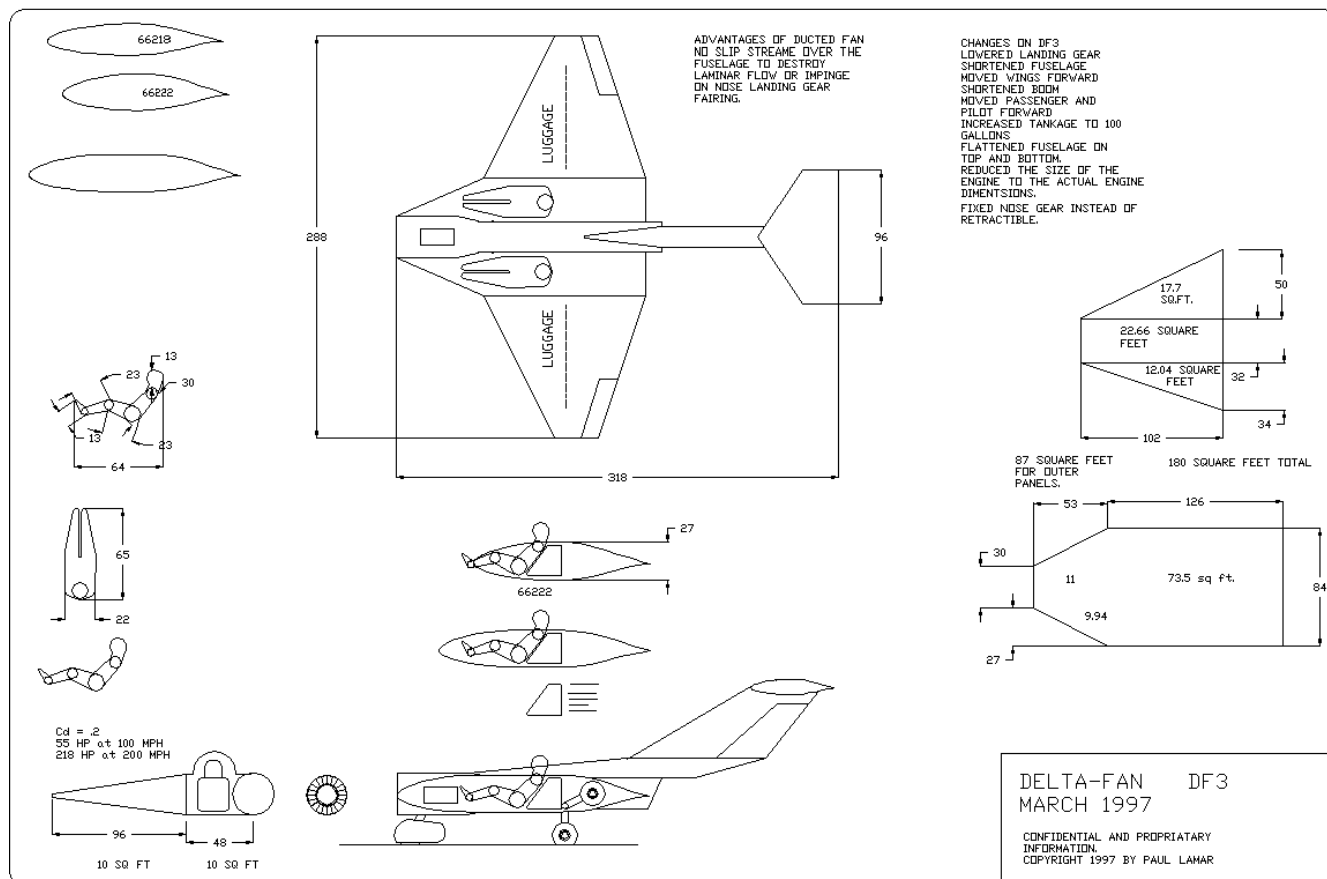
