LifeJacket™ saves lives when hydraulic pressure fails

Proactive safety solution stands guard 24 hours a day
• Detects sudden loss of hydraulic pressure
• Locks around piston as soon as car starts to fall
• Brings car to quick, safe stop
• Locking arms do not damage piston
• Car travel can be restarted only by authorized personnel

Hydraulic elevators can lose system pressure and fall
• *Broken pipes or failed valves:* Responsible for 60% of LifeJacket activations
• *Cylinder failure:* The result of underground electrolysis at work actively deteriorating in-ground cylinders; this can be occurring even when tests indicate that the elevator is working to required performance levels.
• *Packing bind:* When faulty or aging packing fails to seal the plunger.

Spontaneous loss of pressure can result in serious consequences
1. The elevator falls, even under a normal load
2. People are injured, frequently severely
3. The loss in damaged equipment can be staggering
4. You are exposed to costly personal injury claims

*LifeJacket’s arms remain open during normal elevator operation (a). When the unit senses uncontrolled downward movement, the arms close immediately (b)—bringing the elevator and its passengers to a soft and safe stop*
LifeJacket Saves Lives...and Reputations
In addition to the irreversible human tragedy associated with an elevator accident involving personal injury, such an event presents serious legal challenges that can compromise the marketability of a building for years.

The LifeJacket helps preserve the integrity of your safety record AND serves as an excellent marketing tool to attract key tenants.

How Does the LifeJacket Work?
The LifeJacket is a lifesaving system with three components:
1) An electrical sensing system that detects uncontrolled downward movement of the plunger
2) Two (2) steel arms that close to grab a falling plunger
3) A hydraulic feedback system to monitor hydraulic pressure

Almost as important as its lifesaving function is the fact that the LifeJacket’s safety arms will not damage the plunger. This means that LifeJacket can be tested regularly to verify that it is operating properly.

LifeJacket is peace of mind for you...and safety assurance for your elevator riders.

LifeJacket Provides Key Safety and Convenience Benefits
• Brings a fully-loaded moving car to soft, safe stop;
• Will not score or damage plunger;
• Can be released only by running the car in the upward direction and resetting the LifeJacket.

How to Order Your LifeJacket
Each LifeJacket is manufactured to fit the diameter of a specific piston. Other details about your hydro installation are also required. All of this information should be recorded on one of the Ordering Surveys on the following pages. The Survey is on the left-hand page; support information appears on the right-hand page.

Please note that some local jurisdictions charge a fee for a permit, variance, and/or inspection. After your survey is processed, we will send you notification of Code concerns and an elevation drawing of the pit dimensions showing the LifeJacket installed.

Approved by A17.3 and A17.1a

ASME A17.3 2002 (sec. 4.3.3):
A device such as LifeJacket is accepted as an alternative to replacing single-bottom cylinders.

ASME A17.1a 2002 Addenda (sec. 3.17.3):
In the event of fluid loss or overspeed, the use of a plunger gripper is permitted as an acceptable means to bring an elevator to a safe, controlled stop.

Survey Forms on the following pages help you provide information required to build a LifeJacket system to match your hydro.

LifeJacket – Reg. TM Adams Elevator Equipment Company
Please Print! Survey must be fully completed and dated for order processing. Ship to: Job ___ or Shop ___ (check one)

Job Name ________________________________________________________________________________________________________

Code in Force (i.e. A17, Title 8, B44)__________________________________________________________________________

Job Address ______________________________________________________________________________________________________

City __________________________ State ________ Zip/Postal Code______________ Country______________

Car #______ Number of Landings ______ Travel ______ ft Pit Depth ______ ft Car Speed: ______fpm.

Jack Mfg._______________ Plunger Wall Thickness ______ inches Capacity of Car _______ lbs. Car Weight _________ lbs.

