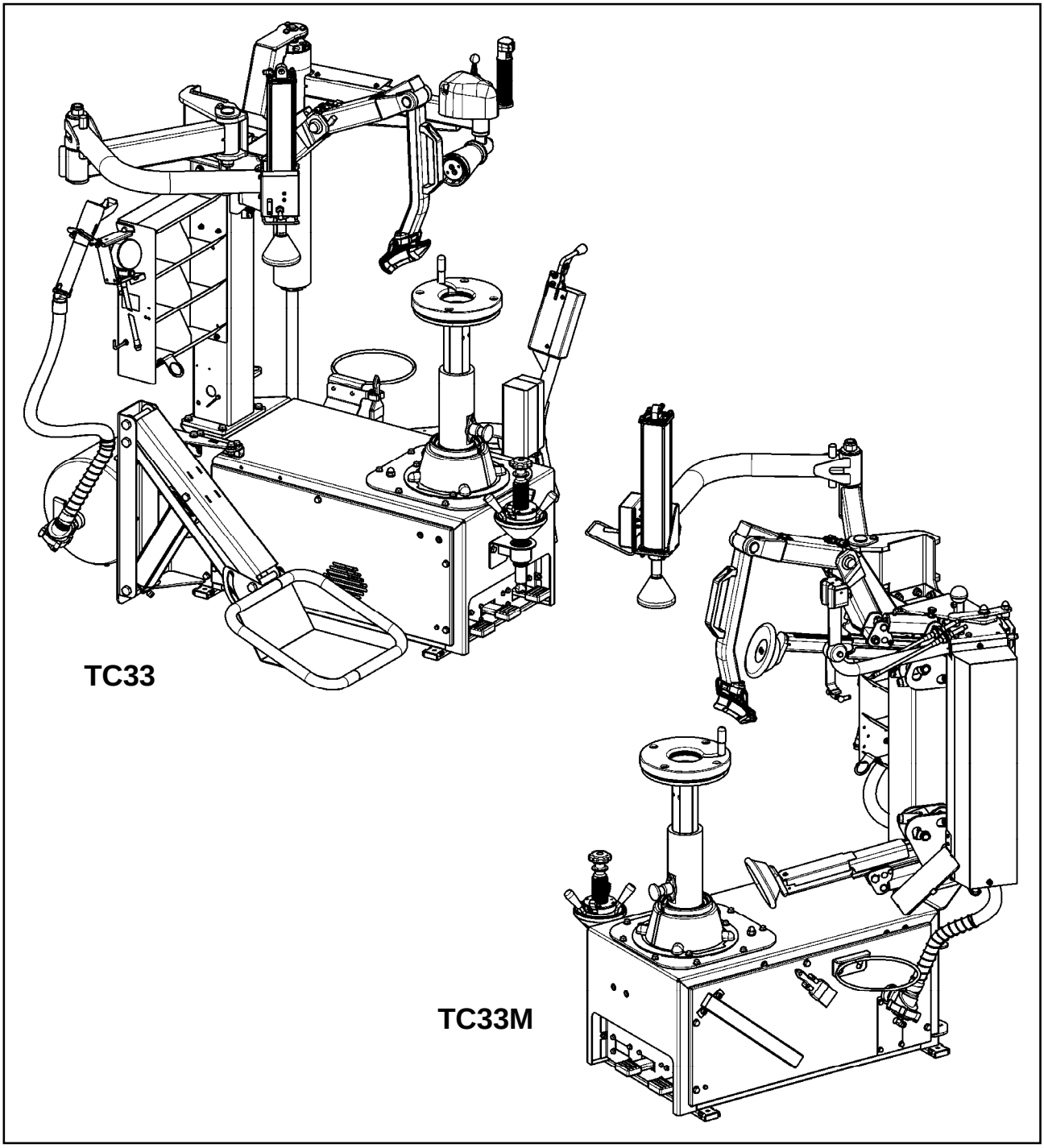
TC33 Series Tire Changer



HUNTER Engineering Company

OWNER INFORMATION

Model Number _____

Serial Number _____

Date Installed _____

Service and Parts Representative _____

Phone Number _____

Sales Representative _____

Phone Number _____

Concept and Procedure Explanation

Safety Precautions	**Trained**	**Declined**
Warning and Caution Labels	☐	☐
Bead Roller	☐	☐
Maintenance and Performance Checks	**Trained**	**Declined**
Air Pressure Check	☐	☐
Checking Arm Calibration to Rims	☐	☐
Adjustment and Filling of Oiler	☐	☐
Wheel Clamping	**Trained**	**Declined**
Drop Center Identification	☐	☐
Standard Wheel	☐	☐
Reverse Drop Center Wheel	☐	☐
Large Pilot Hole Wheel	☐	☐
Bead Loosening	**Trained**	**Declined**
Standard Procedure	☐	☐
Tire Lubrication	☐	☐
Demounting	**Trained**	**Declined**
Standard Procedure	☐	☐
Mounting	**Trained**	**Declined**
Standard Procedure	☐	☐
Low Profile Wheels	☐	☐
Matching Tire to Rim	**Trained**	**Declined**
Lubrication, Positioning, and Direction of Rotation	☐	☐
Inflation	**Trained**	**Declined**
Adjustment of Pre-Set Pressures	☐	☐
Lubrication and Removal of Valve Core	☐	☐

Individuals and Date Trained

CONTENTS

1. GETTING STARTED

1.1 Introduction

This manual provides operation instructions and information required to maintain the TC series tire changer.

The owner of the TC is solely responsible for arranging technical training. The TC is to be operated only by qualified trained technicians. Maintaining records of personnel trained is solely the responsibility of the owner and management.

This manual assumes the technician has already been trained in basic tire changing procedures.

"References"

This manual assumes that you are already familiar with the basics of tire changing. The first section provides the basic information to operate the TC. The following sections contain detailed information about equipment, procedures, and maintenance. *"Italics"* are used to refer to specific parts of this manual that provide additional information or explanation. For example, *refer to "Equipment Components," page 11-12.* These references should be read for additional information to the instructions being presented.

The owner of the TC is solely responsible for arranging technical training. The TC is to be operated only by a qualified trained technician. Maintaining records of personnel trained is solely the responsibility of the owner or management.

1.2 For Your Safety

Hazard Definitions

Watch for these symbols:

⚠ **CAUTION:**	Hazards or unsafe practices, which could result in minor personal injury, or product or property damage.
⚠ **WARNING:**	**Hazards or unsafe practices, which could result in severe personal injury or death.**
⚠ **DANGER:**	**Immediate hazards, which will result in severe personal injury or death.**

These symbols identify situations that could be detrimental to your safety and/or cause equipment damage.

IMPORTANT SAFETY INSTRUCTIONS

⚠ WARNING: This machine stores and uses significant volumes of compressed air. Disconnect compressed air at the source and drain all compressed air before servicing. Severe injury or death can occur if service is attempted on a compressed air chamber while it is charged.

⚠ WARNING: This machine uses high voltage electrical power. Shut down and unplug the machine at the source before servicing. Severe injury or death can occur if service is attempted on a live electrical circuit.

Read and follow all caution and warning labels affixed to equipment and tools.

Read and understand all instructions before operating this machine.

Misuse of this equipment can cause personal injury and shorten the life of the TC.

To prevent accidents or damage to the TC, use only Hunter recommended procedures and accessories.

Wear OSHA approved eye protection while operating the TC.

Wear non-slip safety footwear when operating the TC.

Do not wear jewelry or loose clothing when operating the TC.

Wear proper back support when lifting or removing wheel from the TC.

Never stand on the TC.

⚠ WARNING: Keep hands and clothing clear of moving parts. Keep hands clear of upper roller when bead loosening or rotating clamped wheel. Do not lean or reach over tire when inflating.

⚠ WARNING: Do not exceed these pressure limitations:
SUPPLY LINE PRESSURE (from compressor) 175 PSI.
OPERATING PRESSURE (gauge on regulator) 145 PSI.
BEAD SEATING PRESSURE (gauge on hose) 40 PSI.

⚠ WARNING: Never mount a tire to a rim that is not the same diameter (e.g., 16 1/2 inch tire mounting on a 16 inch rim).

⚠ WARNING: After loss of air line pressure ALWAYS raise the wheel lift pedal to prevent the wheel lift from rising quickly during first operation.

⚠ DANGER: Activate blast inflation nozzle only when seating bead.

⚠ CAUTION: Do not hose down or power wash electric tire changers.

Bleed air pressure from system before disconnecting supply line or other pneumatic components. Air is stored in a reservoir for operation of the blast inflation nozzle. Air pressure can be bled from the system by pulling up on the knob located on top of the regulator, and then turning it **counterclockwise**.

Do not activate the blast inflation nozzle if the tire is not properly clamped.

Do not operate TC with worn rubber or plastic parts.

Wheels equipped with low tire pressure sensors or special tire and rim design may require certain procedures. Consult manufacturer's service manuals.

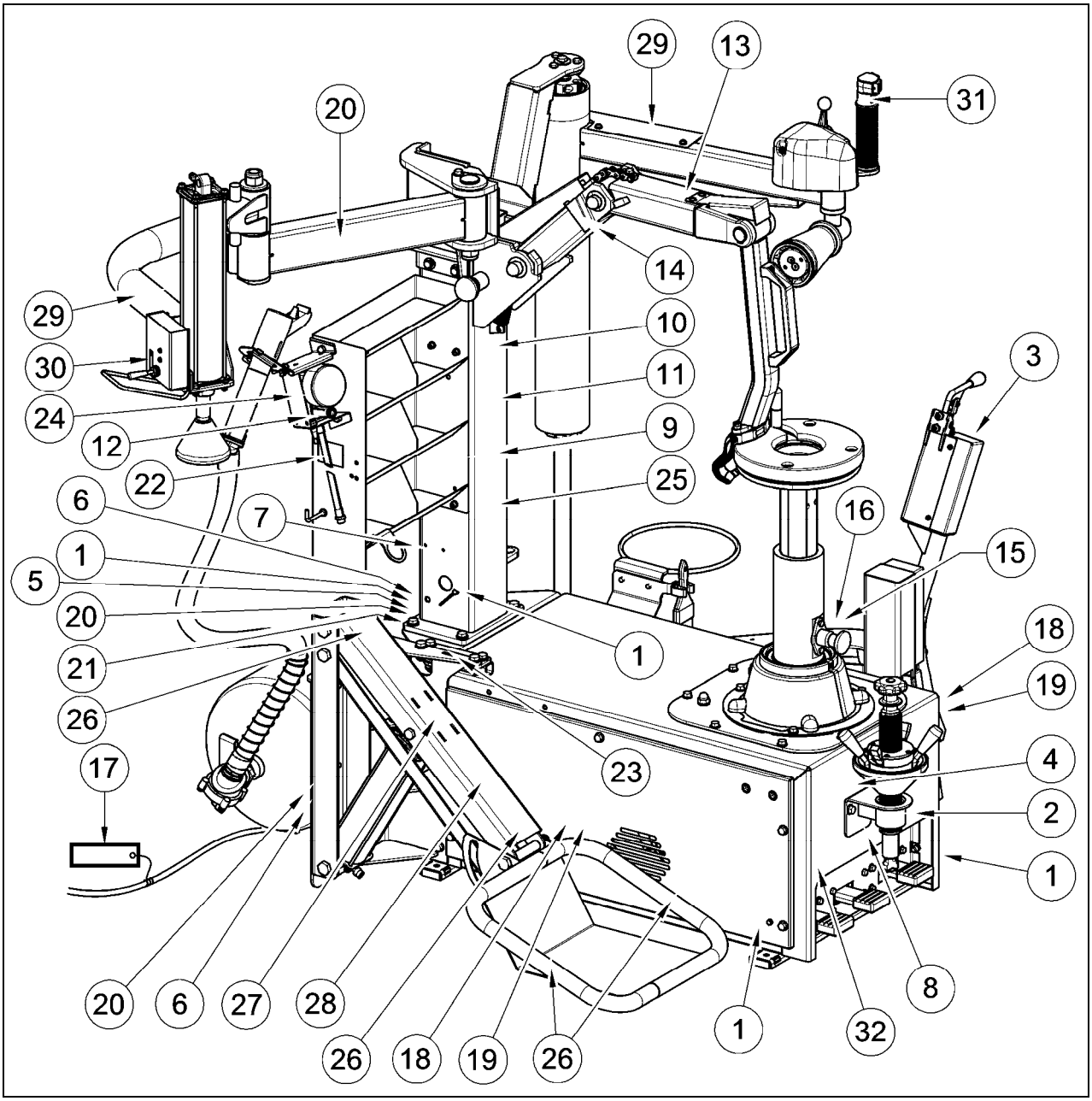
SAVE THESE INSTRUCTIONS

Service and maintain machine regularly as outlined in *"Maintenance and Calibration," on page 46.* For further information contact:

Hunter Engineering Company
11250 Hunter Drive
Bridgeton, Missouri 63044
(314) 731-3020

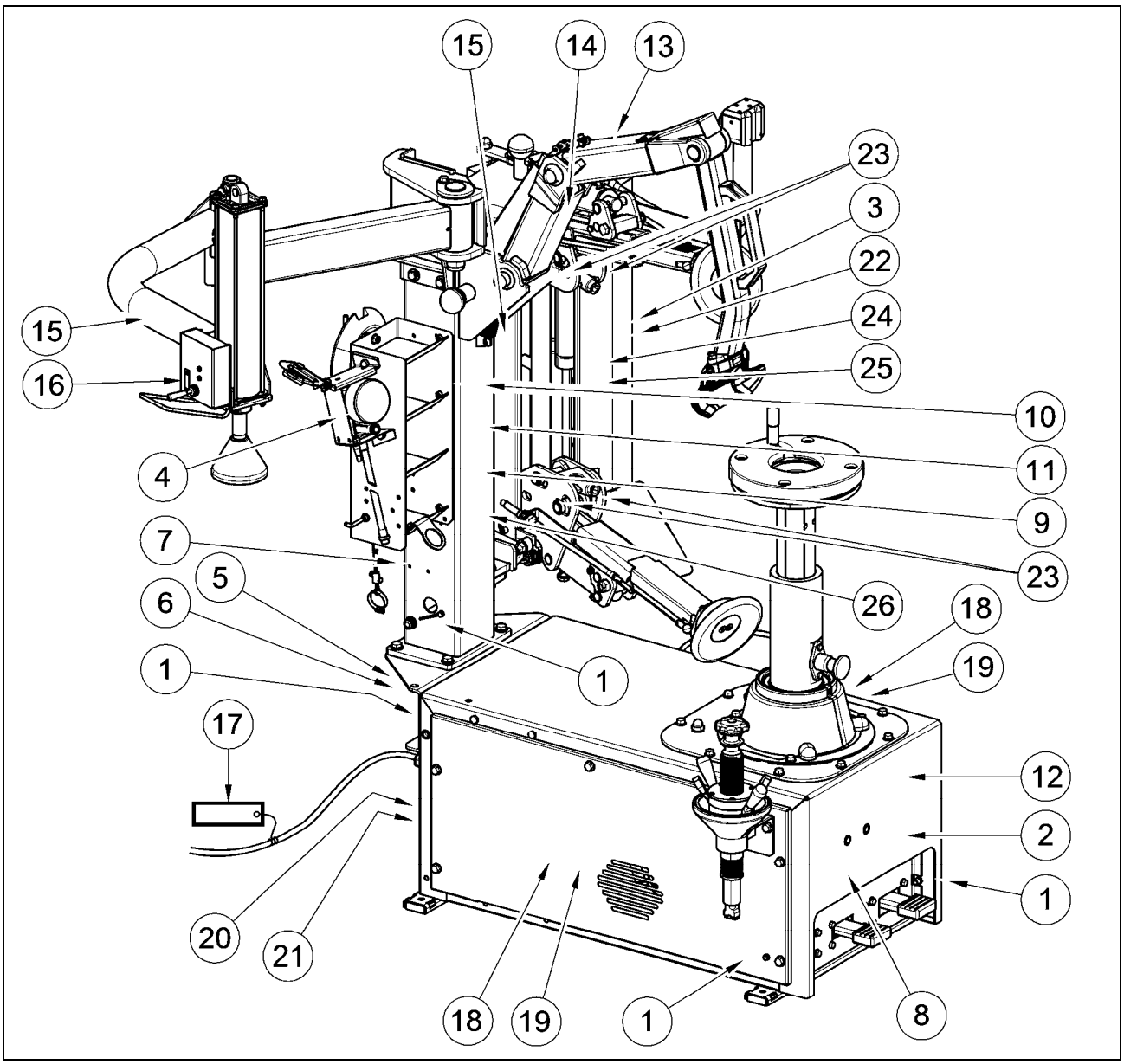
http://www.hunter.com

Decal Placement (TC33)



