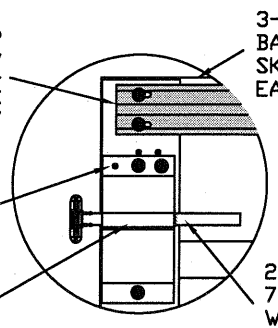


2" X 20 GA STRUT AT THE TOP OF TOP SECTION ATTACHED W/ (2) 1/4" X 1" HEX HEAD SCREWS AT EACH END STILE AND CENTER STILE LOCATIONS

12 GA. (MIN.) GALV. COMMERCIAL TOP ROLLER BRACKET ATTACHED W/ (3) 1/4" X 1" HEX HEAD SCREWS

ADJUSTABLE SLIDE BRACKET ATTACHED W/ (2) 5/16" X 3/4" CARRIAGE BOLTS AND NUT

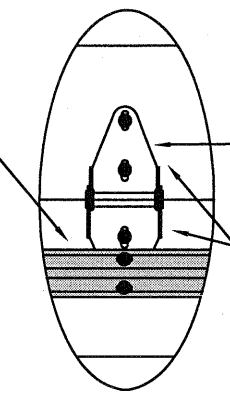


TYPICAL TOP FIXTURES
N.T.S.

3-1/4" X 20 GA CONTINUOUS BACKER PLATE BEHIND BACK SKIN AT TOP AND BOTTOM OF EACH SECTION

2"-10 BALL STEEL 7" STEM ROLLERS (MIN) W/ 7/16" RETAINERS FOR NON-THREADED SHAFTS

2" X 20 GA STRUT STACKED ON THE HINGES OF EACH INTERMEDIATE SECTION ATTACHED W/ (2) 1/4" X 1" HEX HEAD SCREWS AT EACH END STILE, AND CENTER STILE



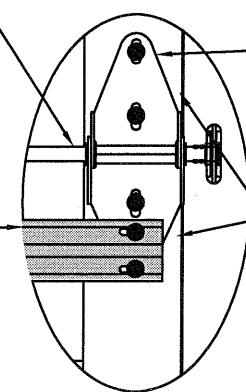
TYPICAL CENTER HINGE
N.T.S.

14GA. (MIN.) CENTER HINGE ATTACHED W/ A TOTAL OF (5) 1/4" X 1" HEX HEAD SCREWS

3-1/4" X 20 GA CONTINUOUS BACKER PLATE BEHIND BACK SKIN AT TOP AND BOTTOM OF EACH SECTION

2"-10 BALL STEEL 7" STEM ROLLERS (MIN) W/ 7/16" RETAINERS FOR NON-THREADED SHAFTS

2" X 20 GA STRUT ON EACH INTERMEDIATE SECTION ATTACHED W/ (2) 1/4" X 1" HEX HEAD SCREWS AT EACH END STILE, AND CENTER STILE LOCATIONS

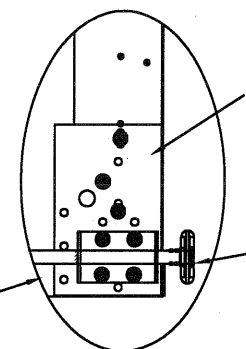


TYPICAL END HINGE
N.T.S.

14 GA. (MIN.) END HINGE ROLLER CARRIER ATTACHED W/ (5) 1/4" X 1" HEX HEAD SCREWS

3-1/4" X 20 GA CONTINUOUS BACKER PLATE BEHIND BACK SKIN AT TOP AND BOTTOM OF EACH SECTION

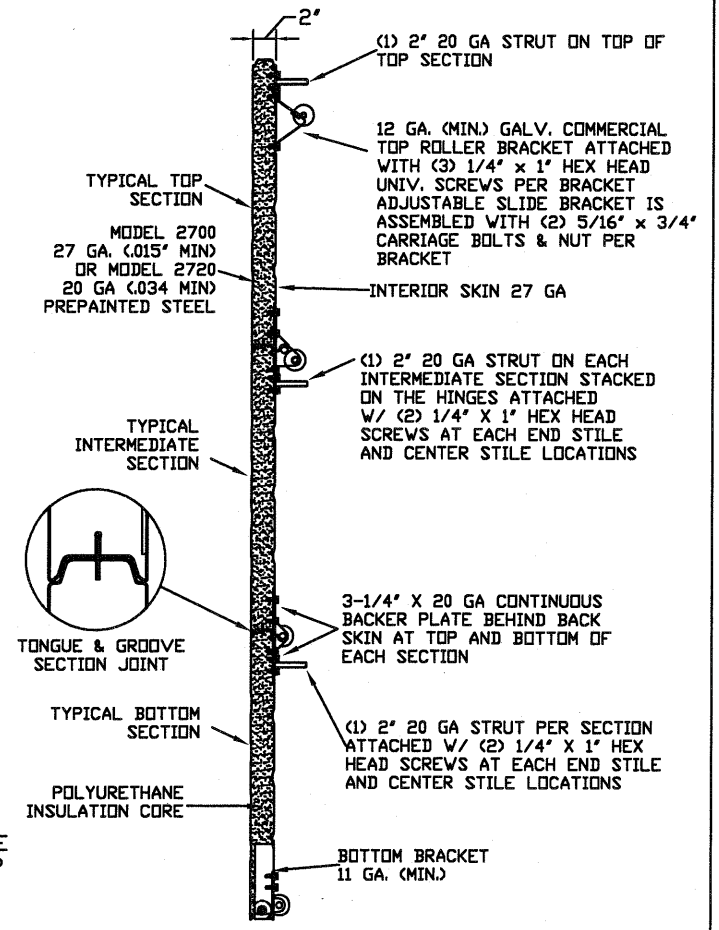
3-1/4" X 20 GA CONTINUOUS BACKER PLATE BEHIND BACK SKIN AT TOP AND BOTTOM OF EACH SECTION



