

# COATS®

## 50/60/70/80/90

### X-Model Series

# Rim Clamp® Tire Changers

# AMMCO®

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.



\* 7665 Shown

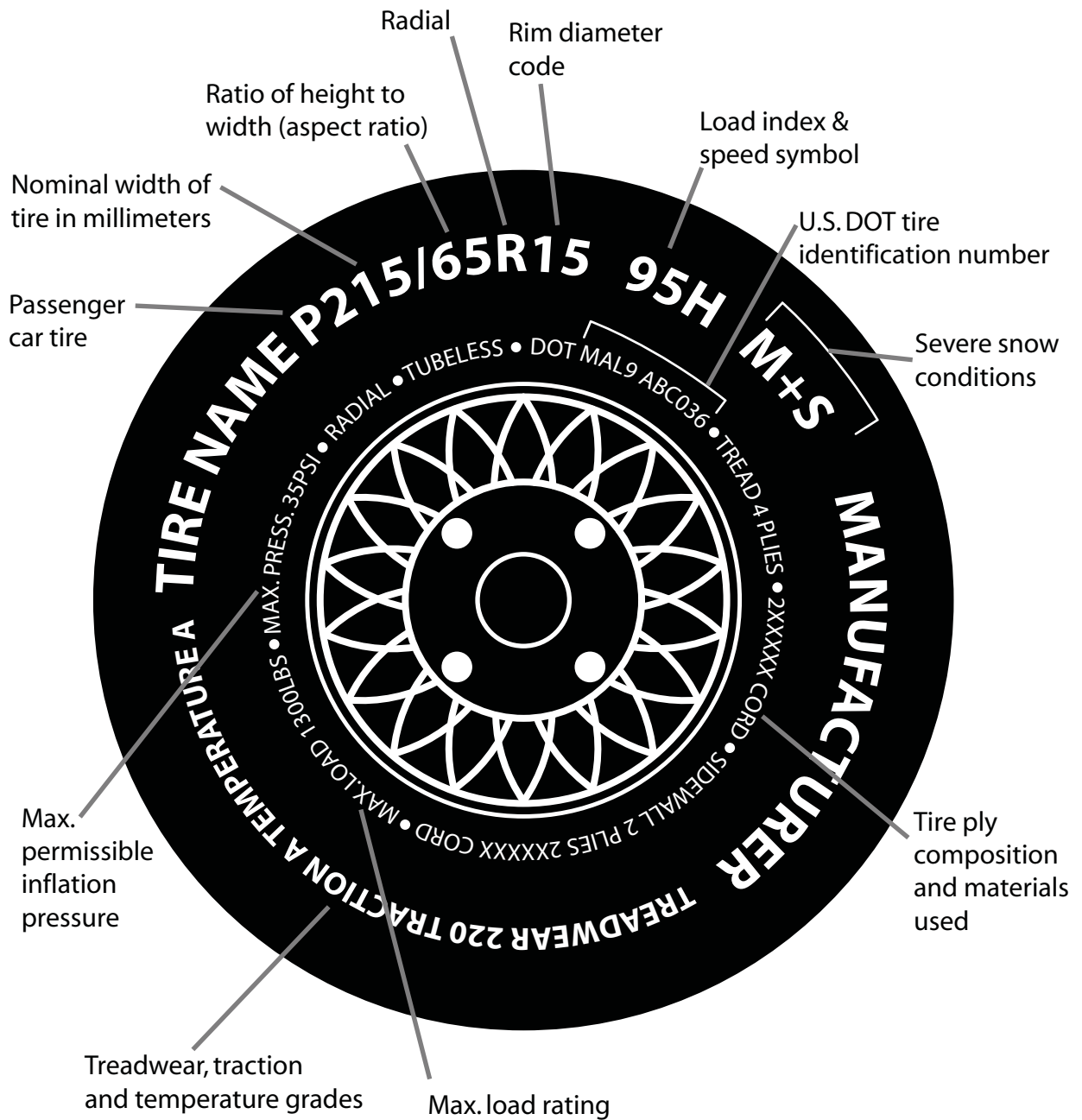
See  
**RIM Safety** page 1  
★ **Operating  
Instructions**  
on page 4.

## 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

# Tire Specifications Diagram



**Important: Always read and follow operating instructions.**

## 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.



Decal Part No. 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.

