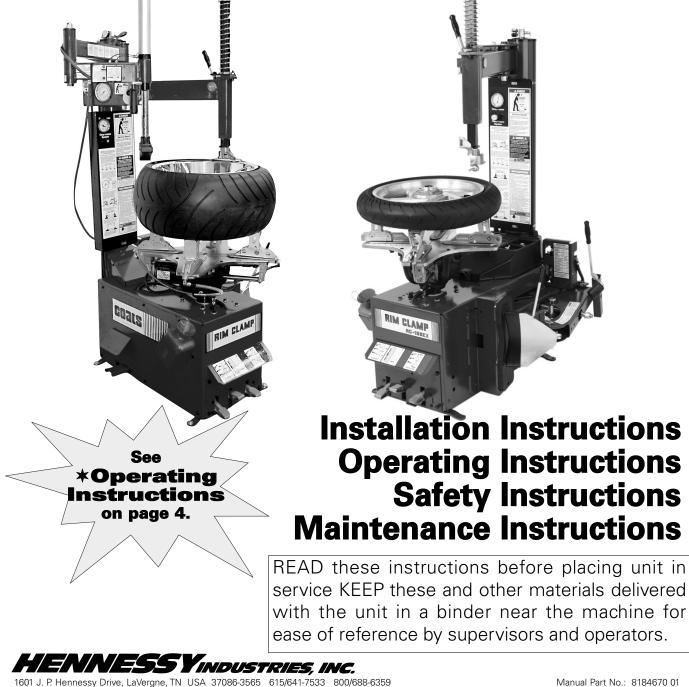


RC150EX/RC200EX Rim Clamp[®] Tire Changer

For servicing motorcycle and ATV tire/wheel assemblies as well as automotive and most light truck tire/wheel assemblies



HENNESSY INDUSTRIES INC. Manufacturer of AMMCO[®], COATS[®] and BADA[®] Automotive Service Equipment and Tools.

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 and 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 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, Inc.

1601 J.P. Hennessy Drive LaVergne, TN 37086-3565 (615) 641-7533 or (800) 688-6359 www.ammcoats.com

For additional information contact:

Rubber Manufacturers Association

1400 K Street N. W. Washington, DC 20005 (202) 682-4800

Tire Guides, Inc.

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

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.

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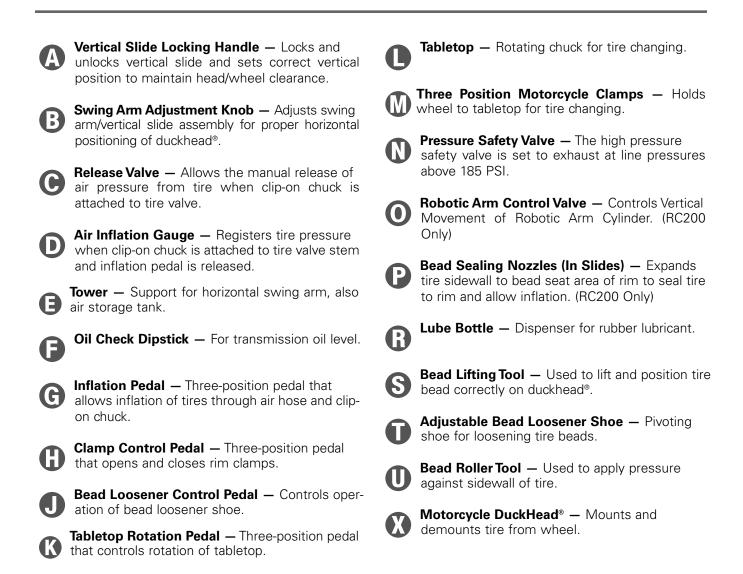
Read entire manual before assembling, installing, operating, or servicing this equipment.

