



Designed for use on windows that are too narrow to accept the EntryGard® Dual Arm Operator, this hardware can be used on windows as narrow as eleven inches between stops (nine inches between stops if less than 90° of opening is acceptable). The result is excellent low-torque operation of narrow casement windows through a full 90° of opening.

VERSATILE & ECONOMICAL:

By using the same cover as on the EntryGard Dual Arm Operator, the same family appearance can be maintained. The cover has a flange which acts as an escutcheon. That means lower cost in the making of sill covers since the cut around the operator can be less exacting. The EntryGard Dyad Operator also adapts to an awning window application when mounted to the side jamb and used with Truth Awning Hinges. This dual purpose feature allows for casement/awning unit standardization, reducing costs of exterior cladding, parts inventory and dealers' inventories.

PRODUCT APPLICATION

ASSISTANCE: If you are designing a new window profile, or are having difficulty selecting hardware for your window, please contact Truth. Our highly trained Technical Service Staff can assist you with the selection of the appropriate hardware to meet your performance requirements, as well as providing personalized application drawings.

LOGO OPTIONS: Have you considered *personalizing* your window? The EntryGard series of Truth Operators provide a unique area in which to feature your company's name &/or logo. All of Truth's operator handles are capable of accepting your own "signature." Contact Truth for further details.

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: High-pressure die-cast zinc base, crank handle and knob. Hardened steel worm and gear. High-strength plastic cover.



(Inset photo) EntryGard with new 11454 Contour Handle & 11553 Contour Cover



CORROSION PROTECTION:

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.

For the severe conditions associated with coastal areas, Truth has developed certain product lines utilizing either **CoastGard® Hardware**, or stainless steel hardware. See Tech Note #7 for further information about corrosion protection and these special hardware options.

FINISH: Electrostatically applied, durable coatings that provide excellent resistance to chipping, scratching and corrosion while maintaining color stability for years in direct sunlight. Please refer to Truth's Color Chart for examples of Truth's most popular finish options. Truth also offers a wide range of decorative "plated" finishes - contact Truth for additional information on availability of these finishes on specific product lines.

ORDERING INFORMATION:

1. Choose operator style desired (specify by part number).
2. Specify finish number.

3. Specify right- or left-hand (determined by the side the hinge is on when viewed from the outside).

4. Select mounting hardware (sold separately):
#11454 - Contour Handle (painted) or #10579 - Roto Gear Operator Handle shown above (painted). **Optional handle and cover style**, such as Truth's *Folding Handle*, are also available.

#10341 - Operator cover (specify finish number).

LH and RH Stud Bracket - Select a bracket from the following drawings. Optional brackets for special profile applications - see Brackets & Track Section.

#21306 - Protective red plastic spline cap (optional).

RECOMMENDED SCREWS:

Types of screws required determined by material of profile used. Refer to drawings for complete information on screw type and quantity needed (sold separately). For additional information regarding screw selection - see Truth Tips and Tech Note #11.

TRUTH TIPS:

1. Operator handing is determined by the hinge side when viewed from the outside.
2. Sash weight should be limited to 45 lbs. to insure ease of operation for the lifetime of the window. When used on a sash weighing over 45 lbs., operating torque will noticeably increase and operator life will be reduced.

TRUTH TIPS (con't):

3. The EntryGard® Dyad Operator can be used with the following Truth Hinges:

- #14.05, #14.06, #14.75, #14.76. Concealed Casement Hinges.
- All 8", 10", and 12" Standard Duty 4-Bar Hinges.
- All 10" and 12" Heavy Duty 4-Bar Hinges with standard stops (except #34.85).

Note: This Operator should not be used with egress style or Butt Hinges.

4. Dimensions A and B become more critical as sash weight increases. Decreasing the B dimension increases operator performance. Increasing the

5. A dimension increases operator performance near the fully closed position, but may decrease operator performance near the fully open position. Recommended A dimension range: 1.375" (35.3 mm) to 2.125" (54.0 mm). Recommended B dimension range: 1.00" (19.1 mm) to 1.750" (44.5 mm).

