

Pilot Operating Handbook



N701GT

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INTRODUCTION

DISCLAIMER

Not liable for anything, ever. All values and limits in this version of the POH are speculative and may be updated after flight testing.

DESCRIPTION

The Thompson/Zenith 701 is a 2 seat, side-by-side high wing aircraft. It is designed for short field operations.

The airframe is semi-monocoque aluminum with steel sub frame in the cockpit. The wings are strut braced.

This 701 is powered by a Rotax 912ULS developing a peak 100HP at a maximum takeoff RPM of 5800. Maximum continuous RPM is 5500 at which the engine should produce 82HP.

The aircraft was built from plans purchased from and supplied by the Zenith Aircraft Company located at the Mexico Memorial Airport in Mexico, MO 65265. Some of the kit components were purchased from Zenith rather than performing the fabrication. These kit components include:

1. Steel tubular cabin frame,
2. Formed Plexiglas windscreen,
3. Formed front wheel fork,
4. The controls sub-kit which includes rudder pedals, flaperon mixer assembly, and elevator horn,
5. Fiberglass wing tips,

The aircraft was fabricated and assembled by Curtis V Thompson of Redmond, WA. Using the "FAA Amateur -Built Fabrication and Assembly Checklist (2011)" a determination was made that the project was 88.2% amateur-built and thus fulfills the 51% rule.

The plans were purchased from Zenith on January 2008 and was issued a Special Airworthiness Certificate on August 7th, 2015.

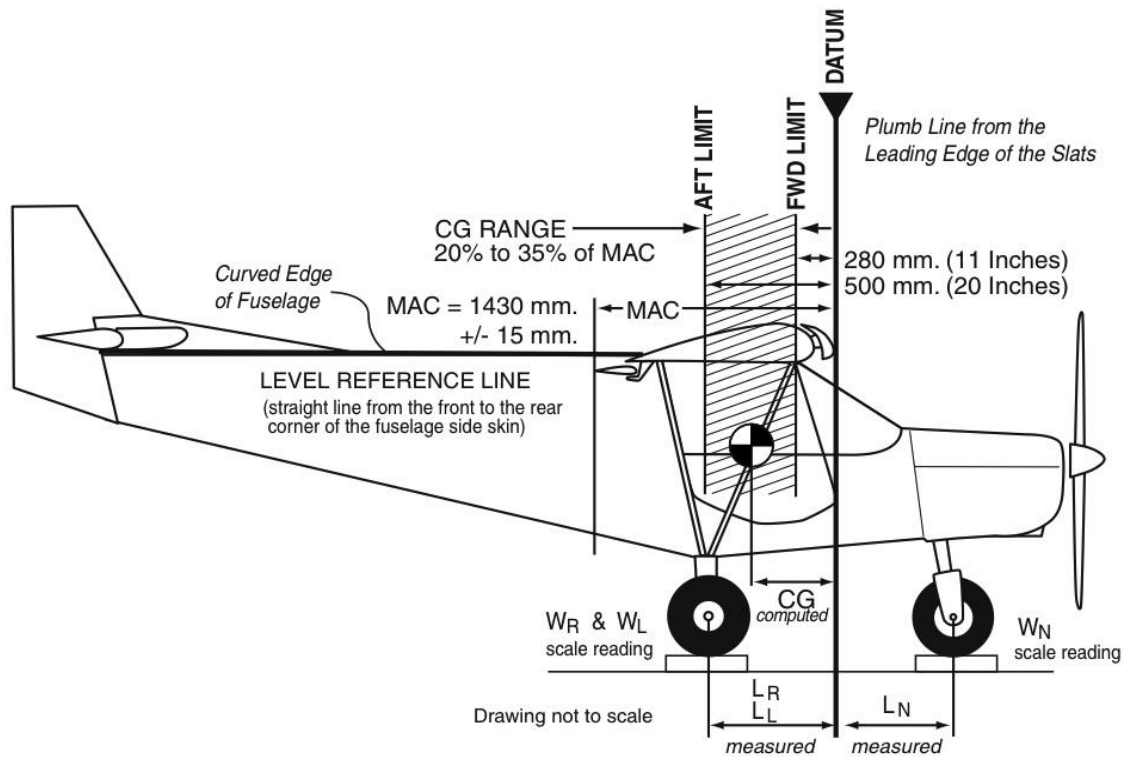
DIMENSIONS

Wing Span	27'
Length	20'11"
Height	8'7"
MAC	4'9"
Wing Area	122ft ²
Wing Loading	8.2lb/ft ²
Engine	Rotax 912ULS

WEIGHT & BALANCE

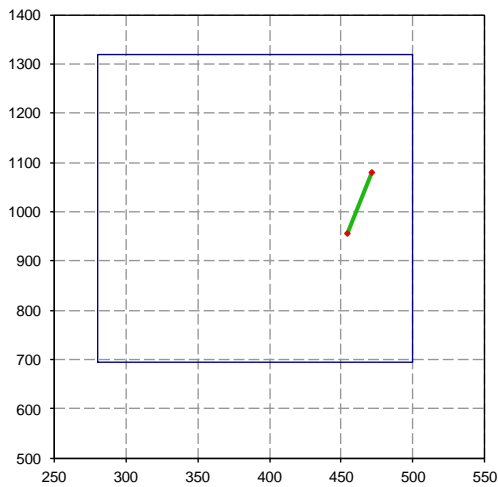
Date: 2/13/2017
 Registration: N701GT
 Builder: THOMPSON, CURTIS V
 Model: ZENITH CH701
 Serial Number: 7-7151
 Datum: PLUMB LINE FROM LEADING EDGE OF FLAPS
 Max Gross Weight Limit: 1320 LBS
 CG Range: 280 mm MIN - 500 mm MAX
 Max Rear Baggage: 40 LBS

EMPTY WEIGHT / CG			
	WEIGHT	ARM	MOMENT
Right Main Wheel	258	698.5	180213
Left Main Wheel	267	698.5	186500
Nose Wheel	169	-665	-112385
COMPUTED CG EMPTY	694	366.47	254328



NOMINAL (215#) PILOT WITH MAX FUEL BURN:

