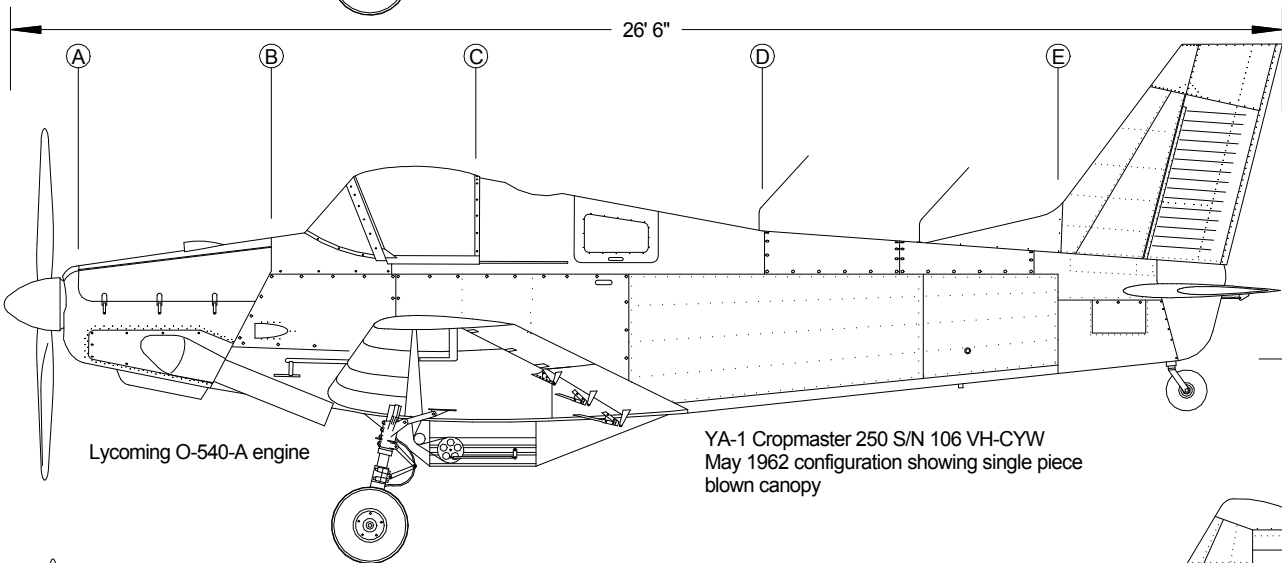


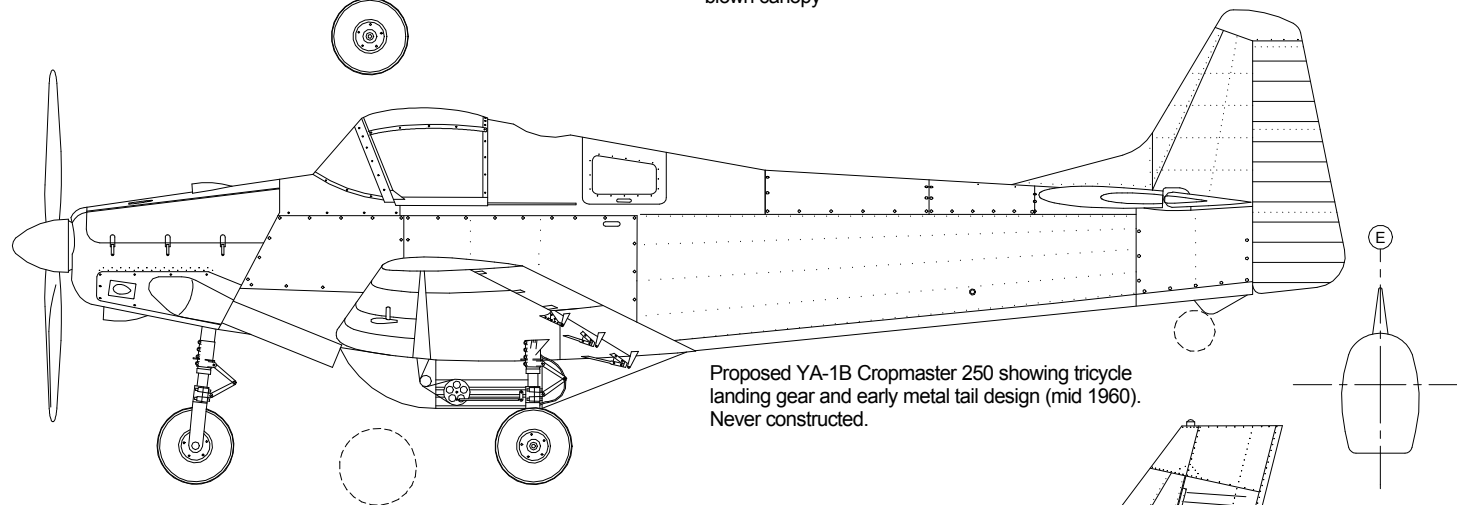
Lycoming O-540-A engine
Hartzell HC92ZK-1 propeller

