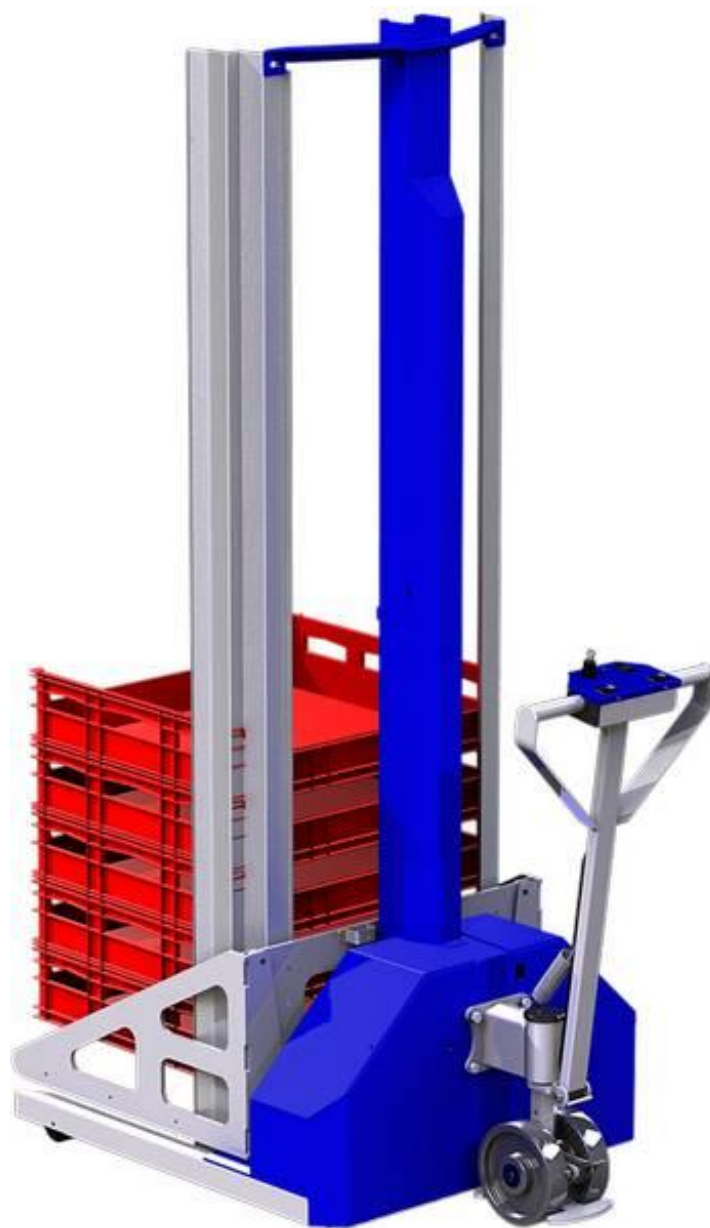


POWERED CRATE STACKER

User's Handbook



Congratulations on your purchase of a Simpro Powered Crate Stacker

The Powered Crate Stacker enables crates to be safely and efficiently stacked, de-stacked, moved, and loaded onto or taken off trucks.

Index

	Page
Introducing the Simpro Powered Crate Stacker	1
Layout of Controls	2
Charging the Battery, Battery life, General care	3
Trouble Shooting Guide	4
Hazard & Risk Assessment	5 - 8
Comments regarding Safe use	9, 10
Maintenance Checklist	11
Warranty	12

General Instructions for Use

Powered Crate Stackers are designed to be easy and safe to use. However, some common-sense rules do apply:



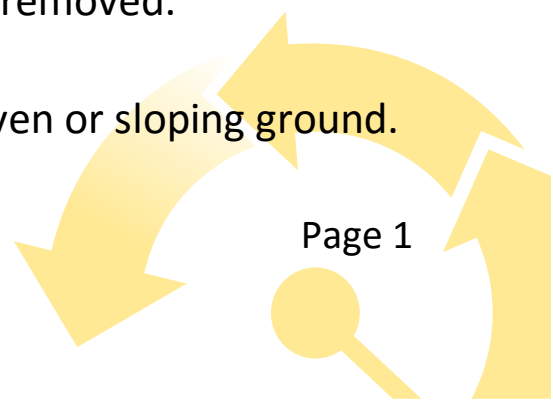
Always keep feet and hands well clear of the arms and linkages when operating.



Never operate with any covers or guards removed.



Exercise Caution when operating on uneven or sloping ground.



