



Throughout the industry the names Anderberg and Truth have stood for engineered excellence, reliable and dependable performance, and above all “quality”. This is most evident in our expertly crafted 4-Bar Hinges.

Each style of hinge that you will find on the accompanying pages has a variety of sizes and options to choose from. Everything from hinges manufactured with or without stops to varying degrees of opening. A wide range of lengths and thicknesses are also available. 4-Bar Hinges are certified to AAMA 904.1.

4-Bar Hinges have been designed to be used primarily on vents with a lip on the outside edge. By design, Truth Hardware’s 4-Bar Hinges are engineered to project the vent out as it pivots to avoid interference between a lipped vent and frame. 4-Bar Hinges are adaptable to both casement and projected window applications. To aid you in your selection of 4-Bar Hinges, Truth has developed a guide (flow-chart) that provides you with a step-by-step procedure for determining the appropriate hinge for your use.

To help reduce the inventory of

"handed" products, each hinge is manufactured to be "non-handed", so that they can be used as either left-or right-handed hinges.

WARRANTY:

Truth 4-Bar Hinges are protected under the terms of the Truth Warranty for Window & Door Manufacturers & Authorized Distributors (Refer to Truth’s Terms & Conditions for further details). Truth’s 4-Bar Hinges are unmatched in dependability and performance.

NUMBERING SYSTEM:

The Truth product numbering system for hinges denotes the **product** with the first two numerals, **model** by the second two numerals, and the **finish** by the next two numerals (decorative finishes only -- this does not apply to hinges). In the case of Truth’s 4-Bar Hinges, the last three numerals represent the various hinge features with no commonalty between product models intended. The following chart illustrates this system using the #34.24.00.208 Heavy Duty 4-Bar Hinge as an example.

NUMBERING SYSTEM

Product No.	Model	Finish	Assembly
34	24	00	208
4-Bar Hinge	Heavy Duty 10" length	No decorative finish	W/Stop Std. open (Hinge Feature)

4-BAR HINGES

GUIDE TO 4-BAR HINGE SELECTION

DETERMINE
STACK HEIGHT

The stack height is the overall height from the bottom of the track to the top of the sash arm. If the pocket area has a height that is not standard to the hinge stack height, shims may be necessary. This size will determine which chart you will need to refer to. The standard stack heights are .625" (15.9mm) (Heavy Duty Hinge), .500" (12.7mm) (Standard Duty Hinge).

DETERMINE
APPLICATION

CASEMENT

PROJECTED
AWNING

DETERMINE
FUNCTION

DETERMINE
HINGE MATERIAL

EGRESS

WASHABILITY

Egress is the amount of clear opening that is left between the frame and the sash when the window is in a fully opened position. These hinges require single arm type operators. (See your local codes for specifics.)

Washability is the ability to have enough clearance between the frame and the hinge side of the sash to extend an arm or device to clean the vent. These hinges require dyad type

It is important to match your window with the proper size hinge. A Table is available in each hinge section to be a guide in the selection of the appropriate hinge length. NOTE Awning applications require that the sash opening is no

DETERMINE
HINGE LENGTH

DETERMINE
HINGE LENGTH

SEE CHART
FOR OPTIONS

The Egress Hinge is available in only one length:
12" (304.8mm) - Standard Duty Hinge
16.125" (409.6mm) - Standard Duty Hinge
16.500" (419.1mm) - Heavy Duty Hinge.

The 12" (304.8mm) hinges are recommended for most casement applications because the extra length on larger hinges is not of any benefit for casement applications.

At this point you have specified enough requirements to choose the correct hinge for your specific application.

Stack height: _____

Application: _____

Length: _____

SEE CHART
FOR OPTIONS

At this point you have specified enough requirements to choose the correct hinge for your specific application.

Stack height: _____

Application: _____

Length: _____

Functions: _____



TRUTH TIPS:

1. Placement of a 4-Bar Hinge relative to the outside edge of the frame depends on the amount of overlap of the sash on the frame. As a general rule the hinge should be mounted flush to .250" (6.3 mm) of the outside edge of the frame. This dimension depends on the amount of overlap. A .250" (6.3 mm) dimension will allow proper clearance for a window system having approximately .312" (7.9 mm) of sash overlap. If interference occurs between the sash and frame then the hinge must be moved further outboard on the frame or the overlap must be reduced. (See the application drawing of the particular hinge.)

2. Particular attention must be given to 4-Bar Hinge mounting. It is important that the ventilator bar be offset to a point where it is flush with the outside edge of the track. This results in an offset between the screw centerlines of the ventilator bar and hinge track. Particular attention must be given to 4-Bar Hinge mounting. It is important that the ventilator bar be offset to a point where it is flush with the outside edge of the track. This results in an offset between the screw centerlines of the ventilator bar and hinge track.

3. Ultimate sash weight & width for hinges as shown in the charts of this document are based on AAMA 904.1 "Specifications for Multi-Bar Hinges in Window Applications". The load carrying capacity is based on the vent height being at least twice the vent width. These numbers do not apply to windows being tested to ANSI/AAMA/WDMA 101/I.S.2/NAFS-02 "Casement Hardware Load Test".

4. To increase the overall hinge height of 4-Bar Hinges, aluminum shims applicable to the ventilator bar are available in various thicknesses. Truth provides some popular sizes of shims, however, other sizes must be provided by the window manufacturer.

5. Sash sag is a problem which affects many casement windows. 4-Bar Hinges tend to be more susceptible to sash sag than standard 2-bar hinges because they cantilever the sash outside of the frame, supporting the

entire sash weight on the support arms. While 2-Bar hinges are supported inside of the window frames so they transfer the sash weight back into the window. To minimize sash sag, Truth Hardware recommends utilizing the measures outlined in Tech Note #3

6. For proper balancing, Truth recommends a hinge with no greater than 60° of opening in projected and awning applications.

7. Special considerations should be given when designing an awning window. Please consult Truth Tech Bulletin #2 for further information.

8. For accurate hardware placement in vinyl or metal applications, pre-drilling of the window profile is recommended.

9. Mounting screws must pass through two PVC walls or one PVC wall and one insert wall.

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

11. Hinge life can be prolonged by periodically adding a drop of light weight oil at each riveted joint.

12. For easy correction of out of square, or racked window installations, the use of Truth Jamb Jack III frame adjusters is recommended. Frame adjustment can improve both weather seal tightness and sash operation over the life of the window.

STANDARD & HEAVY DUTY 4-BAR HINGES (201 - 301 Series)



These "non-handed" 4-Bar Hinges are specially designed for casement, awning, and projected vents with a lip on the outside edge. 4-Bar Hinges are designed to project the sash out as it pivots to avoid interference between a lipped vent and frame. In awning and projected window applications, friction adjustment is achieved by adjusting the screw which is located in the sliding shoe. Adjustments made to this screw affect shoe friction as it slides along the hinge track.

Standard Duty 4-Bar Hinges are generally used for residential projects requiring relatively light window sections (projected units up to 40 lbs.). These hinges are normally provided with a stop built into its track -- and is generally used with awning and projected windows. Hinges designed without the stop feature will open to approximately 65° in casement applications.

Heavy Duty 4-Bar Hinges are generally used for commercial projects requiring relatively heavy window sections (projected units up to 200 lbs.).

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:

Standard & Heavy Duty Stainless Steel 4-Bar Hinges: Non-magnetic stainless steel. Manufactured with a brass shoe.

ORDERING INFORMATION:

1. Choose correct hinge size and style by part number. (Reference the 4-Bar Hinge Part Number Guide for the available options).
2. Order two hinges per window.

RECOMMENDED SCREWS:

Stainless Steel 4-Bar Hinges:
6 -- #10 Phillips Pan head screws. Length and thread type to be determined by profile design.

See Truth Tips for additional screw selection information.

INCLUDE TRUTH SPECS ON YOUR NEXT WINDOW PROJECT

4-bar type window hinge for casement or awning windows, which projects the vent while opening to avoid interference between frame and sash.

Window hinges to be of 4-bar type design, utilizing a screw adjusted brass slide shoe to fine tune hinge to window application. Hinges shall be non-handed and constructed of high quality stamped and roll formed 300 series stainless steel materials. Hinges used must be certified to AAMA 904.1 specifications.

Window hinges shall be 201/301 series 4-bar, as manufactured by Truth Hardware.



FIG. 1 TRUTH STANDARD DUTY 4-BAR HINGE
(ANDERBERG 201SS SERIES)

STANDARD DUTY 4-BAR HINGE PART NUMBER GUIDE

MAT'L	HINGE CALL OUT & (ACTUAL LENGTH)		PART NUMBER	STD. STOP	NO STOP
SST	8"	8.22" [207.8 mm]	34.10.00	.101	.101
SST	10"	10.22" [258.6 mm]	34.11.00	.102	.101
SST	12"	12.22" [309.4 mm]	34.12.00	.100	.101
SST	14"	14.22" [360.2 mm]	34.13.00	.102	.101
SST	16"	16.22" [410.9 mm]	34.14.00	.100	.101
SST	18"	18.22" [461.8 mm]	34.15.00	.102	
SST	20"	20.22" [512.6 mm]	34.16.00	.100	.101

PART NUMBERING SYSTEM

PRODUCT NO.	MODEL	FINISH	ASSEMBLY
34	10	00	101
4-BAR HINGE	STANDARD DUTY 10" LENGTH	NO DECORATIVE FINISH	W/ STOP STD. OPEN (HINGE FEATURE)

NOTES:

1. *SPECIAL NOTE* A PROPERLY COUNTERBALANCED SASH IS RECOMMENDED IN AN AWNING OPERATION. AN UNBALANCED SASH WHEN USED WITH AN AWNING OPERATOR IS LIKELY TO PRODUCE SASH CHATTER AND AN UNEVEN FEEL DURING OPERATION.
2. FOR ADDITIONAL RECOMMENDATIONS REGARDING 4-BAR HINGES, PLEASE REFER TO THE TRUTH TIPS SECTION AND THE TECH NOTES SECTION AT THE END OF THE CATALOG.
3. UNLESS OTHERWISE SPECIFIED ALL 201 SERIES HINGES HAVE A BRASS SHOE.
4. THE STANDARD STACK HEIGHT OF A STANDARD DUTY HINGE IS .500 (12.7mm). IF A SHIM OR WASHER IS USED THE STACK HEIGHT WILL INCREASE BY THE SHIM OR WASHER THICKNESS.
5. ULTIMATE SASH WEIGHT & WIDTH FOR HINGES AS SHOWN IN CHARTS ARE BASED ON AAMA 904.1 "SPECIFICATION FOR MULTI-BAR HINGES IN WINDOW APPLICATIONS". THESE NUMBERS DO NOT APPLY TO WINDOWS BEING TESTED TO ANSI/AMMA/WDMA 101/1.S 2/NAFS-02 "CASEMENT HARDWARE LOAD TEST".

STANDARD DUTY 4-BAR HINGE (201SS Series)

**FIG. 2 TRUTH STANDARD DUTY 4-BAR HINGE
(ANDERBERG 201SS SERIES)**

4-BAR HINGE APPLICATION TABLE FOR PROJECTED & AWNING HINGES (AS CERTIFIED TO AAMA 904.1)								
HINGE CALL OUT & (ACTUAL LENGTH)		*COUNTERBALANCED		**ULTIMATE (SEE NOTE #2)		DEGREES OF OPENING		
		SASH/VENT HEIGHT RANGE	MAX SASH VENT WEIGHT	SASH/VENT HEIGHT RANGE	MAX SASH VENT WEIGHT	STD. STOP	NO + STOP	NO ++ STOP
8"	(8.18") [207.8 mm]	9"-16" [229-406 mm]	19 LBS [8.6 KG]	9"-16" [229-406 mm]	19 LBS [8.6 KG]	55°	55°	65°
10"	(10.18") [258.6 mm]	16"-20" [406-508 mm]	23 LBS [10.4 KG]	16"-20" [406-508 mm]	23 LBS [10.4 KG]	55°	55°	65°
12"	(12.18") [309.4 mm]	20"-24" [508-610 mm]	28 LBS [12.7 KG]	20"-24" [508-610 mm]	28 LBS [12.7 KG]	55°	55°	65°
14"	(14.18") [360.2 mm]	23"-28" [584-711 mm]	33 LBS [15.0 KG]	23"-28" [584-711 mm]	33 LBS [15.0 KG]	55°	55°	65°
16"	(16.18") [410.9 mm]	28"-34" [711-864 mm]	40 LBS [18.1 KG]	28"-34" [711-864 mm]	40 LBS [18.1 KG]	55°	55°	65°
18"	(18.18") [461.8 mm]	28"-34" [711-864 mm]	40 LBS [18.1 KG]	28"-34" [711-864 mm]	40 LBS [18.1 KG]	55°	55°	65°
20"	(20.18") [512.6 mm]	32"-34" [813-864 mm]	40 LBS [18.1 KG]	32" WIDE *** [813 mm]	47 LBS *** [213.2 KG]	55°	55°	65°

+ AAMA CYCLE TEST ANGLE
++ ULTIMATE OPENING ANGLE

4-BAR HINGE APPLICATION TABLE FOR CASEMENT (SIDE HUNG) HINGES (AS CERTIFIED TO AAMA 904.1)				
HINGE CALL OUT & (ACTUAL LENGTH)		ULTIMATE (SEE NOTE #2)		DEGREES OF OPENING
		SASH/VENT HEIGHT RANGE	MAX SASH VENT WEIGHT	NO STOP + ++
8"	(10.50") [266.7mm]	12"-32" [305-914 mm]	65 LBS AT 32" [45.36 KG AT 914 mm]	55°
10"	(12.50") [317.5mm]	12"-32" [305-914 mm]	65 LBS AT 32" [45.36 KG AT 914 mm]	55°
12"	(14.50") [368.3mm]	12"-32" [305-914 mm]	65 LBS AT 32" [45.36 KG AT 914 mm]	55°
14"	(16.50") [419.1mm]	12"-32" [305-914 mm]	65 LBS AT 32" [45.36 KG AT 914 mm]	55°

DEFINITIONS:

*COUNTERBALANCED: A PAIR OF HINGES WILL BALANCE OR HOLD OPEN THE VENT/SASH WITH NO ADDED FRICTION AT THE HEIGHTS AND WEIGHTS LISTED IN THE CHART.

