

# OPERATING & MAINTENANCE MANUAL

## SwingLift

### KJ, ML, F500, FV500, CC, MC, GBC



## Welcome

Thank you for purchasing a Penny Hydraulics crane. This is a unique design that is built in our factory to your specification. Each crane is tailor-made, and we trust that it meets with your approval and provides you with a safe, efficient and trouble-free means of moving goods for many years.

This manual explains what you need to know about the crane's operation together with some useful guidance on safety and general care. It also explains the servicing requirements and the availability of a service agreement should you wish to take advantage of it. We have our own engineers around the country lead by our Central Service Department to give an exceptional after-sales service.

The crane will normally be vehicle mounted and operated by hold to run controls with all functions being protected by inbuilt overload features and powered by the vehicle's battery.

We strongly recommend that an operator of any crane is trained in its use and has read all the details set out in this booklet.

## Accessories

We provide a range of lifting accessories and we can make bespoke items to suit your exact requirements. Replacement parts if required can be purchased direct from our website – **Always confirm model and serial number when ordering spare parts.**

<https://shop.pennyhydraulics.com>

## Service

Our service contract will ensure continued, safe, reliable use of the equipment and full compliance with current legislation. We provide a combined maintenance and statutory inspection regime which saves time and money. With our team of service engineers across the UK we have vans well stocked with spares enabling most visits to be a first-time fix reducing downtime to a minimum. We understand that safe and reliable equipment is essential to your business.

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**Penny Hydraulics Ltd**

**Operating & Maintenance Manual – VME - SwingLift Cranes KJ, ML, F500, FV500, CC, MC & GBC**

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Read the Manual



Refer to the Manual



Caution



## Safety Warning



**Do not exceed the Maximum Working Load**

Your Penny Hydraulics lifting equipment is clearly marked with the MWL (Maximum Working Load).



**Do not drag or tow**

To avoid damage to the SwingLift and mounting points, it must be used only for lifting.



**Do not expose the red section of rope**

This section is marked to alert the user that they are approaching the full extent of the rope and should not proceed further.



**Do not wrap the rope around the load**

This will cause excessive chafing and splintering of the rope. Appropriate lifting accessories should be used instead.



**Rope must not spool from top of winch**

If your wire rope is spooling from the top of your winch, the rope is wound incorrectly on the drum. The SwingLift **must not** be used until this is rectified.



**Do not leave a load suspended**

Never leave a load suspended or unattended.



**Always use the rope hook to stow the crane**

The rope hook is one of several methods used to secure the crane for transit.



**If supplied, always use the stabiliser leg**

Not every Penny Hydraulics SwingLift is supplied with a support leg but when this is supplied, it **must** be used.



**Always stow the crane before driving**

To avoid damage to the SwingLift, vehicle and surroundings, the crane **must** be stowed correctly before driving.

**WARNING**



**In the interest of safety, all personnel involved in the lifting operation must read the operation manual and comply with the following;**

## Safety Warning

- In the interest of safety, all personnel involved in the operation of the crane must read and understand this manual. The personnel must be trained and competent in the safe use of the crane. A training register is included at the back of this manual.
- The crane must not be used for man-riding.
- Do not use the crane if not supported with valid documentation recording a thorough examination and certificate of test, carried out by a competent person within the last 12 months.
- The crane should be inspected every six months and serviced annually by a competent person. See “Maintenance” in this manual for full statutory responsibilities.
- The crane should not be overloaded. Refer to the safe working load signs attached to the equipment.
- Do not interfere with the factory settings.
- Do not modify or re-install the crane without seeking guidance from Penny Hydraulics Ltd. Only use correct and certified lifting accessories. Any lifting or securing attachments must be formally certified by thorough examination every 6 months.
- Only use genuine parts and accessories.
- During the operation of the crane, access to the area should be restricted to those personnel essential to the operation only.
- Do not leave any load suspended between lifting/lowering operations.
- All safety notes must be read and adhered to at all times.
- Keep the crane properly maintained by a competent person. See the “Maintenance” section in this manual.
- Do not allow any person beneath a suspended or moving load.
- Isolate, immobilize and lock off the equipment before commencing any maintenance routine. Please note that any control panel may remain live, even when the motor is not running.
- Never interfere with the unit. It should run smoothly at all times. If in doubt call the helpline telephone number 01246 811475.

**WARNING**







**In the interest of safety, all personnel involved in the lifting operation must read the operation manual and comply with the following;**





## Method of Operation

**Warning, read all safety warnings and instructions carefully. Failure to do so may result in serious injury or death.**

**Standard operation is via a single hold to run control station. Ensure the person in control of the crane is in a safe position and no one should pass them while in operation. The operation can be stopped at any time by releasing the hold to run control.**

1. Before operation, clear the operating area of any unnecessary obstructions. Ensure that all operating instructions are read and understood. 
2. Check and ensure that the necessary documentation for the crane and lifting attachments are valid and up to date. Ensure that the report of thorough examination does not exceed 12 months for the crane and 6 months for the associated lifting accessories.
3. Ensure the vehicle is on firm and level ground with the handbrake applied and wheel chocks deployed where necessary. 
4. Before operating check for potential hazards such as: overhead electric wires, nearby structures, public roads or paths, railways or rivers. Also pay attention to any underground services, e.g. gas, electric, drainage. 
5. Wear any PPE equipment required or stipulated by your employer or the risk assessment. 
6. Extend the support legs (if required) and adjust to ground level using a suitable spreader pad if necessary.
7. Check the power connector from the vehicle is firmly in place. Plug in the pendant control to the control box if button operated.
8. Check for any visual signs of defects or malfunction.

The Crane is now ready for use.

9. Using the hold to run controls, lower the rope and release the hook from the retaining eye. Release any other stowage catches and deploy the crane.
10. Attach the load to the hook using suitable certified attachments only. 
11. Carefully manoeuvre the load into position remaining alert at all times.
12. Keep clear of the suspended load as much as practically possible, but do not leave the load suspended or attached unattended. 
13. Do not drive the vehicle with a suspended load or drive with the support legs in the down position. 
14. On completion of the operation ensure the crane is folded into the travelling position with the rope attached to the retaining eye and all the locking devices firmly secured. 
15. Ensure the support leg(s) is withdrawn and secured and detach any controls and store securely.

## Fault Finding

FAULT	CAUSE(S)	REMEDY
No response when operating controls for the crane.	A. No power from battery. B. Faulty earth connection. C. Faulty or low vehicle battery.	A. Check supply fuse and replace if necessary. Check all cable connections are safe and sound. B. Check, clean and secure all earth points. C. Re-charge or replace vehicle battery.
Crane will not lift but will lower.	A. Crane overload. B. Rope bunched on pulley or winch. C. Broken brake spring. D. Faulty solenoid.	A. Remove excessive load. B. Ensure that the rope is free to travel. C. Call service engineer. D. Call service engineer.
Crane will not slew freely.	A. Bearings seized. B. Slew lock in place.	A. Call service engineer to loosen clean and lubricate bearings. B. Undo slew lock.



## Maintenance

**WARNING**



**In the interest of safety, all personnel involved in the lifting operation must read the operation manual and comply with the following;**

**It is the employer's legal responsibility to ensure the lift is maintained in accordance with the manufacturer's specification.**

Your Swing lift vehicle mounted crane is subject to the LIFTING OPERATIONS AND LIFTING EQUIPMENT (LOLER) Regulations 1998. These are statutory requirements and need to be recorded on a formal document governing the safe working condition of the crane, attachments and mounting structure.

Penny Hydraulics Ltd. Support team offers a service package to meet customer requirements and conform to LOLER. Please see the Service Contract enclosed.

The following Planned Maintenance schedule is to ensure the continued safe working order of the crane and includes a thorough examination by a competent person as required by LOLER. LOLER also requires that a thorough examination is carried out following any exceptional circumstances that may affect the safety of the equipment.

Any defects found whilst carrying out the thorough examination must be reported and recorded, and if necessary, the equipment taken out of operation until appropriate action is undertaken. In certain circumstances it may be necessary to report the unsafe condition to the enforcing authorities.

The planned maintenance schedule may require the use of parts and consumables. A list of recommended spares and lubricants is attached.

## Planned Maintenance Schedule

**WARNING**



**In the interest of safety, all personnel involved in the lifting operation must read the operation manual and comply with the following;**

**Before any work is undertaken, ensure the site supervisor is informed and that all local safety precautions are observed and adhered to. Pay attention to site specific safety and PPE requirements.**

**Unless dynamic checks, tests or setting up procedures are being carried out, always isolate the machine from the power supply. An assistant is recommended to be on call if required, when carrying out dynamic tests.**

**Ensure the working area is clean, ensure the work area is cordoned off, paying particular attention to the slew areas required for dynamic testing.**

**On receipt of a new crane and before it is put into service, check that there is no transit damage or evidence of mishandling. Install and carry out a commissioning test.**

### **Levels of Maintenance.**

Always Before Use.

- Check visually for signs of external damage.
- Check all guards are securely in place.
- Check for loose or missing nuts, bolts and fasteners.
- Check the hoist rope for kinks, broken strands or corrosion.
- Check the lifting hook and connection to the rope.
- Check for damage to electrical cables and connectors.
- Check all safety notices and MWL stickers are in place.

6 Monthly.

- Carry out checks as above.
- Thoroughly examine the support structure and sub frames for soundness and signs of deflection.
- Thoroughly inspect all welds.

- Thoroughly check the security of all fixings on the main body and sub frames.
- Thoroughly examine all pivot points for excessive play. Remove the pivot pins and thoroughly inspect the condition of the pins and bushes and replace where necessary.
- Thoroughly examine all electrical components, cables and connectors.

#### 12 Monthly.

- Check all as for before use and 6 Monthly.
- Carry out a full load test as set out in the Load test procedure.
- Carry out a statutory examination as required by LOLER.

### Load Test Procedure

**WARNING**



**In the interest of safety, all personnel involved in the lifting operation must read the operation manual and comply with the following;**

- 1) Prepare the vehicle in a safe working area, with the support leg firmly set if necessary. Cordon off the area with appropriate barriers and work in progress signs.
- 2) Prepare the required test weight equal to the maximum permissible load for the crane.
- 3) Deploy the crane.
- 4) Without load, manoeuvre the crane through all extents to ensure the correct operation.
- 5) Lower the rope and attach the hook to test the weight.
- 6) Raise the load clear of the ground.
- 7) Check for signs of excessive flexing, structural deformation, paint flaking and excessive play in the joints.
- 8) Rotate the crane through its maximum swing and repeat the checks in #7 above.
- 9) Remove the weight and stow the crane and any legs.

On completion of the test, restore the vehicle to its normal driving position, restore the working area and complete the documentation.

## Commissioning

A commissioning test involves a 25% (50% if manual) static overload test and, as elements of the crane's safety features may have to be overridden, it must only be carried out by a trained and competent person.

It is a legal requirement that a commissioning test must be carried out:

- Before being put into use for the first time.
- If the crane is fitted to a new or modified structure.
- After any modifications have been carried out to the crane or support structure.
- Following any incident which may have caused damage to the crane or its supporting structure.

The Association of Lorry Loaders, Manufacturers and Importers, (ALLMI), also recommend that on commissioning a 10% dynamic over-load test is conducted by a trained and competent person through full slewing arc.

In severe or extreme conditions, it is recommended that commissioning is incorporated into the annual load test of the crane and its supporting structure.

Please contact Penny Hydraulics Ltd. for further information.

## Thorough Examination

The Lifting Operations and Lifting Equipment Regulations (LOLER) replaced the legal requirement for the four yearly Overload Test with the annual Thorough Examination and Inspection, and made it the responsibility of the Competent Person to determine if and when an Overload Test should be carried out, on the grounds that “the design of certain lifting equipment is such that damage may be caused by conventional Overload Tests”. Loader cranes do not fall into this category, as witnessed by the fact that BS7121 Part 2 has an entire section devoted to the testing of loader cranes. Load Testing is a requirement of ALLMI and BS7121 Parts 2 and 4.

