BACKSAFE australia

STURGO®

Compact Electric Pallet Jack 2T

11740282 (CBD20X)

Operation Manual

⚠ Read and observe all warnings on this unit before operation it.

⚠ DO NOT operate this equipment unless all factory installed guards and shields are properly secured.

1300 305 314

sales@backsafeaustralia.com.au

backsafeaustralia.com.au

Foreword

Thank you for purchasing the STURGO® Compact Electric Pallet Jack!

This manual is about how to operate and maintain machines with model number 11740282.

It is imperative that any person intending to use this machine is fully conversant with the contents of this document. The machine is a powerful tool and can be dangerous if used inappropriately.

We have the right to improve the machine; the description in this manual may differ slightly for your product.

If you have any questions, please use the below details to contact us.

HEAD OFFICE
60 Mordaunt Circuit,
Canning Vale 6155
Western Australia

POSTAL ADDRESS
PO Box 243,
Willetton 6955
Western Australia

Phone: 1300 305 314
Fax: 1300 826 188

Email: sales@backsafeaustralia.com.au
Web: backsafeaustralia.com.au

INDEX

1. Product Introduction and Safety Guidelines

1.1. This pallet jack is manufactured mainly of recyclable steels to ensure its environmental friendliness. Any waste produced during the process of operating, maintaining, cleaning or dissembling shall be recycled or treated according to local regularities and by professionals in the designated area. Any improper treatment to the waste of items such as cylinder, battery or electronics could pose a hazard to the environment or personnel.

1.2. This pallet jack is a logistics equipment for carrying and moving goods on the ground and is not to be used for carrying persons.

1.3. Operate and maintain this pallet jack strictly according to this manual.

1.4. Only trained personnel are permitted to operate this pallet jack, and such personnel must read the instructions and follow the safety guidelines.

1.5. The users shall ensure that this pallet jack is only used for the specified purposes and avoid any hazard to the safety of the user or any other persons.

1.6. Working conditions: It is advisable to use this pallet jack on the flat, dry and clean cement or other hard ground. The operating temperature is from 5℃ to 40℃. Special protecting devices are needed if used below 0℃.

1.7. Avoid any overloading or uneven loading.

1.8. Do not use this pallet jack in areas where fire accident and explosion may happen or in corrosive, rusty and dusty areas.

1.9. Do not change the spare parts, especially the safety devices. Attention: Do not adjust the pressure relief valves of all models. Use the spare parts provided by manufacturers of this pallet jack only.

1.10. Do not maintain or modify this pallet jack unless you are trained and authorised.

1.11. Hazard warning: The danger of people suffering from injuries mainly comes from the pallet jack itself, its loading parts, and includes the possibility of sudden drop of goods or devices while moving or lifting the goods.

1.12. While operating, the users take the full responsibility of the pallet jack. Prohibit any other unauthorised personnel operating the pallet jack. Do not use it to carry or lift people.

1.13. If any damage or defect is found on the pallet jack, stop using it immediately and report to the supervisor as soon as possible. Pallet jacks with faulty functions, such as worn wheels or brake dysfunction, should not be used until assessed and repaired.

1.14. Do not park the pallet jack on sloped surfaces. Turn off the power and remove the key before leaving. Disconnect the battery plug if not being used for an extended period.

1.15. Protective shoes: According to the Standard EN-345:1-S1, wear standard protective shoes while operating the pallet jack.

1.16. Do not extend your feet out of the pedal while operating a pallet jack with the pedal in case of injuries.

1.17. Charge the battery in a well-ventilated area and keep away from fire or other flammable or explosive items.

1.18. If the pallet jack hasn't been used for an extended period, please recharge the battery before using it.

1.19. The equipment user mentioned in this manual refers to any natural or legal person who uses the pallet jack themselves or appoints others to use it. Under some special circumstances such as for a lease, the equipment user shall sign a contract with other users as the owner party and bear the obligations to regulate the operation.

1.20. The equipment user shall guarantee that it is only used for specified purposes and avoid any potential hazard to the operator and other persons. Besides, the user shall strictly observe the accident prevention procedures, safety rules and operating and maintaining rules. Make sure that all operators read this manual carefully and understand fully.

Special Attention: The main power switch is the emergency stop switch. For the sake of heat dissipation and equipment safety, the battery meter and fan start to work if the emergency stop switch is on. For the purpose of equipment safety and energy conservation, as well as truly indicating the service time, please turn off the power if not using the pallet jack for an extended period.

Special Attention: A built-in charger is the standard configuration for this pallet jack. Press the emergency stop switch (OFF), otherwise, it will damage the electric elements. Whether the emergency stop switch is on or off can be judged by the battery meter: the meter goes out if you press the switch (OFF); and the meter goes on if you turn the switch (ON).

WARNING

Our warranty will turn invalid automatically if this operating manual is violated. This is also applied to illegally exported products without the manufacturer's authorisation. If the client or any other third party operates this pallet jack illegally without the permission of our Customer Service Department, our company will not take the responsibility for any loss.

NOTICE: For the need of further improvement to the product, the manufacturer reserves the right to modify the design or specifications without further notice and incurring in any sanction.

2. Product Specifications and Diagrams

Diagram 2.1 Product Specifications Side View

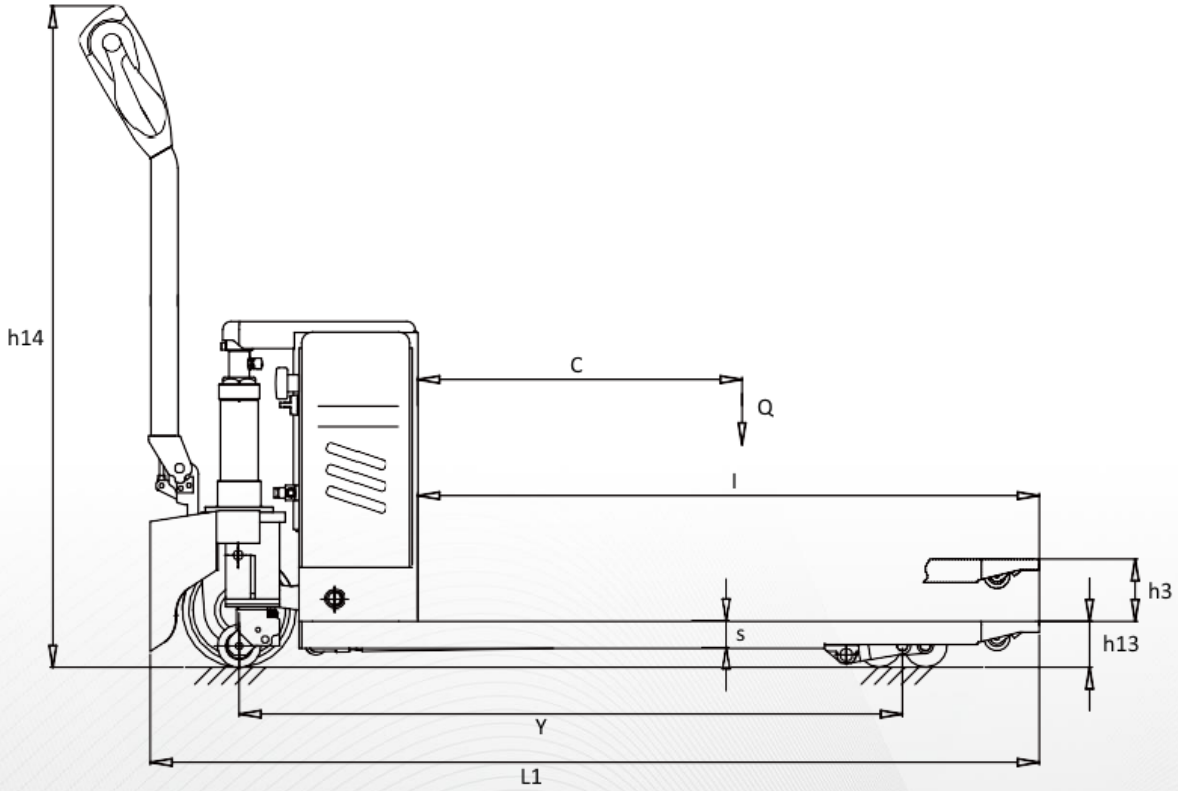
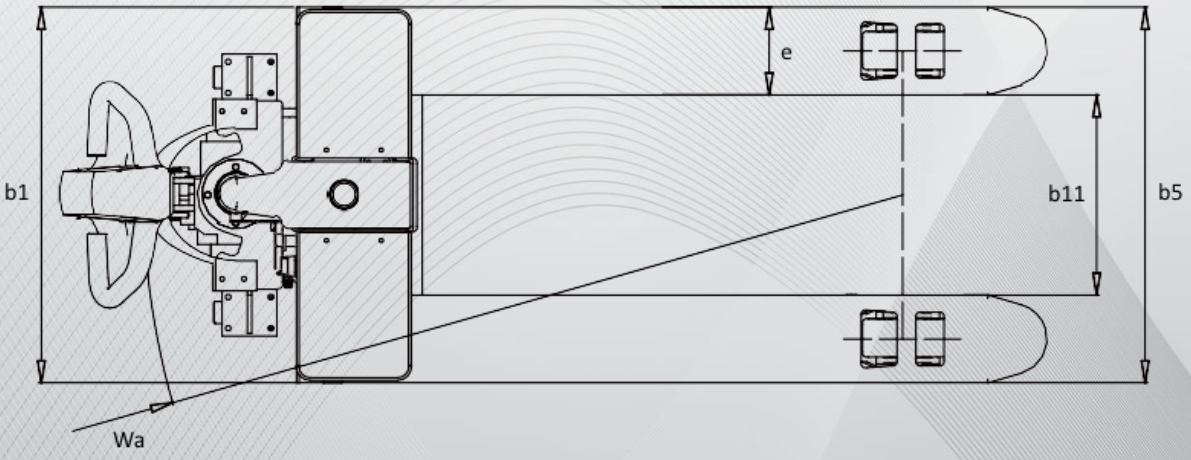


Diagram 2.2 Product Specifications Top View



Technical Parameters Table

STURGO® Compact Electric Pallet Jack 2T			
GENERAL	Model		11740282 (CBD20X)
	Capacity	Q (Kg)	2000
	Load centre	C (mm)	600
	Lifting type		Electric
	Operating type		Walkie
WHEELS	Material		PU
	Wheelbase	Y (mm)	1230/1300
	Quantity (driving/balance/bearing)		1/2/4
	Bearing wheel	mm	Ø80×70
	Driving wheel	mm	Ø210×75
	Balance wheel	mm	Ø75×46
DIMENSIONS	Min. fork height	h13 (mm)	85
	Max. fork height	mm	200
	Max. lifting height	h3 (mm)	115
	Fork outside width	b5 (mm)	560/685
	Fork inside width	b11 (mm)	240/365
	Fork length	L (mm)	1150/1220
	Single fork size	e/s (mm)	160/50
	Overall length	L1 (mm)	1650/1720
	Overall width	b1 (mm)	685
	Overall height	h14 (mm)	1220
	Handle vertical height	mm	1220
	Min. turning radius	Wa (mm)	1385/1455
PERFORMANCE	Travel speed (laden/unladen)	km/h	4/5
	Lifting speed (laden/unladen)	mm/s	25/30
	Lowering speed (laden/unladen)	mm/s	30/20
	Fast/slow adjustment function		Yes
	Gradeability	%	≤4
MOTOR	Driving mode		DC
	Drive motor	Kw	24V 0.75KW
	Lift motor	Kw	24V 0.8KW
BATTERY	Battery capacity	V/Ah	2 × 12/80
	Charger		24V 12A
WEIGHT	Battery weight	Kg	24
	Net weight	Kg	230

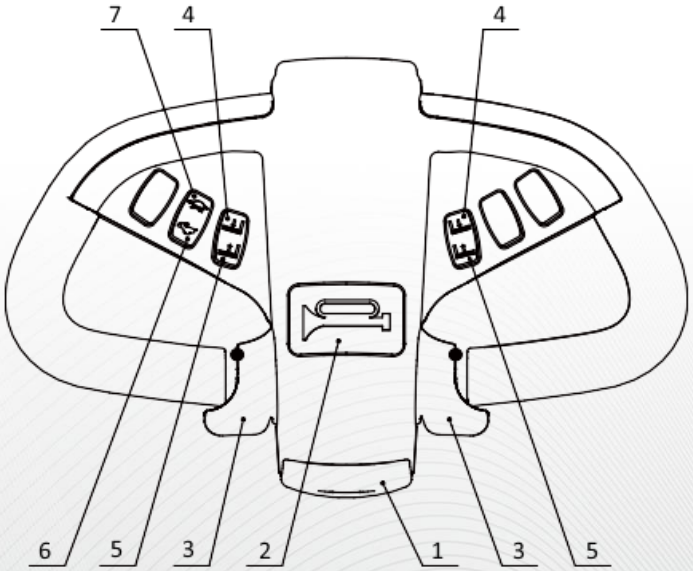
3. Operating Instructions

3.1. Pay attention to the personnel training and follow the safety rules. Check the condition of the pallet jack and read every warning sign.

