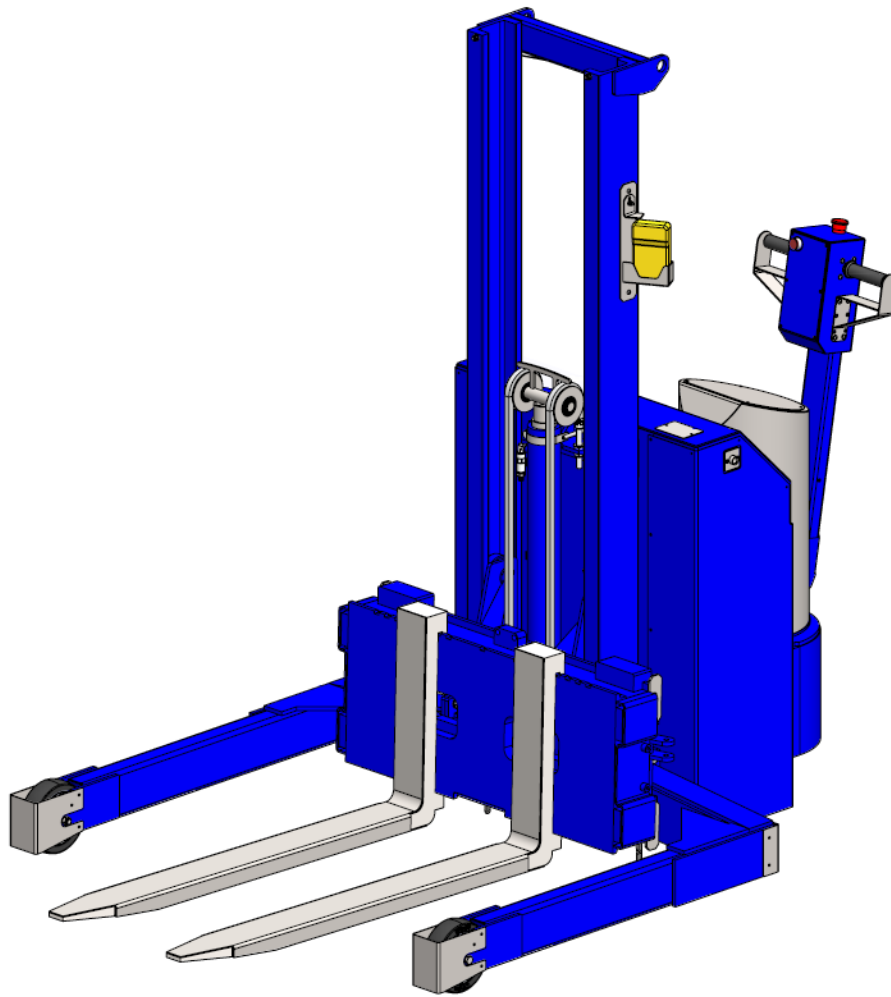


Operating Instructions



STP12-FAC01-HDWLC-Ex

ATEX Rated Pneumatic Hydraulic Powerdrive
Stacker with Wireless Load Cell Weighing
System and Stainless Clad Forks

Bespoke Handling Equipment Ltd.
Leedstown
Hayle
Penzance
TR27 6DS

E-mail: sales@sts-trolleys.co.uk
Tel: +44 (0)1736 851050
Fax: +44 (0)1736 851023

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Section I – Correct Use and Application

General

The unit described in the present operating instructions must be used, operated and serviced in accordance with the present instructions. Any other type of use is beyond the scope of application can result in damage or injury to personnel, the unit or property. The unit described in the present operating instructions complies with BS EN ISO 17050-1:2010 and the EC Machinery Directive 2006/42/EC.

Foreseeable Misuse of the Unit

WARNING!

Personnel must take care when operating the unit. The following actions must be adhered to:

- The maximum load must not be exceeded;
- Do not travel with a raised load (>500mm);
- Do not carry or lift persons or stand on the unit;
- Do not negotiate on inclines unless otherwise stated;
- Do not stand underneath a raised load or within the confines of the unit during operation;
- Do not exceed the maximum operational speed of 4km/h;
- The load must be lifted by the attachment provided;
- Do not alter the machine specification from original supply;
- Do not disable, remove or adjust safety mechanisms or switches;
- Observe all instruction decals applied to the unit.

