



These hinges balance a sash as it opens for smooth, effortless operation. The stainless steel reinforced shoe provides continuous smooth action. Detachable support arms allow quick installation of the sash into the frame.

It is recommended to match the size of the hinge to the height and weight of the sash. Each size hinge is designed to balance a particular size and weight sash. Proper selection of a hinge can help prevent problems such as "window chatter" that are sometimes experienced when these hinges are used with Truth's Awning Operators. An adjustable friction screw allows one to customize ease of window movement.

Table within the drawings gives a recommended height and weight range for each hinge. The data in this table has been generated by computer simulation as a guide in matching the hinge with the window. If you have a sash that doesn't appear on this table, call Truth for selection assistance.

#### **WARRANTY:**

Protected under the terms of the Truth Warranty for Window and Door Manufacturers and Authorized Distributors. Refer to Truth's Terms and Conditions for further details.

**MATERIAL:** Steel track. Heavy gauge steel support arms and acetal shoe with stainless steel insert. Corrosion resistant non-magnetic stainless steel package is also available.

**FINISH:** Truth's E-Gard® Hardware has a multi-stage coating process that produces a superior physical and aesthetic finish. Plus, it is resistant to a wider range of corrosive materials, including industrial cleaning materials and environmental pollutants. This proprietary process has been tested to be approximately three times better than common zinc plated finishes.

#### **ORDERING INFORMATION:**

1. Choose hinge size desired (specify by part number).
2. Specify right- or left-hand (determined by the hinge side when looking at the window from the outside).
3. Hinges can be ordered assembled or K.D. (knocked down). K.D. hinges allow track and arm assemblies to be purchased separately for greater
4. Adding a snubber to the center of the top rail on an awning window may increase the negative air pressure rating



efficiency when hardware is applied to sash and frames in separate locations.

4. Optional mounting hardware: #20585 - Adjustment screw, included with hinge. Replacement pieces sold separately. #30591 - Detach clip, included with hinge. Replacement pieces sold separately.

#### **RECOMMENDED SCREWS:**

Type of screws required determined by material of profile being used. Refer to drawings for complete information on screw type and quantity needed (sold separately).

#### **TRUTH TIPS:**

**1. Special consideration should be given when designing an awning window.** Please consult Truth Tech Note #2 for further information.

2. Failure of the concealed awning hinge can occur under certain situations when opened to near 90°. For this reason, an operator and/or limit device must be used with the concealed awning hinge to prevent the window from being opened to 90°.

3. When an awning window is "under hinged" (i.e., when a hinge is used on a window larger than what it is recommended for), two areas of concern are created. First, chatter is likely to occur when operated with an awning operator (see Truth Tips for Awning Operator). Second, depending on the degree of under hinging, the hinge may fail at an amount of opening significantly less than 90°. For this reason, the amount of opening must be limited to 45° of opening, any #13 series Awning Hinge may be used on sash up to 42 inches high and 61 lbs.

4. Adding a snubber to the center of the top rail on an awning window may increase the negative air pressure rating

of the window. See Snubber section for proper application.

5. For vinyl window applications, mounting screws should pass through two PVC walls or one PVC wall and one insert wall. For this reason, it may be necessary to use a longer screw than is recommended.

6. To insure maximum screw thread engagement in vinyl profiles, a #7 screw with an undercut head should be used for mounting the Track (not available from Truth).

7. For accurate hardware placement in vinyl or metal applications, pre-drilling is recommended.

8. For metal window profiles Truth recommends machine screws however, in most applications sheet metal screws will provide adequate holding power.

9. When selecting mounting screws for Truth hardware, coating compatibility is one of the most important criteria. For best corrosion resistance the coating on the screws should be the same as the coating on the hardware. For more information, see Tech Note #11.

