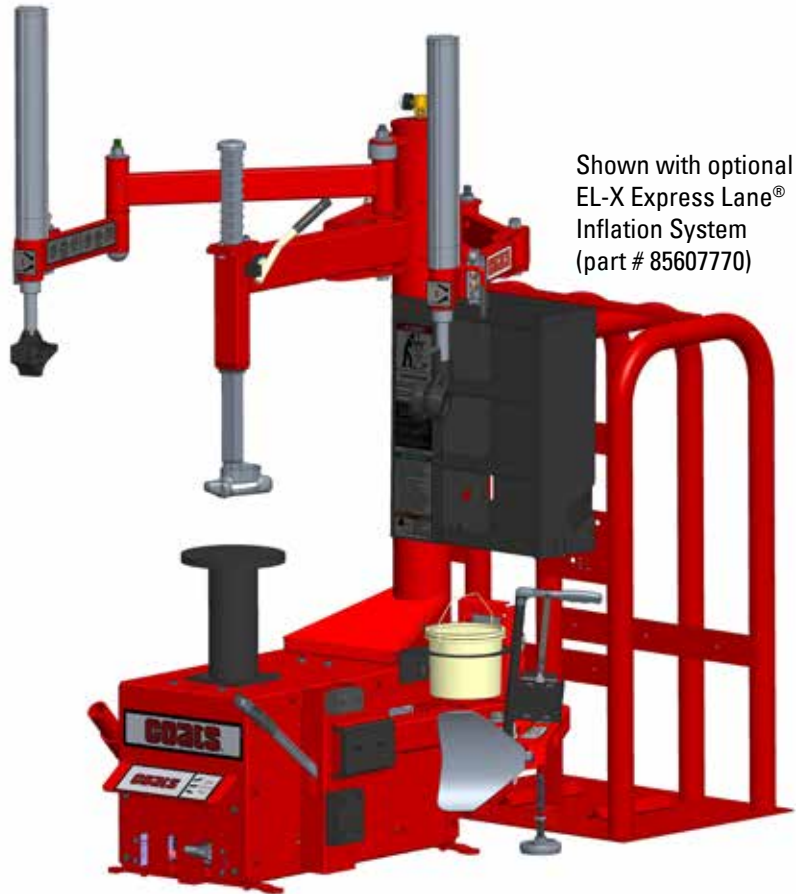


# COATS®

## 80/90C Model Center Clamp Tire Changer

For servicing single piece  
automotive and most tubeless light  
truck tire/wheel assemblies.

Any other type, including tube type agricultural,  
require special handling. Tires identified as truck  
tires need to adhere to OSHA standard 1910.177.



Shown with optional  
EL-X Express Lane®  
Inflation System  
(part # 85607770)

See  
**RIM Safety** page 1  
**★ Operating  
Instructions**  
on page 4.

### **Safety Instructions** **Set-up Instructions** **Operation Instructions** **Maintenance Instructions**

READ these instructions before placing unit in  
service. KEEP these and other materials delivered  
with the unit in a binder near the machine for ease  
of reference by supervisors and operators.

**HENNESSY  
INDUSTRIES**

1601 J. P. Hennessy Drive, LaVergne, TN USA 37086 615/641-7533 800/688/6359 www.coatsgarage.com  
HENNESSY INDUSTRIES LLC Manufacturer of COATS®, AMMCO® and BADA® Automotive Service Equipment and Tools.

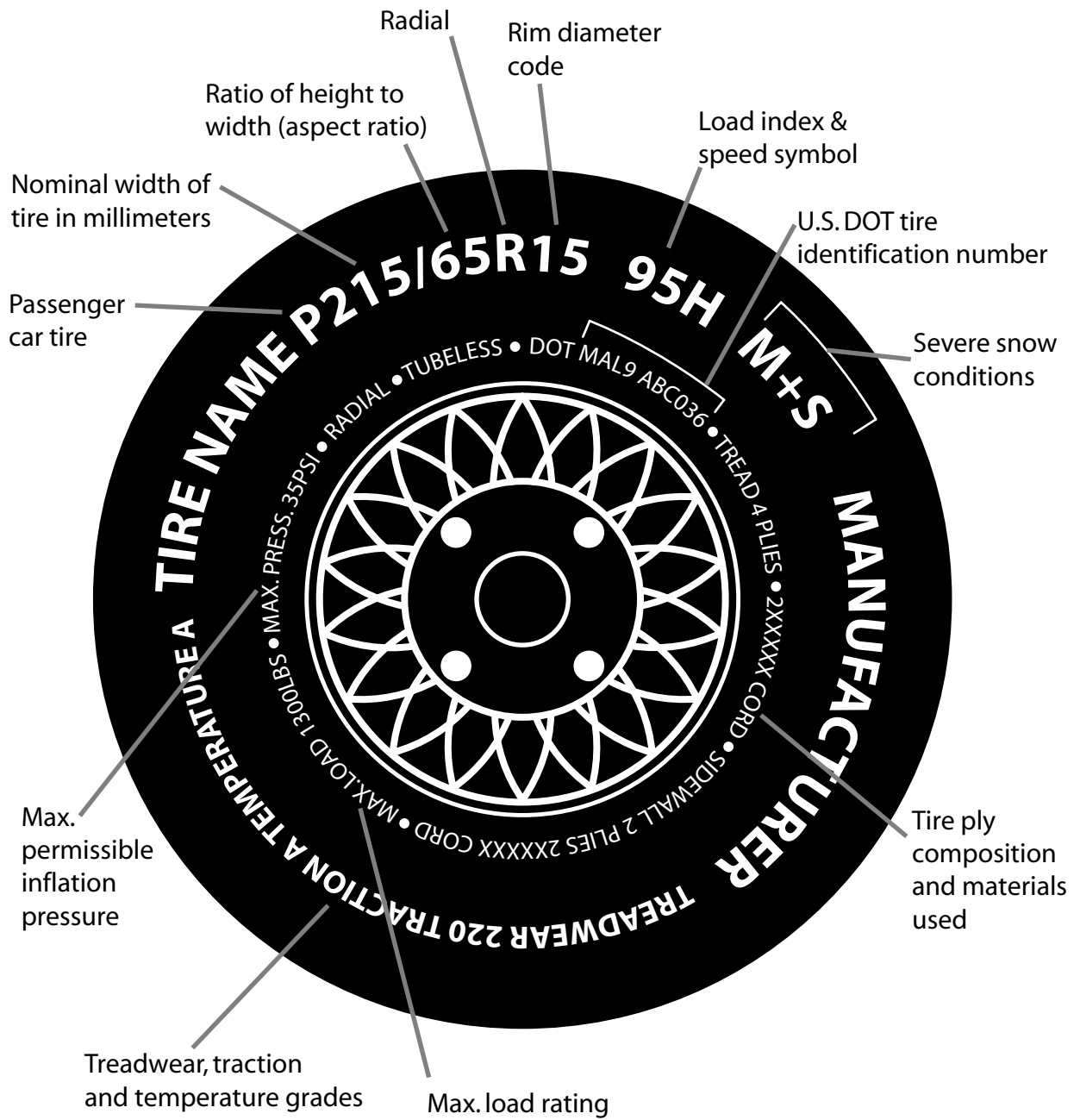
Manual Part No.: 85611918 01  
Revision: 9/21

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# Tire Specifications Diagram



## Safety Instructions

### Owner's Responsibility

To maintain machine and user safety, the responsibility of the owner is to read and follow these instructions:

- Follow all installation instructions.
- Make sure installation conforms to all applicable Local, State, and Federal Codes, Rules, and Regulations; such as State, Federal OSHA Regulations and Electrical Codes.
- Carefully check the unit for correct initial function.
- Read and follow the safety instructions. Keep them readily available for machine operators.
- Make certain all operators are properly trained, know how to safely and correctly operate the unit, and are properly supervised.
- Allow unit operation only with all parts in place and operating safely.
- Carefully inspect the unit on a regular basis and perform all maintenance as required.
- Service and maintain the unit only with authorized or approved replacement parts.
- Keep all instructions permanently with the unit and all decals/labels/notices on the unit clean and visible.
- Do not override or bypass safety features.

### Operator Protective Equipment

Personal protective equipment helps make tire servicing safer. However, equipment does not take the place of safe operating practices. Always wear durable work clothing during tire service activity. Loose fitting clothing should be avoided. Tight fitting leather gloves are recommended to protect operator's hands when handling worn tires and wheels. Sturdy leather work shoes with steel toes and oil resistant soles should be used by tire service personnel to help prevent injury in typical shop activities. Eye protection is essential during tire service activity. Safety glasses with side shields, goggles, or face shields are acceptable. Back belts provide support during lifting activities and are also helpful in providing operator protection. Consideration should also be given to the use of hearing protection if tire service activity is performed in an enclosed area, or if noise levels are high.

### Definitions of Hazard Levels

Identify the hazard levels used in this manual with the following definitions and signal words:

#### DANGER

Watch for this symbol:



It Means: Immediate hazards, which will result in severe personal injury or death.

#### WARNING

Watch for this symbol:



It Means: Hazards or unsafe practices, which could result in severe personal injury or death.

#### CAUTION

Watch for this symbol:



It Means: Hazards or unsafe practices, which may result in minor personal injury or product or property damage.



Watch for this symbol! It means BE ALERT! Your safety, or the safety of others, is involved!

## Safety Notices and Decals



**Failure to follow danger, warning, and caution instructions may lead to serious personal injury or death to operator or bystander or damage to property. Do not operate this machine until you read and understand all the dangers, warnings and cautions in this manual. For additional copies of either, or further information, contact:**

### **Hennessy Industries LLC**

1601 JP Hennessy Drive  
LaVergne, TN 37086  
(615) 641-7533 or (800) 688-6359  
www.hennessyind.com



### **For additional information contact:**

#### **Rubber Manufacturers Association**

1400 K Street N. W., Suite 900  
Washington, DC 20005  
(202) 682-4800  
www.rma.org

#### **Tire Guides, Inc.**

The Tire Information Center  
1101-6 South Rogers Circle  
Boca Raton, FL 33487-2795  
(561) 997-9229  
www.tireguides.com



Decal part number 85611138.