TYPICAL BOTTOM BRACKET
N.T.S.

BOTTOM BRACKET 11 GA. (MIN.) ATTACHED W/ A TOTAL OF (7) 1/4" X 1" HEX HEAD SCREWS

2"-10 BALL STEEL 7" STEM ROLLERS (MIN) W/ 7/16" RETAINERS FOR NON-THREADED SHAFTS



SECTION A-A (SIDE VIEW)
N.T.S.

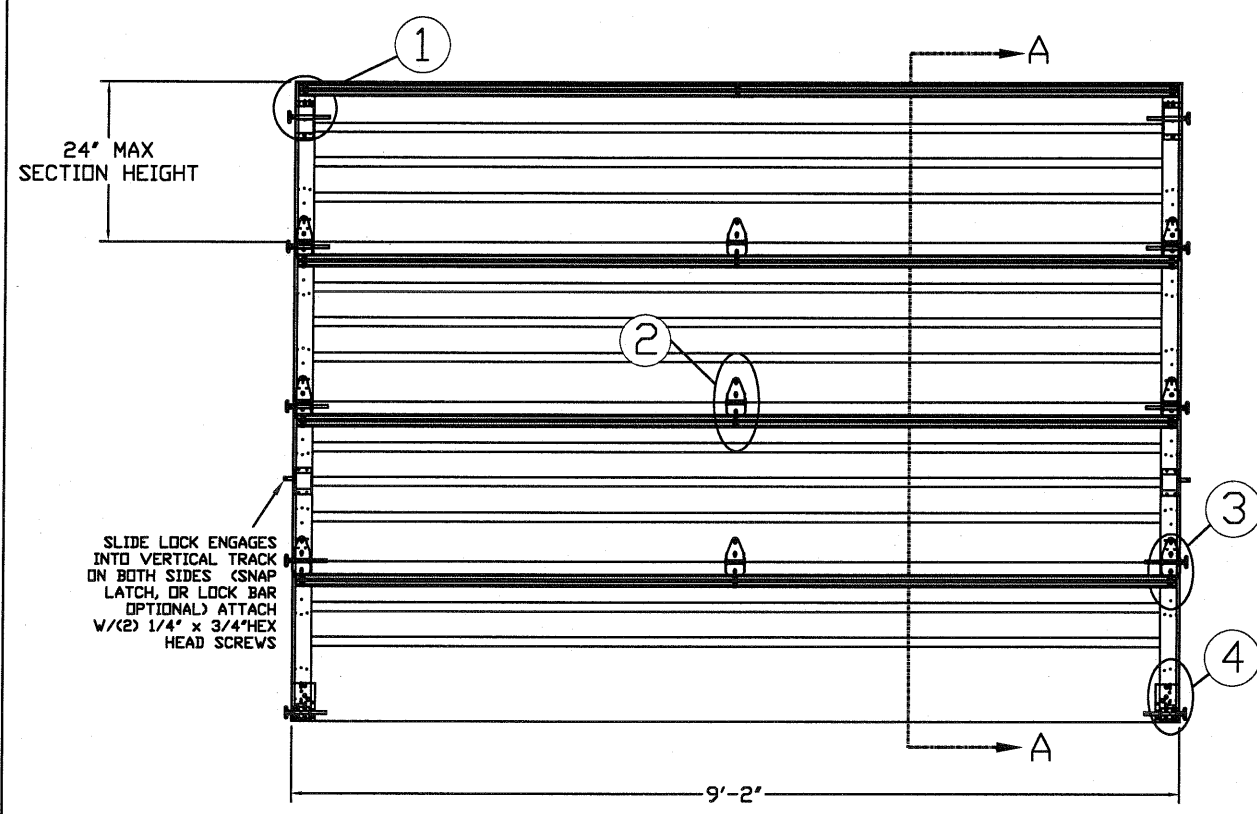
TYPICAL TOP SECTION
MODEL 2700 27 GA. (.015" MIN) OR MODEL 2720 20 GA (.034 MIN) PREPAINTED STEEL

