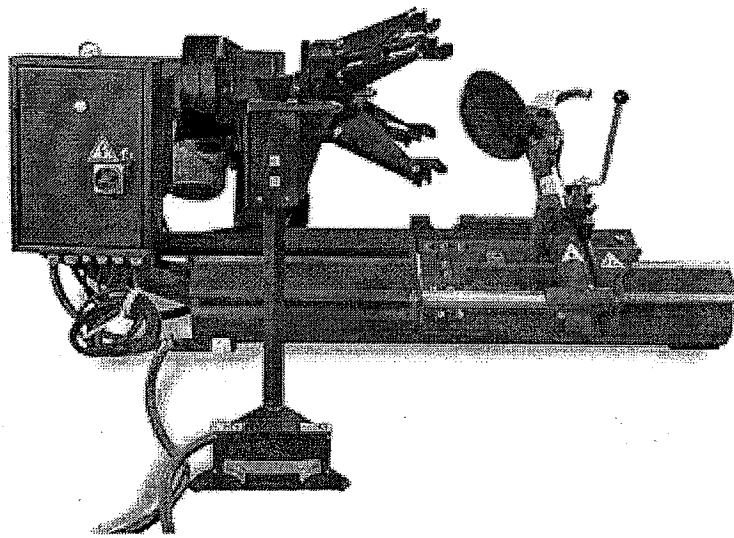


PREMIUM TRUCK TIRE CHANGER

TC-770-T

READ ENTIRE MANUAL BEFORE OPERATING THIS MACHINE



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IMPORTANT SAFETY INSTRUCTIONS

Read these safety instructions entirely!

Read and understand all safety instructions before operating machine

● Preface

Thank you for choosing this truck tyre changer LC580, this machine is designed and manufactured with the principle of best quality and highest working efficiency, and it is manufactured under the ISO9000 system. For ensuring correct and safe operation, and prolonging the work life of the machine, please read this manual carefully.

Information about this machine, such as type, specifications and related data, are helpful for service technician to provide technical service and parts replacement.

For convenient understanding, this manual contains the relevant information about the machine. Should there be any difference between the data in this manual and that on the nameplate, take the data on nameplate as correct one.

**** Carefully take this manual for use at any time.**

● Brief instruction

Scope of Applicant

This machine is specially designed for removing the tire from the rim and installing tire onto rim.

Note: this machine can only be used for the purpose designed by the manufacturer. Do not use it for any other purpose.

Any damage caused by incorrect use will not be covered under warranty.

Safety Regulations

Only the trained and qualified operators can be allowed to operate the machine. Unauthorized change of parts or nonobservance of instruction may cause machine damage.

Use and maintenance

Description of machine (fig.1) On/off main switch

Flange-holding arm

Hydraulic gripping device Mobile plate

Operation control switch

Gripping force control switch

Tyre rotate control (clockwise and counterclockwise) Support

Tool holder Locking lever for the tool holder

Pressing spring Bead breaking disk

Peak-tool

Positioning handle (control the peak-tool and bead break disk)

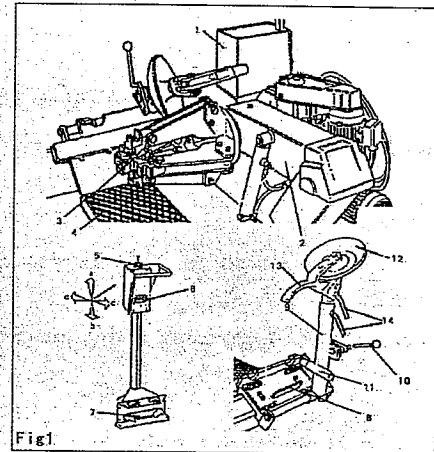


Fig.1

• Technical data

Suitable for wheels from	14" -26"
Max. wheel weight	1500kg.
Max. wheel width	780mm
Max. wheel diameter	1500mm
Hydraulic pump motor	1.1kw-220V-1PH
Gearbox motor	2.2kw-220V-1PH
Operating pressure	0-150bar
Bead breaker force inside-outside	1500kg
Noise level in working condition	< 70db
Net weight	400kg

Unpacking

After having removed the package, make sure that the tyre changer has not suffered any damage during the transportation. Take out the standard delivered accessories too.

The package units must be stored in a safe place, out of children's reach, being them a possible source of danger. Unpacking the machine by using the relevant tooling. During this phase pay much attention not to damage the control unit, which is not fixed.

Installation

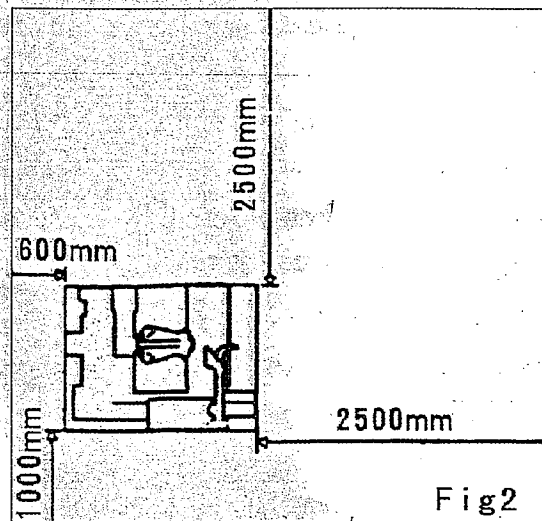
Choose the installation site according to the current rules on Safety at work.