1	RP6-4221	GROUNDING PLATE
2	RP6-710211210	DECAL-ROTATION DIRECTION
3	RP6-710211220	BEAD BREAKER CONTROL PLATE
4	128-1870-2	DECAL-TC33
5	128-1345-2	DECAL-NEMA L6-20P
6	RP6-999923160	DECAL-WARNING PROP 65
7	RP6-0006	DECAL-AIR PRESSURE
8	128-286-2	DECAL-DANGER AIR BLAST
9	128-287-2	DECAL-WARNING INFLATION
10	128-285-2	DECAL-WARNING PRESSURE LIMITATIONS
11	128-284-2	DECAL-SAFETY INSTRUCTIONS
12	128-501-2	DECAL-MANUAL TIRE BLEED VALVE
13	128-435-2	DECAL-REMOVE CLIP-ON WEIGHTS
14	128-489-2	DECAL-MOUNTING ARM INCLINATION
15	128-504-2	DECAL-DO NOT BREAK BEAD WITH AIR PRESSURE IN TIRE
16	128-505-2	DECAL-KEEP ARMS AND LEGS CLEAR OF BEAD BREAKER
17	RP6-4182	DECAL-MOTOR SPECIFICATIONS
18	RP6-4244	DECAL-ROTATING PARTS DANGER
19	RP6-99990758	DECAL-ELECTRICITY DANGER
20	RP6-999915200	DECAL-SERIAL NUMBER
21	RP6-999916311	DECAL-RUBBISH SKIP
22	RP6-1591	DECAL-RED PIPE
23	RP6-999924420	DECAL-KEEP BRACKET FOR OPTIONAL WHEEL LIFT INSTALLATION
24	RP6-2170	DECAL-MAX. INFLATION PRESSURE RATING
25	128-485-2	DECAL-REVIEW VIDEO BEFORE USING
26	RP6-1541	DECAL-DANGER
27	RP6-2668	DECAL-WHEEL LIFTING DEVICE DANGER
28	RP6-999916880	DECAL-MAX. CAPACITY 80 KG
29	RP6-2166	DECAL-WARNING BEAD BREAKER
30	RP6-999914700	DECAL-BEAD DEPRESSING CONTROLS
31	RP6-2470	DECAL-PUSHBUTTON DATA
32	RP6-999916450	DECAL-LIFTING DEVICE PEDAL

Decal Placement (TC33M)



1	RP6-4221	GROUNDING PLATE
2	RP6-710211210	DECAL-ROTATION DIRECTION
3	RP6-710217670	DECAL-LUBRICATING OIL SPECIFICATIONS
4	RP6-2170	DECAL-MAX. INFLATION PRESSURE RATING
5	128-1345-2	DECAL-NEMA L6-20P
6	RP6-999923160	DECAL-WARNING PROP 65
7	RP6-0006	DECAL-AIR PRESSURE
8	128-286-2	DECAL-DANGER AIR BLAST
9	128-287-2	DECAL-WARNING INFLATION
10	128-285-2	DECAL-WARNING PRESSURE LIMITATIONS
11	128-284-2	DECAL-SAFETY INSTRUCTIONS
12	128-1870-2	DECAL-TC33
13	128-435-2	DECAL-REMOVE CLIP-ON WEIGHTS
14	128-489-2	DECAL-MOUNTING ARM INCLINATION
15	RP6-2166	DECAL-WARNING BEAD BREAKER
16	RP6-999914700	DECAL-BEAD DEPRESSING CONTROLS
17	RP6-4182	DECAL-MOTOR SPECIFICATIONS
18	RP6-4244	DECAL-ROTATING PARTS DANGER
19	RP6-99990758	DECAL-ELECTRICITY DANGER
20	RP6-999915200	DECAL-SERIAL NUMBER
21	RP6-999916311	DECAL-RUBBISH SKIP
22	RP6-1775	DECAL-OIL QUANTITY
23	RP6-1541	DECAL-DANGER
24	128-487-2	DECAL-CAUTION
25	128-488-2	DECAL-ATTENTION
26	128-485-2	DECAL-REVIEW VIDEO BEFORE USING

Electrical

The TC is manufactured to operate at a specific voltage and amperage rating.

Make sure that the appropriate electrical supply circuit is of the same voltage and amperage ratings as marked on the TC.

> ⚠ **WARNING: DO NOT ALTER THE ELECTRICAL PLUG. Plugging the electrical plug into an unsuitable supply circuit will damage the equipment.**

Make sure that the electrical supply circuit and the appropriate receptacle is installed with proper grounding.

To prevent the possibility of electrical shock injury or damage to the equipment when servicing the TC, power must be disconnected by removing the power cord from the electrical power outlet.

Specific Precautions/Power Source

The TC is intended to operate from a power source that will apply 208-230VAC, 1 phase, 15 amp 50/60 Hz, *power cable includes* NEMA 20 amp plug, L6-20P, between the supply conductors of the power cord. The power cord supplied utilizes a twist lock connector, NEMA L6-20P. This machine must be connected to a 20 amp branch circuit. Please refer all power source issues to a certified electrician. *Refer to "Installation Instructions for TC Tire Changer.*

> ⚠ **CAUTION:** A protective ground connection, through the grounding conductor in the power cord, is essential for safe operation. Use only a power cord that is in good condition.

Equipment Installation and Service

A factory-authorized representative should perform installation.

This equipment contains no user serviceable parts. All repairs must be referred to a qualified Hunter Service Representative.

Equipment Specifications

Electrical

Voltage:	208-230VAC, 1 phase, 50/60 Hz, *power cable includes* NEMA 20 amp plug, L6-20P
Amperage:	15 amperes
Wattage:	3450 watts (peak)

Air

Air Pressure Requirements:	115-175 PSI (8-12.0 bar)
Approximate Air Consumption:	4 CFM (110 Liters/Minute)

Mechanical

Clamping System Rotating Speed:	CW – variable up to 14 rpm CCW – 7rpm
Torque:	867 ft-lbs
Max. Tire Diameter:	50 in.
Max Bead Roller Opening Width:	17 in. (TC33) – 15 in. (TC33M)
Diameter Range:	10-26 in. (TC33) – 12-24 in. (TC33M)
Bead Roller Power; Each Roller:	2645 lbs.

Safety Summary

Explanation of Symbols

These symbols may appear on the equipment.


Alternating current.


Earth ground terminal.


Protective conductor terminal.

I ON (supply) condition.


OFF (supply) condition.


Risk of electrical shock.


Stand-by switch.

1.3 Tire Bead Loosening with PowerOut (TC33 model only)

> **WARNING:** **Keep arms and legs from between the bead breaker arm and the side of the housing.**

The bead loosener shovel is controlled by a handle on the shovel itself. Pulling upward on the handle will insert push the shovel into the tire for bead loosening. Pushing downward on the handle will pull the shovel back outward under power.

Repeat as necessary to loosen entire bead on both sides of wheel. Use care around TPMS sensors.

1.4 Wheel Lift Pedal (TC33 model only) (Optional)

Press down on the wheel lift pedal to raise wheel lift. PULL UP THE WHEEL LIFT PEDAL TO LOWER THE LIFT. When the pedal is released the wheel lift WILL REMAIN IN POSITION.

1.5 Wheel Rotation Pedal

The right pedal on the front of TC base controls the rotation of the wheel. *Refer to "Equipment Components," on page 11-12.*

Step down on the pedal to rotate the wheel **clockwise** (variable speed).

Lift the pedal to rotate the wheel **counterclockwise** (fixed speed).

> **CAUTION:** Keep hands clear of wheel, tire, and rollers during bead loosening.

1.6 Air Inflation Pedal

The left or the central pedal on the front of TC base is a two-stage design. *Refer to "Equipment Components," on page 11-12.* The pedal controls the air going to the inflation hose and the blast inflation nozzle.

> **CAUTION:** Keep hands clear of wheel during sealing and seating of bead.

> **CAUTION:** When operating air inflation hose, do not lean over the tire.

Step down partially on the pedal to inflate tires through inflation hose.

Step down completely on the pedal to activate the blast inflator nozzle to seal tire beads.

Refer to "2.7" on page 26 for complete inflation operation instructions.

1.7 Inflator and Pressure Limiter

As a safety device, the pressure limiter prevents the operator from using excessive air pressure to seat the tire bead during tire inflation. Bead seating pressure should never exceed 40 psi. If tires being mounted require more than 40 psi for inflation pressure, the tire/wheel assembly should be removed from the tire changer, placed in an inflation cage, and inflated per manufacturer's instructions.

While inflating the tire, the pressure gauge will read zero until the inflation pedal is released. At that time, the gauge will give the correct air pressure reading in the tire.

Refer to "2.7" on page 26 for complete inflation operation instructions.

1.8 Bead Press Arm (Optional)

The bead press arm assists with tire mounting. The bead press arm moves in tandem with the mount / demount head.

The controls on the bead press arm move the bead press up or down.

Refer to "Equipment Components," on page 11-12.

1.9 Bead Press Arm With Horizontal Roller (TC33 model only) (Optional)

The bead press arm assists with tire mounting. The bead press arm move in tandem with the mount/demount head.

The control on the bead press arm move the roller press up or down.

Refer to "Equipment Components," on page 11-12.

1.10 Command Unit (TC33M model only)

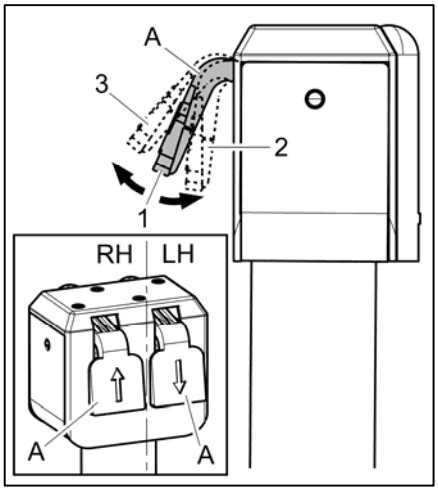
The command unit governs all the movements necessary to complete bead roller operations. *Refer to "Equipment Components," on page 11-12.*

The command unit is used to position the bead roller into the working position.

For proper operation of the command unit, place your hand over controller with index finger and middle finger over lever buttons. Push and pull the command unit to bring the rollers to the correct rim diameter.

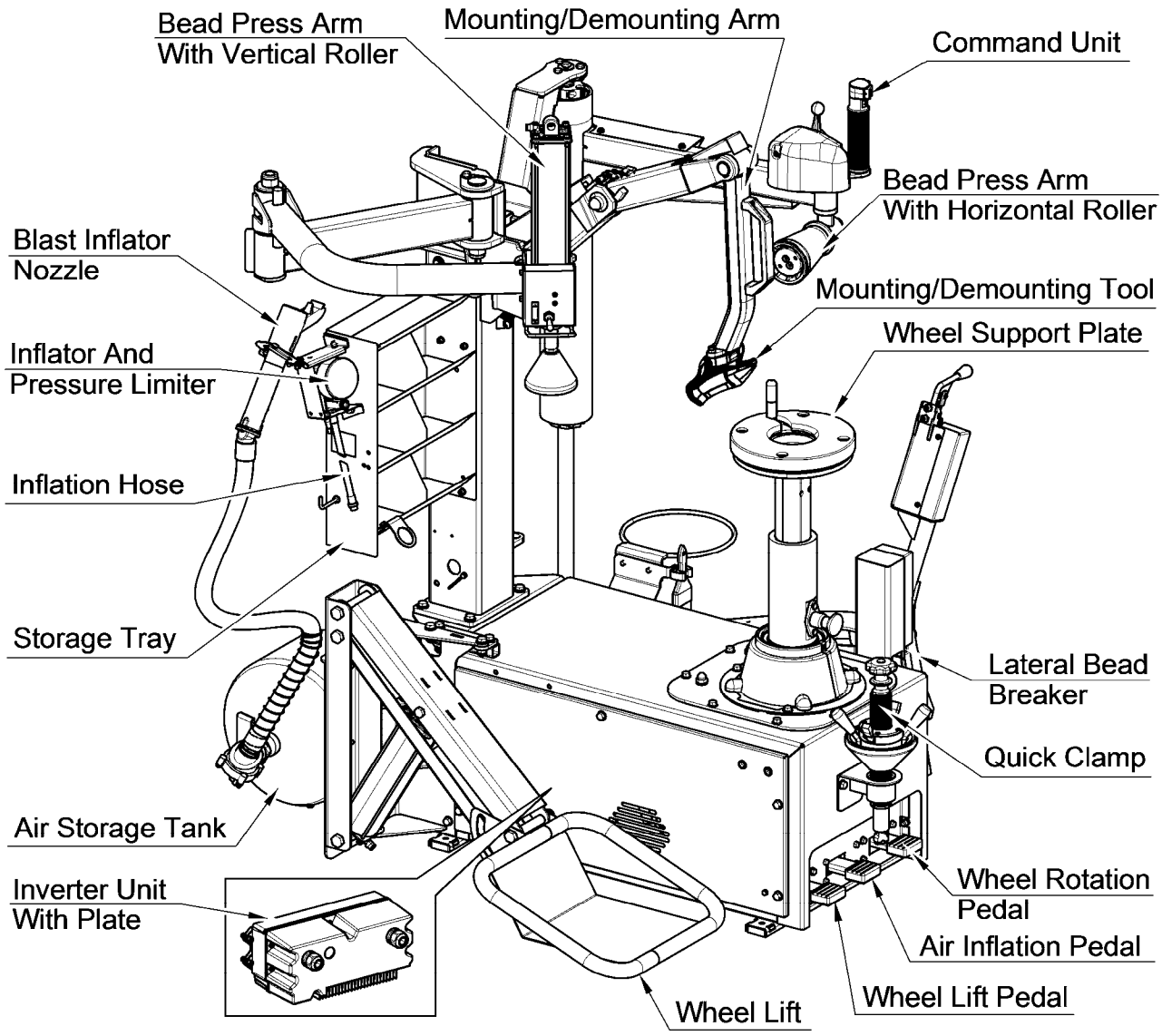
The command unit consists of 2 levers (A).
The left lever control the lower bead breaker roller. The right lever control the upper bead breaker roller.
Each lever has 3 positions:

- The first (1) rest position stops the bead breaker roller operated in its current position;
- the second (2) held position lowers the upper bead breaker roller or lifts the lower bead breaker roller;
- the third (3) held position lifts the upper bead breaker roller or lowers the lower bead breaker roller to their rest positions.

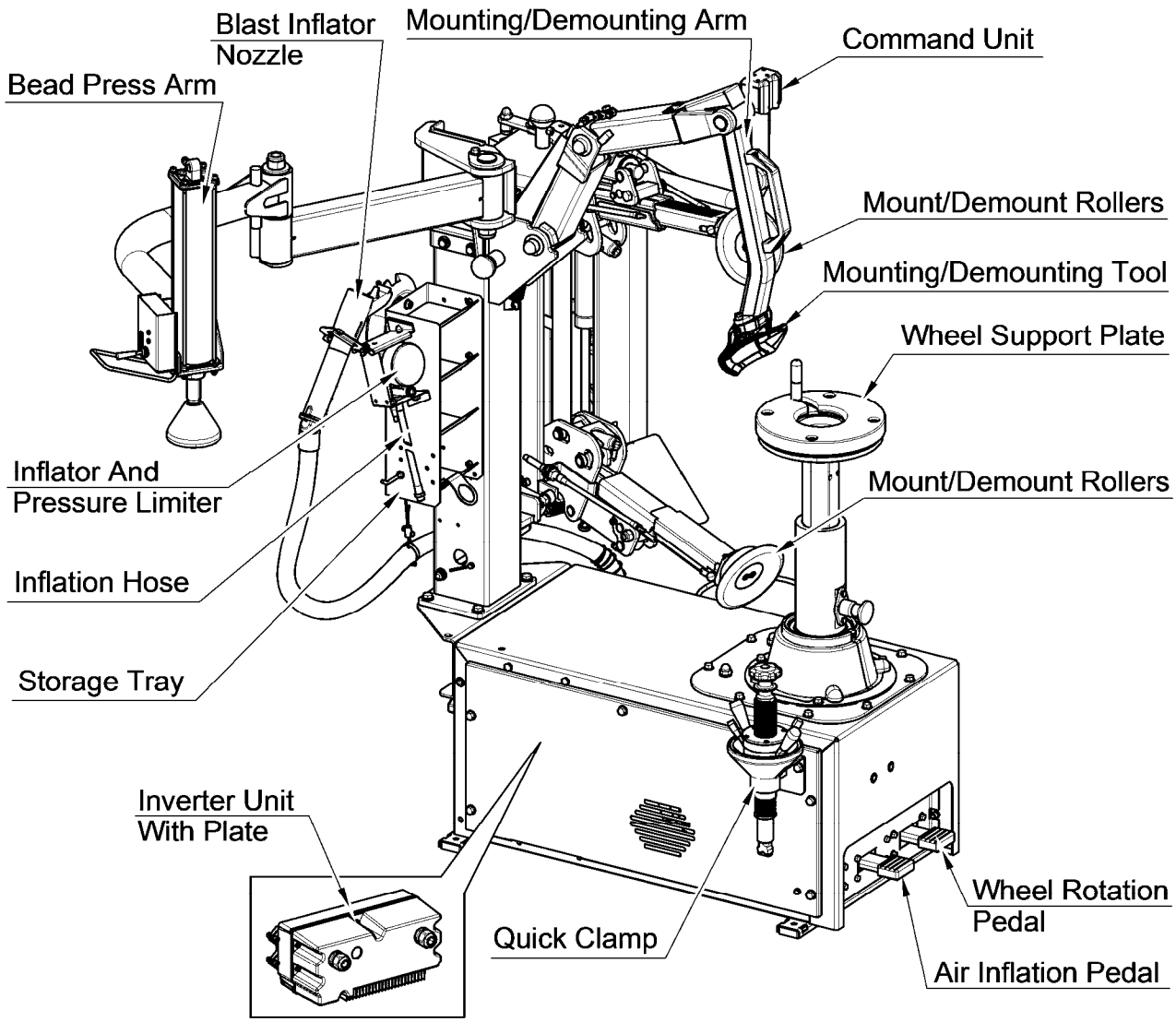


1.11 Equipment Components

TC33



TC33M


Blast Inflator Nozzle
Mounting/Demounting Arm
Command Unit
Bead Press Arm
Mount/Demount Rollers
Mounting/Demounting Tool
Wheel Support Plate
Inflator And Pressure Limiter
Mount/Demount Rollers
Inflation Hose
Storage Tray
Inverter Unit With Plate
Wheel Rotation Pedal
Quick Clamp
Air Inflation Pedal

