

3" 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

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

TYPICAL TOP FIXTURES
N.T.S.

1

LARGE MISSILE IMPACT RESISTANCE

3" 20 GA STRUT STACKED ABOVE TOP LEAF OF HINGES OF EACH INTERMEDIATE SECTION ATTACHED W/ (2) 1/4" X 1" HEX HEAD SCREWS AT EACH END STILE, AND CENTER STILE

3" 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.

2

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

3" 20 GA STRUT STACKED ABOVE TOP LEAF OF HINGES OF EACH INTERMEDIATE SECTION ATTACHED W/ (2) 1/4" X 1" HEX HEAD SCREWS AT EACH END STILE, AND CENTER STILE

2"-10 BALL STEEL 4.5" STEM ROLLERS (MIN) W/ 7/16" RETAINERS FOR NON-THREADED SHAFTS

3" 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.

3

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

14 GA. (MIN.) END HINGE ROLLER CARRIER ATTACHED W/ (6) 1/4" X 1" HEX HEAD SCREWS

3" 20 GA STRUT ATTACHED W/ (2) 1/4" X 1" HEX HEAD SCREWS AT EACH END STILE, AND CENTER STILE LOCATIONS

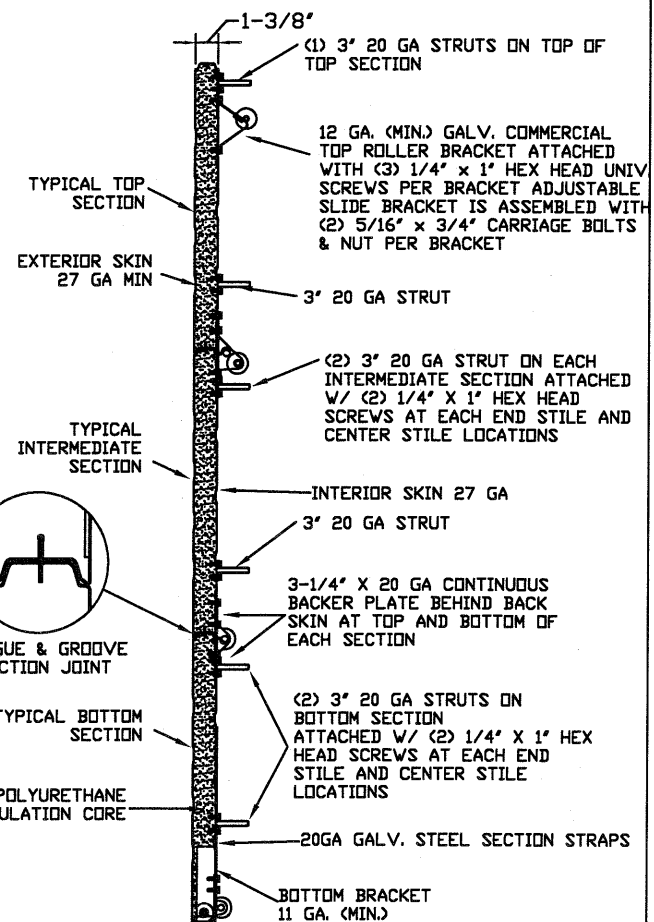
BB-4 BOTTOM BRACKET 11 GA. (MIN.) ATTACHED W/ A TOTAL OF (7) 1/4" X 1" HEX HEAD SCREWS