Approved Application Conditions

- Operation in industrial and commercial environments;
- Permissible temperature range 5°C to 40°C;
- Maximum operational relative humidity of 50%;
- Operation only on secure, level surfaces with sufficient capacity;
- Operation only on routes that are visible and approved by the proprietor;
- Operation in accordance with guidance stated within the operating instructions;
- The unit must be maintained in accordance with the maintenance schedule stated within the operating instructions.

Proprietor Responsibilities

For the purposes of the present operating instructions the "proprietor" is defined as any natural or legal person who either uses the unit themselves, or on whose behalf it is used. In special cases (e.g. leasing or renting) the proprietor is considered the person who, in accordance with existing contractual agreements between the owner and user of the unit, is charged with operational duties. The proprietor must ensure that the unit is used only for the purpose for which it is intended and that there is no danger to life or limb of the user and third parties. Furthermore, accident prevention regulations, safety regulations and operating, maintenance and repair guidelines must be followed. The proprietor must ensure that all users have read and understood these operating instructions. The proprietor must perform an onsite risk assessment before the unit is put in to service.

WARNING!

Failure to comply with the operating instructions shall invalidate the warranty. The same applies if improper work is carried out on the unit by the proprietor or third parties without the permission of the manufacturer.

Adding Attachments and/or Accessories

The mounting or installation of additional equipment which affects or enhances the performance of the unit requires written permission of the manufacturer. Local authority approval may also need to be obtained. Local authority approval does not however constitute the manufacturer's approval. An onsite risk assessment must then be carried out.

WARNING!

Any unauthorised modifications or additions to the unit shall invalidate the warranty and Bespoke Handling Equipment Ltd shall not be liable.

Safety Regulations for the Operation of the Unit

Operator authorisation

The unit may only be used by suitably trained personnel, who have demonstrated to the proprietor, or their representative that they can operate the unit safely and in accordance with the operating instructions.

Operators rights, obligations and responsibilities

The operator must be informed of their duties and responsibilities and be instructed in the operation of the unit and shall be familiar with the operating instructions. The operator shall be afforded all due rights. Safety shoes and appropriate Personal Protective Equipment (PPE) must be worn at all times.

Unauthorised use of unit

The operator is responsible for the unit during the time it is in use. The operator must prevent unauthorised persons from operating the unit.

Damage and faults

The proprietor must be immediately informed of any damage or faults to the unit or attachment. Units which are unsafe for operation must be quarantined until faults have been rectified and the unit deemed safe for operation.

Servicing and Repairs

Only original spare parts must be fitted to the unit. The operator must never disable, remove or adjust safety mechanisms or switches. The unit should only be serviced and repaired by a competent individual as selected by the company the equipment is intended for use with.

Safety devices and warning decals

Safety devices, warning decals and warning instructions in the operating instructions and on the unit must be strictly observed.

Travel routes and operational areas

Only use lanes and routes specifically designated for unit traffic. Unauthorised third parties must stay away from operational areas. The unit must only be operated in operational areas with sufficient lighting to avoid damage or injury to personnel, the unit or property. Additional equipment is necessary to operate the unit in areas of insufficient lighting.

Hazardous area of the unit

WARNING!

The hazardous area is defined as the area in which a person is at risk due to the unit itself or movement of the unit and/or load. This also includes areas which can be reached by falling loads. The operator must:

- Instruct unauthorised personnel to leave the hazardous area;
- Give a warning signal with plenty of time for personnel to leave;
- Stop all operations if unauthorised personnel are within or enter the hazardous area.

Travel conduct

The operator must adapt the travel speed to local conditions. The unit must be driven at slow speed when negotiating bends or narrow passageways, when passing through swing doors and at blind spots. Abrupt stopping (except in emergencies), rapid U turns and overtaking at dangerous or blind spots are not permitted.

Travel visibility

The operator must look in the direction of travel and must always have a clear view of the route ahead. When transporting loads that affect visibility, a second person must safely assist the operator to observe the travel route.

Type of loads to be carried

The operator must make sure that the load is in a satisfactory condition. Loads must always be positioned safely and carefully. Use suitable precautions to prevent parts of the load from tipping or falling down. Prevent liquid loads from spilling out.

Consumables and Parts

Environmental hazards

WARNING!

Parts, oils and fuels must be disposed of in accordance with the relevant environmental protection regulations.

Hydraulic hoses (if applicable)

WARNING!