TYPICAL INTERMEDIATE SECTION

TONGUE & GROOVE SECTION JOINT

TYPICAL BOTTOM SECTION
POLYURETHANE INSULATION CORE

(1) 2" 20 GA STRUT ON TOP OF TOP SECTION
12 GA. (MIN.) GALV. COMMERCIAL TOP ROLLER BRACKET ATTACHED WITH (3) 1/4" X 1" HEX HEAD UNIV. SCREWS PER BRACKET ADJUSTABLE SLIDE BRACKET IS ASSEMBLED WITH (2) 5/16" X 3/4" CARRIAGE BOLTS & NUT PER BRACKET
INTERIOR SKIN 27 GA
(1) 2" 20 GA STRUT ON EACH INTERMEDIATE SECTION STACKED ON THE HINGES ATTACHED W/ (2) 1/4" X 1" HEX HEAD SCREWS AT EACH END STILE AND CENTER STILE LOCATIONS
3-1/4" X 20 GA CONTINUOUS BACKER PLATE BEHIND BACK SKIN AT TOP AND BOTTOM OF EACH SECTION
(1) 2" 20 GA STRUT PER SECTION ATTACHED W/ (2) 1/4" X 1" HEX HEAD SCREWS AT EACH END STILE AND CENTER STILE LOCATIONS
BOTTOM BRACKET 11 GA. (MIN.)



INSIDE ELEVATION
N.T.S.

SLIDE LOCK ENGAGES INTO VERTICAL TRACK ON BOTH SIDES (SNAP LATCH, OR LOCK BAR OPTIONAL) ATTACH W/ (2) 1/4" X 3/4" HEX HEAD SCREWS

19 GA. GALV. STEEL END STILE ATTACHED TO DOORS SKIN WITH (2) #8 X 1/2" SCREWS PER STILE

JAMB SEAL OPTIONAL

5/16" X 1 5/8" LAG SCREW (1) PER JAMB BRACKET

(1) 1/4"-20 X 5/8" TRACK SPLICE BOLT AND NUT PER JAMB BRACKET

2" GALV. STEEL TRACK THICKNESS .051" (MIN.)

INTERMEDIATE HINGES 14GA (MIN.)

2"-10 BALL STEEL 7" STEM ROLLERS (MIN) W/ 7/16" RETAINER CLIPS FOR NON THREADED SHAFTS

TRACK MOUNTING DETAIL
N.T.S.

EDGE OF DOOR 1" OVERLAP ON EACH SIDE

THE METHOD OF TESTING WAS IN SUBSTANTIAL CONFORMANCE WITH THE PROCEDURES DESCRIBED IN ANSI/DASMA 115, ASTM E1886, ASTM E1996 AND ASTM F588. THE PRESSURES SHOWN ON THE DRAWINGS WERE CALCULATED USING ASCE 7-16 WITH THE FOLLOWING PARAMETERS (5 FEET OF DOOR WIDTH IN END ZONE, ROOF SLOPE 10° OR LESS):

WIND SPEED (MPH)	195	177	168	160	154
EXPOSURE LEVEL	B	C	C	D	D
MEAN ROOF HEIGHT	30'	15'	25'	15'	25'

REV	DESCRIPTION OF REVISIONS	DATE	BY

MAX SIZE
9'2" x 24'

DESIGN LOADS
+32.6 PSF
-38.3 PSF

TEST LOADS
+48.9 PSF
-57.5 PSF

Thomas L. Shelmerdine, PE (FL PE #0048579)
Structural Solutions, PA (FL Firm #29412)

FL

Thomas L. Shelmerdine
LICENSE
No. 48579
STATE OF FLORIDA
PROFESSIONAL ENGINEER

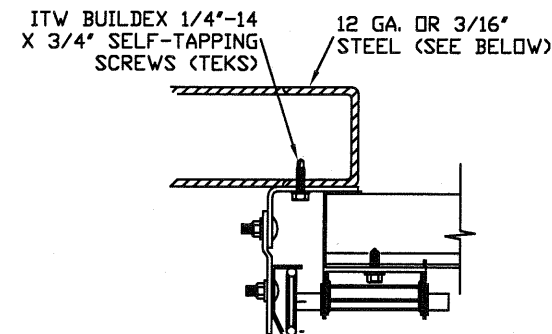
dba Structural Solutions of North Carolina, Inc.
5921-G W. Friendly Ave., Greensboro, NC 27410