YA-1 Cropmaster 250 S/N 101 VH-BJF
(shown in mid-1960 configuration)

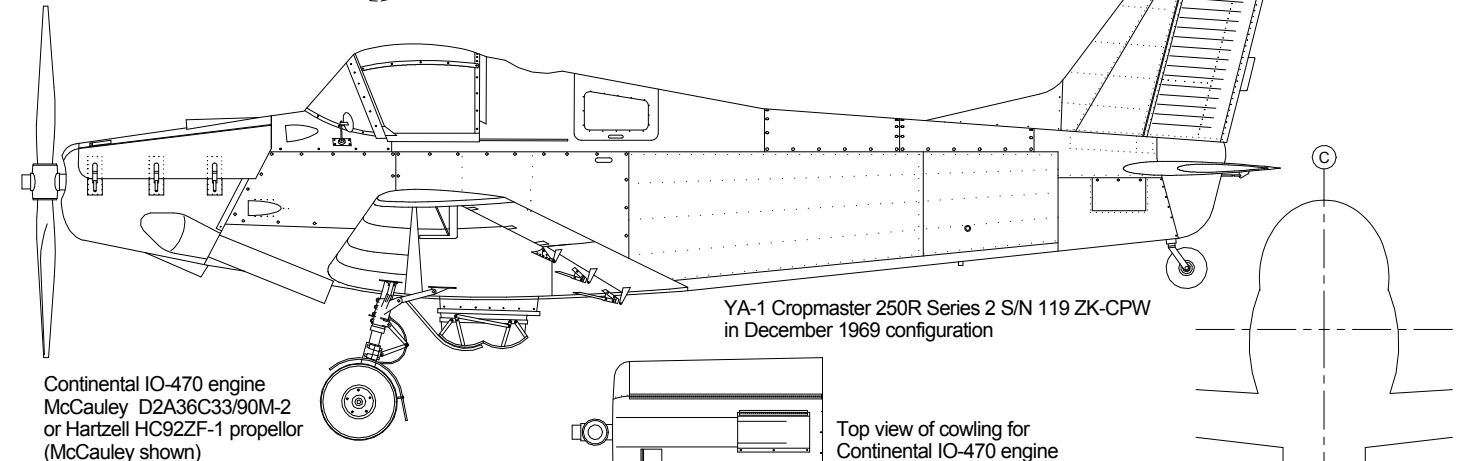


Lycoming O-540-A engine

YA-1 Cropmaster 250 S/N 106 VH-CYW
May 1962 configuration showing single piece
blown canopy

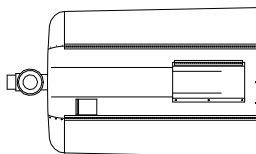


Proposed YA-1B Cropmaster 250 showing tricycle
landing gear and early metal tail design (mid 1960).
Never constructed.



Continental IO-470 engine
McCauley D2A36C33/90M-2
or Hartzell HC92ZF-1 propeller
(McCauley shown)

YA-1 Cropmaster 250R Series 2 S/N 119 ZK-CPW
in December 1969 configuration



Top view of cowling for
Continental IO-470 engine

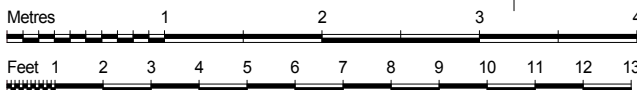
Yeoman Aviation YA-1 Cropmaster 250 and 250R
1959-69

Drawn by Derek Buckmaster © 2003
for the DB Design Bureau website

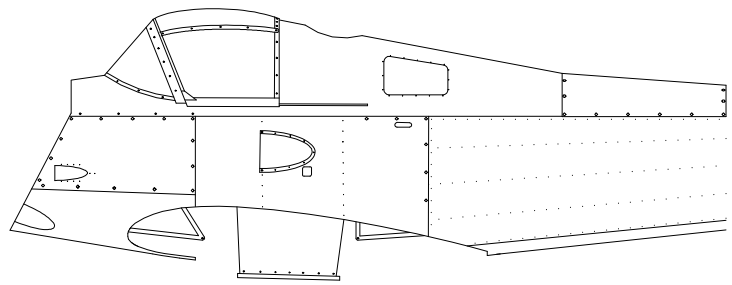
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Plate 1 of 4

