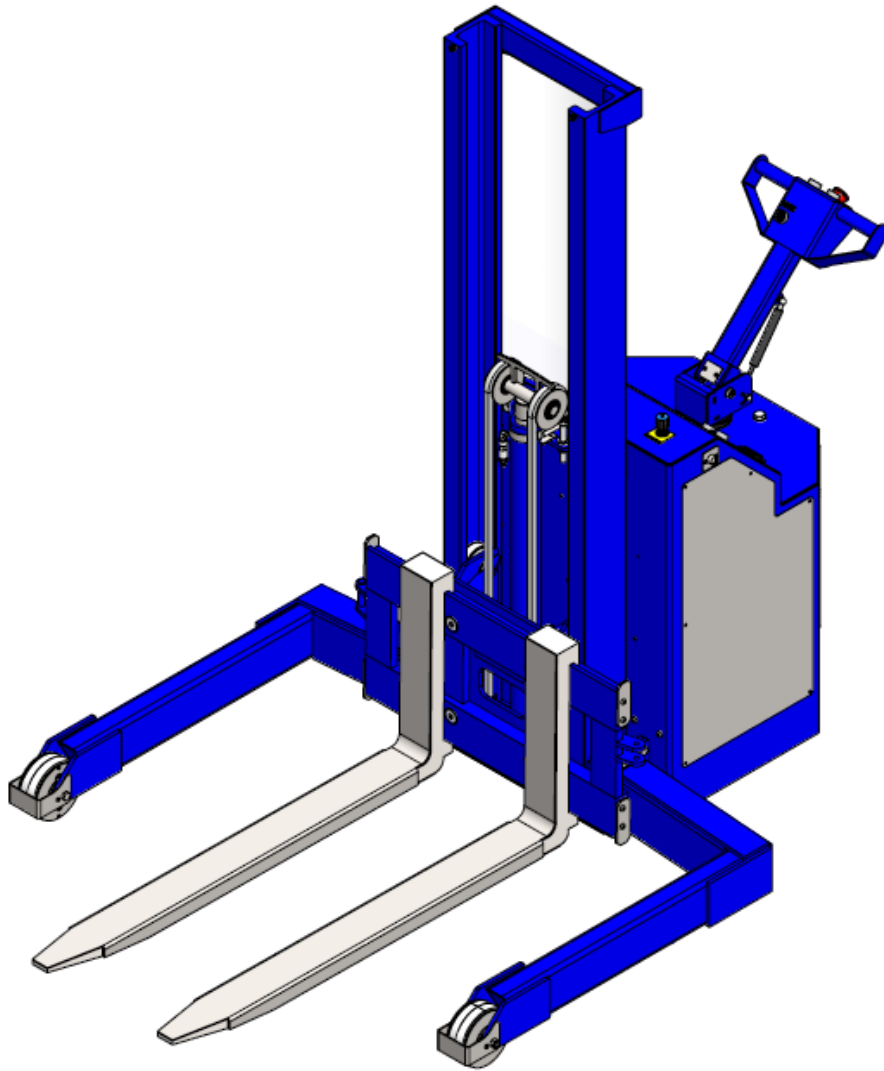


Operating Instructions



STP12-FAC01-1300KG-SP-Ex

**ATEX Rated Pneumatic-Hydraulic Power-Drive
Stacker with Stainless-Steel Clad Forks**

Bespoke Handling Equipment Ltd.
Leedstown
Hayle
Cornwall
TR27 6DS
United Kingdom

sales@sts-handling.com

+44 (0)1736 851050

www.sts-handling.com

Section I – Correct Use and Application	2
General	2
Foreseeable Misuse of the Unit	2
Approved Application Conditions	2
Proprietor Responsibilities	3
Adding Attachments and/or Accessories	3
Safety Regulations for the Operation of the Unit	3
Consumables and Parts	5
Ex Certified Units (if applicable)	5
Lifting the Unit	6
Unit Overview	7
Permitted Operating Zones	8
Section II – Unit Description	9
Section III – Unit Operation	10
Pre-start Inspections	10
Set Up	11
Unit Controls	11
Moving the Unit	12
Operating the Lift and Lower Functions	13
Engaging the Pallet	13
Load Centre	15
Section IV – Unit Maintenance, Troubleshooting and Consumables	16
Maintenance Checklist	16
Troubleshooting	18
Consumables	20
Oil Replacement	20
Touch Up Paint	20
Polycarbonate Guarding Replacement	21
Wheel Replacement	22
Section V - Technical Specification	23
General Arrangement	23
Section VI - Decommissioning the Unit	24
Prior to Decommissioning	24
Final Decommissioning and Disposal	24
Recommissioning	24
Safety Tests to be Performed at Intervals and After Unusual Incidents	24

Section I – Correct Use and Application

Only operation manuals written in English are the original instructions, versions provided in any other language then become a translation of the original instructions.

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 and can result in damage or injury to personnel, the unit or property. The unit described in the present operating instructions complies with all relevant directives and standards.

Foreseeable Misuse of the Unit

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

- The maximum safe working load (SWL) must not be exceeded.
- Do not travel with a raised load 500mm above the ground unless necessary.
- When manoeuvring the unit, do not exceed a speed of 1m/s (3.6km/h).
- When manoeuvring a raised load above 500mm, do not exceed a speed of 0.1m/s (0.36km/h).
- If applicable, do not over lower the head of the unit onto a platform, such as a mezzanine floor.
- Do not carry or lift other personnel.
- Do not stand or ride on the unit.
- Loads must be undamaged.
- Do not negotiate inclines unless otherwise stated.
- Do not stand underneath a raised load or within the confines of the unit during operation.
- The load must be lifted and/or mixed by the attachment provided.
- Do not alter the unit specification from original supply.
- Do not disable, remove or adjust safety mechanisms or switches.
- Observe all instruction decals applied to the unit.
- Do not leave the unit in direct sunlight.
- The manufacturer shall not be held liable in case of faults or accidents due to negligence, incapacity, installation by unqualified personnel or improper use.

Approved Application Conditions

- Operation in dry industrial and commercial environments.
- Permissible temperature range 5°C to 40°C.
- Lighting of at least 300 Lux.
- Altitudes not exceeding 2000m.
- 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.
- Appropriate personal protective equipment, PPE, must be worn at all times.

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.

IMPORTANT

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 STS 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.

