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MIL-C-12044D
13 February 1975
SUPERSEDING
MIL-C-12044C
11 April 1961

MILITARY SPECIFICATION

CHESTS, PLYWOOD

This specification is approved for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 This specification covers plywood chests with hinged covers.

2. APPLICABLE DOCUMENTS

2.1 The following documents of the issue in effect on date of invitation for bids or request for proposal form a part of this specification to the extent specified herein:

SPECIFICATIONS

Federal

L-P-387	- Plastic Sheet, Laminated, Thermo-setting (for Designation Plates).
NN-P-71	- Pallets, Material Handling, Wood, Stringer Construction, 2-Way and 4-Way (Partial).
NN-P-530	- Plywood, Flat Panel.
QQ-S-698	- Steel, Sheet and Strip, Low-Carbon.
QQ-S-781	- Strapping, Steel, and Seals.
QQ-W-461	- Wire, Steel, Carbon (Round, Bare and Coated).
TT-E-527	- Enamel, Alkyd, Lustreless.
PPP-B-636	- Boxes, Shipping, Fiberboard.
PPP-F-320	- Fiberboard; Corrugated and Solid, Sheet Stock (Container Grade), and Cut Shapes.

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Military

MIL-T-704 - Treatment and Painting of Materiel.

STANDARDS

Military

MIL-STD-12 - Abbreviations for Use on Drawings and in Technical-Type Publications.
MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes.
MIL-STD-129 - Marking for Shipment and Storage.
MIL-STD-731 - Quality of Wood Members for Containers and Pallets.

(Copies of specifications and standards required by suppliers in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless otherwise indicated, the issue in effect on date of invitation for bids or request for proposal shall apply.

DEPARTMENT OF COMMERCE

PS-1 - Construction and Industrial Plywood.
PS-51 - Hardwood and Decorative Plywood.

(Application for copies should be addressed to the Superintendent of Documents, Government Printing Office, Washington, DC 20402.)

NATIONAL MOTOR FREIGHT TRAFFIC ASSOCIATION, INC., AGENT

National Motor Freight Classification.

(Application for copies should be addressed to the American Trucking Associations, Inc., ATTN: Tariff Order Section, 1616 P Street, NW, Washington, DC 20036.)

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UNIFORM CLASSIFICATION COMMITTEE, AGENT

Uniform Freight Classification.

(Application for copies should be addressed to the Uniform Classification Committee, ATTN: Tariff Publishing Officer, Room 1106, 222 South Riverside Plaza, Chicago, IL 60606.)

3. REQUIREMENTS

3.1 Description. General details of the exterior of the chests are shown on Figure 1. Dimensional details fixing the chest sizes and location of fixtures are indicated by Letters A, B, C, etc. on Figure 1. Constructional details are shown on Figures 2 through 24. Details of interior arrangements such as, but not limited to, blocking, partitions and trays, as well as the overall dimensions of the chests, shall be as specified in the end item specification or as specified (see 6.2).

3.2 Material. Material shall be as specified herein. Materials not specified shall be selected by the supplier and shall be subject to all provisions of this specification.

3.2.1 Plywood. Plywood shall conform to NN-P-530, Group A or B. The minimum acceptable quality shall comply with PS-51, Grade 2-3, Type I for Group A, and with PS-1, B-C, Exterior Type for Group B.

3.2.1.1 Thickness. Thickness of plywood chest panels shall be in accordance with Table I.

Table I. Plywood Thickness

Maximum Weight of Contents (pounds)	Maximum Outside Dimensions (inches)		Plywood 1/ Thickness (Group B) (inch)
up to 200	Length	36	3/8
	Width	24	
201 to 400	Length	60	1/2
	Width	30	

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Table I. Plywood Thickness (Cont'd)

Maximum Weight of Contents (pounds)	Maximum Outside Dimensions (inches)		Plywood 1/ Thickness (Group B) (inch)
401 to 750	Length	60	5/8
	Width	36	
over 750	Length	-	3/4
	Width	-	

1/ Group A plywood may be 1/16 inch less in thickness than specified for Group B plywood.

3.2.2 Wood. Wood used for interior fittings and for skids shall conform to MIL-STD-731, Structural Class 1 for multiple handling.

3.2.3 Steel.

3.2.3.1 Binding. Binding shall be of steel conforming to QQ-S-698, condition and finish optional. Edge binding shall be 0.018 inch, plus or minus 0.002 inch, thick (26 gage). All other binding shall be 0.036 inch, plus or minus 0.002 inch, thick (20 gage).

3.2.3.2 Cover pulls. Cover pulls shall be of wire conforming to QQ-W-461, Composition 1015 or 1020, Bare Finish, sizes as shown on Figures 13 and 15.

3.2.4 Fasteners. All fasteners (screws, nails and rivets) shall be common commercial steel types, with sizes shown on the figures.

3.3 Hardware. Hardware (handles, hinges and latches) shall be common commercial styles and sizes similar, but not necessarily identical, to those shown on Figures 17, 20 and 23. Hardware shall be attached to the chests as shown on the figures.

3.3.1 Handles. The number of handles in relation to length and width shall be as shown in Table II.

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Table II. Handles

Number of Handles per End and Side Panels	Length (Front) of Chest (inches)	Width (End) of Chest (inches)
None	to 24	
1	over 24 to 36	to 36
2	over 36 to 48	over 36
3	over 48 to 72	
4	over 72	

Single handles shall be mounted at the center of the horizontal dimension of the panel. Panels having two or more handles shall have the end handles mounted with their centerline 9 inches from the end of the panel, and the remaining handles equally spaced between the end handles.

3.3.2 Hinges. Each chest shall be equipped with not less than two hinges. The centerline of end hinges shall be one-sixth of the chest length from the ends of the chest. Intermediate hinges shall be equally spaced between the end hinges. Chests up to 36 inches long shall have two hinges; chests between 36 and 48 inches long shall have three hinges; chests between 48 and 60 inches shall have four hinges. Chests over 60 inches long shall have intermediate hinges spaced not more than 15 inches apart.

3.3.3 Latches. Latches shall be placed opposite the hinges and shall equal the number of hinges, except that chests less than 12 inches long shall have one centrally located latch. Additionally, chests over 36 inches wide shall have one centrally located latch at each end, and chests over 60 inches wide shall have two equally spaced latches at each end.

3.4 Cover pulls. Cover pulls shall be as shown on Figures 13 and 15. Corner cover pulls shall be used on all chests. Straight cover pulls shall be used only if the chest length exceeds 48 inches.

3.4.1 Cover restraining chain. The cover restraining chain shall be as shown on Figure 24.

3.5 Skids. Unless otherwise specified (see 6.2), skids shall be used on all chests having a gross weight (including the contents) in excess of 250 pounds and a length exceeding 36 inches. Skids shall be

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nominal size 4- by 3-inch pieces placed across the width of the chest at least one-sixth the length of the chest in from the ends. Skids shall be secured to the chest bottom with carriage bolts passing through the bottom panel into the skids. Nuts shall be countersunk into the skids. Skids shall have the ends beveled at 45 degrees for half the depth of the skid.

3.6 Loading plan. When specified (see 6.2), a loading plan shall be supplied and shall be securely attached to the underside of the chest lid with wood screws of appropriate length for the thickness of plywood. The loading plan shall be of material conforming to L-P-387, type optional. Marking and lettering shall be permanently applied and shall be white on black background or black on white background. Figure 25 shows a loading plan which should be used as a guide.

3.7 Treatment and painting. The interior and exterior of the chests shall be treated and painted in accordance with MIL-T-704, Type A. Plywood, wood components and binding shall be treated after cutting to size but prior to assembly. If pressure-treated plywood is used, no additional treatment is necessary. Handles, latches, hinges, and cover pulls, if supplied clean and free of rust, shall be painted as part of the assembled chest during final painting. Otherwise, such hardware shall be cleaned and treated prior to final painting of the chest.

3.8 Marking. Such marking as is specified (see 6.2) shall be centered on the outside of the cover. All lettering and numbers shall be Gothic capitals. Marking shall be with black enamel conforming to TT-E-527. In addition to any marking specified, the letters "US", 1-1/2 inches high, shall be placed above all other marking. Where space precludes the spelling out of the nomenclature, abbreviations conforming to MIL-STD-12 may be used, except that the basic noun or noun phrase shall be spelled out.

3.9 Blocking and partitions. Blocking shall be held in place with glue and countersunk wood screws, except blocking subject to lateral forces shall be secured with glue and bolts in lieu of wood screws. Partitions shall be secured with glue as shown on Figure 3. Glue shall be waterproof and of a type appropriate for use on wood.

3.10 Workmanship. Chest hardware and binding shall be securely fastened. All bolts, screws and rivets shall be tight. All corners shall be square. The chest shall have no slivers, splinters or cracks. Blocking and partitions shall be securely fastened in place.

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4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements specified herein. Except as otherwise specified in the contract or order, the supplier may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.1.1 Component and material inspection. The supplier is responsible for insuring that components and materials used are manufactured, examined and tested in accordance with referenced specifications and standards.

4.2 Classification of inspections. Inspections shall be classified as follows:

(a) Quality conformance inspection (see 4.3).
(b) Inspection of preparation for delivery (see 4.5).

4.3 Quality conformance inspection.

4.3.1 Sampling. Sampling for examination shall be in accordance with MIL-STD-105.

4.3.2 Examination. Samples selected in accordance with 4.3.1 shall be examined for the defects specified in 4.4.1. Acceptable quality level (AQL) shall be 2.5 percent defective for major defects and 4.0 percent defective for minor defects.

4.4 Inspection procedure.

4.4.1 Examination. The chests shall be examined as specified herein for the following defects:

Major

101. Plywood not of specified type and thickness.
102. Binding not as specified.
103. Quantity and location of hardware (handles, latches, hinges, cover pulls) not as specified.

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104. Hardware not attached as specified.
105. Dimensions of chest not as specified.
106. Interior blocking and partitions not attached or located as specified.
107. Skids, when required, not as specified or missing.
108. Workmanship not as specified.

Minor

201. Loading plan, when required, missing or not as specified.
202. Treatment and painting not as specified.
203. Chest cover marking not as specified.

4.5 Inspection of preparation for delivery.

4.5.1 Quality conformance inspection of pack.

4.5.1.1 Unit of product. For purpose of inspection, the unit of product shall be either a single chest prepared for shipment or a number of chests unitized into a single load for shipment.

4.5.1.2 Sampling. Sampling for examination shall be in accordance with MIL-STD-105.

4.5.1.3 Examination. Samples selected in accordance with 4.5.1.2 shall be examined for the following defects. The AQL shall be 2.5 percent defective.

109. Individual chests not boxed or covered as specified for Level A or B.
110. Unitized loads not secured as specified for Level A or B.
111. Chests comprising a unit load not protected as specified for Level B.
112. Marking incorrect, incomplete or illegible.

