

# SwingLift FV range

Operating & maintenance instructions



# Welcome

Thank you for purchasing a Penny Hydraulics crane.

All our products are designed, developed and manufactured to stringent quality and safety standards at our purpose built UK facility.

We understand that you need the peace-of-mind of a planned maintenance programme in order to achieve full compliance with European legislation, so we offer a choice of extremely cost-effective service packages which include examination and testing - more details can be found on the inside back cover of this booklet. We can also offer additional support in the form of our specialist training services - please contact us for more details.

## Accessories

We supply a wide range of lifting accessories including slings, shackles and special attachments such as kerb grabs, barrel slings and dumpy bag lifters.

You can also buy replacement parts for your crane direct from our website - <https://shop.pennyhydraulics.com>

Our online parts shop stocks everything from wire ropes and solenoids to complete boom assemblies, winch motors and remote controls.



# Swing Lift FV500

## Operating and Maintenance Instructions



Station Road  
Clowne  
Chesterfield  
Derbyshire  
S43 4AB  
Tel: 01246 811475  
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E-mail: [sales@pennyhydraulics.com](mailto:sales@pennyhydraulics.com)

Website: [www.pennyhydraulics.com](http://www.pennyhydraulics.com)

## Safety Warning



**In the interest of safety all personnel involved in the operation of the FV500 must read and understand this operation manual. If they do not then they must not operate the equipment.**

- The FV500 must not be used for man riding.
- Before operation, ensure that all the relevant documentation is in place to satisfy the requirements of 'LOLER'.
- As a minimum requirement the FV500 should be inspected and serviced according to maintenance instructions attached. See "Maintenance" in this manual for full Statutory responsibilities.
- The FV500 must not be overloaded. Refer to the safe working load signs attached to the equipment.
- The FV500 must only be operated by trained and competent personnel. Training is offered by Penny Hydraulics and a training register is included at the back of this manual.
- During operation of the FV500, 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 notices must be adhered to at all times.
- Never interfere with the unit. It should run smoothly at all times, if in doubt call the HELPLINE telephone number 01246 811475.
- Do not adjust or interfere with any factory settings.
- Isolate, immobilize and lock-off the equipment before commencing any maintenance routine.
- Ensure any site specific barriers, guards and fencing are securely in place before commencing any work.
- Do not modify or re-install this machine without seeking guidance from Penny Hydraulics Ltd.

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## Introduction

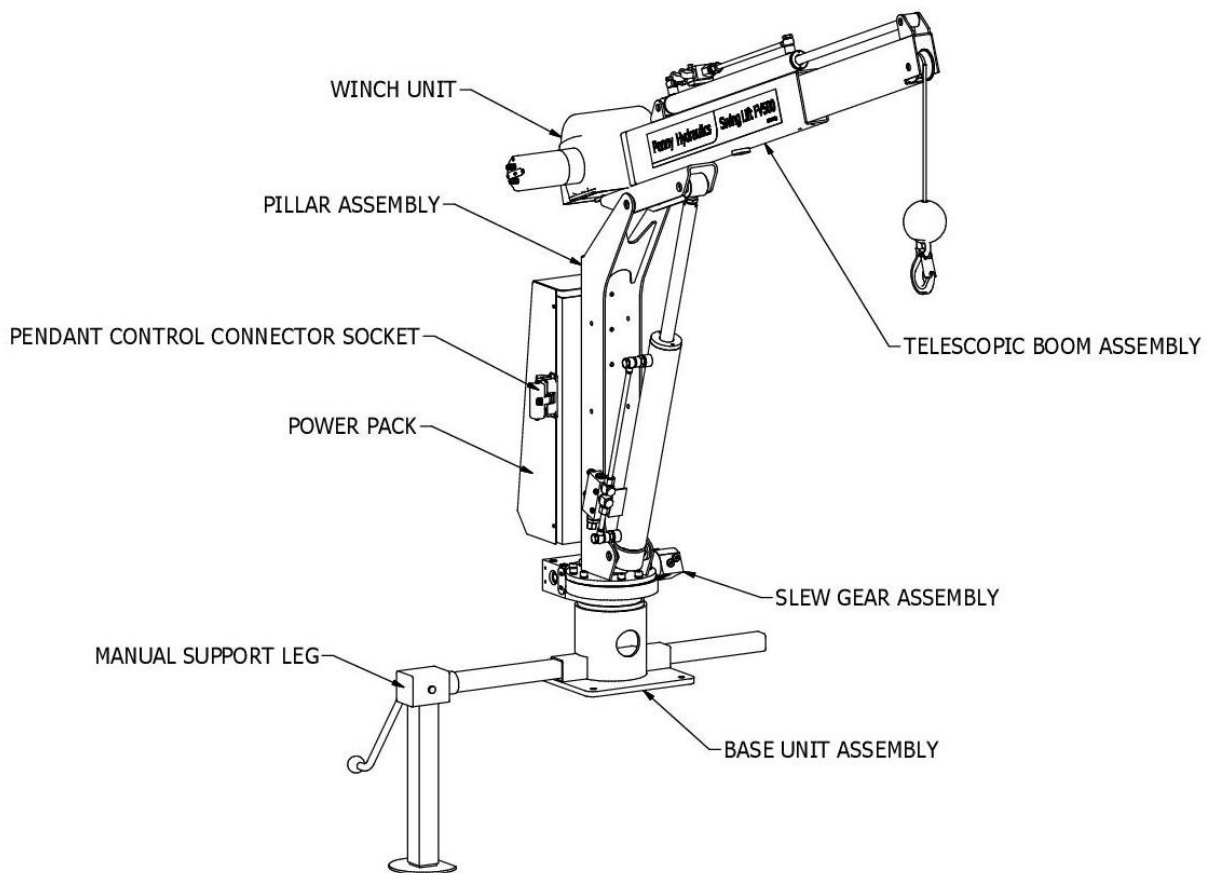
Thank you for purchasing a Penny Hydraulics FV500 crane.