**ULTIMATE: A PAIR OF HINGES WILL NOT BALANCE OR HOLD OPEN THE VENT/SASH WITHOUT ADDED FRICTION AT THE HEIGHTS AND WEIGHTS LISTED IN THE CHART.

***NOT AAMA CERTIFIED.

NOTES:

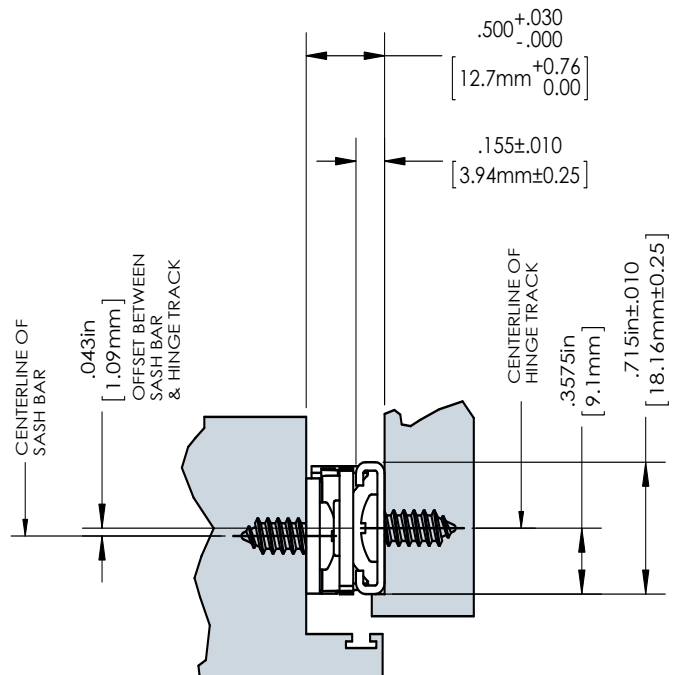
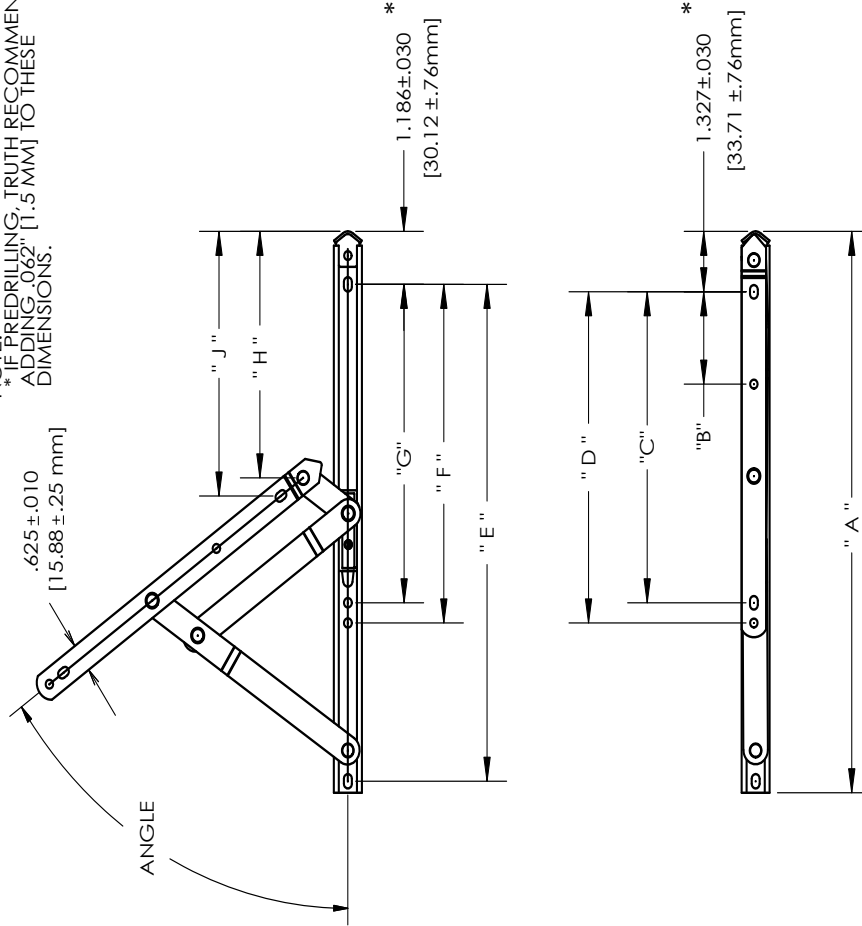
1. A PROPERLY COUNTERBALANCED SASH IS RECOMMENDED IN AN AWNING OPERATION. AN UNBALANCED SASH WHEN USED WITH AN AWNING OPERATOR IS LIKELY TO PRODUCE SASH CHATTER AND AN UNEVEN FEEL DURING OPERATION.
2. ULTIMATE SASH WEIGHT & WIDTH FOR HINGES AS SHOWN IN CHART ARE BASED ON AAMA 904.1 "SPECIFICATION FOR MULTI-BAR HINGES IN WINDOW APPLICATIONS". THESE NUMBERS DO NOT APPLY TO WINDOWS BEING TESTED TO ANSI/AMMA/WDMA 101/LS 2/NAFS-02 "CASEMENT HARDWARE LOAD TEST".



FIG. 3 TRUTH STANDARD DUTY 4-BAR HINGE W/STOP
(ANDERBERG 201SS SERIES)

RECOMMENDED SCREWS:
#10 SLOTTED OR #8 PHILLIPS
PAN HEAD STAINLESS STEEL SCREWS
(LENGTH AND THREAD TYPE TO BE
DETERMINED BY PROFILE DESIGN)

NOTE:
*IF PREDRILLING, TRUTH RECOMMENDS
ADDING .062" [1.5MM] TO THESE
DIMENSIONS.



STANDARD DUTY 4-BAR HINGE (201SS Series)

FIG. 4 TRUTH STANDARD DUTY 4-BAR HINGE W/STOP
(ANDERBERG 201SS SERIES)

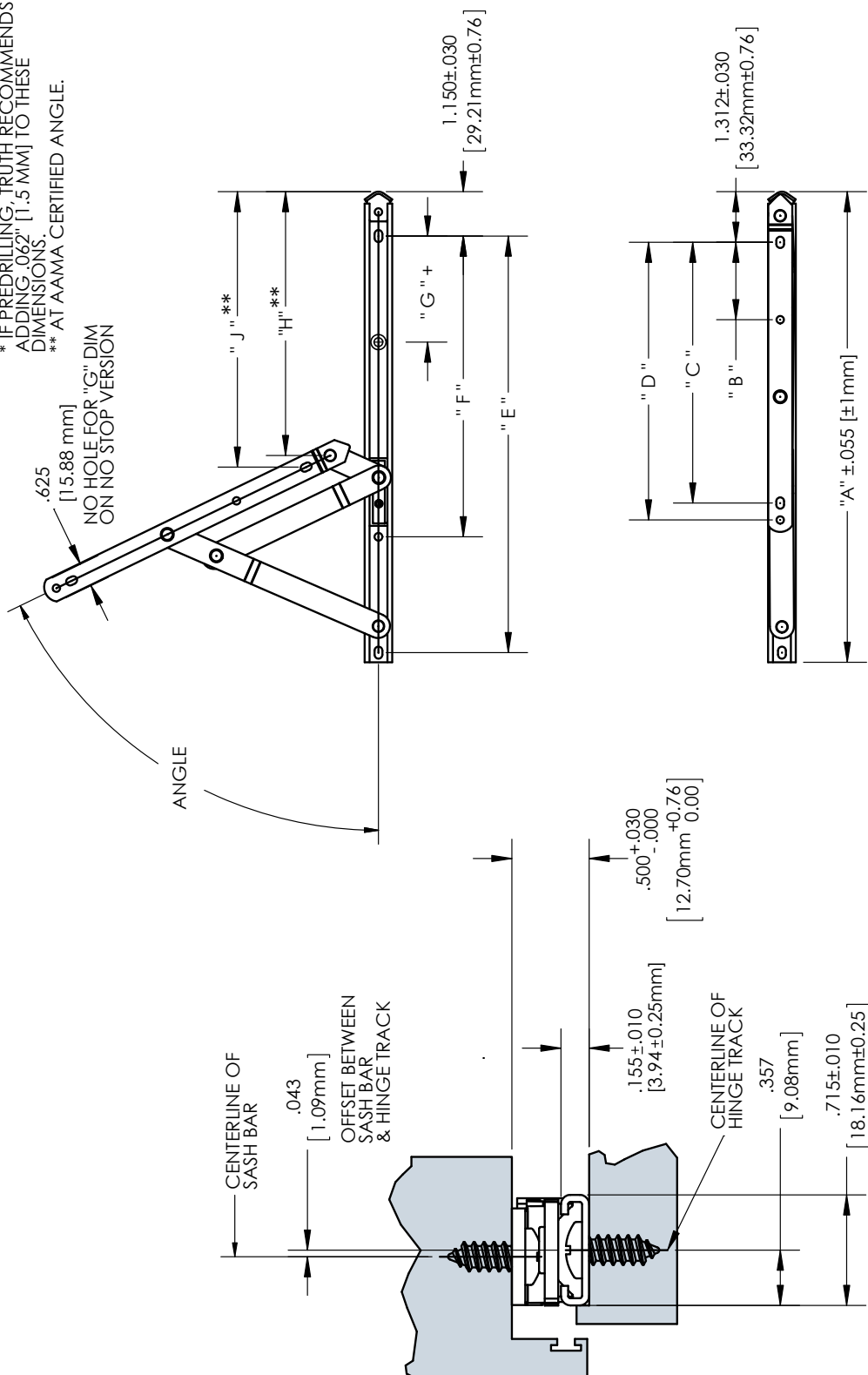
HINGE CALL OUT	HINGE PART NUMBER	"A" DIM HINGE LENGTH	"B" DIM	"C" DIM	"D" DIM	"E" DIM	"F" DIM	"G" DIM	"H" DIM	"J" DIM	APPROX. ANGLE OF OPENING	NUMBER OF SCREWS
8"	34.10.00.XXX	8.22" [208.8 mm]	NA	4.75" [120.7 mm]	5.19" [131.8 mm]	6.78" [172.2 mm]	5.59" [142.0 mm]	5.16" [131.1 mm]	3.63" [92.1 mm]	4.03" [102.4 mm]	55°	7
10"	34.11.00.XXX	10.22" [259.6 mm]	2.00" [50.8 mm]	5.75" [146.1 mm]	6.19" [157.3 mm]	8.78" [223.0 mm]	6.47" [164.3 mm]	6.03" [153.2 mm]	4.50" [114.3 mm]	4.99" [126.7 mm]	55°	8
12"	34.12.00.XXX	12.22" [310.4 mm]	2.00" [50.8 mm]	6.75" [171.5 mm]	7.19" [182.6 mm]	10.78" [273.8 mm]	7.34" [186.4 mm]	6.91" [175.5 mm]	5.35" [135.9 mm]	5.75" [146.0 mm]	55°	8
14"	34.13.00.XXX	14.22" [361.2 mm]	2.00" [50.8 mm]	7.75" [196.9 mm]	8.19" [208.0 mm]	12.78" [324.6 mm]	8.20" [208.3 mm]	7.78" [197.6 mm]	6.63" [168.3 mm]	6.41" [162.8 mm]	55°	8
16"	34.14.00.XXX	16.22" [411.9 mm]	2.00" [50.8 mm]	8.75" [222.3 mm]	9.19" [233.4 mm]	14.78" [375.4 mm]	9.09" [230.9 mm]	8.66" [219.9 mm]	7.10" [180.3 mm]	7.50" [190.5 mm]	55°	8
18"	34.15.00.XXX	18.22" [462.8 mm]	2.00" [50.8 mm]	9.75" [247.7 mm]	10.19" [258.8 mm]	16.78" [426.2 mm]	9.97" [253.2 mm]	9.53" [242.1 mm]	7.47" [189.7 mm]	8.15" [207.0 mm]	55°	8
20"	34.16.00.XXX	20.22" [513.6 mm]	2.00" [50.8 mm]	10.75" [273.1 mm]	11.19" [284.2 mm]	18.78" [477.0 mm]	10.844" [275.3 mm]	10.41" [264.4 mm]	8.84" [224.5 mm]	9.24" [234.7 mm]	55°	8



FIG. 5 TRUTH STANDARD DUTY 4-BAR HINGE W/O STOP
(ANDERBERG 201SS SERIES)

RECOMMENDED SCREWS:
#10 SLOTTED OR #8 PHILLIPS
PAN HEAD STAINLESS STEEL SCREWS
(LENGTH AND THREAD TYPE TO BE
DETERMINED BY PROFILE DESIGN)
+ #8 PHILLIPS UNDERCUT FLATHEAD SCREW

NOTE:
* IF PREDRILLING, TRUTH RECOMMENDS
ADDING .062" [1.5 MM] TO THESE
DIMENSIONS.
** AT AAMA CERTIFIED ANGLE.