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

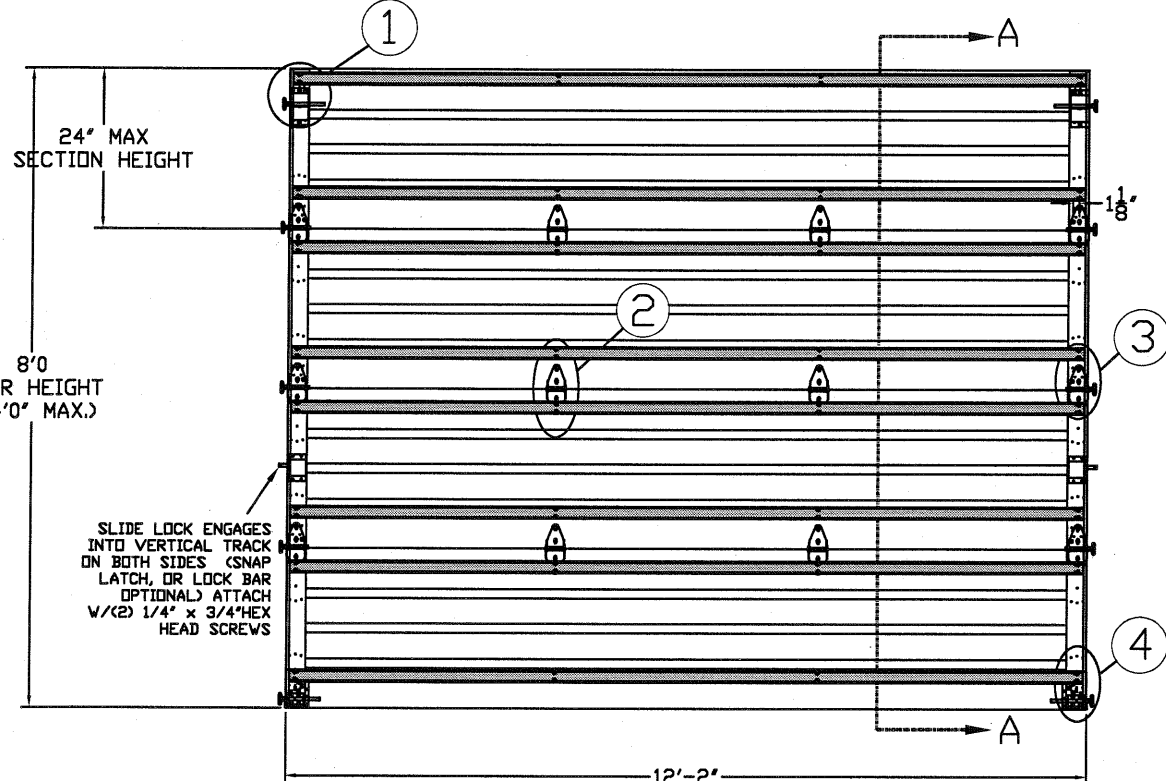
3-1/4" X 20 GA CONTINUOUS BACKER PLATE BEHIND BACK SKIN AT TOP AND BOTTOM OF EACH SECTION

TYPICAL BOTTOM BRACKET
N.T.S.

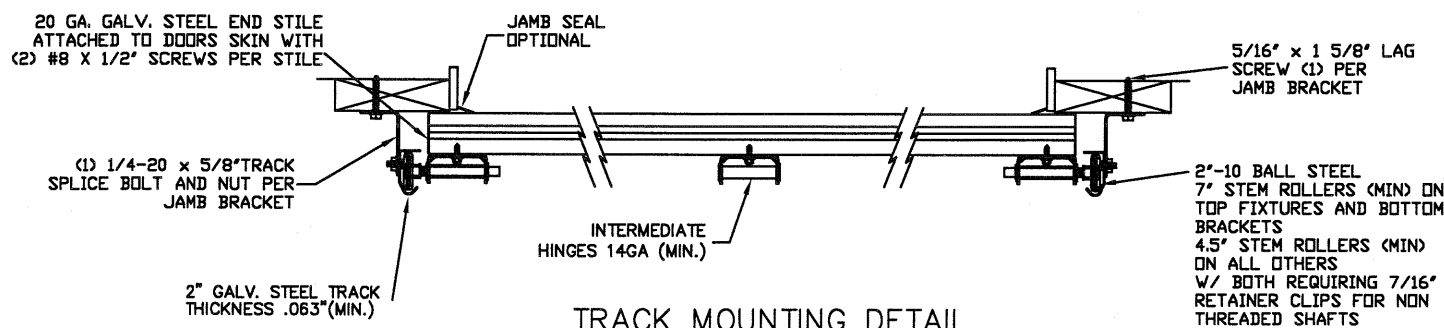
4



SECTION A-A (SIDE VIEW)



INSIDE ELEVATION
N.T.S.