6. #10917 and #10918 Stud Brackets are recommended because of the added strength given by the third mounting hole, and in most cases the A dimension is maximized.

7. Application of indicated brackets can vary greatly. Dimension C locates the operator in relation to the bracket. If there is interference between the operator linkage and the window, dimension C must be increased. If the window does not close fully, dimension C must be reduced.

8. When a Dyad Operator is installed in high-rise applications over two stories, a Truth Limit Device, to restrict the amount of opening, is recommended. Contact Truth for wind load information.

9. The EntryGard Dyad Operator is not recommended for windows with stiff, slide-by weatherstrip. To insure proper operation and long operator life,

10. Weatherstrip forces should be minimized. To find out if the weatherstrip forces are acceptable, the following procedure is suggested using the largest window size: A. From a complete window package, disconnect the operator so that the sash opens and closes freely. B. Mount window plumb and square. C. Connect spring scale or other force measuring device to lower lock side of the sash and measure the force required to completely close the window through its final one inch of travel. D. Multiply the force from Step C by the sash width and divide by dimension "A" from Figure 1. For acceptable performance, this calculated force must be less than 150 lbs.

11. If your window exceeds the forces as measured by the procedure outlined above, Truth recommends that the Dyad Operator not be used.

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

13. 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.

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

15. A Spline Cap (#21306) is available to protect the operator splines from dirt and other windows from damage during shipping, installation, and final building construction.

16. Truth recommends that a Snubber be used at the center of the hinge side on any casement window which has a tendency to bow outwardly at the center in the closed position. Adding a Snubber may increase the negative air pressure rating of a casement window.

17. 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.

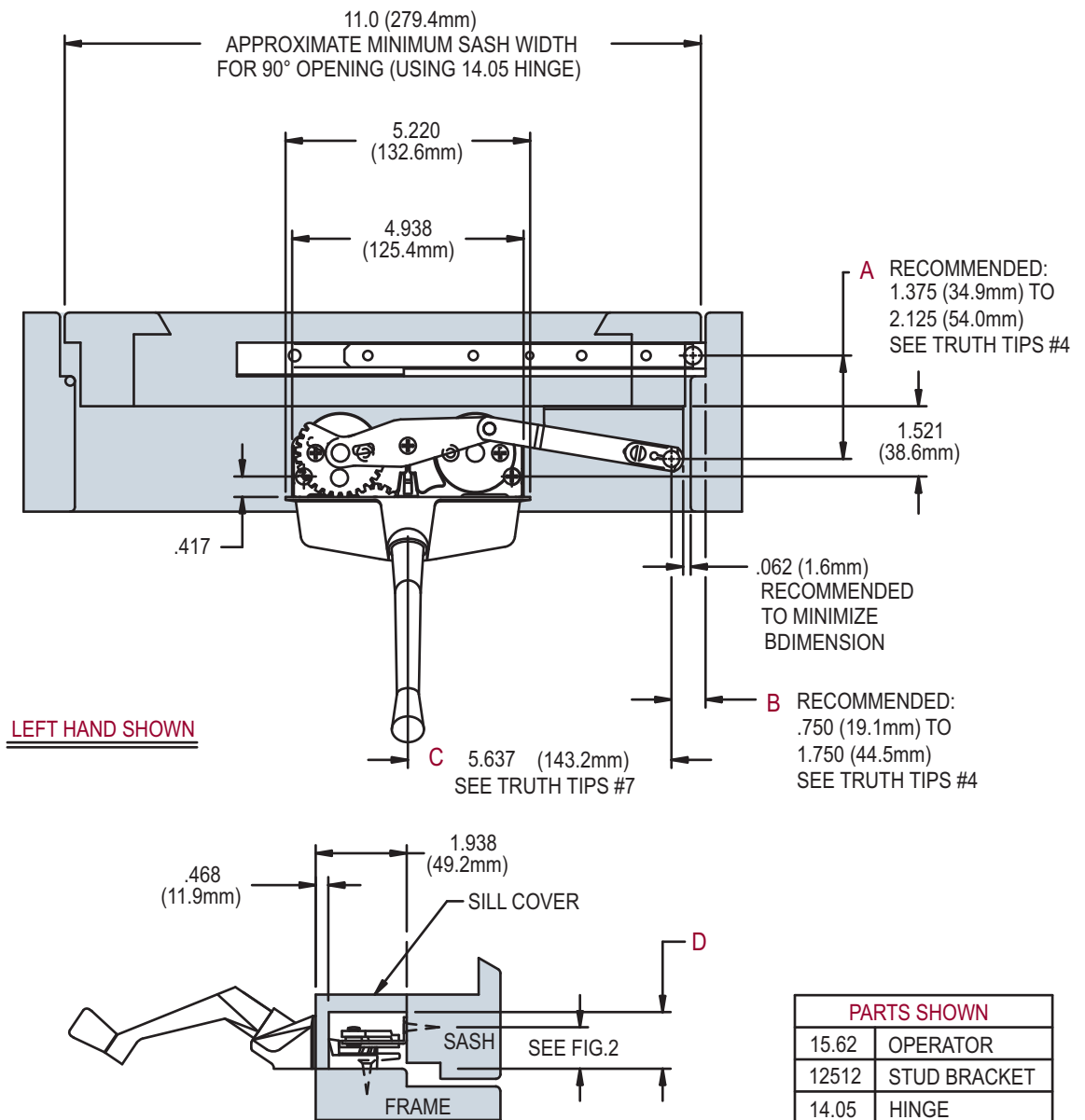
INCLUDE TRUTH SPECS ON YOUR NEXT WINDOW PROJECT