STANDARD DUTY 4-BAR HINGE (201SS Series)

FIG. 6 TRUTH STANDARD DUTY 4-BAR HINGE W/O STOP
(ANDERBERG 201SS SERIES)

HINGE CALL OUT	HINGE PART NUMBER	"A" DIM HINGE LENGTH	"B" DIM	"C" DIM	"D" DIM	"E" DIM	"F" DIM	"G" DIM	"H" DIM	"J" DIM	APPROX. + ANGLE OF OPENING	NUMBER OF SCREWS
8"	34.10.00.XXX	8.22" [208.8 mm]	NA	4.75" [120.7 mm]	5.19" [131.8 mm]	6.78" [172.2 mm]	5.53" [140.5 mm]	NA	5.13" [130.3 mm]	5.25" [133.4 mm]	55°	6
10"	34.11.00.XXX	10.22" [259.6 mm]	2.00" [50.8 mm]	5.75" [146.1 mm]	6.19" [157.3 mm]	8.78" [223.0 mm]	6.78" [172.2 mm]	NA	6.36" [161.5 mm]	6.37" [161.8 mm]	55°	7
12"	34.12.00.XXX	12.22" [310.4 mm]	2.00" [50.8 mm]	6.75" [171.5 mm]	7.19" [182.6 mm]	10.78" [273.8 mm]	7.78" [197.6 mm]	NA	7.29" [185.2 mm]	7.34" [184.6 mm]	55°	7
14"	34.13.00.XXX	14.22" [361.2 mm]	2.00" [50.8 mm]	7.75" [196.9 mm]	8.19" [208.0 mm]	12.78" [324.6 mm]	9.03" [229.4 mm]	4.75" [120.6 mm]	8.53" [216.7 mm]	8.69" [220.7 mm]	55°	7
16"	34.14.00.XXX	16.22" [411.9 mm]	2.00" [50.8 mm]	8.75" [222.4 mm]	9.19" [233.4 mm]	14.78" [375.4 mm]	10.28" [261.1 mm]	5.62" [142.7 mm]	9.78" [248.4 mm]	9.88" [251.0 mm]	55°	7
20"	34.16.00.XXX	20.22" [513.6 mm]	2.00" [50.8 mm]	10.75" [273.1 mm]	11.19" [284.2 mm]	18.78" [477.0 mm]	12.53" [318.3 mm]	7.32" [185.9 mm]	12.01" [305.0 mm]	12.21" [310.1 mm]	55°	7

+ AAMA CYCLE TEST ANGLE
ULTIMATE OPENING ANGLE IS 77°



**FIG. 7 TRUTH HEAVY DUTY 4-BAR HINGE
(ANDERBERG 301SS SERIES)**

HEAVY DUTY 4-BAR HINGE PART NUMBER GUIDE

MAT'L	HINGE CALLOUT & (ACTUAL LENGTH)		PART NUMBER	STD. STOP	NO STOP
SST	10"	(10.50") [266.7mm]	34.24.00	.208	.210
SST	12"	(12.50") [317.5mm]	34.25.00	.208	.210
SST	14"	(14.50") [368.3mm]	34.26.00	.208	.210
SST	16"	(16.50") [419.1mm]	34.27.00	.208	.210
SST	18"	(18.50") [469.9mm]	34.28.00	.208	.210
SST	20"	(20.50") [520.7mm]	34.29.00	.208	.210
SST	24"	(24.50") [622.3mm]	34.31.00	.208	.210
SST	28"	(28.50") [723.9mm]	34.86.00	.208	

PART NUMBERING SYSTEM

Product No.	Model	Finish	Assembly
34	24	00	208
4-Bar Hinge	Heavy Duty 10" Length	No Decorative Finish	W/ Stop Std. Open (Hinge Feature)

NOTES:

1. *SPECIAL NOTE* A PROPERLY COUNTERBALANCED SASH IS RECOMMENDED IN AN AWNING OPERATION. AN UNBALANCED SASH WHEN USED WITH AN AWNING OPERATOR IS LIKELY TO PRODUCE SASH CHATTER AND AN UNEVEN FEEL DURING OPERATION.
2. FOR ADDITIONAL RECOMMENDATIONS REGARDING 4-BAR HINGES, PLEASE REFER TO THE TRUTH TIPS SECTION AND THE TECH NOTES SECTION AT THE END OF THE CATALOG.
3. UNLESS OTHERWISE SPECIFIED ALL 301 SERIES HINGES HAVE A BRASS SHOE.
4. THE STANDARD STACK HEIGHT OF A HEAVY DUTY HINGE IS .625 (15.9mm). IF A SHIM OR WASHER IS USED THE STACK HEIGHT WILL INCREASE BY THE SHIM OR WASHER THICKNESS.
5. ULTIMATE SASH WEIGHT & WIDTH FOR HINGES AS SHOWN IN CHARTS ARE BASED ON AAMA 904.1 "SPECIFICATION FOR MULTI-BAR HINGES IN WINDOW APPLICATIONS". THESE NUMBERS DO NOT APPLY TO WINDOWS BEING TESTED TO ANSI/AMMA/WDMA 101/I.S 2/NAFS-02 "CASEMENT HARDWARE LOAD TEST".

HEAVY DUTY 4-BAR HINGE (301SS Series)

**FIG. 8 TRUTH HEAVY DUTY 4-BAR HINGE
(ANDERBERG 301SS SERIES)**

4-BAR HINGE APPLICATION TABLE FOR PROJECTED & AWNING HINGES (AS CERTIFIED TO AAMA 904.1)								
HINGE CALL OUT & (ACTUAL LENGTH)		*COUNTERBALANCED		**ULTIMATE (SEE NOTE #2)		DEGREES OF OPENING		
		SASH/VENT HEIGHT RANGE	MAX SASH VENT WEIGHT	SASH/VENT HEIGHT RANGE	MAX SASH VENT WEIGHT	STD. STOP	NO STOP	NO ++ STOP
10"	(10.50") [266.7mm]	12"-20" [305-508 mm]	58 LBS [26.3 KG]	12"-20" [305-508 mm]	58 LBS [26.3 KG]	59°	55°	77°
12"	(12.50") [317.5mm]	20"-25" [508-635 mm]	73 LBS [33.1 KG]	20"-25" [508-635 mm]	73 LBS [33.1 KG]	53°	55°	77°
14"	(14.50") [368.3mm]	23"-29" [584-737 mm]	85 LBS [39.0 KG]	23"-29" [584-737 mm]	85 LBS [39.0 KG]	50°	55°	77°
16"	(16.50") [419.1mm]	25"-34" [635-864 mm]	99 LBS [44.9 KG]	25"-40" [635-1016 mm]	99 LBS [44.9 KG]	50°	55°	77°
18"	(18.50") [469.9mm]	32"-37" [813-940 mm]	108 LBS [49.0 KG]	32"-40" [813-1143 mm]	108 LBS [49.0 KG]	50°	55°	77°
20"	(20.50") [520.7mm]	34"-40" [864-1016 mm]	117 LBS [53.1 KG]	34"-50" [864-1270 mm]	117 LBS [53.1 KG]	49°	55°	77°
24"	(24.50") [622.3mm]	40"-44" [1016-1118 mm]	129 LBS [58.5 KG]	40"-60" [1016-1524 mm]	129 LBS [58.5 KG]	44°	55°	77°
28"	(28.50") [723.9mm]	50"-64" [1270-1626 mm]	175 LBS [79.4 KG]	50"-80" [1270-2032 mm]	234 LBS [106.1 KG]	42°	NA	77°

+ AAMA CYCLE TEST ANGLE
++ ULTIMATE OPENING ANGLE

4-BAR HINGE APPLICATION TABLE FOR CASEMENT (SIDE HUNG) HINGES (AS CERTIFIED TO AAMA 904.1)				
HINGE CALL OUT & (ACTUAL LENGTH)		ULTIMATE (SEE NOTE #2)		DEGREES OF + OPENING
		SASH/VENT HEIGHT RANGE	MAX SASH VENT WEIGHT	NO STOP
10"	(10.50") [266.7mm]	12"-36" [305-914 mm]	100 LBS AT 36" [45.36 KG AT 914 mm]	55°
12"	(12.50") [317.5mm]	12"-36" [305-914 mm]	100 LBS AT 36" [45.36 KG AT 914 mm]	55°
14"	(14.50") [368.3mm]	12"-36" [305-914 mm]	100 LBS AT 36" [45.36 KG AT 914 mm]	55°
16"	(16.50") [419.1mm]	12"-36" [305-914 mm]	100 LBS AT 36" [45.36 KG AT 914 mm]	55°

DEFINITIONS:

*COUNTERBALANCED: A PAIR OF HINGES WILL BALANCE OR HOLD OPEN THE VENT/SASH WITH NO ADDED FRICTION AT THE HEIGHTS AND WEIGHTS LISTED IN THE CHART.

**ULTIMATE: A PAIR OF HINGES WILL NOT BALANCE OR HOLD OPEN THE VENT/SASH WITHOUT ADDED FRICTION AT THE HEIGHTS AND WEIGHTS LISTED IN THE CHART.

NOTES:

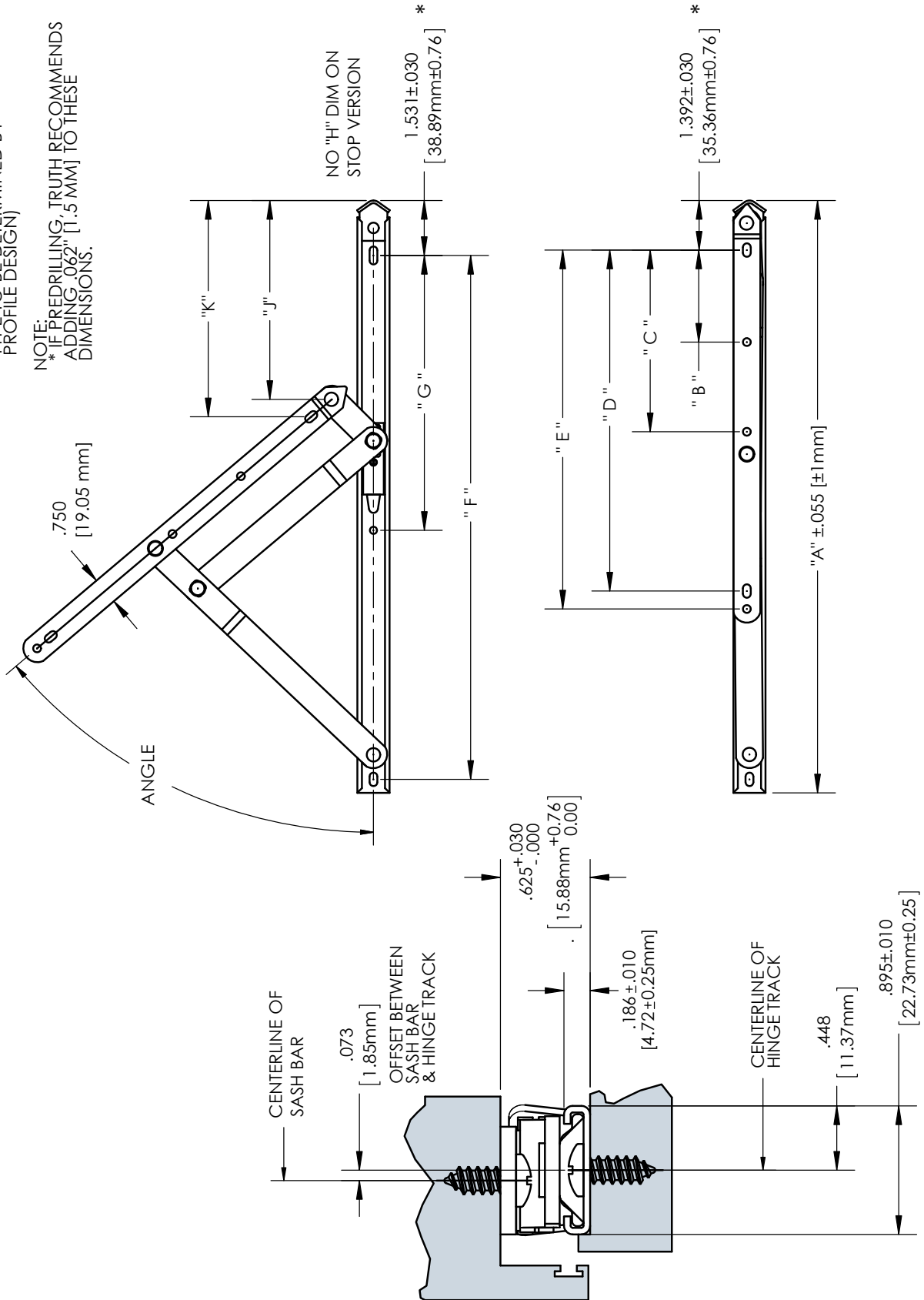
1. A PROPERLY COUNTERBALANCED SASH IS RECOMMENDED IN AN AWNING OPERATION. AN UNBALANCED SASH WHEN USED WITH AN AWNING OPERATOR IS LIKELY TO PRODUCE SASH CHATTER AND AN UNEVEN FEEL DURING OPERATION.
2. ULTIMATE SASH WEIGHT & WIDTH FOR HINGES AS SHOWN IN CHARTS ARE BASED ON AAMA 904.1 "SPECIFICATION FOR MULTI-BAR HINGES IN WINDOW APPLICATIONS". THESE NUMBERS DO NOT APPLY TO WINDOWS BEING TESTED TO ANSI/AMMA/WDMA 101/1.S 2/NAFS-02 "CASEMENT HARDWARE LOAD TEST".



FIG. 9 TRUTH HEAVY DUTY 4-BAR HINGE W/STOP
(ANDERBERG 301SS SERIES)

RECOMMENDED SCREWS:
#10 PHILLIPS, PAN HEAD STAINLESS
STEEL SCREWS (LENGTH AND THREAD
TYPE TO BE DETERMINED BY
PROFILE DESIGN)

NOTE:
* IF PREDRILLING, TRUTH RECOMMENDS
ADDING .062" [1.5 MM] TO THESE
DIMENSIONS.