The tire changer needs to be connected with the electric network.

It is therefore advisable to install it in a place where this connection is available.

Moreover, the installation space must allow the operator to use the machine and all its components without any restriction. (fig. 2)

In case of installation in the open air, it is necessary to protect the machine against rain by means of a lean-to.

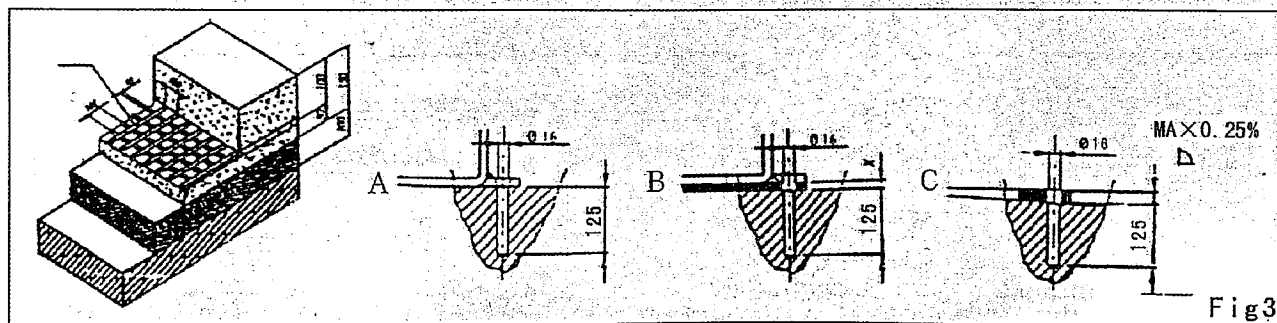


It is forbidden to use the machine in the explosive atmosphere.

See (fig.3) for the installation foundation.

The tyre changer must be installed on a level floor, the installation surface must be leveled in all directions. Use the bolts passing through the holes already provided in the base frame, to fix the machine on the floor. Once the gradient more than 25%, some wedge are needed for compensate.

When working with the tires having a weight higher than 1000kg, it is necessary to fix the tyre-changer to the ground by means of suitable anchoring bolts.



Electrical connection

All the operations on the electrics must be carried out by skilled staff.

The user must take care to:

- * Equip the electric system of installation site with an efficient protective ground circuit, connect the machine according to the marks.
- * Equip the electric system with an automatic circuit breaker, adjusted at 30A.

* Connect the tyre-changer to the power supply network, switch it on and check the motor running direction same as indicated by the arrow (fig 5).

In case of opposite running direction, it is necessary to have two wires inverted in the plug by expert staff.

The motor run made in the opposite direction, if longer than a few seconds, can cause irreparable damage to the motor itself.

Remarks: both electrical motor and the hydraulic unit motor are equipped with an overload cutout (fig 4) against overloads.

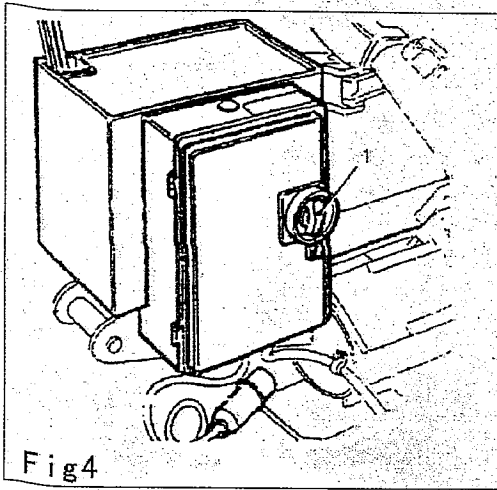


Fig4

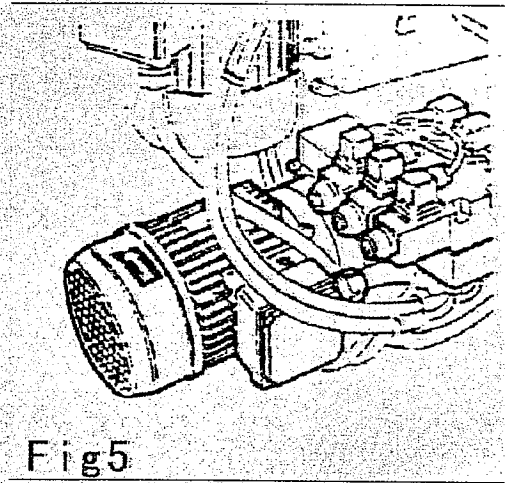


Fig5

Operation test

Before working with tyre-changer it is necessary to carry out some tests to check the correct operation and installation as well.

All the following operations must be carried out with the tool-holder (fig. 9) out of work.

For carry out the running test, set the tool-holder (9) in the position of out of work.

Then, act on the locking lever (10) to unlock the tool-holder, pull it and set it out of work.