Window operators shall be provided which allow easy adjustment of window position. The mechanism should be crank operated and provide smooth operation out to 90° of sash opening. Connection to the movable sash must be easily detachable for window cleaning and maintenance. Removable EntryGard® interior cover will allow matching hardware styling as well as easier finishing of frame and sill.

Window operators will be of drag arm/link design driven by a hand crank. The operator must be constructed of E-Gard® components, hardened steel worm and gearing and high pressure zinc alloy die castings. High-strength plastic trim cover.

Window Operators shall be 15 series EntryGard® Dyad Operator as manufactured by Truth Hardware, Owatonna, MN.

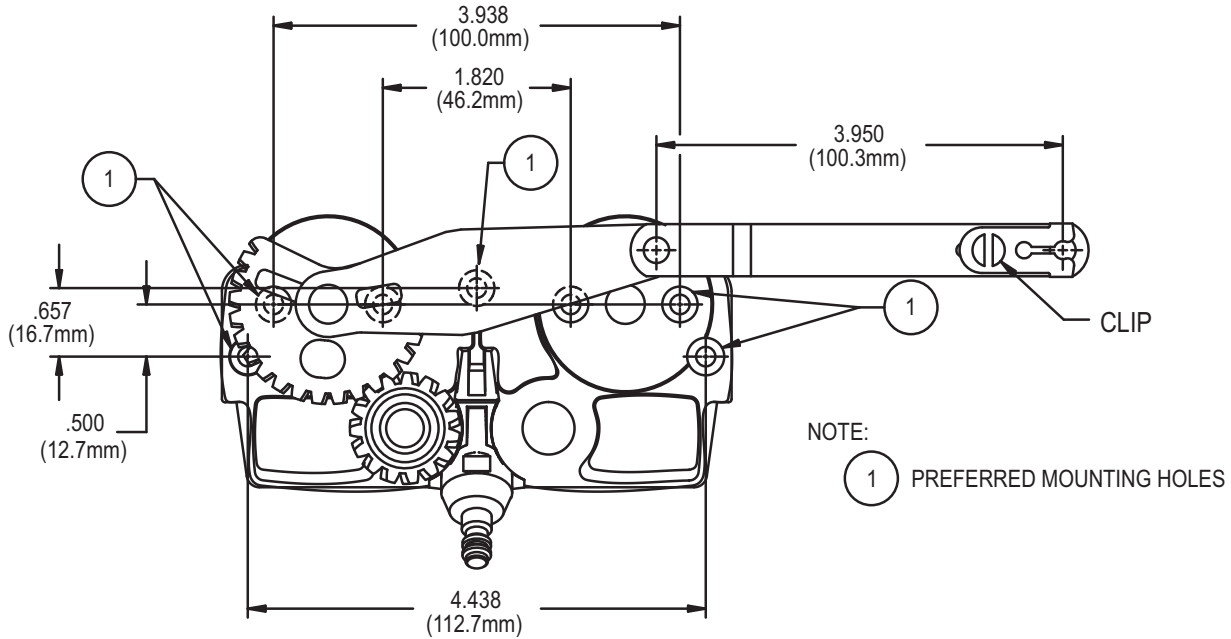
FIG. 1 APPLICATION OF TRUTH ENTRYGARD DYAD OPERATOR



