DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

A34EU
Revision8
Gomolzig Flugzeug- und Maschinenbau GmbH
[FFA]
AS 202/15 "BRAVO"
AS 202/18A "BRAVO"
AS 202/18A4 "BRAVO"
March 8, 2022

TYPE CERTIFICATE DATA SHEET NO. A34EU

This data sheet, which is part of Type Certificate No. A34EU, prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder	Gomolzig Flugzeug- und Maschinenbau GmbH Eisenwerkstrasse 9 58332 Schwelm Germany
Type Certificate Ownership Record [from EASA type certificate EASA.A.591]	Flug- und Fahrzeugwerke AG Altenrhein (FFA) Flugplatz CH-9423 Alternhein Switzerland, transferred TC A34EU to Flugzeugwerke Altenrhein AG (FWA) in 1981. Flugzeugwerke Altenrhein AG (FWA) Flugplatz CH-9423 Altenrhein Switzerland, transferred TC A34EU to FFA Flug- und Fahrzeugwerke AG in 1983. FFA Flug- und Fahrzeugwerke AG Flugplatz CH-9423 Altenrhein Switzerland, transferred TC A34EU to FFA Fahrzeugwerke Altenhein AG in 1987. FFA Fahrzeugwerke Altenhein AG Flugplatz CH-9423 Altenrhein Switzerland, held TC A34EU from 1987 to June 11, 2002. (From November 3, 2009 to April 2, 2012 the EASA type certificate was ineffective and listed under EASA.SAS.A.067 (aircraft specification).) FFA Aircraft Bravo AG Flughavenstrasse 11 CH-9423 Altenrhein Switzerland, held TC A34EU from April 3, 2012, until the TC was transferred to Gomolzig Flugzeug- und Maschinenbau GmbH on May 8, 2015.

I. Model AS 202/15 "BRAVO," 3 PCLM (Normal, Utility, and Acrobatic Categories), approved November 16, 1973.

Engine	Lycoming O-320-E2A
Fuel	80/87 minimum grade aviation gasoline
Engine Limits	For all operations, 2700 rpm (150 hp)

Propeller and Propeller Limits	McCauley 1C172 MGM 7458 Static rpm at maximum permissible throttle setting: Not over 2400, not under 2300 No additional tolerance permitted Diameter: Maximum 74.0 in., minimum for repairs 72.5 in. No further reduction permitted. Spinner: McCauley P/N D-4319
Airspeed Limits (CAS)	All Categories Never exceed V_{NE} 200 mph 173 kts Maximum structural cruising V_{NO} 150 mph 130 kts Maneuvering V_{A} 150 mph 130 kts Flaps extended V_{FE} 110 mph 96 kts
C.G. Range	Normal and Utility Category (+31.5) to (38.5) at 1540 lbs. or less (+31.9) to (38.5) at 1950 lbs. (+35.2) to (38.5) at 2200 lbs. Straight line variation between points given. Acrobatic Category (+31.5) to (+35.2) at 1540 lbs. or less (+31.9) to (+35.2) at 1950 lbs. Straight line variation between points given.
Empty Weight C. G. Range	None
Datum	Front face of firewall (Fus. Sta. 0.00)
Leveling Means	Upper edge cabin frame, 5.63 in. above fuselage reference line.
Maximum Weight	2,200 lbs. for Normal and Utility Categories 1,950 lbs. for Acrobatic Category
No. of Seats	3 (2 at +35.4 to 43.3; plus 1 at +72.5)
Maximum Baggage	220 lbs. at (+72.5)
Fuel Capacity	37.0 gal, total 34.4 usable; two 18.5 gal. wing tanks at +32.75
Oil Capacity	8 qt. (-23.25) See NOTE 1 for unusable fuel and undrainable oil data.
Control Surface Movements	Ailerons Up 22° ± 1° Down 15° ± 1° See Note 4. Wing Flaps Up 0° ± 1° Down 41° ± 1° Elevator Up 30° ± 1° Down 20° ± 1° Elevator Tab Up 22° ± 1° Down 26° ± 1° Rudder Left 28° ± 1° Right 28° ± 1°

II. Model AS202/18A "BRAVO," 3 PCLM (Normal, Utility, and Acrobatic Categories) approved December 17, 1976.

Engine	Lycoming AEIO-360-B1F
Fuel	91/96 minimum grade aviation gasoline
Engine Limits	For all operations, 2700 rpm (180 hp)