N701GT Weight and Balance Calculator

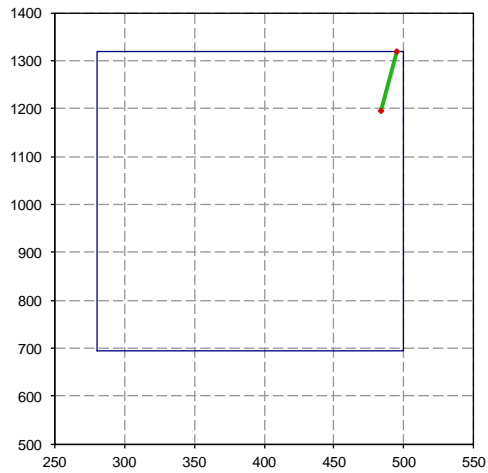


	Qty	Weight	Arm	Moment
Basic Empty Weight		694.00	366.47	254,327.50
Pilot	215	215.00	600.00	129,000.00
Co-Pilot	0	0.00	600.00	0.00
Baggage (40 Max)	40	40.00	1,050.00	42,000.00
Fuel Header Tanks (2 gal max)	2	12.00	1,000.00	12,000.00
Fuel Wing Tanks (20 gal max)	20	120.00	600.00	72,000.00
Take off (1320 Max)		1,081.00	471.16	509,327.50
Landing weight		956.80	454.44	434,807.50
Fuel Burn		-124.20	600.00	-74,520.00
Weight Load (Max 626)		387		
Available load		239		

	Gallons	Weight
Estimated Flight time (@4.5GPH)	4.6	20.7
		124.2

MAX WEIGHT WITH MAX FUEL BURN:

N701GT Weight and Balance Calculator

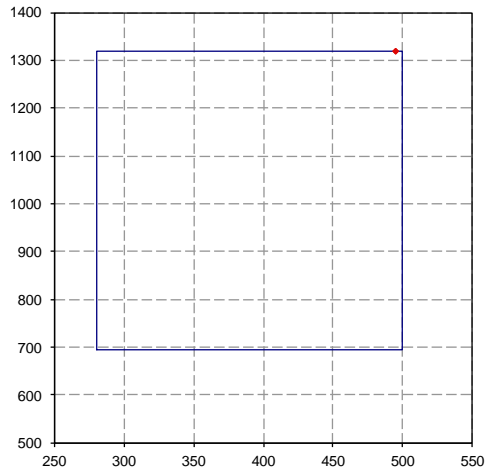


	Qty	Weight	Arm	Moment
Basic Empty Weight		694.00	366.47	254,327.50
Pilot	215	215.00	600.00	129,000.00
Co-Pilot	239	239.00	600.00	143,400.00
Baggage (40 Max)	40	40.00	1,050.00	42,000.00
Fuel Header Tanks (2 gal max)	2	12.00	1,000.00	12,000.00
Fuel Wing Tanks (20 gal max)	20	120.00	600.00	72,000.00
Take off (1320 Max)		1,320.00	494.49	652,727.50
Landing weight		1,195.80	483.53	578,207.50
Fuel Burn		-124.20	600.00	-74,520.00
Weight Load (Max 626)		626		
Available load		0		

	Gallons	Weight
Estimated Flight time (@ 4.5GPH)	4.6	20.7
		124.2

MAX WEIGHT WITH NO FUEL:

N701GT Weight and Balance Calculator



	Qty	Weight	Arm	Moment
Basic Empty Weight		694.00	366.47	254,327.50
Pilot	215	215.00	600.00	129,000.00
Co-Pilot	359	359.00	600.00	215,400.00
Baggage (40 Max)	40	40.00	1,050.00	42,000.00
Fuel Header Tanks (2 gal max)	2	12.00	1,000.00	12,000.00
Fuel Wing Tanks (20 gal max)	0	0.00	600.00	0.00
Take off (1320 Max)		1,320.00	494.49	652,727.50
Landing weight		1,320.00	494.49	652,727.50
Fuel Burn		0.00	600.00	0.00
Weight Load (Max 626)		626		
Available load		0		

	Gallons	Weight
Estimated Flight time (@ 4.5GPH)	0	0
		0

OPERATIONAL LIMITS

CRITICAL SPEEDS

Designation	Speed	IAS (KTS)	Remarks
	Landing configuration Stall	N/A	Two notches of flaps, engine idle
	Power on Stall	16 KTS	Parachute req.
V _{NE}	Never Exceed	95 KTS	Never exceed this speed in any condition
V _{NO}	Maximum Structural Cruise	78 KTS	Do not exceed this speed except in smooth conditions
V _A	Maneuvering Speed	68 KTS	No abrupt control inputs above this speed
V _{FE}	Maximum Flap Extension Speed	56 KTS	Do not exceed this speed with flaps deployed

CLIMB & CRUISE SPEEDS

Designation	Speed	IAS (KTS)
V _X	Best angle	30 KTS
V _Y	Best rate	52 KTS
	Typical cruise climb	65 KTS
V _{BE}	Best endurance speed	47 KTS
V _{BG}	Best power-off glide speed (distance)	60 KTS

RANGES

Marking	IAS (KTS)	Significance
White Arc	0 - 56 KTS	Positive Flap Operation Range
Green Arc	30 KTS - 68 KTS	Normal operation Range
Yellow Arc	68 KTS - 96 KTS	Smooth Air Maneuvers
Red Line	96 KTS	Never Exceed

TEMPERATURES				
Instrument	Minimum	Normal	Caution	Maximum
Tachometer	1400	2500-5500	5500-5800	5800
Oil Temp	120 F	190-230 F (at least 212 F in one flight per day)	231-247 F for 20 minutes is okay.	248 F
CHT	N/A	N/A	N/A	300 F
Oil Pressure	12 PSI below 3500 RPM	29-73 PSI (above 3500 RPM)	N/A	102 PSI
Fuel Pressure	2.2 PSI	N/A	N/A	7.26 PSI

ENGINE LIMITATIONS:	
Max RPM (No more than 60 seconds)	5800
Max Continuous RPM	5500
Max CHT	300 F
Max EGT	1652 F
Max Oil Temp	248 F
Min Oil Pressure	12 PSI below 3500 RPM
Max Oil Pressure	72 PSI
Fuel Pressure	7.26 PSI

FUEL	
Total capacity	22 gallons
Unusable fuel	1 gallons
Usable fuel	21 gallons
Approved fuel	92 Octane "MOGAS", up to 10% ethanol
Approved fuel	100LL aircraft fuel with less than 50%. More often with short maintenance cycle.

