CIRRUS SR22 TN – N4927

GVML - Gruppo Volo Motore Lugano

Version: 01.07.2024

TECHNICAL DATA

Model and Series No.	SR22 TN G3 **Series** 2598 **Build** 2007 **First registration** 2007 **Aircraft Type for Flight Plan**: S22T
Category Airplane	***Category***: Airplane ***Class***: Single-Engine Land (SEP/L) ***Approach Category***: A (VAPP < 91 KIAS) ***Noise Category***: C ***Performance***: B (max. 9 seats, < 5700 Kg) ***Airport Design Group***: I (Wingspan < 15m)
Engine	Continental IO-550-N, 6 cylinders fuel injected air cooled (9'013cm³) **SeriesNo** 691912 **310 HP** (Turbo Normalizing TornadoAlley, 29" 25'000ft) **RPM** 2'700 **TBO**: 2000h/12 years Do not reduce Manifold Pressure below 15 InHg when above 18'000 ft. **Outside Temperature Above**: -40°C Avoid continuous operation with the fuel flow set between 18 GPH and 30 GPH with MP above 26" InHg
Propeller and Governor	**Type:** Hartzell 3-blade constant spe **Model:** PHC-J3YF-1N/N7605B S/N FP5835B **Diameter:** 78.0" **Clearance** (between Tip of propeller and Ground): 23 cm (9") at 3'400 lb **Governor**: McCauley C290D3R/T23 S/N 070370
Speed (KIAS) up to 17'500 ft (at 25'000ft, reduced linearly)	**VROT** 70-73 (obstacle: 78) **VX** 79 **VY** 101 **VCLIMB** 120 (above 7'500 ft: 130) **VCRUISE** Pwr:65%-85% (max. 2500 RPM) **VNE** 200 (at 25k ft: 170) **VNO** 177 (at 15k ft: 151) **VO-2900lb** 123 **VO-3400lb** 133 **VFE-50%** 119 **VFE-100%** 104 **VPD** 133 **VLAND-100%** 80-85 **VLAND-50%** 85-90 **VLAND-0%** 90-95 **VDEM-CROSS-WIND** 20 **VGLIDE-2900lb** 87 **VGLIDE-3400lb** 88 **Best Glide**: 8.5:1 (at 10'000 ft = ca 14 NM) **TAS** = IAS + 2% each 1000 ft D.A. **GS** = TAS+Wind
Stall speed (KIAS) 3400lb – Most Fwd C.G.	**BANK 0°**: 73 (0-flaps) 66 (50%-flaps) 62 (100%-flaps) **BANK 15°**: 74 (0-flaps) 67 (50%-flaps) 64 (100%-flaps) **BANK 30°**: 76 (0-flaps) 71 (50%-flaps) 66 (100%-flaps) **BANK 45°**: 83 (0-flaps) 77 (50%-flaps) 72 (100%-flaps) **BANK 60°**: 99 (0-flaps) 90 (50%-flaps) 84 (100%-flaps) Horn sounds between 5 and 10 kts before the stall (full flaps and power off configuration). Do not use FLAP above 17'500 ft
Measures	**Length**: 7.92 m (26.0') **Wingspan**: 11.67 m (38.3') **Height**: 2.71 m (8.9')
Fuel Tanks	**USABLE**: 2 x 46 USG (92 USG = 348 l) **TAB**: 2 x 30 USG (226 l) **Max fuel imbalance** (between tanks): 10.0 USG (37.8 l) **AVGAS** min grade 100LL (blue) or 100 **FUEL** caution light: both tanks below 14 USG **Switch** tank only if boostPump On/Boost
Weight & Balance	**MTOM**: 1'542 Kg (3'400 lb) **MLDM**: 1'542 Kg (3'400 lb) **MinimumFuelBurned**BeforeLandWithMaxLoad 0.0 USG (0.0 l) **Empty Mass**: 1'085.5 Kg (2'393 lb) **Max Useful Load**: 456.5 Kg (1'006 lb) **Full Fuel Payload**: 212.5 Kg (468 lb) **Max baggages**: 59 Kg (130 lb)
W&B Setting	**Center of gravity**: 138.40 **ARM: Fuel**: 154.9 **Pilot/FrontPax**: 143.5 **RearPax**: 180.0 **Baggage**: 208.0 **EnvelopeData**: 137.8/953.0 - 139.1/1'225.0 - 142.3/1'542.0 - 148.1/1'542.0 - 148.1/953.0
Takeoff Distance (Ground roll in m) (3400 lb / 2900 lb)	**PA**: SL ***0° C***: 280 / 186 ***20° C***: 325 / 216 ***40° C***: 375 / 249 **PA**: 2000 ***0° C***: 340 / 227 ***20° C***: 396 / 263 ***40° C***: 456 / 303 **PA**: 4000 ***0° C***: 416 / 277 ***20° C***: 484 / 322 ***40° C***: 557 / 371 ***Headwind***: -10% each 12kts ***Tailwind***: +10% each 2kts ***Grass*** *(dry/wet)*: +20%/+30%
Range	**85%, BestPower**, 17.6 USG/h ***Endurance***: 4.4 hours ***Range***: 758 NM (SL) - 781 NM (8'000 ft) **75%, BestPower**, 16.0 USG/h ***Endurance***: 4.8 hours ***Range***: 797 NM (SL) - 821 NM (8'000 ft) **65%, BestPower**, 14.0 USG/h ***Endurance***: 5.5 hours ***Range***: 865 NM (SL) - 903 NM (12'000 ft)

