

12 GA. GALV. COMMERCIAL TOP ROLLER BRACKET ATTACHED W/(3) 1/4" x 1" SCREWS PER BRACKET

2" 10 BALL STEEL LONG STEM ROLLERS W/RETAINERS USED FOR NON THREADED SHAFTS

3" 20GA STRUT ATTACHED AT EACH END STILE LOCATION W/(2) 1/4" x 1" SCREWS

ADJUSTABLE ROLLER CARRIER ATTACHED W/ (2) 5/16" x 3/4" BOLT & NUT PER BRACKET

TYPICAL TOP FIXTURES  
N.T.S. 1

3" 20GA. STRUT ATTACHED W/ (2) 1/4" x 1" SCREWS AT EACH CENTER STILE

14GA. MIN. CENTER HINGE ATTACHED W/ (5) 1/4" x 1" SCREWS

TYPICAL CENTER HINGE  
N.T.S. 2

3" 20GA. STRUT ATTACHED W/ (2) 1/4" x 1" SCREWS AT EACH END STILE

14GA. MIN. END HINGE ATTACHED W/ (5) 1/4" x 1" SCREWS

2" 10 BALL STEEL 4.5" STEM ROLLERS (MIN.) W/RETAINERS USED FOR NON THREADED SHAFTS

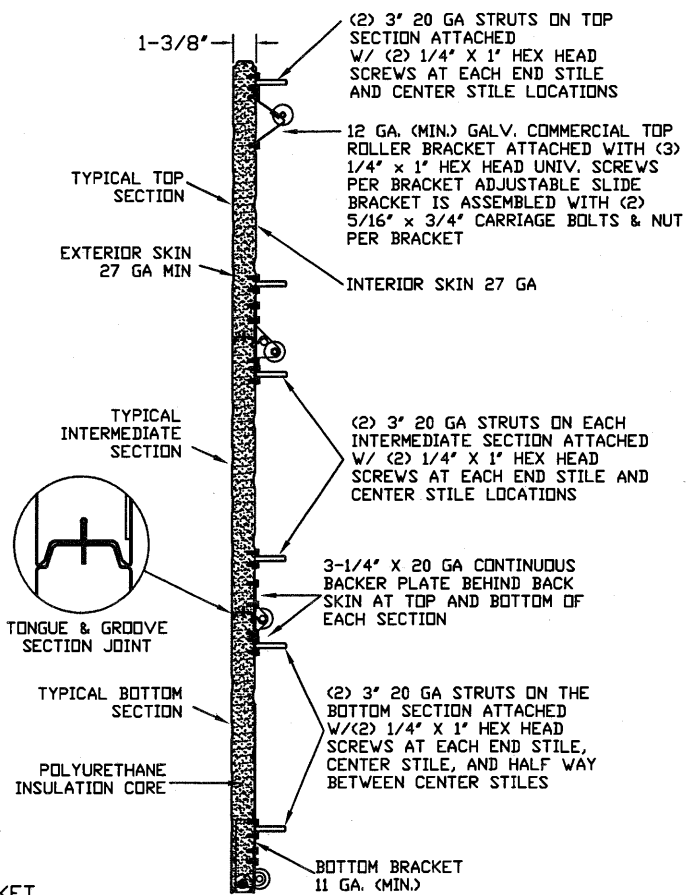
TYPICAL END HINGE  
N.T.S. 3

3" 20GA. STRUT ATTACHED W/ (2) 1/4" x 1" SCREWS AT EACH END STILE

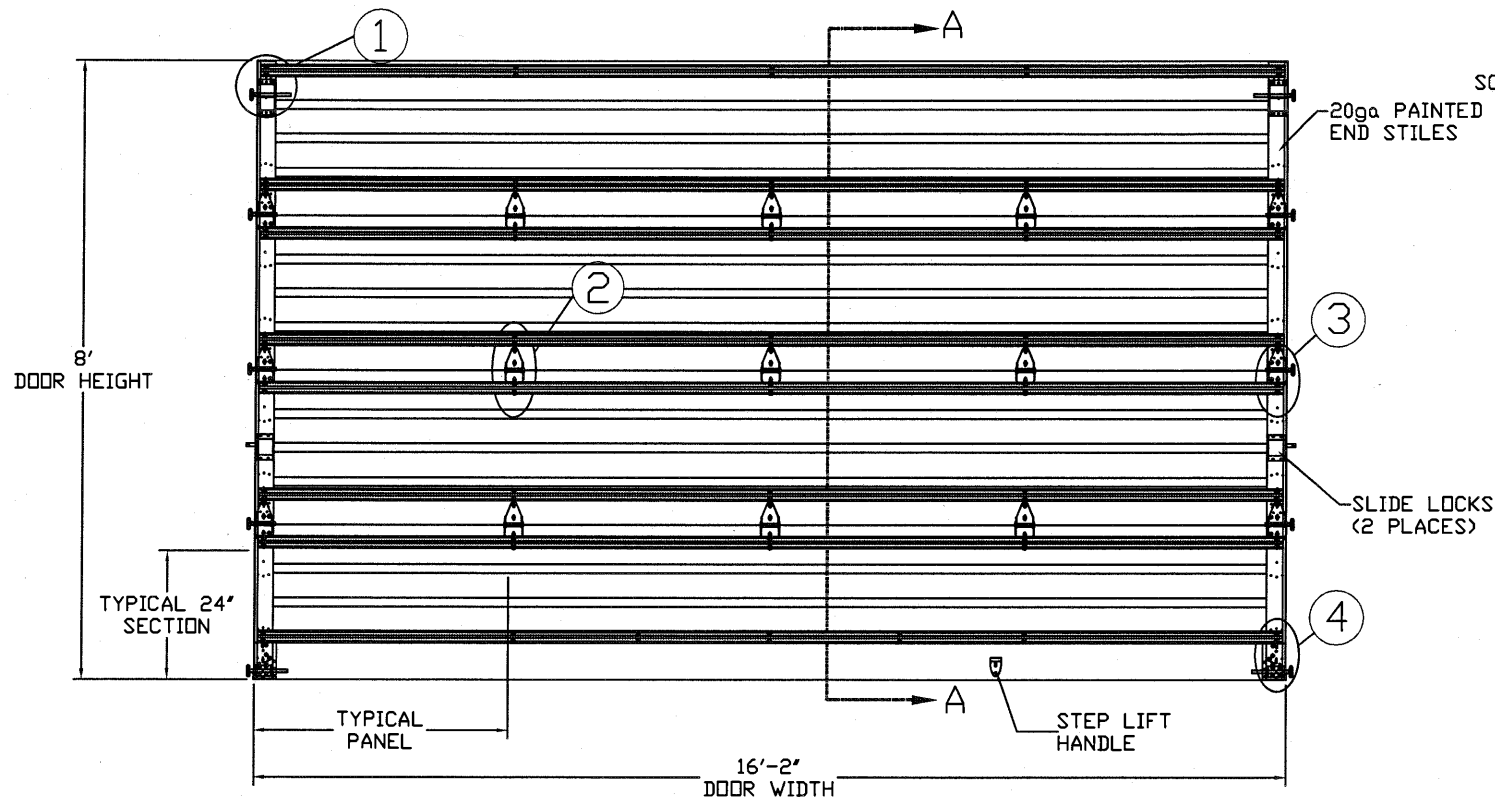
BOTTOM BRACKET 11 GA. (MIN.) ATTACHED W/(8) 1/4" x 1" HEX HEAD SCREWS