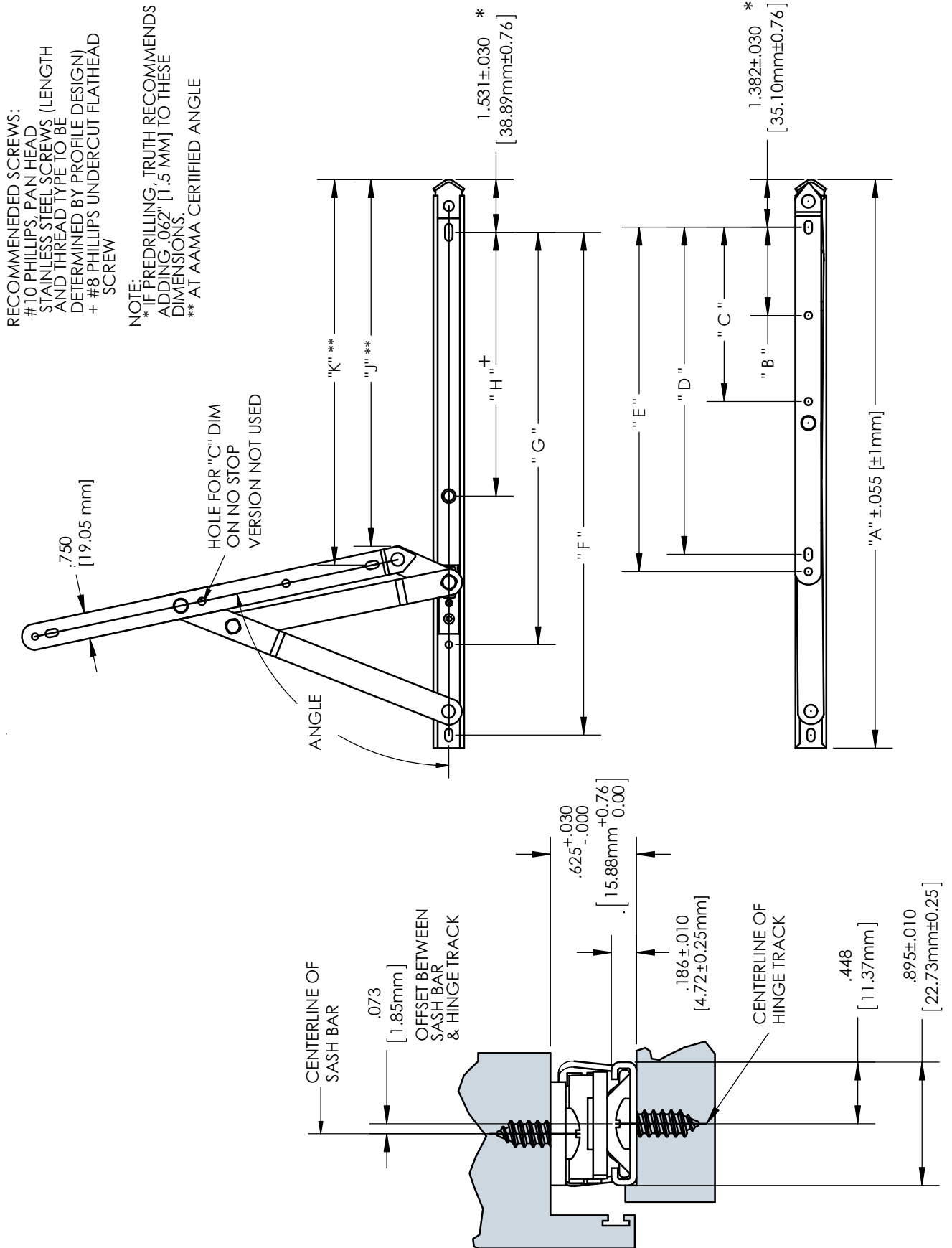
**HEAVY DUTY
4-BAR HINGE
(301SS Series)**

**FIG. 10 TRUTH HEAVY DUTY 4-BAR HINGE W/STOP
(ANDERBERG 301SS SERIES)**

TRUTH HEAVY DUTY 4-BAR HINGE W/STOP													
HINGE CALL OUT	HINGE PART #	"A" HINGE LG	"B"	"C"	"D"	"E"	"F"	"G"	"H"	"J"	"K"	ANGLE	# OF SCREWS
10"	34.24.00.XXX	10.50" [266.7 mm]	NA	NA	6.50" [165.1 mm]	7.00" [177.8 mm]	8.59" [218.2 mm]	6.34" [161.0 mm]	NA	4.38" [111.2 mm]	4.72" [119.9 mm]	59°	7
12"	34.25.00.XXX	12.50" [317.5 mm]	2.56" [65.0 mm]	NA	7.50" [190.5 mm]	8.00" [203.2 mm]	10.59" [269.0 mm]	6.59" [167.4 mm]	NA	4.51" [114.6 mm]	4.96" [126.0 mm]	53°	7
14"	34.26.00.XXX	14.50" [368.3 mm]	2.56" [65.0 mm]	NA	8.50" [215.9 mm]	9.00" [228.6 mm]	12.59" [319.8 mm]	6.94" [176.3 mm]	NA	4.81" [122.2 mm]	5.30" [134.6 mm]	50°	7
16"	34.27.00.XXX	16.50" [419.1 mm]	2.56" [65.0 mm]	5.06" [128.5 mm]	9.50" [241.3 mm]	10.00" [254.0 mm]	14.59" [370.6 mm]	7.66" [194.6 mm]	NA	5.53" [140.5 mm]	6.02" [152.9 mm]	50°	8
18"	34.28.00.XXX	18.50" [469.9 mm]	2.56" [65.0 mm]	6.06" [153.9 mm]	10.50" [266.7 mm]	11.00" [279.4 mm]	16.59" [421.4 mm]	8.28" [210.3 mm]	NA	6.16" [156.5 mm]	6.66" [169.2 mm]	50°	8
20"	34.29.00.XXX	20.50" [520.7 mm]	2.56" [65.0 mm]	7.06" [179.3 mm]	11.50" [292.1 mm]	12.00" [304.8 mm]	18.59" [472.2 mm]	8.97" [227.8 mm]	NA	6.86" [174.2 mm]	7.35" [186.7 mm]	49°	8
24"	34.31.00.XXX	24.50" [622.3 mm]	2.56" [65.0 mm]	9.06" [230.1 mm]	13.50" [342.9 mm]	14.00" [355.6 mm]	22.59" [573.8 mm]	9.09" [230.1 mm]	NA	6.90" [175.3 mm]	7.44" [189.0 mm]	44°	8
28"	34.86.00.XXX	28.50" [723.9 mm]	2.56" [65.0 mm]	11.06" [280.9 mm]	15.50" [393.7 mm]	16.00" [406.4 mm]	26.59" [675.4 mm]	9.59" [243.6 mm]	NA	7.36" [186.9 mm]	7.93" [201.4 mm]	42°	8



FIG. 11 TRUTH HEAVY DUTY 4-BAR HINGE W/O STOP
(ANDERBERG 301SS SERIES)



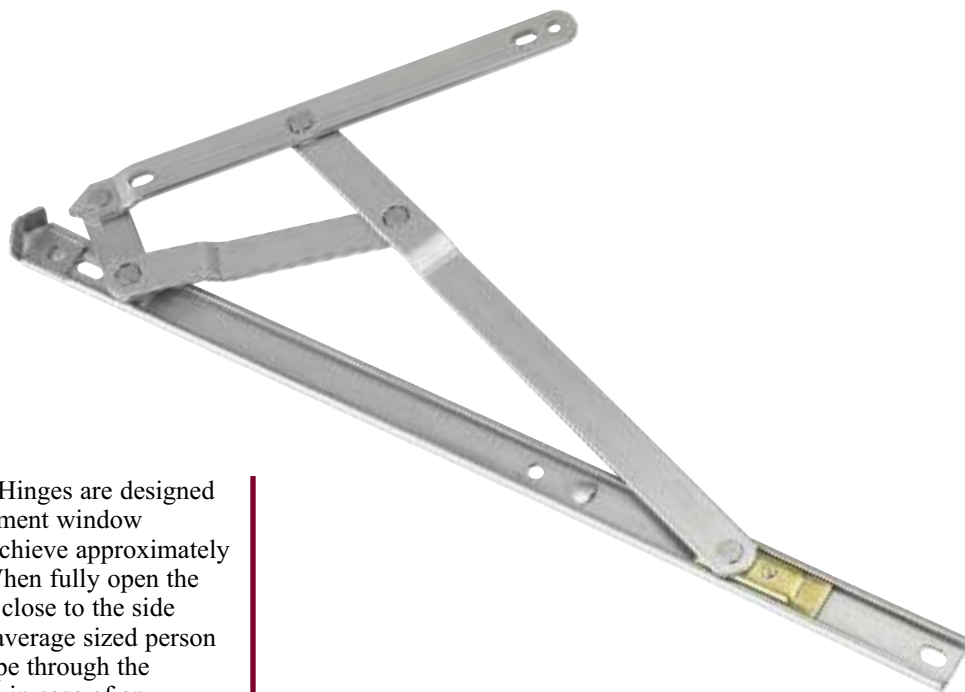
**HEAVY DUTY
4-BAR HINGE
(301SS Series)**

**FIG. 12 TRUTH HEAVY DUTY 4-BAR HINGE W/O STOP
(ANDERBERG 301SS SERIES)**

TRUTH HEAVY DUTY 4-BAR HINGE W/O STOP													
HINGE CALL OUT	HINGE PART #	"A" HINGE LG	"B"	"C"	"D"	"E"	"F"	"G"	"H"	"J"***	"K"***	AAMA CERTIFIED ANGLE	# OF SCREWS
10"	34-24.00.XXX	10.50" [266.7 mm]	NA	NA	6.50" [165.1 mm]	7.00" [177.8 mm]	8.59" [218.2 mm]	7.22" [183.4 mm]	NA	4.98" [126.5 mm]	5.30" [134.6 mm]	55°	7
12"	34-25.00.XXX	12.50" [317.5 mm]	2.56" [65.0 mm]	NA	7.50" [190.5 mm]	8.00" [203.2 mm]	10.59" [269.0 mm]	8.97" [227.8 mm]	NA	6.16" [156.5 mm]	6.48" [164.6 mm]	55°	7
14"	34-26.00.XXX	14.50" [368.3 mm]	2.56" [65.0 mm]	NA	8.50" [215.9 mm]	9.00" [228.6 mm]	12.59" [319.8 mm]	10.47" [265.9 mm]	NA	7.33" [186.2 mm]	7.65" [194.3 mm]	55°	7
16"	34-27.00.XXX	16.50" [419.1 mm]	2.56" [65.0 mm]	5.06" [128.5 mm]	9.50" [241.3 mm]	10.00" [254.0 mm]	14.59" [370.6 mm]	11.97" [304.0 mm]	7.66" [194.6 mm]	8.50" [215.9 mm]	8.83" [224.3 mm]	55°	8
18"	34-28.00.XXX	18.50" [469.9 mm]	2.56" [65.0 mm]	6.06" [153.9 mm]	10.50" [266.7 mm]	11.00" [279.4 mm]	16.59" [421.4 mm]	13.47" [342.1 mm]	8.28" [210.3 mm]	9.66" [245.4 mm]	9.98" [253.5 mm]	55°	8
20"	34-29.00.XXX	20.50" [520.7 mm]	2.56" [65.0 mm]	7.06" [179.3 mm]	11.50" [292.1 mm]	12.00" [304.8 mm]	18.59" [472.2 mm]	14.97" [380.2 mm]	8.97" [227.8 mm]	10.82" [274.8 mm]	11.14" [283.0 mm]	55°	8
24"	34-31.00.XXX	24.50" [622.3 mm]	2.56" [65.0 mm]	9.06" [230.1 mm]	13.50" [342.9 mm]	14.00" [355.6 mm]	22.59" [573.8 mm]	17.97" [456.4 mm]	9.09" [230.9 mm]	13.13" [333.5 mm]	13.45" [341.6 mm]	55°	8

** AT AAMA CERTIFIED ANGLE

- ULTIMATE OPENING ANGLE IS 77°



All of our Egress Hinges are designed to be used in casement window applications and achieve approximately 90° of opening. When fully open the sash is positioned close to the side jamb to allow an average sized person the ability to escape through the window's opening in case of an emergency as required by Egress codes. Egress Hinges are non-handed and made of durable stainless steel. These Egress Hinges are designed to project the sash out as it pivots to avoid interference between a lipped vent and frame.

There is a wide variety of Egress Hinges available – each of which has its own unique set of features and benefits. For example:

Standard Duty & Heavy Duty Egress Hinges – will allow 90° of opening with the maximum amount of Egress opening (clear opening) depending upon application. Standard Duty recommended for a maximum vent weight of 82 lbs. Heavy Duty - recommended for maximum vent weight of 158 lbs.

Standard Duty & Heavy Duty Egress Hinge (with washability) – Similar to the Standard Duty & Heavy Duty Egress Hinges in that they allow 90° of opening, however these hinges have the added advantage of allowing the outside vent to be washed from the inside. This is accomplished by inserting a key and sliding the vent towards the center of the frame opening for a washing space of approximately 4.500” (11.43cm) depending upon application.

WARRANTY:

Truth 4-Bar Hinges are protected under the terms of the Truth Warranty for Window & Door Manufacturers & Authorized Distributors" (a copy of which can be obtained by contacting Truth). Truth's 4-Bar Hinges are unmatched in dependability and performance.