EQUIPMENT

PFD	Avidyne Entegra FlightMax EXP5000 R6.2 S/N P/N: 530-00183—000_REV02
MFD	Avidyne Entegra EX5000C R6.2.1 CMAX 530-00180—100 REV 04
GPS / Radio / NAV	Dual Garmin GNS430W (GPS WAAS/COM/NAV) – Precision: 1m H / 2m V ***Antenna*** - ***COM1+GPS***: Top-center ***COM2***: Underside-center ***2 x NAV***: Vertical stabilizer
Transponder	Garmin GTX 330 - Mode S with ADS-B Out ***Transponder Antenna***: Nose underside (small) SW Ver. 4.06
ELT	406 Mhz
Audio Panel	Garmin GMA340
Oxygen System	**Fixed Oxygen System**: Precise Flight Inc. - **ConstantFlowMeter**: A4 or A5 **Bottle**: 77 cu - 12'/15'/18'000 ft (hrs): **1 pers**.: 25/17/14 **2 pers**: 13/9/6 **3 pers**: 8/7/4 **4 pers**: 6/4/3 Cannulas: 0 - 18'000 ft - Mask until 25'000 ft - Capacity: 2'000 PSI - Check with Oxymeter (%SpO2 > 90)
Autopilot	S-TEC 55X (Two-Axis autopilot and Altitude selector/alerter). Max 185 KIAS. < 95 KIAS set flaps 50%. Minimum engage altitude: 400 ft. Not permitted with 100% flaps and during TakeOff/Landing.

	Disconnect in moderate or severe turbulence and when speed is less than VSTALL + 20%.
Stormscope	L-3 Avionics System WX500
Traffic Advisory System	L-3 Avionics System SkyWatch 497 Traffic Advisory System
Terrain	Honeywell KGP 560 Terrain Awareness/Warning System (TAWS)
Weather System	XM Satellite Weather System
Ice Protections System	Basic I.P.S. - **DeIcing Fluid**: DTD 406B (British) 3.5 USG (13.2 L) – **Duration**: Normal/Maximum: 80/40 min
CAPS	Parachute (TBO 10 years, Last: December 2015). In case of emergency below 2000 ft AGL deploy it immediately. Minimum engage altitude: 400-500 ft AGL
Alternators and Batteries	***Alternator 1***: 28V – 60A – Main buses (FuelPump, TurnCoord.2, Attitude2, PFD2) ***Alternator 2***: 28.75V – 20A - Essential buses (Engine instr., TurnCoordin.1, Attitude1, COM1, Avionics, PFD1, Bat2) ***Battery 1***: 1x"12-cell" 24V 10A/h ***Battery 2***: 2x12V=24V 7A/h - Duration: 30 min only PFD

ASSURANCE AND COVERAGE

Assurer	Aviabel *via* Hudson Sky Holding (Martin Accola). Expiration: End of March No.: 14.021.558/17
Uses and Pilots	Private business and pleasure, Industrial AID and Rental/Club uses. Type rated PPL subject being individually checked by appointed flight instructor.
Coverages	Liability Third Party: 12 mio, Hull agreed value: 320'000.- (PIC Deductible: 3'000.- only for partial loss) Pers. Accident (Death/PTD): 100'000/100'000 (PIC+PAX). Geographical limitations: Yes, details on site.