Brittle hydraulic hose lines cause accidents. Hairline cracks in the hydraulic lines can cause injury and infection. The hydraulic hoses installed on the unit are supplied in accordance with BS EN 857:2015. The hydraulic hoses should only be serviced or replaced by a competent individual as selected by the company the equipment is intended for use with. The proprietor shall maintain the hydraulic hoses in accordance with BS 5244:1986.

Lift chains (if applicable)

WARNING!

Incorrectly cleaned chains can cause accidents. Lift chains are safety-critical parts. They must not contain any serious contamination. Lift chains and pivot pins must always be clean. Never clean chains with steam jet high pressure cleaners, cold or chemical cleaning agents. Immediately after cleaning, dry the lift chain with compressed air and apply a suitable chain spray.

Safety Regulations Governing the Handling of Lead-Acid Batteries (if applicable)

Maintenance Personnel

Batteries may only be charged, serviced or replaced by trained personnel. This operator manual and the manufacturer's instructions concerning batteries and charging stations must be observed when carrying out the work.

Fire Protection

Do not smoke and avoid naked flames when handling batteries. Wherever a unit is parked for charging there shall be no inflammable material or lubricants capable of creating sparks within 2m around the unit. The room must be well ventilated. Fire protection equipment must be on hand.

Battery Maintenance

The battery cell covers must be kept dry and clean. The terminals and cable shoes must be clean, secure and have a light coating of dielectric grease.

Battery Disposal

Batteries may only be disposed of in accordance with national environmental protection regulations or disposal laws. The manufacturer's disposal instructions must be followed.

WARNING!

Batteries can be hazardous

Batteries contain an acid solution which is poisonous and corrosive. Above all avoid any contact with battery acid.

- Dispose of used battery acid in accordance with regulations
- Always wear protective clothing and goggles when working with batteries
- Do not let battery acid come into contact with skin, clothing or eyes. If necessary, rinse with plenty of clean water
- Call a doctor immediately in the event of physical damage (e.g. skin or eye contact with battery acid)
- Neutralise any spilled battery acid immediately with plenty of water
- Only batteries with a sealed battery container may be used
- Follow nation guidelines and legislation

WARNING!

Using unsuitable batteries can cause accidents

The weight and dimensions of the battery have a considerable effect on the operation safety and capacity of the unit. Changing the battery features requires the manufacturer's approval, as compensating weights are required if smaller batteries are fitted. When replacing/installing the battery make sure the battery is securely located in the battery compartment of the unit.

Park the unit securely before carrying out any work on the batteries.

Charging the Battery (if applicable)

WARNING!

The gases produced during charging can cause explosions

The battery produces a mixture of nitrogen and hydrogen (electrolytic gas) during charging. Gassing is a chemical process. This gas mixture is highly explosive and must not be ignited.

- Switch the charging station and the unit off first before connecting/disconnecting the charging cable of the battery charging station to/from the battery connector
- The charger must be adapted to the battery in terms of voltage and charge capacity
- Before charging, check all cables and plug connections for visible signs of damage
- Ventilate room in which the unit is being charged
- The battery and battery cell surfaces must be exposed during charging to ensure adequate ventilation
- Do not smoke and avoid naked flames when handling batteries
- Wherever the unit is parked for charging there shall be no inflammable material or lubricants capable of creating sparks within 2m around the unit
- Fire protection equipment must be on hand
- Do not lay any metallic objects on battery
- It is essential to follow the safety regulations of the battery and charger station manufacturers

Lifting the Unit

Lifting and jacking up

WARNING!

Lifting and jacking up the unit safely

In order to raise the unit, the lifting gear must only be secured to the points specially provided for this purpose. You may only work under a raised load handler if they have been secured with a sufficiently strong chain. In order to raise and jack up the unit safely, proceed as follows:

- Jack up the unit only on a level surface and prevent it from moving accidentally
- Always use a jack with sufficient capacity. When jacking up the unit, take appropriate measures to prevent it from slipping or tipping over (e.g. wedges, wooden blocks, etc.)
- In order to raise the unit, the lifting gear must only be secured to the points specially provided for this purpose (see "Transport and Commissioning")
- When jacking up the unit, take appropriate measures to prevent it from slipping or tipping over (e.g. wedges, wooden blocks)

WARNING!

Improper lifting by crane can result in serious accidents

The use of unsuitable lifting gear can cause the unit to crash when being lifted by crane. Prevent the unit from striking other objects when it is being raised, and avoid any involuntary movements. If necessary secure the unit with guide ropes. The strap point on the mast is for loading the unit with lifting gear.