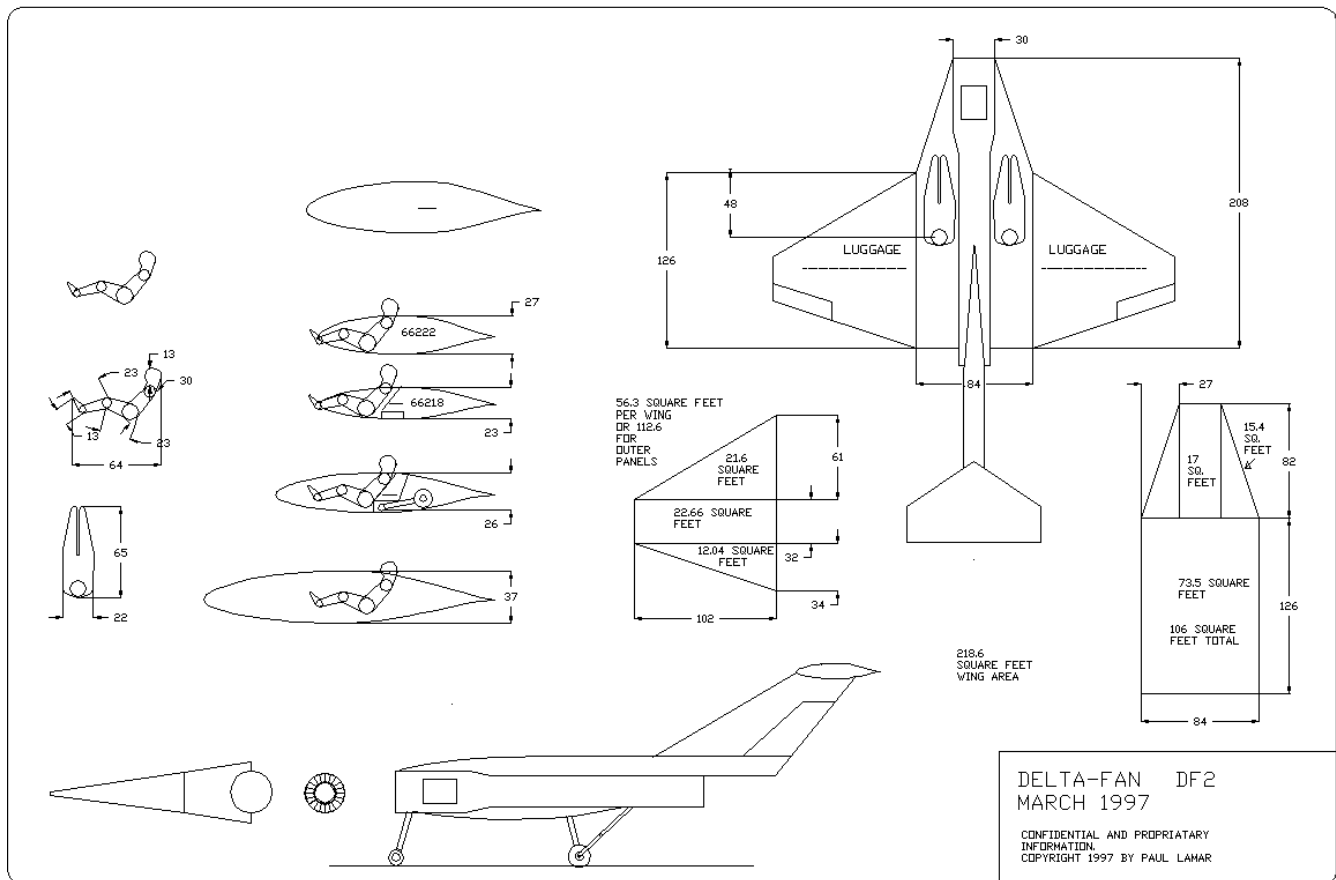


