

P.A.T. - LMI MANUAL
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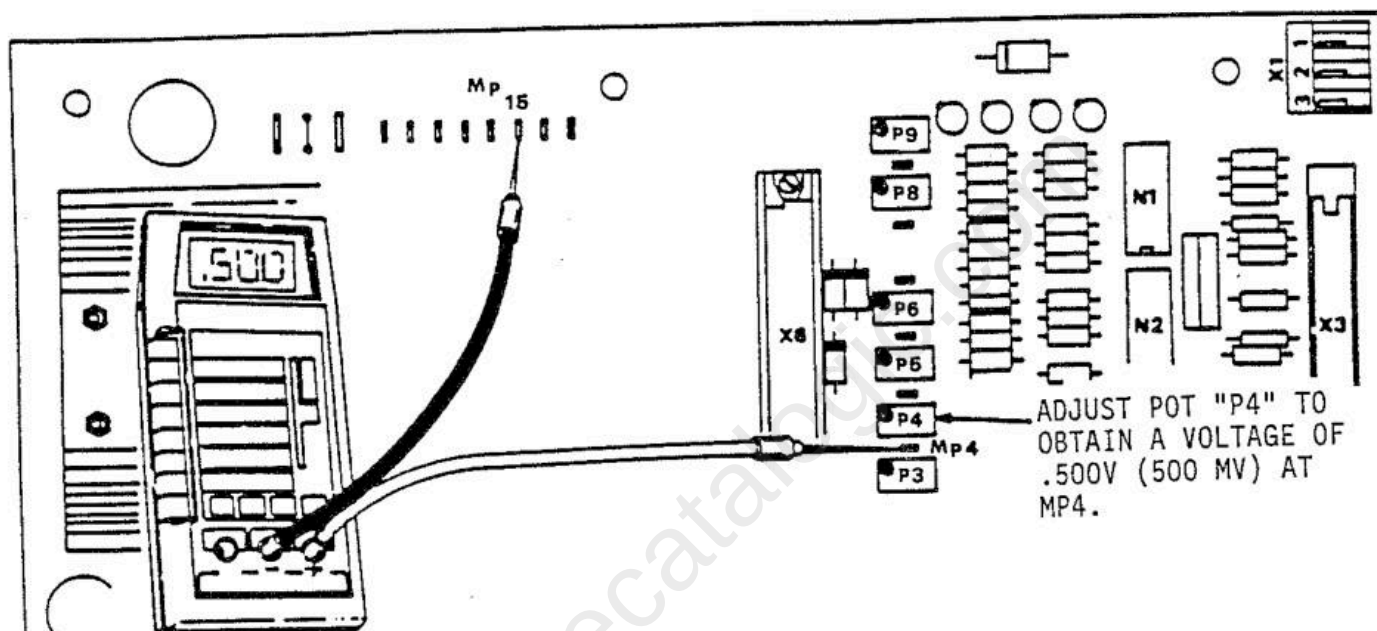
- 2.3 **Incoming Signals:** The signals from the transducers are connected to the terminal board. The signals of the angle-length transducer are connected to terminal #9 (angle) and terminal #10 (length). The signal on terminal #9 (angle) is between -1.875V and -3.125V. The signal on terminal #10 (length) is between -0.500V and -4.500V. The signals from the pressure transducers are connected to terminal #16 (rodside) and terminal #21 (piston side). The signals on terminals #16 and #21 are between 0.00V and -1.00V. The signal from the force transducer is connected to the terminals #28 and #29. The signal between #29 (negative output) and #28 (positive output) is between 0.00V and +2.500V. The inputs for the duty selection switches are the terminals #38, 40, 42 for positive signals, or #37, 39, 41 for negative signals. The input for the anti-2-block switch is terminal #35.
- 2.4 **Outgoing Signal:** The outgoing signal of the terminal board is the signal for lever lockout of terminal #48. In normal working conditions there are 12 volts at this terminal. If there is an overload or anti-2-block condition the signal becomes 0 volts. Furthermore all voltages for the transducers are going out via the terminal board.