## **Remember R.I.M.**

Three Simple Steps To Help Keep Shops Safe

### **READ INSPECT MOUNT**

R.I.M. is a training program developed by Hennessy Industries to help keep tire technicians safe. By following the basic principles of R.I.M., technicians can avoid situations that can cause catastrophic accidents like tire explosions.

**R.I.M.** stands for read, inspect, and mount:

**Read** the tire size on a new tire before mounting to make sure it is the proper size for the wheel.

**Inspect** the wheel for cracks, rust, and or other damage that could cause an unsafe situation.

**Mount** the tire safely, making sure not to put any part of your body over the tire during inflation.

The most serious of possible accidents is a tire explosion. This is often caused by a tire/rim mismatch.

If a tire explodes on a tire changer, pressure causes it to fly straight up at tremendous speed. If a technician is standing over the tire, he can be seriously injured or killed.

Hennessy's R.I.M. program allows the technician to avoid situations that can cause tire explosions and other accidents. The full program, including training videos, brochures, posters, and other materials, is available from Coats distributors nationwide.



For more details, contact your Coats distributor or e-mail us.

## Principal Operating Parts

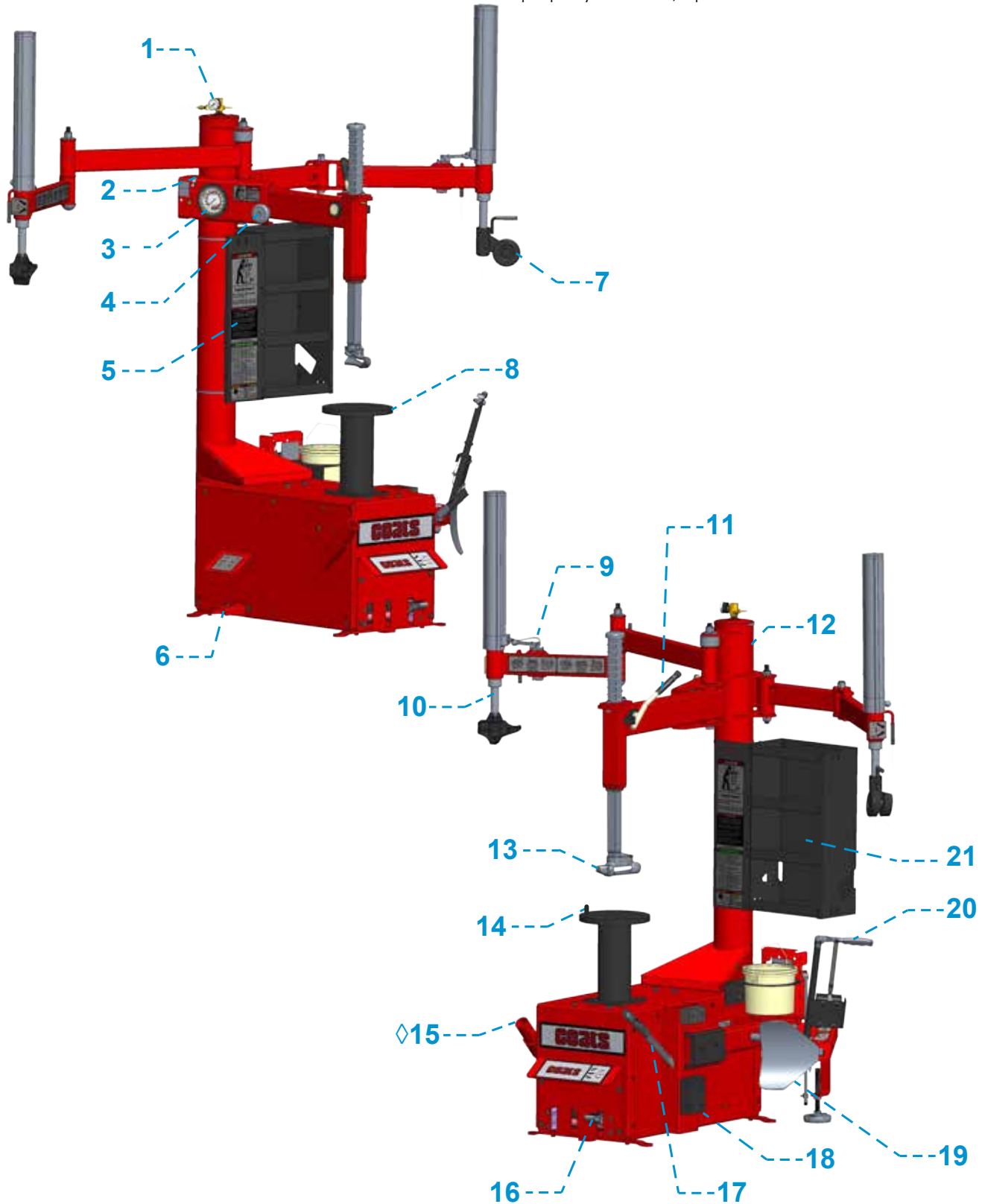
### Do It Now!

Now is a good time to contact product service at 800-688-6359 to start warranty, otherwise warranty starts at time of shipment.

## Know Your Unit

Compare this illustration with the unit before placing it into service. Maximum performance and safety will be obtained only when all persons using the unit are fully trained in its parts and operation. Each user should learn the function and location, of all controls.

Prevent accidents and injuries by ensuring the unit is properly installed, operated and maintained.





Replace any damaged or missing safety decals. They are available from COATS, (800) 688-6359.

**1 Pressure Safety Valve** — The high pressure safety valve is set to exhaust at line pressures above 200 PSI.

**2 Release Valve** — Allows the manual release of air pressure from tire when clip-on chuck is attached to tire valve.

**3 Air Inflation Gauge** — Registers tire pressure when clip-on chuck is attached to tire valve stem and inflation pedal is released.

**4 Swing Arm Adjustment Knob** — Adjusts swing arm/vertical slide assembly for proper horizontal positioning of mount/demount tool.

**5 Important Safety Decal** — Important safety information for the operator. DO NOT obstruct with tire stickers or other materials.

**6 Inflation Pedal** — Pedal that allows inflation of tires through air hose and clip-on chuck.

**7 RoboRoller™ Powered Assist**— Provides extra leverage for runflat and low profile tires.

**8 Pedestal** — Rotating chuck for tire changing.

**9 Robo-Arm® Control Valve** — Controls vertical movement of Robo-Arm cylinder.

**10 Robo-Arm® Helper Device**— Provides extra leverage for runflat and low profile tires.

**11 Vertical Slide Locking Handle** — Locks and unlocks vertical slide and sets correct vertical position to maintain Duckhead tool/wheel clearance.

**12 Tower** — Support for swing arm, Robo-Arm helper device and RoboRoller™ powered assist, also air storage tank.

**13 DuckHead® (Combination Mount/Demount Tool)** — Mounts and demounts tire from wheel.

**14 ♦Anti-Rotation Extension Pin** — Use pin extension for reverse mount wheel clamping.

**15 ♦Center Lock Clamp/Protection Cone** — Center locking clamp to hold wheel on pedestal for tire changing (not shown).

**16 Rotation Pedal** — Three-position pedal that controls rotation of pedestal (forward, off, reverse).

**17 Bead Lifting Tool** — Used to lift and position tire bead correctly on Duckhead mount/demount tool.

**18 Tire Bumper Guards** — Provides protective surface when bead loosening tires.

**19 Anti-Tip Foot** — A device to provide stability for the tire changer.

**20 Bead Loosener Shoe** — Pivoting shoe for loosening tire beads.

**21 Bead Loosener Handle** — Controls operation of bead loosener shoe. Pull handle up or down.

**22 Storage Cabinet** — Provides additional storage that is easily accessible to the technician.

**23 ♦Auxiliary Bead Sealer (ABS)** — Expands tire sidewall to bead seat area of rim to seal tire to rim and allow inflation (not shown).

♦ Not Shown

## Operating Instructions

This unit must be properly operated and properly maintained to help avoid accidents that could injure the operator or bystanders, or damage the unit. This section of the Operating Instructions manual review basic operations and use of controls. These instructions should be reviewed with all employees before they are allowed to work with the machine. Keep these instructions near the machine for easy reference.

### Tire Bead Loosening and Demounting



**This machine may operate differently from machines you have previously operated. Practice with a regular steel wheel and tire combination to familiarize yourself with the machine's operation and function.**

**NOTE:** Remember to remove all weights from both sides of the wheel. Weights left on backside of wheel may cause the wheel to be clamped unlevelled. This may result in the combination mount/demount tool contacting the rim causing scratches. On alloy wheels, always rotate the wheel one turn after setting the Duckhead mount/demount tool to insure proper wheel clamping.

**NOTE:** Always review with the owner any nicks and scratches on expensive wheel and tire combinations prior to servicing.

**NOTE:** Review the performance wheel section of this manual prior to servicing performance tire/wheel combinations.



**Loosening the beads on a partially or fully inflated tire is unsafe and causes excess movement and friction against the bumper pads and excessive wear on pivots. Deflate the tire completely to prolong the life of your machine.**

**1.** Deflate the tire completely by removing the valve core from the valve stem (figure 1). Be cautious and do not smoke as a flammable gas could have been introduced into the tire at some time.



Figure 1 - Remove Valve Core to Deflate Tire



**Tires are always installed and removed from the rim's narrow side.**

**NOTE:** Always loosen the bead on the narrow side of the wheel's drop center first (tire removed in figure 2 for clarity).

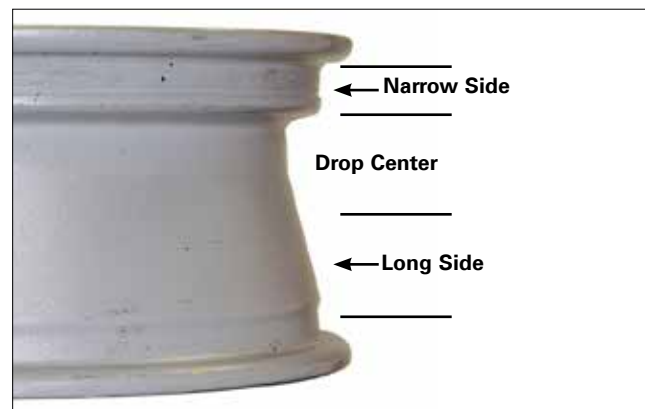


Figure 2 - Determine Narrow Side of Wheel

**NOTE:** Use extra care in positioning the bead loosener shoe on larger wheels/tires, and on alloy wheels. Make sure the shoe rests next to but not on the rim, and not on the tire sidewall.

