



Smart Elevator Tech, LLC

phone: (415) 819-5744

email: sales@smartelevatortech.com

web: www.smartelevatortech.com

Product Catalog

Pit and Overhead Access Ladders

SMARTLADDER™ NEW!

SMARTGATE LADDER™ NEW!

RETRACTA LADDER®

EXTENDED RETRACTA LADDER®

POWERED RETRACTA LADDER®

OVERHEAD RETRACTA LADDER®

ADJUSTA LADDER™

DIVIDER BEAM KIT™ NEW!



Specialty Seismic Fishplates

LOW-PROFILE FISHPLATE™

only 3/4" to 1 1/2" clearance required

FISHPLATES FOR OBSOLETE RAILS

Otis 1, 1-1/2, 2 & OA

Von Emon

Custom



Engineered Product Solutions

ROPE ALIGN BLOCK™

align ropes for Rope Brake or sheave alignment



SmartLadder™

Elevator pit ladder to comply with NEW Elevator Code Requirements



- Non-retractable pit ladder to meet new A17.1-2022/B44:22 safety requirements.
- Improve the safety of elevator personnel accessing and working in the pit.
- Introducing the **SmartLadder™** from Smart Elevator Tech, LLC:
 - What makes it SMART? It prevents elevator operation when ladder is mounted until switch is manually reset.
- Both the new **SmartLadder™** and our market-leading **Retracta Ladder®** meet or exceed new 2022 Code requirements.
- Includes Ladder Electrical Device with NC contacts positively opened mechanically.
- Ladders in stock for 4' thru 13' pit depths.
- Order RH or LH, also field reversible.
- Works with the new **Divider Beam Kit™**.
- OSHA Safety Yellow powder coat painted for optimal visual safety and rust protection.
- Modular design for ease of handling and reduced shipping cost.
- Increase safety now and be prepared when jurisdictions adopt the 2022 Code.
- Made with pride in the USA.

Smart Elevator Tech, LLC

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SmartGate Ladder™

Elevator pit ladder to comply with NEW Elevator Code Requirements



- Non-retractable pit ladder to meet new A17.1-2022/B44:22 safety requirements.
- Improve the safety of elevator personnel accessing and working in the pit.
- Introducing the **SmartGate Ladder™** from Smart Elevator Tech, LLC. What makes it 'smart?'
 - Switch prevents elevator operation when gate is open, which is required to mount the ladder.
 - Engineered to prevent unintended switch activation.
- Both the new **SmartGate Ladder™**, **SmartLadder™** and our market-leading **Retracta Ladder®** meet or exceed new 2022 Code requirements.
- Includes Ladder Electrical Device with NC contacts positively opened mechanically.
- Ladders in stock for 4' thru 13' pit depths.
- Order RH or LH, also field reversible.
- Works with the new **Divider Beam Kit™**.
- OSHA Safety Yellow powder coat painted for optimal visual safety and rust protection.
- Modular design for ease of handling and reduced shipping cost.
- Increase safety now and be prepared when jurisdictions adopt the 2022 Code.

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Retracta Ladder®

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



- 2¾" wall to outside of ladder when retracted for exceptionally tight car to hoistway clearance.
- 7" rung-to-wall when extended for full OSHA compliance.
- Replaces notch or pocket in the pit & hoistway wall as required for MRL elevators.
- Meets ASME A17.1/CSA B44 requirements.
- Includes Ladder Electrical Device with NC contacts positively opened mechanically.
- Traction Tread™ rungs, slip-resistant & self-cleaning for ideal multi-direction grip and strength. Full Rung Top option available.
- Gas spring reduces force required to extend or retract ladder to less than 15 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 – can mount Pull Pin and Ladder Electrical Device on either side.
- 4' (#RL48) thru 13' (#RL156) pit depths and 16", 12" & 9" wide rungs are standard.
- Modular design for ease of handling and reduced shipping cost.
- Works with new **Divider Beam Kit™**.
- 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