2" 10 BALL STEEL LONG STEM ROLLERS W/RETAINERS USED FOR NON THREADED SHAFTS

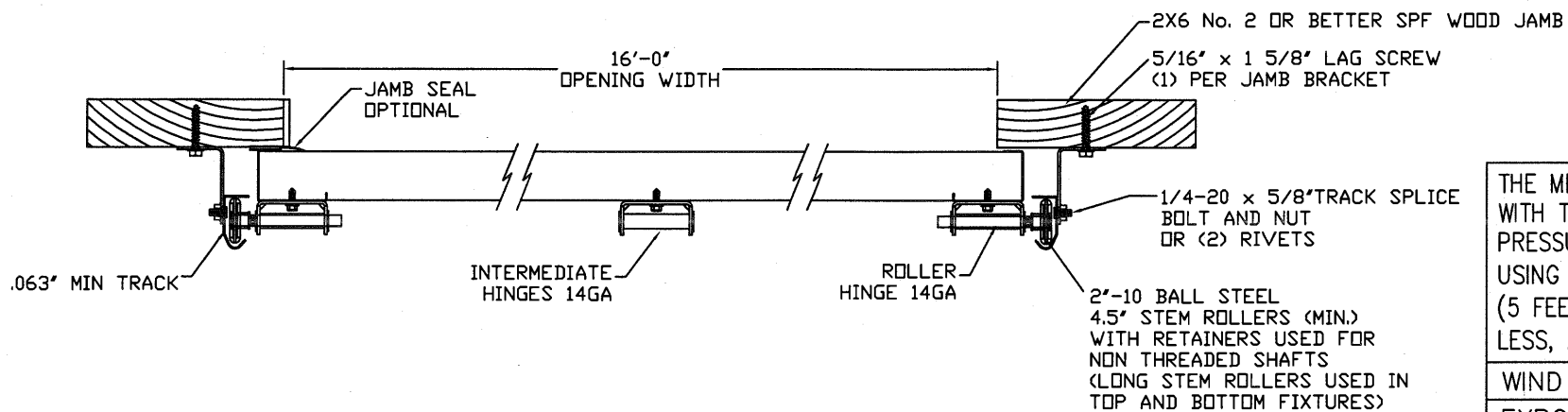
TYPICAL BOTTOM BRACKET  
N.T.S. 4



SECTION A-A (SIDE VIEW)



DOOR INTERIOR ELEVATION  
N.T.S.



2" BRACKET MOUNT TO WOOD JAMB DETAIL  
N.T.S.

THE METHOD OF TESTING WAS IN SUBSTANTIAL CONFORMANCE WITH THE PROCEDURES DESCRIBED IN DASMA 108. THE PRESSURES SHOWN ON THE DRAWINGS WERE CALCULATED USING ASCE 7-98/02/05 WITH THE FOLLOWING PARAMETERS (5 FEET OF DOOR WIDTH IN END ZONE, ROOF SLOPE 10° OR LESS, AND I=1.0):

WIND SPEED (MPH)	133	121	115	110	105
EXPOSURE LEVEL	B	C	C	D	D
MEAN ROOF HEIGHT	30'	15'	25'	15'	25'

REV	DESCRIPTION OF REVISIONS	DATE	BY
A			

MAX SIZE  
16'2 x 24'

DESIGN LOADS  
+24.4 PSF  
-27.7 PSF

TEST LOADS  
+36.6 PSF  
-41.6 PSF

Thomas L. Shelmerdine, PE (TX PE #85829)  
Structural Solutions, PA (TX Firm #004063)