Propeller	Hartzell two-blade, constant speed, hydraulic Hub Model: HC-C2YK-1BF Blades: F 7666 A-2 Weight: 55.3 lb. at (-46.42)				
Propeller Limits	Diameter:	Not over 74.0 in., not under 72.0 in.			
	Static RPM:	Not over 2675, not under 2625 rpm With propeller governor inoperative at maximum permissible throttle setting			
	Placard:	Avoid continuous operation between 2000 and 2250 rpm. Avoid continuous operation above 2600 rpm in acrobatic maneuvers.			
Propeller Spinner	Hartzell A-835-33 Weight: 4.0 lb. at (-49.61)				
Airspeed Limits (CAS)	<u>All Categories</u>				
	Never exceed	V_{NE}	175 kts		
	Maximum structural cruising	V_{NO}	130 kts		
	Maneuvering	V_A	130 kts		
	Flaps extended	V_{FE}	95 kts		
C.G. Range	<u>Normal and Utility Category</u> (+29.27) to (36.86) at 1600 lbs. or less (+30.26) to (36.86) at 2095 lbs. (+33.56) to (36.86) at 2315 lbs. Straight line variation between points given. <u>Acrobatic Category</u> (+29.27) to (33.56) at 1600 lbs. or less (+30.26) to (33.56) at 2095 lbs. Straight line variation between points given.				
Empty Weight C.G. Range	None				
Datum	Front face of firewall (Fus. Sta. 0.00)				
Leveling Means	Upper face of top fuselage longerons along the sliding canopy rails				
Maximum Weight	2315 lbs. for normal and utility categories 2095 lbs. for acrobatic category				
No. of Seats	3 (2 at (+35.4) to (43.3); plus 1 at (+72.5))				
Maximum Baggage	220 lbs. at (+72.5). See Flight Manual for Loading Instructions.				
Fuel Capacity	37.0 US gal. total (34.3 US gal. usable; two 18.5 US gal. wing tanks at (+32.75))				
Oil Capacity	8.0 US qt. (-23.25) See NOTE 1 for unusable fuel and undrainable oil data.				
Control Surface Movements	Ailerons	Up	22.3° ± 1°	Down	16° ± 1°
	Wing Flaps	Up		Down	41° ± 1°
	Elevator	Up	30.0° ± 1°	Down	30° ± 1°
	Elevator Tab	Up	22.0° ± 1°	Down	26° ± 1°
	Rudder	Left	28.0° ± 1°	Right	28° ± 1°

III. <u>Model AS 202/18A4 "BRAVO," 3PCLM (Normal, Utility, and Acrobatic Categories), approved February 4, 1993</u>

Engine	Lycoming AEIO-360-B1F
Fuel	91/96 minimum grade aviation gasoline

Engine Limits	For all operations, 2700 rpm (180hp)
Propeller	Hartzell two-blade, constant speed, hydraulic Hub Model: HC-C2YK-1BF Blades: F7666 A-2 Weight: 55.3 lbs. at (-46.42)
Propeller Limits	Diameter: Not over 74.0 in., not under 72.0 in. Static RPM: Not over 2675, not under 2625 rpm With propeller governor inoperative at max. permissible throttle setting. Placard: Avoid continuous operation between 2000 and 2250 rpm Avoid continuous operation above 2600 rpm in acrobatic maneuvers.
Propeller Spinner	Hartzell A-835-33 Weight: 4.0 lb. at (-49.61)
Airspeed Limits (CAS)	<u>All Categories</u> Never exceed V_{NE} 175 kts Maximum structural cruising V_{NO} 130 kts Maneuvering V_A 130 kts Flaps extended V_{FE} 95 kts
C.G. Range	<u>Normal and Utility Category</u> (+29.27) to (36.85) at 1600 lbs. or less (+30.51) to (38.85) at 2227 lbs. (+32.44) to (38.85) at 2381 lbs. Straight line variation between points given. <u>Aerobatic Category</u> (+29.27) to (33.54) at 1600 lbs. or less (+30.51) to (33.54) at 2227 lbs. Straight line variation between points given.
Empty Weight C.G. Range	None
Datum	Front face of firewall (Fus. Sta. 0.00)
Leveling Means	Upper face of fuselage longerons along the sliding canopy rails
Maximum Weight	2381 lbs. for Normal and Utility Categories 2227 lbs. for Acrobatic Category
No. of Seats	3 (2 at (+35.4) to (43.3); plus 1 at (+72.5))
Maximum Baggage	220 lbs. at (+72.5). See Flight Manual for Loading Instructions.
Fuel Capacity	46.0 gal, total 42.3 gal. usable; two 23.0 gal. wing tanks at (+32.75))
Oil Capacity	8.0 US qt. (-23.25) See NOTE 1 for unusable fuel and undrainable oil data.