Original Elevator Installing Company: __________________________ Date of installation __________ Mfg.’s Job Number ________

Include LifeJacket Information Display Option LJ4050 (additional charge applies): ____ Yes   ____ No (Required in Michigan)

Packing, specify style and size___________ Packing Must be Replaced   Is Controller:  ____ Solid State   OR  ____ Relay

Is Pit prone to flooding? Yes _____ No _____   -  -  -  -  -  -  -  -  -  -  -  -  - (if yes, NEMA 3R conduit [liquitite flex] is supplied)

Does elevator have a bottom final limit switch? Yes _____ No _____ -  -  -  -  -  -  -  -  -  -  -  -  - (if yes, it must open prior to buffer engagement)

Does Cylinder have a tapped bleeder hole in the head? Yes _____ No _____ -  -  -  -  -  -  -  -  -  -  -  -  - (if no, optional drill and tap is supplied)

Is 120VAC available in controller?  Yes _____ No _____   -  -  -  -  -  -  -  -  -  -  -  -  -  -  -  -  -  -  - (if no, 480/240 to 120 transformer is supplied)

How many ‘wiring’ feet from controller to Cylinder head? ____Ft -  -  -  - (length of shielded cable sent for set coils and encoder)

Special delivery instructions (e.g., Do you have a forklift to get it off the truck?) _______________________________________

Pit Information Record dimensions to 3 decimal places (i.e. 1.234). DO NOT USE FRACTIONS

The plunger diameter (PD) must be accurately measured to thousandths of an inch. Using a diameter tape, measure the plunger in at least three (3) places. Record these measurements in the blanks below. Start measurements a foot or so above the packing head.

(PD) 1 ______.______ 2 ______.______ 3 ______.______ 4 ______.______

See diagrams on page 2 for graphic illustration of dimensions. These dimensions must be accurate for proper fit. All dimensions below must be in inches.

(BSD) ______" (UFD) ______" (FD) ______" (CD) ______" (BN) ______"

Buffer spring diameter Upper Flange Diameter Flange Diameter *cannot exceed 17" dia. Cylinder Diamter Number of Buffer springs

(RB) ______" (BS) ______" (SD) ______" (BB) ______"

Runby Buffer Stroke Strike Distance Between Buffers distance

(CHF) ______" (CHC) ______" ☐ (LifeJacket legs are made to CHF height unless checked here)

Top of cylinder to top of footer Top of cylinder to floor

Company _______________________________ Address __________________________________________________

City __________________________ State __________________ Zip/Postal Code ________________

Survey completed by ____________________________ Date __________________

PO # __________________ Charge # __________________ Adams Order # __________________

Phone # ______-________________ Fax # ______-________________ Serial # __________________
**PD** is the plunger diameter.  

*For this survey it must be measured to the thousandths using a decimal diameter tape.*

**BSD** is the buffer spring diameter.

**UFD** is the diameter of the upper flange section of the head, if it is a stepped flange style head.

**FD** is the diameter of the widest flange section of the head, if it is a flange style head.

**CD** is the diameter of the cylinder or stuffing box at the top of the head.

**BN** is the number of Buffer Springs. Please provide a sketch of unusual buffer assemblies and return with survey.

**RB** is runby, a measurement from the top of the uncompressed buffer springs to the strike plates when the car is floor level.

**BS** is the buffer stroke and should be stamped on the buffer stand data tag, if not, measure the spring gaps and add.

**SD** is the strike distance between, from lowest point on the platen to the highest projection on the top of the head, when the car is floor level at the bottom floor.

**BB** is the distance between buffers.

**CHF** is the distance from the highest point of the cylinder head to the top of the footer channel.

**CHC** is the distance from the highest point of the cylinder head, to the (concrete) pit floor.

Please note items below that may have cost ramifications:

1: The distance from the pit to the machine room, the *LifeJacket* requires two 4 Conductor shielded wires and three 18G wires run to the pit from the *LifeJacket* Controller in the machine room, so allow wiring time.

2: If there is not a tapped hole in the cylinder you will have to add one. A drill and tap is provided. Takes about 1/2 hour.

3: The type of jack packing, you must replace it before installation. Extra time is saved later for repacks if it is done now.

4: If the buffers need rework, i.e. moving or shortening. The *LifeJacket*'s dimensions are 15.75” x 21”. If the **BB** dimension is less than 15.75”, they will need to be moved.

5: If the pit floods; NEMA 3R conduit on the *LifeJacket* is provided, but not for the pit wiring, parts costs must be added.

6: The *LifeJacket™* requires 6 inches of space. If your **SD** dimension is greater than 6 inches + the required **RB** + code required, **BS** no variance will be necessary.