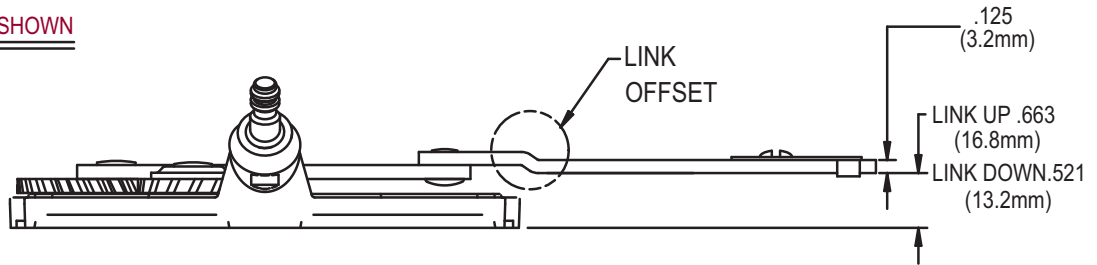
NOTES:

1. CRITICAL **A** RANGES FROM 1.375 (34.9mm) TO 2.125 (54.0mm).
CRITICAL **B** RANGES FROM .750 (19.1mm) TO 1.750 (44.5mm).
2. MAXIMIZE THE **A** DIMENSION AND MINIMIZE THE **B** DIMENSION FOR BEST OPERATOR PERFORMANCE.
3. CONTACT TRUTH IF YOUR PROFILE DOES NOT FIT INTO **A** OR **B** RANGES.
4. THIS OPERATOR MUST NOT BE USED WITH BUTT HINGES, 4 BAR EGRESS HINGES OR ANY CONCEALED CASEMENT HINGES WITH AN **A** DIM. OF LESS THAN 4.00 (101.6mm).
5. OPERATOR CUTOUT 5.0(127.0mm) X .750(19.1mm).

FIG. 2 ENTRYGARD DYAD OPERATOR



15.11 LEFT HAND SHOWN



BRACKET MOUNTING HEIGHT= "L" = "F"
(SEE STUD BRACKETS FOR "F" DIM.)

RECOMMENDED SCREWS:

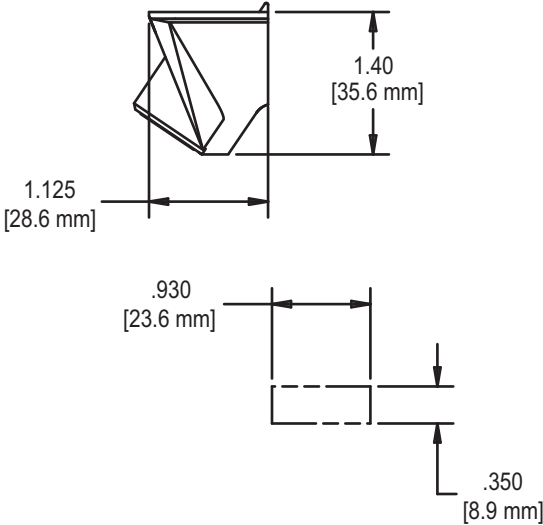
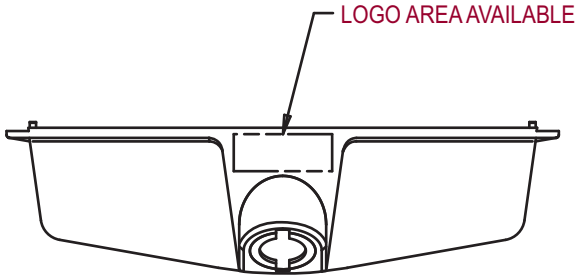
WOOD: 5 (P/N 19240.XX) #8 X 1.0 PHILLIPS,
FLAT HEAD, SHEET METAL, SCREWS.