3.2. Check the battery meter before using. When the battery goes below 30% (the meter shows 3 bars), the controller will shut down the lifting function for protection, and the moving speed will also slow down to half. If this happens, please recharge immediately, otherwise it will shorten the life span of battery!

3.3. Handle function: fork raise and lower, driving forward or backward, emergency reverse, handle turning, horn, braking, etc.

Diagram 3.3.1 Structure and Function of Control Handle



Structure and Function of Control Handle

1 Back Button
2 Horn Button
3 Forward & Reverse Button
4 Lower Button
5 Raise Button
6 Fast Mode
7 Slow Mode

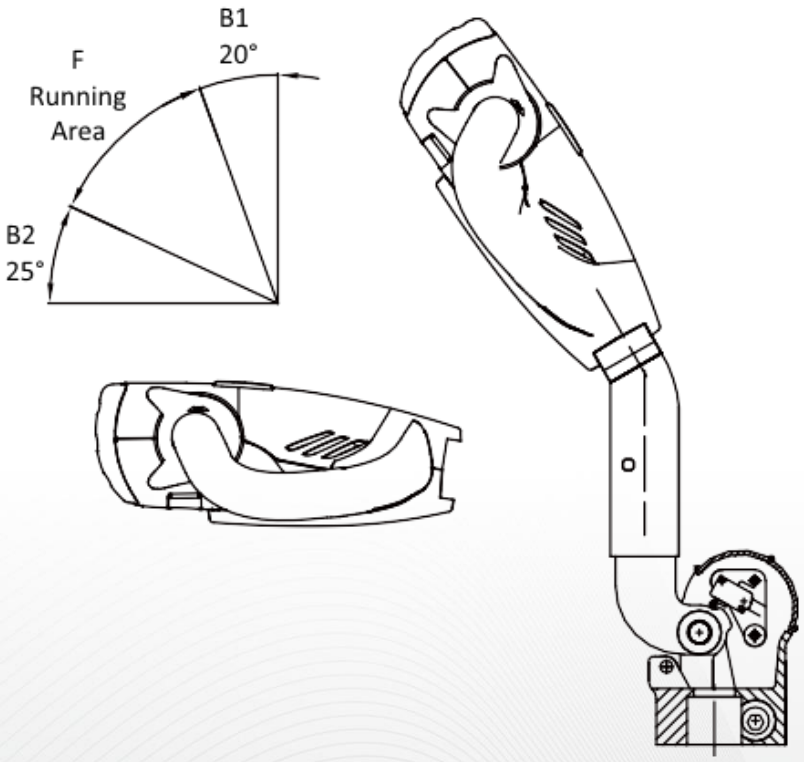
3.4. Correct operating procedure:

Pull the emergency stop switch (ON)
Turn on the key switch (electric lock)
Press the handle to the working position (photoelectric lights switch on)
Rotate the handle accelerator

The correct operating procedure is to ensure the safety of personnel. If the procedure is not followed correctly, the pallet jack will not move (the fault LED flickers). Re-operate according to the correct procedure.

3.5. Driving the machine

Diagram 3.5 Handle Function



3.5.1. Driving Function:
Adjust the angle and position of the handle to control the drive. Turn the drive switch to the needed direction (forward or backward) within the moving area F. The greater the angle is, the faster it moves. The personnel should control the speed based on the real situation; drive slowly in narrow spaces, difficult to navigate areas, slopes or low-visibility areas.

3.5.2. Brake:
Release the handle (back to the B1 area automatically) or push it to the B2 area (release the drive switch and back to the original position) or pull out the plug (cut the power).

3.6. When the electric lock switch is on and without any operation, the controller will go into sleeping mode for power-saving, and the pallet jack will not move. Restart the electric lock switch to release.
Suggestion: Turn off the electric lock switch and emergency stop button if not used for an extended period.

3.7. Moving the pallet jack without driving function:
Release the electromagnetic brake before moving (screw off after the motor moves to the round maintenance window).

4. Battery Charging

4.1. Park the pallet jack before any battery operation. Only the trained personnel are permitted to perform the battery charging operation, in a non-smoking and well-ventilated area equipped with fire extinguishers.

4.2. Standard battery. Charge when the power goes below 30%. Press the emergency stop switch (OFF) while charging to prevent damage to the electric elements.

4.3. Charge the battery promptly when it runs out. No more than 24 hours. Charge the battery fully once a month even when not being used.

4.4. Do not place any metals or other conductive objects on the battery. Use the pallet jack only when the battery cover is closed. Ensure there is no smoking, fire or other inflammable and explosive materials nearby.

5. Maintenance

5.1. Regular maintenance is the precondition to ensure reliable performance and safety, and to prolong the life of the pallet jack.

5.2. Lubrication List

LUBRICATING PARTS	LUBRICANT TYPE	INTERVALS	
		3 MONTHS	6 MONTHS
Wheels & Rollers	Lithium Grease	▲	
Lifting Parts	Machine Oil	▲	
Hinge Pin	Lithium Grease		▲
Hydraulic Device	L-HM/HV 32# hydraulic oil; 40°C viscosity		▲

5.3. Clean mechanical components with a wet cloth. Do not directly spray water, steam or inflammable liquid. Clean the electrical components with non-metallic brushes. The waste oil should be disposed as required by local authorities and regulations.

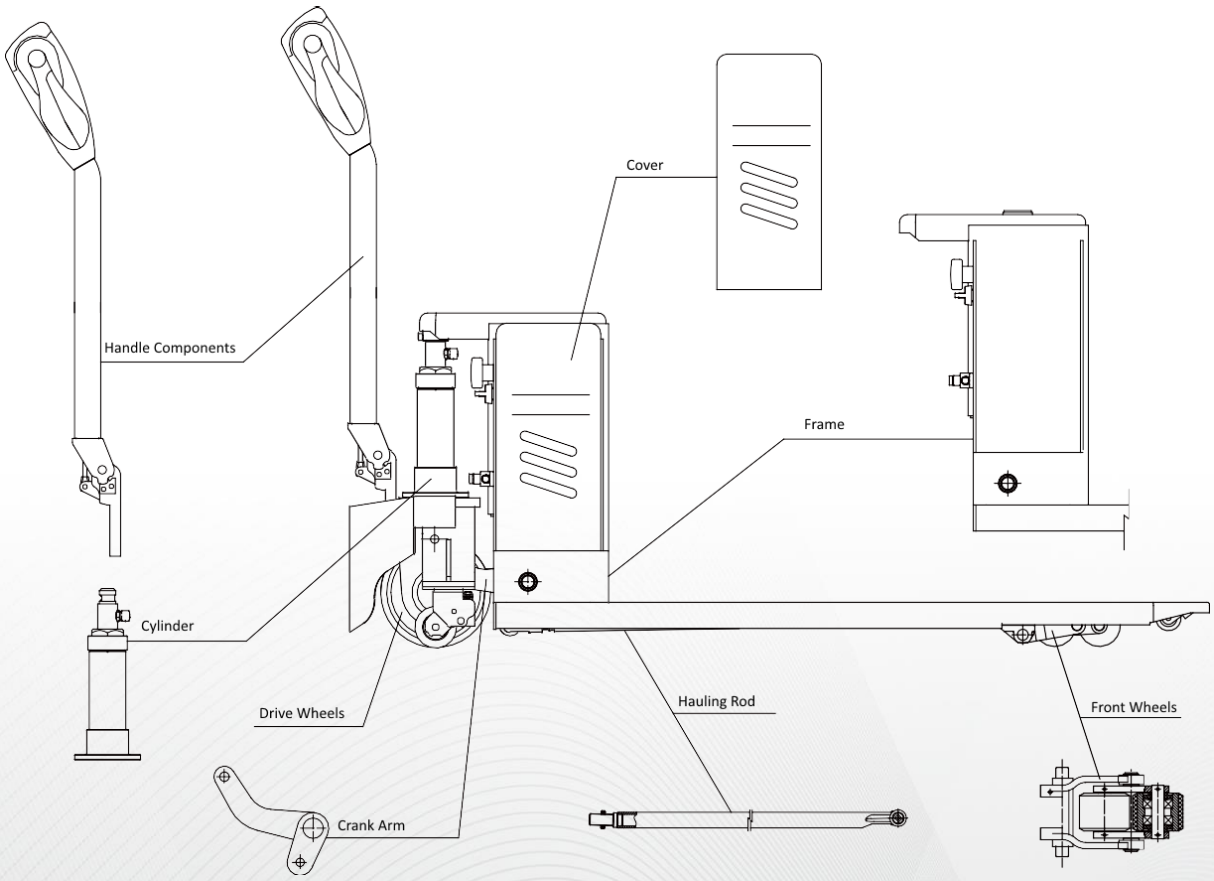
The maintenance of the pallet jack should be performed by professionals according to the intervals specified in the above tables.

5.4. Regular Maintenance List

PARTS	CHECKLIST	INTERVALS (month)		
		3	6	12
Frame	Check the bearing part	▲		
	Check the tightness of bolts and nuts	▲		
	Check the condition of supporting parts and the machine	▲		
Wheels & Bearings	Check the abrasion degree	▲		
	Check the bearing's performance		▲	
	Check the connecting and fixing parts	▲		
Handle	Check the flexibility		▲	
	Check the sidewise movement (turning)	▲		
	Check whether it can rebound to the vertical position		▲	
Electric System	Check the micro-switch	▲		
	Check the connectors and cable	▲		
	Check the master switch		▲	
	Check the horn	▲		
	Check the emergency brake button	▲		
	Check the safety device	▲		
Hydraulic System	Check the function			▲
	Check the oil quantity	▲		
	Check the leakage and abrasion of joints		▲	
	Change oil / filter	▲		
Cylinder	Check the leakage			▲
	Check the abrasion of sealing parts	▲		
	Check the fixation	▲		
Motor	Check the abrasion of carbon brush	▲		
	Check the starting motor relay		▲	
Battery	Check the density and level of electrolyte	▲		
	Check the tightness of battery pack and terminals	▲		
	Check the cables		▲	
	Lubricate the electrodes with Vaseline		▲	
Load	Check the safety devices	▲		
	Lifting test with rated load	▲		

