# The “Carbon Fiber P 51”

Our P-51DH is a duplication of the P-51G model, which was the fastest of the P-51 World War II fighter aircraft produced. The G model is basically comprised of the D body and the H wing. It achieved a speed of 496 MPH. Composite engineers and experts believe we can expect a 17% increase in speed (using the same power) due to a lighter and laminar flow airframe. The increase in speed equates to 580 MPH. The current world speed record is 535 MPH; a huge difference of 45 MPH.

# Basic Design

- **. * Built on the CameronAircraft carbon fiber P-51 airframe.**
- **P-51D fuselage**
- **P-51H wing rated .82 Mach (more efficient, cleaner)**
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- *** Empty weight 4,650 lbs . 7635 lbs original ) 40% less**
- **Engine 1500 lbs (base engine + 150 lbs add-ons)**
- **Airframe 3150 lbs**
- **Gross weight 8000 lbs.**
- **Useful load 1250 lbs.**
- *** Engine options: Allison V-1710**
- **Rolls-Merlin V-12**
- **Lycoming T-53 turboprop de-rated to 1450 HP.**
- *** Two seats tandem, dual controls.**
- *** Adjustable horizontal stabilizer (no trim tabs).**
- *** Push-pull controls utilizing lightweight carbon tubes.**

# Performance

- *** Range 1250+ miles with standard tanks (250 gal.)**
- *** Service ceiling 30,000 ft +**
- *** Takeoff distance - 1250 ft; Landing distance 1750 ft.**
- *** Rate of climb 4200 fpm**

# Specifications

- *** Length 36 ft;**
- **Height 10 ft 9 in;**
- **Wingspan 37 ft.**
- *** Wing loading 26.8 lbs/sq ft**
- *** Wing area 233 sq ft.**
- *** Ultimate G loading +8, -8**

**The prototype was fabricated in production graphite and steel tooling.**

**His method of replicating the Mustang was unique.**

**Besides measuring a P-51D, Cameron used a dried polyurethane foam shell lifted from a P-51 fuselage to fabricate the graphite fuselage mold.**

**Cameron believes his Mustang is a better performing airplane than the original because it incorporates the best design features of various model P-51 s.**

**The airplane has 12 major components, fabricated in right/left and top/bottom parts, vacuum bagged and autoclaved at 250 F. The interior wing, fuselage parts and tail control surfaces are made of IM7 graphite material, and they're autoclaved at 350F and 100 psi. "Our autoclave work is similar to that done at Boeing, including being fully documented.**

