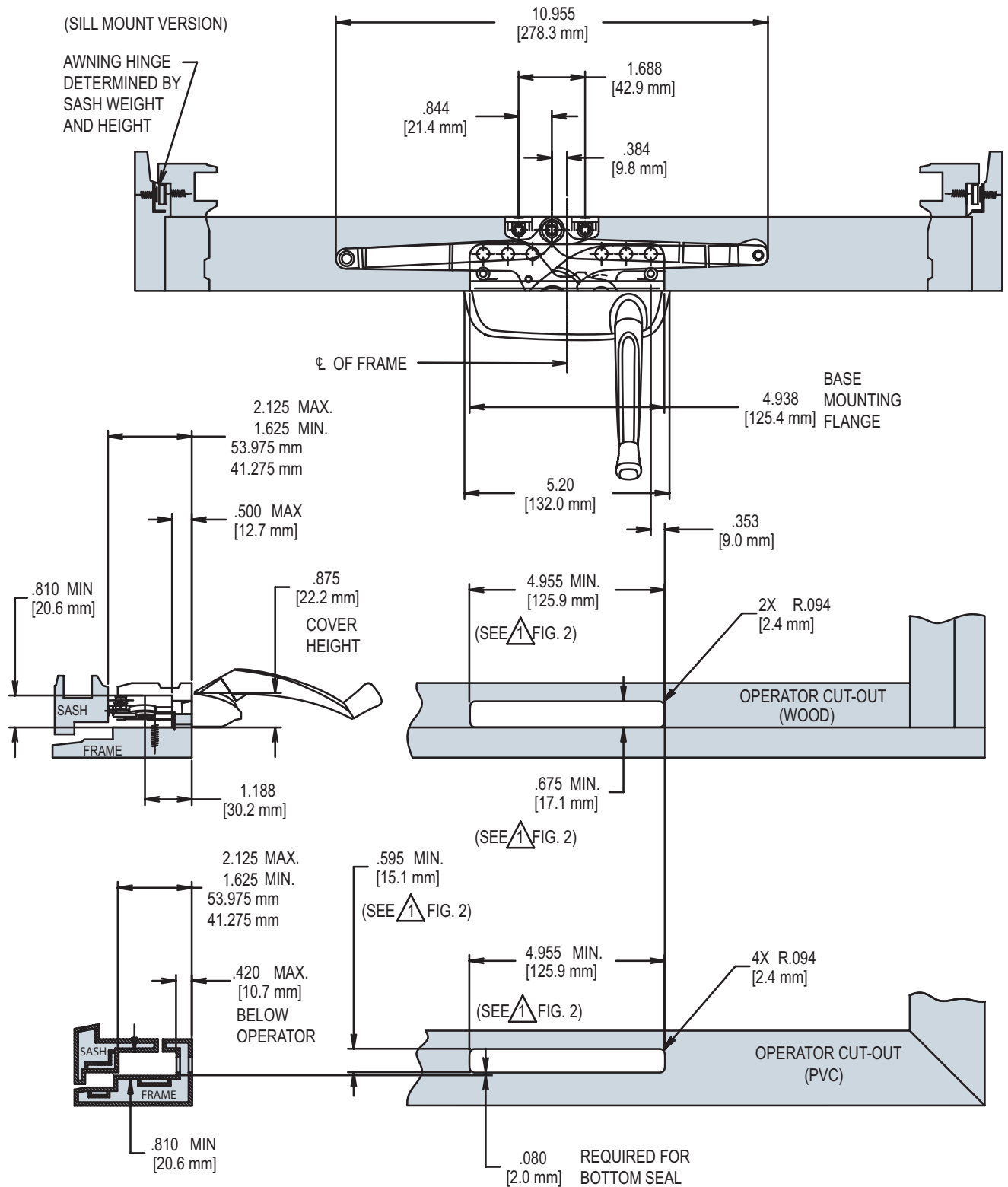
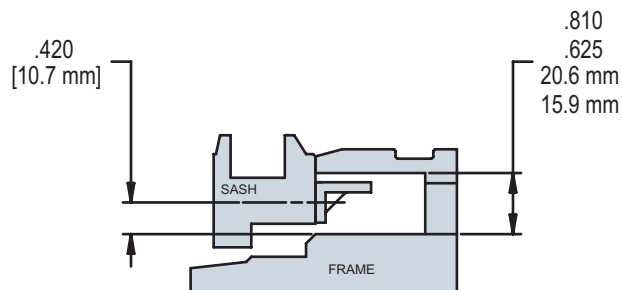