**2.** Actuate valve to position the bead loosener shoe away from the machine and roll wheel into position. The valve stem should be in the 2 o'clock position to accommodate a possible asymmetric safety hump type rim. Position the bead loosener shoe against the tire next to, but not on, the rim. Actuate the bead loosener handle to position the shoe and loosen the bead. It may be necessary to loosen the bead in multiple locations around the tire (figure 3).





Figure 3 - Position Tire and Bead Loosener Shoe with Valve Stem in 2 o'clock Position.

**3.** Turn the wheel around and repeat loosening procedure on the other side of the wheel (figure 4). This should be the long side of the drop center (figure 2).



Figure 4 - Position Tire and Bead Loosener Shoe With Wheel Turned Around and Valve Stem in 2 o'clock Position.

**4.** Apply tire manufacturer's approved rubber lubricant liberally to entire circumference of both tire beads after loosening (figure 5).



Figure 5 - Apply Rubber Lubricant to Tire Beads

**5.** Place rubber protective cover on top of pedestal (reverse mount only). Align slot with anti-rotation pin.



Figure 6 - Place Protective Cover on Pedestal

**6.** Determine the mounting side of the wheel (see figures 7a and 7b). The mounting side is the narrow side of the drop center. See figure 2 for more information on the drop center.



Figure 7a - Mounting Side Up, Conventional Wheel

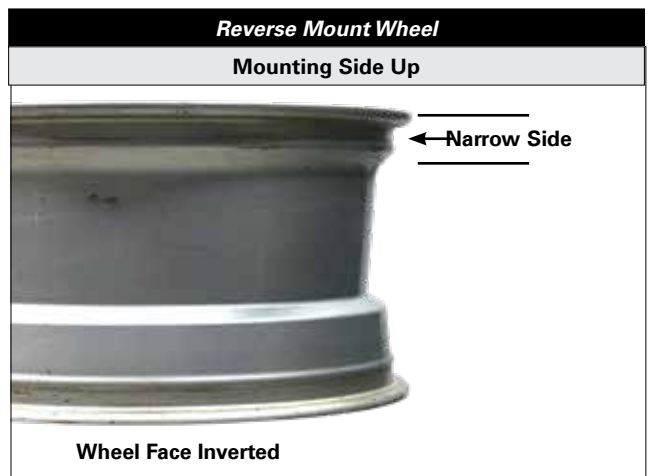


Figure 7b - Mounting Side Up, Reverse Mount

**7.** Place tire/wheel assembly on pedestal with the mounting side up (see figures 8a and 8c) and with the anti-rotation pin located inside one of the lug holes. Use the anti-rotation extension pin (figure 8b) for reverse mount tire/wheel assemblies.



Figure 8a - Place Conventional Tire/Wheel Assembly on Pedestal with Anti-Rotation Pin in Lug Hole



Figure 8b - Place Anti-Rotation Extension Pin over Anti-Rotation Pin



Figure 8c - Place Reverse Mount Tire/Wheel Assembly on Pedestal with Anti-Rotation Extension Pin in Lug Hole

**8.** Place the center mount lock shaft through center of wheel (figure 9). Push it down and turn 90-degrees clockwise to clamp wheel to pedestal (figure 10). Now tighten by turning the knobs by hand in a clockwise direction.



Figure 9 - Place Center Mount Lock through Wheel Center

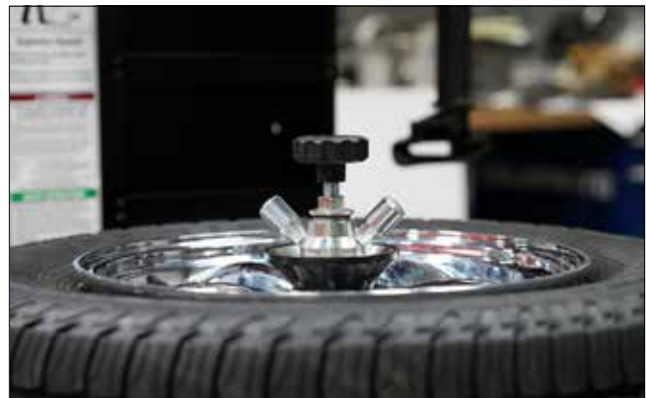


Figure 10 - Tighten Tire/Wheel Assembly to Pedestal

**9.** Move the swing arm into position. Pull the locking handle forward to release the slide. Push down on the top of the vertical slide (figure 11) to move the demount tool into contact with the rim edge. Push the locking handle back and lock the slide into place. As the slide is locked, the mount / demount tool will move upward approximately 1/8-inch from rim edge.



Figure 11 - Position Mount/Demount Tool

**10.** The mount/demount tool should be in contact with the rim edge. Turn the swing arm adjusting knob to move the mount/demount tool away from the rim 1/8 to 1/4 inch (figure 12).



Figure 12 - Adjust Swing Arm to Position Tool

**11.** Check metal tool positioning. Mount/demount metal tool should be positioned with 1/8 to 3/16 inch clearance between the top of the rim edge and the bottom of the tool, and 1/8 to 1/4 inch clearance between the rim edge and the tool roller (figure 13). This clearance will be maintained as long as the locking handle and adjustment knob are not changed. The operator may swing the arm out of the way and back into place again without needing to reposition the tool, when changing a like set of wheels.

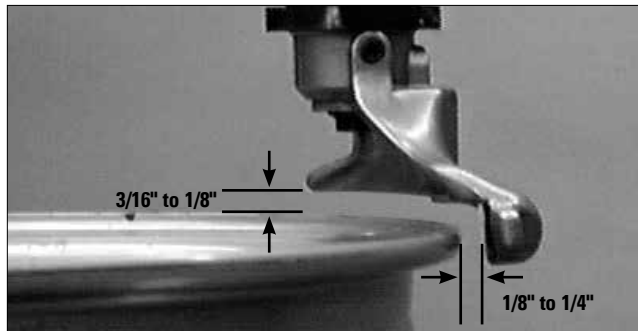
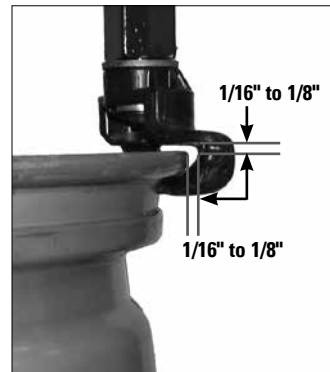


Figure 13 - Proper (Metal) Mount/Demount Tool Position

**12.** Check plastic tool positioning. Mount/demount plastic tool should be positioned with 1/16 to 1/8 inch clearance between the top of the rim edge and the bottom of the tool, and 1/16 to 1/8 inch clearance between the rim edge and the inside surface



of the tool (figure 14). This clearance will be maintained as long as the locking handle and adjustment knob are not changed. The operator may swing the arm out of the way and back into place again without needing to reposition the tool, when changing a like set of wheels.

Figure 14 - Proper (Plastic) Mount/Demount Tool Position

**NOTE:** The tool clearance may change with machine use and should be inspected often. Failure to maintain the proper clearance may result in damage to the wheel rim and/or tire.

**NOTE:** Normal pedestal rotation for demounting is clockwise. Depress the rotation pedal to rotate this direction. To rotate the pedestal counterclockwise, lift the pedal up with your toe.

**NOTE:** Pedestal rotation can be stopped at any time by removing your foot from the rotation pedal.

**13.** Use the RoboRoller™ powered assist to push down on a tire with stiff sidewalls to lubricate the tire bead (figure 15).



Figure 15 - Use RoboRoller Powered Assist To Lube Tire Bead

## CAUTION

At times during the mounting and demounting procedure, the bead lifting tool may encounter resistance and can be thrown. Keep one hand firmly on the tool to avoid possible tool disconnect. Use the reversing feature to back out of jam-ups. A thrown tool can cause injury.

**14.** Insert the smooth curved end of the bead lifting tool over the forward end of the demount tool and below the top bead of the tire (figures 16 & 17). Lift the bead up and over the knob on the demount tool (figure 16 & 17). Also, note the valve stem position to the demount tool. Use the Robo-Arm® helper device to push down on the tire opposite the demount tool to allow the bead to utilize the drop center area of the rim, this position reduces stresses in the bead and allows an easier bead lift.

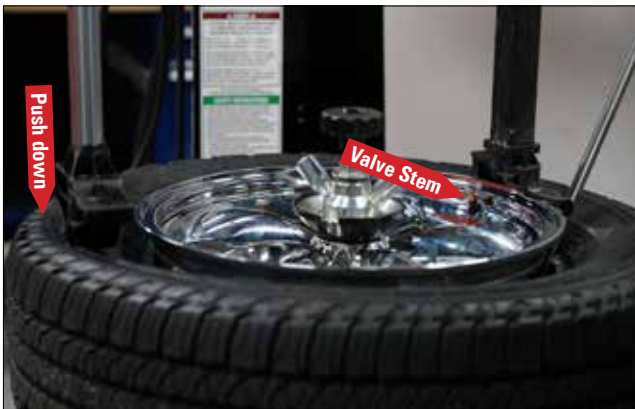


Figure 16 - Insert Bead Lifting Tool

**15.** Push the bead lifting tool down towards the wheel to lift the tire bead up and over the knob portion of the demount tool. Hold the tool and bead in this position (figure 17).



Figure 17 - Lift Bead Over Demount Tool

**16.** Depress the rotation pedal to rotate the wheel. The Duckhead mount/demount tool will guide the tire bead up and over the edge of the wheel. Continue rotation until the upper bead is demounted.

**NOTE:** Push down on the tire across from the demount tool during pedestal rotation to utilize the drop center area of the wheel. This reduces the tensional force on the top or first bead during demount (figure 18).



