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Gesellschaft mbH

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A-2474 Gattendorf
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OPERATOR'S MANUAL FOR PICK UP LIFT

for Serial No: _____

MODEL COVERED BY THIS MANUAL:

PKL-660 & 880 AL/AL

Thank you for purchasing the "AHT" Pick Up Lift. It will give you many years of good reliable service if you will do just a little preventive maintenance and do it on a regular basis.

This instruction booklet will provide all the information you need for operating and maintaining your new "AHT" Pick Up Lift.

Please be sure to keep a copy of this manual in the vehicle, so that it will be available when needed for servicing your unit.

The "AHT" Pick Up Lift was engineered, and built, to give you long life with very few problems.

Generally, your "AHT" requires only periodic maintenance, but if there is a problem, this booklet will be invaluable for servicing the unit.

If for any reason, there is a problem, and you have difficulty getting the problem solved, please call the factory and we will be happy to help you find some local help.

Most companies, that service other types of liftgates can also do any repair work necessary on the "AHT".

CAUTION: When steam cleaning the „AHT" it is very important to be careful around the electrical control box. DO NOT point the steam directly on the control box as the electrical connections could be damaged. It is also very important to lubricate the entire unit, after washing, as the grease will have been washed away.




30. October 2008

HOW TO USE THE “AHT” PICK UP LIFT

IT IS NOT PERMITTED TO USE THE “AHT” AS:

-A personal lift or elevator	The lift is not a personnel or wheelchair lift.
-As an extension of another body.	Do not use to load or unload another vehicle.
-As a snow plow.	Heavy damage could be done to your new “AHT”

Do not use the lift for anything but its intended use - for loading and unloading of cargo only.

USER QUALIFICATIONS TO OPERATE THE “AHT” PICK UP LIFT

The driver and/or operator should be well trained in the proper procedure for operating the “AHT” before using the lift.

Carefully read the manual **before starting to operate** the “AHT” Pick Up Lift.

Only mature adults, age 18 and above, should operate the “AHT” Pick Up Lift.

The operator should not be physically handicapped. (Bad eyesight or hearing)

The operator should not be overly tired.

The operator should never be under the influence of alcohol or drugs while operating the “AHT”.

The load **must be** stabilized on the platform to avoid damage.

Always load as close to the center of the platform and as close to the truck as possible.

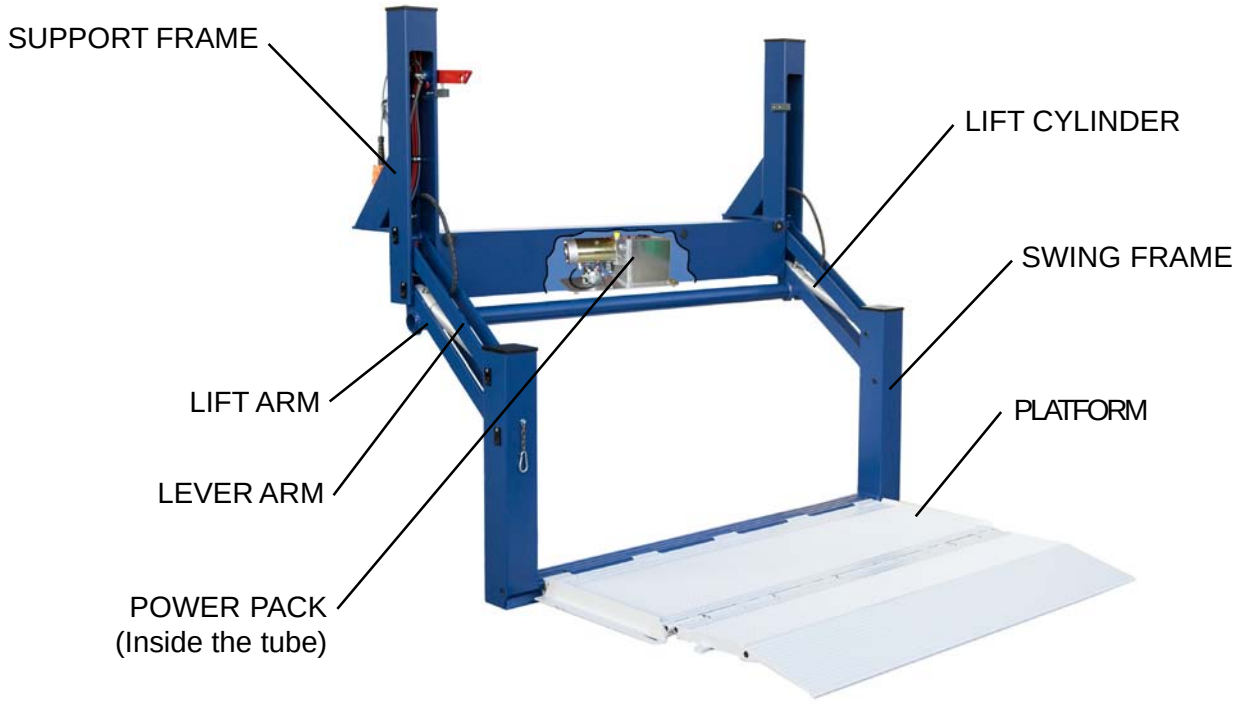
The operator must never load or unload more than the maximum capacity of the “AHT” Pick Up Lift. **Read the data plate for actual capacity of this „AHT“.**

Always perform the daily check before using the „AHT“ Pick Up Lift.

TECHNICAL DESCRIPTION OF THE "AHT" PICK UP LIFT

The All Aluminum "AHT" Pick up Lift has the following components:

1) One Support Frame: Made from Aluminum. (Welded construction)
2) One Swing Frame: Made from Aluminum. (Welded construction)
3) One Platform: Made from High Strength Aluminum Profiles.
4) Two Lever arms: Made from Aluminum (Welded construction).
5) One Lift arm: Made from Aluminum (Welded construction)
6) One Power Pack
7) Two Lift Cylinders



The support frame (1) is mounted to the vehicle chassis with 12 screws.

For lifting the platform and load, we use two single-acting aluminum/steel lift cylinders. Each of the cylinders is equipped with a mechanical hose burst valve, for safety. In case of hydraulic hose failure, the platform cannot fall to the ground. The failure can be repaired and the "AHT" can go back to work.

Aluminum Platform:

The platform is made from high strength aluminum profiles, and is engineered to properly maintain the load and keep it stabilized for your safety.

Special options available for the platform include:

1) Spring Loaded Roll Stops
2) Safety Flags, so the platform can be seen, from the rear, while in operation.

