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.

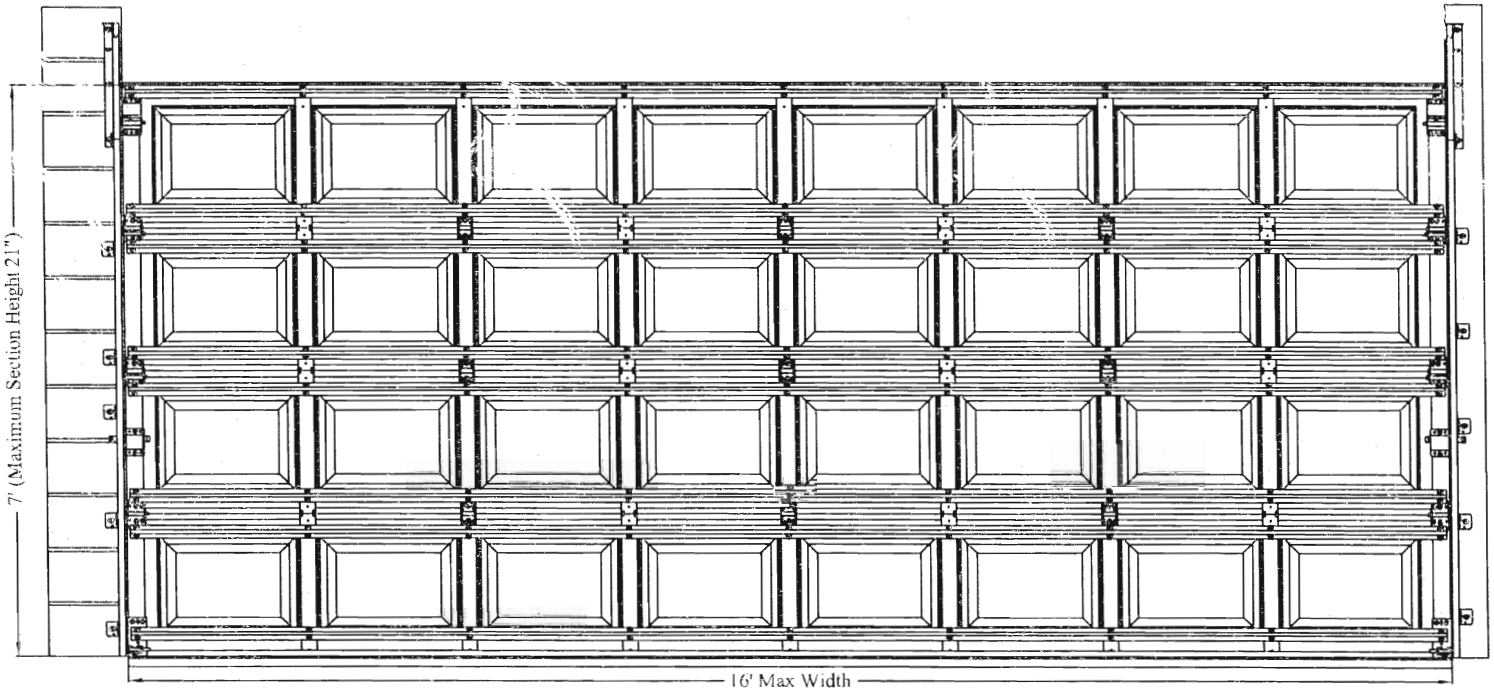
Track Brackets	
7'	8'
5	6

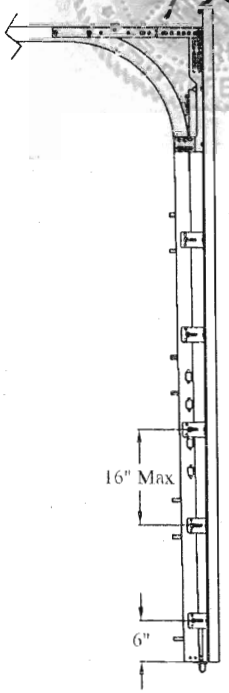
Note: Detail views are shown on sheet 2.

REVISIONS

REV	DESCRIPTION	DATE	APPROVED
B	Changed strut locations, removed one track bracket, reduced track gauge	11/1/06	JMS
C	Added 500 series models, commercial top fixtures, qualified concrete jamb, changed strut type and quantity, removed extra end stile screws	7/25/07	JMS
D	Added two additional stiles for increased pressures	7/25/08	JMS

8/24/08 TX 18627





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 35' or less**
- **V = 110 MPH exposure category C and mean roof height of 35' 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: +30.0/-30.0
Test Pressure: +45.0/-45.0

Tested per the applicable requirements of ANSI/DASMA 108-02, 108-05 and ASTM E330-02