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 ASTM E1886, E1996, F588 AND DASMA 108 & 115. 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	161	154
EXPOSURE LEVEL	B	C	C	D	D
MEAN ROOF HEIGHT	30'	15'	25'	15'	25'

REV	DESCRIPTION OF REVISIONS	DATE	BY
MAX SIZE	12'2 x 24'		
DESIGN LOADS	+32.0 PSF -36.7 PSF		
TEST LOADS	+48.0 PSF -55.1 PSF		

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

FL

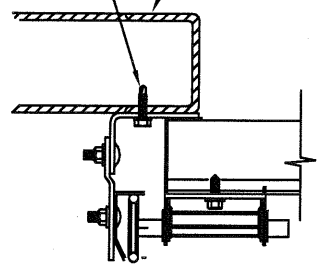
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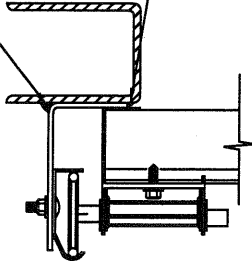
MODEL 1350 / AMARR 2741			
MODEL 2700 / AMARR 2742			
MODEL 2720 / AMARR 2042			
SIZE	DRAWN BY RS	DATE 8/06/15	DRAWING NUMBER
B	CHECKED BY RLR	DATE 8/06/15	IBC-1312-150-15-1
ENTREMATIC 165 CARRIAGE COURT WINSTON-SALEM, N.C. 27105			SHEET 1 OF 3

ITW BUILDEX 1/4"-14 X 3/4" SELF-TAPPING SCREWS (TEKS) / 12 GA. OR 3/16" STEEL (SEE BELOW)