Principal Operating Parts

Know Your Unit

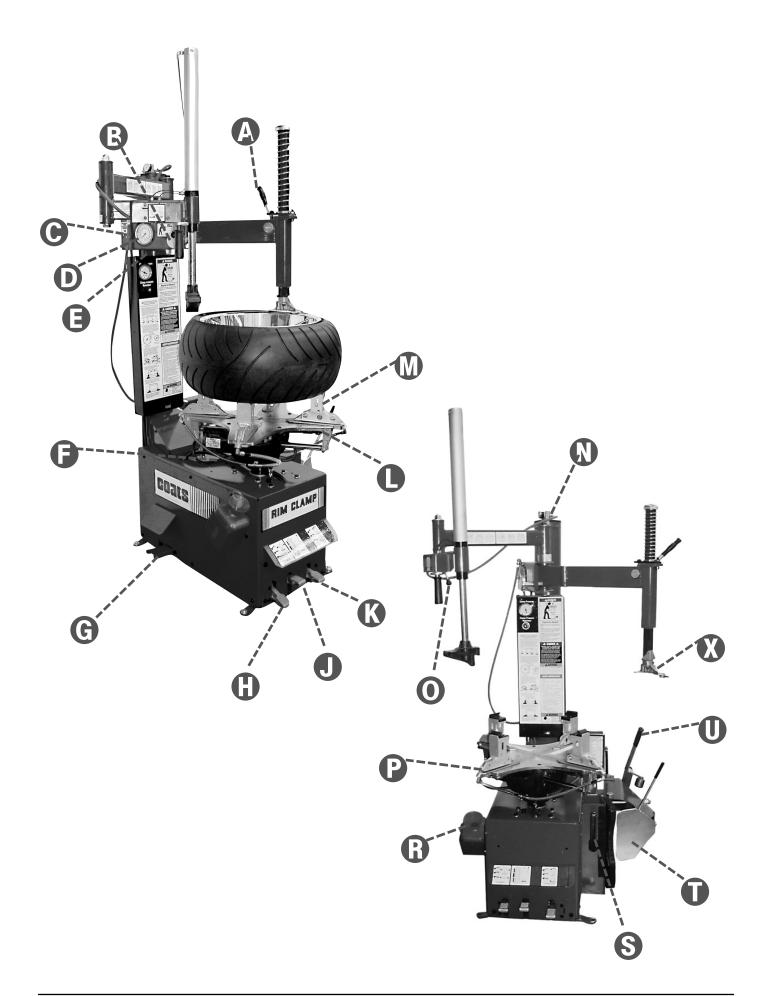
Compare this illustration with the unit before placing it into service. Maximum performance and safety will be obtained only when all persons using the unit are fully trained in its parts and operation. Each user should learn the function and location, of all controls.

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





Do It Now! Now is a good time to fill out the Owner's Registry Card.



Operating Instructions

The unit must be properly operated and properly maintained to help avoid accidents that could damage the unit and injure the operator or bystanders. 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.

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 to help prevent damage to rim finishes.

Remember to remove all weights from both sides of the wheel. Weights left on back side of wheel may cause the wheel to be clamped un-level. This may result in the combination mount/demount head contacting the rim causing scratches. On alloy wheels, always rotate the wheel one turn after setting the head to insure proper wheel chucking.

Note: Always review nicks and scratches with owners of expensive wheel and tire combinations prior to servicing.

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

1. Deflate tire completely by removing the valve core from the valve stem (Figure 1).



Figure 1 - Remove Valve Core to Deflate Tire

Note: Loosening the beads on a 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.

ATV Note: It may be necessary on ATV wheels to leave 3-6 PSI in some of these wheels to facilitate bead loosening. Even after loosening one bead; it may

be necessary to reinflate to 5 PSI to loosen the opposite bead.

Note: Always loosen the bead on the narrow side of the wheel's drop center first (motorcycle wheels may not have a narrow or long side, and some ATV wheels may may bolt together). See Figure 4 for more information on the drop center.

Remember: 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. Pull the bead loosener shoe away from the machine and roll wheel into position. The valve stem should be in the 2 o'clock position. Position the bead loosener shoe against the tire next to, but not on, the rim. Depress the bead loosener foot pedal to actuate the shoe and loosen the bead. It may be necessary to loosen the bead in multiple locations around the tire (Figure 2).

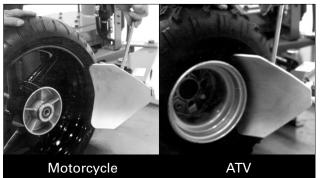


Figure 2 - Position Tire and Bead Loosener Shoe

3. Turn wheel around and repeat loosening procedure on the other side of the wheel. This should be the long side of the drop center.

Tip: It will be easier to clamp the wheel to the table top if the lower bead is loosened last.

4. Apply tire manufacturer's approved rubber lubricant liberally to entire circumference of both tire beads after loosening (figure 3).



Figure 3 - Apply Rubber Lubricant to Tire Beads

Important: Always read and follow the operating instructions.

5a. Prior to placing the wheel on the table top to clamp, observe the style and strength of the wheel and adjust the clamp pressure as necessary using the pressure regulator and gauge. Thin spun aluminum rims sometimes used on ATV and motorcycle are sometimes delicate and a reduced air pressure should be considered verses cast aluminum and steel wheels that can support more clamping force.

5b. Next, observe the rim size from the tire, ie. 15, 16, 17, etc. Using the clamp pedal, place the clamp valve in the JOG IN position for prelocating the clamps to the rim diameter. Accomplish this by moving the pedal from the UP position to the 1/2-DOWN location. Then JOG the pedal DOWN allowing the clamps to move inward until the pointer on the clamps align with the rim diameter on the table top decal. It may be necessary to relocate the clamps on the clamp carriers. Each clamp should be in the same position before prelocating the clamps.

