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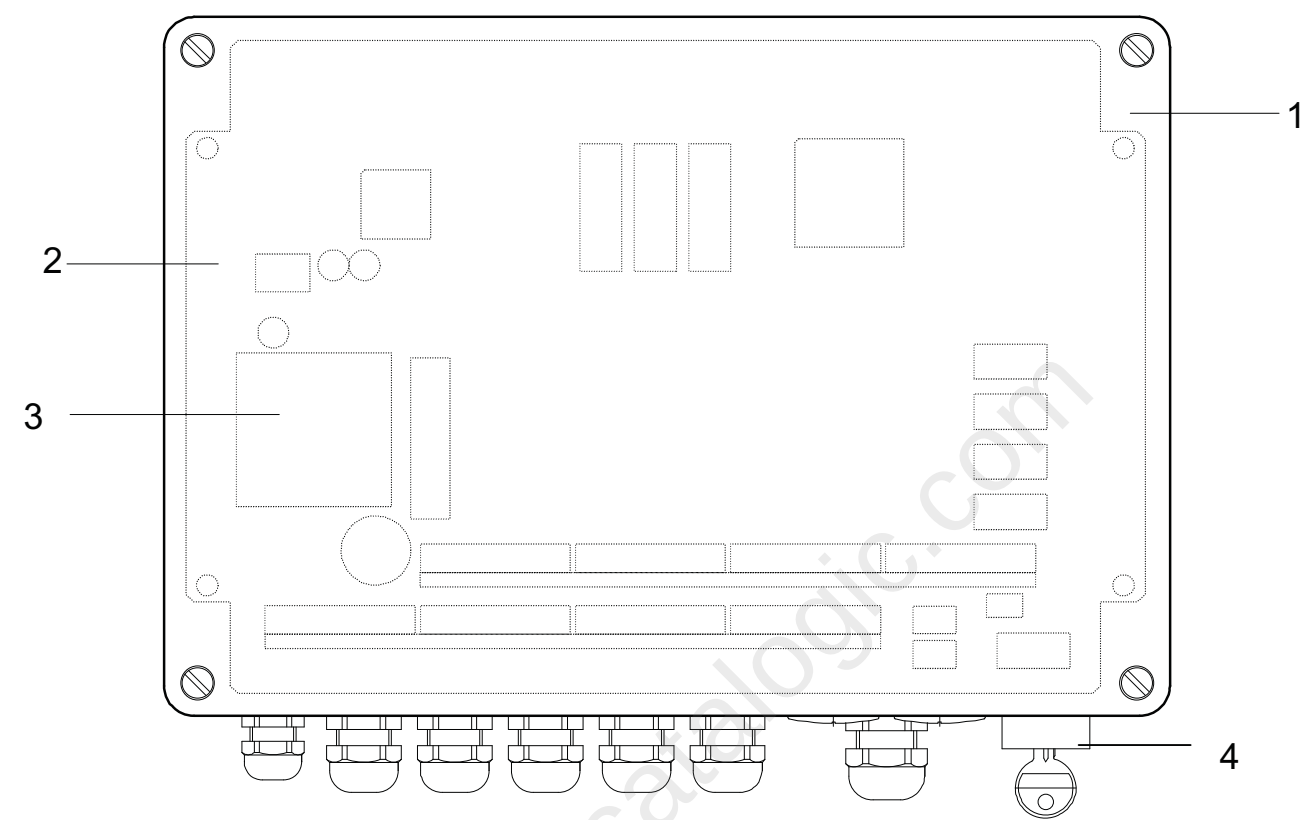
EQUIPMENT SOLUTIONS

