



## USER MANUAL

INSTRUCTIONAL HANDBOOK



## ELECTRO-HYDRAULIC WHEEL STRAIGHTENER

WM300

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## **0.0 ATTENTION**

This operational manual must be read very carefully because of including very important information about warnings and instructions. Please, keep this in a reachable place and in safe.

Wheel Restore has no responsibility of any damage which may occur from not following the instructions of this operational manual.

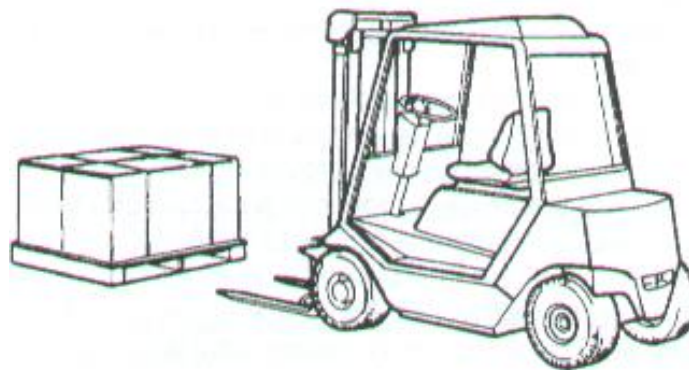
This machine must be used only for the purpose that it has been designed. Any of other usage should be known as wrong. The manufacturer is not responsible of damages that occur from wrong and unlogical usage.

## **1.0 TRAINING AND INFORMING OF MACHINE OPERATORS**

Machine must be used only by the trained staff. Training and informing of the staff must be done by approved partner or Wheel Restore.

## **2.0 TRANSPORT AND PACKAGE**

Read the written constructions on the package for transporting of machine. Transporting must be done only with Forklift or pallet lifter. After remove the package of machine please check that; the operation manuel book is in the package.



Picture 1

After removing package materials, please store and keep away from children and animals.

### 3.0 ENVIRONMENT NECESSITIES FOR SETTING AND ASSEMBLING

Environment necessities for setting and assembling should have below specifications:

- ☐ Flat, strong preferably concrete or strong coated surface,
- ☐ Enough light (unchangeable, non-eye dazzle and non-bright light),
- ☐ Covered area, which is kept off negative weather conditions,
- ☐ Lower noise leveled area from known declarations,
- ☐ A clean environment and work area.
- ☐ Working area must not be closed to dangerous movements of other machines,
- ☐ Explosive, rustable and poisonous materials should not be stored in the same working area.
- ☐ Operator must see all around the machine during operation. Unauthorized people or objects must be kept away from working area.
- ☐ Main assembling from energy connecting resources must be done by the qualified staff.
- ☐ If you have any hesitation about setting and assembling please contact Wheel Restore.or Authorized Service Offices.

### 4.0 SAFETY

The manufacturer has no responsibility from any damages that occur on the changes on the machine which is not approved before. It is prohibited to remove of safety materials or making changes due to Europe and Turkey regulations.

#### 4.1 OPERATION RULES

- ☐ Be careful that there are no dangerous conditions.
- ☐ If there is an irregular operation, machine should be stopped and keep in touch with Authorized Customer Service Office.
- ☐ Make sure that there isn't any oil which might be dangerous for operator on the floor and check also there is no objects around the machine that might be dangerous in operation area.
- ☐ Operator must wear uniform, safety glasses and gloves to prevent from dust and other effects.
- ☐ Take out the accessories like bracelet, ring, watch during operation. Operator with long hair must tie up his hair and wear suitable shoes.

#### 4.2 TECHNICAL SERVICE, REPAIR AND REPLACING PARTS

- ☐ Extraordinary technical services and main operations must be done by the authorized professional staff.
- ☐ Main sources like electricity and air should be put off before any maintenance work.
- ☐ Do not use any spare parts which are not supplied by the manufacturer.
- ☐ The parts and accessories used in machine must be suitable to the safety regulations.
- ☐ In any hesitation of suitably, you must contact to K-MAK or Service Offices.

## 5.0 STORING

If you are going to store your machine for a long time in the storing area, cut off main connections (electricity, air, etc.) Empty oil box and cover the parts which can be damaged from dust. Oil the parts which can be damaged from dry air.

## 6.0 SCRAPPING OF MACHINE

If you are not going to use the machine, put it into non-work condition. Make dangerous parts undangerous. Make as iron scrap and send it to a suitable scrap center. If there is a valid special regulation, remove the parts and collect the similar parts.

