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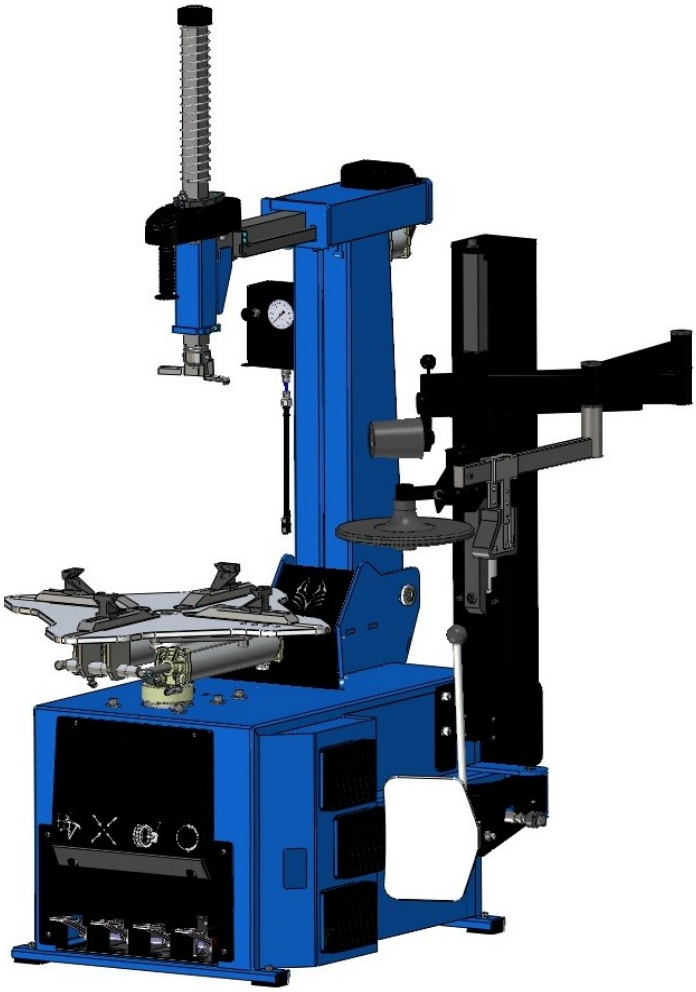
UNI-TROL

GARAGE EQUIPMENT

TYRE-CHANGER YANKA K INV

OPERATING MANUAL



Serial number ……

Production Year ……

Manufacturer and Service:

„UNI-TROL" Sp. z o.o.

ul. Estrady 56, 01-932 Warszawa

tel/fax (22) 8179422, 8349013, 8349014

The manufacturer reserves the right to introduce changes to the machine without having to amend this manual.

TABLE OF CONTENT

NAMEPLATE.

When contacting the service provide the machine‘s model and serial number. This will make easier for our technical staff to provide assistance. Fig.1 presents the machine‘s data. If there are discrepancies between the data contained in this manual and the data on the nameplate, the data on the machine’s nameplate applies.

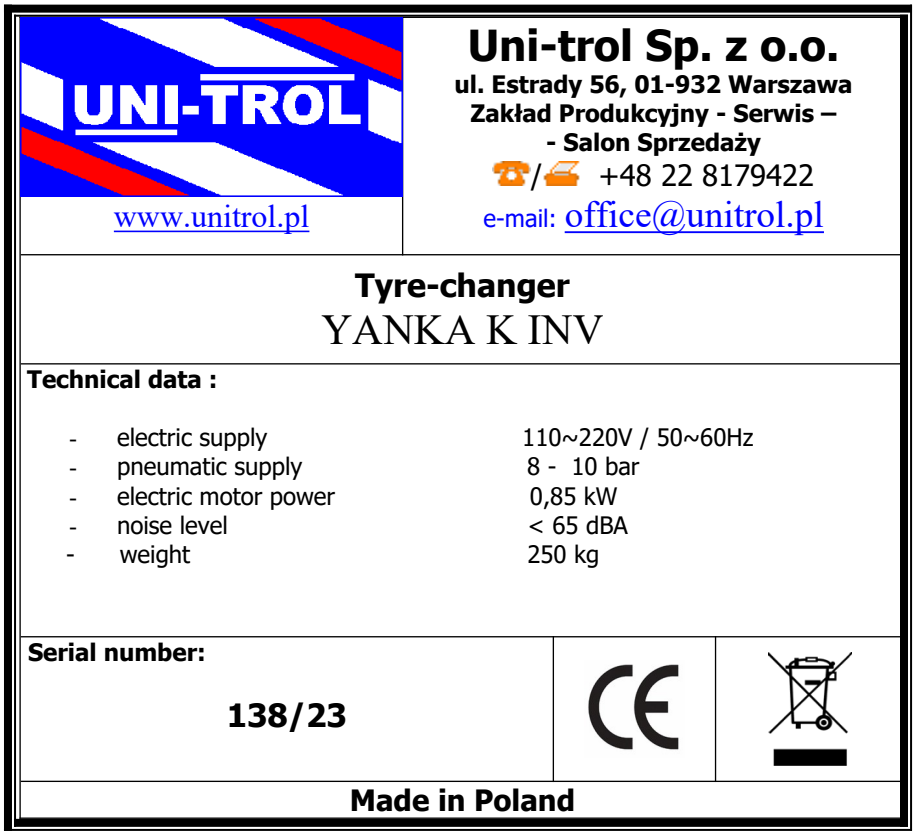


Fig. 1. Nameplate.

TECHNICAL DATA.

Inner clamping range	10” - 28”
Outer clamping range	13” - 28”
Max. tyre width	15”
Wheel clamping	pneumatic
Column tilting	pneumatic
Assistant locking	pneumatic
Working pressure	8 - 10 bar
Bead-breaker force	1500 kg (at 10 bar)

ELECTRIC SYSTEM

Motor power:

- 0,85 kW

Motor supply voltage:

- 110~220V / 50~60Hz

Motor rotation speed:

- smooth speed regulation 0-13 rpm

Motor torque:

- 1200 Nm

DIMENSIONS	*YANKA*	*YANKA K*	*YANKA KK*
Width	940 mm	1000 mm	1200 mm
Height	1850 mm	1850 mm	1850 mm
Depth	1200 mm	1200 mm	1200 mm
Weight	200 kg	250 kg	300kg

Working temperature	0 - 35°C
Storage temperature	-20 - 45°C

MACHINE DESCRIPTION.

Tyre-changer YANKA assembles and disassembles tyres on steel and aluminum rims of passenger cars and vans.

The machine performs the following functions:
• bead breaking
• tyre disassembly and assembly
• inflating the wheel using a pumping device with a manometer

The tyre-changer has an electro-pneumatic drive. Pneumatic cylinders are used to breake the bead, tilt the column, mount the wheel on the assembly table, lock the slider and the arm with the working head in the working position. The assembly table is rotated by an electric motor.

Fig.2 shows the main elements of the tyre-changer.

All YANKA tyre-changers are equipped with:
• pumping device
• air preparation unit (pressure reducer + lubricator)
• lever

YANKA K is equipped with one Assistant (K) and YANKA KK with two Assistants (KK) that facilitates the removal and installation of low-profile and particularly hard tyres.