WEIGHT:	
Empty	694 lbs
Max	1320 lbs
Max cockpit weight	626 lbs (no fuel)
Min cockpit weight	0 lbs
Max baggage area weight	40 lbs

G FACTOR & MANEUVERS

- +6 G
- -3 G
- Ultimate failure at 1.5x max
- No aerobatics

CREW

- One required
- Max two occupants

OPERATION

Day & Night VFR in non-icing conditions.

PERFORMANCE :**TAKEOFF ROLL****STD PILOT + 50% FUEL**

Density Altitude	Roll	Over 50' Obstacle
0	100'	300'
2000	125'	350'
4000	200'	600'
6000		

GROSS

Density Altitude	Roll	Over 50' Obstacle
0	200'	600'
2000	250'	800'
4000	400'	1000'
6000		

CLIMB PERFORMANCE**STD PILOT + 50% FUEL**

Density Altitude	Airspeed (Indicated)	Climb Rate
0	52 KTS	1200 FPM
2000	52 KTS	1100 FPM
4000	48 KTS	1000 FPM
6000	43 KTS	700 FPM
8000	35 KTS	400 FPM

GROSS

Density Altitude	Airspeed (Indicated)	Climb Rate
0	52 KTS	1000 FPM
3000	48 KTS	800 FPM
6000	43 KTS	600 FPM
9000	35 KTS	300 FPM

FUEL CONSUMPTION

Density Altitude	5100RPM / 71KTS	5200RPM / 74KTS	5400RPM / 75KTS
0	3.5 GPH	4 GPH	5 GPH
2000	3.5 GPH	4 GPH	5 GPH
4000			
6000			
8000			
10000			

LANDING ROLL (FULL FLAPS)**STD PILOT + 50% FUEL**

Density Altitude	Roll	Over 50' Obstacle
0	50'	250'
1000	50'	250'
2000		
4000		
6000		

GROSS

Density Altitude	Roll	Over 50' Obstacle
0	100'	500'
1000	100'	500'
2000		
4000		
6000		

SERVICE CEILING

17,990ft.

SYSTEMS

ELECTRICAL SYSTEM DESIGN

Electrical power is supplied by the Alternator in the Rotax Engine. An AERO-LITHIUM LiFePo4 battery is used for starting and standby electrical power.

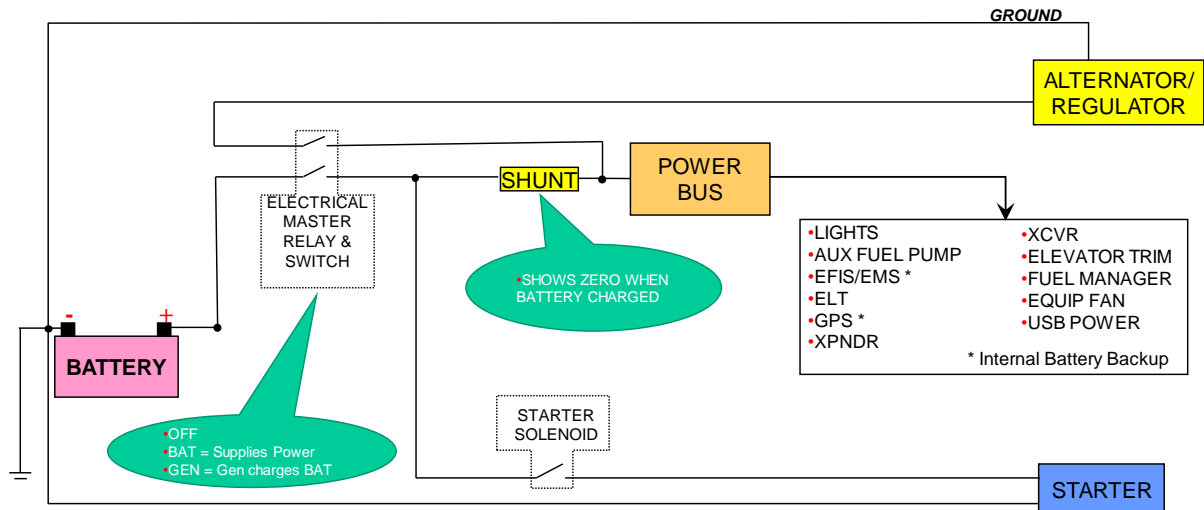
A Master Switch is used to isolate electrical power when the aircraft is shut down. With the Master Switch in the "OFF" position, the battery and alternator are isolated from the system. In the "OFF" position the "START" function is disabled in the aircraft. While in the "BAT" position, battery power is supplied to the electrical system but the battery is isolated from the engine charging system. This is only really useful when the engine electrical system has failed and is producing too high of an output voltage. The battery could be damaged by a high voltage condition. While in the "GEN" position, the engine alternator is supplying power to the electrical system and also charging the battery.

An ammeter built into the EMS indicates the state of battery current draw (except during start sequence). The ammeter will indicate NEGATIVE when the battery is being discharged. A POSITIVE indication means that the battery is being charged. Eventually, the ammeter indication should go to a zero value indicating that the battery is charged. Since the battery is drained slightly during the engine start sequence, one would expect a charge indication for the first few minutes of flight.

Circuit protection is provided by automotive ATO fuses. The fuse panel is located to the right of the co-pilot in the leg area. These fuses are inaccessible during flight and any troubleshooting should be performed while on the ground. The EFIS/EMS and GPS Moving Map display have built-in battery backups that can be used upon an electrical system failure.

Electrical System

as of 01Oct2015



N701GT INTERFACE UNIT

N701GT has a custom made Interface Unit used to glue various electrical system together in the aircraft. None of these features are flight critical and essential for flight.