- The unit should only be handled by people who are trained in using lifting slings and tools
- Do not walk into or stand in a hazardous area
- Always use lifting gear with sufficient capacity
- Always attach the slings to the prescribed strap points and prevent them from slipping

WARNING!

Accidental movement during transport

Improper fastening of the unit and mast during transport can result in serious accidents.

- Loading must be carried out by special trained staff in accordance with recommendations contained in Guidelines BS EN 12640:2001. In each case correct measurements must be made and appropriate safety measures adopted
- The unit must be securely fastened when transported on a lorry or trailer
- The lorry/trailer must have fastening rings
- Use wedges to prevent the unit from moving
- Use only tension belts or tie-down straps or with sufficient strength

The strap point on the mast is for loading the unit with crane lifting gear.

Lifting the Unit

Requirements

- Park the unit securely

Tools and Material Required.

- Lifting gear

Procedure

- Secure Lifting slings to the strap points

The unit can now be lifted.

Securing the unit for transport

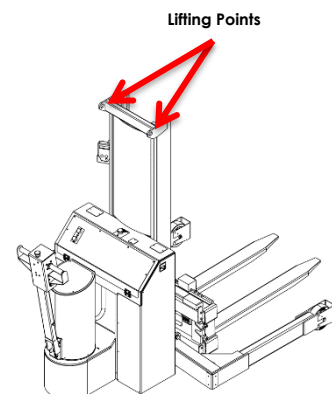
Tools and Material Required

- Tension belts/tie down straps

Procedure

- Move the unit onto the transporting truck
- Park the unit securely
- Strap the belts around the unit and tension them sufficiently, utilising the strap points on the mast

The unit can now be transported.



Section II – Unit Description

The STP12-FAC01-HDWLC-Ex is a three-wheeled powerdrive stacker with a wireless load cell weighing system designed to measure suspended loads. It is designed for use on level surfaces to lift and transport pallets of up to 1200mm x 1200mm in size with a maximum load of 1300kg.

With the pallet on the floor and forks suitably positioned, the unit can approach the open side of the pallet. The unit is then driven forward until the forks are fully inserted inside the pallet. The pallet can then be lifted and transported to the desired location.

The unit incorporates enclosed, smooth geometry with rounded edges to ensure safe handling of the unit. The unit is fitted with a fully enclosed hydraulic pump/ram unit which is operated from the rear of the unit to keep operator's limbs away from dangerous machinery movement.

FEATURES & BENEFITS of X24 telemetry system:

- Intrinsically safe electronics approved for wireless load measurement and monitoring in ATEX /IECEx Zones 1 & 2
- Adaptable and expandable wireless system for safe zones
- Long battery life of up to five years
- Wireless transmission range of up to 800 m

ATEX CERTIFICATION

This equipment has been certified by STS for use in Zone 1, 2, 21 and 22 areas for protection under constructional safety "c" and control of ignition source "b".

 **II 2 G D**

Ex cb IIB T4 Gb

Ex cb IIIB T135°C Db

The Safe Working Load (SWL) of this unit is 1300kg.

This unit is designed for use on flat and level floors only.