The FV500 is a vehicle mounted crane designed and manufactured at our factory in Clowne, Chesterfield to safely lift and position loads of up to 500kg. The hydraulic boom and pillar are operated remotely from a hand held pendant control with all functions being protected by inbuilt overload features.

These operating instructions tell you what you need to know about its operation along with guidance on safety and general care, please study them carefully.

Due to our company's policy of continuous improvement, the following descriptions and illustrations used in this manual and parts book are without prejudice. We reserve the right to make alterations in order to increase the performance of our product, or for any other reason. We are not obliged to alter these instructions accordingly. These instructions do not assert to be complete

### SwingLift FV500











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## Swing Lift FV500



### Method of Operation

1. Before operation, please read the operating instructions and ensure all persons involved in the lift are familiar with the equipment and local requirements. 
2. Ensure that all the relevant documentation is available and current.
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 cables, nearby structures, public roads or paths, railways or rivers. Also pay attention to any underground services, e.g. gas, electric, drainage etc.   

5. Extend the support legs, if fitted and adjust to ground level using a suitable spreader pad if necessary. 
6. Check the unit visually for signs of defects or malfunction.
7. If any sign of oil leakage is visible, check the oil level in the hydraulic tank.
8. Plug in the pendant control to the control box on the side of the power unit cover.
9. The crane is now ready for use.
10. The pendant control functions are clearly marked on the hold to run buttons and can now be used as required.
11. Attach the load to the hook using suitable certified attachments only. 
12. Retreat to a safe operating position before commencing the lift. 
13. Keep clear of the suspended load and do not try to physically restrain it whilst in operation
14. Do not slew the crane with a load still on the ground, attempt to drive the vehicle with a suspended load or drive with the support legs in the down position. 
15. On completion of the operation, ensure the FV500 is folded into the travelling position and that any support legs are withdrawn and secured.
16. Detach the pendant control and store in a secure lock up. 

## **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 a 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:

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

Any claim under warranty must be made in the first instance by contacting Penny Hydraulics Ltd Service Department on 01246 811475 or via email at [service@pennyhydraulics.com](mailto:service@pennyhydraulics.com). The decision will then be made on how best to proceed after consultation with the customer.

### **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 very best possible response to minimize product downtime and inconvenience.

### **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.



## **Maintenance**

Your FV500 series vehicle mounted crane is subject to the LIFTING OPERATIONS AND LIFTING EQUIPMENT (LOLER) regulations 1998 which is a statutory requirement to record on a formal document, 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 certification. Please see Service Contract form enclosed.

The following Planned Maintenance Schedule is designed to monitor the safe working order of the FV500 and includes a Thorough Examination by a Competent Person required by LOLER.

LOLER also requires that a Thorough Examination is carried out following any exceptional circumstance that may affect the safety of the equipment.

Any defects found whilst carrying out the Planned Maintenance Schedule must be reported and recorded and the equipment taken out of operation until action by a Competent Person is undertaken.

The Planned Maintenance Schedule may require the use of parts and consumables.

A list of recommended spares and lubricants is attached.

### **Planned Maintenance Schedule**

Before any work is undertaken, ensure the site supervisor is informed and that all 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.

Where dynamic checks are being performed, it is recommended that a site contact person is nominated should assistance be required.

Ensure a clean working area and sufficient cleaning materials.

Ensure the work area is cordoned off, paying particular attention to the sweep areas required for dynamic testing.

On receipt of a new machine and before it is put into service, check that there is no transit damage or evidence of mishandling.

Daily / Before Use.

- 1) Check visually for signs of external damage.
- 2) Check all guards are securely in place.
- 3) Check for loose or missing nuts, bolts and fasteners.
- 4) Check for external oil leaks.
- 5) If any leaks are suspected, check the hydraulic oil level.
- 6) Subject to model type, check the winch rope for kinks, broken strands and corrosion.
- 7) Check the lifting hook and connection to the boom or rope subject to model type.
- 8) Check for damage to electrical cables and connectors

Weekly.

- 1) Check all as for Daily.
- 2) Thoroughly clean the support structure and check the security of the interface with the vehicle.

6 Monthly.

- 1) Check all as for Daily and Weekly.
- 2) Thoroughly examine the main structures and sub frames for soundness and signs of deflection.
- 3) Thoroughly inspect all welds.
- 4) Thoroughly check the security of all fixings on the main body and sub frames.
- 5) 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.
- 6) Check for excessive wear in the Boom Extension slides and replace if necessary.
- 7) Thoroughly examine all electrical components, cables and connectors.
- 8) Apply the recommended lubricant to the Slew Drive Gear.
- 9) In extreme conditions, replace the hydraulic oil in the power pack.

12 Monthly.

- 1) Check all as for Daily, Weekly, Monthly, 3 Monthly and 6 Monthly.
- 2) Carry out a full load test as set out in the Load Test Procedure.
- 3) To conform with LOLER, ensure the formal documentation is signed by the competent person carrying out the Thorough Examination.

### **Load Test**

A load test must be carried out periodically to assess the integrity of the FV500 and its supporting structures.

Any defects or signs of potential failure must be rectified before the machine is allowed back into service.

### **Method**

- 1) Prepare the vehicle for operation in a safe working area, with the support legs firmly set and cordon off with appropriate barriers and work in progress signs.
- 2) Prepare the maximum prescribed test weights as determined by the FV500 model number.
- 3) Clear the site, admit power, connect the pendant control and rotate the FV500 in line with the axis of the chassis and the boom outboard.
- 4) Without load, manoeuvre the crane through all extents to ensure correct operation.
- 5) Raise the boom to the horizontal position.
- 6) Extend the boom fully.
- 7) Lower the winch rope and attach the hook to the test weight prescribed.
- 8) Raise the winch rope until the load is clear of the ground.
- 9) Check for signs of excessive flexing, structural deformation, paint flaking and excessive play in the joints.
- 10) Rotate the FV500 through its maximum swing away from the vehicle and repeat the checks.
- 11) Rotate the FV500 through its maximum swing towards the vehicle until the weight reaches the load deck.
- 12) Raise the weight to clear the deck and continue to rotate to its maximum inboard position, adjusting the boom extension to accommodate side boards, door aperture etc.
- 13) Repeat checks as before.
- 14) Return the weight to its starting position and detach.
- 15) With the main boom still horizontal, fully retract the boom extension and repeat the test.