Inspection of the lorry loader by a competent person to determine if it is safe for continued use until the next thorough examination is due. Thorough Examinations should be conducted at least every 12 months. A thorough examination will also be required:

- If the lorry loader is involved in an accident or dangerous occurrence.
- After a significant change in conditions of use.
- After long periods out of use.
- At shorter intervals as determined by the Competent Person.

**Please note that in addition to the above, lifting equipment for lifting persons or an accessory for lifting, must be thoroughly examined at least every six months.**

### BS7121 Part 2

Occasion	Minimum test and thorough examination
Before being first taken into service	Full test including 25% overload
Annually after being first put into service	Proof load test of rated capacity +10% at full radius and through the full slewing arc, and a Thorough Examination
4 years after first being put into service	Full test including 25% overload
8 years after first being put into service	Non-destructive test of structure
After each structural repair or component change	Full test including 25% overload
When chassis is changed	Full test including 25% overload
Is removed and refitted	Full test including 25% overload

## Lorry Loader Servicing

Penny Hydraulics Limited manufactures a range of Swinglift Cranes, Taillift, Steplift, Loadlift and Tyre Press products, which are supported by a fleet of dedicated service vans fully stocked with original equipment spares and manned by trained engineers.

Current legislation requires that each item of lifting equipment must be thoroughly examined at least once in every period of twelve months by a competent person. Additionally, the lifting equipment must be inspected at suitable intervals between thorough examinations. Our service contract will ensure continued safe, reliable use of the equipment and full compliance with current legislation.

The operator is required to carry out regular inspections and report any faults found.

The standard contract provides for an annual service and an interim six-monthly inspection or for total piece of mind we offer a Fully Comprehensive option. In all cases a test certificate will be issued with a copy being left on site and a further copy sent together with our invoice. We will also keep a copy for our records that can be forwarded to enforcing authorities on your behalf as necessary.

Our database of all equipment ensures that statutory inspections are kept up to date and can help customers with many items of equipment to predict forthcoming servicing budgets.

A Help Line telephone number is provided with each service contract for the operators to seek assistance directly from our Service Department. There is no call out or labour charge for help required in-between scheduled visits and any parts used will be charged on the next invoice.

Should this be of interest then in the first instance please contact the Service Department on 01246 810403.

## Penny Hydraulics Limited Warranty Policy

This policy is intended to provide our customers with the best possible support to ensure trouble free use of their new Penny Hydraulics lifting equipment. Products sold by the company are guaranteed to be free from defective material and workmanship for the period of one year from the date of invoice or from the date of the commissioning certificate.

This warranty applies only under the following conditions:

- The unit or part must not have been subject to neglect or abuse or operated under abnormal conditions or in an unapproved application.
- The responsibility of the company is restricted to what is, in their judgement an adequate repair or replacement of the company's product.
- An authorised engineer must carry out a six-monthly inspection.
- The warranty is void if examination reveals that the unit or part has been repaired or adjusted other than by an authorised engineer.
- Normal service repairs carried out by authorised engineers are supported by their own warranty.
- Warranty does not extend to consumable items requiring replacement due to normal wear and tear.

### **UK Mainland**

We will normally have one of our own engineers based around the country visit the site to rectify the problem. This policy may be varied at our discretion but it is our aim to give the best possible response to minimise the product's downtime and inconvenience to the end user.

### **Other Locations**

Warranty is limited to a parts only service but in certain areas we have service partners who may be able to assist. Any defective item should be returned to Penny Hydraulics Ltd for inspection and any valid warranty claim will include reasonable carriage costs both ways. A replacement part will then be sent to the customer.

No variation of the warranty as stated in the company's standard terms and conditions of sale is authorised unless agreed in writing by a Director of the company. This is the only warranty given and the company accepts no other responsibility.

## Service Contract

Date .....  
Crane Serial Number .....  
Vehicle Registration .....  
Vehicle Make/Model .....

Crane Location .....
Post Code .....
Contact .....
Telephone .....
Email .....

Invoice Address .....
Post Code .....
Contact .....
Telephone .....
Email .....

Penny Hydraulics Ltd agrees to carry out one annual service and one interim inspection on the crane in any 12-month period. A test certificate will be left on site and a copy sent with invoice.

In the event of a problem arising in-between scheduled visits, the customer should telephone the HELPLINE on 01246 811475 as soon as possible so that the appropriate action can be taken by us. There will be no charge for the call-out or for labour unless the problem is due to abuse or misuse. Parts may be added to the next invoice due.

The customer will be invoiced following each visit and by signing this document agrees to make full payment within 30 days of the invoice date in accordance with the agreed scale of charges, which may vary from time to time.

Signed ..... Print Name .....

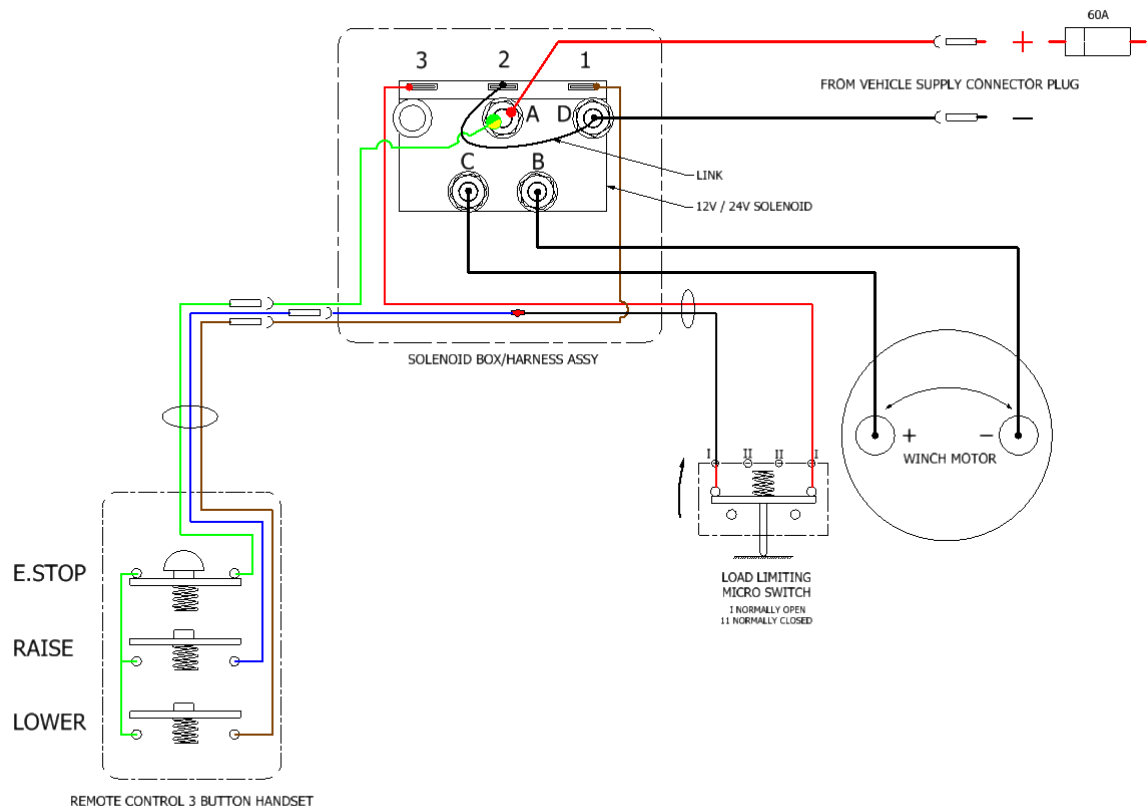
Position ..... Order Number .....

**More details are available online. Please fax, post or email this form to the office below.**

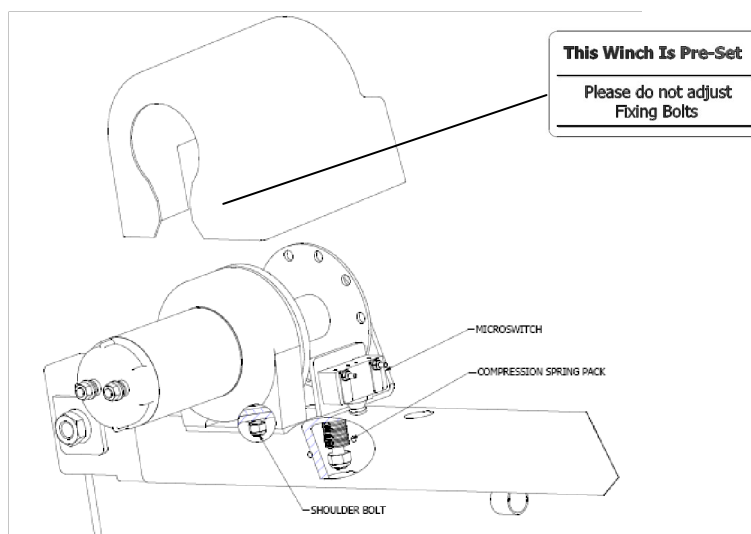
Penny Hydraulics Ltd  
Tel 0044 (0) 1246 811475  
Fax 0044 (0) 1246 810403  
Email – [sales@pennyhydraulics.com](mailto:sales@pennyhydraulics.com)  
Web – [www.pennyhydraulics.com](http://www.pennyhydraulics.com)



## Typical Wiring Layout



## Overload Setting



## EC Declaration of Conformity

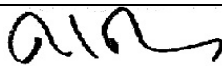
This declaration relates exclusively to the machinery in the state in which it was supplied, and excludes components, which are added, and/or operations carried out subsequently by the final user.

Penny Hydraulics Limited hereby declare that the products listed below:

Models
SwingLift KJ, ML, F500, FV500, CC, MCC & GBC
Serial Number(s)
050 000 to 999 999

Conforms to the essential requirements of 2006/42/EC machinery directive of the European community.

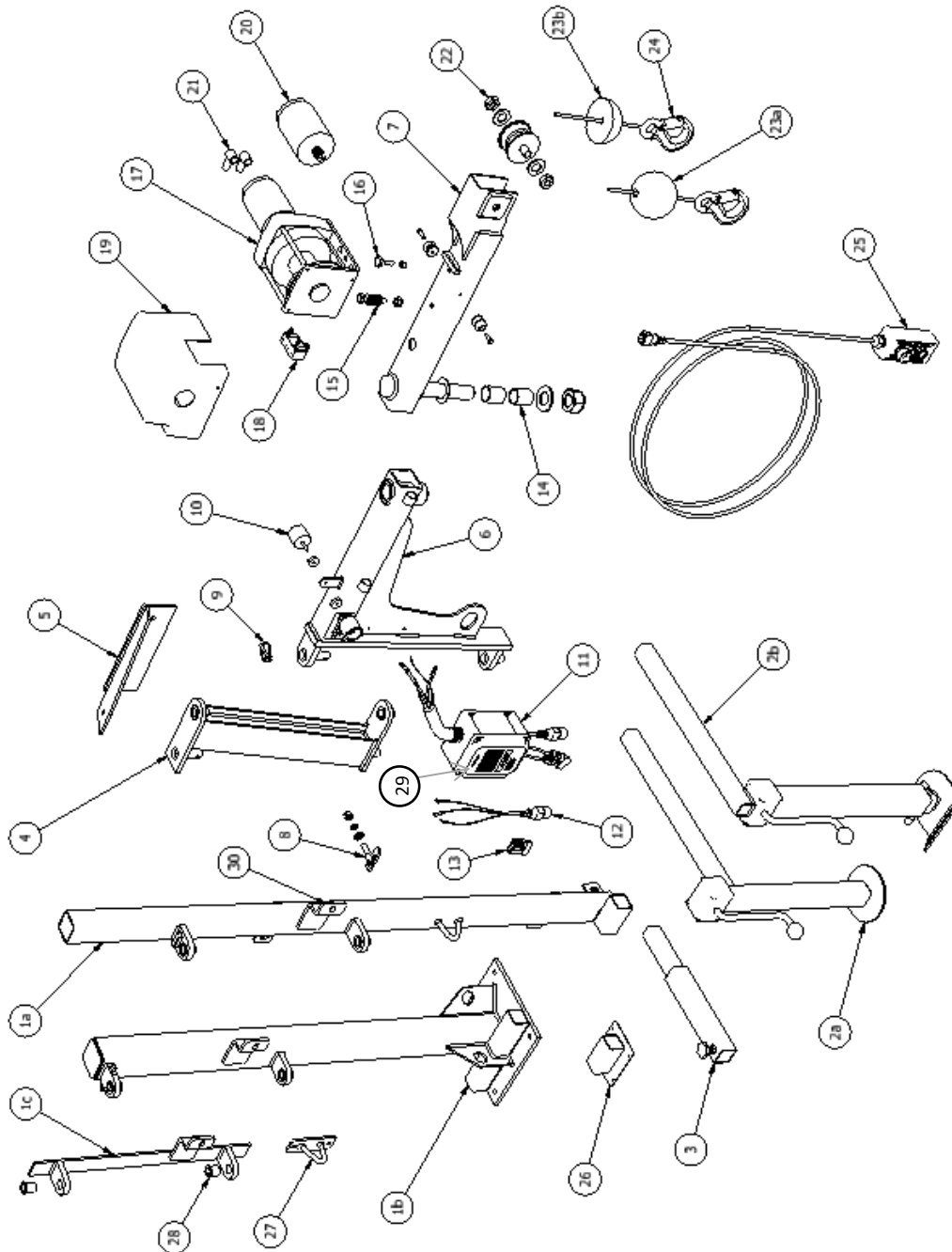
Applied Harmonised Standards
EN 12100:2010 Safety of Machinery – General Principles for Design BS 7121 Parts 1,2 and 4. BS EN 982 Safety of Machinery EN 50081-1: 1997; Electromagnetic Compatibility, General Standard Radiated RF Emissions Class B (30MHz-300MHz) BS 2573 Rules for design
Other Technical standards and specifications
DIN 15018 Steel Structures - Cranes Supply of Machinery Safety Regulations 2008 Electrical Equipment (Safety) Regulations 1994 European Council EMC Directive 89/336/EEC The Lifting Operations and Lifting Equipment Regulations 1998 The Provision and Use of Work Equipment Regulation 1998
<i>Penny Hydraulics Limited, Station Road Industrial Estate, Station Road, Clowne, S434AB</i>