Turn on the main switch 1 (fig. 4) to start the motor. Step the left pedal (7),

the gripping device will rotate counterclockwise, step the right pedal (7), the gripping device will rotate clockwise. Move the control switch (5), in the direction between " a " and " b " , flange-holding arm (2) will move up and down, in

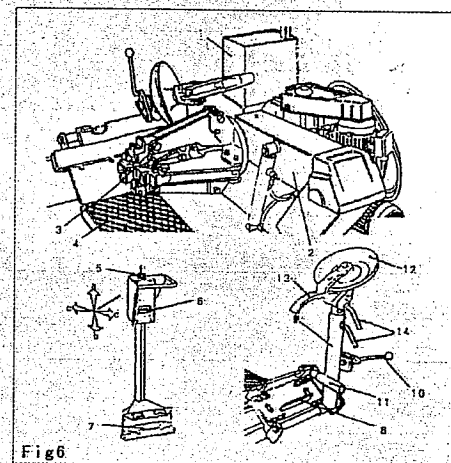


Fig6

the direction between “ c ” and “ d ” , flange-holding arm (2) will move from left to right. Turn up the switch (6), the gripping device will open, turn down the switch (6), the gripping device will close.

The action of the flange-holding arm and the gripping device can create some possible crushing points. Always work out of the arm ' s action range.

USE

Note for use

The non-observance of instruction and warning can cause serious injuries to the operator or third persons. Don ' t use the machine before having read and understood all the instructions given in this manual.

All the operators must be suitably trained before using the machine. (Keep unauthorized people far from the working area.)

Never leave objects on the tyre changer, which during the working phase could represent a source of danger.

Don ' t modify or tamper with the tyre changer unless previously agreed by the manufacturer.

During the working phase, draw up long hair, don ' t wear large clothes, ties, chains, rings, watches, which could be caught by the moving parts of the tyre changer.

To stop the tyre changer in emergency case:

Switch off the main switch to “ 0 ” Disconnecting the electric plug.

Rim locking

The machine has been designed to work on 14 ” -26 ” tyres mounted on rims having central hole of min.120mm-max.700.

According to the kind of the rim, it is therefore, necessary to act in different ways to lock it onto the flange.(fig 7)

Set the tyre on the tyre-holder and keep it in the vertical position. Move the handle of the control lever to lift the tyre, then turn up the gripping force control switch, to grip the tyre and rim tightly and lift it.

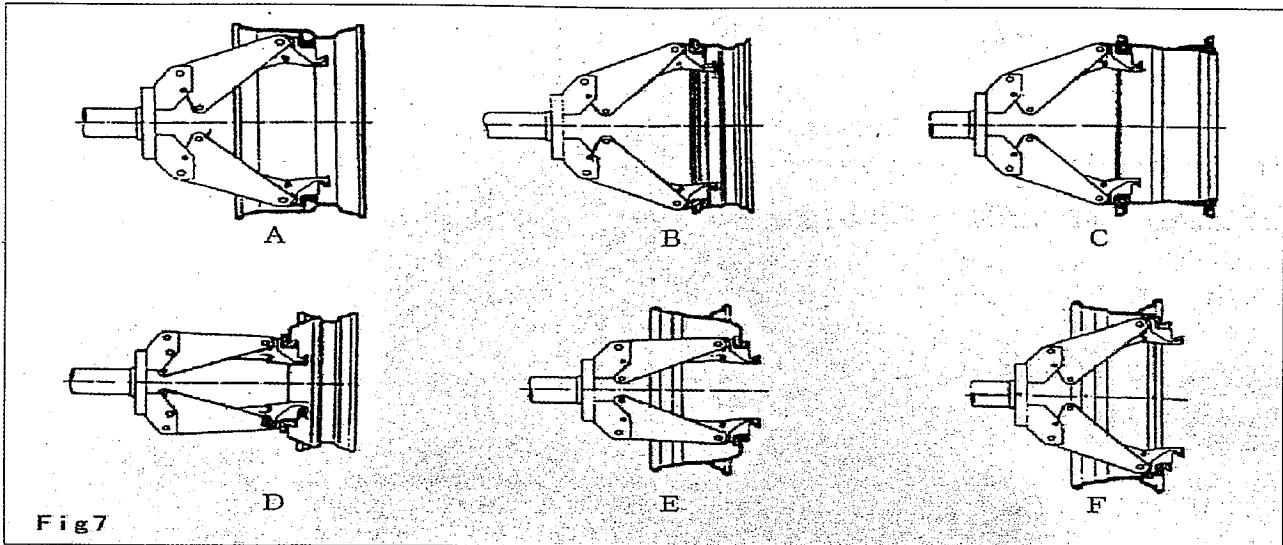


Fig 7

For the heavy or oversized tyres it is compulsory to use a suitable lifting device, avoiding the damage to the operator.

Tubeless wheels

Use the disk to press the edge of the tyre.

- (1) Make sure that the tyre is locked and deflated.
- (2) Set the tool-holder (9) at work, and make the arm (10) hooked to the carriage (8).

Always check that the arm (10) is correctly hooked to the carriage (8).

- (3) By means of levers (5) and let the disk (12) position itself close to the rim edge (fig. 8).

