

# LAUNCH

## Operation Manual

### TWC-401NIC Tire Changer



\*Read these instructions before placing unit in service.

\*\*Keep these and other materials with the unit in a binder near the machine for easy reference by supervisors and operators.

\*\*\*You will need the manual for the information of the machine, such as safety warning and precautions, assembly, operating, maintenance and parts list / assembly diagrams.

\*\*\*\*Keep your invoice with this manual for future reference. Manufacturer shall not be liable for any injury to persons on damage to things caused by failure to comply with these regulations and can cancel warranty coverage.

## Installation, Operation, Maintenance

1. Technical Data			
Model	A	B	
Electric Requirements	See the manufacturer's serial plate		
Max. Wheel Diameter	39"	42"	
Max. Wheel Width	13"	14"	
Outside Clamping—Rim sizes	10" ~ 18"	11" ~ 21"	
Inside Clamping—Rim sizes	12" ~ 20"	13" ~ 23"	
Max Inflation Pressure	116PSI (8 Bar)		
Bead Breaker Force	5500Lbs (2500kgs)		
Max Rotating Torque (Turntable)	795 ft.lbs (1078N.m)		
Noise Level	<70db		
Overall Dimensions (L x W x H)	38.2" x30.3" x37.4" (97x77x95cm)	38.2" x30.3" x37.4" (97x77x100cm)	
Shipping Weight	220kg	230kg	
Voltage	0.9 ~ 1.1 of nominal voltage		
Frequency	0.98~1.02 of nominal frequency		
Ambient Temperature	5~40°C		
Operation Humidity	30~95%		
Installation altitude NOT exceed	1000m		
Transport / Storage temperature	-25~55°C		

