



Equipment Supply Company



Instruction Manual

YAK 44/22 Ton Jack

ESCO #92004



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	<i>DANGER!</i> <i>BE PARTICULARLY CAREFUL</i>
	<i>CRUSHING DANGER</i>
	<i>MANDATORY. OPERATIONS OR JOBS TO BE PERFORMED COMPULSORILY</i>
	<i>FORBIDDEN!</i>

FOREWORD

Dear Customer, before using the jack, carefully read these instructions and become acquainted with the safety symbols.

- This handbook is an integral part of the machine which must be kept safely and be handy for the worker to consult whenever needed.
- The contents of this manual comply with Machine Directive 2006/42/CE and the jack is type approved in conformity with the European Norm EN 1494 and following amendments.
- The manufacturing company reserves the right to make modifications without prior notice and without incurring any sanctions whatsoever, without prejudice to the safety and main technical characteristics.
- Failure to observe the instructions may cause personal injury, which in some cases may be mortal.
- The manufacturer is not liable for any damage to things or injury to people caused by an erroneous or incorrect use of its product. The identification plate is on the side of the casing. **DWG. 1**

SAFETY REGULATIONS

- Only authorised personnel are allowed to use the equipment and they must know the contents of this operating and maintenance handbook.



-The jack is an apparatus for lifting only and not for supporting, it is therefore absolutely forbidden to work in any way under the vehicle being lifted until it is placed on the relative stands. **DWG. 2**

- Before starting to lift a vehicle it has to be blocked with the parking brake and/or by putting wedges under the wheels, as illustrated in figure **DWG. 3**

- If the vehicle is loaded check load stability when lifting.

- Place the jack so that the load is centred over it and where the gripping points are indicated by the vehicle manufacturer.

DWG. 4

- During lifting and lowering, it is necessary to check there are no persons or animals under the suspended load or in the vicinity.

- Before lowering the load make certain the handle is in the horizontal position. **DWG. 5**



- Never lift loads on sloping, uneven or soft ground. **DWG. 6**

- If extensions are needed use only those supplied by the manufacturer with the jack.

Do not use extensions without the relevant plate. Never use more than two extensions. **DWG. 7**

- Do not lift the load in a confined space so as not to run the risk of getting trapped.

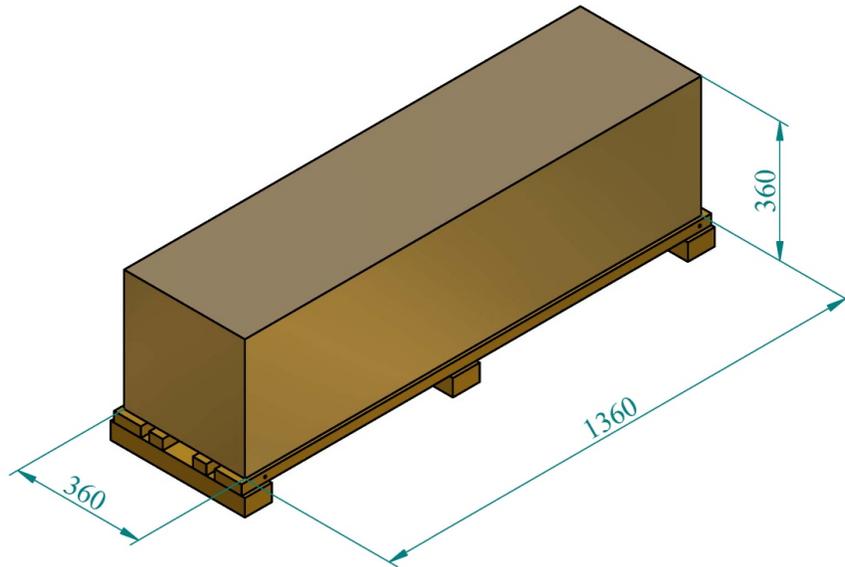
- It is forbidden to use more than one jack simultaneously on the same load.