Amarr

MODEL 2700 AMARR 2742, 2743
MODEL 2720 AMARR 2042

SIZE	DRAWN BY	RLR	DATE	02/18/16	DRAWING NUMBER
B	CHECKED BY	RLR	DATE	02/18/16	IBC-2709-150-11
ENTREMATIC 165 CARRIAGE COURT WINSTON-SALEM, N.C. 27105					SHEET 1 OF 4

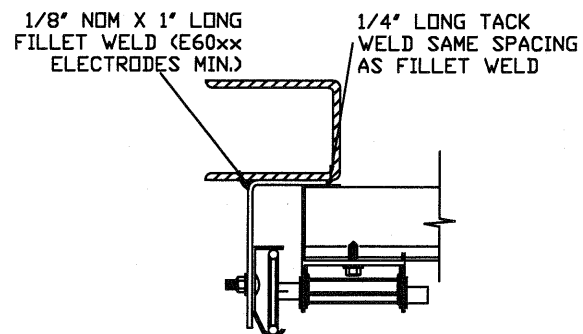
TRACK CONNECTION DIRECTLY TO STRUCTURE OPTIONS



CLIP STYLE REVERSE ANGLE MOUNT SHOWN
BRACKET, CONTINUOUS AND TAPERED ANGLE
MOUNT AVAILABLE

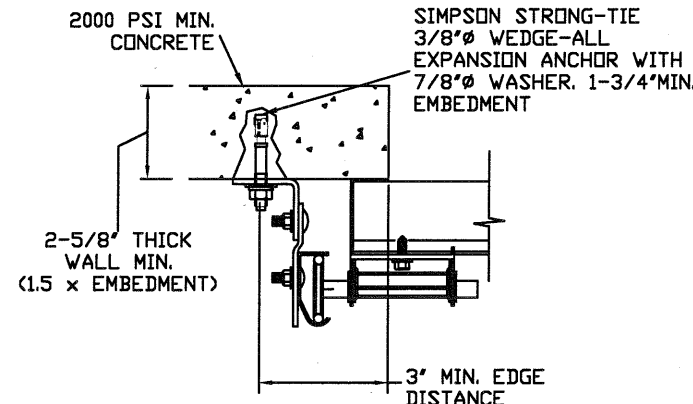
12 GA. STEEL FRAMING
232 LBS./SCREW ALLOWABLE LOAD - 6'
FROM ENDS AND 18" O.C.
REFER TO NOTES: 1, 2 AND 5

3/16" STEEL FRAMING
569 LBS./SCREW ALLOWABLE LOAD - 6'
FROM ENDS AND 24" O.C.
REFER TO NOTES: 1, 2 AND 5



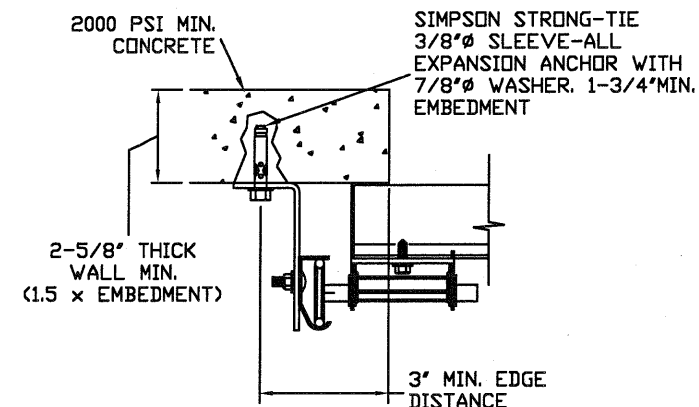
REVERSE ANGLE MOUNT SHOWN
BRACKET, CONTINUOUS AND
TAPERED ANGLE MOUNT AVAILABLE

STEEL FRAMING 12GA OR BETTER
1590 LBS./IN. ALLOWABLE LOAD -
6" FROM ENDS AND 24" O.C.
REFER TO NOTES: 1, 2, 5, 6, 7, 8
AND 9



CLIP STYLE CONTINUOUS ANGLE MOUNT SHOWN
BRACKET, REVERSE AND TAPERED ANGLE MOUNT
AVAILABLE

2000 PSI CONCRETE OR GREATER
351 LBS./EXPANSION ANCHOR ALLOWABLE LOAD -
6" FROM ENDS AND 24" O.C.
REFER TO NOTES: 1, 2, 3, 4 AND 5



