

Product Catalog

Pit and Overhead Access Ladders

RETRACTA LADDER®

EXTENDED RETRACTA LADDER® **NEW!**

POWERED RETRACTA LADDER®

ADJUSTA LADDER™

OVERHEAD RETRACTA LADDER®

RETRACTABLE OVERHEAD ACCESS PLATFORM
(R.O.A.P.) **NEW!**



Specialty Seismic Fishplates

LOW-PROFILE FISHPLATE™
only ¾" to 1½" clearance required

FISHPLATES FOR OBSOLETE RAILS
*Otis 1, 2 & OA
Von Emon
Custom*



Engineered Product Solutions

ROPE ALIGN BLOCK™
align ropes for Rope Brake or beam clearance

DEFLECTOR SHEAVE ISOLATOR™
reduce noise and vibration





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Ladder Product Summary

WHICH LADDER FOR WHAT?	BACK PAGES
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Retracta Ladder®

Retractable elevator pit ladder engineered to fit tight clearances where traditional, stationary pit ladders do not fit.



- 3" wall to outside of ladder when retracted for exceptionally tight car to hoistway clearance.
- 7" rung-to-wall when extended for full OSHA and ASME A17.1-1996 - 2013 compliance.
- Replaces notch or pocket in the pit & hoistway wall as required for MRL elevators.
- Electrical Protective Device per A17.1-2007/13, 2.26.2.38 field wired in series with elevator stop switch prevents elevator operation when ladder is extended, positive break N.C. contact, NEMA 4X (IP67) standard.
- Traction Tread™ rungs, slip-resistant & self-cleaning for ideal multi-direction grip and exceptional strength.
- Gas spring reduces force required to extend or retract ladder to less than 10 lbf (< 50 lbf code).
- Pull pin with secure grip T-handle to extend & retract ladder and mechanically secure it in both positions.
- OSHA Safety Yellow powder coat painted for optimal visual safety and rust protection.
- Reversible installation with provisions to mount micro switch & pull pin assembly on either side.
- 3' (#RL36) thru 13' (#RL156) pit depths and 16", 12" & 9" wide rungs are standard.
- Modular design for ease of handling and reduced shipping cost.
- Compliant with California Circular Letter E-10-02 for modernizations / alterations.
- Retracta Ladder® is a Registered Trademark and has been awarded US Patent #8944211.
- Made with pride in the USA.

Smart Elevator Tech, LLC

phone: (415) 819-5744

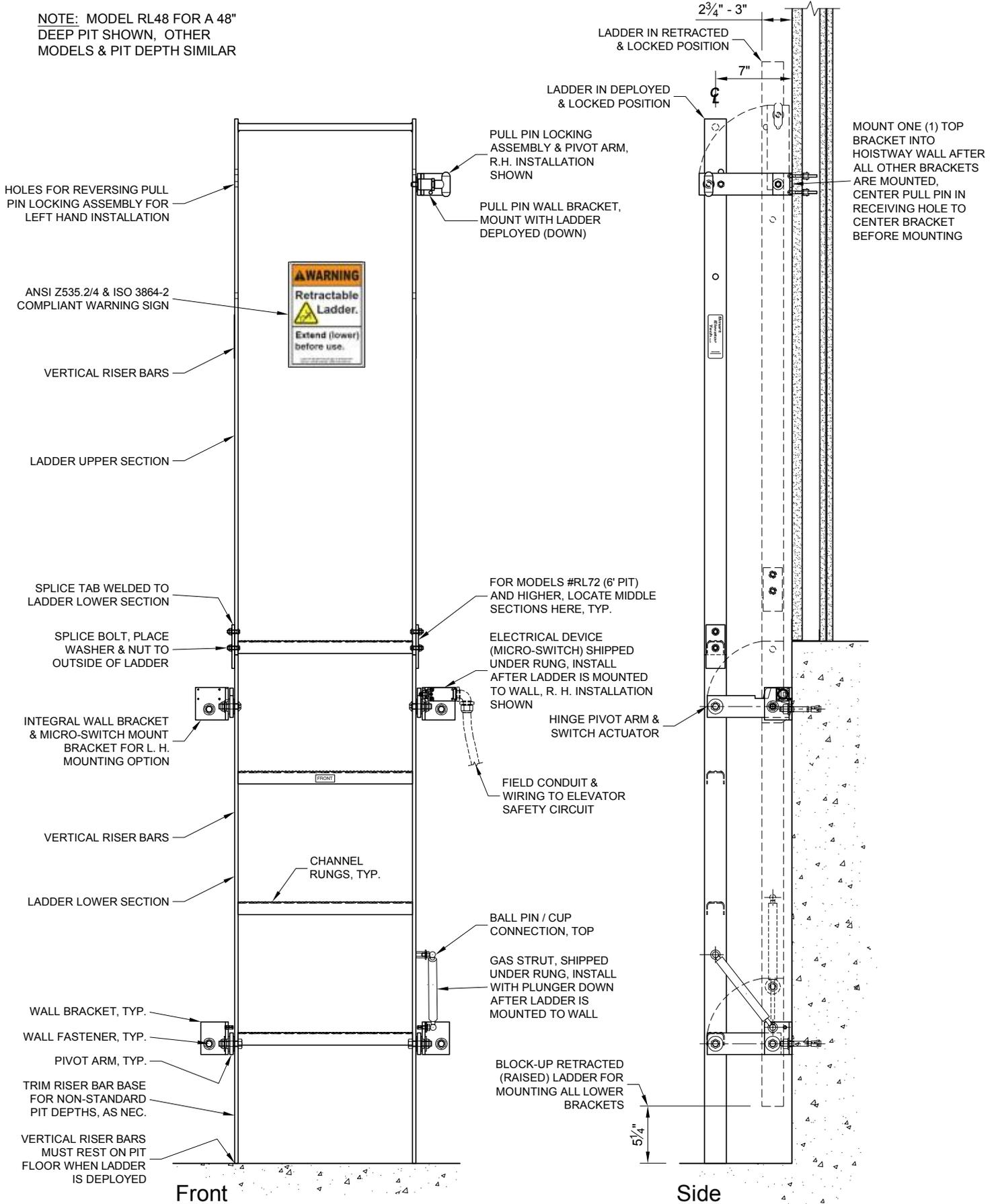
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Retracta Ladder® - Installation Detail

NOTE: MODEL RL48 FOR A 48" DEEP PIT SHOWN, OTHER MODELS & PIT DEPTH SIMILAR



Extended Retracta Ladder®

Retractable elevator pit ladder extends 18"
or 24" from wall and retracts to 3¾"

NEW!



- **Extended Retracta Ladder® extends 18"** from rung-to-wall or beam when extended, 3¾" retracted.
- **Extra Extended Retracta Ladder® extends 24"** rung-to-wall or beam when extended, 3¾" retracted.
- Solves 39" Rule A17.1, 2.2.4.6(c) for maximum distance between ladder and means to unlock pit access door.
- Enhances safety by bringing ladder closer to pit access point, reducing long stretch to step on or off ladder.
- Pull Pin Pole™ custom reach extender available to prevent unsafe reach to operate ladder (see next page).
- Electrical Protective Device (safety switch) field wired in series with elevator stop switch prevents elevator operation when ladder is extended. Positive break N.C. contact, NEMA 4X (IP67) standard.
- Reversible installation. Mount safety switch & pull pin locking assembly on either side.
- Traction Tread™ rungs, slip-resistant & self-cleaning for ideal multi-direction grip and exceptional strength.
- For 4' thru 10' pit depths, 16", 12" & 9" wide rungs are standard.
- Fully A17.1/ CSA B44 compliant.
- Retracta Ladder® is a Registered Trademark and has been awarded US