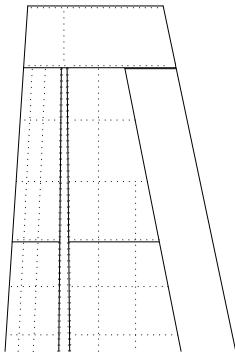
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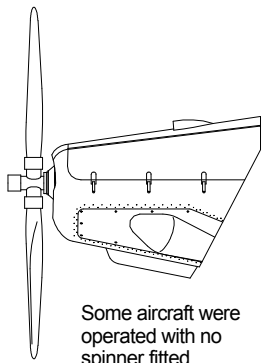
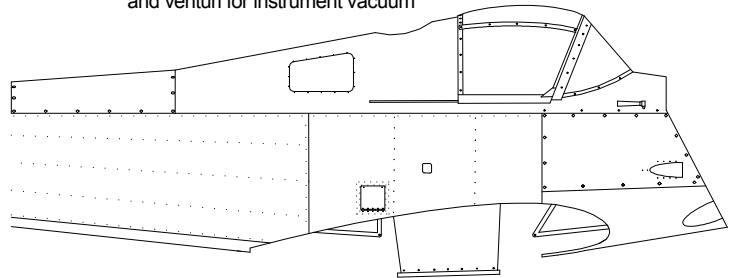
Port scrap view showing fresh air scoop fitted to some aircraft



Wing-tip extensions as fitted to S/N 119 ZK-CPW increased span to 36'

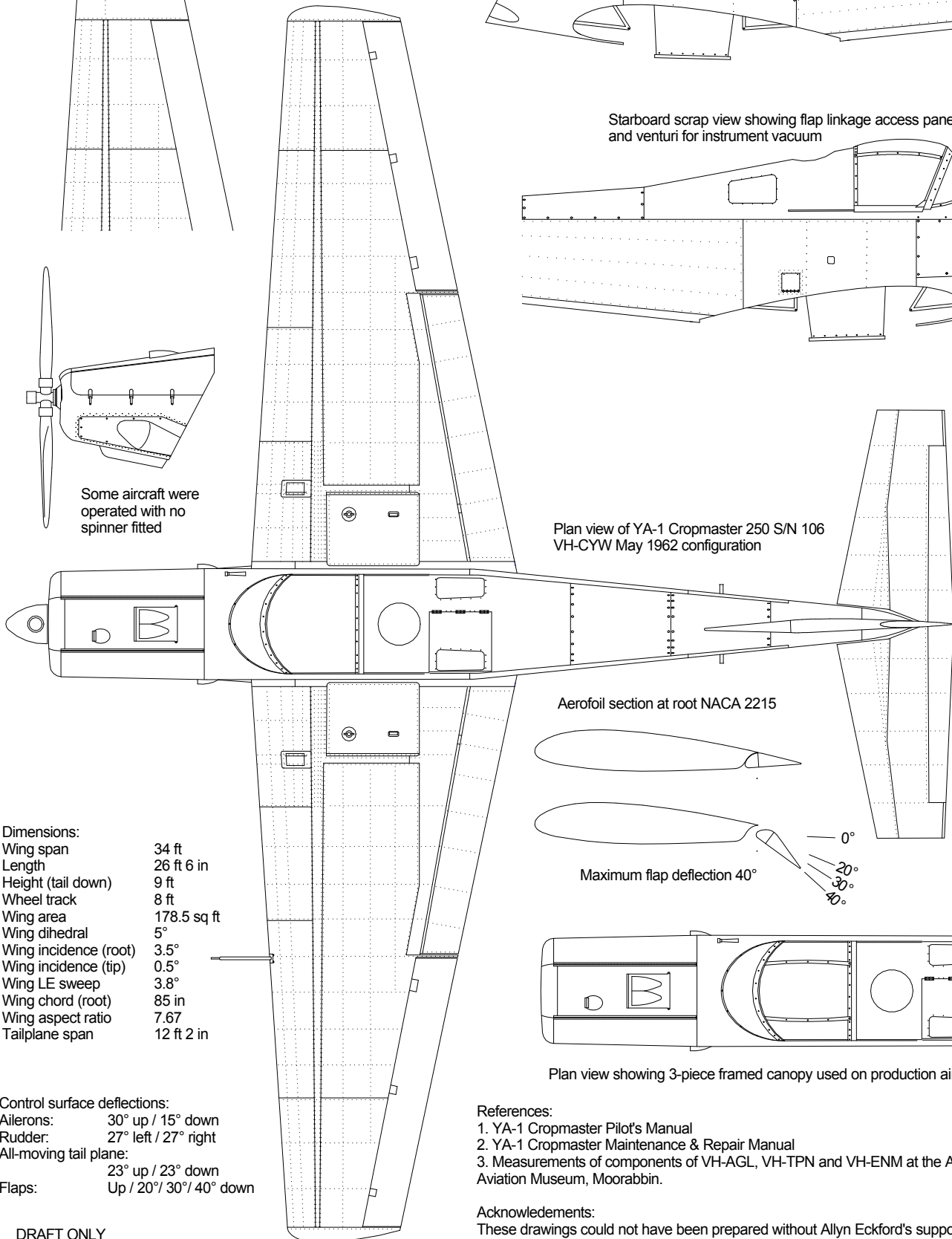


Starboard scrap view showing flap linkage access panel and venturi for instrument vacuum

