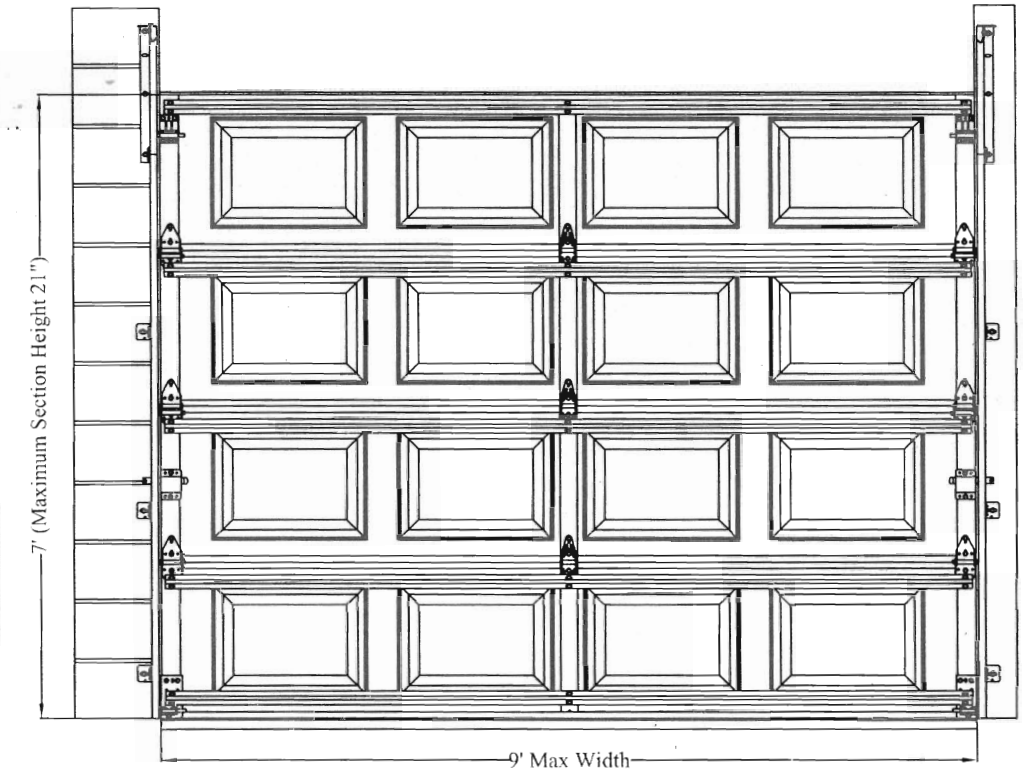
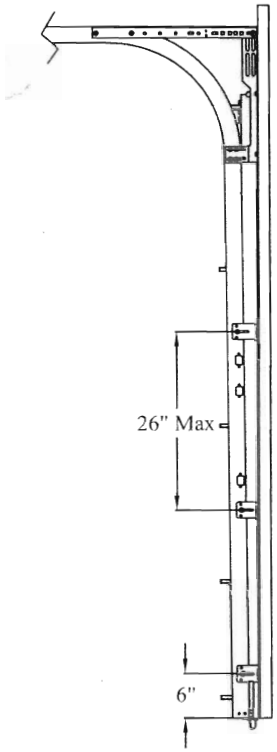
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
B	Changed strut types and quantities	11/10/06	JMS
C	Added one strut for higher pressure	7/25/08	JMS
C	Added model 440	10/7/13	JMS





Strut Locations	
7'	8'
3"	3"
18.5"	18.5"
39.5"	36.5"
60.5"	54.5"
82"	72.5"
	94"

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

Track Brackets	
7'	8'
3	4

Note: Detail views shown on sheet 2.

