

December 2020

SEISMIC BRACING INSTALLATION KIT

Freedom Reach-In



Models Descriptions:

2, 3, 4 & 5-door case models:

RFL1, RFL2, RFL3, RFL4 AND RFL5 with standard depth

1, 2, 3, 4 & 5-door case models:

RFLN1, RFLN2, RFLN3, RFLN4 AND RFLN5 with narrow depth

IMPORTANT SEISMIC NOTE:

This seismic kit is adequate for sites with a Maximum Ground Motion Parameter (Ss) < 2.9 g.

This kit cannot be used for job sites above this value.

See the steps on the following pages to determine the job site application of this kit, depending on the Maximum Ground Motion Parameter (Ss) factor and according to your location.

In areas with less risk, not all hardware installation is required.

See the calculation report regarding this for additional details.

INSTRUCTION - INSTALL SEISMIC .125 CABLE RFL

▲ WARNING

PERSONAL PROTECTION EQUIPMENT (PPE)

Only qualified personnel should install and service this equipment. Person Protection Equipment (PPE) is required whenever installing or servicing this equipment. Always wear appropriate PPE as required by OSHA regulations, as well as all other federal, state and local codes. PPE may include, but is not limited to, safety glasses, gloves, protective boots or shoes, long pants and a long-sleeve shirt. Observe all precautions on tags, stickers, labels and literature attached to this equipment.

PRE-INSTALLATION STEPS:

Step #1

Look up the Job Site value for Maximum Considered Earthquake Ground Motion Parameter (for 0.2 sec period): $S_s = ?$

To check the S_s factor at a given address go to www.SeismicMaps.org
 In the “Reference” dropdown, choose “ASCE 7-16”, then enter the address and click “Go”.

You can ignore Risk Category and Site Class. The S_s value is reported at the top of the table that pops up. If the value exceeds 2.9, then the seismic kit will not be adequate. In this example below $S_s = 1.359$ (for 0.2 sec period) so this kit is adequate.

The screenshot shows a web interface with the following elements:

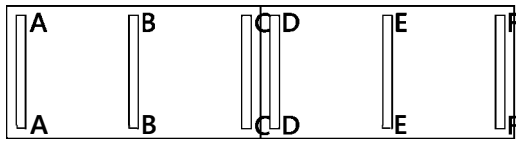
- Reference dropdown: ASCE 7-16 (highlighted with a red box)
- Risk Category dropdown: II
- Project Title (optional): [Empty]
- Address: 134 S. Glassell, Orange, CA
- Design Code Reference Document: ASCE7-16
- Risk Category: II
- Site Class: D - Stiff Soil
- Table with columns: Type, Value, Description

Type	Value	Description
S_s	1.359	MCE_R ground motion. (for 0.2 second period)

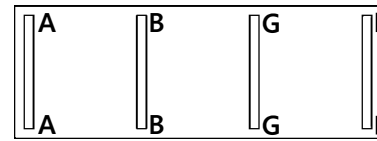
Step #2

Compare that value with the chart and diagrams on the next page to determine the location and hardware required: In the example above ($S_s=1.359$), all the hardware at every upright and front would need to be installed.

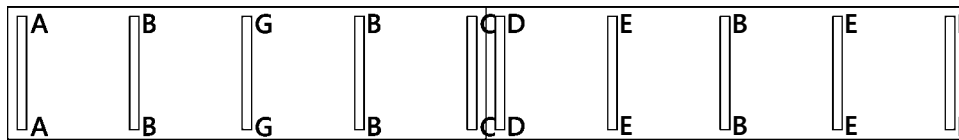
S_s	Required Anchor Locations
≤ 0.200	None
$0.200 < S_s \leq 0.750$	A, C, D, F (on each case corners)
$0.750 < S_s \leq 1.000$	A, C, E, G (on every other Upright and Front) and on end run (sometimes F)
$1.000 < S_s \leq 2.900$	A, B, C, D, E, F, G (at every Upright and Front)



2-Door Case #1 2-Door Case #2

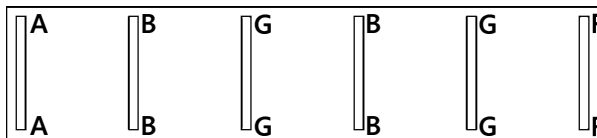


3-Door Case



4-Door Case #1

4-Door Case #2



5-Door Case

On runs of 2-Door and 4-Door cases, alternate between Type #1 and Type #2 along the run. Where a run terminates on a Type #2, always install anchors at Location F on the last case.

