GOVERNMENT AIRCRAFT FACTORIES
Nomad

Reference No. 109

SERVICE BULLETIN

SUBJECT: EMERGENCY EXIT DOOR - IMPROVED SECURITY OF OUTER WINDOW (MODIFICATION N479)

1. Planning Information

A. Effectivity

(1) Aircraft Affected

All N22-Series and N24-Series aircraft whose log books do not already record the embodiment of Mod N479 or compliance with Service Bulletin NMD-56-1.

Pre-certification implementation of the intent of this service bulletin is recorded in the Airframe Log Book as Mod N479.

(2) Spares Affected

None

B. Reason

Under certain environmental and operating conditions, it is possible for the emergency door outer window to break free of its adhesive seal and to move within its frame.

C. Description

A reinforcing frame is riveted to the inside of each emergency exit door outer panel, around the periphery of the outer window. Eight padded clamp brackets are then bolted to the reinforcing frame to give firm support to the window.

NOTES: 1. On N24-Series aircraft Pre-Mod N365, two emergency exit doors are fitted (although the forward door has been rendered unavailable for emergency use by the removal of its operating handle). On such aircraft, both doors must be modified, and two kits must be ordered (Ref Para 3.A.(1)(b)).

2. Refer to Service Bulletin NMD-25-3 (Mod N452) - Forward Cabin Windows - Impact-Resistant Transparencies. (Nomad N24 - Series only)

D. Compliance

Modification N479 detailed herein should be incorporated before the next flight if a pre-flight inspection reveals insecurity of an emergency door outer window. Otherwise, the modification should be incorporated during the next periodic servicing, or at the operator's earliest convenience.

E. Approval

The modification detailed herein has been approved pursuant to Air Navigation Regulation 40 and conforms with the type certification requirements.

F. Manpower

Four man hours.

G. Material - Price and Availability

The parts required to incorporate the modification detailed in this service bulletin are available free of charge as Kit P/N NMD-56-1-1 from the operator's local distributor. Distributors are to place a 'No Charge' Purchase Order on G.A.F. through the normal procurement procedure.

Purchase orders are to quote the aircraft serial number and Service Bulletin No. NMD-56-1. This kit will be available ex-factory from mid-July, 1981.

H. Tooling - Price and Availability

Nil.

J. Weight and Balance

Negligible effect.

K. References

M.M. Maintenance Manual
I.P.C. Illustrated Parts Catalogue

L. Publications Affected

Maintenance Manual
Illustrated Parts Catalogue
Structural Repair Manual

2. Accomplishment Instructions (Ref Figure 1)

A. Remove the internal trim from the emergency exit door.

B. Remove the emergency exit door from the aircraft (Ref MM 52-20-00 Maintenance Practices).

C. Remove the strip of adhesive tape at the top of the window surround and remove the window blind assembly and inner window from the emergency exit door (Ref MM 25-20-00 Maintenance Practices).

D. Inspect the outer window for security of attachment. If any signs of detachment are evident, remove the window and refit using new gaskets (Ref Service Bulletin NMD-56-3).

E. Establish rivet centre lines on the interior surface of the emergency exit door (Ref Figure 2).

F. Attach cleats to the upper and lower reinforcing angles (Ref Figures 3 and 4).

(1) Using adhesive tape, position the upper reinforcing angle P/N 1A/N-11-1274 so that the end rivet pilot holes are centred on the upper rivet reference line and aligned as closely as possible with the intersections of the upper and side rivet reference lines (Ref Figure 2)

(2) Clamp the LH upper cleat P/N 1F/N-11-1274 and the RH upper cleat P/N 1G/N-11-1274 to the upper reinforcing angle so that they fit snugly against the door frame.

(3) Remove the upper reinforcing angle and cleat assembly from the door and using the rivet pilot holes of the LH upper cleat, drill two 3/32 inch dia holes through the cleat and upper reinforcing angle.

(4) Rivet the LH upper cleat to the upper reinforcing angle using rivets P/N MS20470AD3-3.

(5) Position the upper reinforcing angle as in Step (1) and check that the RH upper cleat still fits snugly against the door frame. Adjust the position of the RH upper cleat as necessary.

(6) Remove the upper reinforcing angle and cleat assembly from the door and drill and rivet the RH upper cleat to the reinforcing angle as in Steps (3) and (4) for the LH upper cleat.

