Strut Locations	
7'	8'
3"	3"
18.5"	18.5"
23.5"	23.5"
39.5"	36.5"
44.5"	41.5"
60.5"	54.5"
65.5"	59.5"
83"	72.5"
	77.5"
	95"

Note: Maximum door height is 14'. Consult Strut and Section Location Chart or manufacturer for details on door heights not listed.

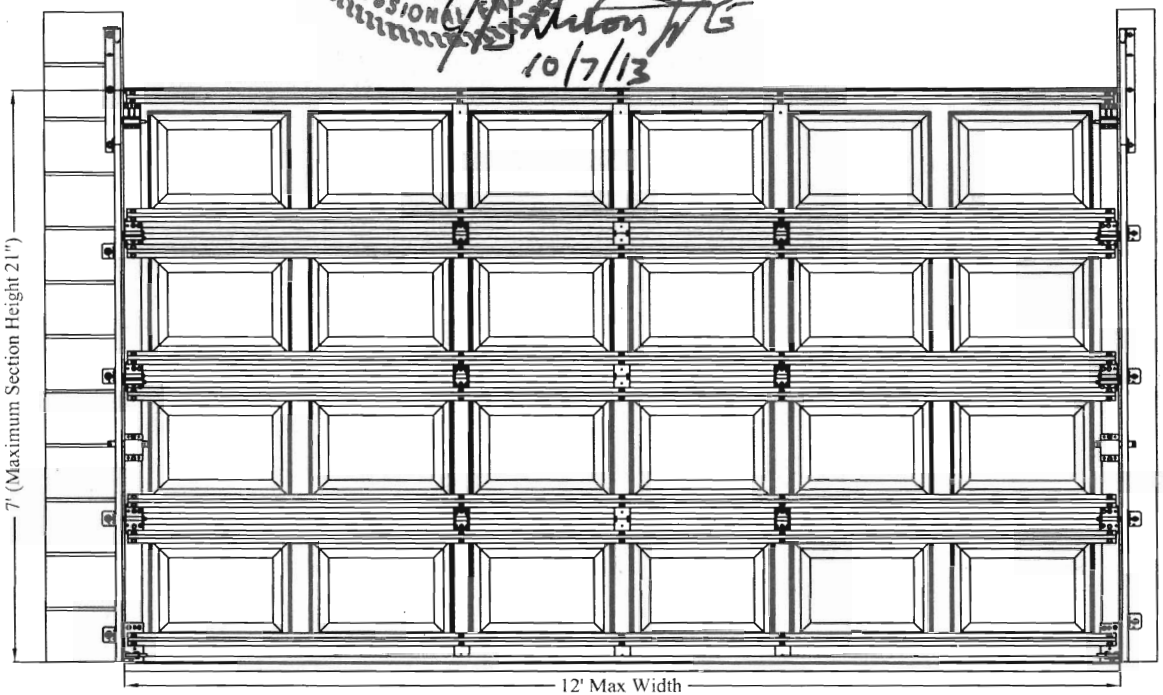
Track Brackets	
7'	8'
4	5

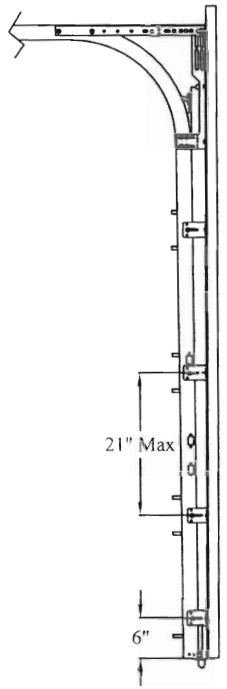
Note: Detail views are shown on sheet 2.