5. PREPARATION FOR DELIVERY

5.1 Packing. Packing shall be Level A, B or C, as specified (see 6.2).

5.1.1 Level A. Small and medium size chests shall be packed individually in boxes conforming to PPP-B-636, Type SF, Class Weather Resistant, grade as appropriate for the chest size. Larger chests which exceed the allowable box dimensions in size shall be covered with material conforming

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to PPP-F-320, Type SF, Class Weather Resistant, grade optional. Chests with skids shall not have the bottom covered. Covering shall be secured with strapping conforming to QQ-S-781, Type I or IV, Finish A.

5.1.1.1 Unitization. Whenever possible, chests shall be unitized. Smaller chests shall be palletized on pallets conforming to NN-P-71, type, style and size optional. Chests shall be secured to the pallet with steel strapping; large chests shall be strapped together in quantities determined by their size without pallets.

5.1.2 Level B. Chests for individual shipment shall be packed or covered as specified in 5.1.1, except boxes or sheet stock shall be Type CF or SF, Class Domestic, grades as appropriate.

5.1.2.1 Unitization. Chests shall be palletized or unitized as specified in 5.1.1.1, except chests need not be individually boxed. A single fiberboard covering over the entire palletized or unitized quantity may be used. Chests on pallets shall be secured to the pallets with either steel strapping or shrink film.

5.1.3 Level C. Chests shall be packed in containers or otherwise protected and unitized in a manner which will assure carrier acceptance and safe delivery to destination at lowest ratings in compliance with Uniform Freight Classification rules or National Motor Freight Classification rules.

5.2 Marking. Marking for shipment and storage shall be in accordance with MIL-STD-129.

6. NOTES

6.1 Intended use. Chests covered by this specification are intended for use as permanent containers for items and equipment sets.

6.2 Ordering data. Procurement documents should specify the following:

(a) Title, number and date of this specification.
(b) Details of interior arrangements, trays, partitions, blocking, etc., and the interior dimensions of the chest required (see 3.1).
(c) When skids are not required (see 3.5).

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(d) Details of loading plan when a loading plan is required (see 3.6).
(e) Marking required (see 3.8).
(f) Level of packing required (see 5.1).

Custodians:

Army - ME
Air Force - 82

Preparing activity:

Army - ME

Review activity:

DSA - CS

User activities:

Army - CE
Navy - MC

Project No. MISC-0528

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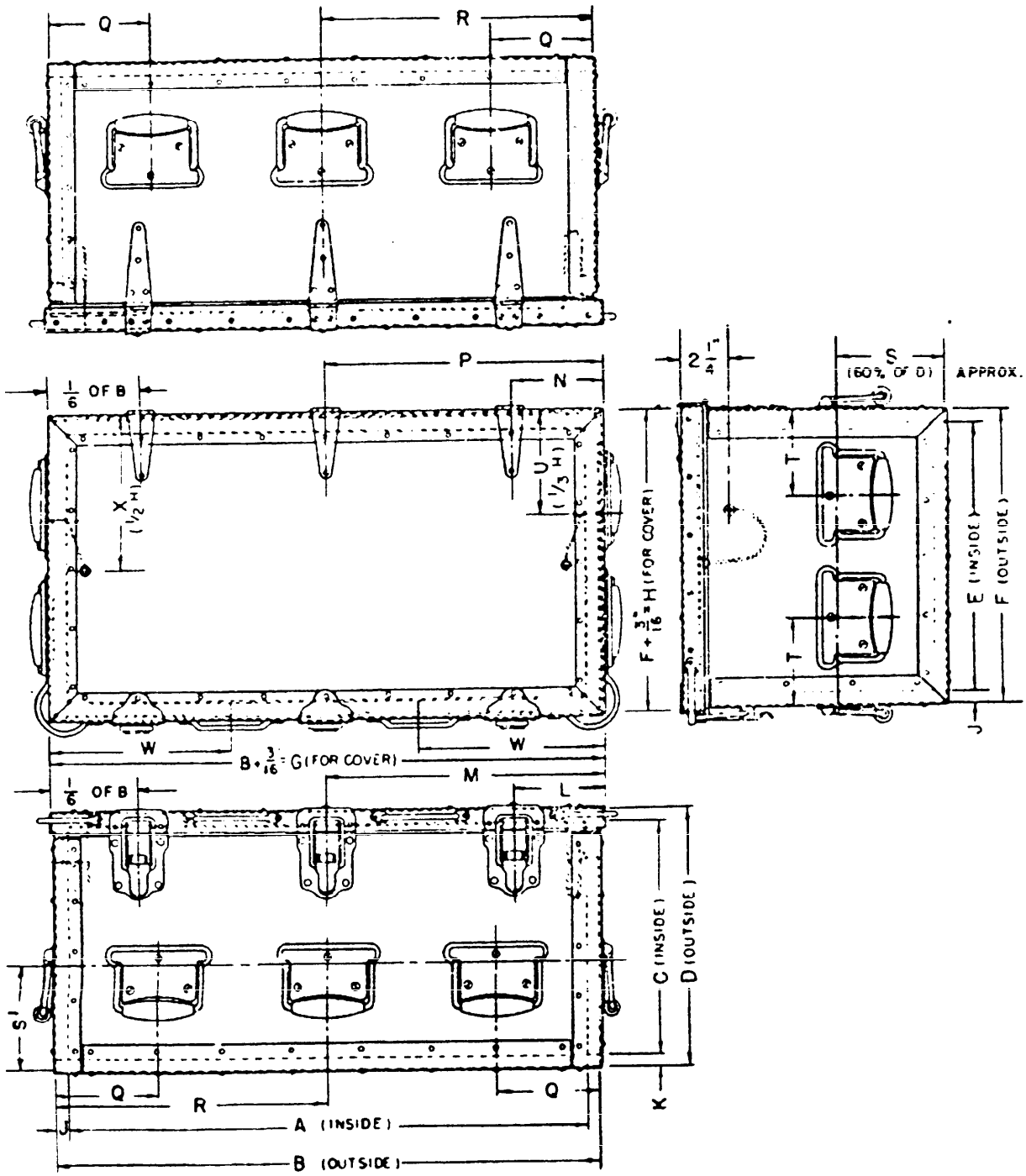

Figure 1. Chest general assembly

X-2868

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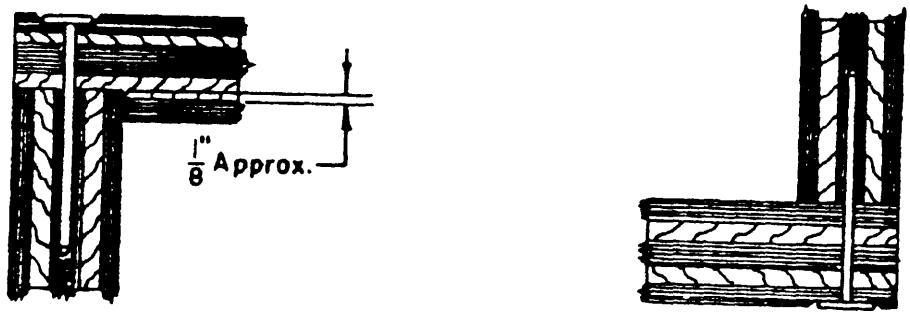
Note: 4d cement coated nails to be spaced in a manner that will not interfere with binding angle rivets.



Corner

Bottom

FIGURE 2. METHOD OF JOINING PLYWOOD

X-2869

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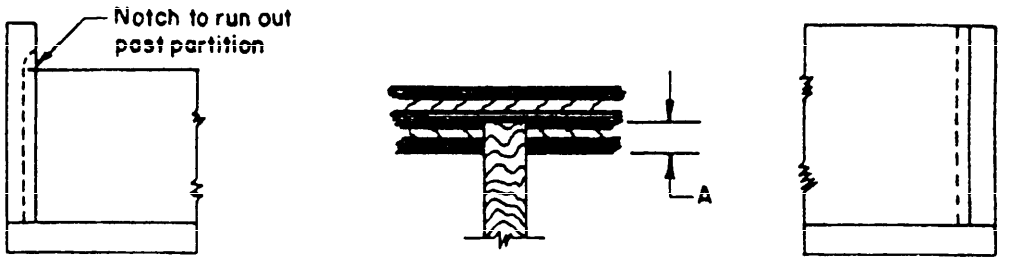

Partition partial depth

Partition full depth

Plywood	A-Depth of notch
$\frac{3}{8}$"	$\frac{1}{8}$"
$\frac{1}{2}$"	$\frac{1}{8}$"
$\frac{5}{8}$"	$\frac{3}{16}$"
$\frac{3}{4}$"	$\frac{3}{16}$"

FIGURE 3. METHOD OF JOINING PARTITION

X-2870

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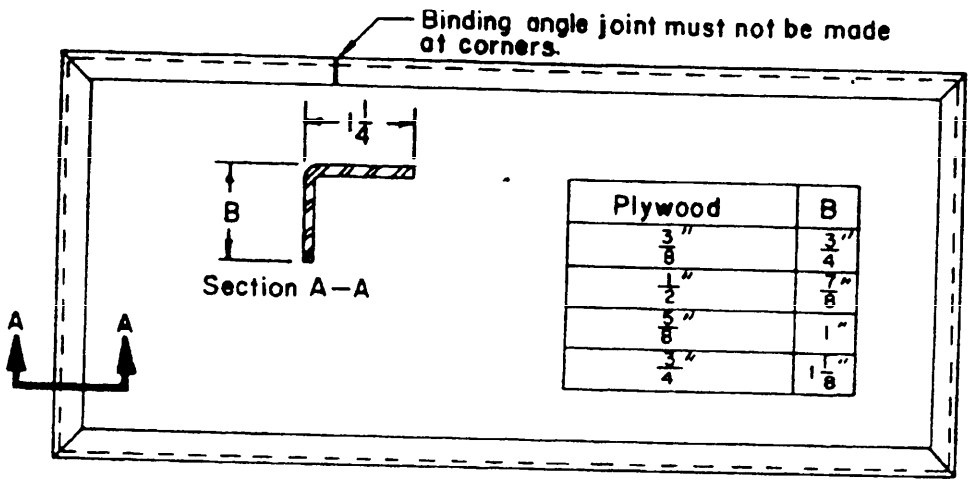