Layout of Controls



1. Use the LEFT rocker switch to open the arms
2. Push the Crate lifter in until the crates are located right into the corners of the upright guide plates.
3. Use the RIGHT rocker switch to RAISE and LOWER the arms.
4. When the arms are at the correct height, use the LEFT rocker switch to close the arms onto the crate that you wish to pick up.

Note: the Crate lifter can also lift stacks of empty crates where alternate crates are stacked upside-down and at right angles. An in-line flow control valve provides fine adjustment of the lowering speed. Remove the left-hand cover, and turn the outer sleeve anti-clockwise (viewed from above) to reduce the speed.

Charging the Battery

Powered Crate Stackers have a high-quality 21 amp/hr gel battery and an automatic battery charger built in.

The amount of use available from a full charge of the battery is dependent on a number of factors, but is generally a factor of the weight being lifted and the height it is lifted to.

Ideally, the machine should be charged every night, or whenever it is not being used for several hours.

To recharge the battery, simply plug the charging lead supplied into the socket at the rear of the main chassis, and into a standard 240 volt outlet. A full recharge should take 2 - 3 hours.

Battery Life

Gel batteries as supplied have an average life expectancy of 2 - 3 years, and require no maintenance.

Maintenance and care

Powered Crate Stackers are designed to give years of service with minimal maintenance. An occasional coat of silicon spray inside the mast and around the arm pivots and linkages will ensure that friction is kept to a minimum.

Trouble Shooting Guide

Problem	Possible Causes	Remedy
Nothing happens when the Raise button is pressed	Flat Battery	Recharge the battery
	Faulty switch or wiring	Check and rectify
	Faulty raise relay	The relay contactor should click when 'up' button is pressed. If not, check and repair/replace.
The motor runs but arms do not lift	Crates too heavy	Reduce the number or weight of the crates
The arms do not come down	Arm frame sticking in the mast.	Spray inside the mast with silicone or other lubricant
	Lift ram jamming	Consult manufacturer or agent.
	Faulty switch, wiring, or lowering valve	The lowering valve should click when the button is pressed. If not, check the switch, wiring and electro-magnetic coil.
The arms come down too slowly	Flow control incorrectly adjusted	Adjust as necessary
Arm frame jams part-way down	Mast bent or damaged	Check and repair
The arms do not open or close	Faulty switch or wiring	Check and rectify
	Faulty actuator	Check and repair

A detailed Service Manual with specific testing and repair instructions is available on request from the manufacturer.

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Hazard and Risk Assessment for Powered Crate Stacker

Risk Ranking Method

Risk is the combination of the likelihood of a specific unwanted event and the potential consequences if it should occur. For each event, the probability of it occurring is matched to a letter A to E from the list below, and the probable consequence if it did occur is matched to a number 1 to 5.

Probabilities

- A. Common or repeating occurrence
- B. Known to occur, or 'it has happened'
- C. Could occur, or 'I've heard of it happening'
- D. Unlikely to occur
- E. Practically impossible

Consequences for People

- 1. Fatality or permanent disability.
- 2. Serious lost time, injury or illness
- 3. Moderate lost time, injury or illness
- 4. Minor lost time, injury or illness
- 5. No lost time

Based on AS / NZ 4360: 1995 Risk Management

Risk Ranking Table

The consequences (loss outcomes) are combined with the probability of those outcomes in the risk ranking table to identify the risk rank of each loss event, (e.g. a consequence of 3 with a probability of B yields a risk rank from of 9. A rank of 1 is the highest magnitude of risk for a highly likely, very serious event. A rank of 25 represents the lowest magnitude of risk, an almost impossible, very low consequence event.

			PROBABILITY OF EVENT OCCURRING				
			COMMON ←-----→ UNLIKELY				
			A	B	C	D	E
CONSEQUENCES IF EVENT DOES OCCUR	MINOR ↔ SERIOUS	1	1	2	4	7	11
		2	3	5	8	12	16
		3	6	9	13	17	20
		4	10	14	18	21	23
		5	15	19	22	24	25

- | | | | |
|----------------|-----------------|----------------|----------------------|
| 1 - 3 | Extreme | 4 - 6 | Serious |
| 7 - 9 | High | 10 - 12 | Significant |
| 13 - 16 | Moderate | 17 - 19 | Low |
| 20 - 22 | Very Low | 23 - 25 | Insignificant |

Construction

Powered Crate Stackers have a steel frame comprising a vertical mast and stabilising legs, with 2 fixed wheels on the outriggers and large steered rear wheels. A frame supporting 2 movable arms moves vertically in the mast. The arms can be clamped or released electrically by means of a rocker switch.