<b>Place</b>	Penny Hydraulics Limited	<b>Signature</b>	
<b>Date</b>	15/3/2019	<b>Full Name</b>	Robin Penny
<b>Position</b>	Managing Director		

## SwingLift Knuckle Joint Range



### KJ250/1 – Exploded View

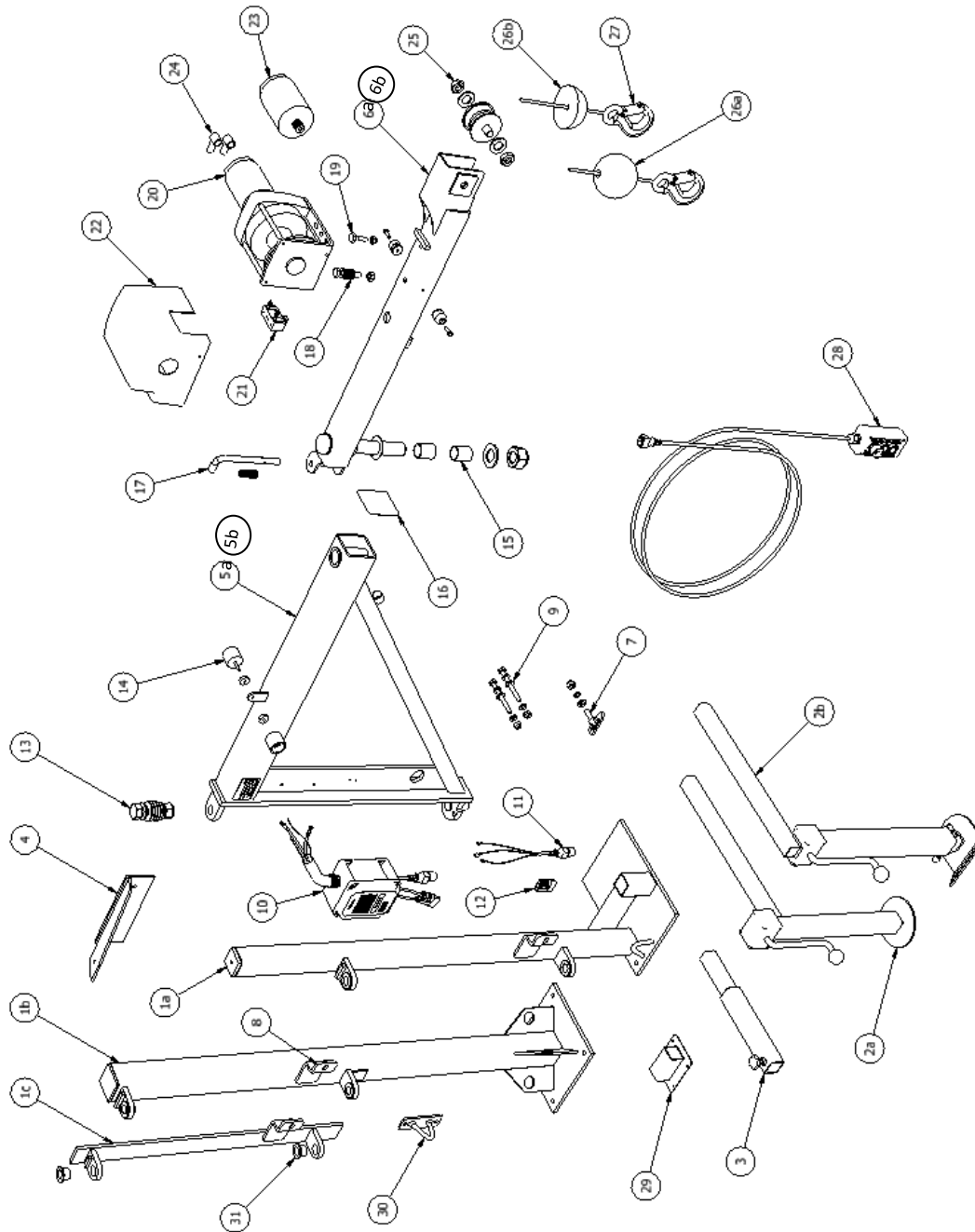


**KJ250/1 – Parts List**

ITEM	PART NUMBER	DESCRIPTION	QTY	
1	a	Subject to Specification	Van Pillar - Assembly	1
	b	Subject to Specification	Combi Pillar for Pick-up- Assembly	1
	c	Subject to Specification	Corner Bracket for Headboard Mounting	1
2	a	190-000006	Support Leg Van type- Assembly	1
	b	190-000015	Support Leg Pick-up type- Assembly	1
3		503-000078	Leg Extension - Assembly	1
4		158-000029	Cranked Hinge - Assembly	1
5		Subject to Specification	Van Top Mounting Bracket - Assembly	1
6		056-000314	Crane Body	1
7		056-000313	2nd Boom	1
8		064-000001	Antiluce Fastener - Assembly	1
9		539-000043	Lynch Pin	1
10		173-000006	Rubber Holder (Male & Female) - Assembly	1
11	a	195-000040	Solenoid Box & Wiring Harness - 12V	1
	b	195-000041	Solenoid Box & Wiring Harness - 24V	1
12		547-000033	Remote Connector & Tail	1
13		108-000001	Anderson Power Connector - 50A	1
14		035-000056	Joint Bearing - Assembly	1
15		713-200005	Disc Spring - Assembly	1
16		200-000009	Shoulder Bolt - Assembly	1
17	a	077-000024	Winch Assembly - 12V - Left Hand (LH)	1
	b	077-000023	Winch Assembly - 12V - Right Hand (RH)	1
	c	077-000026	Winch Assembly - 24V - Left Hand (LH)	1
	d	077-000025	Winch Assembly - 24V - Right Hand (RH)	1
18		692-000008	Microswitch - Assembly	1
19	a	123-000035	Winch Cover - L/H	1
	b	123-000036	Winch Cover - R/H	1
20	a	614-000005	Winch Motor - 12V	1
	b	614-000007	Winch Motor - 24V	1
21		042-000001	Terminal Rubber Boot	2
22		555-000017	Pulley Wheel - Assembly	1
23	a	022-000002	Bob Weight - Assembly	1
	b	022-000004	Half Bob Weight - Assembly	1
24	a	654-000008	Rope 15' (4.5m) & Hook	1
	b	654-000009	Rope 20' (6.0m) & Hook	1
	c	654-000010	Rope 30' (9.1m) & Hook	1
25		560-000016	Remote Control (3 Button Handset)	1
26		Subject to Specification	Support Leg Stowage Bracket - Assembly	1
27		079-000050	Rope Hook (Bulkhead Mounted) - Assembly	1
28		035-000049	Flanged Bush	2
29		500-000194	Solenoid Box Caution Label	1

30	011-000509	Anti-luce Bracket	1
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### KJ250/1.5&2 Exploded View