## 7.0 TECHNICAL DATA

Maximum Rim Diameter	10"- 26"
Maximum Rim Width	12"
Hydraulic Power	0,757 kw. 380×50 hz. 3 Phase (Also available in 220V)
Axle Engine Power	100hp/100 dc./dk 0,75 kw
Working Pressure	0-250 bar (Standard 150 bar)
Packing Size (L x W x H)	800 x 1200 x 1650 mm
Weight	325 kg

### 7.1 STANDART ACCESORIES

14 pcs rim center adapter thimbles
3 pcs piston adapter thimbles
4 pcs piston lengthening arms
5 pcs rim coupling nuts
5 pcs screws
3 pcs nuts
2 pcs double nuts
1 pcs magnetics gauge

1 pcs flange key
1 pcs levier
1 pcs piston base lama
1 pcs tool bit

## 8.0 GENERAL PRECAUTIONS

**Read this Operation Manuel Book before you make any operation on ELECTRO-HYDRAULIC WHEEL STRAIGHTENER.**

- ☐ There are 14 standard rings on the machine. Other rings out of this should be reported to the manufacturer by the user. Related information is given below in the chart about this subject. Rim fixing centers and rim middle point measures information:

RIM FIXING CENTERS	
4X98:10	FIAT-LANCIA-ALFA ROMEO-AUTO BIANCHI-TALBOT-LADA
4X100:1	BMW-OPEL-AUDI-VOLVO-VW-TOYOTA-HONDA-DATSUN
4X108:2	FORD-AUDI-ALFA ROMEO-CITROEN BX
4X110:3	MAZDA 323-MAZDA 266
4X114,3:4	MITSUBISHI-DAIHATSU-MAZDA-SAAB TOYOTA-SUZUKI-NISSAN-FORD
4X120:4	VW-FORD-MERCEDES
4X130:5	
5X100:1	TOYOTO
5X108:2	VOLVO-LANCIA-GAMMA
5X112:3	MERCEDES-BMW-FORD-AUDI
5X114,3:4	MITSUBISHI-TOYOTA-NISSAN-BMW-OPEL
5X120:5	DAIHATSU-NISSAN-SUZUKI-FORD-DAIMLER-JEEP
5X139,7:4	VW-FORD-MERCEDES

RIM CENTRE POINT MEASURES	
Ø 55	CITROEN AX
Ø 56,6	OPEL KADETT-MANTA-ASCONA-VECTRA
Ø 57	AUDI-BMW-PROCHE 929-VW
Ø 57	AUDI-BMW 3 SERİSİ-PORCHE-VW
Ø 58	CITROEN CX-FIAT RITMO
Ø 58.5	ALFA ROMEO
Ø 60	FIAT-ŞAHİN-DOĞAN-KARTAL
Ø 60,15	RENAULT-R12-R25
Ø 63,3	FORD FIESTA-SIERRA-GRANDA-ORION
Ø 65	CITROEN BX-PEUGEOT 205-302 MİNİ METRO-OPEL OMEGA
Ø 66,5	DAIMLER BENZ
Ø 69,5	OPEL MONZA-SENATOR-COMMODORO
Ø 72,5	BMW 5-7 SERİSİ-OPEL COMMODORE-ADMIRAL

- ☐ Standard nuts of machine are M12. Key mouth is M19. In some thick holed rims you may need thimbles. Non-standard parts should be supplied by the manufacturer company for right usage and safety.
- ☐ Machine is rim pressing machine. If you want to make balance adjustment after leveling operation, you must do it in balancing machines.
- ☐ The machine is not suitable for vehicle clean covered companies you should avoid of using machine in very dampy and humidity conditions.
- ☐ Machine should not be used by non-qualified staff.
- ☐ Machine should not be used out of its purpose.
- ☐ Make sure rims and the parts that are used during the leveling operation are suitable to the manufacturers constructions.
- ☐ Make sure that working pressure is not more than the required value.
- ☐ Check the oil level before use and make sure it is not under the red point level.
- ☐ Make sure the motor turning direction is right.
- ☐ During any irregular work situation, stop the machine and call the authorized after sales service.
- ☐ In emergency state and/or during mending the machine, switch on the hydraulic motor stop button.
- ☐ Do not make any change in safety equipments and devices.
- ☐ Fix the parts tightly for making parts lathed on the ELECTRO-HYDRAULIC WHEEL STRAIGHTENER with lathe and wear glasses.
- ☐ Work softly during the use of 7500 h.powered piston. Otherwise,the parts can break off and absolutely wear the glasses.
- ☐ Use piston with correct hand movements(You need to watch CD).
- ☐ Check that the rim is right connected to the flange.
- ☐ Always watch the pressure is not in upper than normal level.In any unnormal situation stop the machine.
- ☐ Check the turning way of motor. Don't forget opposite turning will damage motor and machine.
- ☐ Do not make strong heavy usage on the sensitive Hydraulic Control Arm. Strong heavy usage is not suitable for operation.

**TO FOLLOWING SUITABLE OPERATION METHODS, SAFETY RULES AND RIGHT OPERATION CONDITIONS ARE COMPULSORY TO PREVENT ACCIDENTS.**

## **9.0 THE GENERAL DESCRIPTION OF THE ELECTRO-HYDRAULIC WHEEL STRAIGHTENER**

Electro-hydraulic Wheel straightener projected and produced to solve the damaged and inclined rims which increase big problems during balancing is completing wheel alignment and balance machines.