6. General Assembly

Diagram 6.1 General Assembly



7. Power and Electrical Configuration

Diagram 7.1.1 Power and Electrical Configuration Side View

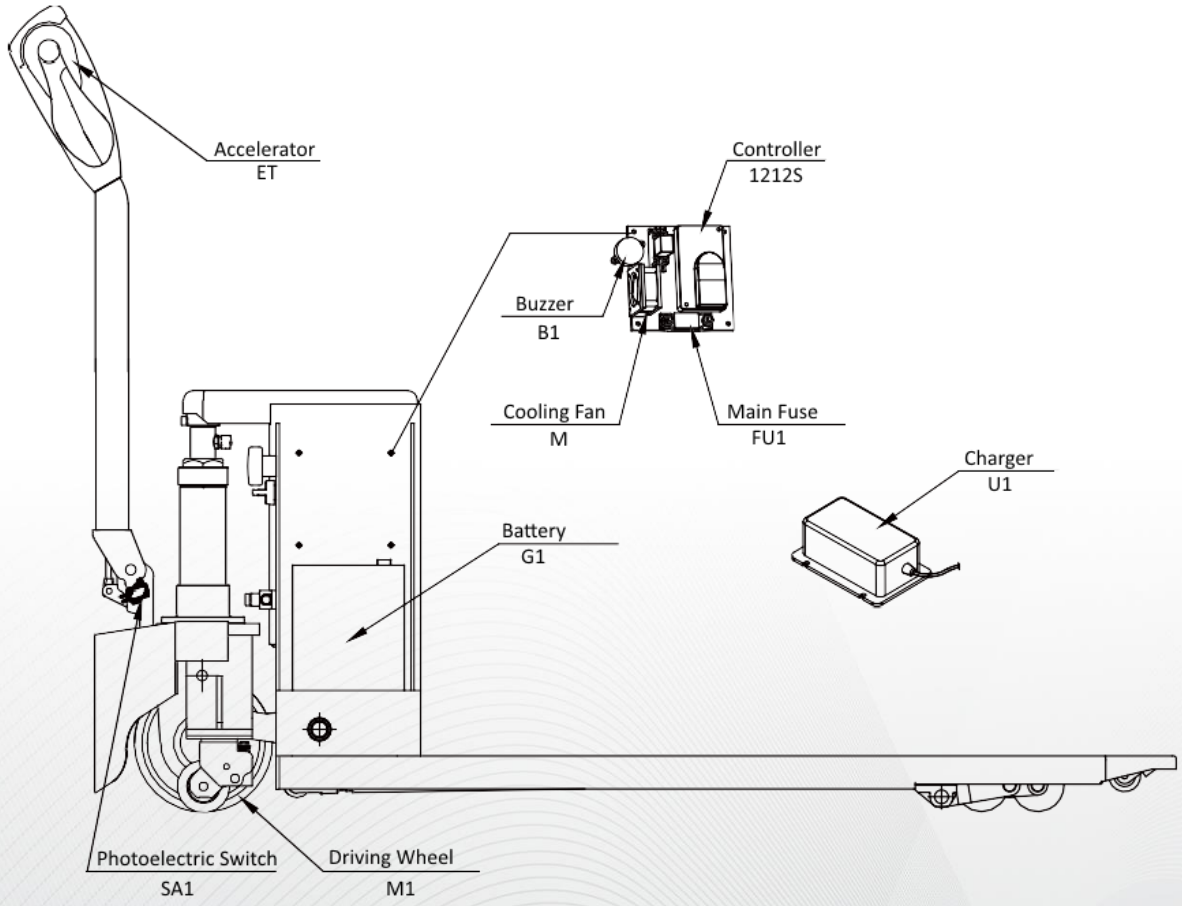
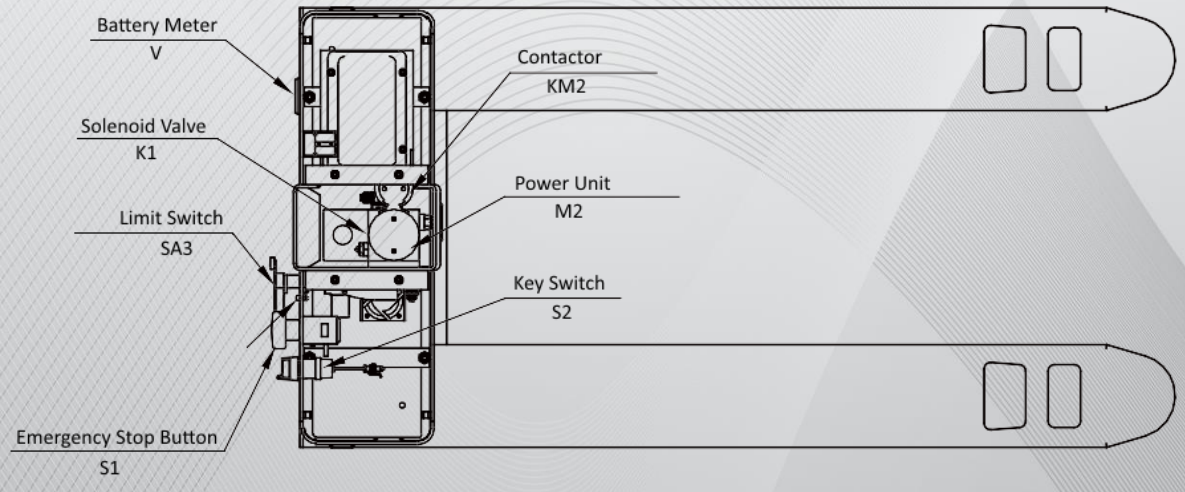


Diagram 7.1.2 Power and Electrical Configuration Top View



7.1. Electrical Configuration Table

#	LABEL	NAME	SPEC & MODEL	FUNCTION	QTY
1	S1	Emergency Stop Button	ZDK33-125A	Emergency stop/main power switch	1
2	S2	Key Switch	JK410-NL/2	Controller power switch	1
3	V	Round Battery Meter	ZT-DL-03/24V	Battery display	1
4	FU1	Ceramic Fuse Base	RQD-1/220v, 800A		1
5		(Main) Fuse	CNL-100A	Main fuse wire	1
6	1212S	Controller	1212-S	Control moving	1
7	M	Cooling Fan	DC24V, 0.2A	Inner cooling	1
8	M2	Power Unit	FFF-062	Fork raise and lower	1
9	FU2	Glass Fuse Wire	4A	Control loop fuse	2
10	FU3	Fuse Wire Base		Battery meter and fan fuse	2
11	D1/D2	Diode	IN2408	Free-wheeling diode	2
12	LED	LED	LED	Charging display	1
13	M1	Driving Wheel	JK210-SY	Moving motor	1
14	G1	Battery	DJM1280/12V 80Ah	Powers pallet jack	2
15	U1	Charger	WT2412PM	Charges the battery	1
16	SA1	Photoelectric Switch	TP-SM5P1 10~30VDC PNP	Brake inter-lock	1
17	SA3	Limit Switch	8108	Height limiter	1
18	B1	Buzzer (horn)	HYD-216W /24VDC	Horn, sounds when reversing pallet jack	1
19	ET	Accelerator	0-5V Hall-type	Control forward and reverse movement	1
20		Cooling Aluminium Plate		Assembly, cooling	1
21		Handle Wiring Harness	CBD20X	Connecting handle and control wiring harness	
22		Control Wiring Harness	CBD20X	Connecting control wiring harness and handle wiring harness	
23		Motor Wiring Harness	CBD20X	Connecting controller and motor	

8. Standard Parts and Wearing Parts List

8.1. Parts Table

#	NAME	SPEC & MODEL	QTY	PLACE	NOTES
1	Composite Bushing	Ø18×Ød16×15	4	Crank arm	
2	Front Wheel	Ø80×70	4	Front wheel frame	PU wear-resisting
3	Spring Pin	Ø5×35	8	Front axle	
4	Deep Groove Ball Bearing	6010 (80×50×16)	1	Base	
5	Single-row Tapered Roller Bearing	30212 (110×60×23.75)	1	Base	
6	Bushing	D23×d20×11.5	4	Balance arm	
7	Gas Spring	Ø10×290; travel 40; 650N full-stage damping	1	Control handle	
8	M6 Set Screw	M6×12	1	Bearing head	
9	Oil Pipe Connection	G1/4" flat-M14×1.5 bulge	1	Pump/Oil pipe	90° elbow
10	Oil Pipe Connection	M14×1.5 flat-M14×1.5 bulge	1	Pump/Oil pipe	Straight
11	High-pressure Oil Pipe	25.6Mpa; inner diameter 1/4"; length 380mm	1	Pump/Oil pipe	M14×1.5
12	Wear Strip	D55×d50×L9.7	1	Lifting cylinder barrel	
13	Y-ring	D55×d47×10	1		
14	Circlip	D55×d47×1.5	1		
15	Dust Ring	d38×D46×5.5	1		
16	O-ring	D38×3.55	1		
17	Circlip for Shaft	d16	4	Crank arm pin	
18	Bushing	D23×d20×21.5	4	Front wheel frame	
19	Composite Bushing	D18×d16×12	2	Handle elbow	
20	Composite Bushing	D29×d25×25	2	Crank arm connection	
21	Deep Groove Ball Bearing	6204(47×20×14)	8	Double front wheel	
22	Circlip for Hole	D25	2	Crank arm sleeve	

Remarks:

Warranty period: Within 1 year after the purchase or 1000 hours of service time.

Wearing parts and sealing parts are separately provided to clients' request.

9. Troubleshooting Guide

9.1. Charger Indicator Table (T0)

#	Charging Indication	Description
1	Red light flickers	Charging
2	Green light steady	Full
#	Charger Fault Indication	Description
1	Red Green Red---	Overvoltage (overcurrent) protection
2	Red Green---	Output under-voltage
3	Red Green Red Green---	Over-high/low temperature
4	Green Red---	High temperature protection
5	Red Green Red Green Red---	Abnormal input AC voltage
6	Green Red Green---	Composite fault

9.2. Troubleshooting

#	PROBLEM		CAUSE	SOLUTION
1	Pallet jack fails to move	Battery meter displays	E-lock switch is 'OFF'	Turn the E-lock switch to 'ON' (T3)
2			Handle out of drive range F	Rotate the accelerator to the drive range F (T6)
3			Handle not pressed to the working position	Press the handle to the working position (photoelectric switch is on T16) and rotate the accelerator (T6)
4			Press the handle to the working position and photoelectric switch is out	Adjust the distance of photoelectric switch to see if it lights on. If not, replace the switch (T16).
5			Control loop fuse is burnt	Replace the control circuit fuse(T8)
6			Fault of the controller	Refer to the controller fault code list on page 19
7			Low power	Recharge (T1)
8		Battery meter no display	Loose connection of battery connecting wire	Check the connecting wire. If necessary, reconnect the line and tighten the terminal screws (T13)
9			Emergency stop switch is off	Pull up to turn on the emergency stop switch (T2)
10			Main fuse is burnt	Replace the main fuse (T12)
11			Battery runs out	Check the battery charging condition. Recharge if necessary (T1)

NOTICE:

1. The main power switch is the emergency stop switch (T2). The battery meter and fan start to work if the emergency stop switch is on. For the purpose of equipment safety and energy conservation, please turn off the power if not using the pallet jack for an extended period.

2. Press (OFF) the emergency stop switch (T2), otherwise it will damage the electric elements.

3. Correct operating procedure:
   - 3.1. Pull the emergency stop switch (ON)
   - 3.2. Turn on the key switch (electric lock)
   - 3.3. Press the handle to the working position (photoelectric switch lights on)
   - 3.4 Rotate the handle accelerator.

The correct operating procedure is to ensure the safety of personnel. If the procedure is incorrect, the pallet jack will not move (the Fault LED flickers T10, refer to the fault code list on page 19). Re-operate according to the correct procedure.

4. When the electric lock switch is on and without any operation, the controller will go into sleeping mode for power-saving, and the pallet jack will not move. Restart the electric lock switch.
Suggestion: Turn off the electric lock switch and emergency stop button if not used for an extended period.

5. When the battery goes below 30% (the meter shows 3 bars), the controller will shut down the lifting function for protection, and the moving speed will also slow down to half. If this happens, please recharge immediately, otherwise it will shorten the life span of battery!