FIGURE 4. COVER BINDING ANGLE
SHEET STEEL

X-2871

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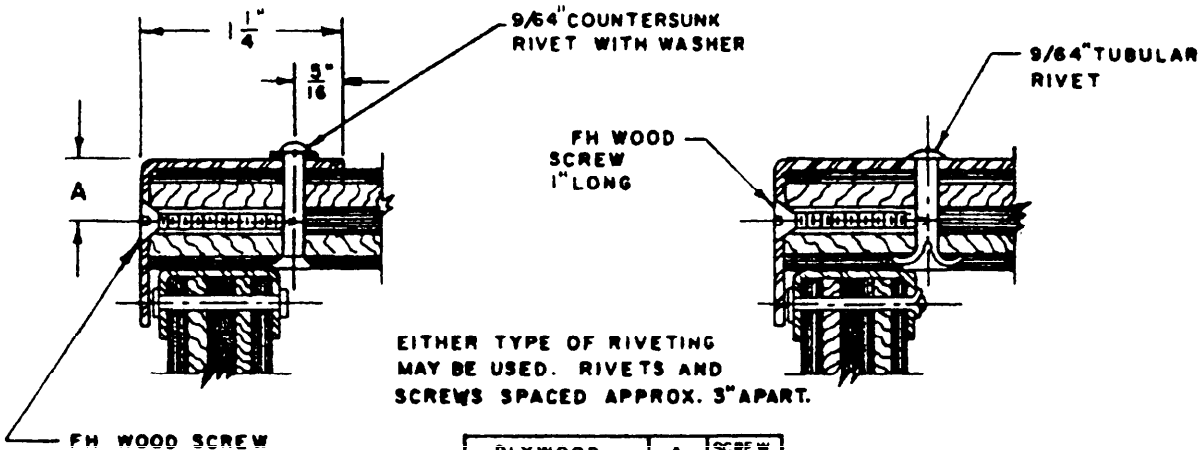

PLYWOOD	A	SCREW SIZE
3/8"	OMIT	—
1/2"	5/16"	# 5
5/8"	3/8"	# 7
3/4"	7/16"	# 7

FIGURE 5. METHOD OF JOINING COVER BINDING TO PLYWOOD

X-2872

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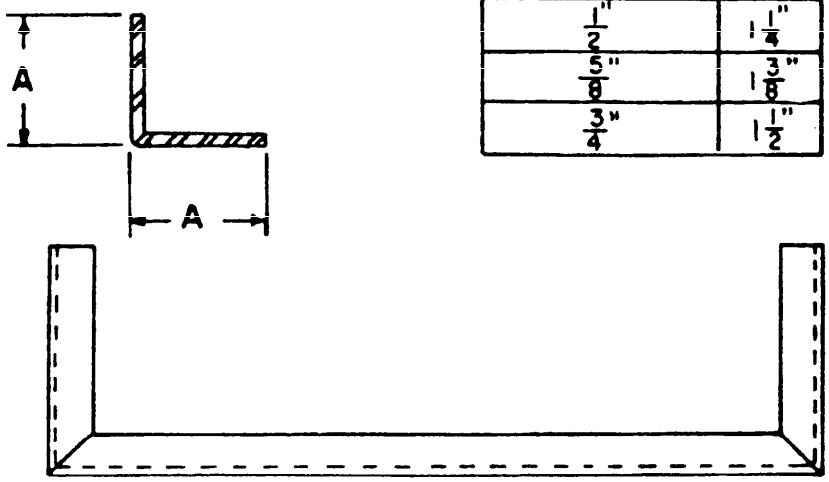

PLYWOOD	A
3/8"	1 1/8"
1/2"	1 1/4"
5/8"	1 3/8"
3/4"	1 1/2"

FIGURE 6. END BINDING ANGLE
SHEET STEEL

X-2873

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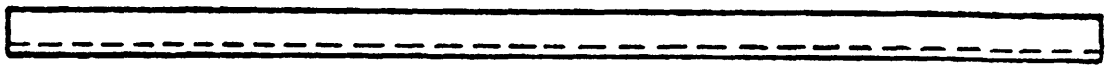

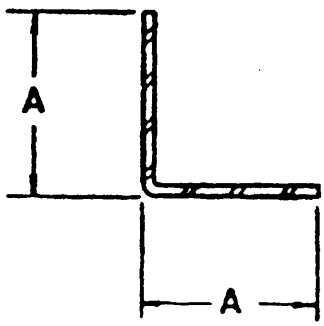

Plywood	A
$\frac{3}{8}$"	$1\frac{1}{8}$"
$\frac{1}{2}$"	$1\frac{1}{4}$"
$\frac{5}{8}$"	$1\frac{3}{8}$"
$\frac{3}{4}$"	$1\frac{1}{2}$"

FIGURE 7. BOTTOM BINDING ANGLE
SHEET STEEL

X-2874

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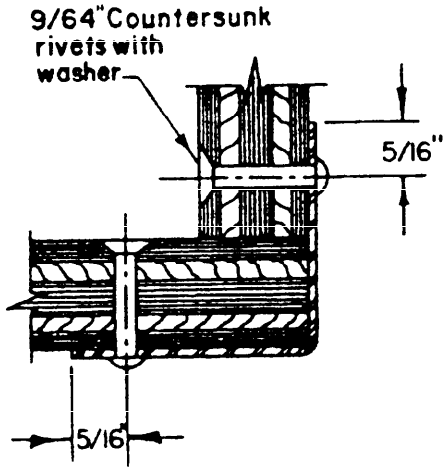
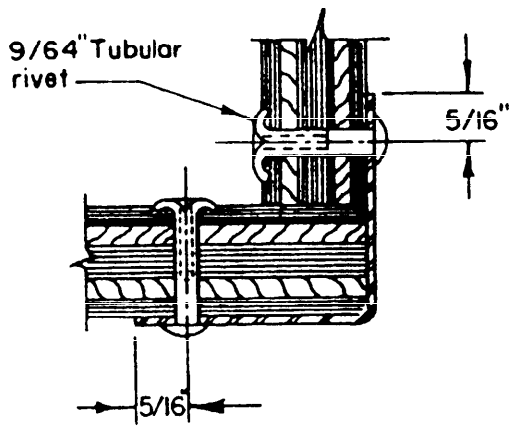


Bottom



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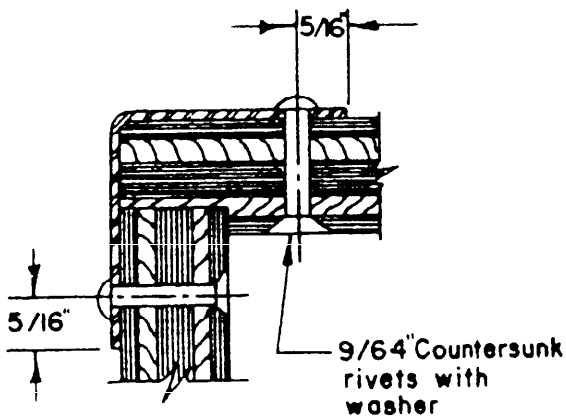
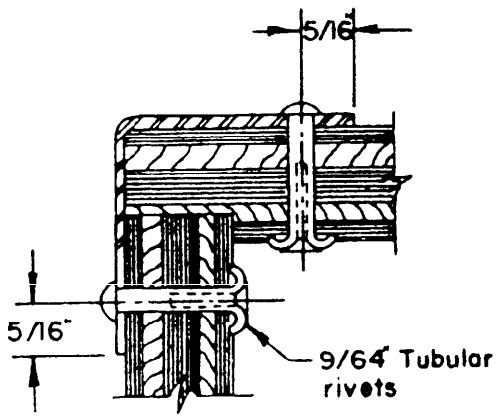


Corner



Corner

Either type of riveting may be used
Rivets spaced approx. 3" apart

FIGURE 8. METHOD OF JOINING END AND BOTTOM BINDING ANGLE TO PLYWOOD

X-2875

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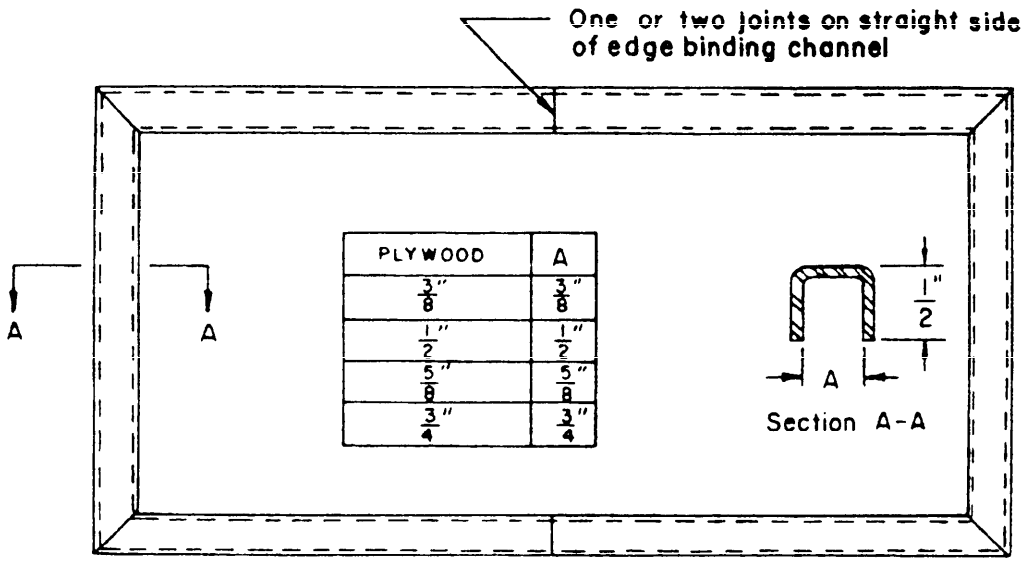

FIGURE 9. EDGE BINDING CHANNEL

SHEET STEEL

X-2876

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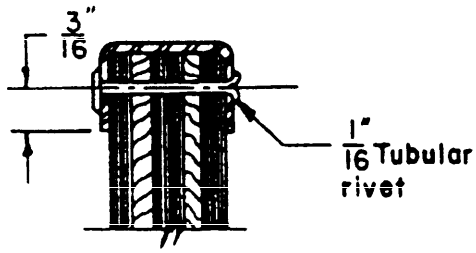

Rivets spaced approx. 2" apart

FIGURE 10. METHOD OF JOINING EDGE BINDING TO PLYWOOD

X-2877

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PLYWOOD	A
3/8"	1 3/8"
1/2"	1 1/2"
5/8"	1 5/8"
3/4"	1 3/4"