(7) Using adhesive tape, position the lower reinforcing angle P/N 1B/N-11-1274 so that the end rivet pilot holes are centred on the lower rivet reference line and aligned as closely as possible to the intersections of the lower and side rivet reference lines (Ref Figure 2).

(8) Clamp the LH lower cleat P/N 1D/N-11-1274 and the RH lower cleat P/N 1E/N-11-1274 to the lower reinforcing angle so that they fit snugly against the door frame.

(9) Remove the lower reinforcing frame and cleat assembly from the door and using the rivet pilot holes in the LH lower cleat, drill two 3/32 inch dia holes through the cleat and reinforcing angle.

(10) Rivet the LH lower cleat to the lower reinforcing angle using rivets P/N MS20470AD3-3.

(11) Position the lower reinforcing angle as in Step (7) and check that the RH lower cleat still fits snugly against the door frame. Adjust the position of the RH lower cleat as necessary.

(12) Remove the lower reinforcing angle and cleat assembly from the door and drill and rivet the RH lower cleat to the reinforcing angle as in Steps (9) and (10) for the LH lower cleat.

G. Rivet reinforcing angles to door panel.

(1) Locate the upper reinforcing angle and cleat assembly in position (Ref Para 2 F Step (1) on the inside of the door outer panel, above the window (Ref Figure 5).

(2) Check that the cleats riveted to the upper reinforcing angle fit snugly against the door side walls. If necessary, fashion the cleats to achieve correct fit and tape angle in correct position.

(3) Place the two side reinforcing angles in position at either side of the window (Ref Figure 6).

(4) Align the rivet pilot hole at the top of each side reinforcing angle with that at each end of the upper reinforcing angle.

(5) Check that the bottom rivet pilot hole in each side reinforcing angle is aligned as closely as possible with the corresponding intersecting point of the lines drawn in Para 2.E. and tape the side angles in position.

(6) Drill a 3/32 inch dia hole through the side angle, upper angle and door panel at each of the overlapping points.

(7) Rivet the top end of each side angle and both ends of the upper angle to the door panel using rivets P/N MS20470AD3-4. Ensure rivet heads are to outside of door panel.

(8) Drill eight 3/32 inch dia holes through the upper reinforcing angle and the door panel using the rivet pilot holes in the angle as a drill guide.

(9) Complete the task of riveting the upper reinforcing angle to the door panel using rivets P/N MS20470AD3-3. Ensure rivet heads are to outside of door panel.

(10) Place the lower reinforcing angle in position (Ref Figure 7) and align the second rivet pilot hole from each end with the corresponding intersecting point of the lines drawn in Para 2.E. and the bottom rivet pilot hole in each side angle.

(11) Check that the cleats riveted to the angle fit snugly against the door side walls. If necessary, fashion the cleats to achieve the correct fit and tape angle in correct position.

(12) Drill a 3/32 inch dia hole through the side angle, lower angle and door panel at each of the overlapping points.

(13) Rivet the lower end of each side angle and both ends of the lower angle to the door panel using rivets P/N MS20470AD3-4. Ensure rivet heads are to outside of door panel.

(14) Drill 24 3/32 inch dia holes through the side angles and the door panel and the lower angle and the door panel using the rivet pilot holes in the appropriate angle as a drill guide.

(15) Complete the task of riveting the side angles and lower angle to the door panel using rivets P/N MS20470AD3-3. Remove all tape.

H. Rivet cleats to door side walls.

(1) Drill two 3/32 inch dia holes through each cleat and door side wall using the rivet pilot holes in the cleats as a drill guide.

(2) Rivet the cleats to the door side walls using rivets P/N MS20470AD3-3.

J. Attach the eight clamp brackets.

(1) In turn, correctly position each of the clamp brackets (Ref Figures 1 and 8) and drill a 5 mm dia hole through the bracket and door panel using the pilot hole in the bracket as a drill guide.

(2) Attach a strip of self-adhesive PVC foam tape (Unisil P/N 1004) across the width of each clamp bracket and attach the eight clamp brackets P/N 1H/N-11-1274 to the angles using the attaching parts shown in Figure 8. Torque tighten the nuts to between 25 and 30 lb inches above the torque value required to overcome the friction of the nut insert.

K. Remove all swarf from drillings from the door and check that the door latch mechanism operates freely and in the correct sense.