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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 30' or less
V = 110 MPH exposure category C and mean roof height of 30' 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/-31.0
Test Pressure: +45.0/-46.5

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

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

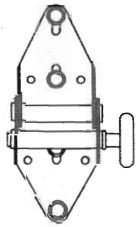
APPROVED BY: John M. Stroede 10/7/13

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

TITLE
Windload Rated Residential Garage Door
Models 510, 590, 410, 430, 440, 450, 470, 490

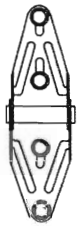
DRAWING NUMBER	REVISION
RO9C-130	C

SIZE	SCALE	SHEET
A	N/A	1 of 2



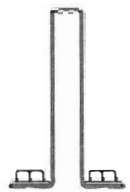
End Hinge
14 gauge galvanized steel end hinge attached with four 1/4" x 3/4" screws

Roller
Minimum 7 ball steel roller or 10 ball nylon roller with 4" stem

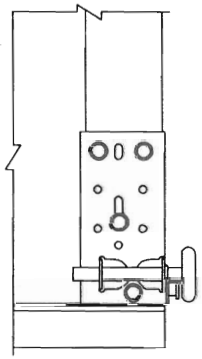


Center Hinge
18 gauge galvanized steel narrow or wide body hinge attached with four 1/4" x 3/4" screws

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
B	Changed strut types and quantities	11/10/06	JMS
C	Added one strut for higher pressure	7/25/08	JMS
C	Added model 440	10/7/13	JMS



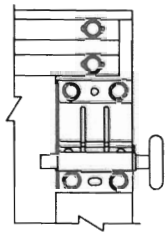
Struts
3" x 1 7/8" 20 gauge 33 ksi hat strut attached with two 1/4" x 5/8" self-tapping screws per stile



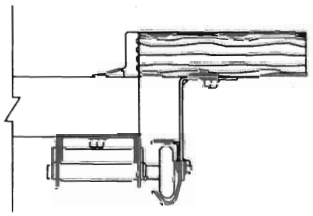
End and Center Stiles
20 gauge galvanized steel stiles attached to section with two rivets on each end

Bottom Bracket
13 gauge galvanized steel bottom bracket attached with four 1/4" x 5/8" self-tapping screws

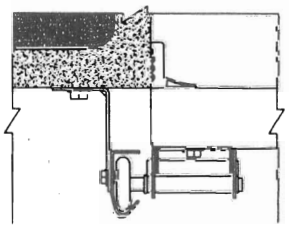
Bottom Weatherstrip
Aluminum extrusion with vinyl insert



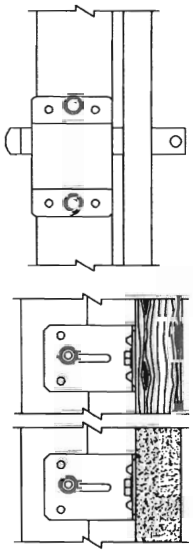
Top Fixture
16 gauge galvanized steel top fixture with two bolt roller carrier and attached to door with four 1/4" x 5/8" self-tapping screws



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

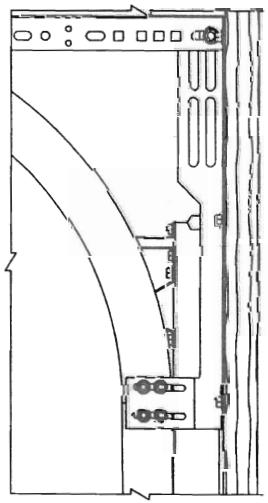


Stop Molding
Stop molding is required, or door must overlap jambs by 1/4"



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 26"



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"

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10/7/13

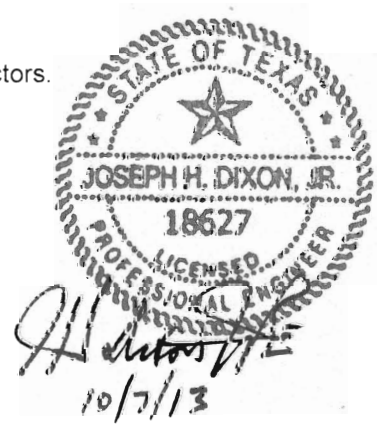
doorLink Manufacturing, Inc.
1591 Taney St.
North Kansas City, MO 64116

TITLE
Windload Rated Residential Garage Door
Models 510, 599, 419, 439, 440, 450, 470, 490