Mark 4K



SERVICE MANUAL

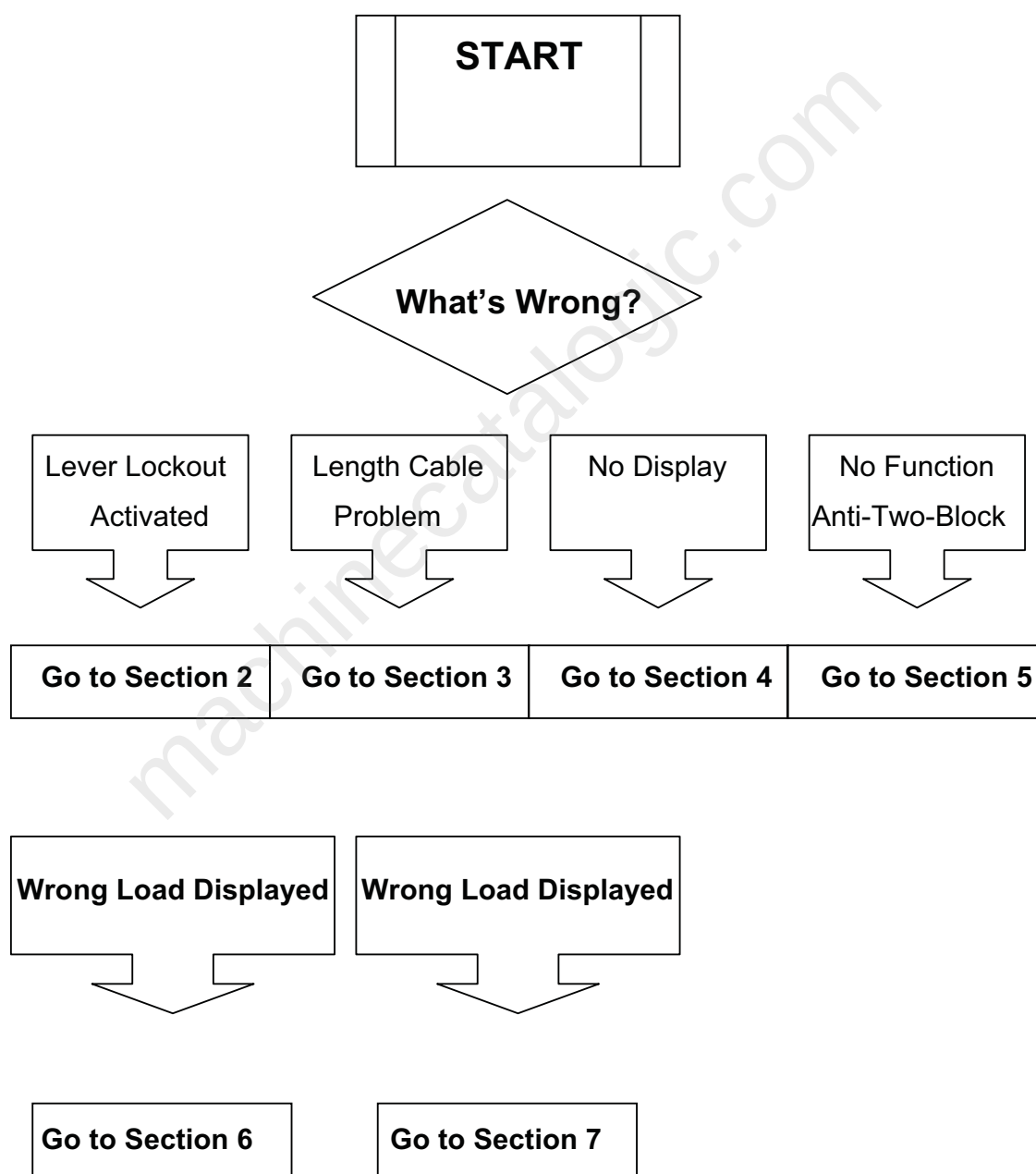
DRAWING 2. CENTRAL PROCESSOR 24VDC - MARK 4K 1-0112757.00 Spare Parts List



ITEM NUMBER	DESCRIPTION	QUANTITY	ARTICLE NUMBER
1	Housing	1	1-0103719.00
2	P.C. Board (Central Processor)	1	1-0112111.00
3	Module (DC/DC Converter)	1	1-0028174.00
4	Key Switch	1	1-0103247.00

SECTION 3. TROUBLESHOOTING FLOW CHARTS**1. GENERAL FLOWCHART**

This section explains how to handle a problem that may arise with the PAT Load Moment Indicator System Kruger Mark 4E/2. The procedures are easy to follow and are given in flowcharts on the following pages. Start with the general flowchart below will guide you to one of the other detailed flowcharts shown in this section.