Here is a summary of the features provided by the N701GT Interface unit:

- An audio mixer that combines various audio sources from the aircraft and provides them to the aux audio input to the COM Transceiver. The audio sources include:
 - EFIS Audio Tone Alerts (from D180).
 - EMS Audio Tone Alerts (from D180).
 - Audio voice prompts alerts from the GD-40 CO Detector.
 - Audio voice prompt alerts from the IPAD running the Foreflight application.
 - Voice prompt alerts from the N701GT itself including fuel low warnings.
- A receiver audio to recorder (GoPro) ground loop isolation circuit.
- A stereo music input amplifier (on control panel) from in-flight entertainment device to music input to the COM Transceiver. Includes ground loop isolation.
- An RS-232 re-broadcast subsystem. RS232 signals are brought in and fanned out to multiple destination. For example, the GPS serial data is brought in and re-broadcast to the GTR200 Transceiver, ACL E-04 ELT, Dynon D180 EFIS, and Data Recorder (TTL levels). This results in each RS232 signal being perfectly terminated and results in minimal RF interference.
- A Data Logger capability. GPS, EFIS, and EMS data are recorded to an SD Card Memory accessible behind the iPad mount. RS232 data generated by the aircraft systems is recorded on the SD Card Memory for later analysis. A new file is created after power up as soon as the GPS obtains the current date. The file name is of the format YYMMDDmmss.TXT. See the GPS and D180 manuals for the formats of this data. A post flight analysis program is available to process this recorded data.
- Voice Prompt Generator. The Interface Unit provides an audio voice prompt when the fuel selector is placed in the OFF position. Voice prompts are also provided when the fuel level is low enough to be detected in the two fuel header tanks.
- Flaperon Trim. Control of a flaperon trim servo is provided to trim N701GT for hands off flight.
- Fuel Flow Sensor Selection. There are two fuel flow sensors in N701GT. One sensor for the left and one for the right side. The Interface Unit routes the signal to the D180 EMS depending on the position of the fuel selector. This allows for the sensor to be placed far from the engine fuel pumps where they are susceptible to fuel pump pulses.

The following embedded PDF is a schematic of the N701GT Interface Unit. This schematic was created using the Cadsoft Eagle schematic capture application.



CH701InterfaceUnit
.pdf

N701GT INTERCONNECT DIAGRAM

The following embedded PDF file represents the detailed interconnect wiring for N701GT. This schematic was created using the Cadsoft Eagle schematic capture application.



CH701Interconnect-
a.pdf



CH701Interconnect-
b.pdf

FUSE CROSS REFERENCE

FUSE #	CIRCUIT
1	STARTER
2	FUEL PUMP
3	GTR-200 XCVR
4	USB-PWR-IPAD
5	USB-PWR-RIGHT
6	USB-PWR-LEFT
7	MAP LIGHT
8	LANDING LIGHT
9	STROBE LIGHT
10	NAV LIGHT
11	AVIONICS FAN
12	IPAD FAN
13-20	SPARE
21	ELT
22	USB-PWR-BAGGAGE
23-25	SPARE
26	ALTERNATOR (25Amp)
27	CH701 INTERFACE UNIT
28	ELEVATOR TRIM
29	D180 EFIS
30	AERA GPS
31	STRATUS ESG ADS-B TRANSPNDR
32	GD-40 CO DETECTOR

