

**DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

ATC 542
Revision 2
WACO
YMF
October 26, 2010
<i>See Note 7.</i>

TYPE CERTIFICATE DATA SHEET NO. ATC 542

This data sheet which is part of the approved Type Certificate 542 prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Aeronautics Bulletin Regulations.

Type Certificate Holder The Waco Aircraft Company
See Note 7.

I. Model YMF, 3POL-SB (normal category), approved prior to September 30, 1939
(See Aircraft Listings Volume VI)

II. Model YMF, 3POL-SB (normal category) modified by Classic Aircraft Corporation (WACO F5 modification), Supplemental Type Certificate SA1000GL, approved March 10, 1986.

This model is a modernized version of the original YMF. The five principal areas in which design changes were incorporated are: (1) throttle control, (2) wheels and brakes, and (3) electrical and starting system, (4) steerable tail wheel, (5) engine and propeller. Additionally, construction materials and methods have been updated to current standards.

The items listed below have changed from the original YMF.

Engine	Jacobs R-755B2M or Jacobs R-755B2
Fuel	80 Octane minimum aviation grade gasoline
Engine limits	245 hp @ 2050 rpm above 1500 MSL 245 hp @ 1950 rpm SL to 1500 MSL
Propeller and propeller limits	Fixed pitch wood, Sensenich models: W96JA-72, W96JB-72, W90T6JA-72, W90T6JB-72, W90T6JA-70, W90T6JB-70, W96JA-4-68 or W96JB-4-68 <i>See Notes 9 and 10.</i>
Airspeed limits	Never exceed = 214 mph
C.G. range	(77.0") to (81.0") All weights
Empty weight C.G. range	None
Datum	88.2" forward of lower wing leading edge
Leveling means	Top of upper longeron in rear cockpit or top longeron under stabilizer.
Maximum weight	2650 pounds
Minimum crew	1
Number of seats	3: (1 at 126"), (2 @ 79.0")

Page No.	1	2	3	4	5
Rev. No.	1	1	2	2	2

Maximum baggage	100 pounds maximum (25 pounds front at 65.0", 75 pounds rear at 152.0")
Fuel capacity	Standard - 49 gallons (two 24.5 gallon tanks in upper wing center section) (at 75.0"). Optional - 12.3 gallon tanks in either or both upper wings (at 75.0").
Oil capacity	4 gallons (45.0") standard 5 gallons (45.0"), required with auxiliary fuel tank installation
Control surface movements (degrees)	(1) Ailerons 25 ± 3 up, no down stop (2) Elevators 33 ± 2 up, 27 ± 5 down (See Note 5.) (3) Rudder 35 ± 2 left, 35 ± 2 right (See Note 8.) (4) Rudder trim tab is ground adjustable.
Manufacturer's serial numbers	F5001 through F5009

III. Model YMF, 3POL-SB (normal category) modified by Classic Aircraft Corporation (WACO F5 modification), Supplemental Type Certificate SA1000GL, approved January 28, 1988

This model is a modernized version of the original YMF. The five principal areas in which design changes were incorporated are: (1) throttle control, (2) wheels and brakes, (3) electrical and starting system, (4) steerable tail wheel, (5) engine and propeller. Additionally, construction materials and methods have been updated to current standards.

The items listed below have changed from the original YMF. Items marked "*" are changes made for airplanes designated as "F5," serial numbers F5010 and up.