#	PROBLEM		CAUSE	SOLUTION
12	Failure to lift load	Motor contactor closed (press LIFT button and contactor closes)	Air in the hydraulic system (motor is running)	Idle several times to eliminate air (T14, T7)
13			Inadequate hydraulic oil (motor is running)	Check oil level and see if any leakage; fix the problem (T4, T19)
14			The pipe connection is loose or cracks (motor is running)	Tighten the pipe connection or replace the cracked pipe (T4, T19)
15			Motor connecting wire is loose (motor is not running)	Tighten connecting wire. Replace motor wire if necessary. (T14)
16			Pump motor is damaged (motor is not running)	Replace pump motor (T14)
17		Motor contactor not closed	If the battery meter has no display, refer to CAUSE 8/9/10/11	Refer to SOLUTION 8/9/10/11
18			If the battery meter has display, refer to CAUSE 1/5/7	Refer to SOLUTION 1/5/7
19			Poor contact/damage on lifting button of handle	Check/replace lifting button (T7)
20			Poor contact/damage on lifting travel switch	Check/replace lifting travel switch (T5)
21			Poor contact/damage on connecting wire	Check/replace connecting wire (T14, T15)
22			Poor contact/damage on motor contactor	Check/replace motor contactor (T15)
23	Load is lifted slowly		Refer to CAUSE 12/13	Refer to SOLUTION 12/13
24	Forks fail to lower		Dirty oil and blocked control valve	Check hydraulic oil and clean control valve. Replace oil if necessary. (T18, T19)
25			Poor contact/damage on descending button of handle	Check/replace descending button (T7)
26			Unopened/damage magnetic valve of handle	Check/replace magnetic valve (T18)
27			Poor contact/damage on connecting wire	Check/replace connecting wire
28	Forks lower slowly		Refer to CAUSE 24	Refer to SOLUTION 24
29	Unidirectional move		Damage on handle accelerator	Check/replace accelerator
30			Poor contact/damage on connecting wire	Check/replace connecting wire (T7, T9)
31	Moves slowly		Low battery	Check battery; recharge immediately (T1)
32			Tight brake	Check adjusting screw (T11)
33			Damage on brake coil/brake is unloosed due to poor contact of brake wire	Check/replace brake, wire and connection (T11)
34	Sudden start		Fault/damage on controller	Replace controller (T9)
35			Handle accelerator is not reset	Fix to reset or replace (T6)

Diagram 9.2.1 External Controls

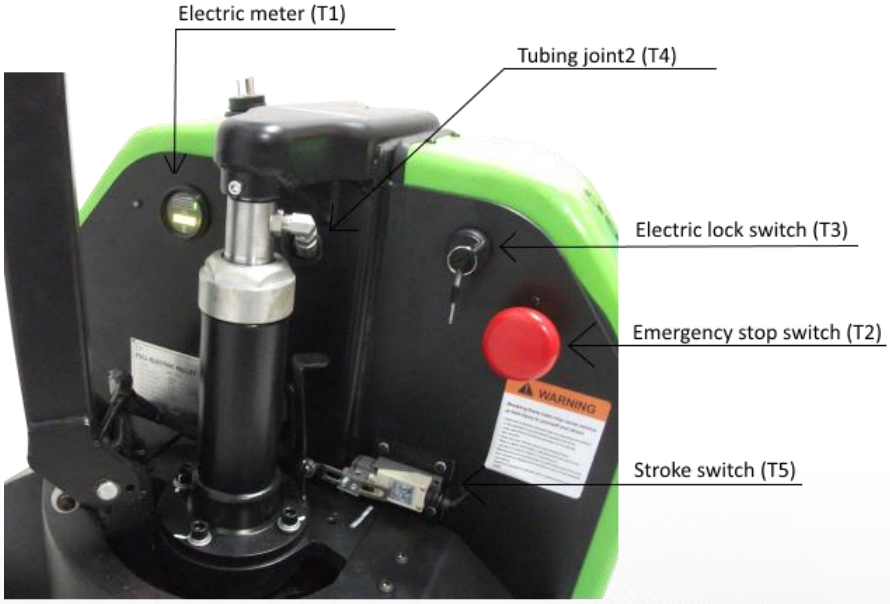


Diagram 9.2.2 Control Handle

Diagram 9.2.3 Internal Components RH

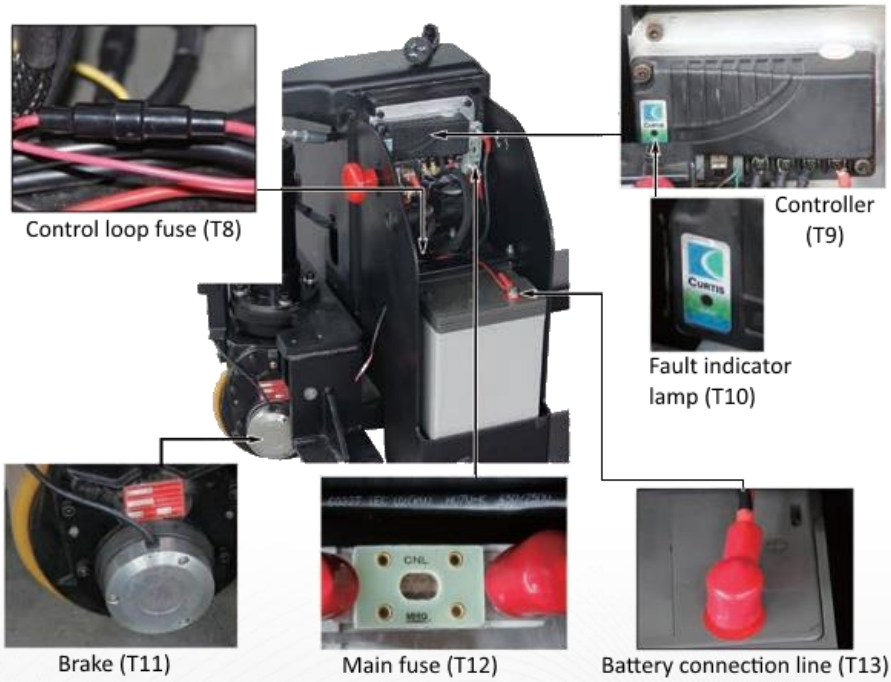


Diagram 9.2.4 Internal Components LH

Diagram 9.2.5 Internal Components LH (2)

9.3. Controller Fault Code Table

#	DISPLAY PROGRAMMER	LED CODE	PROBLEM	DIAGNOSIS
1	THERMAL FAULT	1.1	Over/under-temperature cut-off	1) Temperature > 80°C or < -10°C
				2) Overload
				3) Work in extremely harsh environment
				4) Magnetic brake is unreleased
2	THROTTLE FAULT	1.2	Overvoltage of the sliding and low end of potentiometer	1) Open/short circuit of accelerator input terminal
				2) Accelerator potentiometer fault
				3) Accelerator type choice fault
3	SPEED POT FAULT	1.3	Limit potentiometer fault	1) Open or short circuit of limit potentiometer
				2) Open circuit of limit potentiometer
4	UNDERVOLTAGE FAULT	1.4	Under-voltage of battery	1) Battery voltage <17V
				2) Poor contact of battery or contactor
5	OVERVOLTAGE FAULT	1.5	Overvoltage of battery	1) Battery voltage >31V
				2) Charger connected while operating pallet jack
				3) Poor contact of battery
6	MAIN OFF FAULT	2.1	Main contactor coil drive 'OFF" fault	1) Main contactor coil start fault
7	MAIN FAULT	2.3	Main contactor fault	1) Adhesion or open circuit of main contactor
				2) Main contactor coil drive fault
8	MAIN ON FAULT	2.4	Main contactor coil 'ON" fault	1) Main contactor coil OFF fault
9	WIRING FAULT	3.1	HPD fault time exceeds 10 seconds	1) Wrong operation on accelerator
				2) Accelerator terminal or mechanic part fault
10	BRAKE ON FAULT	3.2	Brake ON fault	1) Open circuit of magnetic brake coil
				2) Short circuit of magnetic brake drive
11	PRECHARGE FAULT	3.3	Pre-charge fault	1) Controller fault
				2) Low battery voltage
12	BRAKE OFF FAULT	3.4	Brake OFF fault	1) Short circuit of magnetic brake coil
				2) Open circuit of magnetic brake drive
13	HPD FAULT	3.5	HPD fault	1) Wrong operating order of accelerator, key switch, push or prohibit input
				2) Wrong adjustment of accelerator
14	CURRENTSENSE FAULT	4.1	Current-sense fault	1) Short circuit of motor or wire
				2) Controller fault
15	HARDWARE FAILSAFE	4.2	Overvoltage of motor	1) Motor voltage does not match accelerator input
				2) Short circuit of motor or wire
				3) Controller fault

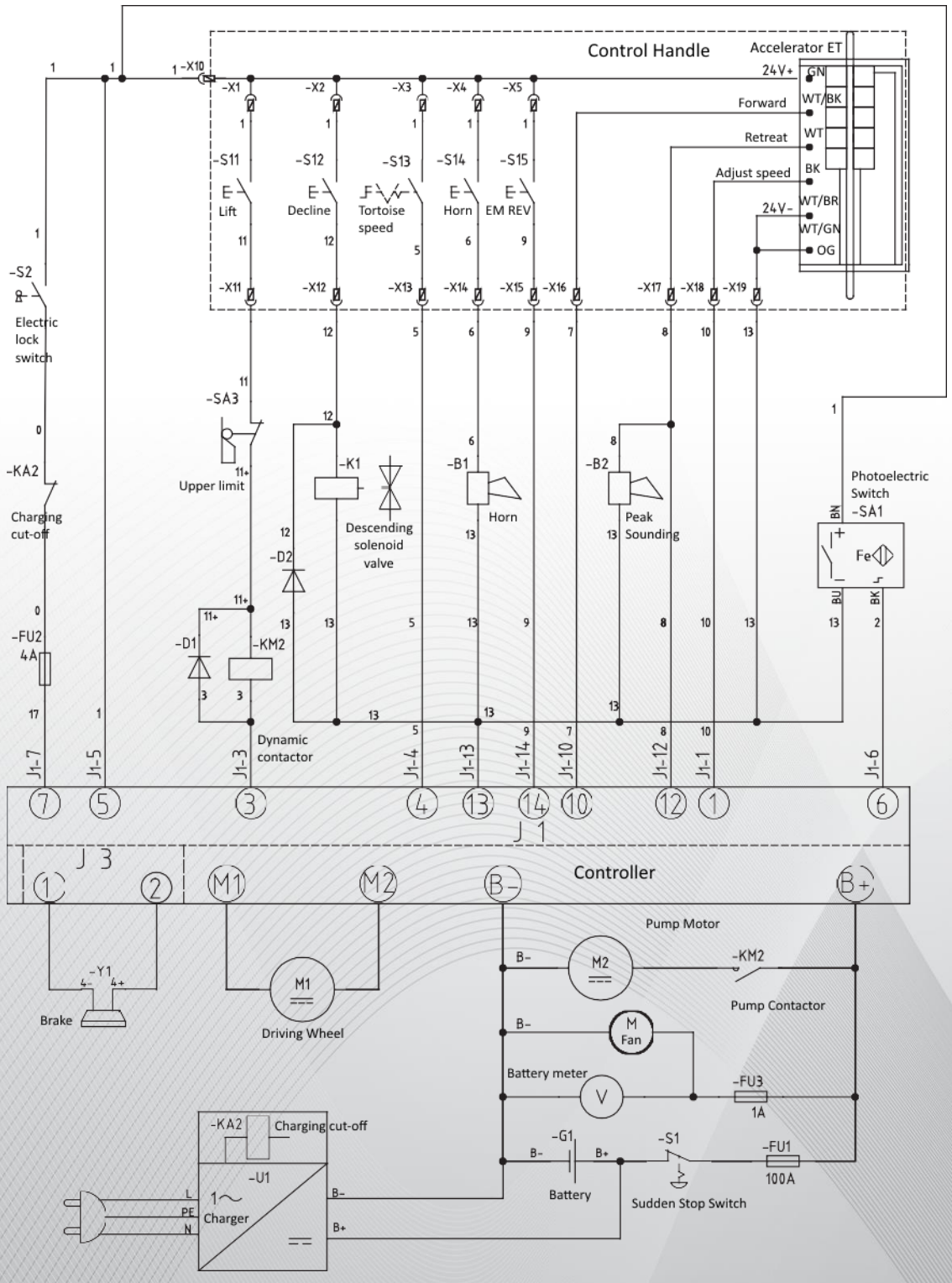
16	EEPROM CHECKSUM FAULT	4.3	EEPROM fault	1) EEPROM fault or invalid
17	BATTERY DISCONNECT FAULT	4.5	Battery disconnect	1) Battery disconnected
				2) Poor contact of battery
18	LOW BDI	5.5	Lower battery	1) Low battery, lifting locked

Remarks on LED (fault indicator T10) code:
Under normal circumstances and without fault, LED is stable. If the controller detects any fault, 2 digits fault code will flicker on LED. It will last until the fault has been fixed.