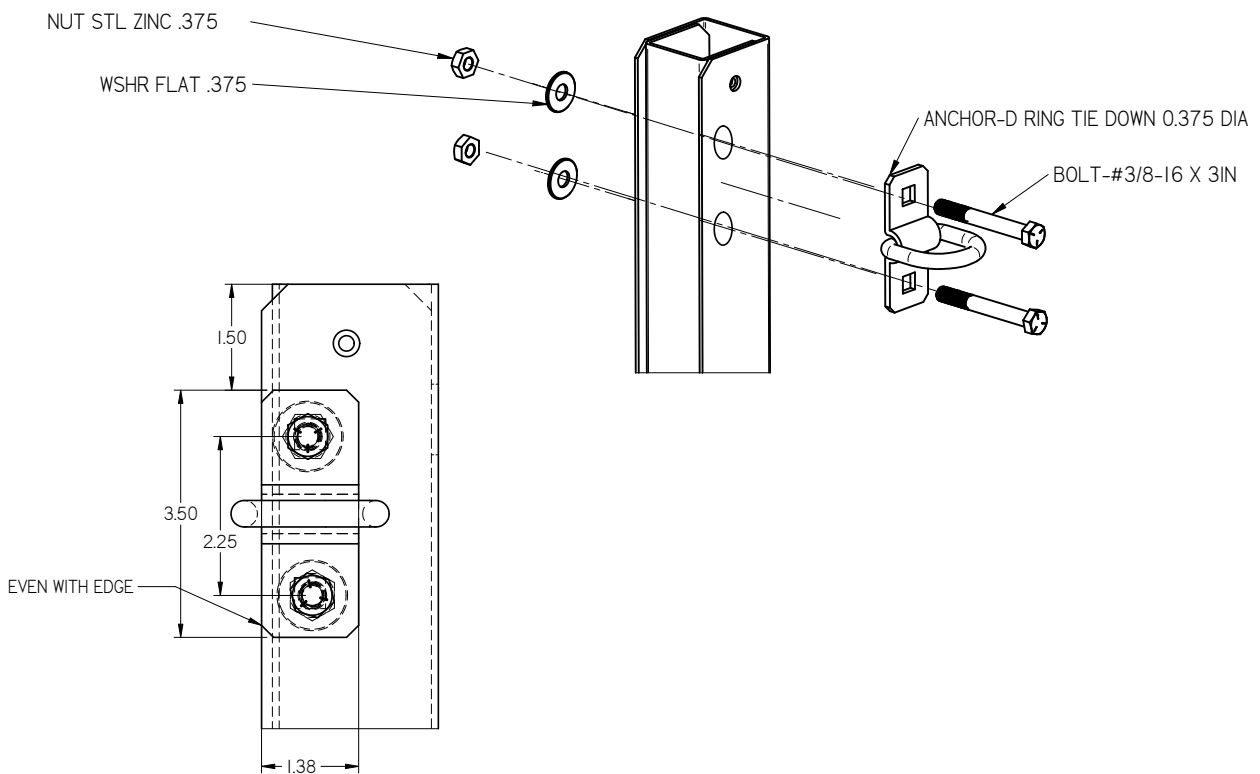
NOTE: See Page 5 for anchor specifications.

GENERAL HOLE LAYOUT

Step# 3

Drill hole locations in case and floor

- A) On the rear uprights mark and drill $\frac{7}{16}$ " holes for the upright tie-down as shown if not already drilled from the factory. Attach the tie-down to the uprights with the $\frac{3}{8}$ " x 3" bolts, nuts and washers as provided and shown in the drawing.



B) Mark the location of the case lineup on the floor according to the store layout, using the approximate hole locations shown on the next 2 pages. Drill the holes for the rear floor tie-downs (uses 3/8" threaded rods), and the front brackets - (uses 1/2" threaded rod), according to the epoxy manufacturer's specifications for the drill diameter needed at www.hilti.com. See charts below for drill diameter required. See notes for drill depth and other specifications.

