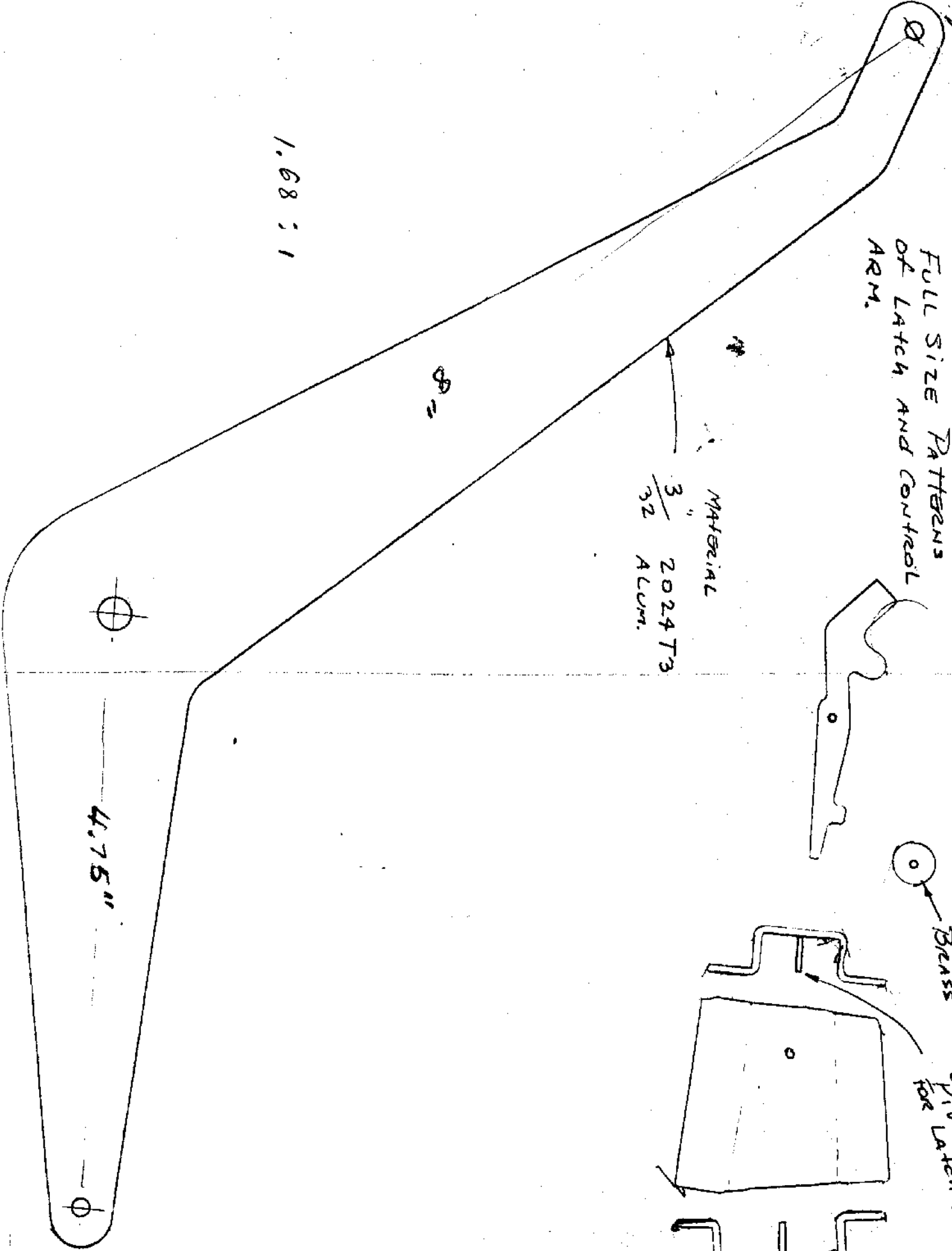


FULL SIZE PATTERNS
OF LATCH AND CONTROL
ARM.

MATERIAL
3/32" 2024 T3
ALUM.