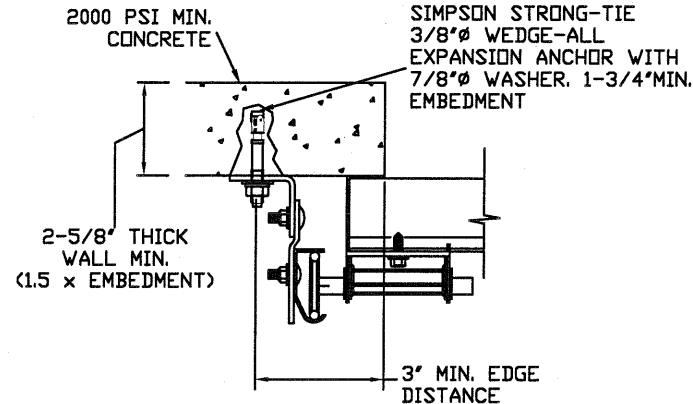


12 GA. STEEL FRAMING
232 LBS./SCREW ALLOWABLE LOAD - 6'
FROM ENDS AND 12" O.C.
REFER TO NOTES: 1, 2 AND 5

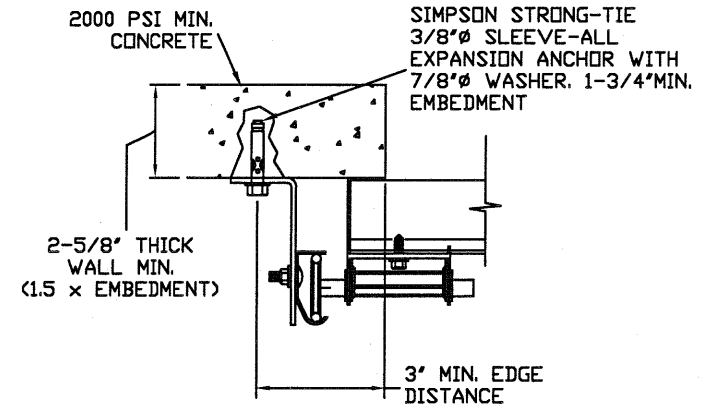
3/16" STEEL FRAMING
569 LBS./SCREW ALLOWABLE LOAD - 6"
FROM ENDS AND 24" O.C.
REFER TO NOTES: 1, 2 AND 5



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



2000 PSI CONCRETE OR GREATER
351 LBS./EXPANSION ANCHOR ALLOWABLE LOAD -
6" FROM ENDS AND 18" O.C.
REFER TO NOTES: 1, 2, 3, 4 AND 5



2000 PSI CONCRETE OR GREATER
336 LBS./EXPANSION ANCHOR ALLOWABLE
LOAD - 6" FROM ENDS AND 18" O.C.
REFER TO NOTES: 1, 2, 3, 4 AND 5

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: +194.7 LBS/FT & -223.3 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. (.015) MIN. EXTERIOR SKIN ROLLED FORMED, W/ BAKED ON POLYESTER FINISH
5. DOORS UP TO 24'0" HIGH WILL HAVE TWO (2) 3" 20GA STRUTS PER 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.

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

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 22" 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)

SIMPSON 1/4" X 3" TITEN SCREWS STARTING 6" FROM ENDS,
USE PAIRS OF FASTENERS (3" APART)
AT 16" O.C. (1 1/2" EMBEDMENT)

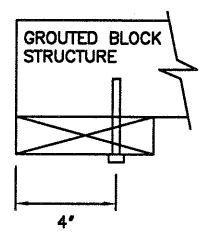
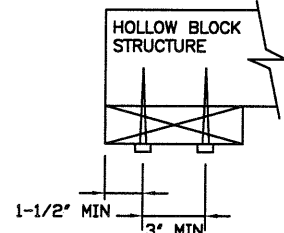
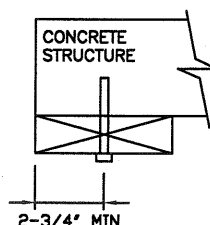
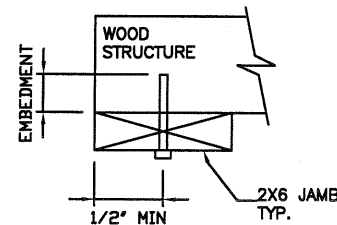
HILTI 1/4" X 2-3/4" KWIK-CON II+ SCREWS STARTING 6" FROM ENDS,
USE PAIRS OF FASTENERS (3" APART) AT 16" O.C. (1 1/4" EMBEDMENT)

HILTI SLEEVE ANCHOR 3/8" X 2-3/4" STARTING 6" FROM ENDS
THEN 24" O.C. (1 1/4" EMBEDMENT)

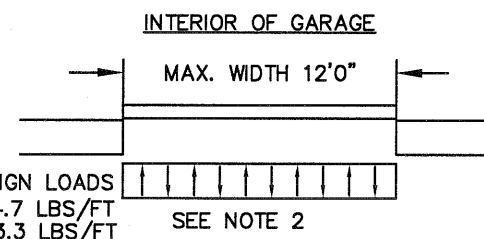
(OR, USE FASTENERS FOR HOLLOW C-90 BLOCK)

