FEDERAL AVIATION AGENCY

A12IN
Revision 2
SUD AVIATION GARDAN
GY.80-150
GY.80-160
GY.80-180
March 1, 2012

TYPE CERTIFICATE DATA SHEET NO. A12IN

This data sheet which is a part of type certificate No. A12IN prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Civil Air Regulations.

Type Certificate Holder — Sud-Aviation
Paris, France

Type Certificate Ownership Record

(1) This TC was considered not valid by the state of design on June 27, 2007, and has been replaced by European Aviation Safety Agency (EASA) Specific Airworthiness Specification (SAS) number EASA.SAS.A.075, issued June 27, 2007. Only standard airworthiness certificates issued prior to March 1, 2012 are valid.

(2) Future unsafe conditions existing in the aircraft may result in the revocation of the airworthiness certificates of the aircraft if there is no entity to comply with 14 CFR § 21.99(a), "Required design changes."

(3) Replacement parts may not be available in the future.

I - Model Gardan GY.80-150, 4 PCLM (Normal Category), Approved May 3, 1963

Engine	Lycoming O320-A3C	
Fuel	*80/87 minimum grade aviation gasoline	
Engine limits	*For all operations, 2700 r.p.m. (150 b.h.p.)	
Propeller and propeller limits	Hartzell HC-82XL-1/7636D-4 Pitch setting at 30 in. sta.: Low 12°, High 24.2° Diameter: Maximum 72 in., Minimum 70 in. No further reduction permitted. or Sensenich M74 DM-61 Static r.p.m. at maximum permissible throttle setting: Not over 2300, not under 2150. No additional tolerance permitted. Diameter: Maximum 74 in. Minimum 72 in. (no further reduction permitted)	
Airspeed limits (CAS)	*Never exceed	186 m.p.h. (162 knots)
	*Maximum structural cruising	145 m.p.h. (127 knots)
	Maneuvering	134 m.p.h. (116 knots)
	Flaps and landing gear extended	106 m.p.h. (92 knots)
C.G. range (landing gear extended)	(+8.2) to (+17.5) at 2250 lbs. (+7.4) to (+17.5) at 1841 lbs. or less Straight line variation between points given Moment change due to retraction of landing gear + 1237 in.-lbs.	
Empty weight C.G. range	None	
Maximum weight	2250 lbs.	
No. of seats	4 (2 at +13) (2 at +41.7)	
Maximum baggage	88 lbs (+61)	

Fuel capacity	42 gal. (two 21 gal. tanks in wings) (+4.7) and 10.5 gal. in fuselage at rear place (+38)
Oil capacity	6.6 qts. (in the engine) (4.4 qts. usable)

II - Model Gardan GY.80-160, 4 PCLM (Normal Category), Approved May 3, 1963

Engine	Lycoming O-320-B3C	
Fuel	*91/96 maximum grade aviation gasoline	
Engine limits	*For all operations, 2700 r.p.m. (160 b.h.p.)	
Propeller and propeller limits	Hartzell HC-82XL-1/7636D-4 Pitch setting at 30 in. sta.: Low 12°, High 24.2° Diameter: Maximum 72 in., Minimum 70 in. (No further reduction permitted.) or Sensenich M74 DM-61 Static r.p.m. at maximum permissible throttle setting: Not over 2400, not under 2250. No additional tolerance permitted. Diameter: Maximum 74 in. Minimum 72 in. (no further reduction permitted) or Sensenich M74 DM-63 Static r.p.m. at maximum permissible throttle setting: Not over 2250, not under 2100 Diameter: Maximum 74 in. Minimum 72 in. (no further reduction permitted)	
Airspeed limits (CAS)	*Never exceed	186 m.p.h. (162 knots)
	*Maximum structural cruising	145 m.p.h. (127 knots)
	Maneuvering	134 m.p.h. (116 knots)
	Flaps and landing gear extended	106 m.p.h. (92 knots)
C.G. range (landing gear extended)	(+8.2) to (+17.5) at 2425 lbs. with Hartzell HC-82XL-1 propeller; at 2315 lbs. with Sensenich M74 DM-61 propeller; at 2250 lbs. with Sensenich M 74 DM-63 propeller (+7.4) to (+17.5) at 1841 lbs. or less Straight line variation between points given Moment change due to retraction of landing gear +1237 in. lbs.	
Empty weight C.G. range	None	
Maximum weight	2425 lbs. with Hartzell HC-82 XL-1 2315 lbs. with Sensenich M74 DM-61 2250 lbs. with Sensenich M74 DM-63	
No. of seats	4 (2 at +13) (2 at +41.7)	
Maximum baggage	88 lbs (+61)	
Fuel capacity	42 gal. (two 21 gal. tanks in wings)	
(+4.7) and 10.5 gal. in fuselage at rear place (+38)		
Oil capacity	6.6 qts. (in the engine) (4.4 qts. usable)	

III - Model Gardan GY.80-180, 4 PCLM (Normal Category), Approved September 9, 1965