Section III – Unit Operation

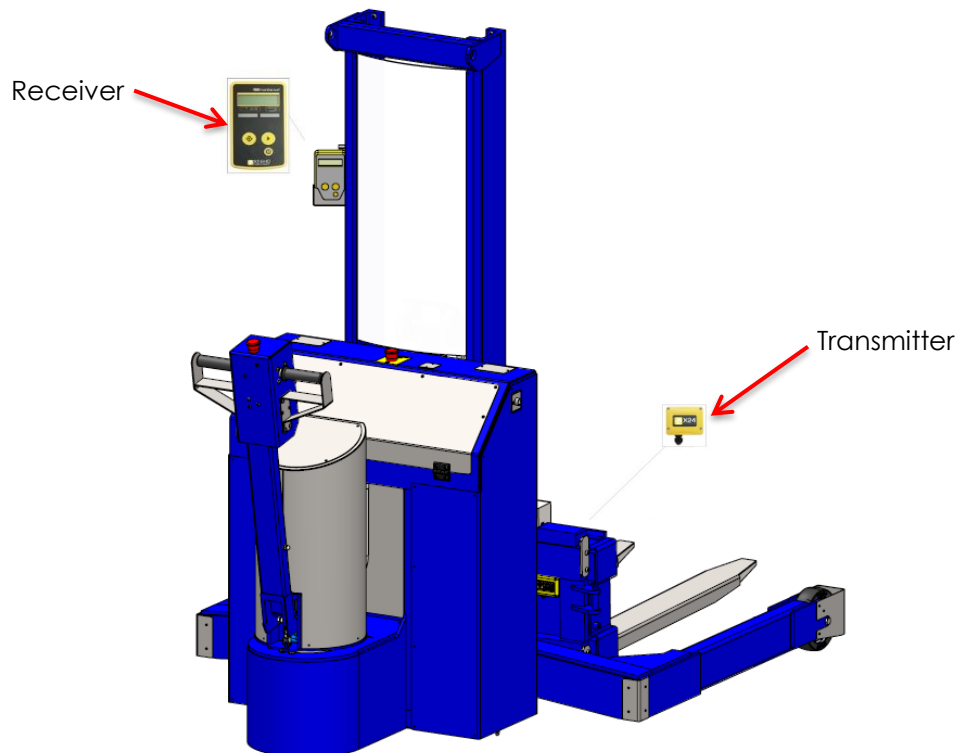
Set Up

1. The unit requires a dry and clean air supply; which should be connected to the unit via a flexible air hose of minimum 12.5mm bore fitted with a quick release coupling. The unit will operate with a maximum pressure of 9 BAR, a recommended minimum of 6 BAR and a recommended minimum flow rate of 400 litres per minute.
2. The unit is now ready to use.
3. The unit requires an airline to be connected to operate any functions but the air supply may be disconnected. The head will remain at its current position when the airline is disconnected.

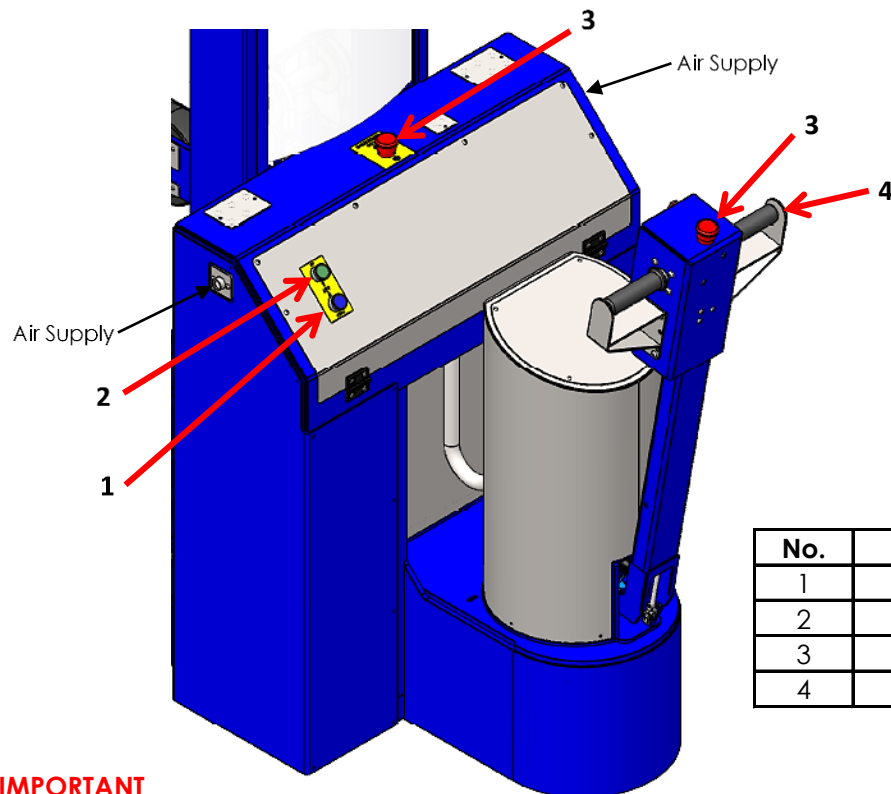
ISOLATE AIR SUPPLY WHEN NOT IN USE

IMPORTANT

The unit is using a X24 telemetry system which is designed so that the **Transmitter** can send data directly to the display **Receiver**. Operators must read and understand the basic principles of the X24 modules, Ref. the X24 ATEX/IECEx Telemetry User Manual.



Moving the Unit



Max speed: 0.6m/s

No.	Function
1	Lower Button
2	Lift Button
3	Emergency Stop Button
4	Throttle

IMPORTANT

Before using this unit, operators must read and understand this instruction manual. Failure to observe the instructions in this manual will invalidate the warranty.