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Extended Retracta Ladder®

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



- **Extended Retracta Ladder®** extends 18" from rung-to-wall or beam when extended, 3¾" retracted.
- **Extra Extended Retracta Ladder®** extends 24" from rung-to-wall or beam when extended, 3¾" retracted.
- Solves 39" Rule A17.1/B44, 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).
- Ladder Electrical Device with NC contacts positively opened mechanically.
- Reversible installation. Mount Ladder Electrical Device & Pull Pin locking assembly on either side.
- Traction Tread™ rungs, slip-resistant & self-cleaning for ideal multi-direction grip and exceptional strength. Full Rung Top option.
- For 4' thru 10' pit depths, 16", 12" & 9" wide rungs are standard.
- Fully A17.1/B44 compliant.
- **Retracta Ladder®** is a Registered Trademark and has been awarded US Patent #8944211.
- Made with pride in the USA.

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Extra Extended Retractable Ladder®

24" extension



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.



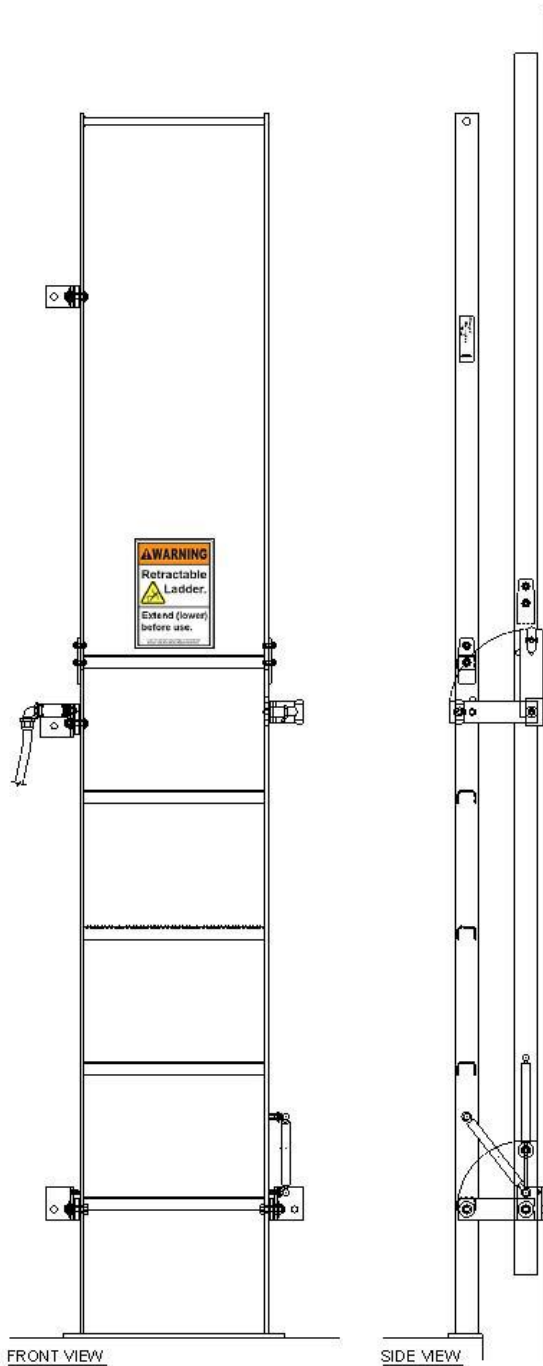
- Reduce pit access hazard of cars with center-opening doors.
- Mount ladder on opposite of strike wall for side-opening doors.
- Don't reach unsafe distance to the ladder, typ. +2½ feet.
- Ladder comes to you with the turn of a key.
- 6½" clear retracted, 36" rung-to-wall extended.
- Solves 39" max. 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 1,000 lbf actuator & 115 VAC power supply.
- IP67 (NEMA 4X) Ladder Electrical Device (field wire to stop switch).
- ASME A17.1/CSA B44 compliant.
- **Retracta Ladder®** is Patented and a Registered Trademark.
- Assembled with pride in the USA.