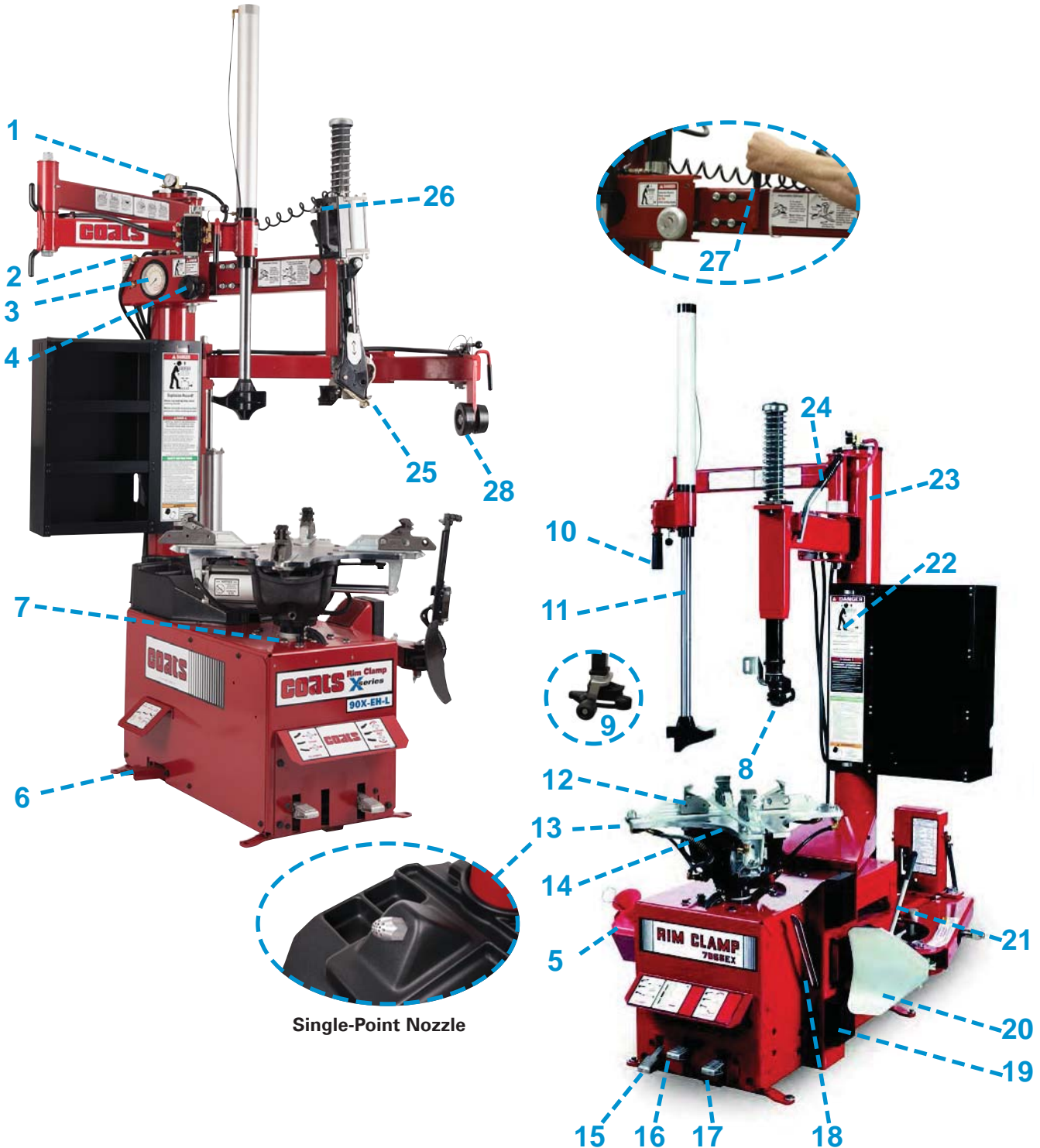
Hennessy's R.I.M. program allows the technician to avoid situations that can cause tire explosions and other accidents. The full program, including training videos, brochures, posters, and other materials, is available from Coats distributors nationwide.



## 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.



Single-Point Nozzle



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 185 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 Lube Bottle** — Dispenser for rubber lubricant.

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

**7 Oil Check Dipstick** — For transmission oil level.

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

**9 Duckhead Roller** — Attachment for mount/demount tool to aid in mounting tire on the wheel.

**10 Robotic Arm Control Valve** — Controls vertical movement of robotic arm cylinder.

**11 Robo Arm™** — Provides extra leverage for runflat and low profile tires.

**12 Clamps** — Holds wheel to table top for tire changing. Position outward to allow outside clamping of wheels.

**13 Bead Sealing Nozzles** — Expands tire sidewall to bead seat area of rim to seal tire to rim and allow inflation. Some models are equipped with a single-point nozzle bead sealer.

**14 Table Top** — Rotating chuck for tire changing.

**15 Clamp Control Pedal** — Three-position pedal that opens, holds or closes rim clamps.

**16 Bead Loosener Control Pedal** — Controls operation of bead loosener shoe.

**17 Table Top Pedal** — Four-position pedal that controls rotation of table top (forward-fast, forward-slow, off, reverse).

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

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

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

**21 Bead Loosener Handle/Button** — Controls operation of bead loosener shoe. Pull handle up or down on some models.

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

**23 Tower** — Support for horizontal and vertical slides, also air storage tank.

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

**25 Leverless Bead Lifter Tool** — Used to hook under tire bead lip for top bead removal when demounting tire from wheel. Used as a helper device when mounting tire on wheel.

**26 Leverless Bead Lifter Control** — Controls vertical movement of Leverless Bead Lifter Tool.

**27 Swing Arm Lock Handle** — Slides to lock and unlock swing arm position. Available on units equipped with a factory installed Leverless Bead Lifter.

**28 Robo Roller™** — Provides extra leverage for run-flat and low profile tires.



## 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).

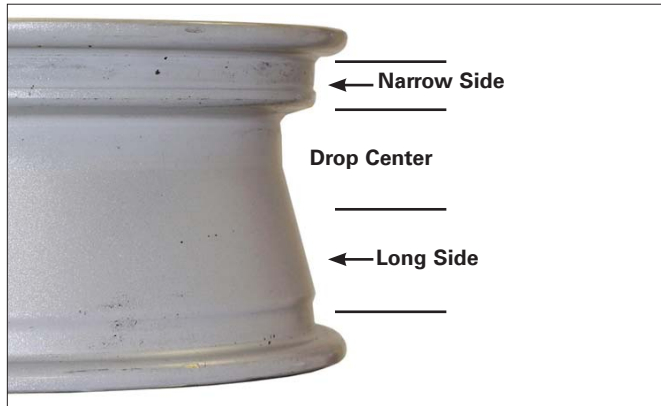


Figure 2 - Determine Narrow Side of Wheel

**NOTE:** The clamps on the table top may extend beyond the table top itself. To avoid damaging the clamps, move them to their full inward position before positioning a tire for bead loosening.

**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 (or pull) 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/button 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.

**NOTE:** It will be easier to outside clamp the wheel to the table top if the long side of the rim is loosened last.

**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.** Determine the mounting side of the wheel. The mounting side is the narrow side of the drop center. See figure 2 for more information on the drop center.

**NOTE:** The wheel clamps can be positioned in one of two different ranges: Use the inner holes for 6-22-inch diameter wheels and the outer holes for 8-24-inch wheels.

**6.** Place tire/wheel assembly on table top with mounting side up (figure 6).



Figure 6 - Place Tire/Wheel Assembly on Table top



**Clamp control pedal must be in the full up or full down position (detent position) to maintain clamping force on wheel.**

**7.** Use Robo Arm to apply pressure to aid in clamping rim (figure 7). Use the clamp control pedal to move the clamps inward (push pedal down) or outward (lift pedal up). Engage the detent position (pedal in full up or full down position) to maintain clamped or unclamped pedal position.