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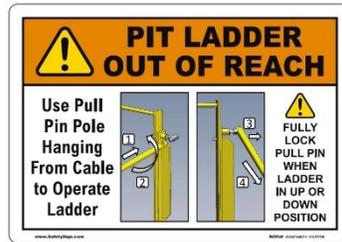
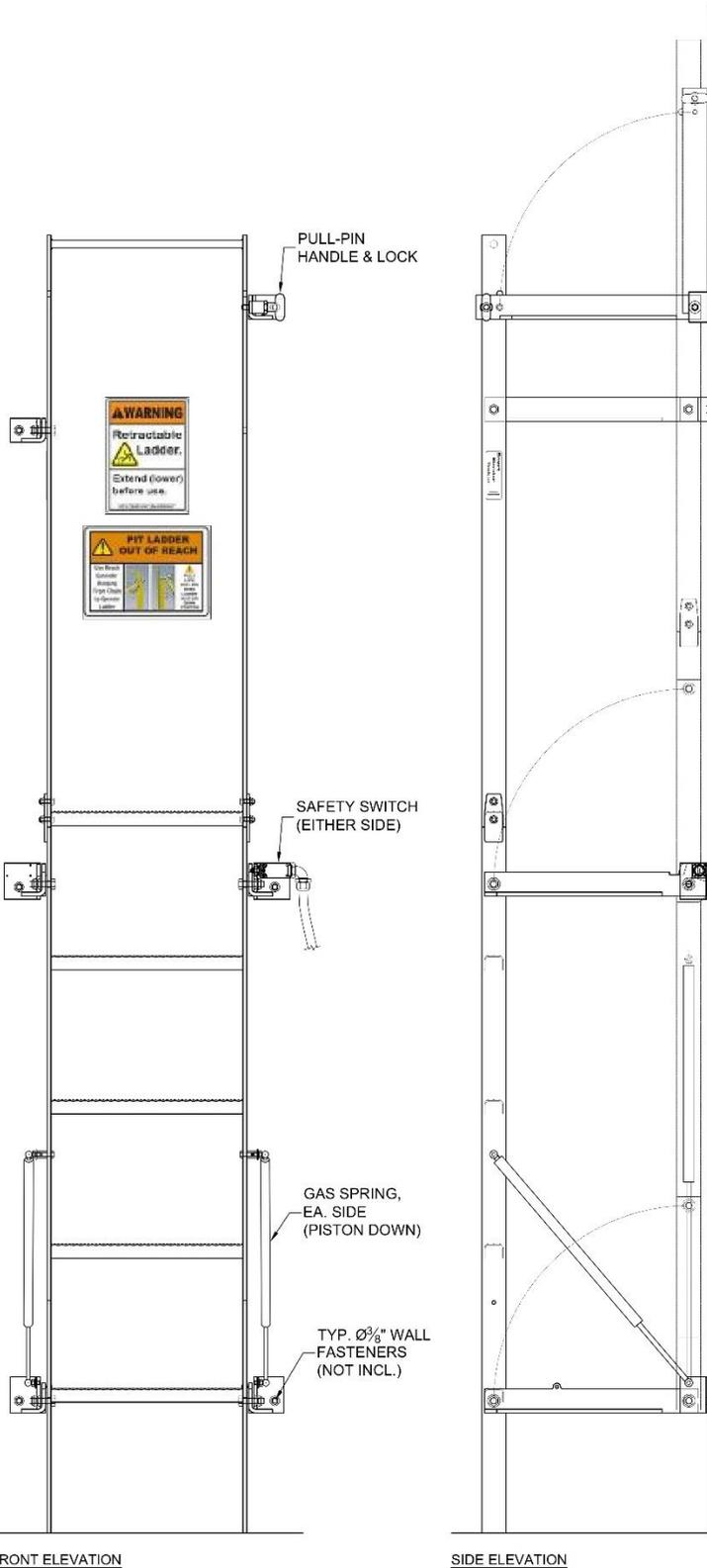
NEW!

Extended Retractable Ladder® Detail

Pull Pin Pole™

Reach Extender for Retractable Ladder® and Extended Retractable Ladder®

- Avoid unsafe reach to unlock, lower, and raise ladder. Give personnel a safer alternative.
- The Pull Pin Pole™ enables safer operation of the Retractable Ladder® from as much as 30" away.
- Comes with lanyard and fasteners to attach Pull Pin Pole™ near pit access without impinging on clearances.
- Warning sign further increases safety.



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Powered Retracta Ladder®

Safer pit access where there's a great distance from entrance to hoistway wall.



- Reduce pit access hazard of cars with center-opening doors.
- Mount ladder on opposite of strike wall for side-opening doors.
- Don't reach unsafe distance to the ladder, typ. +2½ feet.
- Ladder comes to you with the turn of a key.
- 6½" clear retracted, 36" rung-to-wall extended.
- Solves 39" max. ladder-to-door lock release problem.
- Option A: standard access key raises car, then extends ladder automatically (requires controller interface).
- Option B: dedicated switch extends ladder after car is raised (standalone).
- IP66 (NEMA 4X) 24 VDC 1000 lbf actuator & 115 VDC motor controller
- IP67 (NEMA 4X) electrical safety device (field wire to stop switch).
- A17.1/CSA B44 compliant.
- Retracta Ladder® is Patent Pending and a Registered Trademark.
- Made with pride in the USA.

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Powered Retracta Ladder[®] - Powered Retractable Pit Ladder

The ***Powered Retracta Ladder***[®] is an electrically powered, linear actuator driven elevator pit ladder. Unlike the original Retracta Ladder[®], which was designed to fit in very tight clearances between the car and pit wall, the powered version is designed to provide safer pit access where there is a great distance from the access entrance to the hoistway wall. For a typical passenger elevator with a 7' wide platform, the distance from the edge of the center-opening door frame to the center of the ladder is approximately 2½ feet. This dimension can increase with the wider platforms often used in high-rise and public transit applications. Safely accessing the pit by first spanning this considerable distance from the entrance to the ladder is a known hazard. Reversing the process when exiting the pit, with the added difficulty of having to reach to the interlock release mechanism, can be even more perilous. Countless injury accidents have occurred due to failing to make this difficult maneuver, resulting in falls to the pit floor and collisions with pit equipment.

The ***Powered Retracta Ladder***[®] lessens these hazards by bringing the elevator pit ladder from the distant wall to the entrance frame, where it is within direct reach. The ladder extends to a 36" projection from the wall or divider beam to the center of the ladder rungs. It retracts to 6" -6½" from the wall or divider beam for a min. 7½" car to side wall clearance. There are 12 models available for pit depths from 3 to 13 feet. The ladder is driven by a US assembled, 1,000 lbf. linear actuator with 3,000 lbf. holding, locking strength. There are two power and control options: In the preferred **Option A**, the ladder is both powered and controlled by the elevator's controller and utilizes the elevator's standard hoistway access operation. Operating the Hoistway Access keyswitch in the entrance frame or hall station, the car rises until it reaches the Access Limit Switch (A17.1-2013, 2.12.7.3.3(c)). Still holding the keyswitch in the "UP" position, the ladder starts and extends to the pit floor in about 12 seconds. When the ladder leaves the retracted position, the IP67 forced contact limit switch opens the elevator safety circuit (A17.1, 2.2.4.2.7 Retractable Ladder Electrical Device). The N.C. contact is field wired to elevator pit switch. With Option A, the N.O. contact is monitored by the elevator controller. When exiting the pit and returning the elevator to normal operation, the controller sees that the safety circuit is open and the ladder monitoring circuit is closed. Turning the Hoistway Access keyswitch to the "DOWN" position, the controller first operates the ladder actuator, raising and locking it into the fully retracted position before lowering the car.

An alternate operation is available when direct interface with the elevator controller is not possible, such as where the ***Powered Retracta Ladder***[®] is installed with existing elevator controls. With **Option B** a **Ladder Keyswitch Station** is provided to be field mounted within the hoistway and accessible from the landing, such as adjacent to the strike jam on a handed entrance or within the fascia just below the landing sill for center-opening entrances. The operator would run the elevator up using the elevator's Hoistway Access function, seeing that the car is raised to the access limit or high enough for the ladder to clear the car. The operator then uses the Ladder Keyswitch Station to extend and retract the ladder. A hoistway switch may also be employed to prevent the Ladder Keyswitch Station from operating unless the car is raised to the required clearance height. The Retractable Ladder Electrical Device prevents any movement of the car once the ladder leaves the wall and until it is fully retracted and locked in place, out of the line of the car.