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Overhead Retracta Ladder®

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



- 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.
- 2¾" 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/CSA B44 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.
- Ladder Electrical Device per A17.1/B44, 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. Full rung top optional.
- Gas spring reduces force required to extend or retract ladder to less than 15 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.

Smart Elevator Tech, LLC

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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/CSA B44 1996 - 2019 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.

Smart Elevator Tech, LLC

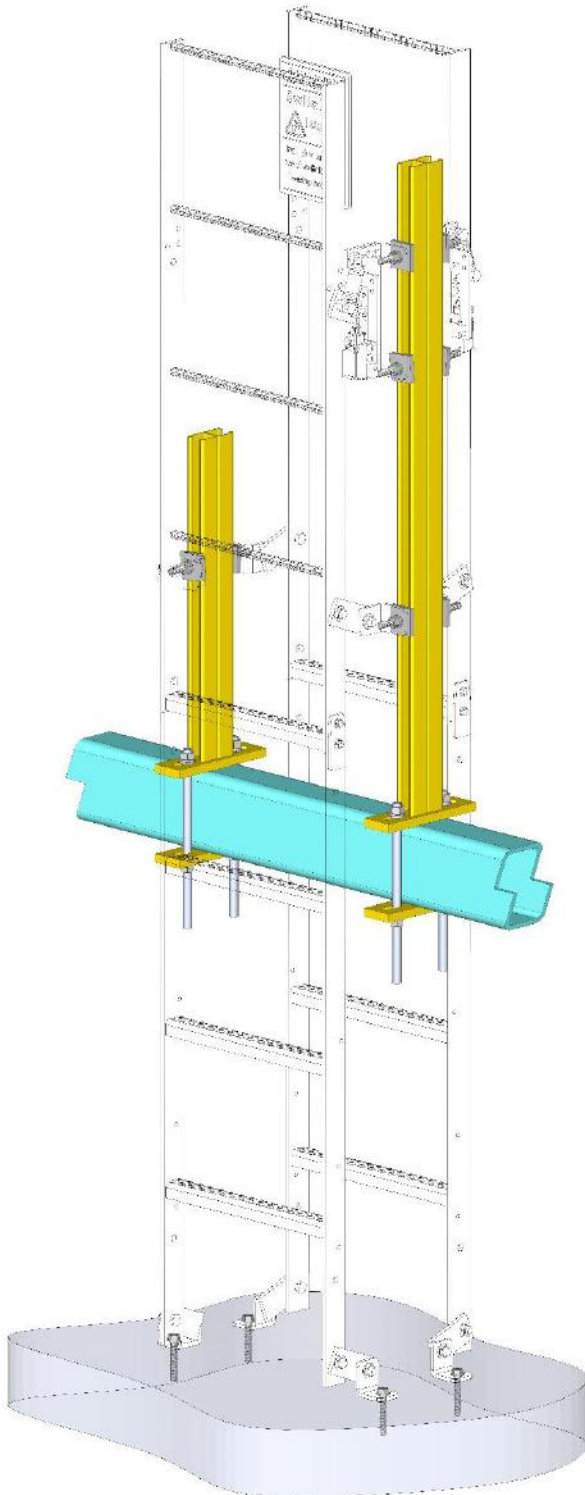
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Divider Beam Kit™