5c. Determine the mounting side of the wheel. The mounting side is the narrow side of the drop center. (Tire removed in Figure 4 for clarity.)

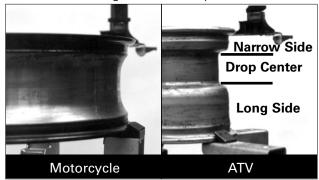


Figure 4 - Determining Mounting Side of Wheel (Note that many motorcycle rims are symmetrical)

6. Place tire/wheel assembly on table top with mounting side up (Figure 5). Use the clamp control pedal to move the clamps inward (push pedal down). Clamp motorcycle and ATV wheels from the outside (clamps push inward against the outside rim edge). Observe closely to prevent tire/wheel damage.

Note: On motorcycle machines, the clamps move slower than on automotive machines.

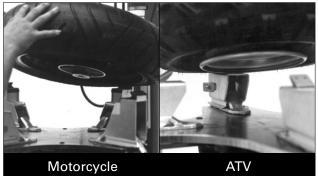


Figure 5 - Place Tire/Wheel Assembly on Table Top

7. 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 head into contact with the rim edge. Push the locking handle back to lock the slide into place. As the slide is locked, the mount/demount head will move upward approximately 1/8 inch from the rim edge.



Note: On plastic duckheads, the upward movement should be limited to 1/16-inch maximum.

Figure 6 - Position Mount/Demount Tool

8. The duckhead[®] roller should be in contact with the rim edge. Turn the swing arm adjusting knob to move the head away from the rim 1/8 to 1/4-inch. On expensive and polished rims, it is recommended a plastic bootie (p/n 8183373) be used over the duckhead roller.

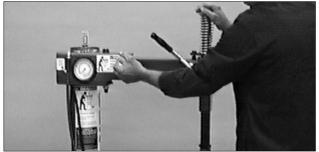


Figure 7 - Adjust Swing Arm to Position Head Roller

9. Check head positioning. Duckhead[®] should be positioned with 1/8 to 3/16-inch clearance between the top of the rim edge and the bottom of the head (with plastic duckhead it is recommended the vertical clearance be limited to a maximum of 1/16-inch) and 1/8 to 1/4-inch clearance between the rim edge and the head. 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 head (when changing a set of the same wheels).

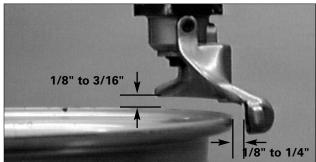


Figure 8 - Proper Mount/Demount Head Position

Important: The vertical tool clearance may change with machine use and should be inspected often. Failure to maintain the proper clearance may result in finish/painted/plated damage to the wheel rim.

10. Insert the smooth curved end of the bead lifting tool over the forward end of the demount head and below the top bead of the tire. Use your free hand to press down on the tire opposite the head to help with tool insertion.



Figure 9 - Insert Bead Lifting Tool

11. Rotate the bead lifting tool down towards the wheel to lift the tire bead up and over the knob portion of the demount head. The lift tool may be removed if desired (Figure 10).

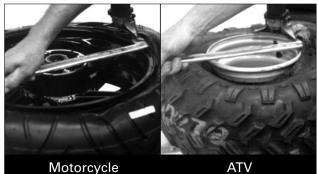


Figure 10 - Lift Bead Over Demount Head

12. Depress the table top pedal to rotate the wheel clockwise. The demount head will guide the upper bead up and over the edge of the wheel.

Note: Push down on the tire across from the demount head during table top rotation to utilize the drop center area of the wheel. This reduces the tensional force on the bead during demount.

13. Lift and hold the tire at an angle so that the lower bead is resting in the drop center directly across from the demount head, and is loose below the demount head. 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 head (Figure 11).

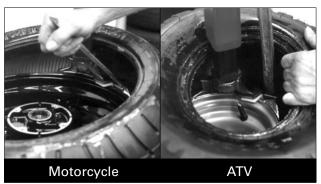


Figure 11 - Demounting Lower Bead

14. Depress the table top pedal to rotate the wheel. The demount head will guide the bead up and over the edge of the wheel. Continue rotation until lower bead is demounted.

Note: With tube-type tires, demount the upper bead and remove the tube before demounting the lower bead.

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

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.



At times during the mounting and demounting procedure, the bead lifting tool may encounter resistance or come under load. Keep one hand firmly on the tool to avoid possible tool disconnect. Use the reversing feature to back out of jam ups.



After successfully completing the demount process, proceed to Mounting (page 6).

Operator Protective Equipment

Always wear durable work clothing during tire service activity. Shop aprons or shop coats may also be worn, however, loose fitting clothing should be avoided. Tight fitting leather gloves are recommended to protect the 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.

