



HydraSafe Brake Inspectors Manual

This manual is designed for inspector(s) use when performing a periodic or annual inspection on any elevator with a HydraSafe Brake product installed.

Safety Instructions

- ✓ **Notify proper building personnel elevator will be out of service.**
- ✓ **Before inspection, secure a safe area to inspect HydraSafe Brake.**
- ✓ **Take necessary precautions and safety measures to secure elevator(s) for inspection which should include but are not limited to proper barricades, lighting, safety apparel, PPE, LOTO procedures and proper tooling.**
- ✓ **When working with any electrical or live circuits, follow the proper protocol and remove any power from the circuit you are working with and verify with an approved electrical meter that power has been removed and LOTO procedures have been followed.**
- ✓ **HydraSafe Brake power unit is a high-pressure system. If any hydraulic fittings need to be adjusted or tightened this system **MUST** be deenergized before any adjustments can be made.**

WARNING:

Working on the hydraulic power pack carries inherent risks of injury from electrical, mechanical, or hydraulic hazards, which could lead to serious harm or death. Before commencing any work on the hydraulic power pack, ensure to disconnect the power supply from the drive motor. Likewise, before initiating any maintenance on the hydraulic power pack, relieve the pressure in the hydraulic system to prevent potential accidents.

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CAUTION:

During operation, the hydraulic power pack and valves' solenoids may attain elevated temperatures, posing a risk of minor burns. If surface temperatures exceed 60°C, exercise caution and allow adequate time for the hydraulic power pack and solenoids to cool down before handling them.

Examinations and testing procedures for the HydraSafe Brake and associated components adhere strictly to, but are not restricted to, ASME A17.1 8.6.4.19.11/ASME A17.2 specifications concerning Ascending Car Overspeed Protection, Unintended Car Movement Devices, and Emergency Brake protocols. Maintenance procedures are standardized across both traction and hydraulic elevator systems to guarantee uniform safety standards.

Inspector can safely perform an visual check to inspect/review any type of wear, oil leakage, brake pad clearance, spring movement, safety switch operation, and set/reset device on top of the elevator or below the elevator wherever the HydraSafe Brake device may be installed.

Verification of MCP and testing paperwork shall also be accessible with all recommended tasks being performed per manufactures guidelines. The steps below can be followed for a periodic test. For a more in-depth annual testing the controller manufacturer recommended procedures for Unintended/Ascending movement shall be adhered too and performed by licensed elevator personnel. The HydraSafe Brake consists of two main components: the caliper and power unit.

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1. Verification of all testing (annual or 5-year) from the elevator contractor within the HydraSafe Brake unit(s) shall be onsite or accessible to inspector.
(ASME A17.1.8.6.1.7.2)
2. Verify MCP has been properly executed and proper testing has been performed by the elevator contractor. (ASME A17.1.8.6.1.4.1)
3. Check exterior for any type of visual damage, oil leakage, loose parts, and pad clearance.
(ASME A17.1.8.6.5.5)
4. Remove cover on power unit(s).
5. Visually inspect the interior of power unit for any type of oil leakage or loose wiring.
(ASME A17.1.8.6.5.5 & NFPA 70-NEC 620)
6. Visually inspect for any type of oil leakage around pistons and seals.
7. Inspect brake pads and springs for proper operation and clearance.
(ASME A17.1.8.6.4.6.1(d))
8. Install power unit cover(s).
9. The inspection has been completed.

HydraSafe Brake has included a troubleshooting reference and a parts diagram along with electrical diagrams for reference only. HydraSafe Brake recommends any troubleshooting or controller diagnostics shall be performed by licensed elevator personnel.

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Troubleshooting

HydraSafe Brake has tested and set the proper pressures and voltage based on order form received from the contractor. This is job specific information and has been verified by the contractor and manufacturer before each unit is released for installation. If problems occur have your order form information and HydraSafe Brake serial number available when you call HydraSafe Brake for further trouble shooting.

HydraSafe Brake will not power up:

- Verify wiring is correct per wiring diagram in installation manual.
- Check for power at stud location at the fuse block with the HydraSafe power unit on both units.
- Verify fuse (s) within controller are not blown.
- Verify dedicated 110-volt feed has power and has not been tripped.
- Verify micro switch is in the open position and that the HydraSafe Brake has not been set.

The power unit has power, but the pump will not start:

- Check for power at stud location at the fuse block with the HydraSafe power unit on both units.
- Verify relays within power unit have voltage and are energized.
- Verify relays are in good working condition.
- Verify coil on valve is working and has power.
- Verify micro switch is on HydraSafe Brake has not been set.
- Replace the run start capacitor.
- If the pump will not start after verification above call HydraSafe Brake at 773-823-7439.
Do not take apart the power unit as this will void the warranty.

The power unit has power, but pistons will not energize:

- Verify/bleed hydraulic lines to remove excess air.
- Verify pistons are not binding and seals are seated correctly.
- Verify no oil leakage is present.
- Verify brake pad is not binding and is seated properly on guide bolts.
- Verify power unit has oil in reservoir.
- Verify micro switch is on HydraSafe Brake has not been set.

The power unit has power, and the unit starts, and pistons engage, but does not stop the elevator:

- Verify HydraSafe Brake is installed correctly post wise on guide rail with proper pad clearance to the guide rails.

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- Verify pads are not worn.
- Verify HydraSafe brake is plumb, level, and square per installation manual.
- Using the quick connect pressure gauge port on the power unit verify pressure within the system based on the speed and capacity of the elevator. (Check the order form information to confirm)
- Verify proper signal from controller is energized for Unintended/Ascending movement.
- Call HydraSafe Brake at 773-823-7439 for pressure valve adjustment.

