AERO CLUB DI ROMA ATO 058

CHECK LIST

AIRCRAFT

This check list is in accordance with the AFM Ed 3 Rev 5.

CHECK LIST DI BORDO

P 92 – JS

MTOW 600 Kg

AIRCRAFT SPEEDS

MAX CROSS WIND ALLOWED	15 KTS
ROTATE SPEED (Vr)	55 KIAS
BEST RATE OF CLIMB (Vy)	73 KIAS
MIN APPROACH SPEED (FLAPS UP)	70 KIAS
MIN APPROACH SPEED (FULL FLAPS)	60 KIAS
BEST GLIDE SPEED	69 KIAS
MANEUVERING SPEED (VA)	97 KIAS
MAXIMUM STRUCTURAL SPEED (VNO)	110 KIAS
NEVER EXCEED SPEED (VNE)	141 KIAS
MAX FLAPS EXTENDED SPEED (VFE)	71 KIAS

SPEEDS NON NORMAL OPERATIONS

600 kg MTOW:

1)	Engine failure after take off	60 KIAS
2)	Engine failure during flight	69 KIAS
3)	Best gliding speed	69 KIAS
4)	Manoeuvring speed	97 KIAS

PRE-FLIGHT INSPECTION

A complete interior and exterior inspection of the aircraft is mandatory as hereby detailed.

INTERIOR INSPECTION	
1) Aircraft documents	ON BOARD
2) Weight and balance	CHECKED
3) Flight controls	FREE
4) Parking brake	SET
5) Throttle friction	ADJUSTED
6) Magnetos	OFF
7) Trim switch	OFF
8) Master switch	ON
9) Voltmeter (10-12V) – Ammeter	CHECKED
10) Generator switch	ON
11) ALT light	ON
12) Fuel shut off valves	BOTH OPEN
13) Fuel pump	ON
14) Fuel pump	OFF
15) Fuel shut off valves	BOTH CLOSED
16) Flaps	CHECKED
17) Electric trim	CHECKED
18) Acoustic stall warning	CHECKED

19) Strobe lights	CHECKED
20) Navigation lights	CHECKED
21) Landing light	CHECKED
22) Generator switch	OFF
23) Master switch	OFF
24) Fuel	CHECKED
25) Baggage	STOWED
INTERIOR INSPECTION CHECK LIST	COMPLETED

*** WARNING ***

Fuel level indicated by the fuel quantity indicators (on the instruments panel) is for reference only. The pilot in command must verify the actual fuel quantity before departure.

EXTERIOR INSPECTION

*** WARNING ***

Check for defects, cracks, detachments, excessive play, unsafe or improper installation as well as for general conditions. For flight controls surfaces, also check for freedom of movement.

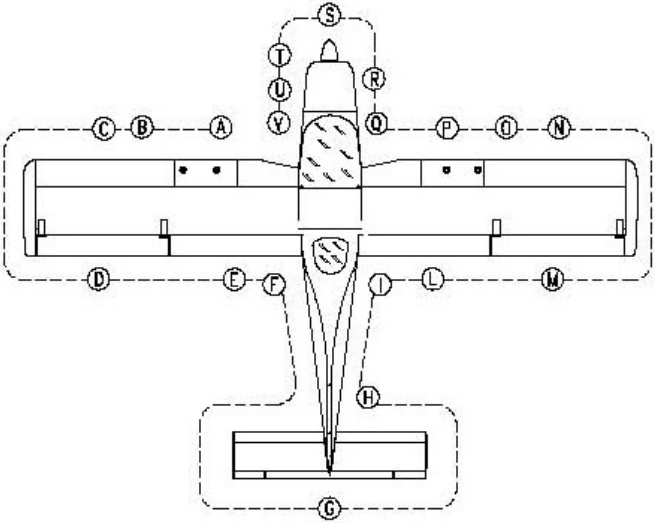

FIGURE - 1

A)	**Left side fuel filler cap: visually check the fuel level on board. Left tank vent: check no obstructions.**
B)	**Remove the pitot cover. Make sure it's not obstructed. Do not blow inside the vent. Place the pitot cover inside the aircraft.**
C)	**Left side leading edge and wing skin: visual inspection.**
D)	**Left aileron: visual inspection.**
E)	**Left flaps and hinges: visual inspection.**
F)	**Left main landing gear: check inflation 14 psi (1.0 bar), tire condition, alignment and fuselage skin condition.**
G)	**Horizontal tail and tab: visual inspection.**
H)	**Vertical tail and rudder: visual inspection.**
I)	**Right side main landing gear: check inflation 14 psi (1.0 bar), tire condition, alignment and fuselage skin condition.**
L)	**Right flaps and hinges: visual inspection.**
M)	**Right aileron: visual inspection.**
N)	**Right leading edge and wing skin: visual inspection.**
O)	**Check freedom of movement of the stall detector micro switch on right side leading edge. Master switch ON and check the stall warning acoustic sounds; then Master switch OFF.**
P)	**Right side fuel filler cap: visually check the fuel level on board. Left tank vent: check no obstructions.**
Q)	**Right side static port: check no obstructions; do not blow inside vents (read the note).**
R)	**Nose wheel strut and tire: check inflation 11 psi (0.8 bar), tire condition and condition of rubber shock absorber discs.**