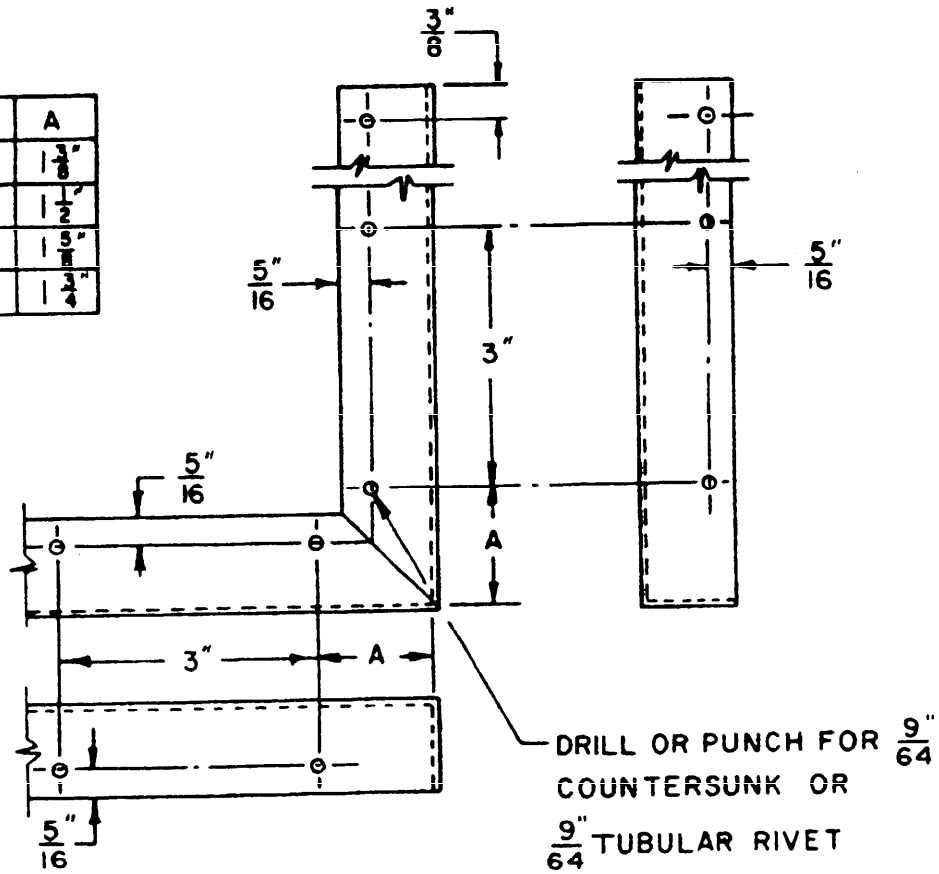
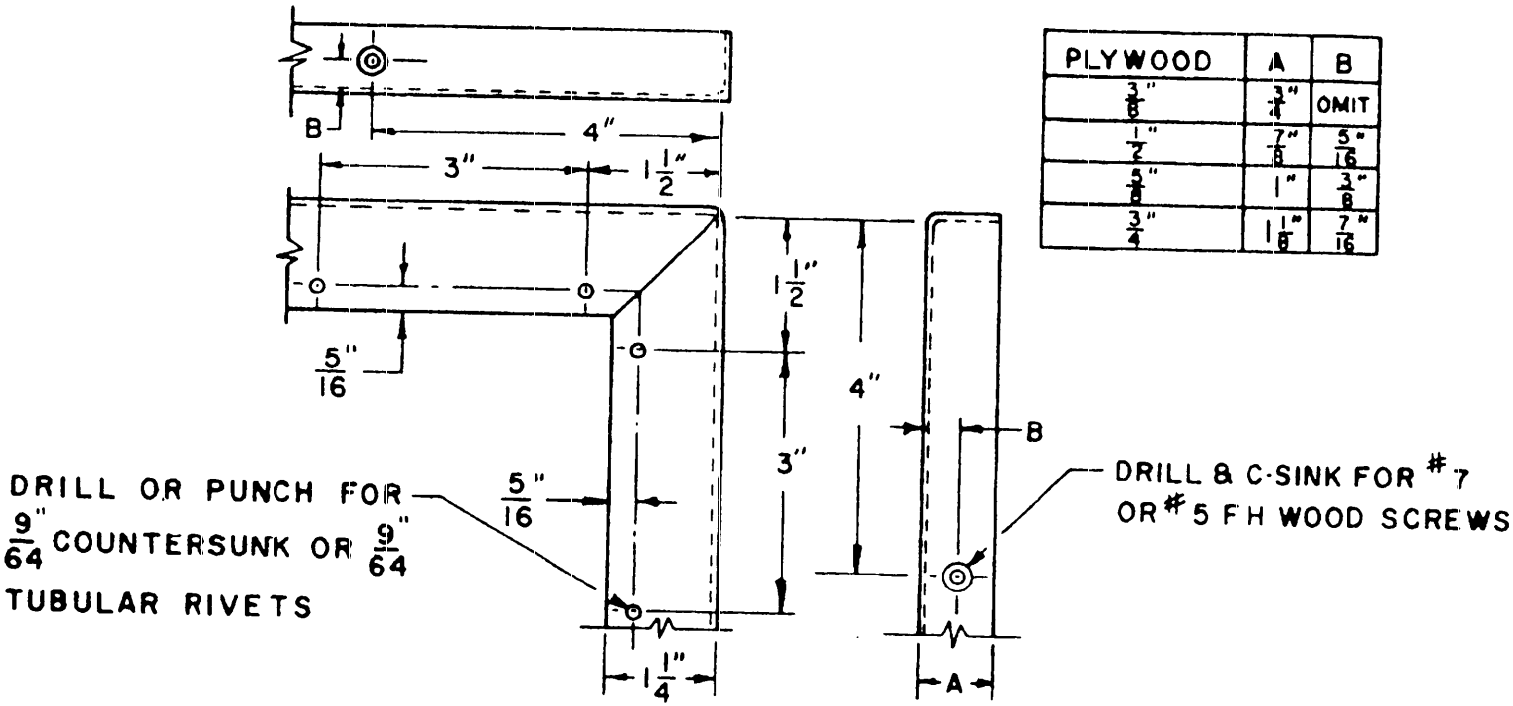


FIGURE II. BINDING ANGLE CORNER

DRILL OR PUNCH DETAIL

X-2878



PLYWOOD	A	B
3/8"	3/4"	OMIT
1/2"	7/8"	5/16"
5/8"	1"	3/8"
3/4"	1 1/8"	7/16"

FIGURE 12. COVER CORNER BINDING DRILL OR PUNCH DETAIL

X-2879

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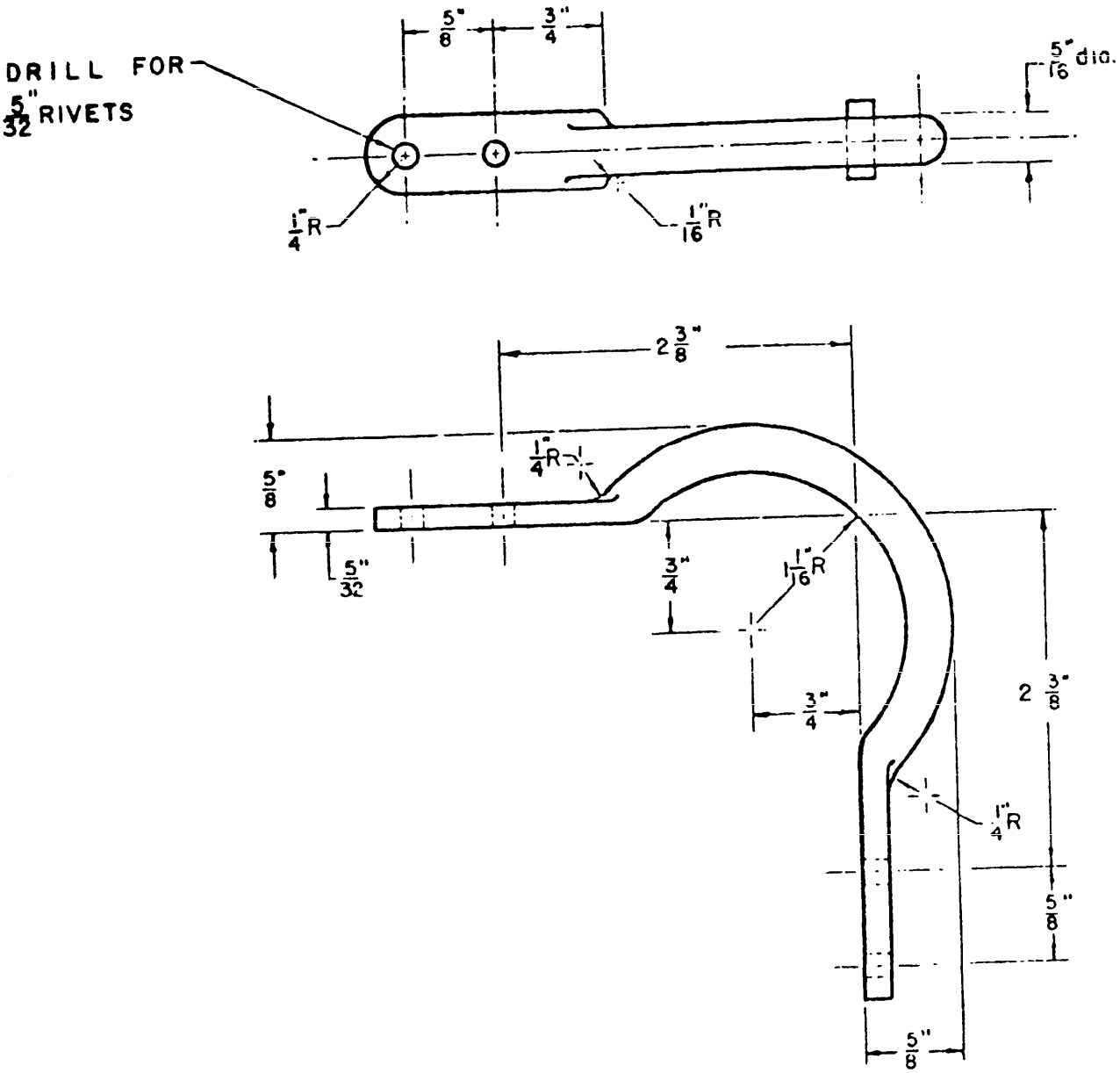

OMIT RIVET HOLES WHEN WELDING IS USED FOR ATTACHMENT

FIGURE 13. CORNER COVER PULL STEEL

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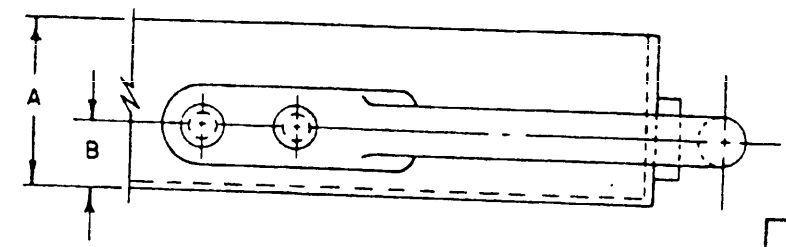

Plywood	A	B
3/8"	3/4"	1/4"
1/2"	7/8"	5/16"
5/8"	1"	3/8"
3/4"	1 1/8"	7/16"