Hilti Threaded Rod Installation Specifications

Setting information	Symbol	Units	Nominal rod diameter, d						
			3/8	1/2	5/8	3/4	7/8	1	1-1/4
Nominal bit diameter	d ₀	in.	7/16	9/16	3/4	7/8	1	1-1/8	1-3/8

Hilti Adhesive Cure and Working Time

	[°F]	[°C]	t _{work}	t _{cure, ini}	t _{cure, full}
	23	-5	2 h	48 h	168 h
	32	0	2 h	24 h	36 h
	40	4	2 h	16 h	24 h
	50	10	1.5 h	12 h	16 h
	60	16	1 h	8 h	16 h
	72	22	25 min	4 h	6.5 h
	85	29	15 min	2.5 h	5 h
	95	35	12 min	2 h	4.5 h
	105	41	10 min	2 h	4 h

≥ +5 °C / 41 °F
 = 2x t_{cure}

NOTE: Floor anchors shall be:

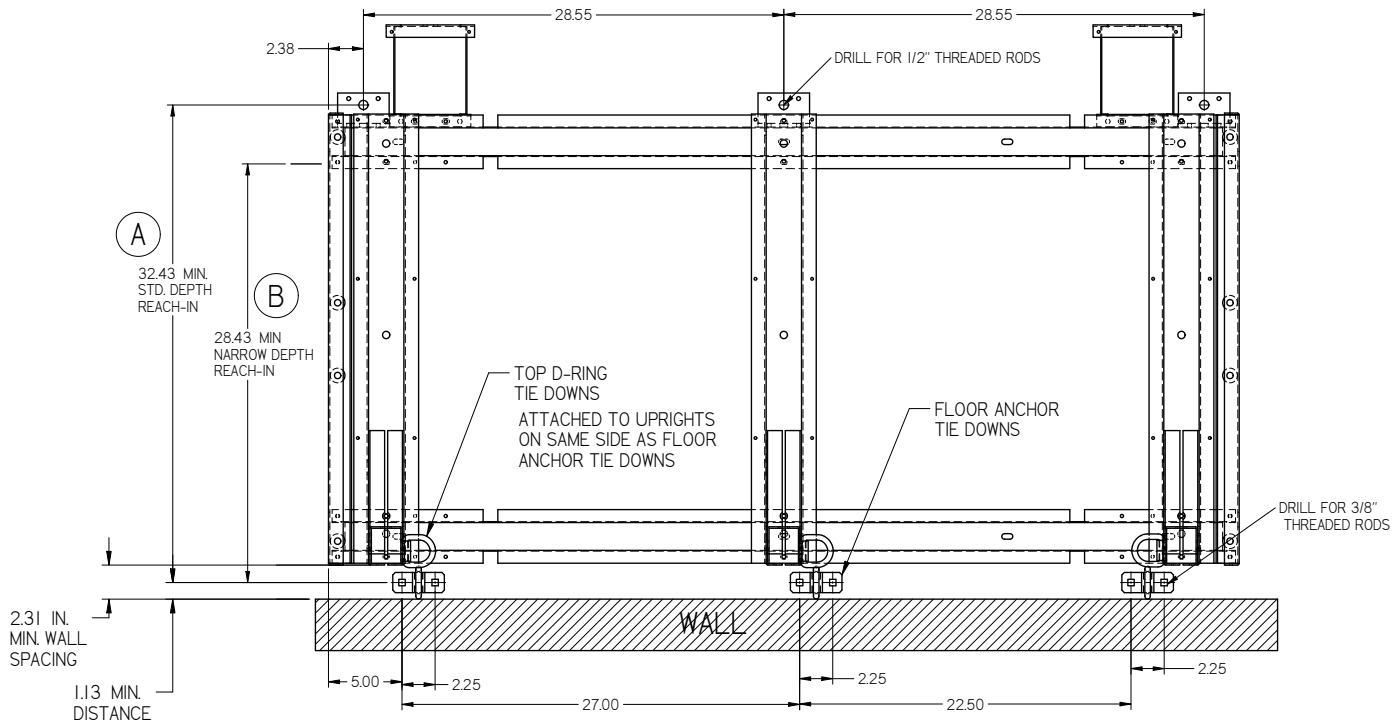
A) **Front frame anchors:** one per front bracket, one bracket per “L” frame

- 1) 1/2"-13 x 4" threaded rod - ASTM A193 grade B7 steel, with 1/2" grade 5 washer, and nut
- 2) Min. 2.75" embedment into 4" min. concrete slab using Hilti HIT-RE500 V3 two part epoxy, following all the manufacturer's directions

