

Archer II N47955

Pre-Flight Inspection

Cabin

- Squawks REVIEW
- AROW paperwork CONFIRM IN AIRCRAFT
- Control wheel lock REMOVE
- Ignition switch OFF
- Master switch ON
- Fuel gauges CHECK LEVELS
- Position, beacon, strobe & landing lights CHECK OPERATION
- Master switch OFF
- Wing flaps LOWER
- Baggage door CHECK SECURE

Right Wing

- Wing flap CHECK SURFACES & LINKAGES
- Aileron CHECK SURFACES, MOVEMENT & LINKAGES
- Wing CHECK
- Wing tie-down REMOVE
- Fuel vent CHECK
- Gear, tire, & brakes (24 psi) CHECK
- Fuel tank sump DRAIN; CHECK FUEL GRADE & QUALITY
- Fuel tank VISUALLY CHECK LEVEL & SECURE CAP

Nose

- Windshield CHECK & CLEAN
- Engine oil (6 qts. minimum) CHECK LEVEL & QUALITY
- Right cowling & cowling fasteners CHECK SECURE
- Propeller & spinner CHECK
- Cowling openings CHECK FREE OF FOREIGN MATERIAL
- Alternator belt CHECK
- Air cleaner CHECK
- Nose gear strut & tire (18 psi) CHECK
- Engine sump DRAIN; CHECK FUEL GRADE & QUALITY
- Left cowling & cowling fasteners CHECK SECURE

Left Wing

- Fuel tank VISUALLY CHECK LEVEL & SECURE CAP
- Fuel tank sump DRAIN; CHECK FUEL GRADE & QUALITY
- Gear, tire, & brakes (24 psi) CHECK
- Fuel vent CHECK
- Wing tie-down REMOVE
- Pitot tube / cover CHECK / REMOVE
- Stall horn CHECK
- Wing CHECK
- Aileron CHECK SURFACES, MOVEMENT & LINKAGES
- Wing flap CHECK SURFACES & LINKAGES
- Static port CHECK FREE OF BLOCKAGES

Tail Section

- Left fuselage & empennage CHECK
- Left stabilator & trim tab CHECK SURFACES, MOVEMENT & LINKAGES
- Tail tie-down & rudder gust lock REMOVE
- Vertical stabilizer & rudder CHECK SURFACES, MOVEMENT & LINKAGES
- Right stabilator CHECK SURFACES, MOVEMENT & LINKAGES
- Antennae CHECK
- Right fuselage & empennage CHECK

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Flight Checklist – Part I

Significant Speeds

- Best power-off glide speed (flaps up) 76 KIAS**
- V_{S0} Stall speed, flaps extended 49 KIAS
- V_S Stall speed, flaps up 55 KIAS
- V_X Best angle of climb 64 KIAS
- V_Y Best rate of climb 76 KIAS
- V_{FE} Maximum flap extension speed 102 KIAS
- V_A Maneuvering speed 113 KIAS
- V_{NO} Maximum structural cruising speed 125 KIAS
- V_{NE} Never exceed speed 154 KIAS

Take-Off Procedure & Speeds

Normal

- Wing flaps 0 DEGREE
- Carburetor heat OFF (UP)
- Throttle FULL (PUSH)
- Rotate 52 KIAS
- Climb-out 87 KIAS

Obstacle and Short Field

- Wing flaps 25 DEGREES (SECOND NOTCH)
- Carburetor heat OFF (UP)
- Brakes SET
- Throttle FULL (PUSH)
- Brakes RELEASE
- Rotate 45 KIAS
- Initial climb-out 64 KIAS
- Wing flaps RETRACT
- Climb-out 76 KIAS WHEN CLEAR OF OBSTACLES

Soft Field

- Wing flaps 25 DEGREES (SECOND NOTCH)
- Carburetor heat OFF (UP)
- Throttle FULL (PUSH)
- Nose gear LIFT IMMEDIATELY; LEVEL OFF WHEN CLEAR
- Climb out AFTER REACHING V_X (64 KIAS) OR V_Y (76 KIAS)
- Wing flaps RETRACT WHEN CLEAR OF OBSTACLES

Enroute Climb

- Throttle FULL (PUSH)
- Climb 87 KIAS

Cruise

- Throttle SET
- Elevator trim ADJUST
- Rudder trim ADJUST
- Fuel pump OFF
- Mixture LEAN
- Landing light OFF
- Flight plan OPEN