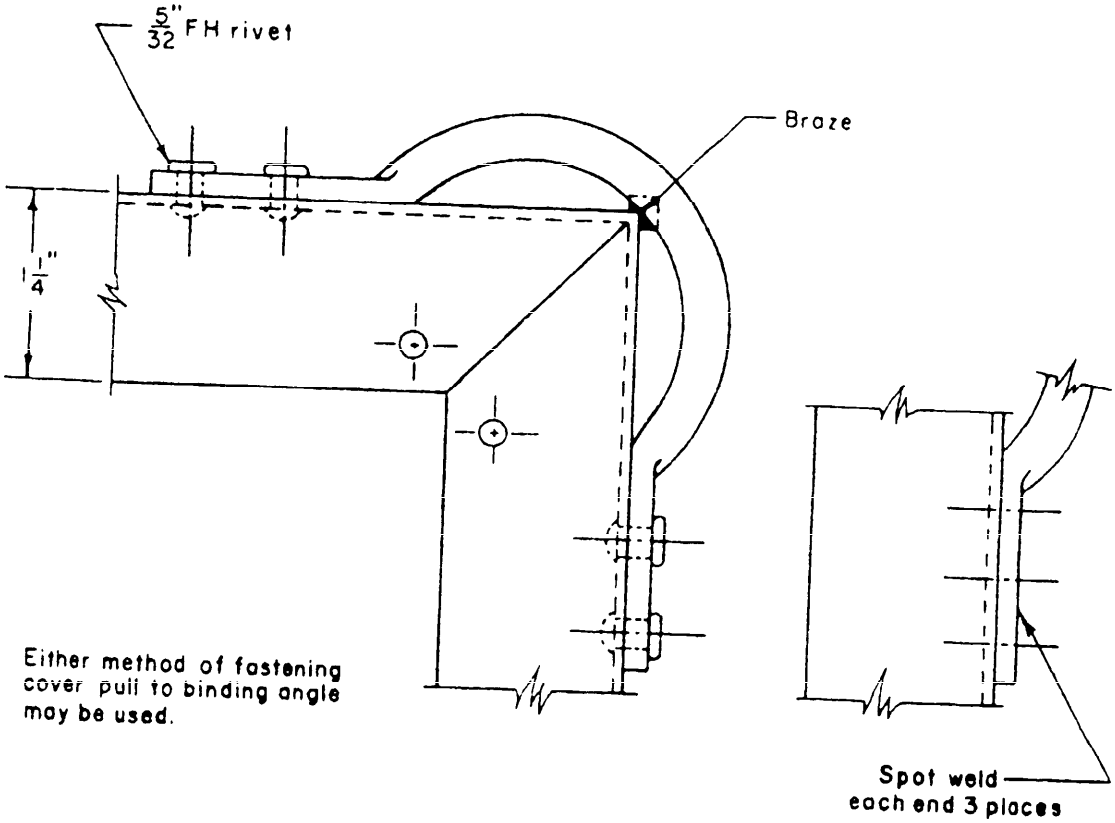

FIGURE 14. METHOD OF FASTENING CORNER COVER PULL

X-2881

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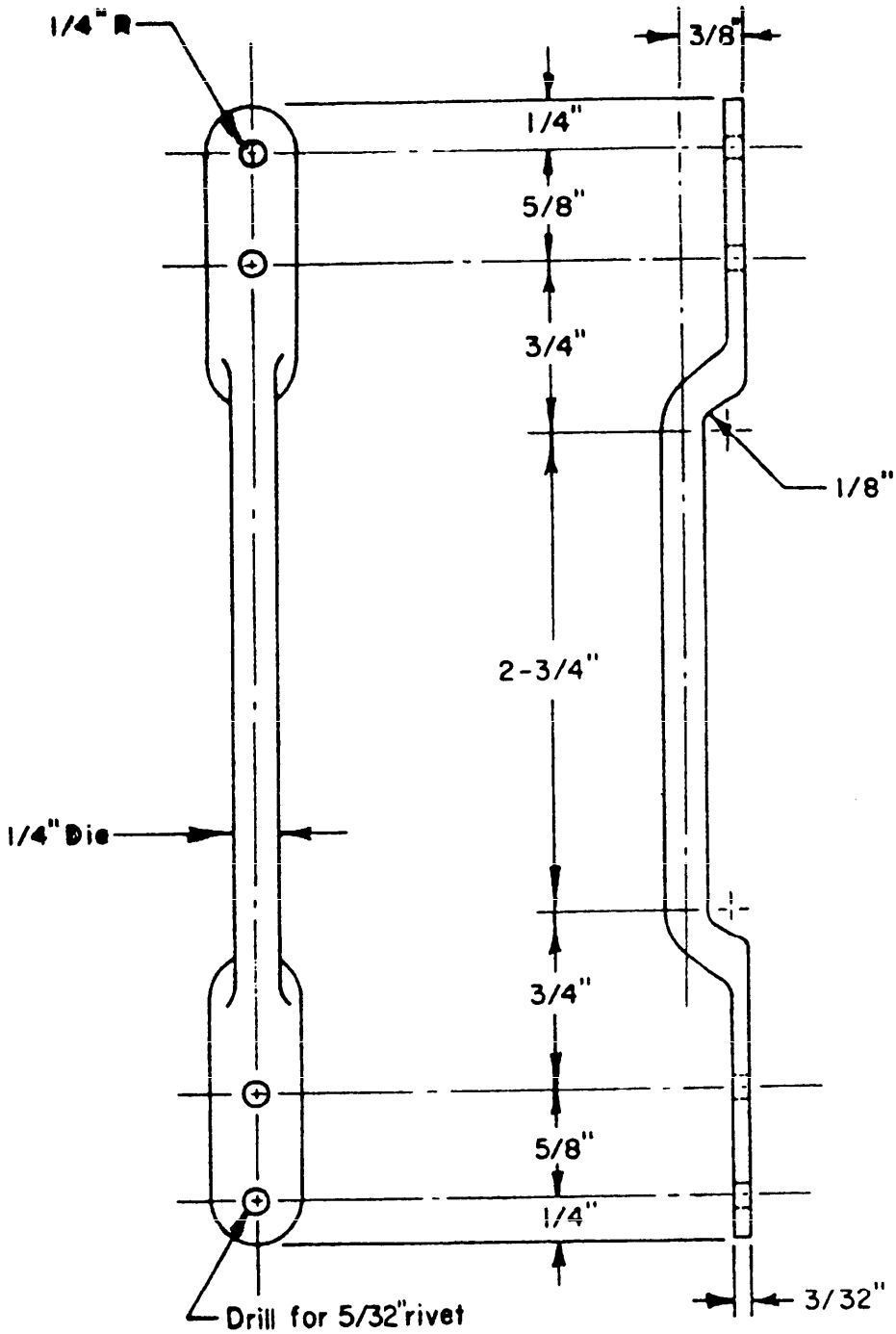

Omit rivet holes when welding is used for attachment

FIGURE 15. COVER PULL STEEL

X-2882

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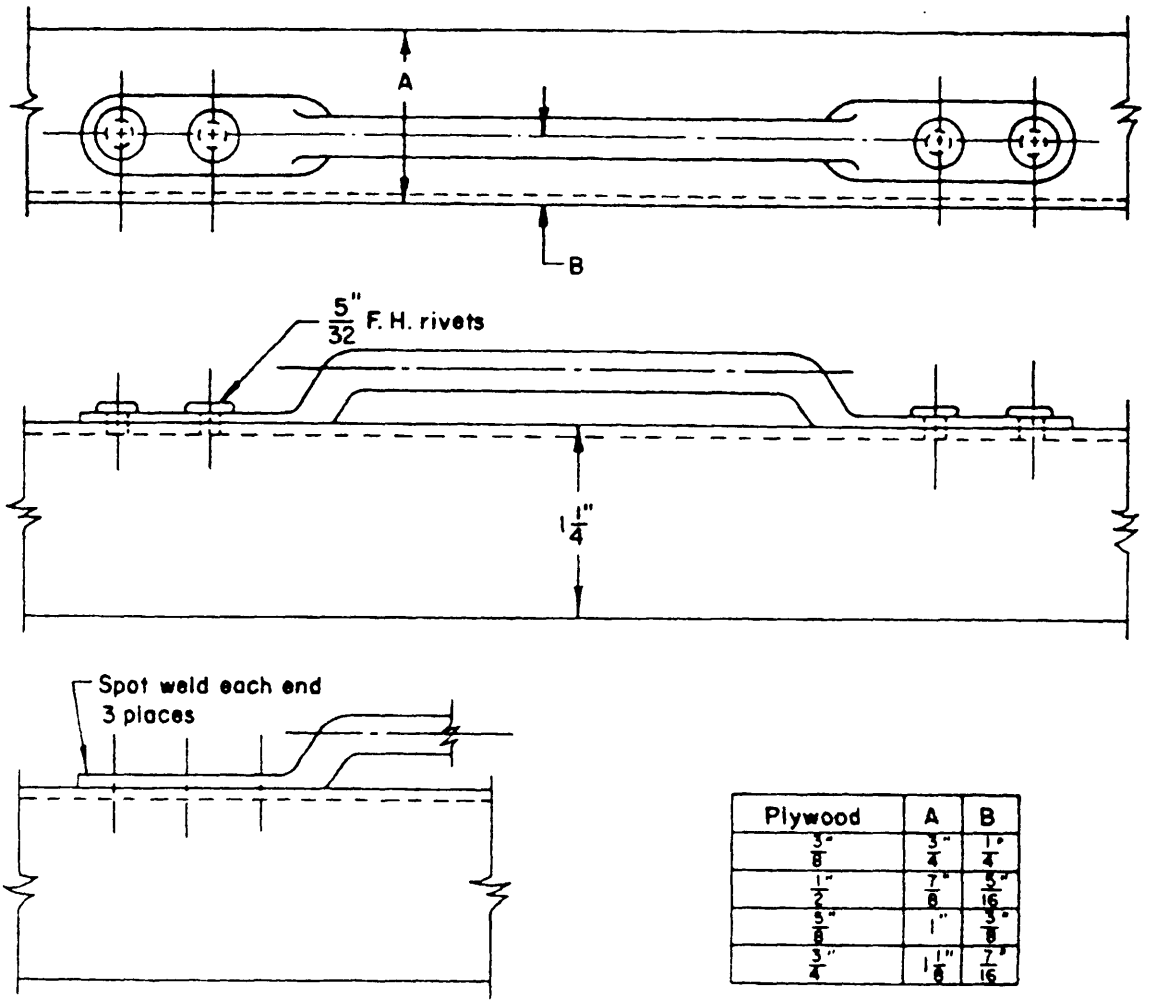

Plywood	A	B
3/8"	3/4"	1/4"
1/2"	7/8"	5/16"
5/8"	1"	3/8"
3/4"	1 1/8"	7/16"

Either method of fastening cover pull to binding angle may be used.