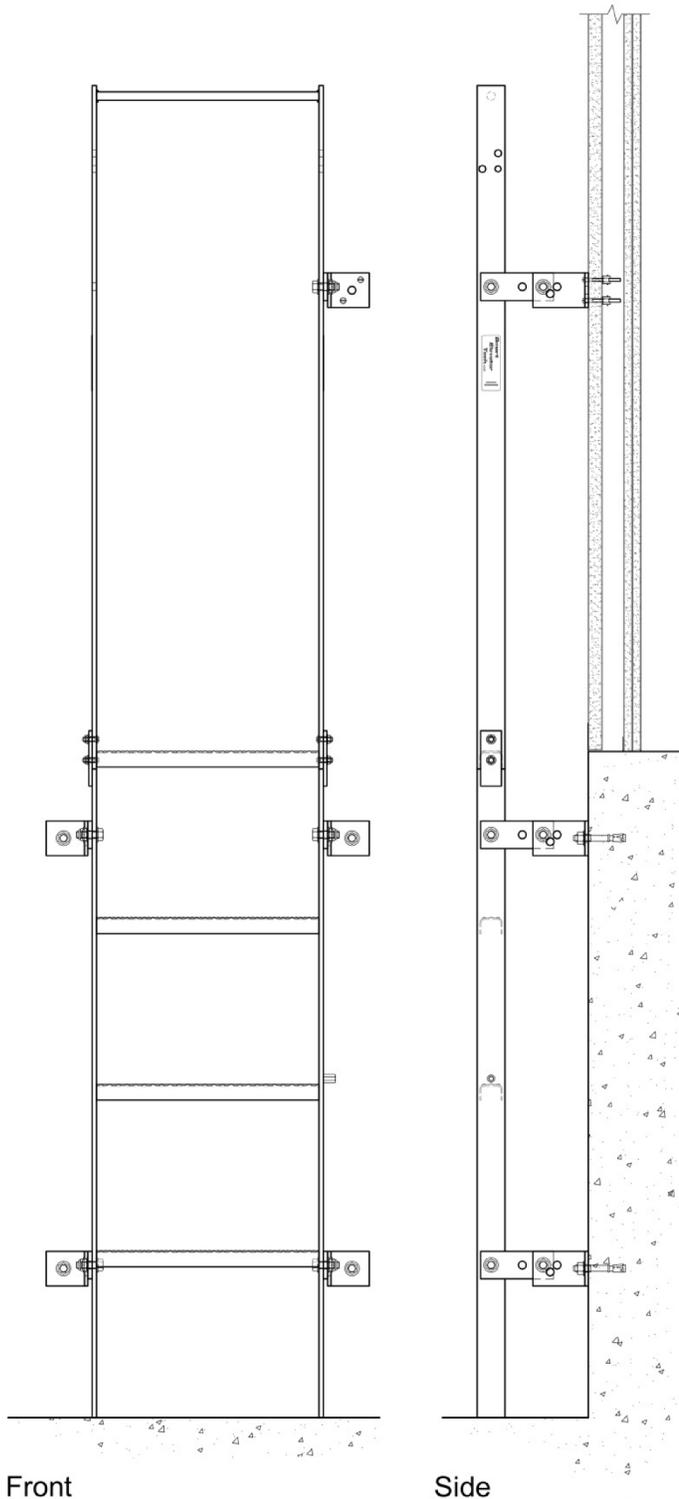
CEC - 2013, Article 620.25 Branch Circuits for Other Utilization Equipment requires a 115/120 VAC dedicated circuit to the ***Powered Retracta Ladder***[®] motor controller, from a current overload protected disconnect located in the elevator machine room, labeled for its use, such as "Powered Pit Ladder." The maximum current draw is 3 amps.

The ***Powered Retracta Ladder***[®] complies with ASME A17.1-2013/CSA B44-10. The operation and failsafe design leverages from the proven track record of the manually operated ***Retracta Ladder***[®], now accepted for installation in all jurisdictions. The ***Powered Retracta Ladder***[®] has been shop and field tested, including certified dynamometer load testing applying a lateral load of over 600 lbf. mid-connection on a 36" extended ladder, 20% higher than the code-prescribed 500 lbf. It has also been certified by a California licensed structural engineer for full compliance with the strength requirements of A17.1.

We believe this product will be revolutionary in the quest to improve safety in elevator pit. It will eliminate the dangerous "leap of faith" from the door frame to the distant ladder. A modest initial expense to install the ***Powered Retracta Ladder***[®] can avoid the considerable cost of potential life-threatening injury. Heretofore, there was no choice but to accept the hazards of the distant ladder. Now there is a safe alternative, bring the ladder to you with the ***Powered Retracta Ladder***[®].

Adjusta Ladder™

Stationary elevator pit ladder engineered to fit various car-to-wall clearances and maximize center of rung to wall

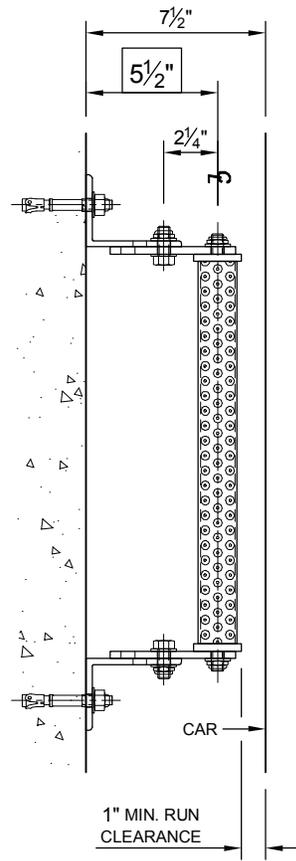


- 4½" to 7" clearance wall to center of rung in ½" increments. Each ladder comes equipped with mounting brackets that have a combination of hole spacing that allow the ladder to be installed from center of rung to wall at the code minimum 4½", or 5", 5½", 6", 6½" and the code ideal 7" rung-to-wall for full OSHA and ASME A17.1-1996 - 2013 compliance.
- Wall to rung spacing is determined by placing the ½" bolts in the desired combination of ladder mounting bar and bracket pre-drilled holes.
- The design allows the ladder to be closer to the access door by mounting it with only the necessary running car clearance, maximizing the foot's toe space, making for a safer ladder and less hazardous pit access.
- Traction Tread™ rungs, slip-resistant & self-cleaning for ideal multi-direction grip and exceptional strength.
- OSHA Safety Yellow powder coat painted for optimal visual safety and rust protection.
- 3' (#AL36) thru 13' (#AL156) pit depths and 16", 12" & 9" wide rungs are standard.
- Modular design for ease of handling and reduced shipping cost.
- Strongest and safest stationary elevator pit ladder on the market.
- Made with pride in the USA.

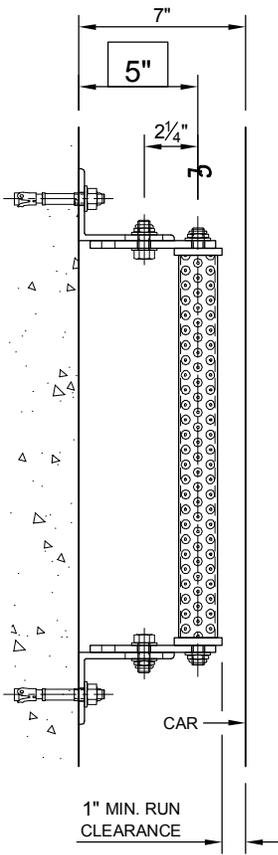
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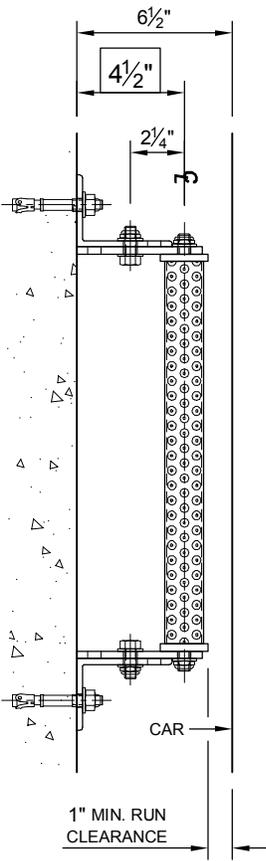
Smart Elevator Tech, LLC Adjusta Ladder™



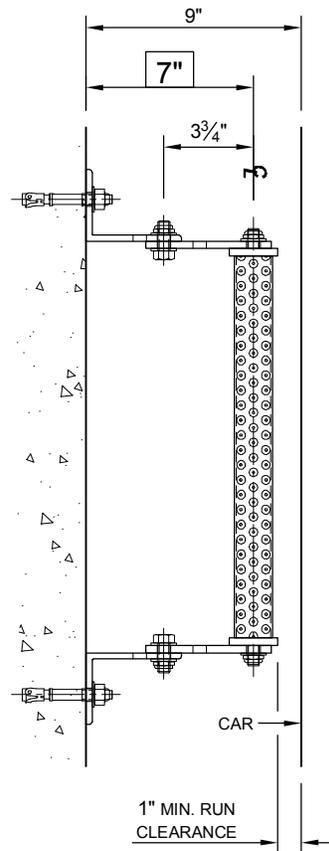
3
PIT LADDER PLAN
SCALE: 1-1/2"=1'-0"
POSITION: RUNG @ 5.5"