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Flight Checklist – Part II

Prior to Landing

- Fuel pump ON
- Fuel selector MOST FULL TANK
- Mixture RICH (PUSH)
- Carburetor heat ON (DOWN)
- Landing & taxi lights ON
- Seats, belts & harnesses ADJUST & LOCK

Landing Procedure & Speeds

Normal

- Wing flaps AS DESIRED
- Downwind 80 KIAS
- Base 70 KIAS
- Final 75 KIAS (FLAPS UP) / 66 KIAS (FLAPS EXTENDED)

Short Field

- Wing flaps 40 DEGREES (THIRD NOTCH)
- Airspeed 65 KIAS
- Brakes AS REQUIRED

Soft Field

- Wing flaps 40 DEGREES (THIRD NOTCH)
- Airspeed 65 KIAS

After Landing

- Carburetor heat OFF (UP)
- Strobe lights OFF
- Wing flaps RETRACT

Shutting Down Engine

- Transponder VFR & STANDBY
- Avionics master switch OFF
- Landing, beacon & navigation lights OFF
- Fuel pump OFF
- Throttle 1,000 RPM
- Magnetos GROUND
- Mixture IDLE CUT-OFF (PULL)
- Accessories OFF
- Ignition switch OFF (AFTER PROP STOPS)
- Master switch OFF
- Flight plan CLOSE

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Before Take-Off Checklist

Prior to Engine Start

- Wheel chocks REMOVE
- Towbar REMOVE
- Seats, belts & harnesses ADJUST & LOCK
- Brakes SET
- Circuit breakers CHECK
- Avionics master switch OFF
- Fuel selector DESIRED TANK

Starting Engine

- Carburetor heat OFF (UP)
- Throttle OPEN 1/4 INCH
- Master switch ON
- Fuel pump ON
- Beacon & navigation lights ON
- Mixture RICH (PUSH)
- Prime (4-6 strokes) AS REQUIRED
- Primer IN & LOCKED
- Propeller area VERBALLY CLEAR
- Ignition switch START
- Oil pressure CHECK
- Engine warm-up 800-1,200 RPM
- All gauges CHECK FOR NORMAL INDICATIONS

Prior to Taxi

- Avionics ON & SET
- Wing flaps RETRACT
- Brakes TEST

Run Up

- Throttle 2,000 RPM
- Magnetos RPM DROP <175 PER SIDE; RPM DIFFERENCE <50
- Engine gauges CHECK
- Annunciator panel TEST
- Carburetor heat SLIGHT RPM DROP
- Fuel pump OFF
- Fuel pressure CHECK
- Throttle 1,000 RPM

Prior to Take-Off

- Altimeter SET
- Fuel pump ON
- Autopilot OFF
- Communication & navigation frequencies SET
- Transponder Squawk code SET
- Flight controls FREE & CORRECT
- Trim tab TAKE OFF
- Seat latching SECURE
- Door & Kool Scoop CLOSED & LATCHED
- Landing & strobe lights ON

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Emergency Procedures – Part I

ENGINE FAILURE

During Take-Off Run

- Throttle IDLE (PULL)
- Brakes APPLY
- Wing flaps RETRACT
- Mixture IDLE CUT-OFF (PULL)
- Ignition switch OFF

Immediately After Takeoff

- Airspeed 76 KIAS
- Fuel selector SWITCH TO TANK CONTAINING FUEL
- Fuel pump ON
- Mixture RICH (PUSH)
- Carburetor heat ON (DOWN)
- Primer LOCKED
- If power is not restored, execute **Forced Landing Without Engine Power**

In Flight

- Airspeed 76 KIAS
- Fuel selector SWITCH TO TANK CONTAINING FUEL
- Fuel pump ON
- Mixture RICH (PUSH)
- Carburetor heat ON (DOWN)
- Primer LOCKED
- Ignition switch BOTH OR START IF PROPELLER IS STOPPED
- Transponder 7700
- Radio 121.5 MAYDAY

FORCED LANDING

Without Engine Power

- Airspeed 76 KIAS
- Mixture IDLE CUT-OFF (PULL)
- Fuel selector OFF
- Avionics, electrical & ignition switches OFF
- Wing flaps AS REQUIRED (40 DEGREES RECOMMENDED)
- Airspeed 66 KIAS
- Master switch OFF

