

MENEGOTTI TECHNICAL MANUAL

SEMI-ELECTRIC FORKLIFT V2

MES 1.5 TON X 3000

40810141 - Semi-Electric Forklift MES 1.5 Ton x 3000 V2

QR-Code:



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Attention:

Before operate **Menegotti**, read this **technical manual**, itself will inform and instruct the operator about the operation.

By the way, you avoid possible working accidents and early maintenance on at the equipment.



MENEGOTTI[®]

HANDLING

Congratulations, you have just purchased a MGT product!

With the highest quality, projected and built especially to serve your needs.

This manual was elaborated to provide the information and key instructions to use and maintain our product, in addition presents their technical characteristics.

Before use the product for the first time, read and pay attention to the information in this manual.

The product durability, only depends the way you treat it in service (operation), and the satisfactory working, is consequence of your regular and carefull work, done regularly.

Menegotti is prepared to offer you all technical assistance, and attend all your needs about replacement parts.

Welcome, you are part of the huge MGT “customers familiy”.

After sales Departament
and Technical Assistance MGT.

Attention: For better comodity, store and keep this manual in a properly spot so it can be easily checked.

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Menegotti Group

Menegotti is reference in the development of solutions in machines and tools for the Construction machinery, Handling and Lawn | Garden Segments.

A Brazilian company, present in more than 40 countries, has its headquarters in Jaraguá do Sul, Santa Catarina, units in Brazil and in the United States.

With more than 80th years of history, it is in the fourth generation of consistent and successful family management.

National leader in sales of concrete and cement mixers, it stands out in the resale and rental market.

Through its Innovation Program, it fosters creativity and competitiveness, with disruptive actions and partnerships, aimed at continuous professional and business growth.

With an organizational culture that values and encourages its constant professional and personal development, Menegotti is active in sustainable projects, which make its purpose of contribute “to build a better and more sustainable world”, a reality.



The Product

Menegotti semi-electric forklifts use batteries as the dynamic power source and a DC motor as the fork drive, moving via a gear transmission. The lifting of the fork depends on the DC motor and the hydraulic system. The up and down movement of the hydraulic cylinder lifts the fork and the load. As the forklift's movement and lifting are electrically driven, it has the characteristics of energy saving, high efficiency, stable operation, ease of operation, safety and reliability, low noise and pollution.

Permitted areas of use:

- Height above sea level may not exceed 1200m;
- Ambient temperature must not be higher than +40°C and lower than -25°C;
- When the ambient temperature reaches +40°C, the relative humidity must not exceed 50%; at a lower temperature, higher relative humidity is permitted;
- Flat, solid floor;
- It is prohibited to use the machine in a flammable, explosive or corrosive environment.

• Menegotti reserves the right to make changes to the product without prior notice. If any information in this manual is not consistent with the physical product, consider the actual product and the manual as a reference only.

Safety Informations

If the safety recommendations are not followed, this machine presents a risk of crushing, electric shock, tipping over, explosion and burns due to battery gases and acid.

This manual contains notes, cautions and warnings that must be followed to avoid the possibility of improper use, damage to the machine or personal injury.



NOTES: Contains additional informations of important procedures.

CARES: Offers important information to avoid mistakes that might damage the machine or its components.

WARNINGS: Alerts about conditions or practices that outcomes in personal damages ou even death!

Operational Safety

The workers involved in operation, maintenance, inspection and other machine intervention, must receive capacitation provided by the employer and in accordance with his functions, of which shows the risks they are exposed to, the existent and necessary protective measures, in order to avoid accidents and sicknesses. The machine, if misused or used by no authorized persons, offers risks to the operator's physical integrity.

- **NEVER** allow not trained persons operate the machine;
- **ALWAYS** read, understand and follow the procedures of the Intructions Manual before trying to operate the machine;
- **ALWAYS** certify that the operator is acquainted to the properly safety measures and operational techniques before using the machine;
- **ALWAYS** prepare the working place, in order to avoid work accidents, following the orientations in this manual and the specifications of the current safety rules;
- **NEVER** operate the machine in aplications for purposes other than it was designed;
- **NEVER** remove or alter any safety device on the machine;
- **NEVER** use accessories not recommended by Menegotti for the machine. It might cause damages to the machine and/or to the operator;
- **WE WILL NOT** assume reponsability for any accidents due to modifications on the machine. This alterations results in loss of warranty;

- **ALWAYS** be carefull and have good sense when operating the machine;
- **ALWAYS** in case of damaged or missing parts, immediately contact the Menegotti by the phone 770 9107450 for replacing the same;
- **ALWAYS** with the machine turned off, take daily visual inspections on the parts of the machine. The machine must not be used if there are signs of damages. In case of problems, immediately get in contact with Menegotti Authorized Services;
- **ALWAYS** make sure that all persons are in a safe distance from the machine;
- **ALWAYS** keep the machine out of children's range;
- **NEVER** leave the machine running unattended.
- **NEVER** operate the machine while under the influence of drugs or alcohol;
- **ALWAYS** switch off the machine when it is not in use.
- **ALWAYS** use PPE while operating or performing maintenance on the machine (ear protector, non-slip shoes, glasses, dust mask and gloves);
- **ALWAYS** keep hands, feet, loose clothing and accessories away from the movable parts of the machine;
- **ALWAYS** avoid contact with the rotating parts of the machine;
- **NEVER** operate the machine in flammable, explosive or corrosive environments.
- **ALWAYS** operate the machine in a well-lit environment with the presence of fire extinguishing devices recommended for combustibile materials and electrical appliances.
- **NEVER** press the fork lift/lower buttons while the machine is moving. Do not press both fork lift/lower buttons at the same time; doing so could damage the machine.
- **NEVER** exceed the maximum load capacity of the machine.