## 2.ASSEMBLY INSTRUCTION

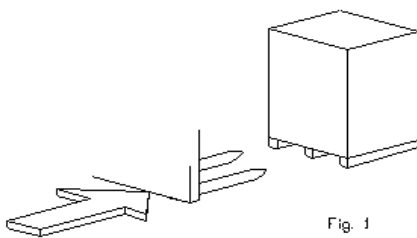


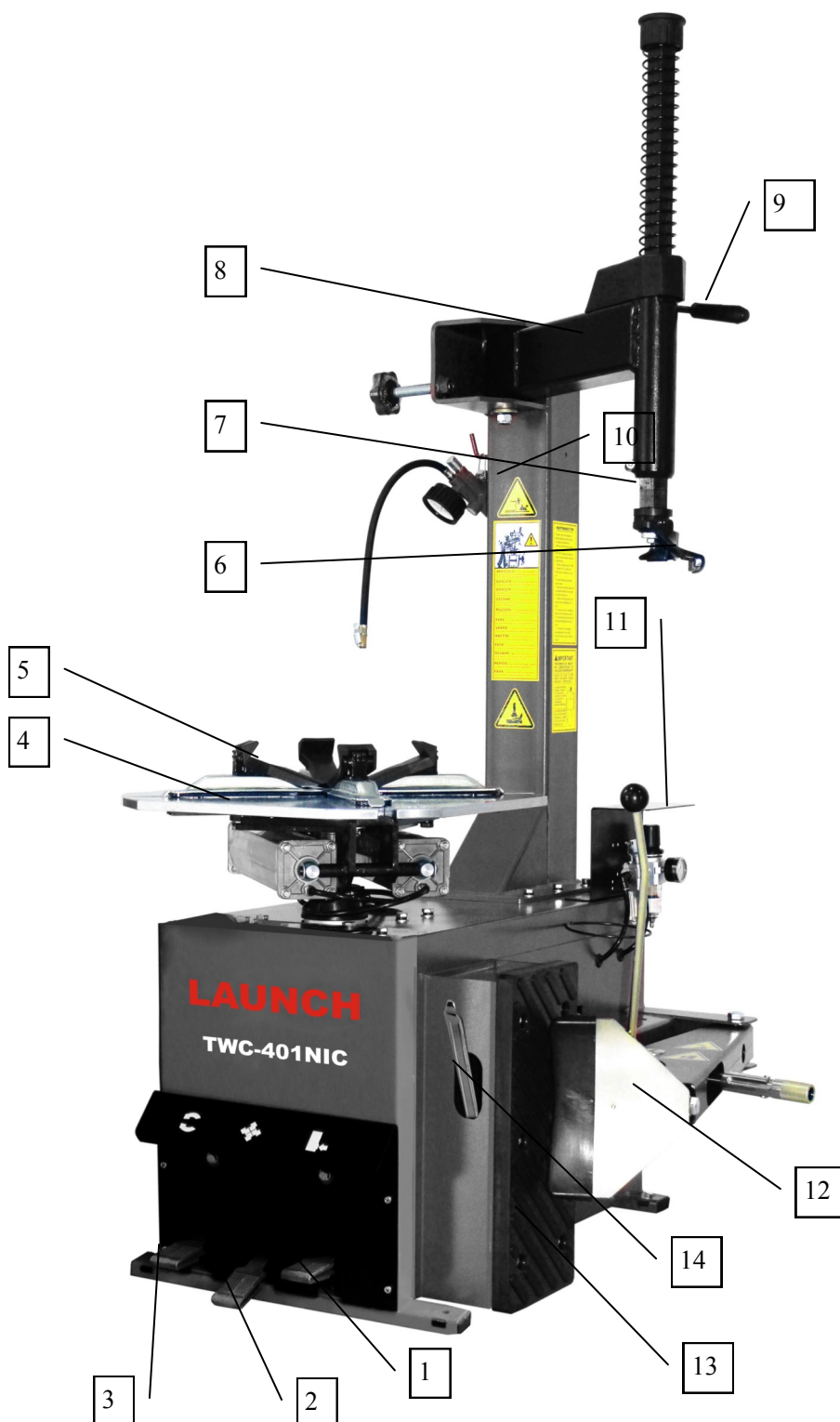
Fig.1

### 2-1 Transport

When transporting the machine it must be handle with a forklift truck with the forks Positioned as show as in the Fig.1.





















### 2-2 Unpacking

When unpacking, check to make sure all parts shown on the spare parts List/Assembly. Diagrams are included. If any parts are missing or broken, please call the manufacturer or the dealer as soon as possible.



- 1 Bead Breaker Pedal
- 2 Jaw clamp Pedal
- 3 Reverse Pedal
- 4 Turntable
- 5 Jaw
- 6 Mounting head
- 7 Hexagonal shaft
- 8 Swing arm
- 9 Locking handle
- 10 Column
- 11 FRL
- 12 Shovel
- 13 Rubber wheel support
- 14 STL

## (4.1) Optional Upgrade Accessories

	<b>ATV</b> All Terrain Vehicle Adapter Set
	<b>MC</b> Motorcycle Adapter Set
	<b>LRA</b> Large Rim Adapter Set
	<b>MAAS</b> Motorcycle Deluxe and ATV Adapter Set
	<b>UMAS</b> Motorcycle Deluxe Adapter Set
	<b>SPJP</b> Short Plastic Jaw Protector
	<b>LPJP</b> Long Plastic Jaw Protector
	<b>TLPP</b> Tire Lever Plastic Protector
	<b>MHPP</b> Mounting Head Plastic Protector
	<b>SFRL</b> Standard Filter + Regulator + Lubricator Installed on all Coseng tire changers except on model C288S Factory set at 8 bar / 116 PSI
	<b>STL</b> Standard Tire Lever (400 mm)
	<b>ETL</b> Extended Tire Lever (600 mm)
	<b>HDTL</b> Heavy Duty Tire Lever
	<b>IG</b> Complete Inflation Gun
	Professional "4 in 1" inflation gauge 1. Draw air 2. Pressure testing 3. Deflate 4. Inflate
	<b>PMH</b> Plastic Mounting Head For swing arm tire changer
	<b>MPMH</b> Motorcycle Plastic Mounting Head
	<b>BSPP</b> Bead Breaker Shovel Plastic Protector
	<b>NHMC</b> No Hands Mounting Clamp
	<b>REPP</b> Rim Edge Plastic Protector

#### 5-4 Workplace Requirements

1. The machine's workplace requires 1400(width)×1685(depth) with at least 500 mm of clear space from each wall. Place the tire changer on a firm, smooth and unbroken floor. Drill four holes in the floor corresponding to the holes pre-drilled in the base of the machine. Holes should be 80mm deep. Its diameter is 10mm. Then insert the expansion  
Plugs and lighten with the 10mm spanner.