Requirements

- If loaded, the load must not exceed the unit's capacity.
- If loaded, load undamaged.
- Load at correct height for transport (< 500mm).
- Flat and level ground conditions.

Procedure

1. Pull back on the filler handle to activate the drive, use the throttle to control forwards and backwards movement. The further the throttle is rotated, the faster the unit will go. If the operator releases the throttle the unit will stop. If the filler is moved into the vertical or horizontal position the drive is disabled. This is a safety feature.
2. The unit can then be manoeuvred to the desired location.
3. Travel at a constant speed.
4. Adapt your travel speed to the conditions of the route and the load you are transporting.
5. Always transport loads at as low a height as possible to retain the stability of the unit.

THIS UNIT IS DESIGNED FOR USE ON FLAT AND LEVEL FLOOR ONLY

Operation of the Lift and Lower

Requirements

- Load undamaged, if lifting a load.
 - Load within SWL limit of unit.
 - Air supply of maximum 9 Bar is connected.
1. To lift the carriage, push the lift button on the control panel.
 2. To lower the carriage, push the lower button on the control panel.
 3. Once the lift or lower button is released, the carriage will remain at the attained height.
 4. There is a red emergency stop button on top of the control panel and on the tiller. To stop all powered movement of the unit, press the button down. To reset the button, turn clock-wise.
 5. The unit is safe even if the airline is disconnected during the operation of the unit, the load will simply stay in its current position.

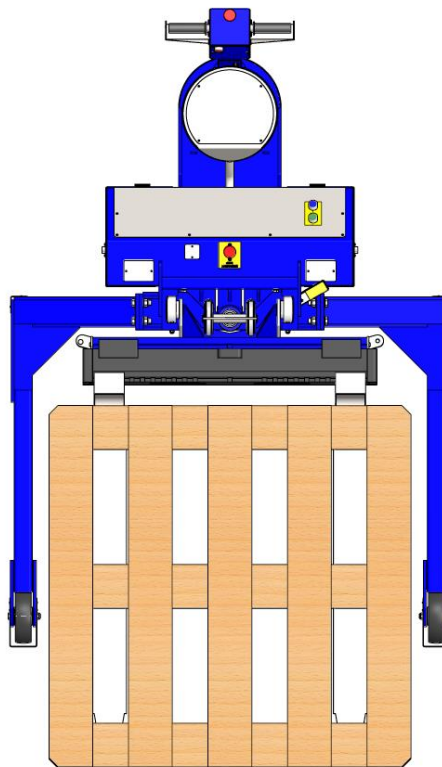
Engaging the Pallet

Requirements

- Load undamaged and load does not exceed the unit's capacity.
- Air supply of maximum 9 Bar is connected.

Procedure

1. The pallet should be in front of the unit in the horizontal orientation.
2. The forks can be positioned along the carriage to line up with the fork pockets on the pallet. Keep the forks equal distance from each end of the carriage and as wide as possible.
3. With the forks lowered to a position where they can fit underneath the pallet, drive the unit forward as far as possible. Ensure that the forks are inserted to their full length underneath the pallet. Never attempt to lift a pallet if the forks aren't fully inserted.



4. Once in position on the forks, as shown above, the pallet can be lifted using the lift button on the control box.
5. Always travel with the pallet as low as practical.
6. Never attempt to lift a damaged pallet.

IMPORTANT - Check steps 1-6 have been completed correctly before you lift the pallet off the floor. If you are in any doubt then contact the STS Technical support line.

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Operations for Using the Ratchet and Strap (Optional Extra)

1. If the unit is supplied with a ratchet and strap. First, link the hook around the securing point on the carriage.
2. With the hook secure, wrap the strap around the front of the load.
3. Open the ratchet and thread the open end of the strap through the ratchet and pull through the slack.
4. Operate the ratchet to tighten the strap until the load is securely held against the forks of the unit. Ensure that the strap enters straight and wraps evenly around the ratchet.
5. To release the load, first ensure that it is supported, then open the ratchet as far as possible and pull the strap away.

Section IV – Unit Maintenance

Maintenance Checklist

The follow servicing checklist indicates the operations to be performed and the respective intervals to be observed. Maintenance intervals are defined as:

- W = Every 50 service hours, at least weekly
- A = Every 1000 service hours, at least annually
- = Standard maintenance interval

During the run-in period – after approx. 100 service hours – the owner must check the wheel nuts/bolts and re-tighten if necessary.