Operator's 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. Operators must be provided the appropriate PPE as mentioned in the 'Approved Application Conditions' section of this manual.

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

All unit parts and consumables are available from STS. The unit must be fitted with original STS parts and consumables unless otherwise stated. Any deviation from non-original parts and consumables may result in injury to personnel or damage to the unit and will invalidate the warranty. 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

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. When not in use, the equipment should be parked in a safe location with the brakes engaged.

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

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 and/or their contents from falling or spilling.

Cleaning

Cleaning of the unit depends on the environment that the unit is used in. It is recommended that the unit be cleaned daily if the unit comes into contact with aggressive substances such as chemicals, fertilizers, salt, etc. It is recommended to use detergent and a damp cloth to clean the body of the unit. Do not use flammable liquids to clean the unit. Do not clean the unit with pressurised water. If the unit is rated for Ex environments, the unit must be kept clean and dust free.

Personal protective equipment (PPE)

PPE must be worn at all times. A minimum of safety shoes must be worn while operating the unit. Safety shoes, safety glasses, protective gloves, hearing protection and protective overalls are to be worn when carrying out servicing, repairs and maintenance. When operating overhead loads, a hard hat must be worn. End user health and safety procedures and best practices should be followed in addition to the above recommendations.

Consumables and Parts**Environmental hazards**

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

Hydraulic hoses (if applicable)

Brittle hydraulic hose lines cause accidents. Hairline cracks in the hydraulic lines can cause injury and infection. 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. It is the responsibility of the proprietor to maintain the hydraulic hoses.

Lift chains (if applicable)

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 high pressure steam jet cleaners, cold or chemical cleaning agents. It is recommended to clean the chains and pivot pins in an unloaded state with a citrus cleaner to remove dirt and grime followed by the application of a PTFE based industrial grade chain lubrication spray or food grade lubrication spray.

NOTE: For more consumable information refer to 'Section IV – Unit Maintenance, Troubleshooting and Consumables'.

Ex Certified Units (if applicable)**Operational hazards**

Processing of liquids or suspensions (mixing or stirring, filling or draining) can give rise to ignition risks due to static electricity including the risk of propagating brush discharges. The processing of liquids or suspensions is the responsibility of the end user.

Environmental hazards

Care should be taken by the end user to ensure collisions do not occur between the unit and its surrounding environments which may create a potential ignition source.

Earthing chains

Ensure earthing chains are securely fitted and are in contact with the ground at all times, wheels should be kept clean and free from debris.

Electrically powered units

Care should be taken by the end user to ensure any electrical cables to and/or from the unit are kept away from travel areas where they may become entangled, damaged or be a trip hazard. Electrical cables must be kept dry, clean and be routinely checked as stated in the maintenance procedures. Any cracked or damaged electrical cables must be reported immediately and the unit be put out of service until resolved.

Lifting the Unit

Lifting the unit safely

In order to raise the unit safely, including off a pallet, proceed as follows:

- The unit must be on a level surface to prevent it from moving accidentally.
- The lifting gear must only be secured to the points designated for this purpose.
- Always use lifting gear with sufficient capacity.
- The unit should only be handled by qualified personnel who are trained in using lifting slings and tools.
- Do not walk into or stand under a raised unit.
- If necessary, secure the unit with guide ropes to aid when lifting the unit.

Jacking the unit safely

In order to jack up the unit safely, proceed as follows:

- The unit must be on a level surface to prevent it from moving accidentally.
- Always use a jack with sufficient capacity.
- The unit should only be handled by qualified personnel who are trained in using lifting slings and tools.
- When jacking up the unit, take appropriate measures to prevent it from moving, slipping or tipping over (e.g. wedges, wooden blocks, stops)

WARNING - IMPROPER LIFTING CAN RESULT IN SERIOUS ACCIDENTS

Securing the unit for transport

In order to transport the unit safely, proceed as follows:

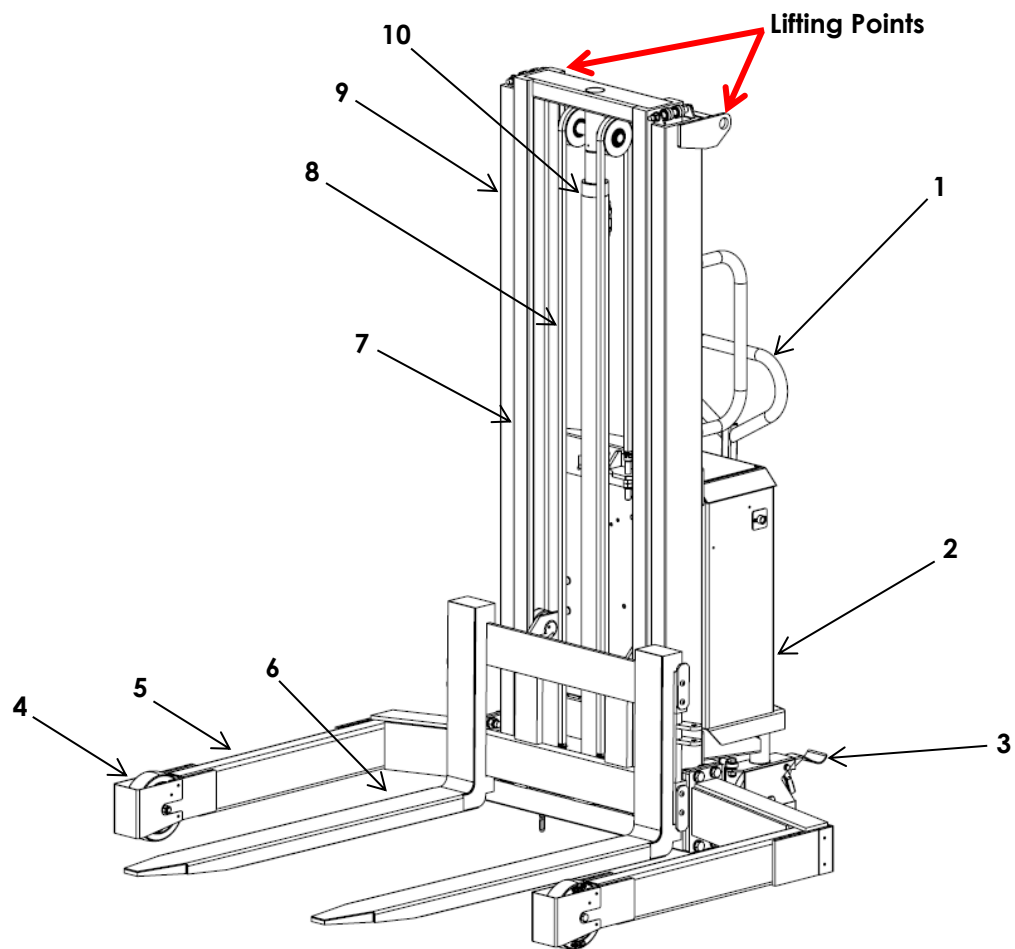
- The unit must be securely fastened when transported on a lorry/trailer.
- The lorry/trailer must have fastening rings.
- Use wedges to prevent the unit from moving.
- Use only tension belts or tie-down straps with sufficient strength.