NOTICE: LED can only indicate one fault every time. If multiple faults are detected, the code with highest priority will flicker until it is fixed. For example, code '1.4' –under-voltage of battery:

10. Electrical Schematic Diagram

Diagram 10.1 Electrical Schematics



11. Detailed Machine Diagrams

Diagram 11.1 Exploded View

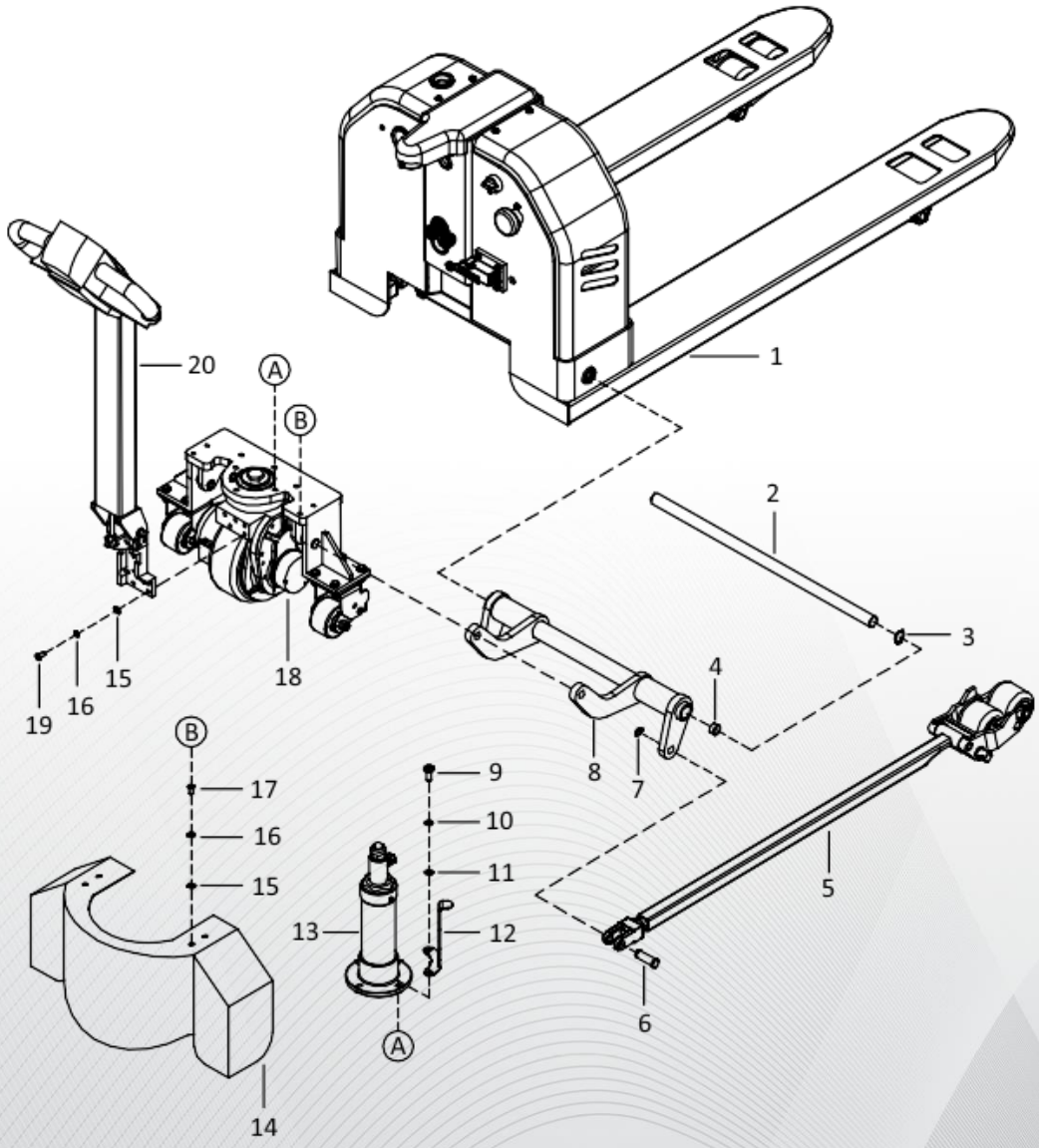


Table 11.1 Exploded View

#	NAME	QTY	REMARKS
1	Rack assembly	1	See Diagram 11.2
2	Crankshaft	1	685
2	Crankshaft	1	560
3	Hole retaining ring 25	2	
4	Composite bushing D29×d25×h25	2	
5	Push Rod front wheel assembly	2	See Diagram 11.4
6	Crank pin shaft	2	
7	Axis retaining ring 16	2	
8	Crankshaft assembly	1	685
8	Crankshaft assembly	1	560
9	Semi-circular head inner hexagonal screw M10×30	4	
10	Missile pad 10	4	
11	Flat pad 10	4	
12	Limit plate	1	
13	Cylinder assembly	1	See Diagram 11.5
14	Driving wheel housing	1	
15	Flat pad 8	9	
16	Missile pad 8	9	
17	Semi-circular head hexagonal screw M8×15	4	
18	Drive pedestal assembly	1	See Diagram 11.6
19	Semi-circular head hexagonal screw M8×20	5	
20	Handle assembly	1	See Diagram 11.8
Note: Figures A and B are the corresponding installation locations.			

Diagram 11.2 Rack Assembly

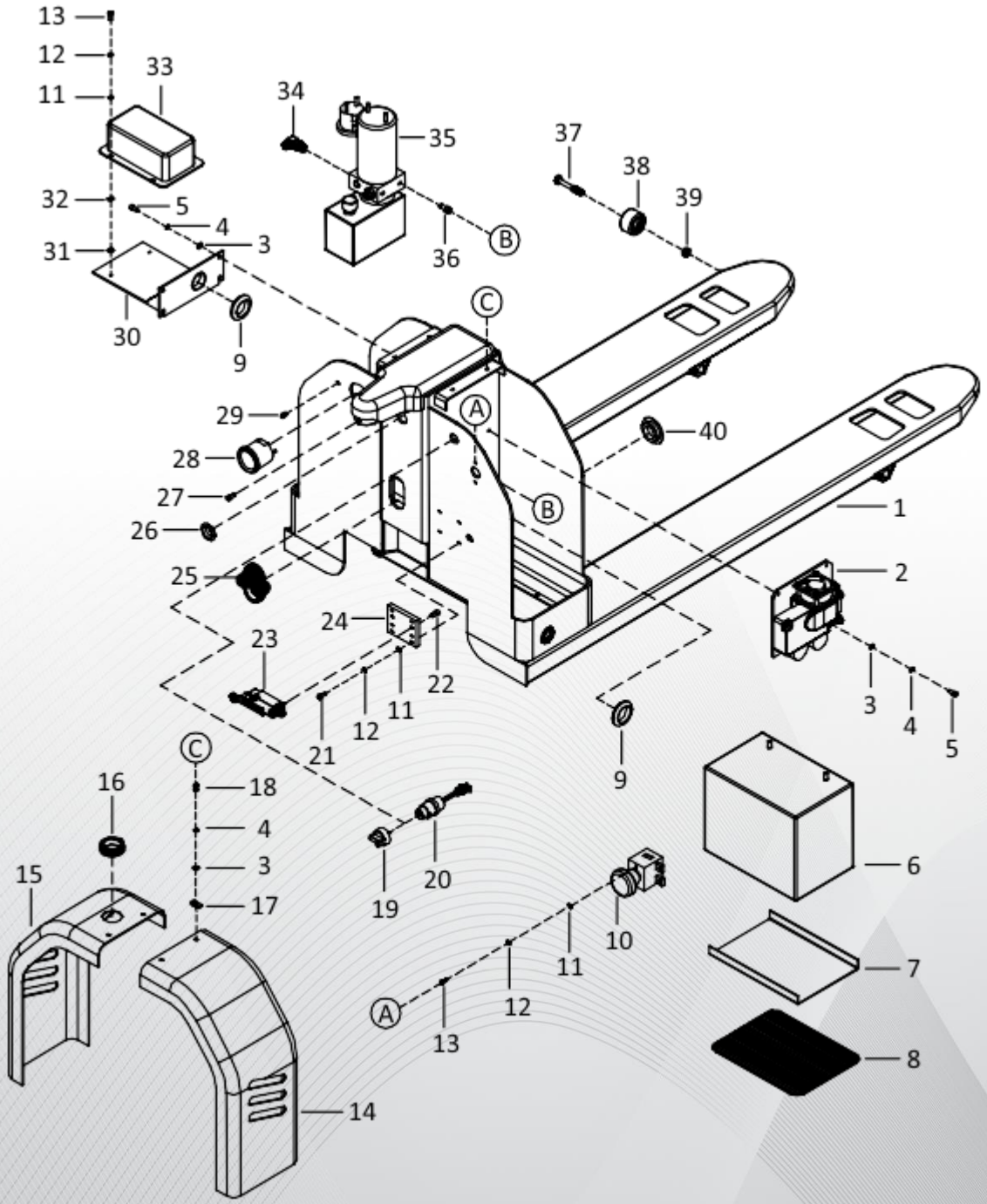


Table 11.2 Rack Assembly

#	NAME	QTY	REMARKS
1	Frame	1	685/1220
1	Frame	1	560/1150
2	Controller assembly	1	See Diagram 11.3
3	Flat pad 6	12	
4	Missile pad 6	12	
5	Cylindrical head hexagonal screw M6×15	8	
6	Battery 80Ah/12v	2	
7	Battery pad	2	
8	Rubber gasket	2	
9	Guard coil 40	2	
10	Mushroom switch 125A	1	
11	Flat pad 5	10	
12	Missile pad 5	10	
13	Semi-circular head cross screw M5×15	6	
14	Right box cover	1	
15	Left box cover	1	
16	Guard coil 42	1	
17	Plug nut M6	4	
18	Semi-circular head hexagonal screw M6×15	4	
19	Key	1	
20	Key switch seat	1	
21	Cylindrical head inner hexagonal screw M5×20	4	
22	Cylindrical head hexagonal screw M5×10	4	
23	Travel switch	1	
24	Travel Switch Installation Board	1	
25	Elliptical guard coil 40×83	1	
26	Guard coil 30	1	
27	Hexagonal screw M6×12 in cylindrical head	1	
28	Round Gauge 24V	1	
29	Charging indicator Led(7v)	1	
30	Fixed plate of built-in charger	1	
31	Insulation bushing 5	4	
32	Insulation gasket 5	4	
33	Built-in charger	1	
34	Tubing right angle joint	1	M14×1.5 / G 1/4
35	Power Unit Assembly	1	See Diagram 11.9
36	Cylindrical head inner hexagonal screw M8×15	2	
37	Hexagonal bolt M10×65	2	
38	Enter roller	2	
39	Self-locking nut M10	2	
40	Plastic cover of axle sleeve	1	

