



COSTANZO AIR FLIGHT SCHOOL



N5169E

Engine	Lycoming IO360	Avionics & Electrical Switches	OFF
Horsepower	180hp at 2,700 RPM	Master Switch	ON
Usable fuel quantity	53 gal (2x 26.5 gal)	Fuel Quantity	CHECK
Total fuel quantity	56 gal (2x 28 gal)	Avionics (Check Fan)	CYCLE
Oil quantity	5 qts minimum	Annunciator Panel	TEST
Tire pressure	45 psi (nose), 38 psi (main)	Flaps	EXTEND
WEIGHT & BALANCE		Exterior Lights & Pitot Heat	CHECK
Max Takeoff Weight	2,550 lbs	All Switches	OFF
Max Landing Weight	2,550 lbs	Fire Extinguisher (Latch, Green, Pin)	CHECK
Empty Weight	1,774.25 lbs	Seat Position	SET
CG Arm	42.89 in	Windshield	CLEAN

V-SPEEDS			EXTERIOR INSPECTION	
V ₅₀	40 KIAS	V _{FE} 20/30°	85 KIAS	LEFT FUSELAGE
V _S	48 KIAS	V _{FE} 10°	110 KIAS	
V _A	55 KIAS	V _A @2,550 lbs	105 KIAS	
V _X	62 KIAS	V _A @2,200 lbs	98 KIAS	Autopilot Static Port
V _Y	74 KIAS	V _A @1,900 lbs	90 KIAS	EMPENNAGE
V _{NO}	129 KIAS	V _{NE}	163 KIAS	

EMERGENCY AIRSPEEDS			
Engine failure after takeoff	V _G	68 KIAS	
Flaps Up	70 KIAS	Emergency Parachute	
Flaps Down	65 KIAS	V _{PO}	163 KIAS

FUEL & OIL	
Fuel Tanks	SUMP x13
Fuel Quantity	CHECK
Oil Quantity (min 5 qts)	CHECK

INTERIOR INSPECTION	
Hobbs & Tach	WRITE DOWN
AROW + AFM Supplements	ABOARD
VOR Check (if IFR)	30 DAYS
Parking Brake	SET
Control Wheel Lock	REMOVE
Ignition Switch	OFF + KEYS OUT
Parachute Box & Pin	CHECK & REMOVE
Fuel Selector Valve	BOTH
Fuel Shutoff Valve	FULL IN
Elevator Trim	TAKEOFF
Mixture & Throttle	OFF
Alternate Static	TEST & OFF

Avionics & Electrical Switches	OFF
Master Switch	ON
Fuel Quantity	CHECK
Avionics (Check Fan)	CYCLE
Annunciator Panel	TEST
Flaps	EXTEND
Exterior Lights & Pitot Heat	CHECK
All Switches	OFF
Master Switch	OFF
Fire Extinguisher (Latch, Green, Pin)	CHECK
Seat Position	SET
Windshield	CLEAN

RIGHT FUSELAGE		BEFORE ENGINE START	
Surface Condition	INSPECT	Preflight Inspection	COMPLETE
Airplane Antennas	INSPECT	Passenger Briefing	COMPLETE
Parachute Cover	NO HOLES/CRACKS	Seats & Belts	ADJUST & LOCK
Parachute Harness Straps	FLUSH/NO CRACKS	Parking Brake	SET

RIGHT WING		BEFORE ENGINE START	
Flap and Aileron	INSPECT	Fuel Selector Valve	BOTH
Wing tip	INSPECT	Fuel Shutoff Valve	FULL IN
Tie Down	REMOVE	Mixture	IDLE CUTOFF
Leading Edge	INSPECT	Throttle	OPEN 1/4 IN
Main Wheel Tire and Brake	INSPECT	Avionics & Electrical Switches	OFF
Fuel Tank Sump	DRAIN/CHECK	Circuit Breakers	IN
Fuel Quantity & Fuel Caps	CHECK	ENGINE START	

NOSE		ENGINE START	
Oil Quantity (min 5 qts)	CHECK	Beacon	ON
Fuel Sumps	CHECK x3	Master Switch (both sides)	ON
Exhaust Stack	SECURE	If priming is required	PRIME
Engine Cowling	CHECK CLEAR	Pump on, Mixture Full until Stable Fuel flow (3-5s), Pump off	
Alternator Belt	INSPECT	Prop Area	CLEAR
Propeller & Spinner	INSPECT	Ignition	START
Air Filter	INSPECT	Throttle	1,000 RPM
Nose Wheel Tire & Strut	INSPECT	Oil Pressure	GREEN
Static Port	INSPECT	Alternator	ON

LEFT WING		AFTER START	
Main Wheel Tire and Brake	INSPECT	Flaps	RETRACT
Fuel Tank Sump	DRAIN/CHECK	Mixture	LEAN FOR TAXI
Fuel Quantity & Fuel Caps	INSPECT	Avionics	ON
Leading Edge & Lights	INSPECT	Electrical Switches	AS DESIRED
Pitot Tube	INSPECT	Nav Lights	AS NEEDED
Scall Warning	INSPECT	Ammeter	CHARGING
Fuel Tank Vent	INSPECT	BEFORE TAXI	