Engine	Lycoming O360 A.2.A.
Fuel	*91/96 minimum grade aviation gasoline
Engine limits	*For all operations, 2700 r.p.m. (180 b.h.p.)
Propeller and propeller limits	Sensenich M76 EMM-62 Static r.p.m. at maximum permissible throttle setting: Not over 2400, not under 2250. No additional tolerance permitted. Diameter: 76 in. (no further reduction permitted)

Airspeed limits (CAS)	*Never exceed	186 m.p.h. (162 knots)
	*Maximum structural cruising	145 m.p.h. (127 knots)
	Maneuvering	134 m.p.h. (116 knots)
	Flaps and landing gear extended	106 m.p.h. (92 knots)

C.G. range (landing gear extended)
(+8.2) to (+16.5) at 2425 lbs.
(+7.4) to (+16.5) at 1841 lbs. or less
Straight line variation between points given.
Moment change due to retraction of landing gear + 1237 in. lbs.

Empty weight C.G. range: None
Maximum weight: 2425 lbs.
No. of seats: 4 (2 at 13) (2 at 41.7)
Maximum baggage: 88 lbs (+61)
Fuel capacity: 42 gal. (two 21 gal. tanks in wings) (+4.7) and 10.5 gal. in fuselage at rear place (+38)
Oil capacity: 6.6 qts. (in the engine) (4.4 qts. usable)

DATA PERTINENT TO ALL MODELS

Datum: Wing leading edge outboard of the wingtank
Leveling means: Frame under door

Control surface movements

					Tolerances
Wing flaps			19°		+ 0° -2°
Aileron	Up	20°	Down	20°	+ 0° -1°
Elevator	Up	13°	Down	9°	+ 1° -1°
Elevator anti-servo tab	Up	13°	Down	9°	+ 1° -1°
Elevator trim tab	Up	3°20'	Down	6°40'	+30' -30'
Rudder	Right	28°	Left	28°	+ 2° -1°

Serial Nos. eligible: Only those aircraft serials holding a standard airworthiness certificate issued prior to March 1, 2012 are eligible.

The S.G.A.C. Certificate of Airworthiness for Export endorsed as noted below under "Certification basis" must be submitted for each individual airplane for which application for Certification is made.

Certification basis: CAR 10 dated March 1955, French AIR 2052 revised to May 3, 1962 certified by S.G.A.C. as equivalent to U.S. CAR 3 dated May 15, 1956 and amendments 3-1 through 3-5.
Type Certificate No. A12IN issued May 3, 1963.
Date of Application for Type Certificate March 10, 1961.

Import requirements: None eligible after March 1, 2012.

Previous to this date:

A U.S. Airworthiness Certificate may be issued on the basis of a French Certificat de Navagabilite pour Exportation signed by a representative of the Secretariat General de l'Aviation Civile (S.G.A.C.) containing the following statement: "The airplane covered by this certificate has been found to comply with French AIR 2052 effective May 3, 1962 and conforms to Type Certificate No. A12IN."

Equipment: The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification. In addition, the following items of equipment are required:

Stall warning indicator Safe Flight 164.

NOTE 1. Current weight and balance report including list of equipment included in certificated empty weight, and loading instructions when necessary, must be provided for each aircraft at the time of original certification.

NOTE 2. The following placards must be displayed in locations as indicated.

A. Applicable to Models GY.80-150, GY.80-160, and GY.80-180

(1) In full view of the pilot:

"This airplane must be operated as a normal category airplane in compliance with the operating limitations as stated in the form of placards, markings, and manuals. No acrobatic maneuvers, including spins, approved."

Maximum maneuvering speed 134 m.p.h.
Maximum design weight:

GY.80-150	2250 lbs.
GY.80-160	2250 lbs. or
	2315 lbs. or
	2425 lbs.
GY.80-180	2425 lbs.

Maximum flight maneuvering load factor. Flaps up + 3.8; -1.9
Maximum gear and flaps extension speed 106 m.p.h. - CAS

Before take-off

1. Set tabs
2. Electric pump on
3. Mixture rich
4. Propeller full in (for Models GY.80-150, GY.80-160 with Hartzell HC-82XL-1 propellers installed)
5. Check fuel selector on fullest tanks

Before Landing

1. Fuel selector on fullest tank
2. Mixture rich
3. Gear and flaps down
4. Propeller full in (for Models Cy.80-150, GY.80-160 with Hartzell HC-82XL-1 propellers installed)
5. Electric pump on

(2) On fuel selector valve plate:
fuselage tank: 10.5 gal., LEFT + RIGHT wing tank: 42 gal.

(3) On the baggage compartment "Maximum baggage 88 lbs."
"For additional loading instructions see weight an balance data."

(4) On the fuel tank filler cap: "Tank capacity 21 U.S. gal. (each wing tank) and 10.5 U.S. gal. (Fuselage tank)

Grade 80/87 (CY.80-150)
Grade 91/96 (GY.80-160 and GY.80-180)

(5) In addition to the above placards, the prescribed operating limitations indicated by * under Section I, II and III above, must be displayed by permanent markings.

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