L. Reassemble the roller blind assembly and inner window to the emergency exit door (Ref MM 25-20-00 Maintenance Practices) and seal the top edge of the joint between the window surround and the inner window with Scotchcal No. 3655 one inch wide tape or a suitable alternative. (Ref Para 3).

M. Install the emergency exit door in the aircraft (Ref MM 52-20-00 Maintenance Practices).

N. Fit the internal trim to the emergency exit door.

3. Material Information

A. Parts Required per Aircraft:

(1) One kit P/N NMD-56-1-1 is required for each emergency exit door fitted.

(a) Nomad N22-Series aircraft (Ref Para 1.A.(1)) require one kit P/N NMD-56-1-1 per aircraft.

(b) Nomad N24-Series aircraft (Ref Para 1.A.(1)) require two kits P/N NMD-56-1-1 Pre-Mod N365 (Removal of Forward Emergency Exit) or one kit P/N NMD-56-1-1 Post Mod N365.

(2) Each kit P/N NMD-56-1-1 comprises the following items:

Item P/N	Title	Qty
1B/N-11-1274	Angle, reinforcing, lower	1
1C/N-11-1274	Angle, reinforcing, side	2
1A/N-11-1274	Angle, reinforcing, upper	1
1F/N-11-1274	Cleat, upper, L.H.	1
1G/N-11-1274	Cleat, upper, R.H.	1
1D/N-11-1274	Cleat, lower, L.H.	1
1E/N-11-1274	Cleat, lower, R.H.	1
MS20470AD3-4	Rivet	4
MS20470AD3-3	Rivet	48
1H/N-11-1274	Bracket, clamp	8

Item P/N	Title	Qty
1004	Self-adhesive PVC foam tape (Unisil Sealants Division, Wrightcel Ltd)	8 inches/window
MS35207-262	Screw, machine	8
AN960PD10	Washer, flat	8
MS21083-N3	Nut	8

(3) The operator is required to provide the following materials from stock or local sources:

Item P/N	Title	Qty
-	Petroleum ether	As required
PR1221	Sealing compound, Products Research and Chemical Corporation (or equivalent)	As required
3655	Tape, Scotchcal 1 inch wide or	As required
	Scotch Brand No 471, black (3M's Co.) or	Alt.
	FET 144 (3M's Co.) or	Alt.
	Permacel 29 (Johnson & Johnson P/L.).	Alt.

B. Parts modified and re-identified by the operator.

None.

C. Parts Required to Modify Spares

None.