TECHNICAL DESCRIPTION
FOR THE MHW POWER PACK

The MHW Power Pack:

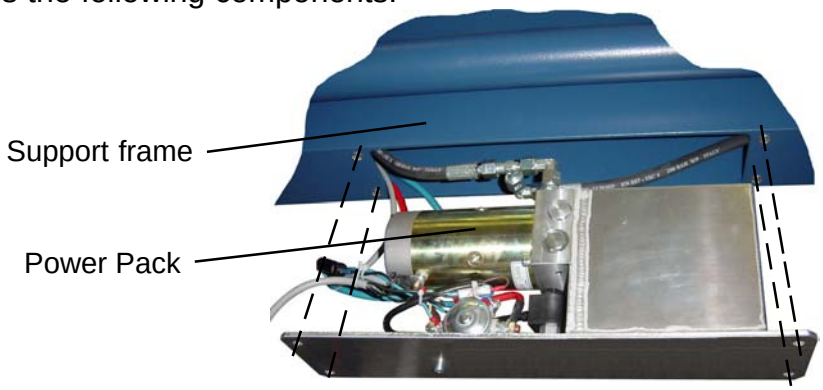
The power pack main plate,including the oil reservoir, is made of aluminum. The power pack is mounted in the tube of the support frame. So it is insulated to achieve a very quiet operation. The **noise level** of the power pack is **less than <70dB** (MSV§74).

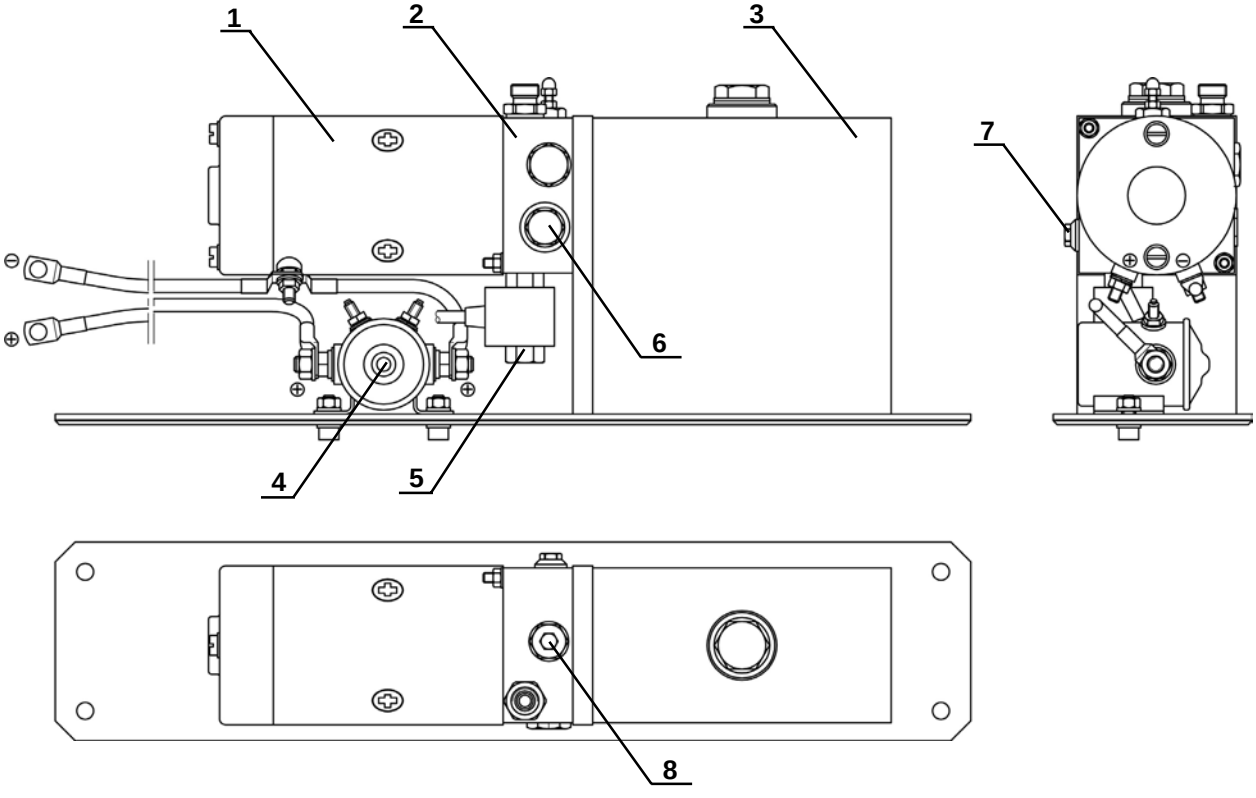
The power pack is located in the inside of the support frame. The working pressure and the lowering speed is set in our company. For the adjustment of the working pressure and the lowering speed you have to dismount the power pack. The battery main switch and the plug for the remote control are located on the backside of the support frame.

CAUTION: <u>Never</u> bottom out the relief valve fully. The power pack and/or the hydraulic system could be damaged.

The MHW power pack contains the following components:

1) Motor: 0,8kW, 12V
   Pump: 0.17ccm/U
2) Pumphead
3) Oil tank: 1.5l
4) Starter switch: 12V
5) 2/2-way-valve
6) Check valve with filter
7) Relief valve: 180bar
8) Flow control valve





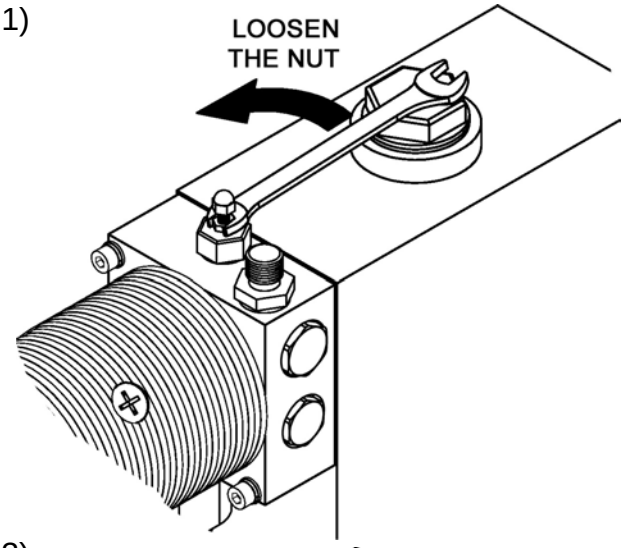
TECHNICAL DESCRIPTION
POWER PACK ASSEMBLY
Adjusting the Speed and Pressure:

<u>Adjustable flow control valve:</u>
The Lift speed is not adjustable.
The lowering speed is adjusted by position 8. (See page 4)

How to adjust the flow control valves:

- Be sure the adjustable flow control valve is not closed. To regulate the lowering speed, first loosen the M4 (5/16”) nut. Adjust the screw carefully until the correct lowering speed is attained. When the speed is correct, hold the screw in one hand and lock the nut with the other.
- The **lowering speed** should be as follows:
  Maximum lowering speed should be 6” (150mm) per second. (Maximum lowering speed is 40” in 7 seconds). (1 m in 7 seconds)

1)



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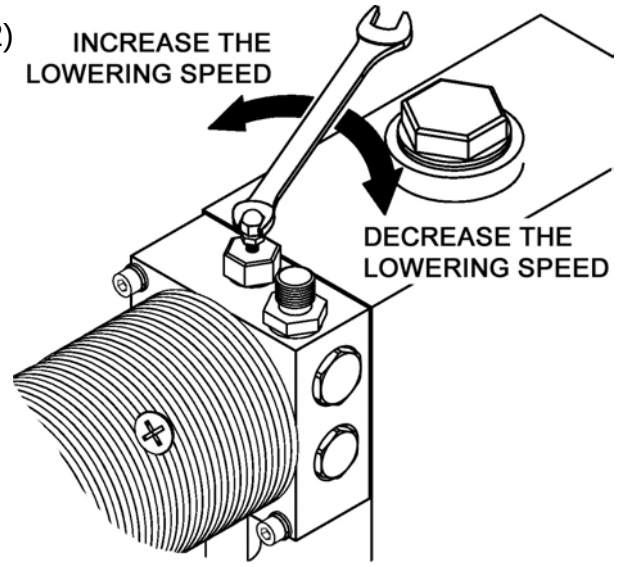

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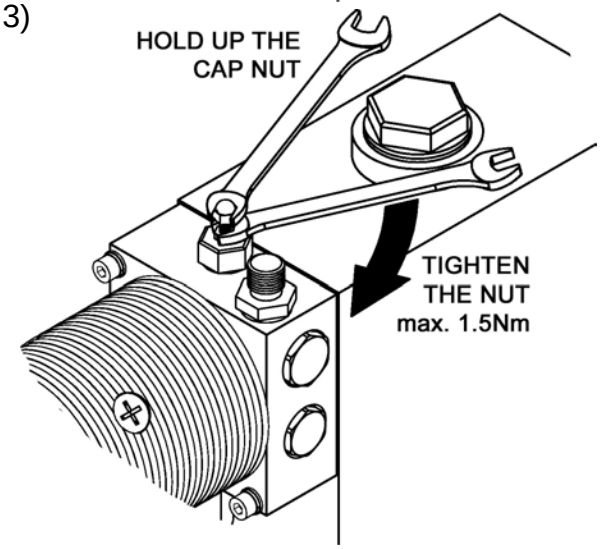


TECHNICAL DESCRIPTION
POWER PACK ASSEMBLY
Adjusting the Speed and Pressure:

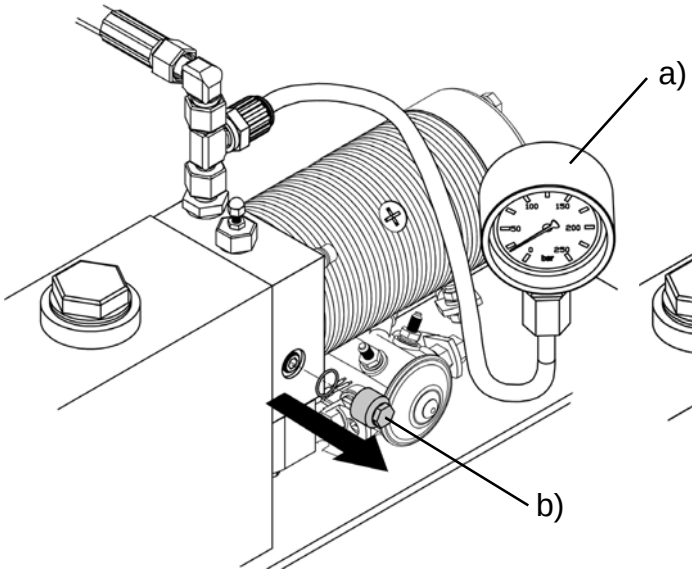
Adjustable relief valve:

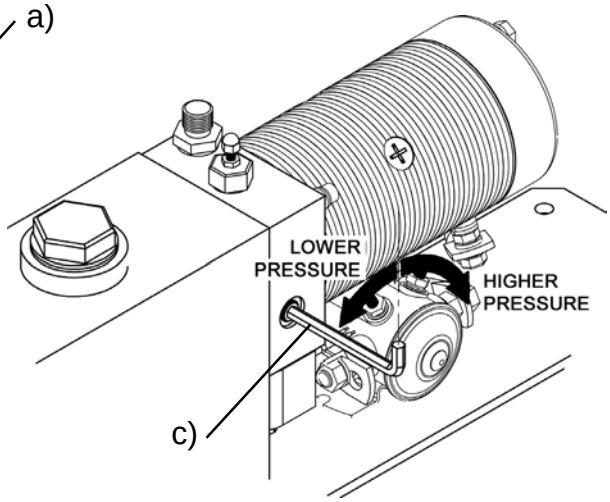
The hydraulic pressure is adjusted by position 7. (See page 4)

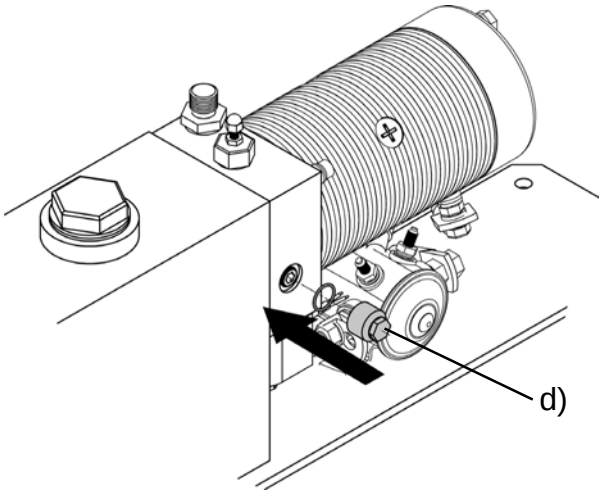
How to adjust the relief valve:

The relief valve is sealed, with a wire tie, from the factory and **must not** be removed unless authorized by the factory. **Warranty is void if seal is broken.**

- The hydraulic pressure is adjusted, at the relief valve (7).
- Adjustable from (50-250 Bar) or (700-3600 PSI)
- Adjustment of the relief valve:
  a) To adjust pressure, a calibrated pressure gauge **is required** and it should be connected between the hydraulic hoses.
  b) Remove the seal and cover from the adjusting nut.
  c) Turn the adjusting screw with a hex wrench, clockwise (for higher pressure) or counter-clockwise (for lower pressure) being sure to keep an eye on the pressure gauge. The maximum pressure should be 230 Bar (3340 PSI).
  d) When pressure is correct, lock the cap screw and check the pressure again to be sure it has not changed. Seal the cover.
  Caution: Never bottom the relief valve. The power pack and/or hydraulic system could be damaged.