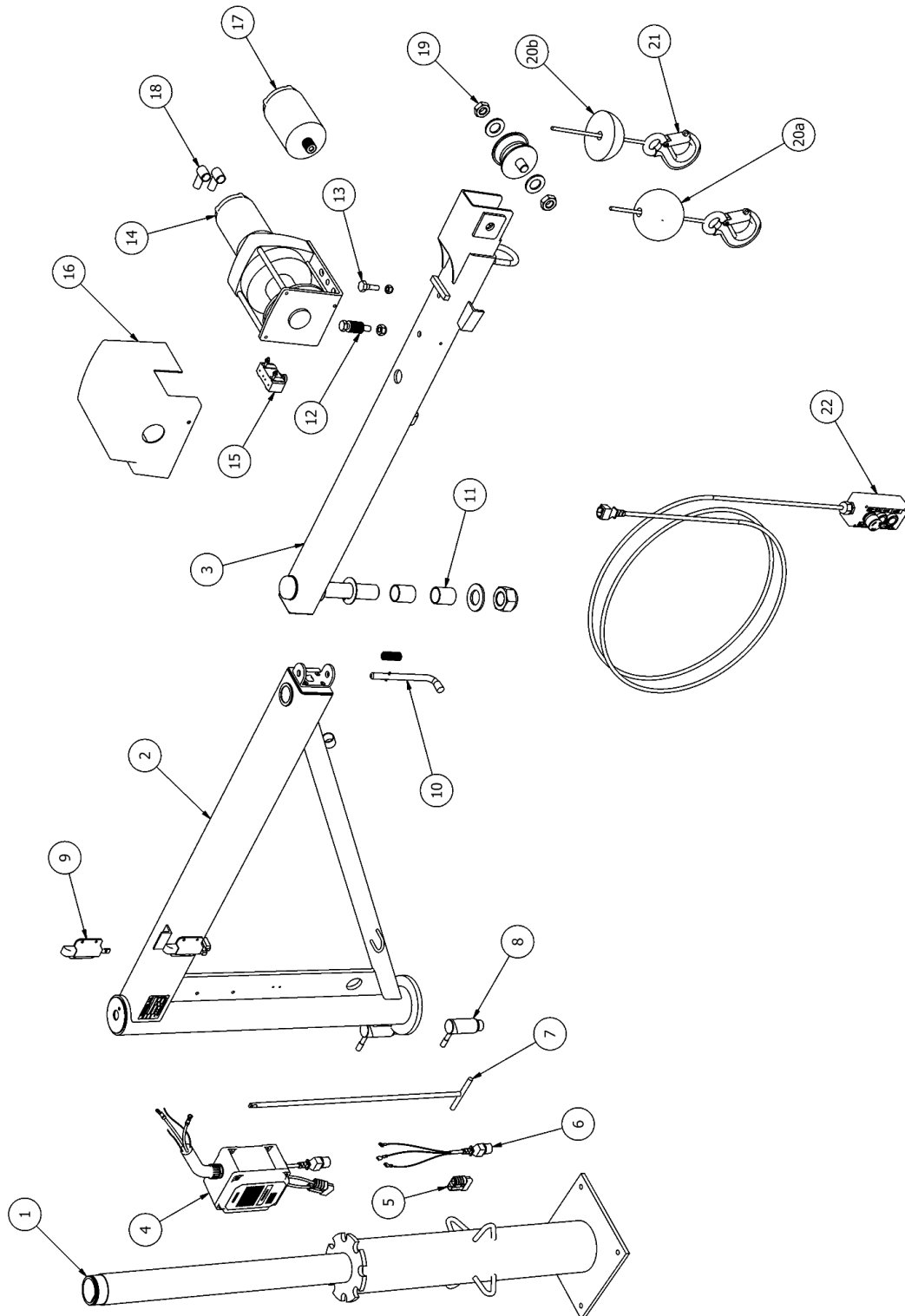


**KJ250/ 1.5&2 Parts List**

ITEM	PART NUMBER	DESCRIPTION	QTY	
1	a	Subject to Specification	Van Pillar - Assembly	1
	b	Subject to Specification	Combi Pillar for Pick-up - Assembly	1
	c	Subject to Specification	Corner Bracket for headboard Mounting	1
2	a	190-000006	Support Leg Van type - Assembly	1
	b	190-000015	Support Leg Pick-up type - Assembly	1
3		503-000078	Leg Extension - Assembly	1
4		Subject to Specification	Top Mounting Bracket - Assembly	1
5	a	056-000318	Crane Body KJ250/1.5	1
	b	056-000317	Crane Body KJ250/2	1
6	a	056-000319	2nd Boom KJ250/1.5	1
	b	056-000320	2nd Boom KJ250/2	1
7		064-000001	Antiluce Fastener - Assembly	1
8		011-000509	Antiluce Bracket	1
9		206-000001	Antiluce Fitting Kit	1
10	a	195-000010	Solenoid Box & Wiring Harness - 12V	1
	b	195-000011	Solenoid Box & Wiring Harness - 24V	1
	C	500-000194	Solenoid Box Caution Label	1
11		547-000033	Remote Connector & Tail	1
12		108-000001	Anderson Power Connector - 50A	1
13		713-200008	Anti-slew Tensioner - Assembly	1
14		173-000006	Rubber Holder (Male & Female) - Assembly	1
15		035-000056	Joint Bearing - Assembly	1
16		547-000018	End Cap	1
17		079-000025	Shoot Bolt - Assembly	1
18		713-200005	Disc Spring - Assembly	1
19		200-000009	Shoulder Bolt - Assembly	1
20	a	077-000024	Winch Assembly - 12V - Left Hand (LH)	1
	b	077-000023	Winch Assembly - 12V - Right Hand (RH)	1
	c	077-000026	Winch Assembly - 24V - Left Hand (LH)	1
	d	077-000025	Winch Assembly - 24V - Right Hand (RH)	1
21		692-000008	Microswitch - Assembly	1
22	a	123-000035	Winch Cover - L/H	1
	b	123-000036	Winch Cover - R/H	1
23	a	614-000005	Winch Motor - 12V	1
	b	614-000007	Winch Motor - 24V	1
24		042-000001	Terminal Rubber Boot	2
25		555-000017	Pulley Wheel - Assembly	1
26	a	022-000002	Bob Weight - Assembly	1
	b	022-000004	Half Bob Weight - Assembly	1
27	a	654-000008	Rope 15' (4.5m) & Hook	1
	b	654-000009	Rope 20' (6.0m) & Hook	1
	c	654-000010	Rope 30' (9.1m) & Hook	1
28		560-000016	Remote Control (3 Button Handset)	1
29		Subject to Specification	Support Leg Stowage Bracket - Assembly	1

30	079-000050	Rope Hook (Bulkhead Mounted) - Assembly	1
31	039-000002	Flanged Bush	2

**KJ250/2 RPT – Exploded View**





**KJ250/2 RPT – Parts List**

ITEM	PART NUMBER	DESCRIPTION	QTY
1	Subject to Specification	Pillar - Assembly	1
2	056-000120	Crane Body	1
3	056-000123	2nd Boom	1
4	a 195-000010	Solenoid Box & Wiring Harness - 12V	1
	b 195-000011	Solenoid Box & Wiring Harness - 24V	1
	c 500-000194	Solenoid Box Caution Label	1
5	108-000001	Anderson Power Connector - 50A	1
6	547-000033	Remote Connector & Tail	1
7	171-000019	Catch Handle	1
8	539-000045	Cam Lock	1
9	079-000023	Slam Latch	1
10	079-000025	Shoot Bolt - Assembly	1
11	035-000056	Joint Bearing - Assembly	1
12	713-200005	Disc Spring - Assembly	1
13	200-000009	Shoulder Bolt - Assembly	1
14	a 077-000024	Winch Assembly - 12V - Left Hand (LH)	1
	b 077-000023	Winch Assembly - 12V - Right Hand (RH)	1
	c 077-000026	Winch Assembly - 24V - Left Hand (LH)	1
	d 077-000025	Winch Assembly - 24V - Right Hand (RH)	1
15	692-000008	Microswitch - Assembly	1
16	a 123-000035	Winch Cover - L/H	1
	b 123-000036	Winch Cover - R/H	1
17	a 614-000005	Winch Motor - 12V	1
	b 614-000007	Winch Motor - 24V	1
18	042-000001	Terminal Rubber Boot	2
19	555-000017	Pulley Wheel - Assembly	1
20	a 022-000002	Bob Weight - Assembly	1
	b 022-000004	Half Bob Weight - Assembly	1
21	a 654-000008	Rope 15' (4.5m) & Hook	1
	b 654-000009	Rope 20' (6.0m) & Hook	1
	c 654-000010	Rope 30' (9.1m) & Hook	1
22	560-000016	Remote Control (3 Button Handset)	1

## Technical Data – KJ Series

**Electrical Specification - all models utilise the same type of winch in 12 volt or 24 volt form.**

12 volts DC 70A

24 volts DC 35A

110 and 240 volt – Contact Penny Hydraulics Ltd for more information.

### **Winch Operating Temperature**

A range of -5°C to 30°C for both 12 Volt and 24 Volt winches.

### **Winch Duty Cycle**

1 minute of continuous running within a 15 minute period for both 12 Volt and 24 Volt winches.

### **Typical Weights**

SwingLift KJ250 32.5kg – 100kg subject to specification including winch unit.

### **Maximum Working Load**

Each SwingLift KJ250 is marked individually with its maximum working load.

### **Noise Levels**

A survey sheet giving full details is available on request. Briefly, the results are as follows:

Winch running 65dB(A)

These levels are well below those at which hearing can be damaged and below levels at which action is required under the noise at work regulations.

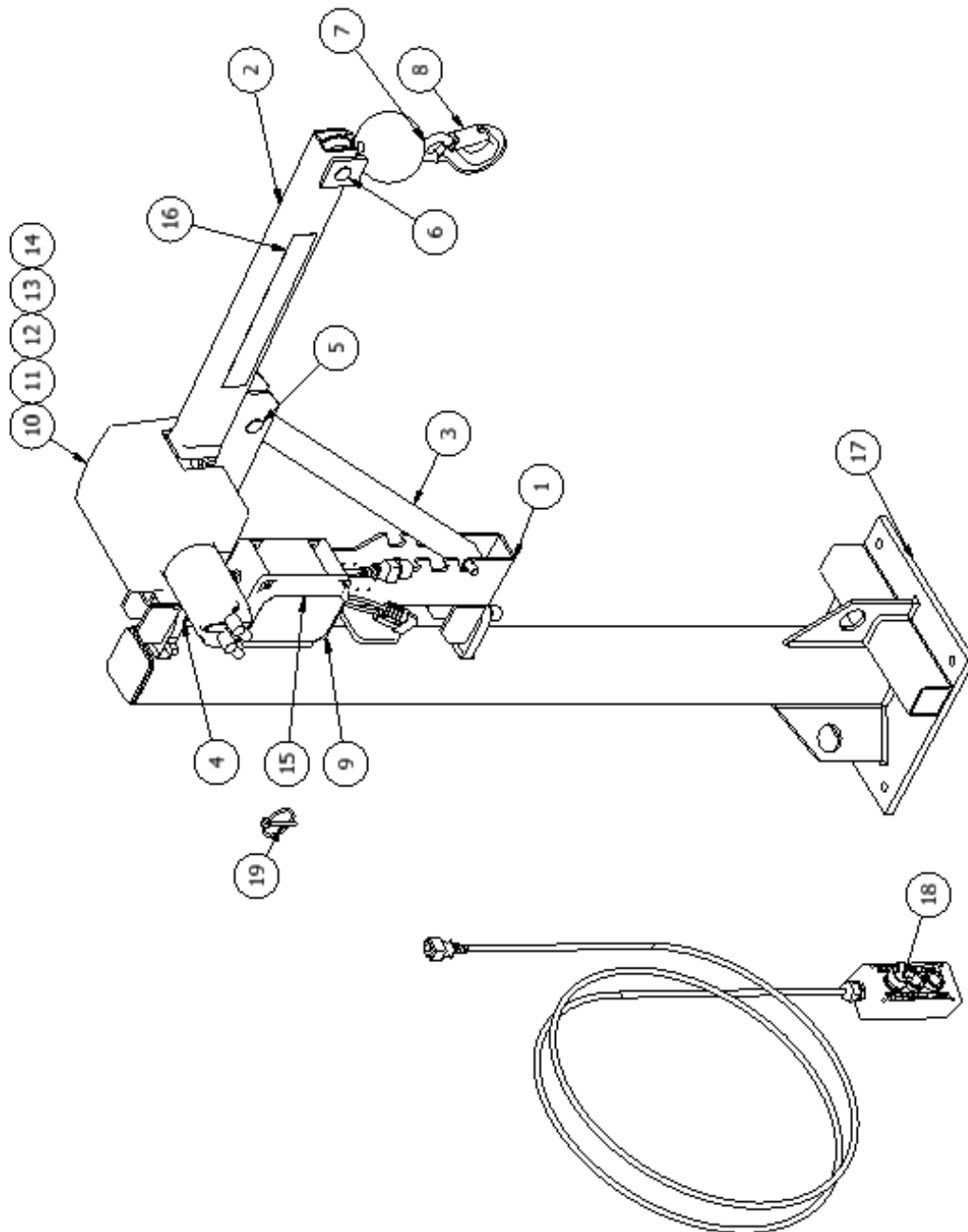
### **COSHH – Terminal Disposal**

Penny Hydraulics will remove and dispose of the entire crane in an environmentally sound manner when required.