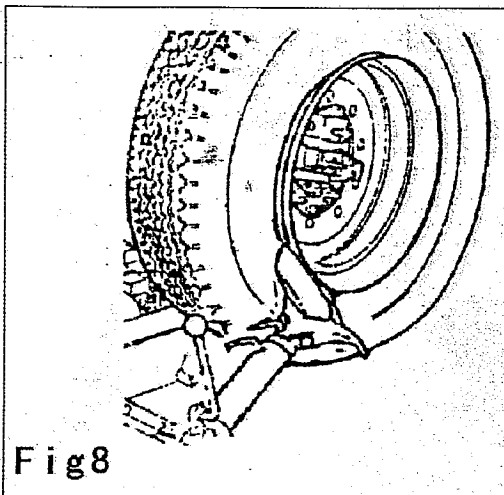


Fig 8

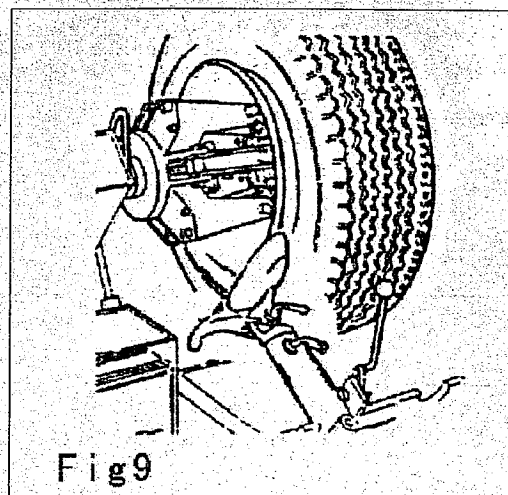


Fig 9

(4) Let the wheel turn and, at the same time, let the disk (12) move forwards.

(5) Go on until the bead is completely detached. To facilitate the operation, grease the bead and the rim edge all around, to avoid the damage of the tyre or the rim.

Pay particular attention not to rush the finger between the tyre and the tool. In order to avoid any possible risk, turn clockwise the when operating on the outer edge and counterclockwise when operating on the inner edge.

(6) Move the disk (12) away from the bead, release the jack (10), lift the arm out of work, move the disk (12) to the inner side.

(7) Repeat the operations, until the second bead is completely detached.(fig 9).

Don't keep your hands on the tool when setting it in working position so as to avoid any possible crushing between tyre and tool.

Bead breaking

(1) Set the tool-holder (9) to its non-working position. Move it to the outside plane of the wheel, and make sure the peak is suitable towards the tyre, if not so, pull up the positioning handle (14), turn the tool 180o, then put it down and let it hooked to the carriage.

(2) Adjust the position between the peak tool (13) and tyre, make it between the tyre and rim, insert it in the edge of tyre and hook the tyre.

(3) Low down the bead, so as to prevent the bead from unlocking from the peak tool.

(4) Move the peak tool outwards the outside until it by the outside edge of the rim.

(5) Under the peak tool, insert lever between tyre edge and bead.

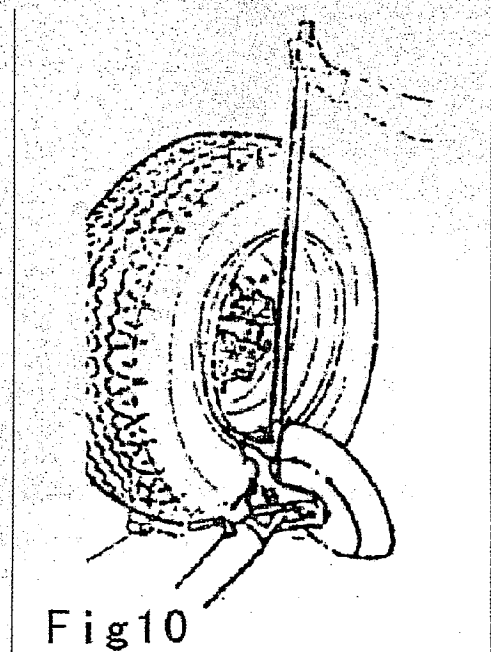
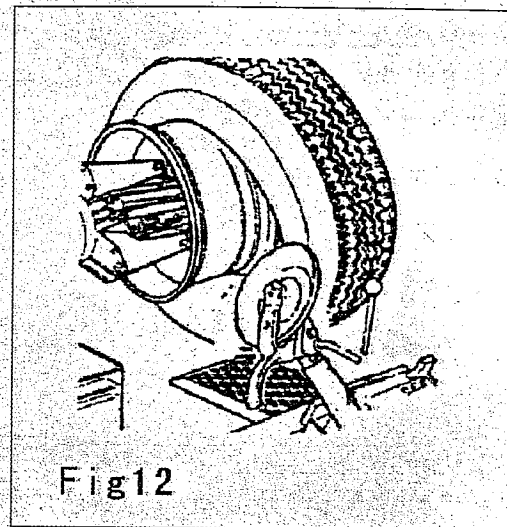
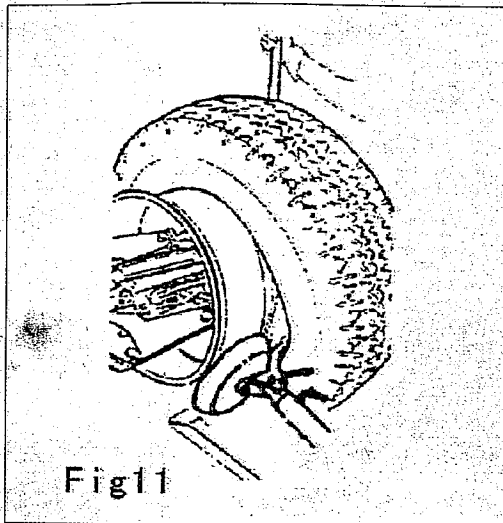


Fig 10

(6) Press down the lever and, keeping it pressed, lower the wheel until the edge of the rim sets itself at about 5 mm from the peak tool. (fig 10)

(7) Turn the wheel anticlockwise, until the bead is completely off. (fig 11)

(8) Move the tool carriage arm to the inside of the tyre, set the disk near the bead, turn the wheel anticlockwise, the inside bead completely off the rim, until now the tyre is completely detached. (fig.12)



Mounting

(1) Make sure that the rim is locked on the hydraulic gripping device.