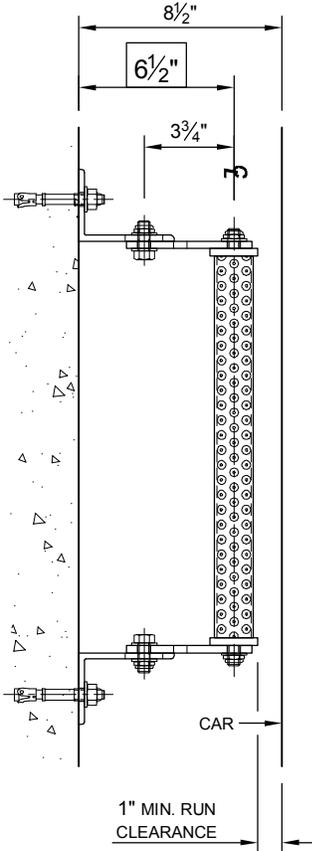
2
PIT LADDER PLAN
SCALE: 1-1/2"=1'-0"
POSITION: RUNG @ 5"



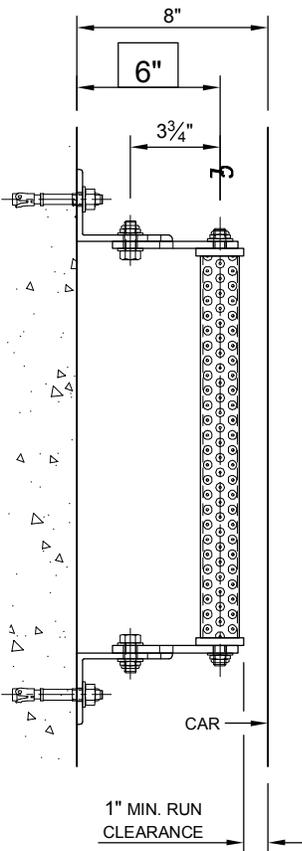
1
PIT LADDER PLAN
SCALE: 1-1/2"=1'-0"
POSITION: RUNG @ 4.5"



6
PIT LADDER PLAN
SCALE: 1-1/2"=1'-0"
POSITION: RUNG @ 7"



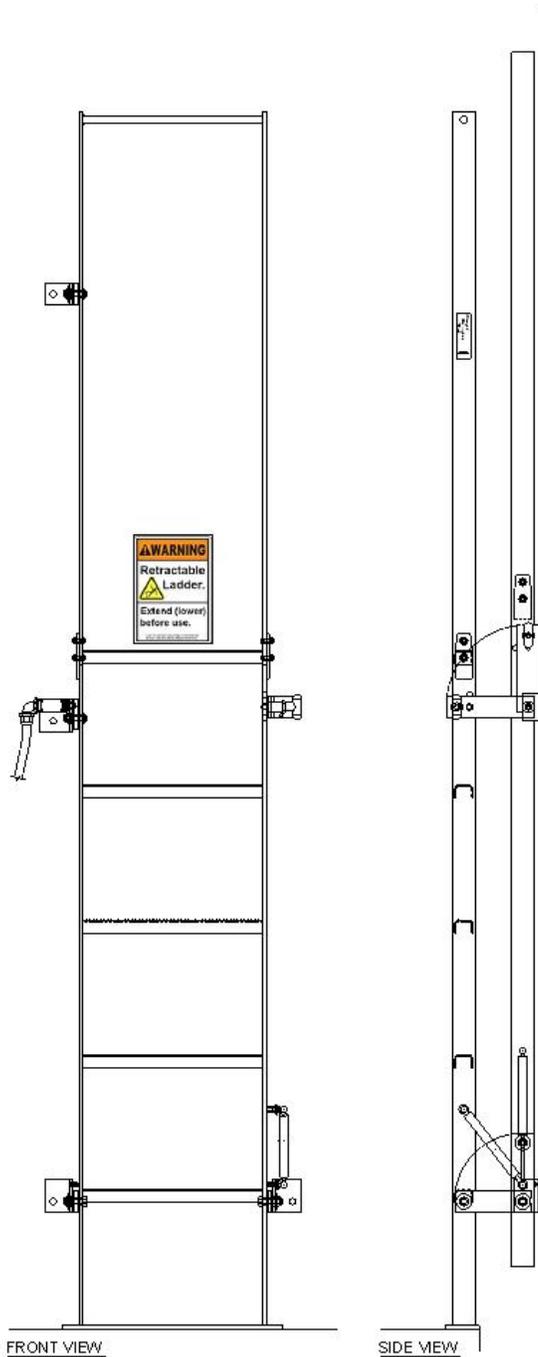
5
PIT LADDER PLAN
SCALE: 1-1/2"=1'-0"
POSITION: RUNG @ 6.5"



4
PIT LADDER PLAN
SCALE: 1-1/2"=1'-0"
POSITION: RUNG @ 6"

Overhead Retracta Ladder®

*Retractable elevator ladder to
enable access to overhead
machine or platform for MRLs*



- ***NEW*** Enable safer access to overhead machines in MRLs where the reach is too far. The Overhead Retracta Ladder® can be used to reach the machine or a hoistway platform from the car top
- 2 3/4" wall to outside of ladder when retracted for exceptionally tight car to hoistway clearance
- 7" rung-to-wall when extended for full OSHA and ASME A17.1-1996 - 2013 compliance
- All Retracta Ladders® extend 4' above the top rung to provide handholds per OSHA standards
- Climbing portion of the ladder available in 1' (#ORL12) thru 12' (#ORL144) lengths. 16", 12" & 9" wide rungs are standard; nonstandard sizes available upon request
- Electrical Protective Device per A17.1-2007/13, 2.26.2.38 field wired into the elevator safety circuit prevents elevator operation when ladder is extended, positive break N.C. contact, NEMA 4X (IP67) standard
- Traction Tread™ rungs, slip-resistant & self-cleaning for ideal multi-direction grip and exceptional strength
- Gas spring reduces force required to extend or retract ladder to less than 10 lbf (< 50 lbf code)
- Pull pin with secure grip T-handle to extend & retract ladder and mechanically secure it in both positions. Pull-pin can be mounted on either side (specify upon ordering)
- OSHA Safety Yellow powder coat painted for optimal visual safety and rust protection
- Modular design for ease of handling and reduced shipping cost
- Retracta Ladder® is a Registered Trademark and has been awarded US Patent #8944211
- Made with pride in the USA