Clamp steel wheels from the inside (clamps push outward against wheel). Clamp mag and custom wheels from the outside (clamps push inward against the outside rim edge). Refer to the Performance Tires and Wheels section.

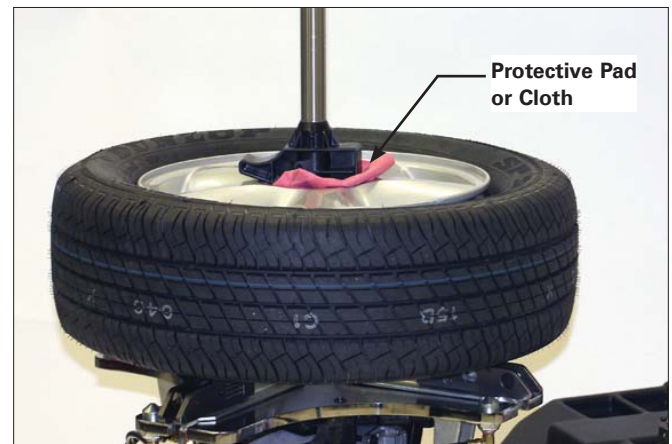


Figure 7 - Robo Arm Aids Clamping



**8.** Move the swing arm into position. Pull the locking handle forward to release the slide. Push down on the top of the vertical slide 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 8).



Figure 8 - Position Mount/Demount Tool

**9.** 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 9).

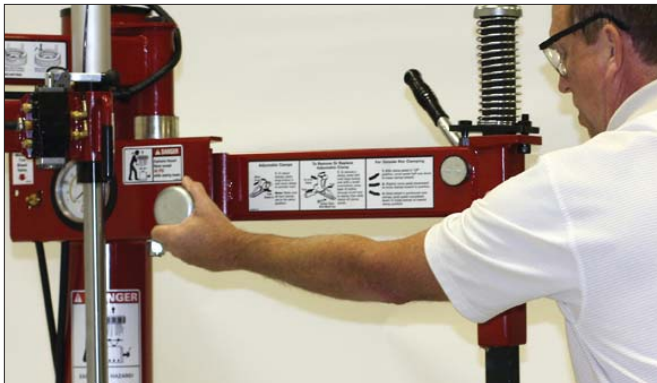


Figure 9 - Adjust Swing Arm to Position Tool

**10.** 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. 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 10).

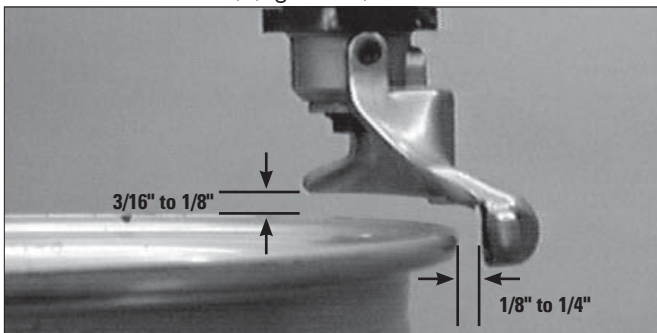


Figure 10 - Proper (Metal) Mount/Demount Tool Position

**11.** 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

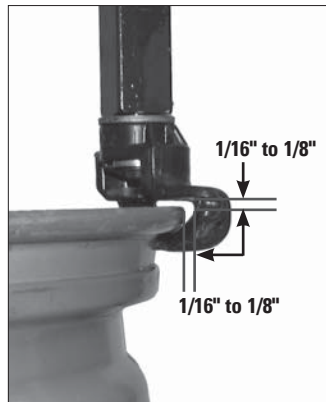


Figure 11 - Proper (Plastic) Mount/Demount Tool Position

between the rim edge and the inside surface of the tool. 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 11).

**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 table top rotation for demounting is clockwise. Depress the table top pedal to rotate this direction. To rotate the table top counterclockwise, lift the pedal up with your toe.

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



**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.**

**12.** 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 12 & 13). Lift the bead up and over the knob on the demount tool (figure 12 & 13). Also, note the valve stem position to the demount tool. Use the Robo-Arm® 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 12 - Insert Bead Lifting Tool

**13.** 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 13).



Figure 13 - Lift Bead Over Demount Tool

**14.** Depress the table top 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 table top rotation to utilize the drop center area of the wheel. This reduces the tensional force on the top or first bead during demount (figure 12).



Figure 14 - Demounting Lower Bead

**15.** 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 14). 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 15).



Figure 15 - Guide Lower Bead Over Knob On Demount Tool

**16.** Depress the table top 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 16).



Figure 16 - 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 17). Do not attempt to service a heavily corroded wheel, damaged wheel, or bent wheel.

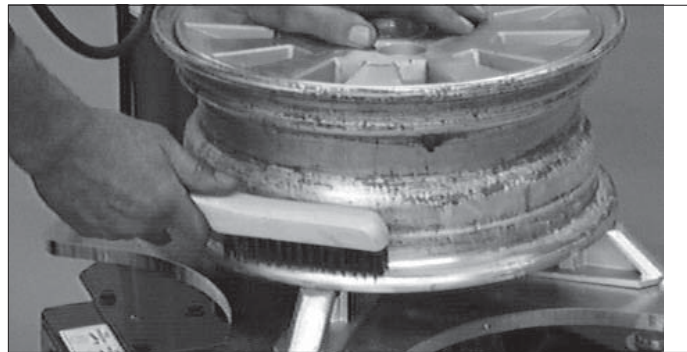


Figure 17 - Inspect and Clean the Wheel

**3.** Inspect valve stem and replace if necessary. Next lubricate tire beads liberally with tire manufacturer's approved rubber lubricant (figure 18).



Figure 18 - 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 19).



Figure 19 - Position Tire Against Mount/Demount Tool

**5.** Depress table top 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 20). Rotate table top until lower bead is mounted.



Figure 20 - Mounting Lower Bead

**6.** For top bead installation, rotate table top until the valve stem on wheel is 180 degrees ahead of the mount tool (3 o'clock position). Pull ring on locking pin and attach Duckhead roller to the Duckhead mount tool; using Robo Arm to assist (figure 21).