# P51G COMPOSITE AIRFRAME

*Manufactured by: Cameron and Sons Aircraft*

***ALL STRUCTURAL COMPONENTS ARE AUTO-CLAVED***

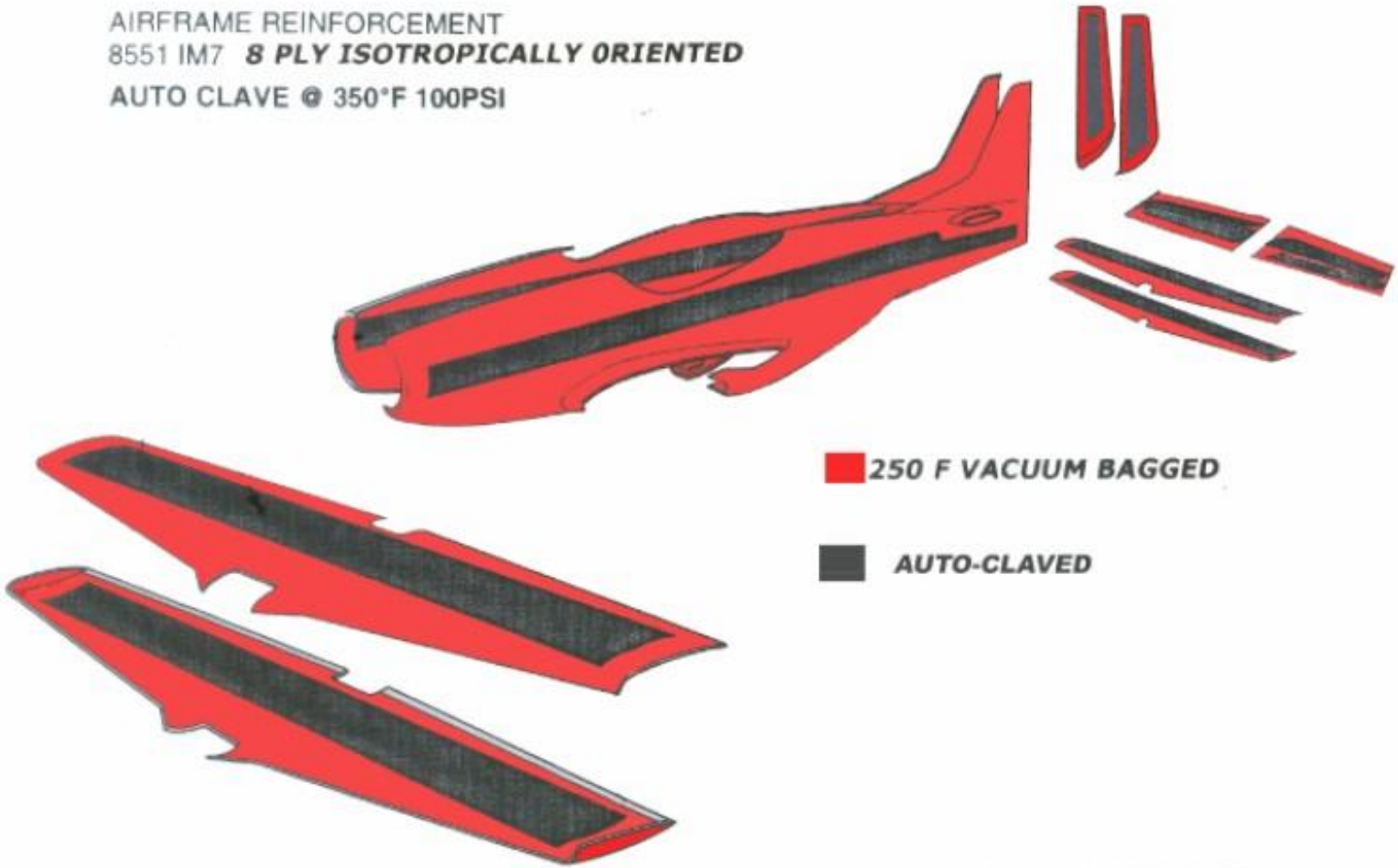
***80% OF ALL AIRCRAFT SKINS ARE ALSO AUTO-CLAVED***