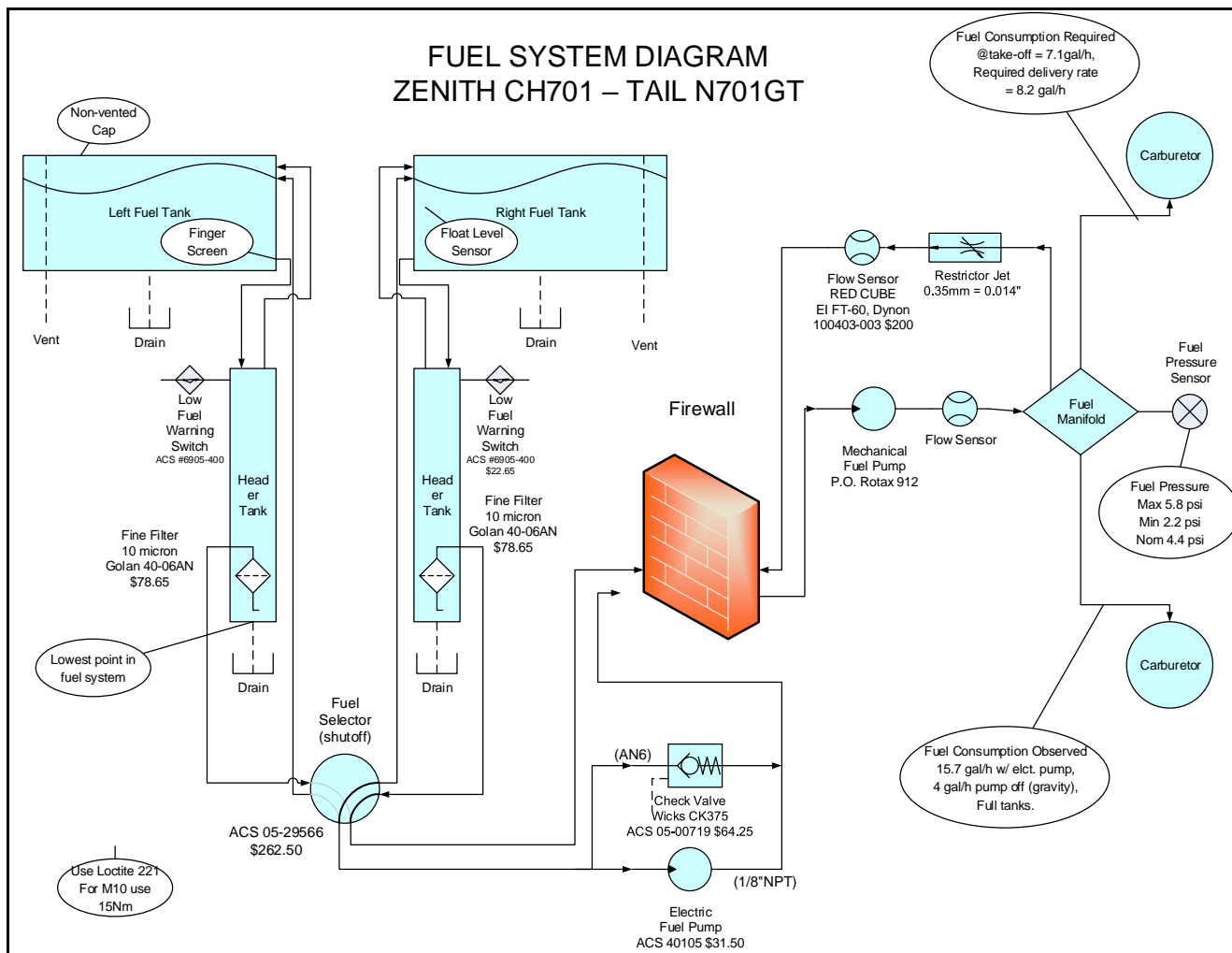
FUEL SYSTEM DESIGN

Each wing contains an 11 gallon aluminum fuel tank. The tank was constructed using panels that were glued with ProSeal and riveted with closed end blind rivets. Solid aluminum fuel lines exit the wing root and are routed to a pair of 1 gallon header tank/filter assembly behind the pilot and passenger seat. Vent lines exit the top of the header tanks and are connected to a high point on each wing tank. These vent lines prevent air trapped in the lines from blocking fuel flow. At the center of each header tank is a Golan 10 micron fuel filter; one on each header tank. Each of the two fuel lines exits the header tank and is routed through a pair of fuel flow sensors. The electrical signals from these sensors is routed to the CH701 Interface Unit where the applicable signal is routed to the Dynon D180 EFIS/EMS. The fuel from each fuel flow sensor is routed to a fuel selector valve located under the pilot's knee. Fuel line are then routed from the "LEFT\RIGHT\OFF" fuel selector valve to an electric backup fuel pump located on the cabin side of the firewall. Next the fuel line passes through the firewall where a flexible line is routed to the engine mounted mechanical fuel pump. After the mechanical pump, flexible lines route the fuel to the fuel rail. The fuel rail supplies fuel to the two carburetors of the Rotax 912 ULS. A small fuel line is routed from the fuel rail back to the wing tank. This return path supports returning any air trapped in the fuel line back to the fuel tank.

The fuel selector valve is a "duplex" type device that routes the return fuel flow back to the same wing tank that is supplying fuel for the forward path. Hall Effect sensors in the fuel selector are fed to the CH701 Interface Unit so it knows the position the fuel selector. The CH701 Interface Unit sends "voice" prompts and alerts to the flight crew.

Each header tanks has a "low fuel" float switch which detects a condition where fuel has been nearly exhausted on a given side. A "low fuel" condition is presented to the flight crew via audio voice alerts. The crew should switch the fuel selector to the alternate side as the system will have about 15 minutes of fuel remaining from that side.

Each wing tank has a float type fuel level sensor. These sensors cannot measure less than 3 gallons per side. In other words, once 3 gallon is remaining in each tank then the fuel gauges will transition to 0 gallons.



CARBURETOR HEAT

This aircraft is equipped with carburetor heat. Hot coolant is diverted to a metal jacket behind the carburetor. The needle and metal are heated to prevent ice formation.

Carburetor heat is always on. Estimated power loss is less than 3HP at peak power.

LANDING GEAR

The main gear is a single leaf held in place by an upper and lower polyurethane isolation pad on each side. Each side is secured with a large piece of angle held by two bolts on the strut pickups.

The polyurethane isolation pads are subject to wear and should be inspected every 50 hours. Replacement is estimated at 500 hours.

The nose gear strut uses a bungee cord suspension. The cord is a loop secured at the top rear by a flange, loops underneath a retaining pin and secured on the top front by another flange.

The bungee cord is subject to wear. It should be inspected every 50 hours and may need replacement every 250 hours or two years.

CHECKLISTS

PREFLIGHT CHECKLISTS

FUEL CONDITION CHECKS

PILOT SIDE FUEL QUANTITY	CHECK
PILOT SIDE FUEL CAP	SECURE
PILOT SIDE FUEL SUMP	COLOR CORRECT, FREE OF CONTAMINANTS
PILOT SIDE FUEL VENT	CLEAR
LEFT HEADER TANK SUMP\GASCOLATOR	COLOR CORRECT, FREE OF CONTAMINANTS
RIGHT HEADER TANK SUMP\GASCOLATOR	COLOR CORRECT, FREE OF CONTAMINANTS
PASSENGER SIDE FUEL QUANTITY	CHECK
PASSENGER SIDE FUEL CAP	SECURE
PASSENGER SIDE FUEL SUMP	COLOR CORRECT, FREE OF CONTAMINANT
PASSENGER SIDE FUEL VENT	CLEAR

IN CABIN

CONTROL STICK LOCK	RELEASED
KEY	OFF
MASTER	OFF
FUEL SELECTOR VALVE	FULLEST
FLAPS	CYCLE, LEAVE RETRACTED
MASTER	GEN
ELEVATOR TRIM	ON, CENTERED
LANDING LIGHT, STROBES, NAV, POSITION	ON
EXIT CABIN	WALK AROUND, CHECK LIGHTS
LANDING LIGHT, STROBES, NAV, POSITION	OFF
MASTER	OFF

PILOT SIDE FUSELAGE

LANDING GEAR	ISOLATION PADS SECURE
BRAKE LINES & PADS	LINES FULL, NO LEAKS
TIRES	INFLATED
WHEEL CHOCKS	REMOVED

PILOT SIDE WING

STRUT & JURY STRUTS	SECURE
SLAT & LAND LIGHT	SECURE
PITOT\AOA	CLEAR, SECURE
TIE DOWNS	RELEASED
STROBE & NAV LIGHT FIXTURE	SECURE
FLAPERON & SPLICE PLATE	FREE AND SECURE
FLAPERON PUSH ROD	SECURED, SLOT CLEAR

EMPENNAGE

ACCESS HATCH	CLOSED
ANTENNAS - GPS, COMM, ELT, & ADS-B	SECURE
HORIZONTAL STABILIZER	SECURE
LEFT STABILIZER MOUNT	CHECK
ELEVATOR	FREE AND SECURE
ELEVATOR TRIM	NEUTRAL, SECURE
RUDDER TURNBUCKLES	SECURE
TIE DOWN	REMOVE
RIGHT STABILIZER MOUNT	CHECK