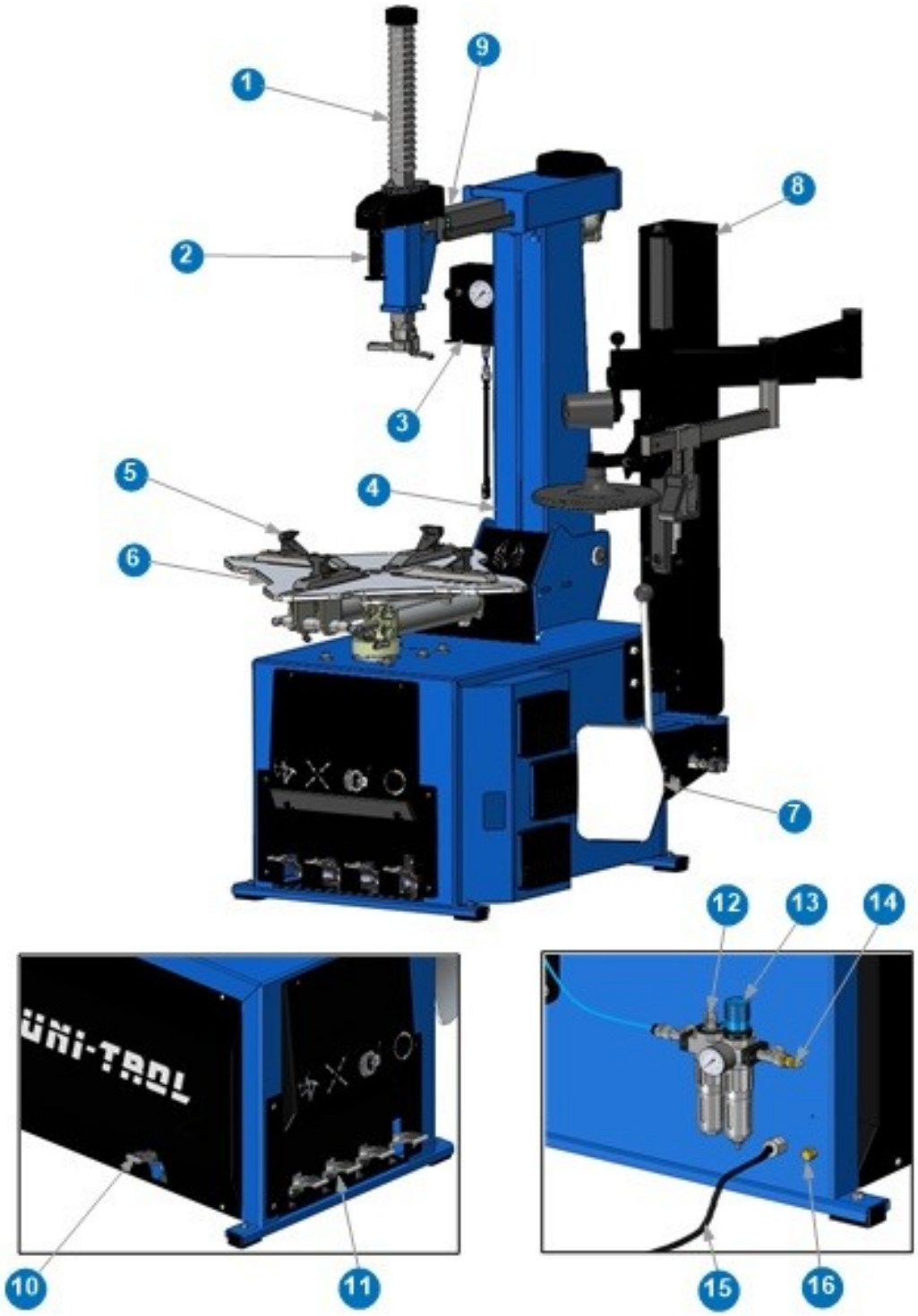


Fig. 2. Tyre-changer main elements.

1 – vertical slider
2 – slider lock handle
3 – inflating device with manometer
4 – column
5 – jaw
6 – table
7 – bead-breaker
8 – assistant (K)
9 – horizontal slider
10 – inflating device pedal
11 – control pedals unit
12 – compressed air lubricator
13 – compressed air reducer
14 – air supply connector
15 – power cord
16 – protective clamp

INSTALLATION.

ELECTRIC AND PNEUMATIC CONNECTIONS.

The electric connection must be suitable for the power absorbed by the machine as indicated on its nameplate.

The electric connection must have the following components:
• separate electric connection that meets the safety requirements;
• properly selected overcurrent circuit breaker;
• protection circuit.

For proper operation it is required to connect the machine to a compressed air supply system with a minimum pressure of 8 bar and a maximum pressure of 10 bar. Working at higher pressure may lead to damage in the pneumatic system.

For the correct and safe operation it is required to connect the machine to a protective circuit whose effectiveness has been previously checked.
DO NOT connect the protective cable to gas pipes, water pipes, telephone lines or other installations.

CONNECTING POWER.

The plug supplied with the machine should be connected to the electrical outlet 110~220V / 50~60Hz.

Connect the compressed air supply hose to the terminal (fig. 2 item 14).
A pneumatic hose with a working pressure of at least 12 bar and with an internal diameter of 8 mm should be used.
Check that the lubricator (fig. 2 item 12) is filled with oil (see "OIL RECOMMENDATIONS AND WARNINGS"). If not disconnect the air supply, unscrew the bottom of the tank and refill the oil. Adjust the dripping by turning the lubricator adjustment screw to the left or right. By pressing pedals 16 and 17 in turn check whether the handle lugs move and the column tilts.

OPERATIONS.

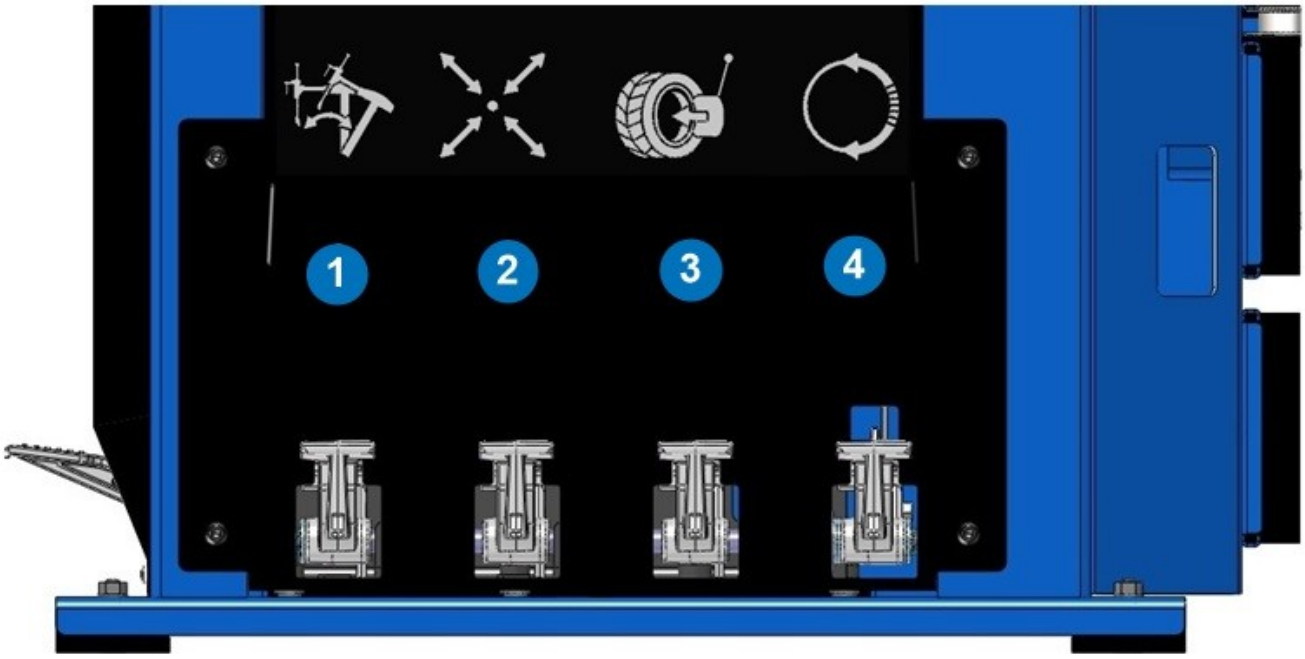


Fig. 3. Control pedals.