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

### Overload Test

An overload test is carried out on all new FV500s at the factory and forms part of the test certificate requirements.

If the FV500 is fitted to the vehicle by Penny Hydraulics Ltd. or one of its authorized dealers, the system including the sub structure and vehicle interface will be Overload Tested as part of the test procedure.

An Overload Test must be carried out if:

- 1) The FV500 is fitted to a new or modified structure.
- 2) Any Modifications have been carried out to the FV500 or support structure.
- 3) Following any incident which may have caused damage to the FV500 or its supporting structure.

To carry out an Overload Test, elements of the system protection features have to be overridden and therefore must only be carried out by a competent person.

In severe or extreme conditions, it is recommended that an Overload Test is incorporated into the Annual Load Test of FV500 and its supporting structure

Please contact Penny Hydraulics Ltd. for further information.

### 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.

## Service Contract

Date

<b>Lift location</b>	
<b>Contact</b>	<b>Post code</b>
<b>Telephone</b>	<b>Email</b>
<b>Invoice address</b>	
<b>Contact</b>	<b>Post code</b>
<b>Telephone</b>	<b>Email</b>

Penny Hydraulics Ltd agrees to carry out one annual service and one interim inspection on the lift in any twelve-month period. A test certificate will be left on site and a copy sent with the 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 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. This service contract will continue until cancelled in writing by either party.

Signed: ..... Print name: .....

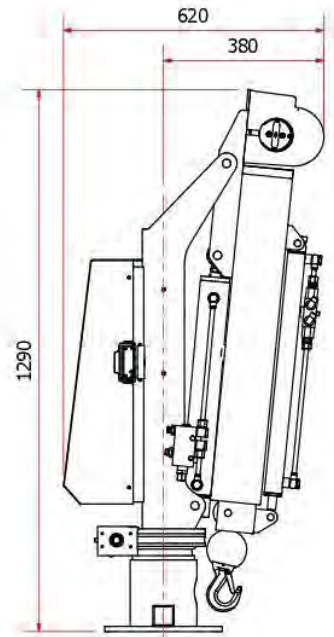
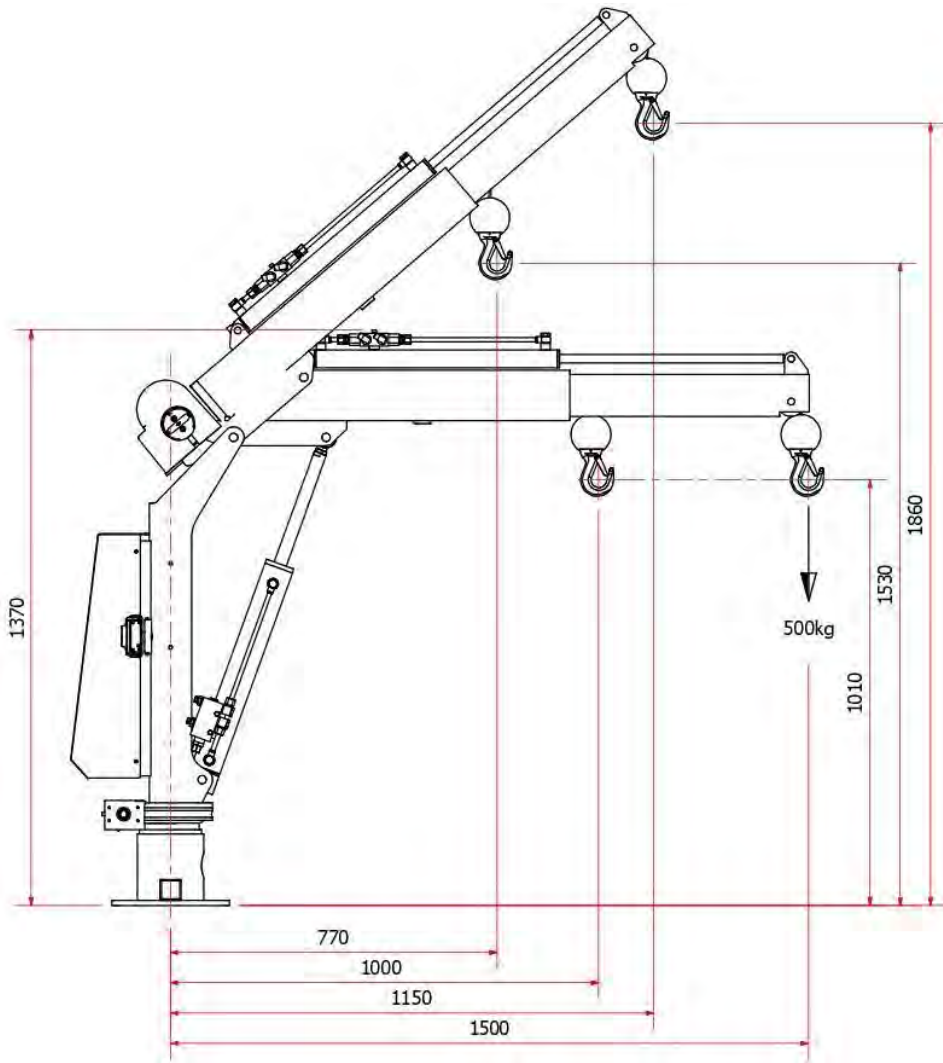
Position: ..... Order number: .....