D. Removed Parts

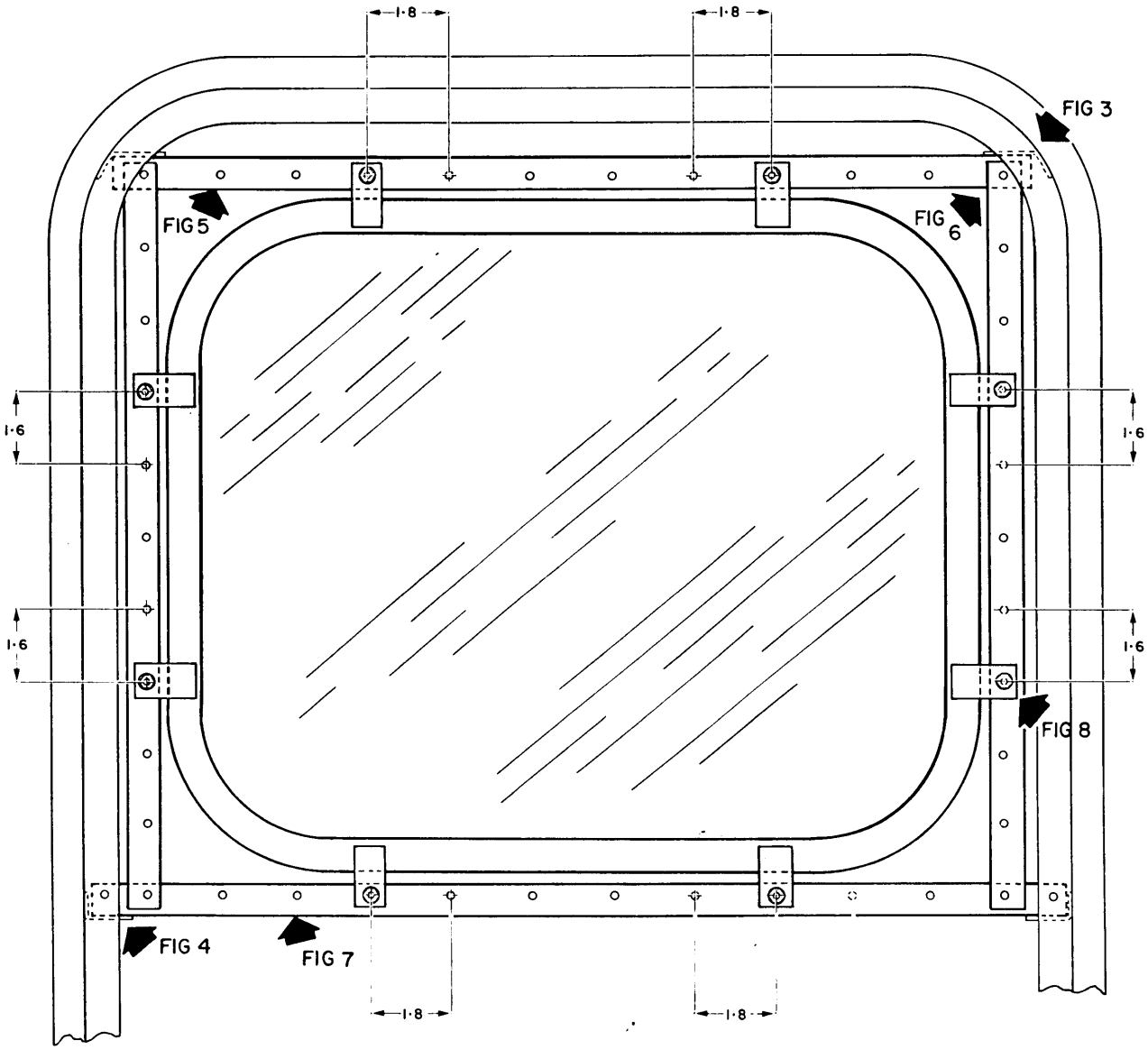
None.

E. Special Tools and Equipment Required

None.

