



Installation and Operation Manual

Tire Changer

PWC - 2950/PWC - 2950A



ATTENTION - Please read the instruction before using this product. Failure to follow the instructions may result in serious injury. Keep the instruction for reference by operators.

Phoenix Auto Equipment

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1. Safety Instructions

a. Owner's Responsibility

In order to maintain your product properly and to ensure operator safety, it is the responsibility of the owner to read and follow these instructions:

- All operators should be properly trained.
- All operators should not wear loose clothing or jewelry. These things may become entangled with the wheel or turntable while using the changer and could cause serious injury.
- All operators should wear protective eye gear. Safety glasses with side shields, goggles, or face shields are acceptable
- All operators recommend wear sturdy leather work shoes with steel toes and oil resistant soles, to prevent injury in typical shop activities.
- Safety guard should be used to avoid injury.
- The tire changer contains electronics and should be kept indoors and in a dry environment. Exposure to water can cause damage and is not covered under any warranty.
- Exposure to extreme heat can damage internal parts of the tire changer.
- Do not use the tire changer beyond its measurement or weight range. Using the tire changer beyond its measurement or weight range could cause damage to the tire changer and does not ensure a precise function of the tire changer.
- Other safety regulations may be in place according to OSHA or your local city and county. These should all be followed in addition to the instructions in this manual.
- Keep all instructions permanently with the unit and all labels and notices are clean and visible

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b. Intended Use

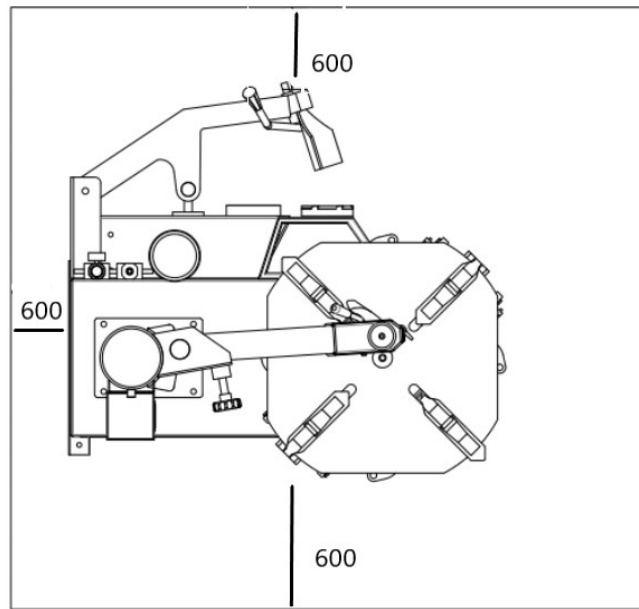
- The semi-automatic tire changer has been designed and manufactured exclusively for removing and mounting tires from/onto rims and inflating the tires. With the unique help device, it could handle tires with hard and stiff tire wall.
- Max. Tire Dia. 43”
- Max. Tire Width. 15”
- In particular the manufacturer cannot be held responsible for any damage caused through the use of this tire changer for purposes other than those specified in this manual, and therefore inappropriate, incorrect and unreasonable.

c. Precaution

- Any tampering or modification to the equipment carried out without the manufacturer’s prior authorization will free Manufacturer from all responsibility for damage caused directly or indirectly by the above actions.

d. General Safety Rule

- When placing the tire changer, be sure that to complies with current safety code at work regulations.
- The tire changer must be connected to the main electric power supply and the compressed air system. Please install the machine near the power sources.
- Must provide at least the space shown in (Fig.1) to allow all parts of the machine to operate correctly and without any restriction.
- If the machine is installed outside it must be protected.
- The tire changer comes with electric motor, so it cannot be used in explosive atmospheres.