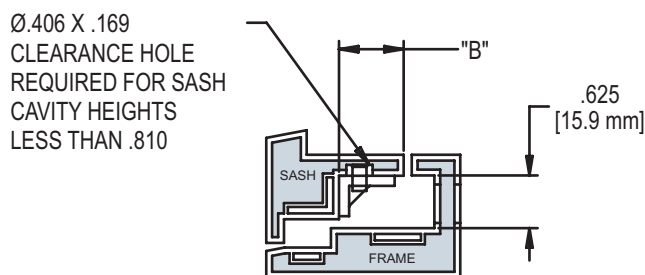
**FIG. 1 APPLICATION OF MAXIM NARROW AWNING OPERATOR**



**FIG. 2 APPLICATION OF MAXIM NARROW AWNING OPERATOR (CONTINUED)**




BRACKET PLACEMENT



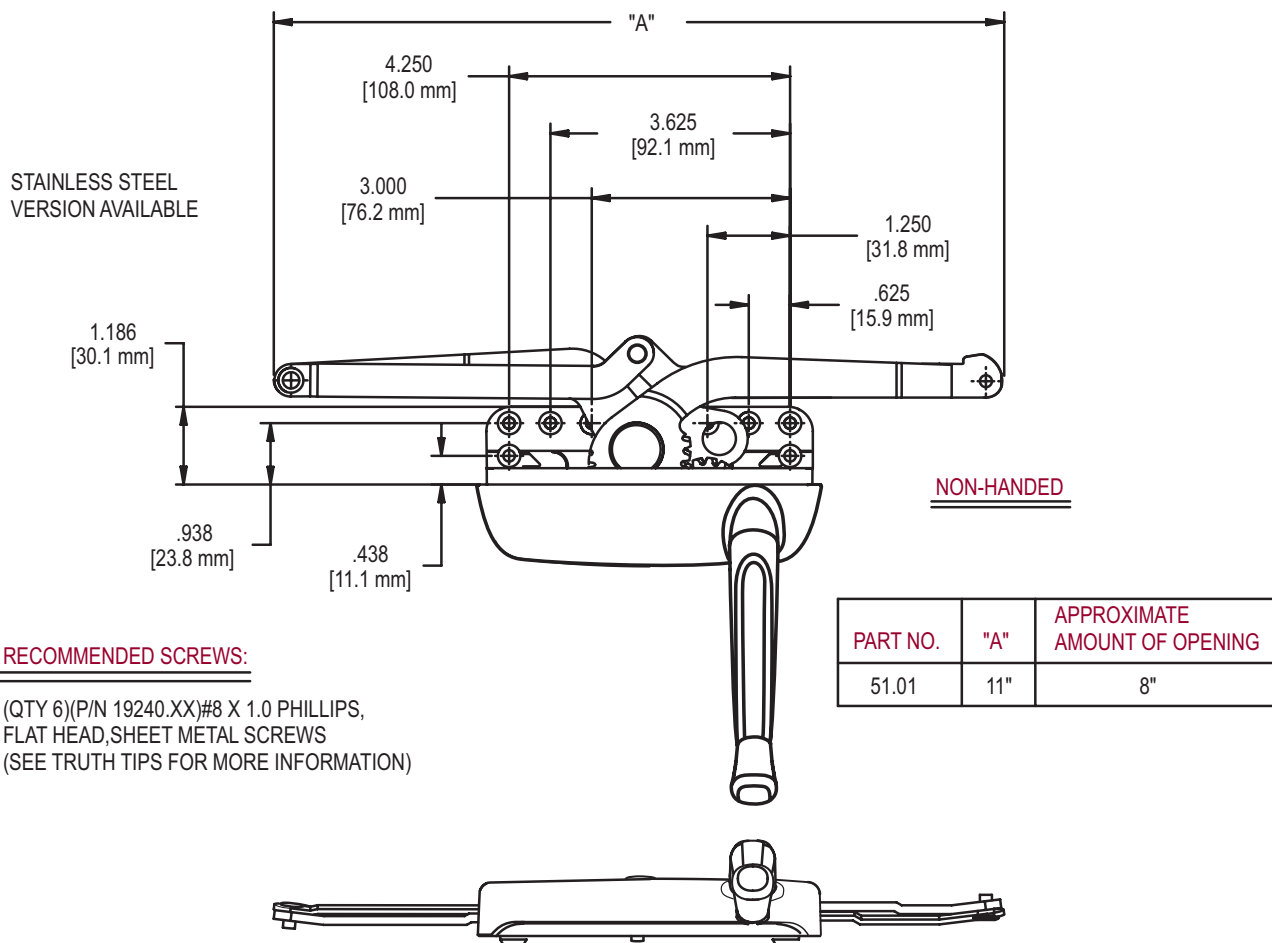
BRACKET PLACEMENT

HARDWARE SHOWN SEE FIG. 1	
PART NUMBER	DESCRIPTION
51.01.XX.011	AWNING OPERATOR
22143	BRACKET
13.XX.XX.XXX	HINGE
11454.XX	CONTOUR HANDLE
31882	GASKET (PVC)

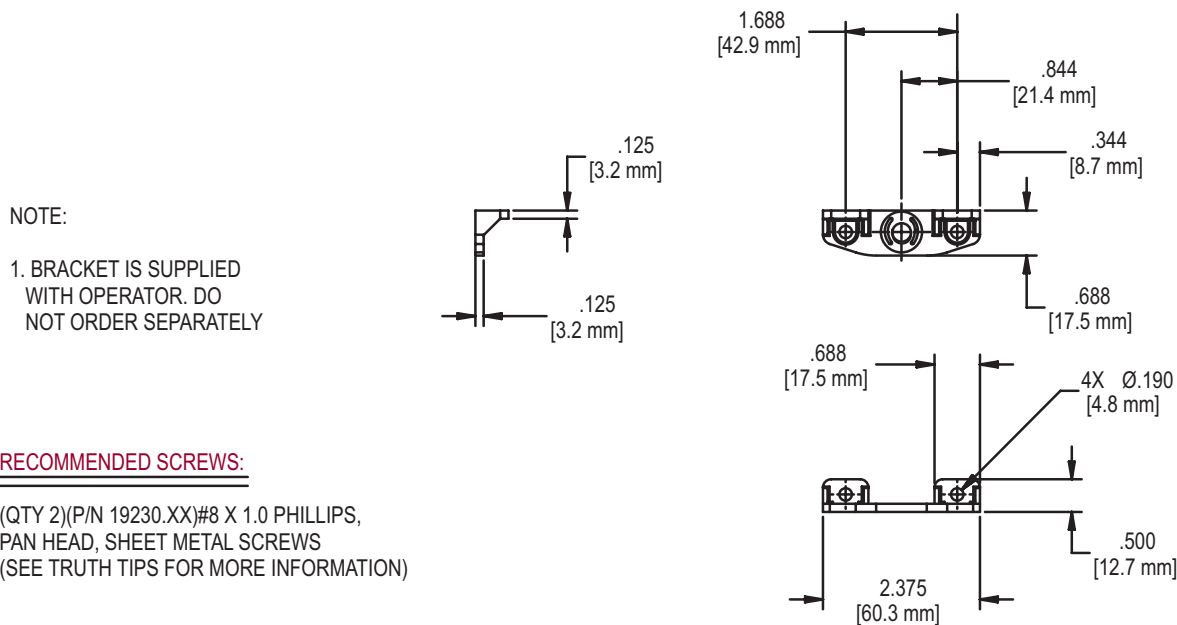
NOTE:

1.  HOLD THIS DIMENSION AS CLOSE TO THE MINIMUM AS MANUFACTURING TOLERANCES ALLOW. A CLOSE FITTING CUT-OUT HELPS TO STABILIZE THE OPERATOR AGAINST ROCKING
2. USE 31882 GASKET ON PVC AND METAL PROFILES
3. ALL AWNING OPERATORS USE 41211.XX COVER/11329.XX L.H. HANDLE
4. MINIMUM RECOMMENDED SASH HEIGHT 16" (DEPENDENT ON PROFILE)
5. SASH OVERHANG "B" SHOULD BE AS SMALL AS POSSIBLE  
BRACKET MAY NEED TO BE MOUNTED CLOSER TO SASH EDGE TO ELIMINATE  
BRACKET DETACH AT FULL OPEN ON SHORT SASH SIZES

**FIG. 3 MAXIM NARROW AWNING OPERATOR (SILL MOUNT VERSION)**



**FIG. 4 BRACKET 22143**



# Hardware Comparison for NAFS Casement Window Hardware Load Test

North American Fenestration Standard (ANSI/AAMA/WDMA 107/I.S.2/NAFS-02)

CAUTION: There are many factors in addition to the hardware which influence the maximum size casement window that should be produced. These include sash and frame stiffness and strength, screw holding strength, sash sag, weather tightness, and weatherstrip drag. For this reason, Truth recommends careful evaluation of the entire window before producing units as large as this matrix suggests.