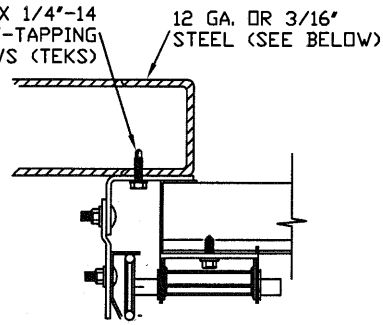
TX

5921-G W. Friendly Ave., Greensboro, NC 27410

MODEL 1350 AMARR 2741 (27GA)		MODEL 2700 AMARR 2742 (27GA)		MODEL 2720 AMARR 2042 (20GA)	
SIZE	DRAWN BY	RS	DATE	1/16/15	DRAWING NUMBER
B	CHECKED BY	RLR	DATE	1/16/15	IBC-1316-133-15
ENTREMATIC 165 CARRIAGE COURT WINSTON-SALEM, N.C. 27105					SHEET 1 OF 4

# TRACK CONNECTION DIRECTLY TO STRUCTURE OPTIONS

ITW BUILDDEX 1/4"-14 X 3/4" SELF-TAPPING SCREWS (TEKS)

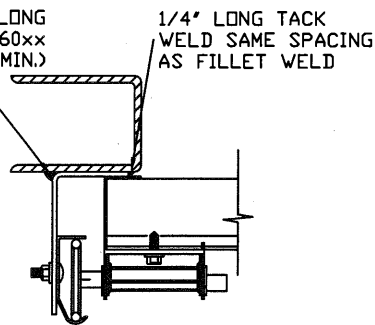


CLIP STYLE REVERSE ANGLE MOUNT SHOWN BRACKET, CONTINUOUS AND TAPERED ANGLE MOUNT AVAILABLE

12 GA. STEEL FRAMING  
232 LBS./SCREW ALLOWABLE LOAD - 6' FROM ENDS AND 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

1/8" NDM X 1' LONG FILLET WELD (E60xx ELECTRODES MIN.)



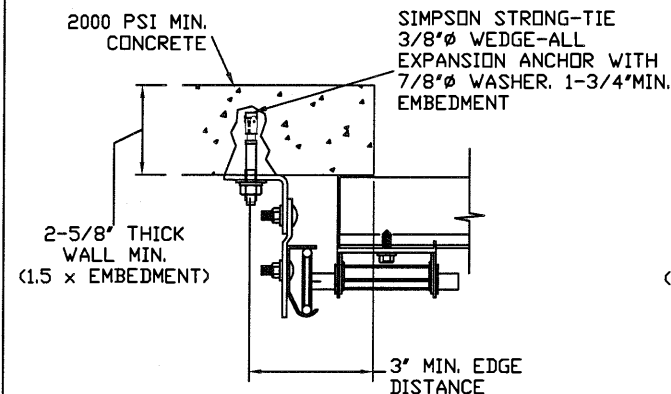
REVERSE ANGLE MOUNT SHOWN BRACKET, CONTINUOUS AND TAPERED ANGLE MOUNT AVAILABLE

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

### NOTES:

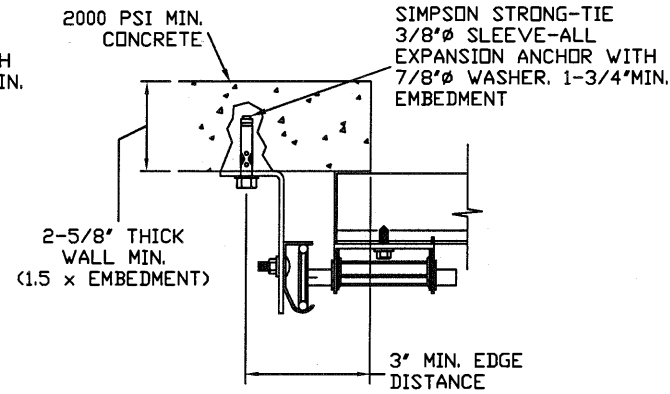
1. ANCHORS TO BE EVENLY SPACED BETWEEN THE HEADER AND FLOOR.
2. FIRST (BOTTOM) ANCHOR STARTING AT NO MORE THAN HALF OF THE MAXIMUM ON-CENTER DISTANCE. HIGHEST ANCHOR INSTALLED AT LEAST AS HIGH AS THE DOOR OPENING.
3. MIN. EDGE DISTANCE OF 3' REQUIRED.
4. USE WASHERS PROVIDED BY THE ANCHOR MANUFACTURER.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

# WOOD JAMB ATTACHMENT TO STRUCTURE (OPTIONAL)



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 18' 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 18' O.C.  
REFER TO NOTES: 1, 2, 3, 4 AND 5

### 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 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)

### 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 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)

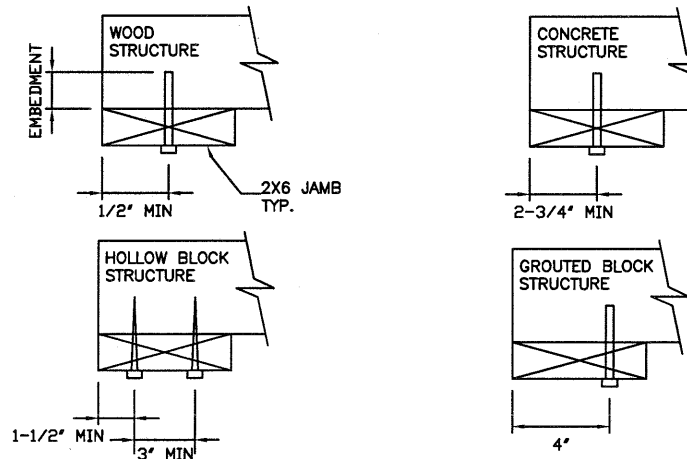
### 2 X 6 VERTICAL JAMB ATTACHMENT TO GROUTED C-90 BLOCK (2000 PSI GROUT)