Column tilting pedal (fig. 3 pos. 1)

- upper position – *the column is in working position (vertical).*
- middle position - *tilting the column back to any distance.*
- lower position - *maximum tilt of the column backwards.*

How to operate the pedal in the middle position:
1. Press the pedal gently until you hear a click;
2. Take your foot back, the pedal locks in the middle position;
3. The next time you press the pedal the column will tilt, releasing the pedal will stop it.

Wheel clamping pedal (fig. 3 pos. 2) opens and closes the table jaws.

- upper position – *jaws closed.*
- middle position - *spreading the jaws to any distance.*
- lower position – jaws are fully opened (spreaded) .

How to operate the pedal in the middle position:
1. Press the pedal gently until you hear a click;
2. Take your foot back, the pedal locks in the middle position;
3. The next time you press the pedal the jaws will be spreading, releasing the pedal will stop it.

Pressing the pedal again moves it to the upper position (closes the jaws).
Depress the pedal carefully so that it does not jump to the lower position.

ATTENTION !
The jaw spacing in the table can be set for the desired rim diameter by inserting the stop pin (provided with the machine) into the appropriate hole.
There are holes in the table to set the jaws apart for a rim diameter from 13 till 18 inches (for the middle position of the jaws).

Bead-breaker pedal (fig. 3 pos. 3)

- upper (start) position – *the bead-breaker is off (moved back)*
- pressing the pedal turns the bead-breaker on, releasing the pedal turns it off

Table rotation pedal (fig. 3 pos. 4)

The regulation of the table rotational speed depends on the pressure on the pedal and it changes smoothly in the range from 0 to 13 rpm. Reverse rotation is activated by lifting the foot pedal from the middle position upwards.

Slider lock knob (fig. 4)

Turning the knob from the initial position to the right (fig. 4 - direction marked in green) immobilizes the slider and the arm with the working head in the working position. Turning the knob to the left loosens the horizontal slider and throws the vertical slider with the working head up.

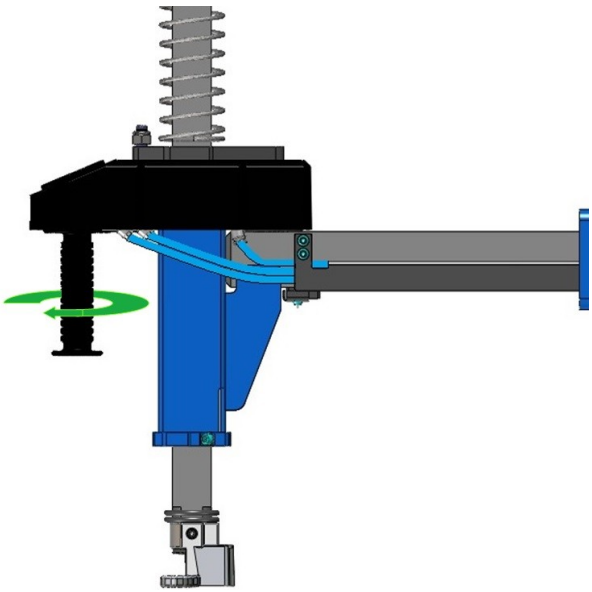


Fig. 4. Vertical slider unit.

Changing claws position (fig. 5)

To change the jaw spacing unscrew the screw and move the claw to the desired place. By default the claw is set in the middle position. In this arrangement the table has a clamping range from 14.5” to 25”.

ATTENTION !
After each spacing change make sure that all claws are set the same way.

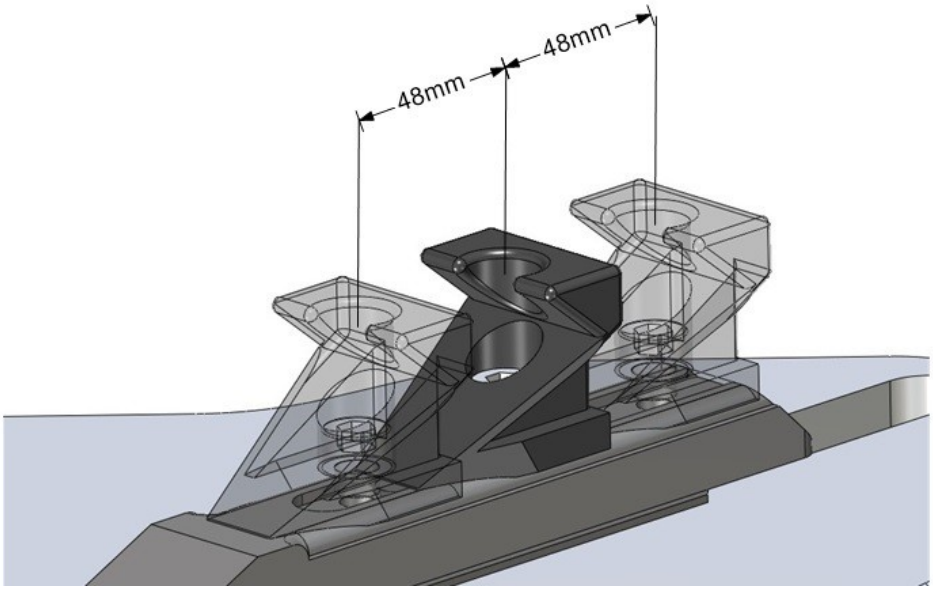


Fig. 5. Claw adjustment.

The total rim mounting range (in mm) including the change of claw settings is shown in Fig. 6.

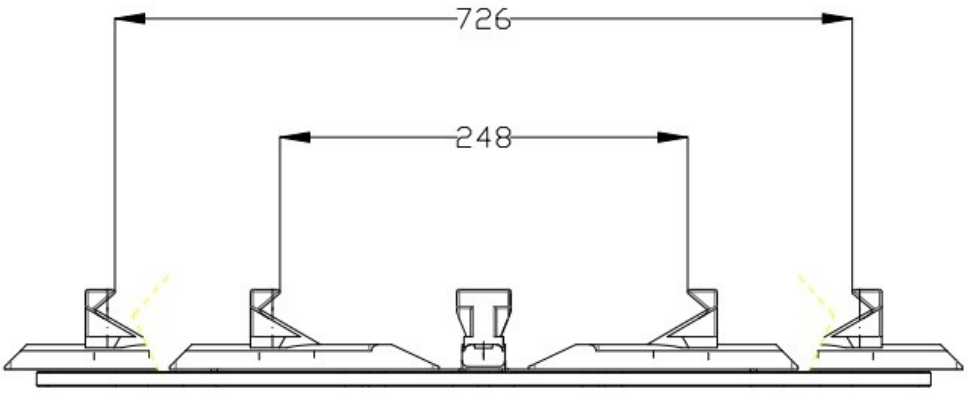


Fig. 6. Jaw opening range .

