MACHINE No. x

SOLENOID CONTROL AUTOMATIC and FULL GUARDS



OPERATORS MANUAL



PALLET STACKER

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SAFETY PRECAUTIONS

SAFETY: THE MACHINE IS TO BE USED ONLY IN ACCORDANCE WITH SAFETY GUIDELINES AND IS NOT TO BE USED FOR ANY OTHER PURPOSE THAN ORIGINALLY INTENDED.

The machine is fitted with a stop button, which <u>MUST</u> be activated in all possible emergency situations, disabling the machine.

The following guidelines <u>MUST</u> be obeyed and the machine operated in strict accordance with the operators manual:

- Only fully authorised personnel may operate this machine.
- The machine <u>MUST</u> only be operated when the area within the fixed guards is clear. Nobody may enter this area with the machine in operation.
- The machine <u>MUST</u> only be operated within the maximum load capacity for which it was designed (see specification page).
- All machine inspection covers must be in place before use.
- Only fully authorised, suitably qualified personnel may carry out maintenance operations on this machine.
- The electrical supply <u>MUST</u> be isolated and suitably locked off, when carrying out any maintenance task.
- Machine must be unload and empty before any maintenance tasks are carried out.
- Do **<u>NOT</u>** tamper with or alter the machine in any way.
- Correct personal protective and safety equipment <u>MUST</u> be used at all times and in accordance with government health and safety and site specific guidelines.





PRODUCT DESCRIPTION SOLENOID CONTROL & FULL GUARDS



The Payne Pallet Inverter Stacker is a highly versatile machine, used for efficient and safe stacking and dispensing of pallets.

The machine is loaded/unloaded with a Pallet Truck. The machine will automatically perform the operation required for effective stacking or dispensing.

The machine is fitted with a unique identification plate attached to the frame. On this plate is stamped the model type, machine serial number, year of manufacture and maximum permissible machine load. This information should be quoted in every communication with us, enabling us to deal with your queries as effectively as possible.

Ma PA DE KII EN Tel	Nufactured by INNE PALLET INVERTERS LTD. IREHAM ROAD, BEESTON, NGS LYNN, NORFOLK, PE32 2NQ, IGLAND. 44 (0)1328 700138 www.paynepalletinverters.co.uk
MODEL	
SERIAL No.	MAX. LOAD DATE OF MANUFACTURE
•	GROSS MACHINE WEIGHT

The operator controls are located on the front of the machine guarding. This ensures the machine is operated easily and from a position of safety. The machine is also fitted with high resolution zero height light barriers as standard.

NOTE: THE MACHINE SHOULD NOT BE USED FOR ANY OTHER PURPOSE THAN ORIGINALLY INTENDED.

EMER



HANDLING

The machine **MUST** only be unloaded and loaded with the use of a suitably rated fork lift truck and a competent, qualified driver.

There is a two fork tine receiving frame bolted on the machine for transportation, which are removed once the machine is placed in it's installation position. If required a designated lookout person should be assigned if the drivers visibility is reduced by the load. Ensure the forklift tines are completely through the receiving slots and that the lifting frames are fixed into place before lifting the machine.

SAFETY: CARE MUST BE TAKEN WHILST MANOEUVRING THE EQUIPMENT AROUND OBJECTS AND PEOPLE TO AVOID DAMAGE/INJURY.





MACHINE INSTALLATION

Tools Required:	Fasteners (supplied):
10mm spanner	M6 fixings (for light barriers)
13mm spanner	M8 fixings (guard fittings)
19mm spanner	M20 floor bolts
30mm spanner	M8 floor bolts
Suitable mallet	
8mm/20mm SDS drill bits	

Before installation, ensure the following items are available:

- Suitably rated forklift
- Level flooring

Also ensure the presence of:

- A qualified forklift driver
- Suitable floor space for the machine
- Correct electrical supply plug

NOTE: AT THIS POINT THE FLOOR SHOULD BE CHECKED TO A DEPTH OF AT LEAST 200mm FOR UNDERGROUND OBSTRUCTIONS, WHICH COULD HINDER INSTALLATION.