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)

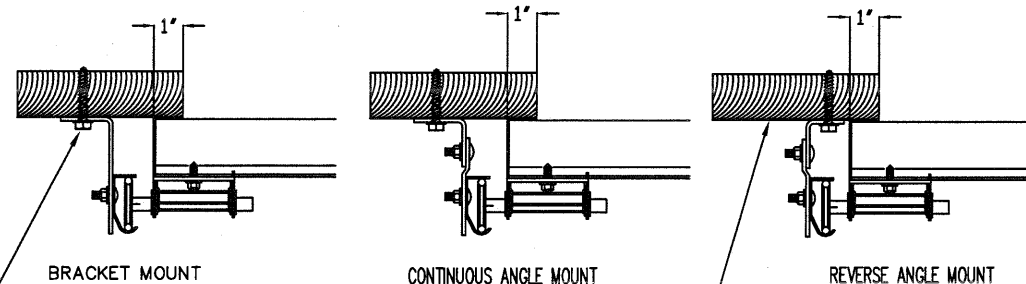
\*LAGS AND BOLTS CAN BE COUNTERSUNK TO PROVIDE A FLUSH MOUNTING SURFACE.

\*PREPARATION OF WOOD JAMBS BY OTHERS



# TRACK CONNECTION TO WOOD JAMB OPTIONS

FOR LAG SCREWS & BRACKET SPACING SEE 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.)

REV	DESCRIPTION OF REVISIONS	DATE	BY
A	INCREASED DESIGN & TEST PRESSURES	2-22-18	RLR

MAX SIZE 16'2" x 24'	Thomas L. Shelmerdine, PE (TX PE #85829) Structural Solutions, PA (TX Firm #F-004063)		5921-G W. Friendly Ave., Greensboro, NC 27410
DESIGN LOADS +24.4 PSF -27.7 PSF			
TEST LOADS +36.6 PSF -41.6 PSF			