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

**Penny Hydraulics Ltd,**  
Station Road, Clowne,  
Chesterfield. S43 4AB  
United Kingdom  
Telephone: 0044 (0) 1246 811475  
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Email: sales@pennyhydraulics.com  
Web: www.pennyhydraulics.com

# Technical Data

## Loading Chart

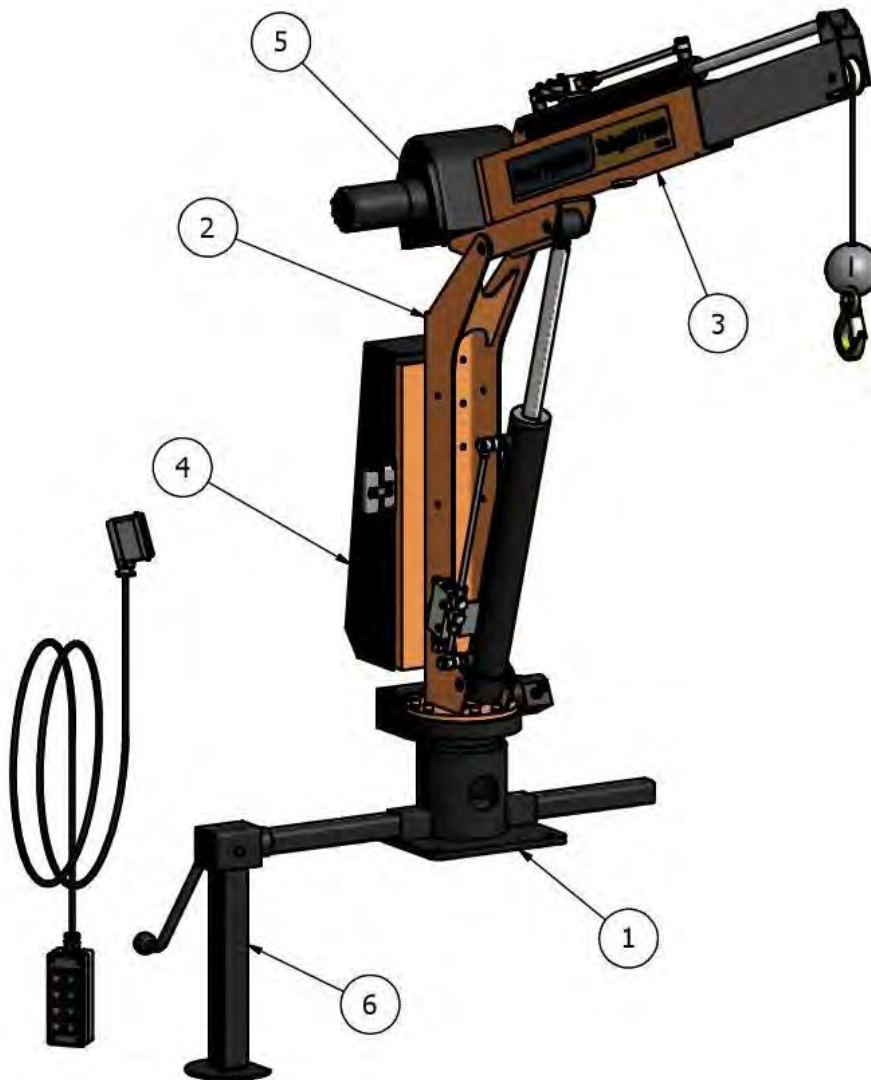


Weight: 85kg subject to model

## General Description

The FV500 consist of 6 main assemblies.

- 1) Base Assembly Including Slew Gear.
- 2) Pillar Assembly.
- 3) Telescopic Boom Assembly.
- 4) Hydraulic Power Pack & Control Equipment.
- 5) Winch & Rope Assembly
- 6) Support Leg Assembly (Optional).



### Base Assembly.

The Base Assembly is secured to a suitable sub frame on the vehicle body.  
The unit supports the hydraulically driven Slew Gear assembly.

### Pillar Assembly.

The Pillar Assembly supports the telescopic boom and is rotated around the base assembly  
by the Slew Gear.

### Telescopic Boom Assembly.

The Telescopic Boom has a maximum reach of 1.5m and is positioned by hydraulic lift and extension cylinders.

Boom lift and lower is controlled by a hydraulic cylinder attached to the Pillar and to the underside of the Telescopic Boom.

Load is monitored by a switch attached to the Winch Assembly to prevent overload.  
All cylinders have positive lock which incorporates burst hose protection.

### Hydraulic Power Pack.

The 12v DC (24v optional) hydraulic power pack is mounted on the Base Assembly (optionally on a sub frame adjacent to the hydraulic control valves) and is filled with mineral oil.

Hydraulic power may be taken from the host machine Power Take Off as an option.  
A pendant control operates the directional control valves and Winch functions.