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

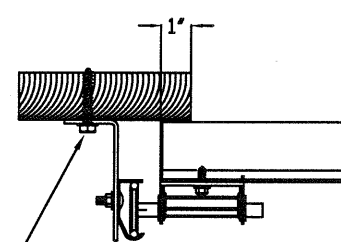
*PREPARATION OF WOOD JAMBS BY OTHERS



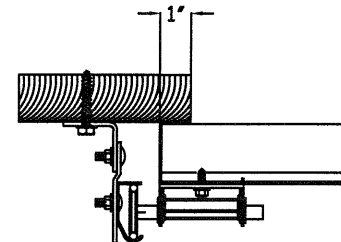
1. ANCHORS TO BE EVENLY SPACED BETWEEN THE HEADER AND FLOOR.
2. FIRST (BOTTOM) ANCHOR STARTING AT NO MORE THAN HALF OF THE MAXIMUM ON-CENTER DISTANCE. HIGHEST ANCHOR INSTALLED AT LEAST AS HIGH AS THE DOOR OPENING.
3. MIN. EDGE DISTANCE OF 3" REQUIRED.
4. USE WASHERS PROVIDED BY THE ANCHOR MANUFACTURER.
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.



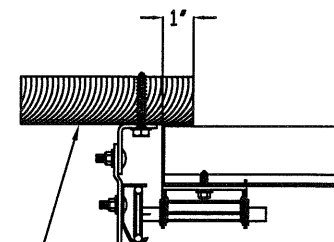
FOR LAG SCREWS & BRACKET SPACING SEE PAGE 3 FOR TRACK CONFIGURATION DETAIL



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



CONTINUOUS ANGLE MOUNT

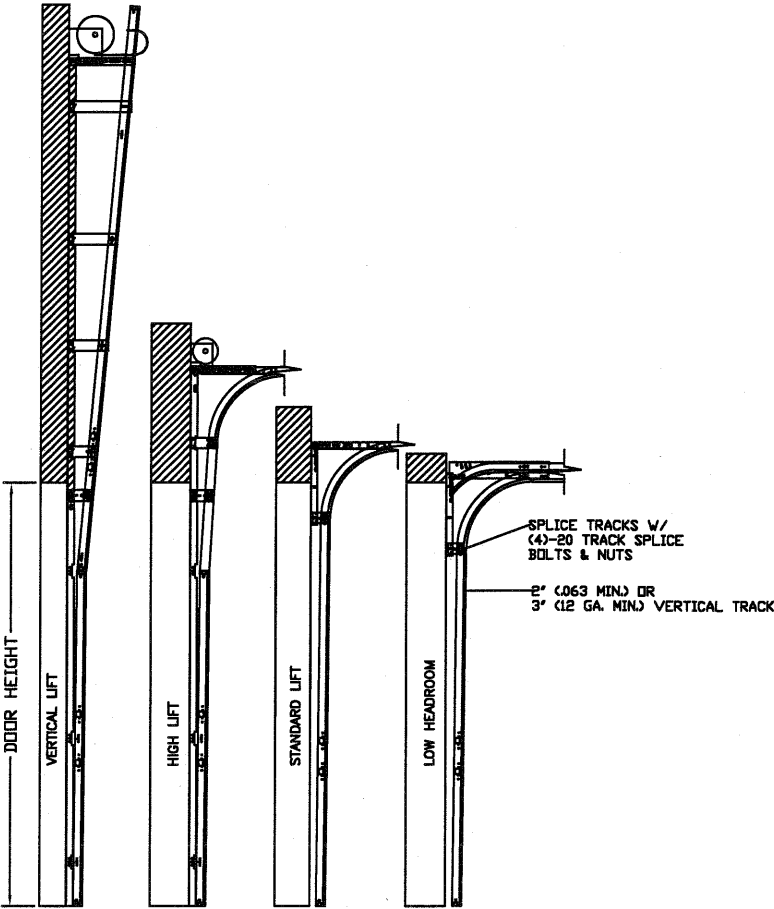
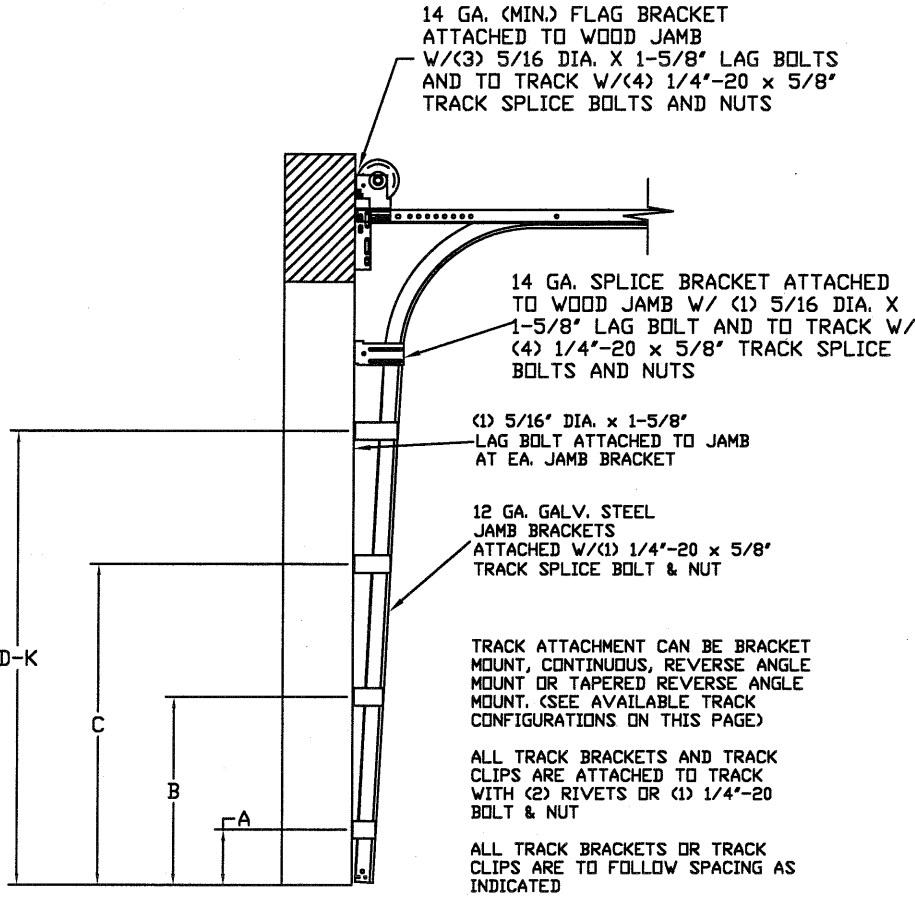