MATERIAL: Non-magnetic Stainless steel. Each hinge is manufactured with a sliding brass shoe which contains a nylon block for screw adjustment of friction.

ORDERING INFORMATION & OPTIONS

1. Choose correct hinge style by part number. Reference the 4-Bar Hinge Part Number Guide for the available options.
2. Order two hinges per window.
3. Washability Key #16000 ordered separately (2 required per window)

RECOMMENDED SCREWS:

Standard Duty 4-Bar Hinge 6 - #10 Slotted or #8 Phillips pan head stainless steel screws. Length and thread type to be determined by profile design.

Heavy Duty 4-Bar Hinge 6 - #10 Phillips pan head stainless steel screws.

Length and thread type determined by profile design.

INCLUDE TRUTH SPECS ON YOUR NEXT WINDOW PROJECT

4-Bar type casement hinge for meeting residential and commercial egress code requirements. Utilizing a 4-bar action to project the vent while opening to avoid interference between frame and sash.

Window hinges to be of 4-bar design, which opens the sash to 90° position close to hinge side of jamb for widest possible egress opening. Hinges shall be non-handed and constructed of high quality stamped and roll formed materials. Hinges used must be certified to AAMA 904.1 specifications.

Only on Washability Equipped Models:

- Window hinges will have the ability to be unlocked and moved to a position which allows easy cleaning of the window from the inside.

Window hinges shall be 222/224 or 333/334 series 4-Bar, as manufactured by Truth Hardware.

**STANDARD DUTY
4-BAR EGRESS HINGE
(222SS - 224SS Series)**

**FIG. 1 TRUTH STANDAR DUTY 4-BAR EGRESS CASEMENT HINGE
(Truth 222SS and 224SS Series)**

TRUTH STD DUTY 4-BAR CASEMENT HINGE W/ STOP

MAT'L	HINGE CALLOUT & (ACTUAL LENGTH)		PART NUMBER	STD STOP	EGRESS TO WASHABILITY
SST	12"	12.61" [320.3 mm]	35.09.00	.100	N/A
SST	16"	16.41" [416.7 mm]	35.10.00	.100	N/A
SST	16"	16.41" [416.7 mm]	35.11.00	.100	YES

PART NUMBERING SYSTEM

Product No.	Model	Finish	Assembly
35	09	00	100
4-Bar Hinge	Standard Duty Egress 12" Length	No Decorative Finish	W/ Stop Std. Open (Hinge Feature)

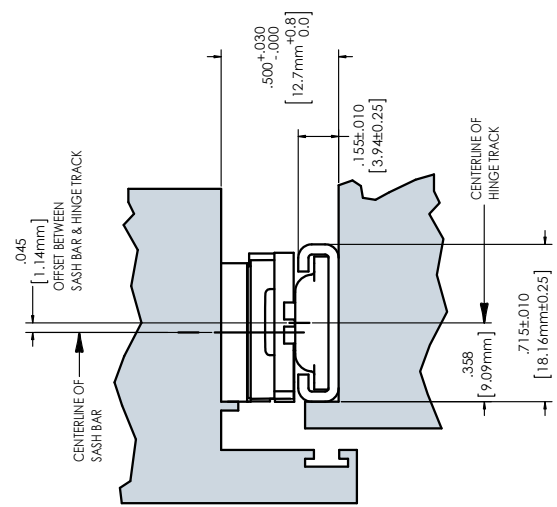
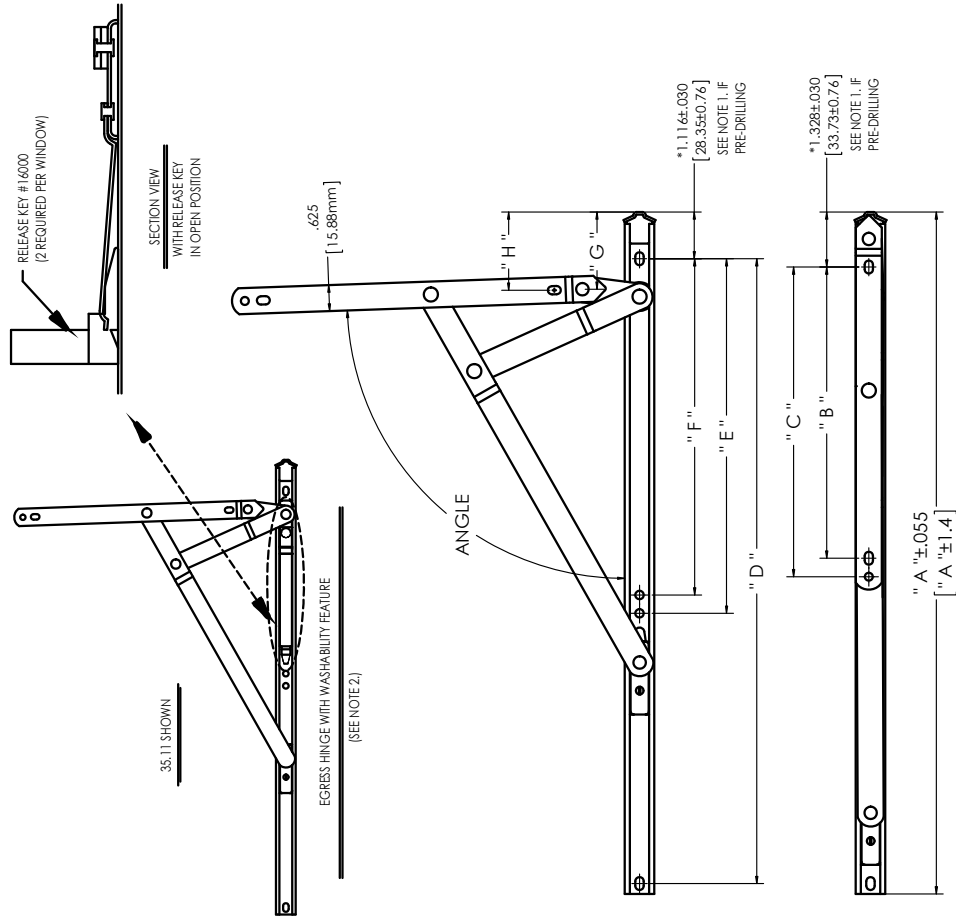
4-BAR HINGE APPLICATION TABLE FOR CASEMENT HINGES (SIDE HUNG) (As certified to AAMA 904.1)			
HINGE CALLOUT & (ACTUAL LENGTH)		Ultimate (see note #6)	
		Sash/Vent Width Range	Max Sash Vent Weight
12"	12.61" [320.3 mm]	14"-32" [356 mm-813 mm]	82 lbs at 32" [37.2 kg at 813 mm]
16"	16.41" [416.7 mm]	18"-32" [457 mm-813 mm]	82 lbs at 32" [37.2 kg at 813 mm]
16"	16.41" [416.7 mm]	18"-32" [457 mm-813 mm]	82 lbs at 32" [37.2 kg at 813 mm]

NOTES:

1. THESE STANDARD DUTY EGRESS 4-BAR HINGES ARE RECOMMENDED FOR CASEMENT APPLICATIONS ONLY.
2. FOR ADDITIONAL RECOMMENDATIONS REGARDING 4-BAR HINGES, PLEASE REFER TO THE TRUTH TIPS SECTION AND THE TECH NOTES SECTION AT THE END OF THE CATALOG.
3. UNLESS OTHERWISE SPECIFIED ALL 222-224 SERIES HINGES HAVE A BRASS SHOE.
4. THE STANDARD STACK HEIGHT OF A STANDARD DUTY HINGE IS .500 (12.7mm). IF A SHIM OR WASHER IS USED THE STACK HEIGHT WILL INCREASE BY THE SHIM OR WASHER THICKNESS.
5. ULTIMATE SASH WEIGHT & WIDTH FOR HINGES AS SHOWN IN CHARTS ARE BASED ON AAMA 904.1 "SPECIFICATION FOR MULTI-BAR HINGES IN WINDOW APPLICATIONS". THESE NUMBERS DO NOT APPLY TO WINDOWS BEING TESTED TO ANSI/AMMA/WDMA 101/1.S 2/NAFS-02 "CASEMENT HARDWARE LOAD TEST".



FIG. 2 TRUTH STANDARD DUTY EGRESS (90°) 4-BAR HINGE
(Truth 222SS AND 224SS Series)



RECOMMENDED SCREWS:
6-#10 PHILLIPS PAN HEAD,
STAINLESS STEEL SCREWS. (LENGTH & THREAD
TYPE TO BE DETERMINED BY PROFILE DESIGN)

NOTES:
*1. IF PREDRILLING, TRUTH RECOMMENDS ADDING
.062 [1.5MM] TO THE NOTED DIMENSIONS

2. THE 35.11 HINGE OFFERS YOU THE ADVANTAGE OF
ALLOWING THE OUTSIDE OF THE VERT TO BE WASHED
FROM THE INSIDE BY INSERTING A KEY AND SLIDING
THE CASEMENT WINDOW TOWARD THE CENTER OF THE
FRAME OPENING GIVING A WASHING SPACE OF
APPROXIMATELY 4 1/2" [114.3mm].
(SEE TRUTH TIP NO. 2 FOR ADDITIONAL INFORMATION.)

HINGE PART #	"A" HINGE LENGTH	"B"	"C"	"D"	"E"	"F"	"G" MAX	"H" MAX	ANGLE
35.09	12.61" [320.3mm]	6.25" [158.6mm]	6.68" [169.8mm]	11.24" [285.4mm]	5.93" [150.6mm]	5.49" [139.4mm]	2.02" [51.3mm]	2.09" [53.1mm]	84°
35.10	16.41" [416.8mm]	7.01" [178.0mm]	7.45" [189.2mm]	15.03" [381.8mm]	8.53" [216.7mm]	8.09" [205.5mm]	2.02" [51.3mm]	2.05" [52.1mm]	88°
35.11	16.41" [416.8mm]	7.01" [178.0mm]	7.45" [189.2mm]	15.03" [381.8mm]	7.03" [178.6mm]	6.59" [167.4mm]	2.09" [53.1mm]	2.11" [53.6mm]	88°

**STANDARD DUTY
EGRESS/WASHABILITY
4-BAR HINGE
(224SS Series)**

**FIG. 3 TRUTH STANDARD DUTY EGRESS/WASHABILITY 4-BAR CASEMENT HINGE
(Truth 224SS Series)**

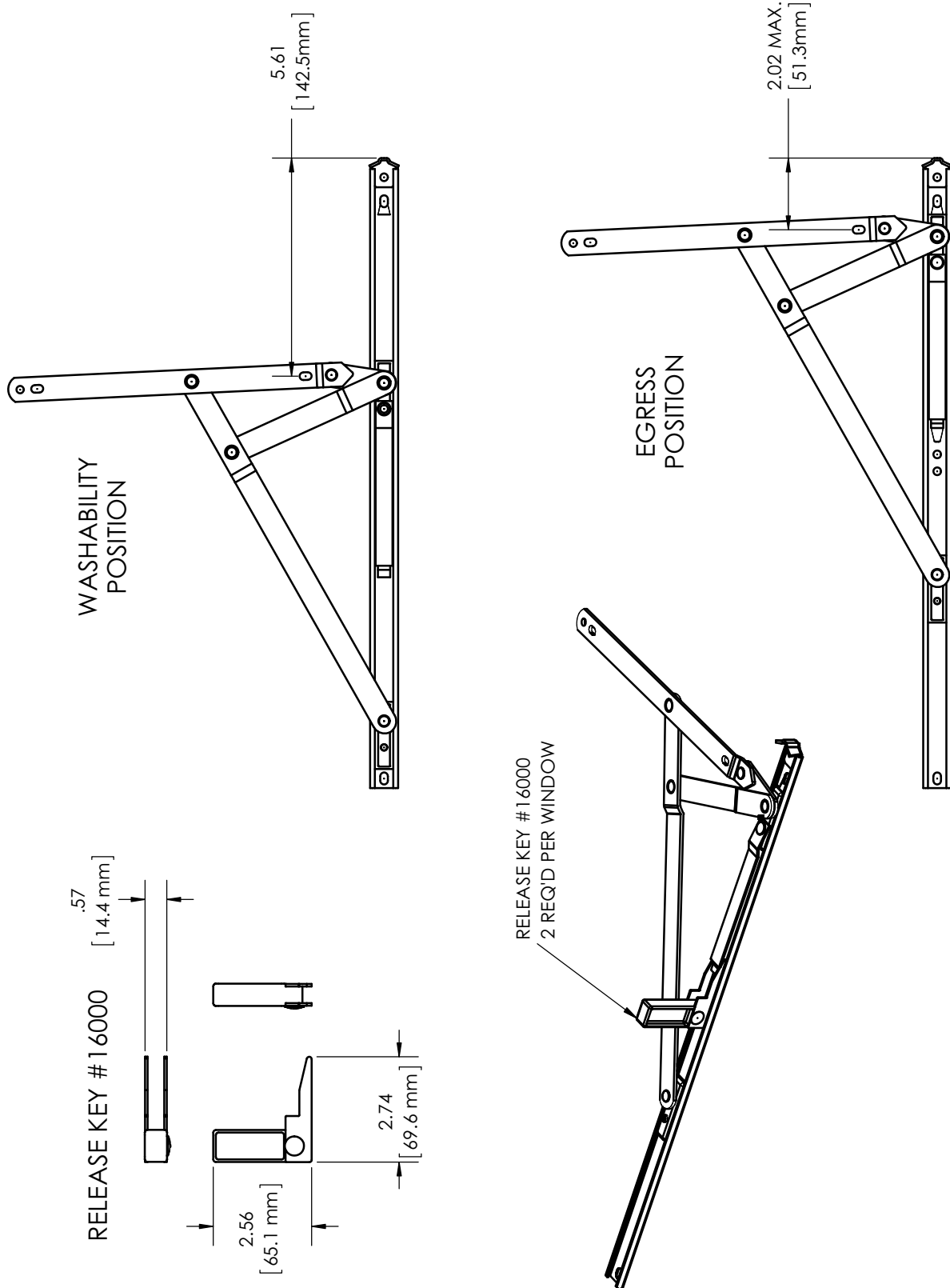




FIG. 4 TRUTH STANDARD DUTY 4-BAR EGRESS CASEMENT HINGE
(Truth 333SS-334SS Series)