BRASS
PIVOT
FOR LATCH ARM



1.68 : 1

8"

4.75"

WOL

BELLY BOARD - Q2/Q200

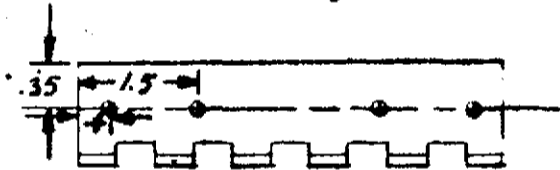
The belly board is intended to be used for increased drag in the approach and landing phase. The board is sized to provide increased drag and better over the nose visibility during approach while not preventing a go around with the board deployed. Obviously, if the board is retracted after initiating a go around, climb performance will increase. The board is positioned on the fuselage so that very little trim change will be noticed when deploying or retracting. The board has been found not to effect stall characteristics on our prototype N81QA. This is because it adds only drag and not lift. Also, it is sized and positioned so as not to blank the vertical fin or rudder. The drag of the board has about the same effect on landing as a 10-15 mph headwind. It also allows a 10-15 mph faster approach for improved visibility.

OPERATION:

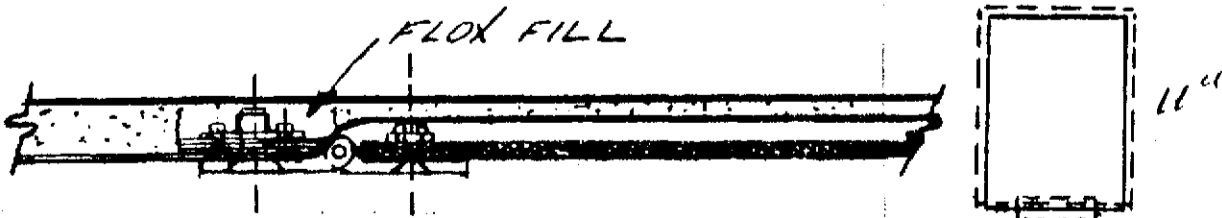
Deployment. We recommend that the board be deployed at a maximum speed of 110 knots (126 mph). After deployment, a maximum speed of 130 knots (150 mph) should be observed. Below 110 knots opening and closing forces will be small enough that operation will be very easy and quick. With experience you should find that even on short, final, instant descent control will be available.

BELLY BOARD INSTALLATION

1. Trim hinge to 5.5".
2. Draw line .3" via felt pen on hinge from rear edge of hinge and measure .4 each and 1.5 each end respectively for (4) 509-8 screws. Trim 1/8" plywood and .8 x 5.5 and radius to fit extrusion of hinge.



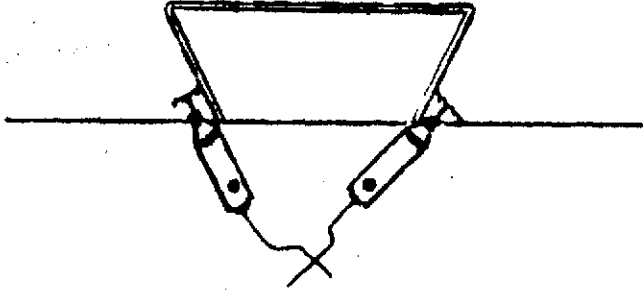
3. Center punch, clamp plywood in place, drill (5/32) and countersink for 509 screws.
4. Remove clamps, repeat process for hinge attachment to belly board and drill/countersink plywood for 3.32 flush pops.
5. Install (4) -8 nut plates via 3/32 steel flush pop rivets to underside of plywood.
6. Trial fit screws, mark flush, remove screws and trim for flush fit (clearance problem with thickness of underside fuselage).
7. Install hinge to belly board and mark around assembly on bottom of fuselage about 18" aft of firewall to front opening. See drawing. Make sure your layout will place the 90° aluminum extrusion conveniently between canard spar and front of fuselage tank, clear of controls.



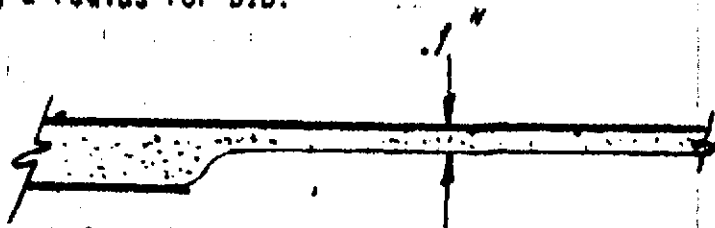
8. Remove board and draw a line connecting both sides of board at hinge pin location.