2. BASIC PROCEDURES

2.1 Side Shovel Bead Loosening (TC33 model only)

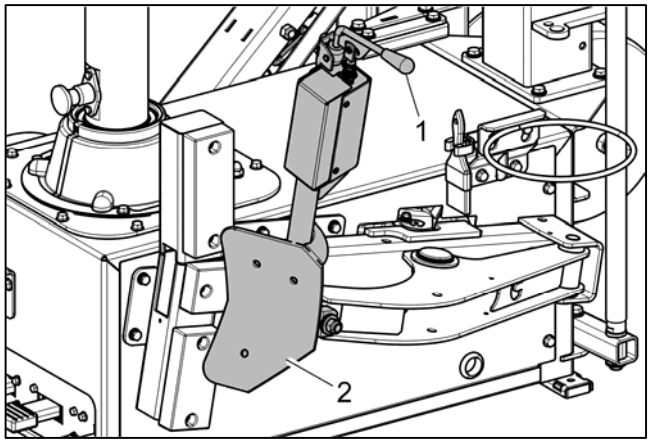
For bead loosening with rollers, *refer to "Roller Bead* Loosening*," page 19.*

Remove valve stem core and deflate tire completely.

> ⚠ **WARNING: All air pressure inside the tire must be removed before proceeding. Never attempt to loosen the bead until all air is removed from the tire. Failure to remove all air from tire may result in injury to operator, or damage to equipment, tire, or wheel.**

Remove all weights from the rim to protect the rim and to extend life of the mount/demount head.

The lever (1) allows to operate the bead breaker arm cylinder/side shovel. This lever has two stable positions with hold control: when the handle is lifted, the side shovel is pushed into the tire for bead loosening (2); when the handle is pressed downward the side shovel opens outwards.



Press the lever downward to make the side shovel open outwards.

Position the wheel against the side of the TC, between the bead breaker arm and the housing.

Lift the lever. The bead breaker arm will be pulled toward the TC to loosen the bead.

Press the lever downward again to swing the arm to the open position. Once the arm has been swung to the open position, release the lever.

If the bead has not completely loosened, rotate the wheel and repeat the bead loosening procedure at a different area on the tire.

Turn the wheel and loosen the opposite bead using the same procedure.

2.2 Placing Wheel on TC

Wheel Support Plate Height Adjustment

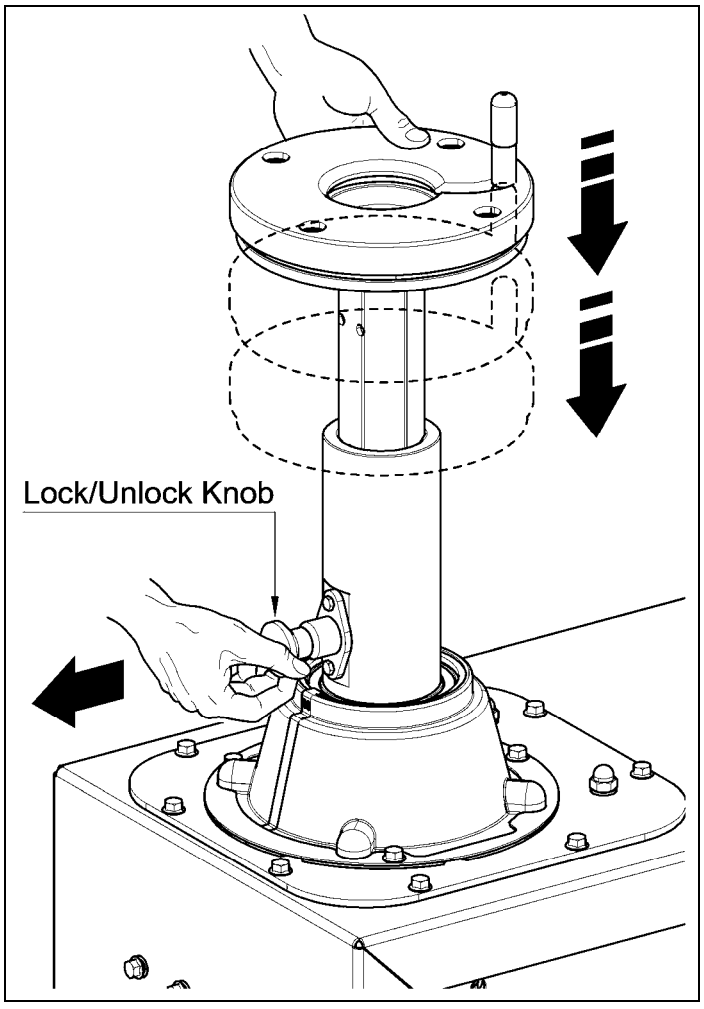
The wheel support plate on the TC is height adjustable to allow a wide range of wheels to be serviced.

Use the highest setting for most high offset wheels.

Standard wheels typically use the middle height.

Use the lowest height for most reverse drop-center wheels.

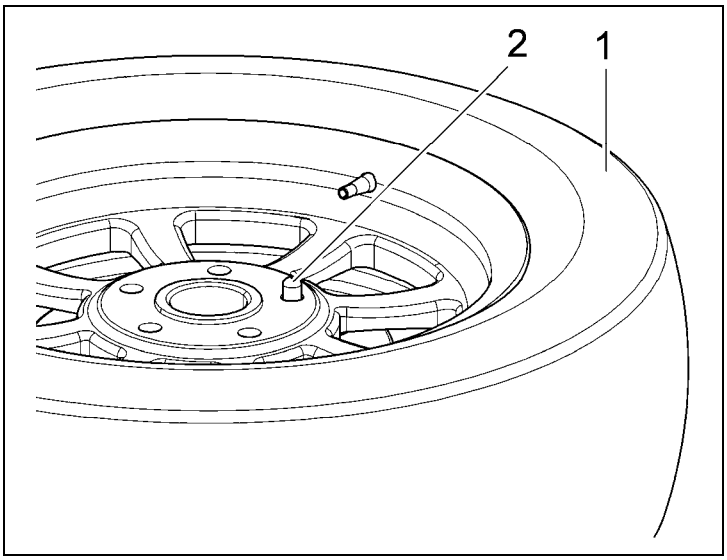
To adjust center support height, pull the knob outwards on center support and raise or lower center support table to desired height.



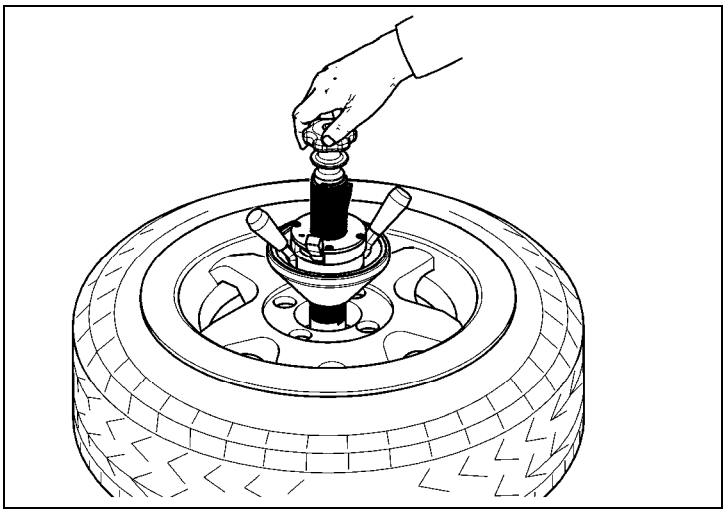
Standard and High Offset Wheels

Adjust center support position to appropriate settings for the tire and wheel combination to be serviced. This is typically the middle or highest setting.

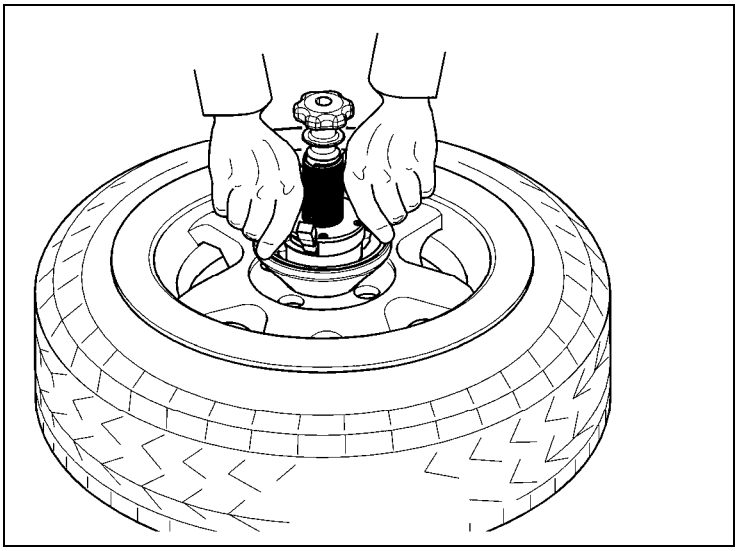
Place the wheel (1), face up, on the center support. Ensure the anti-rotation pin (2) enters a lug hole in the wheel.



Insert wheel clamp, press down and twist clockwise 1/4 turn to lock into center support.



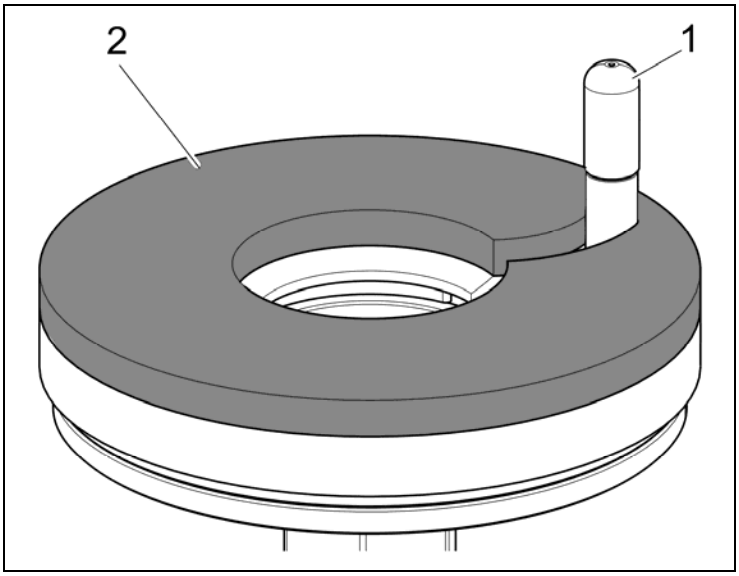
The clamping shaft is equipped with a quick clamp cone to speed clamping. Simply activate the Quick Clamp, drop the cone into place then hand tighten.



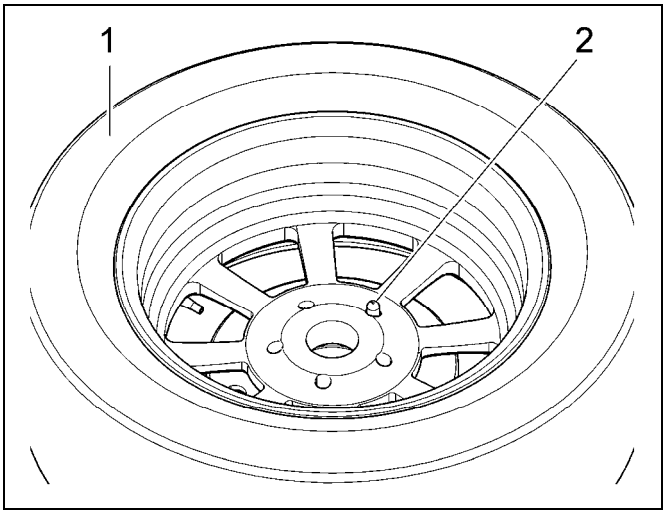
Reverse Drop Center Wheels

Adjust center support position to appropriate settings for the tire and wheel combination to be serviced. This is typically the lowest setting.

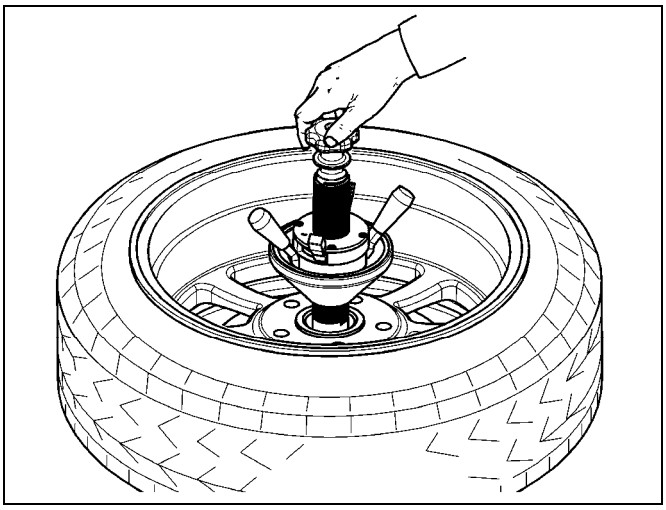
Place anti-rotation pin protector with extensions (1) and wheel protector pad (2) on center support



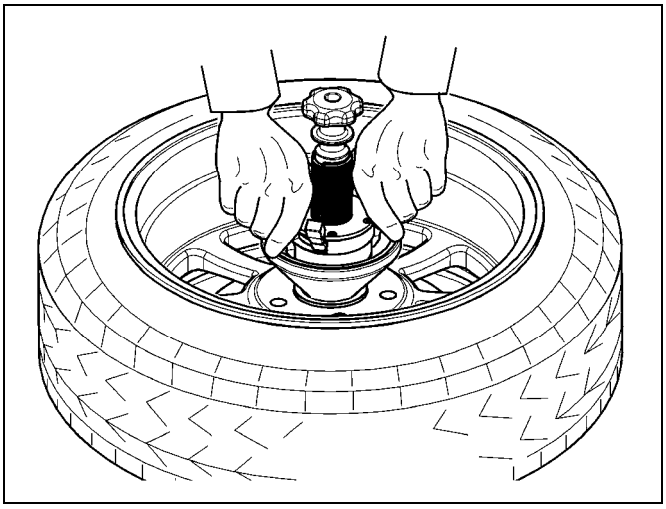
Place wheel (1), face-down, on center support ensuring anti-rotation pin with extensions (2) inserts one lug hole.



Insert wheel clamp, press down and twist clockwise 1/4 turn to lock into center support.



The clamping shaft is equipped with a quick clamp cone to speed clamping. Simply activate the Quick Clamp, drop the cone into place then hand tighten.