PASSENGER SIDE WING

FLAPERON PUSH ROD	SECURE, SLOT CLEAR
STROBE & NAV LIGHT FIXTURE	SECURE
STRUT & JURY STRUT	SECURE
TIE DOWN	REMOVED
SLAT SECURE	SECURE

PASSENGER SIDE FUSELAGE

LANDING GEAR	ISOLATION PADS SECURE
BRAKE LINES & PADS	LINES FULL, NO LEAKS
TIRE	INFLATED
WHEEL CHOCK	REMOVE
PASSENGER DOOR	SECURE

NOSE

WINDSCREEN	CLEAN
NOSE BUNGEE	SECURE
WHEEL CHOCK	REMOVED
PROPELLER	SECURE, INSPECT
SPINNER	SECURE
PROP AREA	CLEAR
BURBLE OIL - BY FORWARD PROP ROTATION	ONCE PER DAY
OIL	DIPSTICK RANGE
COOLANT	VISIBLE IN OVERFLOW
OIL DOOR	SECURE
EXHAUST	SECURE, FREE OF CRACKS

ENGINE START

FLAPS	RETRACTED
SEATS, SEATBELTS, SHOULDER HARNESSSES	ADJUSTED, SECURE
PASSENGER BRIEFING	COMPLETE
MASTER	GEN
FUEL VALVE	FULLEST
STROBE LIGHTS	ON
FUEL PUMP	ON FOR THREE SECONDS THEN OFF
THROTTLE	FULL IDLE
KEY	BOTH
PROP AREA	"CLEAR PROP"
KEY - START	HOLD BRAKE. PULL/HOLD CHOKE. START BUTTON. SWAP THROTTLE FOR CHOKE. 1800 RPM. OIL PRESSURE GREEN.
ALARMS	CHECK
TRANSPONDER	ALTITUDE
GPS	ACCEPT, MAP PAGE (OPTIONAL)
IPAD	ON, SET VOLUME, FOREFLIGHT MAP
RADIO	TUNE AWOS\ATIS, SET BARO
BRAKE	CHECK

TAXI & TAKEOFF CHECKLISTS**RUN-UP**

FUEL VALVE	FULLEST
ELEVATOR TRIM	NEUTRAL
FLIGHT CONTROLS	FREE & CORRECT
OIL TEMP	MIN 120F
THROTTLE	4000 RPM
KEY LEFT	(NO MORE THAN 100RPM DROP)
KEY RIGHT	(NO MORE THAN 100RPM DROP)
KEY BOTH	(NO MORE THAN 50RPM DIFFERENCE)
THROTTLE IDLE	CHECK SMOOTH, 1800 RPM
FUEL PUMP	ON
SEAT BELTS	FASTENED
DOORS	SECURE
NAV, STROBE, LIGHTS	ON, ON, WIG-WAG

STANDARD TAKEOFF

BRAKES	HOLD
THROTTLE	FULL (5800)
BRAKES	RELEASED
ROTATE	35 KTS
CLIMB	43 KTS
THROTTLE	5500 AFTER 60 SECONDS

SHORT FIELD TAKEOFF

BRAKES	HOLD
THROTTLE	FULL
BRAKES	RELEASED
ROTATE	26 KTS
CLIMB	30 KTS
THROTTLE	5500 AFTER 60 SECONDS
CLIMB	43 KTS AFTER OBSTACLE

SOFT \ ROUGH FIELD TAKEOFF

STICK	FULL BACK
THROTTLE	FULL POWER
ROTATE	26 KTS
ACCELERATE	35 KTS IN GROUND EFFECT
CLIMB	43 KTS
THROTTLE	5500 AFTER 60 SECONDS

CRUISE

LANDING LIGHTS	OFF
FUEL PUMP	OFF
FUEL VALVE	PERIODIC ALTERNATE
RPM	5100RPM-5500RPM

LANDING CHECKLISTS**DESCENT**

GUMPS	
G - GAS	FULLEST TANK
U - UNDERCARRIAGE	WELDED
M - MIXTURE	NOT INSTALLED
P - PROPELLER	FIXED
S - SWITCHES	BOOST PUMP, LIGHTS WIG-WAG

APPROACH SPEEDS

Normal	52-61 KTS
With Flaps	43-52 KTS
Short field	35-43 KTS

GO AROUND

POWER	FULL (5500 AFTER 60 SECONDS)
PITCH	43 KTS
FLAPS	RETRACT
COMMUNICATE	WHEN ABLE

NORMAL LANDING

PATTERN	.5 MILE OUT
ABEAM NUMBERS	1800RPM, 60 KTS
FINAL	PITCH FOR 52 KTS
SHORT FINAL	IDLE

SHORT\SOFT\ROUGH FIELD LANDING

ABEAM NUMBERS	4000RPM, 52 KTS
FLAPS	DEPLOYED
FINAL	43 KTS
SHORT FINAL	2000RPM

CROSS WIND

APPROACH	WING LOW OR CRAB
SHORT FINAL	STRAIGHTEN NOSE
SEVERE CROSS WIND (> 24 KTS)	CONSIDER LANDING DIRECTLY INTO WIND

GO AROUND

THROTTLE	FULL
THROTTLE	5500 AFTER ONE MINUTE
AIRSPEED	39 KTS
FLAPS	RETRACT WHEN FASTER THAN 39 KTS
COM	ANNOUNCE

AFTER LANDING

RUNWAY	CLEARED
FUEL PUMP	OFF
FLAPS	UP
LANDING LIGHTS (DAY)	OFF
NAV LIGHTS	OFF TO SAVE BATTERY
COMM	SET
TRANSPONDER	LEAVE ALTITUDE
TAXI CLEARANCE	OBTAINED