System Errors

CODE NO. 1040
CALL CUSTOMER SERVICE

Description of error(s):
Error of division.

Cause(s):
The system has attempted to divide by zero.

Corrective action:
If the error cannot be eliminated by switching the system on and off, all display values and the set-up condition should be noted down and this information forwarded to Krüger for checking, because an error must have occurred either in the control program or in the Data-Eproms.



CODE NO. 1042
CALL CUSTOMER SERVICE

Description of error(s):
Incorrect "CHECKSUM" of the control program.

Cause(s):
Loss of data in the Eprom of the control program, or invalid modification of the control program.

Corrective action:
Install new Eprom with valid control program.



CODE NO. 1041
CALL CUSTOMER SERVICE

Description of error(s):
Invalid interrupt vector.

Cause(s):
The system has attempted to execute an interrupt that is not valid.

Corrective action:
If the error cannot be eliminated by switching the system on and off, the system should be returned to Krüger for checking, because an error must have occurred either in the control program or in the hardware.



CODE NO. 1043
CALL CUSTOMER SERVICE

Description of error(s):
No real-time clock.

Cause(s):
A control program requiring a real-time clock has been fitted on a pc board without a real-time clock, or the real-time clock is defective.

Corrective action:
Check the version of the control program and the equipment status on the pc board. If the control program version is in order and a real-time clock(U5) is fitted, it will be necessary to replace the junction box pc board.

SECTION 6. LENGTH TRANSDUCER REPLACEMENT AND ADJUSTMENT

Length Transducer Replacement

Tools required:

1.5mm Allen wrench
13mm Open end wrench
Medium flat blade screwdriver
Needle nose pliers
Digital Volt-Ohm meter

Procedure

1. Locate machine in an area that will allow you to safely extend the boom to it's full extension (Powered sections plus manual section).
2. Fully retract the boom and lower to an angle that will provide you with access to the cable reel mounted on the boom base section.
3. Turn off power to the Load Moment System.
4. Remove cable reel cover. Store the 4 screws, washers and clamps in a safe place.
5. Rotate the arm attached to the length potentiometer until the setscrew is accessible. Loosen, but DO NOT remove the setscrew.
6. Rotate the arm until the second setscrew is accessible. Loosen, but DO NOT remove the setscrew.
7. Remove the arm from the Length potentiometer and store in a safe location.
8. Remove the nylon gear from the length potentiometer shaft.
9. Use the 13mm wrench to remove the length potentiometer from the mounting bracket.
10. Use the soldering iron and needle nose pliers to remove the three (3) wires from the angle potentiometer.
WARNING! Before removing wires make a diagram of there location.
11. Install the new length potentiometer in the mounting bracket. Tighten using 13 mm wrench.
12. Install the large nylon gear on the potentiometer shaft. Be sure that the brass spacer is facing toward the boom.
13. Install the lever arm on the potentiometer shaft and tighten both setscrews.
14. Use the soldering iron to connect the wires to the angle potentiometer using the diagram made in step 4.
15. Set VOLT-OHM meter to read OHMS. Place one probe on terminal #1 of the terminal strip and the other probe on terminal #2. Turn the lever arm until the meter indicates approximately 95 OHMS. Remove the meter from the circuit.
16. Supply power to the Load Moment System.
17. Follow system start up procedure to put the display panel in the normal operating mode.
18. With all boom sections FULLY RETRACTED rotate lever arm on the length potentiometer until the length displayed on the panel indicates the shortest boom length shown on the crane capacity chart.
19. FULLY EXTEND boom sections. Panel should display the maximum extended boom length of the load chart.
20. If the length displayed on the panel AGREES the machine can be put back in service.
21. If the length displayed DOES NOT AGREE go to LENGTH TRANSDUCER ADJUSTMENT.

Full Version Available

PAT Mark 4K Load Moment Indicator Service Manual

PAT Mark 4K load moment indicator service manual with troubleshooting, error codes and transducer adjustments. 74-page English PDF. Instant PDF download.

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