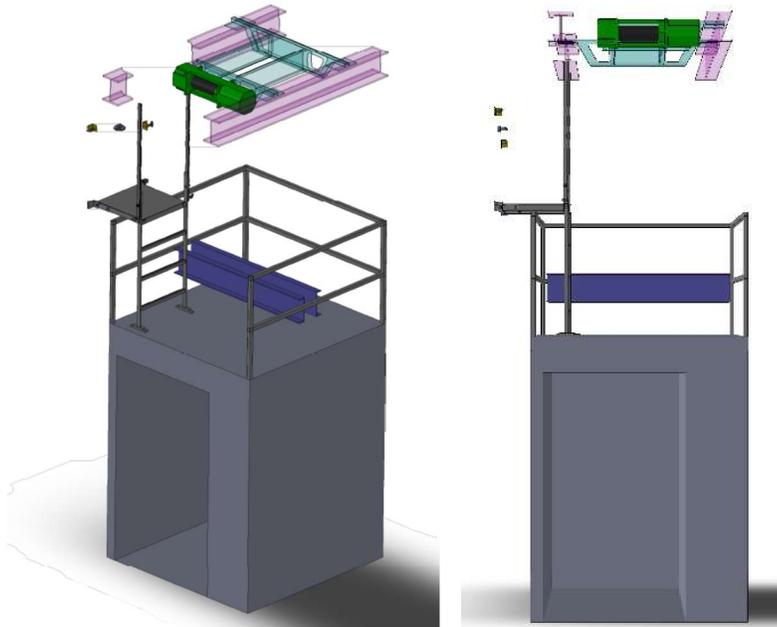
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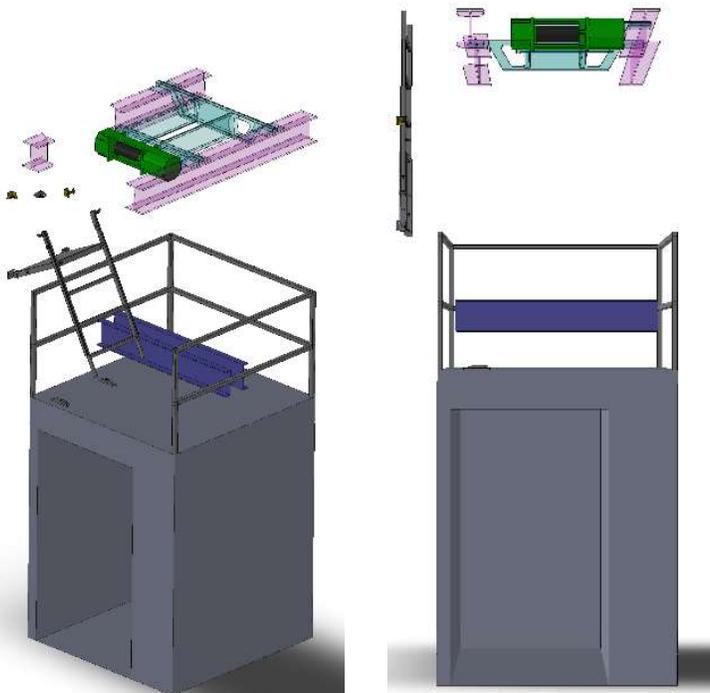
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Retractable Overhead Access Platform™ (“R.O.A.P.”)

Reduce reach to overhead MRL machine to <60”



R.O.A.P. deployed



R.O.A.P. being
deployed / retracted

R.O.A.P. retracted

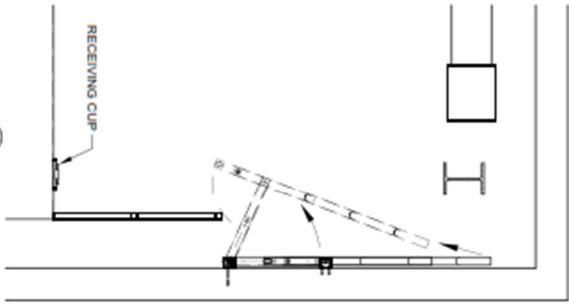
- Wall-mounted, retractable platform that brings overhead MRL machine within 60”
- Adds < 2 lb permanent weight to car top
- No reduction of overhead clearances
- Retracts to < 3” off hoistway wall
- Dual pivoting action allows ladder/platform to clear overhead beam upon retraction and car top guardrail upon extension
- 3 platform sizes available to fit car top configurations: 24”x24”, 24”x20”, 24”x16”
- Comes with working platform electrical device (safety switch)
- Lightweight aluminum construction, < 30 lbf required to deploy or retract platform
- Traction Tread rungs, slip-resistant and self-cleaning with multi-direction grip
- A single R.O.A.P. provides access to one side of overhead machine. If access to both sides of machine required, install two R.O.A.P.s, one on each side
- Note: R.O.A.P. does not have A17.1 code-required Standard Railing and requires the wearing of full fall protection equipment
- Due to non-compliance with A17.1, it is the responsibility of the elevator contractor to obtain AHJ acceptance before purchasing / installing R.O.A.P.
- Made with pride in the USA

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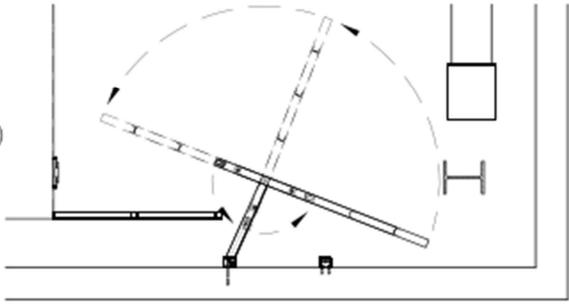
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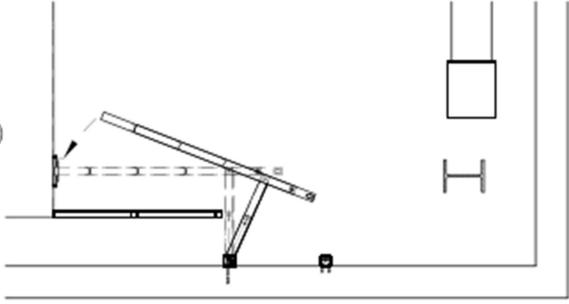
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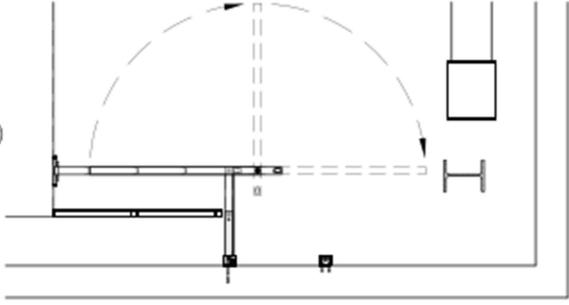
To deploy / extend the R.O.A.P. working platform and ladder system, grasp one side of the assembly at arm's height. With the other hand on the opposite side, pull out and rotate the wheel-mounted push-in handle 1/2 turn to lock-out position. Swinging grasp, perform the same procedure on the opposite side. Begin lowering the ladder assembly, allowing the platform section to rotate outward. The platform safety switch will open.



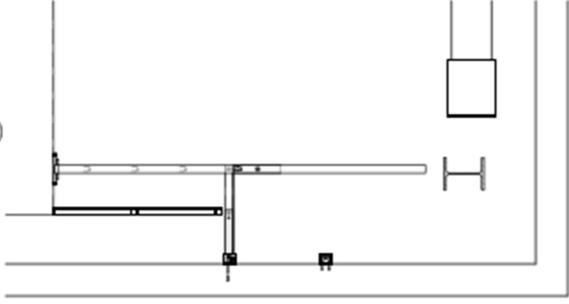
With the platform sufficiently angled, rotate the combined ladder & fibers approx. 180° so the sections clear the overhead rescue support beam. If present. Continue to rotate the combined ladder & fibers, changing the platform angle as needed for the rotating ladder & fibers to clear the car top guides rails.



Grasping the combined ladder & fiber tubes, continue to rotate and allow the ladder section to drop the bottom slides into the receiving cup brackets.



Hold the L.H. upper fiber tube with one hand and pull the push-in handle 1/2 turn to lock-out position with other hand. Rotate upper fiber bar 180° upward to vertical of the ladder side. Rotate the push-in handle to release the pin into the ladder side, locking the upper fiber bar to the ladder side. Repeat with R.H. upper fiber bar.



R.O.A.P. 2.0 system installed and extended with car at R.O.A.P. access point. 24" square platform level and ladder upper handrails rotated & locked in position. Access to the platform is now available. Complete, approved fall protection equipment must be worn and immediate descent to the provided D-ring is required.