T.I. GRAPHICS AND COMMUNICATION, INC...Fort Wayne, Indiana

# COMPOSITE P-51

FULL SIZE

AIRFRAME REINFORCEMENT
8551 IM7 ***8 PLY ISOTROPICALLY ORIENTED***
AUTO CLAVE @ 350°F 100PSI

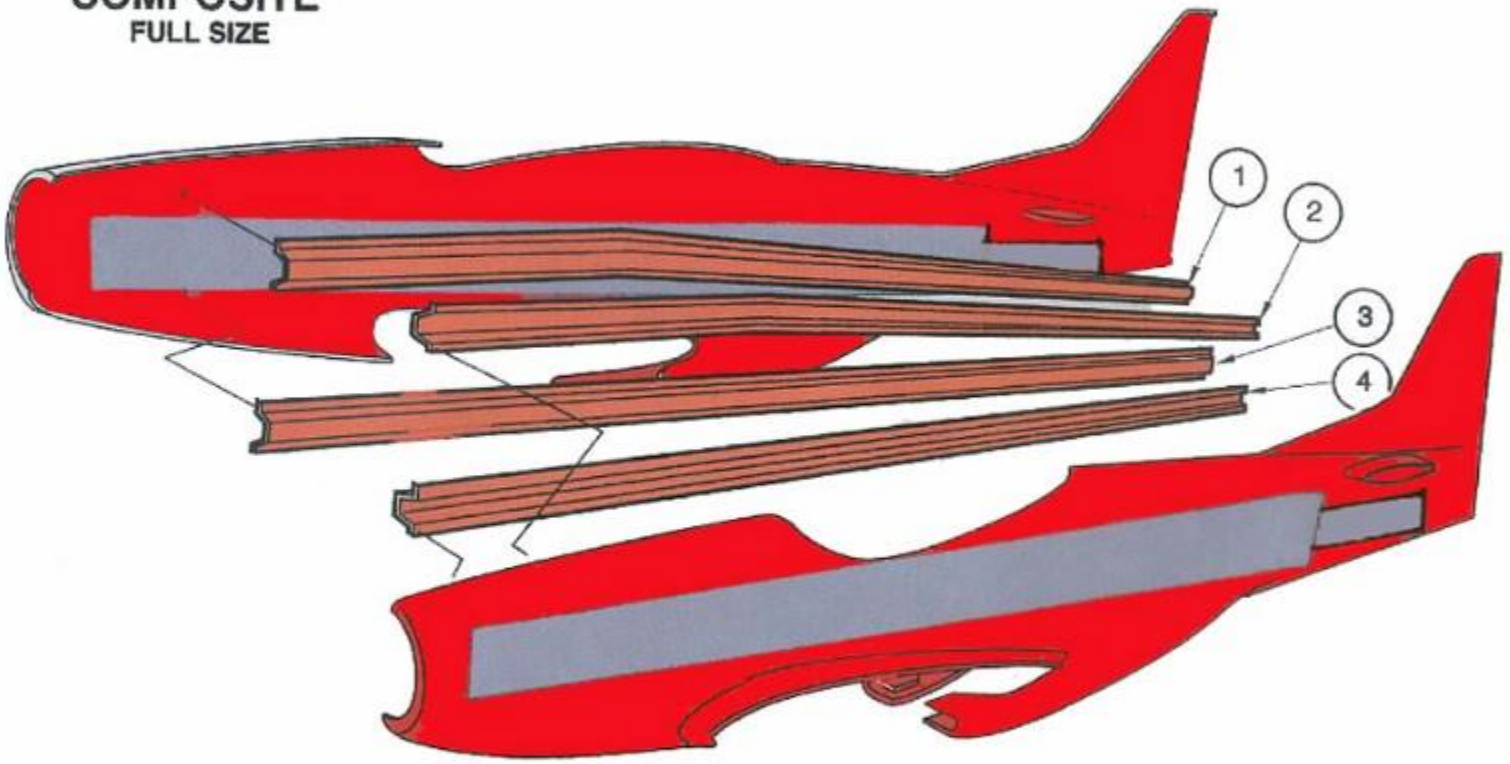


***250 F VACUUM BAGGED***

***AUTO-CLAVED***