DRAWN BY: John M. Stroede 7/25/08

APPROVED BY: John M. Stroede 7/25/08

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
RO16D-130	D

SIZE	SCALE	SHEET
A	N/A	1 of 2

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
B	Changed strut locations, removed one track bracket, reduced track gauge	11/1/06	JMS
C	Added 500 series models, commercial top fixtures, qualified concrete jamb, changed strut type and quantity, removed extra end stile screws	7/25/07	JMS
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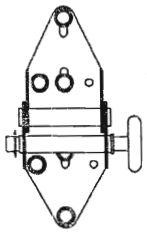
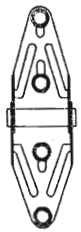
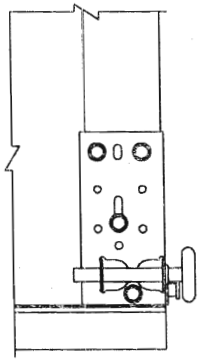


End Hinge
14 gauge galvanized steel end hinge attached with four 1/4" x 3/4" screws and two 1/4" x 5/8" self tapping screws

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



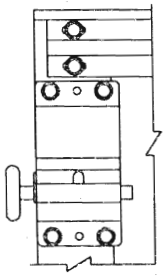
Center Hinge
18 gauge galvanized steel narrow or wide body hinge attached with four 1/4" x 3/4" screws



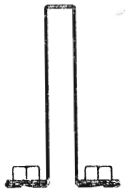
End and Center Stiles
20 gauge galvanized steel stiles attached to section with two rivets on each end

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)

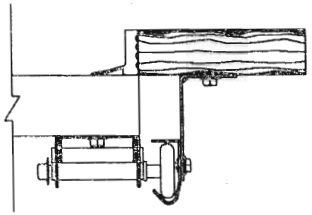
Bottom Weatherstrip
Aluminum extrusion with vinyl insert



Top Fixture
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)

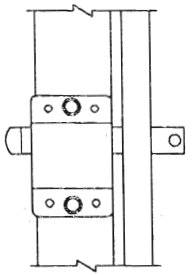


Struts
3" x 1 7/8" 20 gauge 50 ksi hat strut attached with two 1/4" x 5/8" self-tapping screws per stile.

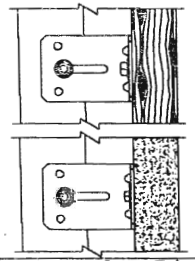


Jambs
Vertical jambs are to be 2x6 #2 Southern Yellow Pine (SYP) lumber or equivalent depeding on regional availability, 2000 psi minimum concrete, or filled 8x8x16 concrete masonry unit (CMU) (minimum edge distance for concrete is 2 1/4")
Note: Preparation of jambs by others, and supporting structural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

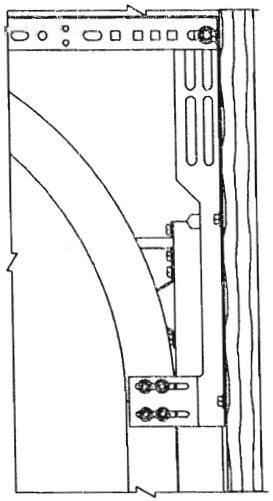
Stop Molding
Stop molding is required, or door must overlap jambs by 1/4"



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



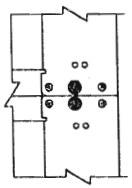
Track Brackets
2 1/4" wide x 12 gauge galvanized steel track bracket attached to wood jamb with one 5/16" x 1 5/8" wood lag screw or to concrete jamb with 3/8" x 1 3/4" Large Diameter Tapcon and to vertical track with one 1/4" x 3/4" track bolt and nut
Note: Center distance between track brackets not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



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 3/8" x 1 3/4" Large Diameter Tapcons 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 .060"



End Stile Reinforcement
Each end stile requires a total of two #8 x 1/2" pan head screws located as shown between the pop rivets at the top and bottom of the stile

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 7/25/08	DRAWING NUMBER RO16D-130		REVISION D
APPROVED BY: John M. Stroede 7/25/08	SIZE A	SCALE N/A	SHEET 2 of 2

doorLink Manufacturing, Inc.
My Job No. 28038

RO16D-130

Joseph H. Dixon, Jr. P.E.
FL No. 7768
08/17/08

Strut and Section Locations

RO16D-130 16'-0" 500, 400 Series Windload Door +30.0/-30.0 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	5
6 - 3	21 18 18 18	3 18.5 23.5 36.5 41.5 54.5 59.5 74	5
6 - 6	21 18 18 21	3 18.5 23.5 36.5 41.5 54.5 59.5 77	5
6 - 9	21 21 18 21	3 18.5 23.5 39.5 44.5 57.5 62.5 80	5
7 - 0	21 21 21 21	3 18.5 23.5 39.5 44.5 60.5 65.5 83	5
7 - 6	18 18 18 18 18	3 15.5 20.5 33.5 38.5 51.5 69.5 74.5 89	6
7 - 9	21 18 18 18 18	3 18.5 23.5 36.5 41.5 54.5 72.5 77.5 92	6
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	6
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	6
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	7
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	7
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	7
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	7
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	7
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	7
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	8
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	8
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	8
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	8
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	8
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	9
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	9
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	9
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	9
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	9
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	9
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	10
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	10
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	10
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	10
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	10
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	10

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 various installation factors. Strut locations shall be adjusted accordingly.