**R.O.A.P. Extension / Deployment Procedure
(reverse procedure to retract / stow)**

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Low-Profile Fishplate™

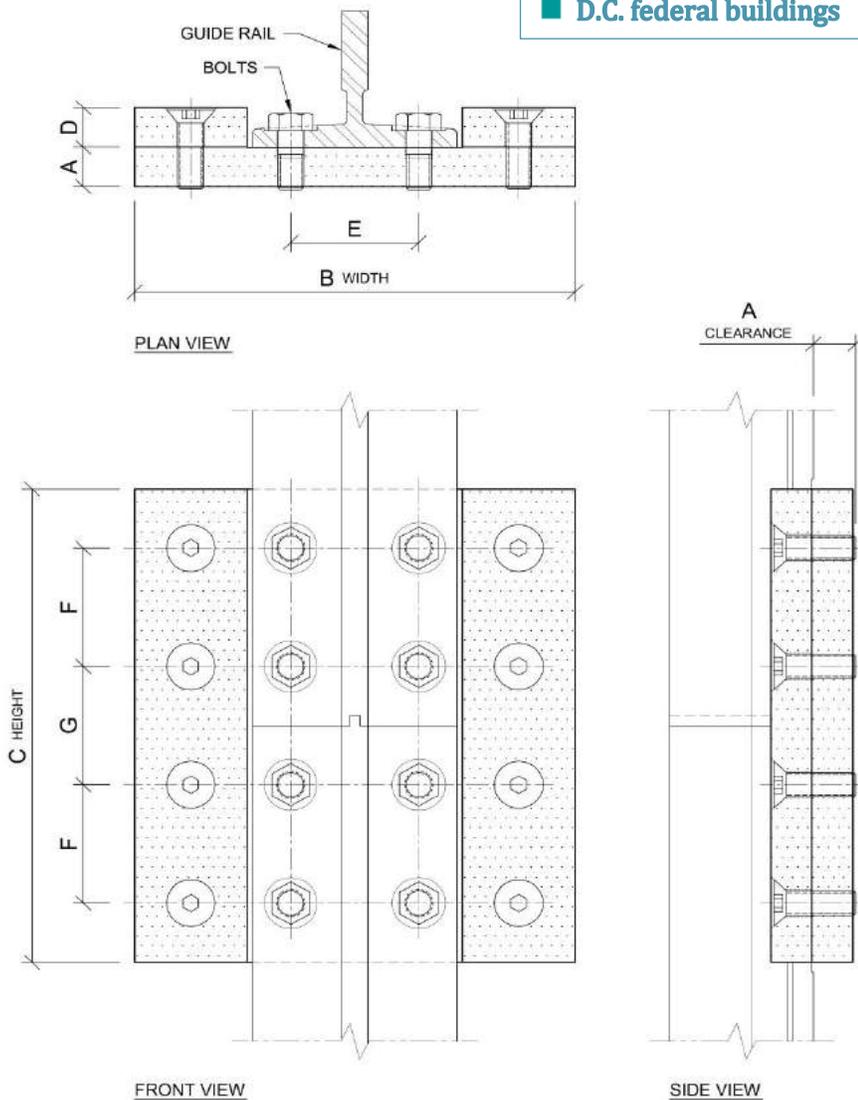
Seismic fishplate for all guide rail sizes that require absolute minimum clearance.

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Low-Profile Fishplates™ are installed in:

- The Statue of Liberty
- The World Trade Center
- Levi's (49's) Stadium
- D.C. federal buildings

- Seismic Risk Zone 2-4 fishplate for all common guide rails, engineered to fit tight clearances where traditional seismic fishplates don't.
- 3/4" to 1-1/2" clearance back of guide rail to wall or beam.
- Meet seismic code with standard hoistway.
- Seismic retrofit with tight clearance without removing the rail via detachable side bars.
- Custom manufactured ASTM A307 Grade A bolts comply with A17.1, section 2.23.2.1(b) & 8.4.8.6.1(f) & (h).
- Meets ASME A17.1-1996 thru 2013 including sections 2.23.7, 8.4.8.5 & 8.4.8.6.
- The section modulus and moment of inertia of the assembly is equal to or greater than the guide rail.
- California licensed structural engineer certified, calculations available.
- Quantities in stock, ready to ship.
- Made with pride in the USA.

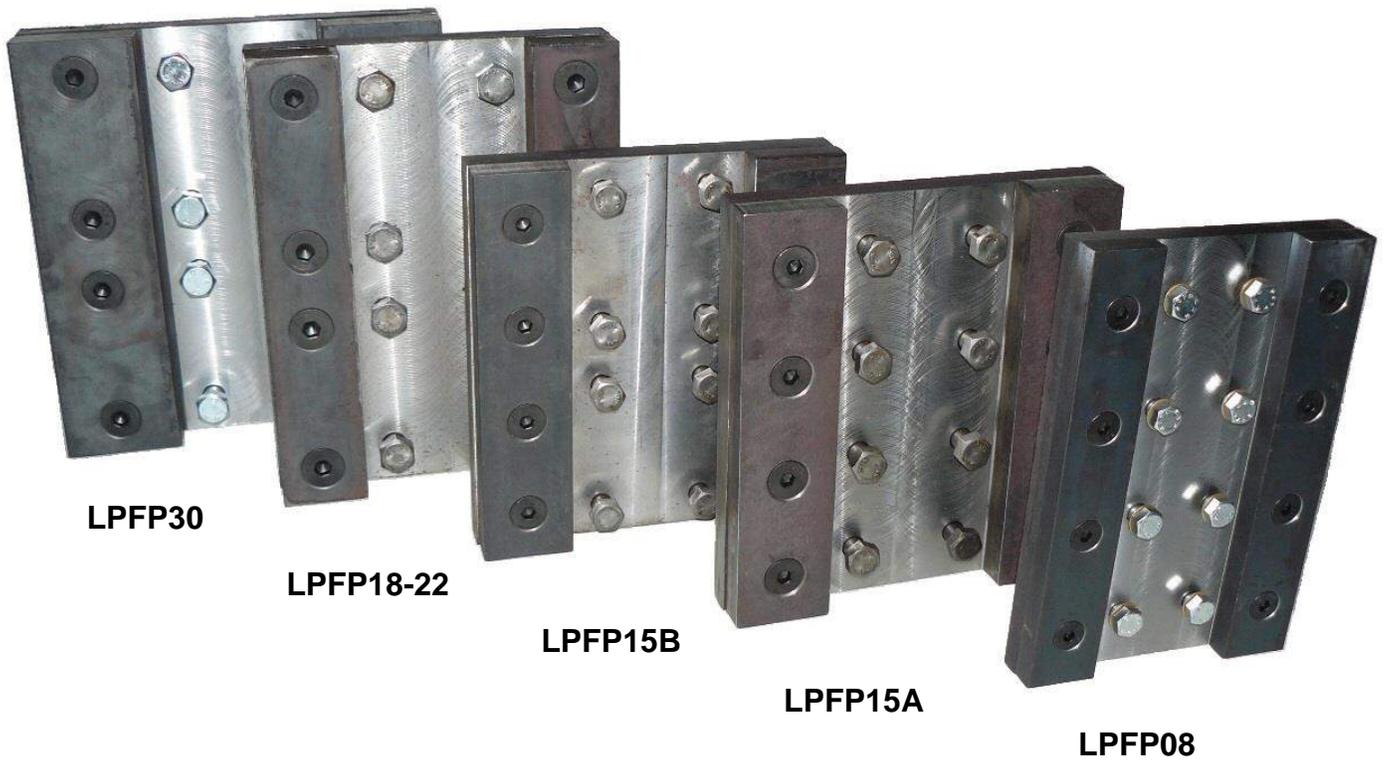


Model	Guide Rail	A	B	C	D	E	F	G	Bolts ¹	Weight
LPFP08	8# (T89/B)	0.75	7.75	12	0.75	2.25	3	3	1/2-13x1.13 ²	32 lbs.
LPFP12	12# (T127-1/B)	1	10.75	12	1	3.125	3	3	5/8-11x1.5 ²	57 lbs.
LPFP15A	15# (T127-2/B)	1	10.75	12	1	3.125	3	3	5/8-11x1.5	57 lbs.
LPFP15B	15# (Otis #1)	1	10.75	12	1	3.063	4	2	5/8x11x1.6	57 lbs.
LPFP18-22	18.5# (T140-1/B)	1.25	11.25	14.5	1.375	3.625	4.75	2.5	3/4-10x1.8	92 lbs.
	22.5# (T140-2/B)									
LPFP30	30# (T140-3/B)	1.5	14	14.5	1.5	3.625	4.75	2.5	3/4-10x2.38	138 lbs.

1. Bolts are custom manufactured, code compliant ASTM A307 with specified shank and threaded lengths.
 2. Include specified spacer washers. 3. All dimensions are in inches.