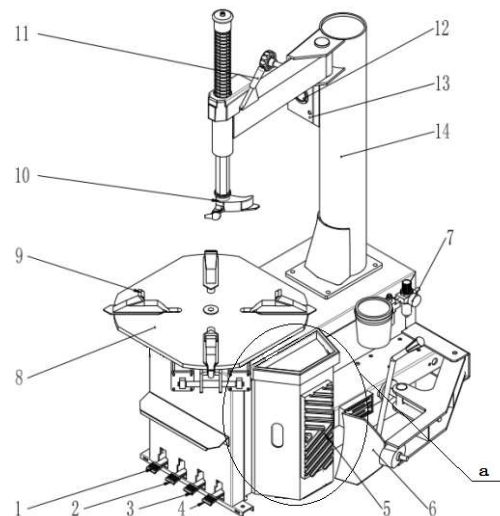


(Fig.1)

e. Technical Terms

Before the installation and operation, you have to understand the technical terms of the machine. (Fig.2)

1. Inflating control pedal
2. Clamp control pedal
3. Bead breaker control pedal
4. Reverser control pedal
5. Wheel support
6. Bead breaker
7. Oil segregator
8. Turntable
9. Clamps
10. Mounting tool/head
11. Locking lever/handle
12. Pressure gauge
13. deflating button
14. Vertical arm



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2. Product Specification

a. Equipment Specification

- Rim clamping inside 13"-26"
- Rim clamping outside 15"-28"
- Maximum Tire Diameter 43"
- Maximum wheel Width 15"
- Includes bead blast air blast
- Includes assist arm
- ALU front foot pedal valve ,ALU air distributor valve last longer than the regular plastic valve
- ALU canister of the bead breaker cylinder avoid getting rusty and more powerful for braking the bead
- Blast Inflation
- Bead Break force 5700 lbs.
- Operating pressure 120 psi
- Voltage 110v, 1.5HP motor
- Includes 4 clamp protect covers
- Plastic mount/demount Head

b. Equipment Presetting and Special Requirements

- Air pressure presetting: The machine could run normally when the air pressure is 8-10bar. The air pressure should not less than 8 bars.
- Mounting tool presetting: The mounting tool is already calibrated according to a standard 13" rim. For a bigger or smaller rim, you have to lose bolts fixing on the mounting tool and at the bottom of the hexagonal bar. Adjust the mounting tool to a suitable position.
- Oil mass presetting: The oil mass in the oil segregator is already well prepared before it leaves the factory. If the fluid rate is too

fast or too slow, adjust the needle valve by using a screwdriver. Check that a drop of oil is injected into the reservoir every 5-6 times the pedal is pressed down.

c. Problems due to Misoperation and Means of Settlement

- Make sure that the machine is well grounded to avoid electric leakage.
- To prevent industrial accidents, do not place your legs between the bead breaker and the wheel supporter. When the bead breaker pedal is operated the bead breaker arm moves quickly and powerfully. Anything within its range of action can be in danger of being crushed.
- Bead breaking with the clamps in open position can be extremely dangerous for operator's hands.
- ALWAYS keep hands and body back from inflating tire
- To prevent industrial accidents, keep hands and other parts of the body as far as possible from the tool arm when the table top is turning.
- Do not place your hands on the wheel: when moving the arm to its working position your hand could be crushed between the rim and the mounting head.
- During bead breaking operations NEVER touch the side of the tire.