The Machine has been designed for straightening of damaged rims. It's working same principle of the stable wheel balance machines. It's a hydraulic and electrical made machine The inclined sides of the rims which fixing by help of control gauge, is straightening with max.7500kg forced capacity piston. By controlled and automatic turning feature supplying suitable conditions on the rim. There is a hydraulic structure which starts to work with oil pressure of hydraulic motor.

## 10.0 ASSEMBLING AND SETTING OF MACHINE

- ☐ Machine should be carried on wooden pallet with forklift and placed on to flat surface.
- ☐ Surface must be good prepared not to prevent operator movements during the operation.
- ☐ The first assembling must be done by a professional staff about machine and electricity.
- ☐ Machine should not be placed that prevents operators work. Machine should be right positioned for operators front/back usage. Also placing should not prevent hand/arm movements of operator and it must be placed that away from other machines, wall, objects.

## 11.0 WORKING PRINCIPLE

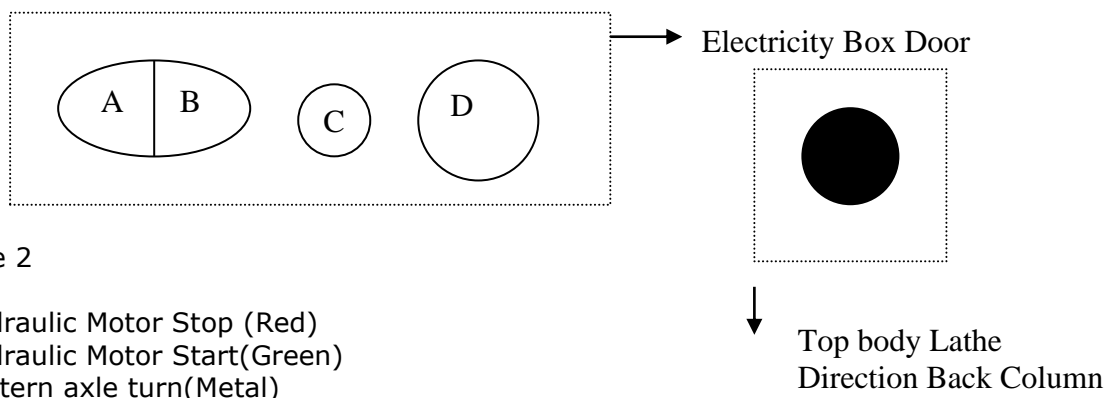
Electro-hydraulic Wheel straightener, is working same principle of stable wheel balance machines. The working principle is like using lead... giving opposite effects with a piston to damaged areas. The design of the machine gives operation easiness for aluminum alloyed and sheet iron rims. The active hydraulic piston can practice fixing on the every bent of rim. With Electro-hydraulic Wheel straightener, the damaged rims are easily fixed and operation takes sometimes a few minutes.

### 11.1 ELECTRICITY SYSTEM

Electricity power for machine usage should be supplied directly. If electricity is taken with a cable another machine should not be connected to this. Connecting of other machine to the same electricity cable must be considered because of it will affect Electro-hydraulic Wheel straightener, it will be harmful for the machine and it will occur danger.

The machine is 220V. and three phases. In electricity box the white cable is for power cycle. Yellow-Green cables notr cables. In the machine to prevent any dangers there are "earthing" and "units safety switch" which can cut off electricity in a danger.

The functions of buttons on the machine:



Picture 2

- A. Hydraulic Motor Stop (Red)
- B. Hydraulic Motor Start (Green)
- C. Lantern axle turn (Metal)



- D. Lantern axle Manual Turn(Green)
- E. Lathing start (Black)

Electricity comes to machine by press of Hydraulic Motor Start Button (Switches). Pump works and Hydraulic part comes to process. If you press Motor Start Button machine electricity power is cut off.

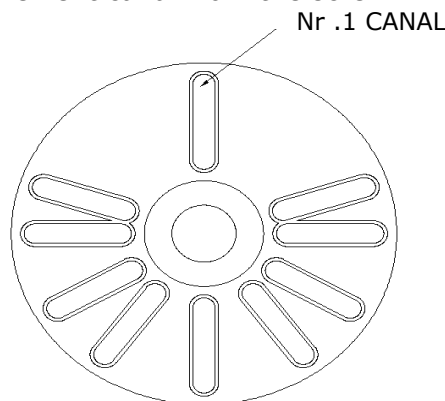
## 11.2 HYDRAULIC SYSTEM

By pressing Hydraulic Motor Stop Button hydraulic parts come to cycle with the input power of machine. Hydraulic motor must be turned in opposite of clock direction. Hydraulic motor press oil when it turns in only one direction. Pressure can not be supplied when it turns in other direction. Hydraulic system mechanic effect. Pistons maximum force is 7500 Kg.