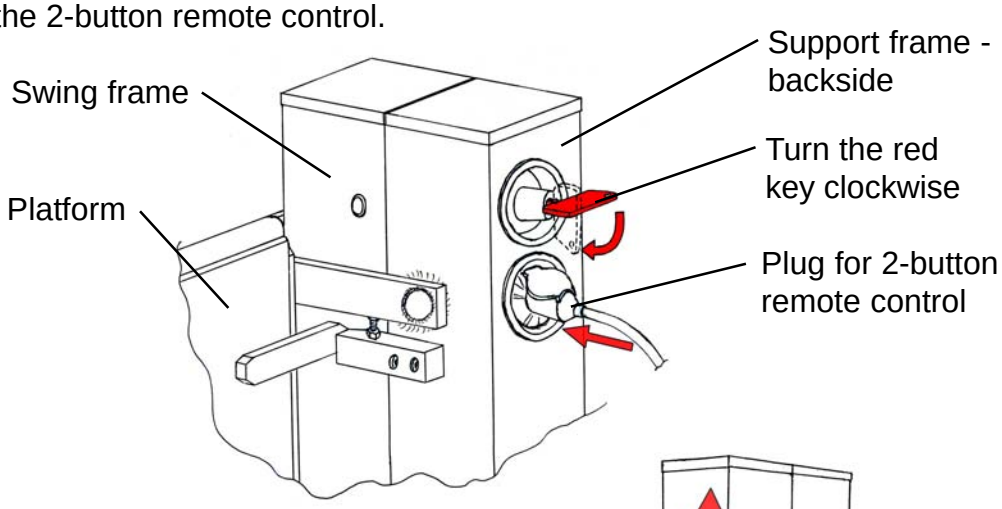




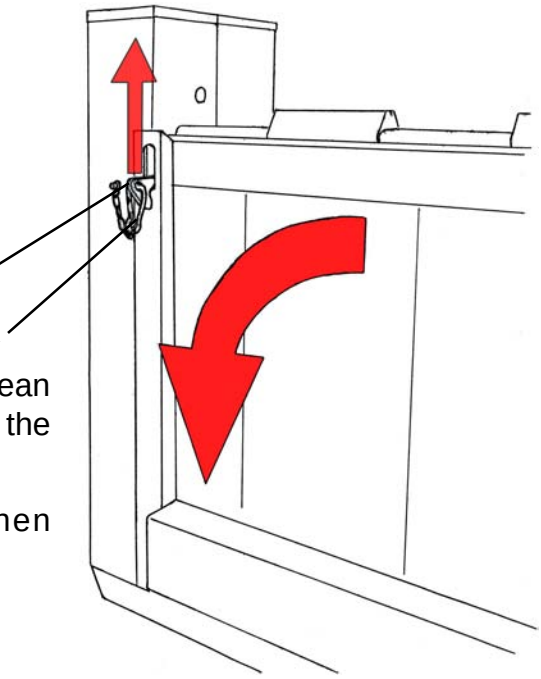
OPERATING INSTRUCTIONS FOR THE "AHT" PICK UP LIFT

CAUTION: Be sure there is enough room for the operator to safely operate the „AHT".

STEP 1) *Energize the power pack*
- Turn the red key clockwise to switch on the power pack (on passenger's side).
- Plug in the 2-button remote control.

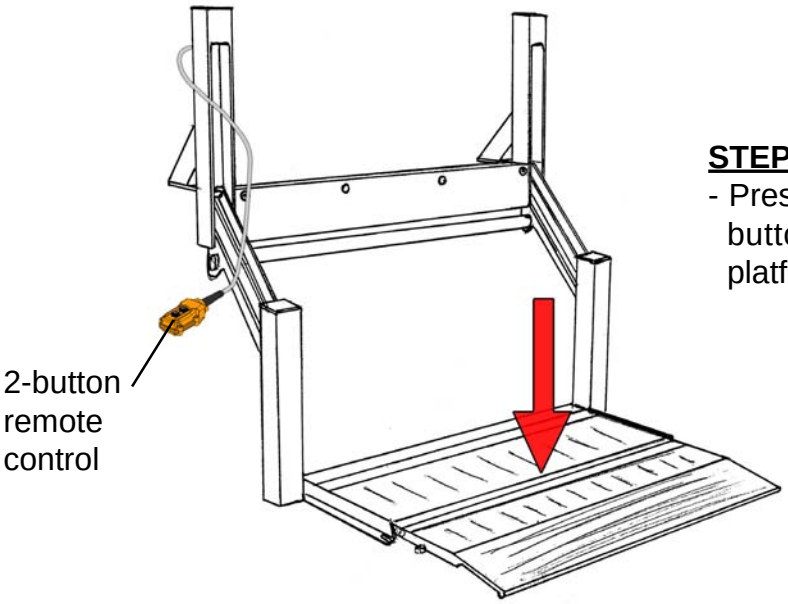


STEP 2) *Open the platform (on passengers side)*
- Remove the safety spring hook from the platform lock.
- Push the platform lock upwards while pulling the platform downwards and step away from the platform as it opens.
- Unfold the platform tip.



CAUTION:
Always be sure the area behind the vehicle is clean and safe. Also be sure no one is standing in or near the platform working area.

ATTENTION: Always open the platform when unlocking the hook!



STEP 3) *Lower the platform*
- Press the „LOWER" button on the 2-button remote control to lower the platform to ground.

OPERATING INSTRUCTIONS FOR THE "AHT" PICK UP LIFT

CAUTION: Always consult the data plate, to be sure you are not overloading the platform. Load must always be centered on the platform and as close to the truck as possible.