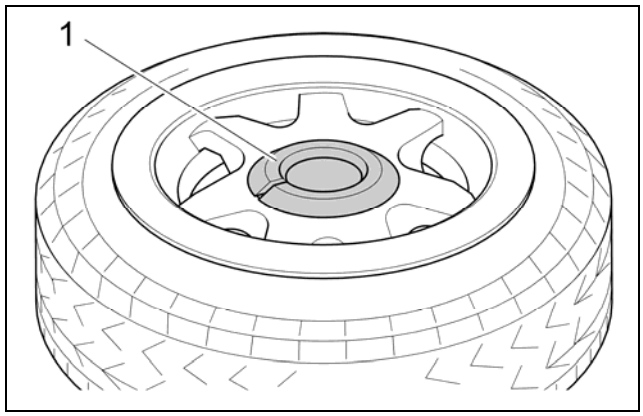


Large Pilot Hole Wheels

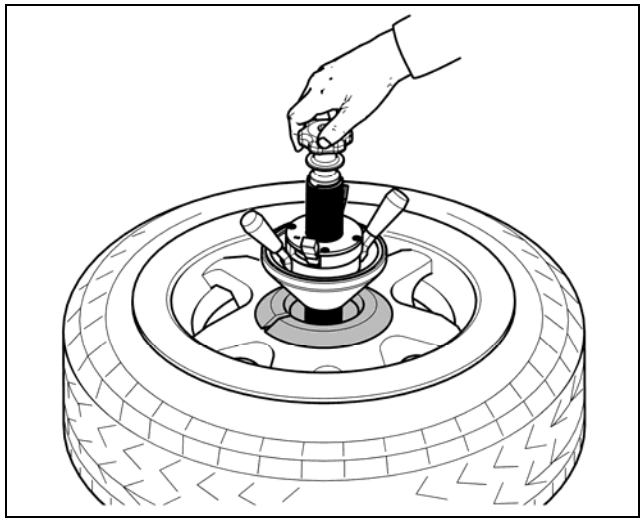
Adjust center support position to appropriate settings for the tire and wheel combination to be serviced.

Place wheel on center support ensuring anti-rotation pin inserts one lug hole.

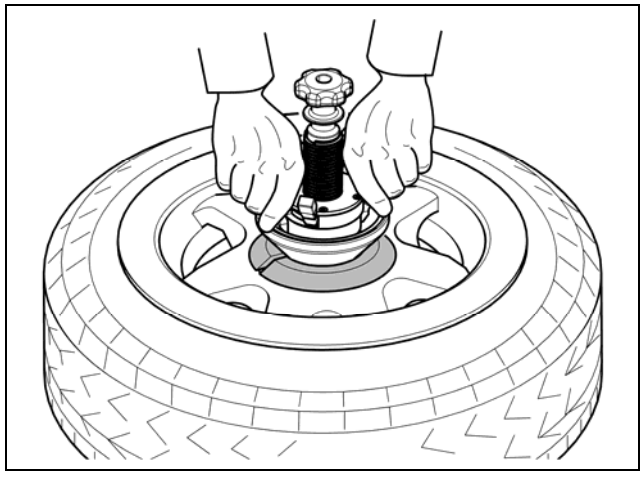
Place adapter cone (1) on the wheel.



Insert wheel clamp, press down and twist clockwise 1/4 turn to lock into center support.



The clamping shaft is equipped with a quick clamp cone to speed clamping. Simply activate the Quick Clamp, drop the cone into place then hand tighten.



2.3 Roller Bead Loosening (TC33M model only)

Use the push button controls (1) to position the lower roller to within 1/8” of rim.

Rotate wheel.

Apply lubrication while rotating wheel and pushing the lower bead off the rim with the lower bead roller (2). Stop when bead is removed from bead seat.

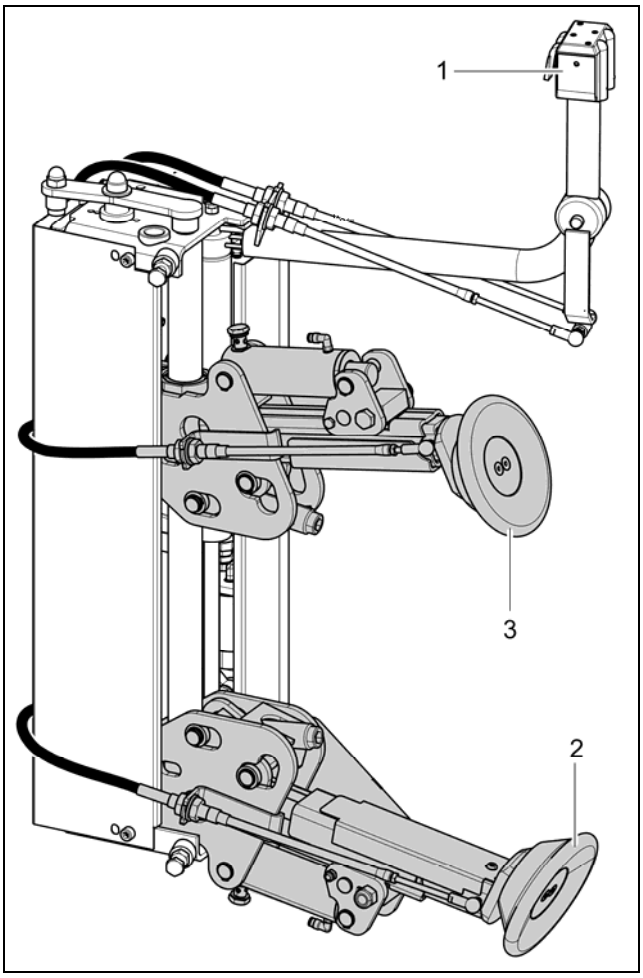
Remove lower roller (2).

Rotate wheel.

Apply lubrication while rotating wheel and pushing the upper bead off the rim with the upper bead roller (3). Stop when bead is removed from bead seat.

> ⚠ **CAUTION:** Never place hands near the rollers while applying force and rotating tire. Hands could be pulled between the roller and tire causing injury.

Remove upper roller (3).



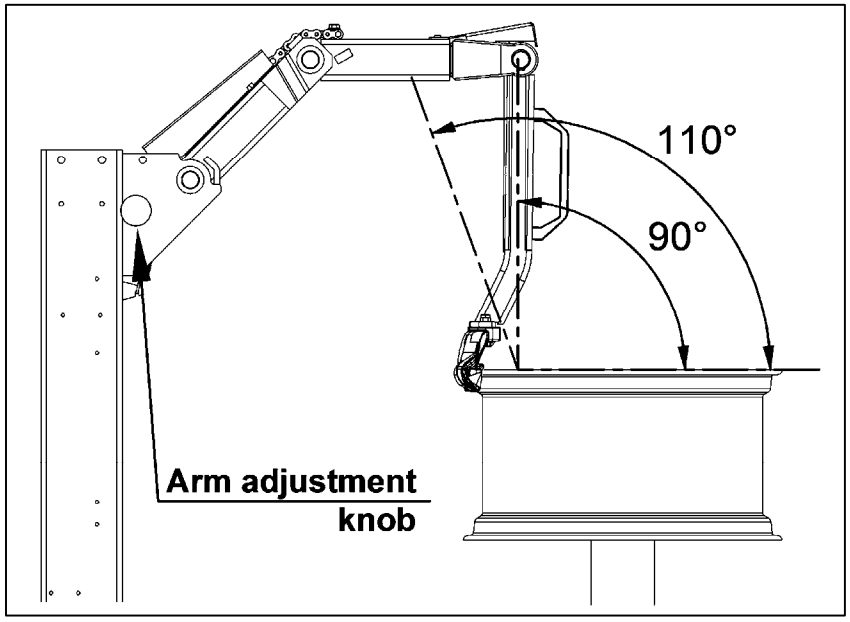
1. Push button controls
2. Lower roller
3. Upper roller

2.4 Demounting Standard Tires from Rim

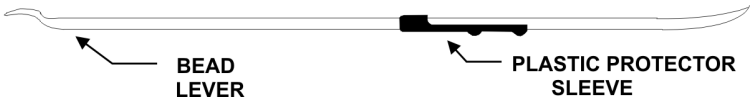
NOTE:	For rims that have a clear coat finish, clean the mount/demount head to remove dirt and debris before demounting the tire from the rim.

The angle between the tool arm and the rim flange must be close to 90 degrees.

The mount/demount assembly arm can be set to 3 different positions. The 3 positions are set using the arm adjustment knob on the column and moving the arm manually until it is locked in the required position. For rims with flat, rounded, or painted rim lips, the angle between the tool arm and the rim flange can be adjusted to approximately 110 degrees.



Verify that the plastic protector sleeve is installed on the bead lever tool as shown below.

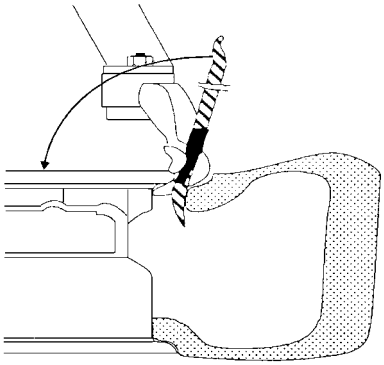


Position the straight end of the bead lever between right hand edge of mount/demount head and bead of tire.

Slide plastic protector sleeve on the bead lever tool toward the tire.

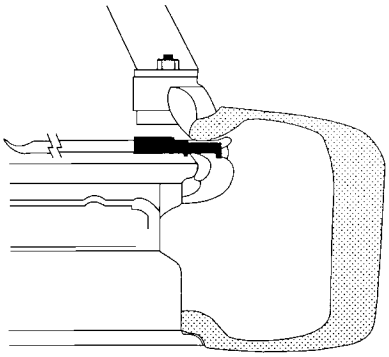
The mount/demount head should be positioned between the humps of the plastic protective sleeve.

Push down on the tire sidewall at the 6 o'clock position.



IMPORTANT:	To prevent the plastic protective sleeve and mount/demount head from breaking during demounting, the mount/demount head must be fully seated on the outer edge of the upper rim lip before prying bead lever back for demounting.

Using the bead lever tool, lift the tire bead over the end of the head.



The bead lever tool must be pulled down parallel to the rim to prevent the possibility of breaking the plastic sleeve protector.

Rotate wheel **clockwise** until the entire bead is lifted from the rim.

Lift tire and repeat this procedure for lower bead.

HINT:	If lower bead becomes re-seated on rim, push lower bead roller up against lower bead while rotating **counterclockwise** to re-loosen.

Swing the mount/demount arm assembly up and away from the wheel.

Remove tire from rim.

2.5 Mounting Standard Tire to Rim

Always be aware of this “checklist” when mounting tires to ensure proper service.

There are four basic steps when mounting a tire to a rim:

- Position the bead on top of the left lip of mount/demount head.
- Position the bead under the right lip of the mount/demount head.
- Lock the rim to the tire.
- Slip the bead into the drop center.

These four basic steps to mounting do not necessarily follow the same sequence, however all four steps need to be performed to mount a tire to a rim.

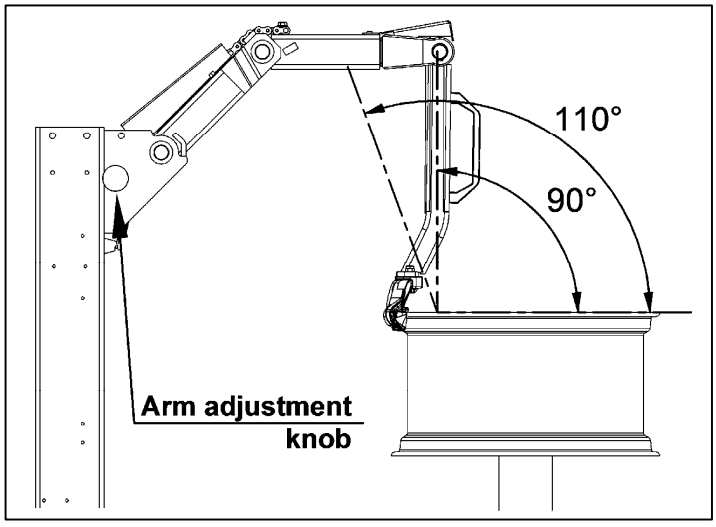
Mount a standard tire to rim as follows:

Lubricate inside and outside of both beads of the tire to be mounted with supplied mounting paste.

Position tire on top of the rim and tilt tire forward toward column.

Position mount/demount head through the opening of the tire and on the outer edge of the rim lip.

The angle between the tool arm and the rim flange must be close to 90 degrees.



The mount/demount assembly arm can be set to 3 different positions. The 3 positions are set using the arm adjustment knob on the column and moving the arm manually until it is locked in the required position. For rims with flat, rounded, or painted rim lips, the angle between the tool arm and the rim flange can be adjusted to approximately 110 degrees.

Position edge of lower tire bead on top of the left lip of mount/demount head.

Push edge of lower tire bead under the right lip of the mount/demount head while keeping other edge of lower tire bead above the left lip.

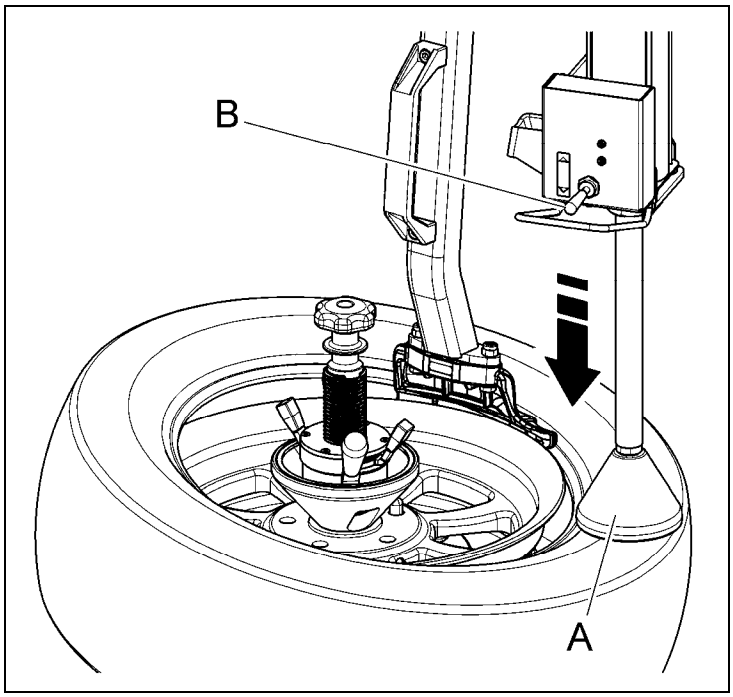
Twist tire **clockwise** by hand to lock the mounting of the tire to the rim.

Push down on tire at approximately the 6 o’clock position to slip the tire into drop center.

Rotate wheel **clockwise** until the lower tire bead drops over the lip of the rim.

Repeat procedure on upper bead of tire. Slip the bead completely into the drop center of the rim, during mounting of the upper bead.

Position the roller (A) of the Bead press arm on the tire sidewall at 2 o'clock position and press the bead into the drop centre using the control unit (B).

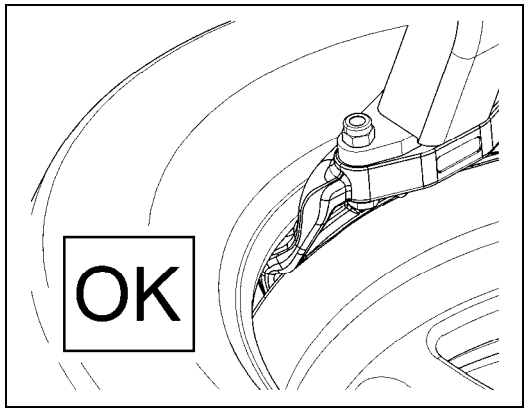


Rotate **clockwise** to mount the tire.

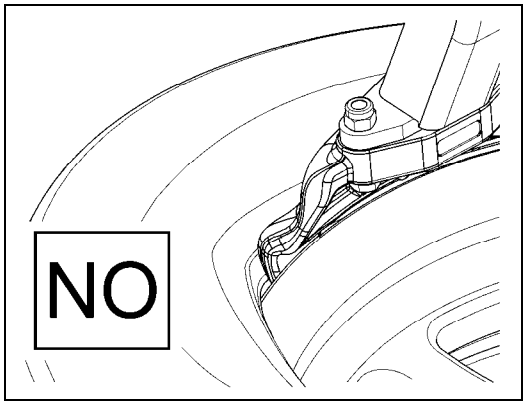
NOTE:	If the tire bead does not have sufficient lubrication and the tire fails to slip into drop center during mounting, the mount/demount head may fail before damage to tire bead takes place.

Precautionary Notes

When basic procedures are **not** followed, sharp angled wheel flanges increase potential damage to tires during mounting. Be sure the tire bead is placed on top of the mounting head. If the tire is incorrectly pushed onto the rim by the side of the mounting head, it may become “trapped” and increase mounting stress to the tire bead.