B) **Rear cable anchors:** Two anchors per tie-down assembly, one cable assembly per every “L” frame

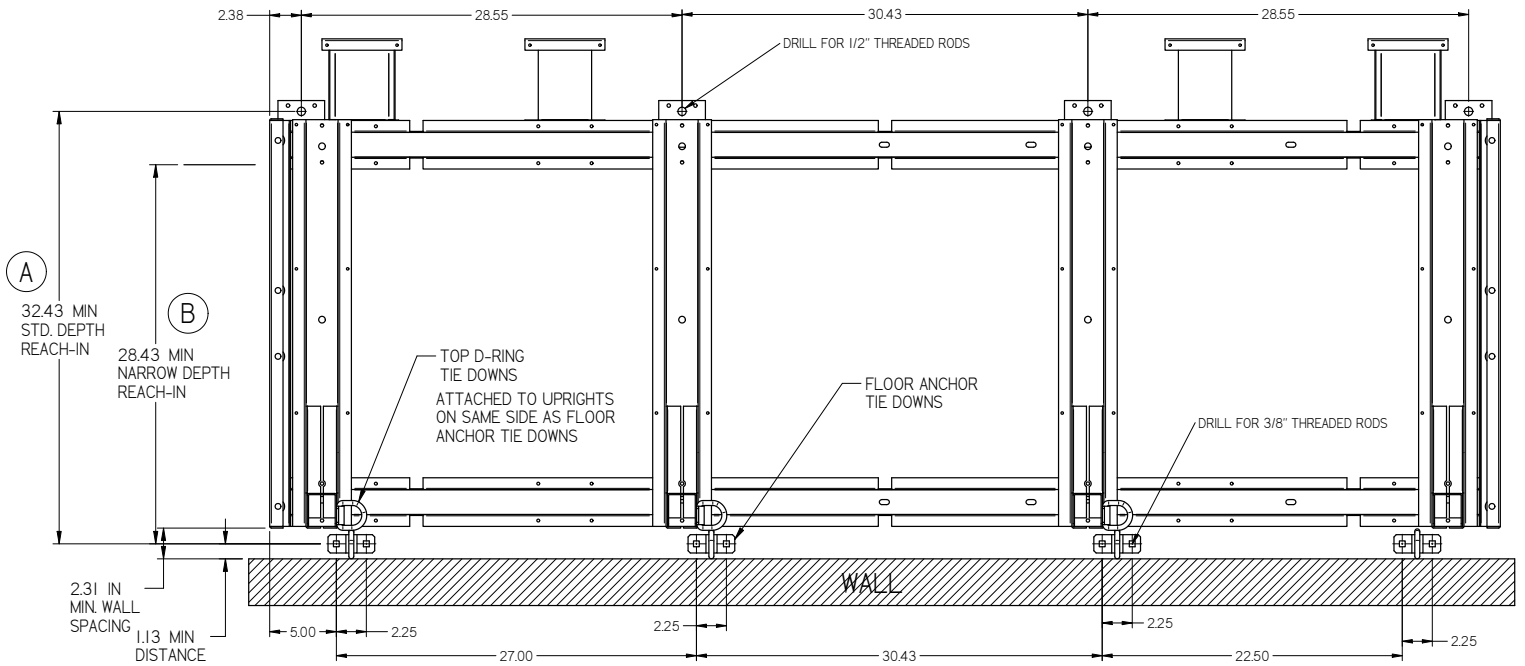
- 1) 3/8"-16 x 4" Threaded rod - ASTM A193 grade B7 steel 2 per tie down, using Hilti HIT-RE500 V3 two part epoxy, following all the manufacturer's directions
- 2) Min. 2.75" embedment into 4" min. concrete slab