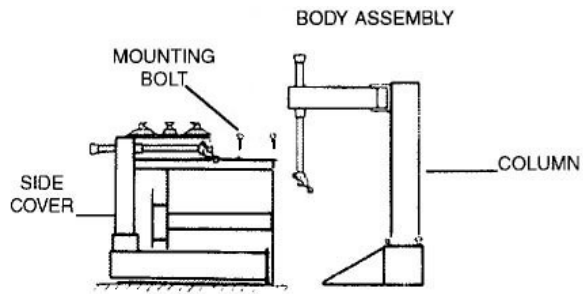


Fig.3

#### 5-5 Assembly Procedure

1. Temporarily remove the four mounting bolts, washers, and Nuts located at the top / rear of the body assembly.
2. With assistance, set the column on the body assembly, and align the four mounting holes in which the bolts, washers, and nuts were moved.
3. Firmly wrench tightens the column with the four mounting bolt, washers, and nuts mentioned in step 1 above.

#### 5-6 Pneumatic Link Up

1. Push the clamping pedal down completely to ensure that the clamping jaws do not open unexpectedly.
2. Connect the air hose to the union on bottom of the vertical column, which is as a tanker.
3. Connect the inflation gun, if it is to be installed, to its connector.
4. Connect the tire changer to a compressed air network. (Suggested working pressure is 8 bar) using the connector which is on the air-water separator located right side of the base assembly.

#### 5-7 Electric Link up

1. Before making any electric link up, check to be certain that the main voltage corresponds to what is stamped on the voltage tag.
2. It is absolutely essential that the system is equipped with a good grounding circuit.
3. The machine must be connected to a power supply line circuit bracket set for 30mA.

### 5. OPERATING INSTRUCTION

#### 5-1 To Preliminary Operating Tests

1. Connect the tire changer to its air and electrical supply sources, and allow adequate time for the compressed air system to reach the recommended 110-PSI.
2. Depress the Reverse Pedal (3, Fig2) down, the turntable should turn in a clockwise direction. Pull the pedal up and the turntable should turn anticlockwise.
3. Press the bead breaker pedal (1, Fig2) to activate the paddle. When the pedal is released. The pedal should return to its original position.
4. Press the jaw clamp pedal (2, Fig.2) once to open the four jaws. Press the pedal again to close the jaws.

## **(6) Operating Instructions**

This 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.

## **(7) 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.**

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

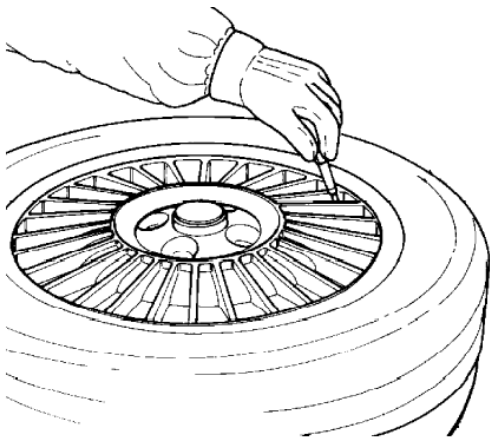
**B.** Always review with the owner any nicks and scratches on expensive wheel and tire combinations prior to servicing.

**C.** Review the custom and special wheel section of this manual prior to servicing custom or special tire/wheel combinations.



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

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

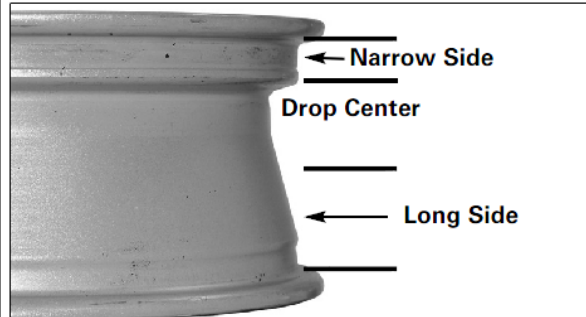


*Figure 1 - Remove Valve Core to Deflate Tire*



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

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



*Figure 2 - Determine Narrow Side of Wheel*

**E.** 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.

**F.** 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 to accommodate a possible asymmetric hump type rim. Position the bead loosener shoe against the tire next to, but not on, the rim. Press 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 3).



