

## 9) FAULT TROUBLESHOOTING:

| FAULT                                                                                                                                                                       | Possible Cause                                                                                     | Corrective Action Required                                                                                                                                                                                                                                                                                                             |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MSC open during run                                                                                                                                                         | Pit Switch not being used and required jumper was not installed.                                   | Review electrical diagrams and place jumper between required terminals.                                                                                                                                                                                                                                                                |
|                                                                                                                                                                             | Pit Switch open                                                                                    | Put Pit switch back to "Run" position and then perform controller "Reset" function.                                                                                                                                                                                                                                                    |
|                                                                                                                                                                             | Top or Bottom Final Limit switch set too close to terminal landing.                                | Move car off of Final Limit and adjust cam or switch position if necessary, then perform controller "Reset" function.                                                                                                                                                                                                                  |
|                                                                                                                                                                             | Car top Stop switch opened.                                                                        | Put Stop switch back to "Run" position and then perform controller "Reset" function.                                                                                                                                                                                                                                                   |
|                                                                                                                                                                             | Car Slack Rope / Safety switch tripped.                                                            | Evaluate the condition and location of the car. <b>Use proper safety rules when dealing with this situation and never attempt to get under or onto the car unless the unit has been adequately assessed and the proper safety precautions have been taken.</b> Manually reset the switch and then perform controller "Reset" function. |
| GC open during run                                                                                                                                                          | Car top mounted Final Limit Sw. (Drum only)                                                        | Move car off of Final Limit and adjust switch position if necessary, then perform controller "Reset" function.                                                                                                                                                                                                                         |
|                                                                                                                                                                             | In-car stop switch in "Stop" position<br>Car gate opened during run.                               | Put stop switch to "Run" position.<br>Close car gate.                                                                                                                                                                                                                                                                                  |
| HDC open during run                                                                                                                                                         | Hoistway door contacts opened while coming into or through a floor during run.                     | Check adjustment of door closer, spring hinges, or latch, to insure proper closing pressure and adjust if necessary.                                                                                                                                                                                                                   |
|                                                                                                                                                                             | Door "Lock" and "Closed" contacts wired in reverse.                                                | Check wiring and correct if necessary. For GAL interlocks, the lower contacts are the "Door Closed" contacts.                                                                                                                                                                                                                          |
| HDL open during run<br>(General)                                                                                                                                            | Door lock not locking                                                                              | Check for binding between keeper and locking member and re-align if necessary.                                                                                                                                                                                                                                                         |
|                                                                                                                                                                             | Door lock not locking                                                                              | Interlock too far from back of door panel and keeper does not enter lock far enough, inhibiting the locking member from engaging the keeper. Make necessary adjustments.                                                                                                                                                               |
|                                                                                                                                                                             | Door lock not locking                                                                              | Door panel warped and does not allow keeper to extend into the lock far enough. Make necessary adjustments.                                                                                                                                                                                                                            |
|                                                                                                                                                                             | Door locking but no HDL signal to controller.                                                      | Check wiring and correct if necessary.                                                                                                                                                                                                                                                                                                 |
|                                                                                                                                                                             | Door "Lock" and "Closed" contacts wired in reverse.                                                | Check wiring and correct if necessary. For GAL interlocks, the lower contacts are the "Door Closed" contacts.                                                                                                                                                                                                                          |
|                                                                                                                                                                             | If using Electro-Mechanical locks, HDC to HDL jumper missing.                                      | Refer to electrical drawing and verify that required jumper is installed.                                                                                                                                                                                                                                                              |
| HDL open during run when leaving or passing by a floor & car does not return to floor level                                                                                 | Position Magnet too long. DZ signal is lost before car comes to rest after losing Position signal. | Shorten Position magnet 1/8 to 1/4 inch until car returns to floor after fault.                                                                                                                                                                                                                                                        |
| Overload Trip<br>Only Single Speed drum units include a manually resettable overload. Overloads on VF Drum and Hydraulic units automatically reset after thermal cool down. | Motor incorrectly wired                                                                            | Check wiring and correct if necessary then perform controller "Reset" function.                                                                                                                                                                                                                                                        |
|                                                                                                                                                                             | Line Voltage too low                                                                               | Measure voltage and if more than 10% below nominal, contact Power Company for correction.                                                                                                                                                                                                                                              |
|                                                                                                                                                                             | Unit run with over capacity loading                                                                | Reset or allow overload to cool down and then perform controller "Reset" function.                                                                                                                                                                                                                                                     |
|                                                                                                                                                                             | Incorrect wire size used for power source                                                          | Typical wire gauge should be minimum of 10. If longer than normal lengths, from power source to controller, disconnect are required, wire gauge may need to be increased.                                                                                                                                                              |
|                                                                                                                                                                             | Incorrect wire size used to connect motor                                                          | Typical wire gauge should be minimum of 12. If longer than normal lengths from controller to motor are necessary, increase wire size to 10 ga.                                                                                                                                                                                         |