All the errors listed below require a manual reset by a qualified elevator technician.

The elevator stopped floor level at a floor and will not run:

- Verify HydraSafe Brake accumulator is charged. This signal is monitored by the controller and should show an error.
- Verify the brake pads are not worn. This signal is monitored by the controller and should show an error.
- Verify oil level in the power unit. This signal is monitored by the controller and should show an error.
- HydraSafe Plus model: verify door lock jumpers have not been left on the controller.
- HydraSafe Plus model: verify pit encroachment device has not been activated.

The elevator stopped within the door zone, not floor level at a floor and will not run:

- Verify machine brake is in working order. This signal is monitored by the controller and should show an error.
- HydraSafe Plus model: verify pit encroachment device has not been activated.
- HydraSafe Plus model: verify first responder input has not been activated. (Was there a prior entrapment where first responders released passengers.)
- Verify door lock signals for car and hoistway door locks.

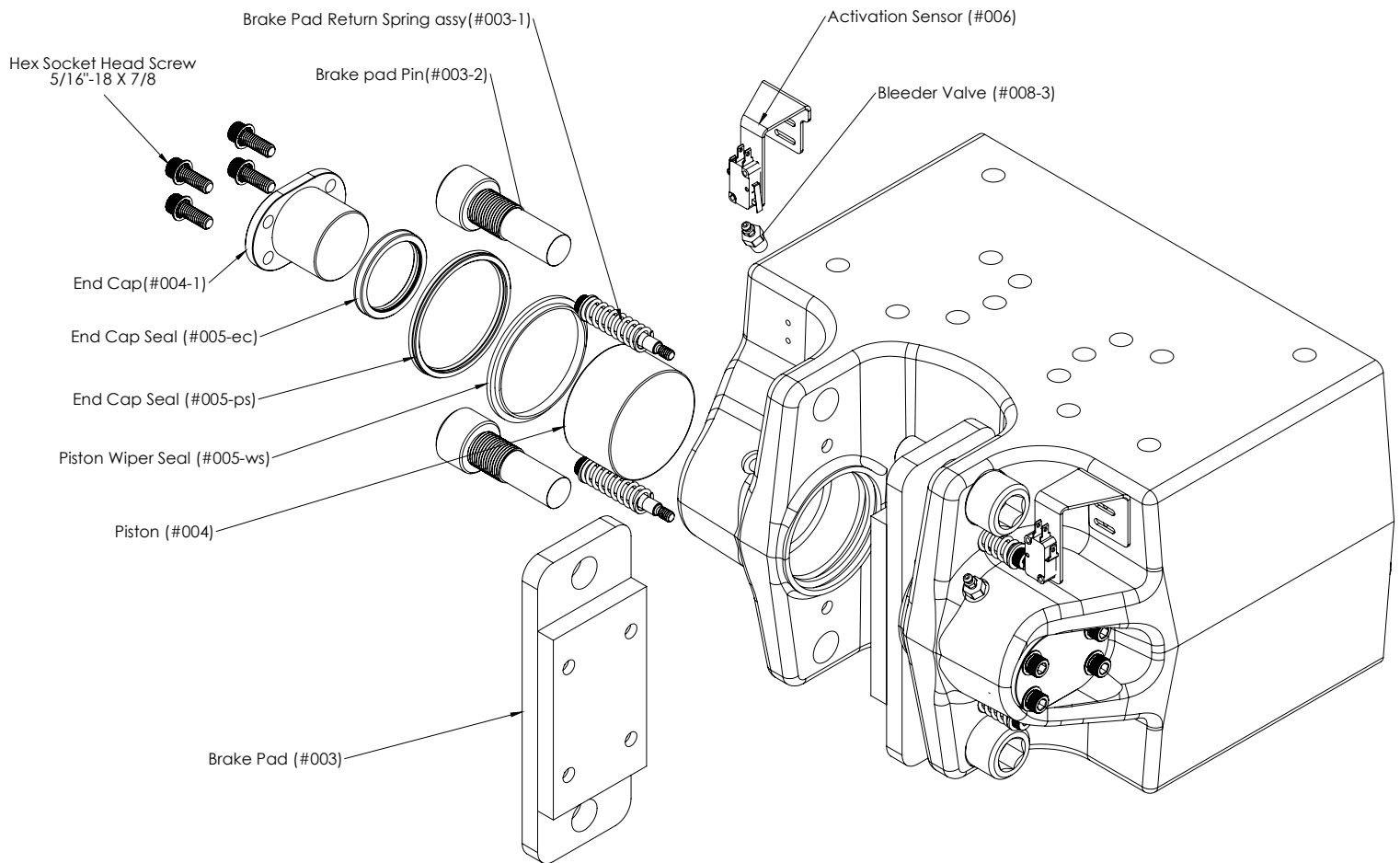
The elevator stopped, in an unknown location with doors closed and will not run:

- Verify machine brake is in working order. This signal is monitored by the controller and should show an error.
- Verify normal power is present. This signal is monitored by the controller and should show an error.
- HydraSafe Plus model: verify pit encroachment device has not been activated.
- HydraSafe Plus model: verify first responder input has not been activated. (Was there a prior entrapment where first responders released passengers)
- Verify door lock signals for car and hoistway door locks.

Always verify the condition of the elevator brake before resetting the HydraSafe Brake.

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Brake Unit – Caliper Diagram



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