Tie Down	REMOVE	ATIS/AWOS	LISTEN
Wing tip	INSPECT	Altimeter	SET x3
Flap and Aileron	INSPECT	Radio & Transponder	SET
FINAL WALKAROUND		Parking Brake	OFF
Fuel Caps, Sumps, Oil	CHECK	Brakes	TEST
All Covers, Tie-downs	REMOVED	Taxi Light	ON
Windshield	CHECK CLEAR	Taxi (Route, Hotspots, Runways)	BRIEF
		Taxi Clearance	OBTAIN

		Brakes	TEST
		Taxi Light	ON
		Taxi (Route, Hotspots, Runways)	BRIEF
		Taxi Clearance	OBTAIN

RUN-UP		AFTER TAKE-OFF (500)	
Parking Brake	SET	Flaps (when clear of obstacles)	
Radios	SWITCH TO TWR	Throttle	
Flight Controls	FREE & CORRECT	Mixture	
Flight Instruments	CHECK & SET	Engine Gauges	
Parachute Pin	CHECK REMOVED	CLIMB	

Fuel Quantity	CHECK		
Fuel Selector	BOTH	Airspeed	
Mixture	RICH (below 3,000)	Throttle	
Throttle	1,800 RPM	Mixture (Lean above 3,000ft)	
Mixture (lean >3,000 MSL)	SET FOR TAKEOFF		
Magnetos (Max 150 / Diff 50)	CHECK		CRUISE
Annunciator Panel	ALL OFF	Fuel	
Engine Gauges	CHECK	Power	
Ammeter	CHECK	Mixture	
Throttle	IDLE then 1,000	Engine Gauges	

COM/NAV/GPS	SET	Ammeter	
Autopilot	TEST	Instruments & Switches	
Manual Electric Trim	TEST & TAKEOFF	Avionics	
Transponder	ALT & CODE		
Flaps (10° recommended)	AS REQUIRED		BEFORE MANEUVER
Seats, Belts, Harnesses	SECURE	Clearing Turns	
Doors & Windows	CLOSED	Heading	
Departure Brief	COMPLETE	Altitude	
SHOWTIME, LIGHTS, CAMERA, ACTION			Position (emergency landing)

TAKE-OFF		Set power & configuration	
POWER 2300 / GAUGES GREEN / AIRSPEED ALIVE			
NORMAL TAKEOFF (10° FLAPS)		IN RANGE	

Throttle	FULL	ATIS / AWOS	
Rotate	55 KIAS	Altimeter	
Climb	70-80 KIAS	Approach	
SHORT FIELD TAKE-OFF (10° FLAPS)		Avionics	
Brakes	APPLY	Airplane	
Throttle	FULL ON BRAKES		

Brakes	RELEASE	DESCENT	
Elevator Control	SLIGHT TAIL LOW	Fuel Selector Valve	
Climb past obstacle	56 KIAS	Power	
SOFT FIELD TAKE-OFF (10° FLAPS)		Mixture (Full rich for idle)	
Flaps	10°	Engine Gauges	
Elevator	FULL AFT	Seats	
Rotate & Accelerate	IN GND EFFECT	Seatbelts	
Climb	V _X or V _Y	Landing Light	

AGL)
UP
FULL
SET
GREEN

75-85 KIAS
FULL
SET

BOTH
SET
CHECK
CHECK
SET

IR
COMPLETE
ESTABLISHED
ESTABLISHED
SUITABLE
SET

LISTEN
SET x3
BRIEF
SET
CHECK

BOTH
AS DESIRED
ADJUST
GREEN
UPRIGHT
SECURED
ON

IN-FLIGHT		EMERGENCIES	
NORMAL LANDING		ENGINE FAILURE DURING TAKEOFF	
Airspeed (Flaps Up)	65-75 KIAS	Throttle	IDLE
Flaps	AS DESIRED	Brakes	APPLY
Final Airspeed (Flaps Down)	60-70 KIAS	Flaps	RETRACT
Touchdown	MAIN WHEELS	Mixture	IDLE CUT-OFF
Landing Roll	LOWER NOSE WHEEL	Ignition Switch	OFF
Braking	AS REQUIRED	Master Switch	OFF

SHORT FIELD LANDING		ENGINE FAILURE IMMEDIATELY AFTER TO	
Airspeed (Flaps Up)	65-75 KIAS	Airspeed	70 IAS (Flaps Up) / 65 IAS (Flaps Down)
Flaps	FULL DOWN	Land	STRAIGHT AHEAD
Final Airspeed	61 KIAS	Mixture	IDLE CUT-OFF
Power once clear of Obstacles	IDLE	Fuel Shutoff Valve	OFF / FULL OUT
Touchdown	MAIN WHEELS	Ignition Switch	OFF
Braking (Simulate)	APPLY HEAVILY	Flaps	AS REQUIRED
Flaps	RETRACT	Master Switch	OFF