CONTINUOUS ANGLE MOUNT SHOWN
BRACKET, CONTINUOUS AND TAPERED ANGLE
MOUNT AVAILABLE

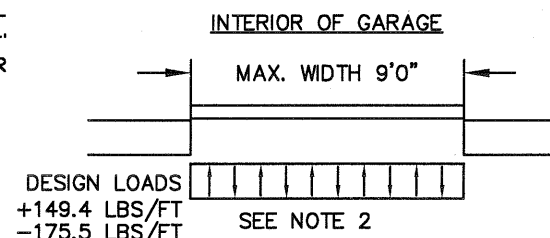
2000 PSI CONCRETE OR GREATER
336 LBS./EXPANSION ANCHOR ALLOWABLE
LOAD - 6" FROM ENDS AND 24" O.C.
REFER TO NOTES: 1, 2, 3, 4 AND 5

SPECIFICATIONS AND NOTES

1. ALL THE LOAD FROM THE DOOR IS TRANSFERRED TO THE VERTICAL TRACK, FROM THE TRACK THE LOAD IS TRANSFERRED TO THE VERTICAL JAMBS. THE HORIZONTAL JAMB OR HEADER RECEIVES NO PORTION OF THE LOAD TRANSFERRED FROM THE DOOR.
2. EACH VERTICAL JAMBS RECEIVES MAXIMUM DESIGN LOADS OF: +149.4 LBS/FT & -175.5 LBS/FT
3. DOOR AND HARDWARE WILL BE DESIGNED, MANUFACTURED AND INSTALLED WITH STANDARDS AS SET FORTH BY DASMA.
4. DOOR SECTIONS SHALL BE 27 GA. MIN. EXTERIOR SKIN ROLLED FORMED, W/ BAKED ON POLYESTER FINISH
5. DOORS UP TO 24'0" HIGH HAVE (1) 2" 20GA STRUT ON EACH SECTION
6. SUPPORTING STRUCTURAL ELEMENTS SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER FOR WIND LOADS INDICATED ON THIS DRAWING IN ADDITION TO OTHER LOADINGS.

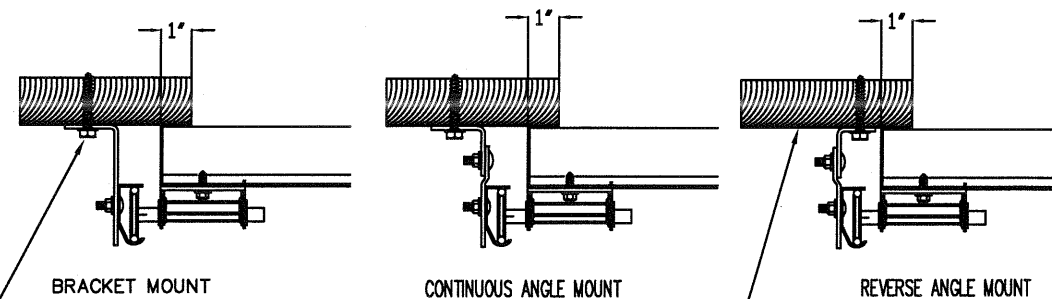
NOTES:

1. ANCHORS TO BE EVENLY SPACED BETWEEN THE HEADER AND FLOOR.
2. FIRST (BOTTOM) ANCHOR STARTING AT NO MORE THAN HALF OF THE MAXIMUM ON-CENTER DISTANCE. HIGHEST ANCHOR INSTALLED AT LEAST AS HIGH AS THE DOOR OPENING.
3. MIN. EDGE DISTANCE OF 3" REQUIRED.
4. USE WASHERS PROVIDED BY THE ANCHOR MANUFACTURER.
5. SUPPORTING STRUCTURAL ELEMENTS SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER FOR WIND LOADS IN ADDITION TO OTHER LOADS.
6. MOST GARAGE DOOR TRACK IS GALVANIZED STEEL. USE ALL NECESSARY PRECAUTIONS WHEN WELDING GALVANIZED STEEL.
7. ALL WELDS SHOULD BE PERFORMED BY A CERTIFIED WELDER OR INSPECTED BY A CERTIFIED WELDING INSPECTOR TO VERIFY THE INTEGRITY OF THE WELD.
8. FILLET WELDS TO HAVE A STRAIGHT OR CONVEX FACE SURFACE.
9. TACK WELD TOE OF ANGLE AT SAME SPACING TO PREVENT ROTATION OF TRACK ANGLE.



TRACK CONNECTION TO WOOD JAMB OPTIONS

FOR LAG SCREWS & BRACKET SPACING SEE PAGE 4 FOR TRACK CONFIGURATION DETAIL



5/16" x 1 5/8" LAG SCREW (1)
PER JAMB BRACKET (1-1/2"
EMBEDMENT MINIMUM) (TYP.)

2x6 WOOD JAMB SYP OR SPF
(NO.2) OR BETTER (TYP.)