## 9) FAULT TROUBLESHOOTING (continued):

| FAULT                                                                                             | Possible Cause                                                                                                                                                                                                                                                                          | Corrective Action Required                                                                                                                                                                        |
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| <b>Run Timer Trip</b><br>General                                                                  | If attempting to run up, UT input not on, if attempting to run down, LT input not on.                                                                                                                                                                                                   | Verify proper inputs are present, if not make necessary changes to correct.                                                                                                                       |
| <b>Run Timer Trip</b><br>& Hydro units with 6-16-04 Software & all unit with Software version 1.1 | Parameter setting not long enough                                                                                                                                                                                                                                                       | Check parameter setting and modify if necessary. See factory setting formula on page 16. (For all Drum units see section 1-3 item 3 note for reset procedure)                                     |
|                                                                                                   | Low oil condition, car can not reach upper floor(s).<br><b>Hydraulic units only.</b>                                                                                                                                                                                                    | Check oil level, when car is at the top floor, Motor and pump should be submerged in oil.                                                                                                         |
| <b>Run Timer Trip</b><br>Single Speed Drum only with 6-16-04 Software                             | Timer tripped in Power outage or Overload trip lowering mode.                                                                                                                                                                                                                           | Change run timer parameter setting to ( Total feet of travel X 6 plus 5). For all Drum units see section 1-3 item 3 note for reset procedure.                                                     |
| <b>Door Failed to Open</b><br>This is only for Power Gate applications                            | Power Gate is not opening, or Gate switch (GC input) failed to de-energize within 3 seconds after the Gate Open signal was given.                                                                                                                                                       | Verify that the Power switch to the Gate operator is in the ON position.                                                                                                                          |
|                                                                                                   |                                                                                                                                                                                                                                                                                         | Verify that the traveling cable connections are correct and that the Gate open signal is reaching the operator.                                                                                   |
|                                                                                                   |                                                                                                                                                                                                                                                                                         | If the gate is opening; Verify that there are no jumpers jumping out the GC circuit.                                                                                                              |
| <b>Door Failed to Close</b><br>This is only for Power Gate applications                           | Gate switch (GC input) failed to energize within 10 seconds after the Gate Open signal was de-energized.                                                                                                                                                                                | Verify gate is traveling fast enough to get closed within 10 seconds. If not, increase High speed on the gate operator to insure gate can close in less than 10 seconds.                          |
|                                                                                                   | Gate coupling magnet detaching from gate.                                                                                                                                                                                                                                               | Verify that gate is closing and does not detach from coupling magnet. Check for binding in gate track. Also verify that the coupling magnet is able to slightly rotate about it's mounting point. |
|                                                                                                   | Gate switch out of adjustment and not sensing that the gate is in the closed position.                                                                                                                                                                                                  | Adjust gate switch.                                                                                                                                                                               |
|                                                                                                   | Gate is not closed completely when close sequence stops.                                                                                                                                                                                                                                | Adjust gate closed switches on gate operator to allow the gate to close further.                                                                                                                  |
| <b>Gate Switch Bypass</b>                                                                         | During 5 consecutive runs a Hoistway door was opened and closed, without the gate being opened and closed.                                                                                                                                                                              | Check gate circuit for jumpers.                                                                                                                                                                   |
|                                                                                                   |                                                                                                                                                                                                                                                                                         | Check gate switch for out of adjustment condition along with a mechanical tie which would keep the switch from opening.                                                                           |
| <b>Door Switch Bypass</b><br>6-16-04 Software only                                                | Jumper wire between GC & HDC                                                                                                                                                                                                                                                            | Check for jumper and remove if found                                                                                                                                                              |
|                                                                                                   | During 5 consecutive runs the car gate was left opened when user exited the car. when this happens, the system only senses that the hoistway door was opened and closed at the same time that the car gate was opened and closed. This situation will cause a door switch bypass fault. | Instruct the user to close the car gate when exiting the car. This will eliminate the generation of the fault.                                                                                    |
| <b>Selector Fault</b>                                                                             | Selector signals not received in correct sequence which could be caused by a position magnet lower or higher than the leveling magnet.                                                                                                                                                  | Verify that the top and bottom edges of the position magnets are at least 1" from the end of the leveling magnet. Adjust or trim if necessary.                                                    |
|                                                                                                   | Selector signals not received in correct sequence which could be caused by a sensor not turning "off"                                                                                                                                                                                   | Verify that a signal is not "locked on". Replace Reader if necessary.                                                                                                                             |
|                                                                                                   | Selector signals not received in correct sequence which could be caused by a sensor not turning "on"                                                                                                                                                                                    | Verify that all signals are functioning at each level. Replace Reader if necessary.                                                                                                               |

## 9) FAULT TROUBLESHOOTING (continued):

| FAULT                                              | Possible Cause                                                                                                          | Corrective Action Required                                                                     |
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| <b>Position Error</b>                              | Magnets grossly out of position                                                                                         | Check position and adjust if needed                                                            |
|                                                    | Two or more position signals on at the same time                                                                        | Verify that a signal is not "locked on". Replace Reader if necessary.                          |
| <b>Encoding Error</b>                              | Position signal does not equal selector count. This would be caused by position magnet wrong polarity or in wrong lane. | Verify Position magnets are in correct lane and that the polarity is correct.                  |
| <b>Re-Level Shutdown</b><br>(Roped Hydraulic only) | Piston packing leaking                                                                                                  | Check for excessive oil on piston, oil leaking down cylinder and replace packing if necessary. |
|                                                    | "Delay Up Stop" parameter not correct                                                                                   | Check parameter setting. Setting should be (50)                                                |
|                                                    | "Relevel shutdown" Counter not set a factory default.                                                                   | Check parameter setting. Setting should be (5)                                                 |
|                                                    | "Relevel shutdown" Timer not set a factory default.                                                                     | Check parameter setting. Setting should be (2)                                                 |
|                                                    | Control Valve contaminated and leaking                                                                                  | Refer to Valve section in the Installation Manual for checkout procedures.                     |