### Winch Assembly.

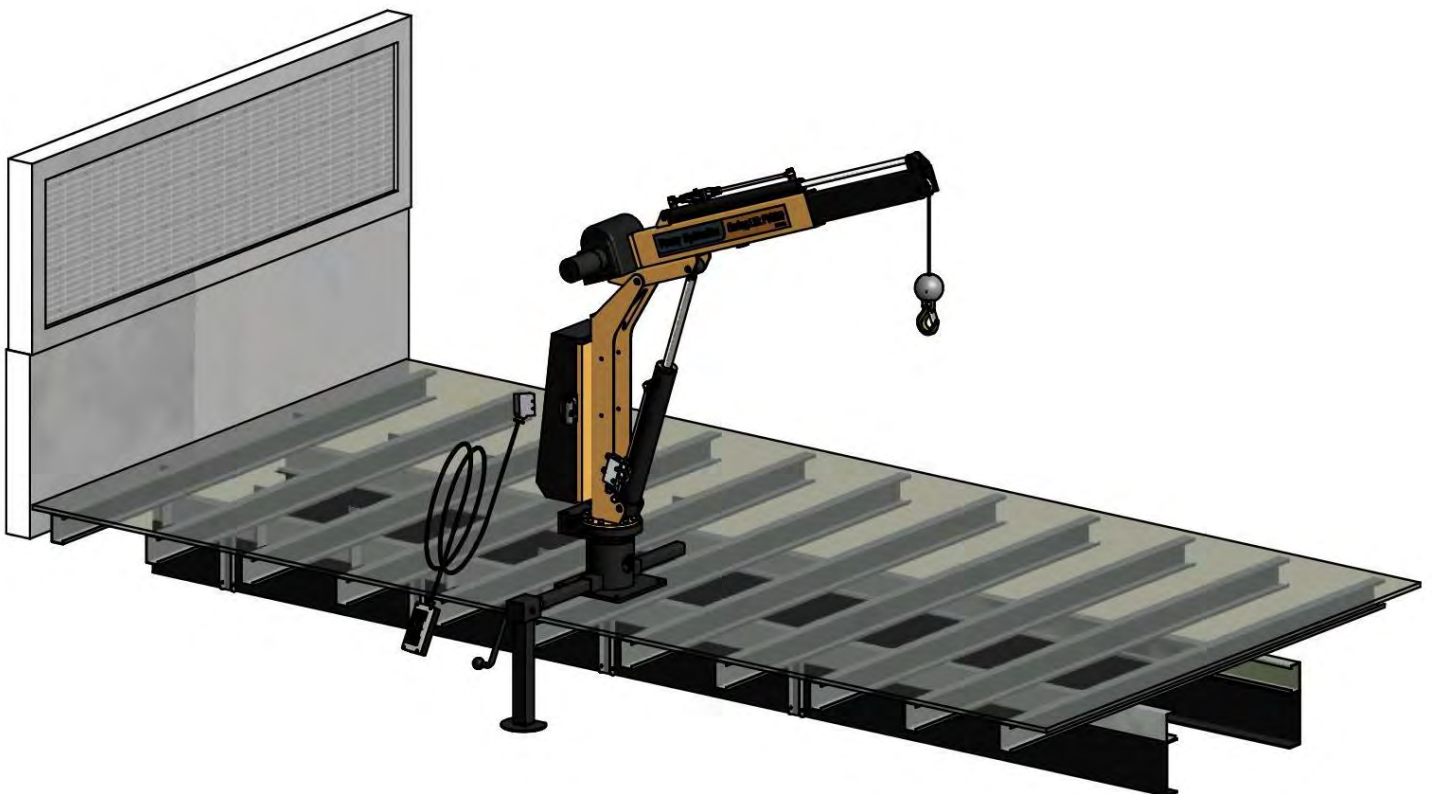
The electrically powered Winch Assembly performs the lift operation via wire rope and hook.

### Support Leg (Optional).

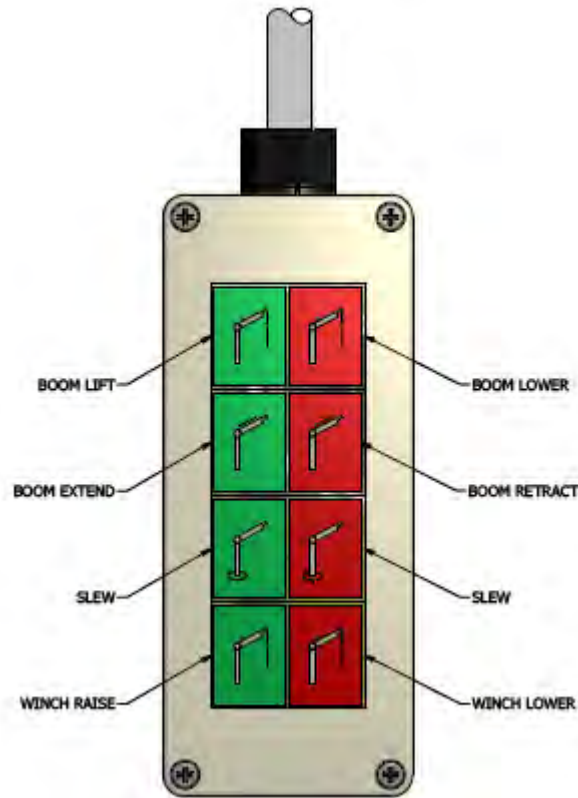
A manual set support leg is available subject to vehicle specification.

A hydraulic support leg kit is available as an option.

### Typical Layout



**FV500 SERIES  
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 Allweather
General Lubrication	Grease	LEP2



## **Power Supply**

The standard **SwingLift** FV500 requires a 12volt (24V Optional) DC electrical supply. .

## **Electrical Specification**

12 volts DC 40A  
24 volt optional  
240 volt (Static Application) – contact Penny Hydraulics Ltd.

## **Typical Weights**

Standard **SwingLift** FV500 - 85kg subject to specification.

## **Maximum Safe 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: -  
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.

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.

**We Penny Hydraulics Limited**  
*Station Road Industrial Estate, Station Road, Clowne, S43 4AB.*

Hereby declare that the product(s) listed below: -

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Model: **SwingLift** FV500 Series

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Serial No.

---

Conforms to the essential requirements of 2008 / 1597, The Supply of Machinery (Safety) Regulations 2008 and the following Directives, Standards and other Normative Documents where appropriate.

EU Directives/Regulations	Machinery Directive 2006/42/EC Electrical Equipment (Safety) Regulations 1994 European Council EMC Directive 89/336/EEC
Standard(s)	BS EN 12999 Cranes, Loader Cranes, 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)
Normative Documents	DIN 15018 Steel Structures BS 2573 Rules for design The Lifting Operations and Lifting Equipment Regulations 1998. The Provision and Use of Work Equipment Regulations 1998.

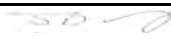
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All information is given within a Technical File compiled by: Mr Terry Brocklehurst  
c/o Penny Hydraulics Ltd.

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---

Place: - *Penny Hydraulics Limited*

Signature: - 

---

Date: -

Full Name: - J. D. Penny

---

Position: - M.D.