WARNING - IMPROPER FASTENING OF THE UNIT DURING TRANSPORT CAN RESULT IN SERIOUS ACCIDENTS

IMPORTANT

After use, remove supplied lifting strop(s) and/or dee shackles and dispose.

Unit Overview



Note: Generic unit shown

No.	Function
1	Steering
2	Control Box
3	Brakes
4	Wheels
5	Legs
6	Forks
7	Inner Channels (If applicable)
8	Lifting Chains
9	Chassis
10	Lift Ram

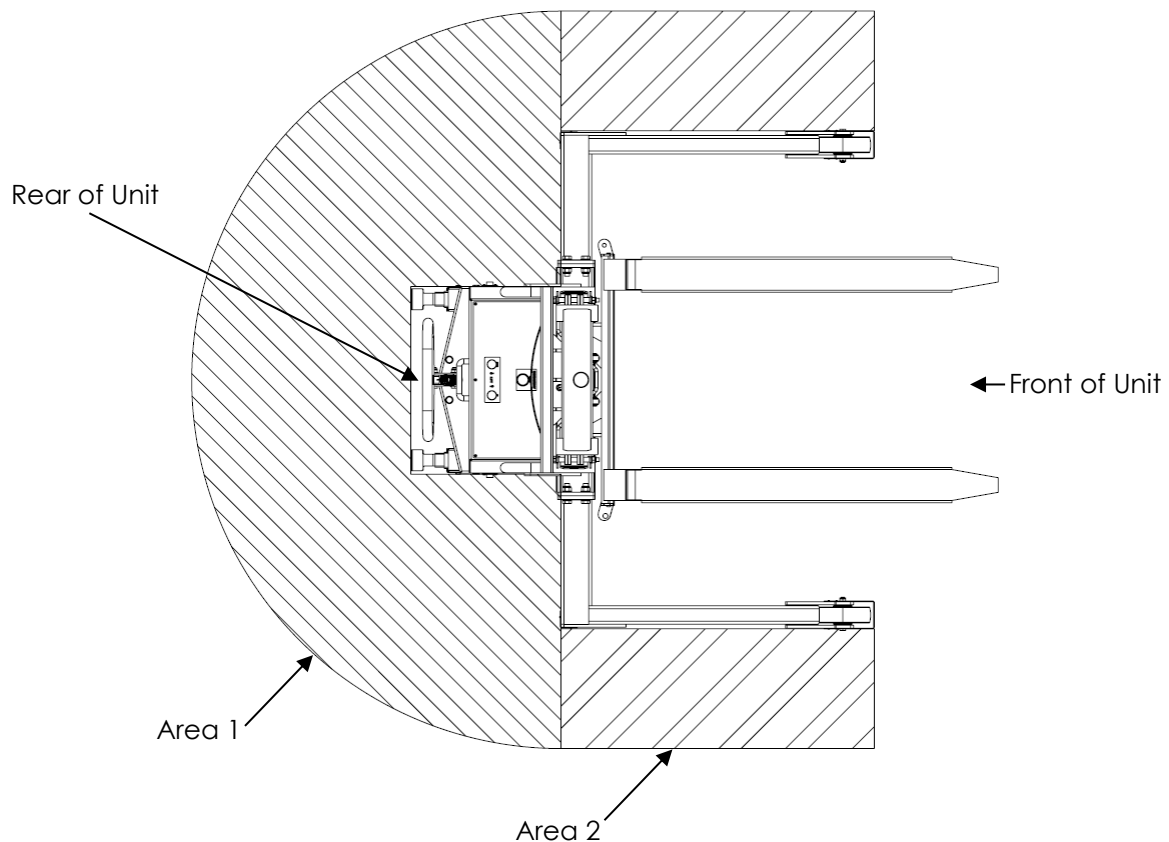
Permitted Operating Zones

The unit is designed to be used by a single operator from the rear of the unit, unless otherwise stated. All other personnel in the area where the unit is in operation must remain clear of the unit, behind the unit or within area 1 shown below. Area 1 is classed as the safe working area.

Certain functions of the unit require the operator to work within area 2, the operator working within area 2 must be aware of the unit's functions and movements along with their potential trap points.

If the unit is fitted with a manual rotation handle, head controls or fitted with a pendant controller, the operator must remain within the areas 1 and 2 whilst operating the unit.

The unit power must be isolated when accessing the front of the unit.



WARNING - DO NOT STAND UNDERNEATH A RAISED LOAD, WITHIN THE CONFINES OF THE UNIT OR IN FRONT OF THE UNIT DURING OPERATION.

Section II – Unit Description

The STP12-FAC01-1300kg-Ex is a three-wheeled power-drive stacker with stainless-steel clad forks. The unit is pneumatic-hydraulic powered.

It is designed for use on level surfaces to lift and transport pallets of up to 1200mm x 1200mm in size.

With the pallet on the floor and forks suitably positioned, the unit can approach the open side of the pallet. The unit is then pushed 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 ram, which is operated from the rear of the unit to keep operator's limbs away from dangerous machinery movement.

THE SAFE WORKING LOAD (SWL) OF THIS UNIT IS 1300kg (2866lbs)

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

Ex 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".

Ex II 2 G D
Ex h IIB T4 Gb
Ex h IIIB T135°C Db
5°C ≤ Ta ≤ 40°C

IMPORTANT

Consideration must be taken by the end user to ensure safety and conformity within Ex zones between the unit and its surrounding environment including any interfaces which may occur.