Bead-breaker adjustment

Bead-breaker unit is equipped with a locking pin that allows operation in two ranges (fig. 7):

- range I – for wheels of till 9” (~ 230mm) width

- range II- for wheels of 15” (~380mm) width

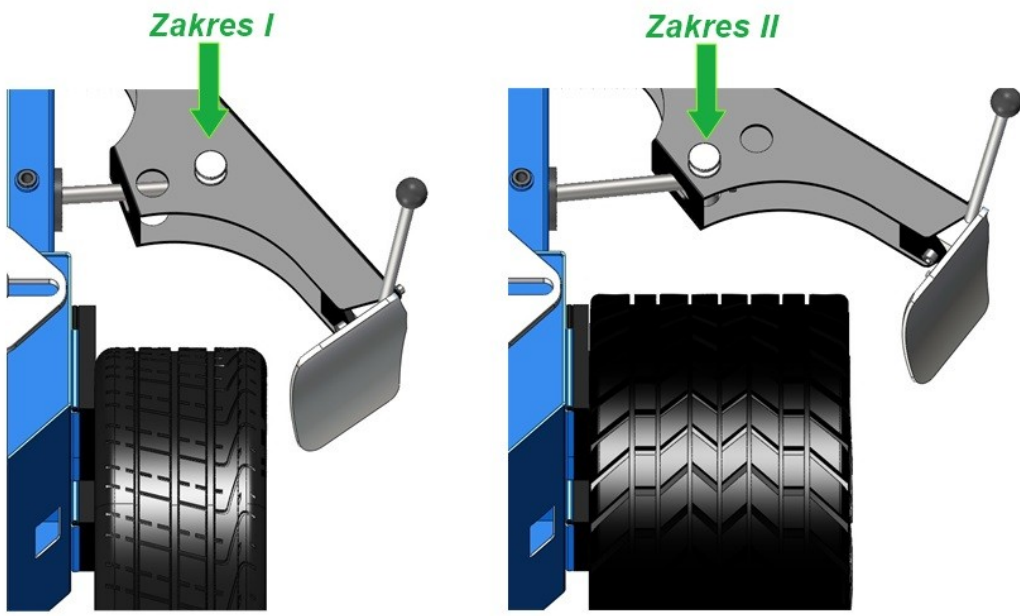


Fig. 7. Bead-breaker range adjustment.

There is an adjustment on the piston rod that allows you to change the insertion depth of the bead-breaker blade (adjustment possible only on the 2nd range). This solution has been introduced for tyres which are particularly vulnerable to damage due to too deep pressing of the blade. The adjustment is made by moving the latch insert into one of the 4 positions on the piston rod as shown in the fig. 8.

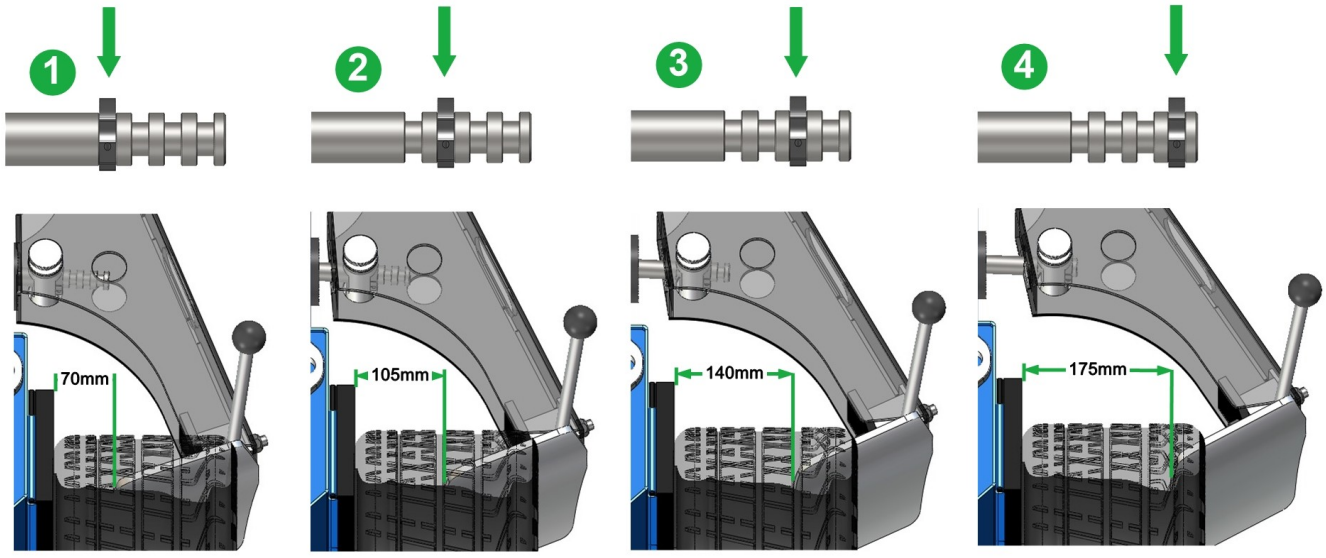


Fig. 8. Blade depth adjustment.

TYRE REMOVAL.

ATTENTION !
Before disassembling the tyre deflate the wheel by unscrewing the valve.

Turn on the electric and pneumatic power supply of the tyre-changer.
Pull the bead-breaker arm (fig. 9 item 1) by hand, insert the wheel between the blade and the rubber pad on the side wall and move the blade to the tyre just at the edge of the rim.

MAKE SURE THAT THE BLADE DOES NOT REST ON THE RIM !

- Holding the blade in the right position press pedal 3 (fig. 3 item 3) and hold it until the tyre slides off the rim edge. If necessary repeat this operation in several places around the circumference of the wheel.
- Then turn the wheel over and slide the tyre off the rim edge on the other side of the wheel in the same way.

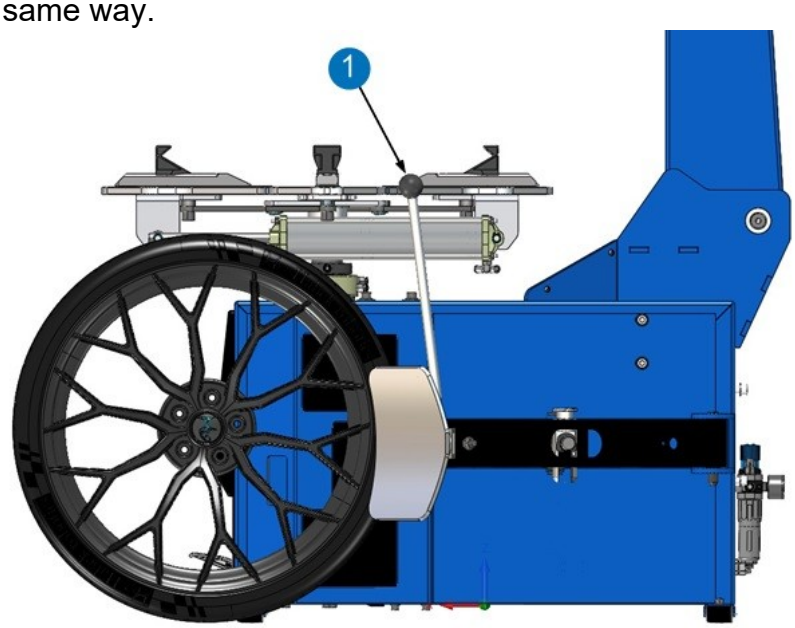


Fig. 9. Bead breaking.

• Use pedal 1 (fig. 3 item 1) to tilt the column backwards.
• Use pedal 2 (fig. 3 item 2) to open the table jaws (pedal in middle and lower position).
• Place the wheel on the table so that the tyre rests on the jaws and move the pedal 2 to the upper position. Check that the claws of the jaws securely grip the rim edge.
• Move pedal 1 to the upper position - the column will return to the vertical position (working position).