## SwingLift Mini-Loader Range



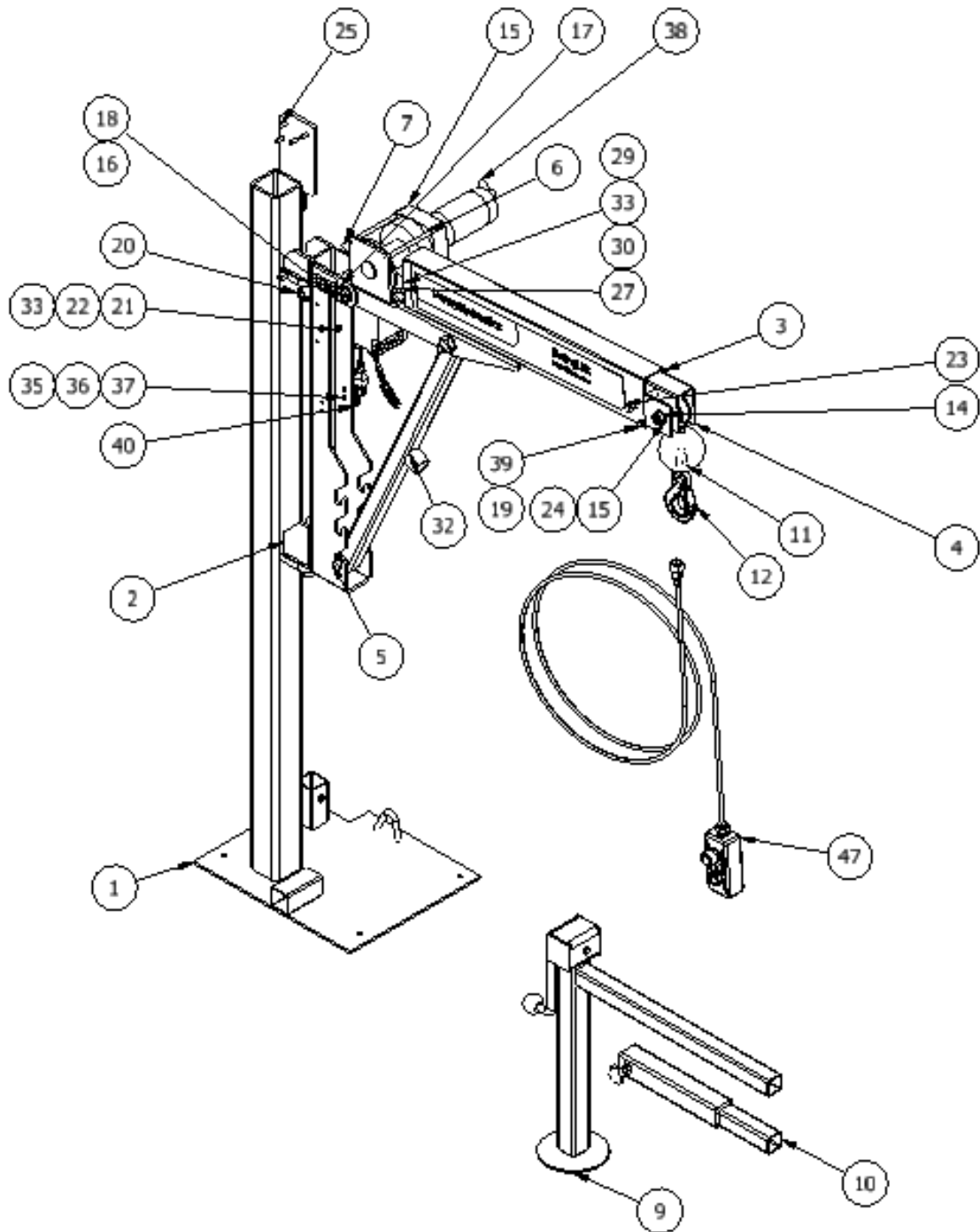
### ML250 – Assembly view



## ML250 - Parts List

ITEM	PART NUMBER	DESCRIPTION	QTY
1	052-000027	Body Assembly - Miniloader 250	1
2	056-000142	Boom Assembly ML250	1
3	060-000012	Stay Bar - Weldment	1
4	539-000133	Boom Hinge Pin Assy	1
5	539-000134	Stay Bar Top Pin Assy	1
6	555-000016	Pulley Assembly	1
7	022-000002	Ball Weight Assembly - Drilled - Painted	1
8	654-000008	Rope Assembly 15' (4.5m) x 5mm	1
9	195-000012	Solenoid Box/Harness Assy - 12v	1
10	077-000087	Winch Assembly Inc Motor & Microswitch	1
11	123-000036	Winch Cover - R/H	1
12	200-000009	Shoulder Bolt Assembly	1
13	713-200005	Disc Spring Assembly	1
14	042-000001	Terminal Boot	2
15	500-000194	Solenoid Box Caution Label	1
16	500-000005	ML250 Boom Label	1
17	541-000124	Pillar Assembly - ML250	1
18	560-000016	Remote Control 3 Button Handset	1
19	539-000043	Lynch Pin - 6mm x 45	1

### ML500 – Assembly view



**ML500 - Parts List**

ITEM	PART NUMBER	DESCRIPTION	QTY
1	541-000205	Pillar Weldment (MTG Pos. 3)	1
2	052-000010	Heavy Duty Body Assembly	1
3	056-000145	Main Boom Assembly - Miniloader 500 - LH	1
4	056-000141	Extension Boom Fabrication (LB)	1
5	060-000015	Stay Bar Assy - Miniloader 500	1
6	077-000024	Winch/M.Switch Assy- 500Kg - 12V - L/H	1
7	195-000012	Solenoid Box/Harness Assy - 12v	1
7a	500-000194	Solenoid Box Caution Label	1
9	190-000006	SLE1V - Manual Support Leg - VAN	1
10	503-000078	Leg Extension w/ Hand Wheel	1
11	022-000002	Ball Weight Assembly - Drilled - Painted	1
12	654-000014	ROPE ASSEMBLY - 15' (4.5m) X 6mm	1
13	123-000035	Winch Cover - L/H	1
14	760-000002	M16 Nylon Washer	2
15	250-000001	5/8" BSW Thin Nut Zinc/Yellow	2
16	250-000010	3/4" BSW Thin Nut Zinc/Yellow	4
17	760-000033	M20 Nylon Washer	4
18	539-000091	Pin- 3/4" x 4.5" Long	2
19	253-080802	M8 Nyloc Grade 8 BZP	2
20	539-000043	Lynch Pin - 6mm x 45	1
21	413-060252	M6 x 25 Slotted Cheese Hd Screw-4.8 BZP	3
22	761-06A002	M6 Plain Washer (Form A) BZP	2
23	500-000006	Boom Sticker - Pair - Miniloader 500	1
24	539-000092	Axle Bolt - 5/8" x 3.5"	1
25	406-080302	M8 x 30 Hex Hd Set Screw-8.8 BZP	4
26	761-08A002	M8 Plain Washer (Form A) BZP	4
27	200-000001	M8 Shoulder bolt 8.8 Bzp	1
28	713-200001	Stainless Disc Spring 20 x 10.2 x 0.8mm	20
29	210-100550	M10 x 55 Hex Hd bolt-Stainless A2	1
30	253-10A200	M10 Nyloc Stainless A2	1
31	250-000041	M8 Pop-Nut	4
32	173-000002	Rubber Door holder female	1
33	253-060802	M6 Nyloc Grade 8 BZP	2
34	539-000132	2.5mm x 30mm Black	1
35	760-000035	M4 BRASS WASHER	8
36	253-040802	M4 Nyloc Grade 8 BZP	2
37	414-040300	M4 x 30 Slotted Cheese Hd Screw-Brass	2
38	042-000001	Terminal Boot	2
39	206-080702	M8 x 75 Hex Hd Bolt 8.8 BZP	1
40	108-000001	Power Connector - 50A	1
41	560-000016	Remote Control 3 Button Handset	1

## Technical Data – ML Series

### Power Supply

The SwingLift ML requires a 12 Volt (24V Optional) DC electrical supply. This should be terminated in a 50A SB plug. Any Circuit breaker employed in the system must be of a type that can cope with the surge of the electric motor.

### Electrical Specification

12 volts DC 70A

24 volts DC 35A

110 and 240 volt – Contact Penny Hydraulics Ltd for more information.

### Winch Operating Temperature

A range of -5°C to 30°C for both 12 Volt and 24 Volt winches.

### Winch Duty Cycle

1 minute of continuous running within a 15 minute period for both 12 Volt and 24 Volt winches.

### Typical Weights

Typical SwingLift ML – 83Kg subject to specification including winch unit.

### Maximum Working Load

Each SwingLift ML is marked individually with its maximum working load.

### Noise Levels

A survey sheet giving full details is available on request. Briefly, the results are as follows:

Winch running 65dB(A)

These levels are well below those at which hearing can be damaged and below levels at which action is required under the noise at work regulations.

### COSHH – Terminal Disposal



**Penny Hydraulics Ltd**

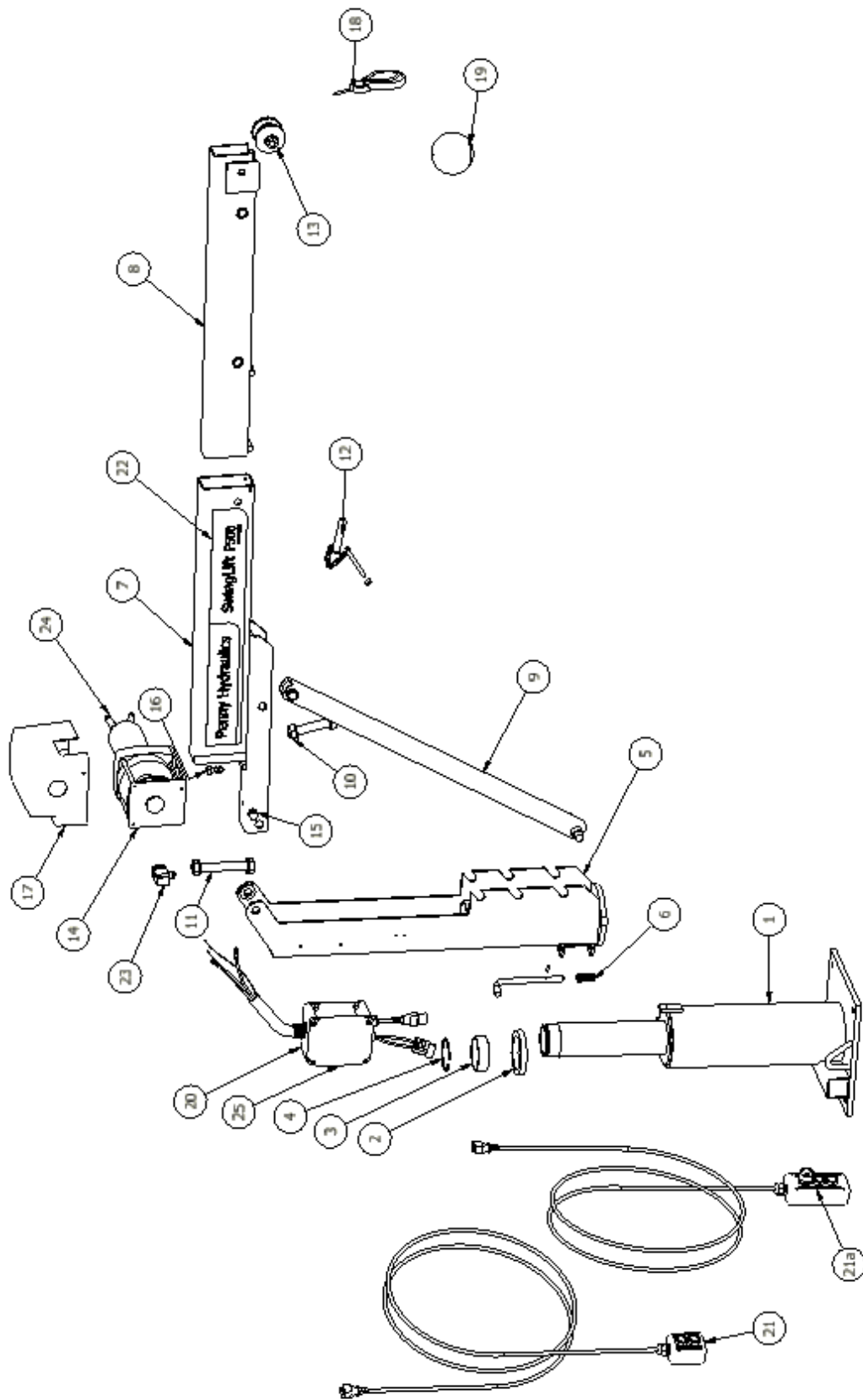
**Operating & Maintenance Manual – VME - SwingLift Cranes KJ, ML, F500, FV500, CC, MC & GBC**

Penny hydraulics will remove and dispose of the entire crane in an environmentally sound manner when required.