TX

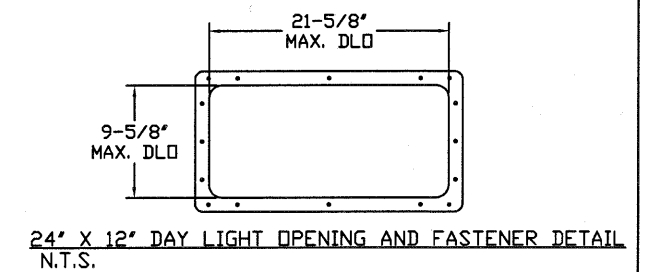
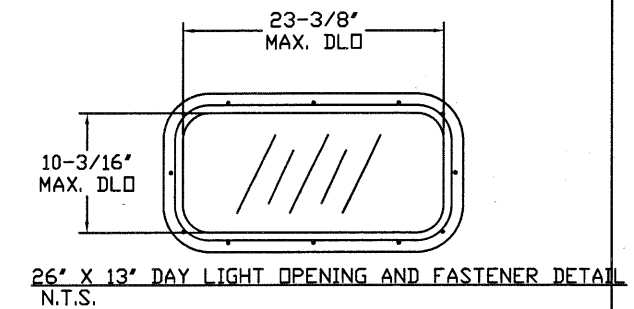
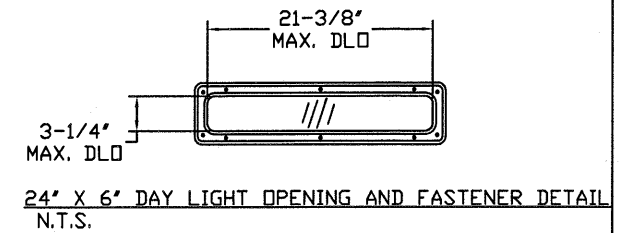
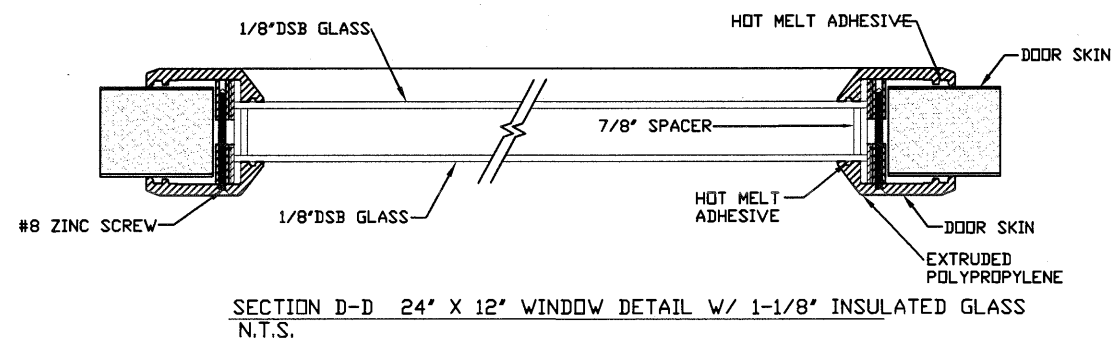
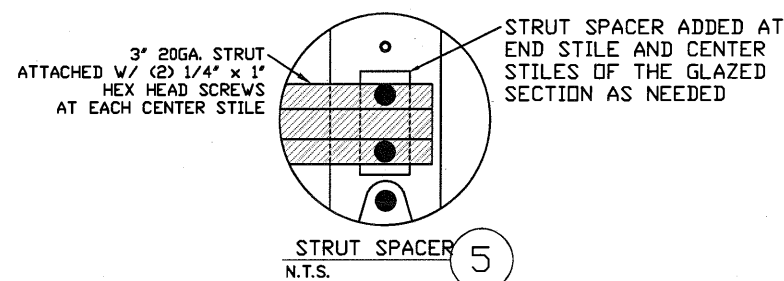
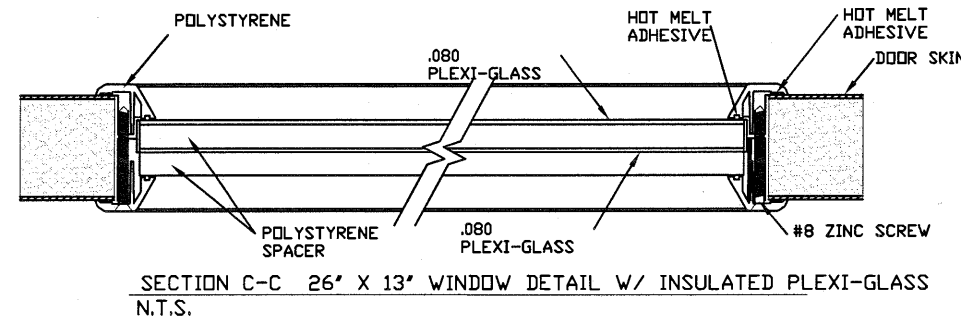
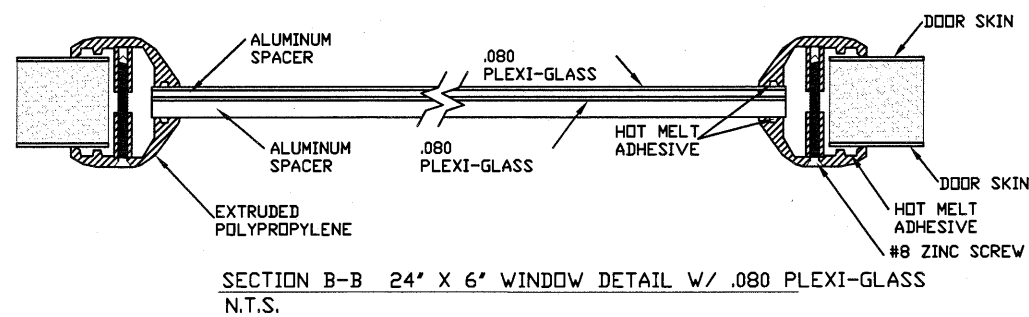
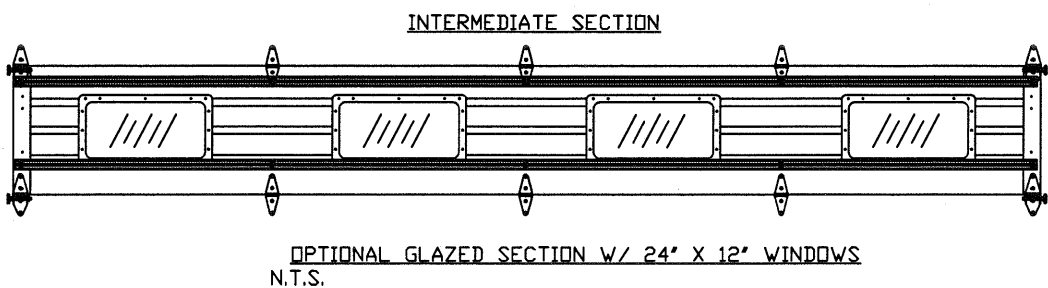
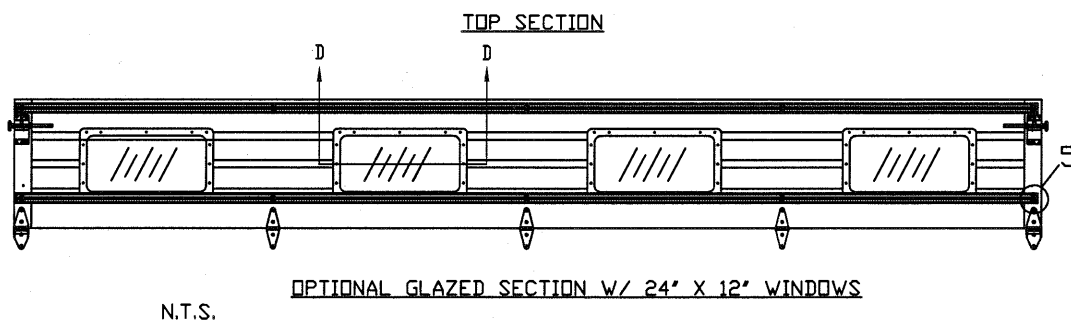
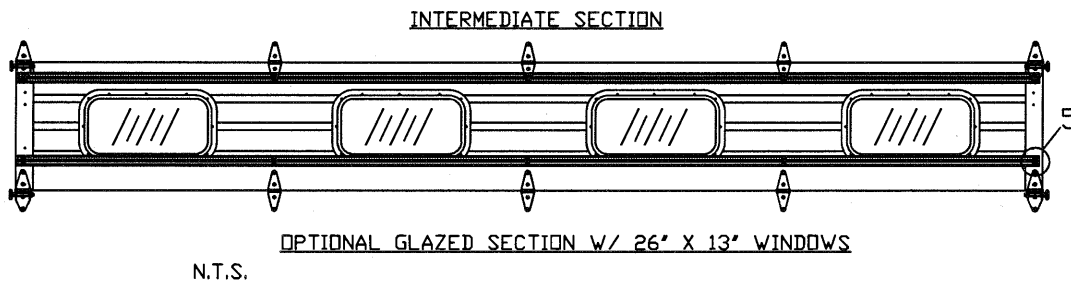
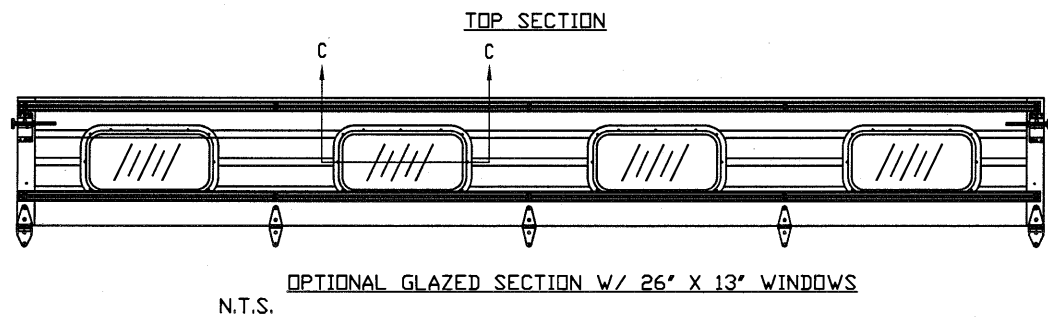
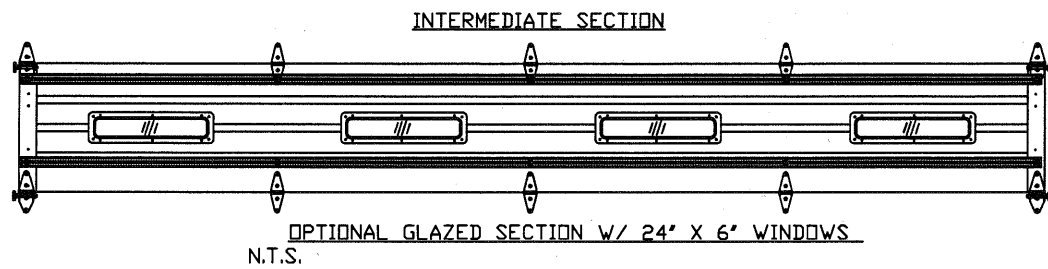
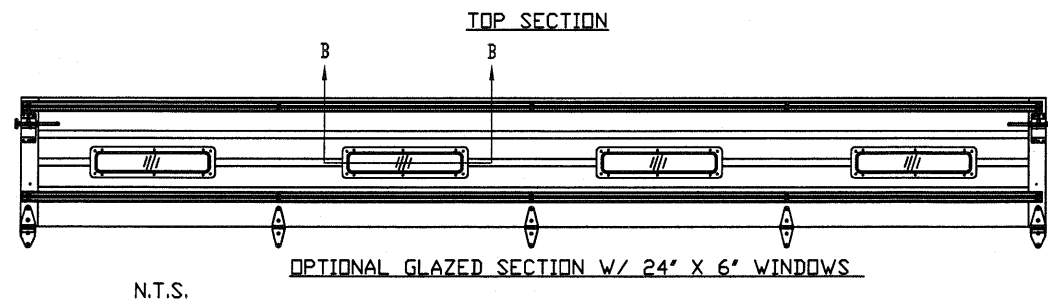
**Amarr**  
ENTREMATIC