Mounting

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



Check tire and wheel carefully before mounting. Make sure the tire bead diameter and wheel diameter match exactly. Consult the Rubber Manufacturer's Association for approved rim widths for tire sizes. Mismatched tires and wheels explode.



Never Mount a tire and wheel handed to you by anyone without checking both tire and wheel for damage and compatibility. The problem of mis-matched tires/wheels is preventable. Be extra cautious of persons without knowledge of tire service. Keep bystanders out of service area; there is a risk that could result in injury.



Never mount a damaged tire. Never mount a tire on a rusty or damaged wheel. Damaged tires and/or wheels may explode.



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

1. Inspect the wheel closely for damage. Clean the wheel and remove any light corrosion or rubber residue (Figure 12). Do not attempt to service heavily corroded wheels.

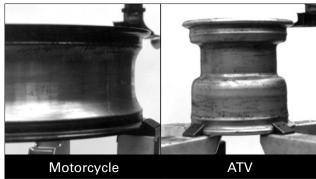


Figure 12 - Inspect and Clean the Wheel

2. Inspect tire for damage, paying close attention to the beads. Verify size match between tire and wheel.

3. Lubricate tire beads liberally with tire manufacturer approved lubricant (Figure 13).



Figure 13 - Lubricate Beads

4. Place tire over wheel and move swing arm into position. Position the tire so that the lower bead is above the rear extension of the mount/demount head and below the front knob (Figure 14).



Figure 14 - Position Tire Against Mount/Demount Head

5. Depress table top rotation pedal and rotate the wheel to mount the lower bead. Use the drop center of the wheel to reduce the tensional force on the bead by pressing down on the tire directly across from the mount head.Rotate table top until lower bead is fully mounted.

6. For top bead, rotate the table top until the valve stem is 90-degrees forward of the mount head. Lift the upper bead up and over the rear of the mount head. With your left hand press down on the tire between the mount head and the valve stem to hold the tire in the drop center. Depress the table top rotation pedal and rotate the tire until the bead is mounted. Continue to press down on the tire during the remaining mounting process.



Do not force the tire onto the rim. Bead damage could result making the tire unsafe and/or creating the risk of injury.

Note: If table top rotation stalls, reverse the table top momentarily until the tire bead is again loose on the wheel. Reposition the mount head, make sure the bead is correctly positioned in the drop center of the wheel, then attempt mounting again.

Note: For low profile or stiff sidewall tires, it may be advantageous to use the bead lifting tool to initially hold the upper bead down in the drop center, or use drop center tools.

Note: For tube type tires, mount the lower bead first, move swing arm out, install the tube, and then mount the upper bead.



When you have completed the mounting process, proceed to Inflation.

Special Instructions For Demounting Extremely Wide Motorcycle Tires (RC200)

101. First review the large decal located on the tower of the changer. Read and understand the information.

102. On very wide motorcycle tires (over 8-inches wide) it may be advantageous to remove the motorcycle clamps from the machine and replace with three position automotive clamps.

The automotive three position clamps are accessories and can be ordered as p/n 818113125C for four clamps. Also, the plastic protection booties are recommended and can be ordered as p/n 8183604 for 10.



103. As with motorcycle clamps, after bead loosening and before clamping the wheel, preposition the clamps.

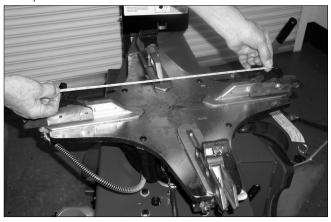


Figure 15 - Shown With Automotive Clamps And Plastic Protective Booties

104. With the tire bead loosened from the rim, position the wheel in the center of the table clamping system. If the sidewalls are extremely stiff, the Robo Arm[™] may be placed in the center of the wheel (protect the surface with rag) and press the wheel down with the RoboArm to assist in clamp engagement. Activate the clamps slowly and observe rim clamping.



105. To assist in positioning the duckhead at the location near the rim, use the Robo Arm to press the tire sidewall down.



106. Lubricate the upper bead surface. To assist, position the manual roller assembly into the receiver. Press down and the roller between the rim and the tire bead. This will allow easy lubrication of the upper bead surface and rim flange.



Important: Always read and follow the operating instructions.

107. After lubrication, insert the lift bar at the duckhead, a small amount of lubrication on the bar will assist in lift tool positioning. The Robo Arm can be used to push the tire sidewall down.



108. Before rotating the bead up and on the duckhead, use the Robo Arm to push the upper bead into the rim's drop center.



109. If may be necessary to push the tire sidewall down at several locations to ease the stress in the tire bead.



110. Once the bead is located on the duckhead, the lift tool maybe removed completely.



Next, jog the machine rotation a short distance and observe the bead removal. Continue to rotate the rim until the bead is completely removed.