SwingLift F500



F500 – Exploded View



## F500 Parts List

PARTS LIST - FOLDAWAY 500 - STANDARD 12V PICKUP			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	541-000021	Pillar Assembly - F500	1
2	040-000003	Nylon Bearing Ring	1
3	035-000047	Bearing 78 x 72 x 25 (Devol)	1
4	089-SP0002	Wire ring 68.5 I/D x 3.17wire	1
5	045-000125	Body Assembly - F500	1
6	079-000025	Shoot Bolt Repair Kit	1
7	056-000084	Boom Assy.	1
8	056-000005	Extension Boom Assembly - F500	1
9	060-000019	Stay Bar Assembly - F500	1
10	539-000135	Boom Pin Assembly	1
11	539-000145	Boom Pin Assembly - Foldaway 500	1
12	539-000130	Extension Locking Pin Assembly	1
13	555-000018	Pulley Wheel & Axle Assembly	1
14	077-000024	Winch Assy. Inc. Microswitch - 12V - L/H	1
15	713-200004	Disc Spring Assembly – Mini-loader 500	1
16	200-000009	Shoulder Bolt Assembly	1
17	123-000035	Winch Cover - L/H	1
18	654-000004	Rope Assembly Inc. Hook & Roll Pin - 20' (6.0m) x 6mm	1
19	022-000002	Ball Weight Assembly - Drilled - Inc. Roll Pin	1
20	195-000012	Solenoid Box/Harness Assy - 12v	1
21	560-000001	Remote Control 2 Button Handset	1
21a	560-000016	Remote Control 3 Button Handset Inc. Emergency Stop	1
22	500-000008	Boom Sticker - Pair - Foldaway 500	1
23	692-000008	Microswitch	1
24	042-000001	Terminal Boot	2
25	500-000194	Solenoid Box Caution Label	1

## Technical Data – F500

### Electrical Specification

12 volts DC 70A

24 volts DC 35A

110 and 240 volt – Contact Penny Hydraulics Ltd for more information.

### Winch Operating Temperature

A range of -5°C to 30°C for both 12 Volt and 24 Volt winches.

### Winch Duty Cycle

1 minute of continuous running within a 15 minute period for both 12 Volt and 24 Volt winches.

### Typical Weights

Standard SwingLift F500 – 83KG subject to specification including winch unit.

### Maximum Working Load

Each SwingLift F500 is marked individually with its maximum working load.

### Noise Levels

A survey sheet giving full details is available on request. Briefly, the results are as follows:

Winch running 65dB(A)

These levels are well below those at which hearing can be damaged and below levels at which action is required under the noise at work regulations.

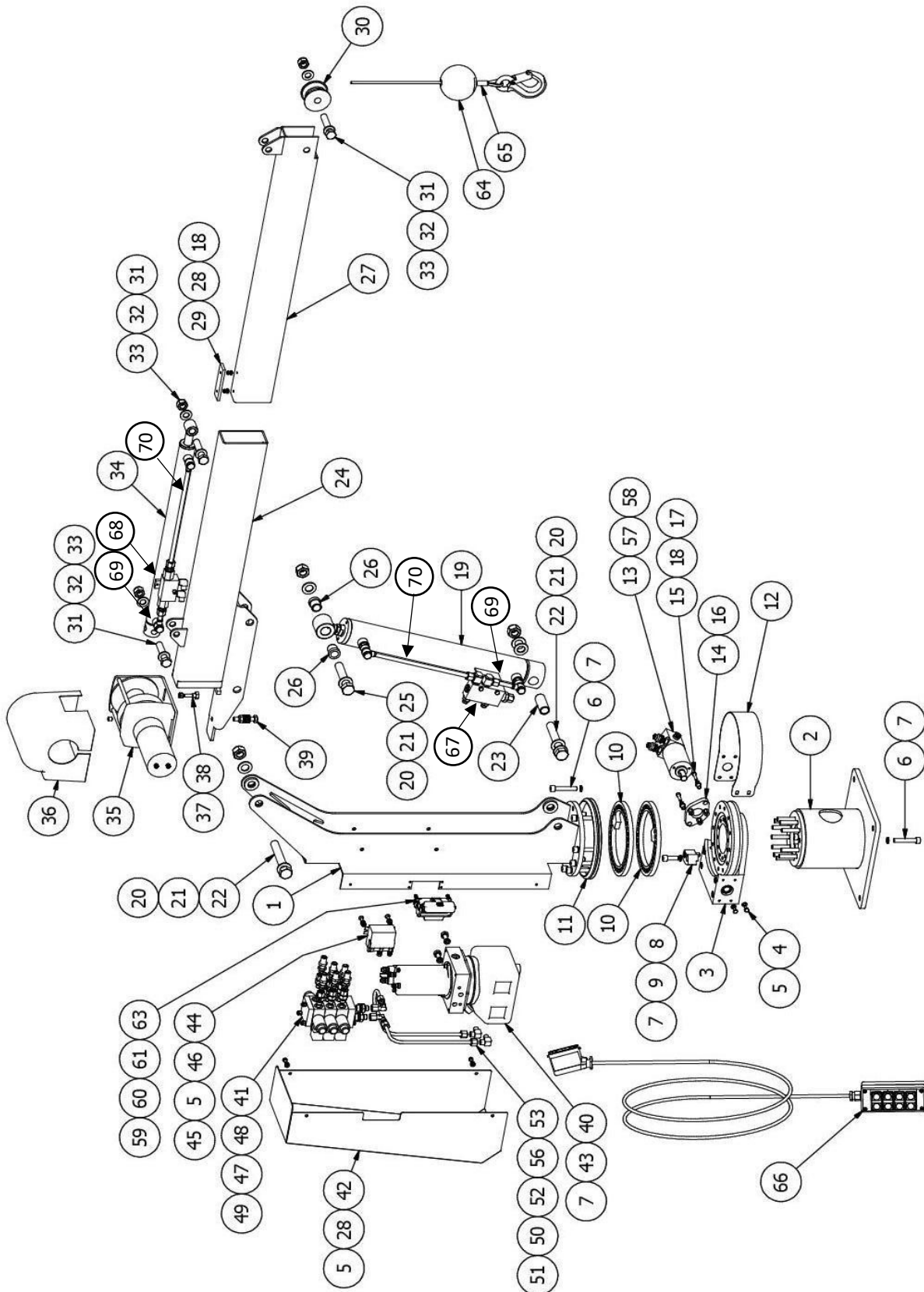
### COSHH - Terminal Disposal

Penny Hydraulics will remove and dispose of the entire crane in an environmentally sound manner when required.

FV500



### FV500 – Exploded view



## FV500 – Parts List

ITEM	PART NUMBER	DESCRIPTION	QTY
1	052-000259	Crane Body Assy.- Pick Up	1
2	541-000017	Base (Pillar) Assembly – No Support Leg	1
3	164-000002	Slew Gearbox Assy.	1
4	406-060122	M6 x 12 Hex Hd. Screw	2
5	761-06A002	M6 Plain Washer	6
6	415-100602	M10 x 60 Hex Skt. Hd. Cap Screw	2
7	770-10SC02	M10 Spring Washer	6
8	687-000015	Stop Block	1
9	415-100302	Hexagon Socket Head Cap Screw	2
10	687-000014	Stop Ring	2
11	168-000032	V-Ring Seal	1
12	123-000043	Slew Gear Guard	1
13	614-000008	Slew Motor	1
14	311-000010	Motor Flange	1
15	415-060252	M6 x 25 Hex Skt. Hd. Cap Screw	2
16	418-060202	M6 x 20 Hex Skt. Csk. Hd. Screw	3
17	035-000067	Motor Flange Bush	2
18	770-06SC02	M6 Spring Washer	6
19	002-000152	Lift Ram Assy.	1
20	253-200802	M20 Nyloc Nut	3
21	760-000025	M20 Nylon Washer – QW6	8
22	200-000008	M20 x 130 Special Bolt	2
23	035-000048	Bush- 20 x 25 x 60	1
24	056-000189	Boom Assy.	1
25	200-000007	M20 x 105 Special Bolt	1
26	035-000053	Spacer Bush	2
27	056-000190	Boom Extension Assy.	1
28	406-060102	M6 x 10 Hex Hd. Screw	4
29	057-000055	Wear Pad-Bottom - 12-92-002-00	1
30	555-000001	Pulley	1
31	200-000006	M16 x 80 Special Bolt	3
32	760-000002	M16 Nylon Washer	6
33	253-160802	M16 Nyloc Nut	3
34	002-000101	Extension Ram Assy.	1
35	077-000023	Winch Assy. Inc. Microswitch – 12V - RH (24V/LH/RH – Optional)	1
36	123-000036	Winch Cover- R/H (L/H Optional)	1

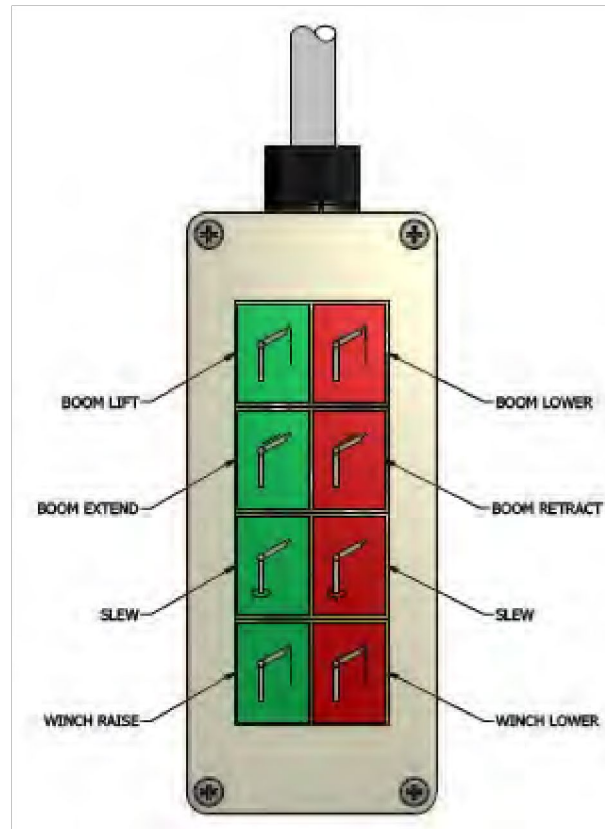


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**Operating & Maintenance Manual – VME - SwingLift Cranes KJ, ML, F500, FV500, CC, MC & GBC**

37	253-080802	M8 Nyloc Nut	1
38	200-000001	M8 Shoulder Bolt - QB16	1
39	713-200004	Disc Spring Assembly	1
40	551-000004	Power Pack – 12V (24v Optional)	1
41	747-433813	D.C Valve Assy.- 3 Bank 12V (24V Optional)	1
42	123-000067	Guard Assy.	1
43	206-100202	M10 x 20 Hex Hd. Screw	2
44	098-000002	Solenoid - 12V (24V Optional)	1
45	253-06A200	M6 Nyloc Nut	2
46	415-060161	Hexagon Socket Hd. Screw	2
47	309-000018	1/4 BSP Bulkhead Nut	6
48	309-000023	8L x 8L Bulkhead Adaptor	6
49	309-000042	1/4"BSPP x 8L Swivel	6
50	301-408L01	Hyd.Adaptor-3/8BSP x 8L M/M	2
51	169-062176	3/8" B.S.P. Bonded Seal	2
52	303-08081L	8L Standpipe 90deg Swivel Elbow	2
53	309-000004	8L Compression Nut	4
54	045-000194	Return Pipe- DCV to Power Pack	1
55	045-000193	Feed Pipe- Power Pack to DCV	1
56	301-208L11	MSC Elbow-1/4 BSPT x 8L	2
57	301-208L92	1/4BSP x 8L Male Stud Coupling Body	2
58	169-042176	Bonded Seal-1/4	2
59	253-040802	M4 Nyloc Nut	4
60	761-04A002	M4 Plain Washer	4
61	400-000003	Slotted Pan Hd. Machine Screw	4
62	513-000007	Female Insert Screw Terminal 16A 16+E Way	1
63	052-000209	Bulkhead Mount with Cover - 16A	1
64	022-000001	Ball Weight	1
65	654-000016	Rope Assembly- 20' (6.1m) x 6mm (Length – Optional)	1
66	560-000009	Handset and Plug Assembly 8 Function 3 Metre Cable	1
67	752-621207	Over Centre Valve – Lift Ram Assembly	1
68	756-220203	Dual Check Valve – Extension Ram Assembly	1
69	309-000030	Banjo Pipe 10 x 55	2
70	309-000036	Banjo Pipe 10 x 340	2

### Pendant Control – Standard Model



### Recommended spares

Description	Part No.	Qty.
Rope / Hook Assembly	As Specified	2
Solenoid	As Specified	1
Handset & Plug Assembly	As Specified	1
Rope Pulley	555-000001	1
Wear Pad	057-000055	2

### Recommended Lubricants

DUTY	LUBRICANT	SPECIFICATION
Hydraulic Power Pack	Mineral Hydraulic Oil	HM32
Slew Drive Gear	Open Gear Grease	Tuflube All-weather
General Lubrication	Grease	LEP2

## **Electrical / Hydraulic Operation**

There are two main lifting functions which are both controlled electrically and which are integrated to limit the maximum working load.