- **ALWAYS** move and lift palletized loads evenly distributed on the pallet, with the forks centered, otherwise the forks will be damaged and the load could fall during the operation process.
- **NEVER** lift loads with the ends of the forks only.
- **NEVER** transport people on the forks.
- **NEVER** transport loose and unstable loads.
- **NEVER** use the machine as a towing vehicle.
- **NEVER** leave the load on the forks for a long period of time.
- **NEVER** make sudden maneuvers with the machine, or at high speed.
- **ALWAYS** regulate the speed of the machine when cornering, in narrow places, doorways or on uneven ground.
- **ALWAYS** drive on flat, level ground free of potholes.
- **ALWAYS** lower the forks to the lowest position when the machine is not in use.
- **NEVER** operate the machine with the battery at its lowest level, as this could damage the battery.
- **NEVER** use the machine with the plug connected directly to the AC supply.
- **DO NOT** use the machine while the battery is recharging. Do not interrupt battery charging to use the machine.
- **NEVER** move the machine more than 2m when the forks are over 500mm high.

Safety of the Services

Machines poorly maintained might become a danger to security! In order to keep the machine operating in a proper and safe way for a long period, the maintenance and occasional repairs are necessary.

- **DO NOT** try to clean or to fix the machine while it is working;
- **DO NOT** operate the machine without the safety devices, protections or in bad working conditions;
- **ALWAYS** make periodical maintenances according to the Instructions Manual;

- **ALWAYS** replace the worn out or damaged components, with replaceable parts recommended by Menegotti, for maintenance of this machine.

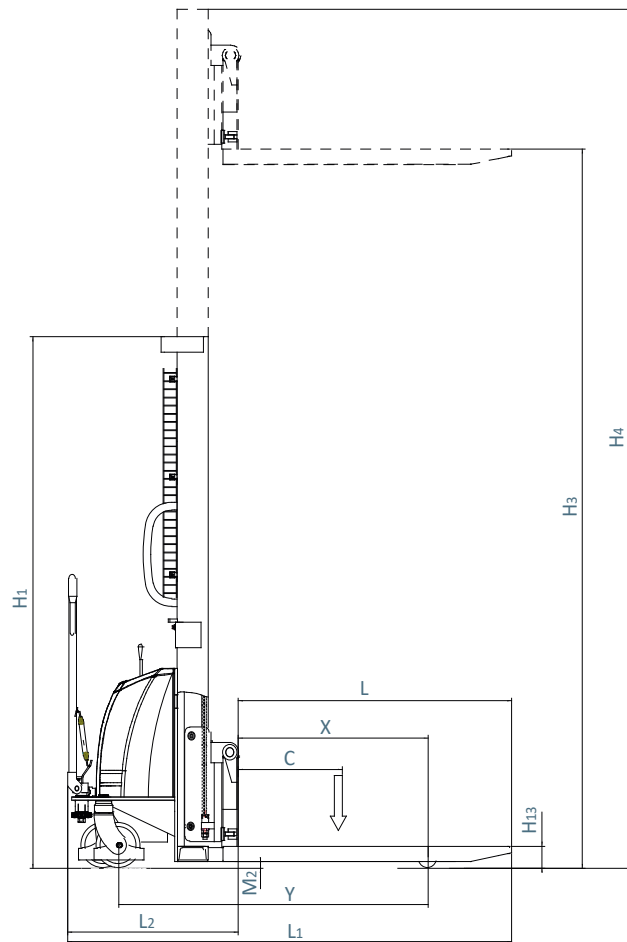
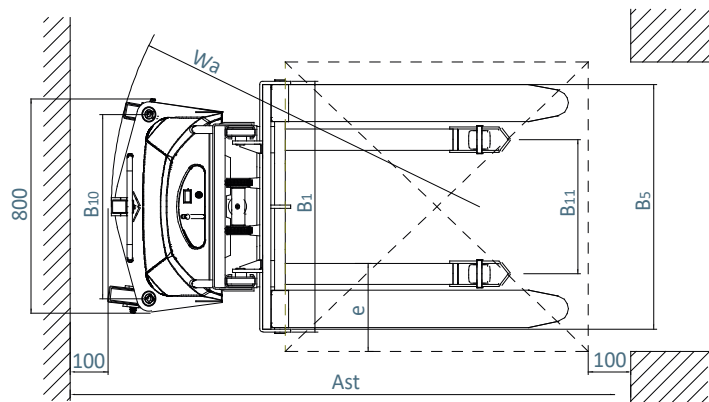
Main Components