SECTION 3

BASIC ADJUSTMENT OF THE HARDWARE

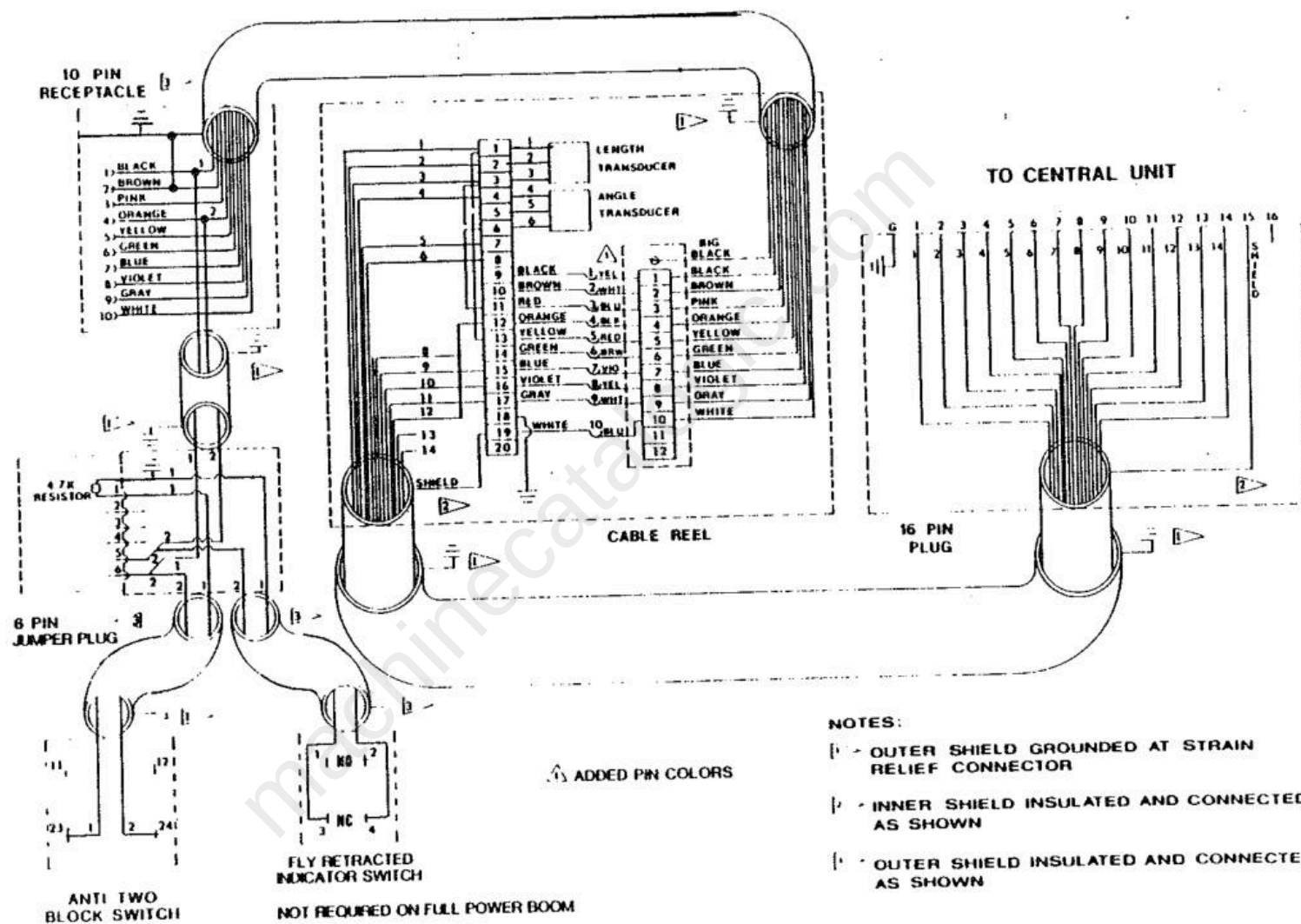
- 3.1 **Length:** Ensure that the length cable tension is correct with fully retracted boom by turning the cable reel 5 to 8 turns counterclockwise. Then remove cover from LWG and adjust counterclockwise the potentiometer to end stop.
- 3.2 **Angle:** Set the boom between 0 and 5 degrees and set the inclinometer to the boom angle. Adjust the angle sensor to the same angle as the boom. Check the angle at 20 degrees, 45 degrees, 70 degrees. Angle display should be less than $\pm .2$ degrees of the value of the inclinometer.
- 3.3 **Pressure Channel:** Rest the boom and disconnect hydraulic hoses from the pressure transducers. Measure and record the zero-points of both pressure transducers on the terminal board. Adjust P4 and P5 on the main board to 500mV at test points MP4 and MP5. Connect hydraulic hoses back to the pressure transducers.
- 3.4 **Duty Selection Switches (Digital Inputs):** Check the duty selection switches for correct operation. Check the voltage on digital input terminals.
- 3.5 Check the function of the hoist limit switch (anti-2-block)
- 3.6 Check function of lever lockout.
- 3.7 Measure and record the power supply voltages.