Lamar rotary powered ducted fan aircraft. 1997

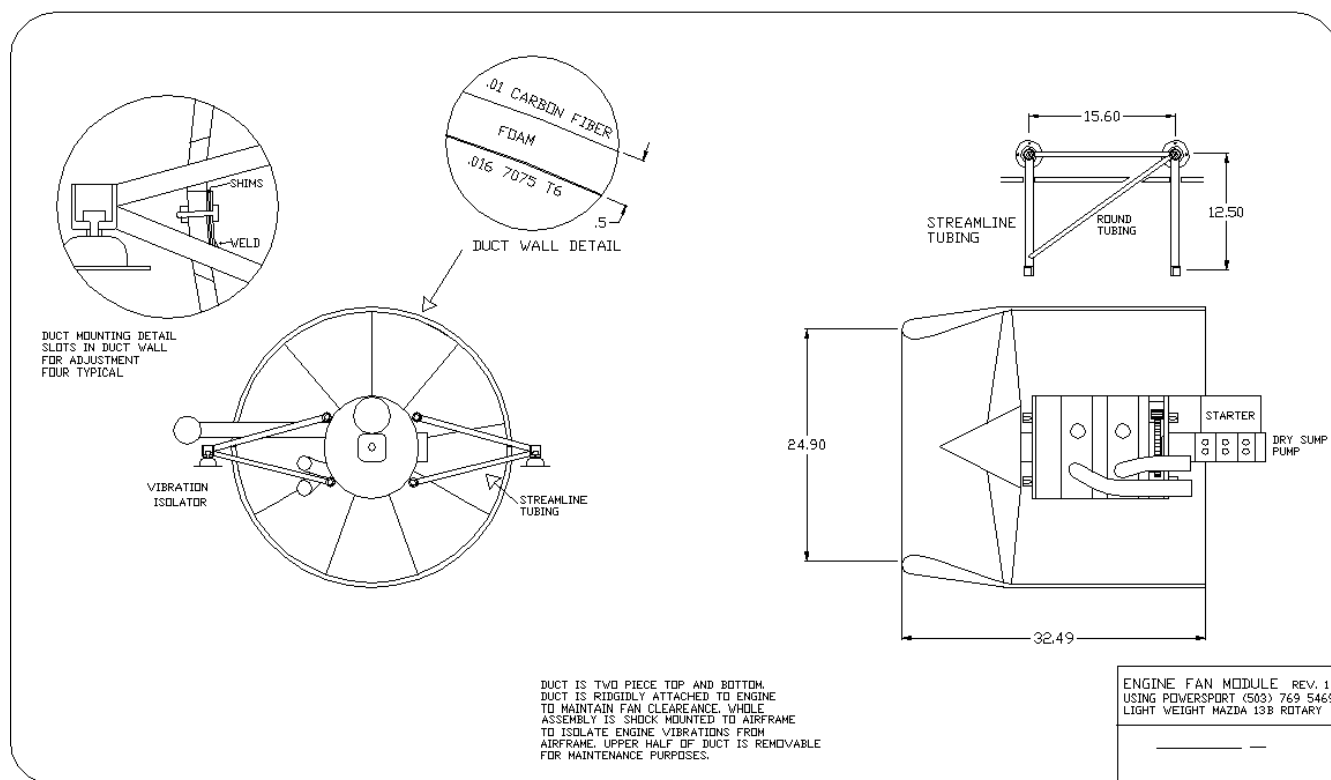
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Conventional layout. Not a delta.



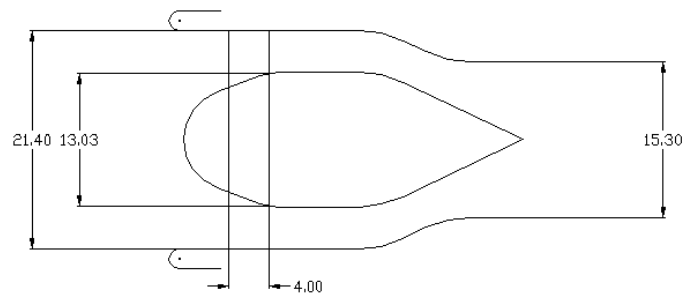
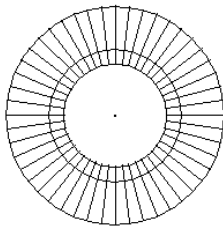
Conventional layout. Not a delta.



Motor mount details.

FLOW RATE IS 40 POUNDS PER SECOND
 PRESSURE RATIO IS 1.18 AT 100% RPM
 THRUST PER HP IS 2.73 TO 1.71 POUNDS PER HP.
 DESIGN SPEED IS 6500 RPM