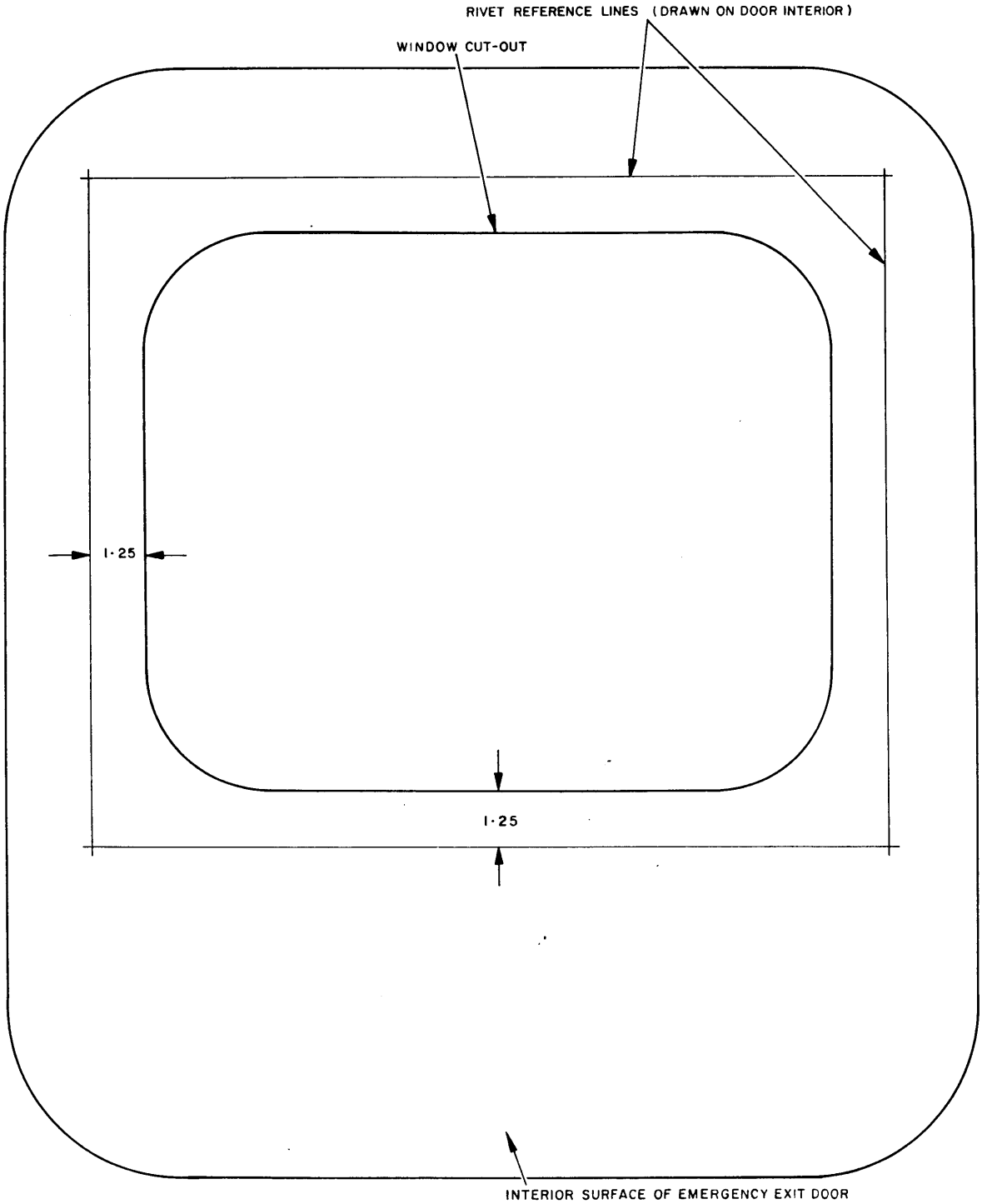
4. Recording Action

Record compliance with S/B NMD-56-1 in the Airframe Log Book.