## 12.0 ELECTRO-HYDRAULIC WHEEL STRAIGHTENER USAGE

### 12.1 FIXING THE RIM ON THE MACHINE

- ☐ Find the ring which fits to the rim center
- ☐ Place the ring to machine
- ☐ Place the rim on to flange
- ☐ Put the screws by starting from Number 1 canal
- ☐ Choose the convenient canal from the screw



Picture 3

## 12.2 GAUGE

Check the inclined side of the rims by control gauge . The arm of the gauge is magnetic and suitable to use from each angle of the machine. This process can be done by help of the piston and chalk too.



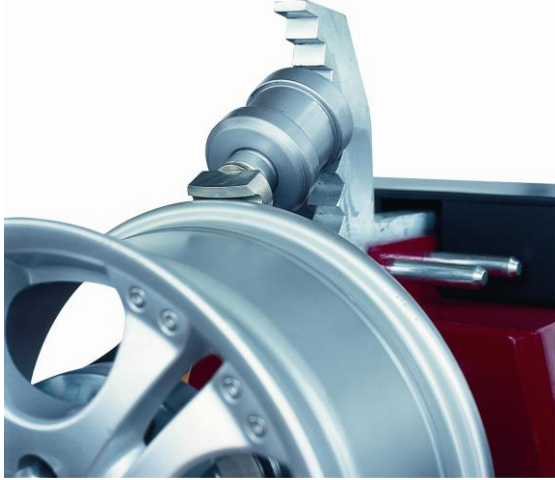
Picture 4

## 12.3 STRAIGHTENING PROCESS

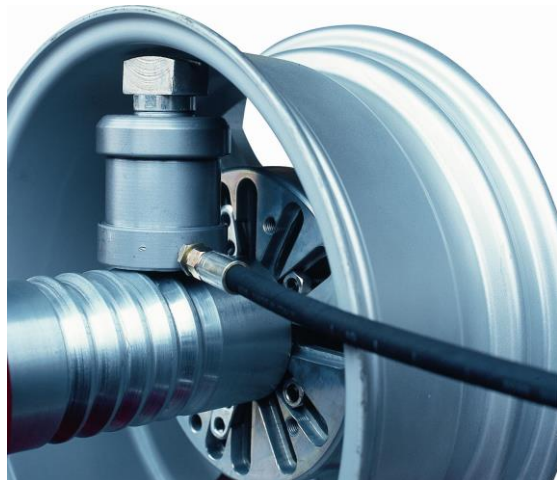
Make the straightening by following rules which you fixed with the control gauge. The piston is 7.500 at power. Please, make the repairing operation with soft touches. You should remember that , the rims have a defined known working heat. As principal, when the rims is not broken during bending (damaging),it can't be broken when repairing too.

The central bends needs high heating processAnd this causes unlikely lookings on the rims.So,to keep the user away of difficult situations,the repairing is not adviced at that point.

During the straightening process, suitable rim centre adaptor, nut and wrench should be used correct and safe usage and the rim's longlife.