Diagram 11.3 Controller Assembly

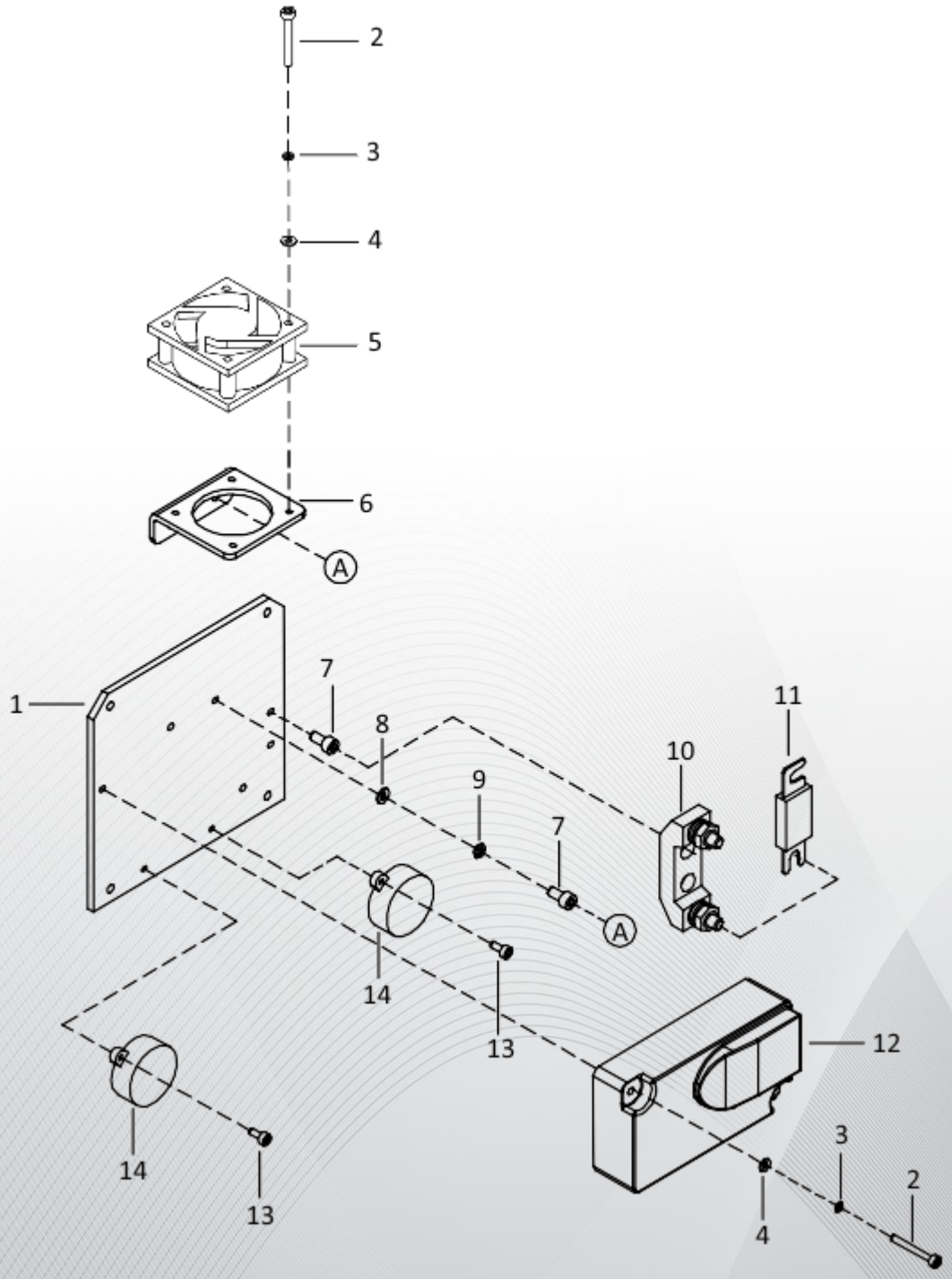


Table 11.3 Controller Assembly

#	NAME	QTY	REMARKS
1	Controller mounting board	1	
2	Cylindrical head inner hexagonal screw M4×30	6	
3	Missile pad 4	6	
4	Flat pad 4	6	
5	Cooling fan	1	DC24v /0.2A
6	Fan mounting plate	1	
7	Cylindrical head hexagonal screw M5×10	4	
8	Flat pad 5	2	
9	Missile pad 5	2	
10	Ceramic fuse holder	1	220v /800A
11	Fuse 100A	1	
12	CURTIS controller 1122P	1	
13	Cylindrical head inner hexagonal screw M4×10	2	
14	Buzzer	2	
Note: Figure A is the corresponding installation locations.			

Diagram 11.4 Push Rod Front Wheel Assembly

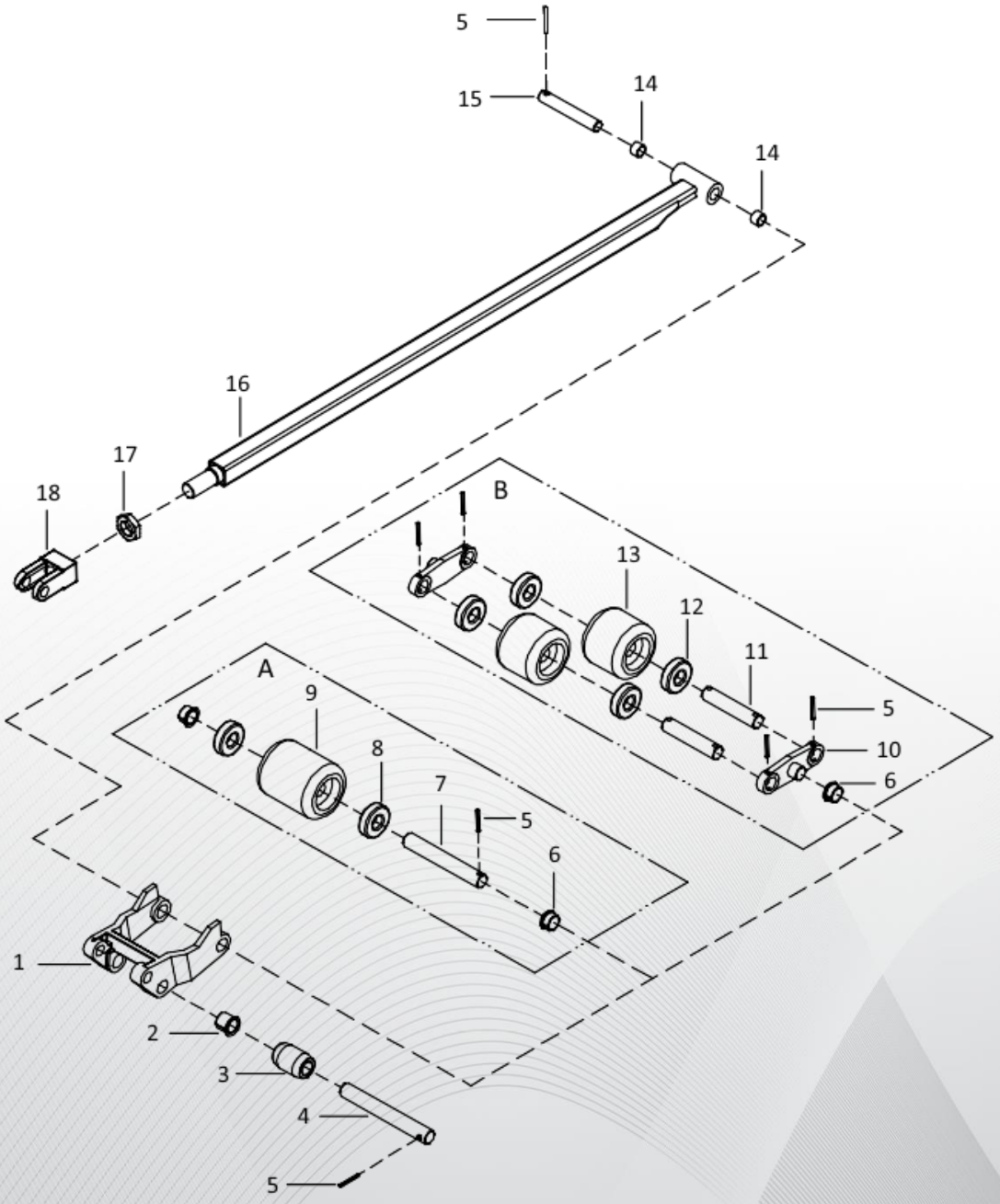


Table 11.4 Push Rod Front Wheel Assembly

#	NAME	QTY	REMARKS
1	Front wheel frame	1	
2	Flanging Composite Bushing 20×23×21.5	2	
3	Exit rollers	1	
4	Wheel shaft	1	
5	Elastic cylindrical pin 5×37	6	
6	Flanging Composite Bushing 20×23×11.5	2	
7	Single front axle	1	Single front wheel set
8	Bearing 6204	2	
9	85 Single Front Wheel 80×93	1	
9	75 Single Front Wheel 74×93	1	
10	Balance arm	2	
11	Double front axle	2	Double front wheel set
12	Bearing 6204	4	
13	85 Double Front Wheel 80×70	2	
13	75 Double Front Wheel 74×70	2	
14	Composite bushing 16×18×30	2	
15	Push rod shaft	1	
16	Push rod assembly	1	1150
16	Push rod assembly	1	1220
17	Thin Hexagon Nut M22×1.5	1	
18	Push rod fork	1	

Note: The double-dotted line area A in the figure is a single front wheel group; the area B is a double front wheel group.

Diagram 11.5 Cylinder Assembly

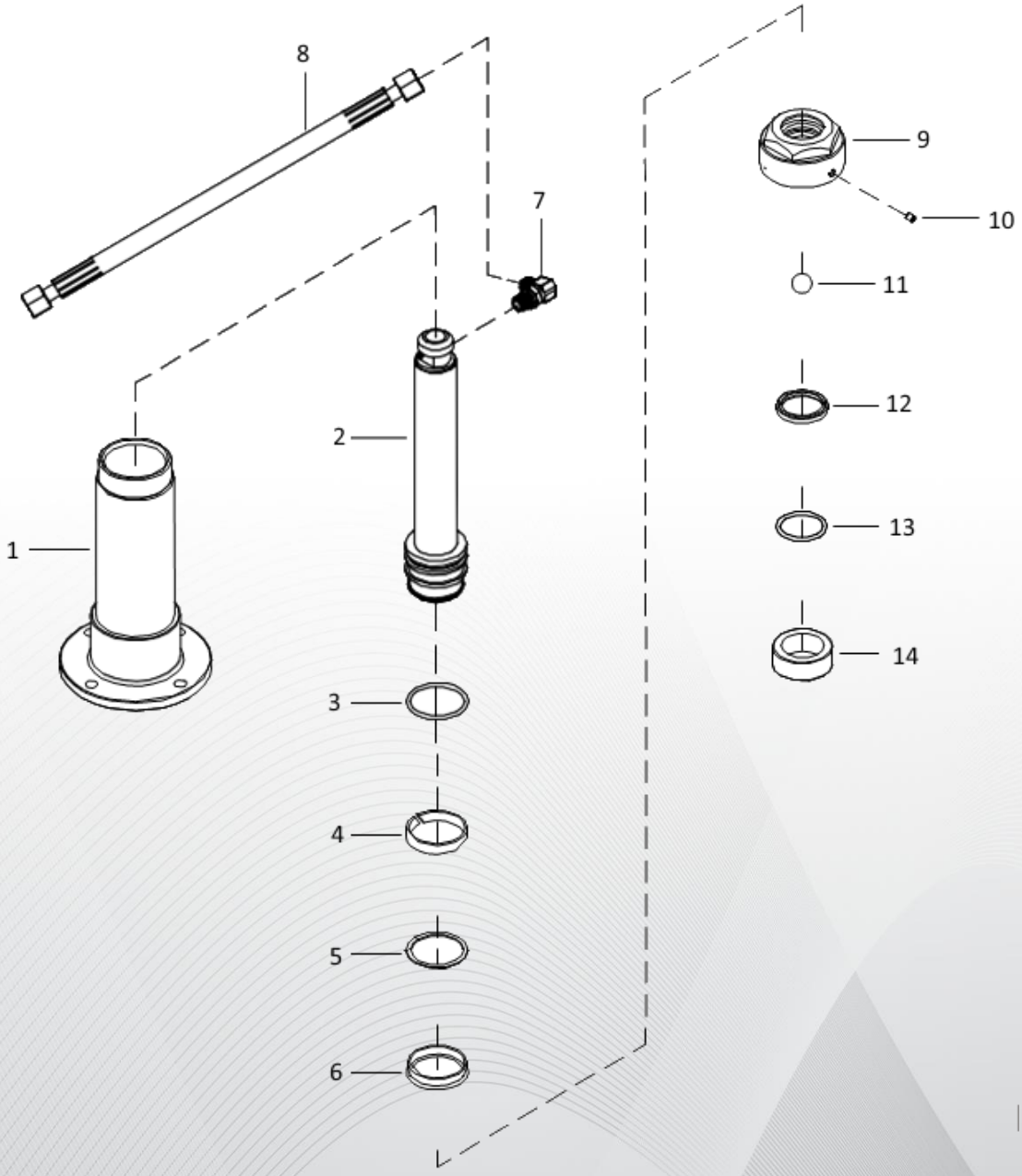


Table 11.5 Cylinder Assembly

#	NAME	QTY	REMARKS
1	Cylinder assembly	1	
2	Lift rod assembly	1	
3	O-ring d48.7×3.55	1	
4	Wear-resistant belt D55×d50×9.7	1	
5	Baffle ring D55×d47×1.5	1	
6	Y-ring for hole D55×d47×10	1	
7	Tubing right angle joint	1	M14×1.5 / M14×1.5
8	Tubing	1	
9	Cylinder nut	1	
10	Internal Hexagonal Cone End Fixing Screw M6×6	1	
11	Steel ball S 18	1	
12	Dust-proof ring D46×d38×5/6.5	1	
13	O-ring D38×3.55	1	
14	Cylinder top sleeve	1	

