak Part #	Drawing #	Description
	800	Assist in hand
5327567	801	Double cone BB Roller
	802	Washer, Ø20 split lock
	803	Tire pressure rod

5327607	804	Left assist arm, plastic disk
5327433	805	Assist arm end plug
	806	Seeger ring, Ø25
5400885	807	Plastic disk
	808	Snap ring
	809	Washer, Ø10 split lock
	810	SHCS, M10 x 20
	811	SHCS, M10 x 50
	812	Connecting shaft
	812	Connecting shaft
	813	Left assist tower cylinder cover
	814	Washer, Ø6 flat
	815	SHCS, M6 x 12
	816	Fitting, Ø6 x 1/8" 90°
5327472	817	Turbo Blast hook
5327884	818	Nut, M8
	819	Bearing, B2510
	820	Nut, M10
5327432	821	Assist tower lower pin
	822	Washer, Ø12 flat
	823	Snap ring, Ø12
	824	Washer, Ø10 flat
	825	Left assist tower weldment
	825	Left assist tower weldment
	825	Left assist tower weldment
	826	SHCS, M10 x 120
	827	Nut, M8
	828	Tire pressure lever back cover
	829	Assist tower air hose cover
	830	Inner hexangular set screw, M8 x 16
	831	Washer, Ø10 split lock
	832	SHCS, M6 x 40 BOC
	833	SHCS, M10 x 75
5327434	835	Assist tower top plug
	836	Slide guide
5327483	837	Assist tower plastic slide
5327483	837	Assist tower plastic slide
5328294	838	Assist tower slide unit
	838	Assist tower slide unit
	839	Clamp handle
5327651	840	Assist tower lock knob
5530012	841	Cross recessed pan head screw, M4 x 30

5327098	842	L/R assist arm Valve cover
	842-1	Assist arm Valve control assembly
	843	Assist arm control Valve
5401427	844	Banjo bolt, G1/8" Ø6 single
5401427	844	Banjo bolt, G1/8" Ø6 single
	846	Assist tower bent arm
	846-1	Metal braided hose cover
	847	Adjustment silencer, G1/8”
	848	Fitting, Ø6 x 1/8" 90°
	849	Nut, M8
	850	O-ring, 16 x 2.4
	851	Cylinder front flange
	851	Cylinder front flange
	852	O-ring, Ø25 x 2.65
	852	O-ring, Ø25 x 2.65
	853	O-ring, Ø90 x 2.65
	854	Left assist tower cylinder rod
	854	Left assist tower cylinder rod
	855	Assist tower cylinder piston
	855	Assist tower cylinder piston
	856	O-ring, Ø14 x 2.4
	856	O-ring, Ø13.2 x 2.65
	857	Y-ring, Ø82.5 x 5.3
	858	Locking nut, M12
	859	Cylinder connecting thread shaft
	860	Left assist tower cylinder body
	860	Left assist tower cylinder body
5327388	860-1	Left assist tower cylinder
5327429	861	Assist tower rear cylinder plate
	862	Seal ring, Ø33 x 25 x 6
	862	Seal ring, Ø35 x 25 x 8
	863	Bearing B3025
	864	Assist arm handle weldment
	865	Cross recessed pan head screw, M5 x 12
	866	Washer, Ø5 flat
	867	Washer, Ø5 split lock
	868	SHCS, M10 x 20
	869	Washer, Ø10 flat
	870	Spring
	871	Nut, M4
	872	Washer, Ø 4 flat
	873	Washer, Ø 4 split lock

	874	Cross recessed pan head screw, M4 x 12
	875	Washer, Ø12
	877	Washer, Ø12
	878	8 mm to 6 mm union
5530061	879	SHCS, M12 x 25
	880	Washer, Ø12 split lock
	881	Washer
	882	Roller latch, M8 x 18
	883	Cone shaft
5400890	884	Assist arm cone
5327979	885	Assist tower bent arm plug
5327582	886	Presser arm weldment
5328283	887	Black assist top knob
	888	Nut, M18
5328279	889	Screw
5327075	890	Assist arm block
	891	Nut, M6
5400959	892	SHCS, M6 x 30
5327173	893	Tool box
	893-1	Washer, Ø8 flat
	893-2	SHCS, M8 x 20
	893-3	Washer, Ø8 split lock
	893-4	Washer, Ø8 flat
	893-5	SHCS, M8 x 25
	893-6	Washer, Ø8 split lock
	893-7	Tool box bracket
	893-8	Nut, M8

Maintenance Log

Maintenance Log

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