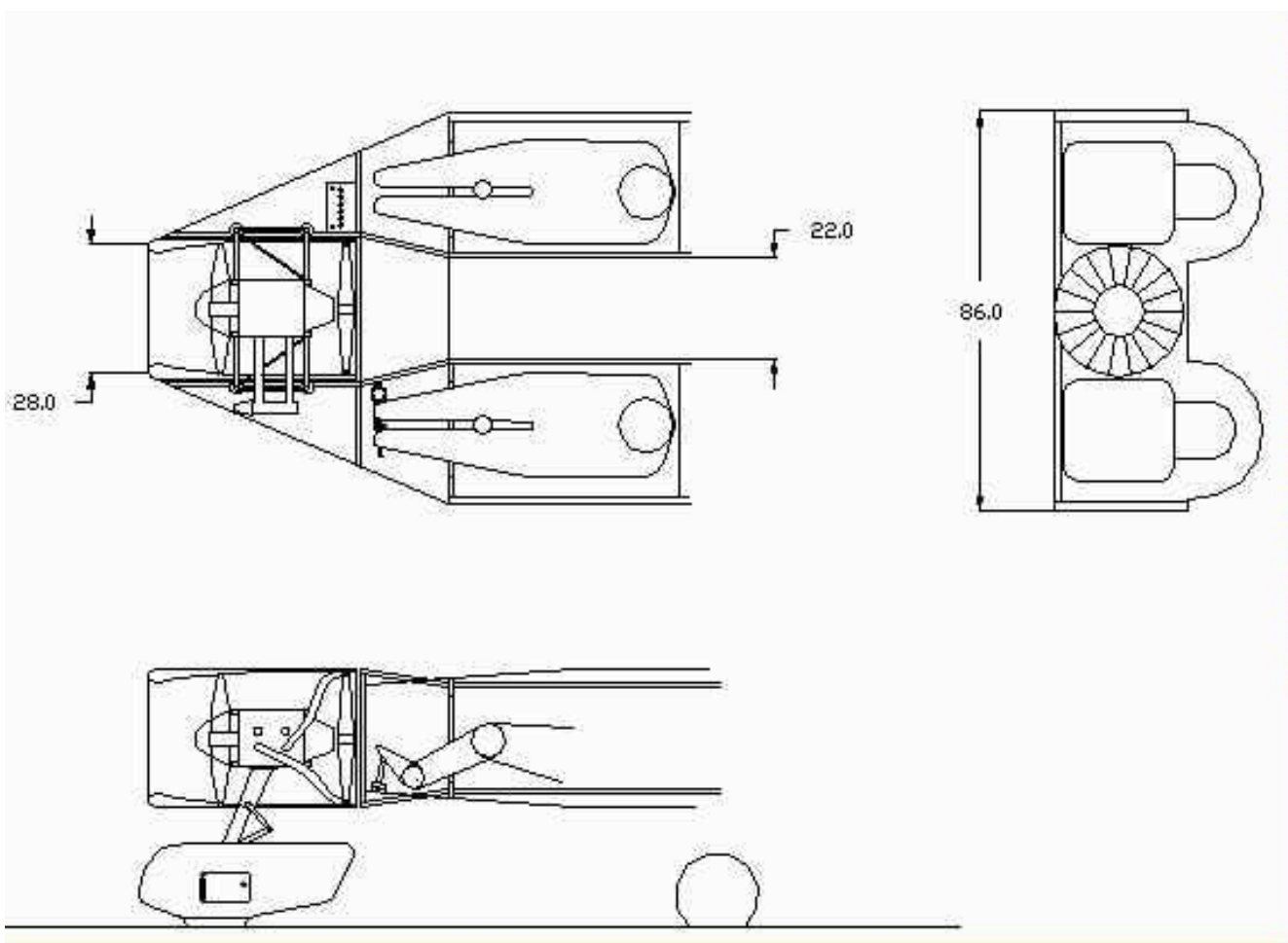
21.4 = 359.68 SQUARE INCHES
 13 = 132.73 SQUARE INCHES
 ANNULAR AREA IS THEREFORE 256.94 SQUARE INCHES
 15.3 = 183.85 SQUARE INCHES
 15.30 IS 72% OF 21.40
 183.85 IS 72% OF 256.94 SQUARE INCHES



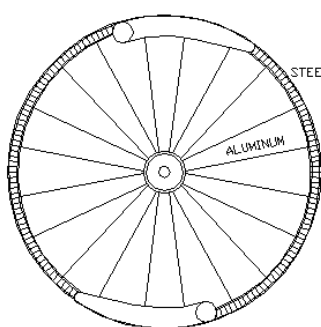
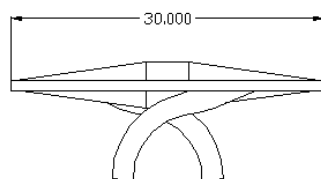
10/4=2.51
 24/10=2.41
 2.4x2.5=6.1

THERMODYNE AXIAL FLOW
 COPYRIGHT PAUL LAMAR 1997
 LAMAR DELTA

Typical turbine.



Cockpit area.



STEEL RIM
BOLTED
TO ALUMINUM
FAN BLADES.
IT IS ASSUMED
THE ALUMINUM
FAN BLADES
TAKE ALL CENT.
LOADS FROM THE
TURBINE RIM.
NO HOOP STRESS
IS ASSUMED.