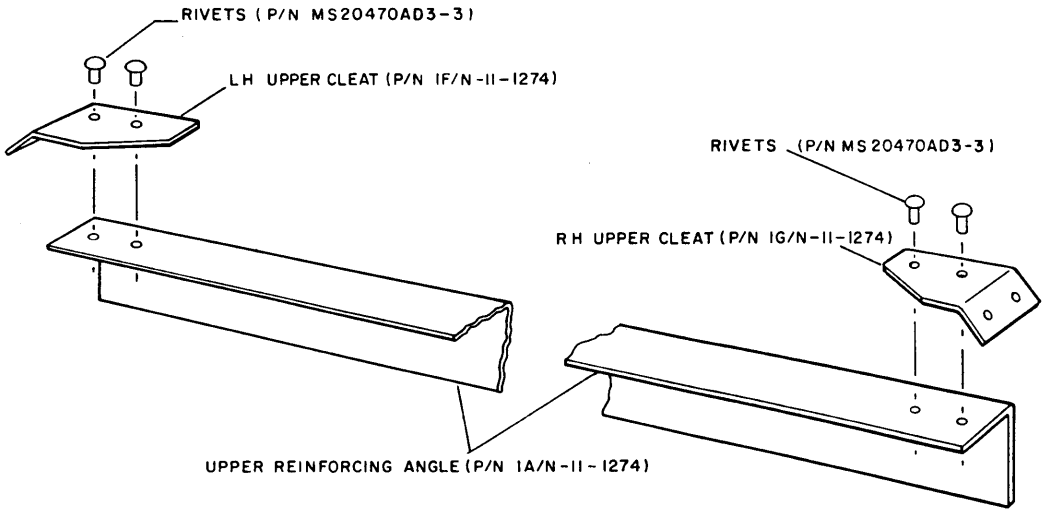
ALL DIMENSIONS IN INCHES

Installation of Mod N479
Figure 1

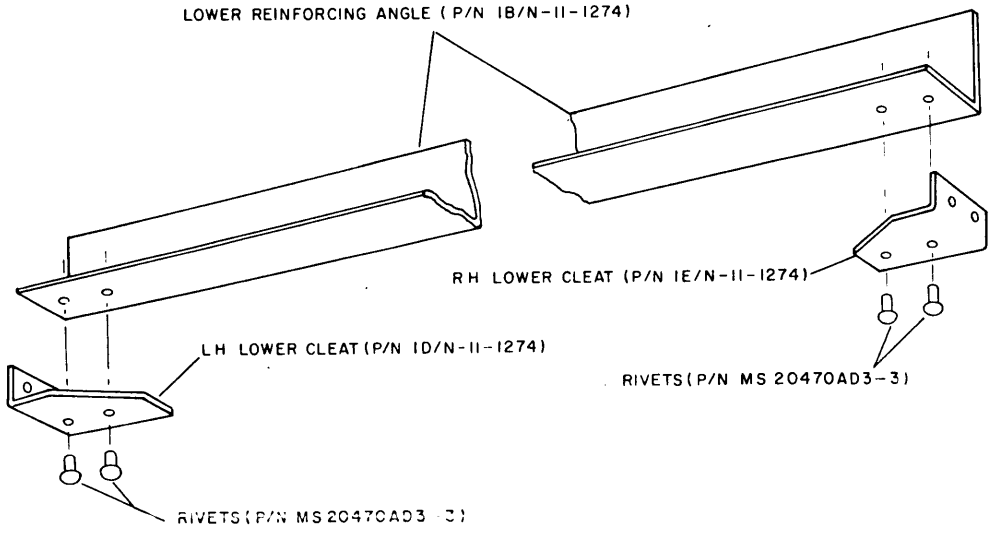


ALL DIMENSIONS IN INCHES

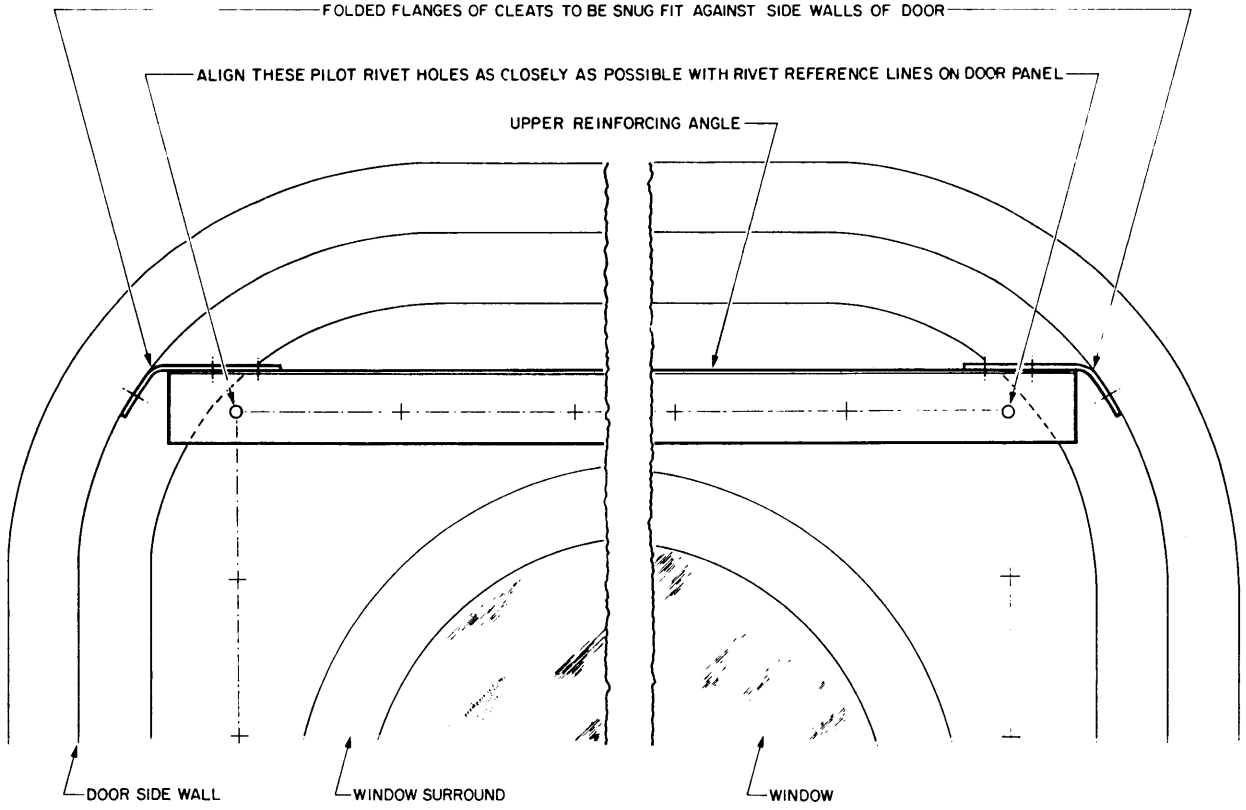
Establishing the Rivet Centre Lines
Figure 2