*Figure 3 - Position Tire and Bead Loosener Shoe*

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





*Figure 4 - Position Tire and Bead Loosener Shoe With Wheel Turned Around*

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

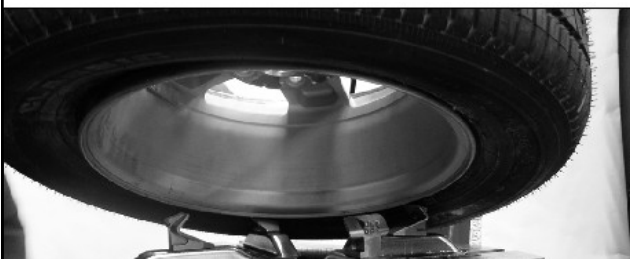
4. Apply tire manufacturer's approved rubber lubricant liberally to entire circumference of both tire beads after loosening (figure 5).



*Figure 5 - Apply Rubber Lubricant to Tire Beads*

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

6. Place tire/wheel assembly on table top with mounting side up (figure 6). Use the clamp control pedal to move the clamps inward (push pedal down) or outward (toggle pedal up). Clamp steel wheels from the inside (clamps push outward against wheel). Clamp mag and custom wheels from the outside (clamps push inward against the outside rim edge). Refer to the Custom and Special Wheels section.



*Figure 6 - 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 and lock the slide into place (figure 7).

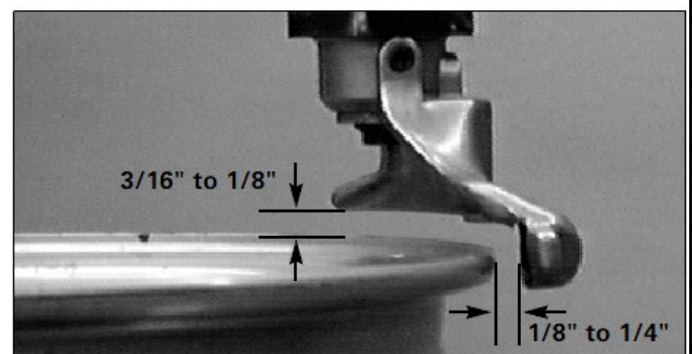


*Figure 7 - Position Mount/Demount Tool*

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



9. Check metal head positioning. Mount/demount metal head should be positioned with 3/16 to 1/8 inch clearance between the top of the rim edge and the bottom of the head, and 1/8 to 1/4 inch clearance between the rim edge and the head roller. This clearance will be maintained as long as the locking handle and adjustment knob are not changed. The operator may swing the arm out of the way and back into place again without needing to reposition the head (when changing a like set of wheels) (figure 9).



*Figure 9 - Proper (Metal) Mount/Demount Head Position*

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

**J.** 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.

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



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

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. Lift the bead up and over the knob on the Mounting head (figure 10). Also, note the valve stem position to the Mounting head. Use your free hand to press down on the tire opposite the Mounting head to allow the bead to utilize the drop center area of the rim, this position reduces stresses in the bead and allows an easier bead lift.

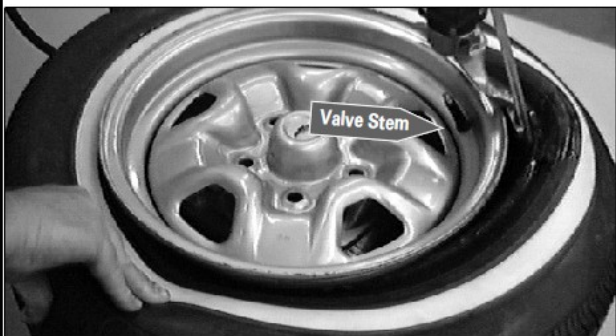


Figure 10 - Insert Bead Lifting Tool

11. Push the bead lifting tool down towards the wheel to lift the tire bead up and over the knob portion of the demount head. Hold the tool and bead in this position (figure 11).

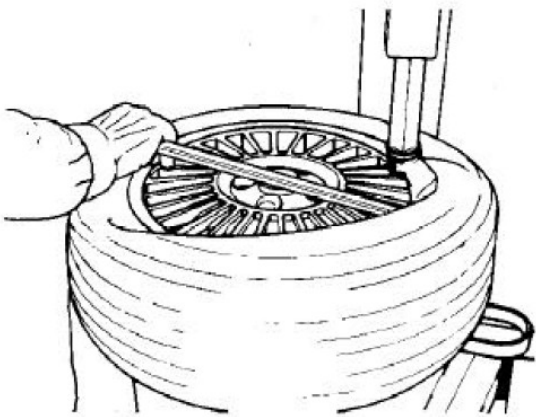


Figure 11 - Lift Bead Over Demount Head

12. Depress the table top pedal to rotate the wheel. The Mounting head will guide the tire bead up and over the edge of the wheel. Continue rotation until the upper bead is demounted.