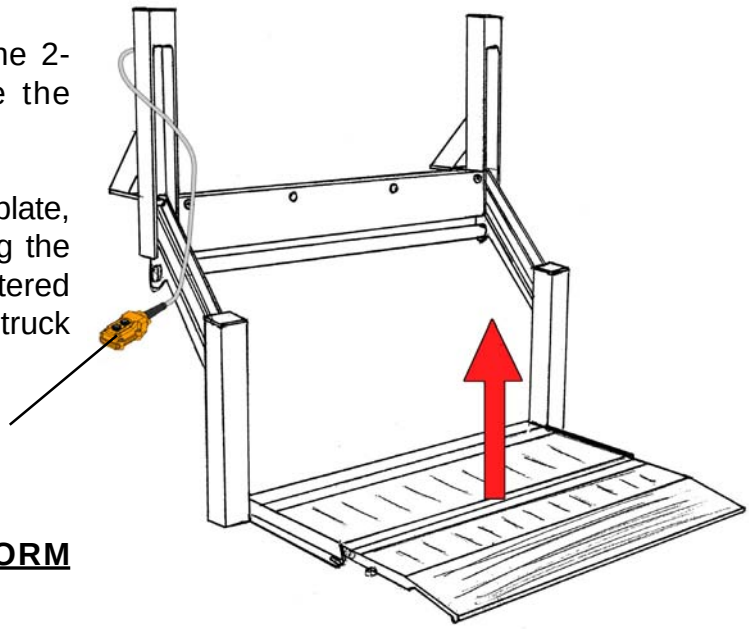
If you want to change the lowering speed of the platform, you must readjust the flow control valve located in the power pack. (See page 5)

Maximum lowering speed is 6" per second.

STEP 4) *Raise the platform*

- Press the „RAISE" button on the 2-button remote control to raise the platform to truck floor level.

CAUTION: Always consult the data plate, to be sure you are not overloading the platform. Load must always be centered on the platform and as close to the truck as possible.

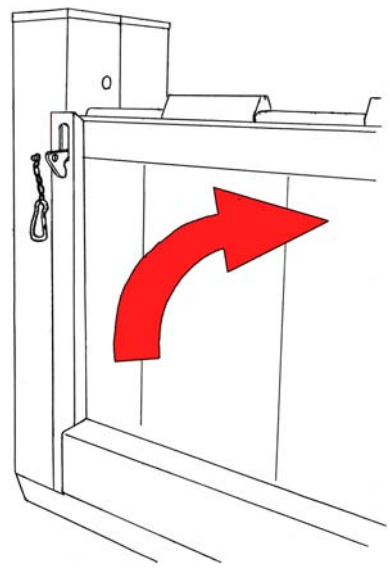


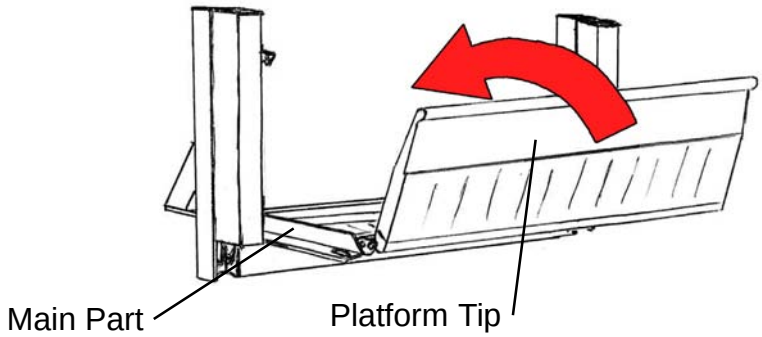
DO NOT STAND ON PLATFORM WHILE OPERATING!!!

STEP 5) *Close the platform (on passengers side)*

After the platform is raised to truck floor level and the load is removed, fold the platform tip and close the platform.

- Fold the platform tip





- Close the complete platform (main part and tip)
- The spring loaded platform lock will automatically snap in and secure the platform against fall down.
- **Install the safety spring hook at the platform lock.**

ATTENTION: Be sure that the platform lock and the safety spring hook is correctly installed!!!

OPERATING INSTRUCTIONS FOR THE "AHT" PICK UP LIFT

STEP 7)

- Turn the red key counter-clockwise and remove it from the switch. This removes all electrical current from the lift.
- Remove the 2-button remote control and store it in a safe place for later use.

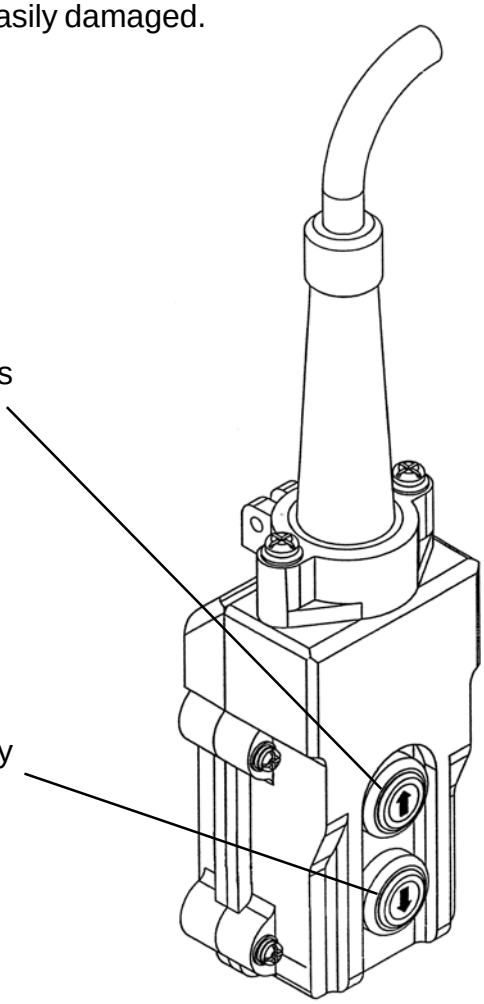
CAUTION: Never leave the truck with the platform at the ground level, partially raised, or open. Before the truck will be moved be aware, that goods are secured and trolleys are protected against movement. Be sure that the spring safety hook is installed at the platform lock.

Using the 2-Button Remote Control:

CAUTION:
This 2-button remote control should be stored out of the way when not in use. The electrical cord is easily damaged.

UP:
For lifting the platform simply press the UP button.

DOWN:
You can lower the platform to any desired level or to ground level.