Technical Specifications

CHARACTERISTICS	Type of operation		Manual
	Nominal load	Q(kg)	1500
	Distance from load center	c(mm)	400
	Distance from fork face to axle center	x(mm)	650
	Distance between axles	y(mm)	1235
WEIGHT	Operating weight (With battery)	Kg	415
	Front/rear axle load (loaded equipment)	Kg	375/1540
	Front/rear axle load (Unladen equipment)	Kg	280/135
WHEEL CHASSIS	Wheel material		PU
	Wheel dimensions (Front)		Ø180×50
	Wheel dimensions (Rear)		Ø80×78
	Quantity of front/rear wheels		2/2
PERFORMANCE DATA	Uphill speed With / Without load	m/s	0.05/0.08
	Downhill speed With / Without load	m/s	0.1/0.09
	Maximum incline With / Without load	%	6/15
	Braking method		Electromagnetic brake
ENGINE	Lifting motor power	kW	1.5
	Battery voltage / Rated capacity	V/Ah	12/120
	Battery weight	kg	45
	Battery size (LxWxH)	mm	360×170×250
	Noise level at the operator's ear	dB(A)	70

DIMENSION	B10 (mm)	700
	B11(mm)	420
	H1(mm)	2100
	H3(mm)	3000
	H4(mm)	3560
	H13(mm)	90
	L1(mm)	1745
	L2(mm)	1070
	B1(mm)	960
	s/e/l(mm)	60x142x1070/1150
	B5(mm)	300-930
	M2(mm)	15
	AST(mm)	2288
	AST(mm)	2267
	Wa(mm)	1425



Pre-usage Inspection

This machine uses storage batteries as a power source for handling and stacking goods over short distances.

NOTE: Carry out a pre-use inspection of the machine at every shift start, operator change and after maintenance. Always follow the Safety Information in this Manual.

Before the operation

1) Check that the machine is in normal working condition. Make sure that there are no oil leaks, that there are no blockages and that the support wheels are in normal working order. Machines with problems should not be put into operation.

2) Check that the batteries are charged. To do this, pull the safety switch, turn on the On/Off switch and then check the battery level indicator on the machine's panel. The battery must be charged in one go. It is not recommended to operate the machine with low battery power, as this will greatly reduce battery life.

3) Check that the lifting and lowering actions of the forks are normal.

After the checks, if there is no fault, the machine can be put into operation. If not, repair the fault immediately. It is strictly prohibited to use the machine with any irregularities.

Operating the Machine

ADVERTISEMENT:

- Before operating the machine, read all the safety information in this manual carefully.
- Do not drive the forklift empty with the fork raised.
- If the forklift is out of control, press the main switch on/off button to cut off the power supply to the system.
- Do not move the forklift while the forks are being raised or lowered.

Starting the machine:

1) Pull the safety switch;

2) Turn on the on-off switch on the panel, check the battery level indicator. If the battery indicator shows a low charge, this is a sign that there is no electricity in the battery and it must be recharged immediately.

NOTE: It is prohibited to operate the forklift with a low charge, as this will greatly reduce the life of the batteries and even damage them.

Stacking merchandise:

1) Switch on and drive the forklift to the pile of goods;

2) Adjust the position of the machine, placing it in front of the pallet to be moved;

3) Slowly move the machine and insert the fork arms into the pallet as deeply as possible;

4) Press the lift button until the forks are 200-300mm off the ground;

- 5) Move the forklift to the desired location, adjust the position of the machine by placing it in front of the shelf, with the tip of the forks 300mm from the shelf, press the lift button until the forks reach the appropriate height.
- 6) Press the button to lower the forks to place the goods carefully on the shelf.
- 7) Move the forklift until the forks come completely off the pallet (tip of the forks 300mm from the rack);
- 8) Lower the forks until they are 300mm from the floor and move the machine away from the rack.

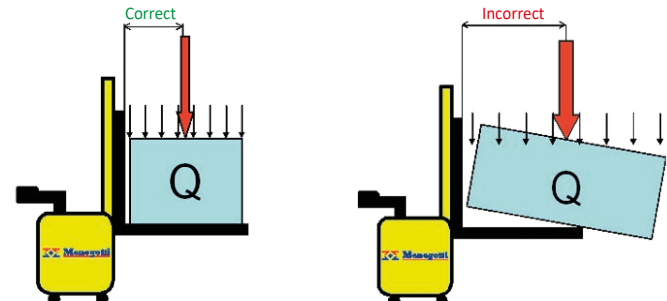
Merchandise withdrawal operation:

- 1) Switch on and drive the forklift to the goods shelf;
- 2) Adjust the position of the machine by placing it in front of the shelf, with the tip of the fork at a distance of 300mm from it;
- 3) Press the lift button, adjust the fork to a suitable height and position and insert it into the bottom of the pallet;
- 4) Press the lift button to raise the goods until the bottom of the pallet is 100mm from the shelf, and drive the forklift slowly until the tips of the forks are 300mm from the shelf;
- 5) Press the lowering button until the forks are 200-300mm from the floor;
- 6) Move the forklift to the desired location and press the lowering button until the pallet touches the ground;
- 7) Slowly move the machine away until the forks are completely off the pallet (tip of the forks 300mm from the pallet).