MOUNTED ON AN
EXTENSION OF THE
ECCENTRIC SHAFT
AND COUNTER
ROTATING.

BEST YET. I WAS SURPRISED THAT
THE STRESS WAS AT AN ACCEPTABLE
LEVEL. SEE THE ATTACHED SHEETS.
THIS BY FAR IS THE SIMPLEST AND
LEAST COSTLY, LOWEST WEIGHT
AND BEST APPROACH BY FAR.
THE TURBINE WILL BE COOLED BY
THE BLAST OF COLD AIR FROM THE
MAIN FAN. THEREFORE LOW COST
MATERIALS CAN BE USED.

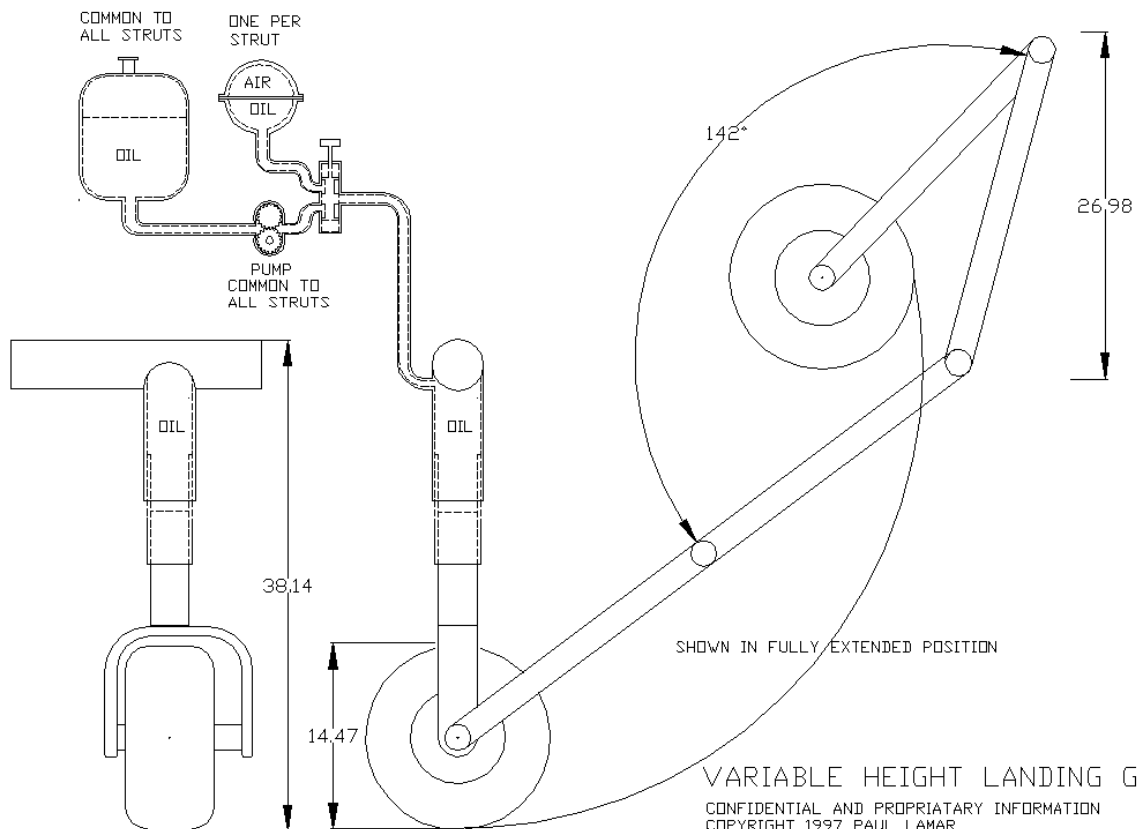
MOSTLY WELDED CONSTRUCTION

NEW PLAN A

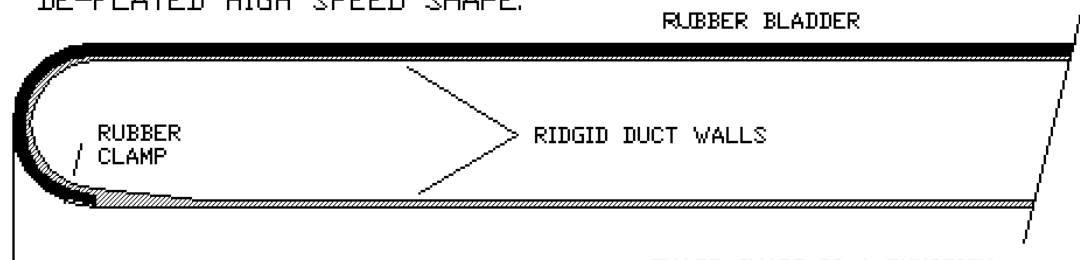
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LAMAR DELTA

The turbo compound feature of the ducted fan.