Diagram 11.6 Drive Pedestal Assembly

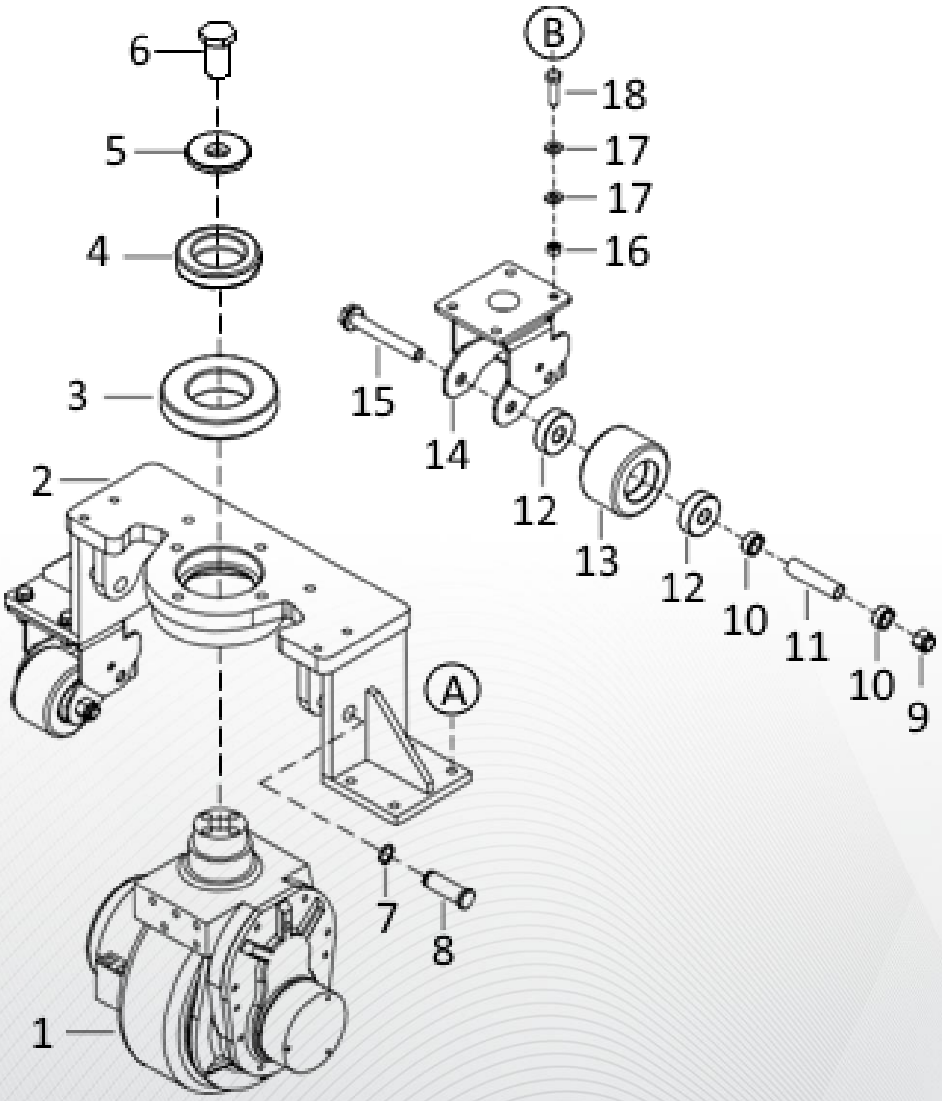


Table 11.6 Drive Wheel Assembly

#	NAME	QTY	REMARKS
1	Drive Wheel Assembly	1	See Diagram 11.7
2	Pedestal assembly	1	
3	Bearing 30212	1	
4	Bearing 6010	1	
5	Bolt pad	1	
6	Drive Wheel Connection Bolt M20×1.5	1	
7	Axis retaining ring 16	2	
8	Crank pin shaft	2	
9	Self-locking nut M12	2	
10	Balancing Wheel Separator	4	
11	Balancing wheel sleeve	2	
12	Bearing 6302	4	
13	Balancing wheel 75×46	2	
14	Balancing Wheel Frame Component	2	
15	Hexagonal Flange Bolt M12×90	2	
16	Self-locking nut M8	8	
17	Flat pad 8	16	
18	Hexagonal bolt M8×30	8	
Note: Figure A is the corresponding installation location.			

Diagram 11.7 Drive Wheel Assembly

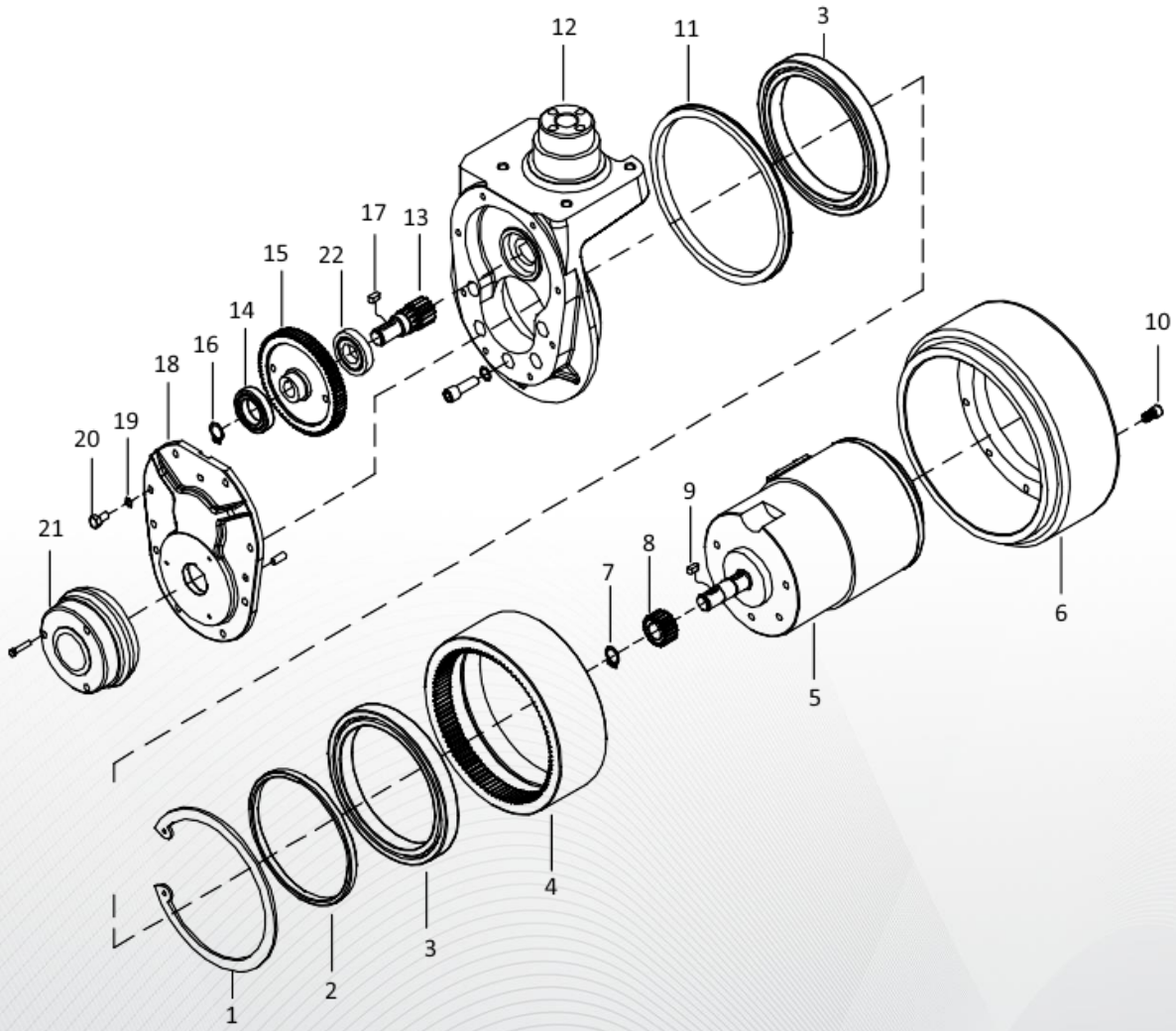


Table 11.7 Drive Wheel Assembly

#	NAME	QTY	REMARKS
1	Hole retaining ring 150	1	
2	Spacer	1	
3	Bearing 61824-2RS	2	
4	Straight gear ring	1	
5	Electric machinery	1	
6	Driving wheel	1	
7	Axis retaining ring 15	2	
8	Small helical teeth	1	
9	Flat bond 5 x 5 x 12	2	
10	Cylindrical head inner hexagonal screw M6×25	8	
11	Skeleton Oil Seal 16×30×8	1	
12	Box body	1	
13	Small straight teeth	1	
14	Bearing 61905-2Z	1	
15	Large helical teeth	1	
16	Axis retaining ring 16	1	
17	Flat bond 5×5×18	1	
18	Case cover	1	
19	Missile pad 6	8	
20	Cylindrical head hexagonal screw M6×16	8	
21	Brake assembly	1	
22	Bearing 16004-2Z	1	