Transporting Merchandise

ATTENTION:

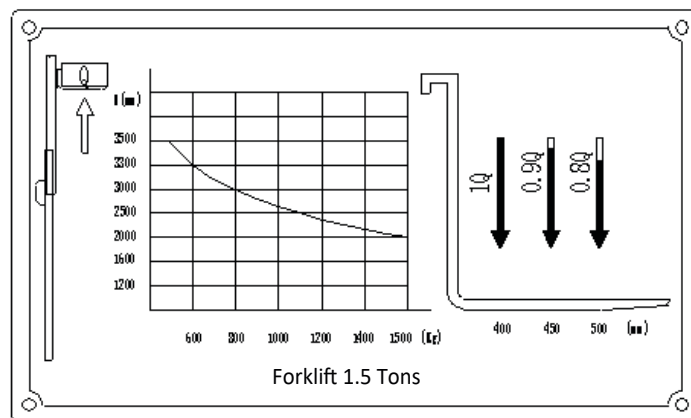
- Keep to the load limit and centralize the load respecting the ideal treatment.
- It is forbidden to transport overweight loads when their capacity is not allowed, thus causing damage to the equipment and serious accidents.
- During transportation, do not tip the equipment over or turn it upside down.
- Collisions are not permitted when loaded onto a truck.
- Do not damage the external surfaces of the equipment when it is not properly packed.



Load capacity and lifting height:

When the lifting height is less than 2,000mm, it means that the maximum load of up to 1500Kg can be lifted without any problems, as it will be within the machine's capacity. It is forbidden to overload the machine. Also note the distance between the center of gravity of the weight and the end of the boom according to the graph. The further towards the tip, the lower the weight limit allowed for lifting.

When the lifting height is greater than 2,000mm, the load table below must be taken into account. The limiting load must be less than the load the bearings can support.



Use, Maintenance and Charging of Batteries

Initial charging of the batteries

NOTE: The charging environment requires good ventilation and there must be no open flames, otherwise an explosion could occur.

Initial charging must be carried out for batteries that have never been used. Before initial charging, the surface of the batteries must be cleaned and the batteries examined for damage. The screws must be tightened to ensure a reliable connection.

1) Remove the sealing cap on the battery's water supply inlet and refill using a funnel.

2) When the charging equipment is able to operate normally, pour the electrolytic sulphuric acid solution with a density of 1.260 ± 0.005 (25°C) and a temperature of less than 30°C into the batteries. The liquid surface must be 15-25mm larger than the protection plate. In order to reduce the temperature increase caused by the chemical reaction of the electrolyte solution and to allow the electrolyte solution to completely penetrate the pores of the polar plates and baffles, the batteries should be left for 3-4 hours, not exceeding 8 hours. Initial charging can only be carried out when the temperature of the solution drops below 35°C (if necessary, the batteries can be placed in cold water to reduce the temperature). After charging, if the surface temperature of the solution decreases, the electrolyte solution must be added.

3) The sulfuric acid electrolyte solution is prepared with battery sulfuric acid, according to standard GB4554-84, and distilled water. Never use industrial sulfuric acid and tap water. The standard temperature (25°C) and density of the electrolyte solution can be converted as follows: $D_{25} = D_t + 0.0007(t - 25)$

Being: D_{25} : the density of the electrolyte solution at 25°C:

D_t : the actual density of the electrolyte solution at a temperature of $t^{\circ}\text{C}$.

t : temperature of the electrolyte solution when testing the density.

4) Handle the electrolyte solution on the surface of the batteries and connect the positive and negative poles of the battery, respectively, to the positive and negative ends of the DC power supply (charger).

5) Switch on the power supply.

6) First charge with 18A (the current of the first stage); when the voltage reaches 14.6V ($6 \times 2.4\text{V} = 14.4\text{V}$), switch to the second stage current 9A and continue charging.

The temperature of the electrolyte solution during the charging process must not exceed 45°C and, when it is close to 45°C, the charging current must be reduced by 50% or charging must stop temporarily. Wait until the temperature has reduced to 35°C to continue charging.

The charging time, however, must be extended accordingly.

7) Fully charged base: Batteries can be considered fully charged when the voltage during second-stage charging reaches 15.6 V ($6 \times 2.6\text{V} = 15.6\text{V}$), the voltage variation is no more than 0.005 (V), the density of the electrolyte solution reaches 1.080 ± 0.005 (25°C) with no obvious variation within 2 hours and no air bubbles appear. The energy charging capacity is 4 to 5 times the nominal capacity and the charging time is around 70 hours.

8) To accurately control the sulphuric acid content of the electrolyte solution, the density of the electrolyte solution in the batteries should be examined during the last charging period. If there is any inconsistency, adjust with distilled water or sulfuric acid with a density of 1.40. The density of the electrolyte solution and the liquid surface must be adjusted to the stipulated value within two hours in the state of charge.

9) After initial charging is complete, the surface of the batteries must be cleaned. Then place the sealing cap on the water supply inlet on the battery and use the machine again as normal.

Use and maintenance of batteries

In order to guarantee the life of the batteries, the batteries in use must be fully charged. Insufficiently charged batteries should not be used. During the use process, close attention should be paid to the discharge volume.

When the density of the electrolyte solution reduces to 1.17, the voltage also reduces to $1.7\text{V} \times 6 = 10.2\text{V}$, so charging should be carried out immediately.

Batteries should not be left idle for a long period of time.

Supplementary charging, often carried out during the use process, is called ordinary charging.

The battery in this model lasts 4 to 6 hours and can be charged up to 800 times, following the recommendations in the manual.