The unit is designed so that there is electrical continuity through a conductive path. The conductive path is from the contact point between the load and the unit, through the unit and then to the ground via earthing chains. For drum handling units, STS recommends using conductive drums. Continuity and earthing of loads, including drums and cylinders, is the responsibility of the end user.

Section III – Unit Operation

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.

NOTE: Personal Protective Equipment (PPE) must be worn at all times, see 'Section I – Correct Use and Application' for more information.

Pre-start Inspections

Procedure

- Check the whole of the outside of the unit for signs of damage and leaks. Any damaged hoses must be replaced immediately.
- Check the unit for visible signs of damage such as cracks, bent or severely worn parts.
- Check all wheels for damage.
- Check that the markings and labels are present, clean and legible.
- Check the tiller handle is restored to its normal position.
- Ensure battery is fully charged (if applicable).
- Test the function of the emergency stop.
- Test the tiller horn (if applicable).
- Test brakes, adjust if necessary. (not applicable to power-drive units)
- Check doors and/or covers for damage.
- Check the mast guarding for damage.
- Inspect the clamping mechanism for wear and damage.
- If applicable, check all Ex features:
 - Earthing chains are in contact with the ground.
 - Check wheels for dirt and grime, clean if required.
 - Check and clean, if required, the clamping pads on the head of the unit.
 - Check unit for any damaged painted surfaces, touch up, if necessary, with an approved touch up paint (see consumables).
 - Check stainless-steel guards for damage.

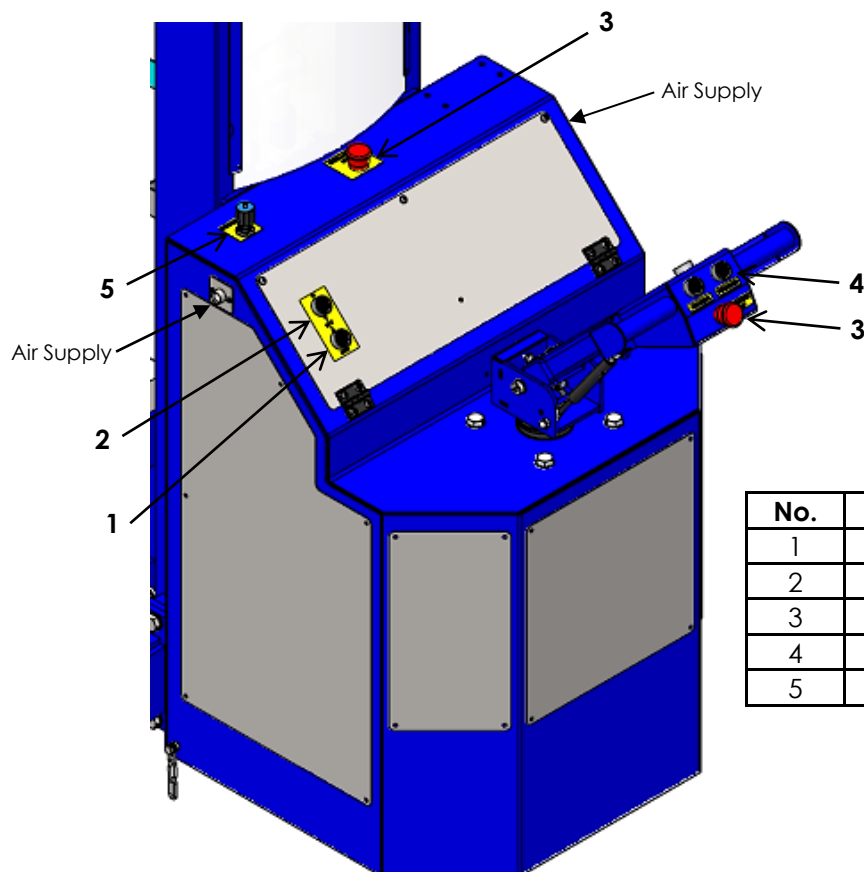
OPERATORS SHOULD REPORT ANY DEFECTS ON THE UNIT TO THE APPROPRIATE PERSON. IF IN ANY DOUBT, OR SHOULD REPLACEMENT PARTS BE NEEDED, PLEASE CONTACT THE STS TECHNICAL SUPPORT LINE.

Set Up

- 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 connect 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.
- The unit is fitted with two 3/8" BSP female fittings, one on each side of the unit. To allow fitting of the quick connect coupling, a 3/8" BSP male connector is required.
- The unit is now ready to use.
- 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

Unit Controls



No.	Function
1	Lower Button
2	Lift Button
3	Emergency Stop Button
4	Throttle Buttons
5	Speed Control

Moving the Unit

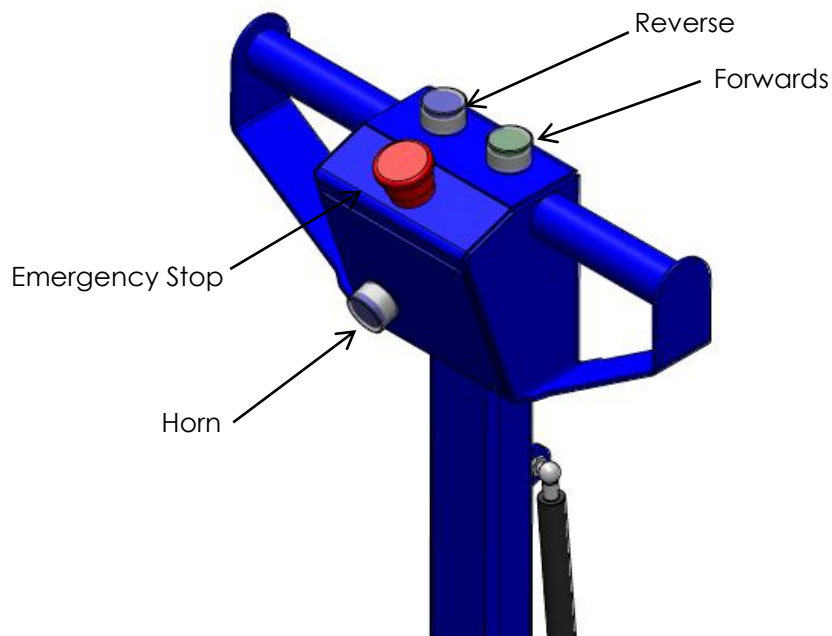
Requirements

- 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.
- Air supply is connected.