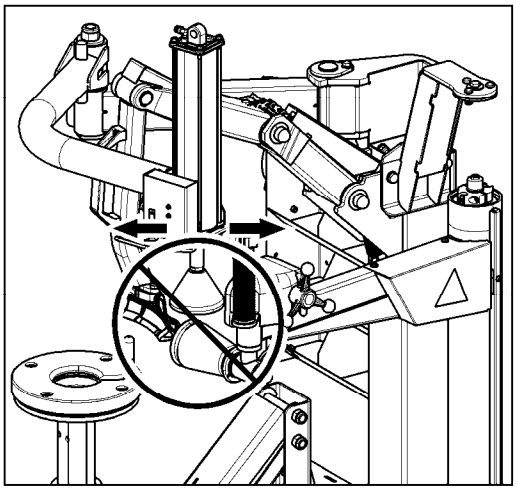
BEAD CORRECTLY PLACED ON TOP OF MOUNTING HEAD

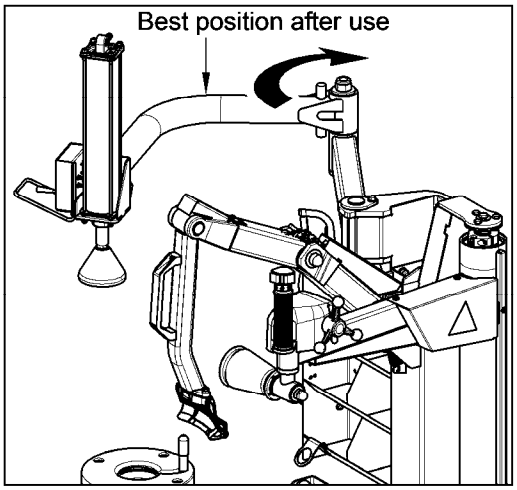


TIRE IS INCORRECTLY PUSHED ON BY MOUNTING HEAD

Insufficient lubrication and failure to place tire into drop center during mounting may also cause the mount/demount head to fail prematurely.

⚠ CAUTION: Ensure the bead press is **not** positioned over the upper bead roller before raising the upper bead roller. The best position for the bead press is tucked behind the tool head arm and away from the user. Failure to do so may cause the upper bead roller to contact the bead press and cause damage.





Remove the upper roller from the tire.

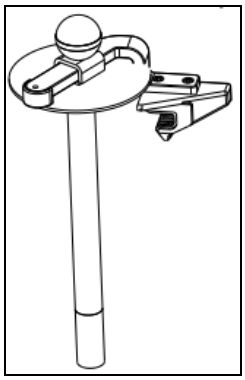
2.6 Mounting Tough, Low Profile Tires

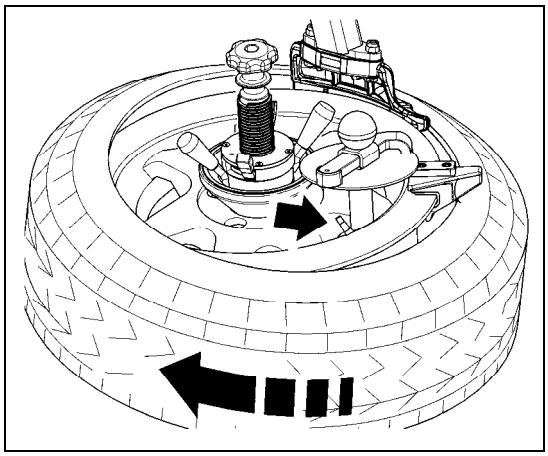
Lubricate both beads.

Mount lower bead. Bead press arm is not needed here.

Position the tire on the mounting tool and lower the upper bead roller on the side wall.

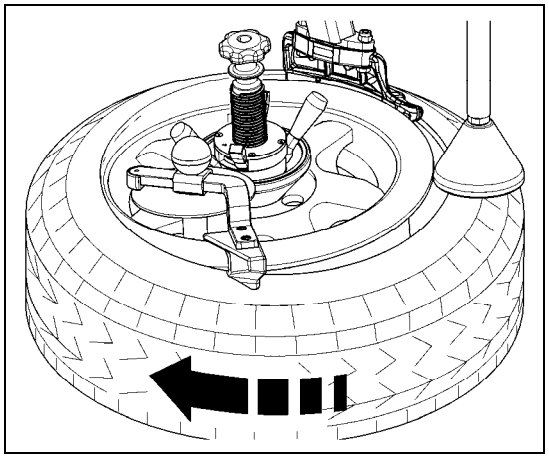
Insert the Traction tool. The valve is positioned at 5 o'clock.



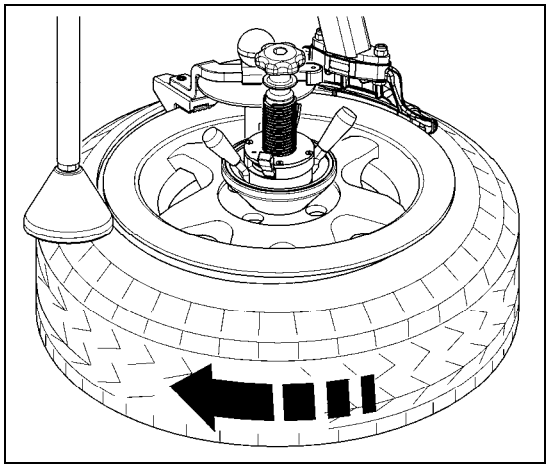


Turn clockwise until the Traction Tool reaches the 4 – 5 o'clock position.

Position the roller of the Bead press arm on the tire sidewall at the 2 o'clock position and press the bead into the drop centre.



Turn clockwise until the upper bead is mounted.



Remove Traction Tool, Bead press Arm Roller and upper bead roller.

NOTE:	For what concerns the Precautionary Notes, see previous paragraph.

Remove the wheel from the tire changer.

2.7 Tire Inflation

Verify that the wheel has been properly clamped and centered.

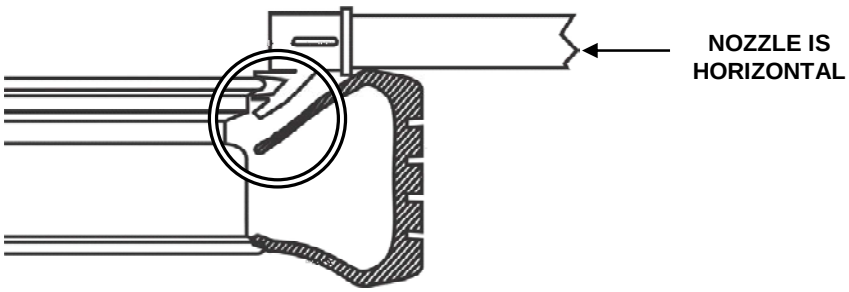
Remove the valve stem core from valve stem. Removing the valve stem core will allow the tire to inflate faster and the bead to seat easier.

Connect inflator hose to valve stem.

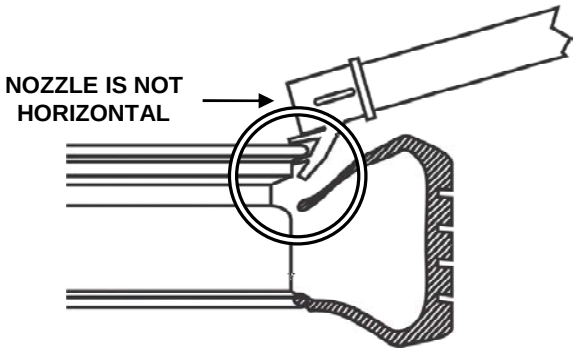
NOTE:	To increase the effectiveness blast inflation nozzle, always liberally lubricate the outer edge of the tire sidewall and pull up on the tire while twisting to seal the bead.

Press the bead blaster hose on the wheel rim as shown below. Ensure the hose head is pressed in.

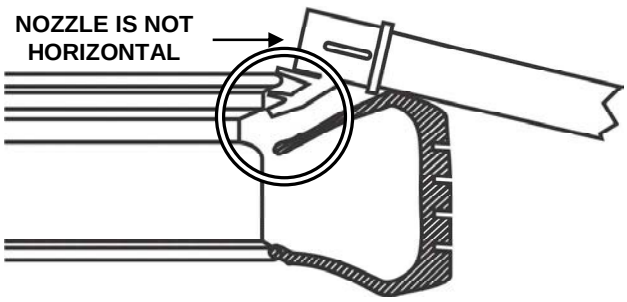
NOTE:	The nozzle should be horizontal for optimal performance.



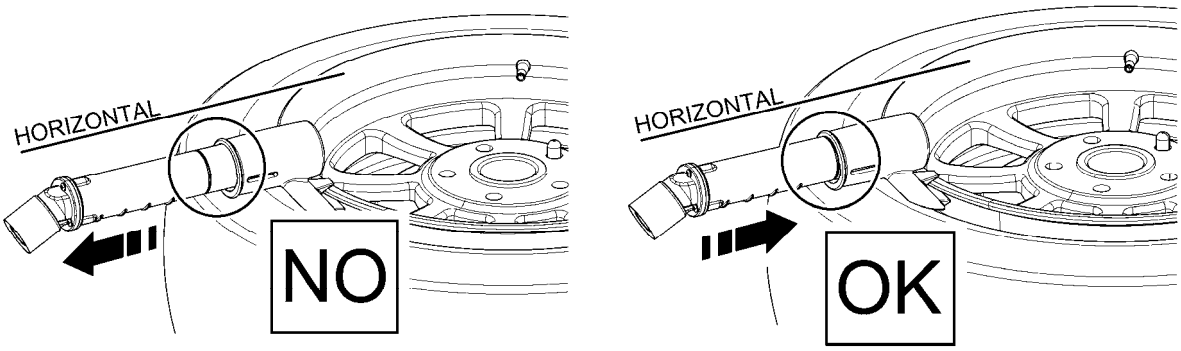
CORRECT



INCORRECT



INCORRECT



Incorrect **Correct**

Step down completely on the air inflation pedal to release a high-pressure air blast through the bead blast hose to assist in seating the beads of the tire.

Step down partially on the air inflation pedal to inflate tire and seat the beads.

> ⚠ **WARNING: Do not exceed 40 PSI when seating the beads of a tire.**

After beads have been seated, disconnect inflation hose and reinstall valve stem core previously removed. Then connect inflation hose and inflate tire to the required pressure.

If tire is over inflated, air may be removed from the tire by pressing the brass manual air release button located below the air pressure gauge.

Disconnect inflator hose from valve stem.

> NOTE: If repeated attempts with the blast inflation system fail, try flipping the rim over and re-clamp. Try using the blast inflator again.

2.8 Removal of Wheel from TC

Loosen clamping cone.

Press down quick clamp and turn counter-clockwise to unlock clamp from center support. Remove wheel clamp.

Remove wheel from center support.

If applicable, remove anti-rotation pin extensions and wheel protector pad from center support.

3. ADVANCED PROCEDURES

The capabilities of the TC series tire changer allow the user to utilize numerous advanced procedures on a variety of rims and tires. For the operator to take advantage of these features, this section explains in detail what additional steps can be taken.

3.1 Advanced Demounting Procedures

NOTE:	It is important on large, low profile tires to always lubricate the bead, drop center, and bead seat to prevent possible tire damage during demount.

Optional Bead Press Arm

The bead press arm can be used when removing the tire from the rim.

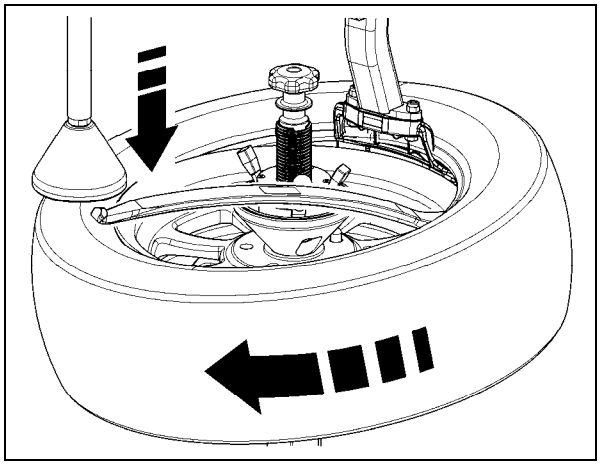
Position the mount/demount head on the tire and rim. Insert bead lever.

NOTE:	The bead press arm can also be used to create a gap for the bead lever.

Position the bead press arm approximately 180 degrees from the mount/demount head.

Lower the bead press arm so the bead is pressed downward toward the center of the rim. Using the bead lever, pull the bead up and onto the mount/demount head.

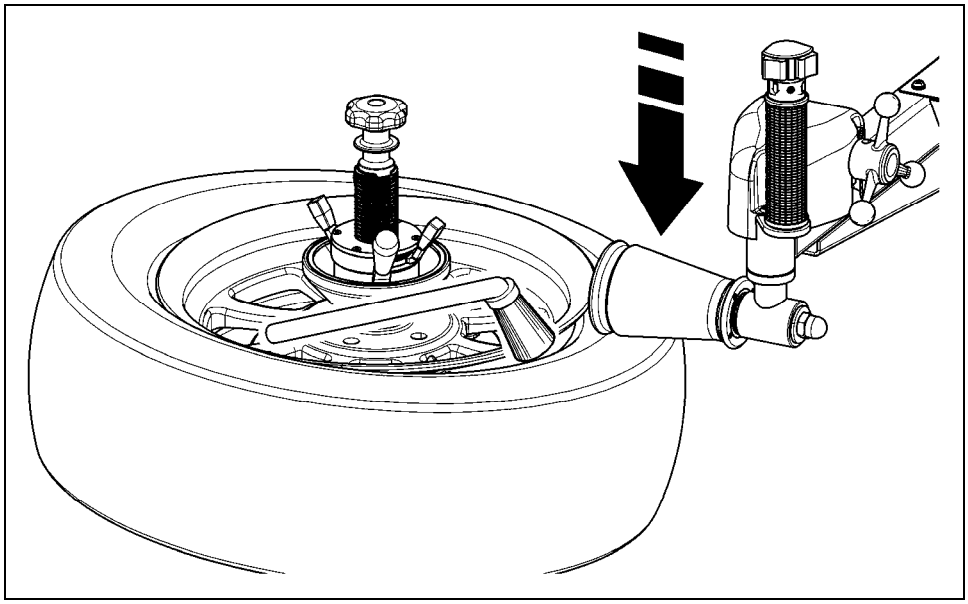
Raise the bead press arm up and out of the way. Rotate clockwise to complete the demounting procedure.



Optional Bead Press Arm With Horizontal Roller (TC33 model only)

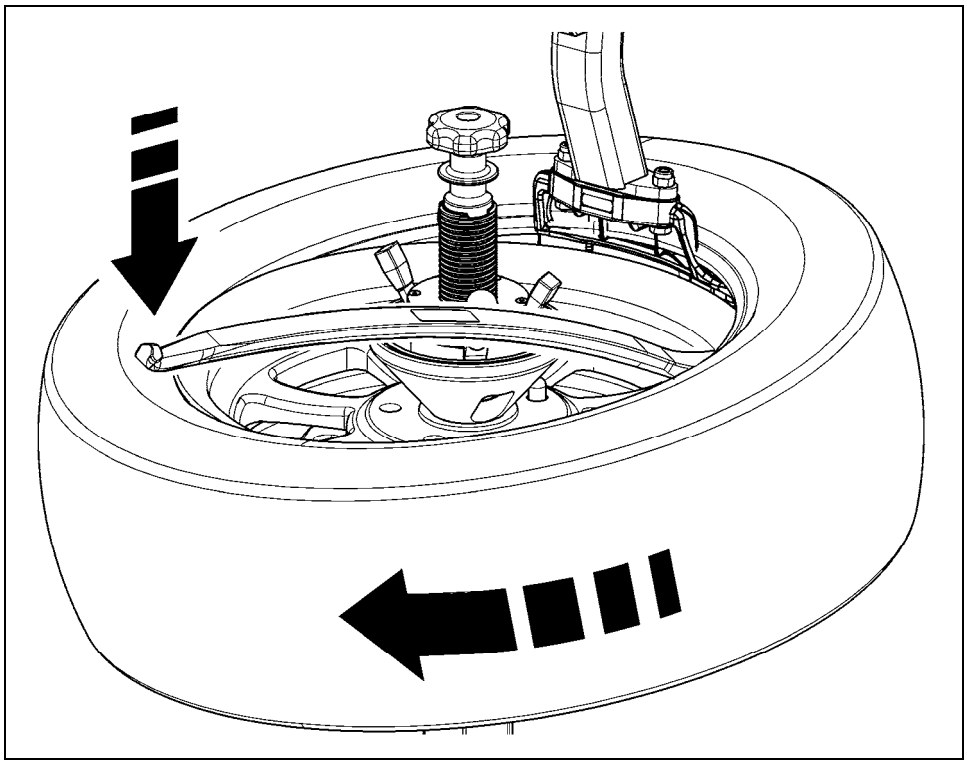
The bead press arm can be used when removing the tire from the rim.

Position the conical roller on the tire at the rim edge. Lower the roller while lubricating and rotating the wheel.



Using the bead lever, pull the bead up and onto the mount/demount head.

Raise the conical roller up and out of the way. Rotate clockwise to complete the demounting procedure.



3.2 Advanced Mounting Procedures

Always be aware of this “checklist” when mounting tires to ensure proper service.

There are four basic steps when mounting a tire to a rim:

- Position the bead on top of the left lip of mount/demount head.
- Position the bead under the right lip of the mount/demount head.
- Lock the rim to the tire.
- Slip the bead into the drop center.