Figure 21 - Position Valve Stem 180° Ahead of Mount Tool

Release locking pin making sure the Duckhead roller mount is fully engaged on the arm bracket; with no gap (figure 22).



Figure 22 - Duckhead Roller Properly Mounted On Bracket

**7.** Use Robo Arm™ to push down on tire 90 degrees clockwise from mount/demount tool to allow bead to utilize drop center area of rim.



Fig 23 - Use Robo Arm To Hold Tire In Rim Drop Center

**8.** Depress table top 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 24 - Mounting Top Bead

**NOTE:** If table top rotation stalls, reverse the table top 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.

## 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.**



**If the rim has been clamped from the outside for tire mounting, release the clamps, lift the tire, and move the clamps to the center of the table top.**



**If the wheel/tire has a diameter larger than 14-inches and is difficult to bead seal, the clamps should be moved to the center of the table top for the bead seal operation.**

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 three 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.

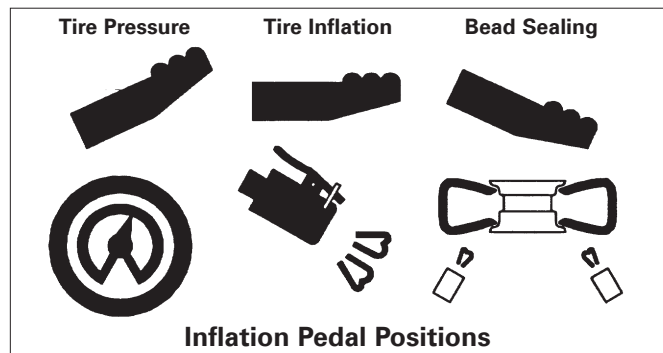
**Position 2 - Tire Inflation** – This is the first activated position. With the inflation hose attached (using the clip-on chuck) to the tire valve and the pedal in this position, line pressure is allowed to flow through the valve system and into the tire for inflation. Correct tire pressure is not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

**Position 3 - Bead Sealing** – This is the second and last activated position. With the inflation hose attached to the tire valve and the pedal in this position, line pressure is allowed to flow through the valve and to the air-plate bead seal jets on the table top for bead sealing.

**Note:** Some models use a single-point nozzle bead sealer.

**1.** If the rim has been clamped from the outside for tire mounting, release the clamps, lift the tire, and move the clamps to the center of the table top.

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





## CAUTION

**Use of bead sealing jets without a tire in place can cause dirt and debris to be blown into the air with enough force to injure operator and/or bystander. Do not use the bead sealing control position to inflate a tire.**

**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 25).



Figure 25 - Lift Tire Upwards for Bead Sealing

3. Depress inflation pedal to position 2 and hold about one second to begin air flow through tire valve, then depress pedal to position 3 and hold briefly — less than one full second. The blast of air from the jet(s) will expand tire and seal the beads.
4. Release the inflation pedal and allow it to return to position 1. 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.
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 26).

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 26 - 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 overinflation. 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 27). 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 28).
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 27 - Location of Manual Release Valve



Figure 28 - Do Not Use a Hand-held Style Air Chuck

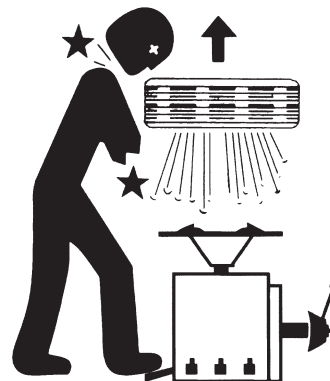
### **DANGER**

#### **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**

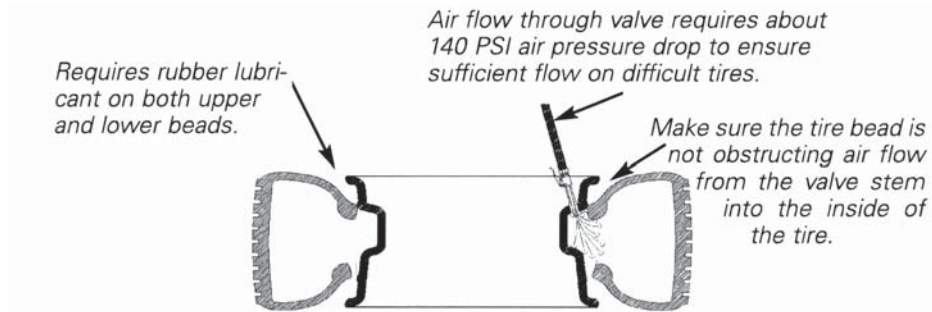
**Explosion Hazard**  
**Never inflate tire above manufacturer's recommended pressure after bead is seated.**

## 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

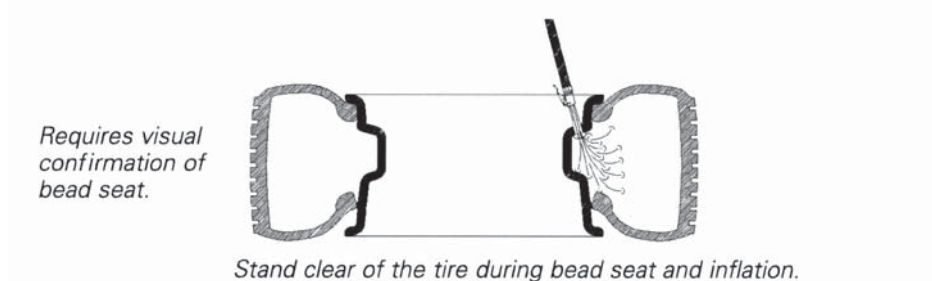
Bead sealing is the process of capturing air pressure between the tire and the rim. The tire will usually contain about 1/2 to 2 PSI at initial bead seal.