Control Surface Movements					
Ailerons	Up	22.3° ± 1°	Down	16° ± 1°	
Wing Flaps	Up		Down	41° ± 1°	
Elevator	Up	30.0° ± 1°	Down	30° ± 1°	
Elevator Tab	Up	22.0° ± 2°, 0°	Down	27° ± 3°, -0°	
Rudder	Left	28.0° ± 1°	Right	28° ± 1°	
Rudder Trim	Left	20 mm ± 2 mm	Right	7 mm ± 2 mm (Optional)	

DATA PERTINENT TO ALL MODELS

Serial numbers eligible

AS 202/15	2 through 20, 34
AS 202/18A	23, 27, 28, 29
AS 202/18A4	224 and up

Prior to May 8, 2015:

For those aircraft imported from the country of manufacture the Swiss Federal Office of Civil Aviation Certificate of Airworthiness for Export endorsed as noted below under "Import Requirements" must be submitted for each individual aircraft for which application for airworthiness certification is made.

Import Requirements

The FAA can issue a U.S. airworthiness certificate based on an NAA Export Certificate of Airworthiness (Export C of A) signed by a representative of the Luftfahrt Bundesamt on behalf of the European Community. The Export C of A should contain the following statement: “The aircraft covered by this certificate has been examined, tested, and found to comply with U.S. airworthiness regulations 14 CFR Part 23 approved under U.S. Type Certificate No. A34EU and to be in a condition for safe operation.”

Refer to the applicable bilateral agreement to verify eligibility for import into the United States of both new and used aircraft based on the scope of the agreement, to identify any required statements by the exporting authority on the export certificate of airworthiness (or equivalent document), and for procedures for coordinating exceptions to conformity statements on these documents. Refer to FAA Order 8130.2, *Airworthiness Certification of Aircraft*, for requirements for issuance of an *airworthiness certificate* for imported aircraft.

Prior to May 8, 2015:

A Standard Airworthiness Certificate may be issued on the basis of a Certificate of Airworthiness for Export signed by a representative of the Swiss Federal Office of Civil Aviation (FOCA) containing the following statement: "The airplane covered by this certificate has been examined, tested, and found to conform to the type design approved under the FAA Type Certificate A34EU and is in a condition for safe operation."
Model AS 202/18A4 Aircraft imported in the USA must be equipped in accordance with modification kit no. 30 (containing AFM Report No. FV-877 and the appropriate placards), and meet the identification and marking requirements of FAR 45.

As of November 5, 2009, the requirements of EASA Airworthiness Directive (AD) 2009-0233 dated October 28, 2009 must be accomplished before the airplane is eligible for its initial US airworthiness certificate. This will include the initial inspection and the incorporation of the repetitive inspection requirements of the EASA AD into the airplane’s airworthiness limitation section. (See NOTE 3)

Certification Basis:
FAR 21.17:

Model AS 202/15

FAR 23 dated February 1, 1965, as amended through Amendment 23-13 effective October 23, 1972. Type Certificate No. A34EU issued November 16, 1973.

Model AS 202/18A

FAR 23 dated February 1, 1965, as amended through Amendment 23-14 effective December 20, 1973. Type Certificate No. A34EU amended December 17, 1976.

Model AS 202/18A4

FAR 23 dated February 1, 1965, as amended through Amendment 23-14 effective December 20, 1973; FAR 23.2, 23.561(b)(2) as amended through Amendment 23-36 effective September 14, 1988; FAR 36 effective on date of amended type certificate issuance. Type Certificate No. A34EU amended February 4, 1993.

The EASA type certificate for the AS 202 series models is EASA.A.591.