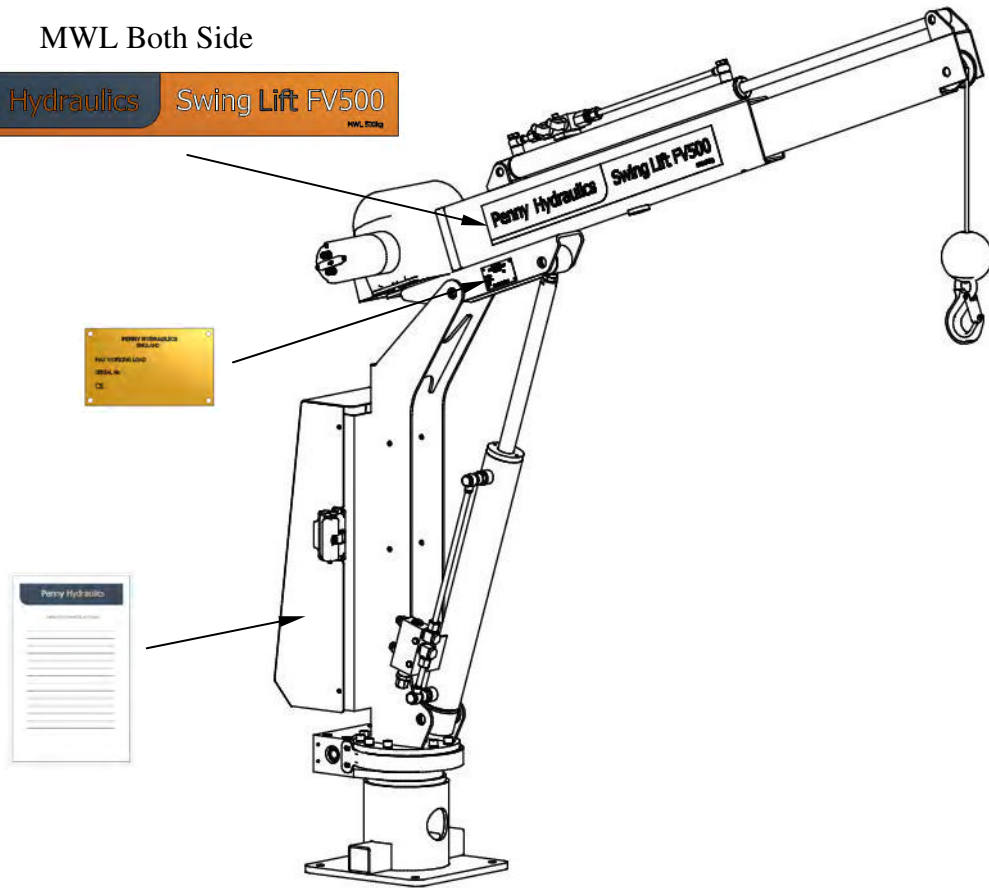
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BS EN ISO 9001: 2008 British Standards Institute Registered Company  
Certificate No. FM 20203

# Signs

MWL Both Side

Penny Hydraulics Swing Lift FV500



Read the Manual



Refer to the Manual



Caution



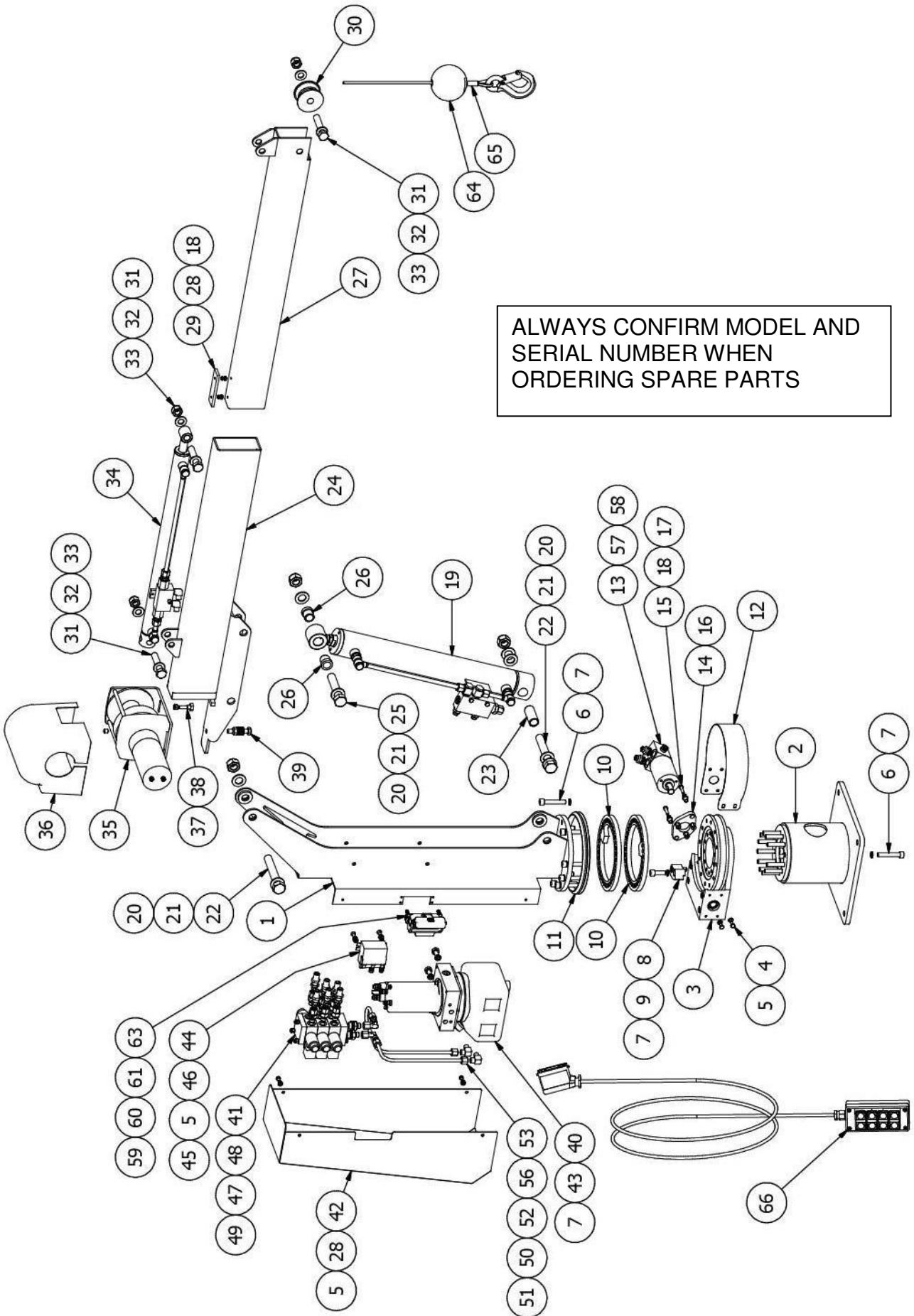
## PARTS LIST – FV500 STANDARD PICKUP

ALWAYS CONFIRM MODEL AND SERIAL NUMBER WHEN ORDERING SPARE PARTS
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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
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

PARTS DRAWING – FV500 PICKUP



ALWAYS CONFIRM MODEL AND SERIAL NUMBER WHEN ORDERING SPARE PARTS

## FV500 Electrical / Hydraulic Operation

The standard FV500 is set to lift up to 500kg safely in all boom positions up to full extension at 1.5m.