111. Lower bead removal is typical with standard procedures. The RoboArm may be used to assist in holding the lower bead up in the wheel's drop center.

Special Instructions For Mounting Extremely Wide Motorcycle Tires (RC200)

201. Mount the first bead as a typical tire. Note that many tires may be pushed over the rim flange manually after lubricant has been applied.



202. For the top bead, lubricate the bottom side of the top bead and the edge.

203. Lubricate the rim completely in the drop center area.

204. Position the bead onto the duckhead and using the RoboArm, press the bead down into the drop center of the wheel forward of the duckhead.



205. Rotate the assembly slowly about 90-degrees and observe.



206. Reposition the RoboArm back to 90-degrees forward of the duckhead and finish the mounting.



207. Use the RoboArm to push down on tire and swing duckhead from rim position.



Special Instructions For Demounting Extra Wide ATV Type Wheels/Tires Down To <u>8-inch Diameter</u> Using Automatic Clamps

A200. After loosening the beads, move clamps to inward most position and clamp wheel.



A201. Position duckhead near rim.

A202. Lubricate beads and rim.



A203. Using typical procedures, remove upper bead.



A204. To remove the lower bead on very wide tires, the lever bar may be placed under the lower bead and rotated up.



Mounting ATV Type Wheels/Tires Down To <u>8-inch Diameter</u>

A205. First bead can usually be mounted manually after lubricant application to bead area and rim.



A206. Top bead is mounted using typical procedures.



Demounting Small <u>6-inch To 8-inch</u> <u>Diameter</u> Wheels/Tires

B201. After loosening beads, clamp the wheel and lubricate the tire beads; also place a fulcrum into the wheel center hole.



B202. Position the Snake[™] tool and remove the top bead. Next remove the second bead.

Note: The Snake[™] tool is a product of Ken-Tool[®] and can be purchased through most tire supply companies.



Mounting Small <u>6-inch To 8-inch Diameter</u> Wheels And Tires

B203. Wheel shown clamped with a fulcrum placed in the wheel center.



B204. Lubricate the beads and rim.



B205. Use Snake[™] tool to install both beads.

Note: The Snake[™] tool is a product of Ken-Tool[®] and can be purchased through most tire supply companies.



B206. A pair of regular vice-grip type pliers attached to the rim may be used to hold the bead lock.



Inflation

Tire inflation is performed in three steps: **BEAD SEAL, BEAD SEAT, and INFLATION**. These steps are explained in detail. 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. Improper use of the clip-on chuck could result in personal injury. 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 center 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 should 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 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.

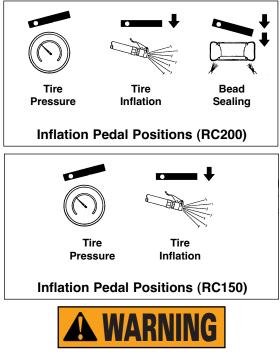
Position 3 - Bead Sealing – This is the second and last activated position. With the inflation hose attached to the tire valve and the pedal in this position, line pres-

sure is allowed to flow through the valve and to the airflate bead seal jets on the tabletop for bead sealing.

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 tabletop.

The inflation pedal, located at the center of the left side of the machine, controls the flow of air through the inflation hose.





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.

R. 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 machine 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 with the use of 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. 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 20).



Figure 20 - Lift Tire Upwards for Bead Sealing

2. 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 jets will expand tire and seal the beads.

3. 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.

S. If tire and wheel are properly lubricated and operator cannot achieve bead seal after three or four attempts, the valve core may be removed from the valve stem to allow more air flow into the tire to assist with bead seal. 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 21).



Figure 21 - Stand Back during Bead Seat

Inflation



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.

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 22). 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 23).

5. Important: When inflating automotive, light truck, and motorcycle (ATV see note 6) 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.

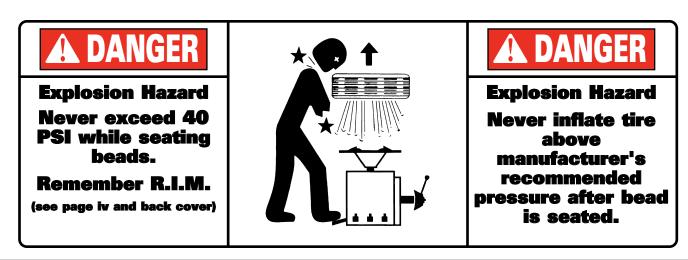
6. ATV Tire Inflation: ATV tire inflation is unique in that the bead seat pressure allowed is more than the operating pressure. ALWAYS follow the tire manufacturer's information on inflation. This information can be printed on the sidewall, on the tire sticker, or from the manufacturer.