With Engine Power

- Wing flaps 20 DEGREES (SECOND NOTCH)
- Airspeed 66 KIAS
- Landing site FLY OVER NOTING TERRAIN & OBSTRUCTIONS
- Avionics & electrical switches OFF
- Wing flaps 40 DEGREES ON APPROACH
- Ignition switch OFF BEFORE TOUCHDOWN
- Master switch OFF BEFORE TOUCHDOWN

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Post-Flight Checklist

Refuel

- Parking brake SET
- Static line ATTACH TO TIE DOWN RING
- Fuel ADD TO BOTTOM OF FILLER NECK
- Fuel cap SECURE
- Static line REMOVE
- Parking brake RELEASE

Hangar Aircraft

- Avionics master switch OFF
- Position, beacon, strobe & landing lights OFF
- Ignition switch OFF
- Master switch OFF
- Keys PLACE ON GLARE SHIELD
- Seatbelts LATCH ALL
- Trash & personal belongings REMOVE FROM AIRCRAFT
- Start & stop tach times RECORD IN TACH LOG
- Oil added RECORD IN TACH LOG
- Doors CLOSE SECURELY
- Nose wheel CHOCK
- Tow bar REMOVE; PLACE AGAINST WALL

In Summer

- Leading edges CLEAN WITH MICROFIBER CLOTH & WATER
Wings, spinner, cowling, struts, wheel fairings & stabilizers
- Windshield CLEAN WITH MICROFIBER CLOTH & PLEXIGLAS CLEANER

In Winter

- Cabin door CLOSE & LATCH
- Tanis (engine sump & interior) heater PLUG IN
- Cowling COVER WITH COWLING BLANKET

Scheduling System

- Unused time (decided not to fly or returned early) CANCEL & NOTIFY MEMBERSHIP
- Start & stop tach times RECORD ONLINE
- Oil added RECORD ONLINE

Report Squawks

- Squawks RECORD IN SCHEDULING SYSTEM
- Maintenance Officer NOTIFY VIA PHONE OR EMAIL
- Next pilot NOTIFY OF FLIGHT SAFETY CONCERNS

Secure Hangar

- Overhead hangar door CLOSE & LATCH
- Hangar lights OFF
- Utility door CLOSE & LOCK

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Aircraft Specifications

Airframe

- Year of manufacture..... 1978
- Serial No. 28-7890159

Power Plant

- Make & model Lycoming O-360
- Horsepower..... 180
- Serial No. L-11393-36A

Propeller

- Make & model Sensenich 76EM8S5-0-62
- Serial No. 103825K

Avionics

- Autopilot.....Garmin GFC 500 with Electronic Stability & Protection
- Electronic attitude indicator Garmin G5
- Horizontal Situation Indicator..... Garmin G5
- Audio panel & intercom Garmin GMA 345
- No. 1 navigation / communication radio Garmin GTN 750Xi
GPS, ILS, VOR, LOC, GS
- No. 2 navigation / communication radio Garmin GNC 215
VOR, LOC, GS, DME
- Transponder..... Garmin GTX 345
ADS-B In & Out
- ICAO address..... A5E5AE (Hexadecimal) / 51362656 (Octal)

Instrumentation

- Engine Indication System Garmin GIS 275

Capacities

- Fuel..... 25 gallons per tank; 50 gallons total
- Useable fuel 24 gallons per tank; 48 gallons total
- Engine oil 8 quarts

Landing Gear

- Main gear tire pressure (6.00x6)..... 24 PSI
- Nose gear tire pressure (6.00x6)..... 18 PSI

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Emergency Procedures – Part II

ENGINE FIRE DURING ENGINE START

- Ignition switch..... CONTINUE CRANKING
- Mixture IDLE CUT-OFF (PULL)
- Throttle FULL (PUSH)
- Fuel pump OFF
- Fuel selector..... OFF
- Abandon aircraft if fire continues.

ENGINE FIRE IN FLIGHT

- Fuel selector..... OFF
- Throttle CLOSED (PULL)
- Mixture IDLE CUT-OFF (PULL)
- Fuel pump OFF
- Cabin heat & defrost..... OFF
- Execute **Forced Landing Without Engine Power**

ELECTRICAL FIRE IN FLIGHT

- Master switch OFF
- Cabin vents OPEN
- Cabin heat..... OFF
- Land as soon as practicable