(2) Grease both beads and tyre edges.

(3) Fix the pliers at the outer rim edge at its highest point. (fig 13)

(4) Position the tyre on the plate and lower the flange-hold arm, then adjust the position between the tyre carriage and flange-hold arm, put the inside tyre on the rim which has been locked by the pliers. (take care to keep the plier at its highest point)

(5) Lift the bead and tyre, and turn it clockwise of 15-20mm, the tyre will position itself obliquely relating to the rim.

(6) Check that the peak tool is in the direction toward the tyre, if not so, put down the positioning lever, and turn 180°, then fix it.

(7) Position the peak tool by means of the operation control switch, 5mm from the rim.

(8) Turn the wheel clockwise until the pliers in its lowest point. (fig. 14)

(9) Remove the pliers from the rim, and set the tool in resting position. (out of work)

(10) Position the tool-holder to the outside of the tyre, and fix the position.

(11) Set the pliers outside the bead, and rotate until it to the upper position of the peak tool. (fig. 15)

(12) Turn the tyre counterclockwise, until the pliers at its lowest point.

(13) Take away the pliers.

(14) Position the plate under the wheel vertical and lower the flange holding arm so as to set the wheel on it.

(15) Unscrew the hydraulic gripping device, taking care to hold up the wheel and prevent a possible rolling down, pay much attention to the safety.

Note: it is dangerous to inflate the tyre when it locked on the hydraulic gripping device. This operation can be extremely dangerous, do it only in the safe position.

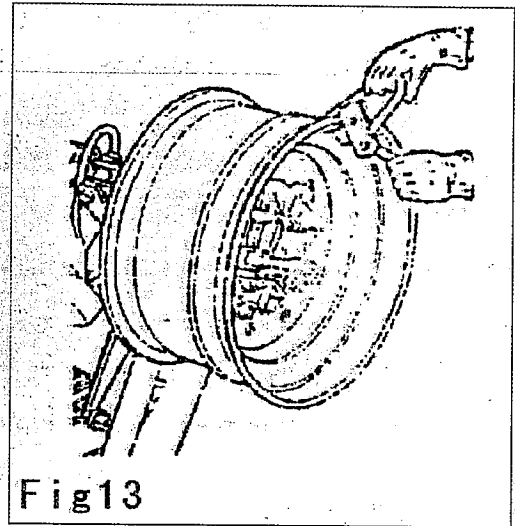


Fig13

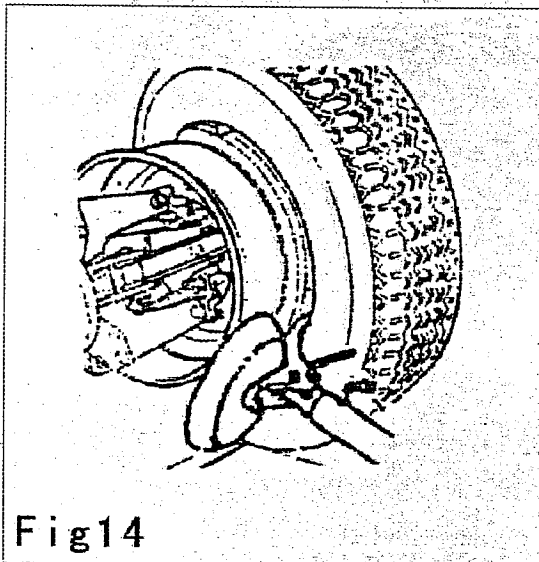


Fig14

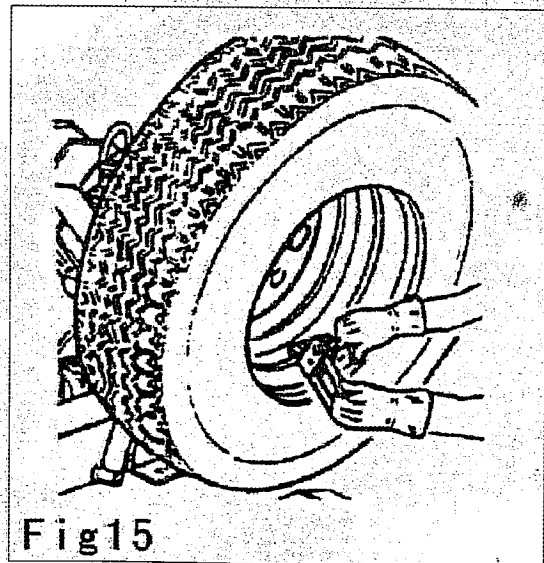


Fig15

Tyres with tube

Warning: unscrew the bush which fixes the valve when deflating the tyre, so that the valve coming into the inside of the rim, is not an obstacle during bead breaking.

Follow all the steps described previously for tubeless tyres bead breaking.

With tyres with tube, however, stop disk movement as soon as the bead has loosened to avoid damaging the tube inflation valve.