Operation

A hydraulic ram provides the force to raise the arm frame. The ram is supplied by a battery-powered hydraulic power pack. Electrical, hydraulic, and/or mechanical control mechanisms allow the operator to raise or lower the bin in a controlled manner.

Safety

Powered Crate Stackers have been carefully designed to minimise risks and hazards to operators and other persons.

Safety features include:

- A hydraulic pressure-relief valve to prevent overloading
- A pressure-compensating lowering valve which automatically regulates the lowering speed regardless of the weight of the bin.
- A manually adjustable flow control to fine-tune the lowering speed.
- The Machine stops instantly if the raise or lower button is released.

Potential Hazards

Risk Ranking

1. **Use by unauthorized or untrained personnel**

**C4 = 18
(Low)**

Control Method: Only allow trained and authorized operators to use the machine. If machine will be in an area where unauthorized persons have access, fit a key- operated isolating switch. Operators must be able to demonstrate their competency, and must read and obey all instructions.

2. **Trapping of hands or feet by moving arm frame.**

**C3 = 13
(Moderate)**

Control Method: All persons other than the operator must keep well clear while the machine is in use. The operator should keep hands clear of the crates and linkages while operating. Keep feet away from the crates.

3. **Machine being tipped over**

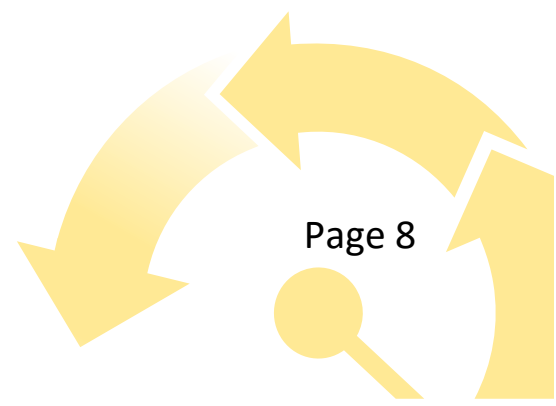
D4 = 21 (Very Low)

Control Method: Take care when operating on uneven or sloping ground. Slow down before turning corners, especially with a full load of crates. Whenever possible, the bottom crate should be just off the ground while moving the lifter.

4. **Electrocution from charging lead D1 = 7**

(High)

Control Method: Ensure the charging lead is in good condition. Replace the lead if the insulation is damaged. Keep dry, and charge in dry areas. Fit an RCD to the supply socket.



Conclusion

Powered Crate Stackers are designed and manufactured to be safe to operate. A significant safety margin is built in to all load-bearing parts. Guarding prevents access to moving parts.



Residual Hazards



- As with all powered industrial equipment, some hazards will be present despite all the safety measures implemented by the manufacturer.
- It is the responsibility of the owner and the operators to identify remaining hazards and to put in place and follow procedures to ensure the safety of all persons in the vicinity of the machine.

Safe use

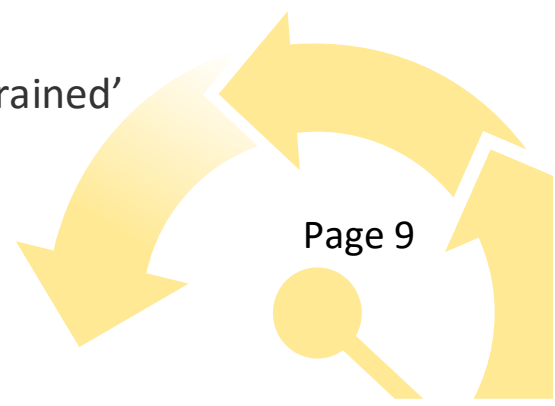


A Hazard and Risk Assessment must be undertaken before the machine is used for the first time, taking into account all relevant factors such as the area it will be used, the skill and training of operators, the proximity of other persons, frequency of use, etc.

All appropriate steps must be taken to eliminate, isolate, or minimise hazards to the operator and to all other persons on site.

These steps may include some or all of the following:











- Training of operators
- Testing and recording that operators are ‘trained’



- Implementing Standard Operating Procedures and ensuring they are followed
- Posting additional signage, floor marking, or other warnings as deemed appropriate

The *Powered Crate Stacker* has been designed to be as safe as possible without restricting the ease-of-use and versatility of the machine.