Validation Basis	Type Certificate A34EU was issued pursuant to FAR 21.29(a) in validation of a Swiss Federal Office of Civil Aviation (FOCA) certification of compliance with the afore-mentioned Certification Basis (see above).
Equipment	The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the airplane for standard airworthiness certification. In addition, the following items of equipment are required: 1. Aural Stall Warning System 2. Model AS 202/15 "BRAVO" - FOCA approved Airplane Flight Manual, Ref. FFA Report No. FV-862 dated December 1972 or later FOCA approved revision; Model AS 202/18A "BRAVO" - FOCA approved Airplane Flight Manual, Ref. FFA Report No. FV-866 dated October 1976 or later FOCA-approved revision; Model AS 202/18A4 "BRAVO" - FOCA approved Airplane Flight Manual, Ref. FFA Report No. FV-877 dated January 1993 or later FOCA approved revision.
Service Information	Each of the documents listed below must state that it is approved by the European Aviation Safety Agency (EASA) or - for approvals made before May 8, 2015 - by FOCA. • Service bulletins. • Structural repair manuals. • Vendor manuals. • Aircraft flight manuals, and • Overhaul and maintenance manuals. The FAA accepts such documents and considers them FAA-approved unless one of the following conditions exists: • The documents change the limitations, performance, or procedures of the FAA approved manuals: or • The documents make an acoustical or emissions changes to this product's U.S. type certificate as defined in 14 CFR § 21.93. The FAA uses the post type validation procedures to approve these documents. The FAA may delegate on case-by-case to EASA to approve on behalf of the FAA for the U.S. type certificate. If this is the case it will be noted on the document.

NOTES

Note 1. Current weight and balance report including list of equipment in certificated empty weight, and loading instructions when necessary, must be provided for each airplane at the time of original airworthiness certification. The certificated empty weight and corresponding center of gravity must include undrainable oil of 0 lb. at (-23.25) and unusable fuel of 15.6 lb. at (+32.75) for Models AS 202/15 and 18A, 21.8 lb. at (+32.95) for Model AS 202/18A4. All center of gravity (c.g.) positions are given in inches from datum.

Note 2. The following placard must be displayed in clear view of the pilot:
"This airplane must be operated as a Normal, Utility, or Acrobatic Category airplane in compliance with the operating limitations stated in the form of placards, markings, and manuals." In addition, all placards required in the approved Airplane Flight Manual must be installed in the appropriate locations.

Each individual airplane will be supplied with a placard that specifies the kinds of operation such as VCR, or IFR, DAY or NIGHT, to which the operation of the airplane is limited by the equipment installed.

Note 2.
(continued)

Required Placards (Refer to Manufacturer's Specifications for contents):

(a) AS 202/18A
- (1) Operation Limits
- (2) Engine Limits
- (3) Baggage Compartment
- (4) Cabin Heating
- (5) Canopy Jettisoning Handle
- (6) Outboard Power Supply
- (7) Fuel Tank Selector
- (8) Airspeed Limits
- (9) Approved Acrobatic Maneuvers
- (10) Spin Recovery

Optional Equipment Placards:
- (1) Additional Canopy Stop
- (2) Emergency Locator Transmitter (ELT)
- (3) Anti-Collision Light Systems
- (4) Autopilot

(b) AS 202/18A4
- (1) Operation Limits
- (2) Rear Seat Loading
- (3) Cabin Air
- (4) Mike/Phone
- (5) Approved Maneuvers
- (6) Spin Recovery
- (7) Cabin Air
- (8) Alternate Static Source
- (9) Engine Controls
- (10) Fire Extinguisher
- (11) Fuel Tank Selection
- (12) Parking Brake
- (13) Circuit Breakers
- (14) Canopy Jettisoning Handle
- (15) Starter Warning Light
- (16) Alternator Warning Light
- (17) Strobe Light Warning
- (18) Engine Limitations
- (19) Canopy Stop
- (20) External Power Supply
- (21) Flaps Preselector
- (22) Ignition Switch
- (23) Fuel Quantity Limitation
- (24) Kinds of Operation
- (25) Alternate Air Control
- (26) Pitot Heater Circuit Breaker
- (27) Heating and Ventilation Controls
- (28) ELT Transmitter
- (29) Canopy Handle
- (30) Anti-Collision Light Systems
- (31) Autopilot

Note 3. EASA AD 2009-0233 dated October 28, 2009 requires initial and repetitive inspections of the fuel suction tube on Models AS 202/15 and AS 202/18A airplanes – all serial numbers. Model AS 202/18A4 not affected by this EASA AD. At the time of the EASA AD, no affected eligible airplanes were on US registry so a corresponding FAA AD is not required. Any airplane imported after this dated per the “import requirements” shown above will have the EASA requirements incorporated into the limitation section of the airplane.

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