Figure 18 - Demounting Lower Bead

**17.** Lift and hold the tire at an angle so that the lower bead is resting in the drop center directly across from the demount tool, and is loose below the demount tool (figure 18). Insert the smooth curved end of the bead lifting tool down over the forward end of the mount/demount tool and below the lower bead. Lift the bead up and over the knob on the demount tool (figure 19).



Figure 19 - Guide Lower Bead Over Knob On Demount Tool

**18.** Depress the rotation pedal to rotate the wheel. The demount tool will guide the bead up and over the edge of the wheel. Continue rotation until lower bead is demounted.

## Tire Mounting

This information must be read and followed carefully to prevent accidents and injuries during mounting.



Mounting a mismatched tire and wheel will cause an explosion before it bead seats during inflation. Attempts to force a bead seat, by increasing air pressure, on mismatched tires and wheels will cause the tire to violently explode, causing serious personal injury or death to operator and/or bystanders if standing over tire and wheel.



Check tire and wheel carefully before mounting. Make sure the tire bead diameter and wheel diameter match exactly. Consult the tire manufacturer's recommendations, Tire Guide and/or Rubber Manufacturer's Association for approved rim widths for tire sizes.



Never mount a damaged tire. Never mount a tire on a rusty or damaged wheel. Used tires may have bead and/or tread damage. Used rims may have flange damage where the tire/rim was run down the road on a flat tire. Run-flat tires are not meant to be reused! Damaged tires and/or wheels may explode.



When in doubt do not mount. Never mount a tire and wheel handed to you by anyone without checking both tire and wheel for damage and to be certain the sizes match. Used tires may have road hazard damage or mount/demount damage, inspect carefully. Do not let untrained persons operate tire changer and keep bystanders out of service area.



Forcing the tire onto the rim can cause bead damage. If you damage the tire bead during mounting, STOP!, remove tire and mark it as damaged. Do not mount a damaged tire.

**1.** Before any mounting, inspect tire for damage and verify size match between tire and wheel (figure 20).



Figure 20 - Verify Size Match Between Tire and Wheel

**2.** Inspect wheel closely for damage. Clean the wheel and remove any light corrosion or rubber residue (figure 21). Do not attempt to service a heavily corroded wheel, damaged wheel, or bent wheel.



Figure 21 - Inspect and Clean the Wheel

**3.** Inspect valve stem and replace if necessary. Next lubricate tire beads liberally with tire manufacturer's approved rubber lubricant (figure 22).



Figure 22 - Lubricate Tire Beads Liberally

**4.** Place tire over wheel and move swing arm into position making sure the valve stem is at the 9 o'clock position in front of bead lock. Position tire so that lower bead is above the rear extension of the mount/demount tool and below the front knob (figure 23).



Figure 23 - Position Tire Against Mount/Demount Tool

**5.** Depress rotation pedal and rotate wheel to mount lower bead. Use drop center of wheel by pushing down on tire just ahead of the mounting tool, and follow as tire rotates (figure 24). Rotate pedestal until lower bead is mounted.



Figure 24 - Mounting Lower Bead

**6.** Use Robo-Arm® helper device to push down on tire 90 degrees clockwise from Duckhead mount/demount tool to allow bead to utilize drop center area of rim (figure 25). If needed, use the RoboRoller powered assist to keep the tire bead in the drop center area of rim (figure 26).



Fig 25 - Use Robo-Arm Helper Device To Hold Tire In Rim Drop Center

**7.** Depress rotation pedal and rotate tire until bead is mounted. Be careful to ensure bead stays in the rim drop center in the area ahead of Duckhead mount tool.



Figure 26 - Mounting Top Bead

**NOTE:** If pedestal rotation stalls, reverse the pedestal momentarily until the tire bead is again loose on the wheel. Add more lubricant to assure the tire bead slides into the drop center. Reposition tire on Duckhead mount/demount tool and make sure the tire bead is correctly positioned in drop center of the wheel; then attempt mounting again.

**NOTE:** After the inflation process is complete, remove the center mount lock.

## Leverless Bead Lifter Operation

This section of the Operating Instructions manual review basic operations and use of the Leverless Bead Lifter on units so equipped. Keep these instructions near the machine for easy reference.



### Tire Demounting

Follow tire changer operating instructions provided for demounting a standard wheel assembly, except:

1. After deflating, bead loosening, and clamping the wheel to the pedestal per the standard instructions. Position leverless arm until mount/demount tool plastic contacts wheel.
2. Position the leverless arm until the leverless demount tool plastic contacts the wheel.
3. Set the leverless demount tool to 1/8-inch to 3/16-inch above the wheel.

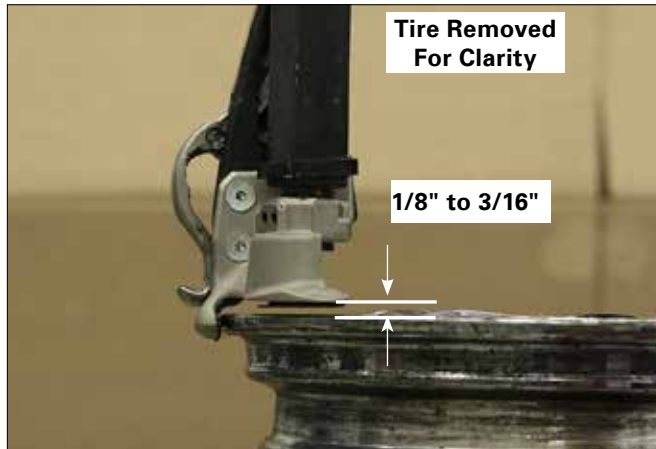


Figure 47 - Position Demount Tool Against Rim

4. Lock the swing arm, when the leverless demount tool is in the proper position.



Figure 48 - Lock Swing Arm In Position

5. Lubricate top and underside of leverless bead lifter tool hook (figure 49).

**Note:** To aid tire bead lubrication, lower leverless tool hook slightly to move bead away from wheel.



Figure 49 - Apply lubricant to Bead Lifter Tool Hook

6. Position valve stem behind leverless demount tool tail (figure 50) to prevent damage to TPMS (Tire Pressure Monitoring System) sensor.

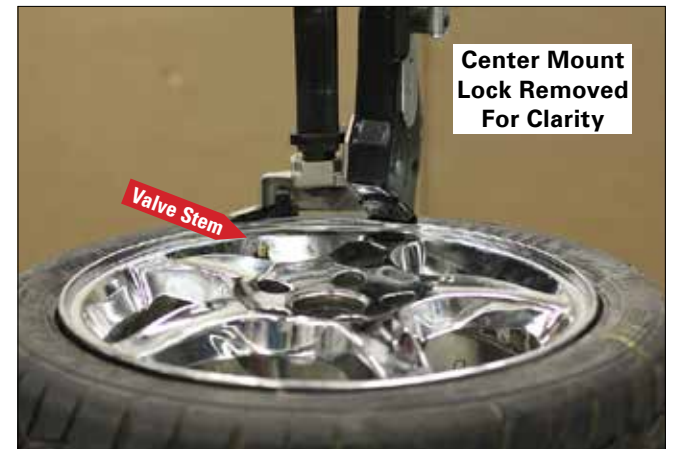


Figure 50 - Position Valve Stem Behind Leverless Demount Tool

7. With the swing arm locked in position, push control handle down to lower leverless bead lifter tool hook under the upper tire bead (figure 51).

**NOTE:** If leverless tool hook does not hook under tire bead, reverse rotation. Re-position valve stem, and push down on tire opposite leverless bead lifter tool to allow bead to utilize the drop center area of the rim and allow easier bead lift over leverless bead lifter tool hook.

**NOTE:** Use Robo-Arm® (if equipped) to help push tire bead into the drop center.



Figure 51 - Leverless Tool Hooked Under Tire Bead

**8.** Push leverless bead lifter control up, retracting leverless tool hook.

**Important:** Do not rotate the TPMS sensor past the leverless tool, when the leverless tool is extended down!

**9.** Depress the rotation pedal to rotate wheel. The leverless bead lifter demount tool will guide the bead up and over the edge of the wheel. Continue rotation until the upper bead is demounted.



Figure 52 - Demount Upper Tire Bead

**10.** Next, position valve stem behind leverless bead lifter tool to prevent damage to TPMS (Tire Pressure Monitoring System) sensor. Push control handle down to lower the leverless bead lifter tool hook under lower tire bead.



Figure 53 - Bead Lifter Tool Hooked Under Lower Tire Bead

**11.** While holding tire up in the drop center, lift the tire to hook lower bead on the leverless tool hook. Push the control handle up to lift bead over rim (figure 54).



Figure 54 - Push Control Handle Up To Lift Bead Over Rim

**12.** Depress the rotation pedal to rotate wheel. The leverless bead lifter tool will guide the bead up and over the edge of the wheel. Continue rotation until the lower bead is demounted.

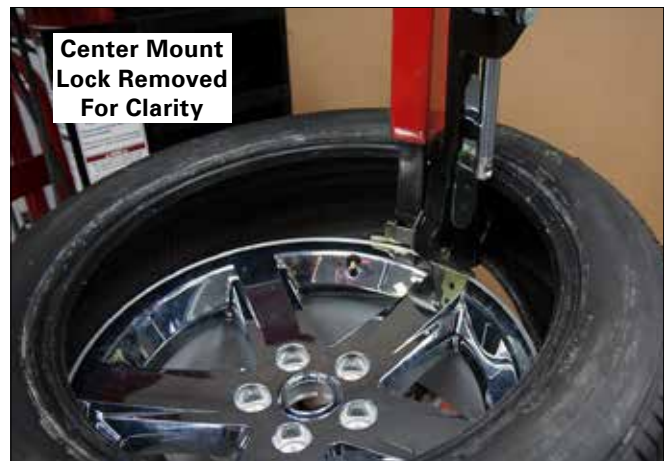


Figure 55 - Demount Lower Tire Bead

**Important:** Never rotate counter-clockwise with the bead lifted!

**NOTE:** During lower bead demount, if tire slips on wheel, use a wheel weight scraper to apply slight upward pressure, while rotating clockwise.