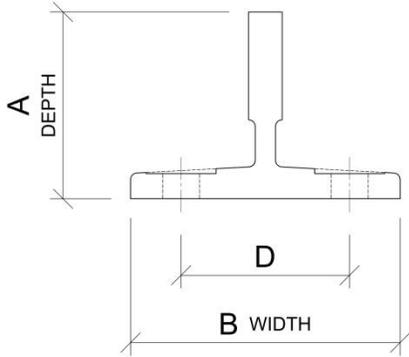
Low-Profile Fishplate™ #LPFP15A with guide rails shown in rotated views



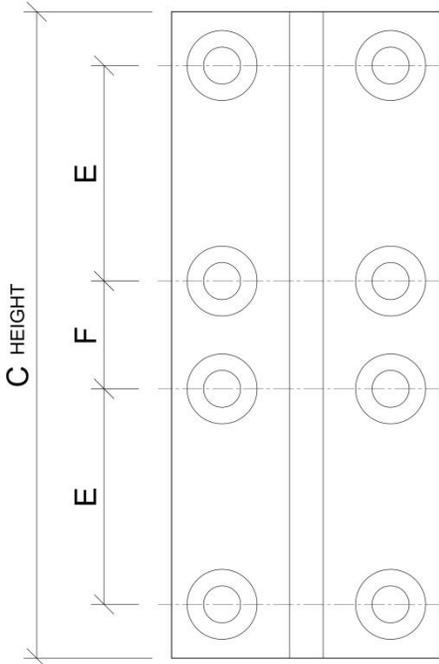
Full model range of Low-Profile Fishplates™

Seismic Fishplate

Seismic fishplate for standard & old Otis guide rails.

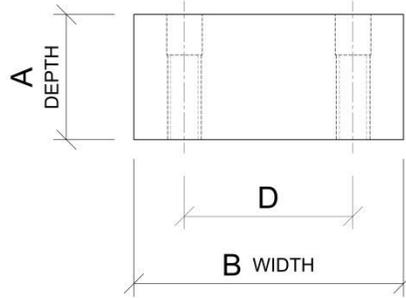


PLAN VIEW

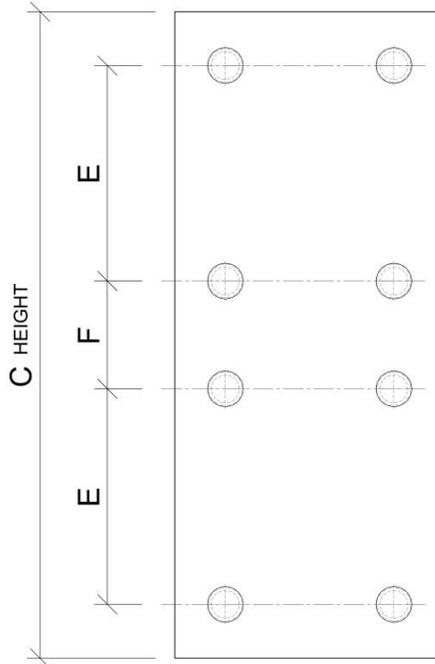


FRONT VIEW

TFP Series - Rail Section



PLAN VIEW



FRONT VIEW

MFP Series - Bar Section

- Seismic Risk Zone 2-4 fishplate for standard and obsolete Otis guide rails.
- Includes ASTM A307 Grade A bolts & nuts to comply with A17.1, section 2.23.2.1(b) & 8.4.8.6.1(f) & (h).
- Meets ASME A17.1-1996 thru 2013 including sections 2.23.7, 8.4.8.5 & 8.4.8.6.
- The section modulus and moment of inertia of the assembly is equal to or greater than the guide rail.
- Custom sizes available, including Van Emon
- Milled in USA.

*also see our unique
**Low-Profile
Fishplates™**
for absolute minimum
clearance conditions*

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Model	Guide Rail	A	B	C	D	E	F	Bolts & Nuts	Weight
TFP89	8# (T89/B)	2.4	3.5	12	2.25	3	3	1/2-13 x 2.0	8.2 lbs.
MFP89	8# (T89/B)	1.69	3.5	12	2.25	3	3	1/2-13 x 2.0	20.1 lbs.
TFP89B	8# (Otis #2)	2.4	3.5	9	2.25	2.25	2.25	1/2-13 x 2.0	6.2 lbs.
MFP89B	8# (Otis #2)	1.69	3.5	9	2.25	2.25	2.25	1/2-13 x 2.0	15.1 lbs.
TFP127-2	15# (T127-2/B)	3.47	5	12	3.125	3	3	5/8-11 x 2.5	15.1 lbs.
MFP127-2	15# (T127-2/B)	2.25	5	12	3.125	3	3	5/8-11 x 2.5	38.3 lbs.
TFP127-2B	15# (Otis #1)	3.47	5	12	3.063	4	2	5/8-11 x 2.5	15.1 lbs.
MFP127-2B	15# (Otis #1)	2.25	5	12	3.063	4	2	5/8-11 x 2.5	38.3 lbs.

All dimensions are in inches
Rail section fishplates made from reused/recycled rail sections when available

Rope Align Block™

Aligns hoist ropes above hitch plate for rope brake or beam clearance.



■ Problem: Hoist Ropes Bind in Rope Brake

When adding a rope brake, such as a Hollister-Whitney *Rope Gripper*™, BODE *Rope Brake* or the Draka *Sure Stop*™, to a traction elevator roped 1:1 there is often a problem with the spread of the ropes coming from the staggered car or counterweight hitch being too great for the open jaw clearance of the rope brake. All car or counterweight hitch plates have a staggered hole pattern that allow sufficient space to fit and adjust the rope shackles. The ropes lead off from the car or counterweight hitch plate with as much as a 4-inch spread with each rope running in its own straight line to where it makes contact with the machine drive or the deflector sheave.

Hollister-Whitney's *Rope Gripper*™, for example, has a total initial clearance between the two open brake pads equal to the hoist rope diameter plus 5/8". In a typical installation, the hoist rope spread or lack of alignment will exceed the open rope brake jaw clearance at around 18 to 24 inches below the centerline of the sheave or about a 1/2 foot to a foot below the sheave. If the rope brake is mounted below these levels, the hoist ropes will cut too deeply into the rope brake pads causing premature wear to both the ropes and the brake pads.

■ **Solution: Install a Rope Align Block™**

The solution is to add the **Rope Align Block™** as manufactured by **Smart Elevator Tech, LLC**. This device is easily installed above the hoist rope shackles and below the rope brake to gather and align the hoist ropes so they fit the rope brake jaw clearance. Each **Rope Align Block™** is made and labeled to the specific hoist rope quantity, size and pitch (rope center-to-center) to suit the elevator installation. The rigid PVC blocks will not harm the hoist ropes and are bored and countersunk with rope paths sized not to bind or clamp the ropes, as required per code. In this way, each hoist rope is free to move through the PVC blocks as needed for rope tensioning. Each assembly comes with two 1/8" cables with two clamps each which thread through the provided holes in the blocks and through the shackles. These cables keep the blocks tethered to the shackles and keep the blocks from riding up the ropes. Also, the PVC construction meets A17.1 non-combustible requirement and is not affected by moisture.

■ **Order**

To order, simply call or email **Smart Elevator Tech, LLC** and identify the quantity of **Rope Align Blocks™** needed for each hoist rope quantity, rope size & rope pitch (see Rope Align Block™ Ordering Guide for instructions). Shipping is via UPS. **Rope Align Blocks™** are custom-made per order and can usually be fabricated and shipped within a week from order placement.

■ **Installation**

To install a **Rope Align Block™** it is essential to verify the available clearance so as to properly locate the device between the hoist rope shackles and the rope brake or other obstruction. It is critically important to assure that the **Rope Align Block™** does not strike the rope brake or other obstacle when the car or counterweight reaches their maximum upward movement. See ASME A17.1 section 2.4.6 to determine the "maximum upward movement" for the car and section 2.4.9 for that of the counterweight. Also see sections 2.4.9 and 2.4.11 which applies to the **Rope Align Block™** mounted above the counterweight or the car not striking the rope brake, other equipment or structure in the overhead.

It may be necessary to reduce the tension on the outer hoist ropes either by running out the nuts on the outer shackles or running in the nuts on the inner shackles. Install the split PVC blocks of the **Rope Align Block™** assembly at the location above the shackles as determined above. Take care that the hoist ropes are completely within the bored paths (holes) of both blocks and that the blocks do not pinch the ropes. Tighten the two bolts that pass through the PVC blocks. Install the 1/8" cables through the provided holes of the PVC blocks and through the shackles, snug the cables and add the cable clamps. Re-tension the elevator hoist ropes as required. It may be necessary to tap the PVC blocks lightly to release any internal binding that may exist between the PVC blocks as the hoist ropes, especially the outer ropes. Finally, verify that all required clearances are met.