Divider beam mounting kit for
Smart Elevator Tech, LLC ladders



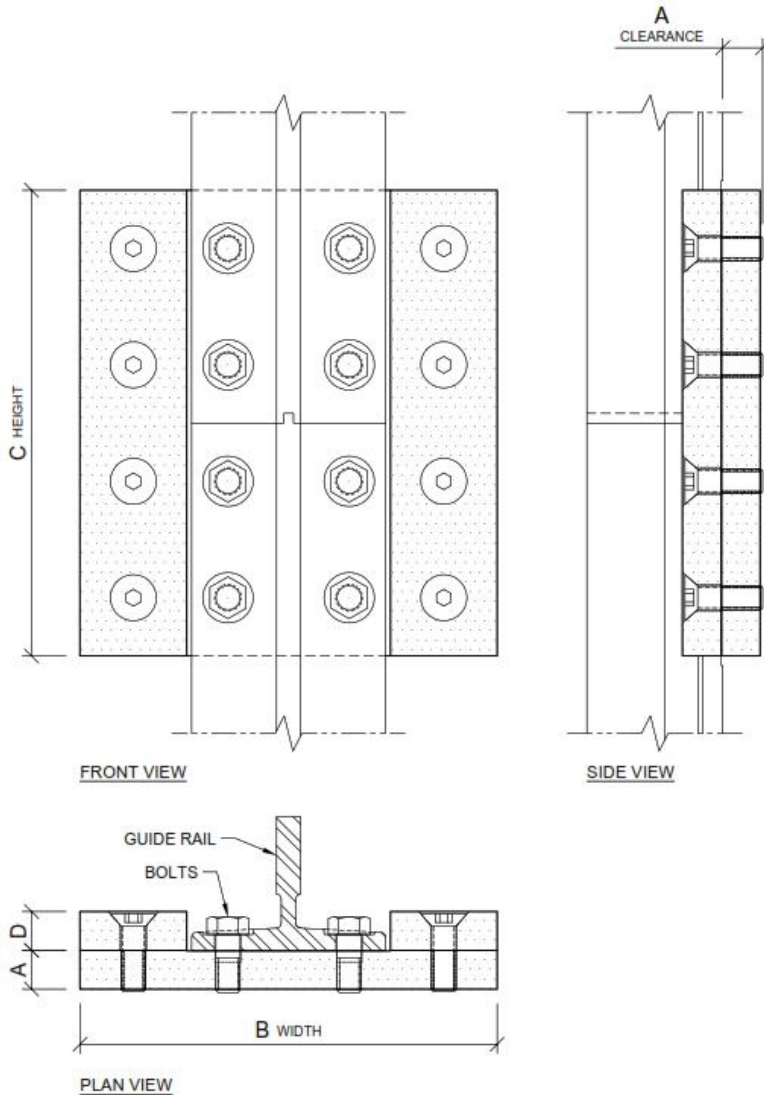
- Complete kit to mount **Smart Elevator Tech** ladders onto divider beams including:
 - **SmartLadder™**
 - **SmartGate Ladder™**
 - **Retracta Ladder®**
 - **Adjusta Ladder™**
- The **Divider Beam Kit™** (DBK) can support one (1) ladder or two (2) ladders back-to-back.
- Can accommodate divider beams 4" to 6" wide and up to 10" high.
- Divider beams may be HSS (tube steel) or I-beam (standard or wide flange).
- Divider beam top-of-steel (TOS) may be from 6" above to 12" below the elevator sill.
- DBK includes all hardware and fasteners needed for mounting two (2) ladders, except concrete screws for bottom ladder bracket floor anchorage.
- DBK must be ordered with ladder(s), as modifications to ladder(s) are included.
- Standard kit for two-section ladders and Double kit for three-section ladders.
- Meets ASME A17.1/CSA B44.
- Quantities in stock, ready to ship.
- Made with pride in the USA.

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Low-Profile Fishplate™

**Seismic fishplate when absolute
minimum clearance required**



- Seismic Risk Zone 2-4 fishplate for all 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.
- Meets ASME A17.1/CSA B44 including sections 2.23.2, 2.23.7, 8.4.8.5 & 8.4.8.6.
- ASTM A307 Grade A bolts comply with A17.1, section 2.23.2.1(b) & 8.4.8.6.1(f).
- 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.