MODEL 1350 AMARR 2741 (27GA)	MODEL 2700 AMARR 2742 (27GA)	MODEL 2720 AMARR 2042 (20GA)
------------------------------	------------------------------	------------------------------

SIZE	DRAWN BY RS	DATE 1/16/15	DRAWING NUMBER
B	CHECKED BY RLR	DATE 1/16/15	IBC-1316-133-15

ENTREMATIC  
165 CARRIAGE COURT WINSTON-SALEM, N.C. 27105

SHEET 2 OF 4



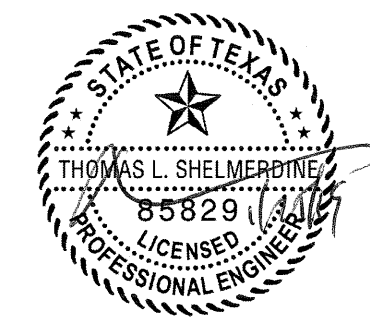
REV	DESCRIPTION OF REVISIONS	DATE	BY
A	INCREASED DESIGN & TEST PRESSURES	2-22-18	RLR

MAX SIZE  
16'2 x 24'

DESIGN LOADS  
+24.4 PSF  
-27.7 PSF

TEST LOADS  
+36.6 PSF  
-41.6 PSF

Thomas L. Shelmerdine, PE (TX PE #85829)  
Structural Solutions, PA (TX Firm #F-004063)



TX

**Amarr**  
ENTREMATIC

MODEL 1350 AMARR 2741 (27GA)  
MODEL 2700 AMARR 2742 (27GA)  
MODEL 2720 AMARR 2042 (20GA)