BELLY BOARD INSTALLATION cont'd

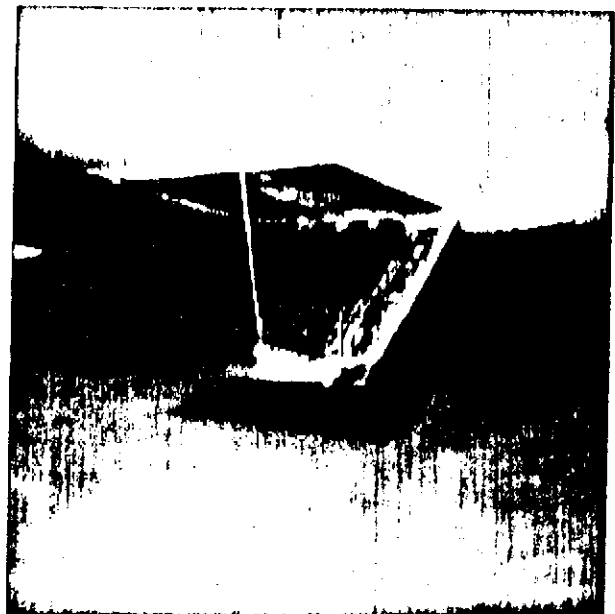
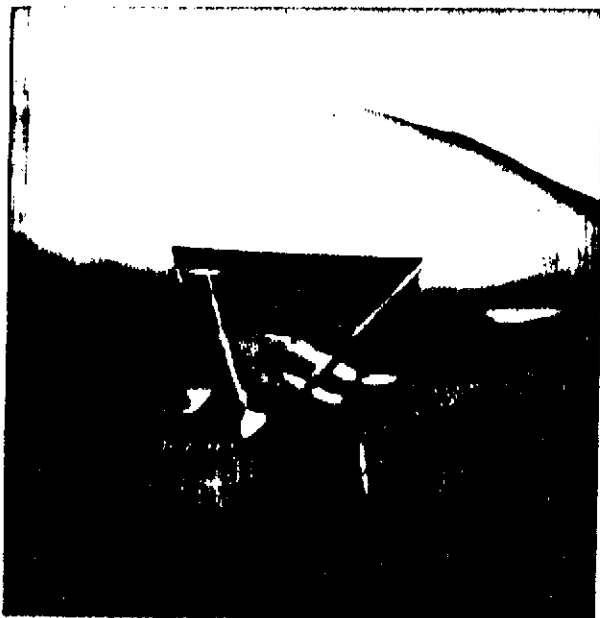
9. Establish a line .15 - .2 outside of established size of board but not at hinge point (rear).
10. Trim line away with dremel saw, being careful not to cut into tank; remove bottom skin from fuselage in rectangular area.



11. Carefully remove exposed foam up to .1" from inside skin, allowing a radius for BID.



12. Carve enough foam from hinge area to fit plywood insert in place. Mark and drill for #8 screws thru outer skin.
13. Trial fit assembly, checking for clearance and flush fit of board and spacing of hinge. Fill nut plates with modeling clay or wax to protect threads.
14. Remove assembly and flox plywood hinge support in place. Fill remainder of void with flox. Clean off excess and let cure.
15. Trial fit board once again and remove to install aluminum extrusion approximately .2 aft of leading edge (see detail on drawing). The 90° extrusion just fit just forward of tank via small dremel saw cut out in fuselage bottom.
16. Sand 1" perimeter area dull, micro foam, and install 1 ply BID at 45°. Let cure.
17. Open 4 aft holes with a sharp pointed razor knife and install board and hinge.
18. Grey tape perimeter of board or tape saran wrap for a release and apply dry micro around all edges for a seal and flush seat.
19. Final contour should be dealt with in finish mode: dry micro, etc.