Procedure

- Pull back on the tiller handle to activate the drive, use the push buttons to control forwards and backwards movement. If the operator releases the push buttons the unit will stop. If the tiller is moved into the vertical or horizontal position the drive is disabled; this is a safety feature. To adjust the drive speed, a valve can be rotated on top of the control panel. This allows for accurate positioning.
- The unit can then be manoeuvred to the desired location.
- Travel at a constant speed.
- Adapt your travel speed to the conditions of the route and the load you are transporting.
- 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



CARE SHOULD BE TAKEN WHEN CHANGING THE DIRECTION OF THE UNIT. WITHOUT LETTING THE UNIT COME TO A STOP FIRST, INSTANTLY CHANGING DIRECTION MAY DAMAGE THE DRIVE SYSTEM.

Operating the Lift and Lower Functions

Requirements

- Good ground conditions.
- If loaded, the load must not exceed the unit's capacity.
- If loaded, load undamaged.
- If loaded, load clamped correctly.
- Air supply is connected.

Procedure

- The lift and lower buttons on the unit move the carriage up and down when pressed.
- If the operator releases the lift or lower buttons at any stage, the carriage will stop at its attained height.
- There is a red emergency stop button on top of the control panel. To stop all powered movement of the unit, press the button down. To reset the button, turn clockwise.
- 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. The airline can be disconnected to manoeuvre the unit.

WARNING – DO NOT LEAVE A RAISED LOAD UNATTENDED

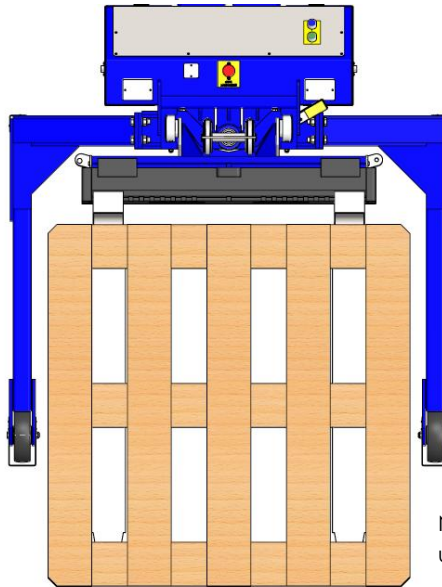
Engaging the Pallet

Requirements

- Good ground conditions.
- If loaded, the load must not exceed the unit's capacity.
- If loaded, load undamaged.
- Air supply is connected.

Procedure

- The pallet should be in front of the unit in the horizontal orientation.
- 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.
- 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.

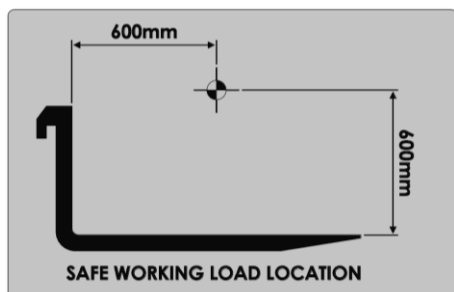


Note: Generic unit shown

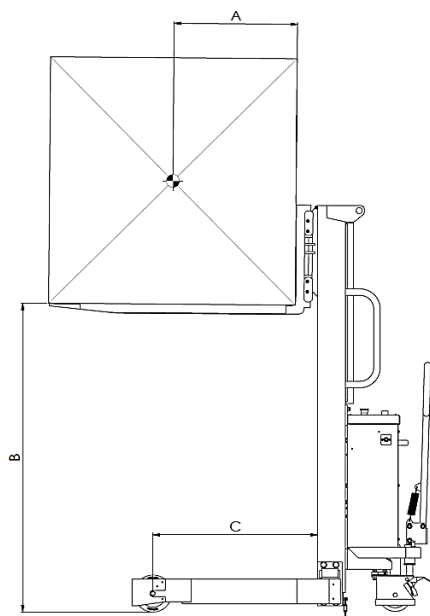
- Once in position on the forks, as shown above, the pallet can be lifted using the lift button on the control box.
- Always travel with the pallet as low as practical.
- Never attempt to lift a damaged pallet.
- **IMPORTANT** – Check the above steps have been completed correctly before you lift the pallet off the floor. If you are in any doubt then contact the STS technical support line.
- There is a red emergency stop button on top of the control panel. To stop all powered movement of the unit, press the button down. To reset the button, turn clock-wise.
- 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.

Load Centre

To maintain the stability of the unit at safe working load (SWL), the position of the load centre should never exceed the dimensions shown. The unit stability is calculated with the centre of gravity of the SWL as positioned in the image below.



Load Centre 'A'	Max Lift 'B' (STP12 Model)	Min Leg Length 'C'	Lift Capacity
600mm	1500mm (STP12)	800mm	1300kg
650mm	1500mm (STP12)	800mm	1000kg
700mm	1500mm (STP12)	800mm	850kg
750mm	1500mm (STP12)	800mm	750kg
800mm	1500mm (STP12)	800mm	650kg
600mm	1500mm (STP12-WLC)	800mm	1300kg
650mm	1500mm (STP12-WLC)	800mm	1000kg
700mm	1500mm (STP12-WLC)	800mm	900kg
750mm	1500mm (STP12-WLC)	800mm	800kg
800mm	1500mm (STP12-WLC)	800mm	700kg



IMPORTANT – The values stated are relevant for the given product codes stated under maximum height only. The safe working loads are not to be exceeded in any circumstance and are only relevant to the given minimum leg lengths.

Section IV – Unit Maintenance, Troubleshooting and Consumables

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.

NOTE: Personal Protective Equipment (PPE) must be worn at all times, see 'Section I – Correct Use and Application' for more information.

NOTE: Maintenance must only be performed by a suitably competent individual as decided by the company the equipment is intended for use with. All electrical maintenance must only be performed by qualified personnel.