S) Propeller and spinner condition: check for nicks and security.	
T) Open engine cowling and perform the following checklist: **I - Check no foreign objects are present.** **II - Check the cooling circuit for losses, check coolant reservoir level, insure radiator honeycomb is unobstructed.** **III - Check lubrication circuit for losses, check oil reservoir level, and insure radiator honeycomb is unobstructed.** **IV - Drainage operation must be carried out with aircraft wings level.** **Open both fuel shutoff valves inspect fuel circuit for losses; check integrity of fireproof protection braids; drain the circuit using a cup to collect fuel by opening the specific drainage valve located on the firewall; close the shutoff fuel valves. Check for water or other contaminants.** **V - Check integrity of silent-block suspensions.** **VI - Check connection and integrity of air intake system; check ram air intake is unobstructed.** **VII - Check that all parts are secure or safely tied.**	
U) Close the engine cowling	
V) Check left side static vent is unobstructed	
W) Remove tow bar and chocks if present	
EXTERIOR INSPECTION CHECK-LIST:	**COMPLETED**

BEFORE ENGINE START	
1) Parking brake	SET
2) Flight planning and fuel	CHECKED
3) Weight & Balance	CHECKED
4) Seats	ADJUSTED
5) Seat belts	FASTENED
6) Doors	LOCKED
7) Radio and electrical equipment	OFF
8) Circuit breakers	CHECK IN
9) Throttle	IDLE
10) Carburetor heat	COLD
11) Fuel shut off valves	BOTH OPEN
12) Briefing	PERFORMED
BEFORE ENGINE START CHECK LIST	COMPLETED

ENGINE START	
1) Master switch	ON
2) Generator switch	OFF
3) Voltmeter (10-12V) – Ammeter	CHECKED
4) Fuel level indicators	CHECKED
5) Magnetos	BOTH
6) Fuel pump	ON
7) Fuel pressure	CHECKED
8) Choke valve combustion (cold engine only)	PUSH DOWN
9) Nav lights	ON
10) Propeller area	CLEAR
11) Key	START
12) Oil pressure	CHECKED
13) Choke valve combustion	PULL UP
14) Throttle	1.100 RPM
15) Generator switch	ON
16) ALT light	OFF
17) Ammeter	GREEN RNG
18) Fuel pump	OFF
19) Fuel pressure	CHECKED
ENGINE START CHECK LIST:	COMPLETED

AFTER ENGINE START	
1) Audio panel	ON & SET
2) Radio	ON & SET
3) Transponder (VFR CODE 2000)	STBY
4) Navigation instruments	ON & SET
5) Trim switch	ON & SET (LF or RH)
6) Trim	SET – T/O
7) Circuit breakers	CHECK IN
8) Altimeter	SET
9) Flight instruments	SET
10) Flaps	T/O
AFTER ENGINE START CHECK LIST	COMPLETED

TAXI	
1) ATC	CONTACTED
2) Brakes	CHECKED
3) Flight instruments	CHECKED
TAXI CHECK LIST	COMPLETED

ENGINE RUN UP		
1)	Parking brake	SET
2)	Engine instruments • Oil temperature: 50 ÷ 110 °C • Coolant temperature MAX 120° • Oil pressure: 2 ÷ 5 bar • Fuel pressure: 2,2 ÷ 5,8 psi or 2,2 ÷ 7,2 psi	CHECKED
3)	Ammeter	CHECKED
4)	Throttle	1.700 RPM
5)	Carburetor heat	CHECKED
6)	Magnetos (Max drop each: 130 rpm)	CHECK RIGHT/LEFT
7)	Magnetos	BOTH
8)	Vacuum gauge	GREEN RNG
9)	Throttle	1.100 RPM
ENGINE RUN UP CHECK LIST		COMPLETED