■ **Clarifications & Disclaimers**

Note that the Rope Align Block™ does not work on a 2:1 or other multi-roping scheme. The Rope Align Block™ can only work on an elevator roped 1:1. Rope Align Block™ cannot be used as a hoist rope anti-rotation device (see A17.1, 2.20.9.8). Rope Align Block™ may not work on all applications as there may be insufficient clearances to properly locate the device. It is the sole responsibility of the purchaser to determine if the Rope Align Block™ will fit and serve as designed for each application. For installation on existing elevator systems, a thorough field survey may be required to determine the feasibility of properly installing the Rope Align Block™. For installation on new elevator systems, an analysis of the elevator and building design drawings may be necessary to determine the necessary clearances. Seek professional engineering services if necessary (such services are available from **RCB Elevator Consulting, LLC**). Installation of the Rope Align Block™ must be performed by a fully authorized and licensed (where applicable) elevator mechanic/technician. Also reference the rope brake manufacturer's installation and appropriate documents concerning the installation of the rope brake. The purchaser assumes all responsibility and liability for installation of the rope brake and the **Rope Align Block™**.

Smart Elevator Tech, LLC

phone: (415) 819-5744

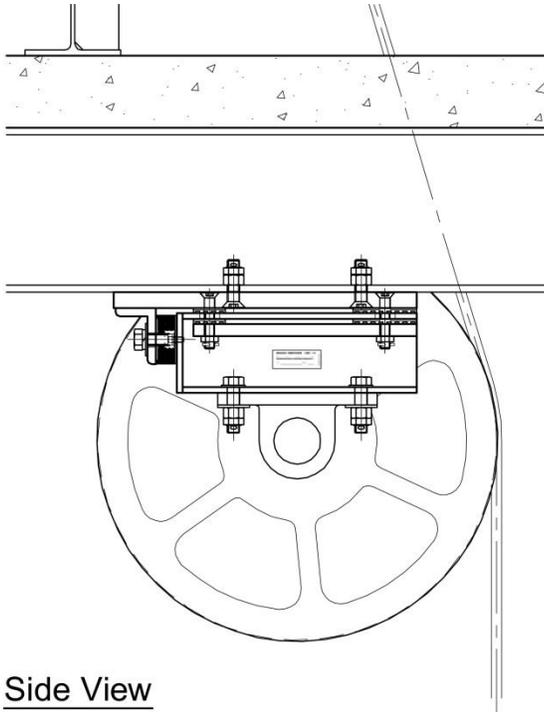
email: sales@smartelevatortech.com

web: www.smartelevatortech.com

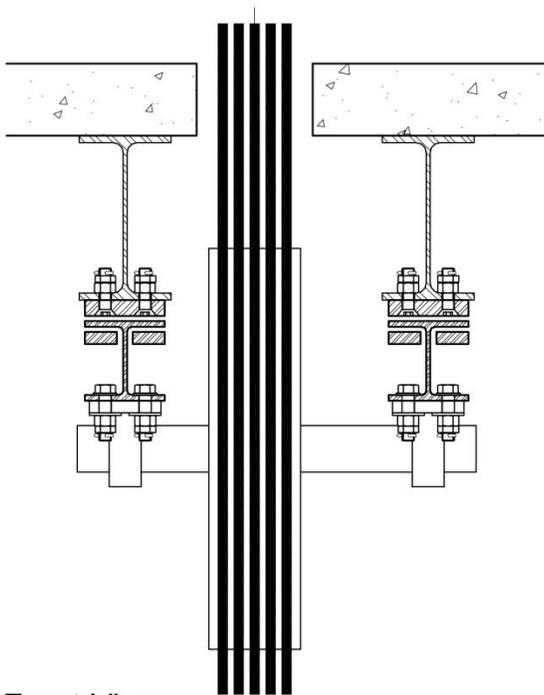


Deflector Sheave Isolator™

Fully engineered, bolt in place isolation assemblies for elevator deflector sheaves.



Side View



Front View

The vibration and harmonics produced by even the finest elevator traction machine can be transmitted through the hoist ropes to the deflector sheave. If the deflector sheave is not isolated from the building structure, the machine vibration can be transmitted through the deflector sheave to the machine beams, the perimeter building steel, floor decks and walls of adjacent living space.

The result is amplification of these vibrations, a phenomenon called resonance. The natural frequency of the structure is excited by the machine frequency with a compounding effect. The floor decks begin to vibrate, much like the skin of a drum. This is often called structural noise as it emanates from the building structure.

A common approach is to add insulation, sound proofing materials or sound barriers. These "solutions" typically fail as the noise is actually emanating from the structure, including the living space floors and walls, which are acting as amplifiers for the vibration source.

The correct solution is to properly isolate the original source of the vibration. Typically elevator drive machines are isolated at their mounting, most commonly with neoprene pads or engineered isolators. Most deflector/overhead sheaves, however, are bolted directly to the underside of the machine beams and are not isolated from the building structure.

Now there is a practical solution for isolating deflector/overhead sheaves, the **Deflector Sheave Isolator™** from **Smart Elevator Tech, LLC**. Each order is specifically engineered for the project based on the system loads, the degree of deflection, the center of sheave to pillow block dimensions, car v. cwt. deflecting, etc.

Complex vector mechanics mathematics is utilized to determine the tangential loading and the orthogonal vertical and horizontal forces independently for the isolator assembly at each side of the sheave. The calculations then compare the specific vertical and horizontal loading for each mount with an array of engineered isolators designed for the low frequencies (Hz) of elevator machine and selects the ideal combination in each direction and for each side of the sheave.

For ease of installation, the **Deflector Sheave Isolators™** are designed to bolt to the machine beams using the same holes as the original deflector sheave. This allows the isolators to be installed with the elevator installation or added as a retrofit without having to drill new holes in the machine beams. The assemblies typically require 6.75" of vertical space, lowering the deflector sheave by that amount. Care must be taken to center the deflector sheave with the plumb rope drop so as to eliminate any side pull on the sheave or isolators.

The isolator assemblies are manufactured with pride in the USA to strict tolerances. Each isolator assembly is labeled for the specific sheave side and the set carries a unique serial number. Drawings are provided identifying the isolators used, should replacement ever prove necessary. The design has been certified by a California licensed structural engineer. Job specific structural certification is available if required (fees apply).

As every set of isolators must be custom built to the elevator loading parameters, lead time is approximately three weeks from order placement and completed survey forms. Feel free to give us a call to discuss your project and for actual pricing and lead time.

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Smart Elevator Tech, LLC
Deflector Sheave Isolator™

Overview: Which Specialty Ladder is Right for Your Installation?

1. **Retracta Ladder®**: extends 7" from wall when down—retracts to 2-³/₄". Need only 3-5/8" clearance between car and the wall/beam. Also have a version for use in the overhead to reach overhead machines (the Overhead Retracta Ladder®).
2. **Extended Retracta Ladder® and Extra Extended Retracta Ladder®** extend 18" or 24" from wall, retracts to 3-³/₄". Need 4-5/8" clearance. For center-opening cars or when the door unlocking device is too far from the ladder or you can't put the ladder on the strike side. Safe reach to a ladder as much as 30" away with the Pull Pin Pole™.
3. **The Powered Retracta Ladder®**: a powered product that extends a full 36" from the wall. Retracts to 6-¹/₂", so need at least 7-¹/₂" of clearance. Since it's powered, safe reach to a ladder over 30" away is not an issue. Used with larger elevators with wide platform center-opening doors or when you can't put the ladder on the strike side.
4. **The Adjusta Ladder™**: our version of the standard pit ladder. Non-retractable but adjustable to increase safety by enabling the maximum distance between the rung and the wall from code minimum 4-¹/₂" to OSHA prescribed 7". Need at least 6-3/8" clearance between car/platform and the hoistway wall for this ladder.

RETRACTA LADDER®

Retractable Pit and Overhead Access Ladders
Increase Safety and Avoid Failed Inspections

Retracta Ladder®



Extended Retracta Ladder®



Same Day Shipping!

NEW!

Don't Reach Unsafe Distances to the Ladder

- Center-opening doors
- Ladder mounted on far side
- Solves 39" ladder to door lock release code requirement

Powered Retracta Ladder®



- 7" rung-to-wall extended
- 2¾" retracted
- For pit and overhead machine access

- 18" or 24" rung-to-wall extended, 3¾" retracted
- Safely operate a ladder as much as 30" away with Pull Pin Pole™ reach extender

- 36" rung-to-wall extended
- 6½" retracted
- Ladder extends with turn of a key

A17.1/CSA B44 compliant

Patented

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