Manual Braking (if applicable)		W	A
1	Test brakes, adjust bolt if necessary.	•	•

Power Drive Braking (if applicable)		W	A
1	Test automatic brake by accelerating the unit and releasing the throttle/button.	•	•

Hydraulic Operations		W	A
1	Test hydraulic system	•	•
2	Check hydraulic oil and top up, if necessary, to the line or middle of the sight glass (see 'Consumables' for oil type and instructions).	•	•
3	Check that hydraulic ports, hose and pipe 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 (see 'Consumables' for oil type and instructions).		•
7	Check hydraulic oil for condensed water, replace if necessary (see 'Consumables' for oil type and instructions).		•

Travel		W	A
1	Check wheels for wear and damage, replace if necessary (see 'Consumables' for instructions).	•	•
2	Clean wheels, if required.	•	•

Chassis and Superstructure		W	A
1	Check doors and/or covers for damage.	•	•
2	Check labels are legible and complete.	•	•
3	Check guarding for damage and visibility, replace if necessary (see 'Consumables' for instructions).	•	•
4	Check chassis and fixing connections for damage.		•

5	Check the load chains tension, adjust chains to the same tension if necessary.		•
6	Check the load chains become slack when fully lowered, adjust if necessary.	•	•
7	Check the load chains for wear and damage, clean if necessary.		•
8	Apply chain lubricant spray, PTFE or food grade chain lubrication spray.		•
9	Visually inspect the mast bearings and check the contact surface wear level, grease if necessary.		•
10	Check lateral clearance of mast connections and carriage.		•
11	Check carriage and head (load handler) for wear and damage.		•
12	Check channels and bearings for cracks and/or damage.		•
13	If applicable, check clamping pads for wear and/or damage, replace if necessary (see 'Consumables' for instructions).	•	•
14	If applicable, check the blue ratchet strap for wear and/or damage, replace if necessary (see 'Consumables' for instructions).	•	•

Ex Checks (-Ex models only)		W	A
1	Check wheels for dirt and grime, clean if required.	•	•
2	Clean unit, ensure dirt and dust free.	•	•
3	Ensure earthing chains are fitted and in contact with the ground.	•	•
4	Check and clean, if required, the clamping pads on the head of the unit.	•	•
5	Check unit for any damaged painted surfaces, touch up, if necessary, with an approved touch up paint.	•	•
6	Check, if originally fitted, stainless steel guarding plates are in place and undamaged.	•	•
7	Ensure earthing strip/strips on the clamping pads contact the load when clamping. (DRU01-FB and RRH01 units only).	•	•
8	Check continuity between all bare metal (non-powder coated) conductive parts of the unit, all parts to have a resistance of less than 1 Megaohm to the earthing chains. Warning: Only to be checked in a non-ATEX environment.		•

Pneumatic Operations (if applicable)		W	A
1	Check and replace, if required, pneumatic filter elements.		•
2	Test emergency stop.	•	•
3	If applicable, test the horn.	•	•
4	Disconnect airline to allow air filter regulator to drain.	•	•

Electrical System (if applicable)		W	A
1	Test warning and safety devices in accordance with operating instructions.	•	•
2	Test emergency stop.	•	•
3	If applicable, test the horn.	•	•
4	Check electric wiring for damage (insulation damage, connections). Make sure wire connections are secure.		•
5	Check contactors and/or relays.		•
6	Ensure that there is no potential difference between the unit chassis and the battery negative and also between the unit chassis and the charger earth .		•
7	Check battery and battery components for damage. Batteries should be replaced at maximum of every 3 years.		•
8	Check battery cable connections are secure, grease terminals if necessary.		•
9	Check battery connector for damage, test it and make sure it is secure.		•
10	Charger, check mains connector and mains cable.		•
11	Charger, check the wires and electrical connections are secure and not damaged.		•
12	Inspect electrical contact to ensure they are clean, tight and free from corrosion or heats damage from arcing.		•
13	If applicable, check power drive disconnects when charging.		•

14	Ensure battery venting tubes are connected and allow battery gases to exhaust out of the control box.		•
----	---	--	---

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

Troubleshooting

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 actions, 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
- Description of error
- Unit product name
- Current location / Company

Unit does not start (Electrically powered)

Possible Cause	Action
Emergency stop pressed	Reset the emergency stop button
Key switch set to 'Off'	Set key switch to 'On'
Battery charge too low	Check battery charge and charge battery if necessary
Faulty fuse	Check fuses

Load cannot be lifted (Electrically or pneumatically powered)

Possible Cause	Action
The load exceeds the SWL	Reduce mass of load
Load incorrectly secured	See instructions for clamping and lifting
Hydraulic oil level too low	Check hydraulic oil level
Emergency stop engaged	Reset emergency stop button(s)
Air pressure too low, if applicable	Check air supply, if applicable
Air flow too low, if applicable	Check air supply, if applicable

Load cannot be lifted (Manually powered)

Possible Cause	Action
The load exceeds the SWL	Reduce mass of load
Load incorrectly secured	See instructions for clamping and lifting
Hydraulic oil level too low	Check hydraulic oil level

Load cannot be lowered (Electrically or pneumatically powered)

Possible Cause	Action
The load exceeds the SWL	Reduce mass of load
Hydraulic oil level too low	Check hydraulic oil level
Emergency stop engaged	Reset emergency stop button

Load cannot be rotated (Electrically or pneumatically powered)

Possible Cause	Action
The load exceeds the SWL	Reduce mass of load
Off-centre load too high	Reduce off-centre load
Hydraulic oil level too low	Check hydraulic oil level
Emergency stop engaged	Reset emergency stop button
Air pressure too low, if applicable	Check air supply, if applicable
Air flow too low, if applicable	Check air supply, if applicable

Load cannot be rotated (Manually powered)

Possible Cause	Action
The load exceeds the SWL	Reduce mass of load
Off-centre load too high	Reduce off-centre load

Load cannot be clamped (Electrically or pneumatically powered)

Possible Cause	Action
Load outside useable size range	Refer to specification stated in 'Unit Description'

Unit cannot be moved (Pedestrian powered)

Possible Cause	Action
Rear parking brakes are engaged	Release the rear parking brakes

Unit cannot be moved (Electrically powered power drive units)

Possible Cause	Action
Emergency stop pressed	Reset the emergency stop button
Key switch set to 'Off'	Set key switch to 'On'
Battery charge too low	Check battery charge and charge battery if necessary
Faulty fuse	Check fuses
Tiller in the vertical or horizontal position	Adjust tiller angle to allow unit movement

Unit cannot be moved (Pneumatically powered power drive units)