Diagram 11.8 Handle Assembly

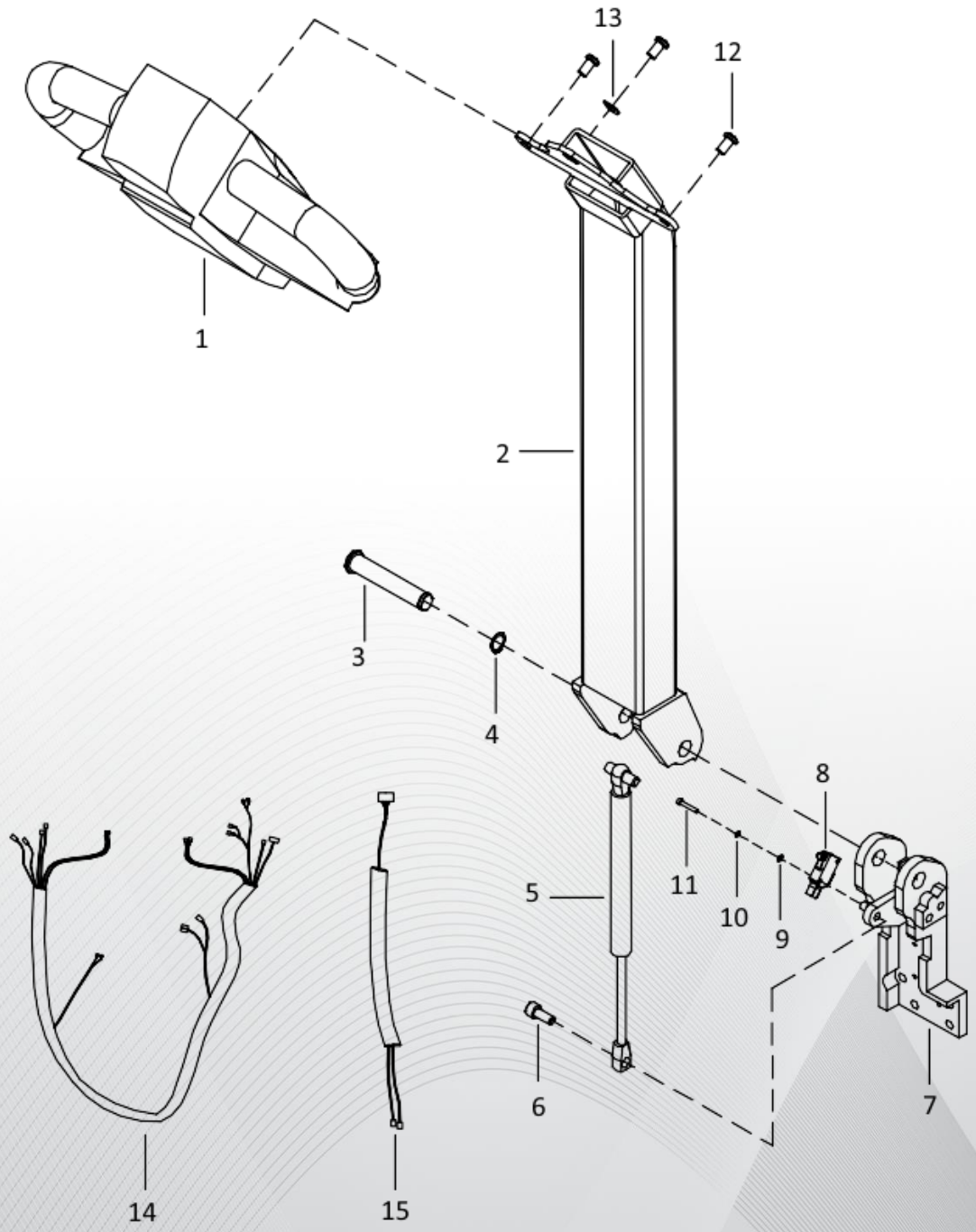


Table 11.8 Handle Assembly

#	NAME	QTY	REMARKS
1	Control Handle Assembly	1	See Diagram 11.10
2	Handle square tube assembly	1	
3	Handle pin	1	
4	Axis retaining ring 16	1	
5	Air spring 8×290	1	650N
6	Semi-circular head hexagonal screw M8×20	1	
7	Handle steering seat assembly	1	
8	Micro-switch V15T16	1	
9	Flat pad 3	2	
10	Missile pad 3	2	
11	Cylindrical Hexagonal Screw M3×20	2	
12	Semi-circular head hexagonal screw M8×15	3	
13	Large washer 8	1	
14	Harness assembly	1	
15	Handle control wiring harness	1	

Diagram 11.9 Power Unit Assembly

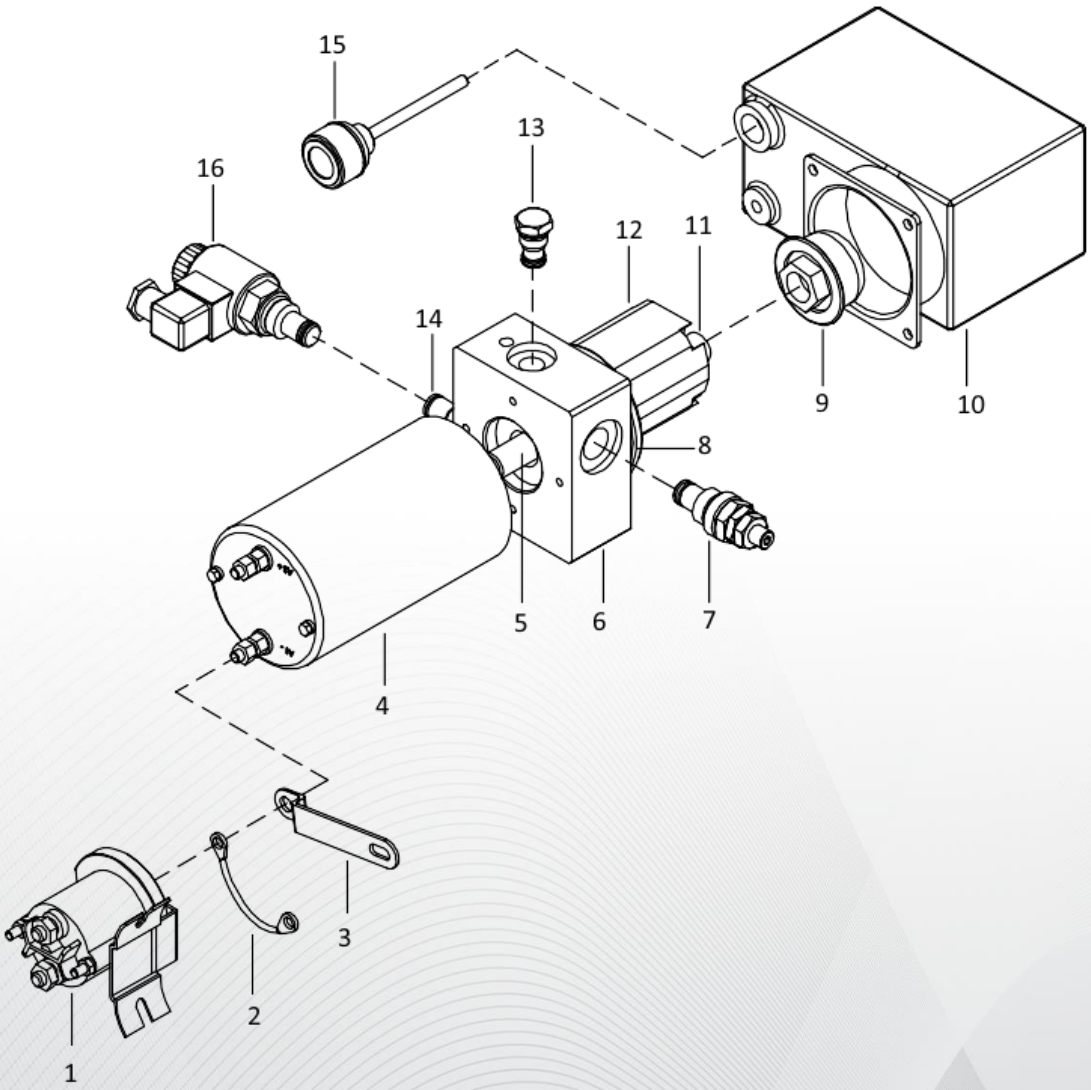


Table 11.9 Power Unit Assembly

#	NAME	QTY	REMARKS
1	Starting switch	1	
2	Connecting line	1	
3	Copper connecting piece	1	
4	Electric machinery	1	DC24V / 0.8KW
5	Coupling	1	
6	Valve block	1	
7	Relief valve	1	
8	Seal ring	1	
9	Filter screen	1	
10	tank	1	
11	Joint	1	
12	Gear pump	1	
13	Check valve	1	
14	Flow control valve	1	
15	Oil dipstick	1	
16	Solenoid valve	1	

Diagram 11.10 Control Handle Assembly

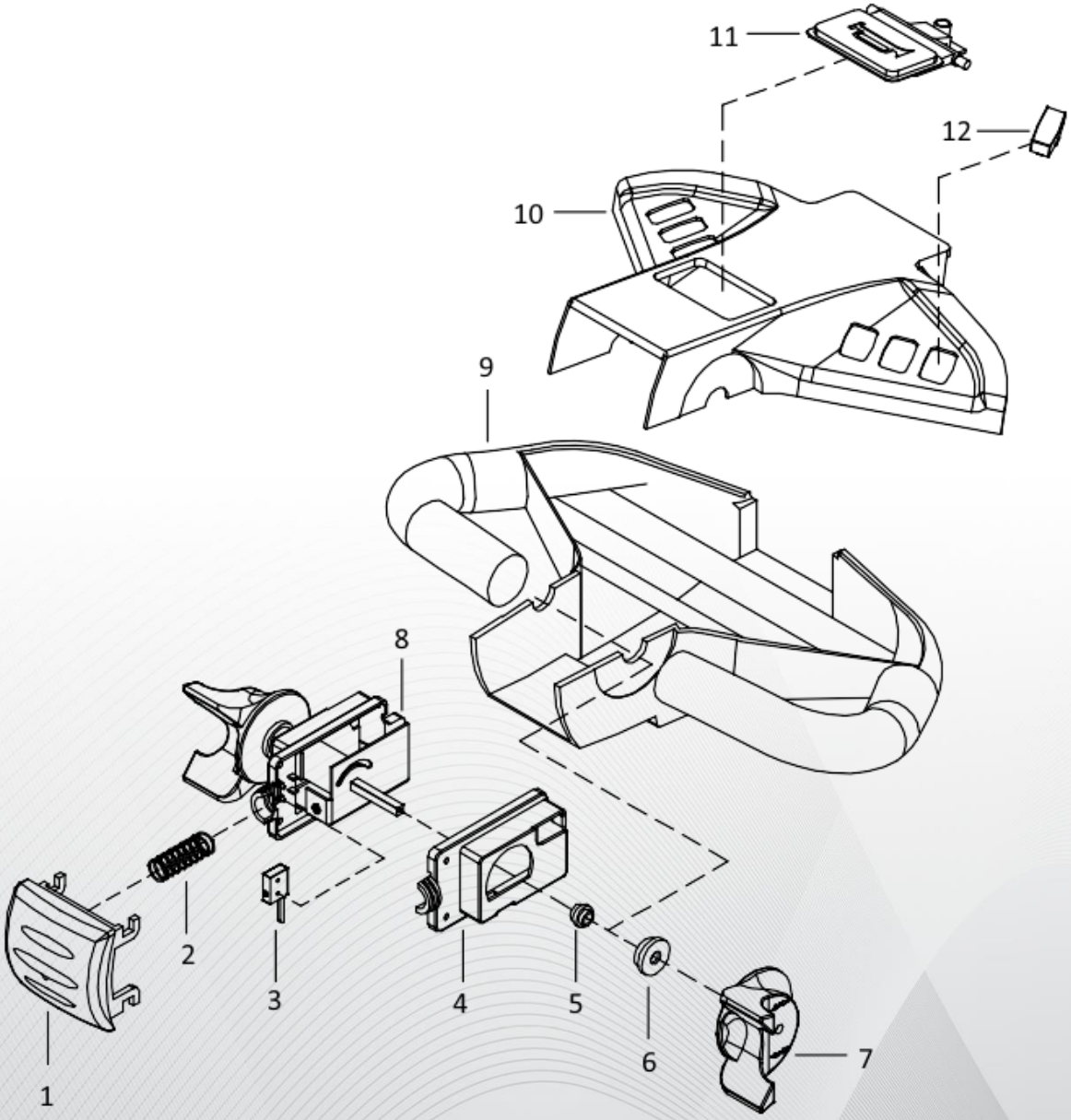


Table 11.10 Control Handle Assembly

#	NAME	QTY	REMARKS
1	Emergency reverse switch	1	
2	Reverse switch spring	1	
3	The micro switch	6	
4	Support shell	1 set	
5	Axle sleeve	2	
6	Shaft sleeve	2	
7	Accelerator knob	2	
8	Accelerator	1	ET-126MCU
9	Handle base	1	
10	Handle upper cover	1	
11	Horn switch	1	
12	Control switch	3	

Conclusion

We hope you enjoy using your STURGO® Compact Electric Pallet Jack and look forward to assisting you further with your materials handling requirements.

Please contact us for any questions or difficulties you have.

Call: 1300 305 314

Email: sales@backsafeaustralia.com.au

Live Chat: backsafeaustralia.com.au