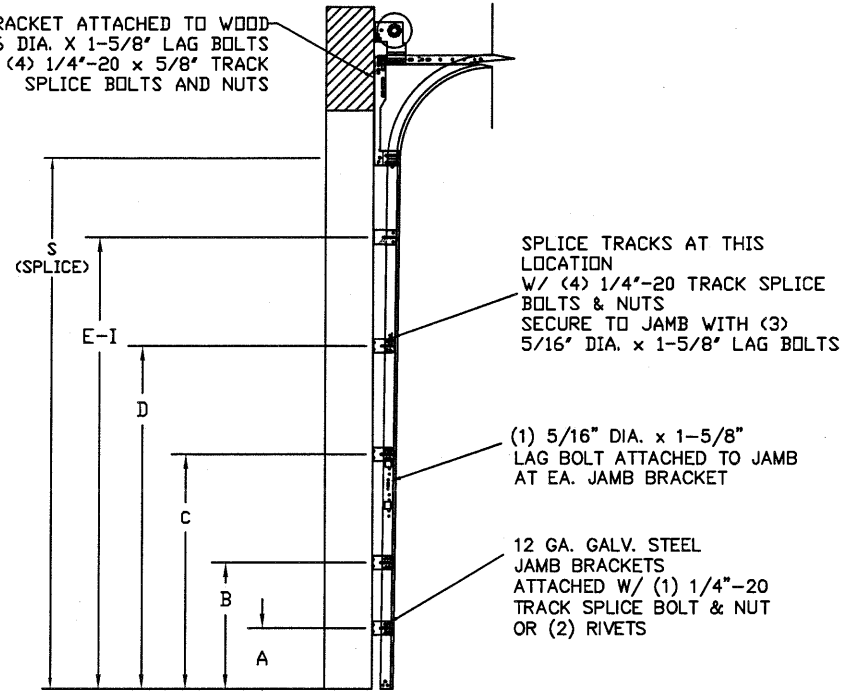
SIZE	DRAWN BY	RS	DATE	1/16/15	DRAWING NUMBER
B	CHECKED BY	RLR	DATE	1/16/15	IBC-1316-133-15

ENTREMATIC  
165 CARRIAGE COURT WINSTON-SALEM, N.C. 27105

SHEET 3 OF 4

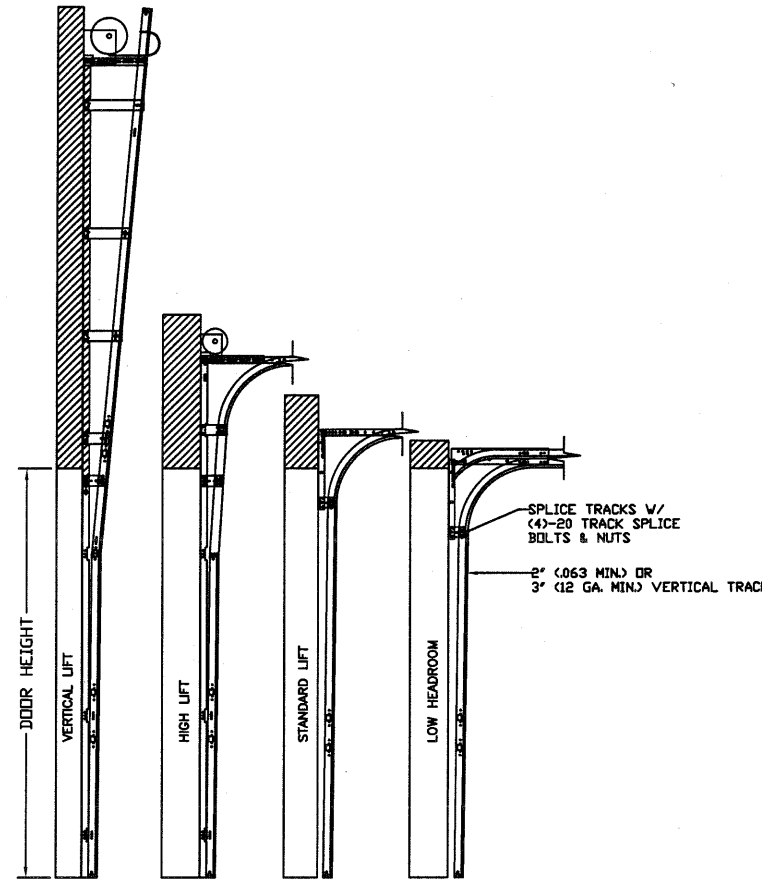
5921-G.W. Friendly Ave., Greensboro, NC 27410

14 GA. FLAG BRACKET ATTACHED TO WOOD JAMB W/ (3) 5/16 DIA. X 1-5/8" LAG BOLTS AND TO TRACK W/ (4) 1/4"-20 X 5/8" TRACK SPLICE BOLTS AND NUTS



TRACK CONFIGURATION FOR UP TO 24' TALL DOORS  
N.T.S.

SEE TABLE 2 FOR TRACK ATTACHMENT SPACING



AVAILABLE TRACK CONFIGURATIONS  
N.T.S.