Engine	Jacobs R-755B2M or R-755B2
Fuel	80 octane minimum aviation grade gasoline
*Engine limits	275 hp at 2200 rpm
*Propeller and propeller limits	Fixed pitch wood, Sensenich models: W90T6JA-72, W90T6JB-72, W90T6JA-70, W90T6JB-70, W96JA-4-68 or W96JB-4-68. MT-Propeller model: MT 233 R 150-6AJ for all engines (See Notes 9 and 10.)
Airspeed limits	Never exceed = 214 mph
C.G. range	(77.0") to (81.0") All weights
Empty weight C.G. range	None
Datum	88.2" forward of lower wing leading edge
Leveling means	Top of upper longerons in rear cockpit or top longeron under stabilizer.
*Maximum weight	2770 pounds
Minimum crew	1
*Number of seats	3: (1 at 129.0"), (2 at 79.0")
Maximum baggage	100 pounds maximum (25 pounds front at 65.0", 75 pounds rear at 152.0")
Fuel capacity	Standard - 49 gallons (two 24.5 gallon tanks in upper wing center section) (at 75.0") Optional - 12.3 gallon tanks in either or both upper wings (at 75.0")

Oil capacity	4 gallons (at 45.0") standard 5 gallons (at 45.0"), required with auxiliary fuel tank installation
*Control surface movements (degrees)	(1) Ailerons 25 ± 3 up, no down stop (2) Elevator 33 ± 2 up, 27 ± 5 down (<i>See Note 5.</i>) (3) Rudder 30 ± 2 left, 30 ± 2 right (4) Rudder trim tab is ground adjustable.
Manufacturer's serial numbers	F5010 through F5036

IV. Model YMF, 3POL-SB (normal category) modified by Classic Aircraft Corporation (WACO F5C modification), Supplemental Type Certificate SA1000GL, approved June 24, 1991

This model is a modernized version of the original YMF. The five principal areas in which design changes were incorporated are: (1) throttle control, (2) wheels and brakes, (3) electrical and starting system, (4) steerable tail wheel, (5) engine and propeller, (6) fuselage lengthened 6 inches. Additionally, construction materials and methods have been updated to current standards.

The items listed below have changed from the original YMF. Items marked "*" are changes made for airplanes designated as "F5C," serial numbers F5C040 and up (*See Note 11*).

Engine	Jacobs R-755B2M or R-755B2 Jacobs R-755A2M or R-755A2
Fuel	80 octane minimum aviation grade gasoline
*Engine limits	275 hp at 2200 rpm for Jacobs R-755B2M or R-755B2 300 hp at 2200 rpm for Jacobs R-755A2M or R-755A2
*Propeller and propeller limits	Fixed pitch wood. Sensenich models: W90T6JA-72, W90T6JB-72, W90T6JA-70, W90T6JB-70, W96JA-4-68 or W96JB-04-68, all eligible for the R755B2/B2M only; MT-Propeller model: MT 233 R 150-6AJ for all engines (<i>See Notes 9 and 10.</i>)
Airspeed limits	Never exceed - 214 mph
*C.G. range	(78.0") to (82.5") All weights
Empty weight C.G. range	None
Datum	88.2" forward of lower wing leading edge
Leveling means	Top of upper longeron in rear cockpit or top longeron under stabilizer. Leveling screws under left stabilizer effective S/N F5C121 and up (<i>See Note 11</i>).
*Maximum weight	2950 pounds
Minimum crew	1
*Number of seats	3: (1 at 131.0"), (2 at 88.0")
*Maximum baggage	100 pounds maximum (25 pounds front at 65.0", 75 pounds rear at 158.0")
Fuel capacity	Standard - 49 gallons (two 24.5 gallon tanks in upper wing center section (at 75.0")) Optional - 12.3 gallon tanks in either or both upper wings (at 75.0")
Oil capacity	5 gallons (at 45.0") standard

*Control surface movements (degrees)	(1) Ailerons	25 ± 3 up, no down stop
	(2) Elevator	33 ± 2 up, 27 ± 5 down (See Note 5.)
	(3) Rudder	30 ± 2 left, 30 ± 2 right
	(4) Rudder trim tab	is ground adjustable.

*Manufacturer's serial numbers F5C040 and up (*See Note 11*).