These four basic steps to mounting do not necessarily follow the same sequence, however all four steps need to be performed to properly mount a tire to a rim.

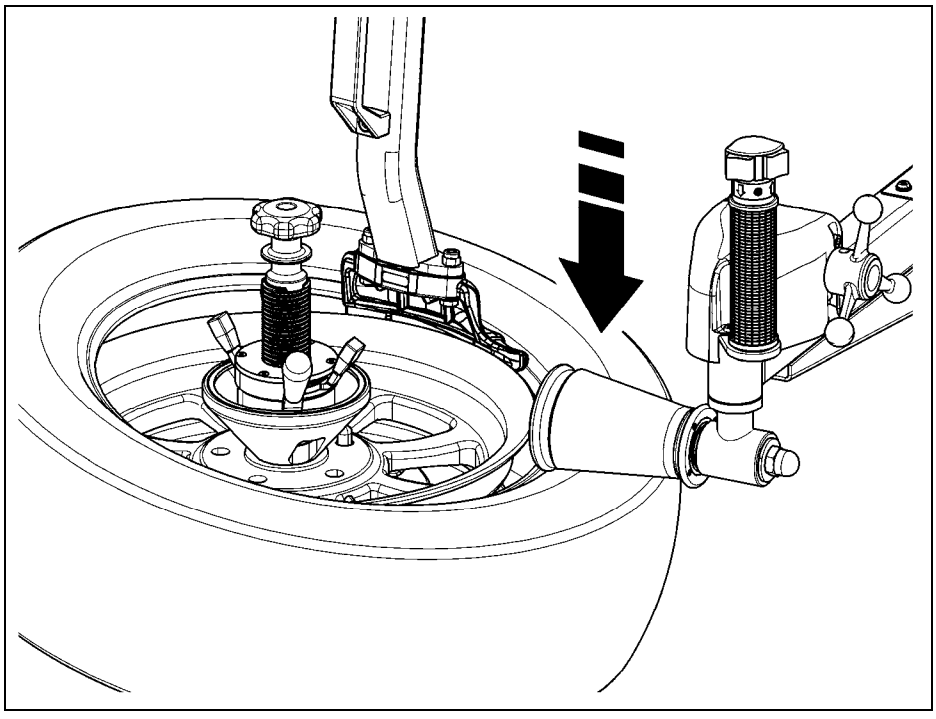
Optional Bead Press Arm

Position the bead press arm near the mount/demount head and lower it until the inner bead is level with the drop center

Rotate clockwise. The bead press arm will revolve with the tire and keep the bead in the drop center.

Optional Bead Press Arm With Horizontal Roller (TC33 model only)

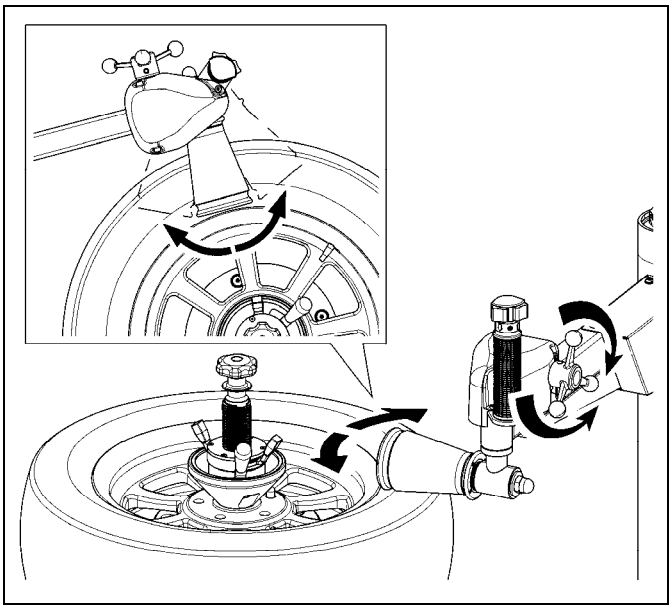
The bead press arm is an air operated roller that can assist in the mounting of stiff sidewall tires. As the tire is rotated **clockwise**, the bead press arm is lowered onto the sidewall of the tire, pushing the lubricated bead of the tire into the drop center.



NOTE:	Do not attempt to use the bead press arm for bead breaking. It is only to be used to loosen beads that have already been loosened with the side shovel.

The angle of the conical roller can be adjusted to match the size of the rim being serviced.

Simply rotate the knob on the side of the conical roller to achieve an angle that is parallel with the edge of the rim.



3.3 Advanced Bead Loosening Procedures (TC33M model only)

Bead Loosening Soft Sidewall, Tall Profile Tires

Swing the bead roller assembly in toward the column to the working position (against the stop).

Set rim diameter.

> ⚠ **WARNING:** **Never place hands near the rollers while applying force and rotating wheel.**

Bring the upper bead roller down until it contacts the tire at the edge of the rim.

Lock upper roller into the side of the tire.

Bring the lower bead roller up until it contacts the tire.

Lock the lower roller into the side of the tire.

Continue to rotate wheel during the entire loosening procedure.

> ⚠ **CAUTION:** Never rotate the wheel **clockwise** while bead loosening. Never lock the bead roller assembly with the lock knob while bead loosening.

Leaving no more than 5 psi in the tire may help to stiffen the sidewall and loosen the bead.

Use multiple rotations to loosen the bead, while slowly increasing roller pressure. Let the roller work the bead.

Push the lower bead of the tire off the rim bead seat while rotating tire.

Fully lubricate the lower bead and rim by inserting brush with lubricant into rim, just behind the roller.

Retract lower roller.

Push the upper bead of the tire off the rim bead seat while rotating tire.

Lubricate upper bead, rim bead seat, rim balcony, and drop center.

Retract upper roller.

Swing the bead roller assembly away to the resting position.

Bead Loosening Tough, Low Profile Tires

Swing the bead roller assembly in toward the column to the working position (against the stop).

Set rim diameter.

> ⚠ **WARNING:** **Never place hands near the rollers while applying force and rotating wheel.**

Bring the upper bead roller down until it contacts the tire at the edge of the rim.

Lock upper roller into the side of the tire by pushing the upper roller down while rotating wheel **counterclockwise** so it is approximately 1/4 inch below rim edge.

Bring the lower bead roller up until it contacts the tire.

Lock the lower roller into the side of the tire.

Continue to rotate wheel during the entire loosening procedure.

> ⚠ **CAUTION:** Never rotate the wheel **clockwise** while bead loosening. Never lock the bead roller assembly with the lock knob while bead loosening.

Push the lower bead of the tire off the rim bead seat while rotating tire.

Fully lubricate the lower bead and rim by inserting brush with lubricant into rim, just behind the roller.

Retract lower roller.

Push the upper bead of the tire off the rim bead seat while rotating tire.

Lubricate upper bead, rim bead seat, rim balcony, and drop center.

Retract upper roller.

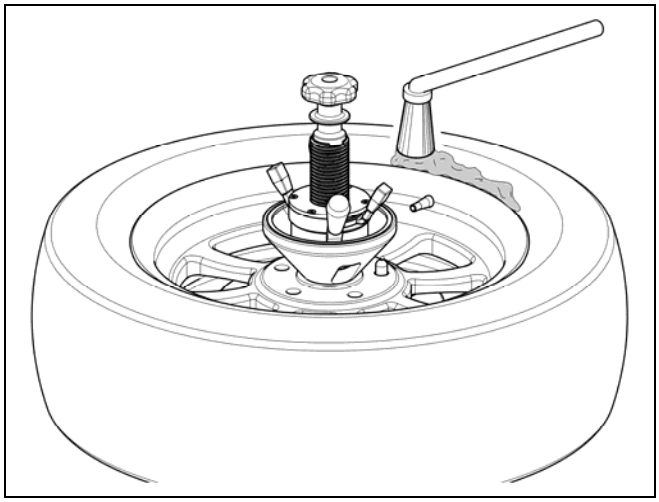
Swing the bead roller assembly away to the resting position.

Bead Loosening “AH” Wheels

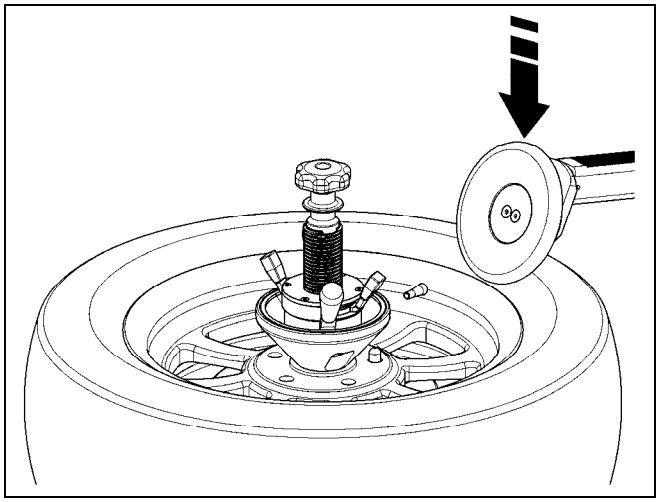
(e.g. BMW M3, M5, some Porsche, Range Rover, Lancia, etc.)

“AH” wheels may be identified by looking on the rim for an “AH” code cast in the rim size designation (e.g. 71/2J X17AH2.).

Liberally lubricate the upper sidewall of the tire. This reduces friction between roller and tire.



Lower the upper bead roller until it contacts the tire.



Lock the upper roller into the side of the tire. Roller should be approximately 1/4 inch below rim flange.

Rotate wheel **counterclockwise**.

Gradually push the upper bead of the tire off the rim bead seat by rotating the tire repeatedly and pushing the upper roller down the sidewall. Apply roller force gradually. Let multiple rotations of the tire slowly push the tire off the safety hump.

After the bead of the tire has been broken loose from the safety hump of the rim bead seat, thoroughly lubricate tire and rim.

Thoroughly lubricate bead and rim drop center.

Return the left and right button to the resting position.

Remove wheel from clamps.

Turn the wheel over and clamp.

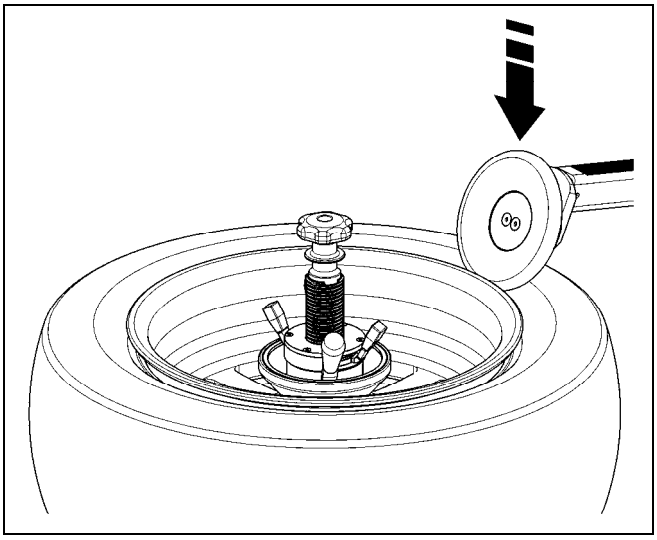
Liberally lubricate the sidewall of the tire.

Lower the upper bead roller until it contacts the tire.

Lock the upper roller onto the side of the tire.

Rotate wheel **counterclockwise.**

Letting the rotation of the wheel do the work, apply downward force with the upper roller to push the bead of the tire off the rim bead seat. Multiple rotations are necessary to remove the tire from the rim bead seat.



Gradually push the bead of the tire off the rim bead seat by rotating the tire repeatedly and pushing the roller down the sidewall. Apply roller force gradually. Let multiple rotations of the tire slowly push the tire off the safety hump.

After the bead of the tire has been broken loose from the safety hump of the rim bead roller.

Remove wheel and clamp face up to demount tire (providing rim is not of reversed drop center design).

3.4 Advanced Demounting Procedures (TC33M model only)

NOTE:	It is important on large, low profile tires to always lubricate the bead, drop center, and bead seat to prevent possible tire damage and ease demounting.

Using “HM” Bead Lever and Sleeve Protector

The “HM” (Half Moon) high performance bead lever, RP6-G1000A11, and plastic bead lever sleeve protector, should be used to demount low profile tires. Using this special procedure will ensure a fast, effortless, and damage free completion of the demounting process. Use of the lubricated “HM” lever allows for **counter-clockwise** rotation of the wheel to roll the bead up onto the mounting head. This requires less effort to turn the tire up onto the mount head. The bead of the tire also slips into the drop center.

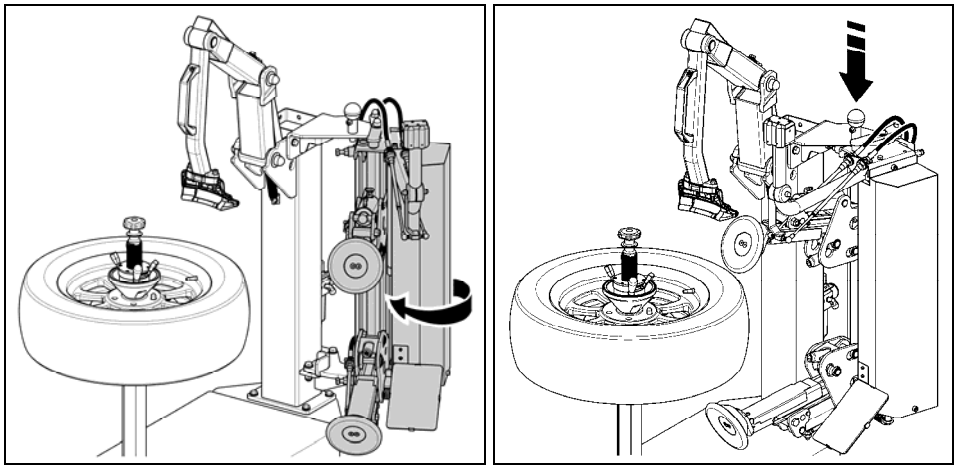
Using Bead Depressor “Tail” (Optional) and Bottom Roller to Demount Upper Bead without Sleeve Protector

The Bead Depressor “Tail” can be used to assist in mounting and demounting the upper bead of extremely stiff sidewalls or low profile tires. The Bead Depressor “Tail” allows the upper bead to be pushed down so it will slip (when lubricated) into the drop center of the rim.

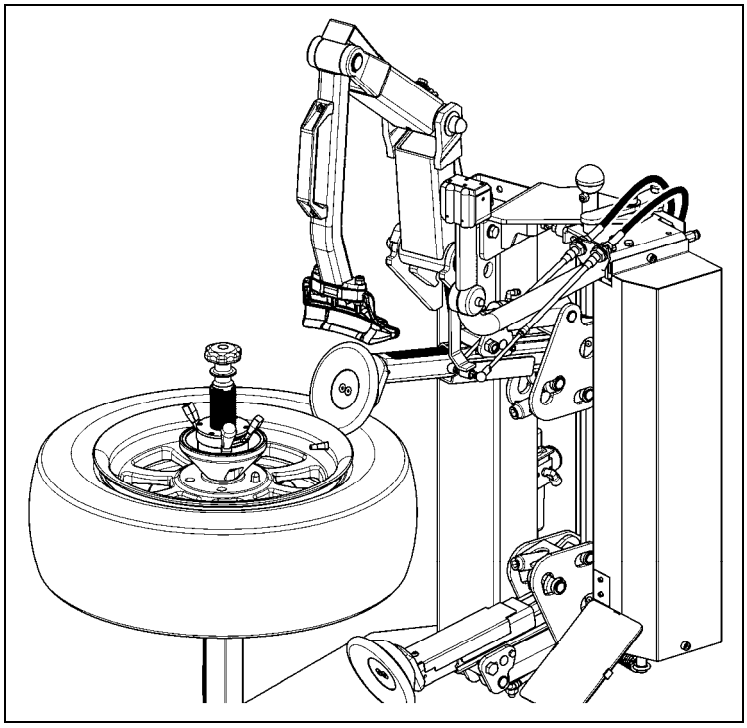
NOTE:	The bead depressor tail shown in the following photos may appear different from other models. The procedure is identical.

Demounting:

Swing the bead roller assembly in toward the unit to the working position (against the stop). Lock pin into this position.



Lubricate the upper bead and the entrance of the drop center, while rotating the wheel **counterclockwise** and using the upper bead roller to push down on the bead.



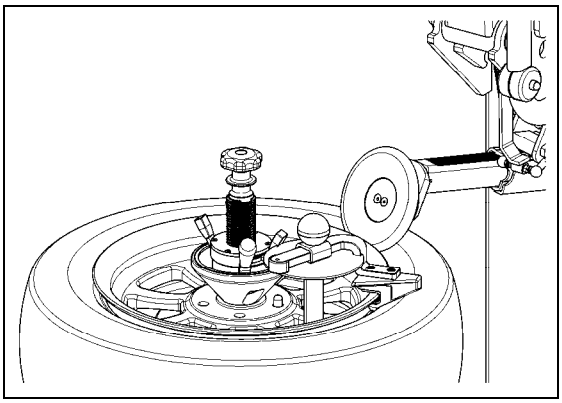
Rotate the wheel **clockwise** until the valve stem is at the 1 o'clock position.