BALKED LANDING / GO-AROUND		ENGINE FAILURE DURING FLIGHT	
Throttle	FULL	Airspeed	68 IAS
Flaps	20°	Fuel Selector Valve	BOTH
Airspeed	55 KIAS	Fuel Shutoff Valve	FULL IN
Flaps (until clear of Obstacles)	10°	Mixture	RICH
Flaps (at safe altitude and 60 KIAS)	RETRACT	Aux Fuel Pump	ON
		Ignition Switch (START if prop stopped)	BOTH or START

AFTER LANDING		FORCED LANDING	
Flaps	UP	Airspeed	70 IAS (Flaps Up) / 65 IAS (Flaps Down)
Mixture	LEAN FOR TAXI	Mixture	IDLE CUT-OFF
Lights	AS REQUIRED	Fuel Shutoff Valve	OFF
Trim	RESET	Ignition Switch	OFF
Taxi Clearance	OBTAIN	Emergency (with ATC or 121.5)	DECLARE

SHUTDOWN		TRANSPONDER	
Parking Brake	SET	Flaps (30° recommended)	AS REQUIRED
Avionics and Electrical	OFF	Master Switch	OFF
Throttle	1,000 RPM	Doors	UNLATCH BEFORE LANDING
Mixture	IDLE CUTOFF	Touchdown	SLIGHTLY TAIL LOW
Ignition Switch	OFF & KEYS OUT	Brakes	APPLY HEAVILY
Master Switch	OFF		

LANDING WITH FLAT MAIN TIRE		NORMAL	
Parachute Pin	INSTALL	Approach	NORMAL
Control Wheel Lock	INSTALL	Touchdown	GOOD TIRE FIRST
Tie-Downs, Chocks, Covers	INSTALL	Hold airplane off flat tire as long as possible	

EMERGENCIES		EMERGENCIES	
ENGINE FIRE DURING START		PARACHUTE DEPLOYMENT	
Cranking	CONTINUE	Mixture	IDLE CUTOFF
If Engine Starts	1,800 RPM (2 MINS) THEN OFF	Parachute Handle Cover	REMOVE
If Engine Fails to Start		Activation Handle	PULL HARD
Throttle	FULL OPEN	Fuel Shutoff Valve	OFF
Mixture	IDLE CUT-OFF	Master Switch	OFF
Cranking	CONTINUE	Secure seatbelts, use Emergency Landing Body Position	
Fuel Shutoff Valve	OFF / FULL OUT		
Fire Extinguisher	OBTAIN	EXCESSIVE CHARGE (FULL DEFLECTION)	
Master Switch	OFF	Alternator	OFF
Ignition Switch	OFF	Nonessential Electrical Equipment	OFF
Parking Brake	RELEASE	Flight	TERMINATE as soon as practical
Fire	EXTINGUISH		

ENGINE FIRE IN FLIGHT		LOW VOLTS ANNUNCIATOR / DISCHARGE	
Mixture	IDLE CUTOFF	Avionics	OFF
Fuel Shutoff Valve	OFF / FULL OUT	Alternator CB (ALT FLD)	CHECK IN
Aux Fuel Pump	OFF	Master Switch	CYCLE
Master Switch	OFF	Low Voltage Annunciator	CHECK OFF
Cabin Air & Heat (except overhead)	OFF	Avionics	ON
Airspeed / Emergency Descent	100 KIAS OR MORE	If Low Voltage Annunciator illuminates again	
Forced Landing	EXECUTE	Alternator	OFF
		Nonessential Electrical Equipment	OFF

ELECTRICAL FIRE IN FLIGHT		FLIGHT	
Master Switch	OFF	Flight	TERMINATE as soon as practical
Avionics	OFF	INADVERTENT ICING ENCOUNTER	
All Electrical Switches	OFF	Pitot Heat, Cabin Heat, Defroster	ON
Overhead Vents/Cabin Air/Heat	CLOSED	Cabin Heat and Defroster	ON
Fire	EXTINGUISH	Turn back or change altitude to exit icing conditions	
When Fire Extinguished	OPEN VENTS	Throttle (to minimize prop ice buildup)	INCREASE
If Fire extinguished and Electricals Required		Carb Heat	AS REQUIRED
Master Switch	ON	Land at nearest airport, or off airport if rapid ice buildup.	
Circuit Breakers (DO NOT RESET)	CHECK	Be prepared for higher stall speed	
Avionics and Electrical switches	ON ONE BY ONE	Flaps	DON'T EXTEND
		Approach speed	65-75 IAS

CABIN FIRE IN FLIGHT		SCRAPE WINDSHIELD THROUGH LEFT WINDOW, FORWARD SLIP IF REQ'D.	
Master Switch	OFF		
Overhead Vents/Cabin Air/Heat	CLOSED	RADIO FAILURE	
Extinguish Fire and Land as soon as possible		Volume and Squelch	CHECK
		Audio Panel	CHECK

WING FIRE		CIRCUIT BREAKERS	
All Lights and Pitot-Heat	OFF	Circuit Breakers	CHECK
Perform sideslip to keep flames away from cabin & fuel tank		Frequency	RETURN TO LAST OR 121.5