- Never tamper with the pressure relief valve that has the guarantee seal. **DWG. 8**

- Do not leave any pressure in the pistons at end of stroke when there is no load

PACKING

- The body, handle and other parts of the jack are packed in a three-layer corrugated cardboard box with pallet; the operating and maintenance manual plus the warranty certificate in a folder are also inside the box.
- The instruction "Keep upright" is clearly visible on the cardboard box containing the jack.
- Depending on the number of jacks shipped, pallets of different sizes are used.
- Either transpallets or forklift-trucks are used for handling.



PUTTING INTO OPERATION

ASSEMBLY

1. Take the handle, the jack and the extensions out of the cardboard box.
2. Loosen the two nuts POS. 14 EXPLODED DRAWING YAK221/N from inside the chassis. **DWG. 10**
3. Loosen screw POS. 13 YAK221/N from the chassis and remove parts POS. 9, 10, 11, 12 YAK221/N keeping them assembled.
4. Fit the handle (the air distributor must be facing the pistons) inserting the coupling in the groove, put the parts removed previously into the hole of the handle, tighten screw POS. 13 YAK221/N and then tighten nut POS. 14 YAK221/N.
5. Connect the two air pipes between the jack and the handle with the quick couplings on the chassis respecting the colour indication as showed on the sticker on the chassis itself. **DWG. 11**

CONNECTION TO THE COMPRESSED AIR SYSTEM

- Compressed air enters into the jack circuit through the quick coupling on the top of the manual lifting/descending controls; it is therefore necessary to have a connecting pipe with a quick coupling compatible with that of the jack. Check that the air supply pipe has a useful passage of at least 6 mm and it is not pinched or restricted anywhere. **DWG. 12**

WORKING AIR PRESSURE: 116 - 145 PSI

- Absolutely never put the following into the compressed air circuit: hydraulic or Vaseline oil, brake liquid, kerosene or other liquids.
- Install a filter dehumidifier-lubricator unit in the compressed air system.
- If you want to lubricate the compressed air circuit use exclusively:

ACCESSORIES

The jack is supplied with two extensions or height adapters (120 mm the long extension, 70 mm the short extension), a circular tooth plate (10 mm plate) and an extension holder.



Never use more than two extensions! The manufacturer is not liable for any damage resulting as a consequence of disregard for the above indications and the warranty conditions are invalidated thereof!

SCRAPPING AND DISPOSAL

- The lubricants must be disposed of in compliance with the anti-pollution laws in force.
- Scrapping the jack and its component parts must be carried out by the user in accordance with current laws.

USE



IMPORTANT: It is mandatory that the jack be used or activated in the horizontal position so as not to compromise its operation.

- Expressly observe the safety rules already described in this manual.



1) Position the jack under the supports as described in the manual of the vehicle the manufacturing company is not responsible for any break or damage to the lifted vehicle or to persons or property due to an incorrect use of the jack.

2. The handle positioning lever (A) is on the left in relation to the worker; by moving it upwards the stopping system is released so the worker can then choose one of the three possible handle positions. **DWG. 13**

3. When control (B) is in the perfectly central position, the jack is in the idle status.

4. By turning control B, located near the handle, towards the right in relation to the worker, the jack lifts the load.

5. By turning control B, located near the handle, towards the left in relation to the worker, the jack lowers the load. **DWG. 13**

6. After lifting the load, it is absolutely essential to rest it on the support stands before doing any work under it.



Remember that the jack is a lifting device and not a supporting device!

- The operator's employer will have to provide the necessary training and furnish the necessary information about the pumping and shifting forces.
- If the distributor breaks during use, work directly on the flow of air, closing the safety cock no. between the quick coupling of the air inlet and the distributor itself. **DWG. 14**

- Before working with the jack, it is advisable to perform a few operations with no load in order to acquire the sensitivity necessary to work safely with the jack.

- When the jack is not used, always keep the pistons lowered

IMPROPER USE

The air-hydraulic jack has been designed and made to lift transport vehicles. Any other use of the jack, such as for instance lifting and/or moving persons, is considered to be definitely improper. All use of the jack not in conformity with the safety rules listed in this manual is considered to be improper use.