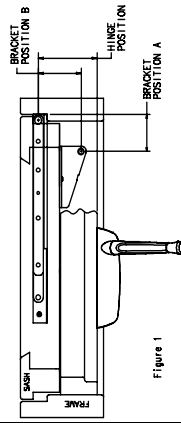
Performance Class R: The Maximum Frame Size and Sash Weight are Listed in the Table.

Performance Classes L, C, HC, AW: The Maximum Frame Area (Width x Height) Listed in the Table Must be Reduced by 20%.

Operator	Hinge										Approx. Minimum Frame Width to Fit Operator
	Maxim Washable 14.97 14.92	Maxim Egress 14.12 14.13	10" Standard 14.75 14.80 14.05 14.19	10" Washable 14.76 14.91 14.06	10" Egress 14.77 14.93	10" HP Concealed 14.96	10" HP Concealed Egress 14.00	Butt Hinge			
Maxim Dual Arm	50.00	40"W x 84"H, 108" (96) lbs	32"W x 84"H, 85 lbs	32"W x 72"H, 73 lbs	32"W x 68"H, 69 lbs	38"W x 78"H, 95 lbs	32"W x 68"H, 69 lbs	Not Recommended	24"		
Maxim Dyad	50.50	32"W x 72"H, 73" (55) lbs	Not Recommended	24"W x 64"H, 47 lbs	Not Recommended	28"W x 69"H, 49" (44) lbs	Not Recommended	Not Recommended	16"		
Maxim Reverse Dyad	50.70	24"W x 72"H, 53 lbs**	24"W x 72"H, 53 lbs**	24"W x 72"H, 53 lbs**	24"W x 72"H, 53 lbs**	24"W x 72"H, 53 lbs**	24"W x 72"H, 53 lbs**	24"W x 72"H, 53 lbs**	12"		
Maxim Single Arm	52.01	Not Recommended	32"W x 70"H, 71" (36) lbs	32"W x 70"H, 71" (29) lbs	32"W x 72"H, 73 lbs	32"W x 70"H, 71" (36) lbs	32"W x 72"H, 73 lbs	30"W x 69"H, 65 lbs	20"		
Maxim Short Single Arm	52.06	Not Recommended	32"W x 60"H, 60 lbs	32"W x 60"H, 60" (54) lbs	Not Recommended	32"W x 60"H, 60 lbs	Not Recommended	Not Recommended	20"		
EntryGard Dual Arm	15.10	Not Recommended	Not Recommended	Not Recommended	28"W x 60"H, 52 lbs	Not Recommended	28"W x 60"H, 52 lbs	Not Recommended	18"		
EntryGard Egress D.A.	15.15	Not Recommended	26"W x 61"H, 49 lbs	24"W x 67"H, 49 lbs	Not Recommended	30"W x 61"H, 57 lbs	Not Recommended	Not Recommended	13"		
EntryGard Dyad	15.11	Not Recommended	22"W x 62"H, 42 lbs	Not Recommended	22"W x 62"H, 42 lbs	22"W x 61"H, 40 lbs	Not Recommended	20"W x 61"H, 36 lbs	16" - 18" †		
EntryGard Single Arm	15.94	Not Recommended	26"W x 65"H, 52 lbs	26"W x 67"H, 54" (50) lbs	26"W x 65"H, 52 lbs	26"W x 67"H, 54" (50) lbs	26"W x 65"H, 52 lbs	24"W x 64"H, 47 lbs	22" - 24" †		
13.5" Single Arm	15.32	Not Recommended	24"W x 65"H, 48 lbs	24"W x 62"H, 45" (19) lbs	24"W x 65"H, 48 lbs	24"W x 61"H, 45" (27) lbs	24"W x 65"H, 48 lbs	22"W x 65"H, 39 lbs	16"		
9.5" Single Arm	15.31	Not Recommended	Not Recommended	Not Recommended	22"W x 63"H, 42 lbs	Not Recommended	22"W x 63"H, 42 lbs	20"W x 65"H, 39 lbs	16"		
7.5" Single Arm	15.56	Not Recommended	18"W x 66"H, 35 lbs	Not Recommended	18"W x 66"H, 35 lbs	Not Recommended	18"W x 66"H, 35 lbs	16"W x 70"H, 33 lbs	15"		
6" Single Arm	15.39	Not Recommended	Not Recommended	24"W x 64"H, 47 lbs	Not Recommended	30"W x 64"H, 60" (56) lbs	Not Recommended	Not Recommended	16"		
Split Arm	15.18	Not Recommended	26"W x 66"H, 53 lbs	26"W x 71"H, 57" (43) lbs	26"W x 66"H, 53 lbs	26"W x 66"H, 53 lbs	26"W x 66"H, 53 lbs	26"W x 62"H, 50 lbs	22" - 24" †		
23 Series Single Arm 13.5"	23.03	Not Recommended	24"W x 65"H, 51 lbs	24"W x 66"H, 48" (22) lbs	24"W x 69"H, 51 lbs	24"W x 65"H, 48" (31) lbs	24"W x 69"H, 51 lbs	24"W x 69"H, 50 lbs	18" - 20" †		
23 Series Single Arm 9.5"	23.01	Not Recommended	22"W x 69"H, 46 lbs	Not Recommended	22"W x 69"H, 46 lbs	Not Recommended	22"W x 69"H, 46 lbs	22"W x 69"H, 46 lbs	16"		
23 Series Single Arm 7.5"	23.38	Not Recommended	20"W x 60"H, 36 lbs	Not Recommended	20"W x 60"H, 36 lbs	Not Recommended	20"W x 60"H, 36 lbs	Not Recommended	15"		
23 Series Single Arm 6"	23.78	Not Recommended	Not Recommended	26"W x 68"H, 50 lbs	Not Recommended	28"W x 61"H, 53 lbs	Not Recommended	Not Recommended	15"		
23 Series Dyad Short Link	23.46	Not Recommended	26"W x 63"H, 59 lbs	24"W x 68"H, 49 lbs	Not Recommended	28"W x 66"H, 58 lbs	Not Recommended	Not Recommended	19"		
23 Series Dyad Long Link	23.32	Not Recommended	26"W x 62"H, 50 lbs	24"W x 67"H, 49 lbs	Not Recommended	28"W x 66"H, 58 lbs	Not Recommended	Not Recommended	19"		