3. Product Installation

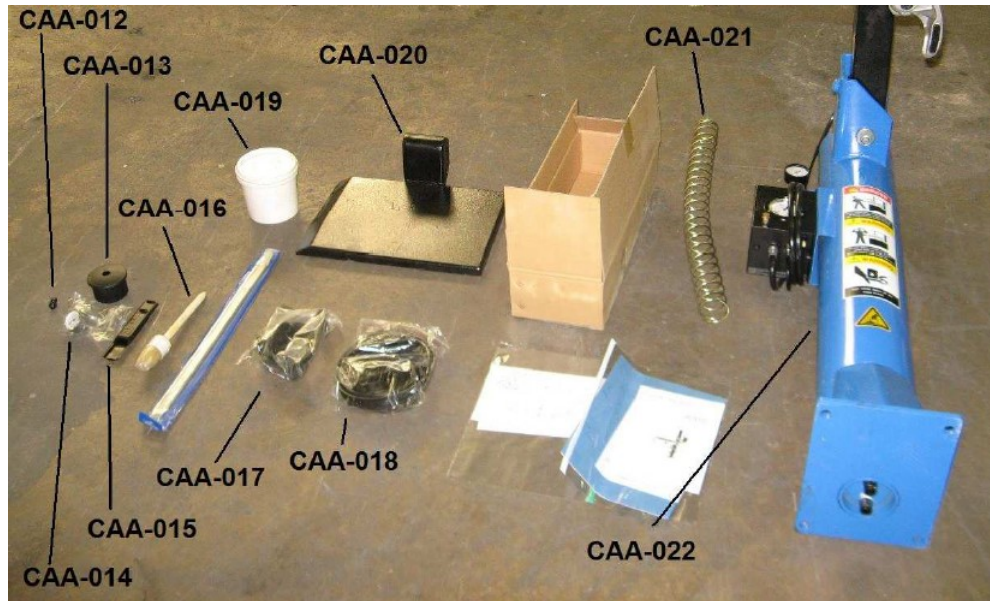
a. Unpacking

- Un-package and remove all plastic wrapping from tire changer.
- After removing the package be sure that the equipment is complete and intact, checking that no visible damage is present.

- Do not leave packaging parts (plastic bags, foamed polystyrene, nails, screws, wooden parts etc) within the reach of children as they may be dangerous.
- Note: When unpacking the machine, wear a proper glove

b. Parts Included

- For PWC - 2950 and PWC - 2950A



Part number	Description
CAA-012	Hex cap bolt to be used with part CAA-013 and vertical hexagon mount bar
CAA-013	Plastic spring retainer cap to be used with CAA-012 and vertical hexagon mount bar
CAA-014	Air gauge to mount to water separator on back of tire changer
CAA-015	Crow bar plastic protector
CAA-016	Soap brush
CAA-017	Plastic demount head
CAA-018	Seal kits, plastic inserts for demount head, plastic rim clamp covers
CAA-019	Soap bucket
CAA-020	Wheel lift surface
CAA-021	Spring to be used on vertical hexagon mount bar
CAA-022	Center assist arm with preinstall vertical hexagon mount bar, metal demount head, tire inflation hose and gauge mounted on black box, air tank gauge