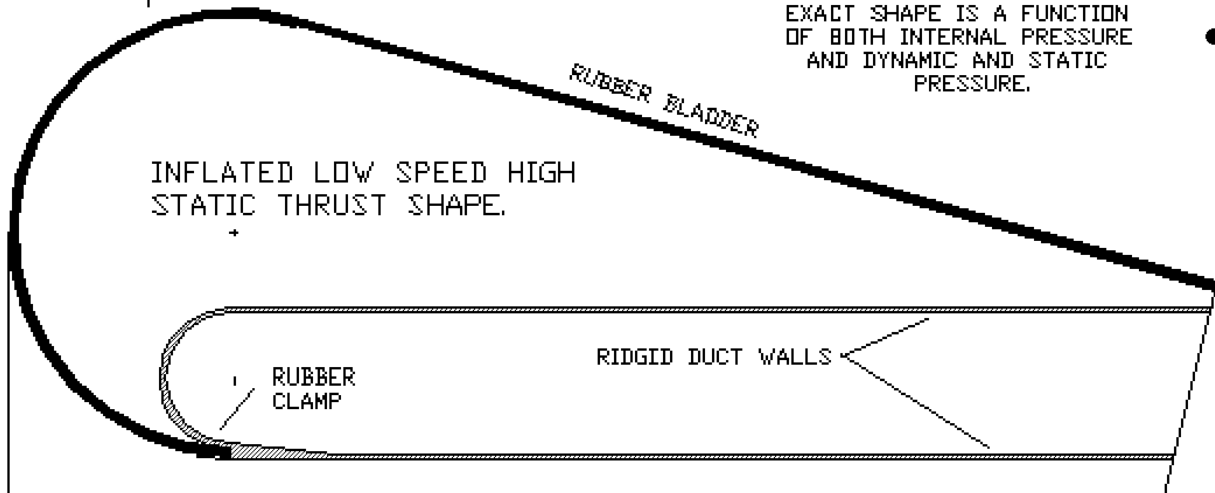


DE-FLATED HIGH SPEED SHAPE.



EXACT SHAPE IS A FUNCTION
OF BOTH INTERNAL PRESSURE
AND DYNAMIC AND STATIC
PRESSURE.

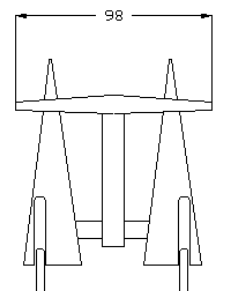
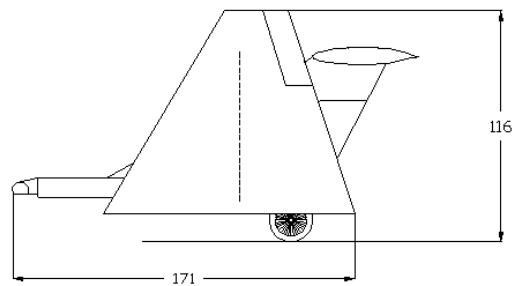
INFLATED LOW SPEED HIGH
STATIC THRUST SHAPE.



THICKNESS OF RUBBER BLADDER IS TAYLORED TO CONTROL EXACT INFLATED SHAPE.

VARIABLE INLET GEOMETRY FOR DUCTED FANS.