Brakes		W	A
1	Test automatic brake.	●	●
Hydraulic/Pneumatics Operations		W	A
1	Test hydraulic system.	●	●
2	Check hydraulic oil and top up if necessary.	●	●
3	Check that hydraulic ports, hose lines are secure, check for leaks and damage.	●	●
4	Check cylinders and piston rods for damage and leaks, make sure they are secure.		●
5	Test "hydraulic" controls and make sure the labels are present, legible and complete.		●
6	Replace hydraulic oil.		●
7	Check and replace if required pneumatic filter elements.		●
8	Check that pneumatic hose lines are secure, check for leaks and damage.		●
9	Check emergency stop buttons are functioning correctly.	●	●
Travel		W	A
1	Check wheels for wear and damage.	●	●
Chassis and Superstructure		W	A
1	Check doors and/or covers.	●	●
2	Check labels are legible and complete.	●	●
3	Check mast guard for damage.	●	●
4	Check chassis and screw connections for damage.		●
5	Check the load chain and tension if necessary.		●
6	Visually inspect the mast bearings and check contact surface wear level.		●
7	Check lateral clearance of mast connections and carriage.		●
8	Inspect chain roller for wear.	●	●
9	Check the forks wear and damage.	●	●
10	Check for damage to painted surfaces, paint with approved touch up paint.	●	●
11	Ensure earthing chains are fitted and in contact with the ground.	●	●
12	Ensure the anti-static wheels are free from dirt and grime.	●	●
Agreed Performance Level		W	A
1	Carry out a test run with rated load, if necessary with customer specified load.		●

OPERATORS SHOULD REPORT ANY DEFECTS ON THE UNIT TO THE APPROPRIATE PERSON, IF IN ANY DOUBT OR YOU NEED REPLACEMENT PARTS PLEASE CONTACT THE STS TECHNICAL SUPPORT LINE.

Consumables

Bespoke Handling Equipment stackers are factory-equipped with Shell Tellus 32 oil for the hydraulic system. It is recommended to use as stated or an equivalent when replacing hydraulic oil.

Approved touch up paint should be used on any damaged painted surfaces, the surface should be rust free before painting with a non-aluminium based paint. STS use RAL 5010 for their blue paint.

If the unit is supplied with a blue ratchet strap, it should be replaced if any stranding of webbing is visible. These are available from Bespoke Handling Equipment. The strap should be changed twice a year even if it shows no signs of wear.

Trouble Shooting

When trying to locate a fault, proceed in the order shown in the table.

NOTE:

Troubleshooting must only be performed by a suitably competent individual as decided by the company the equipment is intended for use with.

If, after carrying out the following remedial action, the unit cannot be restored to operation, contact the manufacturer's technical helpline. In order for customer services to react quickly and specifically to the fault, the following information is essential:

- Unit serial number
- Unit product name
- Description of error
- Current location / Company

Load cannot be lifted

Possible Cause	Action
The load exceeds the SWL	Reduce mass of load
Hydraulic oil level too low	Check hydraulic oil level
Air pressure too low	Check air supply
Emergency stop operated	Reset emergency stop button