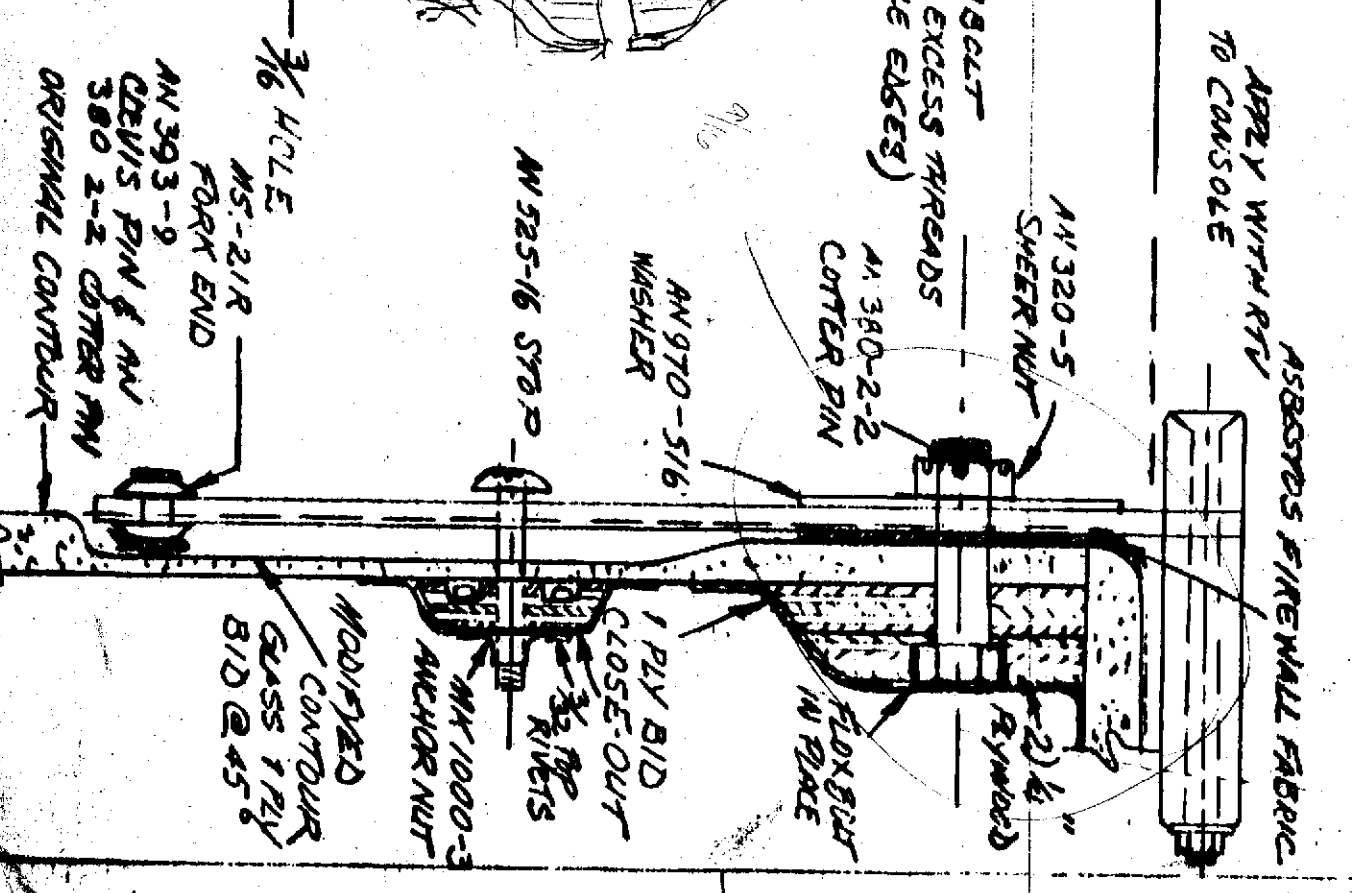
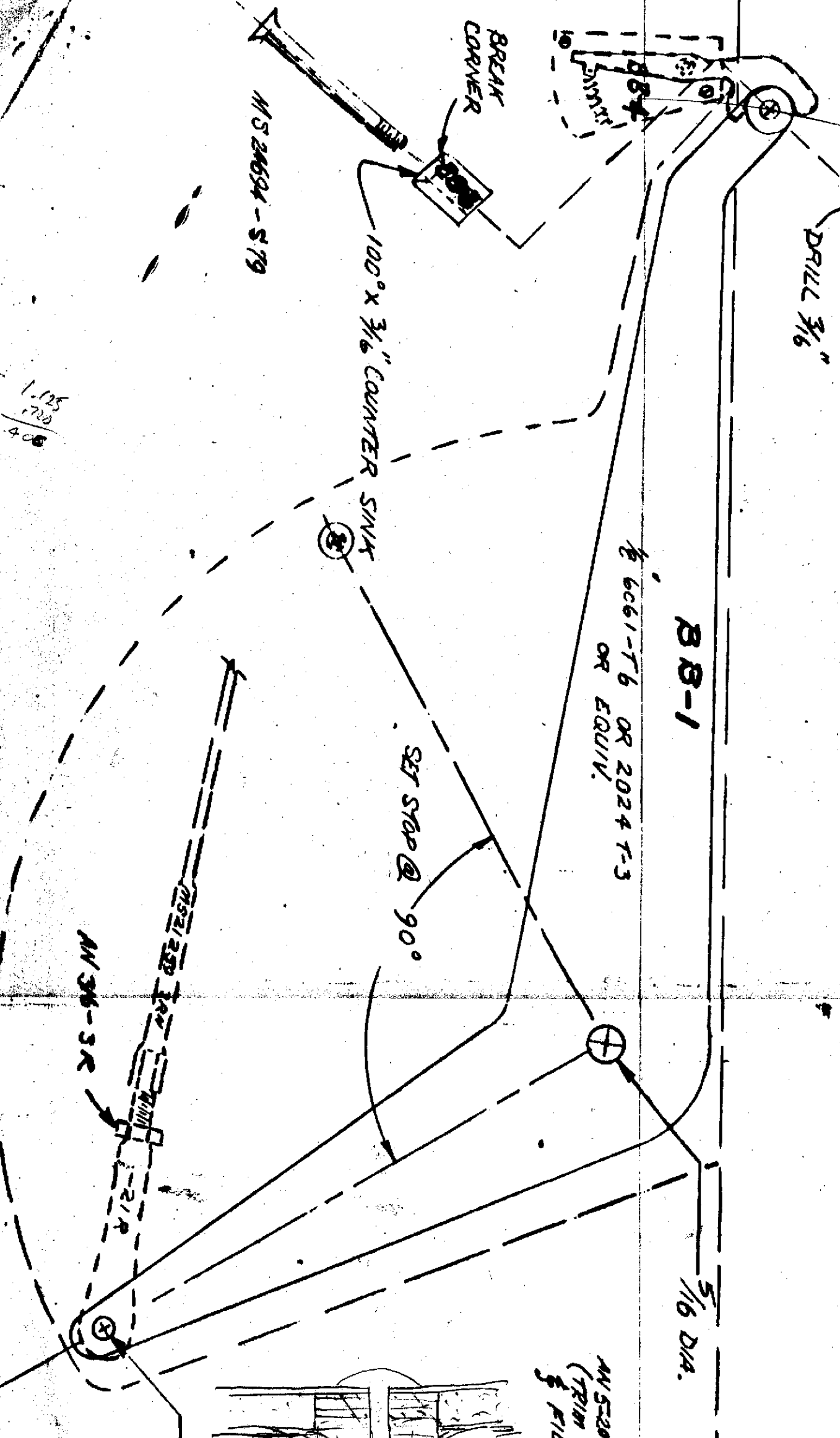