## Tire Mounting

**13.** Lubricate tire beads liberally with tire manufacturer's approved rubber lubricate.

**NOTE:** If equipped, use Robo-Roller™ to push down on the tire while applying lubricant to the tire bead.



Figure 56 - Use Robo-Roller When Applying Lubricant to Tire Bead

**14.** Place tire over wheel and move swing arm into position. Make sure the valve stem is at the 9 o'clock position in front of bead lock to prevent TPMS sensor damage.



Figure 57 - Position Valve Stem in Front of Bead Lock

**15.** Position tire so that lower bead is above the rear extension (tail) of the leverless mount tool and below the front knob (figure 58).



Figure 58 - Position Tire Against Bead Lifter Tool

**16.** Depress rotation pedal and rotate wheel to mount lower bead. Use drop center of wheel by forcing down on tire just ahead of leverless mount tool, and follow as tire rotates. Rotate until the lower bead is mounted.

**17.** For top bead installation, rotate until the valve stem on wheel is just in front of where the bead crosses the rim (figure 59). Be sure the tire is on top of the mount/demount tool tail.



Figure 59 - Position Valve Stem In Front Of Bead Lock

If equipped, use the Robo Arm™ to push down on tire 90 degrees clockwise from mount tool and move the Robo-Roller in front of the mount tool to allow tire bead to utilize the drop center area of rim (figure 60).



Figure 60 - Robo-Arm and Robo-Roller Pushing Tire Bead in to the Drop Center

**18.** Slightly lower leverless tool hook to push bead down; hold opposite side of tire down into drop-center.

**19.** Depress rotation pedal and rotate tire until bead is mounted. Be careful to ensure bead stays in the rim drop center in the area ahead of the bead lifter tool.

**20.** Inflate, unclamp per standard instructions.

## Inflation

Tire inflation is performed in three steps: BEAD SEAL, BEAD SEAT, and INFLATION. These steps are explained in detail on page 14. Read the explanation of each step and understand them thoroughly before proceeding.



**Tire failure under pressure is hazardous. This tire changer Will Not Restrain Exploding Tires, rims or other related equipment. Inspect tire and wheel carefully for match, wear, damage, or defects before mounting. Always use approved tire bead lubricant during mounting and inflation.**



**The clip-on chuck allows the operator to keep hands and entire body back from inflating tire. The chuck must be an open/freeflow style with all parts in proper working order.**



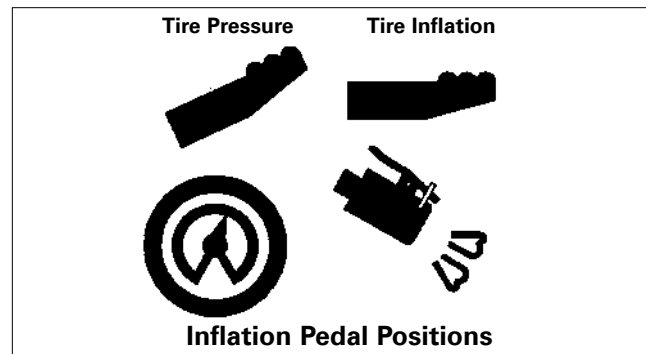
**Check for proper inflation gauge operation. Accurate pressure readings are important to safe tire inflation. Refer to the Operating Maintenance section of this manual for instructions.**

The inflation pedal, located at the rear of the left side of the machine, controls the flow of air through the inflation hose, and has two positions.

**Note:** The clip-on chuck on the end of the hose is a safety item that must always be an open/freeflow style with all parts in proper working order.

**Position 1 - Tire Pressure** – With the inflation hose attached to the tire valve and the pedal in this position, the air gauge will register the air pressure in the tire. Whenever your foot is removed from the pedal, it will return to this position.

**Position 2 - Tire Inflation** – This is the first activated position. With the inflation hose attached (using the clip-on chuck) to the tire valve and the pedal in this position, line pressure is allowed to flow through the valve system and into the tire for inflation. Correct tire pressure is not indicated on the gauge in this position.



**Note the Inflation Pedal Positions** (See Diagram)

**NOTE:** This unit is equipped with a pressure limiter to assist the operator with proper tire inflation. When the inflation pedal is held in position 2, the pressure limiter cycles the system between position 2 (inflation) and position 1 (at rest, no airflow to tire). This cycling helps to prevent over inflation of the tire. Tires can still be over inflated and explode, when using this pressure limiter, if all of the instructions in this manual are not followed completely. The pressure limiter will keep most car and light truck tires from inflating beyond 60 PSI (smaller tires may reach higher pressures). It is the operator's responsibility to follow all instructions and to control inflation pressure as specified in these instructions. Check the function of the pressure limiter regularly and maintain it according to the instructions provided in this manual for safe and proper operation. Do not tamper with or attempt to adjust the pressure limiter. Tires requiring inflation beyond 60 PSI should be inflated in a safety cage.

## Bead Sealing

**1.** Remove the valve core from the valve stem to allow more air flow into the tire to assist with bead seal.

**2.** Position valve stem in front of operator and connect the inflation hose with the clip-on chuck. Hold tire up against upper edge of the wheel. Be sure tire's top bead does not cover the bottom of the valve stem (figure 27).



Figure 27 - Lift Tire Upwards for Bead Sealing

**3.** Depress inflation pedal to position 2 and hold to begin air flow through tire valve.

**4.** If tire beads do not seal, then use the Auxiliary Bead Sealer (ABS), see figure 28. Verify that both beads are completely sealed to the wheel. Repeat these steps if beads have not sealed. It may be necessary to wait a few seconds for the air storage tank pressure to recover before attempting again.



Figure 28 - If Necessary, Use ABS for Bead Sealing

**5.** After bead seal is achieved, remove the clip-on chuck and reinstall the valve core. Reattach the clip-on chuck after core is installed.

## Bead Seating



**NEVER** exceed 40 PSI to seat beads while using this tire changer. If more than 40 PSI is permitted by tire manufacturer, **ALWAYS** use safety cage and clip-on chuck. **NEVER** exceed recommended pressure after seating beads. **ALWAYS** keep hands and entire body back from inflating tire.

An exploding tire, wheel, or bead sealing equipment may propel upward and outward with sufficient force to cause serious injury or death to operator or bystander.



Check tire pressure frequently. If operator is unable to obtain Bead Seat, something is wrong. Deflate tire completely, inspect tire and wheel, correct any problems found, relubricate both tire beads, and reattempt Bead Seal and Seat procedures. Follow all safety instructions in this manual and on machine.

**1.** Once tire pressure is indicated on the air gauge (inflation pedal in position 1; foot removed from pedal), continue to inject air into the tire (inflation pedal position 2) in short intervals. Check the pressure frequently. Stand back during bead seat. Keep hands, arms, and entire body away from tire during this procedure (figure 29).



Tire beads should move outward and "pop" into their bead seat position as pressure inside the tire increases. If this does not happen, a problem exists. Investigate carefully.

**Important:** Do not continue to add air pressure to force bead seat.

Figure 29 - Stand Back during Bead Seat

## Inflation

### **WARNING**

**NEVER** exceed tire manufacturer's recommended air pressure. Tires can explode, especially if inflated beyond these limits. Use clip-on air chuck, keep hands, arms and entire body back from inflating tire. Avoid distraction during inflation. Check tire pressure frequently to avoid over inflation. Excessive pressure can cause tires to explode, causing serious injury or death to operator or bystander.

### **WARNING**

If you change tires defined as truck tires, they must be inflated per OSHA instructions.

**1.** Make sure both beads are seated. When both beads are seated, the tire is ready for inflation.

**2.** Replace the valve core if it was removed.

**3.** Depress the inflation pedal to position 2 to inflate the tire. The pressure limiter will cycle the air flow as described earlier. On most tires, the pressure limiter will cease air flow at approximately 60 PSI. On smaller volume tires the pressure may be higher.

**4.** Release air pressure from tire by pressing the manual release valve button (inflation hose must be attached to the valve stem, Figure 30). Never add or adjust tire pressure using an air hose without a clip-on air chuck and in-line valve. Do not use a hand-held style chuck (figure 31).

**5. Important:** When inflating tires that require more than 60 PSI, always use a safety cage and air hose with a clip-on air chuck and in-line valve. The air hose must have enough length between the chuck and the operation/in-line valve to allow the operator to stand outside the trajectory.



Figure 30 - Location of Manual Release Valve



Figure 31 - Do Not Use a Hand-held Style Air Chuck

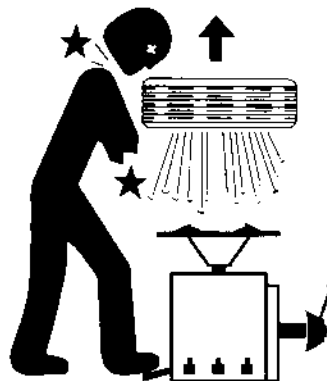
### **DANGER**

#### **Explosion Hazard**

**Never exceed 40 PSI while seating beads. If you use more than 40 PSI always use safety cage.**

**Remember R.I.M.**

(see page iv and back cover)



### **DANGER**

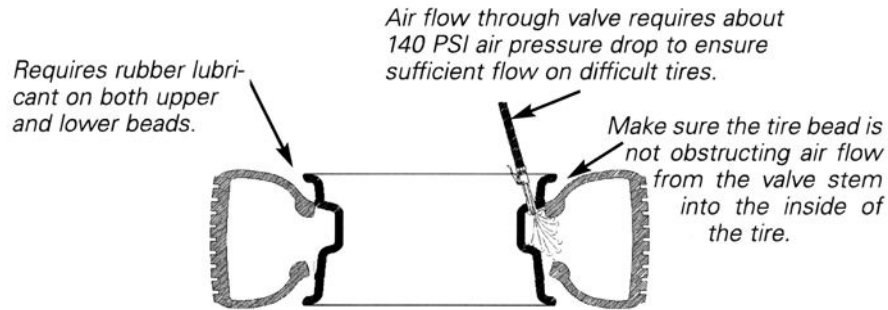
**Explosion Hazard**  
**Never inflate tire above manufacturer's recommended pressure after bead is seated.**

## Stages of Inflation on a Conventional Tire and Rim

Review these descriptions and diagrams carefully. Refer to them as necessary during bead sealing, bead seating, and inflation to verify that you are proceeding properly and safely.