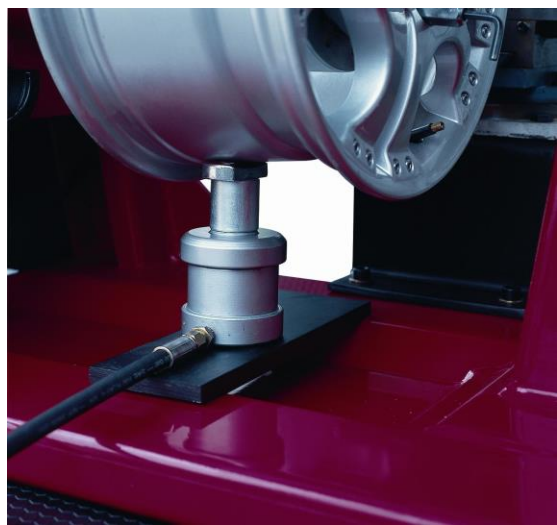
Picture 5



Picture 6



Picture 7



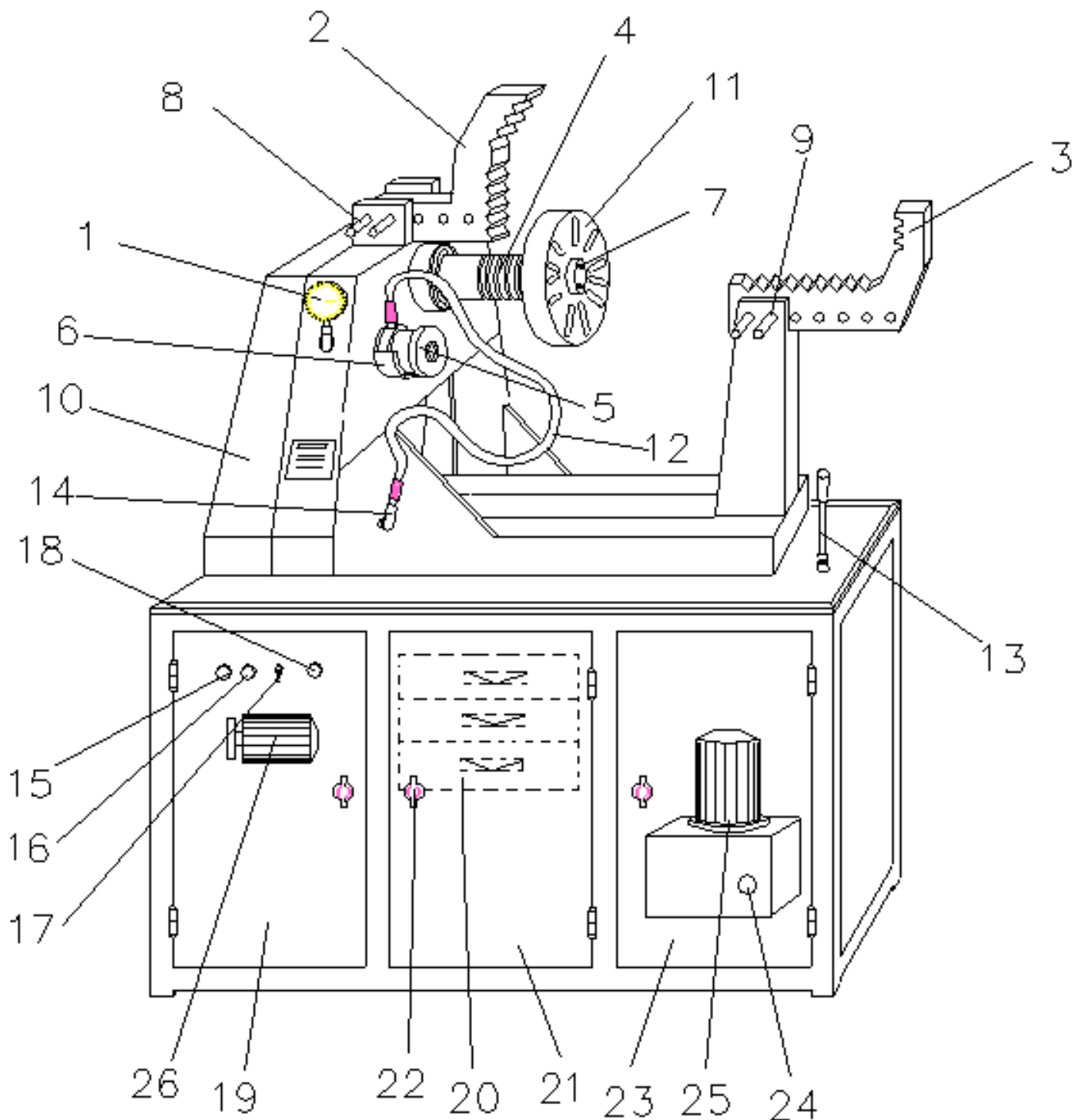
Picture 8

<b><u>PROBLEM</u></b>	<b><u>REASON</u></b>	<b><u>REMOVING</u></b>
Piston is not working.	1- Hydraulic motor is not working. a- Electric current is not coming to motor. b- Motor is turning to opposite direction 2- There is a hydraulic leakage in installation.	1-a- Check whether electric current is coming to conductor. b- If motor doesn't turn in direction to arrow it doesn't press oil. 2- Fugitive oil effects to pressure, determine leakage and if it is a racor leakage tighten the racor after cleaning it. If hose is cut change the hose urgently assemble it carefully. 3- Remove piston from bottom racor immediately and request spare part.
There is a shaking on gear box and flange.	1- Center screw where gear box and flange connected is slackened. 2- Gear box adjustment screws could be slackened.	1- Fix the screw with original key. A little burr can cause even shaking by fixing process. 2- Backside screws should be fixed. Fixing process should be done in accordance with marble adjustment..
Hydraulic motor is not doing pressure	1- Wedge in the motor hydraulic pump was scraped.	1- Call the authorized service.
Numbers of using oil	1- In hydraulic installation: <b>Tellus 37.</b> Gear box oil leakage: <b>Grease</b>	1- Tank indicator should be checked once a week and it should not be under half level.



**NOTE** Pay attention not to be done blows that will cause burr by removing and fixing used flange, screw and mould. That is very important about lifetime of your machine.