PVC & METAL: 5 - #8 PHILLIPS, FLAT HEAD SCREWS
(LENGTH AND THREAD TYPE TO BE
DETERMINED BY PROFILE)

AVAILABLE OPERATORS	LINK OFFSET	CLIP	BRACKETS
			10917 L 10918 R
15.11	DOWN	TOP	D= .95 (24.1mm)
15.62	UP		D= 1.09 (27.7mm)
15.64	UP	BOTTOM	D= .952 * (24.1mm)
15.76	DOWN		D= .810 * (20.6mm)

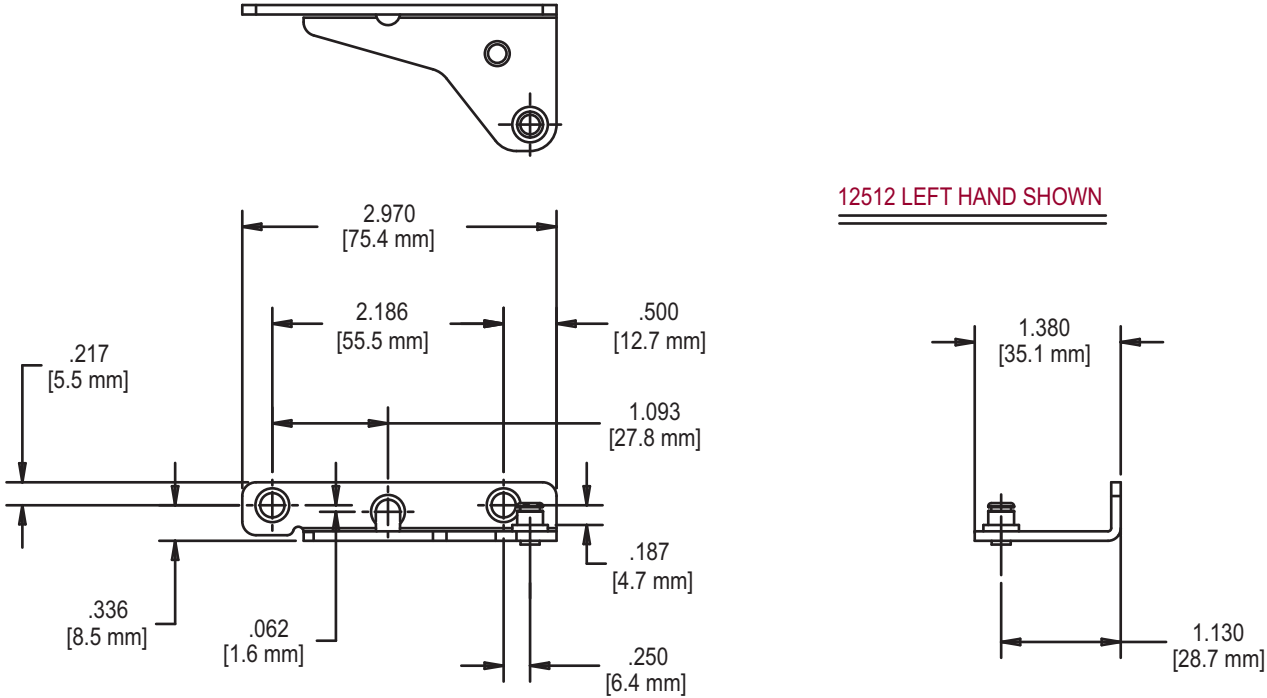
(* = OPPOSITE HAND INVERTED BRACKET)