TRUTH HEAVY DUTY 4-BAR CASEMENT HINGE W/ STOP

MAT'L	HINGE CALLOUT & (ACTUAL LENGTH)		PART NUMBER	EGRESS TO WASHABILITY
SST	16"	16.76" [425.7mm]	35.12.00.208	N/A
SST	16"	16.72" [424.7mm]	35.13.00.208	YES

PART NUMBERING SYSTEM

PRODUCT NO.	MODEL	FINISH	ASSEMBLY
35	12	00	208
4-BAR HINGE	HEAVY DUTY EGRESS 16" LENGTH	NO DECORATIVE FINISH	W/ STOP STD. OPEN (HINGE FEATURE)

4-BAR HINGE APPLICATION TABLE FOR CASEMENT HINGES
(SIDE HUNG) (AS CERTIFIED TO AAMA 904.1)

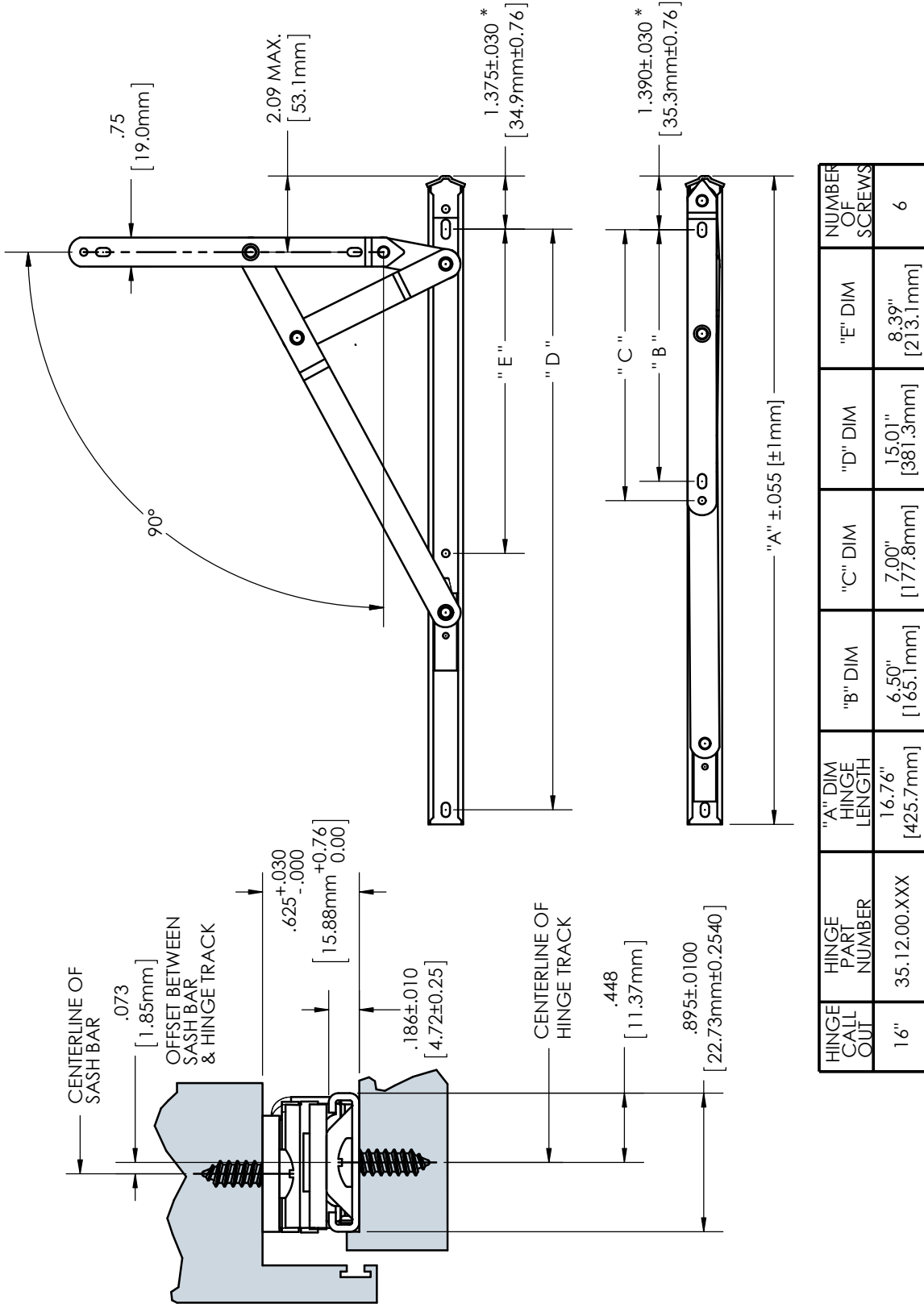
HINGE CALLOUT & (ACTUAL LENGTH)		ULTIMATE (SEE NOTE #6)	
		SASH/VENT WIDTH RANGE	MAX SASH VENT WEIGHT
35.12	16.76" [425.7mm]	18"-32" [457.2 mm-812.8 mm]	175 LBS AT 32" [79.4 KG AT 812.8 mm]
35.13	16.72" [424.7mm]	18"-32" [457.2 mm-812.8 mm]	158 LBS AT 32" [79.4 KG AT 812.8 mm]

NOTES:

1. THESE HEAVY DUTY EGRESS 4-BAR HINGES ARE RECOMMENDED FOR CASEMENT APPLICATIONS ONLY.
2. FOR ADDITIONAL RECOMMENDATIONS REGARDING 4-BAR HINGES, PLEASE REFER TO THE TRUTH TIPS SECTION AND THE TECH NOTES SECTION AT THE END OF THE CATALOG.
3. ALL 333-334 SERIES HINGES HAVE A BRASS SHOE.
4. THE STANDARD STACK HEIGHT OF A HEAVY DUTY HINGE IS .625 (15.9 mm). IF A SHIM OR WASHER IS USED THE STACK HEIGHT WILL INCREASE BY THE SHIM OR WASHER THICKNESS.
6. ULTIMATE SASH WEIGHT & WIDTH FOR HINGES, AS SHOWN IN CHARTS ARE BASED ON AAMA 904.1 "SPECIFICATION FOR MULTI-BAR HINGES IN WINDOW APPLICATIONS". THESE NUMBERS DO NOT APPLY TO WINDOWS BEING TESTED TO ANSI/AMMA/WDMA 101/I.S 2/NAFS-02 "CASEMENT HARDWARE LOAD TEST".

HEAVY DUTY 4-BAR EGRESS HINGES (333SS Series)

FIG. 5 TRUTH HEAVY DUTY 4-BAR EGRESS CASEMENT HINGE
(Truth 333SS Series)

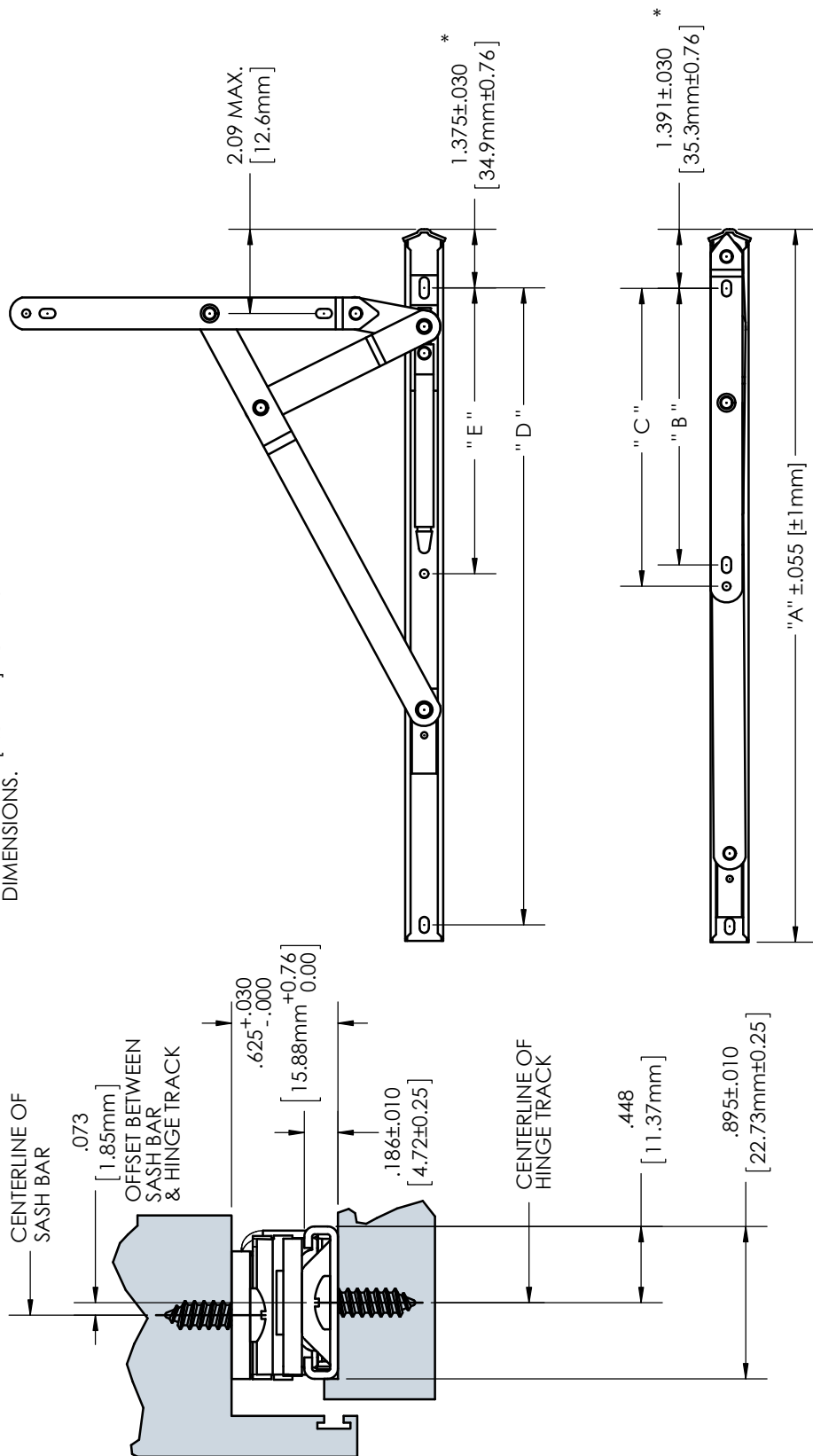




**FIG. 6 TRUTH HEAVY DUTY 4-BAR EGRESS/WASHABILITY CASEMENT HINGE
(Truth 334SS Series)**

RECOMMENDED SCREWS:
#10 PHILLIPS PAN HEAD STAINLESS STEEL SCREWS
(LENGTH AND THREAD TYPE TO BE
DETERMINED BY PROFILE DESIGN)

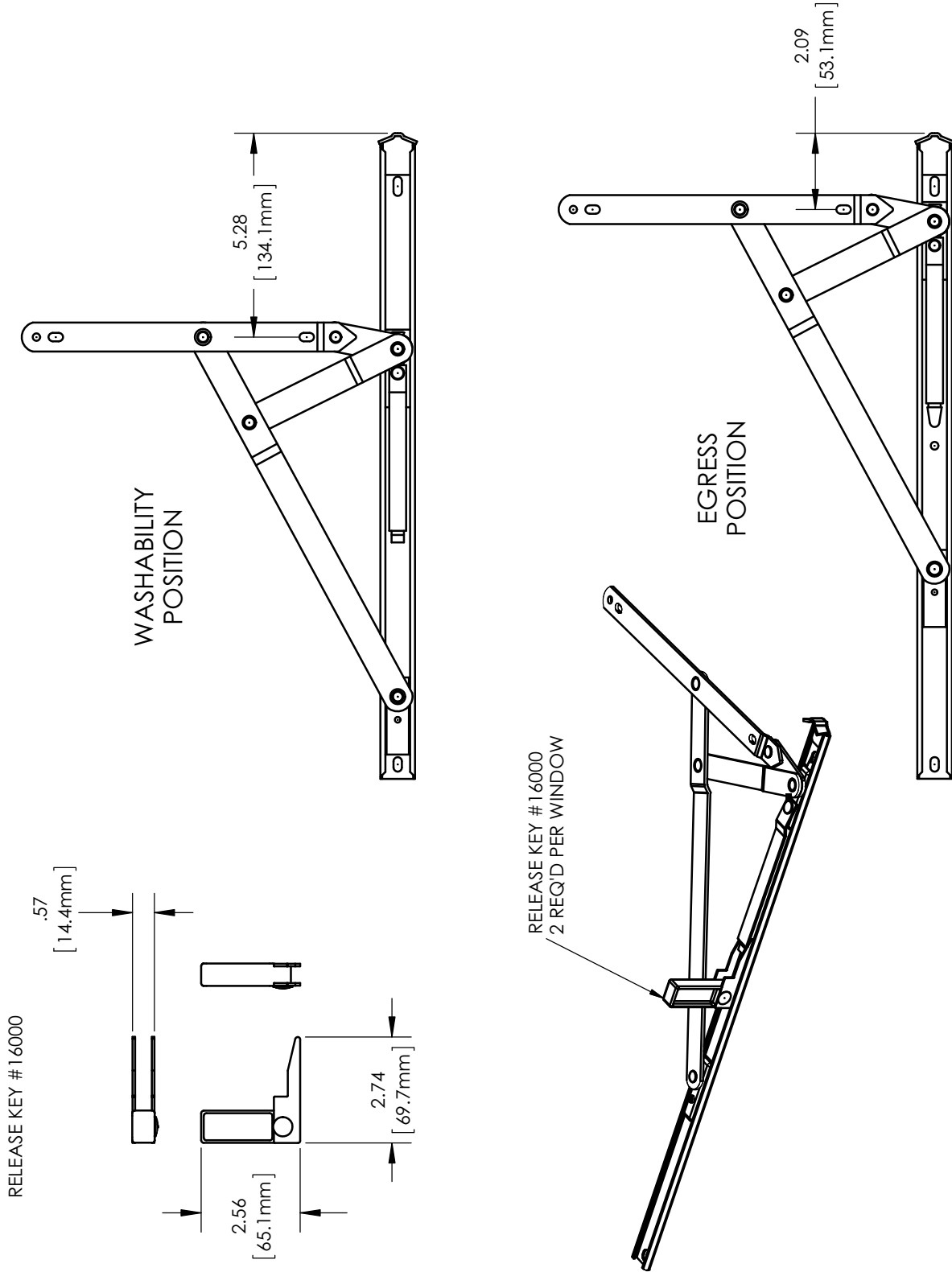
NOTE: * IF PREDRILLING, TRUTH RECOMMENDS
ADDING .062" [1.5 MM] TO THESE
DIMENSIONS.