7: If buffers are multi-springed, please provide a sketch of the buffers with dimensions and return with the survey.  
   Additional strike extension kits may be required.

8: Local jurisdictional authorities may charge a fee for a permit, variance and/or inspection where required. Notification of Code concerns will be sent after survey is processed along with an elevation drawing of the pit dimensions after the *LifeJacket* is installed.
### Please Print!
Survey must be **fully completed** and dated for order processing.  
Ship to: Job ___ or Shop ___ (check one)

<table>
<thead>
<tr>
<th>Job Name</th>
<th>Code in Force (i.e. A17, Title 8, B44)</th>
<th>Job Address</th>
<th>City</th>
<th>State</th>
<th>Zip/Postal Code</th>
<th>Country</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Car #</th>
<th>Number of Landings</th>
<th>Travel</th>
<th>Pit Depth</th>
<th>Car Speed:</th>
<th>Jack Mfg.</th>
<th>Plunger Wall Thickness</th>
<th>Capacity of Car</th>
<th>Car Weight</th>
<th>Original Elevator Installing Company:</th>
<th>Date of installation</th>
<th>Mfg.'s Job Number</th>
</tr>
</thead>
</table>

Include **LifeJacket Information Display Option LJ4050 (additional charge applies):**  
- **Yes**   
- **No**  

(Packing, specify style and size) **Packing Must be Replaced**  
Is Controller:  
- **Solid State**  
- **Relay**

Is Pit prone to flooding?  
- **Yes**  
- **No**

If yes, NEMA 3R conduit [liquitite flex] is supplied.

Does elevator have a bottom final limit switch?  
- **Yes**  
- **No**

If yes, it must open prior to buffer engagement.

Does Cylinder have a tapped bleeder hole in the head?  
- **Yes**  
- **No**

If no, optional drill and tap is supplied.

Is 120VAC available in controller?  
- **Yes**  
- **No**

If no, 480/240 to 120 transformer is supplied.

How many 'wiring' feet from controller to Cylinder head?  
- **Ft**

(Packing) **Special delivery instructions (e.g., Do you have a forklift to get it off the truck?)**

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### Pit Information Record dimensions to 3 decimal places (i.e. 1.234). **DO NOT USE FRACTIONS**

The plunger diameter (PD) must be **accurately** measured to thousandths of an inch. Using a diameter tape, measure the plunger in at least three (3) places. Record these measurements in the blanks below. Start measurements a foot or so above the packing head.

(PD) 1 ___________ 2 ___________ 3 ___________ 4 ___________

See diagrams on page 2 for graphic illustration of dimensions. These dimensions must be accurate for proper fit. All dimensions below must be in inches.

(BSD) __________"  
(HP) __________"  
(PW) __________"  
(CD) __________"  
(BN) __________"  

(Buffer spring diameter)  
(Pedestal Height)  
(Pedestal Width)  
(Cylinder Diameter)  
(Number of Buffer springs)

(RB) __________"  
(BS) __________"  
(SD) __________"  
(BB) __________"  
(CHP) __________"

(Buffer spring diameter)  
(Bottom spring)  
(Several diameters)  
(Bottom buffer)  
(Choke pipe)

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Company _______________________________ Address ____________________________________________

City _______________________________ State ______________________ Zip/Postal Code _________________

Survey completed by ________________________________ Date ____________________

PO # __________________ Charge # __________________ Adams Order # __________________

Phone # __________________ Fax # __________________ Serial # __________________
PD is the plunger diameter.  
*For this survey it must be measured to the thousandths using a decimal diameter tape.*

BSD is the buffer spring diameter.

FD is the diameter of the widest flange section of the head, if it is a flange style head.

PH is the height of the concrete pedestal.

- PW is the width of the concrete pedestal. This dimension is necessary if the buffers need to be moved or replaced.
- BN is the number of Buffer Springs. Please provide a sketch of unusual buffer assemblies and return with survey.
- RB is runby, a measurement from the top of the uncompressed buffer springs to the strike plates when the car is floor level.
- BS is the buffer stroke and should be stamped on the buffer stand data tag, if not, measure the spring gaps and add.
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- BB is the distance between buffers.

- CHP is the distance from the highest point of the cylinder head, to the (concrete) pedestal.

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