FIG. 3 ENTRYGARD OPERATOR COVER 10341



NOTE:
COVER SNAPS ONTO OPERATOR
NO FASTENERS NEEDED

FIG. 4 STUD BRACKETS 12512.XX, 12513.XX



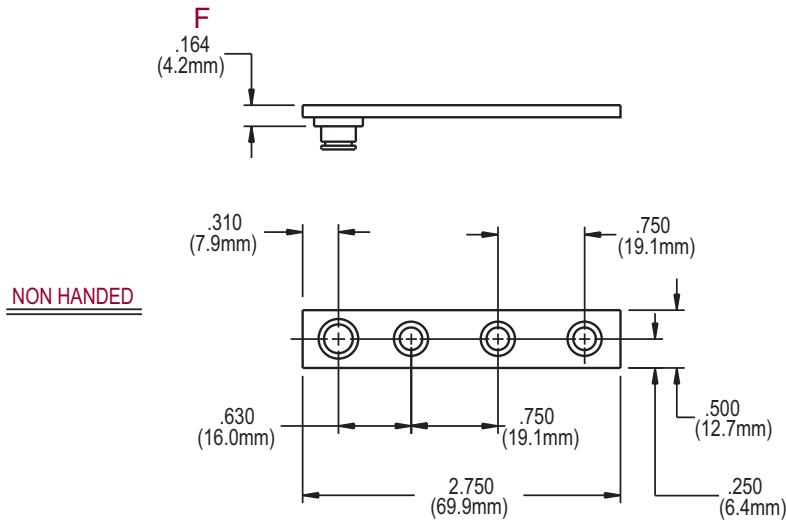
12512 LEFT HAND SHOWN

NOTE: 12513 RIGHT HAND

RECOMMENDED SCREWS:

WOOD: (QTY 3) (P/N 19140.XX)#7 X .875 PHILLIPS, FLAT HEAD, SHEET METAL SCREWS:
PVC&METAL: (QTY 3)#7 PHILLIPS, FLAT HEAD SCREWS (LENGTH AND THREAD TYPE DETERMINED BY PROFILE)

FIG. 5 STUD BRACKETS 10558.XX

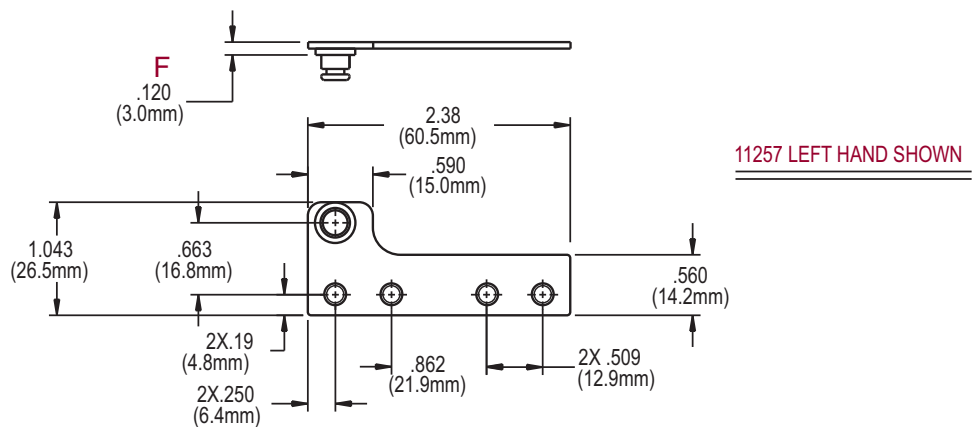


RECOMMENDED SCREWS:

WOOD: 3 (P/N 19140.XX) #7 X .875 PHILLIPS, FLAT HEAD, SHEET METAL SCREWS

PVC & METAL: 3 - #7 PHILLIPS, FLAT HEAD SCREWS (LENGTH AND THREAD TYPE DETERMINED BY PROFILE)

FIG. 6 STUD BRACKETS 11257.XX, 11258.XX



RECOMMENDED SCREWS:

WOOD: 4 (P/N 19140.XX) #7 X .875 PHILLIPS, FLAT HEAD, SHEET METAL SCREWS

PVC & METAL: 4 - #7 PHILLIPS, FLAT HEAD SCREWS (LENGTH AND THREAD TYPE DETERMINED BY PROFILE)

NOTE: 11258 RIGHT HAND