RFL2/ RFLN2 STD. AND NARROW 2-Door Case Hole Layout



TOP VIEW LOOKING DOWN

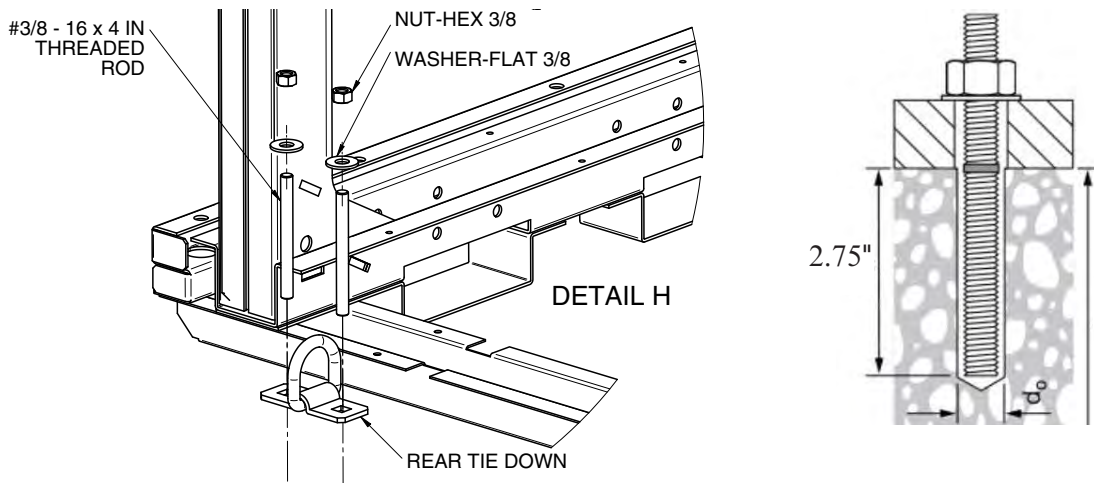
RFL3/RFLN3 STD and NARROW 3-Door Case Hole Layout



TOP VIEW LOOKING DOWN

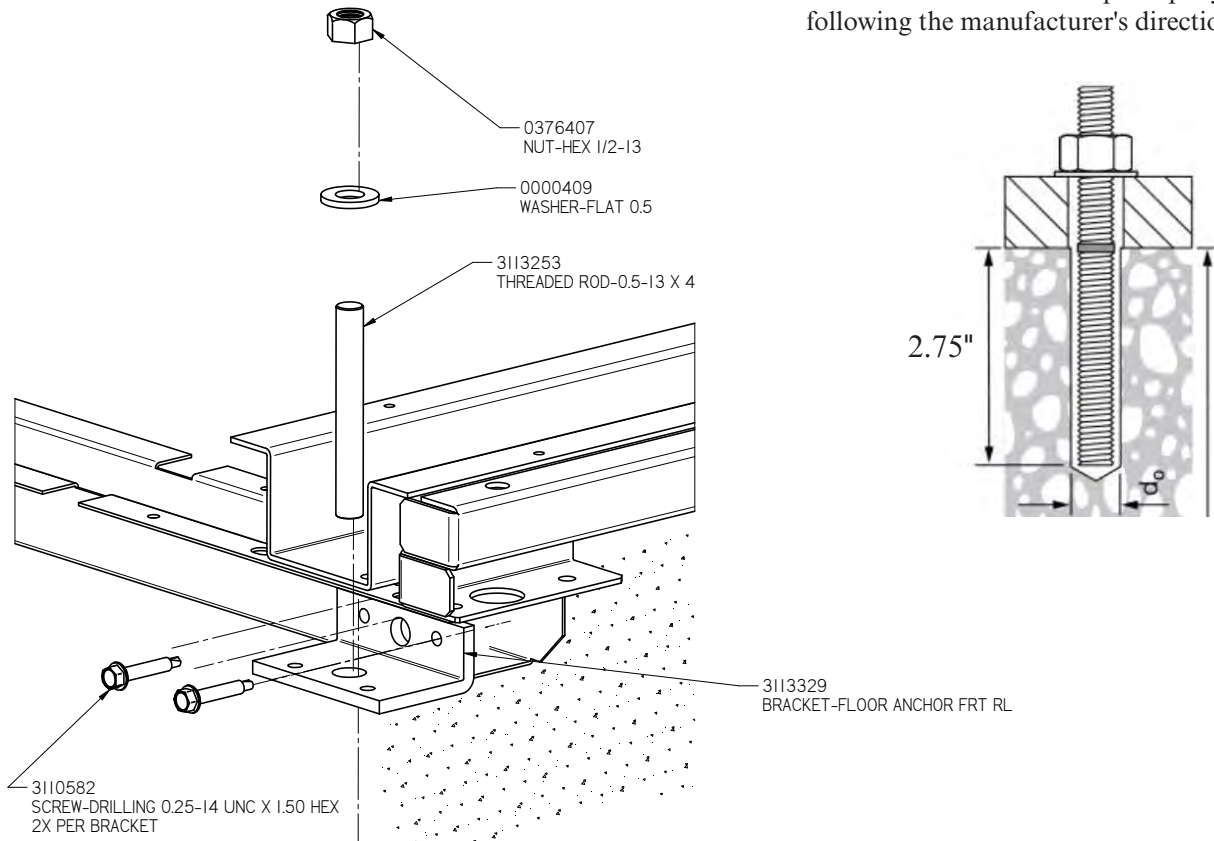
C) Epoxy the $\frac{3}{8}$ " threaded rods into the holes and attach the rear tie-downs to the floor with the washer and nuts provided.