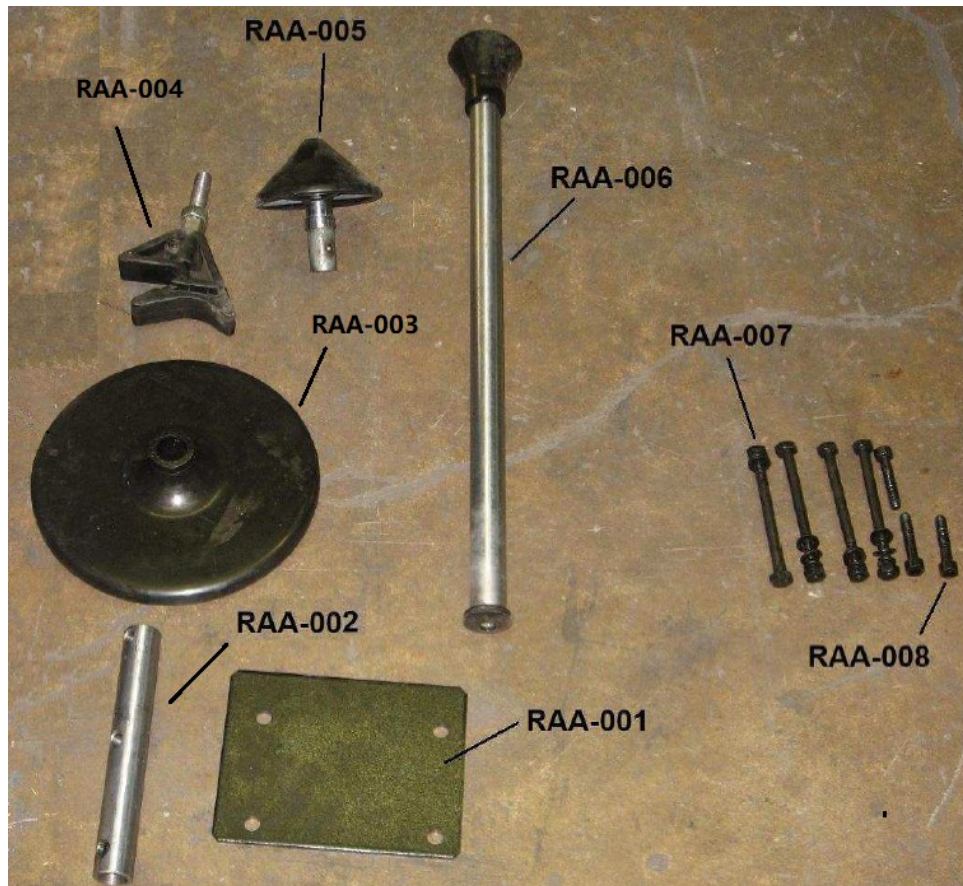
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Part number	Description
RAA-001	Assist arm mounting plate
RAA-002	Assist arm mounting rod
RAA-003	Round plastic plate
RAA-004	Assist arm sidewall push
RAA-005	Assist arm cone
RAA-006	Sidewall rolling guide
RAA-007	Base mounting bolts for use with part RAA-001 and RAA-11
RAA-008	Assist arm mounting rod bolts for use with part RAA-002

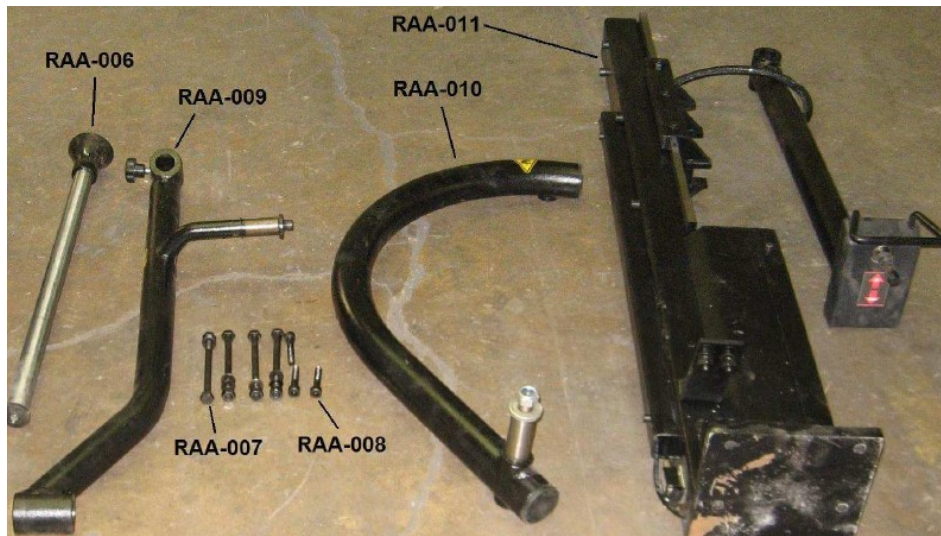
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Part number	Description
RAA-009	Bottom assist arm
RAA-010	Middle swing arm mounts to top swing arm
RAA-011	Main assist arm column with pre-connected top swing arm and up down controls

In addition to these parts, the main body of the machine is included. With some preinstalled parts and internal air lines preinstalled.