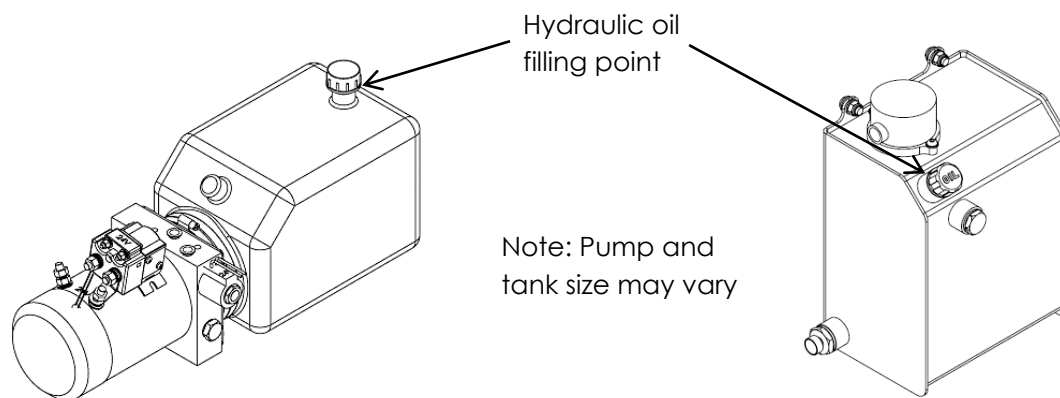
Possible Cause	Action
Airline not connected	Reconnect airline
Emergency stop pressed	Reset the emergency stop button
Tiller in the vertical or horizontal position	Adjust tiller angle to allow unit movement

Consumables

All unit consumables are available from STS. The unit must be fitted with original STS consumables unless otherwise stated. Any deviation from original consumables may result in injury to personnel or damage to the unit and will invalidate the warranty.

Oil Replacement

STS stackers are factory-equipped with 32-grade oil for the hydraulic system. It is recommended to use as stated or an equivalent when replacing hydraulic oil.



When replacing oil, fill oil to the line or to the middle of the sight glass. Operate all unit functions to their full extents. Return unit head to its lowest position and recheck the oil level, top up if required.

Touch Up Paint

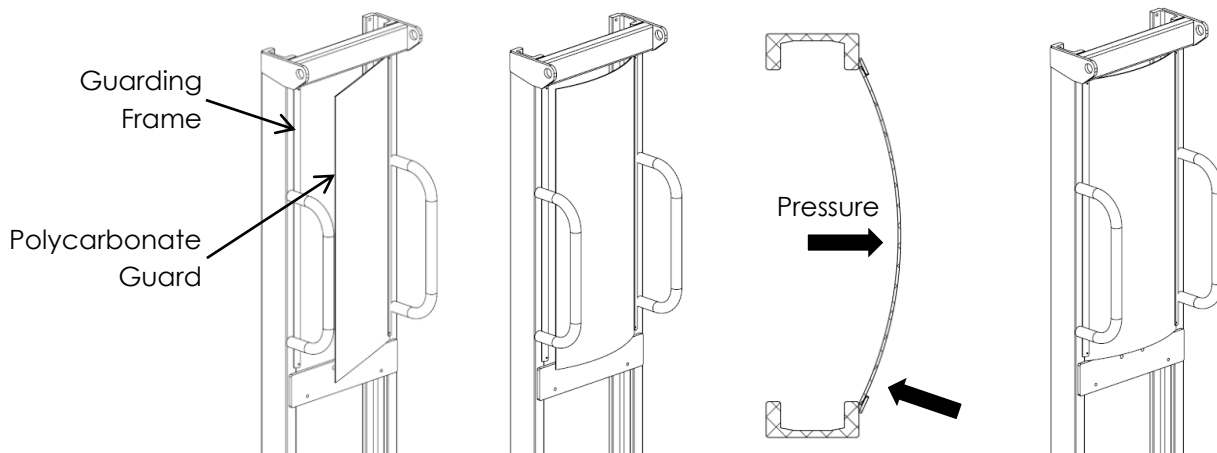
Approved touch up paint should be used on any damaged painted surfaces, the surface should be rust free before painting with a non-aluminium based paint. STS use RAL 5010 for their blue paint.

Polycarbonate Guarding Replacement

The polycarbonate guarding should be replaced if damaged, cracked or visibility is reduced. These are available from STS.

To replace the polycarbonate guard, isolate the unit in a safe area, then proceed as follows:

- Remove the four M5 bolts, if applicable, located in each corner and remove the old guard.
- On the new polycarbonate guard, peel back the protective film along all long edges.
- Slide the new polycarbonate guard into one side of the guarding frame. The recommended method to bend the polycarbonate guard into position is to have a second person assist. The first person must push the guarding edge into the guarding frame whilst the second person pushes the polycarbonate guard from the opposite side. The second person should apply pressure centrally to help form the required curve. Once a small section of polycarbonate guard edge is positioned into the guarding frame, press in the remaining edge whilst taking care to ensure fingers do not become trapped.
- Once the polycarbonate guard is in position, if applicable, use the existing four holes in the guarding frame as a jig to drill a 4.2mm drill bit through the polycarbonate guard and then tap to M5.
- Once tapped, use the four M5 bolts to secure the polycarbonate guard in place.