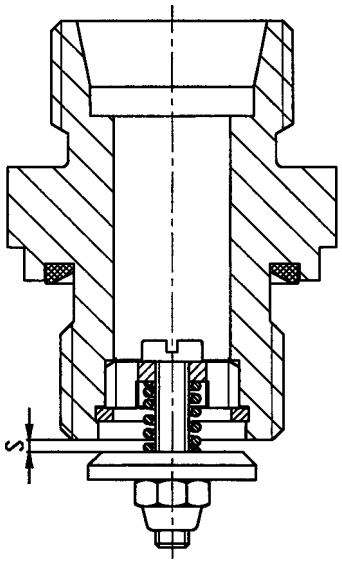
ADJUSTING THE MECHANICAL HOSE BURST VALVE

If the platform stops, **while being lowered**, a mechanical hose burst valve could be defective.
This could happen in the winter time when it is much colder and the hydraulic oil is heavier.

The mechanical hose burst valve can be adjusted to remedy this situation by simply making the “S” measurement larger. (See diagram below)
The mechanical hose burst valves are screwed into the cylinders and connected to the hoses.

How to make this adjustment:

- Press the „DOWN“ button to lower the platform to ground level, so there is no pressure in the cylinder.
- Remove the high-pressure hose with the elbow fitting and the fitting with the mechanical hose burst valve.
- If you make the measurement “S” larger, the problem will be solved.
- The normal factory adjustment is 0.45 mm.
- Hold the hexagon socket head cap screw and turn the locknut M2.5 anticlockwise.
  NOTE: A half turn = 0.45mm gap enlargement
- Install the fitting with the mechanical hose burst valve, elbow fitting and high-pressure hose.
- Press the „UP“ button until the relief valve is bypassed. (Dead-end the cylinder)
- Now press the „DOWN“ button until you reach the ground. Then press the UP button to cycle the system. (This should be done several times to remove all excess air from the cylinders).



SAFETY INSTRUCTIONS
FOR THE “AHT” PICK UP LIFT

Never place your hand between the support- and the swing frame. Your hand could be crushed.

This lift is not for transport of persons. Do not ride or permit anyone to ride on the pick up lift.

Never use the lift as a wheel chair lift.

Always be sure the area behind the vehicle is clean and safe. Also be sure no one is standing in or near the platform working area.

Do not close the platform to the traveling position before lifting the platform to truck floor level.

Do not lower the platform before opening from traveling position.

GENERAL OPERATING AND MAINTENANCE INSTRUCTIONS

Hydraulic equipment is usually a part of another piece of equipment, such as a truck. To ensure a long and trouble free operation, always read the manufacturers instructions carefully.

Below is a short list of “Do’s” and “Don’ts”

DO’s:

- The satisfactory functioning, long life, reliability and efficiency of hydraulic equipment is greatly affected by the selection of the most suitable type of hydraulic fluid. We highly recommend a hydraulic oil with 22 viscosity.
- NEVER USE AUTOMATIC TRANSMISSION FLUID
- In case of very low temperature, less than 0°C (+32°F), use oil with a 10 viscosity.
- Fill the reservoir with a good grade of hydraulic oil. Always use a filtered funnel and clean oil.
- The AHT” pick up lift is the only one in existence to date that will permit the use of a biodegradable oil.

DON’T’s:

- NEVER work on the hydraulic system while it is under pressure.
- NEVER use tape or pipe dope on the hydraulic fittings. They will seal without any outside help.

  VERY IMPORTANT: If you wish to paint the equipment or weld on it, always mask off all moving parts, flexible connections and nameplates before doing so.

CAUTION: When the “AHT” is steam cleaned, it is very important to be careful around the electrical control box. DO NOT point the steam directly on the control box as the electrical connections could be damaged.
It is also very important to lubricate the entire unit, after washing, as the grease has been washed away. (See page 14)

SERVICING THE AHT PICK UP LIFT:

Three types of checks need to be made on a regular basis.

- The daily check
- The monthly check
- The annual check

(Report any defects to your supervisor immediately)

***THE DAILY CHECK**:

Check all bolts and washers for tightness
Check for leaks, under the vehicle, and in the hydraulic system
Check the platform lock for operating properly
Check the switches, UP & DOWN for proper operation
Check the hydraulic oil level, if leaks are apparent
The platform must be on the ground, and open all the way, to check the proper oil level

***THE MONTHLY CHECK**:

Complete the daily check, plus the following
Pressure wash the entire unit, being careful not to pressure wash inside the electrical control box.
Check all bolts for looseness and tighten if necessary
Check all welds for cracks and repair if necessary
Lubricate all grease fittings (19 grease fittings)
Replace any worn or broken parts
Check the lowering speed (Be sure it is safe)
Check the oil level, and add if necessary (Do not overfill)

- Procedure for checking oil level:

1) Platform must be on the ground to properly check reservoir level
2) Remove the power pack with the 4 screws and remove the black filler cap. The oil level should be 3/4 full.
3) Replace the dipstick and the power pack.