- (1) Set the tool holder (9) to its non-working position, move it to the outside plane of the wheel and rehook it in this working position.
- (2) Rotate the spindle, and at the same time move the peak tool forward inserting between the rim and the bead until it is anchored to the tool.
- (3) Move the rim 4-5mm, from tool so as to prevent the bead from unhooking from tool.
- (4) Move the peak tool outwards until it to the edge of the bead.
- (5) Insert lever between rim and bead at the right of the tool. (fig. 16)
- (6) Press down the lever and keeping it pressed, lower the wheel until the edge of the rim sets itself at about 5mm from peak tool.
- (7) Turn the wheel counterclockwise until one side of bead completely off.
- (8) Move the tool holder to the non-working position, lower the spindle until the tyre onto the plate
- (4). Move the plate slightly outwards so as to create the gap necessary to remove the inner tube.

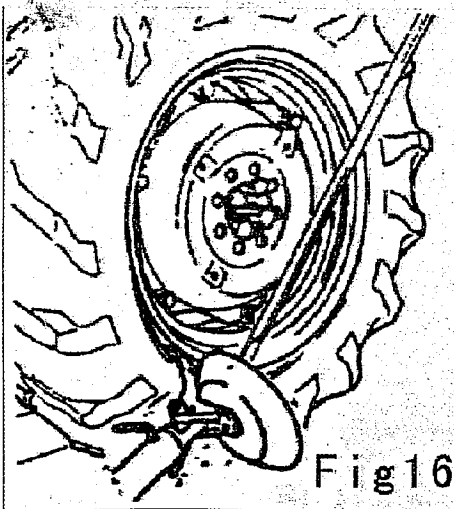


Fig 16

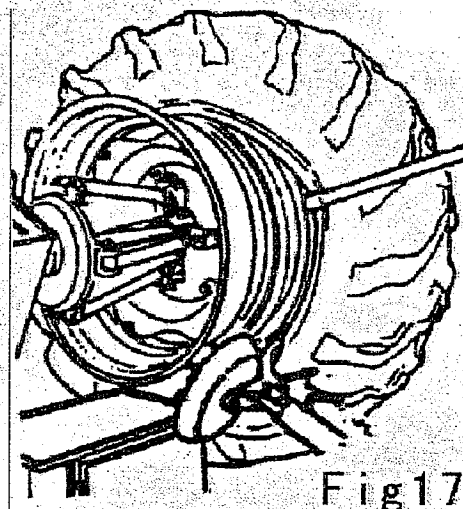


Fig 17

- (9) Remove the inner tube and lift the wheel again.
- (10) Move the tool holder to the inside plane of the tyre, turn the peak tool of 180°, and lower the arm to its working position. Insert it between rim and bead and move it until the bead is by the front edge of the rim, it is advisable to do this with turning wheel.
- (11) Move the rim about 4-5cm from the tool, so as to prevent the rim from detaching from tool.
- (12) Move the peak tool so that it is in the position about 3mm inside the rim.
- (13) Insert the lever between rim and bead at the right of the peak tool. (fig.17)
- (14) Press down the lever and keeping it pressed, lower the wheel until the edge of the rim sets

itself at about 5mm from the peak tool. Turn the wheel counterclockwise until the tyre is completely off.

When the beads come off the rim, the wheel will fall. Always make sure there are no bystanders in the working area.

Tyre mounting

(1) If the rim has been removed from the spindle, lock it back as described in par " RIM CLAMPING "

(2) Lubricate both beads and rim with proper grease.

(3) Fix the pliers to the outside edge of the rim at the highest point. (fig. 18)

Make sure the pliers is firmly attached to the rim.

(4) Sent the tyre onto the plate and lower the spindle (keep the pliers at the highest point) to hook the first bead to the clamp.

(5) Lift the rim with the hooked tyre and turn it counterclockwise 15-20cm. The tyre will set itself slantingly.

(6) Move the arm to the non-working position, move it to inner plane of the tyre and rehook it in this position. (7) Make sure the peak tool is position on the wheel side, if not turn it of 180o.

(8) Move the peak tool forward until it on the outside edge of the rim at about 5mm from it.

(9) From the outside of the wheel visually check the exact position of the

peak tool and adjust it, if necessary. Then turn the spindle counterclockwise until the pliers at the lowest position. First bead will be set in the position according to the rim, then remove the pliers. (fig.19)

(10) Remove the tool from the tyre.

(11) Move the tool holder arm to its non-working position, move it to the outside plane of the tyre.

(12) Turn the tool of 180o.

(13) Move the spindle until the valve hole is at the bottom.

(14) Set the plate (10) under the wheel, and lower the spindle until the tyre touches the plate, move the plate slightly outwards so as to create gap, between tyre and rim, necessary to introduce the inner tube.

Note: the valve hole may be asymmetrical to the center of the rim, in this case position and insert the tube as shown in (fig. 20), insert the valve through the hole and fix it with its locking ring.

(15) Fit the inner tube into the rim groove, (note: to facilitate the operation, it is advisable, at the same time, to turn the spindle clockwise.)

(16) Inflate the inner tube a little (until no more folds are present) so as not to pinch it while mounting the second bead.

(17) Fit an extension onto the valve and then remove the locking ring. Remarks: the purpose of this operation is to allow the valve to be loose so that it is not ripped out during the second bead mounting.

(18) Lifting the wheel again and fix the pliers outside the second bead at about 20cm right of the valve.

(19) Turn the spindle clockwise until the pliers is set at 9 o'clock position.

(20) Set the tool holder to its working position.