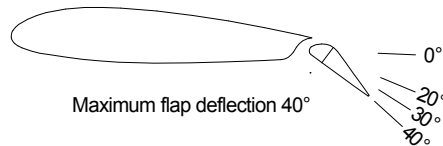


Some aircraft were operated with no spinner fitted

Plan view of YA-1 Cropmaster 250 S/N 106 VH-CYW May 1962 configuration



Aerofoil section at root NACA 2215

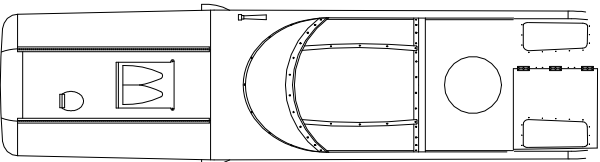


Maximum flap deflection 40°

- Dimensions:
- Wing span 34 ft
 - Length 26 ft 6 in
 - Height (tail down) 9 ft
 - Wheel track 8 ft
 - Wing area 178.5 sq ft
 - Wing dihedral 5°
 - Wing incidence (root) 3.5°
 - Wing incidence (tip) 0.5°
 - Wing LE sweep 3.8°
 - Wing chord (root) 85 in
 - Wing aspect ratio 7.67
 - Tailplane span 12 ft 2 in

- Control surface deflections:
- Ailerons: 30° up / 15° down
 - Rudder: 27° left / 27° right
 - All-moving tail plane: 23° up / 23° down
 - Flaps: Up / 20° / 30° / 40° down

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Plan view showing 3-piece framed canopy used on production aircraft

References:

1. YA-1 Cropmaster Pilot's Manual
2. YA-1 Cropmaster Maintenance & Repair Manual
3. Measurements of components of VH-AGL, VH-TPN and VH-ENM at the Australian National Aviation Museum, Moorabbin.

Acknowledgements:

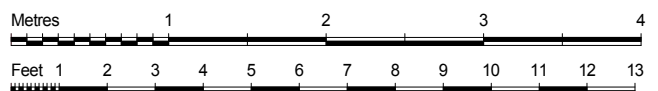
These drawings could not have been prepared without Allyn Eckford's support and attention to detail. Thanks also to Fred Burke, Ben Dannecker, Michael Ellis for contributions comments and corrections.

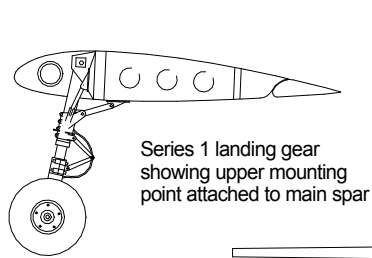
Yeoman Aviation YA-1 Cropmaster 250
1959-67

Drawn by Derek Buckmaster © 2003
for the DB Design Bureau website

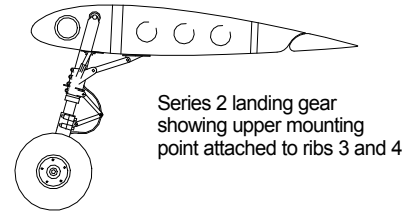
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Plate 2 of 4