WOOD JAMB ATTACHMENT TO STRUCTURE (OPTIONAL)

2 X 6 VERTICAL JAMB ATTACHMENT TO WOOD FRAME STRUCTURE

5/16" x 3" LAG SCREWS STARTING 6" FROM ENDS
THEN 24" O.C. (1 1/2" EMBEDMENT)

2 X 6 VERTICAL JAMB ATTACHMENT TO 2,000 PSI CONCRETE

HILTI KWIK BOLT 3/8" x 4" STARTING 6" FROM ENDS
THEN 24" O.C. (2 1/2" EMBEDMENT)
HILTI SLEEVE ANCHOR 3/8" x 2-3/4" STARTING 6" FROM ENDS
THEN 24" O.C. (1 1/4" EMBEDMENT)
ITW/RAMSET REDHEAD (TRU-BOLT) 3/8" x 4" STARTING 6" FROM ENDS
THEN 24" O.C. (2 1/2" EMBEDMENT)

2 X 6 VERTICAL JAMB ATTACHMENT TO HOLLOW C-90 BLOCK

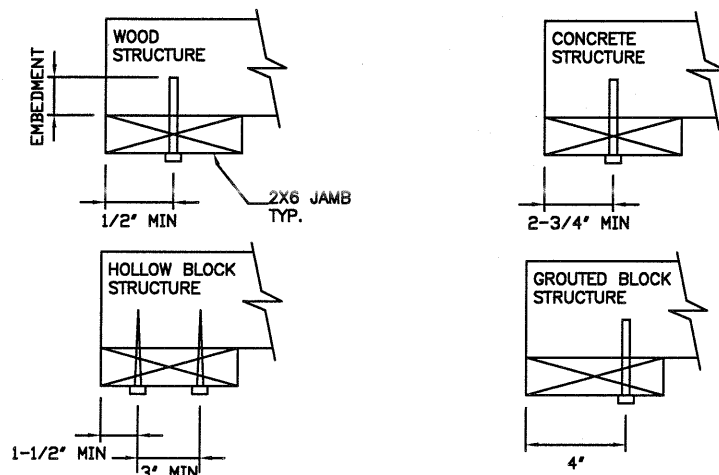
SIMPSON 1/4" x 3" TITEN SCREWS STARTING 6" FROM ENDS,
USE PAIRS OF FASTENERS (3" APART)
AT 24" O.C. (1 1/2" EMBEDMENT)
HILTI 1/4" x 2-3/4" KWIK-CON II+ SCREWS STARTING 6" FROM ENDS,
USE PAIRS OF FASTENERS (3" APART) AT 24" O.C. (1 1/4" EMBEDMENT)

2 X 6 VERTICAL JAMB ATTACHMENT TO GROUTED C-90 BLOCK (2000 PSI GROUT)

HILTI SLEEVE ANCHOR 3/8" x 2-3/4" STARTING 6" FROM ENDS
THEN 24" O.C. (1 1/4" EMBEDMENT)
(OR, USE FASTENERS FOR HOLLOW C-90 BLOCK)

*LAGS AND BOLTS CAN BE COUNTERSUNK TO PROVIDE A FLUSH MOUNTING SURFACE.

*PREPARATION OF WOOD JAMBS BY OTHERS



REV	DESCRIPTION OF REVISIONS	DATE	BY
A			
MAX SIZE 9'2" x 24' DESIGN LOADS +32.6 PSF -38.3 PSF TEST LOADS +48.9 PSF -57.5 PSF Thomas L. Shelmerdine, PE (FL PE #0048579) Structural Solutions, PA (FL Firm #29412) FL Amarr MODEL 2700 AMARR 2742, 2743 MODEL 2720 AMARR 2042			
SIZE	DRAWN BY	RLR	DATE 02/18/16
B	CHECKED BY	RLR	DATE 02/18/16
ENTREMATIC 165 CARRIAGE COURT WINSTON-SALEM, N.C. 27105			DRAWING NUMBER IBC-2709-150-11
SHEET 2 OF 4			

A diagram of a horizontal beam supported at both ends by vertical pins. Two rectangular loads are placed on the beam, each containing a diagonal line. Two upward-pointing arrows, both labeled 'B', represent reaction forces at specific points on the beam.

ALUMINUM SPACER

.080 PLEXI-GLASS

HOT MELT ADHESIVE

DOOR SKIN

EXTRUDED POLYPROPYLENE

#8 ZINC SCREW

Diagram of an intermediate section of a track, showing two rectangular sections with diagonal hatching, labeled "INTERMEDIATE SECTION" and "C".

POLYSTYRENE

.080 PLEXI-GLASS

HOT MELT ADHESIVE

HOT MELT ADHESIVE

DOOR SKIN

POLYSTYRENE SPACER

.080 PLEXI-GLASS

#8 ZINC SCREW

INTERMEDIATE SECTION

The diagram shows a horizontal beam with two rectangular stiffeners. Each stiffener is labeled with 'D' and has a diagonal hatching pattern. The beam is supported by a central vertical support and has end supports. The stiffeners are positioned on either side of the central support.