WARRANTY

This jack is covered by a 12-month warranty starting from the date the jack leaves our factory if it has not been extended on-line; it covers all manufacturing defects but not transport expenses, defects caused by improper use or damages suffered during transport. For more details please see the card attached to this manual.

MAINTENANCE JOBS FOR THE END USER

- To ensure your jack a long life it is advisable to clean the pistons externally once a fortnight.
- Check the level of oil in the tank at least twice a year.

CHECK THE OIL LEVEL

IMPORTANT: the maximum quantity of oil in this jack is 1.2 L. Compatible oil: ATF DEXRON IID

Please follow the steps listed here to check the oil level:

1. Bleed off the air (see procedure in the next section)
2. Position the jack horizontally with the pistons down
3. Undo the screw, POS. 24 GRP1GCI (see **DWG 15**)
4. If, once this screw has been undone, no oil comes out it means the level is too low. Add oil in this case. The level must be at the height of the small bolt on the side of the tank, under the casing.
5. If oil does come out, let the excess quantity drain off until the right level is reached (see point 4).

AIR BLEEDING

Each time the jack is serviced, removing and refitting parts connected to the tank and motorpump, it is advisable to bleed off all air. Bleeding phases:

1. The pistons must be moved out completely.
2. Remove the casing and close the cock no. POS. 9 GRP1SOL .
3. Turn the jack over on to one side, leaving free access to the dowel no. POS. 17 GRP1GCI on the side of the base. **DWG. 16**
4. Loosen (**NEVER unscrew the dowel completely!**) the dowel no. POS. 17 GRP1GCI and move the pistons back in by hand.
5. Let all the air out from the dowel and continue until oil starts coming through and then close the dowel.
6. Put the jack back into the working position.
7. Open the cock POS. 9 GRP1SOL .
8. Move the pistons back in completely and check oil level.
9. Try to operate the jack without any load and if the piston lowers in jerks repeat the procedure at least 2 or 3 times.

MAINTENANCE RESERVED TO A PROFESSIONALLY QUALIFIED ENGINEER

Having to carry out maintenance or overhauling, use exclusively genuine spare parts to ensure the utmost reliability for the jack.

PROBLEMS

Solutions

THE MOTOR WILL NOT START, OR IT RUNS BADLY.

- Check that the air supply line is not choked.
- The outside seals fitted on the piston, POS. 10 GRP1GMP EXPLODED DRAWING are worn. Replace them (kit KMYAK221/N) and lubricate both the cylinder and the ram.

THE JACK DOES NOT LIFT THE LOAD.

- Check that the tap POS. 9 GRP1SOL is open.
- Check the oil level by means of the screw POS. 24 GRP1GCI on the tank.
- There is dirt underneath the valves: remove the casing, close the tap POS. 9 GRP1SOL, turn the jack over so the cylinder is horizontal and the motor pump vertical, loosen the cap POS. 16 GRP1GMP, remove the bearings and springs and blow inside to thoroughly clean it. Reassemble and if necessary knock again the bearings POS. 12 AND POS. 14 GRP1GMP, then repeat the bleeding operation illustrated on the previous page. Put the jack back into its normal position and reopen the tap.
- Check the hydraulic block POS. 2 GRP1SOL, paying special attention that the piston pos. 4 of the GRP1GBL exploded drawing which controls opening and closing of the descent valve pos. 7 of the GRP1GBL exploded drawing, has not become rigid, in which case dismantle and grease it.

THE JACK LIFTS, BUT COMES DOWN UNDER THE LOAD.