Common Load: the current of the first stage of the common load is 26A and the second stage is 13A. The charging method is the same as for the initial charge. The charged volume is 130-140% of the discharged volume and the charging time is around 15 hours.

Batteries in normal use should avoid partial charging. However, if necessary, it can be done in situations where you want to equalize the charge at the battery terminals.

For example, batteries with a lower voltage than other batteries in the discharge process and batteries that have been repaired due to failure (when the equalization charge is conducted, the positive and negative poles of the "delayed" battery must be connected respectively to the positive and negative ends of the charger, the DC power supply and the charge must be conducted independently).

Adding deionized water to adjust the electrolyte level should be done with the charger connected to the battery, and only after it has reached approximately 90% charge. Never do this at the start of charging or without the battery connected to the charger.

CAUTIONS: Equalization charging should be carried out for batteries in normal use every 2-3 months. Equalization charging should also be carried out for batteries that have not been used for a long period of time before use.

Equalizing the charge of the batteries:

- 1) Charge with a current of 4 A.
- 2) When the charging voltage reaches 15.6 V ($6 \times 2.6 \text{ V} = 15.6 \text{ V}$) and air bubbles occur in the electrolyte solution, the current should be reduced by 50% (2 A) and continue charging.
- 3) When the batteries are in a fully charged state, stop for half an hour and charge again with a current of 1A for another hour.
- 4) Stop for another half hour and charge with a current of 1A for another 1 hour.
- 5) Repeat item 4 until enough air bubbles appear, once the charger is connected.

Battery Storage

Batteries should be stored in a clean, dry and well-ventilated warehouse with a temperature of 5 to 40°C. The shelf life is 2 years. The batteries must be kept in accordance with the following requirements during storage:

- No direct sunlight on the batteries and at least 2m away from the heat source.
- Avoid contact with harmful substances. No metallic material should fall into the batteries.
- Batteries must not be placed vertically and must not be mechanically impacted or strongly compressed.
- Batteries must not be stored with electrolyte solution. When it is necessary, in special situations, for batteries to be stored with electrolyte solution, the batteries must be fully charged and the density of the electrolyte solution adjusted to the stipulated value. When the storage period is up to one month, the batteries must be charged using the common charging method.

Charging Procedure

If the connection between the charger and the battery is correct, the three lights on the charger will flash for approximately 5 seconds. After the charger lights have flashed, only the green light in the middle will remain on, until fully charged, when the green light on the right will come on.

- The maximum length of the extension cord should not exceed 30m.
- If you need a longer extension cord, consult a technician to choose the right gauge. An incorrectly dimensioned extension lead could cause a fire hazard and burn out the charger.

Power cable:

- 2P +T model plug;
- PP cable 4x2,5mm²;
- Brazilian standard pins



Power system:



Engine CC



Charger



Power cable



Charger

Maintenance of Machine

NOTE: Maintenance must be carried out by trained personnel.

Satisfactory machine operation depends on efficient machine maintenance. When maintenance is ignored, the machine can pose a threat to human life and cause damage to property.

To ensure safety and extend the life of the machine, never use it if there are any abnormalities.

The maintenance of forklift is divided into three levels: routine maintenance, level I maintenance and level II maintenance.

Routine maintenance

Routine inspection should be carried out in order to eliminate abnormal working conditions. To do this, before operating the machine, always keep the surface clean and check the power cable for damage.

Maintenance Level I

Occurrence: Once a week.

On a weekly basis, in addition to routine maintenance, it is necessary to check that the operation of the machine's components is normal:

- The existence of any loose screws;
- The chain is properly tensioned;
- If the chain terminal pin is bent or twisted;
- If the up and down movement of the mast (internal and external) is normal;
- Whether there is any oil leakage;
- Whether there is any abnormal wear and tear on the mechanical parts;
- Abnormal temperature or sparks in the electrics, etc. If there is any abnormal situation, adjustment or diagnosis and troubleshooting must be carried out promptly.

Maintenance Level II

Must be conducted periodically and the general inspection must be carried out in accordance with the following requirements:

- **Mechanical maintenance:** should be carried out **every 6 months**.

It is necessary to replace the lubricating oil in the transmission gear and the drive wheel bearing, apply lubricant to several rotating joints, check for any loose fastening items, check that the wheels are turning flexibly, and that the fork raises and lowers normally. The operating noise of the forklift after maintenance should be no more than 70db.

- **Hydraulic system maintenance:** should be carried out **every 12 months**.

Check that the oil cylinders are in normal condition, that the operation of the load limit valve is normal, that there are any internal or external leaks and that the hydraulic oil is clean.

Hydraulic oil is normally replaced every 12 months.

- **Electrical system maintenance:** should be carried out **every 3 months**.

Check that the electrical equipment connectors are reliable, that the switches are normal and that the insulation of the electrical equipment is in normal condition (The insulation resistance of the electrical equipment and the forklift body must be greater than 0.5MΩ).

Preventive Maintenance

Every 50 hours or weekly

- Check the transmission;
- Check the tightness of the traction wheel bolts;
- Check the tightness of the bolts on the load support wheels;
- Check the fastening elements of the lifting assembly;
- Lubricate the raceway of the lift carriage bearings;
- Clean the counter contacts;
- Check the brake micro and brake linings;
- Check the battery water level and top up if necessary.