STATE OF TEXAS
JOSEPH H. DIXON, JR.
18627
LICENSED
PROFESSIONAL ENGINEER

10/7/13

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED





Design pressures meet or exceed those required by ASCE 7-02 and 7-05 for the following conditions:

V = 130 MPH exposure category B and mean roof height of 40' or less
V = 120 MPH exposure category C and mean roof height of 21' or less

The use of the wind speeds shown is limited to those cases meeting all of the following additional conditions:

1. **Building category II**
2. **2 ft or less of the door width in the end zone of the building (zone 5)**
3. **Importance factor = 1.0**
4. **Topographic factor = 1.0**
5. **Directional factor = .85**
6. **Doors with glazed sections are not qualified for use in windborne debris regions**

Description: 500, 400 series 2" open back steel garage door with optional polystyrene insulation (.017" min. pan)

Design Pressure: +34.3/-32.7
Test Pressure +51.5/-49.1

Tested per the applicable requirements of ANSI/DASMA 108-2005

DRAWN BY:
John M. Stroede 10/7/13

APPROVED BY:
John M. Stroede 10/7/13

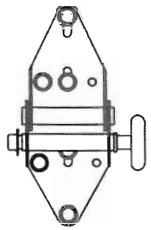
doorLink Manufacturing, Inc.
1501 Taney St.
North Kansas City, MO 64116

TITLE
Windload Rated Residential Garage Door
Models 510, 410, 430, 450, 470

DRAWING NUMBER	REVISION
RO12A-130	A

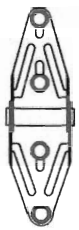
SIZE	SCALE	SHEET
A	N/A	1 of 2

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

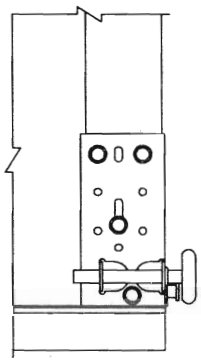


End Hinge
14 gauge galvanized steel end hinge attached with four 1/4" x 3/4" screws and two 1/4" x 5/8" self tapping screws.

Roller
Minimum 7 ball steel roller or 10 ball nylon roller with 4" stem and push nuts on all hinge rollers.



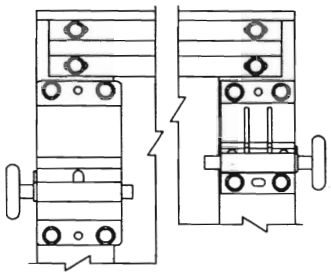
Center Hinge
18 gauge galvanized steel narrow or wide body hinge attached with four 1/4" x 3/4" screws.



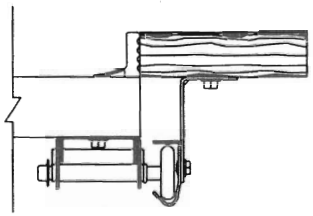
End and Center Stiles
20 gauge galvanized steel stiles attached to section with two rivets or two #8 x 1/2" pan head sheet metal screw on each end.

Bottom Bracket
13 gauge galvanized steel bottom bracket attached with four 1/4" x 5/8" self-tapping screws (push nut not required on roller).

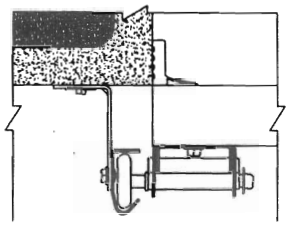
Bottom Weatherstrip
Aluminum extrusion with vinyl insert.



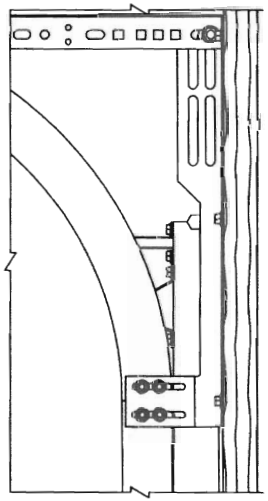
Top Fixture
16 gauge galvanized steel top fixture with two bolt roller carrier or 12 gauge galvanized steel top fixture with single bolt roller carrier attached to door with four 1/4" x 5/8" self-tapping screws (push nut not required on roller).



Jambs
Vertical jambs are to be 2x6 #2 Spruce-Pine-Fir (S-P-F) lumber or equivalent depeding on regional availability, 2000 psi minimum concrete, or filled 8x8x16 concrete masonry unit (CMU) (minimum edge distance for concrete is 2 1/4").
Note: Preparation of jambs by others, and supporting structural elements must be capable of withstanding the rated windload.