FIGURE 16. METHOD OF FASTENING COVER PULL

X-2883

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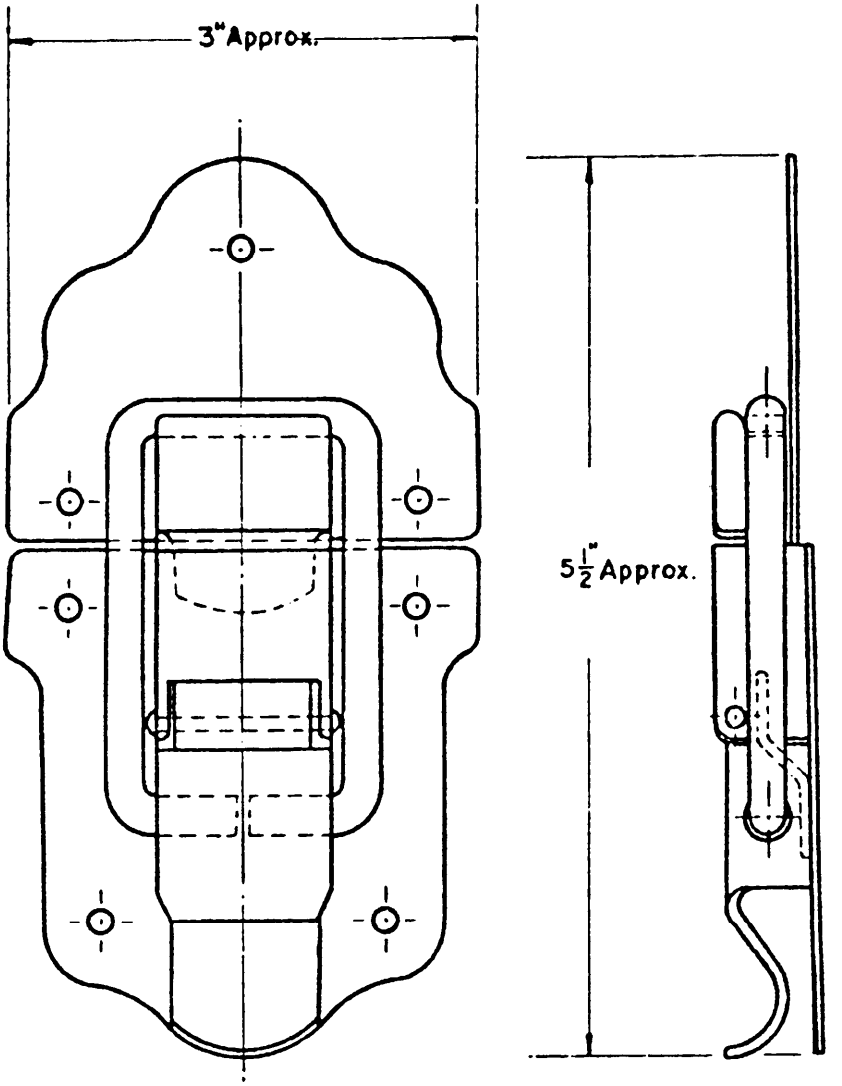

Figure 17. Single dowel drawbolt.

Steel (Commercial)

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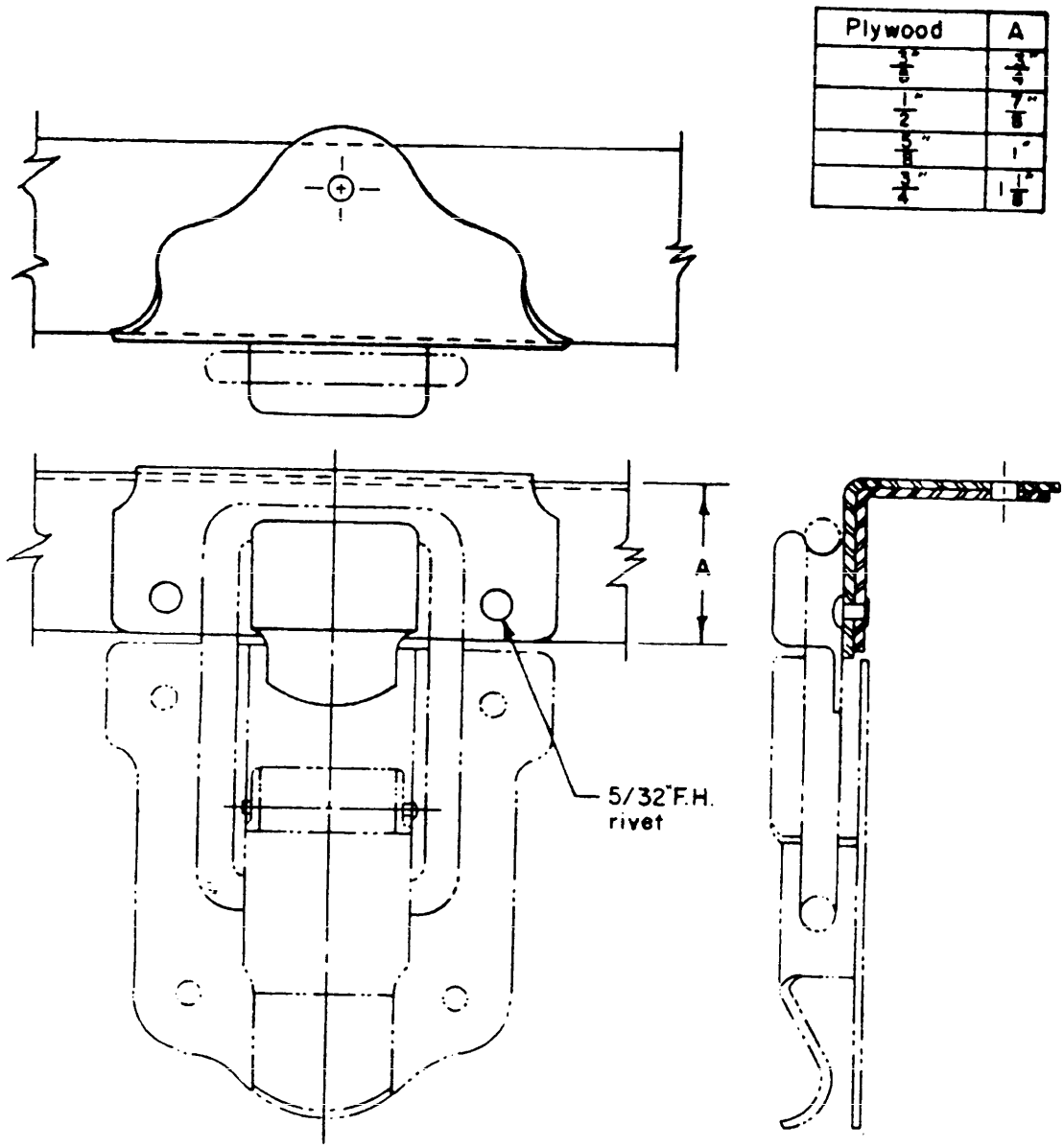

FIGURE 18. METHOD OF JOINING DRAWBOLT TO COVER BINDING ANGLE

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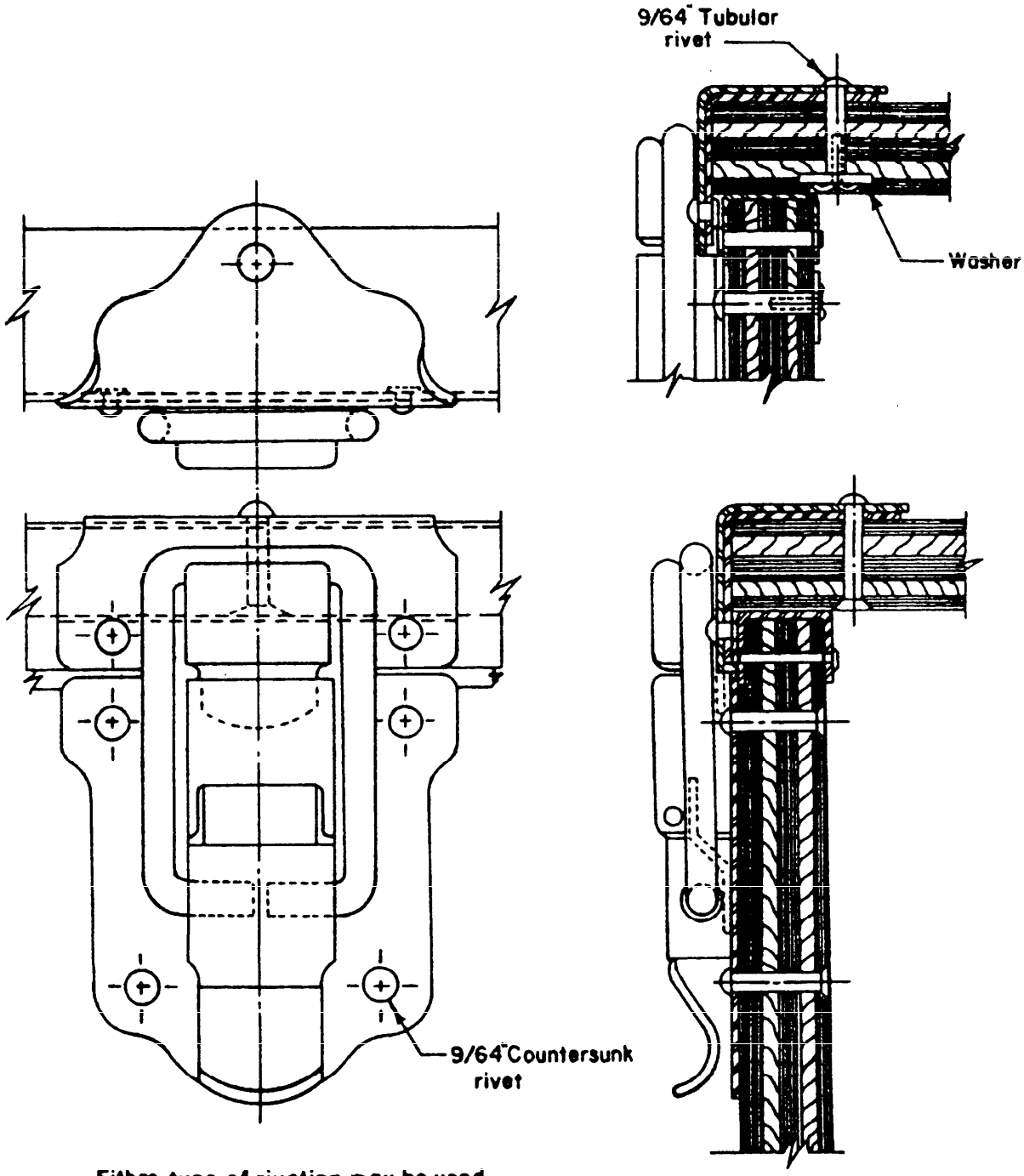

Either type of riveting may be used.