c. Positing and Assembly

i. For PWC - 2950 and PWC – 2950A Main Body Assembly

- Remove the 4 bolts shown (Fig. 3)
- With the help of 2 people, lift and place the large vertical main column on top of the changer, align with the bolt holes, place and tighten the four bolts. (Fig. 4)
- Place hexagon mounting bar through hole in horizontal swivel bar. Then place the large spring over the hexagon bar. Next with the help of another person, push spring down while placing plastic cap on top of hexagon



(Fig. 3)



(Fig. 4)

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bar and use the hex bolt to keep in place. See picture (fig. 5)



(Fig. 5)



(Fig. 6)



(Fig. 7)

- The result will look like this (Fig. 6)
- Hook small air hose from inflating black box to the 90 degree fitting on the back of the tire machine. See picture (Fig.7)
- Open side panel of the tire changer. Install the two size 10 hoses to the bottom of the large vertical main column. These 2 air lines are identical and can be connected to either of the fittings. Connect the hoses to the two fittings shown (Fig. 8)



(Fig. 8)



(Fig. 9)

- Install air gauge to oil segregator on back of machine See picture (Fig. 9)

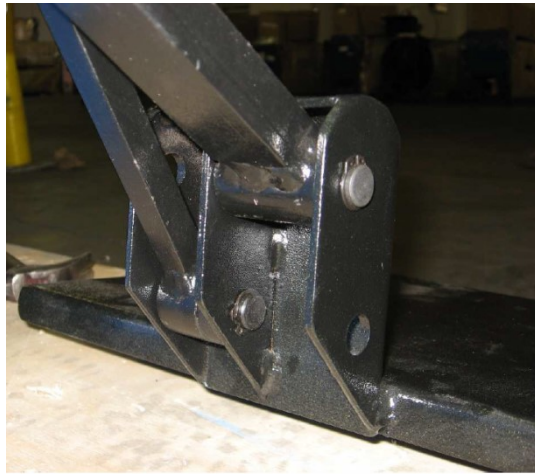
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- Connect part CAA-020 wheel lift surface to pre-installed wheel lift mechanism using provided rods and snap rings. See (Fig. 10)



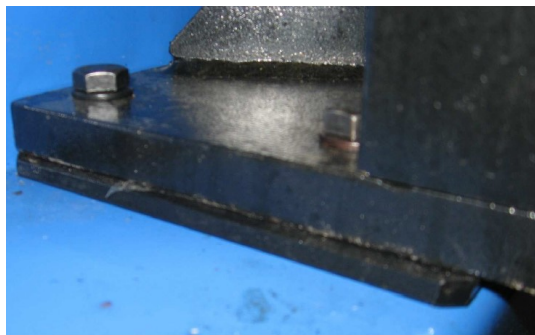
(Fig. 10)



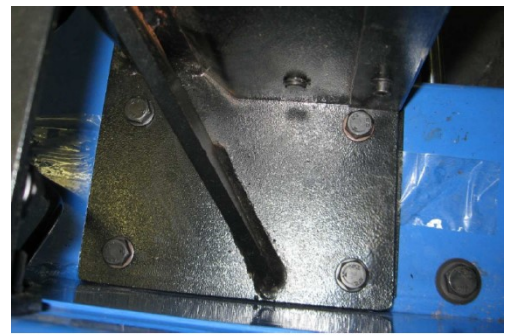
ii. For PWC -2950A Assist arm Assembly

(Fig. 11)

- Assist arm assembly begins by mounting RAA-011 (main assist arm column) to main side of tire changer body using RAA-001 (mounting plate) RAA-007(mounting bolts). See (Fig. 11)
- Place RAA-001 mounting plate on main machine body and align with the holes. See (Fig. 12 & Fig. 13)



(Fig. 12)