***12 MAJOR AIRFRAME COMPONENTS***

## COMPOSITE
FULL SIZE

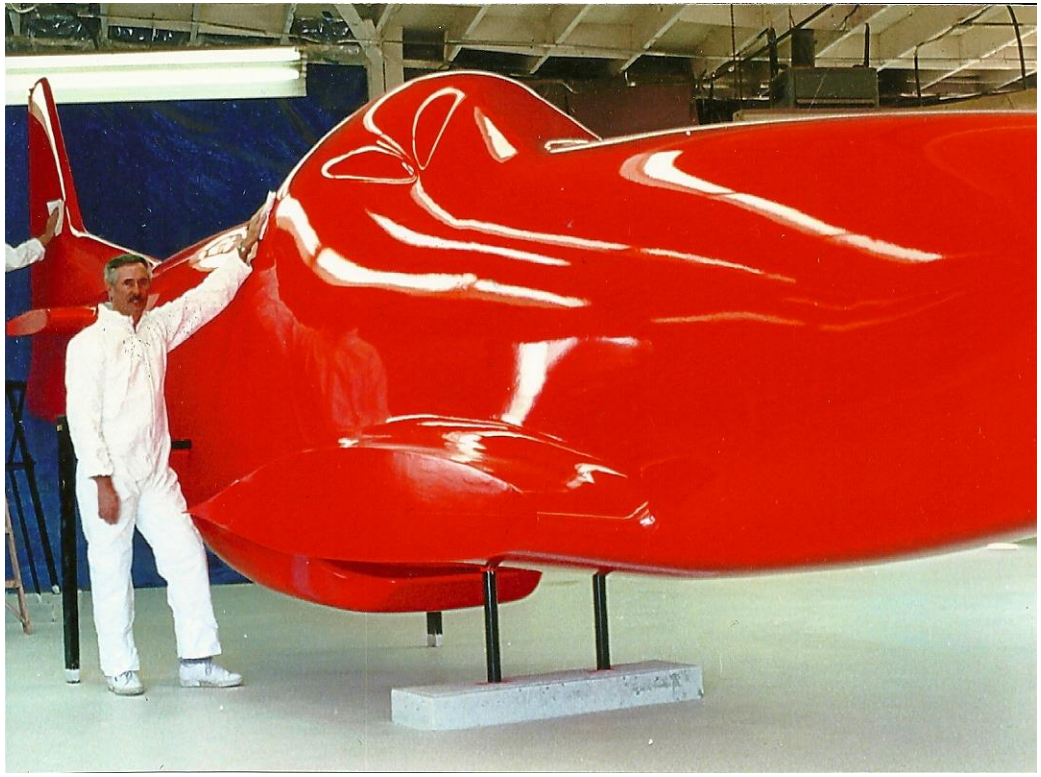



8551 IM7

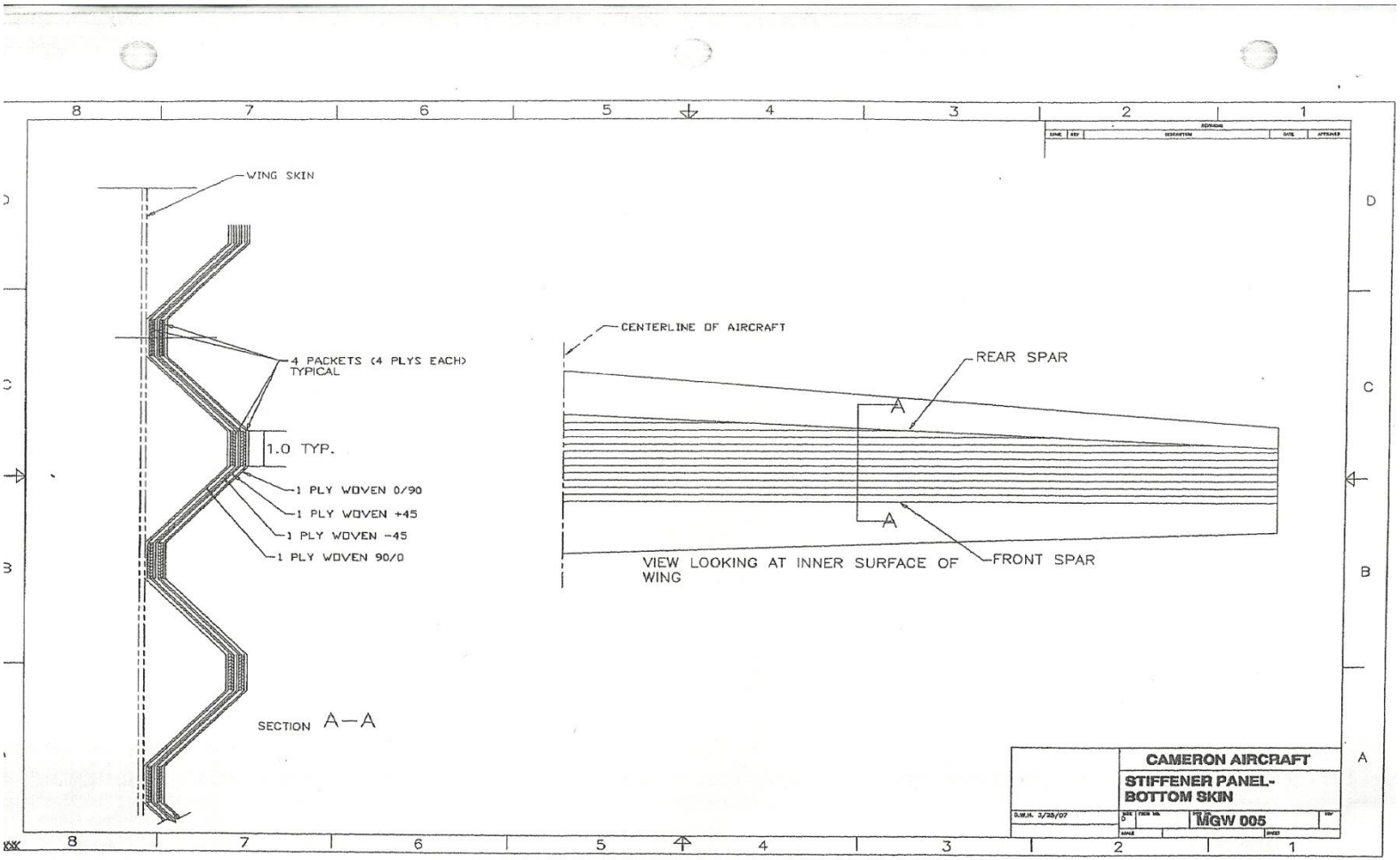
1. UPPER RIGHT SIDE LONGERON
2. UPPER LEFT SIDE LONGERON
3. LOWER RIGHT SIDE LONGERON
4. LOWER LEFT SIDE LONGERON