11. SPEED BRAKE/HANDLE FABRICATION/INSTALLATION.

1. Locate handle pivot point via felt pen, also, lay out full scale dashed line console modification.
2. Dremel side console contour to simulate cut-away view, prep and glass one ply BID at 45°. Let cure.
3. Fabricate plywood inserts per cut-away (be sure to install nut plate on stop before glassing in place.
4. Install pivot bolt with flox and 1 ply BID. Close-out. Let cure.
5. Position brake arm on pivot and check clearances thru full cycle.
6. Plumb conduit via most direct route temporarily with tape, keeping bends to a minimum. Lubricate cable with grease before final assembly.
7. Connect AN-111 to aluminum angle bracket with door closed and brake handle at forward (closed) position and cable in neutral adjustment at fork end. Squeeze micropress and trim excess cable.
8. Position support blocks with flox and 1 ply BID. The lower block must support conduit and cable within 1/4" of closed position.
9. Make final adjustment to system at fork end and lock in place with jam nut.
10. Check for smoothness of operation and safety both ends.
11. A 3 ply BID at 45° stand off shield should be fabricated to keep upholstery out of system.
12. Install 5 ply hard point for safety latch via 2 ply BID. Locate latch with intimate contact to handle in board up position (handle horizontal). Drill 2 places and install with wood screws.