NOTE: Use Hilti HIT-RE500 two part epoxy following the manufacturer's directions.



D) Epoxy the $\frac{1}{2}$ " threaded rods into the front hole location at the front of case. Loosely attach the front bracket to the floor with the $\frac{1}{2}$ " nut and washer provided, or the bracket can be attached in later Steps after the case is in place.

NOTE: Use Hilti HIT-RE500 two part epoxy following the manufacturer's directions.

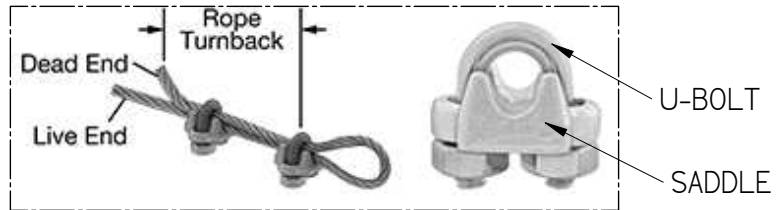


Step#4

With the 1/8" wire rope provided, make the loops through the rear floor tie-downs as shown below with (2) wire clamps provided.

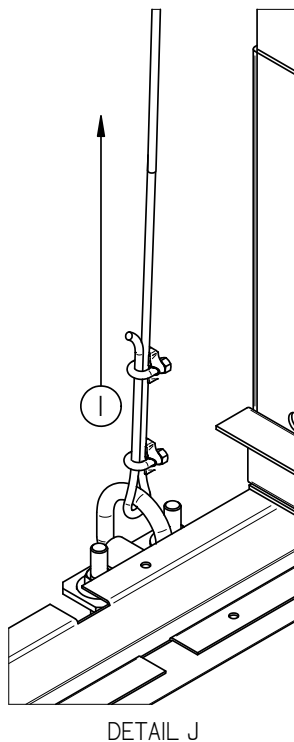
NOTE: The CABLE must be oriented with the saddle on the long (LIVE) end and U-bolt on the short (DEAD) end as shown in the picture.

IMPORTANT CABLE SPEC NOTE
CABLE SHALL BE:
1/8" DIAMETER 7x19 GALVANIZED WIRE ROPE



Rope Turnback = 3 - 3/4"

Either tape the excess cables to the wall, or drape them over the top of the case. You will need to access the cables once the case is pushed into its final position. Secure them accordingly.