**STRUCTURAL REINFORCEMENTS**
**AUTO-CLAVE CURED AT 350F @ 100PSI**

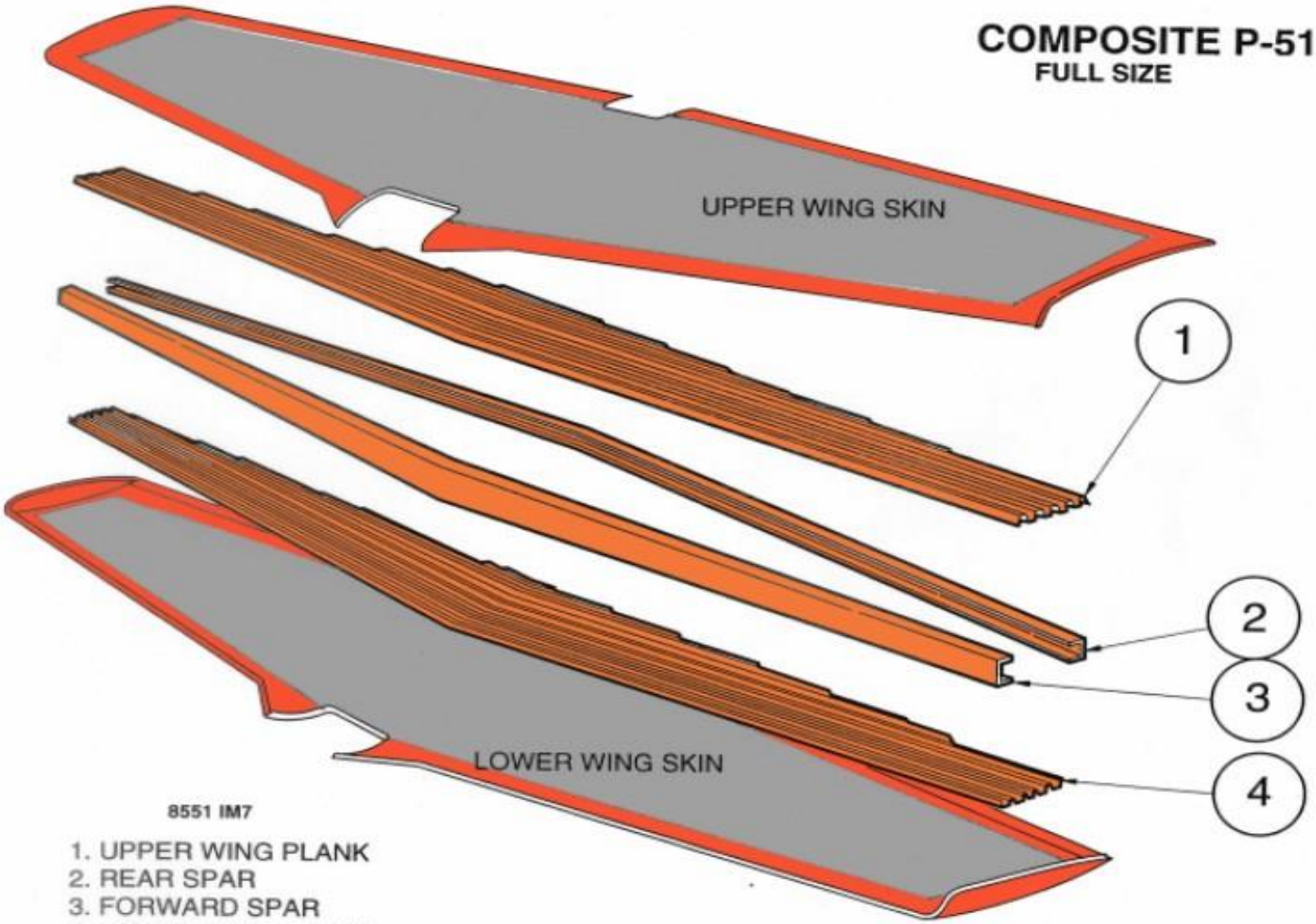
# Mother Mold



# Wing layout


WING SKIN
4 PACKETS (4 PLYS EACH) TYPICAL
1.0 TYP.
1 PLY WOVEN 0/90
1 PLY WOVEN +45
1 PLY WOVEN -45
1 PLY WOVEN 90/0
SECTION A–A
CENTERLINE OF AIRCRAFT
REAR SPAR
A
A
FRONT SPAR
VIEW LOOKING AT INNER SURFACE OF WING
CAMERON AIRCRAFT
STIFFENER PANEL-
BOTTOM SKIN
MGW 005