### Bead Seating

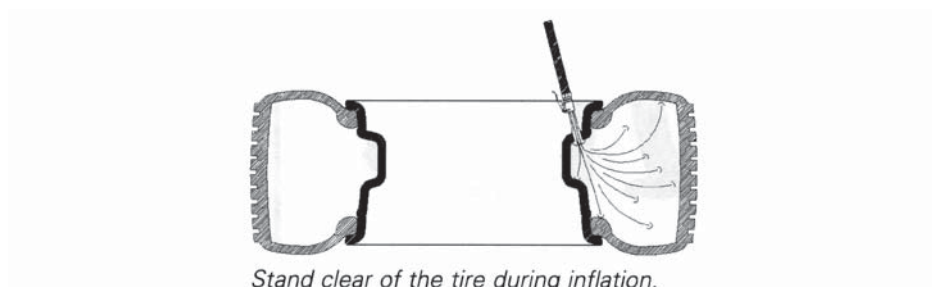
Bead seating usually occurs on the long tapered side of the wheel first and the shorter side last. Bead seating will usually require at least 7 PSI in the tire. 40 PSI is the maximum safe pressure at this stage regardless of tire operating pressure. For tires requiring more than 40 PSI to bead seat use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



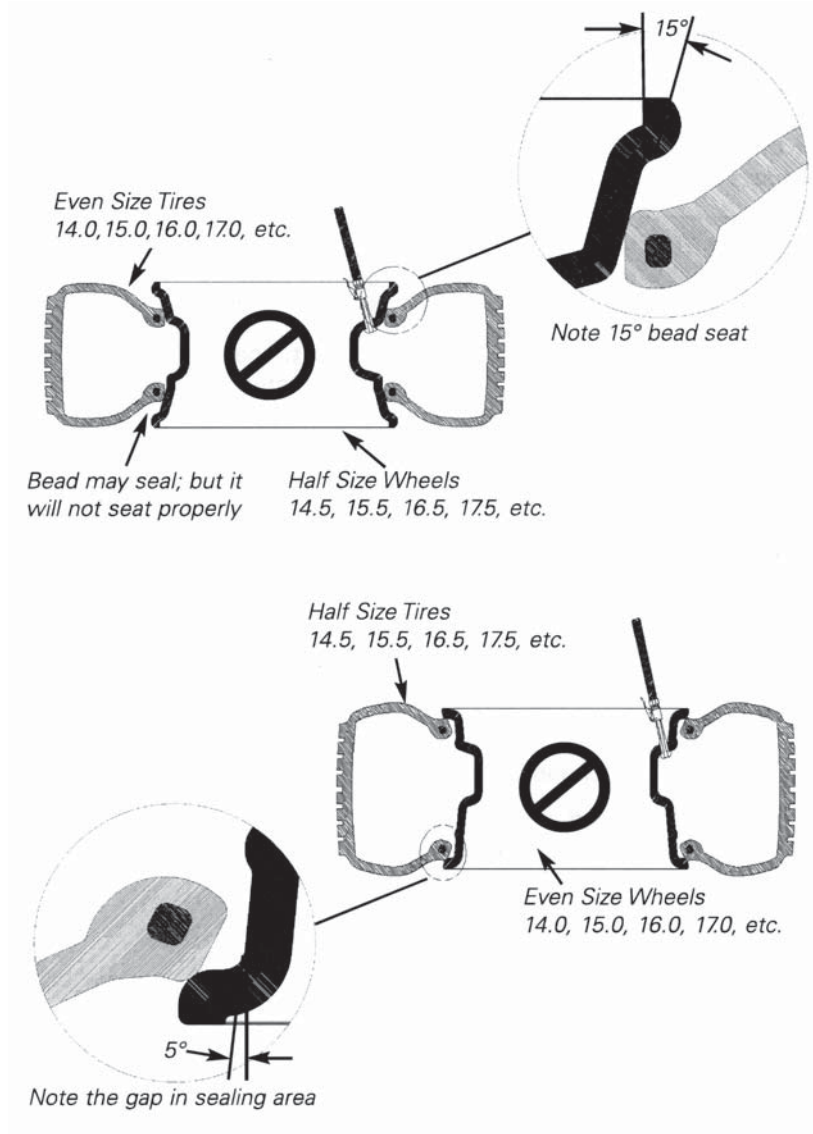


## Mismatched Tires and Wheels

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.



## Performance, Custom and Aluminum 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.

### Pre-Operation Notes:

- Ensure all weights have been removed.
- Clamp wheel from the outside.
- Use ample lubricant for mount and demounting.
- Always review wheel nicks and/or scratches with the owner before servicing.

### Performance Tires and Wheels • Demounting

Follow these instructions for performance type tires and wheels, including run-flat tires and their associated wheels, and asymmetrical hump wheels.

1. Remove valve core and completely deflate tire.
2. Pull the bead loosener shoe away from the machine and roll the tire into position against the bumper pads. Position the tire with the valve stem in the 2 o'clock position (in direct line with the bead loosener shoe). Always loosen the bead on the narrow/mounting side of the wheel first (figures 2 and 29).



Figure 29 - Position Tire for Bead Loosening

**NOTE:** Wheels with an asymmetrical hump have a larger "ledge" type hump around the wheel except at the valve hole making them more difficult to mount and demount (figure 30). Always loosen the beads near the valve stem on both sides of rim.

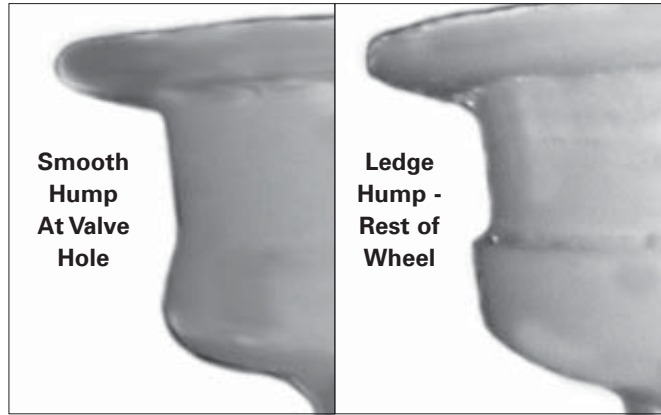


Figure 30 - Asymmetrical Hump Wheel

**NOTE:** Some wheels/tires have a low pressure sensor/transmitter strapped to the wheel (figure 31). This is especially true on run-flat tire/wheel systems. The sensor is positioned directly opposite from the valve stem. Other low pressure warning systems have the sensor as part of the valve. To avoid damaging the sensor, always loosen the top bead with the valve stem at the 2 o'clock position first, then loosen the bottom bead with the valve stem at the 2 o'clock position, and then continue to loosen the remaining circumference of the beads as necessary. Avoid loosening at 180 deg. (opposite) the valve.