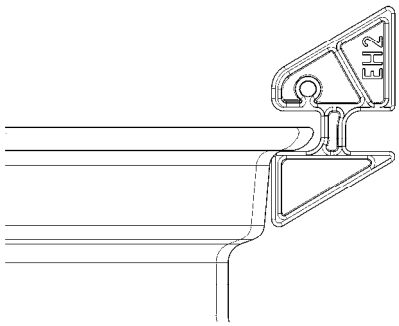
Lubricate and push the bead depressor post through the center opening of the rim until it has been inserted into the spring centering system.

HINT:	If the post will not insert into the center opening, the wheel support is depressed too far down. Release the clamping jaws and reposition the arms to allow for less compression of the support and try again.

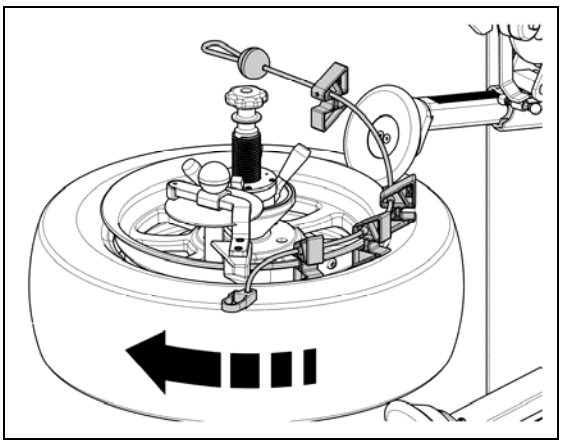
Push the sidewall down with upper roller to allow the insertion of the block on the arm.

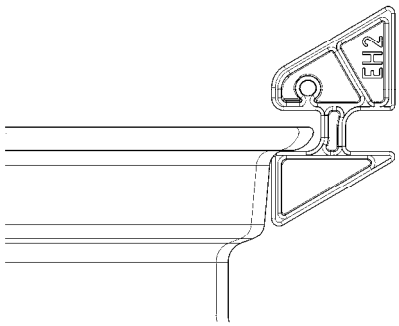
Slide the horizontal arm of the tail so the secured block is positioned into the rim flange as shown below.



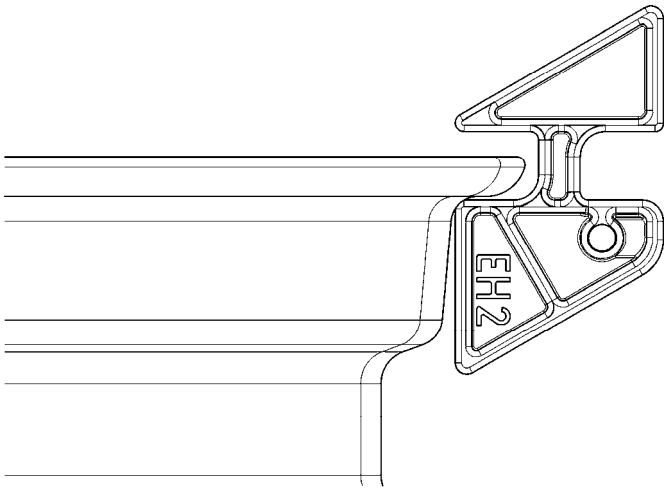


Rotate wheel **clockwise** and position each of the attached blocks of the bead depressor onto the rim as shown. Each block should be positioned as far away from the next block as the cord will allow.





For rims that have an extra deep drop center, position each of the following attached blocks under the rim lip as shown below.

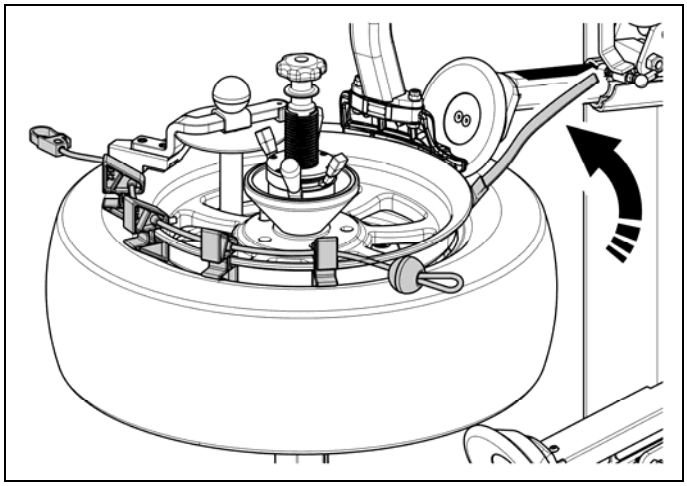


Rotate the wheel **clockwise** until the Bead Depressor “Tail” is installed between the 3 o'clock and 9 o'clock positions.

Position mount/demount arm assembly onto the outer edge of the upper rim lip.

Liberally lubricate bead lever tool on both top and bottom.

Use the upper roller to aid in the lever insertion, if necessary. Position bead lever tool between right-hand edge of mount/demount head and the bead of the tire.



Pull back on bead lever tool repeatedly to force tire forward, and slip the backside of the depressed “Tail” area into the drop center.

Position bottom roller and push on the lower bead of the tire.

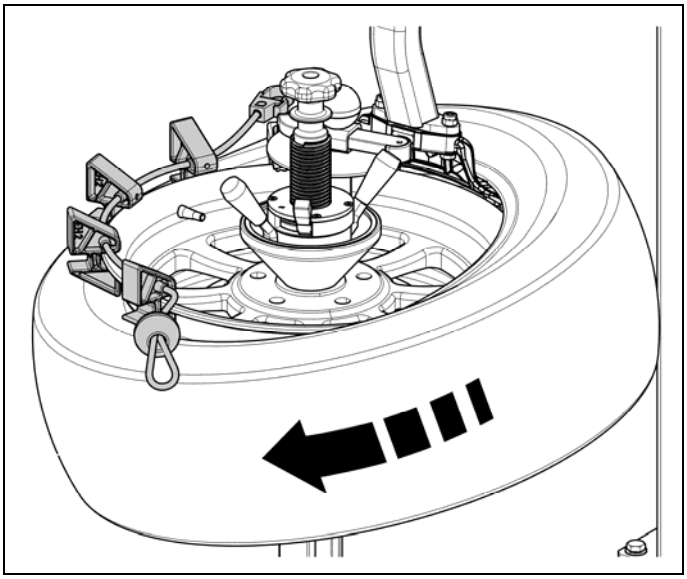
NOTE:	The mount/demount head must be fully seated on the outer edge of the upper rim lip before prying bead lever back for demounting.

Partially lift the tire bead over the right-hand end of the head.

Push bottom roller up again to fully bring tire bead over head.

Rotate the wheel **counterclockwise** approximately 1/2 inch to unfurl tire bead onto the bead lever.

Slide the bead lever tool out from between the mount/demount head and the bead of the tire. The bead of the tire must remain over the right-hand end of the head.



Rotate wheel **clockwise** until the entire bead is lifted from the rim. Remove the Bead Depressor “Tail” from the rim while rotating. *Refer to* Removal of Bead Depressor “Tail” (*Optional*) *on page 41.*

Retract the lower roller to the resting position.

Demounting Lower Bead without Sleeve Protector

Lubricate tire bead lever.

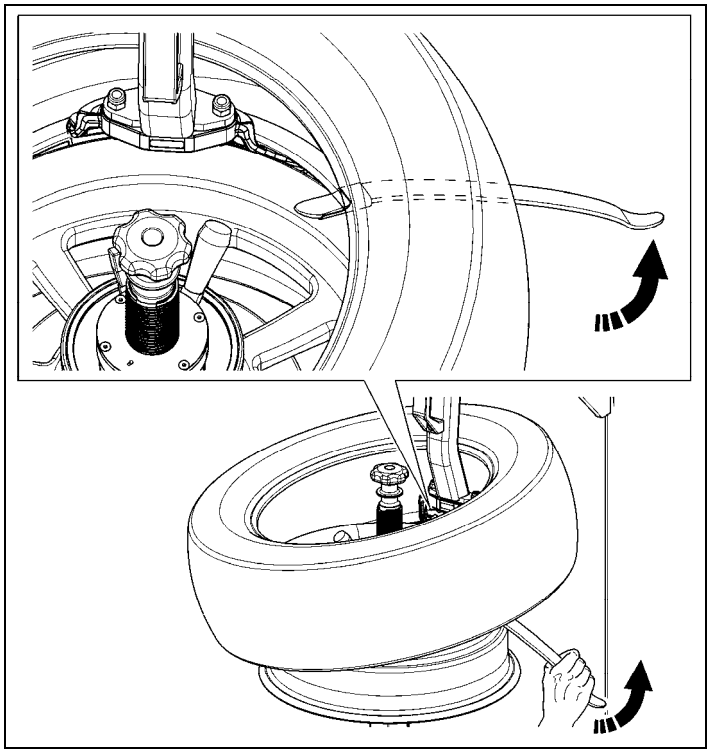
Pull tire up and tilt forward to place rear of lower bead in drop center.

Insert bead lever over the demount head and place the lip of the tool under lower bead.

Pull lower bead up and over demount head.

Push bead lever half-way through tire and rim.

Grasp inside of bead lever with left-hand and grasp outside of bead lever at the base with right-hand.

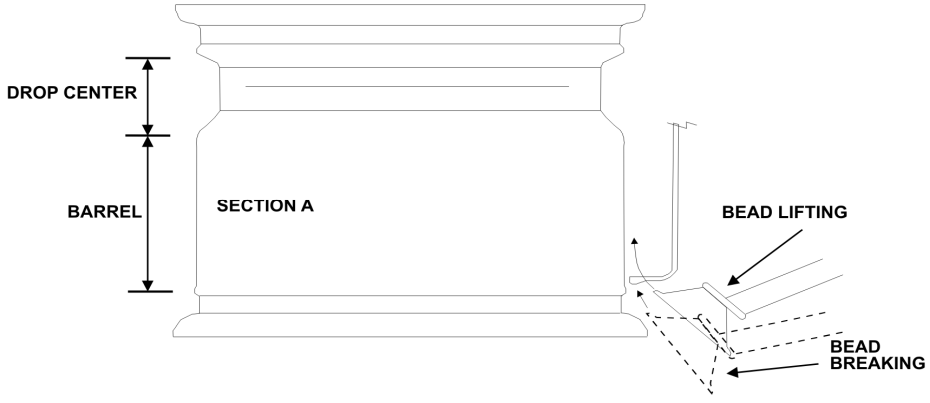


Firmly pull bead lever straight up.

Rotate wheel **clockwise** to demount.

Cylindrical Rims/Bead Loosening and Demounting Lower Bead

⚠ WARNING: When demounting the lower bead on rims with a small drop center where section A is long and cylindrical, rolling up the bead with the lower bead roller can cause damage if not operated properly.



Lock the upper roller against top bead.

Place and lock the lower roller against the lower bead.

Rotate wheel and loosen bottom bead from rim.

Lubricate tire and rim thoroughly.

Retract lower roller.

Rotate wheel and loosen the upper bead from the rim.

Lubricate upper bead rim drop center and barrel if possible.

Retract upper roller.

Demount upper bead.

Bring the lower bead roller up until it contacts the tire.

Lock the lower roller and push the lower sidewall of the tire up while rotating.

Continue rotating wheel until the lower bead has been lifted.

⚠ **CAUTION:**	On repeated attempts to roll the lower bead up the rim, never readjust the rim diameter from initial setting to prevent damage to rim.

3.5 Advanced Mounting Procedures (TC33M model only)

Always be aware of this “checklist” when mounting tires to ensure proper service.

There are four steps when mounting a tire to a rim:

- Position the bead on top of the left lip of mount/demount head.
- Position the bead under the right lip of the mount/demount head.
- Lock the rim to the tire.
- Slip the bead into the drop center.

These four basic steps to mounting do not necessarily follow the same sequence, however all four steps need to be performed to properly mount a tire to a rim.

Mounting of Stiff Sidewall, Low Profile Tires

NOTE:	The bead depressor tail (Optional) shown in the following photos may appear different from other models. The procedure is similar.

Lubricate the upper and lower bead of the tire, paying special attention to the inner toe area of the bead. Lubricate the bead seats and the entrance of the drop center of the rim.

Install lower bead.

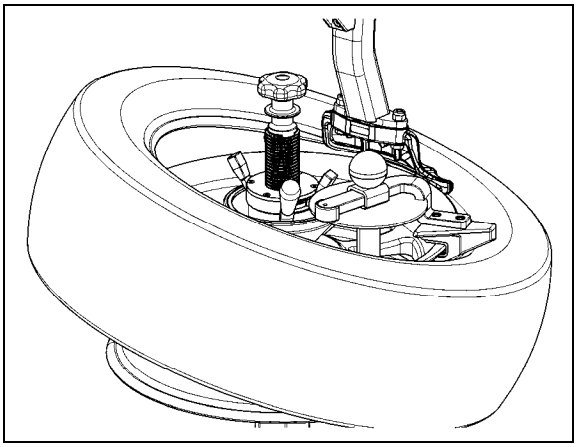
Position the upper bead of the tire below the rim lip.

Push the bead depressor post through the center opening of the rim until it has been inserted into the spring centering system. (Newer bead depressors do not insert into the center support.)

HINT:	The post may need to be lightly lubricated before installing. If post will not insert into the center opening, the wheel support is depressed too far. Release the clamping jaws and reposition the arms to allow for less compression of the support and try again.

Slide the horizontal arm of the tail so the secured block is positioned into the rim flange.

Position the secured block of the bead depressor between the rim and the bead of the tire that was previously positioned below the rim lip.



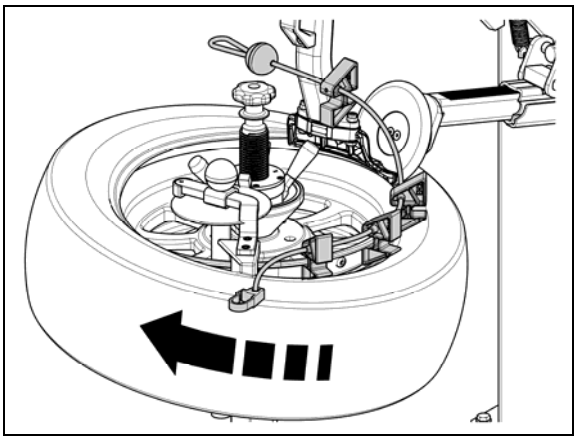
Swing the bead roller assembly in toward the unit to the working position (against the stop).

Lock the bead roller assembly into the working position by pushing down on the fixation knob.

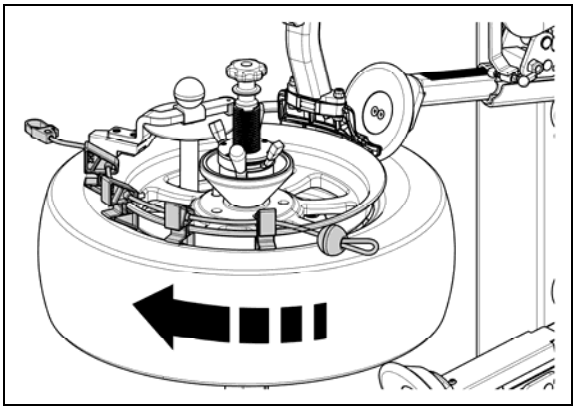
Set the rim diameter approximately 2 inches larger than the actual rim diameter by moving the command unit away from or toward the unit.

Lock the upper roller onto the sidewall of the tire.

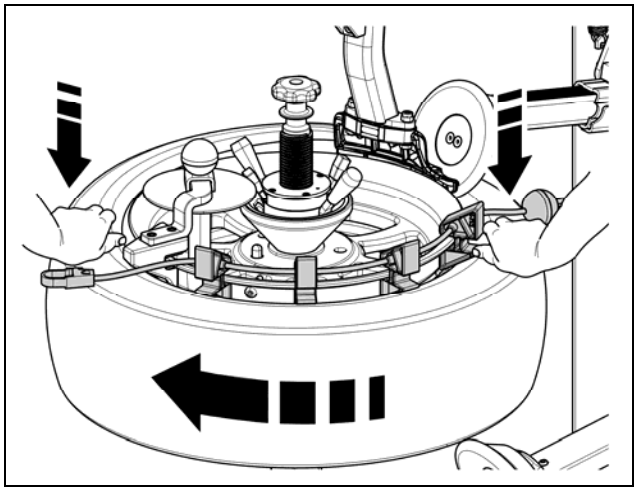
Position the bead of the tire under the right side of the mount head.