Every 200 Hours

- Check the transmission;
- Check the tightness of the drive wheel bolts;
- Check the fasteners of the lifting assembly;

- Lubricate the raceway of the lift carriage bearings;
- Clean the counter contacts;
- Check that the power cabling and panel screws are secure;
- Check the tightness of the counter bolts;
- Check brake micro and linings;
- Check wear on the motor brushes and bearings, brush holders and springs;
- Check for hydraulic leaks.

Every 1000 Hours

- Check the transmission
- Check the tightness of the traction wheel bolts;
- Check the tightness of the bolts on the load support wheels;
- Check the fastening elements of the lifting assembly;
- Lubricate the raceway of the lifting carriage bearings;
- Clean the counter contacts;
- Check the fastening of the power cabling and panel screws;
- Check the tightness of the counter screws;
- Check brake micro and brake linings;
- Check battery water level and top up if necessary;
- Check wear on the motor brushes and bearings, brush holders and springs;
- Check for hydraulic leaks;
- Check the correct functioning of sockets, general and on/off switches;
- Check the motor mountings;
- Changing the brake lining;
- Changing the motor brushes;
- Changing the counter contacts;
- Replacing all bearings.

Every 2000 Hours

- Check the transmission;
- Check the tightness of the traction wheel bolts;
- Check the tightness of the bolts on the load support wheels.

Lubrication and Hydraulic Oil for the Machine

Lubricating the chain

Note: The best way to lubricate is with a No. 2 Brush.

SUPPLIERS	HYDRAULIC SYSTEM BELOW 5°C	HYDRAULIC SYSTEM FROM 5 TO 35°C	HYDRAULIC SYSTEM FROM 35 TO 50°C	CHAIN	BEARINGS
IPIRANGA	FLUIDO TIPO A	IPITUR AW 32	IPITUR AW 68	IPIRANGA SP220	ISAFLEX 2
CASTROL	TQ TIPO A	HYSPIN AS 32	HYSPIN AS 68	ILO SP 220	GRAXA LM 2
SHELL	ATF	TELLUS 32	TELLUS 68	OMALA 220	ALVANIA R-2
TEXACO	TEXAMATIC B	RANDO HD 32	RANDO HD 68	MEROPA 220	MARFAK M.2
ESSO	ESSO ATF TIPO A	NUTO H 32	NUTO H 68	SPARTAN EP 220	BACON 2
ATLANTIC	AT FLUIDO TIPO A	DURO AW 32	DURO AW 68	PENNANT EP 220	LITHOLINE 2
PETROBRÁS	LUBRAX OH-50-TA	LUBRAX HR-32-EP	LUBRAX HR-68-EP	LUBRAX EGF-220-OS	LUBRAX GMA-2
MÓBIL	ATF 200R	DTE 24	DTE 26	MOBILGEAR 630	MOBIL GREASE ME
PROMAX	MAXLUB ATF	MAXLUB MA-10	MAXLUB MA-20	MAXLUB VM-9	GENERAL PURPOSE
VALAOLINE	VALVOMATIC A	ETC OIL LIGHT	ETC OIL MEDIUM	GEAR OIL EP N°3	X-5M PURPOSE

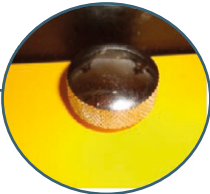
Lubricate tower and mast internals

RECOMMENDED GREASES

ESSO. BEACON 2
MOBIL. MOBILUX 3
SHELL. SHELL ALVANIA R2
TEXACO. MULTIFAX EPO
CASTROL. GRAXA LM2
ATLANTIC. LITHOLINE 2

To access the hydraulic oil reservoir, simply follow the procedure below:

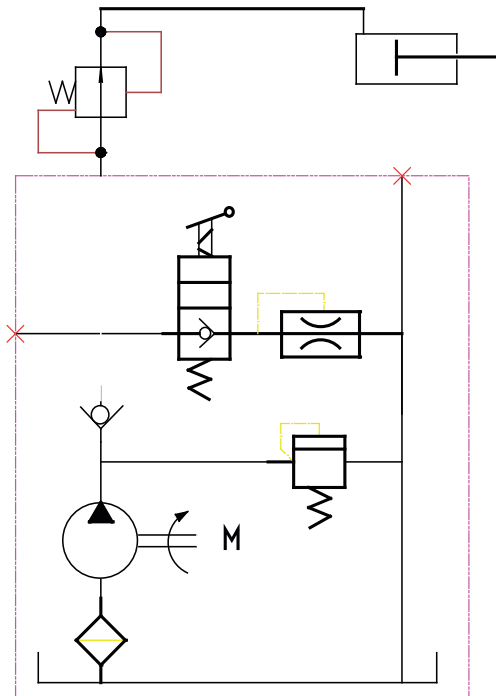
- 1) Remove the stop screw;
- 2) Remove the cover;
- 3) Hydraulic oil reservoir:
 - Check the oil level in the reservoir;
 - Make sure it does not fall below the level.
- Oil level capacity:
 - Hydraulic Cylinder Assembly: 4.5L
 - Reservoir: 1 - 1.5L