2x6 WOOD JAMB SYP OR SPF
(NO.2) OR BETTER (TYP.)

REV	DESCRIPTION OF REVISIONS	DATE	BY
MAX SIZE 12'2 x 24' DESIGN LOADS +32.0 PSF -36.7 PSF TEST LOADS +48.0 PSF -55.1 PSF		Thomas L. Shelmerdine, PE (FL PE #0048579) Structural Solutions, PA (FL Firm #29412) FL THOMAS L. SHELMERDINE LICENSE No. 48579 (5/30/20) STATE OF FLORIDA PROFESSIONAL ENGINEER dba Structural Solutions of North Carolina, Inc. 5921-G W. Friendly Ave., Greensboro, NC 27410	
Amarr			
MODEL 1350 / AMARR 2741 MODEL 2700 / AMARR 2742 MODEL 2720 / AMARR 2042			
SIZE	DRAWN BY	RS	DATE 8/06/15
B	CHECKED BY	RLR	DATE 8/06/15
165 CARRIAGE COURT WINSTON-SALEM, N.C. 27105			DRAWING NUMBER IBC-1312-150-15-1 SHEET 2 OF 3

TABLE 1

Section Width (ft)		Center Stile Locations		Max Design Loads Allowed	
		1st (in)	2nd (in)	Positive (PSF)	Negative (PSF)
9'	4"	36"	76"	40.6	46.6
9'	6"	37"	77"	40.1	46.0
9'	8"	38"	78"	39.5	45.4
9'	10"	39"	79"	39.0	44.8
10'	0"	40"	80"	38.6	44.2
10'	2"	41"	81"	38.1	43.7
10'	4"	42"	82"	37.4	42.9
10'	6"	43"	83"	36.8	42.3
10'	8"	44"	84"	36.3	41.6
10'	10"	45"	85"	35.7	41.0
11'	0"	46"	86"	35.2	40.3
11'	2"	47"	87"	34.6	39.7
11'	4"	48"	88"	34.1	39.2
11'	6"	49"	89"	33.6	38.6
11'	8"	50"	90"	33.2	38.0
11'	10"	51"	91"	32.7	37.5
12'	0"	48"	96"	32.1	36.8
12'	2"	49"	97"	32.0	36.7



AVAILABLE TRACK CONFIGURATIONS
N.T.S.

TABLE 2

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

DOOR HEIGHT		TRACK ATTACHMENT																TYPICAL SPLICE
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	
7'	0"	3.5"	22"	34"	58"	70"												76"
7'	6"	3.5"	22"	34"	58"	70"												82"
8'	0"	3.5"	22"	34"	58"	70"												88"
8'	6"	3.5"	22"	34"	58"	70"												94"
9'	0"	3.5"	22"	34"	58"	70"	94"											100"
9'	6"	3.5"	22"	34"	58"	70"	94"											106"
10'	0"	3.5"	22"	34"	58"	70"	94"	106"										112"
11'	0"	3.5"	22"	34"	58"	70"	94"	106"										124"
12'	0"	3.5"	22"	34"	58"	70"	94"	106"	130"									136"
13'	0"	3.5"	22"	34"	58"	70"	94"	106"	130"	142"								148"
14'	0"	3.5"	22"	34"	58"	70"	94"	106"	130"	142"								160"
15'	0"	3.5"	22"	34"	58"	70"	94"	106"	130"	142"	166"							172"
16'	0"	3.5"	22"	34"	58"	70"	94"	106"	130"	142"	166"	178"						184"
17'	0"	3.5"	22"	34"	58"	70"	94"	106"	130"	142"	166"	178"						196"
18'	0"	3.5"	22"	34"	58"	70"	94"	106"	130"	142"	166"	178"	202"					208"
19'	0"	3.5"	22"	34"	58"	70"	94"	106"	130"	142"	166"	178"	202"	214"				220"
20'	0"	3.5"	22"	34"	58"	70"	94"	106"	130"	142"	166"	178"	202"	214"				232"
21'	0"	3.5"	22"	34"	58"	70"	94"	106"	130"	142"	166"	178"	202"	214"	238"			244"
22'	0"	3.5"	22"	34"	58"	70"	94"	106"	130"	142"	166"	178"	202"	214"	238"	250"		256"
23'	0"	3.5"	22"	34"	58"	70"	94"	106"	130"	142"	166"	178"	202"	214"	238"	250"		268"
24'	0"	3.5"	22"	34"	58"	70"	94"	106"	130"	142"	166"	178"	202"	214"	238"	250"	274"	280"

ALL TRACK ATTACHMENTS +/- 2" ALLOWED USING SYP OR SPF NO.2 OR BETTER ONLY
MODEL 1350/ AMARR 2741 ONLY AVAILABLE UP TO 14'

REVDESCRIPTION OF REVISIONSDATEBY

MAX SIZE
12'2 x 24'

DESIGN LOADS
+32.0 PSF
-36.7 PSF

TEST LOADS
+48.0 PSF
-55.1 PSF

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

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MODEL 1350 / AMARR 2741
MODEL 2700 / AMARR 2742
MODEL 2720 / AMARR 2042

SIZE
B

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165 CARRIAGE COURT WINSTON-SALEM, N.C. 27105SHEET 3 OF 3