SPEED BRAKE INST'N
 SCALE 1:1
 QUICKIE AIRCRAFT
 DATE: 8/15/84
 DRAWN BY: *Joseph J. Baker*

MAKE HANDLE ANY
 MACHINABLE MATERIAL
 MS 21042-N32
 NUTS
 DRILL 3/16"
 1" x 1 1/2" 2024-T3 ALUMINUM
 MS 24694-S48
 CARBON BOARD

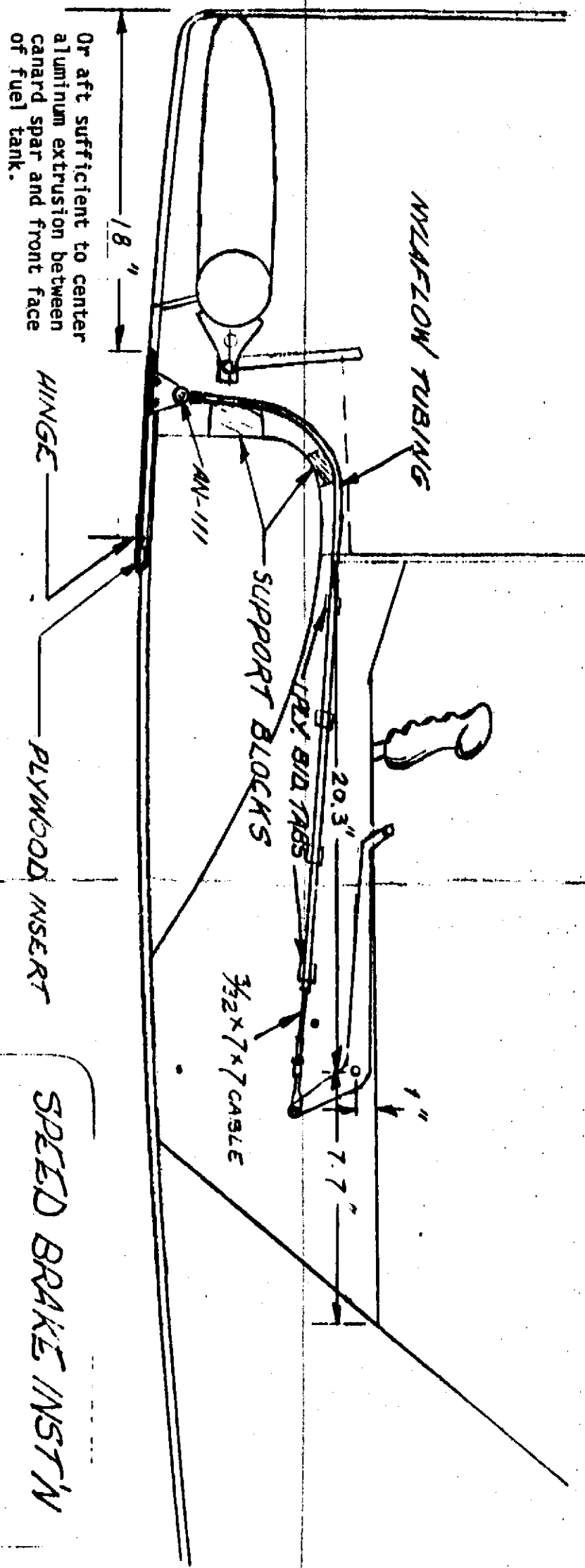


1.125
 1.720
 408

FIREWALL

INSTRUMENT PANNEL

SEAT BACK BULKHEAD



Or aft sufficient to center
aluminum extrusion between
canard spar and front face
of fuel tank.

NOTE
Belly Board Dimensions is 10" x 11"
A.P.

SPEED BRAKE INSTN
CROSS SECTION: NOT-TO-SCALE
QUICKIE AIRCRAFT
DATE: 8/14/84
DRAWN BY: Jerry Ford