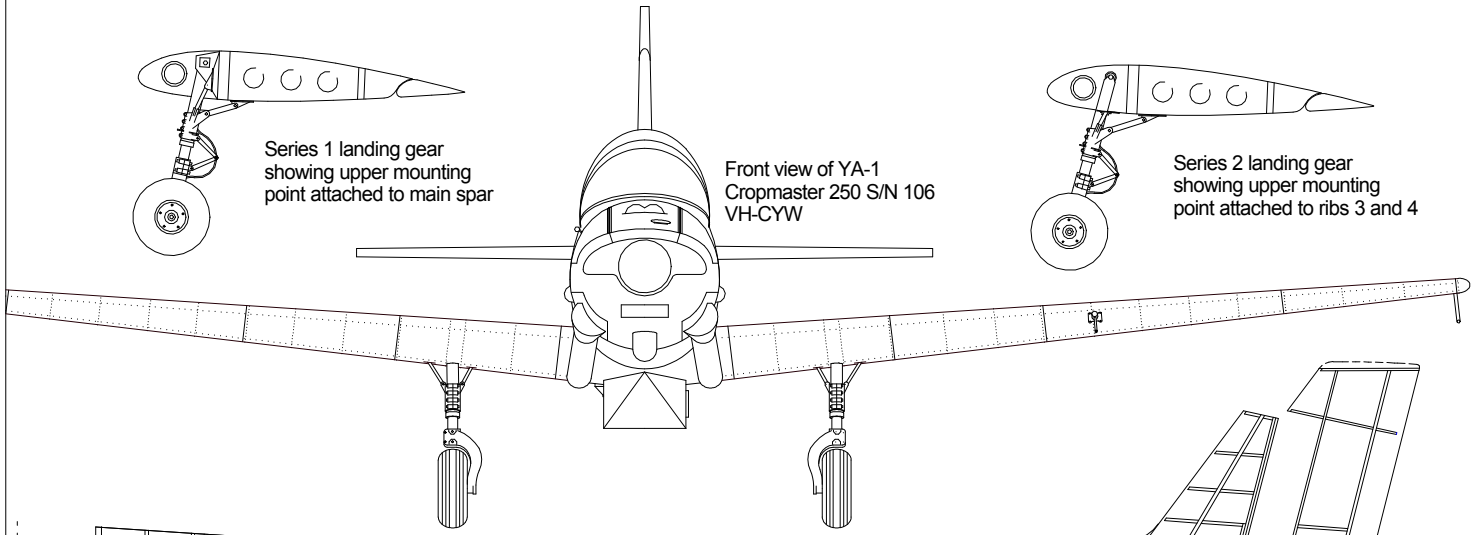




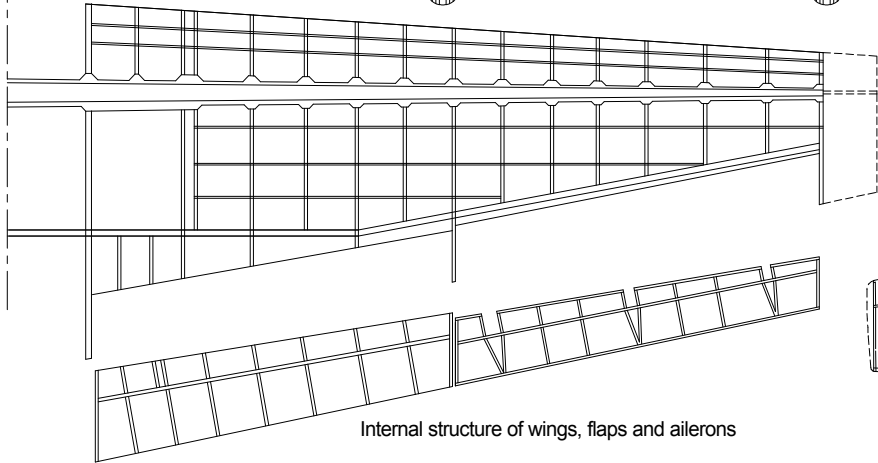
Series 1 landing gear showing upper mounting point attached to main spar



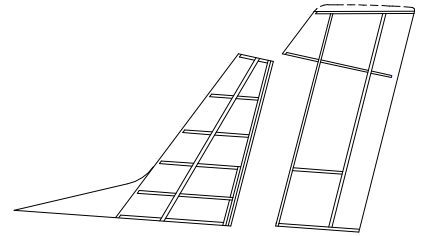
Series 2 landing gear showing upper mounting point attached to ribs 3 and 4



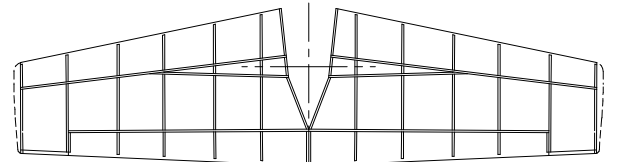
Front view of YA-1 Cropmaster 250 S/N 106 VH-CYW



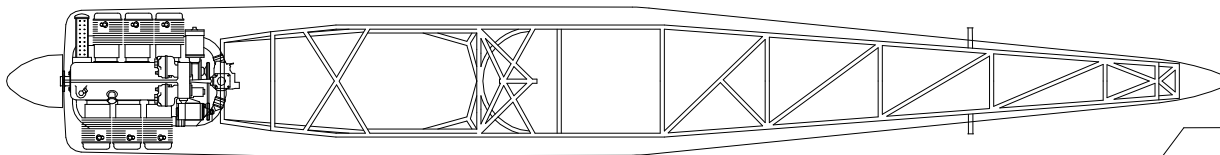
Internal structure of wings, flaps and ailerons