1. The hydraulic boom lift, extend and slew system.
2. The Electric winch.

The pendant Control unit Supplies the signals to both functions which are integrated by the action of a microswitch fixed to the winch unit.

The control supply circuit is split into two and in the event of an overload the microswitch is set to break the circuit to winch raise, boom lift and boom extend. Winch lower, boom lower, boom retract and slew are not affected by the overload.

The microswitch is activated by the winch moving against a pre-set spring.

The hydraulic power pack which supplied the cranes hydraulic functions is switched on and off each time a button is operated on the handset. The electric winch buttons do not operate the power pack. A set of diodes in the handset stop signal feedback when operating a crane function, allowing the power pack to start and stop with a signal from each individual button. The main power supply to the power pack is controlled by a solenoid sited on the power pack. Pressure to the hydraulic lift ram is adjusted by the relief valve on the power pack and controls the lift available by the hydraulic system.

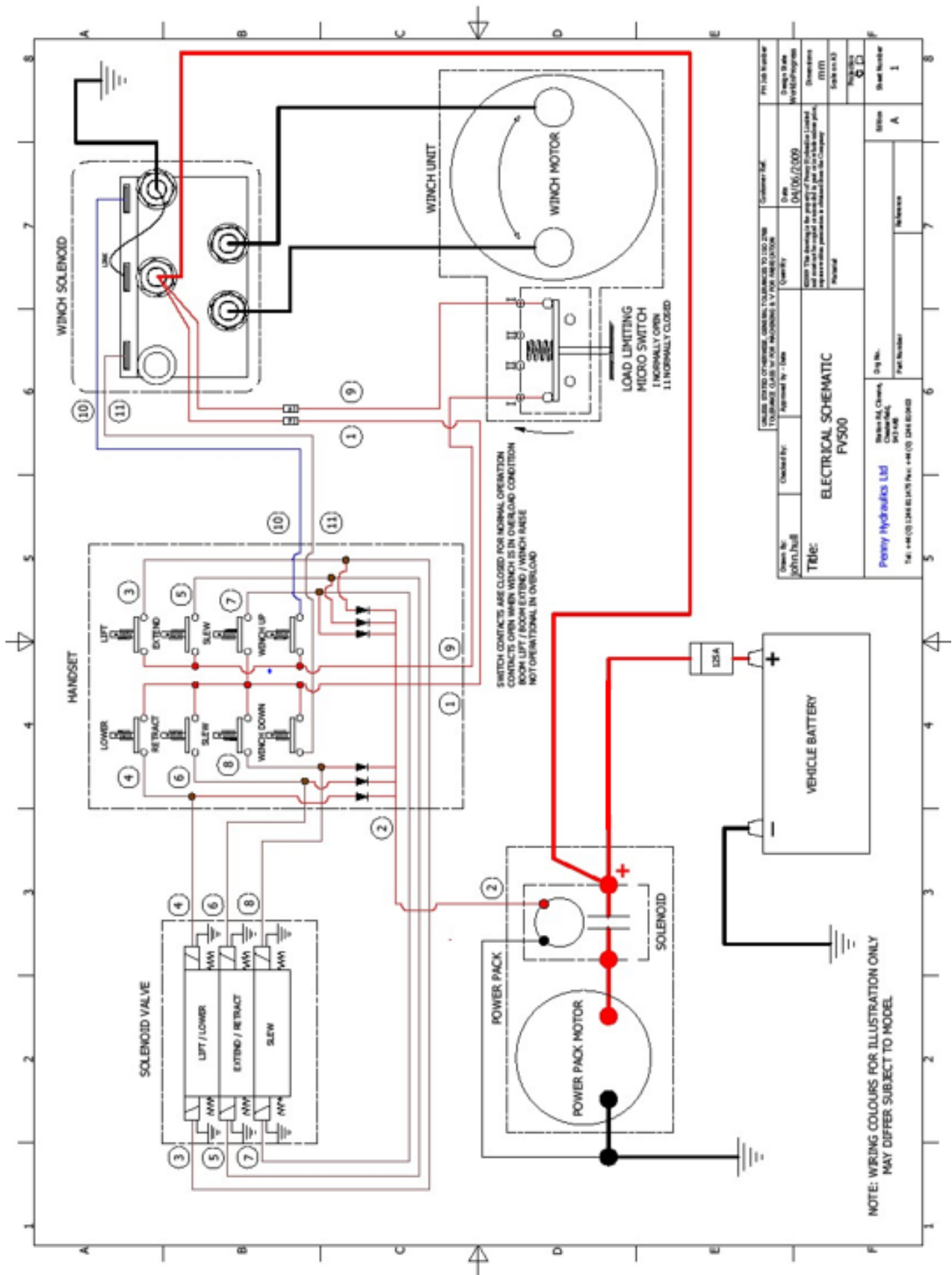
Power to the electric winch is supplied from a solenoid sited in a junction box. Buttons on the pendant handset supply the signal to the solenoid to control raise and lower functions.

The winch base plate is allowed to pivot on the boom against a pre-set spring pack which is set to the maximum load allowed on the hook attached to the winch rope. The normally open micro switch attached to the winch unit is set against the boom in the closed position. If the load on the rope exceeds the spring setting, the winch assembly pivots and the micro switch moves away from the boom and breaks the circuit to Winch Raise, Boom Lift and Boom Extend.

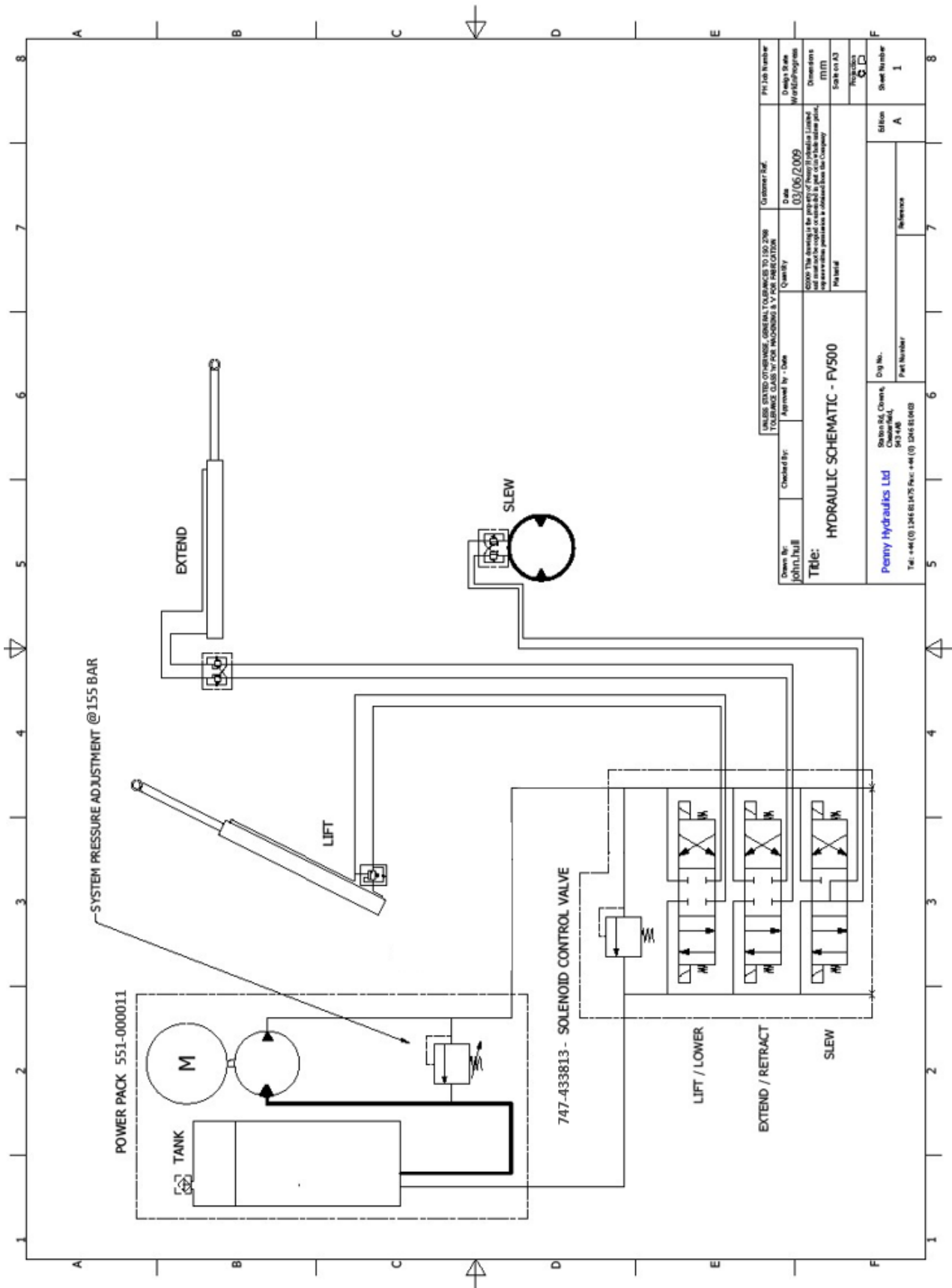
The split control signal to the handset still allows operation of winch lower, boom lower boom retract and slew.

The handset pendant cable is connected to the junction box by a quick connector plug and socket sited on the junction box lid. Both the electric winch and the hydraulic power pack rely on adequate supply from the vehicle to achieve optimum performance.

Electrical Schematic



Hydraulic Schematic



Drawn By: John Hull	Checked By:	Approved By - Date:	Quantity:	General Ref:	Part Job Number:
UNLESS STATED OTHERWISE, GENERAL TOLERANCES TO ISO 2286 TOLERANCE CLASS 'V' FOR MACHINING & 'V' FOR FIBREGLASS			Date: 03/06/2009	Drawn By: John Hull	Design Scale: 1:1
Title: HYDRAULIC SCHEMATIC - FV500			Drawn By: John Hull	Drawn By: John Hull	Drawn By: John Hull
Penny Hydraulics Ltd Station Rd, Owers, Chichester, West Sussex, PO19 1PL, UK Tel: +44 (0) 1243 81475 Fax: +44 (0) 1243 81488			Drawn By: John Hull	Drawn By: John Hull	Drawn By: John Hull
Dwg No.:			Part Number:	Revision:	Sheet Number:
				A	1

## Technical Data

### Electrical Specification

12 volts DC 70A

24 volts DC 35A

110 and 240 volt – Contact Penny Hydraulics Ltd for more information.

### Winch Operating Temperature

A range of -5°C to 30°C for both 12 Volt and 24 Volt winches.

### Winch Duty Cycle

1 minute of continuous running within a 15 minute period for both 12 Volt and 24 Volt winches

### Typical Weights

Standard SwingLift FV500 - 85kg subject to specification.

### Maximum Working Load

Each SwingLift FV500 is marked individually with its Maximum Working Load.

### Noise Levels

A survey sheet giving full details is available on request. Briefly, the results are as follows: -

Winch running 65dB(A)

These levels are well below those at which hearing can be damaged and below levels at which action is required under the noise at work regulations.

### COSHH - Terminal Disposal

Penny Hydraulics will remove and dispose of the entire crane in an environmentally sound manner when required.