### Bead Sealing

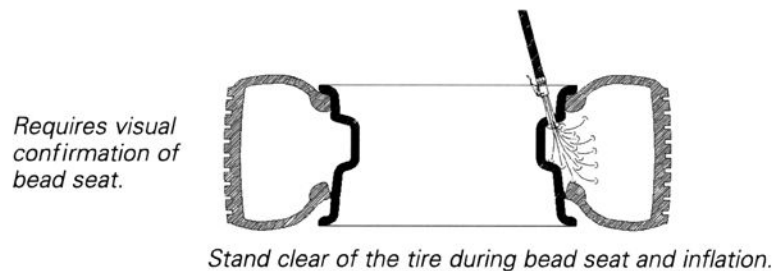
Bead sealing is the process of capturing air pressure between the tire and the rim. The tire will usually contain about 1/2 to 2 PSI at initial bead seal.



### Bead Seating

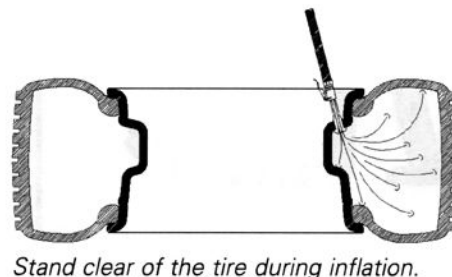
Bead seating usually occurs on the long tapered side of the wheel first and the shorter side last. Bead seating will usually require at least 7 PSI in the tire. 40 PSI is the maximum safe pressure at this stage regardless of tire operating pressure. For tires requiring more than 40 PSI to bead seat use safety cage.

Most European import cars and many aftermarket alloy wheels are very tight and can be difficult to bead seat. Also note that asymmetrical hump and run-flat tires are extremely difficult to bead seat. Follow tire manufacturer's recommended procedure for bead seating.



### Inflation

After the beads are seated, the tire is ready to be inflated. Do not inflate the tire above the manufacturer's recommended pressure as stamped on the tire sidewall. The typical inflation pressure for automobile tires is between 24 and 45 PSI. Light truck inflation pressure typically covers a wider range.

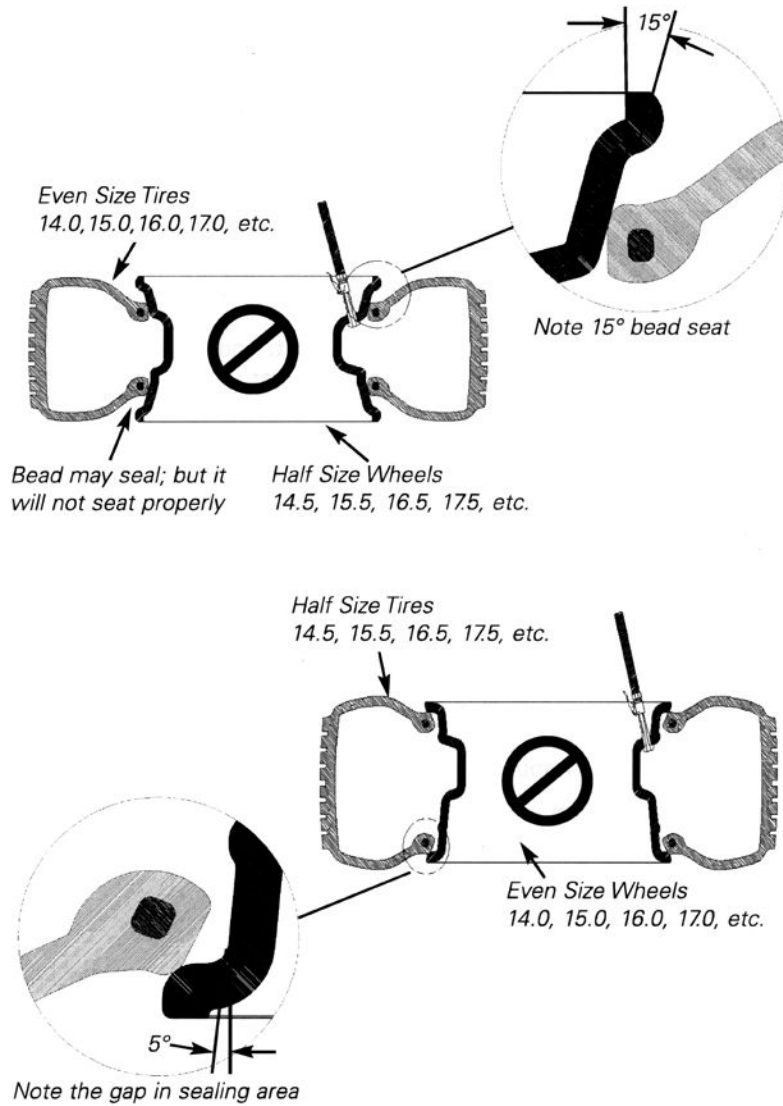


## Mismatched Tires and Wheels

Never mount and inflate mis-matched tires and wheels.

**! DANGER**

Mismatched tire and wheel combinations will explode, if you attempt to force a bead seat, causing personal injury or death to operator and/or bystanders.



## Custom and Special Wheels



Only tire technicians with experience and training on custom wheels should attempt to service expensive custom alloy or aluminum wheels and high-performance low-profile tires.

### Alloy Wheels

Some manufacturers offer wheels with little or no drop center. These are not DOT approved. The tire or wheel - or both - can be damaged and the tire could explode under pressure, resulting in serious injury or death. Do not mount/demount this type of wheel (figure 32).

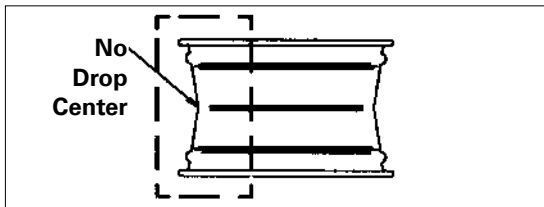


Figure 32 - No Drop Center

### European Performance Wheels (Asymmetrical Hump)

Some European wheels have very large humps except near the valve hole. On these wheels, the beads should be loosened at the valve hole on both the upper and lower sides first (figure 33).

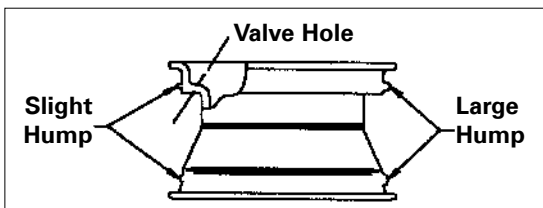


Figure 33 - Asymmetrical Hump on European Wheels

### Wheels with Low Pressure Warning Sensors

Performance wheels on some vehicles (including Corvette, BMW, Lamborghini Diablo) have a pressure sensor strapped to the rim opposite the valve hole. On these wheels, the beads should be loosened at the valve hole on both upper and lower sides first (figure 34).

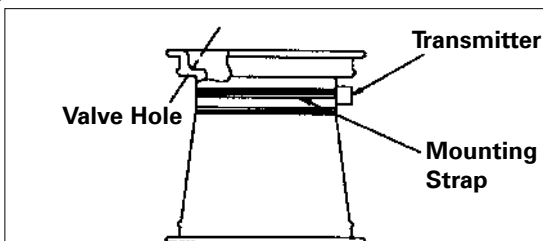


Figure 34 - Wheels with Low Pressure Sensor

## Tube Type Tires

### Mounting

1. Avoid pinching or forcing the tube.
2. Apply rubber lubricant to the beads of the tire.
3. Mount the bottom bead.
4. Round out the tube with a small amount of air.
5. Apply rubber lubricant to the tube.
6. Insert the tube into the tire.
7. Mount the top bead.

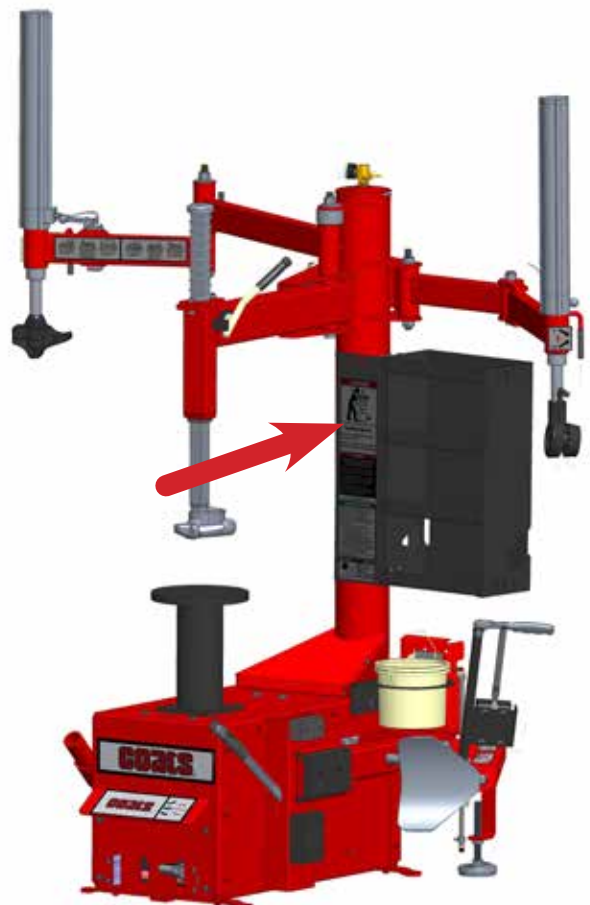
### Demounting

1. After tire beads are loosened, lubricate the beads and rim liberally.
2. Position demount tool and bead lifting tool as described in steps 8 through 12 on pages 5 and 6. Depress rotation pedal and rotate only a short distance at a time. This allows you to stop the process should the tube get pinched.
3. After upper bead is demounted, remove tube and demount lower bead.



### Do It Now

Make sure the instruction and warning decal is clean and clearly visible to operator.



## Maintenance Instructions

Read and follow all the maintenance instructions provided in this manual to keep the machine in good operating condition. Refer to the other materials received with the unit and to the service bulletins from the manufacturer for additional instructions on proper maintenance and service. Regular inspections and proper maintenance are essential to preventing accidents and injuries.