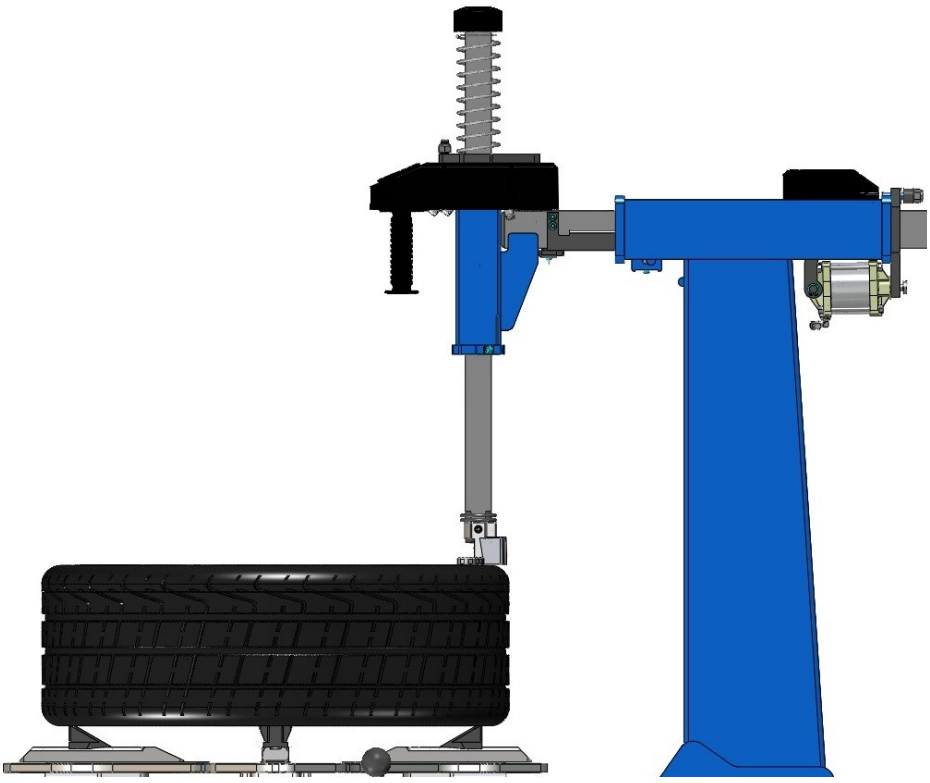


Fig. 10. Working head adjustment.

- Grasp the vertical slider top with your left hand and the slider lock knob with your right hand.
- Moving the slider to the appropriate distance and pressing the vertical slider top make the working head rest on the rim edge, as shown in Fig.10.
- Then turn the knob to the right (fig. 4) - the sliders will be blocked and the working head will automatically assume the working position, taking into account the necessary clearance between the working head and the rim.
- Press the bead opposite the working head into the rim recess.
- Place the lever on the finger of the working head (fig. 11, item 1) and pull the edge of the tyre over the head (fig. 11, item 2) - as in figure 12.

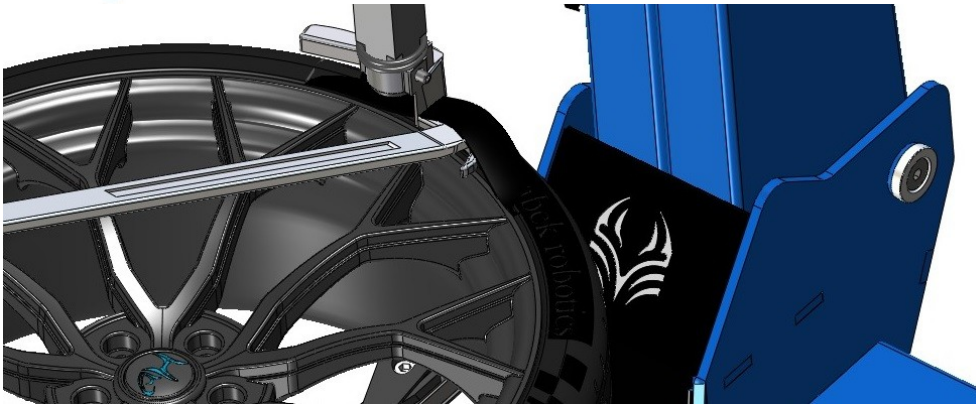


Fig. 11. Working head. 1- finger, 2- head, 3- foot.

Fig. 12. Tyre removal.

• Pressing the pedal 4 (fig.3 item 4) turn the table to the right until the upper bead is removed from the rim. If abnormalities occur when removing the tyre, such as jamming, release the pedal and then lift it up. The table will then rotate to the left and release the jammed tyre.
• The lower edge of the tyre is removed from the rim without changing the wheel grip or bead position.
• Insert the lower bead of the tyre into the rim recess and repeat the operation of removing the tyre as described above.
• Use pedal 1 (fig. 3 item 1) to tilt the column back and remove the tyre.

TYRE MOUNTING.

• Use pedal 1 to tilt the column backwards.
• Use pedal 2 to open the table jaws (pedal in middle or lower position).
• Place the rim on the table and move pedal 2 to the upper position.
• Check that the claws of the jaws securely grip the edge of the rim.
• Put the tyre on the rim.
• Move pedal 1 to the upper position - the column will return to the vertical position (working position).
• Grasp the arm top with your left hand and the slider lock knob with your right hand.
• By extending the slider to the appropriate distance and pressing the top of the vertical slider make the working head rest on the rim edge, as shown in Fig.10.
• Then turn the knob to the right (fig. 4) - the sliders will be blocked and the working head will automatically assume the working position taking into account the necessary clearance between the working head and the rim.
• Put the bead on the working head foot (fig. 11, item 3) and push it under the head (fig. 11, item 2) - as in figure 13.
• Press down on the tyre side with your hand just before the bead returns over the rim edge, pinch it and hold it in place with your hand.

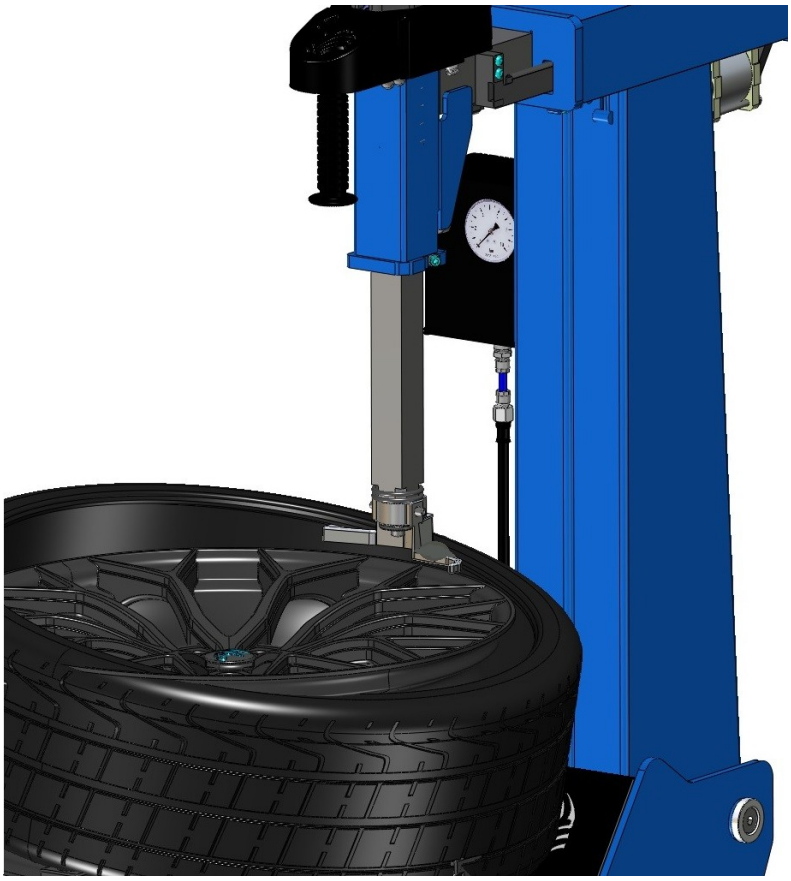


Fig. 13. Tyre mounting.

- While pressing the pedal 4 turn the table to the right placing the edge of the tyre in the rim recess until the lower tyre bead is placed on the rim.
- In case of irregularities during tire mounting (jamming) release the pedal and then lift it with your foot up (then the table will turn to the left and free the jammed tyre).

• Place the tyre top edge on the rim in the same way as for the bottom edge.

• In Yanka K and Yanka KK the operator's hand in the above operations is replaced by a properly set presser.
• Use the lock knob (fig.4) to unlock the arm and slider.
• Use pedal 1 to tilt the column back.
• Use pedal 2 to open the table jaws.
• Inflate the wheel using a pumping device with a pressure gauge (fig. 2 item 3).
• Remove the wheel from the machine.