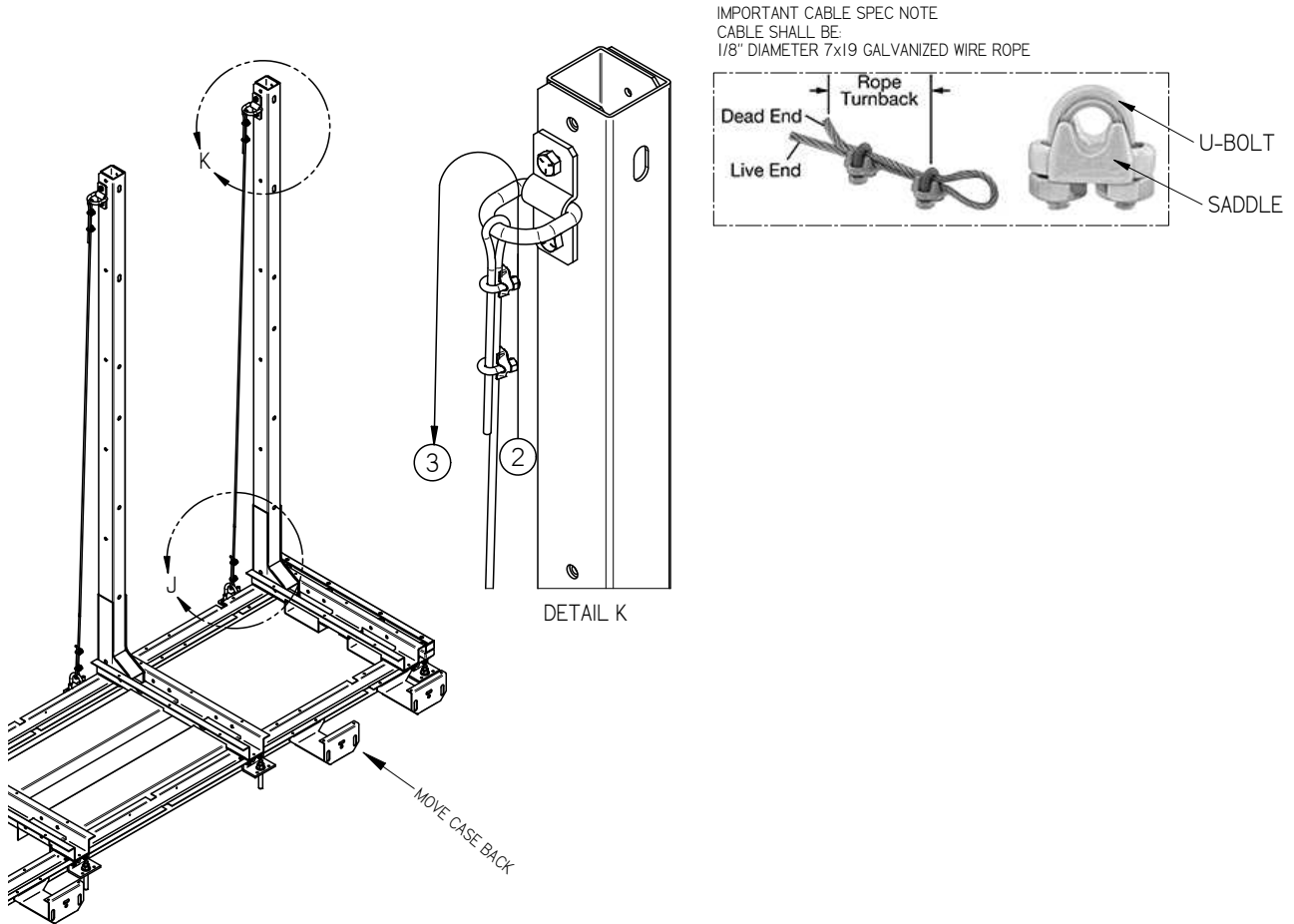
Step#5

Lower the case over the front brackets and/or threaded rods and slide the case into its final position.

Step#6

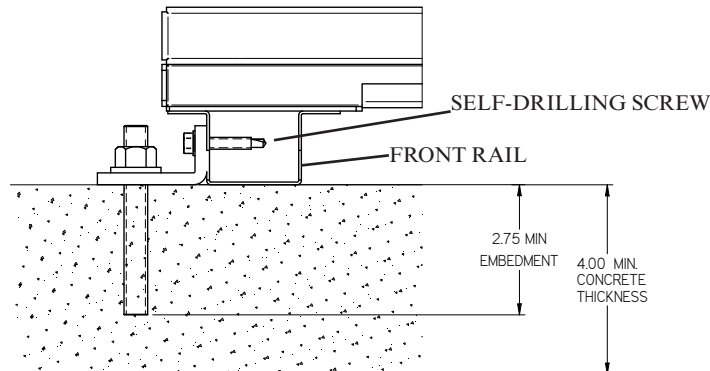
Feed the cable from the floor up through the rear upright tie-down. Pull cable tight, and clamp off the cable.

NOTE: The CABLE must be oriented with the saddle on the long (LIVE) end and U-bolt on the short (DEAD) end as shown in the picture. Rope turnback = 3½"



Step#7

Attach each front bracket to the bottom rail with (4) self-drilling screws. Tighten the bracket to the floor with the ½" nut.





HUSSmann®

**To obtain warranty information
or other support, contact your
Hussmann representative.
Please include the model and
serial number of the product.**

Hussmann Corporation, Corporate Headquarters: Bridgeton, Missouri, U.S.A. 63044-2483 01 October 2012