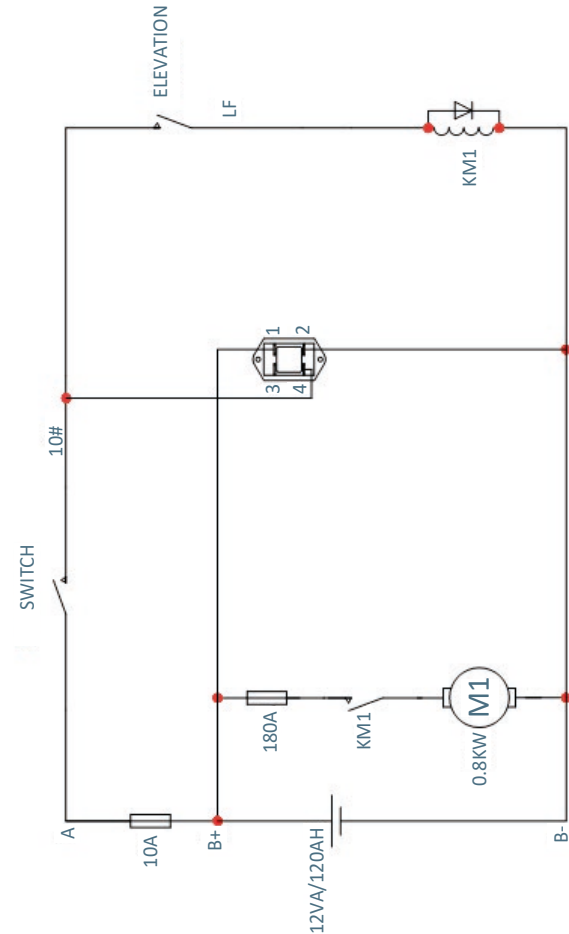
Environmental Protection

Do not discard the machine in an inappropriate trash, discard it in an appropriate one and contact the responsible body in order to make the correct discard. Preserving the environment is very important.

Hydraulic Diagram

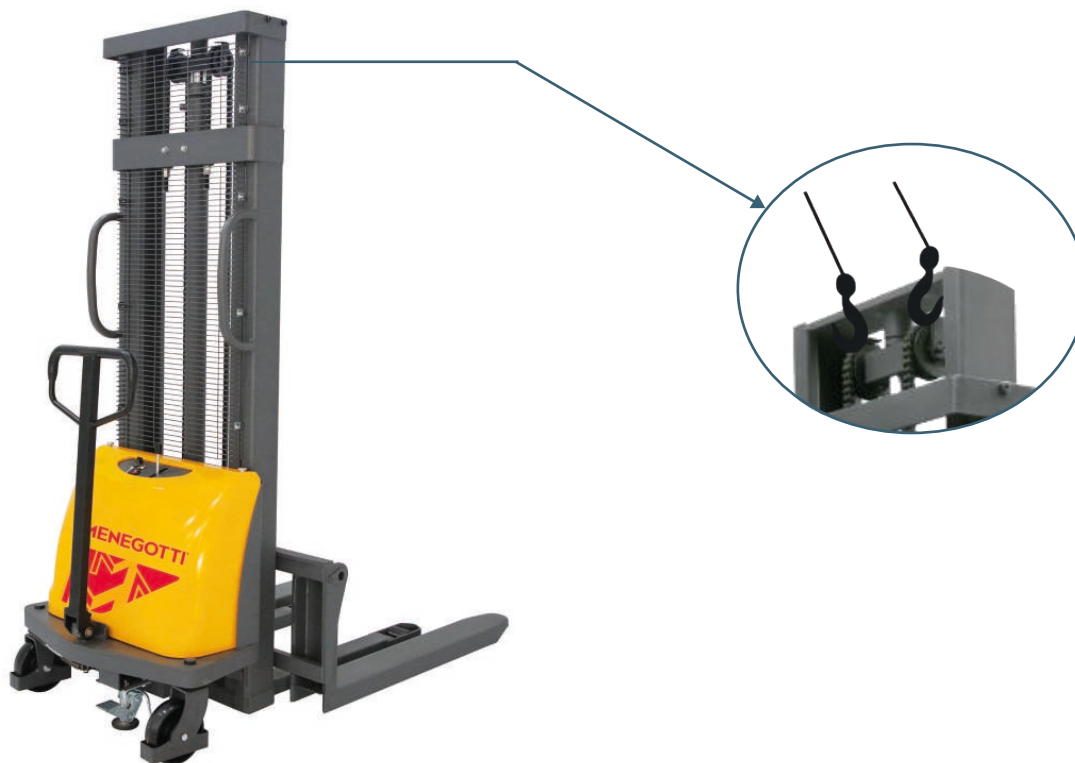


Wiring Diagram



Lifting of the Machine

The forklift must be lifted by the end of the tower, with two support points for the hoists. Sudden movements and shocks should be avoided. Position the forklift on a flat, firm surface to facilitate the loading and unloading process.