There are two 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.

A pendant handset control unit supplies the signals to both functions which are integrated by the action of a micro switch fixed to the winch unit.

The control supply circuit is split into two and in the event of an overload the micro switch 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 micro switch is activated by the winch moving against a pre set spring.

The hydraulic power pack which supplies 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 feed back 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.

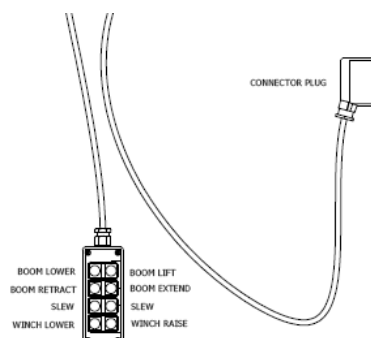
The winch base plate is allowed to pivot on the boom against a pre set spring pack which sets the maximum load allowed on the hook attached to the winch rope.

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.

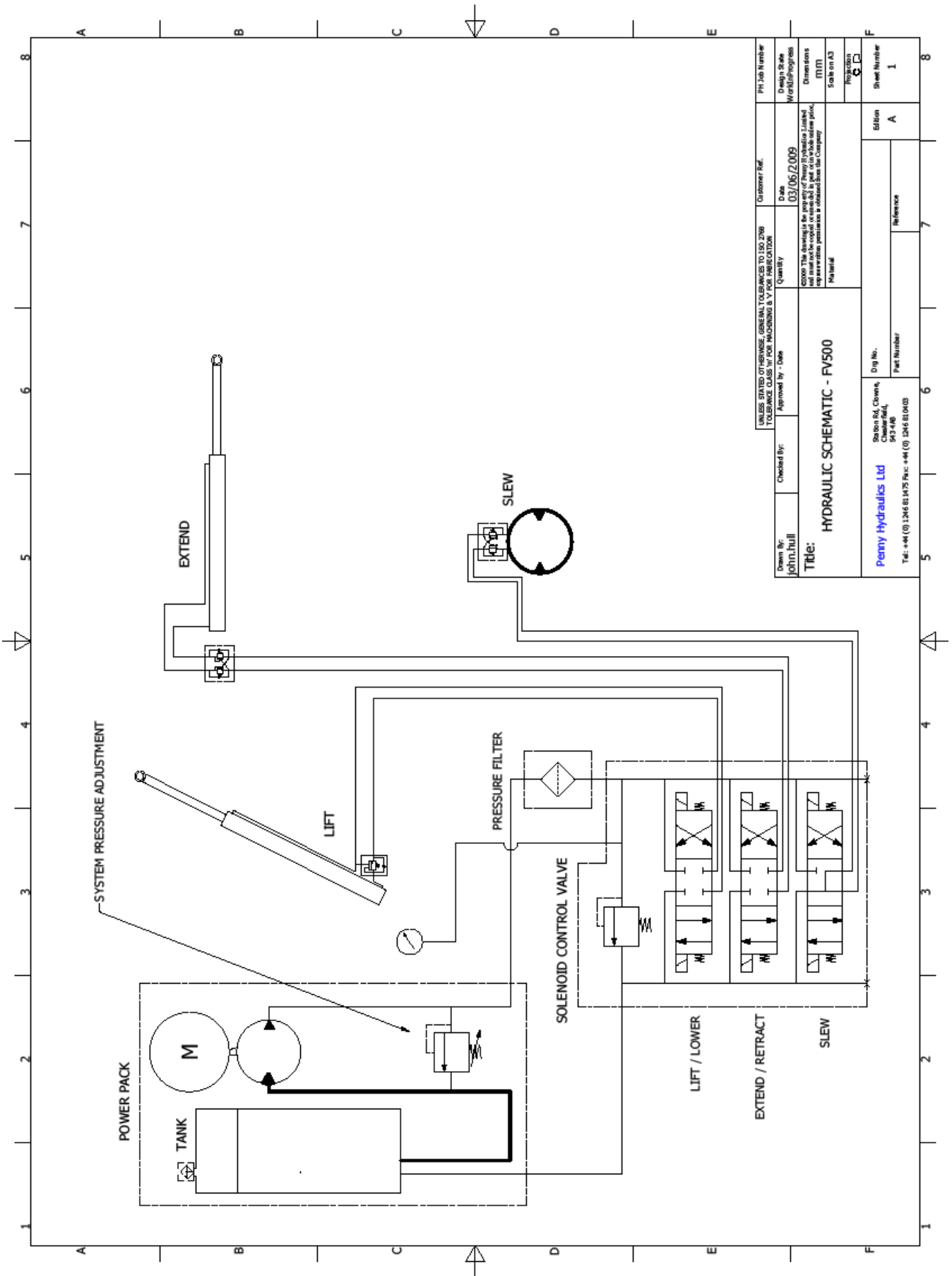
The split control signal to the handset still allows operation of Winch Lower, Boom Lower, Boom Retract and Slew.

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 electrical supply from the vehicle to achieve optimum performance.