Figure 22 - Location of Manual Release Valve



Figure 23 - Do Not Use a Hand-held Style Air Chuck



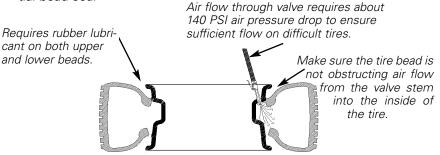
Important: Always read and follow the operating instructions.

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

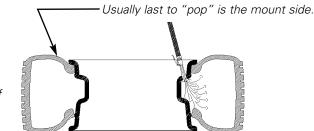
Bead sealing is the process of capturing air pressure between the tire and the rim. The tire will usually contain about 1/2 to 2 PSI at initial bead seal



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.

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.



Requires visual conformation of bead seat.

Stand clear of the tire during bead seat and inflation.

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.



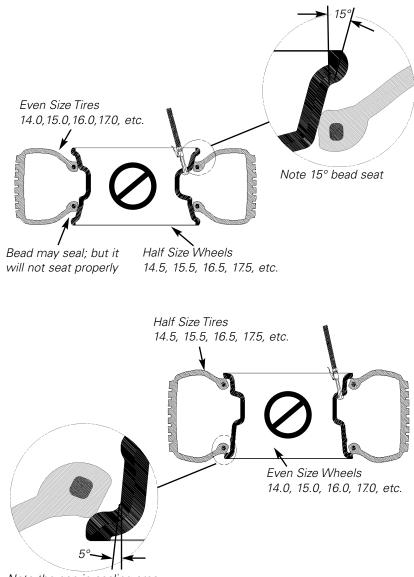
Stand clear of the tire during inflation.

Mismatched Tires and Wheels

Never attempt to mount and inflate mis-matched tires and wheels.



Mismatched tire and wheel combinations can explode, causing personal injury or death to operator and/or bystanders.



Note the gap in sealing area

Performance, Custom, and Aluminum Automotive & Light Truck Wheels



To avoid personal injury or finish damage to components only tire technicians with experience and training on custom wheels should attempt to service expensive custom alloy or aluminum wheels, high-performance low-profile tires and EMT/run-flat tires.



Many tires/wheels have pressure sensor devices that are manufactured by different companies, there are no standards on type or mounting; therefore, follow the instructions that apply to the sensor being serviced. For further information on these devices, contact the individual sensor manufacturer.

Pre-Operation Notes:

- Ensure all weights have been removed.
- Assistance will be required on wide and large diameter wheels.
- Clamp wheel from the outside.
- Use ample lubricant for mounting and demounting
- Always review wheel nicks and/or scratches with the owner before servicing.

Performance Tires & 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 the valve core and completely deflate the tire. On many performance wheels a valve type sensor may be inside of the rim. These devices are expensive and should be serviced with care. After deflating the tire, loosen and remove the retaining nut and then tap lightly with a hammer to allow the valve sensor to fall inside the tire before further service work (figure 24).



Figure 24 - Rim with a Valve Type Sensor (Tire Removed for Clarity)

2. Some wheels have a low-pressure sensor/transmitter strapped to the wheel. This is especially true on older run-flat tire/wheel systems. To avoid damaging the sensor, always loosen the top bead with the valve stem at the 2 o'clock position first, to determine sensor location. Then loosen the bottom bead and the remaining circumference of the beads as necessary at a location that will not damage the sensor. (Figure 25).



Figure 25 - Wheel with Strapped on Low Pressure Sensor/Transmitter

3. 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 and bead loosen (Figure 26).

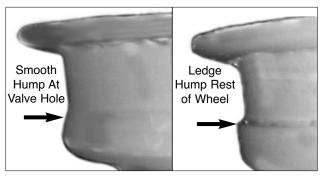


Figure 26 - Asymmetrical Hump Wheel

4. Pull the bead loosener shoe away from the machine and roll the tire in position with the valve stem in the 2 o'clock position (above the bead loosener shoe). Always loosen the bead on the narrow/mounting side of the wheel first (figures 2 and 27).



Figure 27 - Position Tire for Bead Loosening

5. Loosen bottom bead, starting with valve stem positioned at the 2 o'clock position above the bead loosener shoe (figure 28).



Figure 28 - Loosen Bottom Bead

6. Liberally lubricate the bottom bead of the tire (figure 29).



Figure 29 - Lubricate Bottom Bead

7. After loosening and lubricating the lower bead, rotate the tabletop until the clamps are in the 12, 3, 6, and 9 o'clock positions (Figure 30).