- Dismantle the assembly POS. 2 GRP1SOL and check that under the bearing POS. 7 GRP1GBL there are no impurities. After carefully cleaning, readapt the pin POS. 7 GRP1GBL in its seat with a light blow with a hammer. If the load still falls even after fitting the jack, carry out the following step. - There is dirt underneath the valves: remove the casing, close the tap POS. 9 GRP1SOL, turn the jack over so the cylinder is horizontal and the motor pump vertical, loosen the cap POS. 16 GRP1GMP, remove the bearings and springs and blow inside to thoroughly clean it. Reassemble and if necessary knock again the bearings POS. 12 AND POS. 14 GRP1GMP, then repeat the bleeding operation illustrated on the previous page. Put the jack back into its normal position and reopen the tap.
- Completely drain the tank and the cylinder of oil, loosen the cylinder and check the washer POS. 10 GRP1GCI. If it is damaged, replace it. Refit everything being careful not to let the replaced seal fall between cylinder and base. Fill the oil tank with oil to the required level; operate the jack a couple of times without the load; bleed and then top up the oil level when the pistons are lowered.

THE RAMS FAIL TO GO BACK IN COMPLETELY EVEN WITH THE CONTROLS IN DESCENT POSITION.

- Check the suction-pump POS. 22 GRP1GMP: remove it and clean it thoroughly.
- Check the head, POS. 19 GRP1GMP, remove it and clean it thoroughly.

OIL LEAKS FROM THE SILENCER POS. 3 GRP1GMP

- Check that the pumping element pos. 11 of the GRP1GMP exploded drawing is not scored or damaged. If it is, replace it.
- Check that the seals, POS. 5, 6, 9 GRP1GMP are not worn. If they are, replace them.

OIL LEAKS FROM THE SUCTION PUMP POS. 22 GRP1GMP

1. Check the quantity of oil in the tank, (see the "Oil level check" procedure in the "Maintenance for the end user" section). If too much oil has been put in the jack, it will stop leaking very soon.
2. Check that the jack has been used observing the conditions listed previously, i.e. horizontally and not slanted. If the jack has been turned upside down or tipped over, it will stop leaking very soon.

THE PISTONS ARE VERY SLOW TO MOVE UP

- Check that the tap, POS. 9 GRP150L, located between the tank and motor pump is open.
- If the jack malfunctions when moving up, check the spring POS. 17 GRP1GMP.

TECHNICAL DATA SHEET

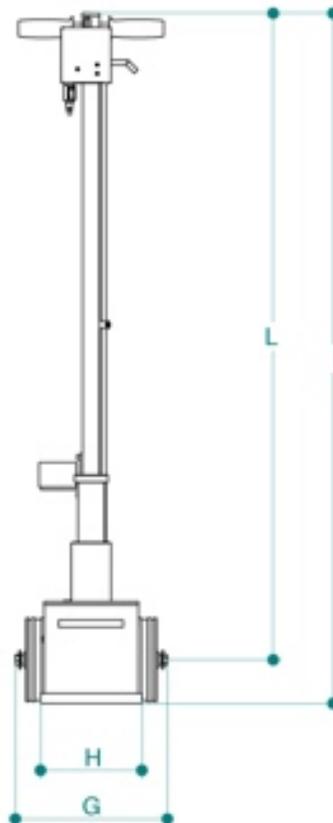
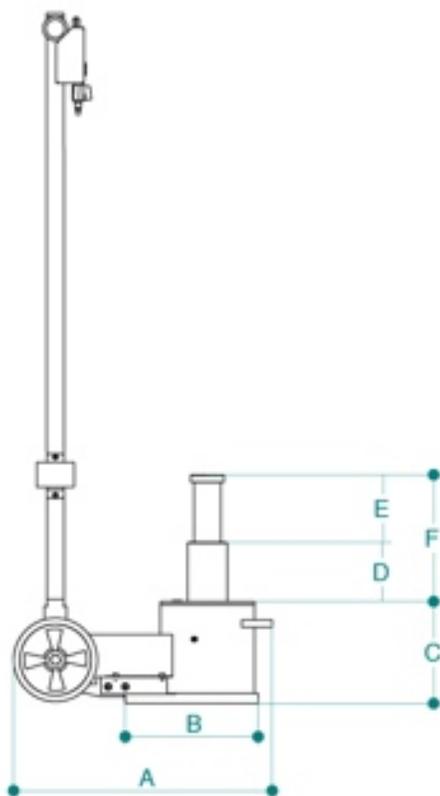
Working air pressure	8 > 10 bar 116 > 145 psi	Weight	46 Kg 101 lb
Working temperature	-20°C > +50°C -4°F > 122°F	Max. stroke	250 mm 9.8 in
Air consumption	400 nl/min	1st stage capacity	40 t 44 ton (short)
Compatible oils	ATF Dexron IID	2nd stage capacity	20 t 22 ton (short)
Pneumatic system pipes	Rilsan ø 6x4 mm	3rd stage capacity	-
		4th stage capacity	-
		5th stage capacity	-