# COMPOSITE P-51
**FULL SIZE**




**8551 IM7**

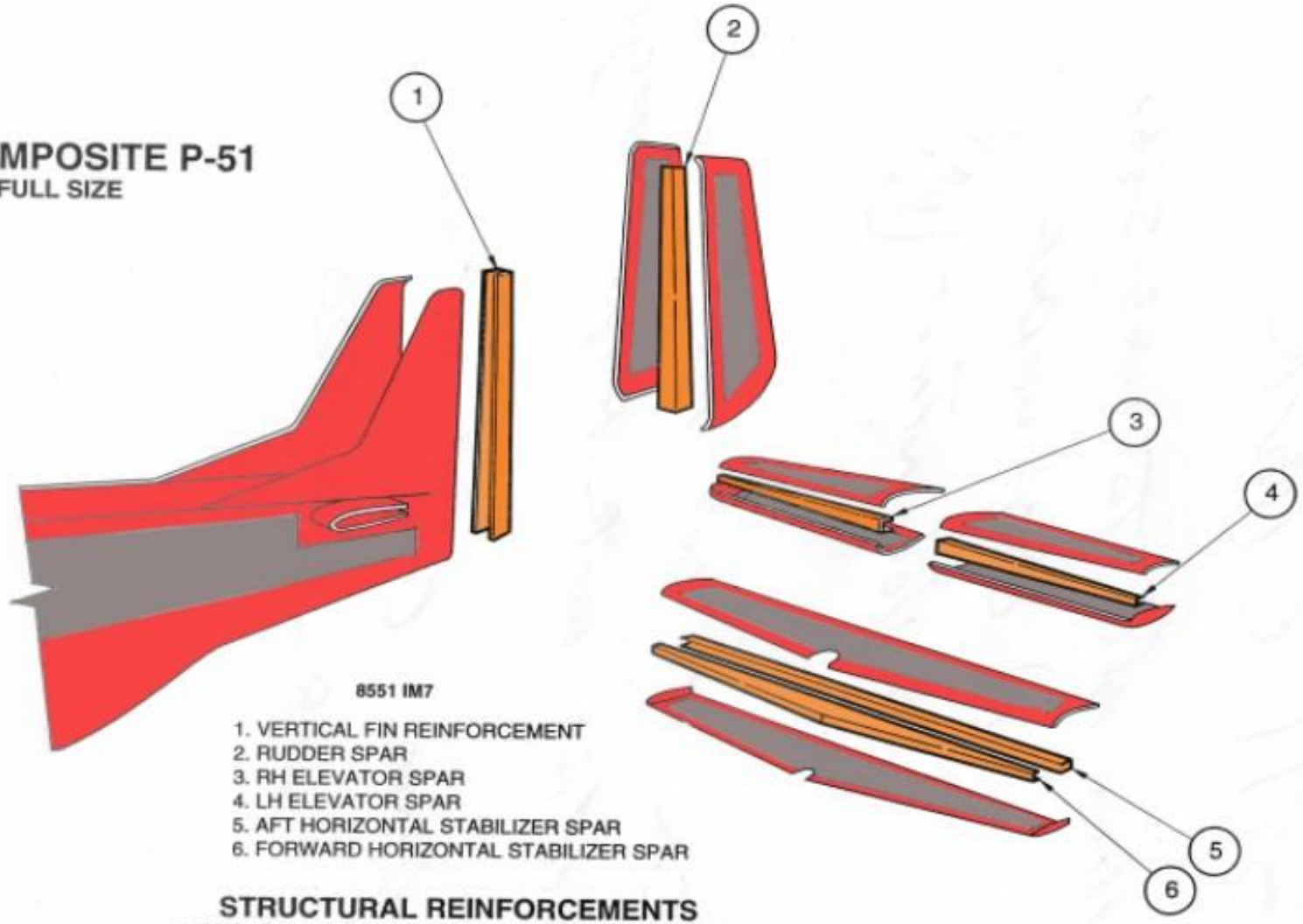
1. UPPER WING PLANK
2. REAR SPAR
3. FORWARD SPAR
4. LOWER WING PLANK

**STRUCTURAL REINFORCEMENTS**

***AUTOCLAVE CURED AT 350F @100 PSI***


CAUTION CAUTION