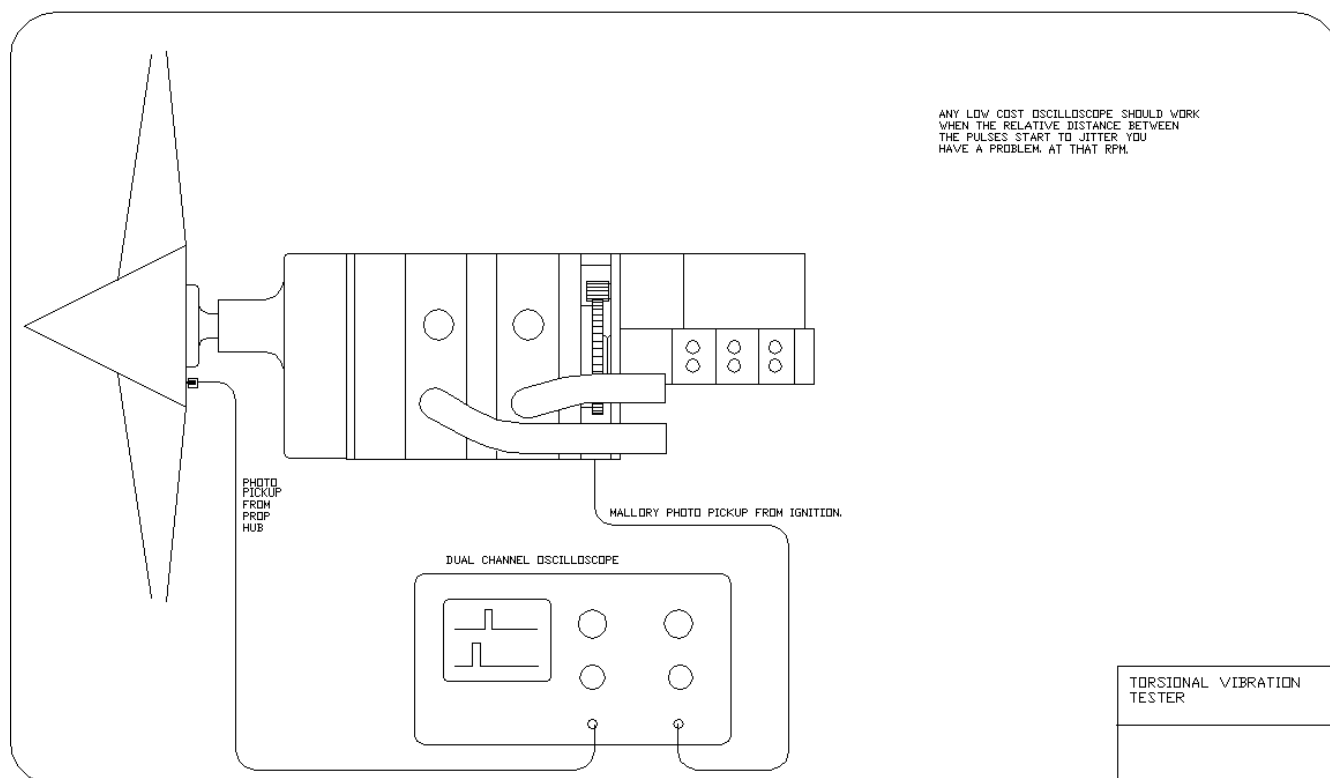
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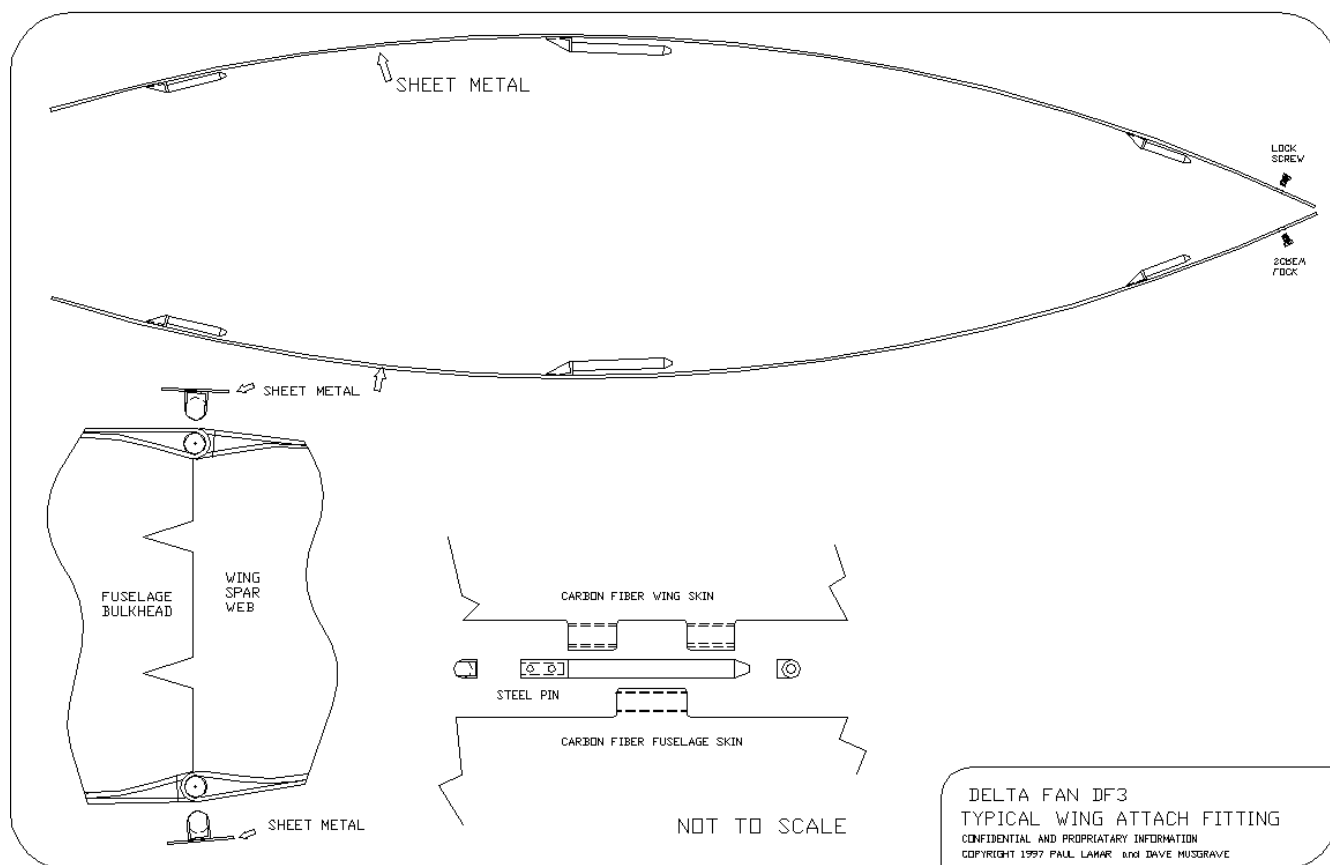
TAIL BOOM SERVES AS TRAILER
TOW BAR.
WHEELS ARE STORED IN WING
PANELS WHEN FLYING.
CROSS BEAMS ARE ALSO
STORED IN WING PANELS
WHEN FLYING.