(21) Bring the peak tool forward until it to the outside edge of the rim at about 5mm from it.

(22) Turn the spindle clockwise until the tyre is completely mounted on the rim.

(23) Remove the pliers, remove the tool by turning the spindle counterclockwise and moving it outwards.

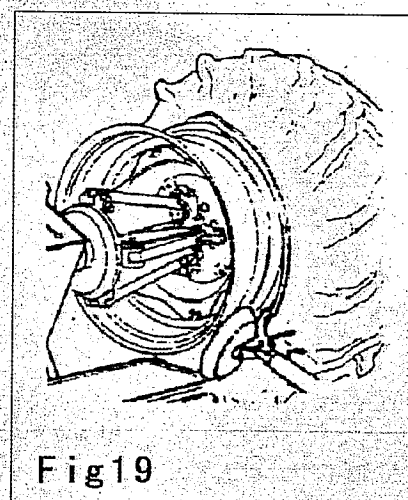
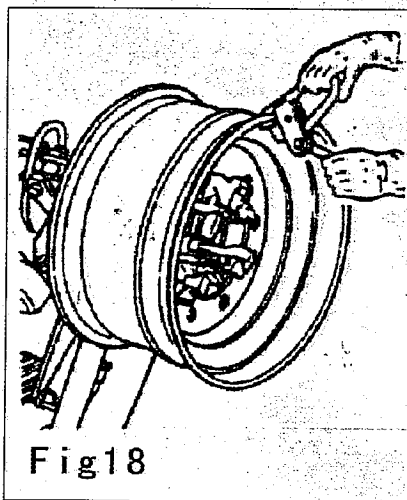
(24) Set the tool holder in its non-working position.

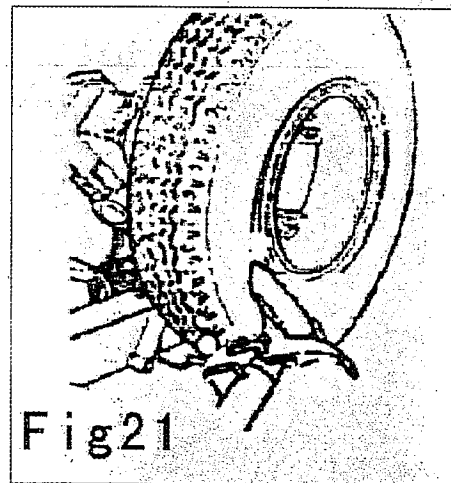
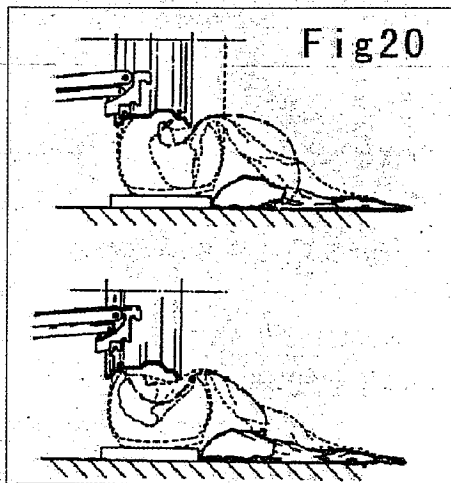
(25) Position the platform directly under the wheel and lower the spindle until the wheel rest on the platform.

(26) Let the wheel lean on the platform and check that the valve is perfectly centered with the outlet hole. If not turn the spindle slightly to adjust the position. Fix the valve by means the locking ring and remove the extension.

(27) Loose the hydraulic gripping device with much care, support the wheel to prevent it falling off.

(28) Remove the platform to release the wheel from the spindle and remove the wheel.





Wheels with ring

- (1) Clamp the wheel on the spindle as described previously and make sure it has been deflated.
- (2) Lower the tool holder to its working position until it is locked in position by the relevant hook.
- (3) Position the bead breaking disk close to the rim. (fig. 21)
- (4) Turn the spindle, at the same time move the disk forward a bit at a time following the contour of the rim until the first bead is completely off. (Remarks: lubricate while doing this)

Caution: if the tyre has an inner tube, work very carefully and be prepared to stop the disk immediately once the bead has been broken so as not to damage the valve and the inner tube.

- (5) (fig. 22) move the position with the split ring to the edge of the rim with the lever, then use the bring the disk against the split ring. Turn the spindle counterclockwise until the split ring is completely off.
- (6) Insert the valve inside of the rim (so as not to damage during the demounting)
- (7) Move the tool holder (9) to its non-working position, and move it to the inner plane of the wheel.
- (8) Lower the tool holder arm to its working position.
- (9) Position the disk close to the tyre until half of the tyre is detached from the rim.(fig. 23)
- (10) Move the tool holder to its non-working position.
- (11) Lower the spindle until the wheel touch the platform, the tyre is completely off from the bead. (take care to the valve)

Mounting

- (1) lock the rim, position the rim with the valve slot at the bottom, lubricate both beads and rim with proper grease.
- (2) Move the platform outwards so as to place the tyre on it, note if the tyre has the inner tube,