# COMPOSITE P-51
FULL SIZE

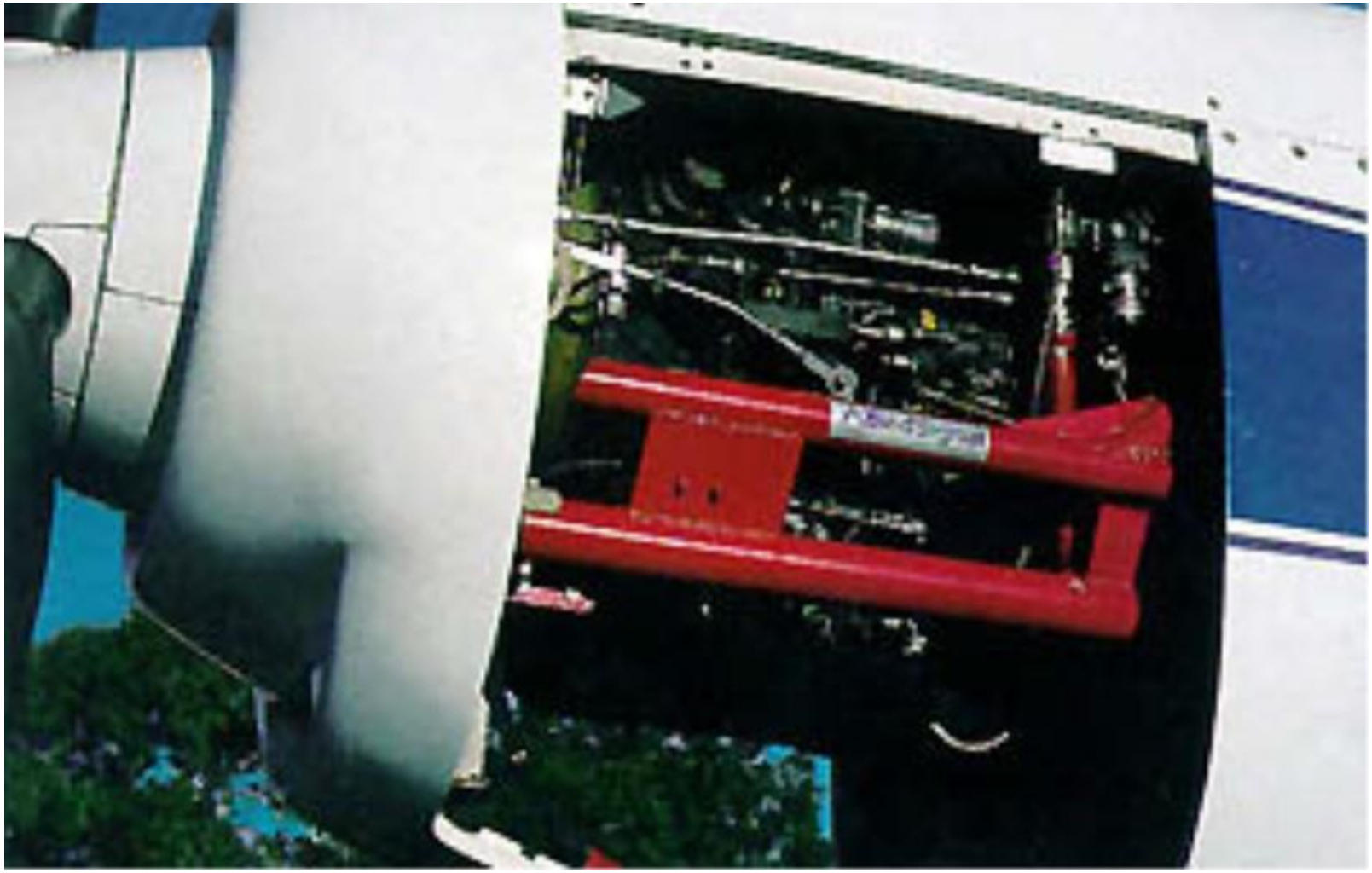



8551 IM7

1. VERTICAL FIN REINFORCEMENT
2. RUDDER SPAR
3. RH ELEVATOR SPAR
4. LH ELEVATOR SPAR
5. AFT HORIZONTAL STABILIZER SPAR
6. FORWARD HORIZONTAL STABILIZER SPAR