SECURE CHECKLISTS

SHUTDOWN

THROTTLE	1800
TRIM	NEUTRAL
HOBBS TIMES	RECORD
NAV, STROBE, LIGHTS	OFF
KEY	OFF
MASTER	OFF

SECURING

CONTROL LOCK	INSTALLED
WHEEL CHOCKS	PLACE
TIEDOWNS	TIED
DOORS	LOCKED

EMERGENCIES CHECKLISTS**ENGINE FIRE DURING STARTUP**

THROTTLE	FULL IDLE
START	CONTINUE TO CRANK
FUEL VALVE	OFF
FUEL PUMP	OFF
KEY	BOTH
FIRE EXTINGUISHER	IF POSSIBLE
ESCAPE	CHECK

ENGINE FAILURE DURING TAKEOFF ROLL

THROTTLE	IDLE
BRAKES	APPLY
FLAPS	RETRACT
KEY	OFF
MASTER	OFF
EXIT WITH FIRE EXTINGUISHER	IF POSSIBLE

ENGINE FAILURE IMMEDIATELY AFTER TAKEOFF

AIRSPEED	43 KTS (BEST GLIDE)
LESS THAN 900AGL	PICK LANDING SPOT AHEAD
GREATER THAN 900AGL	TURN BACK
FUEL VALVE	OFF
FUEL PUMP	OFF
MASTER	OFF

ENGINE FAILURE DURING CRUISE

AIRSPEED	43 KTS (BEST GLIDE)
LANDING	PICK SPOT
TROUBLESHOOT - CHOKE	CLOSED
TROUBLESHOOT - FUEL VALVE	FULLEST
TROUBLESHOOT - MASTER	ON
TROUBLESHOOT - KEY	LEFT, RIGHT, BOTH
TROUBLESHOOT - AUX FUEL PUMP	ON
START BUTTON	PUSH

FAILED ENGINE RESTART (FORCED LANDING)

AIRSPPEED	43 KTS (BEST GLIDE)
THROTTLE	IDLE
ELT	ACTIVATE
COM	121.5, DECLARE EMERGENCY
TRANSPONDER	7700
LOOSE ITEMS	SECURE
SEATBELTS	SECURE
FUEL VALVE	OFF
FUEL PUMP	OFF
MASTER	OFF
KEY	OFF

ACCIDENTAL SPIN

THROTTLE	IDLE
RUDDER	FULL, OPPOSITE SPIN
ELEVATOR	NOSE DOWN

FUEL FIRE DURING FLIGHT

FUEL VALVE	OFF
VENTS	CLOSED
CABIN HEAT	OFF
KEY	OFF
FIRE SUPPRESSION	DIVE - ATTEMPT TO EXTINGUISH FLAMES
ELT	ACTIVATE
LANDING	IMMEDIATE

ELECTRICAL FIRE DURING FLIGHT

FUEL VALVE	OFF
VENTS	CLOSED
CABIN HEAT	OFF
MASTER	OFF
FIRE EXTINGUISHER	SUPPRESS IF POSSIBLE
ELT	ACTIVATE
LANDING	IMMEDIATE

OVER-VOLTAGE ELECTRICAL INDICATION

MASTER	BAT
PRECAUTIONARY LANDING	ASAP
TROUBLESHOT	ON GROUND
POWERED RESTORED	PRECAUTIONARY LANDING
FULL FAILURE	PRECAUTIONARY LANDING

ELECTRICAL FAILURE

TROUBLESHOOT - DYNON, NAV, COM, XPNDR	CHECK POWER BUTTON
TROUBLESHOOT - MASTER	CHECK ON, CYCLE
POWERED RESTORED	PRECAUTIONARY LANDING
FULL FAILURE	PRECAUTIONARY LANDING
MASTER	OFF

ICING

ALTITUDE	CHANGE FOR WARMER AIR
AIRSPEED	KEEP ABOVE 50 KTS
VISIBLE MOISTURE	AVOID
CONTROLS	CYCLE TO AVOID BINDING

FLAT TIRE

INSPECT IN AIR	BY TOWER OR AIRCRAFT IF POSSIBLE
AIRPORT SELECT	CRASH CREW, 3000' OR GREATER
APPROACH SPEED	61 KTS
FUEL VALVE	OFF
DAMAGED WHEEL	HOLD OFF RUNWAY

FUEL LEAK

SOURCE	ATTEMPT TO LOCALIZE
STROBES, NAV LIGHTS OFF	OFF
IN WING	LEAKING WING HIGH
EMERGENCY SITUATION	DECLARE
MASTER SWITCH	OFF
FUEL VALVE (IN CABIN)	OFF
FUEL PUMP	OFF
LAND	IMMEDIATELY

RUNAWAY ELEVATOR TRIM

PANEL TRIM SWITCH	TOGGLE, ATTEMPT TO NEUTRALIZE
SPEED	TRY FASTER OR SLOWER FOR CONTROL
LANDING	PRECAUTIONARY
APPROACH	61 KTS
LANDING	LONG

CONTROL JAM

STICK	JOISTLE TO LOOSEN
STICK	HOLD AGAINST JAM
STICK	CHECK TORQUE TUBE ENTRY AREA
EMERGENCY	DECLARE
FLAPERON JAM	USE RUDDER
ELEVATOR JAM	USE ELEVATOR TRIM
RUDDER JAM	USE AILERON
SPEED	TRY FASTER OR SLOWER FOR CONTROL
APPROACH SPEED	61 KTS
AIRPORT SELECT	3000' OR GREATER
ENGINE SHUTDOWN	SHORT FINAL
FUEL VALVE	OFF
FUEL PUMP	OFF

PITOT\STATIC\DYNON FAILURE

GPS	BACKUP PANEL MODE
EMERGENCY	DECLARE
DYNON	CYCLE POWER
NOSE ATTITUDE	REMAIN STABLE
LANDING	PRECAUTIONARY
APPROACH	61 KTS INDICATED ON GPS
THROTTLE	APPROX. 60% OPEN

EQUIPMENT

AVIONICS

This aircraft is currently equipped with a Dynon D180 to provide all required flight instruments as well as additional engine monitoring and the transponder encoder. It is connected to the GPS to provide additional data such as ground speed.

RADIOS

This aircraft is equipped with a PS Engineering PAR200A Integrated Audio Panel with VHF Com Radio.

TRANSPONDER

A Garmin 327 provides a mode C transponder. It is connected to the Dynon D180 and the GPS.

NAVIGATION

A Garmin Aera provides GPS.