- Ensure the floor is free of obstructions or
- debris which could hinder the placement of the machine.
- Place the machine in its final intended
- position, ensuring there is enough space to access the electrical panel door at the rear of the machine & allowing for the floor guarding.
- With the machine located, use a suitable drill and 20mm drill bit to drill the floor at each of the 4 floor attachment points of the frame to a depth of 100mm.
- Using a mallet, locate the supplied M20 floor anchor bolts securely in place. Using a 30mm spanner or ratchet, secure the machine to the floor bolts using the appropriate supplied fasteners.



ATTACHMENT POINTS



GUARD INSTALLATION





GUARD INSTALLATION CONT.

- Once the Pallet Stacker body is bolted to the floor. Place the operator controls and light barrier cables at the front of the machine (be careful not to trap these cables while assembling the guards).
- Remove the Fork lift Tine slots bolted to the machine.
- Lay out the supplied angle floor guarding, (refer to plan drawing for positioning in relevance to the machine) this guarding is positioned all around the machine.
- Position the two light barrier housing to the front of the machine, inside of the angle guarding.
- On the left housing, the control panel will need feeding through before the covers are bolted on.

NOTE: ENSURE THE GUARDS ARE IN THE CORRECT ORIENTATION BEFORE COMMENCING ASSEMBLY.

- Bolt the guards to the machine and the solid panel on both sides.
- Bolt the end posts to the guards with the controls post on the lefthand side. Be aware not to trap any cables between the guards/posts.
- Attached the cable tray to the left hand side and bolt the control panel bracket to the control post, this sits roughly 1055mm from the floor.
- Align the light barrier housings to the floor and bolt down to floor & machine.
- Fit and align the light barriers to their housing, plug in the machine check the barrier alignment. (Light barriers housings must be bolted to the floor before light barriers are fitted)
- Once the guards & light barriers are in place, fit the connecting plates for the protective angle & use a suitable drill and 20mm drill bit to drill the floor at each of the pre-drilled floor attachment points of the frame to a depth of 100mm.
- Using a mallet, locate the supplied M20 floor anchor bolts securely in place. Using a 30mm spanner or ratchet, secure the guarding to the floor bolts using the appropriate supplied fasteners.
- Check and tighten all bolts, make sure all safety covers are in place.
- Plug in the machine and check functionality of the machine and light barriers.

Turn off and unplug the machine



GUARD INSTALLATION CONT. Light Barrier Bracket & Protective Angle Fitment

Firstly line up the up a light barrier housing with the pre-drilled hole on the machine, then line up the opposite bracketry ensuring both are parallel with each other. Once correctly lined up, tighten bolt into the machine. Follow this us by drilling 3x floor mounting holes and use the



- Lay out all the angle framework around the pallet stacker as per plan layout.
- Connect each section up using the supplied connecting plates, there will be 8 bolts per section.
- Ensure the internal guides line up with the opening of the machine before drilling any floor holes.





- Once happy with positioning, use a suitable drill and 20mm drill bit to drill the floor at each of the floor attachment points of the frame to a depth of 100mm.
- Using a mallet, locate the supplied M20 floor anchor bolts securely in place. Using a 30mm spanner or ratchet, secure the machine to the floor bolts using the appropriate supplied fasteners.









CONNECTION

SAFETY: THE FOLLOWING SHOULD ONLY BE CARRIED OUT BY A FULLY QUALIFIED ELECTRICIAN.

- Connect the machine to an adjacent suitably rated electrical supply.
- Ensure the stop buttons are released.
- Switch the electrical isolator on, at the main panel
- Check the guards and light barriers for correct alignment and functionality.
- Turn the key on the main panel **ON**.
- Select **MANUAL** on the main panel.

SAFETY: ALWAYS ENSURE THERE ARE NO PERSONS PRESENT WITHIN THE GUARDED AREA PRIOR TO STARTING!

- Press the **RESET** button on the guard mounted control panel.
- Press the **START** Button on the guard mounted control panel, this will start the pump motor.
- Check for the correct operation of the motor.



PRE-USE & START UP PROCEDURE

Pre-use Inspection:

- Visually inspect the machine for any obvious deformities or irregularities.
- Ensure there are no oil leaks and the hydraulic oil level is correct on the tank sight glass.
- Ensure that there is no debris or other objects within the guarded area.