FIGURE 19. METHOD OF JOINING DRAWBOLT TO PLYWOOD

X-2886

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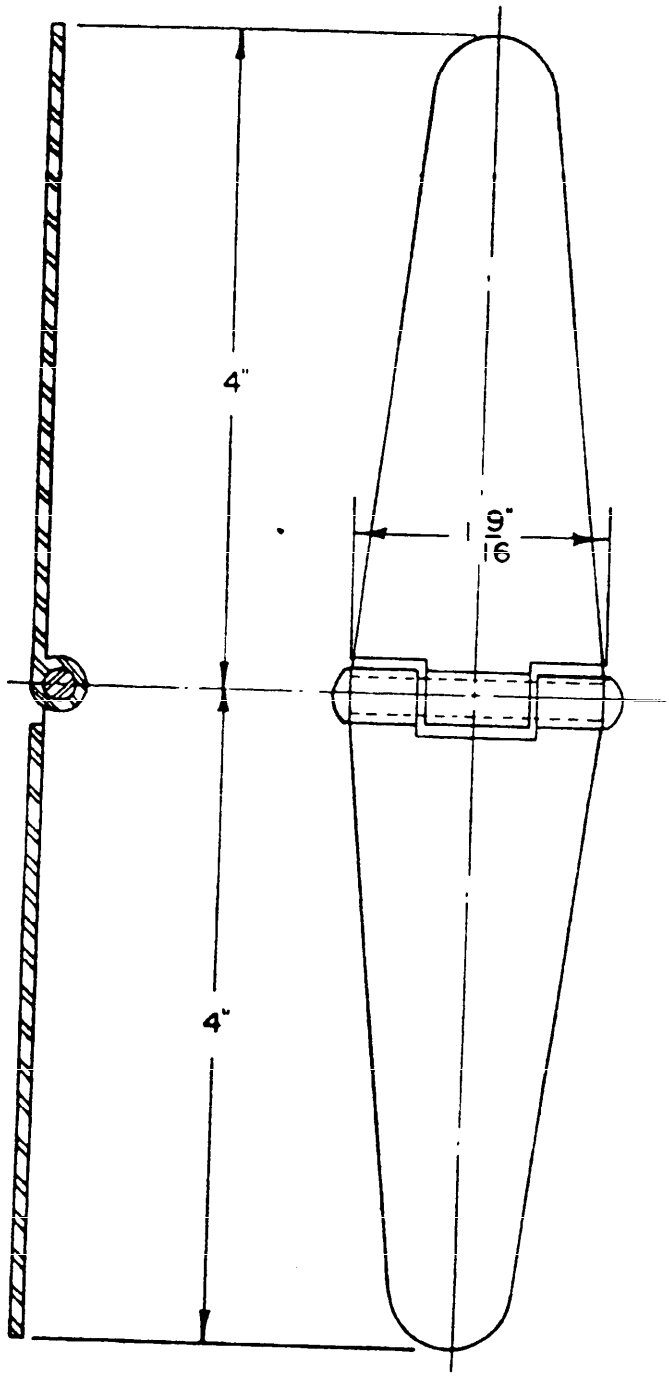

FIGURE 20. HINGE
STEEL (Commercial)

X-2887

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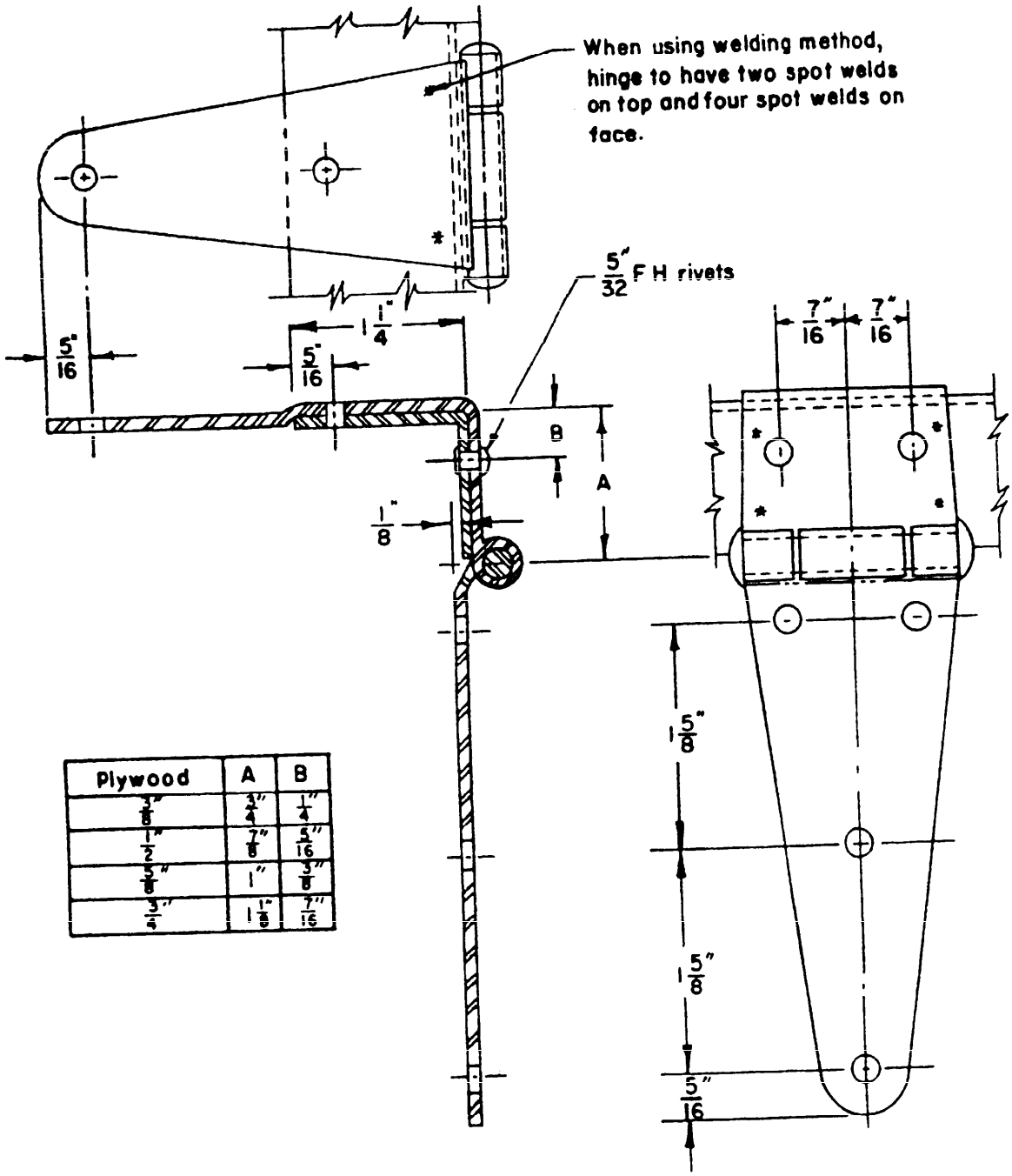

Plywood	A	B
3/8"	3/4"	1/4"
1/2"	7/8"	5/16"
5/8"	1"	3/8"
3/4"	1 1/8"	7/16"

FIGURE 21. METHOD OF JOINING HINGE TO COVER BINDING ANGLE

X-2888

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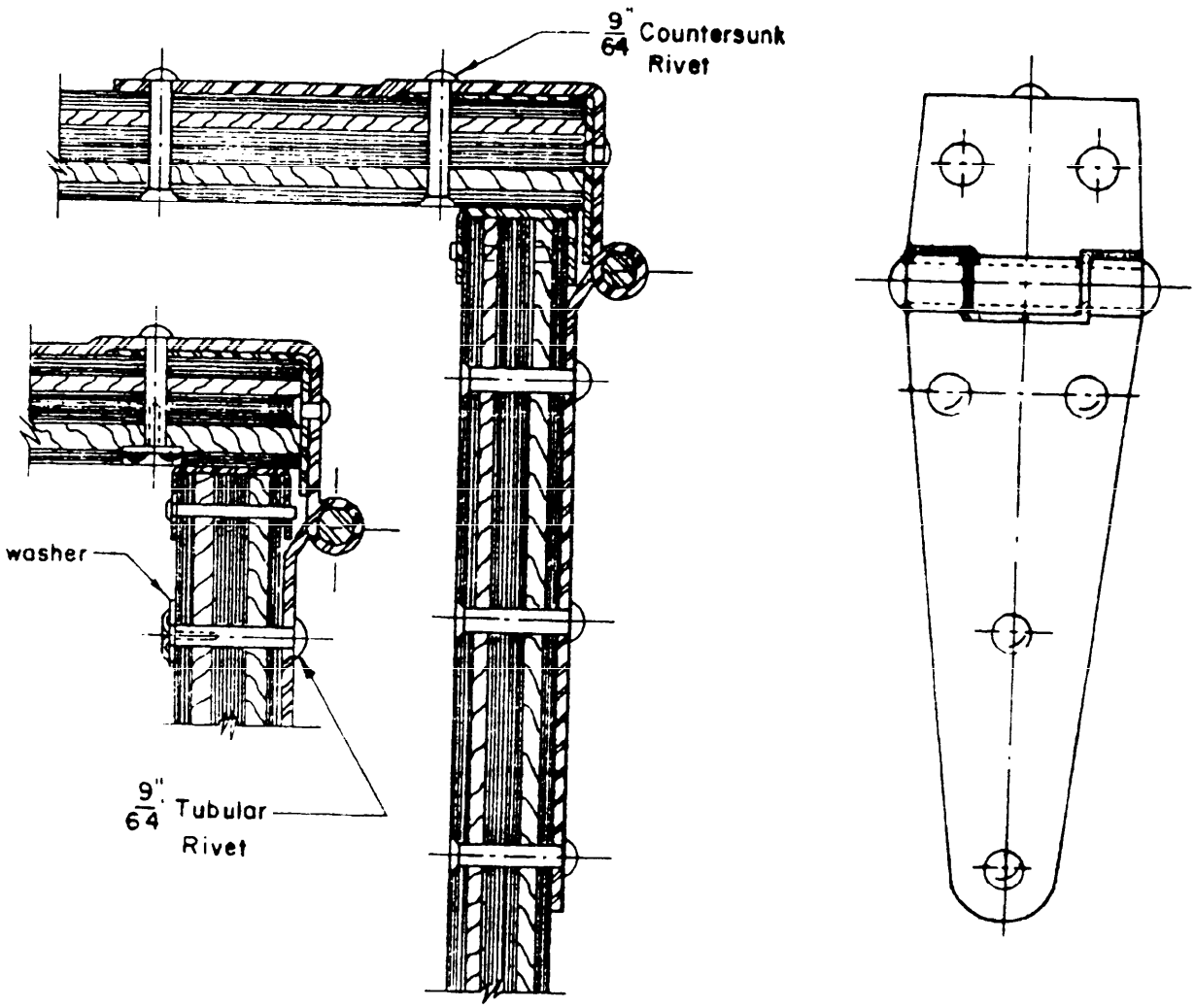

Either method of riveting may be used.