WHEEL INFLATING.

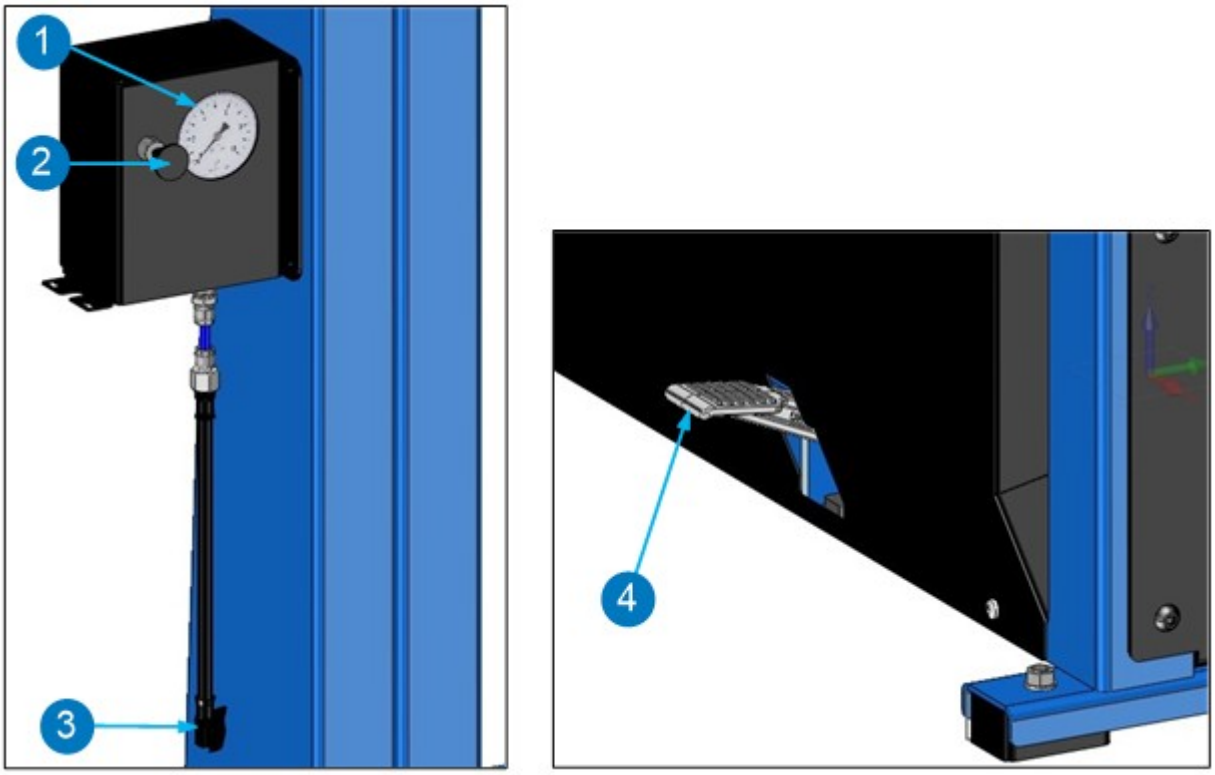


Fig. 14. Inflating unit.
1- manometer, 2- air release valve, 3- hose with a forged end,
4- inflating pedal.

To inflate a wheel:
• Fasten the end of the hose (fig. 14 item 3) on the wheel valve;
• Observing the pressure gauge (fig. 14 item 1) press the pedal (fig. 14 item 4) until the desired pressure is reached (fig. 14 item 1);
• If it is necessary to release the pressure, press the valve button (fig. 14 item 2).

ASSISTANT K.

Assistant K is an additional column equipped with three tools for mounting and removing low-profile and RUN-FLAT tyres.

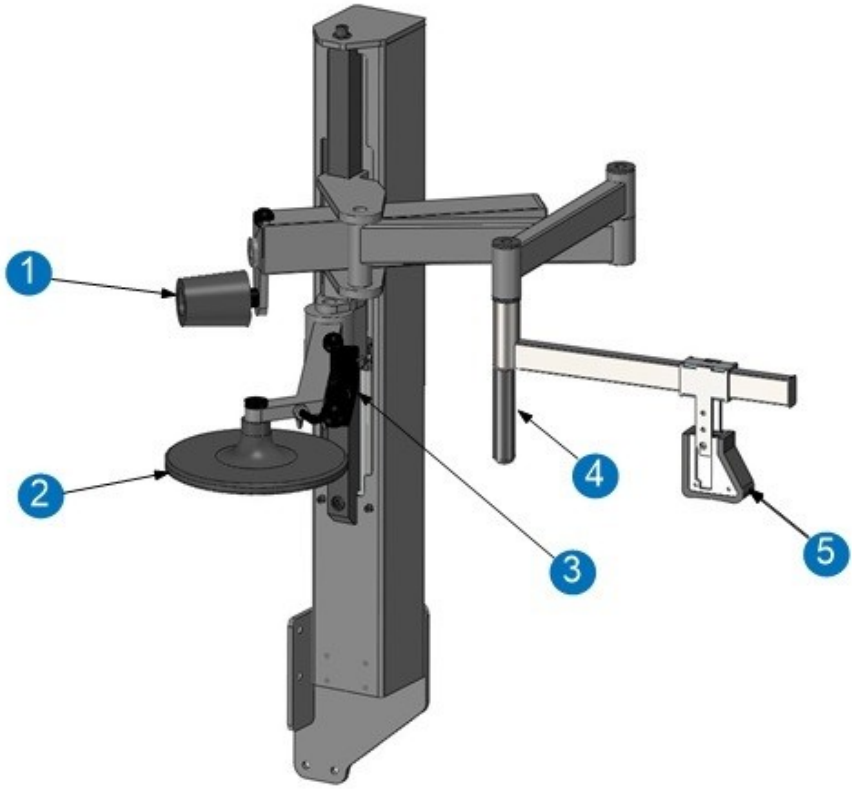


Fig. 15. Assistant K.
1- pressing roller, 2- disc roller, 3- control distributor,
4- centering pin, 5- pressing foot.

Pressing foot adjustment

- Unscrew the adjustment screw (fig. 16 item 1),
- Set the guide (fig. 16, item 2) in the required configuration,
- Screw in the adjustment screw.

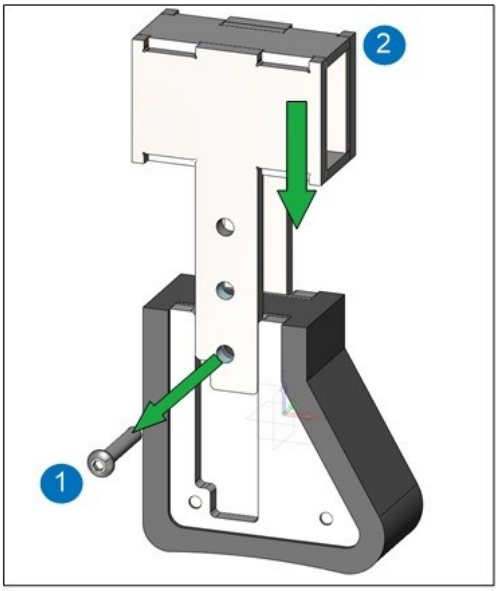


Fig. 16. Pressing foot adjustment.

TYRE REMOVAL WITH ASSISTANT K.

To facilitate work with hard or low-profile tyres use the pressing foot (Fig. 15 item 5) and the pressing roller (Fig. 15 item 1).