### **WARNING**

**Before making any inspection, adjustment, or repair, disconnect the power source and block out all moving parts to prevent injury.**

### **WARNING**

**Keep the machine and the immediate work area clean. Do not use compressed air to remove dirt and debris from the machine. Foreign material may be propelled into the air and into operator or bystander causing personal injury.**

### **WARNING**

**Wear protective clothing, equipment and eye protection when making any adjustments or repairs to the machine.**

- 1.** The vertical slide should be cleaned with a vaporizing solvent and then lubricated with chassis grease once a month.
- 2.** Check the adjustment of the Duckhead once a month. See instructions this page.
- 3.** The pedestal, steel Duckhead, and other working surfaces should be cleaned every month.
- 4.** Check the tire pressure gauge function daily, and check the accuracy monthly. Use a pressurized tire and a high quality stick-type pressure gauge. If necessary, adjust the dial of the machine gauge. If the gauge is defective, replace it immediately (part number 8107985). Contact COATS at (615) 641-7533. Check function of the pressure limiter weekly. Always reinstall the lens after adjusting the gauge.

- 5.** Make sure all fasteners are securely tightened.
- 6.** Make certain that all guards and covers are in place.
- 7.** Check for worn, damaged or missing parts including grips, anti-tip foot and protective covers. Replace them before allowing the unit to be used.
- 8.** On a daily basis, inspect the unit and check to be certain that all systems are operating normally. Detailed inspection and testing procedures are specified for various components at regular intervals. Set up a chart and assign responsibility for these items.

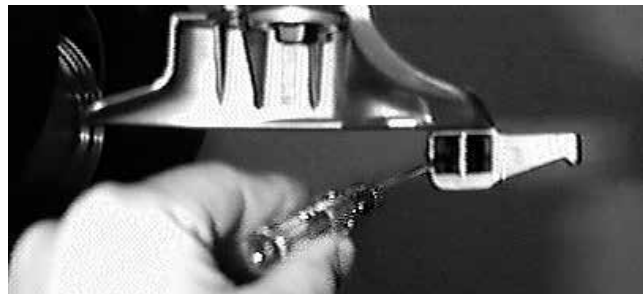
### **CAUTION**

**Replace any damaged or missing safety decals. They are available from COATS, (800) 688-6359.**

**Important:** These instructions will help you service the unit. Instructions are for a person with some mechanical ability and training. No attempt has been made to describe all basic steps. For example, how to loosen or tighten fasteners. Also basic procedures such as cycling systems and checking operation of the equipment are not fully described since they are known to anyone who does mechanical and service work. Do not attempt to perform work beyond your ability or at which you have no experience. If you need assistance, call an authorized service center or contact COATS directly, (800) 688-6359.

### **Duckhead (Mount/DemountTool) Cleaning**

Clean dirt and debris from the (duckhead) mount/demount tool roller with small screw driver or pick.

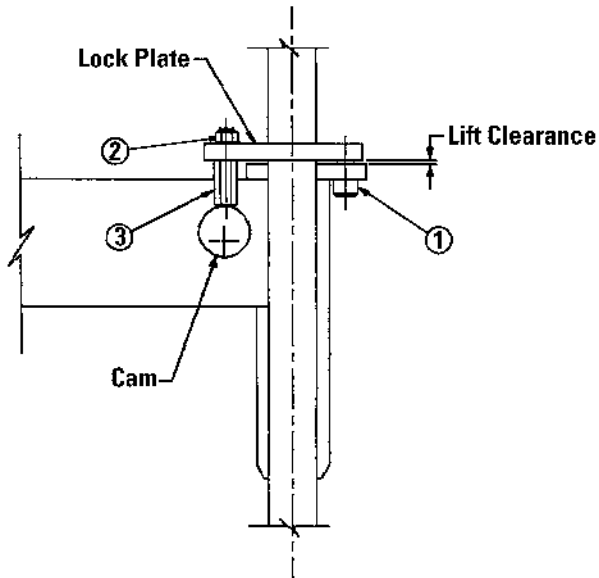




## Duckhead (Mount/Demount Tool) Adjustment

### To Adjust Tool Head Lift

Shoulder screw (ref.1) sets the tool head lift for metal duckhead mount/demount tools – no adjustment required. Place **3 Shims 85606345** on screw if using a plastic duckhead mount/demount tool.

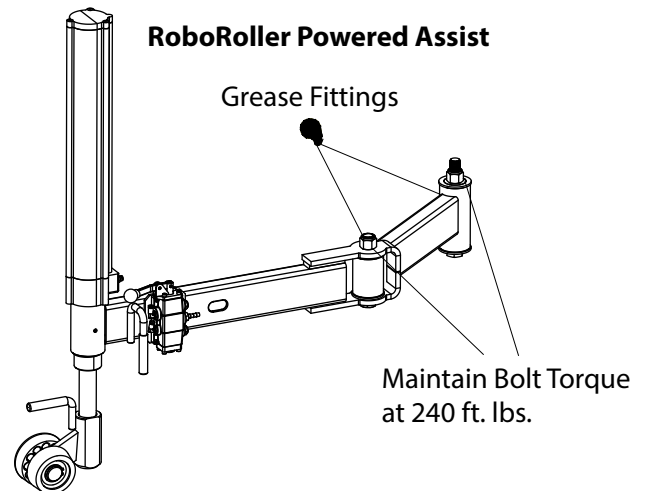
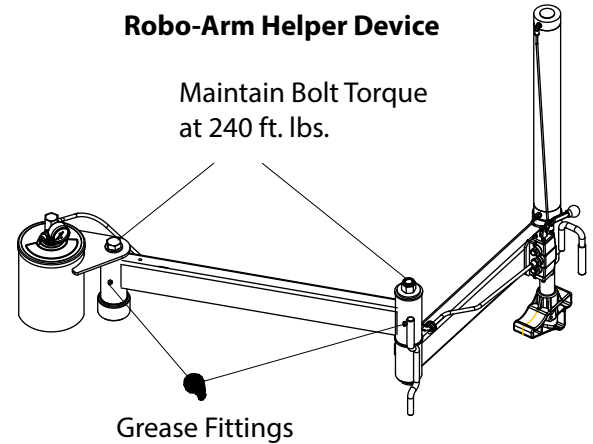


### To Adjust Lock Tightness

With lock handle unlocked, loosen jam nut (ref. 2) and adjust pin (ref. 3) until a slight firmness is obtained, then tighten jam nut and check. Also recheck tool head lift at this time.

## Robo-Arm® Helper Device Maintenance

- 1.** Grease helper arms to maintain smooth rotation. Grease fittings have been provided at the pivot joints.
- 2.** Check bolt torque periodically at pivot joints. Proper torque is 240 ft. lbs.



 APPLY GREASE TO THESE LOCATIONS

## Pressure Limiter Maintenance

**! DANGER**

**Operating a tire changer with a defective, improperly adjusted, or by-passed pressure limiter could cause an operator to accidentally over pressurize a tire, resulting in a tire explosion with severe injury or death to the operator or bystanders.**

**Always be sure that the pressure limiter is present and is operating properly.**

**! DANGER**

**Never inflate tire above manufacturer's recommended pressure after bead is seated. Pressure limiter is set at 60 PSI. Any required inflation above 60 PSI should be performed in an inflation chamber/safety cage or securely mounted on the vehicle if an inflation chamber is not available. A tire explosion may cause personal injury or death to operator or bystanders.**

The pressure limiter helps prevent inflation of standard size or larger tires or tubes beyond 60 PSI to minimize risk of explosion. This device is for the safety of the operator and bystanders. Proper operation of the pressure limiter is essential to safe operation of the machine.

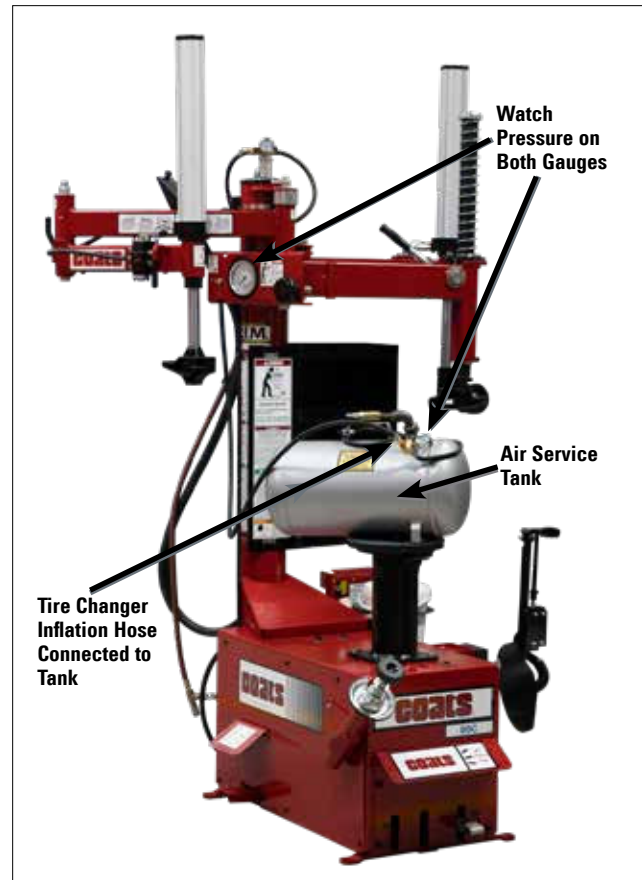
Check operation of the pressure limiter as shown and described below at least monthly:

- 1.** Remove tires and/or wheels from the machine.
- 2.** Connect the inflation hose to an empty service tank with a pressure gauge (should read 0). Use a tank with at least 200 PSI pressure rating.
- 3.** Depress inflation pedal to position 1 to start airflow through the hose and into the tank. Maintain a steady pressure for constant flow.

**4.** Watch the rising pressure on the tank gauge and the gauge on the machine. Machine gauge should cycle between check and inflation pressures while tank gauge climbs steadily. As tank pressure reaches 60 PSI, the pressure limiter should stop the airflow automatically. Both gauges should read 60 PSI  $\pm$  5 PSI.

**5.** Release inflation pedal. Check manual release valve function by pressing the button and releasing pressure from the tank until it reaches 50 PSI. Disconnect inflation hose, and release air inside tank.

