CAMBRIDGE
ELEVATING

JOURNEY (LULA)
SERVICE GUIDE

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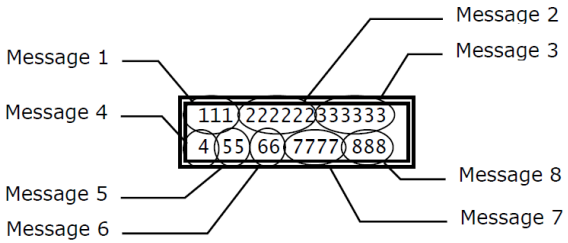
Refer to OLS Operator Manual, Virginia manual, Virginia drawings for your project, hoistway layout, and CE connection drawings for details.

Controller screen messages (copied from page 70-73 Of the MH-3000 user manual and modified)



Message # 1 will be replaced with one of the following messages:
1. "BAT" – the CPU Battery is low.
2. "INS" – the car is on Inspection Operation.
4. "IDS" – the car is on Independent Service. Terminal 40 is high
7. "(no message)" – the car is not on one of the special operations shown above.

Message # 2 will be replaced with one of the following messages:
1. "SHUNT" – the Shunt Trip input is enabled. The car will stop at the next landing, open its doors, and shutdown.
2. "SMOKE" – the Machine Room/Shaftway Fire detectors Input terminal 82F is high (120Vac)
3. "FIRE2" – the car is on Fire Service Phase 2 (car). Fireman's service has been activated from the COP
4. "FIRE1" – the car is in Fire recall operation either terminal 82 or terminal 82M are low 0Vac. can be caused by failure of Fuse F9
5. "FLOOD" – the car is on Flood Operation.
6. "LowOil" – the car took longer then the shutdown timer setting (typically 60 seconds) to get to the next floor.
7. "LevSws" – both of the Leveling Switches are on at the same time. Terminal 21 and 22, check magnet placement.
8. "RedESB" – a Redundancy Fault in the ESB Emergency Stop Sw Bypass circuit has been detected. The input (SBM) was high (120Vac) when it should not have been. The car will shut down at the next stop. Check the SB relay, or SBM monitoring input, and its associated wiring. Cycle the power to reset the fault.
9. "RedRUN" – a Redundancy Fault in the running or leveling circuits has been detected. The car will shut down at the next stop. Cycle the power to reset the fault.
The Door Contact Bypass circuit monitoring point (LV) was energized when it should not have been, OR the Pump run input (RUN) was still off after the car stopped. Check the external circuits for stuck relays (UL, DL, DZ, LV, LVX, STR, RU) or a stuck input.
10. "RedSAF" – a Redundancy Fault in the Safety Circuit has been detected. The car will shut down at the next stop. The condition of the Door Fault Monitor input (DFM) was not correct, OR the Car Gate Input (5) or Door Contacts Input (5X) was not correct. This may be caused by temporary jumpers added during initial installation, or a short in the Safety Circuit. Cycle the power to reset the fault.
11. "RedINS" – a Redundancy Fault in the Inspection Door Bypass circuits has been detected. The car will shut down at the next stop. One of the inputs that monitors the circuits that bypass the Door Contacts on Inspection or Access operation was closed when the car was not on Inspection or Access, or terminal 4 was not hot. Check the Door Contact circuit for jumpers or shorts. Cycle the power to reset the fault.
12. "DZFlt" – a Door Zone Fault was detected. The Door Zone input (20x) was on while the car was running fast speed, OR the Door Zone input (20X) came on before an Up or Down Level Switch came on. Check the Door Zone magnet or tape reader.
13. "OutDZ" – the car has stopped outside the Door Zone. 20X is low (0Vac).
14. "OilVis" – the car is on Oil Viscosity Operation. The car will return to the lowest landing, and turn on the pump, but not the valves.
15. "Auto" – the car is in automatic operation. It will respond to car and hall calls. INX relay is on via terminal 23. Terminal INS is high (120Vac)
16. "NoHC" – the car is not answering Hall Calls. This may be caused by Inspection, Independent Service, Fire Service, Medical Emergency Service, Shutdown, Door Check Fault. The cause is usually shown in one of the other status messages.

Message # 3 will be replaced with one of the following messages:
1. "BadPwr" – SP3 is off (no 120 from internal transformer) or the overload on the contactors is tripped. For 3 phase systems it could be the phase monitor as well. these contacts are in series with terminal RP which must be high (120Vac) or this fault will occur.
2. "BadOil" –the Oil Temperature Switch opened (terminal 18T)
5. "SHTDN" – the car is in shutdown, the log may tell you why.
6. "NegPr" – the Negative (low) Pressure Switch is open (terminal 16P is low (0Vac)). The car cannot run down, or reopen to Hall Calls at the current floor. It is allowed to run up, which may clear the fault.
7. "PwrOK" – none of the other faults exist. The car is on normal power, and not on shutdown.