## 13.0 OVERVIEW OF THE ELECTRO-HYDRAULIC WHEEL STRAIGHTENER

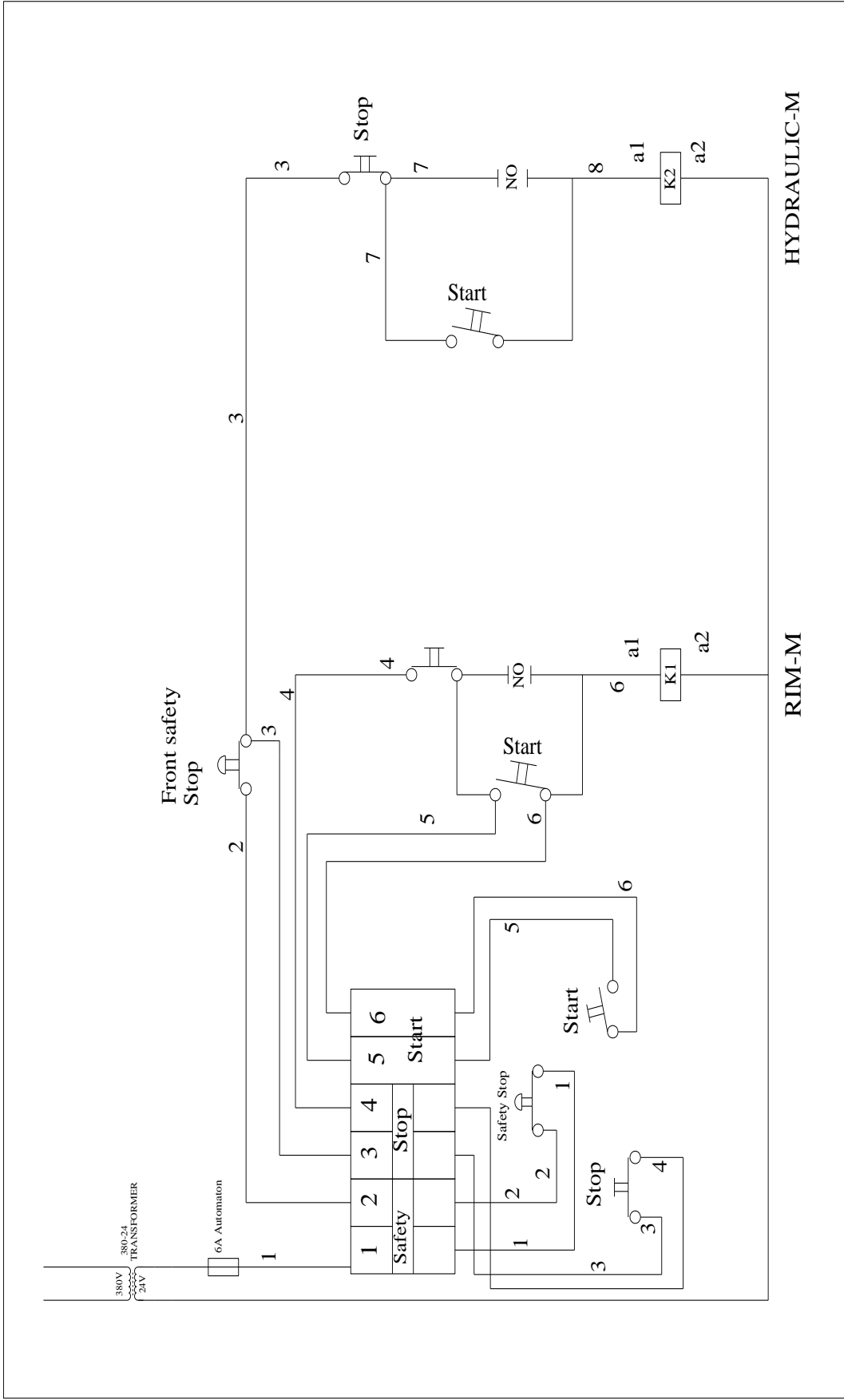


**PICTURE 9 . OVERVIEW OF THE ELECTRO-HYDRAULIC WHEEL STRAIGHTENER**

## 14.0 SPARE PARTS LIST

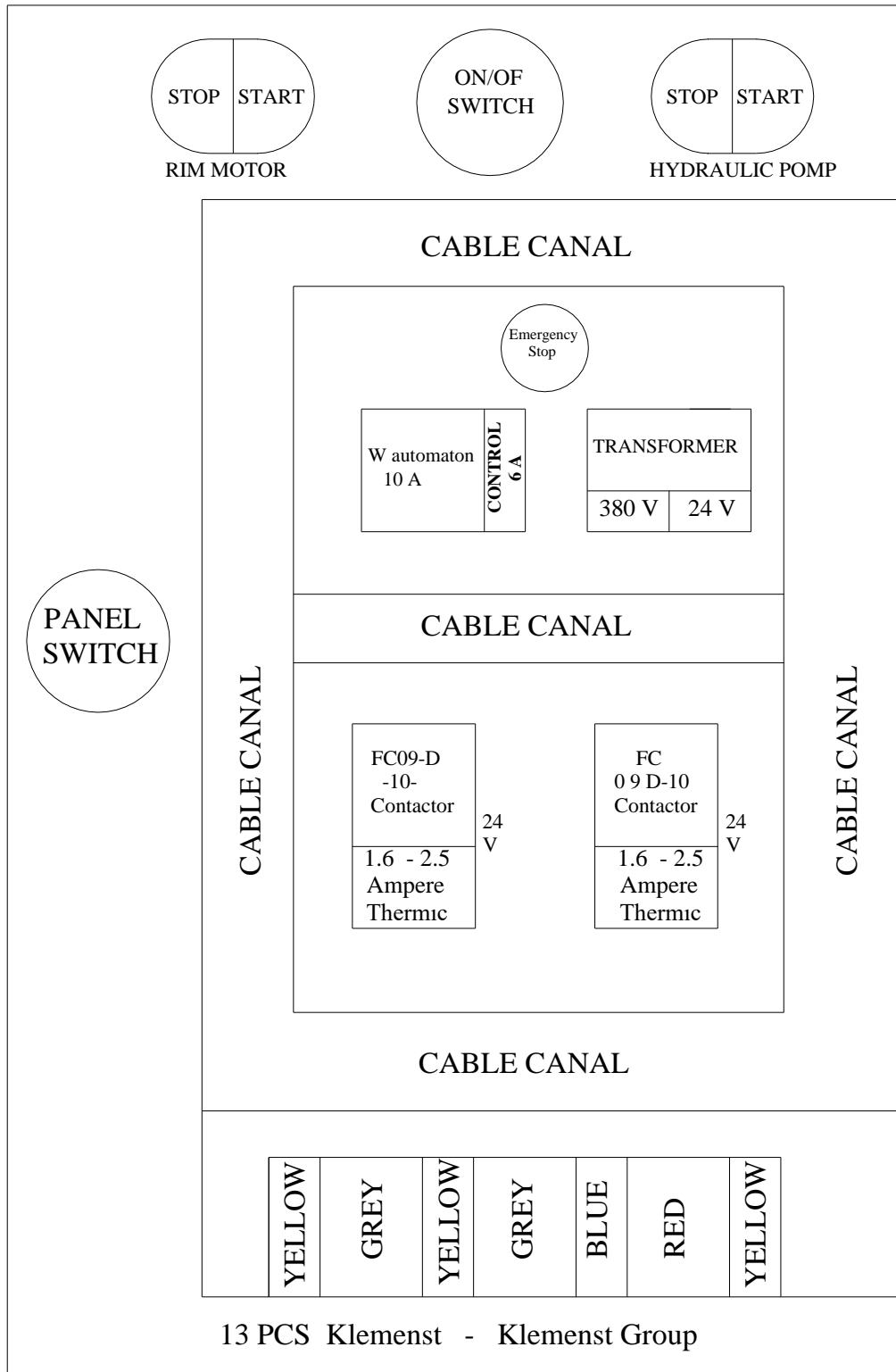
PART NR.	PART NAME
2	VERTICAL LEANER
3	HORIZONTAL LEANER
4	SHAFT
5	PISTON
6	PITON BED
7	FLANGE LOCK SCREW
8	HORIZONTAL LEANER MILE
9	VERTICAL LEANER MILE
10	BACK DAUST COVER
11	FLANGE
12	PISTON HOSE
13	LOGISTIG CONTROL ARM
14	BOTTOM RAKOR OF HOSE
15	HYDRAULIC MOTOR START BUTTON
16	HYDRAULIC MOTOR STOP BUTTON
17-1	SHAFT CONTINUAL TURNING START-STOP BUTTON
17-2	LATHE BUTTON
18	SHAFT MANUAL TURNING BUTTON
19	COVER OF ELECTRIC PANEL
20	APPARATUS BOX
21	UNDER CUPBOARD MIDDLE COVER
22	COVER LOCK
23	UNDER CUPBOARD HYDRAULIC UNIT COVER
24	HYDRAULIC UNIT AND PUMP
25	HYDRAULIC PUMP MOTOR
26	SHAFT MOVEMENT MOTOR