SAFETY: ALWAYS ENSURE THERE ARE NO PERSONS PRESENT WITHIN THE GUARDED AREA PRIOR TO STARTING!

SAFETY: NEVER START UP THE MACHINE IF ANY OF THE ABOVE CRITERIA ARE NOT MET

Start up Procedure:

- Turn the electrical isolator on (located at the main panel).
- Check both emergency stops are released.
- Turn the key on the main panel **ON**.

SAFETY: ALWAYS ENSURE THERE ARE NO PERSONS PRESENT WITHIN THE GUARDED AREA PRIOR TO STARTING!

- Press and hold the **RESET** button on the guard mounted control panel until safety is reset.
- Select **MANUAL** on the main panel and press **START** button on the guard mounted control panel until the motor starts.
- Confirm that the motor stops when the light barrier is physically interrupted.
- Follow the operating instructions given on the following pages.



OPERATORS MANUAL

(Automatic mode for stack or dispense)

SAFETY: ALWAYS ENSURE THERE ARE NO PERSONS PRESENT WITHIN THE GUARDED AREA PRIOR TO STARTING!

NOTE: Automatic mode is to be used for all stacking/dispensing of pallets.

DO NOT USE DAMAGED PALLETS IN THIS MACHINE

Ensure there are no personnel within the guarded area, that any pallets in the machine are correctly positioned, and that there is no debris or other objects within the guarded area.

- Select **AUTO** at the main panel.
- Select **STACK** or **DISPENSE** at the main panel.

SAFETY: ALWAYS ENSURE THERE ARE NO PERSONS PRESENT WITHIN THE GUARDED AREA PRIOR TO STARTING!

- Press **RESET** at the guard mounted control panel if illuminated.
- Press **START** at the guard mounted control panel.
- Observe the **READY** light at the guard mounted control panel and move pallets accordingly:
 - When lit in stack mode, load a single pallet or remove the full stack when it is on the floor in the machine.
 - When lit in dispense mode, unload a single pallet or load a full stack when machine is empty.
 - When unlit, move no pallets.

If a pallet or stack is moved in error without the indicator authorising the move the machine will not operate. Proceed as follows: -

- Reverse (undo) the movement of pallet or stack
- Press start/run to obtain the correct indication
- Complete the move now correctly authorised by the indicator

Should a damaged pallet have been used in error recovery may be required using manual operations. Before this procedure remove any pallet or debris from the base of the machine.

Following manual use, the carriage must be lowered, the pins retracted and any pallets and debris removed before the next auto use.



OPERATORS Control panels

SAFETY: ALWAYS ENSURE THERE ARE NO PERSONS PRESENT WITHIN THE GUARDED AREA PRIOR TO STARTING!



Control Panel Front of Machine Main Panel Back of Machine



OPERATORS MANUAL (MANUAL MODE)

Manual Mode:

SAFETY: ALWAYS ENSURE THERE ARE NO PERSONS PRESENT WITHIN THE GUARDED AREA PRIOR TO STARTING!

NOTE: *Manual mode is to be used for maintenance purposes only.*

Manual lower carriage/retract pins:

- Select MANUAL at the main panel.
- Select **DISPENSE** at the main panel.
- Retrieve any pallets or objects from the base of the machine using pallet truck and suitable aid.

SAFETY: ALWAYS ENSURE THERE ARE NO PERSONS PRESENT WITHIN THE GUARDED AREA PRIOR TO STARTING!

- Press **RESET** at the guard mounted control panel if illuminated.
- Press **START** at the guard mounted control panel, the motor will start.
- Hold **RUN** at the guard mounted control panel until the carriage is lowered, then release.
- Hold **RUN** at the guard mounted control panel until the pins are retracted, then release.

Manual extend pins/raise carriage:

- Select **MANUAL** at the main panel.
- Select **STACK** at the main panel.

SAFETY: ALWAYS ENSURE THERE ARE NO PERSONS PRESENT WITHIN THE GUARDED AREA PRIOR TO STARTING!