TABLE 1

Section Width (ft)	Center Stile Locations (Measured from Left Edge)			Max Design Loads Allowed	
	1st (in)	2nd (in)	3rd (in)	Positive (PSF)	Negative (PSF)
13' 0"	36	78	120	28.0	31.8
13' 2"	37	79	121	28.0	31.8
13' 4"	38	80	122	28.0	31.8
13' 6"	39	81	123	28.0	31.8
13' 8"	40	82	124	28.0	31.8
13' 10"	41	83	125	28.0	31.8
14' 0"	42	84	126	28.0	31.8
14' 2"	43	85	127	27.7	31.4
14' 4"	44	86	128	27.3	31.0
14' 6"	45	87	129	27.0	30.7
14' 8"	46	88	130	26.7	30.3
14' 10"	47	89	131	26.4	30.0
15' 0"	48	90	132	26.1	29.7
15' 2"	49	91	133	25.8	29.3
15' 4"	50	92	134	25.5	29.0
15' 6"	51	93	135	25.3	28.7
15' 8"	52	94	136	25.0	28.4
15' 10"	53	95	137	24.7	28.1
16' 0"	48	96	144	24.5	27.8
16' 2"	49	97	145	24.4	27.7

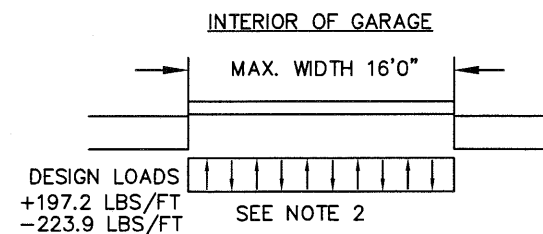
TABLE 2

DOOR HEIGHT	TRACK ATTACHMENT													TYPICAL SPLICE	
	A	B	C	D	E	F	G	H	I	J	K	L	M		
7' 0"	10.0"	21"	39"												76"
7' 6"	10.0"	21"	39"	57"											82"
8' 0"	10.0"	21"	39"	57"	75"										88"
8' 6"	10.0"	21"	39"	57"	75"										94"
9' 0"	10.0"	21"	39"	57"	75"	93"									100"
9' 6"	10.0"	21"	39"	57"	75"	93"									106"
10' 0"	10.0"	21"	39"	57"	75"	93"	111"								112"
11' 0"	10.0"	21"	39"	57"	75"	93"	111"								124"
12' 0"	10.0"	21"	39"	57"	75"	93"	111"								136"
13' 0"	10.0"	21"	39"	57"	75"	93"	111"	129"							148"
14' 0"	10.0"	21"	39"	57"	75"	93"	111"	129"							160"
15' 0"	10.0"	21"	39"	57"	75"	93"	111"	129"	147"						172"
16' 0"	10.0"	21"	39"	57"	75"	93"	111"	129"	147"						184"
17' 0"	10.0"	21"	39"	57"	75"	93"	111"	129"	147"	165"					196"
18' 0"	10.0"	21"	39"	57"	75"	93"	111"	129"	147"	165"					208"
19' 0"	10.0"	21"	39"	57"	75"	93"	111"	129"	147"	165"	183"				220"
20' 0"	10.0"	21"	39"	57"	75"	93"	111"	129"	147"	165"	183"				232"
21' 0"	10.0"	21"	39"	57"	75"	93"	111"	129"	147"	165"	183"	201"			244"
22' 0"	10.0"	21"	39"	57"	75"	93"	111"	129"	147"	165"	183"	201"			256"
23' 0"	10.0"	21"	39"	57"	75"	93"	111"	129"	147"	165"	183"	201"	219"		268"
24' 0"	10.0"	21"	39"	57"	75"	93"	111"	129"	147"	165"	183"	201"	219"		280"

ALL TRACK ATTACHMENT SPACING +/-2' ALLOWED WITH SPF DR SYP NO. 2 DR BETTER ONLY  
AMARR MODEL 1350 ONLY AVAILABLE UP TO 14'

SPECIFICATIONS AND NOTES

- 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.
- EACH VERTICAL JAMBS RECEIVES MAXIMUM DESIGN LOADS OF: +197.2 LBS/FT & -223.9 LBS/FT
- DOOR AND HARDWARE WILL BE DESIGNED, MANUFACTURED AND INSTALLED WITH STANDARDS AS SET FORTH BY DASMA.
- DOOR SECTIONS SHALL BE 27 GA. (.015) MIN. EXTERIOR SKIN ROLLED FORMED, W/ BAKED ON POLYESTER FINISH
- DOORS UP TO 24'0" HIGH HAVE (2) 3" 20GA STRUTS PER SECTION
- SUPPORTING STRUCTURAL ELEMENTS SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER FOR WIND LOADS INDICATED ON THIS DRAWING IN ADDITION TO OTHER LOADINGS.



REV	DESCRIPTION OF REVISIONS	DATE	BY
A	INCREASED DESIGN & TEST PRESSURES	2-22-18	RLR

MAX. SIZE: 16'2 x 24'

DESIGN LOADS: +24.4 PSF, -27.7 PSF

TEST LOADS: +36.6 PSF, -41.6 PSF

Thomas L. Shelmerdine, PE (TX PE #85829)  
Structural Solutions, PA (TX Firm #F-004063)

STATE OF TEXAS  
THOMAS L. SHELMERDINE  
85829  
LICENSED PROFESSIONAL ENGINEER  
TX

Amarr  
ENTREMATIC

MODEL 1350 AMARR 2741 (27GA)  
MODEL 2700 AMARR 2742 (27GA)  
MODEL 2720 AMARR 2042 (20GA)

SIZE	DRAWN BY	RS	DATE	1/16/15	DRAWING NUMBER
B	CHECKED BY	RLR	DATE	1/16/15	IBC-1316-133-15

ENTREMATIC  
165 CARRIAGE COURT WINSTON-SALEM, N.C. 27105

SHEET 4 OF 4

5921-G.W. Friendly Ave., Greensboro, NC 27410