Figure 31 - Wheel with Low Pressure Sensor/Transmitter

3. Loosen bottom bead, starting with valve stem at 2 o'clock position next to the loosener shoe (figure 32).



Figure 32 - Loosen Bottom Bead

## Aluminum and Custom Wheels

Follow instructions provided for standard steel wheels, except:

**NOTE:** After loosening and lubricating both beads, rotate the table top until the clamps are in the 12, 3, 6, and 9 o'clock positions (figure 33).



**Clamp control pedal must be in the full up or full down position (detent position) to maintain clamping force on wheel.**

**NOTE:** Clamp wheel from the outside. Position rim edge into clamp at 12 o'clock position. Lower the wheel and depress the clamp control pedal. Slowly move the clamps inward until they securely contact the outside edge of the rim. Engage the detent position (pedal in full down position) to maintain clamped pedal position.

**NOTE:** This is usually accomplished by crouching down in front of the tire changer, holding the wheel with the right hand, and operating the clamp control pedal with the left hand. This allows the operator to watch the clamps as they move to ensure proper, damage-free clamping.

**4.** Clamp wheel to the table top as described in item AD. Always clamp custom wheels from the outside.

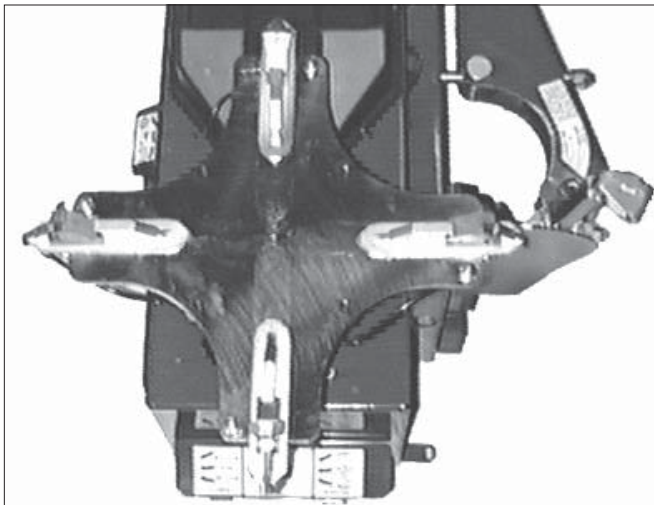


Figure 33 - Rotate Table Top to 12 o'clock

**5.** Depress the tire sidewall downward with the aid of the Robo Foot providing clearance for the duckhead® mount/demount tool to be positioned (figure 34). Move swing arm into place. Increase the horizontal distance between the demount tool and the wheel an additional 1/16 to 1/8 inch with the adjustment knob.



Figure 34 - Helper Foot Depressing Sidewall of Tire

**6.** Lubricate upper bead liberally. Use the bead roller tool to help push the tire bead down so bead area is easier to reach for lubrication (figure 35).



Figure 35 - Lubricate Upper Bead

**7.** Locate the valve stem just before the demount tool before proceeding (figure 36).



Figure 36 - Position Valve Stem Under Demount Tool

**8.** Insert the bead lifting tool between knob on demount tool and tire bead (figure 37); use the helper foot for extra clearance.





Figure 37 - Insert Bead Lifting Tool

**8a.** Place the helper foot opposite the demount tool and push the bead into drop center (figure 38).



Figure 38 - Helper Foot Pushing Bead Into Drop Center

**9.** Rotate lifting tool down over wheel to lift bead up and over the knob and at the same time remove helper foot (figure 39).



Figure 39 - Rotate Lifting Tool Down for Demount

**10.** Hold lifting tool in place, depress the table top rotation pedal momentarily to jog the wheel a short distance. Check the wheel and tire to verify that operation is not causing damage. The lifting tool can usually be removed after jogging the wheel a short distance. Continue to jog the wheel to allow the tire sidewall to flex as it crosses the rim edge. Continue short rotations until top bead is completely demounted (figure 40).



Figure 40 - Rotate Lifting Tool Down for Demount

**11.** Demount lower bead. In most cases when demounting performance tires, the lower bead will be less difficult. Pay close attention to sensor/transmitter location, and position it just before the demount tool when starting the lower bead demount procedure (figure 41).



Figure 41 - Rotate Lifting Tool Down for Demount

**12.** Use the upper side of the helper foot to hold the bead in drop center while lifting the lower bead over the demount tool (figure 42). Hold the lifting tool in place and remove the helper foot. Depress the table top rotation pedal momentarily to jog the wheel short distances to complete the demounting process.



Figure 42 - Helper Holding the Lower Bead in Drop Center



## Performance Tires and Wheels • Mounting

**1.** Lubricate both tire beads liberally. Performance tires will require more lubrication than standard passenger car tires.

**2.** Mount the lower bead. In most cases, the lower bead will mount easily.

**NOTE:** Mounting the top bead can be very difficult when mounting new tires on performance and custom wheels. Proceed slowly and cautiously.

**3.** For top bead installation, rotate table top until the valve stem on wheel is 180 degrees ahead of the Duckhead mount/demount tool (9 o'clock position). Pull ring on locking pin and attach Duckhead roller to the mount/demount tool; using Robo Arm to assist (figure 43).



Figure 43 - Position Valve Stem 180° Ahead of Mount/Demount Tool

**3a.** Release locking pin making sure the duckhead roller mount is fully engaged on the arm bracket; with no gap (figure 44).



Figure 44 - Duckhead Roller Properly Mounted On Bracket

**4.** Use Robo Arm™ to push down on tire 90 degrees clockwise from mount/demount tool to allow bead to utilize drop center area of rim. Apply extra lubricant to mount upper bead.



Fig 45 - Use Robo Arm To Hold Tire In Rim Drop Center

**5.** Depress table top pedal and slowly rotate tire until bead is mounted. Be careful to ensure bead stays in the rim drop center in the area ahead of mount/demount tool.