Electrical Failure Plan

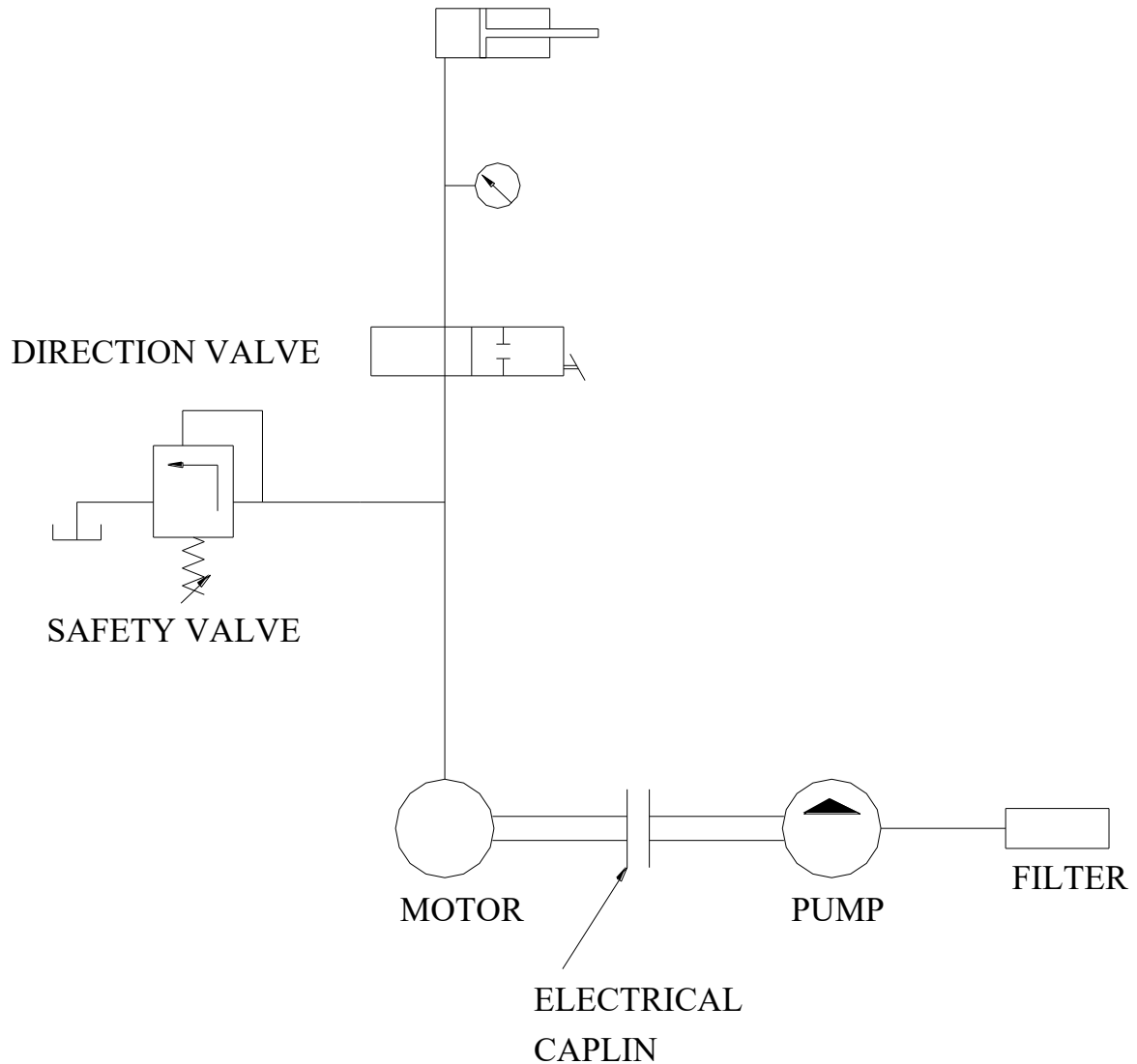




**Electric Board Settlement Plan**

## 16.0 THE HYDRAULIC STRUCTUR OF WHEEL RESTORE WM300ELECTRO-HYDRAULIC WHEEL STRAIGHTENER

PICTURE 11. ELECTRO-HYDRAULIC WHEEL STRAIGHTENER HYRAULIC DRAWING





**DECLARATION OF CONFORMITY**

**The Manufacturer : Wheel Restore Company ApS**  
**Address : Hobrovej 961-965, DK9530 Stoevring, Denmark**  
**Phone : +4570227070**  
**Email : info@wheelrestore.com**

We, declare under our sole responsibility that the product :

**Name : Electro-hydraulic Wheel straightener**  
**Type/Model : WM300**

To which this declaration relates is in conformity with the following standart(s) or other normative document(s):

EN 292-1,  
EN 292-2,  
EN 294,  
EN 349,  
EN 418,  
EN 982,  
EN 1037,  
EN 1050.

(If applicable) following the provision of (89/392/EEC ) EC Machinery and (73/23/EEC ) EC Low Voltage Directive(s).

**Date : 05/02/2020**

**CE MARKING**

# ATTENTION FOR YOUR SAFETY!

- THE PRODUCT WHICH YOU BOUGHT CALLED AS RIM PREPARING MACHINES FOR HEALTHY WHEEL BALANCING OPERATION.
- BE CAREFULLY WHILE USING THE MACHINE! IF YOU DON'T PAY YOUR ATTENTION WHILE OPERATION, YOUR HAND COULD BE CLOSELY PRESSED BETWEEN PISTON AND RIM.
- DON'T PUT YOUR HAND ON THE AXLE WHILE IT'S TURNING. (ANY BURR COULD DAMAGE YOUR HAND)
- DON'T REPAIR THE RIMS WHICH ARE BROKEN OR CRACKED. OTHERWISE YOU PUT THE DRIVER ON RISK.
- DON'T WASH THE MACHINE WITH WATER. ELECTRICAL DEVICES COULD BE DANGEROUS IF THEY ARE WASHED BY WATER.
- THE PRODUCT IS NOT WHEEL BALANCER. AFTER YOUR OPERATION PUT THE RIMS ON WHEEL BALANCERS.
- PLEASE, CALL YOUR RESELLER COMPANY IF YOU HAVE ANY PROBLEM OR SUGGESTION.