**L.** 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 top or first bead during demount (figure 10).



Figure 12 - Demounting Lower Bead

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 (figure 12). 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 13).

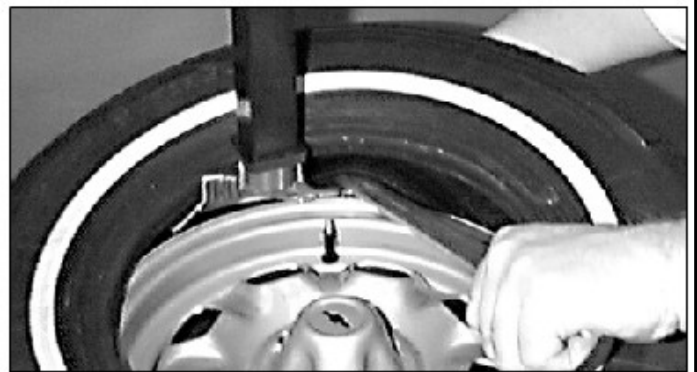


Figure 13 - Guide Lower Bead Over Tool Head

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.

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



### **(8) Mounting**

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



Attempts to force a bead seat on mismatched tires and wheels can cause the tire to violently explode, causing serious personal injury or death to operator and/or bystanders.



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



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



When in doubt do not mount



Never mount a tire and wheel handed to you by anyone without checking both tire and wheel for damage and to be certain the sizes match. Do not let untrained persons operate tire changer and keep bystanders out of service area.



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

1. Before any mounting, inspect tire for damage and verify size match between tire and wheel (fig. 14).



*Figure 14 - Verify Size Match Between Tire and Wheel*

2. Inspect wheel closely for damage. Clean the wheel and remove any light corrosion or rubber residue (figure 15). Do not attempt to service a heavily corroded wheel, damaged wheel, or bent wheel.



*Figure 15 - Inspect and Clean the Wheel*

3. Inspect valve stem and replace if necessary. Next lubricate tire beads liberally with tire manufacturer's approved rubber lubricant (figure 16).



*Figure 16 - Lubricate Tire Beads Liberally*

4. Place tire over wheel and move swing arm into position making sure the valve stem is at the 9 o'clock position in front of bead lock. Position tire so that lower bead is above the rear extension of the mount/demount tool and below the front knob (figure 17).



Figure 17 - Position Tire Against (Mount/Demount Tool)

5. Depress table top pedal and rotate wheel to mount lower bead. Use drop center of wheel by forcing down on tire just ahead of the mounting tool, and follow as tire rotates. Rotate table top until lower bead is mounted.

6. For top bead installation, rotate the table top until the valve stem is directly across from 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 table top pedal and rotate tire until bead is mounted. Be careful to ensure bead stays in the rim drop center in the area ahead of Mounting head (figure 18).



Figure 18 - Mounting Top Bead

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

**P.** 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.

**R.** For tube type tires, mount lower bead first, move swing arm out, install tube, and then mount upper bead.

## **(9) Inflation**

Tire inflation is performed in three steps: BEAD SEAL, BEAD SEAT, and INFLATION. These steps are explained in detail on page 12. Read the explanation of each step and understand them thoroughly before proceeding.

The inflation pedal, located at the rear of the left side of the machine, controls the flow of air through the inflation hose, and has three positions. **Note:** The clip-on chuck on the end of the hose should always be an open/freeflow style with all parts in proper working order.

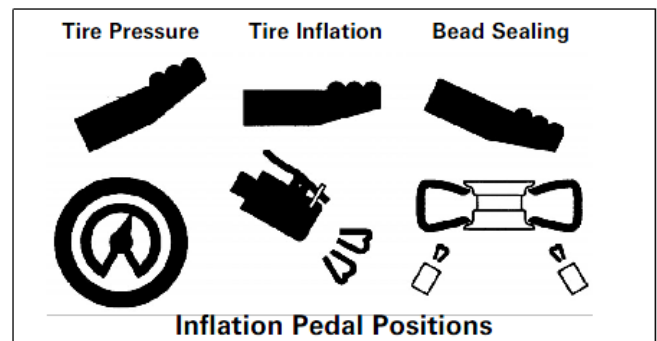
**Position 1 - Tire Pressure** – With the inflation hose attached to the tire valve and the pedal in this position, the air gauge will register the air pressure in the tire. Whenever your foot is removed from the pedal, it will return to this position.