Figure 46 - Mounting Top Bead

## 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 and bead loosening, clamp the wheel to the table top. 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.

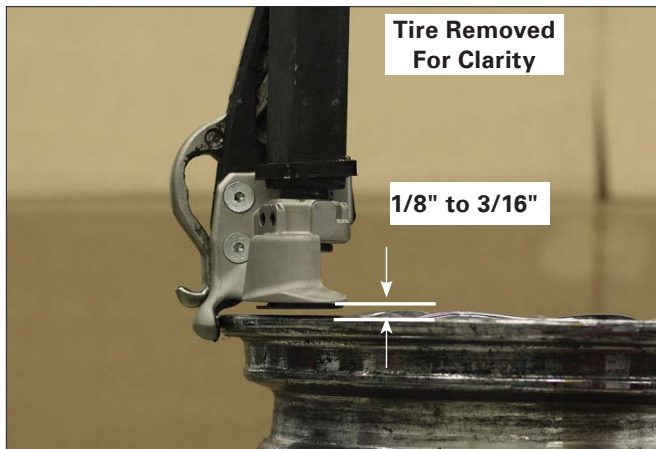


Figure 47 - Position Demount Tool Against Rim

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 table top 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 table top 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 the table top 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 table top 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 table top 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 table top until lower bead is mounted.

**17.** For top bead installation, rotate table top 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 table top 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.



## 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 61).

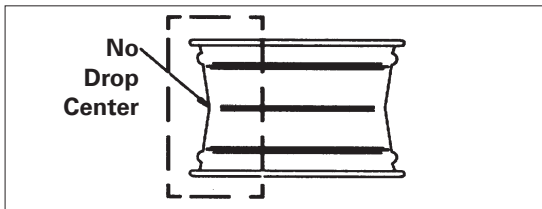


Figure 61 - No Drop Center

### 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 62).

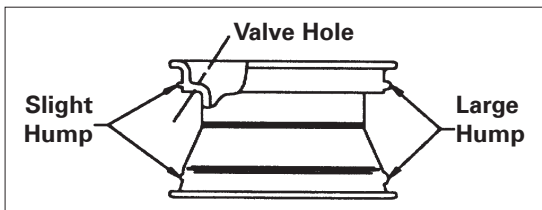


Figure 62 - Asymmetrical Hump on European Wheels

### 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 63).

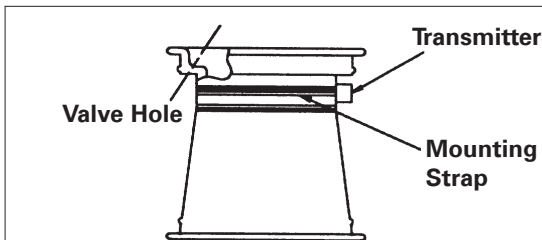


Figure 63 - Wheels with Low Pressure Sensor

## 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 table top 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.



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



**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.**



**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 table top, clamps, steel Duckhead, and other working surfaces should be cleaned with a vaporizing solvent every month.
- 4.** Inspect clamps. If using Max-Grip™ clamps then replace any worn or damaged grips and covers or if using other clamps then remove metal chips and dirt from the serrations with a wire brush every month.

**5.** 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). Check function of the pressure limiter weekly. Always reinstall the lens after adjusting the gauge.

**6.** Make sure all fasteners are securely tightened.

**7.** Make certain that all guards and covers are in place.

**8.** Check for worn, damaged or missing parts including grips and protective covers. Replace them before allowing the unit to be used.

**9.** 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.

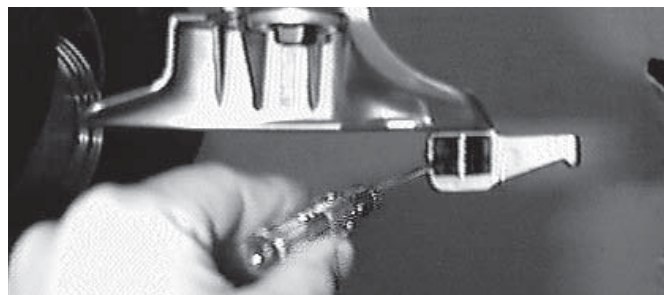


**Replace any damaged or missing safety decals. They are available from COATS**

**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.

### Duckhead (Mount/Demount Tool) Cleaning

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



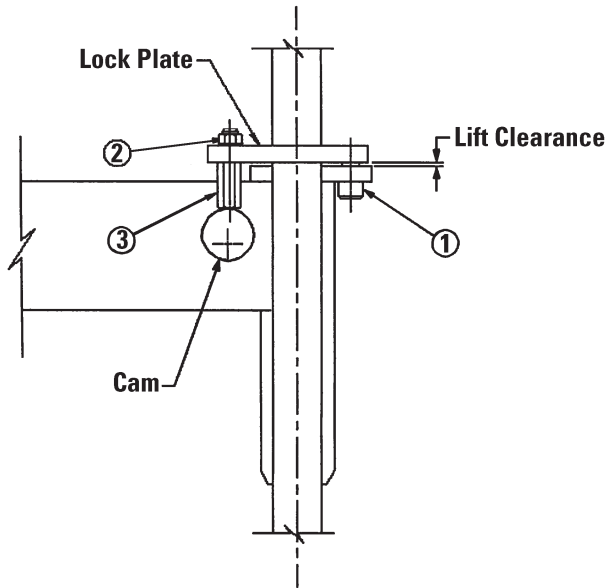
## Duckhead (Mount/Demount Tool) Adjustment

### 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

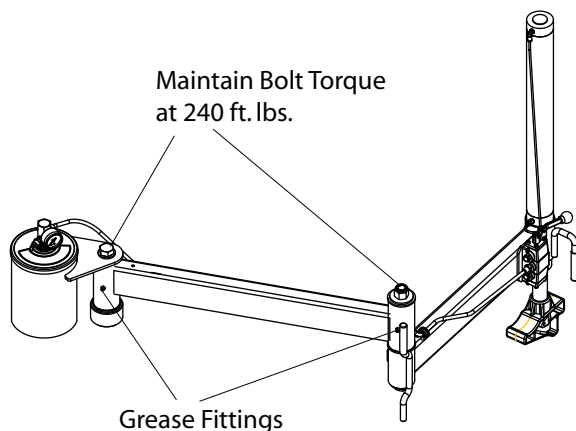
With lock handle unlocked, loosen jam nut (ref. 2) and adjust pin (ref. 3) until a slight firmness is obtained, then tighten jam nut and check. Also recheck tool head lift at this time.