- Set the centering pin in the center of the rim and press down enough to secure the rim in the jaws of the table.
- Set the pressing roller (fig. 15 item 1) at a distance of approx. 1 cm from the rim edge.
- Press the tyre downwards to make it easier to insert the lever.
- Return the pin and roller to the start position.
- Place the lever on the finger of the mounting head (fig. 11 item 1) and pull the tyre bead over the mounting head.
- Pressing the pedal 4 (fig.3 item 4) turn the table to the right until the upper tyre bead is removed from the rim. If abnormalities occur when removing the tyre, such as jamming, release the pedal and then lift it up. The table will then rotate to the left and release the jammed tyre.
- Lift the lower tyre bead with a disc roller (fig. 15, item 2), and then remove the lower tyre bead from the rim with a lever.

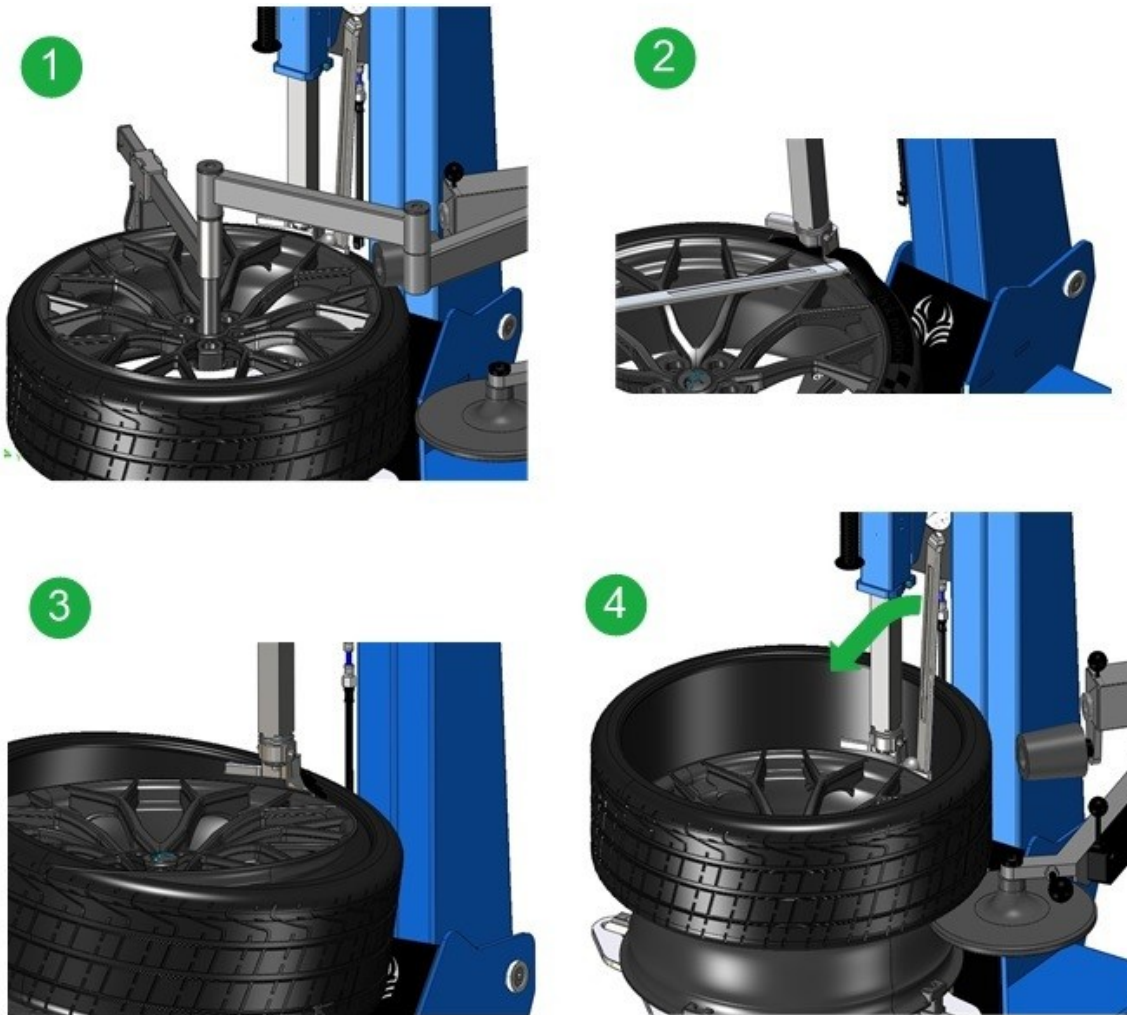


Fig. 17. Tyre removal with assistant K.

TYRE MOUNTING WITH ASSISTANT K.

• Mount the lower tyre bead (see TYRE MOUNTING on page 15). Set the pressing roller (fig.15, item 1) and the pressing foot (fig.15, item 5) as shown in fig.18. item 1.
• Immobilize the pressing foot so that the tyre bead stays in the recessed rim profile. During mounting the pressing foot should follow the tyre rotation.
• Once both tools have been released release the wheel and proceed with inflation.

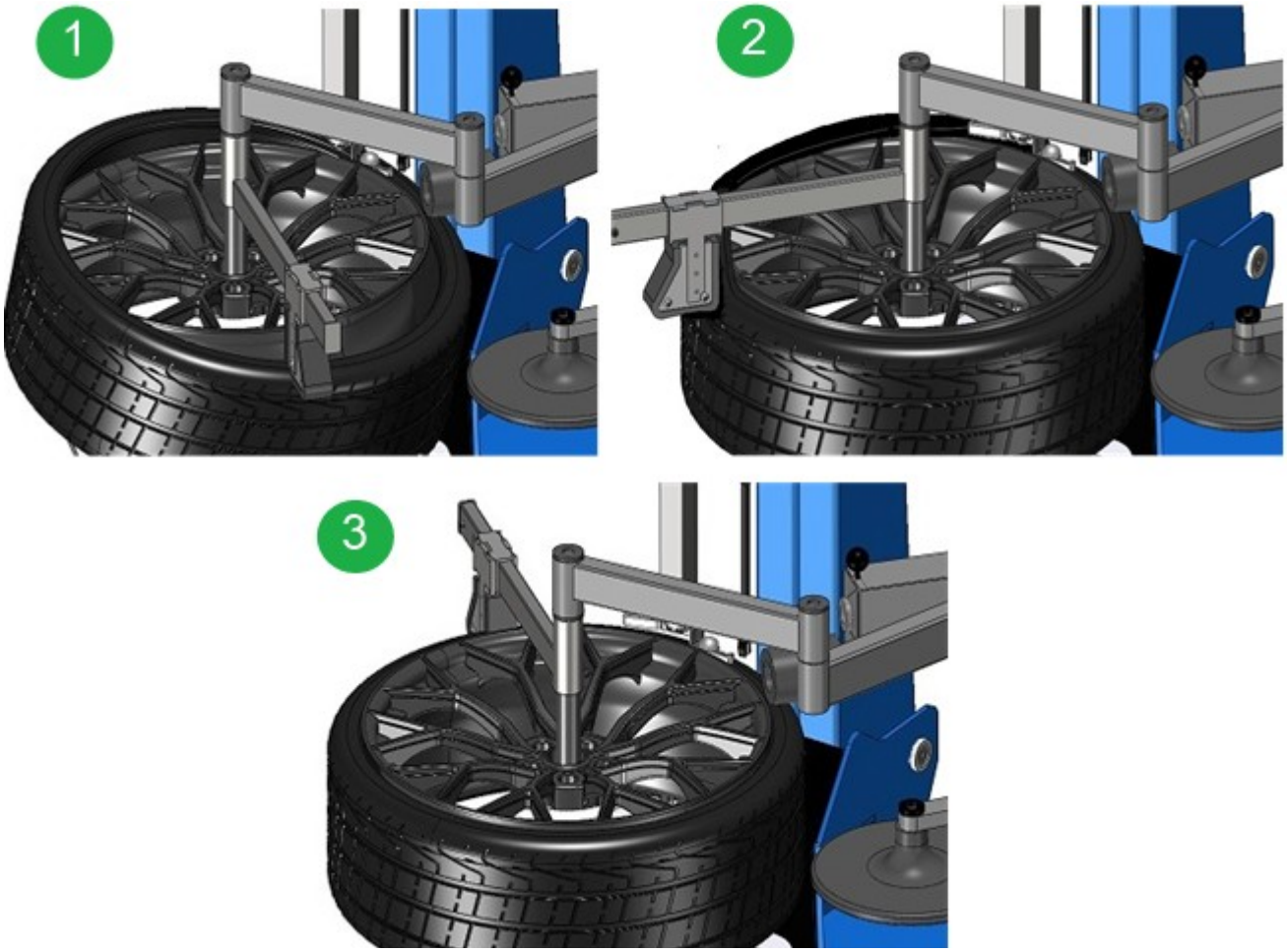


Fig. 18. Tyre mounting with assistant K.