BEFORE TAKE OFF	
1) Fuel level indicators	CHECKED
2) Flaps	T/O
3) Flight controls	FREE
4) Trim	SET - T/O
5) Seat belts fastened and door locked	CHECKED
6) Master switch	ON
7) Generator switch	ON
8) Magnetos	BOTH
9) Carburetor heat	COLD
10) Engine instruments	CHECKED
11) Fuel shut off valves	BOTH OPEN
12) Directional gyro	ADJUSTED
13) Fuel Pump	ON
14) ATC	CONTACTED
BEFORE TAKE OFF CHECK LIST	COMPLETED

LINE UP		
1)	Final free	CHECKED
2)	Transponder	ALT
3)	Strobe lights (entering in RWY)	ON
4)	Landing light (when cleared for T/O)	ON
5)	Throttle (2.100 ± 100 engine RPM)	FULL
6)	Time	START
7)	Rotate speed (Vr)	55 KIAS
LINE UP CHECK LIST		COMPLETED

AFTER TAKE OFF		
1)	Brakes	APPLY
2)	Flaps (300 FT AGL)	UP
3)	Landing light (1000 FT AGL)	OFF
4)	Climb power (1000 FT AGL)	SET
5)	Fuel pump (1000 FT AGL)	OFF
6)	Fuel pressure	CHECKED
AFTER TAKE OFF CHECK LIST		COMPLETED

CRUISE

*** NOTE ***

Compensate unpredicted asymmetrical fuel consumption between left and right fuel tanks by closing the proper fuel shutoff valve.

1) Cruise power (RPM). See TABLE 1	AS RQRD
2) Engine instruments	CHECKED
3) Fuel contains	CHECKED
4) Carburetor heat	AS RQRD
5) Directional Gyro	ADJUSTED
CRUISE CHECK LIST	COMPLETED

TABLE 1 * CRUISE PERFORMANCE *

CONDITIONS:

- **ISA**
- **Maximum take-off weight**
- **Fuel: Total 2x45 Lt; Usable 2x 43Lt**

Pressure Altitude: 2000 ft **OAT: +15° C**

Power	Throttle	Speed KTAS	Fuel flow (l/h)	Endurance (hrs)	Range (N.m.)
55%	1.900	96	15	5,8	599
65%	2.050	102	18	4,9	495
75%	2.150	108	20	4,4	472

FUEL BALANCE CHECKLIST

IF FUEL BALANCE IS REQUIRED	
1) Fuel tank selectors	VERIFY BOTH ON
2) Fuel pump	ON
3) Fuel pressure	CHECKED
4) Fuel tank indicators	CONFIRM LOWER TANK
5) Fuel tank selector lower tank	OFF
6) Fuel pump	OFF
7) Fuel pressure	CHECKED
8) Time	NOTED

SHUT-OFF CLOSED

SHUT-OFF OPEN

WHEN FUEL BALANCE IS COMPLETED	
1) Fuel pump	ON
2) Fuel pressure	CHECKED
3) OFF Fuel tank selector	CONFIRMED
4) OFF Fuel tank selector	ON

5) Fuel pump	**OFF**
6) Fuel pressure	**CHECKED**
7) Time	**NOTED**

DESCENT	
1) Fuel shut off valves	BOTH OPEN
2) Carburetor heat	AS RQRD
3) Seats	LOCKED
4) Seat belts	FASTENED
DESCENT CHECK LIST	COMPLETED

APPROACH	
1) Speed	70 KIAS
2) Flaps	T/O
3) Fuel shut off valves	BOTH OPEN
4) Fuel pump	ON
5) Magnetos	BOTH
6) Master switch	ON
7) Generator switch	ON
8) Carburetor heat	AS RQRD
APPROACH CHECK LIST	COMPLETED

LANDING	
1) Flaps	LDG
2) Carburetor heat	COLD
3) Landing light (when cleared to land)	ON
4) Speed	60 KIAS
5) Optimal touchdown speed	44 KIAS
LANDING CHECK LIST	COMPLETED

BALKED LANDING		
1)	Throttle	FULL
2)	Flaps	T/O
3)	Speed	63 KIAS
BALKED LANDING CHECK LIST		COMPLETED

AFTER LANDING		
1)	Parking Brake	AS RQRD
2)	Transponder	STBY
3)	Flaps	UP
4)	Landing light (when RWY vacated)	OFF
5)	Strobe lights (when RWY vacated)	OFF
6)	Trim	NEUTRAL
7)	Fuel pump	OFF
AFTER LANDING CHECK LIST		COMPLETED