- Press **RESET** at the guard mounted control panel if illuminated.
- Press **START** at the guard mounted control panel, the motor will start.
- Hold **RUN** at the guard mounted control panel until the pins are extended, then release.
- Hold **RUN** at the guard mounted control panel until the carriage is raised, then release.

Should a damaged pallet have been used in error recovery may be required using manual operations. Before this procedure remove any pallet or debris from the base of the machine.

Following manual use, the carriage must be lowered, the pins retracted and any pallets and debris removed before the next auto use.



MAINTENANCE SCHEDULE

SAFETY: BEFORE CARRYING OUT ANY MAINTENANCE OPERATION ENSURE THE MACHINE IS EMPTY AND THAT THE ELECTRICAL ISOLATOR ON THE MAINCONTROL PANEL IS SWITCHED OFF AND LOCKED.

Daily:

• Check and remove any debris from the stacking area of the machine

Weekly:

• Check the hydraulic oil level at the tank sight glass, replenish with correct grade oil if necessary (See specifications page)

Bi-Annually:

- Visually examine the machine for obvious deformities, paying particular attention to:
 - i. Frame, body and tables (cracks and deformation)
 - ii. Hoses, valves and manifolds (leaks or perishing)
 - iii. Electrical panel, including latches and hinges
 - iv. Electrical cables, insulation, conduit and clamps
 - v. Rubber buffers (wear and perishing)
 - vi. Light barriers (if present)
- Ensure all guard panels are secure and free from damage
- Clean the motor casing and fins
- Renew the hydraulic oil and suction filter (see pages 16 &17)

SAFETY: IN THE UNLIKELY EVENT OF ANY MACHINE MALFUNCTION, STOP AND REPORT IMMEDIATELY.

SAFETY: REPLACE ALL GUARD PANELS REMOVED DURING ANY MAINTENANCE OPERATIONS & ENSURE ALL SAFETY DEVICES ARE RE-INSTATED.



LUBRICATION COMBINATION BEARINGS

This machine is fitted with precision Combination bearings, these bearings come pre lubricated and do not require greasing. However it is worth checking the condition of the bearings in accordance with the maintenance schedule and if required <u>lightly</u> lubricate.



SAFETY: SUITABLE CHOCKS SHOULD BE PUT IN PLACE TO PREVENT THE BODY FROM MOVING, WHILST LUBRICATION OF THE MACHINE IS CARRIED OUT.

SAFETY: DISPOSE OF WASTE OIL AND SOILED RAGS CORRECTLY AND IN ACCORDANCE WITH LOCAL AUTHORITY GUIDELINES.



OIL CHANGE PROCEDURE

Tools Required:	Materials Required:	Part No.
13mm spanner	Oil suction filter	H-F-SE1320
10mm spanner	Return filter element	H-F-2012
Oil transfer pump	Qualube HM 32	A/R
60 litre container	Oil absorbent pads	A/R

NOTE: ALTHOUGH THE WHOLE HYDRAULIC SYSTEM CONTAINS 25 LITRES OF OIL ONLY 20 LITRES WILL BE IN THE TANK ITSELF.

- Place a suitable empty container, sufficient to hold approx. 25 litres of oil. Remove if needed rear safety guard panels to improve access to the oil tank.
- Using a 10mm spanner or ratchet, unscrew the top of the return filter and carefully remove the filter element.
- Remove the oil from the tank into the container through the return filter socket, using a suitable oil transfer pump. Into a suitable container approximately 25 litres capacity.
- Renew the filter element and refit the top of the return filter.
- Remove the M8 screws from the tank top lid and lift off carefully. The strainer filter will be found attached to the pump assembly.





OIL CHANGE PROCEDURE

CONTINUED

- Replace the strainer filter with the new filter component.
- Examine the tank lid seal for deterioration, signs of perishing or damage and replace the seal if necessary. At this point drain any excess oil from the motor/pump assembly.
- Carefully refit the complete tank top lid assembly.
- Refill the hydraulic tank through the filler breather with Qualube HM 32 grade oil until it reaches the top mark on the sight glass. Fill the tank carefully, to prevent a build up of air in the system.