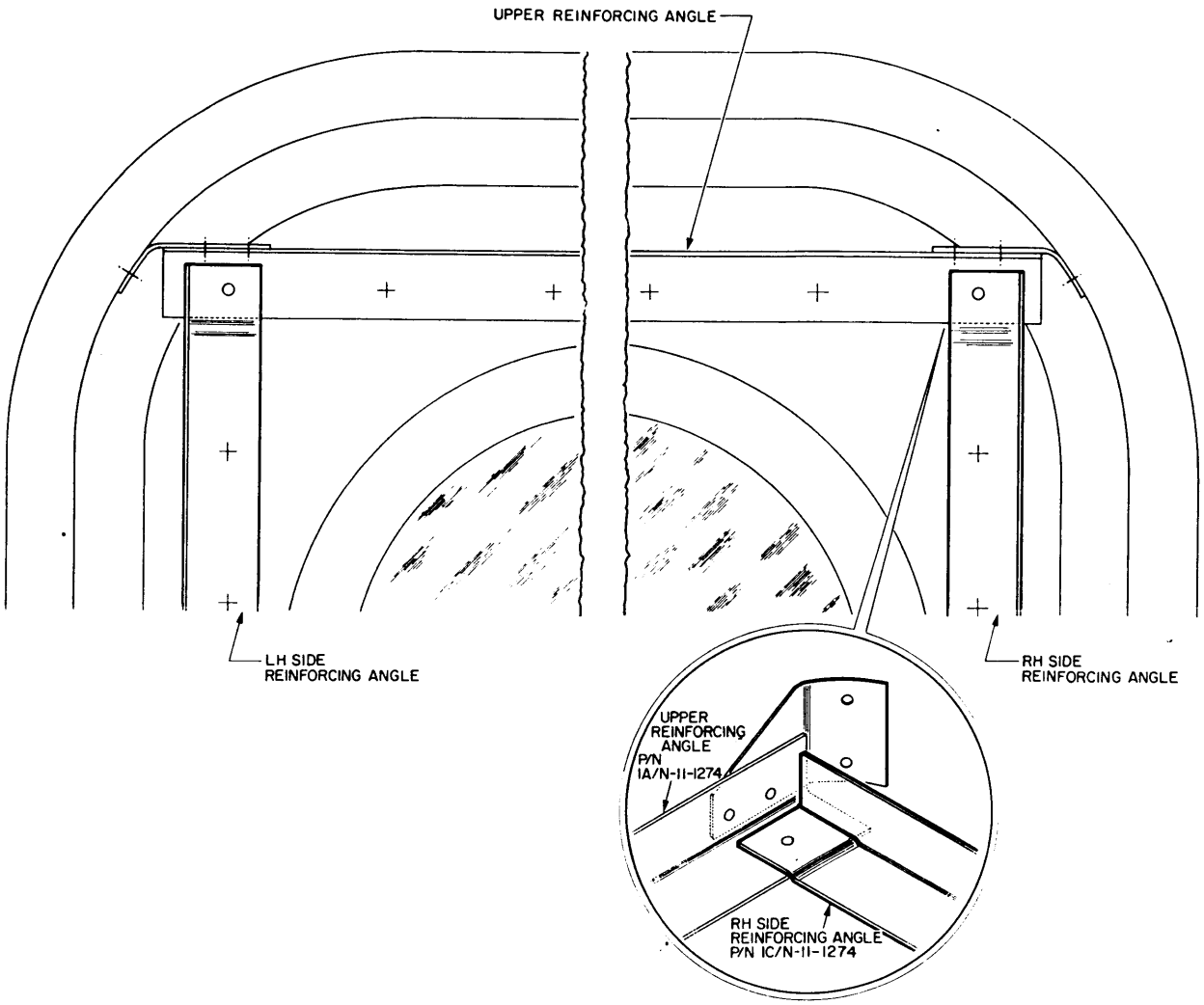
Attaching Cleats to Upper
Reinforcing Angle
Figure 3