DELTA-FAN TRAILER DF3
MARCH 1997

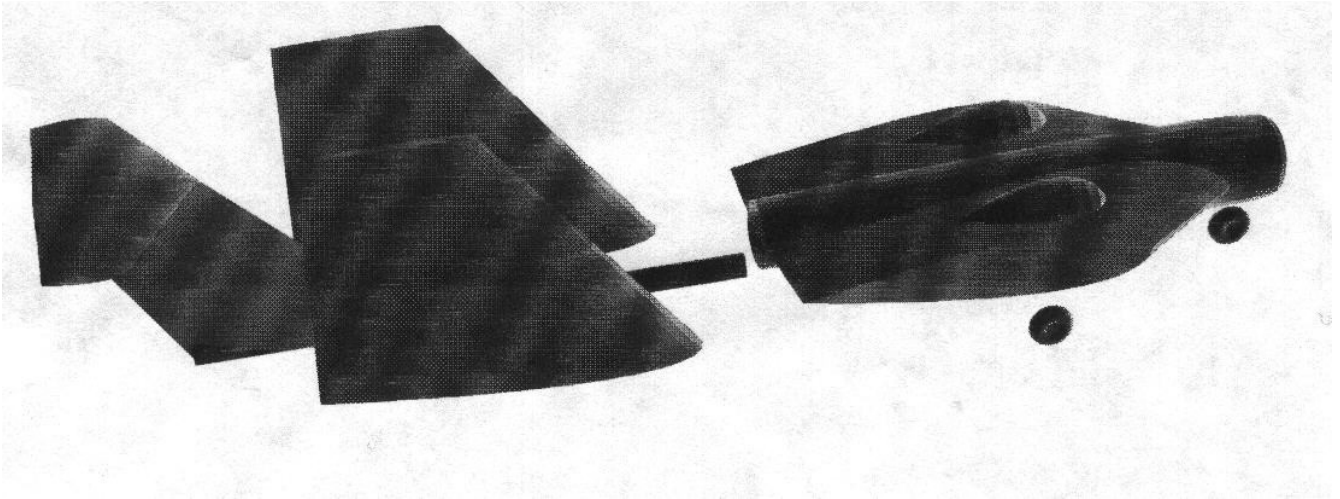
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Dry sump system is used to minimize the frontal area of the engine partially blocking the duct.



Method of attaching outer composite wing panels.



An attempt at a 3D image prior to the advent of Rhino.