Low-Profile Fishplates™
are installed in:

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

Model	Guide Rail	A	B	C	D	Weight
LPFP08A	8# (T89/B)	0.75	8	12	0.75	32 lbs
LPFP08B	8# (Otis #2)	0.75	8	9	0.75	24 lbs
LPFP12A	12# (T127-1/B)	1	10.25	12	1	52 lbs
LPFP12B	12# (Otis #1-1/2)	1	10.25	12	1	52 lbs
LPFP15A	15# (T127-2/B)	1	10.75	12	1	57 lbs
LPFP15B	15# (Otis #1)	1	10.75	12	1	57 lbs
LPFP18-22	18.5# (T140-1/B)	1.25	11.25	14.5	1.375	92 lbs
	22.5# (T140-2/B)					
LPFP30A	30# (T140-3/B)	1.5	14	14.5	1.5	138 lbs
LPFP30B	30# (Otis #OA)	1.5	14	14.5	1.5	138 lbs



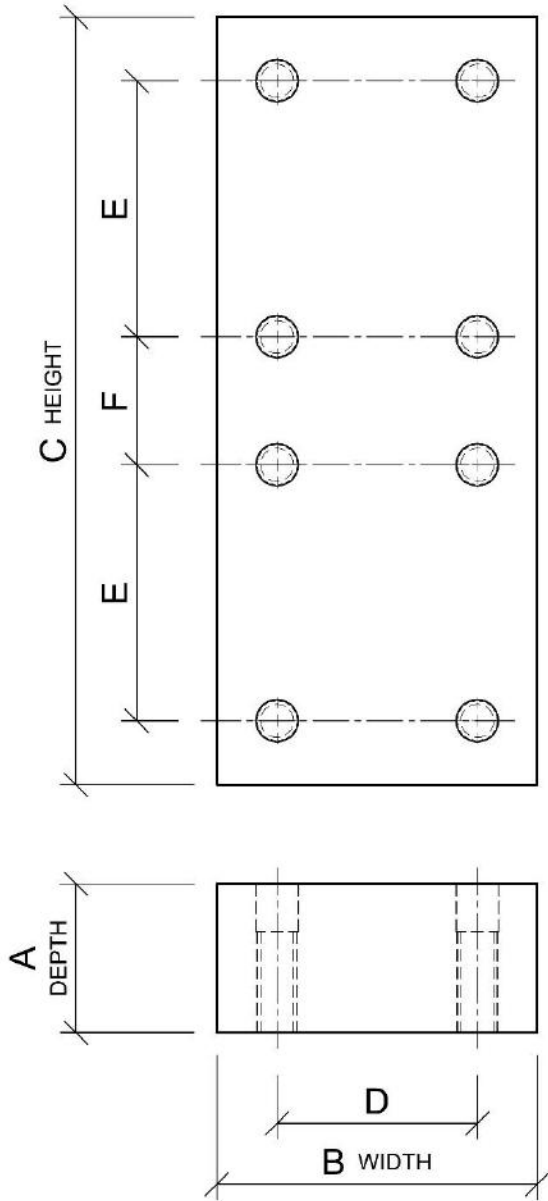
Low-Profile Fishplate™ #LPFP15A with guide rails shown in rotated views



Full model range of Low-Profile Fishplates™

Seismic Fishplate

Bar-Type Seismic fishplate for old Otis Elevator guide rails



- Seismic Risk Zone 2-4 fishplate for obsolete Otis guide rails.
- Includes ASTM A307 Grade A bolts to comply with A17.1/B44, section 2.23.2.1(b) & 8.4.8.6.1(f).
- Meets ASME A17.1/CSA B44 including sections 2.23.7, 8.4.8.5 & 8.4.8.6.
- The section modulus and moment of inertia of the member is equal to or greater than the guide rail.
- Comparable to ISO “Minimum Clearance Seismic Fishplates.”
- 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	Otis Rail Model	A	B	C	D	E	F	Weight
MFP89B	8#	#2	1.69	3.5	9	2.25	2.25	2.25	15.1 lbs
MFP127-1B	12#	#1-½	1.94	5	12	3.06	4	2	32.9 lbs
MFP127-2B	15#	#1	2.25	5	12	3.06	4	2	38.4 lbs
MFP140-2B	18# 22#	#3/4 #1/2	2.90	5.5	14.5	3.5	5	2.5	65.6 lbs
MFP140-3B	30#	#OA	3.74	5.5	14.5	3.5	5	2.5	84.5 lbs

• All dimensions are in inches.