NOTE: THE OIL LEVEL MAY DROP A SMALL AMOUNT AFTER THE MACHINE HAS BEEN RUN FOR THE FIRST TIME, THIS IS NORMAL AS THE OIL HAS TO FILL THE HYDRAULIC SYSTEM.

- Re-fit the tank filler/breather cap .
- Replace any safety covers/panels removed during the oil change.
- Run the machine for approximately 5 minutes to circulate the oil and remove any air that may have entered the system during the oil change procedure.
- Re-check the hydraulic oil level and examine the machine for any oil leaks.
- Top up the machine if the oil level has dropped.
- If for any reason the frame covers need to be removed during service or repair, please ensure all bolts are fitted & tightened afterwards, inside the frame contains moving parts.

SAFETY: DISPOSE OF WASTE OIL CORRECTLY, WITH AN AUTHORISED COMPANY IN ACCORDANCE WITH LOCAL AUTHORITY GUIDELINES.



COMPONENTS PUMP ASSEMBLY



Item	Component	Part No.
1	2.2 KW Motor	H-POWERPACK-2.2KW-3PH
2	Bottom mounted pressure gauge	H-PG-4000 BTM
3	Return filter pressure indicator	H-F-RFI
4	Return filter assembly	H-FH-2012
5	Filler/filter	H-F-1163.40
6	Tank sight glass	H-SG-FLT-221



COMPONENTS PUMP ASSEMBLY (INTERNAL)



Item	Component	Part Number
1	Hydraulic pump	H-P-8CC-PS
2	Strainer filter	H-F-SE1320
3	Filler filter	H-F-1163.40
4	Return filter replacement element	H-F-2012
5	Flexible coupling (inside bell housing)	H-EM-P/COUP









Item	Component	Part No.
1	50x30x320 Ram (Lift)	H-RAM-PS-LIFT
2	Ram seal kit	H-RS-GM-50/30
3	40x25x100 Ram (Clamp)	H-RAM-PS-CLAMP
4	Ram seal kit	H-RS-GM-40/25

3&4







Item	Component	Part No.
1	Valve Manifold Assembly + Extra Valve	H-V-PH-STD-24+VLV
2	Speed control valves	H-V-SCV-06S



COMPONENTS COMBINATION BEARINGS



Item	Component	Part No.
1	Combination Bearings	B-COM-BEARING_4.055



SPECIFICATION

Туре

Pallet	Stacker-	-15	Stack

Solenoid control, with full guards & Protection frame

Manufactured

2022
Beeston Kings Lynn, Norfolk, UK

General data

Minimum operating temperature (č)	zero
Maximum noise level (Db)	<74.8
Finish	White machine 9010 / Black guards

Mechanical data

Oil capacity (litre)	20
Oil pump capacity (cc)	9
Hydraulic system pressure (psi)	2000
Load capacity (kg)	750

Electrics

Power supply (V)	415
Frequency (Hz)	50
Motor (kw)	2.2

Lubrication type

Oil		Qualube HM32
Greas	se	Proteus 2ep



OIL SHEET DATA

QUALUBE HYDRAULIC HM FLUIDS

Qualube Hydraulic HM Fluids incorporate characteristics that give:

- 1. protection against oxidation, anti-wear properties to reduce the wear occurring in all moving parts.
- 2. rust inhibitor treatment to help reduce the detrimental effects of water contamination.
- 3. low foaming to prevent inadequate lubrication and potential damage to pumps.
- 4. good demulsibility characteristics allowing quick separation from water helping to prevent rust.
- 5. excellent hydrolytic stability to protect equipment from corrosion in the presence of water.
- **Qualube** Hydraulic HM Fluids offer superior wet filterability as measured by the AFNOR 48-691 performance test providing protection against fine filtration blockage due to the presence of water. This allows the product to meet the stringent requirements of increasingly fine filters being built into many modern hydraulic systems.
- The advanced chemistry that enhances the formulation's filterability affords it extreme thermal stability. As a result of this combination of characteristics, Qualube Hydraulic HM Fluids helps reduce the formation of sludge and varnish which can lead to unexpected downtime.
- For end users of hydraulic equipment this high standard of performance means protection of their equipment against the damaging effects of water, contamination, and longer service between filter and fluid replacement, excellent anti-wear, anti-rust performance and a more reliable system in operation.