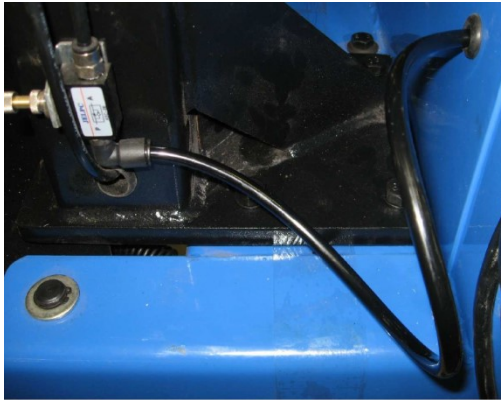


(Fig. 13)

- Use some tape to hold RAA-001 plate in place. Position RAA-011 main assist arm in position as shown in (Fig. 11). Use RAA-

007 mounting bolts to bolt RAA-011 and RAA-001 to main machine body. RAA-001 mounting plate must be placed under RAA-011 (Fig.12). This allows the bead breaker arm to move freely under without rubbing on RAA-011.

- To complete assist arm assembly, you must first complete air hookup. Connect air hose coming out of main machine body to pre-installed air valve on back of assist arm. (Fig. 14)

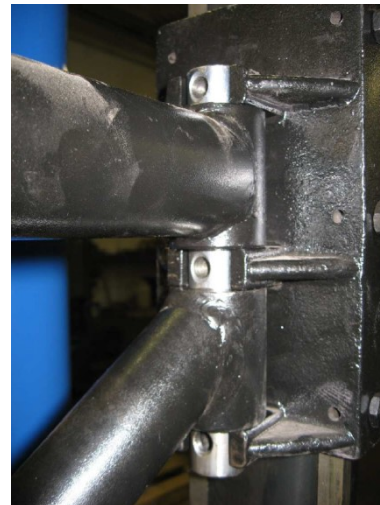


(Fig. 14)



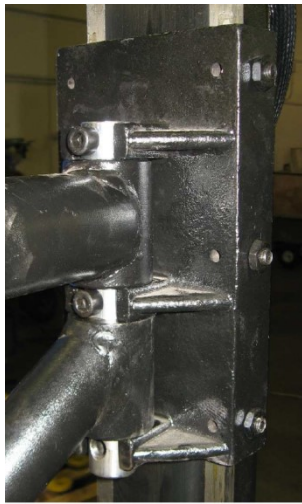
(Fig. 15)

- Connect air to the air gauge on back of machine (Fig. 15). Use your own regulator on your compressor to keep air at 100-120 PSI.
- Now you can continue with assembly of the assist arm. First place top assist arm (arm with up/down controls that is pre-installed to main assist arm) and RAA-009 bottom assist arm in place. Place RAA-002 assist arm mounting rod through both assist arms as show below. (Fig. 16).

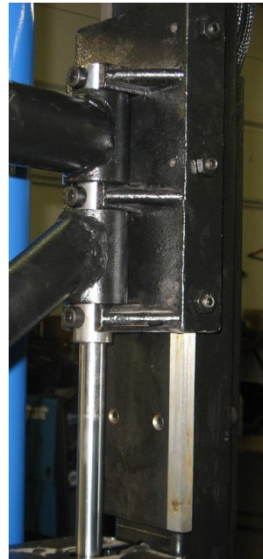


(Fig. 16)

- Use 2 of RAA-008 mounting bolts in top 2 holes of RAA-002. See (Fig. 17)



(Fig. 17)



(Fig. 18)

- Use up/down switch to raise preinstalled rod up and inside RAA-002 as shown (Fig. 18) Use the other RAA-008 mounting bolt to finish connection.
- Now install remaining assist arm parts as shown in (Fig.19).

Installation is now complete. Be sure to check compressor oil level in oil segregator on back of machine before use. Always turn off compressor before connecting to the machine. Once connected to machine, then turn on compressor.