ENGINE SHUT DOWN		
1)	Parking Brake	SET
2)	Throttle (For 2 minutes)	1.200 RPM
3)	Avionic and electrical equipment	OFF
4)	Throttle (After 2 minutes)	IDLE
5)	Magnetos switch	OFF
6)	Nav lights	OFF
7)	Master switch & Generator Switch	OFF
8)	Fuel shut off valves	BOTH CLOSE
ENGINE SHUT DOWN CHECK LIST		COMPLETED

EMERGENCY PROCEDURES

AIRSPEEDS FOR EMERGENCY SITUATIONS		
600 kg MTOW:		
5)	Engine failure after take off	60 KIAS
6)	Engine failure during flight	69 KIAS
7)	Best gliding speed	69 KIAS
8)	Manoeuvring speed	97 KIAS

ENGINE FAILURE DURING TAKEOFF RUN		
1)	Throttle	IDLE
2)	Brakes	APPLY
3)	Magnetos	OFF
4)	Fuel pump	OFF
5)	Fuel shutoff valves	BOTH OFF
6)	ATC	INFORM
7)	Master switch	OFF
8)	Generator switch	OFF
ENGINE FAILURE DURING TAKEOFF RUN CHECK LIST		COMPLETED

GLIDING		
1)	Flaps	RETRACTED
2)	Speed	69 KIAS
3)	The glide ratio is 12.2 therefore with 1.000ft AGL it's possible to cover ~2 nautical miles in zero wind conditions.	
GLIDING CHECK LIST		COMPLETED

ENGINE FAILURE AFTER TAKE OFF	
1) Speed	60 KIAS
2) Landing area	LOCATE
3) Throttle	IDLE
4) Fuel shutoff valves	BOTH OFF
5) Fuel pump	OFF
6) Magnetos	OFF
7) Flaps	AS RQRD
8) ATC	INFORM
9) Master & Generator switches	OFF
ENGINE FAILURE AFTER TAKE OFF CHECK LIST	COMPLETED

ENGINE FAILURE DURING FLIGHT & RESTART PROCEDURE	
1) Throttle	CHECKED
2) Carburetor heat	ON
3) Fuel pump	ON
4) Fuel shutoff valves	BOTH OPEN
5) Altitude	CHECKED
6) Throttle position	MIDDLE
7) Master & Generator switches	ON
8) Magnetos	BOTH
9) Key	START
10) IF THE ENGINE RESTARTS	LAND ASAP
11) IF THE ENGINE NO RESTARTS	GO TO FORCED LANDING
ENGINE FAILURE DURING FLIGHT & RESTART PROCEDURE	COMPLETED

EMERGENCY LANDINGS

FORCED LANDING WITHOUT ENGINE POWER	
1) Suggested airspeed	69 KIAS
2) Locate the most suitable place for an emergency landing	
3) Fuel shutoff valves	BOTH OFF
4) Fuel pump	OFF
5) Magnetos	OFF
6) Flaps	FULL DOWN
7) Seat belt	TIGHT
8) Doors	UNLOCKED
9) When sure to land:	
➢ Master switch	OFF
➢ Generator switch	OFF
10) Touchdown speed	44 KIAS
FORCED LANDING WITHOUT ENGINE POWER CHECK LIST	COMPLETED

PRECAUTIONARY LANDING

1)	Flaps	AS RQRD
2)	Select the most suitable area for an emergency landing. Check for obstacles and wind direction	
3)	Tight the safety belts, release the door safety lock and unlatch the door	
4)	Before touchdown: Fuel shutoff valves	BOTH OFF
5)	Fuel pump	OFF
6)	Carburetor heat	COLD
7)	Flaps	FULL DOWN
8)	After touchdown:	
	➢ Master switch	OFF
	➢ Generator switch	OFF
9)	Magnetos	OFF
PRECAUTIONARY LANDING CHECK LIST		COMPLETED

FIRES

SMOKE AND FIRE		
1)	If during take off	REJECT
2)	Fuel shutoff valves	OFF
3)	Fuel pump	OFF
4)	Cabin heat	OFF
5)	Magnetos	OFF
6)	Generator switch	OFF
7)	Master switch	OFF
8)	Leave the aircraft and the area as fast as possible	
9)	If possible use the fire extinguisher to extinguish the fire	
SMOKE AND FIRE CHECK LIST		COMPLETED

*** WARNING ***

DO NOT USE WATER to extinguish the fire and do not open the engine cowling until absolutely sure that fire is extinguished.