Health and Safety:

These grades are mineral oil based lubricants and should be handled according to good standards of industrial hygiene. Further detailed information is available on request.

Storage:

Drums should be stored in a clean dry place and protected from extremes of temperature, store >5°c.

The information given is correct to the best of our knowledge. It is offered in good faith but without guarantee as the conditions and methods of use of our products are beyond our control.



OIL DATA SHEET CONTINUED

QUALUBE HYDRAULIC HM FLUIDS

Performance Specifications:

Qualube Hydraulic HM Fluids meet or exceed the requirements for industrial and mobile hydraulic systems which call for

Parker Denison HF-0 (formerly Denison HF-1, HF-2, HF-0)Vickers Product, Eaton Brochure 694 (formerly Vickers I-286-5 and M-2950-S)MAG IAS, LLC (formerly Cincinnati MilacronP-68, P-69 and P-70)US Steel 127, 136DIN 51524, Part 2RexrothGeneral Motors LH-04-1, LH-06-1, LH-15-1Sauer DanfossBosch, variable vane pumpsISO 11158 (replaced ANFOR specs)Commercial Hydraulics*Hord Steel 127, 136

*except for PM-500 series silver containing pumps which require R&O additive systems

PHYSICAL AND CHEMICAL PROPERTIES

Oil
None
>0.98
N/A
Insoluble in water
>200
N/E
N/E
<0.1mm Hg.
N/E
310 min.
140 min.
N/A

THESE PROPERTIES DO NOT CONSTITUTE A SPECIFICATION



GREASE DATA SHEET

Proteus 000EP, 00EP, 0EP, 1EP, 2, 2EP, 2M, 3

Lithium Soap Greases:

A range of premium quality multi purpose greases, manufactured from Lithium-12-Hydroxyl Separate Soap dispersed in solvent refined mineral base stocks, fortified with selected compounds to inhibit corrosion and oxidation. The grades highlighted with EP signifies the inclusion of specially selected soluble extreme pressure additives, and in the case of Proteus 2M the addition of micronised Molybdenum Disulphide has been added to enhance its operational characteristics.

This highly versatile range of greases are recommended for a variety of applications including automotive, industrial and off-highway plant for bearings, steering and chassis fittings, grease cups, water pump bearings and grease lubricated universal joints.

These grades may also be used to advantage over a wide range of other industrial applications from small high speed bearings operating under high unit pressure and load, as well as centralised lubricating systems. As well as the ability to provide continuous pump ability over wide temperature ranges, they exhibit excellent load carrying properties, high resistance to shock loading, coupled with exceptional, resistance to water washing.

Performance Benefits:

Long service life in a wide range of operational applications

RP/LB/20 November/1:

Excellent resistance to water washing and protection against rust and corrosion Reduced wear on heavily loaded bearing applications Controlled pump ability makes them ideally suitable for use in centralised lubrication systems Prolonged life due to high resistance to oxidation at high operating temperatures Extended bearing life in environments where water ingress could be a problem.

Health and Safety:

These grades are mineral oil based and should be handled according to good standards of industrial hygiene. Further detailed information is available on request.

Storage:

Containers should be stored in a clean, dry place and protected from extremes of temperature.

The information given is correct to the best of our knowledge. It is offered in good faith but without guarantee as the conditions and methods of use of our products are beyond our control.



GREASE DATA SHEET

Proteus 2EP Lithium Soap Grease:

Typical Physical Characteristics:

	2EP
Appearance	Medium fibred grease
Colour	Bottle Green
Worked Penetration (IP50)	265/295
NLGI Classification	2
Dropping Point (IP132)	180EC min.
Operating Temperature Range	-20/+130EC
Oil Separation (IP121)	5% max
Oxidation Stability (IP142) 160 hours at 99EC - Pressure Drop psi	4
Water wash out ASTM D1264 at 38EC at 79EC	3% 4%
Timken OK Load (IP326) Kg	20
4 Ball Weld Load (IP239) Kg	315