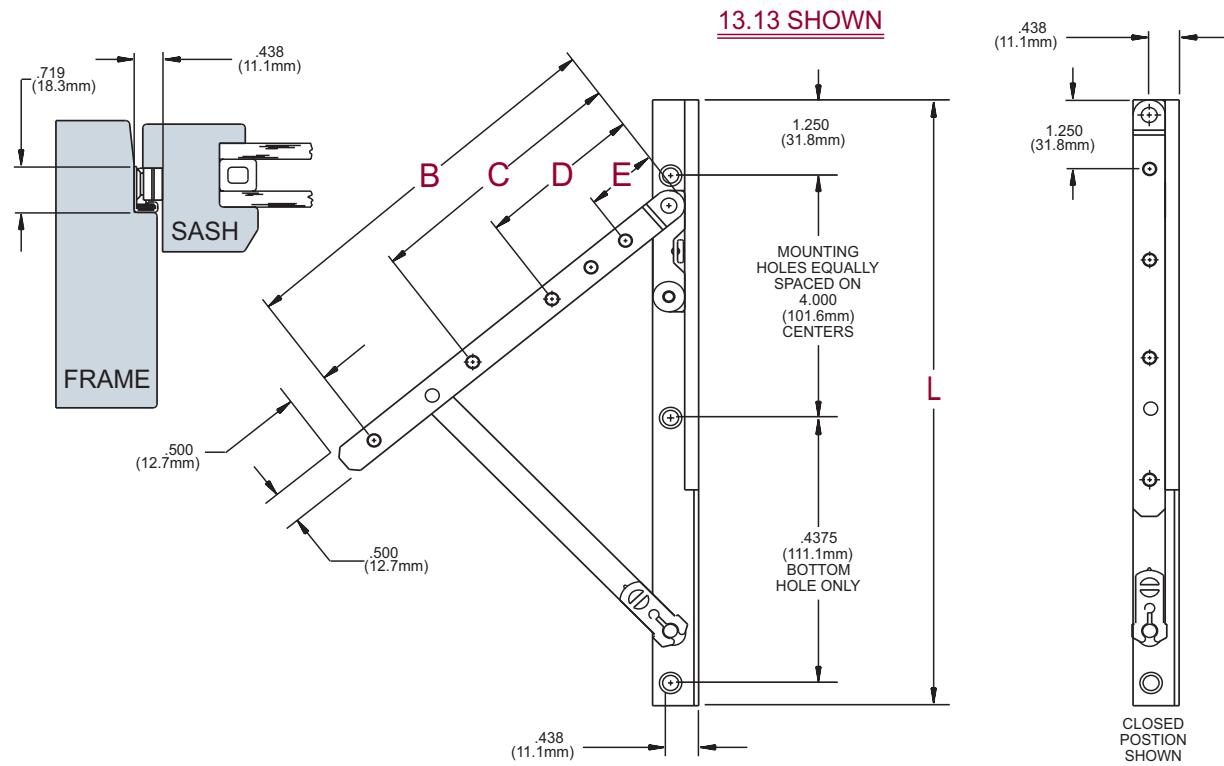
#### **INCLUDE TRUTH SPECS IN YOUR NEXT WINDOW PROJECT**

Sash balancing friction hinge for use on residential or commercial windows, which will be concealed between sash and frame for low maintenance and clean exterior aesthetics.

Awning window hinges shall be of sash balancing design, which provides a friction screw adjustment for fine tuning window sash operation. Constructed of E-Gard® components to provide enhanced corrosion protection.

Awning window hinges shall be 13 Series hinge, as manufactured by Truth Hardware, Owatonna, MN.

## APPLICATION OF CONCEALED AWNING HINGE



AVAILABLE OPERATORS										
	HINGE NO.	LEVER OPERATOR	AWNING OPERATOR	22 SERIES PIVOT SHOE	22 SERIES SCISSOR ARM	ENTRYGARD DUAL ARM *	ENTRYGARD DYAD *	SPLIT ARM *		
ARM MATERIAL  STEEL	13.13	10.14	11.12,11.30	22.17,22.18	N/A	N/A	15.11,15.62	15.18,15.66		
	13.14	10.14	11.10,11.12	22.10	22.22 THRU 22.29	15.10,15.61 15.16				
	13.15	10.10	11.14,11.16							
	13.16	10.11	11.14,11.30				15.11,15.62	15.18,15.66		
	13.17	10.14								
ST STEEL	13.43	N/A	11.32	N/A	N/A	15.14,15.75	15.19	N/A		
	13.44		11.29,11.32							
	13.42		11.27,11.21							
	13.45		11.28							

\* OPERATOR IS MOUNTED ON THE SIDE JAMB

HINGE	RECOMMENDED SASH HEIGHT	RECOMMENDED MAXIMUM SASH WEIGHT	L HINGE LENGTH	B	C	D	E	SCREWS REQD PER HINGE	F
STEEL	ST.STL								
13.13	13.43	10.0-14.0 (254.0mm-355.6mm)	7 LBS (3.2 KG)	10.0 (254.0mm)	6.250 (158.8mm)	4.250 (108.0mm)	2.625 (66.7mm)	1.250 (31.8mm)	7
13.14	13.44	14.0-19.0 (355.6mm-482.6mm)	20 LBS (9.1 KG)	14.0 (355.6mm)	8.250 (209.6mm)	6.250 (158.8mm)			8
13.15	13.42	19.0-26.0 (482.6mm-660.4mm)	38 LBS (17.3 KG)	18.0 (457.2mm)		5.438 (138.1mm)	2.625	9	
13.16	13.45	26.0-34.0 (660.4mm-863.6mm)	50 LBS (22.7 KG)	22.0 (558.8mm)	10.250 (260.4mm)			10	
13.17	N/A	34.0-42.0 (863.6mm-1066.8mm)	61 LBS (27.7 KG)	26.0 (660.4mm)	11.75 (298.4mm)			8.250 (209.6mm)	12

RECOMMENDED SCREWS: (P/N 119110.XX) NO.7X .750 PHILLIPS, FLAT HEAD, SHEET METAL SCREWS (STEEL)  
(P/N 19105.XX) NO. 7X .750 PHILLIPS, FLAT HEAD, SHEET METAL SCREWS (STAINLESS STEEL)

FOR USE WITH TRACK ON PVC: NO. 7X .750 PHILLIPS, FLAT HEAD, UNDERCUT, SHEET METAL SCREWS  
(NOT AVAILABLE FROM TRUTH, QUANTITIES WILL DEPEND ON HINGE) (SEE TRUTH TIP NO. 5&6)