**STRUCTURAL REINFORCEMENTS**
**AUTO-CLAVE CURED AT 350° F @ 100PSI**

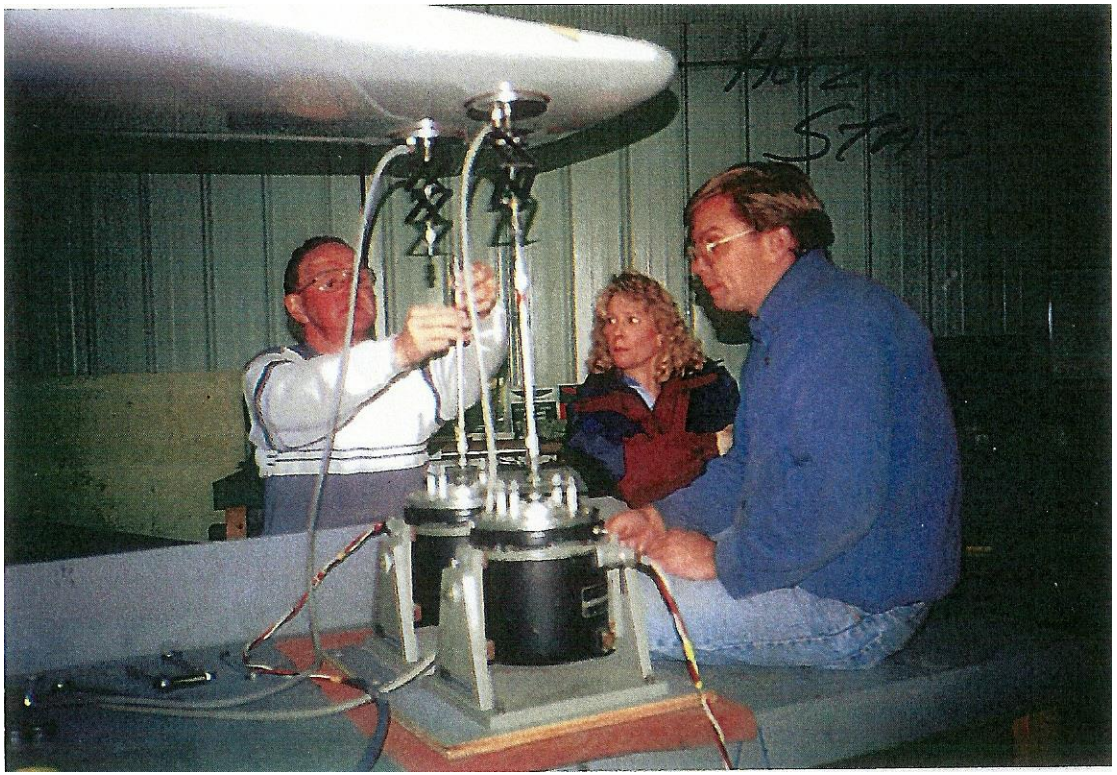
**A 1450-shp Lycoming T53-L-701A turbine engine powers the Grand 51 prototype.**



# Flutter test wing

# Flutter test  wing

# Flutter test horizontal stabilizer



# Carbon Beauty