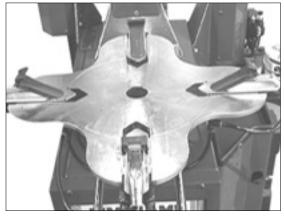


Figure 30 - Rotate Tabletop to 12 O'clock



Avoid back injury, seek assistance when lifting heavy tire/rim assemblies onto the tire changer. **8.** 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 (Figure 31).

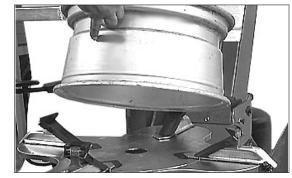


Figure 31A - Clamp Wheel (Tire Removed for Clarity)



Figure 31B - Outside Clamped with Tire Removed

Tip: 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 inward to ensure proper, clamping.

5. Depress the tire sidewall downward with the aid of the helper foot providing clearance for the mount/de-mount head to be positioned (Figure 25). Move swing arm into place. Increase the horizontal distance between the demount head and the wheel an additional 1/16 to 1/8 inch with the adjustment knob.



Figure 32 - Helper Foot Depressing Sidewall of Tire, Optional Plastic Duckhead[®] Shown

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 26).



Figure 33 - Lubricate Upper Bead

7. Locate the valve stem just before the demount head before proceeding (Figure 27).

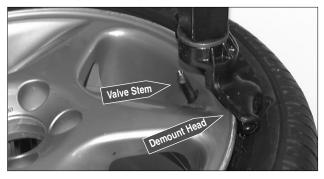


Figure 34 - Position Valve Stem Under Demount Head

8. Place the helper foot opposite the demount head and push the bead into drop center. Insert bead lifting tool between knob on demount tool and tire bead Figure 28). Use roller tool to provide clearance.



Figure 35 - Insert Bead Lifting Tool

9. Rotate lifting tool down over wheel to lift bead up and over the knob and at the same time remove helper foot (Figure 29).



Figure 36 - Rotate Lifting Tool Down for Demount

Performance Tires & Wheels • Mounting

Before beginning any of the mounting activities, review all of the caution, warning and danger instructions associated with mounting already listed in the early part of the manual concerning tire/rim size match, inspect for damage, etc.

19. Install or review condition of any pressure sensor devices. This will prevent having to remount the tire later.

20. Begin the tire mounting process by lubricating both tire beads and the rim if necessary (figure 38).



Figure 37 - Lubricate Tire Beads

21. For mounting the lower bead; position the tire at an angle to the rim and mount (figure 39).



Figure 38 - Mount the Lower Bead

22. Next position the rim for the best mounting by assuring the valve stem or sensor devices will not prevent the upper bead from using the wheel's full drop center. Typically valves or sensor devices are positioned at 90 degrees forward of the duckhead.

3. Position the valve stem 90 degrees clockwise in front of the mount/demount tool for top bead mounting. Lift the bead over the rear of the mounting head. Use the helper tool to hold the bead in the drop center (Figure 33). Rotate the wheel in short steps and apply extra lubricant to mount upper bead.



Figure 39 - Mount Upper Bead, Use Helper

4. On extremely tight tire and wheel combinations, it may be necessary to use the bottom of the helper foot to flip the tire bead over the rim flange (Figure 34)



Figure 40 - Helper Foot to Flip Bead Over Rim Flange

Custom and Special Wheels



Should a problem be encountered during assembly or disassembly STOP! Avoid damaging the other wheels. Continue assembly only when problem is identified and corrected.

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. If you attempt to mount/demount this type of wheel, use extreme caution (Figure 37).

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 near the valve hole on both the upper and lower sides first (Figure 26 & 44).

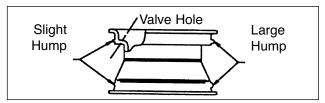


Figure 41 - Asymmetrical Safety Hump Wheels

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.

A. The vertical slide should be cleaned with a vaporizing solvent and then lubricated with chassis grease once a month.

B. Check the adjustment of the duckhead once a month.

C. The transmission in this machine is a sealed unit packed with grease and should need no normal maintenance.

D. The tabletop, clamps, steel duckhead, and other working surfaces should be cleaned with a vaporizing solvent every month.

E. The clamps should be inspected and metal chips and dirt removed from the serrations with a wire brush once a month.

F. 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 107985). Contact COATS at (615) 641-7533. Check function of the pressure limiter weekly. Always reinstall the lens after adjusting the gauge.

G. Make sure all fasteners are securely tightened.

 $\ensuremath{\textbf{H}}\xspace.$ Make certain that all guards and covers are in place.

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

J. 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.



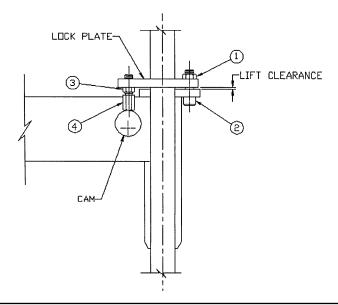
Replace any damaged or missing safety decals. They are available from COATS, (800) 688-6359.