HINGE CALL OUT	HINGE PART NUMBER	"A" DIM HINGE LENGTH	"B" DIM	"C" DIM	"D" DIM	"E" DIM	NUMBER OF SCREWS
16"	35.13.00.XXX	16.72" [424.7mm]	6.50" [165.1mm]	7.00" [177.8mm]	14.97" [380.2mm]	6.72" [170.6mm]	6

**HEAVY DUTY
EGRESS/WASHABILITY
4-BAR HINGE
(334SS Series)**

**FIG. 7 TRUTH HEAVY DUTY EGRESS/WASHABILITY 4-BAR CASEMENT HINGE
(Truth 334SS Series)**





These Truth 34 Series Standard Duty and Heavy Duty Stainless Steel 4-Bar Hinges are similar to the Anderberg 201SS & 301SS styles; however, these hinges also have the capability of producing 90° of window opening. Designed only for casement window applications, these non-handed, 4-Bar Hinges are designed to project the vent out as it pivots to avoid interference between a lipped vent and frame.

WARRANTY:

Protected under the terms of the Truth Warranty for window & Door Manufacturers & Authorized Distributors. For a copy of this warranty, please contact Truth.

MATERIAL: Non-magnetic stainless steel arms and track.

ORDERING INFORMATION & OPTIONS:

1. Choose correct hinge size and style by part number. (Reference 4-Bar Hinge Part Number Guide for the available options).
2. Order two hinges per window.

RECOMMENDED SCREWS:

Standard Duty (401 Series) 6 -- #10 Slotted or #8 Phillips pan head stainless steel screws. Length and thread type to be determined by profile design.

Heavy Duty (601 Series) 6 -- #10 Phillips pan head stainless steel screws. Length and thread type to be determined by profile design. See Truth Tip #11 for additional information on screw selection.

INCLUDE TRUTH SPECS ON YOUR NEXT WINDOW PROJECT

4-bar type window hinge for casement windows, which projects the vent while opening to avoid interference between frame and sash.

Window hinges to be of 4-bar type design, allowing 90° opening and washability access to outside of window glass. Hinges shall be non-handed and constructed of 300 series stainless steel. Hinges used must be certified to AAMA 904.1 specifications.

Window hinges shall be 401/601 series 4-bar, as manufactured by Truth Hardware.

**STANDARD DUTY
4-BAR HINGE
(401SS Series)**

**FIG. 1 TRUTH STANDARD DUTY 4-BAR CASEMENT HINGE
(Truth 401SS Series)**

TRUTH STD DUTY 4-BAR CASEMENT HINGE W/ 90° STOP

MAT'L	HINGE CALLOUT & (ACTUAL LENGTH)		PART NUMBER
SST	12"	12.22" [310.4mm]	34.55.00.300

PART NUMBERING SYSTEM

PRODUCT NO.	MODEL	FINISH	ASSEMBLY
34	55	00	300
4-BAR HINGE	STANDARD DUTY 12" LENGTH	NO DECORATIVE FINISH	W/ STOP STD. OPEN (HINGE FEATURE)

4-BAR HINGE APPLICATION TABLE FOR CASEMENT HINGES (SIDE HUNG) (AS CERTIFIED TO AAMA 904.1)			
HINGE CALLOUT & (ACTUAL LENGTH)		ULTIMATE (SEE NOTE #6)	
		SASH/VENT WIDTH RANGE	MAX SASH VENT WEIGHT
12"	12.22" [310.4mm]	12"-32" [305mm-813mm]	65 lbs at 32" [29.5 kg at 813mm]

NOTES:

1. THESE STANDARD DUTY HINGES 90° 4-BAR HINGES ARE RECOMMENDED FOR CASEMENT APPLICATIONS ONLY.
2. FOR ADDITIONAL RECOMMENDATIONS REGARDING 4-BAR HINGES, PLEASE REFER TO THE TRUTH TIPS SECTION AND THE TECH NOTES SECTION AT THE END OF THE CATALOG.
3. ALL 401 SERIES HINGES HAVE A BRASS SHOE.
4. THE STANDARD STACK HEIGHT OF A STANDARD DUTY HINGE IS .500 (12.7mm). IF A SHIM OR WASHER IS USED THE STACK HEIGHT WILL INCREASE BY THE SHIM OR WASHER THICKNESS.
5. ULTIMATE SASH WEIGHT & WIDTH FOR HINGES AS SHOWN IN CHARTS ARE BASED ON AAMA 904.1 "SPECIFICATION FOR MULTI-BAR HINGES IN WINDOW APPLICATIONS". THESE NUMBERS DO NOT APPLY TO WINDOWS BEING TESTED TO ANSI/AMMA/WDMA 101/I.S 2/NAFS-02 "CASEMENT HARDWARE LOAD TEST".

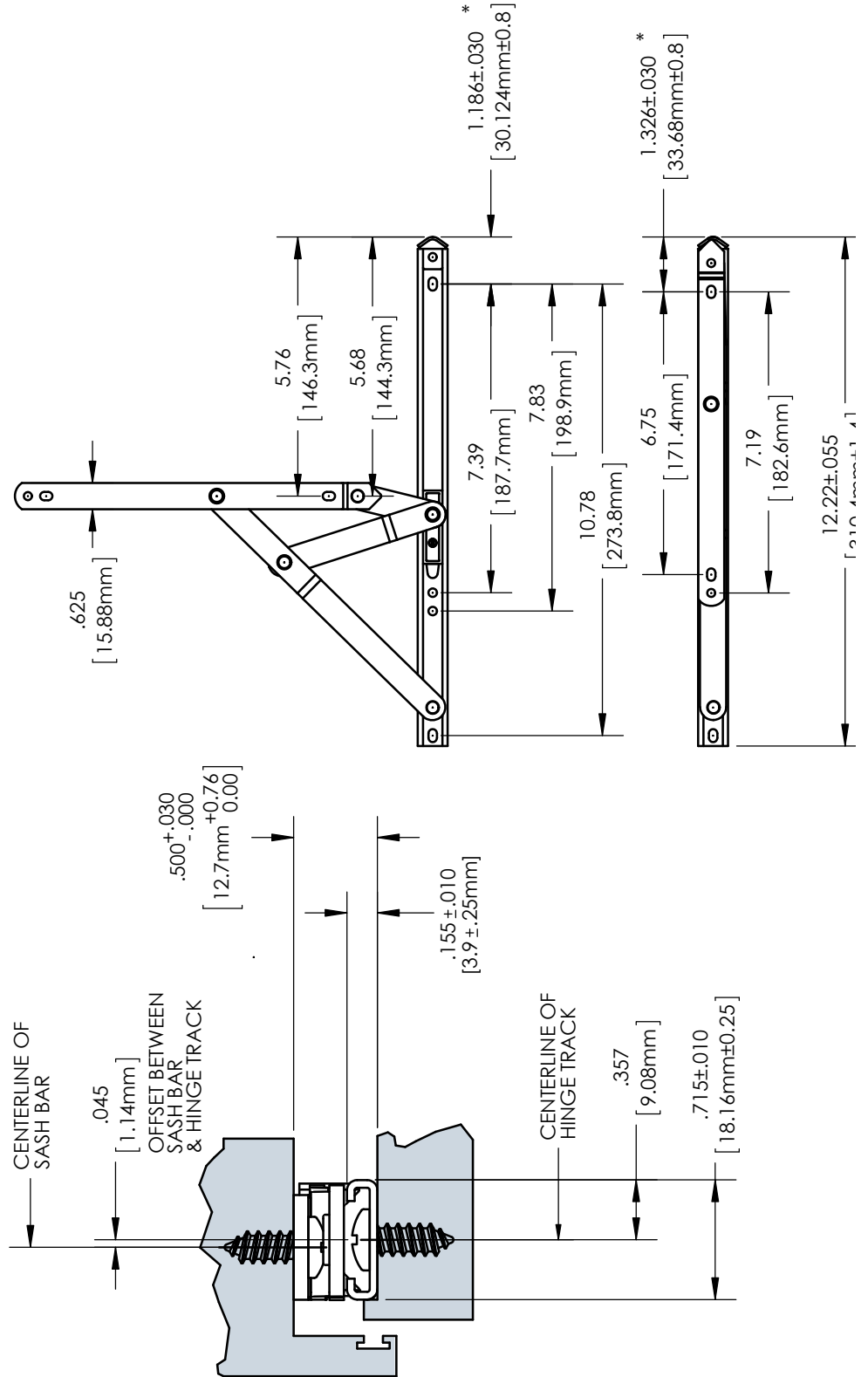


FIG. 2 TRUTH STANDARD DUTY 4-BAR CASEMENT HINGE
(Truth 401SS Series)

RECOMMENDED SCREWS:

#10 SLOTTED OR #8 PHILLIPS,
PAN HEAD STAINLESS STEEL SCREWS
(LENGTH AND THREAD TYPE TO BE
DETERMINED BY PROFILE DESIGN)

NOTE: * IF PREDRILLING, TRUTH RECOMMENDS
ADDING .062" [1.5 MM] TO THESE
DIMENSIONS.



**HEAVY DUTY
4-BAR HINGE
(601SS Series)**

**FIG. 3 TRUTH HEAVY DUTY 4-BAR CASEMENT HINGE
(Truth 601SS Series)**

TRUTH HEAVY DUTY 4-BAR CASEMENT HINGE W/ 90° STOP

MAT'L	HINGE CALLOUT & ACTUAL LENGTH		PART NUMBER
SST	14"	14.50" [368.3 mm]	34.59.00.208
SST	16"	16.50" [419.1 mm]	34.60.00.208
SST	18"	18.50" [469.9 mm]	34.61.00.208

PART NUMBERING SYSTEM

PRODUCT NO.	MODEL	FINISH	ASSEMBLY
34	59	00	208
4-BAR HINGE	HEAVY DUTY 14" LENGTH	NO DECORATIVE FINISH	W/ STOP STD. OPEN (HINGE FEATURE)

4-BAR HINGE APPLICATION TABLE FOR CASEMENT HINGES (SIDE HUNG) (AS CERTIFIED TO AAMA 904.1)			
HINGE CALLOUT & (ACTUAL LENGTH)		ULTIMATE (SEE NOTE #6)	
		SASH/VENT WIDTH RANGE	MAX SASH VENT WEIGHT
14"	14.52" [368.8 mm]	14"-36" [356mm-914mm]	120 lbs at 36" [54.4 kg at 914mm]
16"	16.52" [419.6 mm]	16"-36" [406mm-914mm]	120 lbs at 36" [54.4 kg at 914mm]
18"	18.52" [470.4 mm]	18"-36" [457mm-914mm]	120 lbs at 36" [54.4 kg at 914mm]

NOTES:

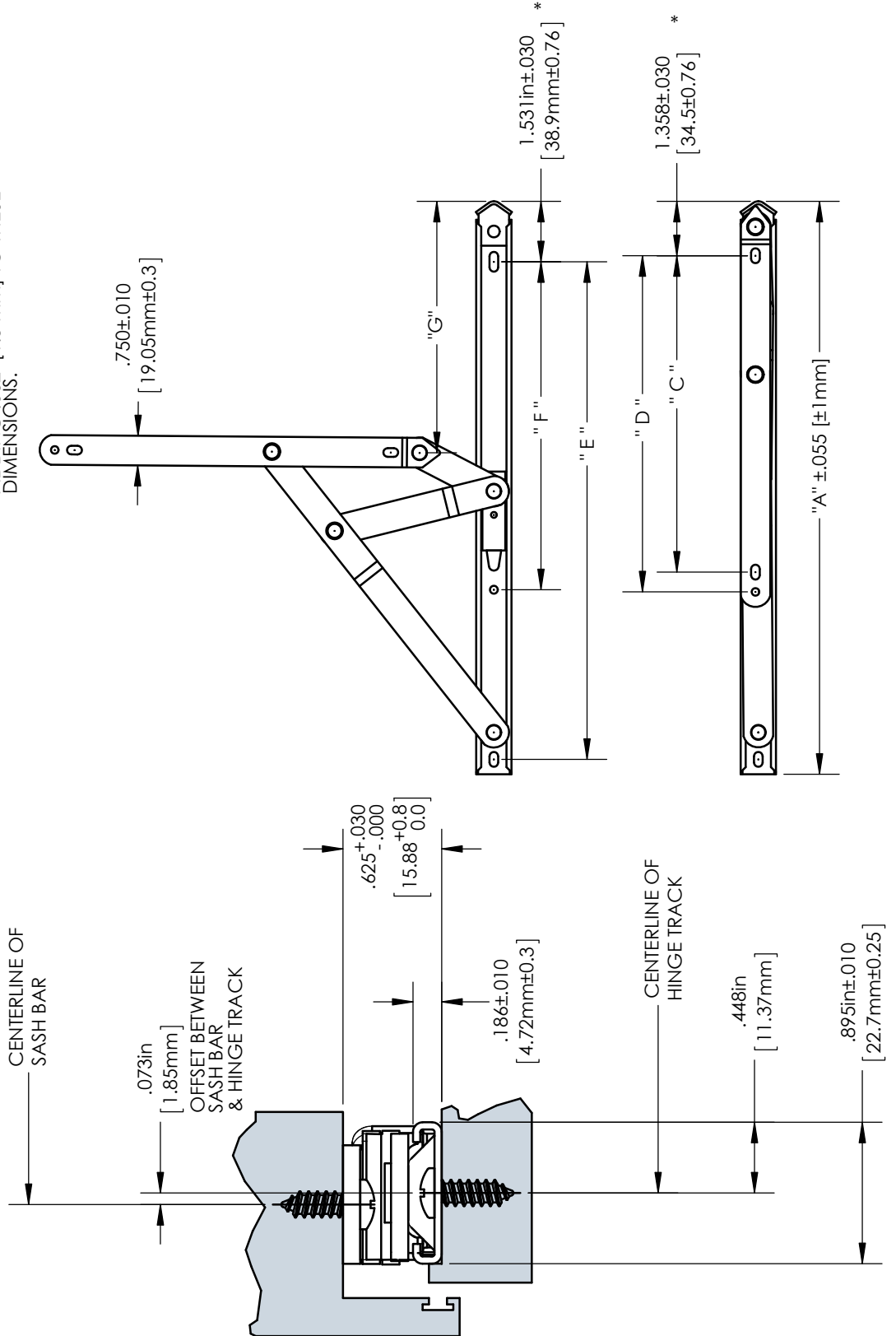
1. THESE HEAVY DUTY HINGES 90° 4-BAR HINGES ARE RECOMMENDED FOR CASEMENT APPLICATIONS ONLY.
2. FOR ADDITIONAL RECOMMENDATIONS REGARDING 4-BAR HINGES, PLEASE REFER TO THE TRUTH TIPS SECTION AND THE TECH NOTES SECTION AT THE END OF THE CATALOG.
3. ALL 601 SERIES HINGES HAVE A BRASS SHOE.
4. THE STANDARD STACK HEIGHT OF A HEAVY DUTY HINGE IS .625 (15.9 mm). IF A SHIM OR WASHER IS USED THE STACK HEIGHT WILL INCREASE BY THE SHIM OR WASHER THICKNESS.
5. ULTIMATE SASH WEIGHT & WIDTH FOR HINGES AS SHOWN IN CHARTS ARE BASED ON AAMA 904.1 "SPECIFICATION FOR MULTI-BAR HINGES IN WINDOW APPLICATIONS". THESE NUMBERS DO NOT APPLY TO WINDOWS BEING TESTED TO ANSI/AMMA/WDMA 101/I.S 2/NAFS-02 "CASEMENT HARDWARE LOAD TEST".



FIG. 4 TRUTH HEAVY DUTY 4-BAR CASEMENT HINGE
(Truth 601SS Series)

RECOMMENDED SCREWS:
#10 PHILLIPS PAN HEAD STAINLESS
STEEL SCREWS (LENGTH AND THREAD
TYPE TO BE DETERMINED BY PROFILE
DESIGN)

NOTE: * IF PREDRILLING, TRUTH RECOMMENDS
ADDING .062" [1.5 mm] TO THESE
DIMENSIONS.



HEAVY DUTY 4-BAR HINGE (601SS Series)

FIG. 5 TRUTH HEAVY DUTY 4-BAR CASEMENT HINGE
(Truth 601SS Series)

HINGE CALL OUT	HINGE PART NUMBER	"A" DIM HINGE LENGTH	"C" DIM	"D" DIM	"E" DIM	"F" DIM	"G" DIM	# OF SCREWS
14"	34.59.00.XXX	14.52" [368.8 mm]	8.01" [203.4 mm]	8.51" [216.1 mm]	12.59" [319.9 mm]	8.30" [210.9 mm]	6.59" [167.4 mm]	7
16"	34.60.00.XXX	16.52" [419.6 mm]	8.01" [203.4 mm]	8.51" [216.1 mm]	14.59" [370.7 mm]	7.75" [196.8 mm]	6.09" [154.7 mm]	7
18"	34.61.00.XXX	18.52" [470.4 mm]	8.01" [203.4 mm]	8.51" [216.1 mm]	16.59" [421.5 mm]	7.51" [190.7 mm]	5.77" [146.6 mm]	7



Do you have a project requiring you to ventilate a large awning window in a commercial application? If so, Truth Hardware has the answer. The new Superior 4-Bar Hinge.

STRENGTH & PERFORMANCE

AAMA Certified in excess of 300 lbs. in load testing. Truth's new 300 series stainless steel Superior Hinge has been engineered to work on awning sashes ranging from 64" - 86" in height, and will provide a choice of 20°, 18°, or 14° of opening. In addition, the Superior Hinge surpasses AAMA's 904.1 Cycle Test measuring durability (over 8,000 cycles). A positive lead-in of the hinge arm into the "hat" aids in the travel of the hinge arm while opening and closing of the window.

INSTALLATION & FLEXIBILITY

With a standard stack height (5/8") equal to Truth's popular Heavy Duty 4-Bar Hinges, window manufacturing changes are eliminated, allowing for continuity in your window profile designs. To accommodate the larger window styles of today - the Superior

Hinge comes in a 28" length. The non-handed design of the Superior Hinge helps cut down on expensive inventories.

OPTIONS:

Riser Block (#16076) allows the ability to adjust the maximum opening angle from 20°, 18°, or 14°, depending upon number used (see table).

The Adjustment Block feature (#16088) will help enhance flexibility in installation. This will adjust the sash in relation to the frame. Providing plus/minus 2 mm worth of adjustment, the Adjustment Block has been load tested to 200 lbs., and can be used on all Truth 4-Bar Heavy Duty Hinges

WARRANTY:

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

MATERIAL:

The Superior Hinge is made of a non-magnetic corrosion resistant stainless steel. Brass shoes which slide the hinge arm along the track help to provide the needed friction necessary for awning applications.

ORDERING INFORMATION & OPTIONS

1. Order Superior Hinge #34.87.00.200
2. Order two hinges per window.
3. Order optional items:

#16076 Riser Block for establishing opening angle. Quantity to be determined by amount of opening required.

#16088 Adjustment Block. Order one pRECOMMENDED SCREWSer hinge.

MATERIAL:

The Superior Hinge is made of a non-magnetic corrosion resistant stainless steel. Brass shoes which slide the hinge arm along the track help to

provide the needed friction necessary for awning applications. 7 - #10 Phillips pan head stainless steel screws. Length and thread type to be determined by profile design. See Truth Tips for additional screw selection information.

INCLUDE TRUTH SPECS ON YOUR NEXT WINDOW PROJECT

4-Bar type hinge for awning windows, which projects the vent while opening to avoid interference between frame and sash.

Window hinges to be of 4-bar type design. Hinges shall be non-handed and constructed of 300 Series non-magnetic corrosion resistant stainless steel with a brass shoe. Hinges must be certified to AAMA 904.1 specifications, and will accommodate a sash height range of between 64" and 86", and provide a variety of openings.

Hinges shall be 34 Series 4-Bar, as manufactured by Truth Hardware.

TRUTH TIPS

1. Placement of a 4-Bar Hinge relative to the outside edge of the frame depends upon the amount of overlap of the sash on the frame. As a general rule the hinge should be mounted flush to .250" (6.3 mm) of the outside edge of the frame. This dimension depends upon the amount of overlap. A .250" (6.3 mm) dimension will allow proper clearance for a window system having approximately .312" (7.9 mm) of sash overlap. If interference occurs between the sash and the frame then the hinge must be moved further outboard on the frame, or the overlap must be reduced.

2. Particular attention must be given to 4-Bar Hinge mounting. It is important that the ventilator bar be offset to a point where it is flush with the outside edge of the track. This results in an offset between the screw centerlines of the ventilator bar and hinge track (see the application drawing of the particular hinge).

3. To increase the overall hinge height of 4-Bar Hinges, aluminum shims applicable to the ventilator bar are available in various thicknesses. Truth provides some popular sizes of shims, however, other sizes must be provided by the window manufacturer.

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

5. For accurate hardware placement in vinyl or metal applications, pre-drilling of the window profile is recommended.

6. Mounting screws must pass through two PVC walls or one PVC wall and one insert wall.

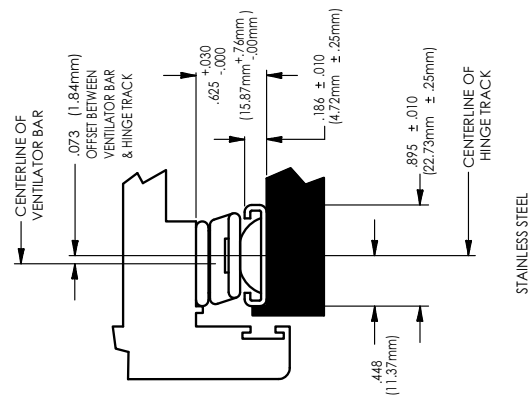
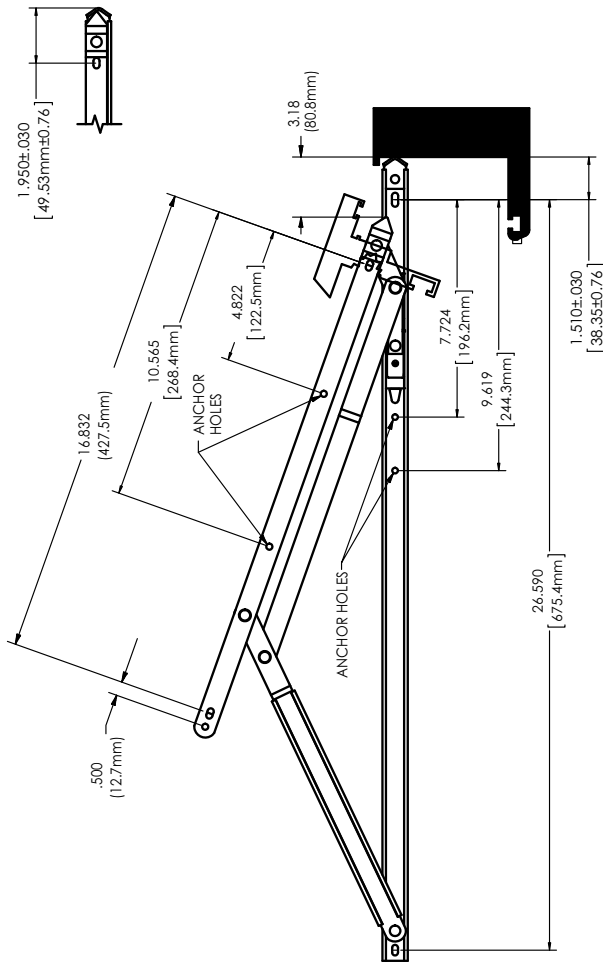
7. For metal window profiles, Truth recommends machine screws however, in most applications sheet metal screws will provide adequate holding power.

8. Hinge life can be prolonged by periodically adding a drop of light weight oil at each riveted joint.

9. For easy correction of out of square, or racked window applications, the use of Truth Jamb Jack frame adjusters is recommended. Frame adjustments can improve both weather seal tightness and sash operation over the life of the window.



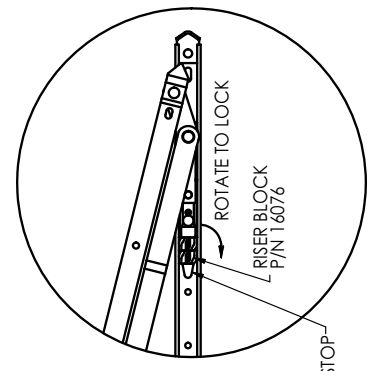
TRUTH SUPERIOR 4-BAR HINGE
(Anderberg 301 Series)



INSTALLATION OF RISER BLOCK

REQUIRED ON BOTH HINGES OF WINDOW APPLICATION

- 1) OPEN HINGE HALF WAY
- 2) INSERT RISER BLOCK INTO THE TRACK BETWEEN THE SLIDE SHOE AND THE TRACK STOP
- 3) ROTATE RISER BLOCK 90° TO LOCK INTO POSITION USING A SLOTTED SCREW DRIVER
- 4) REPEAT STEPS 2 & 3 FOR SECOND RISER BLOCK IF NEEDED



INSTALLATION OF RISER BLOCK

RECOMMENDED SCREWS:
STAINLESS STEEL: 8X NO. 10 PHILLIPS PAN HEAD STAINLESS STEEL SCREWS.
(LENGTH & THREAD TYPE TO BE DETERMINED BY PROFILE DESIGN)

PART NO.	HINGE LENGTH	VENT HEIGHT RANGE	DEGREE OF OPENING		REQUIRED NO. OF RISER BLOCKS PER HINGE	MAXIMUM VENT WEIGHT
			STD. STOP	NO STOP		
3487	28.48" (723.4 mm)	6.4" (1625.6 mm) TO 8.7" (2209.8 mm)	20°	NONE	TWO	300lb (136.05kg)
			17°	ONE		
			14°	TWO		