MAIN P.C. BOARD
INSIDE CENTRAL UNIT
DRAWING #2
E12



PISTON PRESSURE CHANNEL

3. CONNECT DIGITAL VOLTMETER NEGATIVE (-) LEAD TO "MP15" ON MAIN BOARD AND POSITIVE (+) LEAD TO "MP4" ON MAIN BOARD IN CENTRAL UNIT. VOLTAGE SHOULD BE .500 VOLT (500 MV) POSITIVE. THIS IS THE OUTPUT SIGNAL OF THE PISTON PRESSURE MEASURING CHANNEL. (REF. DRAWING #2)
4. IF VOLTAGE IS INCORRECT ADJUST POT #4 ON MAIN BOARD TO OBTAIN .500 VOLT (500 MV) AT "MP4" (REF. DRAWING #2)



ELECTRICAL
DIAGRAM - BOOM
TM1500 LM
RT875

ERROR DISPLAY	ERROR	CAUSE	ACTION
E 15	Fallen below lower limiting value for the measuring channel "angle main boom".	Cable from central unit to the length/angle sensor defective or loose.	Check cable. Replace if necessary. See Section No. 6
		Angle sensor defective.	Replace angle sensor. and reset adjustment.
		Electronic component in the measuring channel defective.	Replace main board and reset pressure channels. See Section No. 7.
E 16	Fallen below lower limit value for measuring channel "Luffing Jib Angle".	Cable from central unit to angle sensor defective or disconnected or water inside the plug.	Check cable as well as plug, replace if need be.
		Angle sensor defective.	Replace angle sensor.
		Electronic component in the measuring channel defective.	Replace main board and reset pressure channels. See Section No. 7.
E 19	Error in the reference voltage.	Electronic component on the main board defective.	Replace main board and reset pressure channels. See Section No. 7.
E 21	Upper limiting value for the measuring channel "length" exceeded.	Cable from central unit to the length/angle sensor defective or loose.	Check cable. Replace if necessary. See Section No. 6.
		Length potentiometer defective.	Replace and reset length potentiometer.
		Electronic component in the measuring channel defective on main board.	Replace main board and reset pressure channels. See Section No. 7.
E 22	Upper limiting value for the measuring channel "pressure piston side" exceeded.	Cable from central unit to the pressure transducer defective, loose or water in the plug.	Check cable as well as plug. Replace if necessary. See Section No. 7.
		Pressure transducer on piston side defective.	Replace pressure transducer and reset pressure channels. See Section No. 7.
		Electronic component in the measuring channel defective on main board.	Replace main board and reset pressure channels. See Section No. 7.

Full Version Available

PAT DS 150 Load Moment Indicator Service Manual (031-300-100-753)

PAT DS 150 load moment indicator service manual with wiring, adjustments, circuit drawings and board replacement procedures. Instant PDF download.

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