ENGINE FIRE DURING FLIGHT		
1)	Fuel shutoff valves	BOTH CLOSE
2)	Fuel pump	OFF
3)	Cabin heat	CLOSE
4)	Throttle	MAX
5)	Magnetos	OFF
6)	Air start	DO NOT ATTEMPT
7)	Flaps	AS REQUIRED
8)	Perform the emergency procedure for:	FORCED LANDING
ENGINE FIRE DURING FLIGHT CHECK LIST		COMPLETED

CABIN SMOKE / FIRE DURING FLIGHT		
1)	Master switch:	OFF
2)	Cabin heat:	OFF
3)	Door vents	OPEN
4)	Direct the fire extinguisher towards the flame base	
5)	Apply the emergency procedure for a forced landing	
CABIN SMOKE / FIRE DURING FLIGHT CHECK LIST		COMPLETED

CAUTIONS

LOW OIL PRESSURE INDICATION

Land as soon as possible.	
1) Oil temperature	**Checked**
2) Reduce engine power to maintain	**70 KIAS**
3) Land as soon as possible and be alert for impending	
LOW OIL PRESSURE INDICATION CHECK LIST	**COMPLETED**

LOW FUEL PRESSURE INDICATION

If the fuel pressure indicator falls below the 2.2 psi limit, apply the following procedure	
1) Fuel pump	**ON**
2) Fuel shutoff valves	**BOTH OPEN**
3) Land as soon as possible	
LOW FUEL PRESSURE INDICATION CHECK LIST	**COMPLETED**

UNINTENTIONAL FLIGHT INTO ICING CONDITIONS

1)	Leave the icing conditions by changing altitude or heading in order to reach an area with a warmer external temperature	
2)	Avoid possible freeze-up of the flight control surfaces by recurrently moving them	
3)	Carburetor heat	ON
4)	Cabin heat	ON
5)	Increase RPM to avoid ice formation on the propeller	
UNINTENTIONAL FLIGHT INTO ICING CONDITIONS CHECK LIST		**COMPLETED**

CARBURETOR ICING

DURING TAKEOFF:

1) During take-off, the possibility of ice formation at full throttle is unlikely. The carburetor heat is normally OFF.

IN FLIGHT:

1) With an external temperature below 15°C and if any of the following exist:
   Visible moisture (clouds, fog with low visibility, rain, snow, sleet, ice crystals, and so on) is present or whenever a power loss is detected, turn the carburetor heat ON until engine power is back to normal.

*** WARNING ***

In case of ice formation on wing leading edge, stall speed may increase.

LANDING WITH A FLAT NOSE TIRE

1)	Pre-landing check list	COMPLETED
2)	Flaps	FULL DOWN
3)	After touchdown maintain an aircraft NOSE HIGH attitude as long as possible	
LANDING WITH A FLAT NOSE TIRE CHECK LIST		COMPLETED

LANDING WITH A FLAT MAIN TIRE

1)	Pre-landing check list	COMPLETED
2)	Flaps	FULL DOWN
3)	Touchdown with the GOOD TIRE FIRST and hold the aircraft off flat tire as long as possible	
LANDING WITH A FLAT MAIN TIRE CHECK LIST		COMPLETED

ELECTRICAL SYSTEM MALFUNCTIONS

Electrical system malfunctions may be avoided by carrying out inspections as scheduled and prescribed in the Service Manual. Causes for malfunctions are hard to establish but, in any case, problems of this nature must be dealt with immediately. The following may occur:

GENERATOR LIGHT ILLUMINATES:

Generator light may illuminate for a faulty alternator or when voltage is above 16V, in this case the overvoltage sensor automatically shuts down the alternator.

PROCEED AS FOLLOWS:

1)	**Radios and electrical equipment**	**OFF**
2)	**Master switch**	**OFF**
3)	**Generator switch**	**OFF**
4)	**Master switch**	**ON**
5)	**Generator switch**	**ON**
6)	**Radios and electrical equipment**	**ON**

7) If the problem no longer exists, normal alternator charging will resume and the warning light will turn off proving voltage surcharge was temporary; no further action is required.

8) If the light remains illuminated, a generator malfunction is confirmed. In this case set the Generator switch to OFF and continue flight on battery power alone; the battery is capable of supplying the electrical system for about 26' with normal electrical loads, including the use of: com/nav, flaps and trim.

ELECTRICAL SYSTEM MALFUNCTIONS CHECK LIST	**COMPLETED**

TRIM SYSTEM FAILURE

LOCKED CONTROL

In case the trim control does not respond, act as follows:

1) **Trim control switch from left to right or from right to left**
2) **Check switch for correct position**
3) **Adjust speed to control aircraft without excessive stick force**
4) **Land as soon as possible**

RUNAWAY

1) **Trim power switch OFF**
2) **Adjust speed to control aircraft without excessive stick force**
3) **Land as soon as possible**

TRIM SYSTEM FAILURE CHECK LIST	COMPLETED

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END OF CHECK LIST