Message # 4 will be replaced with one of the following messages:
1. The car position will be shown as a number between 1 and 8, with 1 as the bottom landing.
2. If the floor position is not known (such as on initial installation) then message #4 will show "?".

Message # 5 will be replaced with one of the following messages:
1. "UP" – the car is running up.
2. "DN" – the car is running down.
3. "DC" – the doors closed input is on.
4. "DO" – the doors closed input is off. The car cannot run.

Message # 6 will be replaced with one of the following messages:
1. "UL" – the car is leveling up.
2. "DL" – the car is leveling down.
3. "DZ" – the car is in the Door Zone.
4. "FS" – the car is running fast speed.
5. "SS" – the car is running slow speed.
6. "(no message)" – the car is not running, and it is not in the door zone.

If the appropriate fault exists, Message # 7 and #8 will be replaced with one of the following messages:
1. "IO-FAULT" – the communication with one or more of the I/O boards has failed.
2. "DrChkFLT" – the gate Closed Input (8X from operator) is on (120Vac) indicating the gate is not closed, and the gate Closed contact input (terminal 5) is on (120Vac) indicating the gate is closed, this may mean the contacts have been jumped out.
3. "DrLmtFLT" – the Door Open Limit (7X) and the Door Close Limit (8X) are both off. These inputs come from the door operator(s), at least one input should be high (120Vac) at all times
4. If none of these three faults are present, then messages # 7 and # 8 will show the door status as shown below.

Message # 7 will be replaced with one of the following messages:
1. "OPNG" – the doors are being told to open.
2. "CLSG" – the doors are being told to close. This is also displayed when the car is running, as the Door Close output is on during travel.
3. "OPEN" – the doors are fully open.
4. "CLSD" – the doors are fully closed.
5. "STOP" – the doors have stopped and are not fully open or fully closed.

Common settings that may require adjustment

See Virginia drawings Page P for procedure and details.

- Main/alternate fire landing
- Home landing (floor elevator will home too)
- Door time hall calls (how long the doors stay open, 5 sec)
- Door time cab calls (how long the doors stay open, 3 sec)
- Shutdown time (max time to get to next floor, typically 60 seconds)

Victory door operator

Programing the door width settings

This can resolve many issues related to opening and closing speeds and ensures the standby current draw in low.

- Locate the door operator circuit board
- Power down the operator board by removing JP1 (L1-L2)
- Locate the JP2 jumper (near JP4)
- Install the JP2 jumper across the two pins
- Power up the board by reinstalling JP1 (L1-L2)
- The door should open fully then close fully, if it does not do this check the following
- The gate closed contact is connected to F1, F2 connector at the board and the FC led is on when the door is closed.
- The gate open sensor is connected to CPA terminals and the FA light is on when the operator is fully open.
- The encoder cable must be installed at ENC.M.
- Power down by removing JP1 (L1-L2)
- Return the JP2 jumper to one pin
- Power up by reinstalling JP1 (L1-L2)
- Test the door operator

Warning - Placing calls from the Controller

Virginia controllers prior to early 2017 used Dupar fixtures and had 120Vac for all COP and call station button power, and you can place a call at the controller by applying 120Vac power from S1 to 1H,2H,3H…

Virginia controllers after early 2017 use Mad fixtures and have 24Vdc for all COP and hall call station button power, you can place a call at the controller by applying 24Vdc power from terminal 50 to 1H,2H,3H…

Do not jumper from ac terminals to Dc terminals, test for power and refer to drawings before placing any jumpers.

Troubleshooting the safety circuit

Refer to page R1 of the Virginia drawings

120Vac power flows through the safety circuit in the following order, if power is not on a terminal but is on the previous terminal investigate as noted.

- Terminal 1- fused 120Vac check fuse F4 and F5
- Terminal 1Y – check the Pit E-stop
- Terminal 2 – check that system is in auto (see next section)
- Terminal 3 – check slack rope switch and cartop e-stop sw.
- Terminal 4 – check the in-car E-stop switch
- Terminal 5 – check the car gate(s) and contacts
- Terminal 6 – check the landing doors and contacts
- Terminal 14 – check the top normal limit switch
- Terminal 16 – check the bottom normal limit switch
- Terminal 18 – check the up-slowdown switch
- Terminal 19 – check the down-slowdown switch

Troubleshooting the Inspection circuit

Refer to page R2 of the Virginia drawings

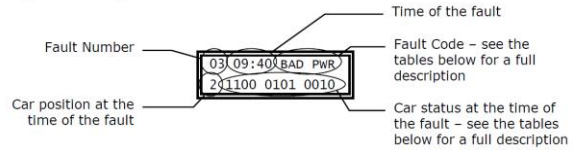
120Vac power flows through the safety circuit in the following order, if power is not on a terminal but is on the previous terminal investigate as noted.