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.

Mount/Demount Tool Head Adjustment

To Adjust Tool Head Lift: Loosen jam nut (ref. 1) and adjust screw (ref. 2) until lift clearance is obtained.

To Adjust Lock Tightness: With lock handle unlocked, loosen jam nut (ref. 3) and adjust pin (ref. 4) until a slight firmness is obtained, then tighten jam nut and check. Also recheck tool head lift at this time.



Important: Always read and follow the operating instructions.

Separator/Lubricator Maintenance

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

A. Disconnect air supply to machine.

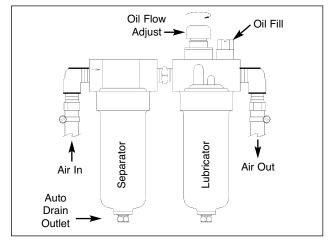
B. The Separator (Filter) unit is equipped with an automatic drain and should not normally need draining.

C. If the fluid level is greater than 1/4" from the top of the gauge, add oil. Remove the filler plug on top of the lubricator and add SAE 10W 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.

D. 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 seethrough 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.



Duckhead® Cleaning

Clean dirt and debris from the duckhead roller with a small screwdriver or pick.



Pressure Limiter Maintenance



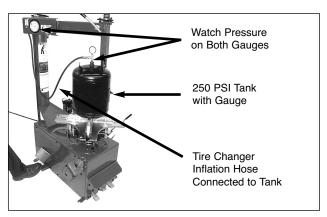
Operating a tire changer with a defective, improperly adjusted, or by-passed pressure limiter could cause an operator to accidentally over pressurize a tire, resulting in a tire explosion with severe injury or death to the operator or bystanders.

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



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 (gauge should read 0). Use a certified tank with at least 250 PSI pressure rating.

Important: Always read and follow the operating instructions.

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 ± 5 PSI.

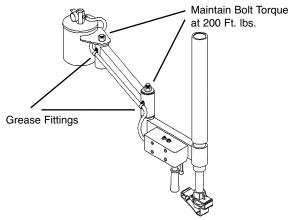
5. Release inflation pedal. Check manual release valve function by pressing the button and releasing pressure from the tank until it reaches 50 PSI. Disconnect inflation hose, and release air inside tank.

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.

Robotic Arm Maintenance

A. Grease the robotic arm to maintain smooth rotation. Grease fittings have been provided at the pivot joints.

B. Check bolt torque periodically at pivot joints. Proper Torque is 200 ft. lbs.



Installation Instructions

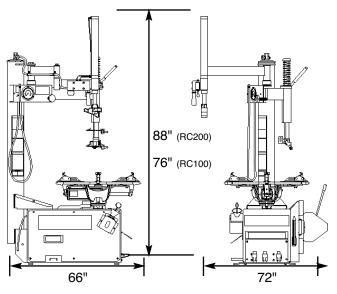


Proper unit installation is necessary for safe use and efficient operation. Proper installation also helps protect the unit from damage and makes service easier. Always place safety poster and instructions near the unit.

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 safe 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 assures good performance.

Electrical Source

Electric models require power from a 15 amp, 120 volt electrical circuit. 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

The machine should be securely bolted to the floor with suitable anchors using the hole at each corner of the machine base.

Notes

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:

1. Damaged Bead or Beads.

2. Rusty Wheels. (particularly in the bead seat area)

3. Bent or Cracked Wheels. **4 A. Mismatched.** (A mis-match of a 16inch tire to a 16.5-inch rim causing an explosion)

4 B. Mismatched.

(16.5-inch tire on a 16-inch rim) 5. Walk-In Tire and Rim.

- 6. Back Injuries.
- 7. Hand or Finger Injuries.

(Hands or fingers too close to inflating tire or bead seats which may cause injury.)

- **8. Standing Clear.** (Never put any part of your body over the tire changer during inflation.)
- 9. Beads will not Seat at 40 PSI.

10. Improper Inflation.

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



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

THE OWNER IS RESPONSIBLE FOR MAINTAIN-ING THE OPERATION INSTRUCTIONS AND DECALS FOR OPERATOR REFERENCE. FOR ADDITIONAL COPIES, CONTACT THE COATS® COMPANY, 1601 J.P. HENNESSY DRIVE, LAVERGNE, TENNESSEE, 37086 - (800) 688-6359. TIRE FAILURE UNDER PRESSURE IS HAZ-ARDOUS! 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 OUT-WARD WITH SUFFICIENT ENERGY TO CAUSE <u>SERIOUS INJURY</u> OR <u>DEATH</u> TO OPERATOR AND/OR BYSTANDERS.