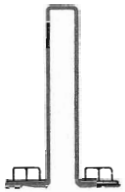
Stop Molding
Stop molding is required, or door must overlap jambs by 1/4".



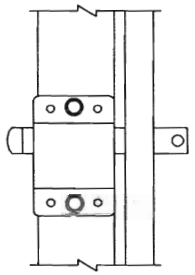
Flag Bracket
12 gauge galvanized steel flag bracket attached to wood jamb with three 5/16" x 1 5/8" wood lag screws (shown) or to concrete jamb with three 1/4" x 1 3/4" Tapcon with 1" diameter washer and to the horizontal and vertical tracks with two 1/4" x 3/4" track bolts and nuts each.

Horizontal Track and Angle
Horizontal track and angle to suit with suitable back hang.

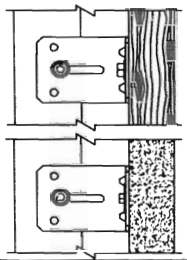
Vertical Track
2" galvanized steel track with a minimum thickness of .056".



Struts
3" x 1 7/8" 20 gauge 33 ksi hat strut attached with two 1/4" x 5/8" self-tapping screws per stile.



Locking Mechanism
Doors must have either an electronic operator or locking device(s) installed (inside slide lock shown, other lock types permitted) that engage(s) both vertical tracks.



Track Brackets
2 1/4" wide x 12 gauge galvanized steel track bracket attached to wood jamb with one 5/16" x 1 5/8" wood lag screw or to concrete jamb with 1/4" x 1 3/4" Tapcon with 1" diameter washer and to vertical track with one 1/4" x 3/4" track bolt and nut
Note: Center distance between track brackets not to exceed 21".

doorLink Manufacturing, Inc.
1501 Taney St.
North Kansas City, MO 64116

TITLE
Windload Rated Residential Garage Door Models 510, 410, 430, 450, 470

DRAWN BY: John M. Stroede 10/7/13	DRAWING NUMBER RO12A-130		REVISION A
APPROVED BY: John M. Stroede 10/7/13	SIZE A	SCALE N/A	SHEET 2 of 2