(Fig. 19)

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4. Operating Tests

a. Test the rotation direction of the motor

- This test is only for the tire changer with 1phases.
- When the reverser control pedal (4) is pressed down, the turntable should turn in a clockwise direction.

b. Operating test

- Turn the handle (10) to lock the horizontal arm.
- When the reverser control pedal (4) is pressed down, the turntable (8) should turn in a clockwise direction.
- When the reverser control pedal (4) is pulled up, the turntable (8) should turn in a counterclockwise direction.
- Pressing the clamp control pedal (2) opens the four clamps (9); when the pedal is pressed again they close.
- Pressing the bead breaker control pedal (3) activates the bead breaker; when the pedal is released the bead breaker returns to its original position.
- Pressing lightly the Inflating control pedal (1) the inflating gun inflates.
- Pressing inflating control pedal (1) again, the inflating gun inflates and the eyelet near the sliding block blast inflate at the same time.

5. Operation

The operation of the tire changer is divided into three parts:
breaking the bead, removing the tire and mounting the tire.

Note: The tire changer must be operated by professional personnel.

a. Breaking the Bead

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- Before carrying out any operation, deflate the tire and take off all the wheel balancing weights. (Fig. 20)
- Position the wheel against the rubber stops on the right side of the tire changer
- Position the bead breaker blade against the tire bead at a distance of about 1 cm from the rim. Press down the bead breaker control pedal (3) to activate the bead breaker and release it when the blade has reached the end of its travel or in any case when the bead is broken. Before use, spread the grease onto the tire bead. (Fig. 21)
- Rotate the tire slightly and repeat the operation around the entire circumference of the rim and from both sides until the bead is completely detached from the rim.



(Fig. 20)



(Fig. 21)

b. Removing the Tire

- Clean the turntable.
- Spread the grease onto the tire bead.
- Determine the mounting side of the wheel. The mounting side is the narrow side of tire rim.
- Place tire on table top with mounting side up.
- Lock the rim on the turntable.

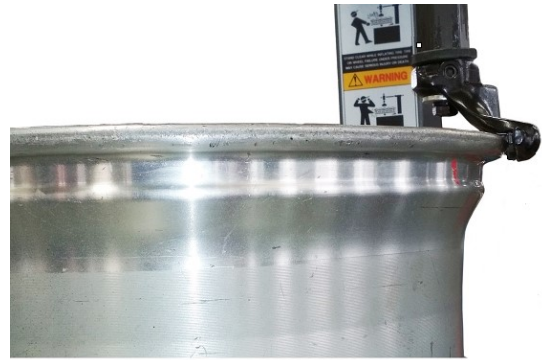
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- Clamp locking from outside: (External Clamping) Pressing clamp control pedal (2) to push the clamps inward against the outside rim edge
- Clamp locking from inside: (Internal Clamping) Pressing clamp control pedal (2) again to push the clamps outward against wheel.
- Make sure the rim is firmly fixed to the clamps.
- Unlock the locking handle pull the handle away from you so that hex bar can move freely.
- Lower the hex bar until the mounting head rests against the edge of the rim in a distance of about 2mm from the rim. The mounting head should not be in contact with the rim edge, but the demount head curve should be perpendicular to curve of the rim. (Fig. 22)



(Fig. 22)

- Then lock the locking handle, pull the locking handle toward you to lock the hex bar.
- Use provided crow bar to raise lip of tire above demount head. Let lip of tire come to rest on tire side of demount head.
- With the crow bar inserted between the bead and the front section of the mounting head. See (Fig. 23) Rotate the turntable in a clockwise direction by pressing down on reverser control pedal (4) until the tire is completely separated from



(Fig. 22)

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the rim. You may also use part RAA-006 on assist arm to help.

- Repeat the operation for the lower lip of tire.
- Insert the crowbar and mounting head below the lower lip of tire.

See (Fig. 23)

- Push the crowbar down toward the wheel to lift the tire bead up, move the mounting head in position. You may also use part RAA-003 on assist arm to help lift the tire.



(Fig. 23)

- Rotate the turntable in a clockwise direction by pressing down on reverser control pedal (4) until the tire is completely separated from the wheel rim.
- Unlock the locking handle for the hex bar and rise out of way.
- Remove tire and rim from tire changer.

c. Mounting the Tire

Warning: Check the wheel and rim closely for any damage before mounting the tire. Free from any light corrosion or rubber residue.