- Terminal 1- fused 120Vac check fuse F4 and F5
- Terminal 86 – check the cartop inspection switch
- Terminal 23X – check the cartop prop is in place
- Terminal 23Y – check that both the car door and the hoistway bypass switches are off (down)
- Terminal 34Y – check the hoistway access switch in the car is off
- Terminal 23 – check the controller inspection switch is off (down)

Checking the fault log

- Refer to page 53 of the Virginia MH-3000 User manual for details.
- Press NEXT on the keypad in the controller until “Show fault log” is displayed
- Press enter

A Typical Fault Log Screen is shown here:



- Use NXT and PRV buttons till the fault number displays as 00, this is the last event registered.
- Pressing NXT will take you to event 01 which is the event previous to that.
- Pages 56 thru 60 list the various fault descriptions

3 Phase Power

If the phase monitor led is red –switch the wires with the push on connectors on the L1 and L2 terminals **on the phase monitor.**

If the motor sounds like it running backwards – switch the T1 and T2 wires in the main controller on the large terminals in the controller.

How to get the elevator out of the pit

NOTE: The Blain valve will not allow the contactors alone to raise the elevator.

- Jumper terminal #1 to terminal #6
- Jumper terminal #33 to terminal #35
- Push in both contactors till the elevator moves up
- Remove the jumpers

Setup and Adjustment of the Cambridge Elevating Hydraulic Power Unit.

Adjustment #1 (BP) – Up Delay
FUNCTION- Determines the length of the delay from pump start to car movement.
PRESET- Adjust in till click is heard then 3 turns out.
OPERATION- Turn in (CW) for less delay.
SETTING– Adjust so that the delay is approximately 1 second.
Adjustment #2 (UA) – Up Acceleration
FUNCTION- Determines how long it takes the elevator to reach full speed from a stop.
PRESET- Gently turn in (CW) until stop then turn out (CCW) one and a half turns.
OPERATION- Turning in (CW) will cause the elevator to take longer to reach full speed.
SETTING- Adjust so that car takes 2 seconds to reach full speed
Adjustment #3 (UD) – Up Full Speed Deceleration.
FUNCTION- Determines how quickly the car slows down to levelling speed.
PRESET- Gently turn in (CW) until stop then turn out (CCW) one and a half turns.
OPERATION- Turning in (CW) will increase the time it takes to slow down to levelling speed from full speed.
SETTING- Adjust so that the transition to levelling speed is quick but not uncomfortable (1 to 2 seconds).
Adjustment #4 (UL) – Up Levelling Speed.
FUNCTION- Determines levelling speed in the up direction.
PRESET- Adjust until screw is flush with casing.
OPERATION- Turning in will decrease the levelling speed.
SETTING- Adjust so that the levelling speed is approximately 8-10 feet per minute (1.5 to 2 inches in per second). The best way to set this is to turn off the high-speed switch located on the main controller board.
Adjustment #5 (US) – Up Levelling Speed Deceleration
FUNCTION- Determines how quickly the elevator stops
PRESET- Turn all the way out
Adjustment #6 (DA) – Down Acceleration
Note: Adjustment #6 can be affected by adjustment #8.
FUNCTION- Determines how long it takes the elevator to reach full speed from a stop.
PRESET- Gently turn in (CW) until stop then turn out (CCW) 1 turn.
OPERATION- Turning in (CW) will cause the elevator to take longer to reach full speed.
SETTING- Car should take 2 seconds to reach full speed.
Adjustment #7 (DF) – Down full speed
FUNCTION- Determines the car speed in the down direction.
PRESET- Adjust until screw is flush with casing.
OPERATION- Turn in to reduce the down speed.
SETTING- Adjust so that car travels up & down at the same speed
Adjustment #8 (DD) – Down deceleration
Note: Adjustment #8 can affect adjustment #6
FUNCTION- Determines how quickly the elevator transitions from full speed to levelling speed and from levelling speed to a stop.
PRESET- Gently turn in (CW) until stop turn out (CCW) 3 turns
OPERATION- Turn in to increase time it takes to slow
SETTING- Adjust for a smooth stop but no coasting
Adjustment #9 (DL) – Down Levelling speed
FUNCTION- Determines the speed of the car when traveling down in levelling speed.
PRESET- Adjust until screw is flush with casing.
OPERATION- Turn in to reduce the levelling speed.
SETTING- Adjust so that the levelling speed is approximately 10 feet per minute (2 inches in per second).