**6.** Replace pressure limiter if it fails to cycle properly during inflation, if it fails to shut air supply off at 60 PSI, or if it malfunctions in any other way. Do not operate machine with a faulty pressure limiter.



## Separator/Lubricator Maintenance

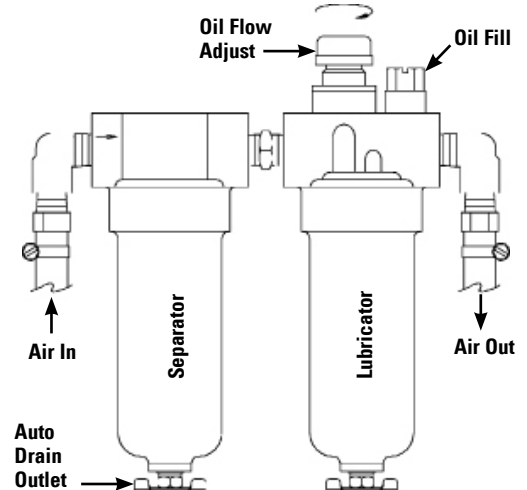
Check oil and water levels regularly, and perform these maintenance items weekly:

1. Disconnect air supply to machine.
2. The Separator (Filter) unit is equipped with an automatic drain and should not normally need draining.
3. If the fluid level is more than 1/4" from the top of the gauge, add oil. Remove the filler plug on top of the lubricator and add SAE10W non-detergent oil or an air tool oil to bring the level up to 1/4" from the top of the gauge. Replace filler plug and clean up any spilled oil.



Use only SAE 10W non-detergent oil or an air tool oil for separator/lubricator maintenance. Do not use substitutes like brake fluid, WD-40®, Marvel Mystery Oil®, or antifreeze, as these materials will damage seals within the system.

4. Adjust the oil flow by turning the black flow adjustment knob and turning it to increase or decrease the flow. Watch the formation of oil drops in the see-through oil chamber. Reconnect the air supply and continually cycle the bead loosener through full strokes and count the drips during the cycles. The delivery of oil to the airline should be about 1 drop per 5 to 15 cylinder cycles. Adjust flow as required.



## Setup Instructions

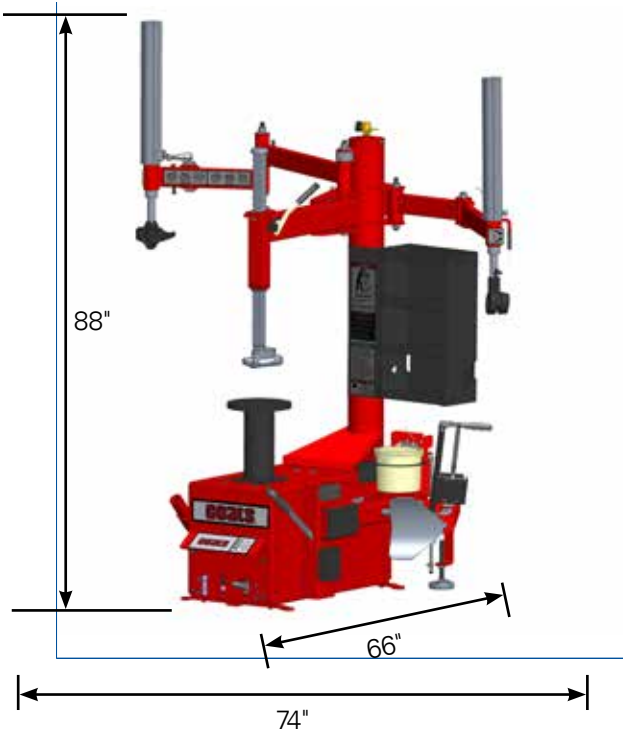


**Proper unit installation is necessary for safe use and efficient operation. Proper installation also helps protect the unit from damage and makes service easier. Always place safety poster and instructions near the unit.**

### Location

Select a location using the drawings below. The area should provide the operator with enough space to use the equipment in a safe manner. The area selected should be well lit, easy to clean and should be away from oil, grease, brake lathe chips, etc. Avoid areas where bystanders and customers may be present.

### Workspace Requirements



### Floor Mounting

As Hennessy can not be certain of the environment and conditions of the locations where the equipment will be installed, it is recommended that the safety manager review the shop floor conditions. Make sure the anti-tip foot is properly adjusted, and local regulatory practices to determine if bolting of the equipment to the shop floor is necessary or advisable.

### Air Source

The all-air models require a 14 to 15 CFM air source at 150 PSI. The air/electric models require a 5 CFM air source at 150 PSI. The operating pressure range for all models is between 110 PSI and 175 PSI at the machine.

The unit is furnished with a 1/4" pipe thread male fitting for easy connection. This connection is located on the right side of the rear of the machine. A 1/4" ID hose (or pipe) for connection to the machine is satisfactory. Sufficient air pressure ensures good performance.

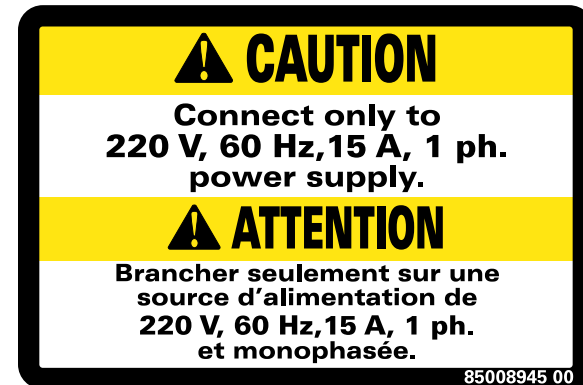
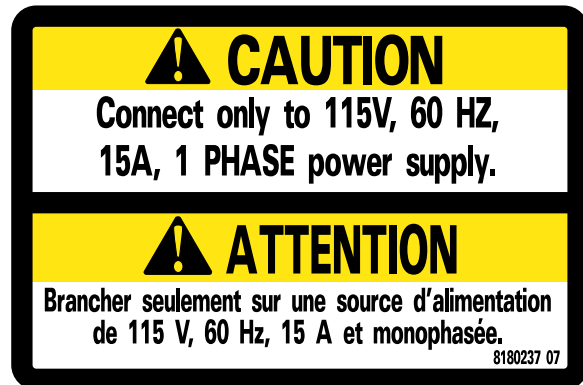
### Electrical Source

Electrical models require power as follows:

15 amp, 115V electrical circuit (1 HP motor)

15 amp, 230V electrical circuit (2 HP motor)

Refer to the caution decal that is located by the unit's power cord.



Refer to the serial tag located on the lower part of the machine for specific electrical requirements for the unit. Have a licensed electrical technician perform any necessary changes to the power source before plugging in the unit. The electrical source must have a solid connection (less than 1 ohm) between ground and building ground.

# ONE WORD FOR SAFETY

## R.I.M.

### READ INSPECT MOUNT

#### READ...

Mounting and inflating the wrong size tire can get you hurt. *Read* the size on the tire and make sure it matches the rim. Be especially careful about putting a smaller tire on a larger rim, such as a 16-inch tire on a 16.5-inch rim.

Inflation of a mismatched tire and rim can cause an explosion.

#### INSPECT...

Before you put any tire on a rim, *inspect* the rim for rust, tough spots, bent edges, or cracks that could prevent the tire from seating right. If you spot any of these problems, don't mount the tire until the rim has been checked by your shop foreman.

*Inspect* the tire for bead damage.

#### MOUNT...

Once you've made sure the tire is OK and the right size and the rim is OK, *mount* the tire safely. NEVER, ever lean over the tire when you're inflating it. If a tire does explode, it will go straight up. You don't want to be over the tire if that happens. Also, never over-inflate the tire, even if the bead doesn't seat. Never inflate over 40 PSI. If the tire hasn't seated, something is wrong. Deflate the tire and check it and the rim again. If it doesn't work the second time, try another tire.

### BE CAREFUL OF THESE SITUATIONS:

- |   |  |  |  |
|---|--|--|--|
| <b>1. Damaged Bead or Beads.</b>                                | <b>4 A. Mismatched.</b><br>(A mis-match of a 16-inch tire to a 16.5-inch rim causing an explosion) | <b>5. Walk-In Tire and Rim.</b>  | <b>8. Standing Clear.</b><br>(Never put any part of your body over the tire changer during inflation.) |
| <b>2. Rusty Wheels.</b><br>(particularly in the bead seat area) | <b>4 B. Mismatched.</b><br>(16.5-inch tire on a 16-inch rim)                                       | <b>6. Back Injuries.</b>   | <b>9. Beads will not Seat at 40 PSI.</b>   |
| <b>3. Bent or Cracked Wheels.</b>                               |  | <b>7. Hand or Finger Injuries.</b><br>(Hands or fingers too close to inflating tire or bead seats which may cause injury.) | <b>10. Improper Inflation.</b>   |

**Remember R.I.M. (Read, Inspect, Mount) for every tire.**



**FAILURE TO READ AND FOLLOW ALL WARNINGS AND INSTRUCTIONS IN THIS MANUAL CAN LEAD TO SERIOUS PERSONAL INJURY OR DEATH TO OPERATOR OR BYSTANDER.**

THE OWNER IS RESPONSIBLE FOR MAINTAINING THE OPERATION INSTRUCTIONS AND DECALS FOR OPERATOR REFERENCE. FOR ADDITIONAL COPIES, CONTACT HENNESSY INDUSTRIES LLC, 1601 J.P. HENNESSY DRIVE, LAVERGNE, TENNESSEE, 37086 - (800) 688-6359.

**TIRE FAILURE UNDER PRESSURE IS HAZARDOUS! This tire changer Will Not Restrain Exploding Tires, rims or other related equipment.**

**TIRES CAN EXPLODE, ESPECIALLY IF INFLATED BEYOND SPECIFIED LIMITS. DO NOT EXCEED TIRE MANUFACTURERS RECOMMENDED AIR PRESSURE.**

**AN EXPLODING TIRE, RIM, OR BEAD SEATING EQUIPMENT MAY PROPEL UPWARD AND OUTWARD WITH SUFFICIENT ENERGY TO CAUSE SERIOUS INJURY OR DEATH TO OPERATOR AND/OR BYSTANDERS.**