- Do not attempt to service any corroded wheels
- Match the diameter of the rim and tire. Never try to mount a tire on a rim if you cannot identify the diameter of both.
- Lock the rim on the turntable.
- Lubricate the tire beads with the grease in order to avoid damage.
- Move the tire so that the bead passes below the front section of the mounting head and is brought up against the edge of the rear section of the mounting head itself.

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- Keep the tire bead pressed down into the wheel rim with your hands; press the reverser control pedal (4) to rotate the turntable clockwise. Continue until you have covered the whole circumference of the wheel rim; insert the inner tube (if there is one).
- While mounting new tire on rim, you may use part RAA-006 and RAA-004 on the assist arm to help push sidewall of tire down during rotation.
- Repeat the same operations to mount the upper side of the tire.
- Push the crowbar down, move the mounting head in position.
- Rotate the turntable in a clockwise direction by pressing down on reverser control pedal (4) until the tire is bead is mounted.

WARNING: demounting and mounting are always done with the clockwise turntable rotation. Counterclockwise rotation is used only to correct operator's errors or if the turntable stalls.

6. Inflation

- a. Once tire is on the rim, hook tire inflation hose to valve and use bead blast or inflation pedal to set bead and inflate the tire.
- a. Inflate the tire with inner tube or some easy-inflating vacuum tire
 - b. Press the inflating control pedal (1) to 1 shift. (Fig.24)
 - c. Continue to inflate the tire and constantly checking the pressure between air jets until the required pressure has been reached.
- b. Inflate the hard-inflating tire.
 - d. If the bead of tire is not well seated, due to a strong bead, inflate the tire with the blast inflation, press the inflating control pedal (1) to the shift 2 position, a strong jet of air will be released through the eyelet near the sliding block. Lift tire manually or you

may also use part RAA-003 on assist arm to help until the upper bead seals against the rim.

- e. NEVER exceed the maximum inflating pressure given by the tire manufacturer.
- f. Check the state of wear of the tire and that it has no defects before beginning the inflation stage. Never exceed the pressure 3.5 bar.



(Fig. 24)

7. Maintenance

- a. Frequently check the compressor oil level of the oiler in the back of the machine.
- b. If low, please refill with compressor oil. Do not use any other type of oil. This keeps the air lines lubed and clean and greatly extends the life of the machine.
- c. Keep any air holes free of dirt.
- d. Grease the spot where the rim clamp jaws move along the turntable. This will let machine work easier and extend its life.
- e. Make sure you do not exceed 145 PSI. Remember that the tire changer does not have a pressure regulator. The gauge on the back of the machine is simply that, a gauge. You must put a pressure regulator on your compressor.



8. Moving

- a. A fork lift truck is required to move the tire changer.
- b. Disconnect the pneumatic and electric power.
- c. Raise one side slightly from the floor.
- d. Insert the forks under the base and slide the tire changer onto them.
- e. Set the tire changer down in its new position.

9. Storage

In the event of storage for long periods of time, make sure to disconnect all power and grease the clamp on the turntable to prevent from oxidizing.

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10. Trouble Shooting

Error	Solution
Bead Breaker does not move or does not have enough pressure.	Check hose connections and fittings. Check seals inside bead breaker cylinder. If seals are bad, replace seals. Replacement seals were provided with tire changer. Check inside cylinder to be sure there are no gouges in the metal.
Turntable will not turn	Check all wire connections. Check foot pedal and electrical switch. If motor is defective, return motor for inspection and repair or replacement.
Demount hexagon bar will not stay in locked position	Replace locking plate.
One of the air functions do not work	Check foot pedal valve, air lines and fittings for leaks. If air is reaching the foot pedal from the air tank, but not being sent on to final destination, then replace foot pedal air valve.
clamps expand/open or inward/close is slow	Clean the turntable and cylinder. Clean muffler.