This diagram illustrates the exploded view of a door handle assembly. The components are labeled as follows:

- 1/8" TEMPERED GLASS**: Two glass plates, one on each side of the handle.
- HOT MELT ADHESIVE**: Applied to the inner surfaces of the glass plates.
- DOOR SKIN**: The outer surface of the door where the handle is mounted.
- 7/8" SPACER**: A central rod that holds the two glass plates apart.
- #8 ZINC SCREW**: A screw used to secure the handle assembly to the door skin.
- EXTRUDED POLYPROPYLENE**: The handle body, shown in two pieces that meet at a central break.

REV	DESCRIPTION OF REVISIONS	DATE	BY
A			

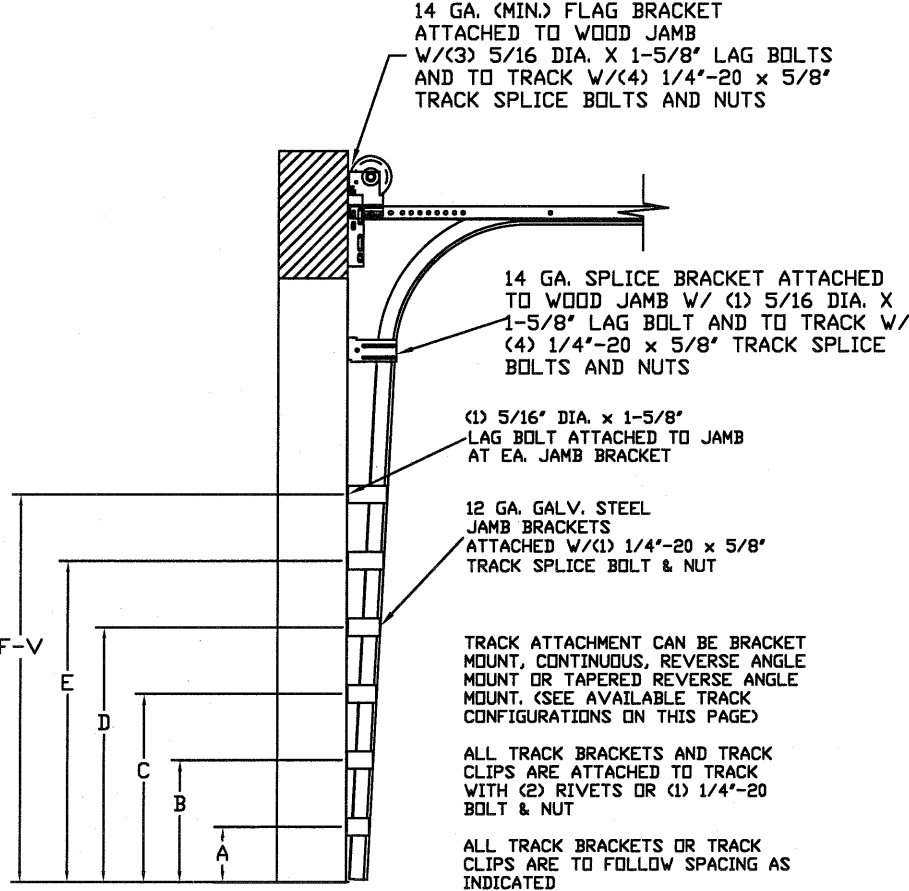
Professional Engineer Seal for Thomas L. Shelmerdine, State of Florida, License No. 48579, dated 03/28/20.

Amar

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B	CHECKED BY	RLR	DATE	02/18/16	
ENTREMATICS 165 CARRIAGE COURT WINSTON-SALEM, N.C. 27105					SHEET 3 OF 4

TABLE 1

Section Width (ft)		Center Stile Locations	Max Design Loads Allowed	
		1st (in)	Positive (PSF)	Negative (PSF)
6'	0"	36.000	49.1	57.7
7'	0"	42.000	42.0	49.5
7'	2"	43.000	41.1	48.3
7'	4"	44.000	40.1	47.2
7'	6"	45.000	39.2	46.2
7'	8"	46.000	38.4	45.2
7'	10"	47.000	37.6	44.2
8'	0"	48.000	36.8	43.3
8'	2"	49.000	36.0	42.4
8'	4"	50.000	35.3	41.5
8'	6"	51.000	34.6	40.7
8'	8"	52.000	33.9	39.9
8'	10"	53.000	33.3	39.2
9'	0"	54.000	32.7	38.5
9'	2"	55.000	32.6	36.3