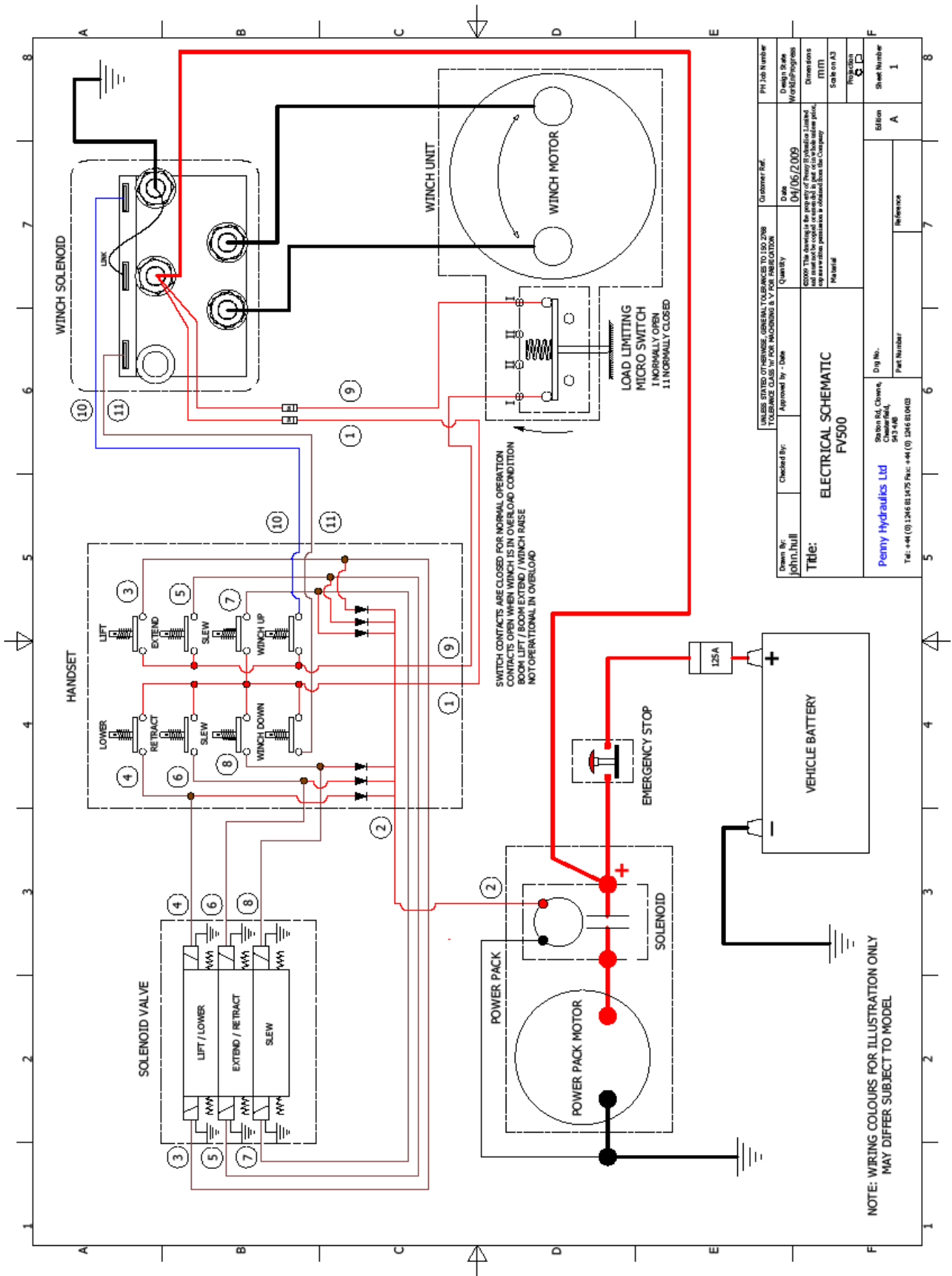
# HYDRAULIC SCHEMATIC



Down By: John Hull	Checked By:	Approved By - Date	Quantity	Customer Ref.	PH Job Number
Title: <b>HYDRAULIC SCHEMATIC - FV500</b>			Date: 03/06/2009		
UNLESS STATED OTHERWISE, GENERAL TOLERANCES TO ISO 2768 TOLERANCE CLASS 'M' FOR MACHINING & 'V' FOR FABRICATION			Design Scale: Manufacturing Progress		
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Penny Hydraulics Ltd Station Rd, Clowns, Chesterfield, S43 7AB Tel: +44 (0) 1246 81 475 Fax: +44 (0) 1246 810403			Edition: A		
Dwg No.: Part Number			Reference: Sheet Number: 1		



# ELECTRICAL SCHEMATIC



Drawn By: John.hull	Checked By:	Approved By: - Date	Quantity	Customer Ref.	PFI Job Number
Title: <b>ELECTRICAL SCHEMATIC FV500</b>			Date: 04/06/2009	Design Stage: Work/In Progress	Drawn By: MIM
Unless stated otherwise GENERAL TOLERANCES TO ISO 2768 TOLERANCE CLASS 'M' FOR MACHINING & 'V' FOR FABRICATION			Dimensions All dimensions are in millimetres unless stated otherwise All dimensions are to be taken from the drawing unless stated otherwise	Scale on A3 1:1	Revision 1
Penny Hydraulics Ltd Station Rd, Clowes, Walsby, Lincs, LN4 4AB Tel: +44 (0)1526 81475 Fax: +44 (0) 1526 81048			Dwg No. FV500	Part Number Reference	Sheet Number 1

**Training register for:**

Date	Trained operator	Signature	Trained by	Signature

The latest health and safety legislation requires 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 issued on successful completion of the course.

Penny Hydraulics Ltd  
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Web: [www.pennyhydraulics.com](http://www.pennyhydraulics.com)



## Service

Current legislation requires that each item of lifting equipment be thoroughly examined at least once in every 12 month period by a competent person.

Our service contract will ensure continued, safe, reliable use of the equipment and full compliance with current legislation.

Key benefits of a Penny Hydraulics service contract include...

- **Combined maintenance and statutory inspection saves time and money**
- **Nationwide coverage**
- **Statutory inspections completed**
- **OEM spares available ex-stock**
- **High first time fix rate**
- **Reduced vehicle downtime**

## Training

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