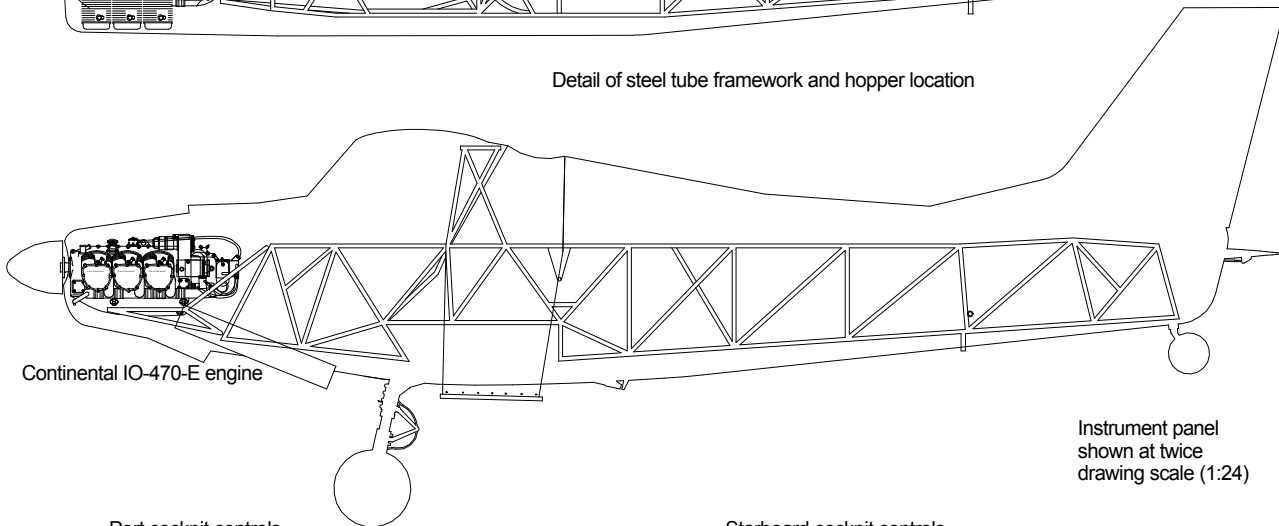
Internal structure of fin and rudder



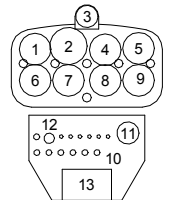
Internal structure of all-moving tail-plane



Detail of steel tube framework and hopper location



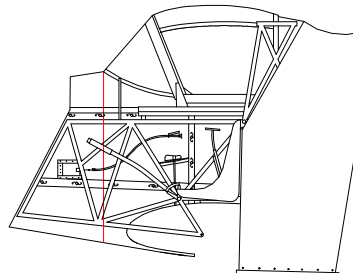
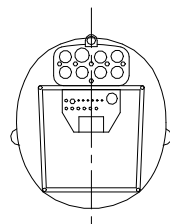
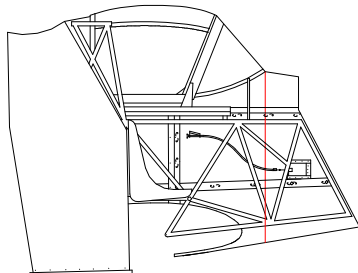
Continental IO-470-E engine



Instrument panel shown at twice drawing scale (1:24)

Port cockpit controls

Starboard cockpit controls



Key to instruments:

- 1 Compass
- 2 Airspeed
- 3 Spray boom pressure (if fitted)
- 4 Altimeter
- 5 Turn & bank
- 6 Cylinder head temperature
- 7 Manifold pressure
- 8 Tachometer
- 9 Oil & fuel pressure, cylinder head temp.
- 10 Fuses (6)
- 11 Ammeter
- 12 Parking brake
- 13 AWA "Skyphone" VHF radio

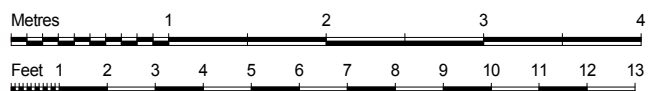
Yeoman Aviation YA-1 Cropmaster 250 and 250R
1959-67