## Typical Mounting Positions - Used for Hardware Comparison

Operator	Hinge Position			Operator Position
	Bracket Position A	Bracket Position B	Operator Position	
14 XX Concealed Hinges	Maxim Reverse Dyad	11,062	.813	Dual Arm & Dyad determined by Bracket Position A.
	Other Maxim	1,750	1,563	
	EntryGard Dual Arm w/10" Washable Hinge	2,375	.875	
	Other EntryGard Dual Arm Operators	1,625		
	EntryGard Dyad & Single Arm	1,375	1,563	Single Arm per catalog
Butt Hinges	Traditional & Ellipse	2,125	2,437	Catalog Dim A=8,000
	22 Series			Catalog Dim A=4,000
	Maxim Reverse Dyad	4,000	NA	Operator is fully open (arm against stop) at 90° window position.
	EntryGard Single Arm			
	Maxim Single Arm			



The maximum window size, ease of operation, and service life are strongly influenced by hardware mounting positions (see Fig. 1 below).

Applications with dimensions larger than the typical mounting positions given above will not be able to support a window as large as that shown in this Table.

Applications with smaller dimensions may be able to support a larger window. Contact Truth for recommendations specific to your application.

\* The first sash weight shown in the table is the maximum permitted for the AAMA Hardware Load Test. The sash weight shown in parenthesis is the maximum recommended by Truth to assure ease of operation.

\*\* The Maxim Reverse Dyad Operator has been limited to use in windows 24" wide and narrower in order to ensure good performance near the closed position. In its full open position, it can support windows larger than those shown in the table.

† The smaller number applies when the operator is used with Egress hinges while the larger number applies when it is used with the 10" Standard or 10" High Performance hinge.