MOVEMENT AND PARKING

Towbar	Towbar always in the airplane baggage area. Don't leave it in the hangar.
Parking	Always put the pitot cover and the nose air inlet cover on, inside and outside the hangar. Outside the hangar: use chocks. In case of wind risk, use anchor points for wing tiedowns.
Movements	Use Aircraft tug (with remote control) for movements into/from the hangar. Otherwise manually, using the towbar (pushing or pulling only on the *Wing base* or on the *Propeller base* (never from ogive).

MAINTENANCE, CONTROLS AND CHECKS

Cleaning	Clean the airplane after every flight using the specific products available in the hangar: "*blue liquid*" for fuselage and wings, "*pink liquid*" for windows, otherwise water only.
Oil type	*< 4° C:* SAE 30 or 10W-30 *> 4° C:* SAE 50. *All temperatures:* SAE 15W-50 or 20W-50.
Oil quantity	*Capacity*: 8 quarts (7.6l) Operation: min. 6 QTS, max. 7 QTS Always check oil quantity before each flight!!
Oil on board	Before each flight, assure to have the necessary Oil reserve in the baggage compartment. Never let empty oil boxes in the baggage compartment. Remember to fill in the *Oil form* located in the case.
Emergency key	An emergency airplane key is available inside the GPU compartment (unscrew the external small door).
Next inspection	Before each flight, remember to check the remaining hours available before the next inspection. Inform a member of the GVML committee in case of insufficient hours remaining.
Fuel Flow	During TakeOff check if the FF is 35-36 USG/h or more (reference pressure altitude 0 - 1'000ft).
Fuel measuring	The analog Fuel level indicators (left and right tank) are quite inaccurate, particularly when indicating low fuel. When departing with full tanks, the preferential indication is the *Fuel Flow (FF)* indicator on the MFD, instead. If tank is below ¼ capacity, pay attention to extreme turns.

USES AND BEST PRACTICES

Engine start (Warm / Hot start)	In case of "Warm" or "Hot" engine (restart between few minutes and after 2-3 hours) follow the standard checklist, without activating the "Boost Pump". After 5-6 secs the propeller will start, then immediately activate the Boost pump. Maintain RPM to max. 1'300 RPM for 10-20 secs, then reduce slowly to 1'000 RPM. In any case engage start-key during max. 10 sec., then wait minimum 30 sec. before retrying. After 3-4 negative tries, wait 15-20 minutes before restarting again.
Engine start (Cold start)	If engine doesn't start, it probably needs more *prime* (check FF). Prime only when you are really ready for ignition. With temperature below -7°C for 2 hours or more, engine *Pre-heating* is needed to prevent damage caused by frozen oil. Put the airplane in a hangar (min. 4 hours) and activate the pre-heating system.
Leaning	***Taxi****: Lean to "X" of "mi**X**ture". RunUp, TakeOff, Climb* always "*Mixture full rich*". At **Cruise** level: power 75%, Manifold Pressure: 28.5 InHg, lean to FF 16.5 USG. Maintain Mixture full rich if CHT is 420° F or more. *Best Power*: 85% power or less (reach 1st EGT peak. Than +75°F) *Best Economy*: 65% or less (reach Last EGT peak. Than +50°F)
GPU	BAT 1 set to ON (Bat 2 OFF) before connecting external GPU (needed to close the *relay*). Use the checklist.
Engine cold caution	During a fast/steep descent, do not cool down the engine too much, avoiding a possible thermal shock. A possible Go-around requires maximum power. Anticipate the Flap-configuration to favor the "back side of the power curve".
EGT e CHT	Maintain CHT (Cylinder Head Temperature) always below 420° F (better if below 380° F), particularly during TakeOff. Verify EGT rising (6x) during magnetos check (left and right).
Taxiing	Lean to "X" of "mi**X**ture". Max. 1000 RPM. More power permitted only to start motion and for short time.
Refueling	Refueling in Lugano is at PIC's discretion prior flight, contacting C-Office or GND staff. Write name of PIC on the copy of the receipt and join it to the "*Rapporto di volo*". After refueling on other aerodromes, join the receipt to the "*Rapporto di volo*" for reimbursement (write/highlight fuel quantity). Never refuel after the landing in Lugano (next PIC decides the amount of fuel, based on his/her W&B).
Check-list	The only permitted Check-list is the Cirrus SR22 TN G3 official one, available on the airplane. The use of a personalized check-list is at own risk.
Hour Meter	There's an "Hour-Meter" installed on the airplane. Its data is used for filling in the "*Rapporto di volo*" and for "billing" purposes. Track the start and end value for each single trip. It starts when speed is more than 30 KIAS.