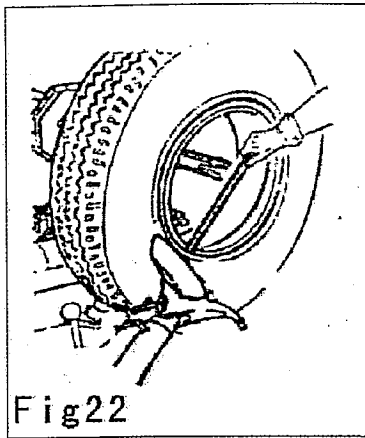


Fig 22

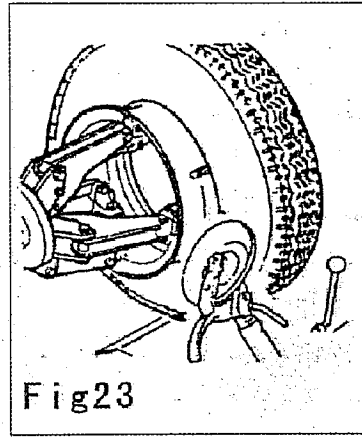


Fig 23

position the rim with the valve slot at the bottom.

(3) Move the platform until the bead insert into the tyre completely.

(4) Move the tool holder outside plane and lower it to its working position with the disk towards the wheel. Move the spindle and bring the disk forward (with the spindle turning) until it is completely inserted.

(5) Put the split-ring on the rim and then install the locking ring with the help of the disk as shown in (fig. 24).

(6) Move the tool holder to its non-working position, and release the gripping device, move the platform to free the wheel from the spindle.

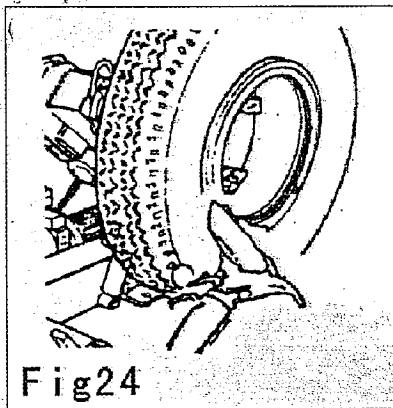


Fig 24

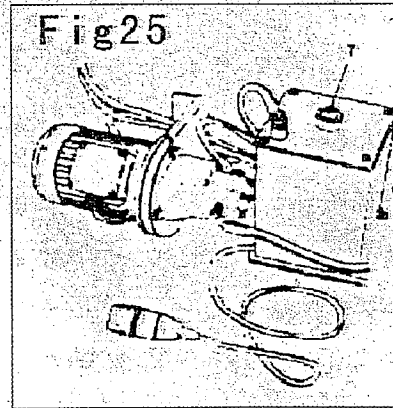


Fig 25

Maintenance

Maintenance must never be performed by the unauthorized staff.

Regular maintenance in accordance with the instructions given is essential for correct operation of the tyre-changer and for his long using life as well.

Failure to perform regular maintenance may impair the machine's operation and reliability, placing operator, vehicle and third persons at risk.

Before any repairs or maintenance, disconnect the plug from the power supply.

Faulty parts must always be replaced by skilled staff, with original components.

Grease periodically the following parts, after having cleaned them carefully with diesel oil:

- (1) Carriage slides
- (2) Tool holding arm spindle
- (3) Lifting cylinder of the flange holding arm. Grease periodically the spindle of the flange holding arm, use lubricant in summer and use gear oil in winter.
- (4) Check periodically the oil level inside the hydraulic unit with the scale (fig. 25), and the quality of the oil (if necessary, top up with the hydraulic oil 30#). Top up the gearbox with the lubricant 320# (every season), the oil level should half more than the oil window.
- (5) Check belt tension of the electrical motor, if a tension adjusting is needed, remove the protective plastic cover, and adjust the belt by the adjusting screw.

In case of storing for a long period (3-4 months) it is necessary to:

- (1) lower the flange holding arm
- (2) set the arm out of work
- (3) disconnect the power supply
- (4) grease the carriage slides
- (5) empty the oil tank and dispose it according to the current regulations
- (6) grease the spindle of the tool holder

Transportation, packing and store

The tyre changer must be transported in its original package. And keep itself in the position shown on the package itself. Move the machine by means of a fork-lift truck having enough loading capacity. Fit the fork as shown in (fig. 26).

Unpack the machine and make sure that the tyre changer has not suffered any damage during the transportation. Take out the standard accessories too. The package units must be stored in a safe place, out of children's

reach, being them a possible source of danger.

Deal with the package material carefully, take care that the control device should not be damage during this phase.

Should the machine temporarily stored, make sure that the storing place has the following requirement.

Max. relative humidity: 95%

Temperature: min - 5 °C ; max +60 °C

Optional accessories: as shown in (fig. 27).

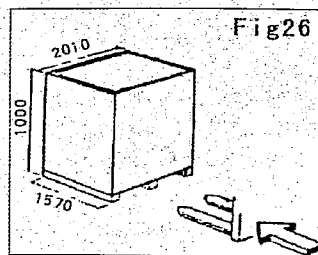


Fig26

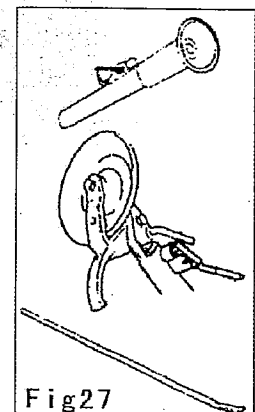


Fig27

Electrical connection diagram

Main line connecting drawing for 220V

switch	motor for pump	short circuit protection	main shaft motor	low pressure transformer
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