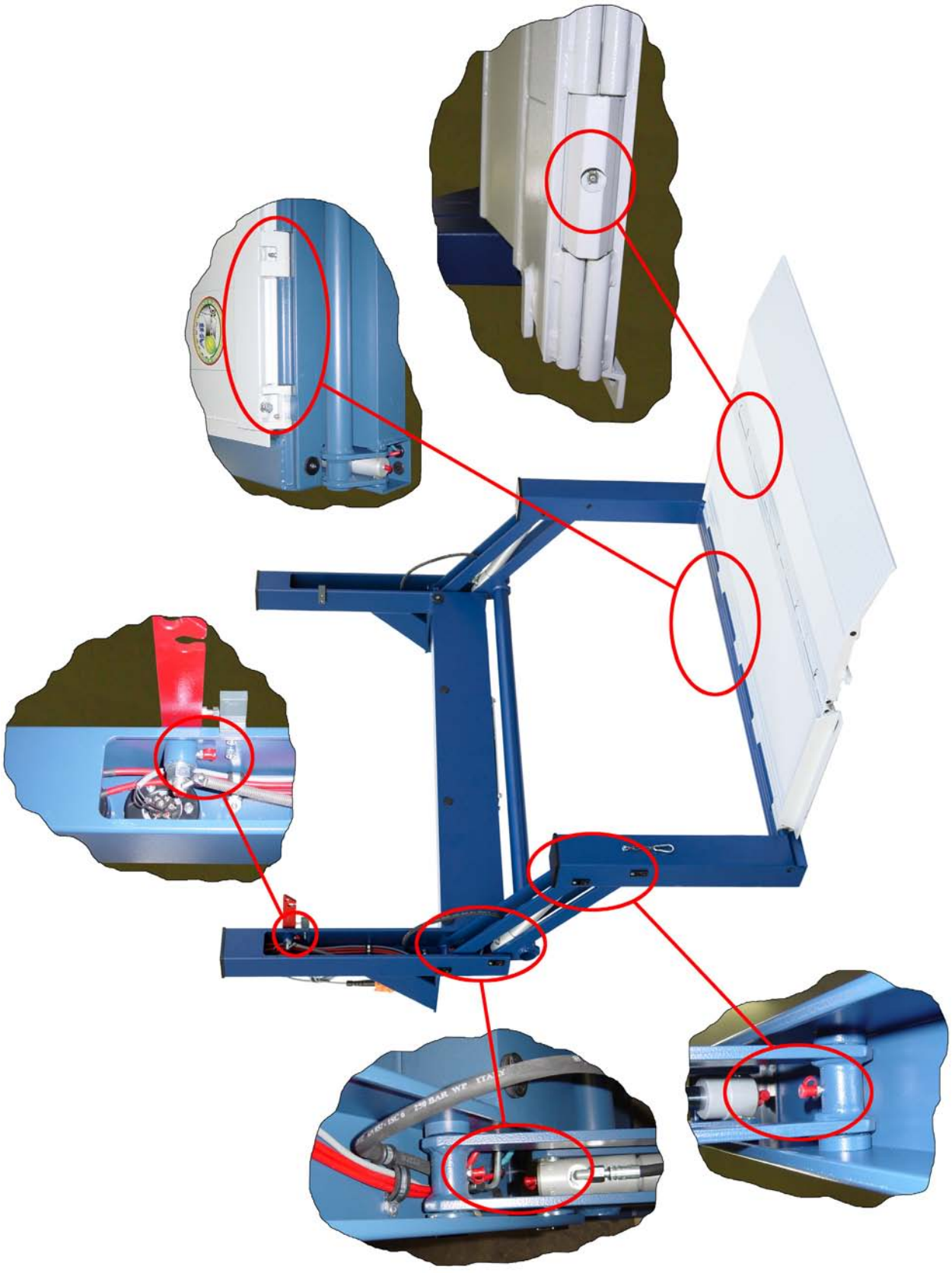
***THE ANNUAL CHECK:**

Complete the daily check
Complete the monthly check, plus the following
Check all electrical cables for chafing or breaking, repair if necessary
Check all hydraulic lines for leaks, cracks or chafing, replace if necessary
Drain the hydraulic reservoir; clean the filter and the reservoir
Fill reservoir with a good, clean grade of hydraulic oil with 22cst.
Check the lifting capacity (Consult the data plate for correct capacity of this unit)
Check all safety devices (Flags, Roll stops, Edge Guards, etc.) for proper operation
Check all electrical connections for corrosion and tightness. Repair if necessary

Note: Depending on frequency and usage the hydraulic hoses has to be changed after approx. three years.
Only clean hydraulic oil grants interference operation.
The hydraulic oil must be changed once a year. The power pack requests oil thickness of 22cst (usage of 10cst oil by very low temperature under 0°C).

GREASE SCHEME

After cleaning the truck with steam pressure, aggressive detergent and drying bearing and grease fittings has to be greased again. (19 grease fittings)



A H T WARRANTY CERTIFICATE

AHT warrants to the original purchaser, for a period of TWO YEARS all manufactured parts and ONE YEAR for supplier parts, from the date of installation, any new AHT product , including accessories and/or spare parts. These items are warranted against defects in material and/or workmanship. AHT will, at its own descretion, either repair or replace any defective parts with equivalent parts, subject to the conditions listed below.

Type: _____ Serial #: _____ Year of Mfg: _____
Customers Name: _____ Date of Installation: _____

1. Replacement or repair of parts will be provided from the factory, subject to any applicable Federal, State or Local taxes. Labor charges are not covered unless specifically authorized by AHT, prior to the actual repair and subject to our published flat rate schedule.

2. Defective parts must be reported to AHT within 30 days of discovery and must be submitted on an official warranty claim form, or the warranty is void.

3. Warranty is valid only if the Warranty Registration Form is returned, within 15 days of installation, to AHT.

4. Warranty shall not apply if equipment is operated at capacities in excess of factory recommendations.

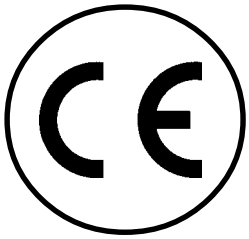
5. Warranty does not apply to defects caused by accident, misuse, alterations of design, improper installation, poor maintenance practices, or any other cause beyond the control of AHT.

6. Warranty shall not apply to any cargo loss, loss of use, or any other incidental or consequential damages arising out of the use of this product, including travel time.

7. Warranty as provided herein shall be the purchaser‘s exclusive and limited remedy, and AHT shall not be liable for consequential or other damages.

IT IS EXPRESSLY UNDERSTOOD AND AGREED THAT THERE ARE NO WARRANTIES MADE BY THE MANUFACTURER OR ITS AGENTS, REPRESENTATIVES OR DEALERS, EITHER EXPRESSED, IMPLIED OR IMPLIED BY LAW, EXCEPT THOSE EXPRESSLY STATED HEREIN ABOVE IN THIS STANDARD LIMITED WARRANTY AGAINST DEFECTS IN MATERIAL AND WORKMANSHIP, AND THE MANUFACTURER AND ITS AGENTS. REPRESENTATIVES AND DEALERS SPECIFICALLY DISCLAIM ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

_____ _____
Customer AHT Representative



CONFORMITY CERTIFICATE for TUV

For machinery in accordance with EG-Directive 98/37/EG

Manufacturer: AHT-Aluhebetechnik Ges.m.b.H.
Bahnstraße 34
A-2474 Gattendorf

Product: Electro-Hydraulic Lift Gate

Design: Electro-Hydraulic Lift Gate: Aluminum/Aluminum

Type: PKL-300.110
max. Capacity (kg): 300

max. Hydraulic Pressure (Bar): 220

Serial numbers:

Description: Aluminum lift gate for mounting on wheeled vehicles.