## Fault Finding

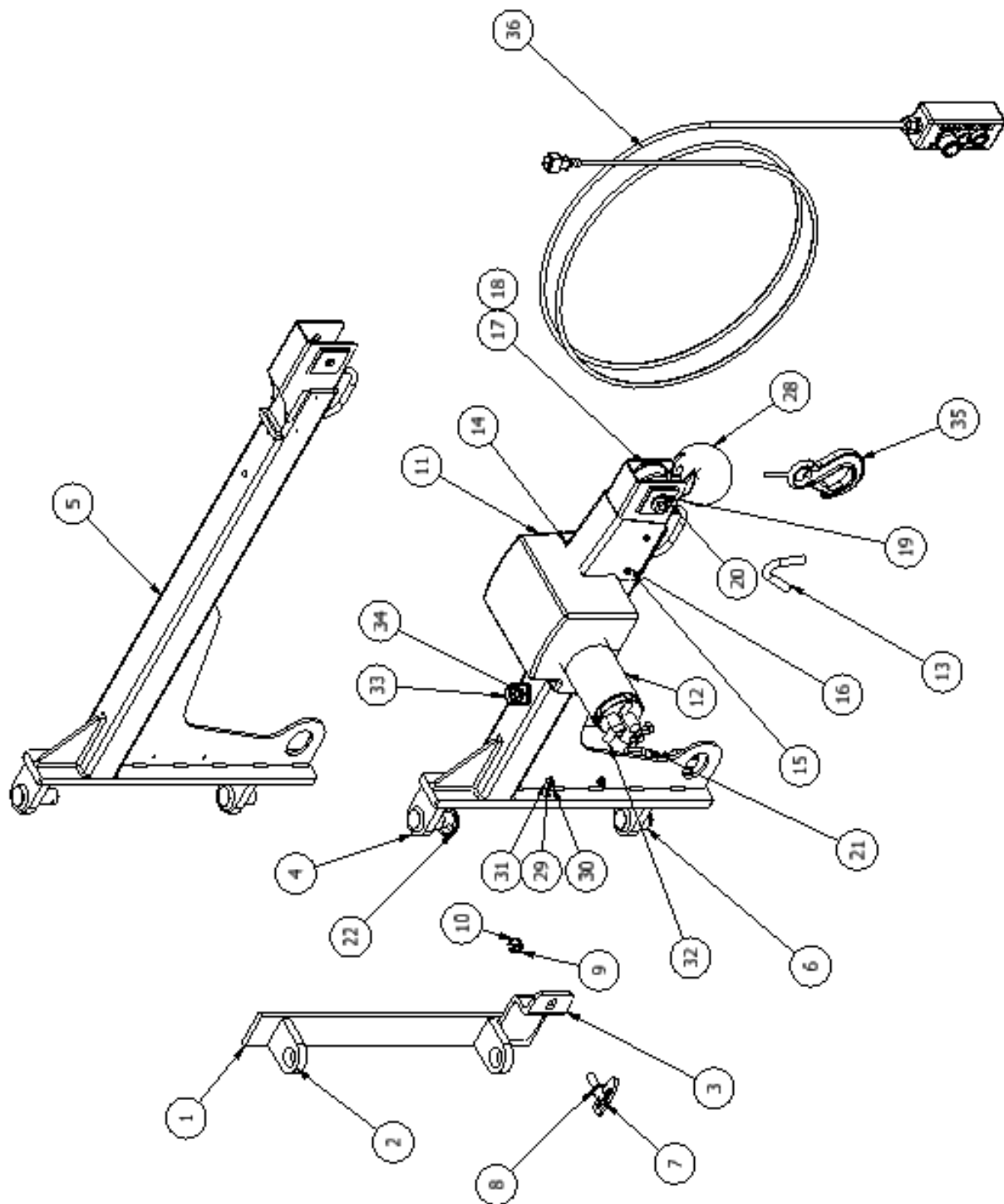
FAULT	CAUSE	REMEDY
Nothing working.	Low Volts. Poor Earth Connection.	Check Supply / Battery Condition. Check Cables - Clean All Earth Terminals.
Crane will slew and lower but will not lift.	Crane overloaded.	Remove some of load.
Clicking sound from Power Pack compartment but no hydraulics working.	As above. Faulty Power Pack motor solenoid. Faulty Power Pack	As Above. Replace solenoid. Replace Power Pack
Winch motor not working.	Jammed rope assembly. Faulty winch solenoid. Faulty winch motor.	Free off rope and replace. Replace solenoid. Replace motor.

## SwingLift MC250





### MC250 – Exploded view



**MC250 – Parts list**

ITEM	PART NUMBER	DESCRIPTION	QTY
1	011-000579	Corner Bracket - Weldment	1
2	508-000044	Pillar Bearing Plate (Profile) - 31.8 DIA. (mm)	2
3	011-000509	Antiluce Bracket (Cut & Bend) (L/H & R/H)	1
4	056-000306	Boom Assy - 0.75m Long	1
5	056-000335	Boom Assy - 1m Long	1
6	039-000002	1" ID x 1 1/4" OD x 1" - Flanged Bush	2
7	064-000001	Antiluce fastener	1
8	761-12A002	M12 Plain Washer (Form A) BZP	1
9	770-125002	M12 Spring Washer BZP	1
10	253-120802	M12 Nyloc Grade 8 BZP	1
11	123-000036	Winch Cover - R/H	1
12	077-000023	Winch/M.Switch Assy- 500Kg - 12v - R/H	1
13	174-000002	Rope Hook 1/2" Weldable	1
14	055-000113	Boom Rope Cover	1
15	413-060252	M6 x 10 Slotted Cheese Hd Screw-4.8 BZP	4
16	770-06SC02	M6 Spring washer BZP	4
17	555-000001	Pulley - 70 x 42 x 17	1
18	539-000131	Pulley Axle - 5/8" BSW x 3.25" BZP	1
19	760-000002	M16 Nylon Washer	2
20	250-000001	5/8" BSW Thin Nut Zinc/Yellow	2
21	195-000069	Solenoid Box Assembly - 12V	1
22	539-000043	Lynch Pin - 6mm x 45	1
23	713-200012	Stainless Disc Spring - 20 x 10.2 x 1.1 (mm)	1
24	200-000001	M8 Shoulder bolt 8.8 Bzp	1
25	253-080802	M8 Nyloc Grade 8 BZP	1
26	253-10A200	M10 Nyloc Stainless A2	1
27	210-100550	M10 x 55 Hex Hd bolt-Stainless A2	1
28	022-000002	Ball Weight Assembly - Drilled - Painted	1
29	253-060802	M6 Nyloc Grade 8 BZP	2
30	413-060252	M6 x 25 Slotted Cheese Hd Screw-4.8 BZP	2
31	761-06A002	M6 Plain Washer (Form A) BZP	2
32	042-000001	Terminal Boot	2
33	079-000098	20mm Nylon Conduit Clip	1
34	400-000038	Hex Flange Head Tapping Screw - 5.5x1.8 x 16 (mm)	1
35	654-000008	Rope Assembly 15' (4.5m) x 5mm	1
36	560-000016	Remote Control (3 Button Handset)	1

## Technical Data – Corner Crane Series

**Electrical Specification - all models utilise the same type of winch in 12 volt or 24 volt form.**

12 volts DC 70A

24 volts DC 35A

110 and 240 volt – Contact Penny Hydraulics Ltd for more information.

### **Winch Operating Temperature**

A range of -5°C to 30°C for both 12 Volt and 24 Volt winches.

### **Winch Duty Cycle**

1 minute of continuous running within a 15 minute period for both 12 Volt and 24 Volt winches

### **Typical Weights**

Standard SwingLift crane – 60kg subject to specification including winch unit.

### **Maximum Working Load**

Each CC & MCC is marked individually with its maximum working load.

### **Noise Levels**

A survey sheet giving full details is available on request. Briefly, the results are as follows:

Winch running 65dB(A)

These levels are well below those at which hearing can be damaged and below levels at which action is required under the noise at work regulations.

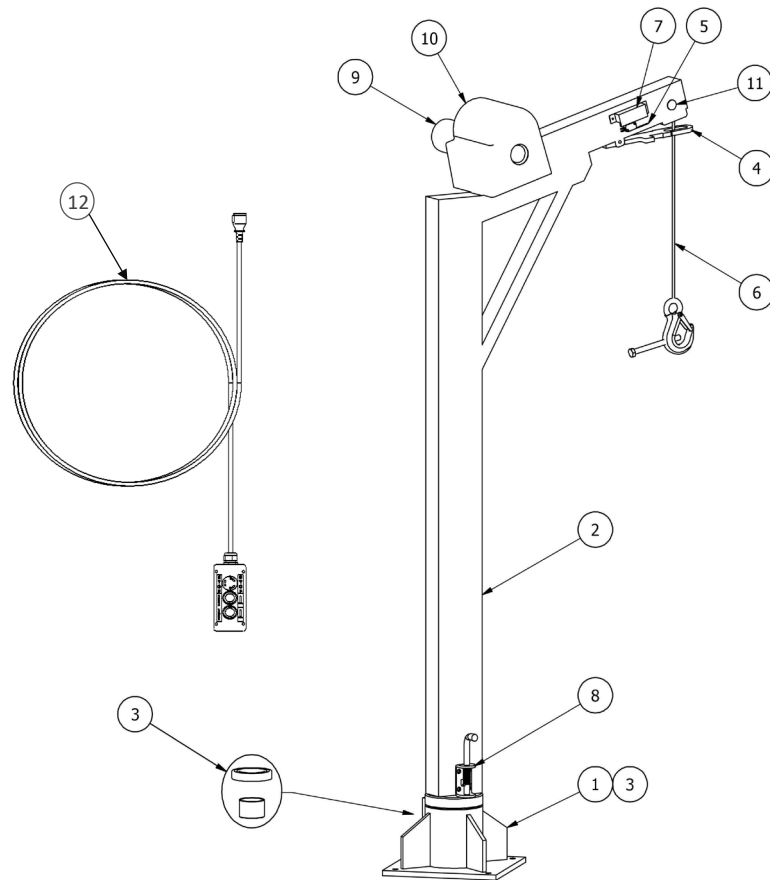
### **COSHH – Terminal Disposal**

Penny Hydraulics will remove and dispose of the entire crane in an environmentally sound manner when required.

## SwingLift Gas Bottle Crane



**GBC – Exploded View**



**GBC – Parts List**

ITEM	PART NUMBER	DESCRIPTION	QTY
1	673-000022	Socket Assembly - Gas Bottle Crane	1
2	Subject to Specification	Crane Fabrication	1
3	035-000104	Service Kit - Support Bearings	1
4	085-000026	Flipper Arm	1
5	692-000005	Limit Switch - Long Lever	1
6	654-000021	Rope Assembly - 15' x 5mm Special	1
7	123-000068	Cover - Micro Switch - Gas Bottle Crane	1
8	079-000033	Shoot Bolt Assembly	1
9	077-000044	Winch Assembly - High Speed - Gas Bottle Crane	1
10	123-000035	Winch Cover-T33 - L/H	1
11	539-000131	Pulley Axle - 5/8" BSW x 3.25" BZP	1
11b	555-000001	Pulley - 70 x 42 x 17	1
12	560-000017	Remote Control (3 Button) Inc. Emergency Stop	1

## Technical Data – Gas Bottle Crane

**Electrical Specification - all models utilise the same type of winch in 12 volt or 24 volt form.**

12 volts DC 70A

24 volts DC 35A

110 and 240 volt – Contact Penny Hydraulics Ltd for more information.

### **Winch Operating Temperature**

A range of -5°C to 30°C for both 12 Volt and 24 Volt winches.

### **Winch Duty Cycle**

1 minute of continuous running within a 15 minute period for both 12 Volt and 24 Volt winches

### **Typical Weights**

Standard SwingLift crane – 60kg subject to specification including winch unit.

### **Maximum Working Load**

Each GBC is marked individually with its maximum working load.

### **Noise Levels**

A survey sheet giving full details is available on request. Briefly, the results are as follows:

Winch running 65dB(A)

These levels are well below those at which hearing can be damaged and below levels at which action is required under the noise at work regulations.

### **COSHH – Terminal Disposal**

Penny Hydraulics will remove and dispose of the entire crane in an environmentally sound manner when required.

## Training Register

Date	Trained Operator	Signature	Trained by	Signature

The latest health and safety legislation require that all employers ensure all people using or supervising the use of work equipment have received adequate training in method, risk and precautions.

Penny Hydraulics offers nationwide training by qualified instructors for the full range of lifting equipment. Training includes practical and theoretical input from the delegates with a certificate of competence issues on successful completion of the course.

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Work Record

Date	Work Done/remarks	Engineer	Company



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