Aerial Noise

Acoustic radiation pressure measured: 60 dBA

Tests carried out in conformity with the standards ISO/R 1680 - 1970. Instrument: LARSON DAVIS 800 B PRECISION ANALYSER PHONOMETER in conformity with the standards IEC 804 E 651 class 1 set with a Larson Davis Ca 250 114/b 250 Hz calibrator before and at the end of the measurements.

Measurements and dimensions - YAK 221/N



A 525 mm
20.7 in

B 270 mm
10.6 in

C 217 mm
8.5 in

D 124 mm
4.9 in

E 126 mm
5 in

F 250 mm
9.8 in

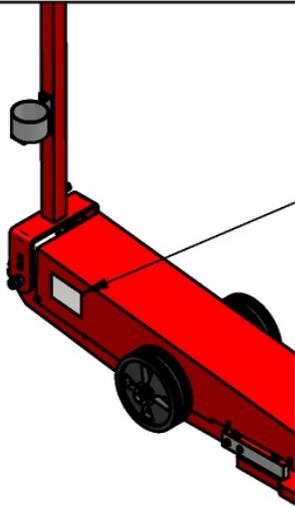
G 300 mm
11.8 in

H 206 mm
8.1 in

I 1400 mm
55.1 in

L 1320 mm
52 in

1.



COMPANY NAME



Type:

Capacity: Ton.

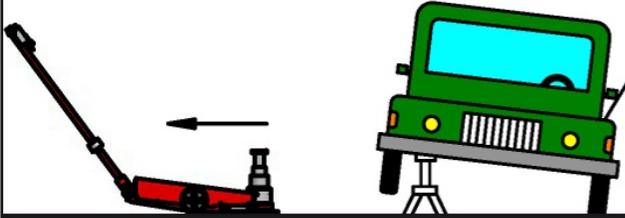
Working air pressure: bar

Year of manufacture:

Serial number:

Made in ITALY

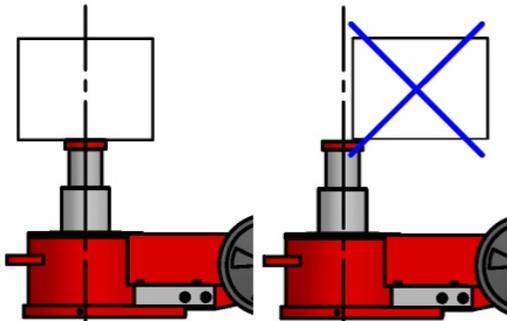
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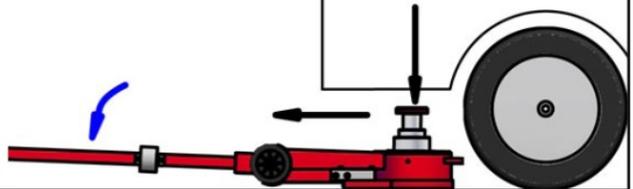
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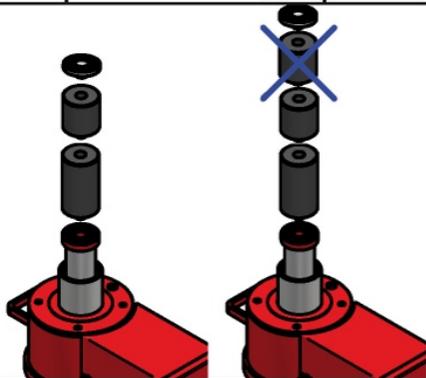
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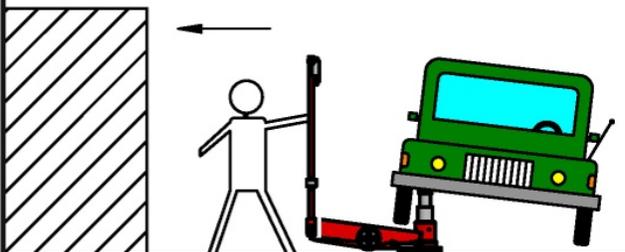
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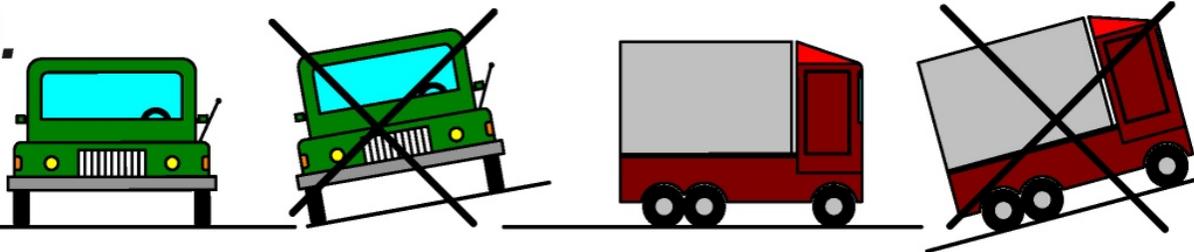
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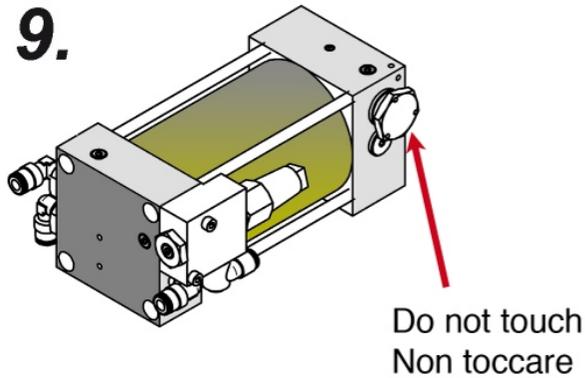
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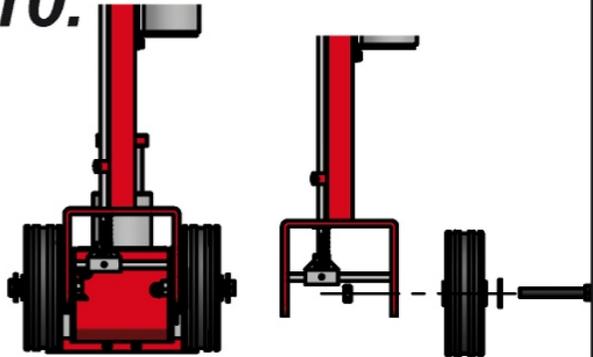
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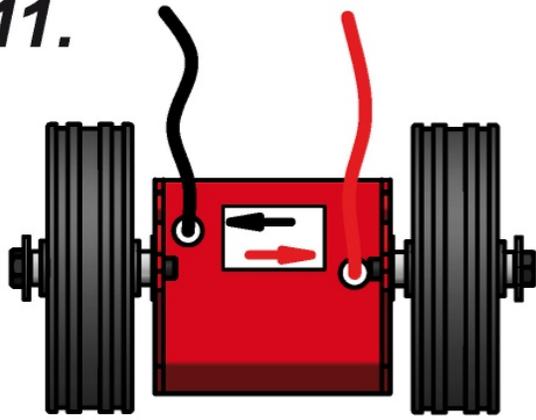
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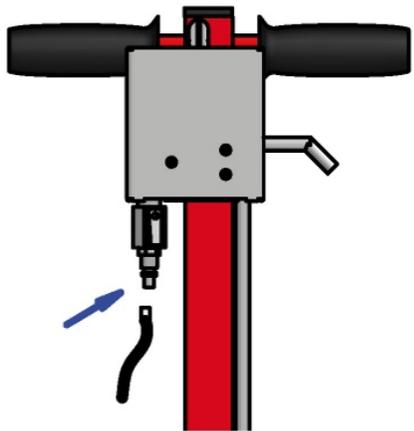