DRAWN BY: John M. Stroede 10/7/13	DRAWING NUMBER RO9C-130		REVISION C
APPROVED BY: John M. Stroede 10/7/13	SIZE A	SCALE N/A	SHEET 2 of 2

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

Strut and Section Locations

RO9C-130 9' 500, 400 Series Windload Door +30.0/-31.0 psf			
Door Height	**Section Heights**	**Strut Locations**	**Track Brackets**
6 - 0	18 18 18 18	3 15.5 33.5 51.5 70	3
6 - 3	21 18 18 18	3 18.5 36.5 54.5 73	3
6 - 6	21 18 18 21	3 18.5 36.5 54.5 76	3
6 - 9	21 21 18 21	3 18.5 39.5 57.5 79	3
7 - 0	21 21 21 21	3 18.5 39.5 60.5 82	3
7 - 6	18 18 18 18 18	3 15.5 33.5 51.5 69.5 88	4
7 - 9	21 18 18 18 18	3 18.5 36.5 54.5 72.5 91	4
8 - 0	21 18 18 18 21	3 18.5 36.5 54.5 72.5 94	4
8 - 3	21 21 18 18 21	3 18.5 39.5 57.5 75.5 97	4
8 - 6	21 21 18 21 21	3 18.5 39.5 57.5 78.5 100	4
8 - 9	21 21 21 21 21	3 18.5 39.5 60.5 81.5 103	4
9 - 0	18 18 18 18 18 18	3 15.5 33.5 51.5 69.5 87.5 106	4
9 - 3	21 18 18 18 18 18	3 18.5 36.5 54.5 72.5 90.5 109	4
9 - 6	21 21 18 18 18 18	3 18.5 39.5 57.5 75.5 93.5 112	5
9 - 9	21 21 21 18 18 18	3 18.5 39.5 60.5 78.5 96.5 115	5
10 - 0	21 21 21 21 18 18	3 18.5 39.5 60.5 81.5 99.5 118	5
10 - 3	21 21 21 21 21 18	3 18.5 39.5 60.5 81.5 102.5 121	5
10 - 6	21 21 21 21 21 21	3 18.5 39.5 60.5 81.5 102.5 124	5
10 - 9	21 18 18 18 18 18 18	3 18.5 36.5 54.5 72.5 90.5 108.5 127	5
11 - 0	21 21 18 18 18 18 18	3 18.5 39.5 57.5 75.5 93.5 111.5 130	5
11 - 3	21 21 21 18 18 18 18	3 18.5 39.5 60.5 78.5 96.5 114.5 133	5
11 - 6	21 21 21 21 18 18 18	3 18.5 39.5 60.5 81.5 99.5 117.5 136	5
11 - 9	21 21 21 21 21 18 18	3 18.5 39.5 60.5 81.5 102.5 120.5 139	6
12 - 0	21 21 21 21 21 21 18	3 18.5 39.5 60.5 81.5 102.5 123.5 142	6
12 - 3	21 21 21 21 21 21 21	3 18.5 39.5 60.5 81.5 102.5 123.5 145	6
12 - 6	21 21 18 18 18 18 18 18	3 18.5 39.5 57.5 75.5 93.5 111.5 129.5 148	6
12 - 9	21 21 21 18 18 18 18 18	3 18.5 39.5 60.5 78.5 96.5 114.5 132.5 151	6
13 - 0	21 21 21 21 18 18 18 18	3 18.5 39.5 60.5 81.5 99.5 117.5 135.5 154	6
13 - 3	21 21 21 21 21 18 18 18	3 18.5 39.5 60.5 81.5 102.5 120.5 138.5 157	6
13 - 6	21 21 21 21 21 21 18 18	3 18.5 39.5 60.5 81.5 102.5 123.5 141.5 160	6
13 - 9	21 21 21 21 21 21 21 18	3 18.5 39.5 60.5 81.5 102.5 123.5 144.5 163	6
14 - 0	21 21 21 21 21 21 21 21	3 18.5 39.5 60.5 81.5 102.5 123.5 144.5 166	6

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.