Note: Generic unit shown

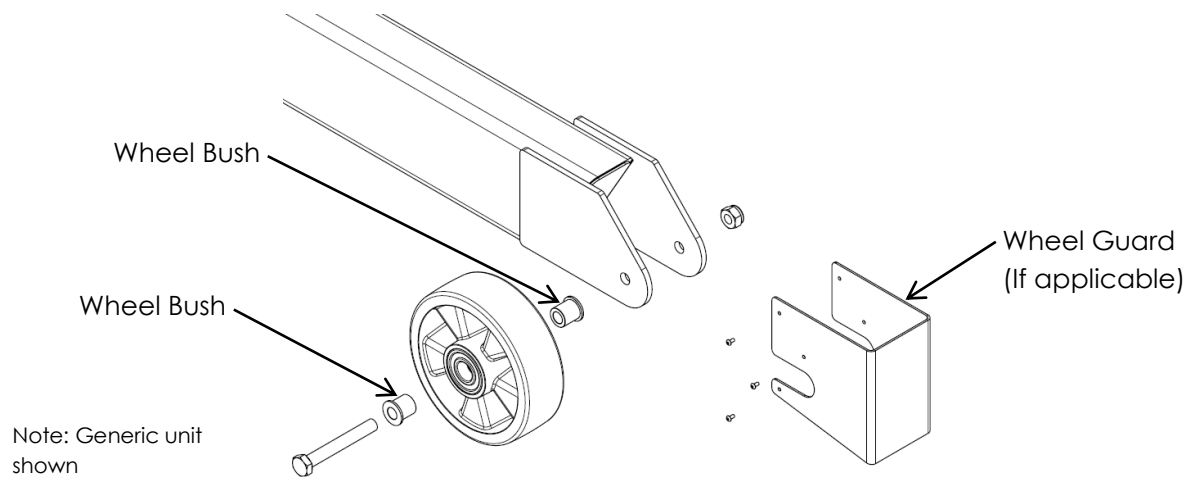
Wheel Replacement

Wheels should be replaced if damaged, cracked or delaminated. These are available from the equipment supplier.

Isolate the unit in a safe area ensuring that the unit is disconnected from any power supply and that the emergency stop is pressed. The unit must be on a flat and level floor.

For safety instructions refer to 'Lifting the Unit' in 'Section I – Correct Use and Application'

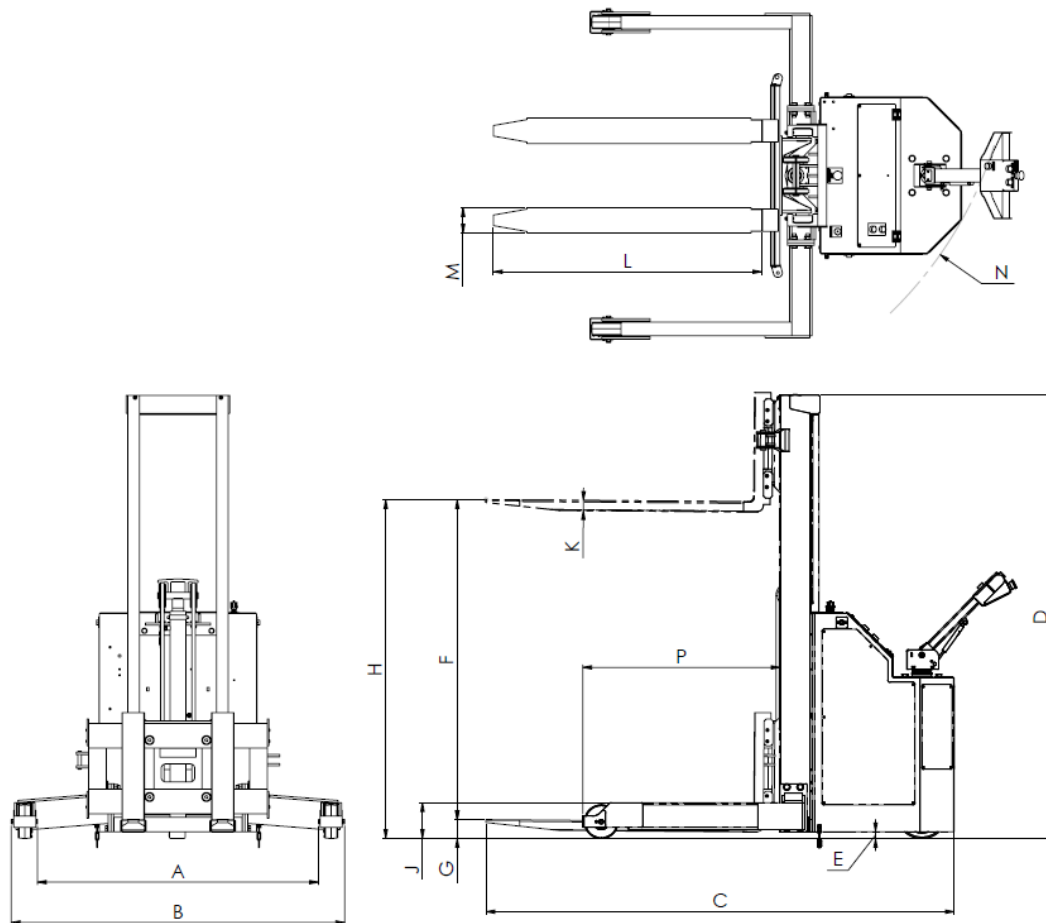
To replace the front wheels, remove wheel guard (if applicable) and jack up the leg by 10mm so that the wheel is clear of the floor. Unbolt the wheel using two 19mm spanners. Replace the wheel ensuring that the wheel bushes are re-fitted into the wheel prior to re-bolting. Repeat this process for the other leg. When low level legs are fitted with pallet roller wheels, the 20mm diameter wheel pin will need to be removed. To do this, remove the button head bolt and hammer out the pin.



WARNING – DO NOT JACK THE UNIT MORE THAN NECESSARY AS UNIT MAY BECOME UNSTABLE

Section V - Technical Specification

General Arrangement



NOTE: ALL DIMENSIONS +/- 5MM.

Designation	Description	Dimension (mm)
A	Straddle	1150
B	Maximum Width	1400
C	Maximum Length	2150
D	Mast Height	1980
E	Ground Clearance	30
F	Lift Stroke	1430
G	Minimum Fork Height	85
H	Maximum Fork Height	1460 +/- 30
J	Leg Height Clearance	160
K	Fork Depth	50
L	Fork Length	1200
M	Fork Width	114
N	Turning Circle	1810
P	Leg Length	883

SWL 1300kg (2866lbs)

Max Noise Level 79dBa

Net Mass 680kg (1499lbs)

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

NOTE: Personal Protective Equipment (PPE) must be worn at all times, see 'Section I – Correct Use and Application' for more information.

Prior to Decommissioning

- Thoroughly clean the unit.
- Test the brakes (if applicable).
- Check the hydraulic oil and replenish if necessary (if applicable).
- Fully charge then disconnect the battery. Charge the battery every 2 months to protect from long term "non-use" damage (if applicable).
- 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 unit must only be disassembled by trained personnel.

Recommissioning

- Reconnect the battery, first ensuring that the battery undamaged (if applicable).
- Follow the annual servicing check list located in 'Maintenance Checklist'.
- Follow the pre-start checklist located in 'Pre-start Inspections'.

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 STS:

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.