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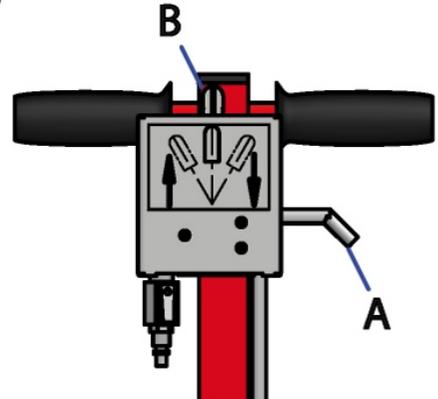
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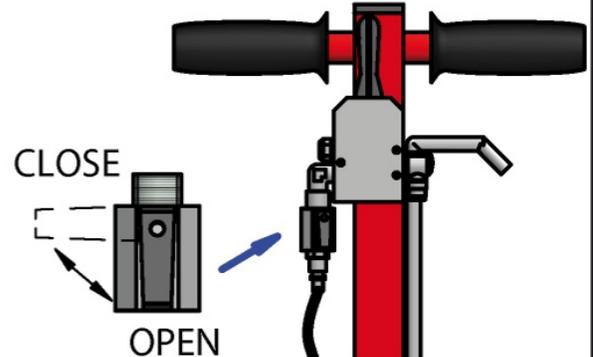
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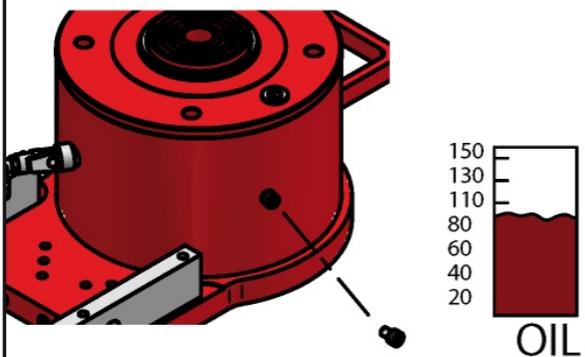
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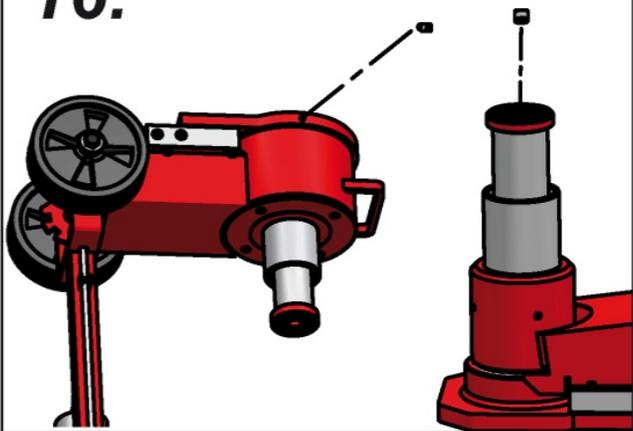
14.



15.



16.



REQUESTING SPARE PARTS

WHEN ORDERING SPARE PARTS, THE FOLLOWING MUST BE SPECIFIED:

- 1) LIFT MODEL
- 2) SERIAL NUMBER
- 3) PART CODE (CODE)
- 4) DESIRED QUANTITY

SEALS KIT

KXYAK221/N

(KCYAK221/N + KMYAK221/N + KBYAK221/N)

Complete Seals kit

KCYAK221/N

Cylinder seals kit

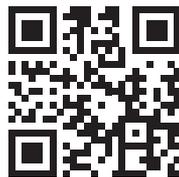
KMYAK221/N

Motor pump seals kit

KBYAK221/N

Block seals kit

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