Overview: Which Seismic Fishplate (Splice Plate) is Right for Your Installation?

Space Required Behind the Rail	8# Rail	12# or 15# Rail	18.5# or 22.5# rail	30# rail
Low-Profile Fishplate™ <i>Smart Elevator Tech exclusive product</i>	.75"	1.00"	1.25"	1.50"
Plate guiderail splice (bar-type)	1.70"	2.26"	2.89"	3.74"
Rail-section guiderail splice (rail T-section)	2.44"	3.50"	4.25"	5.00"

- The **Low-Profile Fishplate™** is available for both current ISO and old Otis rails.
- For old Otis #1, #2, OA, and other obsolete rails (different hole patterns from current ISO rail standards), we offer three types of seismic fishplates:
 1. *Low-Profile Fishplate™*
 2. plate guiderail splice (bar-type) (often called “minimum clearance”)
 3. rail-section guiderail splice (rail T-section)
- All fishplates include code-compliant fasteners. Most models in stock.

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Rope Align Block™

Aligns ropes above hitch plate for sheave or rope brake alignment



- 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 sheave.

■ **Common Problem 1: Hoist Ropes Bind in Rope Brake**

When adding a rope brake, such as a Hollister-Whitney *Rope Gripper*™, BODE *Rope Brake* or the Draka ERB, 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.

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.

■ **Common Problem 2: Ropes Not Aligned with Sheaves**

In some installations, the rope shackle pitch (center-to-center) is wider than the groove pitch of the drive or deflector sheave. This condition can cause excessive rope wear and side wear of the sheave grooves.

■ **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 or sheave to gather and align the hoist ropes, so they feed cleanly. Each **Rope Align Block™** is made and labeled to the specific hoist rope quantity, size and pitch (rope center-to-center) to suit the 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/B44 non-combustible requirement (flame spread rating <10 and smoke development 0-25) 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 parcel. **Rope Align Blocks™** are custom-made per order and can usually be fabricated and shipped within 3 days from order placement.

■ **Installation**

To install a **Rope Align Block™** it is essential to verify the available clearance to properly locate the device between the hoist rope shackles and the rope brake or sheave. It is critically important to assure that the **Rope Align Block™** does not strike the rope brake, sheave or other obstacle when the car or counterweight reaches their maximum upward movement. See A17.1/B44 section 2.4.6 to determine the "maximum upward movement" for the car and section 2.4.9 for that of the counterweight.

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/B44, 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. The purchaser assumes all responsibility and liability for installation of the rope brake and the **Rope Align Block™**.

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Overview: Which Pit Ladder is Right for Your Installation?

Nonretractable Ladders:

1. **The SmartLadder™**: complies with NEW requirements in the 2022 A17.1/B44 Elevator Code. Prevents elevator operation from when ladder is mounted until its safety switch is reset. Need minimum 6-3/8" between car/platform and the hoistway wall.
2. **The SmartGate Ladder™**: complies with NEW requirements in the 2022 A17.1/B44 Elevator Code. Prevents elevator operation when gate is open, which is required to mount the ladder. Need minimum 6-9/16" between car/platform and the hoistway wall.
3. **The Adjusta Ladder™**: our version of the standard pit ladder. Stationary but adjustable at installation 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 minimum 6-3/8" between car/platform and the hoistway wall. Complies with ASME A17.1/CSA B44 1996 – 2019 code.

Retractable Ladders:

➤ **all meet / exceed new 2022 A17.1/B44 code requirements:**

1. **Retracta Ladder®**: extends 7" from wall when down – retracts to 2-3/4". Need only 3-5/8" between the car and the wall/beam.

If you have center-opening doors, enable safer reach to a *Retracta Ladder®* with the optional ***Pull Pin Pole™***.

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. Safer reach to a ladder as much as 34" away with the ***Pull Pin Pole™***.
3. **The Powered Retracta Ladder®**: a powered ladder 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.

RETRACTA LADDER®

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

Retracta Ladder®



Extended Retracta Ladder®



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®



Same Day Shipping!

- 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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