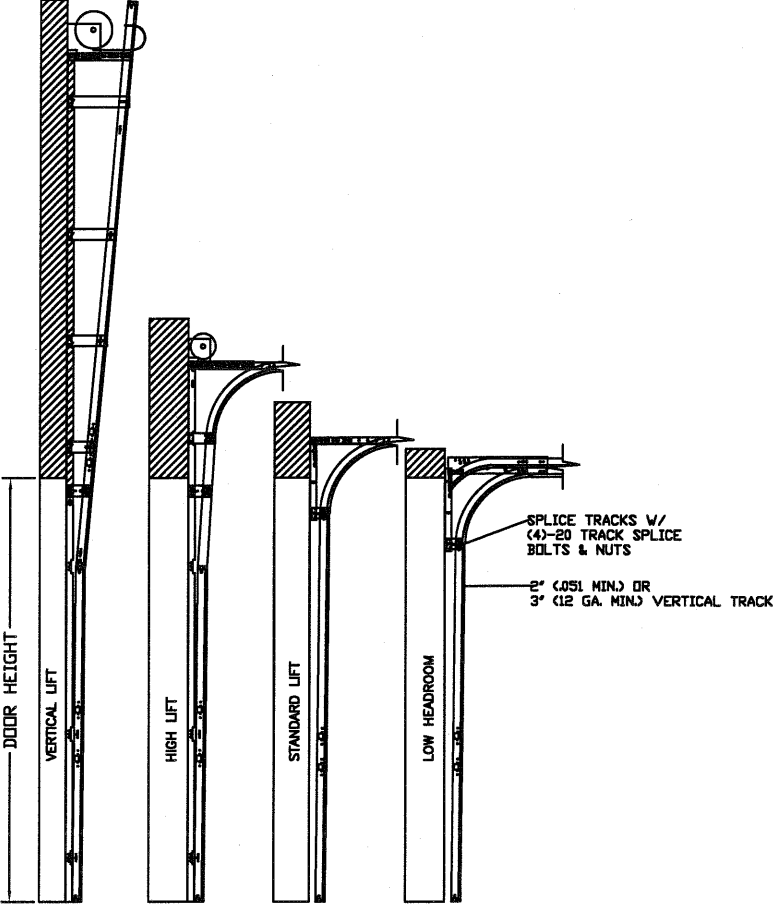


TRACK CONFIGURATION FOR UP TO 24' TALL DOORS
SEE TABLE 2

TABLE 2

DOOR HEIGHT	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	SPLICE S
7'	10"	22"	34"	46"	58"	70"																	76"
8'	10"	22"	34"	46"	58"	70"																	88"
9'	10"	22"	34"	46"	58"	70"	82"																100"
10'	10"	22"	34"	46"	58"	70"	82"	94"															112"
11'	10"	22"	34"	46"	58"	70"	82"	94"	106"														124"
12'	10"	22"	34"	46"	58"	70"	82"	94"	106"	118"													136"
13'	10"	22"	34"	46"	58"	70"	82"	94"	106"	118"	130"												148"
14'	10"	22"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"											160"
15'	10"	22"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"										172"
16'	10"	22"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"									184"
17'	10"	22"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"	178"								196"
18'	10"	22"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"	178"	190"							208"
19'	10"	22"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"	178"	190"	202"						220"
20'	10"	22"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"	178"	190"	202"	214"					232"
21'	10"	22"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"	178"	190"	202"	214"	226"				244"
22'	10"	22"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"	178"	190"	202"	214"	226"	238"			256"
23'	10"	22"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"	178"	190"	202"	214"	226"	238"	250"		268"
24'	10"	22"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"	178"	190"	202"	214"	226"	238"	250"	262"	280"

ALL TRACK ATTACHMENTS +/- 2" ALLOWED USING SYP OR SPF NO.2 OR BETTER ONLY



AVAILABLE TRACK CONFIGURATIONS
N.T.S.

REV	DESCRIPTION OF REVISIONS	DATE	BY
A			

MAX SIZE
9'2 x 24'

DESIGN LOADS
+32.6 PSF
-38.3 PSF

TEST LOADS
+48.9 PSF
-57.5 PSF

Thomas L. Shelmerdine, PE (FL PE #0048579)
Structural Solutions, PA (FL Firm #29412)

THOMAS L. SHELMERDINE

LICENSE

No. 48579

STATE OF FLORIDA

PROFESSIONAL ENGINEER

FL

dba Structural Solutions of North Carolina, Inc.
5921-G W. Friendly Ave., Greensboro, NC 27410

Amarr

MODEL 2700 AMARR 2742, 2743
MODEL 2720 AMARR 2042

SIZE	DRAWN BY	RLR	DATE	02/18/16	DRAWING NUMBER
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165 CARRIAGE COURT WINSTON-SALEM, N.C. 27105

SHEET 4 OF 4