FIGURE 22. METHOD OF JOINING HINGE TO PLYWOOD

X-2869

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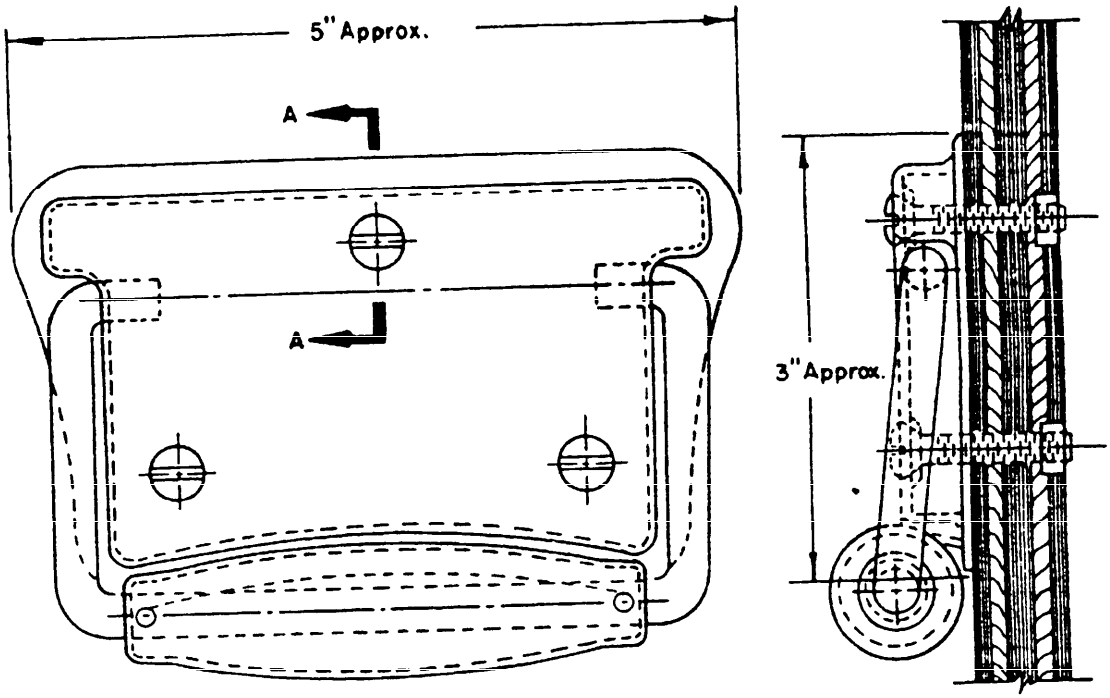
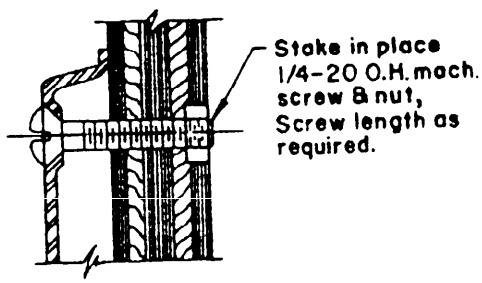
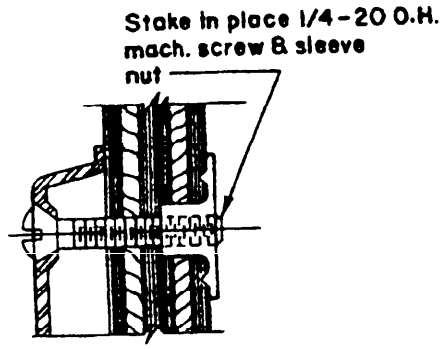


Note: Commercial handle of approx. size & shape as shown.



Section A–A

Either method of fastening handle to chest maybe used.



Section A–A

FIGURE 23. HANDLE STEEL (COMMERCIAL)

X-2890

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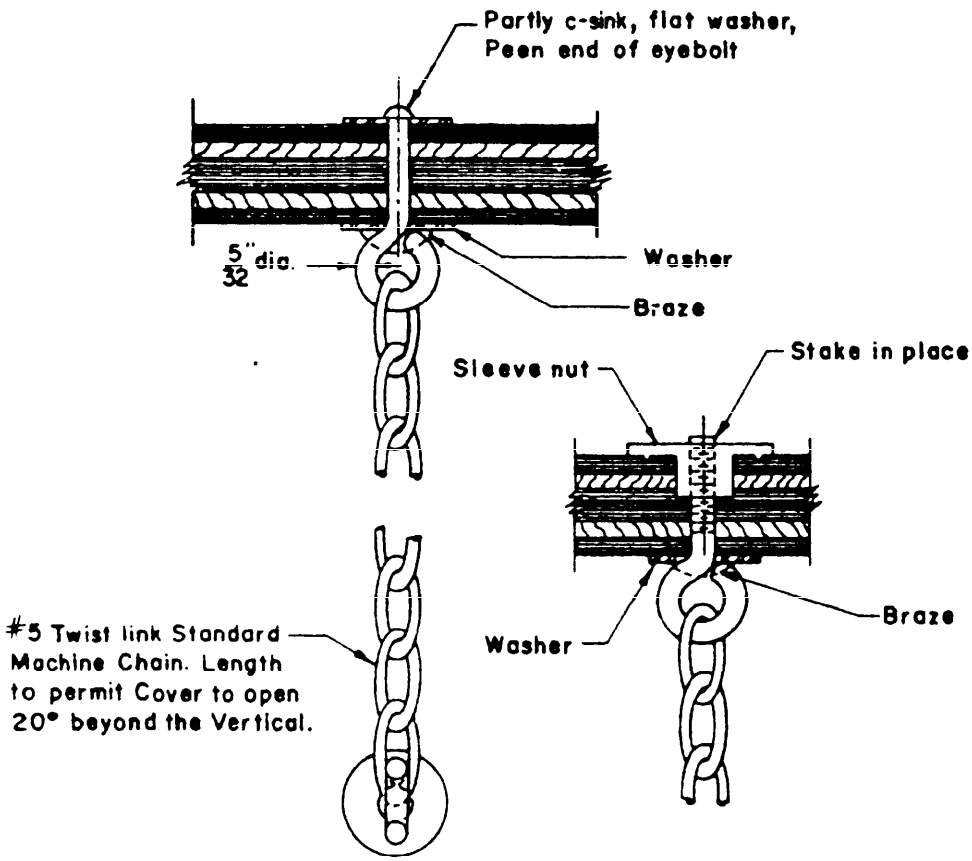

EITHER METHOD OF FASTENING COVER CHAIN TO CHEST MAY BE USED.

FIGURE 24. COVER CHAIN
STEEL

X-2891

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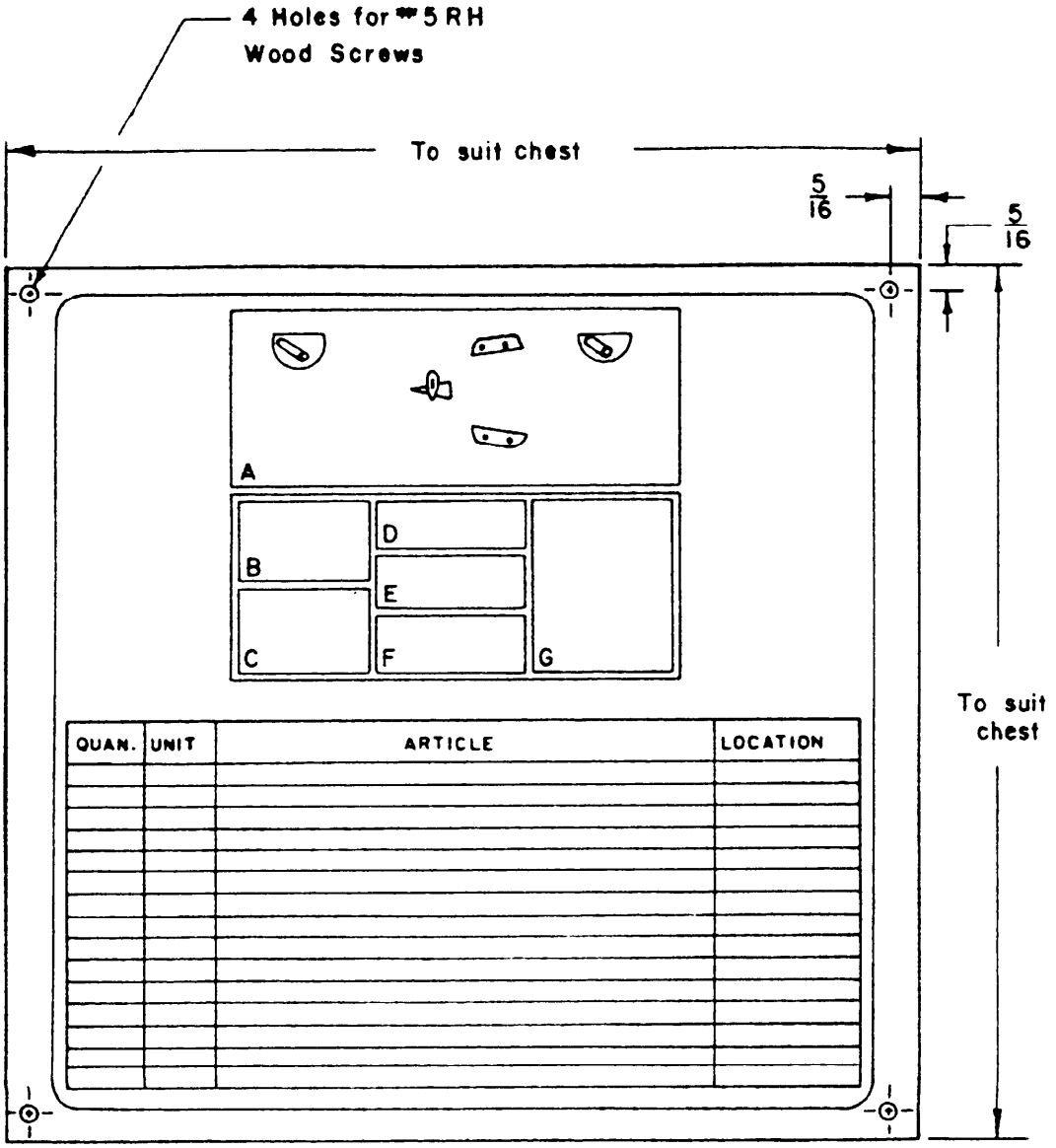

FIGURE 25. LOADING PLAN FOR CHEST
PLASTIC

X-2892

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