Rotate the wheel **clockwise** and position each of the attached blocks of the bead depressor onto the rim as shown below. Each block should be positioned as far away from the next block as the cord will allow.



Rotate the wheel **clockwise** until the upper bead of the tire is completely installed. To prevent rim from spinning inside the tire, grasp tire at location shown below and pull tire along with rim during rotation.



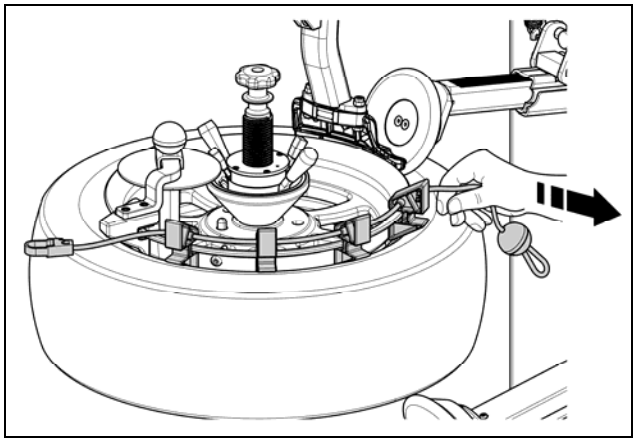
Remove Bead Depressor “Tail” from rim.

Removal of Bead Depressor “Tail” (Optional)

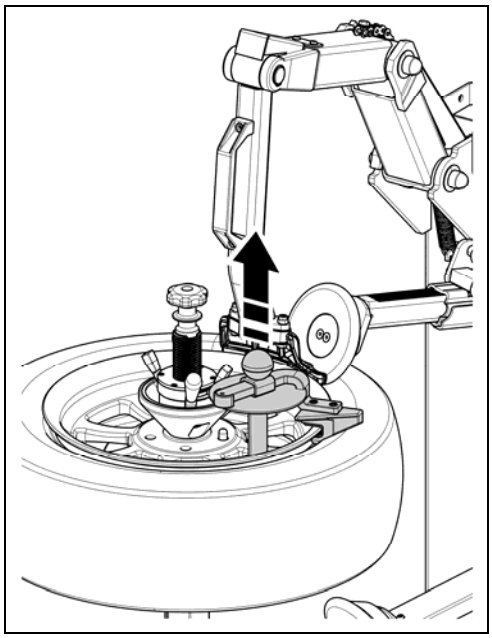
> ⚠ **CAUTION:** Never forcefully pull bead depressor “tail” out of tire after installation to avoid damage to tool and/or rim.

With the upper roller depressing the sidewall of the tire, rotate the wheel **counterclockwise**.

Pull the ball knob at the end of the attached blocks as each attached block approaches the upper bead roller.



Remove the block and shaft from the rim by pushing out to relax from rim.



Retract the upper roller.

Unlock the bead roller assembly by pulling up on the fixation knob and swing the bead roller assembly away to the resting position.

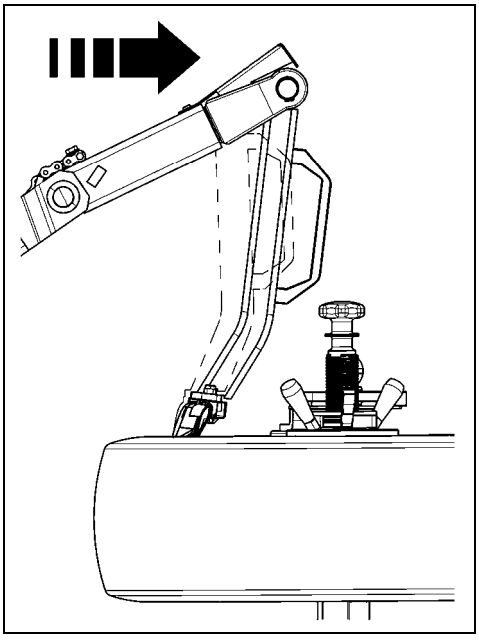
Mounting Low Profile Tires on Rounded Edged Rims

On certain types of alloy rims with round flanges, there is a potential to rub the surface of weak coated rims. To eliminate this potential, the following procedure should be used:

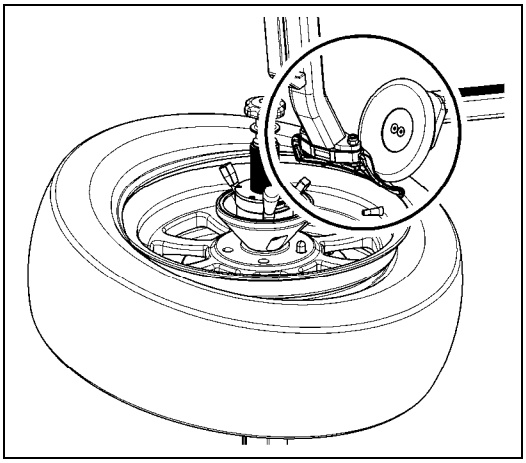
NOTE:	Only use this procedure on rims with rounded edges.

Lubricate tire bead and rim flange area.

Adjust articulating arm back to the #4 position.



Push upper roller down against tire to ensure the mounting head is secured by the upper roller. This will prevent the mounting head from popping up when the tire is fully mounted.



Push on the bead while rotating wheel clockwise instead of going over the top of the mounting head.

Lock the rim to the tire by hand, or by using the bead lever or bead depressor “tail.”

Slip the bead into the drop center.

Rotate wheel clockwise to mount tire.

3.6 Mounting Stiff, Low Profile Tires on Rounded Edged Rims Only Using Rollers (TC33M model only)

> ⚠ **CAUTION:** This special case procedure does not perform properly on all tires. Tires of the same size, but of different makes react differently to this method. Attempt first tire slowly to determine compatibility of this procedure with application.

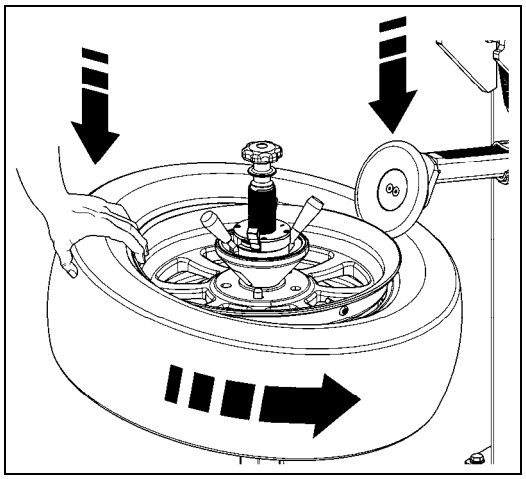
Mount lower bead as normal.

Move roller assembly into work position.

Lower the upper roller against the upper bead approximately 1/2 inch away from the rim edge.

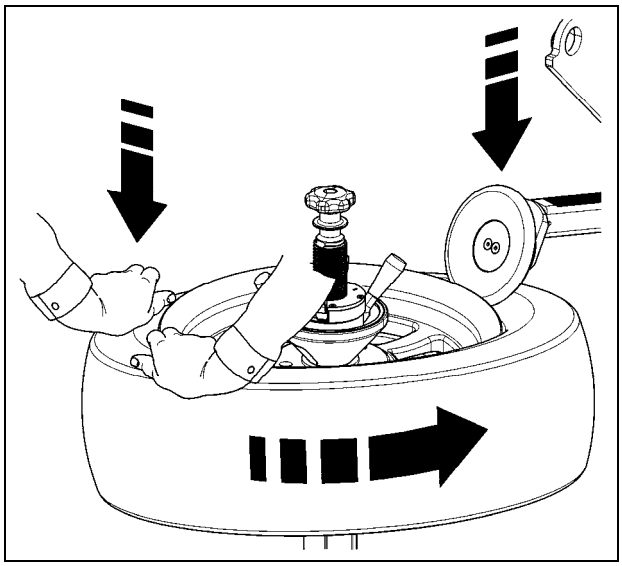
Grasp and support tire at the 6 o’clock position.

Lower the upper roller and push bead down slightly so it is below the balcony of the drop center.

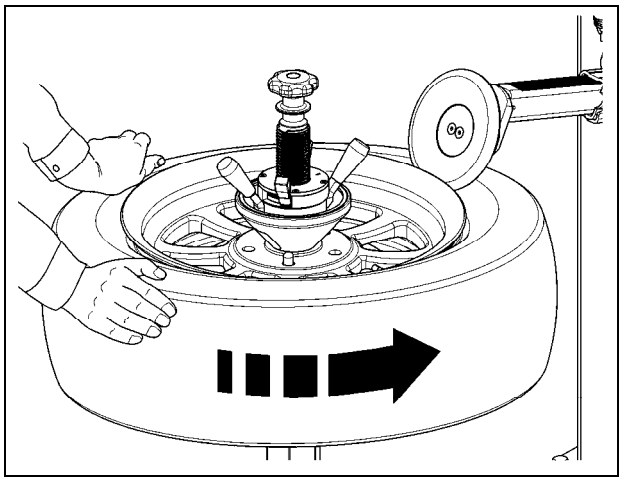


Lock the tire to the rim by grasping the tire with a cross-handed grip.

Rotate the wheel **counterclockwise** and press down hard on the tire at the 6 o'clock position to guide tire into the drop center.



Continue mounting by rotating the wheel counterclockwise until upper bead is mounted.



Retract upper roller and swing bead roller assembly away to prepare for inflation.

HINT:	Use of bead depressor (without inserting tail) may assist in locking tire to rim during mounting.

3.7 Matching/Optimizing of Tire to Rim (TC33M model only)

Matching/Optimizing allows positioning of the rim to the tire for proper mounting to minimize vibrations. This procedure must be done with both beads fully loosened and well lubricated.

Match/Optimize the rim to the tire as follows:

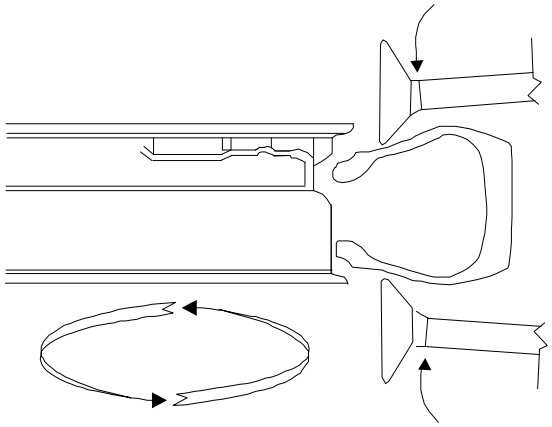
Set the rim diameter approximately 1 to 2 inches larger than the actual rim diameter.

Bring the lower bead roller up until it contacts the tire.

Bring the upper bead roller down until it contacts the tire.

Rotate wheel **counterclockwise** and continue rotating for next three steps.

Continue rotating the tire and rim at different speeds until the rim spins inside the tire and the mark on the tire is positioned where needed in reference to the rim.



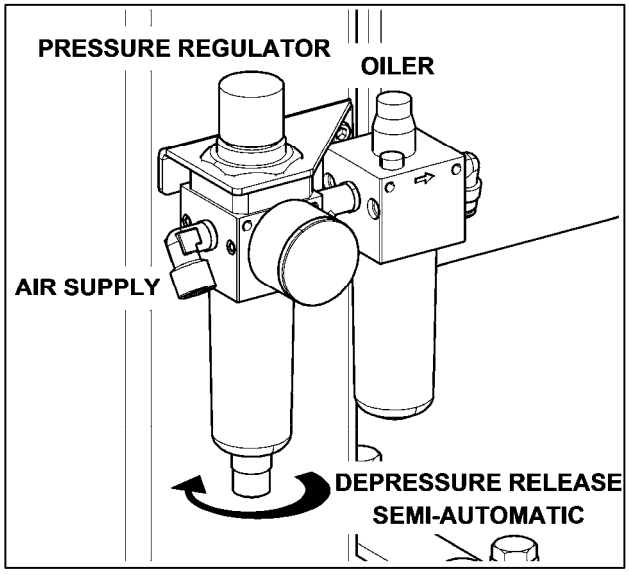
Once matching has occurred, retract arms and inflate.

4. MAINTENANCE AND CALIBRATION

4.1 Maintenance Schedule

> ⚠ **CAUTION:** Do not hose down or power wash electric tire changers.

Proper care and maintenance are necessary to ensure that the tire changer operates properly. Proper care will also ensure that rims and tires are not damaged during the mount/demount process.

Maintenance Schedule	Perform the Following Maintenance
Daily	Drain condensation from pressure regulator reservoir by pressing in on the fitting located on the bottom of the regulator. For proper functioning, it's necessary to verify the correct position of the valve, placed under the regulator. To activate a correct drain function, the cap must be rotated to the counterclockwise position (as viewed from the bottom).  Check for worn or damaged rubber and nylon components that should be replaced to prevent damage from occurring. Replace worn parts as needed (rubber pads and blocks, rollers, and mount/demount head). Clean all areas that contact rims or tires to prevent possible scratching to rim.

Weekly	Clean the tire changer with shop towels or a vacuum cleaner. **Do not clean with or use compressed air, which can blast dirt between moving parts.** Do not use cleaning solvents to clean pressure regulator/oiler.
Periodically	Refill the pressure regulator/oiler using **only** Hunter Lubri-oil as needed. **Petroleum-based oils should never be used in the oiler and may void all warranties.** Adjust the bolt on top of the oiler to release one drop of oil for every six (6) full up and down cycles of a roller arm pneumatic cylinder. Adjust push-pull cables such that the both rollers are properly adjusted relative to a wheel rim. Lubricate oil fittings as shown on decal on side of storage tray. Check for loose bolts and tighten per specifications.

4.2 Maintenance Replacement Parts

QTY	NAME	NUMBER
1	Safety Goggles	179-15-2
1	Brush	RP6-G108A16
1	Mounting Paste	RP6-G800A37
1	Assembling Tool	RP6-G1000A14
1	Rubber Protector Pad	RP6-710013421
1	2-Head Cone	RP6-1157
1	Pin Protector	RP6-710090481
1	Pin Extension	RP6-710012941

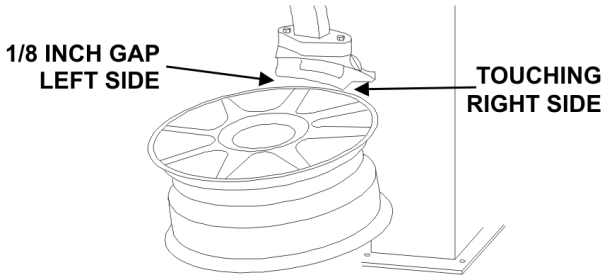
4.3 Calibrating and Adjusting the Position of the Column

Check the column position as follows:

Clamp a 14 or 15 inch rim without tire.

Position the mount/demount head against the outer edge of the rim.

Verify that the left-hand side of the mount/demount head has a clearance of 1/8 inch from the rim edge while rotating the clamping device. The right side of the mount/demount head must contact the edge of the rim.



Adjust the column position as follows:

Remove bolt securing rear panel to base. Set rear panel and bolt aside.

Loosen the four mounting bolts securing column to the base.

Clamp a 14 or 15 inch rim without tire.

Position the mount/demount head against the outer edge of the rim.

Turn the column so that the left side of the mount/demount head has a clearance of 1/8 inch from the rim edge, while rotating the clamping device. The right side of the mount/demount head must contact the edge of the rim.

Tighten and torque four mounting bolts securing column to the base to 45 ft-lbs.

Re-install rear panel and secure to base with bolt previously removed.

4.4 Checking and Adjusting the Bead Rollers

Check to ensure bead rollers operate in line with each other as follows:

Position the bead roller assembly into its working position.

Clamp a 14 or 15 inch rim without tire, from the outside of the rim with rubber jaws.

Set the rim diameter indicator to the diameter of the mounted rim.

Rotate the wheel so that the lower roller arm will not contact the tulip arm.

Lower the upper bead arm so the roller just passes the outboard flange of the rim by 1/8 of an inch.

Return the upper arm to the resting position.

Raise the lower arm and note if there is any difference in distance when the roller is passing the lower rim edge. The lower bead roller should pass the inboard flange of the rim at same position as the upper roller setting.

Adjust rollers as follows:

Loosen both nuts that lock the lower bead roller arm adjustment cable.

Pull or push the cable until the lower roller is passing the inboard flange at the same distance as the upper roller.

Tighten both nuts to lock the lower bead roller arm adjustment cable.

Move the bead roller command handle a couple of times forward and backward.

Verify that the bead rollers operate in line with each other and adjust as needed.

4.5 Checking and Adjusting the Position of the Bead Breaker Arm

Verify that the position of the bead breaker arm is slightly to the right of the centerline of the wheel.

If bead breaker arm needs to be repositioned, loosen the two stop bolts of the roller assembly and position as needed.