Recommended precautions for safe use:

-  **Only** trained and authorized operators should be permitted to use the machine.
-  Remove the key from the machine whenever it is not in use.
-  Operators must read and obey the instructions displayed on the machine.
-  All persons other than the operator **must** keep well clear while the machine is in use.
-  **Do not** put feet under the side guards or arms.
-  Ensure power leads are in good condition; replace the lead if the insulation is damaged.
-  **Do not** connect plugs and sockets if they are damp
-  Ensure the supply socket is fitted with a residual current device.
-  **Never** operate on uneven or sloping ground (more than 1:12).
-  **Never** use a ***POWERED CRATE STACKER*** on the edge of a truck dock.

Electrical Safety:



(Mains-powered machines) Before connecting the **POWERED CRATE STACKER** to a mains supply ensure that the voltage and frequency of the supply corresponds with the values on the rating plate. If in doubt consult a qualified electrician.



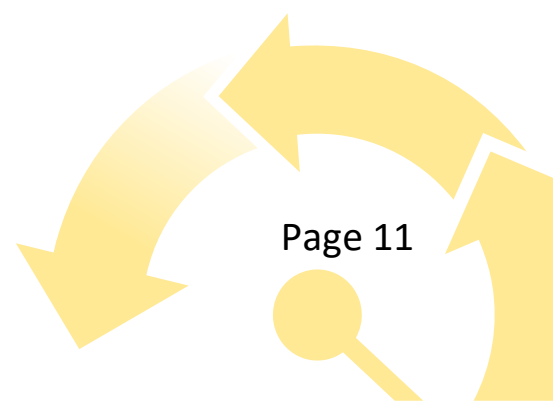
The electrical safety of this machine can only be guaranteed when continuity is complete between the machine and an effective earthing system which complies with local and national regulations. The manufacturer cannot be held liable for the consequences of an inadequate earthing system (e.g. electric shock)



Caution! - if the **POWERED CRATE STACKER** is found to be in need of repair or in any way in unsafe condition, the matter must be reported immediately to the designated authority and the machine must not be operated until it has been restored to safe operating condition.



Installation and repairs should only be carried out by suitably qualified and competent persons to ensure safety. Repairs and other work by unqualified persons could result in harm to persons or damage to the machine, for which the manufacturer will not be held liable.



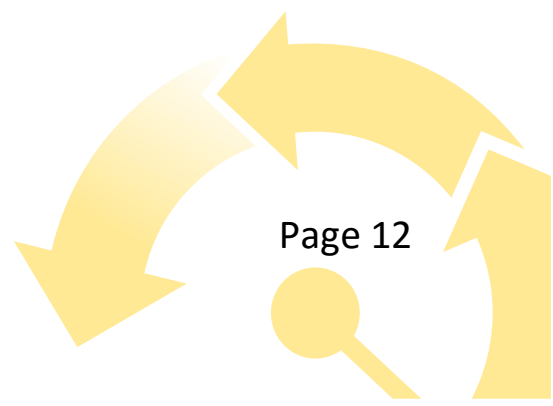
Maintenance Checklist

MODEL _____ SERIAL NUMBER _____ Start date ___/___/___

NOTE: Check the items listed below at least once a month. Certain items may be listed that are not included on all models. Check all items applicable to unit noted above.

Tick appropriate box “OK”  or “Needs repair” (Give details in comments section) 

	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Visual Checks												
No dented, bent or broken parts												
No oil leaks												
Arms: no broken welds, not twisted												
Actuator moves freely												
Guards Intact												
Controls and stickers OK												
Operational checks												
Travels up down, no jamming or noises												
Castors and brakes OK												
Power Lead not damaged												
Switches and buttons operating correctly												
Covers in place												
Operators Initials												
Supervisors OK												



Warranty

The conditions detailed below are a brief summary only. A full “Warranty Terms and Conditions” document is available on request.

Powered Crate Stackers are warranted by the manufacturer against faulty workmanship and defective materials for a period of 12 months from the date of purchase.

Such warranty is subject to the following conditions:

1. Under the terms of this warranty, the manufacturer agrees to repair or replace, at his own discretion, any parts that fail due to poor workmanship or faulty materials. It does not extend to any other loss or damage including consequential loss or damage or loss to other property or persons.
2. Without limiting the generality of paragraph 1 above, this warranty does not cover the following:
 - a) Travel expenses or freight.
 - b) Damage caused by accident, misuse or abuse.
 - c) Damage to any goods which have been altered or modified by someone other than the manufacturer or its authorised agent.
 - d) Damage or loss to the goods due to their unsuitability for any particular use.
3. Faults or breakdowns should be reported to the dealer who supplied the machine. No claims will be recognised unless authorisation is obtained from the manufacturer before any repairs are done.

This warranty shall be interpreted according to the laws of New Zealand and the parties agree to submit to the jurisdiction of the Courts of New Zealand.

Also available:



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Page 14