MAINTENANCE

REPLACEABLE FLUIDS & EQUIPMENT

PROPELLER

The propeller is a Warp Drive 72" composite ground adjusted to 12.0 degrees.

TIRES

NOSE AND STANDARD MAINS

TYPE	8 x 800 Carlisle Turf or Turf Glide
MIN PRESSURE	10PSI
PREFERRED PRESSURE	18PSI
MAX PRESSURE	20PSI

LARGE OPTIONAL MAINS

TYPE	21 X 8 x 6 Aero-Classic
MIN PRESSURE	8PSI
PREFERRED PRESSURE	10PSI
MAX PRESSURE	12PSI

OIL

TYPE	SAE 20W50, SAE30 High Performance, Mobil 1 15W50. NO AVIATION OIL
INTERVAL	50 HRS NOMINAL, 100 HRS MAX, MOGAS
MIN	2L
MAX	3L
FILTER	ROTAX 825701

COOLANT

TYPE	Evans NPG+ (waterless)
MIN	LOW MARK OVERFLOW BOTTLE
MAX	HIGH MARK OVERFLOW BOTTLE

BRAKE FLUID

TYPE	MIL-H-5606, MIL-PRF-87257, ATF
MIN	1/2 FULL RESERVOIR
MAX	3/4 FULL RESERVOIR

INSPECTION CHECKLIST

Use the following embedded checklist for performing 25 Hour and Conditional Inspections. A more recent copy of this checklist may be available electronically. The results of the checklist will be kept in the Maintenance Record Logbook.



N701GT Annual
Inspection Checklist

DYNON D180 CONFIGURATION & SETUP

See the following embedded MS Word document for information on the configuration and setup of the Dynon D180 EFIS/EMS.



CH701 Dynon
Configuration and S

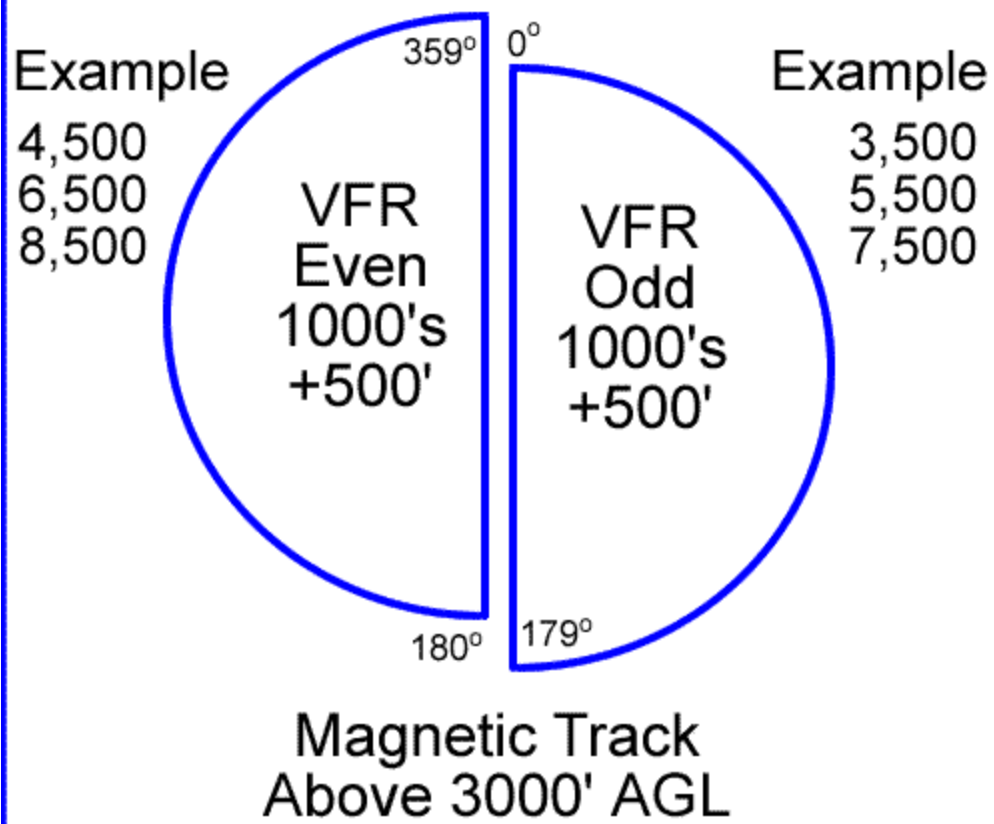
AIR TRAFFIC CONTROL LIGHT SIGNALS

Air Traffic Control Light Signals				
Color and type of signal		Aircraft on the ground	Aircraft in flight	Movement of vehicles, equipment and personnel
Steady green		Cleared for takeoff	Cleared to land	Cleared to cross, proceed, or go
Flashing green		Cleared to taxi	Return for landing (followed by steady green)	Not applicable
Steady red		Stop	Give way to other aircraft and continue circling	Stop
Flashing red		Taxi clear of the runway in use	Airport unsafe, do not land	Clear the taxiway/runway
Flashing white		Return to starting point on airport	Not applicable	Return to starting point on airport
Alternating red and green		Exercise extreme caution	Exercise extreme caution	Exercise extreme caution

IMPORTANT TRANSPONDER CODES

BEACON CODE	ALLOCATED USE
7600	Radio Failure ('76 - In a Fix)
7700	Emergency (77 - Go'in to heaven)

VFR Cruising Altitudes



ACRONYM	USED	MEANING
ABCDE	engine out emergency	Airspeed, Best place to land, Checklist, Declare, Execute.
ARROW	before entering a/c	Airworthiness certificate, Registration, Radio license, Operating limitations, Weight & balance
BLITTS	line-up check	Boost pump on, Lights, Instruments set, Transponder on, Take-off time noted, Tanks - fuel, Safety - seat belts, doors secure.
CIGAR	before takeoff	Cowls, Instruments, Gas, Altimeter, Run-up.
FAST	in-flight piston restart	Fuel, Air, Spark, Terminate
FLAPS	night VFR	Fuses, Landing lights, Anti- collision lights, Position Lights, Source of electricity.
GUMPS	before landing	Gas, Undercarriage, Mixture, Propeller.