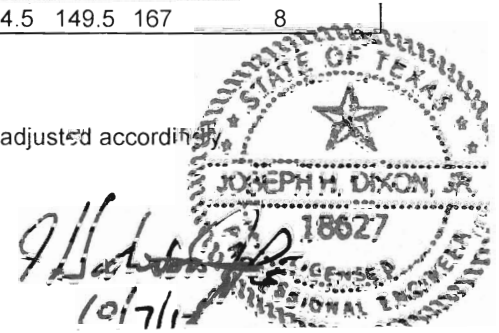
doorLink Manufacturing
My Job No. 33033

RO12A-130

Joseph H. Dixon, Jr. P.E.
FL 7768, MO 6185, TX 18627
10/07/13

Strut and Section Locations

RO12A-130 12' 500, 400 Series Windload Door +34.3/-32.7 psf

Door Height	Section Heights	Strut Locations	Track Brackets
6 - 0	18 18 18 18	3 15.5 20.5 33.5 51.5 56.5 71	4
6 - 3	21 18 18 18	3 18.5 23.5 36.5 41.5 54.5 59.5 74	4
6 - 6	21 18 18 21	3 18.5 23.5 36.5 41.5 54.5 59.5 77	4
6 - 9	21 21 18 21	3 18.5 23.5 39.5 44.5 57.5 62.5 80	4
7 - 0	21 21 21 21	3 18.5 23.5 39.5 44.5 60.5 65.5 83	4
7 - 6	18 18 18 18 18	3 15.5 20.5 33.5 38.5 51.5 69.5 74.5 89	5
7 - 9	21 18 18 18 18	3 18.5 23.5 36.5 41.5 54.5 72.5 77.5 92	5
8 - 0	21 18 18 18 21	3 18.5 23.5 36.5 41.5 54.5 59.5 72.5 77.5 95	5
8 - 3	21 21 18 18 21	3 18.5 23.5 39.5 44.5 57.5 62.5 75.5 80.5 98	5
8 - 6	21 21 18 21 21	3 18.5 23.5 39.5 44.5 57.5 62.5 78.5 83.5 101	5
8 - 9	21 21 21 21 21	3 18.5 23.5 39.5 44.5 60.5 65.5 81.5 86.5 104	5
9 - 0	18 18 18 18 18 18	3 15.5 20.5 33.5 38.5 51.5 56.5 69.5 87.5 92.5 107	6
9 - 3	21 18 18 18 18 18	3 18.5 23.5 36.5 41.5 54.5 59.5 72.5 90.5 95.5 110	6
9 - 6	21 21 18 18 18 18	3 18.5 23.5 39.5 44.5 57.5 62.5 75.5 93.5 98.5 113	6
9 - 9	21 21 21 18 18 18	3 18.5 23.5 39.5 44.5 60.5 65.5 78.5 83.5 96.5 98.5 116	6
10 - 0	21 21 21 21 18 18	3 18.5 23.5 39.5 44.5 60.5 65.5 81.5 86.5 99.5 101.5 119	6
10 - 3	21 21 21 21 21 18	3 18.5 23.5 39.5 44.5 60.5 65.5 81.5 86.5 102.5 104.5 122	6
10 - 6	21 21 21 21 21 21	3 18.5 23.5 39.5 44.5 60.5 65.5 81.5 86.5 102.5 107.5 125	6
10 - 9	21 18 18 18 18 18 18	3 18.5 23.5 36.5 41.5 54.5 59.5 72.5 77.5 90.5 108.5 113.5 128	7
11 - 0	21 21 18 18 18 18 18	3 18.5 23.5 39.5 44.5 57.5 62.5 75.5 80.5 93.5 111.5 116.5 131	7
11 - 3	21 21 21 18 18 18 18	3 18.5 23.5 39.5 44.5 60.5 65.5 78.5 83.5 96.5 114.5 119.5 134	7
11 - 6	21 21 21 21 18 18 18	3 18.5 23.5 39.5 44.5 60.5 65.5 81.5 86.5 99.5 101.5 117.5 122.5 137	7
11 - 9	21 21 21 21 21 18 18	3 18.5 23.5 39.5 44.5 60.5 65.5 81.5 86.5 102.5 104.5 120.5 125.5 140	7
12 - 0	21 21 21 21 21 21 18	3 18.5 23.5 39.5 44.5 60.5 65.5 81.5 86.5 102.5 107.5 123.5 128.5 143	7
12 - 3	21 21 21 21 21 21 21	3 18.5 23.5 39.5 44.5 60.5 65.5 81.5 86.5 102.5 107.5 123.5 128.5 146	7
12 - 6	21 21 18 18 18 18 18 18	3 18.5 23.5 39.5 44.5 57.5 62.5 75.5 80.5 93.5 107.5 111.5 129.5 134.5 149	8
12 - 9	21 21 21 18 18 18 18 18	3 18.5 23.5 39.5 44.5 60.5 65.5 78.5 83.5 96.5 98.5 114.5 132.5 137.5 152	8
13 - 0	21 21 21 21 18 18 18 18	3 18.5 23.5 39.5 44.5 60.5 65.5 81.5 86.5 99.5 101.5 117.5 135.5 140.5 155	8
13 - 3	21 21 21 21 21 18 18 18	3 18.5 23.5 39.5 44.5 60.5 65.5 81.5 86.5 102.5 104.5 120.5 125.5 138.5 143.5 158	8
13 - 6	21 21 21 21 21 21 18 18	3 18.5 23.5 39.5 44.5 60.5 65.5 81.5 86.5 102.5 107.5 123.5 128.5 141.5 146.5 161	8
13 - 9	21 21 21 21 21 21 21 18	3 18.5 23.5 39.5 44.5 60.5 65.5 81.5 86.5 102.5 107.5 123.5 128.5 144.5 149.5 164	8
14 - 0	21 21 21 21 21 21 21 21	3 18.5 23.5 39.5 44.5 60.5 65.5 81.5 86.5 102.5 107.5 123.5 128.5 144.5 149.5 167	8

Notes: (1) Sequential sections left to right, in inches from bottom of door
(2) Individual strut locations in inches from bottom of door
(3) Section stacking order may be changed to accommodate window section placement or other factors. Strut locations shall be adjusted accordingly.