POSSIBLE FAULTS AND HOW TO REMOVE THEM.

FAULT	POSSIBLE REASONS	HOW TO REMOVE IT
The fuses blew after pressing the pedal that started the table rotation.	Motor power cable shorted. Short circuit in the motor.	Check wiring, speed switch, motor.
The rotation pedal does not return to the center position.	Pedal spring is broken.	Replace the spring.
The bread-breaker pedal, table pedal or column pedal does not return to its original position.	No oil in the lubricator.	Fill the lubricator with HL 32 oil (hydraulic).
	Pedal spring is broken.	Replace the spring.
Air is escaping at the bead-breaker piston rod.	Piston rod seal worn.	Replace the seal.
The tyre pressure gauge indicator does not return to the position “0".	Damaged pressure gauge.	Replace the pressure gauge.
The wheel does not stay on the table.	Low air supply pressure.	Adjust (check) the air supply pressure, check for air leaks.
	The jaws are worn.	Replace jaws.
The table does not rotate in either direction.	No electricity supply.	Check the power.
	Motor is damaged.	Check motor power. Replace the motor.

We always recommend contacting our service !

MAINTENANCE.

UNI-TROL is not responsible for claims resulting from the use of non-original parts or accessories.

Before performing any adjustments or maintenance on the machine disconnect the power supply and check whether all moving parts are properly secured.

Do not disassemble or modify any machine's parts. This does not apply to service activities.

Components bearing this mark may still be under pressure after the equipment has been disconnected from the compressed air supply.

Check daily whether the jaws move freely. Impurities accumulated during the operation can significantly deteriorate the jaws sliding accelerating their wear thus posing a danger to the user. If necessary the guides and sliders should be washed with a petroleum solvent and then moistened with thin oil or a silicone.
Monthly inspection: Clean (petrol only) and lubricate the horizontal and vertical sliders where appropriate.
Check the oil level in the lubricator and add HL 32 (hydraulic) or another manufacturer's parametric oil if necessary.

Do not connect the power supply until the gasoline or solvent has evaporated after cleaning the machine.

ATTENTION !
Keep the workplace clean. Do not clean the machine with pressurized water. When cleaning avoid raising dust as much as possible.

Periodically remove the oil from the inside of the housing. The exhaust of oiled air, as in all machines of this type, takes place inside the housing, which causes oil to settle on its internal surfaces and, as a result, leak.

OIL RECOMMENDATIONS AND WARNINGS.

Oils free from water and acids with a viscosity of 32 (at 50 ºC) should be used. HL32 or other manufacturer's parametric equivalent hydraulic oil is recommended.

Removal of used oil.
Do not pour used oil into drains, ditches, drainage channels or waterways. Collect used oil and hand it over to waste oil recycling centers.

Oil leaks or stains.
Absorb spilled oil with sand, earth or absorbent material. The spill area must be degreased with solvents to prevent vapor stagnation. The exhaust of the lubricated air goes inside the machine (housing). In order to prevent leakage of accumulated oil it can be periodically removed from there. Access to the interior is obtained after unscrewing the plastic wall of the housing.

Rules for the use of oil.
Observe the following hygiene rules:
• avoid oil splashes (wear appropriate clothing, put protective covers on equipment)
• wash your hands often with soap and water
• do not use irritants or solvents that remove the protective layer of the epidermis from the skin
• do not wipe your hands on dirty or oily rags
• change oil-soaked clothing and wear fresh work clothes daily
• do not smoke or eat with oily hands

Also consider the following preventive measures:
• wear oil-resistant protective gloves lined with plush material.
• avoid prolonged skin contact.
• avoid the formation of vapors or mists escaping into the atmosphere.

UNI -TROL®

MANUFACTURING PLANT & STORE

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Account : for EURO : ALIOR BANK SA for EURO: no. PL 96 2490 0005 0000 4600 4784 6179 (swift code: ALBPPLPW)

CE

EU Declaration of Conformity

in accordance with directives : 2006/42/EU, 2014/35/EU, 2014/30/EU and 2014/68/EU

We : **Uni-trol Co. Ltd.**
Ul. Estrady 56
01-932 Warsaw
Poland

declare, under our exclusive responsibility, that the product:

Tyre changer
Electro-mechanical-pneumatic device,
Type: **YANKA ,**
Serial number ……..……

concerned by this declaration, complies with all relevant requirements of the Machinery Directive:

- directive 2006/42/EU (safety machines),

applicable in the essential requirements and relevant conformity assessment procedures, as well as on the essential requirements of the following directives:

- directive 2014/35/EU (the low voltage);
- directive 2014/30/EU (the electromagnetic compatibility);
- directive 2014/68/EU (pressure).

In order to verification of compliance with the applicable legal regulations have been consulted harmonized standards and other normative documents:

PN-EN ISO 12100:2012P
Safety of machinery -- General principles for design – Risk assessment and risk reduction
PN-EN 61000-6-3:2008P
Electromagnetic compatibility (EMC) -- Part 6-3: General standards -- Emission standard for environments: residential, commercial and light industrial
PN-EN 61000-6-4:2008P
Electromagnetic compatibility (EMC) -- Part 6-4: General standards -- Emission standard for industrial environments
PN-EN ISO 13857:2010P
Safety of machinery - Safety distances to prevent hazard zones being reached by upper and lower limbs
PN-EN 349+A1:2010P
Safety of machinery - Minimum gaps to avoid crushing of parts of the human body
PN-EN 60204-1:2018P
Safety of machinery -- Electrical equipment of machines -- Part 1: General requirements
PN-EN 61293:2000P
Marking of electrical equipment with ratings related to electrical supply -- Safety requirements
PN-EN ISO 4414:2011E
Pneumatic fluid power - General rules and safety requirements for systems and their components

PN-EN ISO 11201:2012P
Acoustics -- Noise emitted by machinery and equipment -- Determination of emission sound pressure levels at a work station and at other specified positions in an essentially free field over a reflecting plane with negligible environmental corrections
PN-EN ISO11202:2012P
Acoustics -- Noise emitted by machinery and equipment -- Determination of emission sound pressure levels at a work station and at other specified positions applying approximate environmental corrections
PN-EN ISO 4871:2012P
Acoustics -- Declaration and verification of noise emission values of machinery and equipment
PN-EN 50419:2008P
Marking of electrical and electronic equipment in accordance with Article 11 (2) of Directive 2002/96/CE (WEEE)

The technical documentation of this device, referred to in point 1 of Annex VII A of the Machinery Directive, is located in the headquarters Uni-trol Ltd. (address as above) and will be made available to the competent national authorities for at least 10 years after the last piece.

The person responsible for the preparation of the technical documentation of the product and introducing changes in it, is MSc. Gregory Tworek .

This EC Declaration of Conformity will be kept by the manufacturer of the product for 10 years from the date of produce the last unit and will available for market supervisory authorities for verification.

MSc. Gregory Tworek

Warsaw, 28.04.2023 .....

Signature