**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 pressure is allowed to flow through the valve and to the airflute bead seal jets on the table top 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 table top.

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





**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.**

S. 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.

### **(10) 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 19).



*Figure 19 - 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.

T. 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.

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



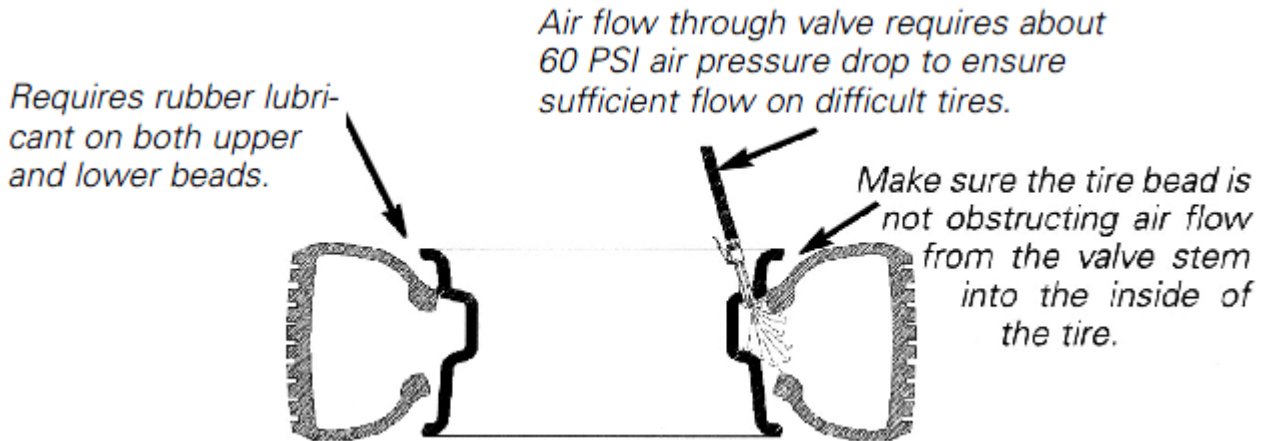
*Figure 20 - Stand Back during Bead Seat*

## (11) 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.

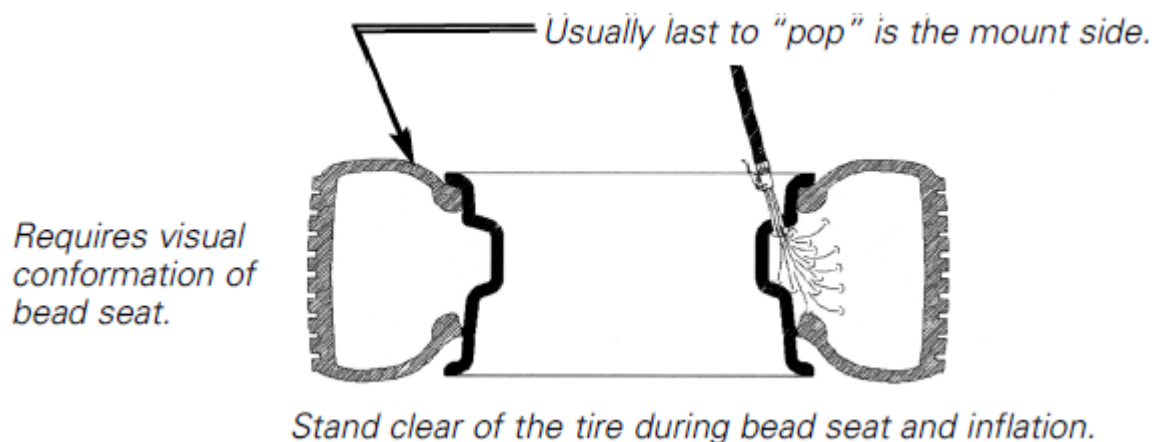
### **Bead Sealing**

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.



### **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.