Drawn by Derek Buckmaster © 2003
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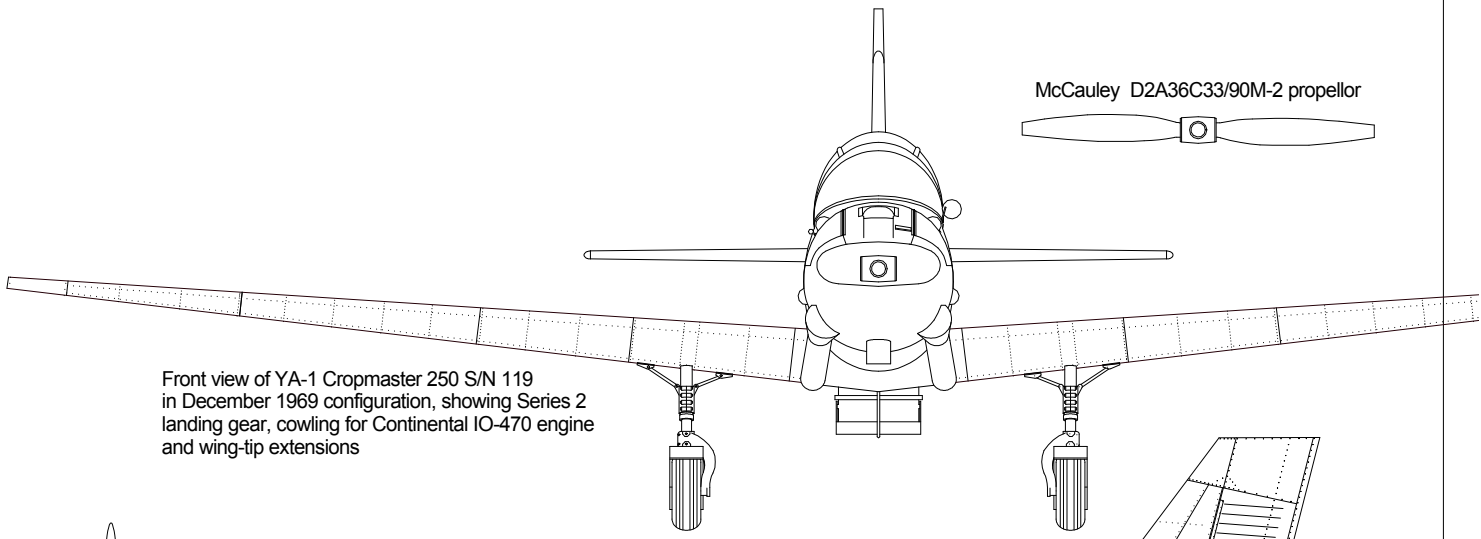
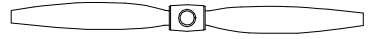
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Plate 3 of 4

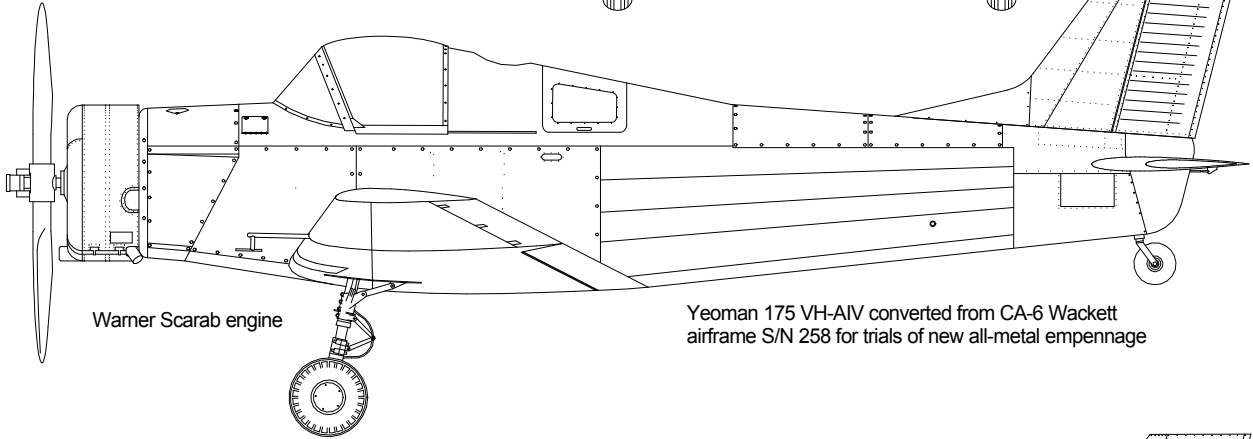
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McCaughey D2A36C33/90M-2 propellor