The above machinery meets the following laws:

- Machinery Safety Law: MSV: BGBl.306/1994
- EG-Machinery Directive: 98/37/EG and 91/368/EWG
- EN 292
- EN 1756-1

Items tested: Check of technical files
Check of static calculation
Practical tests of operation and loading
Check of operators manual and installation manual

Testing place:: **AHT-Aluhebetechnik Ges.m.b.H.**
A-2474 Gattendorf, Bahnstraße 34

Result: The above mentioned product has met all requirements and this certificate is issued, based on the test speciman and the technical documentation subjected to the test.

Company:_____

Signature:_____

Place/Date:_____ Name/Title:_____

TROUBLE SHOOTING GUIDE

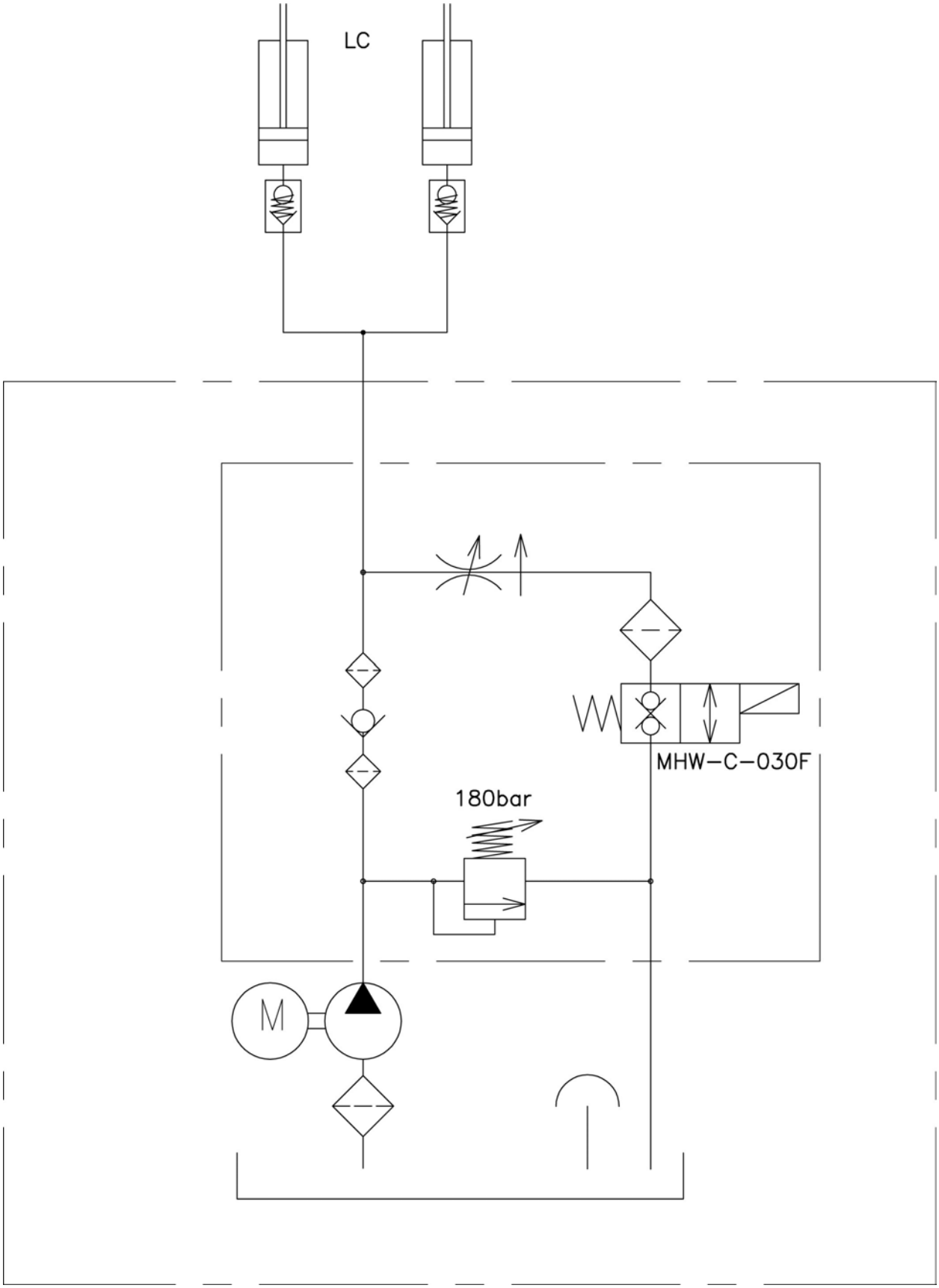
PROBLEM	POSSIBLE CAUSE	CORRECTION
01) MOTOR NOT RUNNING	a) Main fuse is blown b) Low battery c) Blown fuse in power pack d) No current on 2-button remote control e) Starter solenoid is defective f) Battery main switch is disengaged or defective	- Replace fuse - Charge or replace battery - Replace fuse - Short in cable - repair or replace - Repair or replace - Engage the main switch or replace
02) MOTOR RUNS SLOWLY	a) Low Voltage b) Brushes are dirty or worn out	- Check & clean all battery connections - Charge battery - Replace brushes or motor
03) EMPTY PLATFORM WILL NOT RAISE	a) Low hydraulic oil b) Suction filter is plugged	- Check oil level. Add new, filtered oil - Check hydraulic system for leaks - Clean or replace suction filter
04) MOTOR RUNS-PLATFORM WILL NOT RAISE	a) Liftgate is overloaded b) Relief valve is set too low	- Remove some load - Reset relief valve on Power Pack to 180bar
05) PLATFORM WILL NOT LOWER	a) No current on solenoid valve b) Solenoid valve defective c) Mechanical hose burst valve is closed or defective d) Flow control valve is closed e) Platform hook is locked	- Check for current at solenoid by energizing the „LOWER“ button - Replace if necessary - Clean or replace valve - Adjust or replace hose burst valve - Adjust or replace flow control valve - Unlock the platform hook
06) PLATFORM LOWERS SLOW	a) In winter, it is normal b) Flow control valve is adjusted wrong c) Piston guide rings are oxidized d) Lift and/or lever arm pins are seized	- Use lower viscosity oil (10cst) - Adjust or replace flow control valve - Replace or clean guide rings - Lubricate all pins
07) PLATFORM RAISES SLOW	a) Low current to motor	- Charge battery
08) PLATFORM RAISES SLOW - MOTOR RUNNING NORMALLY	a) Pump defective	- Check pressure and repair or replace pump

SERVICE RECORDS

Type: _____ Serial #: _____ Year of Mfg: _____
Customers Name: _____ Date of Installation: _____

Date of Service	Services Performed

HYDRAULIC SCHEMATIC



ELECTRIC SCHEMATIC