Troubleshooting

FAIL	CAUSE	SOLUTION
FORKS CANNOT BE LIFTED	OVERLOAD	REDUCE LOAD
	LOW RELIEF VALVE PRESSURE	ADJUST PRESSURE; REPLACE SEALS
	CYLINDER LEAK	REPLACE THE SEAL
	INSUFFICIENT HYDRAULIC OIL LEVEL	ADD HYDRAULIC OIL
	INSUFFICIENT BATTERY CHARGE	CHARGE THE BATTERY
	POWER SUPPLY DISCONNECTION	CONNECT THE POWER SUPPLY CORRECTLY
	THE ON/OFF SWITCH IS DISCONNECTED OR DAMAGED	TURN THE KEY ON OR REPAIR
	OIL PUMP MOTOR DAMAGED	REPAIR OR REPLACE
	OIL PUMP DAMAGED	REPAIR OR REPLACE
	LIFTING LEVER IS DAMAGED	REPAIR OR REPLACE
	THE CONTROL CIRCUIT FUSE IS BROKEN	REPLACE
	THE POWER SWITCH CONTACT IS BAD OR DAMAGED	REPAIR OR SUBSTITUTE
	THE MAIN CIRCUIT FUSE IS BROKEN	REPLACE
	THE MAIN SWITCH CONTACT IS BAD OR BROKEN	REPAIR OR SUBSTITUTE
FORKS CANNOT BE LOWERED ONCE LIFTED	THE INTERNAL MAST IS OVERLOADED AND DEFORMED	REPAIR OR REPLACE
	THE OUTER TOWER IS OVERLOADED AND DEFORMED	REPAIR OR ADJUST
	FORK ROLLERS ARE JAMMED	REPAIR OR ADJUST
	THE MAST GUIDE IS BENT OR BLOCKED	REPAIR OR ADJUST
	THE OIL RETURN HOLE IS BLOCKED	CLEAN
LOW BATTERY VOLTAGE	THE HYDRAULIC UNIT'S ELECTROMAGNETIC VALVE IS OUT OF CONTROL	STOP THE SYSTEM AND REPAIR OR REPLACE THE VALVE
	BATTERY UNIT DAMAGED	REPAIR OR REPLACE
	LOW LEVEL OF ELECTROLYTE SOLUTION	ADD ELECTROLYTIC OIL
	IMPURITIES IN THE ELECTROLYTE SOLUTION	REPLENISH ELECTROLYTE SOLUTION

Product Warranty

The conditions and terms of this warranty are non transferable and go into effect on the date of purchase of this equipment, proven by presentation of the sales invoice issued to the first end user. At the time of delivery of the equipment, the customer must be provided with the information and technical orientations according to the contents of this manual.

Not, however, included in this warranty are defects arising from improper use, negligence, imprudence or malpractice, nor are repairs or alterations to any part and/or component of the equipment. Also not included are: the assembly of any sets of parts by technicians not from the Factory itself or from an Authorized Technical Assistant, application other than which it was specified, mechanical or electrical overloading as well as lack of phase, use in environments for which it was not designed, incorrect voltages and frequencies, incorrect lubrication, damage caused by accidents of any nature, such as floods, gales, fire, landslides or due to transportation.

Removal or any alteration to the series numbers originally placed on the product will render the warranty null, where the Sales invoice and Warranty Certificate must be presented in relation to the equipment in question.

This warranty is limited to the repair, replacement of parts or assembly of parts in which, through examination by a Menegotti Authorized Technical Assistant with prior authorization from the Factory, any manufacturing defect will be verified. This repair or replacement will be performed by the authorized Technical Assistant, where the purchaser will be responsible for risks and expenses arising from transport to and from the authorized Technical Assistant, and where labor and parts will not be charged according to the terms of this warranty.

This warranty replaces any other warranty, implicit or explicit, as well as all any obligation or responsibility on the part of our company in relation to the above mentioned product.

MENEGOTTI Post Sales Department and Technical Assistance.

Term of Warranty

By the present CERTIFICATE provided from original purchaser, Menegotti guarantees this product against manufacturing defects, for a period of 6 (six) months, being: the first 3 (three) months of legal guarantee, and the last 3 (three) months a special warranty guaranteed by Menegotti, counted from the invoice issue date of the first end consumer. Not included in this equipment warranty are components subject to wear through use such as: bearings, steel cable, electrical plugs, gears and engine breaking.

This warranty includes the replacement of parts and repairs due to manufacturing defects duly noted by the factory or Authorized Technical Assistant. This warranty will be rendered null and void in the case of damages arising from accidents, acts of nature, application other than which it was designed, connection to improper electrical supply or subjected to extensive power fluctuations, or, if opened by persons or workshops not authorized by Menegotti.

The equipment that includes an electric motor and this warranty covers internal defects in the motor originating from its manufacture. Defects not covered in this warranty include: overloading due to lack of or excessive phase, use of voltage outside that specified, broken or crushed casing due to negligence during transporting /or storage, coupling or energizing outside specifications and general defects from improper use and/or incorrect installation.

In agreement with these terms,

Customer: _____
Model: _____ **Number of Series:** _____
City: _____ **Date:** _____

Customer *Menegotti Authorized Service*

Menegotti GROUP

Solid values, **sustainable future.**

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HANDLING

MENEGOTTI
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HOUSE & GARDEN



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Erwino Menegotti, 381 - Água Verde
Jaraguá do Sul - SC - 89254-000



Unit • Unidad Mentec

José Theodoro Ribeiro, 2399 - Ilha da Figueira
Jaraguá do Sul - SC - 89258-468



Unit • Unidad Menfer

Saúde, 186 - Seminário
Corupá - SC - 89278-000



Unit • Unidad MNA

248 E Crogan St STE 301 - Lawrenceville - GA
30046 - United States

grupomenegotti.com