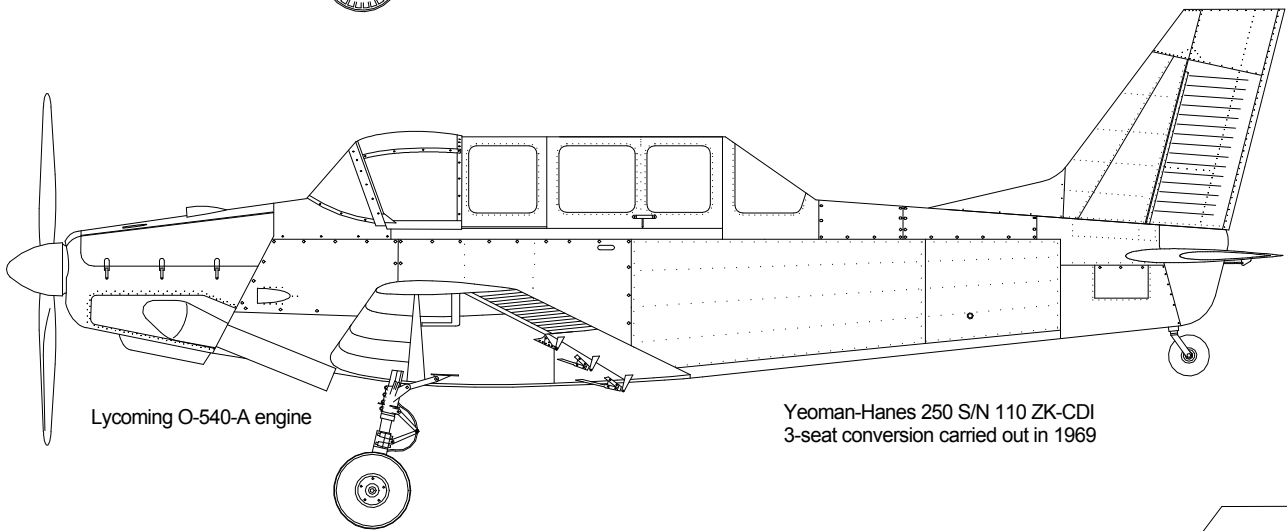


Front view of YA-1 Cropmaster 250 S/N 119 in December 1969 configuration, showing Series 2 landing gear, cowling for Continental IO-470 engine and wing-tip extensions



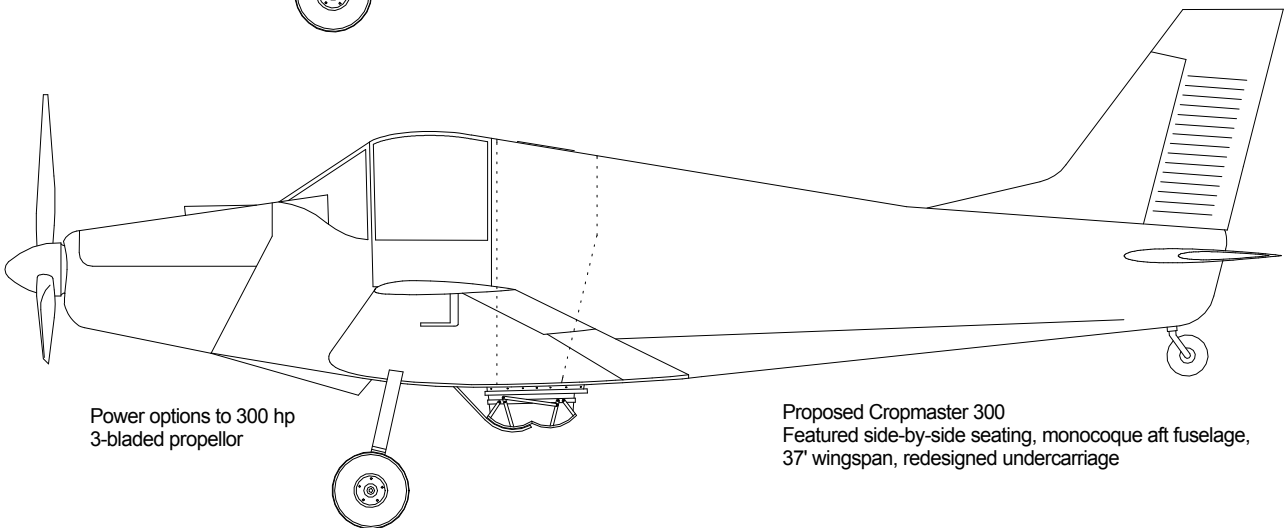
Warner Scarab engine

Yeoman 175 VH-AIV converted from CA-6 Wackett airframe S/N 258 for trials of new all-metal empennage



Lycoming O-540-A engine

Yeoman-Hanes 250 S/N 110 ZK-CDI 3-seat conversion carried out in 1969



Power options to 300 hp 3-bladed propellor

Proposed Cropmaster 300 Featured side-by-side seating, monocoque aft fuselage, 37' wingspan, redesigned undercarriage

Yeoman 175, Yeoman-Hanes 250, Cropmaster 300

Drawn by Derek Buckmaster © 2003 for the DB Design Bureau website

Scale 1:48

Plate 4 of 4

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