Load cannot be lowered

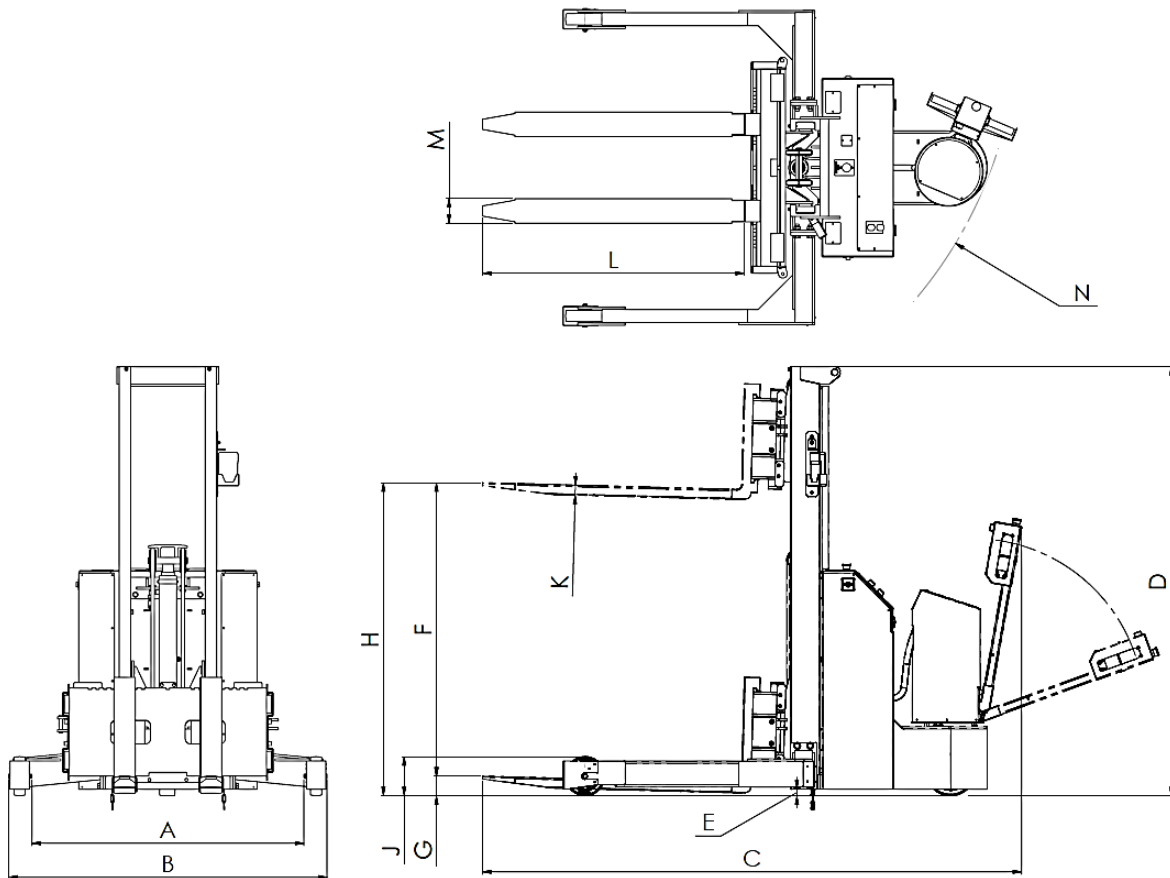
Possible Cause	Action
Emergency stop operated	Reset emergency stop button
Air pressure too low	Check air supply

Unit cannot be moved

Possible Cause	Action
Airline not connected	Reconnect airline
Tiller in the vertical or horizontal position	Adjust tiller angle to allow unit movement
The load exceeds the SWL	Reduce mass of load
Air pressure too low	Check air supply
Emergency stop operated	Reset emergency stop button

Section V - Technical Specification

General Arrangement



Designation	Description	Dimension (mm)
A	Straddle	1250
B	Maximum Width	1480
C	Maximum Length	2450
D	Mast Height	1980
E	Ground Clearance	28
F	Lift Stroke	1355
G	Minimum Fork Height	85
H	Maximum Fork Height	1435
J	Leg Height Clearance	180
K	Fork Depth	50
L	Fork Length	1200
M	Fork Width	114
N	Turning Circle	2000

SWL. 1300kg

Net Mass. 946kg

Max Noise Level. 76dBA

Section VI - Decommissioning the Unit

If the unit is to be out of service for more than a month, e.g. for commercial reasons, it must be stored in a frost-free and dry room. All necessary measures must be taken before, during and after decommissioning as described hereafter.

Prior to decommissioning

- Thoroughly clean the unit
- Test the brakes (if applicable)
- Check the hydraulic oil and replenish if necessary
- Apply a thin layer of oil or grease to any non-painted mechanical components

Final Decommissioning and Disposal

Final decommissioning or disposal of the unit must be performed in accordance with the regulations of the country of use. In particular, regulations governing the disposal of batteries, fuels and electronic and electrical systems must be observed.

The truck must only be disassembled by trained personnel.

Safety Tests to be performed at intervals and after Unusual Incidents

Perform a safety check in accordance with national regulations. The unit must be inspected at least annually or after any unusual event by a qualified inspector. The inspector shall assess the condition of the unit from purely a safety viewpoint, without regard to operational or economic circumstances.

For further help contact the Bespoke Handling Equipment:

Technical Support Line: 44 (0) 1736 851050

In the interest of all concerned it is essential that equipment of our manufacture is used only for the purposes for which it has been designed and it must be used in accordance with the instructions which are supplied.