



Portable Hoist - 110v and 220v 1ph Troubleshooting Guide

1. Does the hoist do anything?
YES – 2
NO - 25

2. What does the hoist do?

Goes down not up	- 3
Goes up not down	- 13
Does not move but hums	- 18
Runs but will not lift a load	- 20
Runs but will not hold a load	- 24

3. Remove the Enclosure Box Cover. Locate the UP and Down contactors. Press the UP button on the Control Pendant. Does the UP contactor close?
YES – 4
NO – 6

4. Check the voltage with a multi-meter on the input side of the contactor. Are both lines of voltage present?
YES – 5
NO – Check wire connections

5. Check the voltage with a multi-meter on the output side of the contactor while the contactor is closed by pressing the UP button on the Control Pendant. Are both lines of voltage present?
YES – Check the wires and connections feeding the motor
NO – Replace the contactor (bad main contacts)



6. Locate the UP contactor by pressing the Down button on the Control Pendant. The DOWN contactor will close the other contactor will be the UP contactor. Locate the contactor coil inputs "A1" and "A2". With a multi-meter set to AC voltage, test the voltage between "A1" and "A2" while pressing the UP button on the Control Pendant. Is the control voltage present while pressing the UP button on the Control Pendant?
 - YES – Replace contactor (bad contactor coil)
 - NO – 7

7. With a multi-meter set to AC voltage, check the voltage at the contactor coil input "A1" and terminal "98" of the Motor Overload. Is the control voltage present?
 - YES – 8
 - NO – Check the wiring between the UP contactor coil input "A1" and the DOWN contactor coil input "A1"

8. Locate the Up Limit Bar Limit Switch. With a multi-meter set to AC voltage, check the input voltage of the Limit Switch between the Limit Switch input and contactor coil location "A1" while pressing the UP button on the Control Pendant. Is the control voltage present while pressing the UP button on the Control Pendant?
 - YES – 9
 - NO – Check wiring from the Limit Switch to the Control Pendant

9. With a multi-meter set to AC voltage, check the output voltage of the Limit Switch between the Limit Switch output and contactor coil location "A1" while pressing the UP button on the Control Pendant. Is the control voltage present while pressing the UP button on the Control Pendant?
 - YES – Check the wiring between the output of the Limit Switch and the contactor coil "A2"
 - NO – 10

10. Move the Up Limit Bar and listen carefully is the switch clicking?
 - YES – 12
 - NO – 11



11. Adjust the Limit Switch in or out until the switch clicks when the Up Limit Bar resting fully away from the Drum moves one(1) inch towards the Drum. Can the Limit Switch be adjusted?

YES – 12

NO – Replace Limit Switch

12. Using a multi-meter set to Ohms (Ω), check the continuity of the NO circuit of the switch. Move the Limit Bar up and down. Is there continuity through the circuit with the Up Limit Bar resting freely away from the Drum and No continuity through the circuit with the Up Limit Bar pushed towards the Drum?

YES – 9

NO – Replace Limit Switch

13. Remove the Enclosure Box Cover. Locate the UP and Down contactors. Press the DOWN button on the Control Pendant. Does the DOWN contactor close?

YES – 14

NO – 16

14. Check the voltage with a multi-meter on the input side of the contactor. Are both lines of voltage present?

YES – 15

NO – Check wire connections

15. Check the voltage with a multi-meter on the output side of the contactor while the contactor is closed by pressing the DOWN button on the Control Pendant. Are both lines of voltage present?

YES – Check the wires and connections feeding the motor

NO – Replace the contactor (bad main contacts)

16. Locate the DOWN contactor by pressing the Up button on the Control Pendant. The UP contactor will close the other contactor will be the DOWN contactor. Locate the contactor coil inputs "A1" and "A2". With a multi-meter set to AC voltage, test the voltage between "A1" and "A2" while pressing the DOWN button on the Control Pendant. Is the control voltage present while pressing the DOWN button on the Control Pendant?

YES – Replace contactor (bad contactor coil)

NO – 17



17. With a multi-meter set to AC voltage, check the voltage at the contactor coil input "A1" and terminal "98" of the Motor Overload. Is the control voltage present?
YES – Check the wiring from contactor coil "A2" to the control pendant
NO – Check the wiring from the Control Transformer

18. Do you hear a distinctive metallic click in the Motor when pressing the Up or Down button on the pendant?
YES – 19
NO – 23

19. Check the Capacitors and the capacitor connections on the UP and DOWN contactors. Do the Capacitors and capacitor connections look ok?
YES – Possible internal motor damage
NO – Repair connections or replace Capacitors

20. Ensure that the Control Box is connected to the proper power, taking in the factor the length of power supply cable and size of cable. Is the power feed correct?
YES – 21
NO – Correct the power feed

21. Is the LED on the outside of the Control Box lit?
YES – 22
NO – 31

22. What color is the LED?
GREEN – 23
RED - 29

23. Follow the "Portable Hoist Brake Replacement and Adjustment Procedure"

24. Adjust the Motor Brake Tension. Does the hoist hold the load and operate correctly?
YES – Place unit back into operation
NO – 23



25. Check all cable connections. Is the Control Pendant connected to control box and the Power Cord plugged into power?
YES – 26
NO – Repair connections
26. Ensure that the Control Box is connected to the proper power, taking in the factor the length of power supply cable and size of cable. Is the power feed correct?
YES – 27
NO – Correct the power feed
27. Is the LED on the outside of the Control Box lit?
YES – 28
NO – 31
28. What color is the LED?
GREEN – Check the wire feeding to the Control Pendant from terminal “95” of the Motor Overload to the Control Pendant
RED – 29
29. Allow the Motor to cool for 30 minutes and reset the Motor Overload. Did the Motor Overload reset?
YES – Place unit back into operation
NO – 30
30. Check all of the connections from the Motor Overload to the Motor. Are the connections ok?
YES – Bad Motor Overload or Motor damage
NO – Repair connections
31. With a multi-meter set to AC voltage, check the voltage at terminal “1” and “5” of the Control Transformer. Is the supply voltage present?
YES – 32
NO – Check the Inline Fuse and wire connections



32. With a multi-meter set to AC voltage, check the voltage at terminal “6” and “10” of the Control Transformer. Is the control voltage present?

YES – 33

NO – Replace control transformer

33. With a multi-meter set to AC voltage, check the voltage at terminal “10” of the Control Transformer and terminal “95” of the Motor Overload. Is the control voltage present?

YES – 34

NO – Check the wiring connections from terminal “96” to terminal “98” of the Motor Overload to terminal “6” of the Control Transformer

34. With a multi-meter set to AC voltage, check the voltage at terminal “6” of the Control Transformer and input “A1” of the UP contactor. Is the control voltage present?

YES – Check wiring to LED or bad LED

NO – Check wiring from the input “A1” of the UP contactor to input “A1” of the DOWN contactor to the terminal “10” of the Control Transformer