DATA PERTINENT TO ALL MODELS

Import requirements	Not applicable.
Certification basis	U.S. Department of Commerce Aeronautics Branch, Aeronautics Bulletin 7A, effective as amended January 1, 1933. FAA design approval of "Classic Waco F5" and "Classic WACO F5C" by Supplemental Type Certificate SA1000GL includes compliance with FAA Part 36, through amendment 36-12 for the "F5" models, and through amendment 36-18 for the "F5C" models.
Production basis	Production certificate 328CE
Equipment	<p>The basic required equipment as prescribed in Department of Commerce, Aeronautics Bulletin 7A, January 1, 1933, must be installed in each aircraft for certification. In addition, the following items of equipment are required for all airplanes modified by Supplemental Type Certificate SA1000GL:</p> <ul style="list-style-type: none"> (a) FAA Approved Flight Manual\ (b) Current weight and balance report with loading instructions (c) Equipment list (d) Placards required as listed in FAA Approved Flight Manual (e) Those items listed in NOTE 4

See Aircraft listings Volumes VI for airplanes approved prior to September 30, 1939.

- NOTE 1. The current weight and balance report, including a list of equipment included in the certificated empty weight, and loading instructions, when necessary, must be provided for each aircraft at the time of original certification.
- NOTE 2. All placards specified in the appropriate FAA approved flight manual must be displayed.
- NOTE 3. There are no life limited structural components for all airplanes with serial numbers F5001 and up or F5C040 and up.
- NOTE 4. Each airplane manufactured and delivered with serial number F5001 and up or F5C040 and up will contain:
- (a) Airplane log book
 - (b) Engine log book
 - (c) FAA Form 337, a record of alterations and return to service
 - (d) FAA approved airplane flight manual
 - (e) Operators manual, Jacobs aircraft engine model R-755A2/B2 series
- NOTE 5. Any aircraft using a fin modified to Drawing 50916, which incorporates an elevator down stop, should be rigged to have 33 ± 2 up and 23 ± 1 down elevator travel.
- NOTE 6. Optional equipment is listed on Classic Aircraft Corporation Drawing Number 50295, Revision R, dated 3/17/93, or later FAA approved revision.
- NOTE 7. Ownership of the Type Certificate was transferred to the public domain when the Waco Aircraft Company ceased to exist. The type certificate was cancelled September 30, 1939, and reinstated March 10, 1986. This is the first type certificate data sheet to exist for ATC 542 (issued October 31, 1988, amended May 18, 1993 and October 26, 2010).

- NOTE 8. Aircraft S/N F5001 through S/N F5006 modified and rigged per Classic Aircraft Corporation Drawings 18421-2, -3 Revision V, and 18765, Revision G. Aircraft SD/N F5007 and up have a rudder travel in degrees of 30 ± 2 left and 30 ± 2 right.
- NOTE 9. The Sensenich fixed pitch wood propellers approved for the Classic WACO F5 and F5C airplane models contain a "JA" or "JB" in the designation. Propellers designated "JA" are used with an Air Corps hub which is identifiable by 7/16 inch diameter bolts. Propellers designated "JB" are used with a Jacobs hub which is identifiable by 5/8 inch diameter bolts.
- NOTE 10. Optional propeller and propeller accessories:
1. Hamilton Standard constant speed installation to Classic Aircraft Corporation drawing number 50670.
 - (a) Hub 2B20, blades 6135-15"
Pitch settings at 42 inch station: Low $9^\circ - 12^\circ$, high $24^\circ - 27^\circ$
(Propeller to be indexed with blades in line with crankthrow - 0° or 180° position)
Diameter: (Not over 93 inches, not under $91\text{-}1/8$ inches)
 - (b) Governor, Hamilton Standard - 1A4G5
 - (c) Spinner installation per Classic Aircraft Corporation Drawing number 50765 is optional for use with Hamilton Standard Propeller installation per Drawing 50670.
- | NOTE 11. All F5C airplanes equipped with the Jacobs R-755A2M or R-755A2 have serial numbers F5C-8-040 and up.

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