## Robotic Arm Maintenance

**1.** Grease the Robo Arm™ 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.



## Oil Injector Maintenance (if equipped)

The oil injector requires servicing at least annually. The oil level in the oil reservoir tank should be checked regularly.

Add oil to oil reservoir tank when fluid level is a quarter full or below. Remove cap from the oil reservoir tank and add Chevron Regal® R & O 32 oil to full line (air tool oil is an acceptable substitute). Replace cap and clean up any spilled oil.

**Important:** An air lock will form if the hose between the reservoir and injector is ever empty of oil. In this case, after filling the reservoir tank, the line must be bled of air at the injector connection as follows:

**1.** Disconnect all power sources, both air and electricity inputs. Allow any stored air in the reservoir to escape by depressing the inflate pedal.

**2.** Remove the side panel and locate the oil injector.

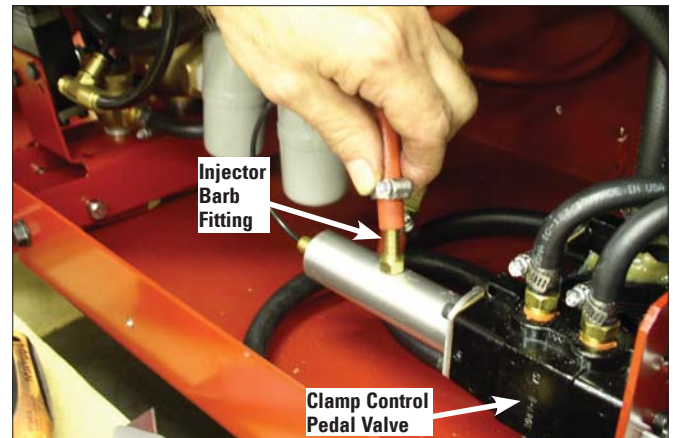
**3.** Prime the oil injector.

### a. Oil Injector With Bleeder Screw

Loosen bleeder screw until oil drips from screw and all air is relieved from the oil line hose. Retighten the bleeder screw.

### b. Oil Injector Without Bleeder Screw

Remove the oil line hose from the injector barb fitting. Allow air to escape from the hose by lowering the hose end below level of reservoir until oil is present. Drip oil into hose barb fitting on injector until barb fitting is full. Reinstall oil line hose onto oil injector barb fitting.



**4.** Reconnect air/electric sources and cycle the clamp control pedal a few times checking for oil and air leaks.

**5.** Test the machine for full function before returning the machine to operation.

**6.** Monitor oil consumption to ensure oil is being used in system.

## 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.

**IMPORTANT:** For models with **"Bead Sealing Only"** on the tire changer, maximum limiter pressure is 15 PSI (NOT 60 PSI).

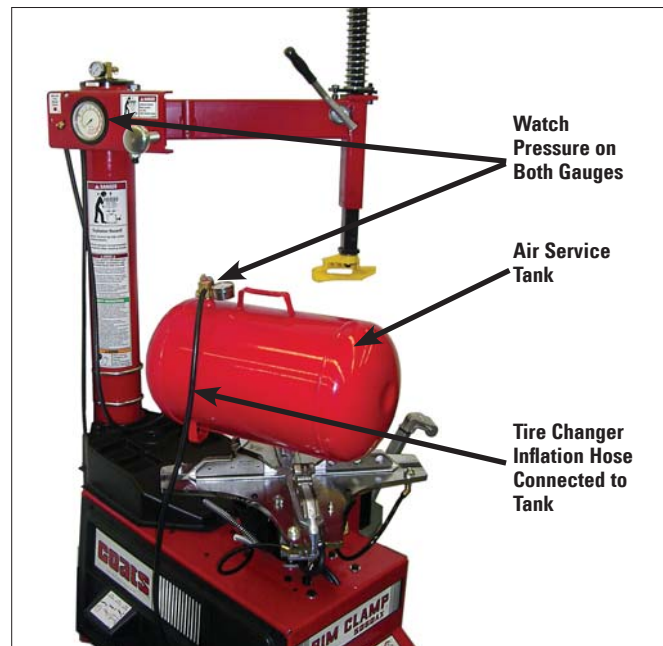
Check operation of the pressure limiter as shown and described below at least monthly:

- 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.





## Setup Instructions

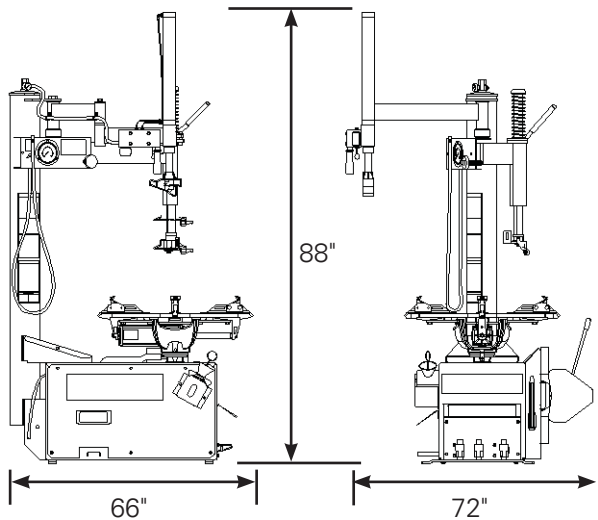


**Proper unit installation is necessary for safe use and efficient operation. Proper installation also helps protect the unit from damage and makes service easier. Always place safety poster and instructions near the unit.**

### 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



### 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:

12 amp, 115V electrical circuit

15 amp, 230V electrical circuit (Export)

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.

### 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 and local regulatory practices to determine if bolting of the equipment to the shop floor is necessary or advisable.