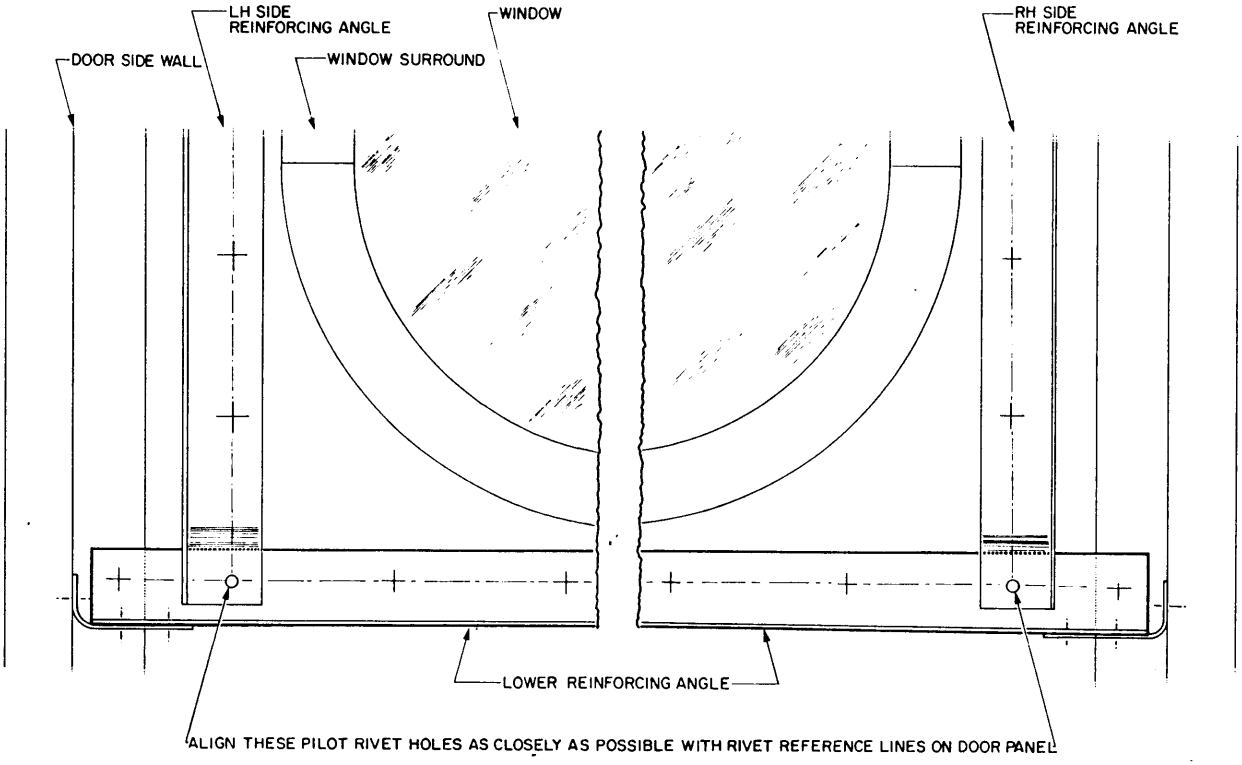
Attaching Cleats to Lower
Reinforcing Angle
Figure 4



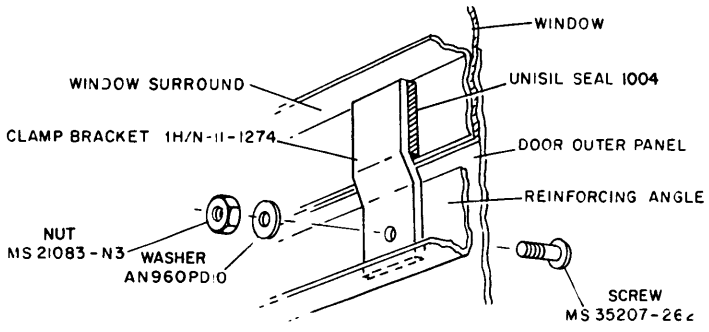
Installing the Upper Reinforcing Angle
Figure 5



Installing the Side Reinforcing Angles
Figure 6



Installing the Lower Reinforcing Angle
Figure 7



Attaching the Clamp Brackets
Figure 8