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PA28R ARROW CHECKLIST



Normal Procedures

PREFLIGHT CHECK

Initial

General Appearance CHECKED
Position & Taxi Path..... CHECKED
Tie Downs, Locks, Chocks & Covers.....REMOVED

Cockpit

ControlsUNLOCKED
Flight Authorisation COMPLETED
Flight ManualCHECKED & STOWED
Park Brake CHECK & SET ON
Windscreen Interior CLEAN
Interior..... TIDY & EQUIPMENT STOWED
MagnetosOFF
Throttles CLOSED
Mixtures IDLE CUT OFF
Undercarriage Selector DOWN
Master SwitchON
Gear Extension Lights..... 3 GREENS / NO WARNINGS
Fuel Quantity Gauges CHECKED
Master SwitchOFF
Flaps EXTENDED

»Conduct External Inspection«

EXTERNAL CHECKS

»Conduct Anti Clockwise from Starboard Wing Root«

Exterior..... CHECK FOR DAMAGE
 Control surfaces..... FREE OF ICE, SNOW, DAMAGE
 Hinges CHECK FOR INTERFERENCE
 Wings FREE OF ICE, SNOW, FROST
 Stall warning CHECKED
 Lights..... CHECKED
 Fuel tanks..... CHECK SUPPLY VISUALLY/SECURE CAPS
 Fuel tank sumps..... DRAIN
 Fuel vents OPEN
 Main gear struts..... PROPER INFLATION
 Tires..... CHECKED
 Brake blocks..... CHECKED
 Fuselage Static Vents..... CLEAR
 Pitot Head..... COVER REMOVED/HOLES CLEAR/HEAT CHECKED
 Windshield..... CLEAN AND CLEAR
 Propeller and spinner CHECKED
 Engine baffle seals..... CHECKED
 Fuel and oil..... CHECK FOR LEAKS
 Oil CHECK QUANTITY
 Dipstick PROPERLY SEATED
 Cowling..... SECURE
 Inspection Covers SECURE
 Nose Wheel Tire CHECKED
 Nose Gear Strut..... PROPER INFLATION
 Air inlets CLEAR
 Alternator Belt..... CHECK TENSION
 Tow bar and control locks..... STOWED
 Baggage..... STOWED AND SECURE
 Baggage Door..... CLOSED AND SECURE
 Fuel Strainer DRAINED

BEFORE START

Pre flight and passenger brief COMPLETE
DocumentationON BOARD AND COMPLETE
Seats ADJUSTED & SECURED
Harnesses FASTENED AND INERTIA REEL CHECKED
Park Brake PRESSURE CHECKED / SET ON
Trims CHECKED / SET FOR TAKE-OFF
Fuel Selector..... ON - LEFT OR LEAST
Instruments SET
Landing Gear Lever DOWN
Alternate AirOFF
AvionicsOFF
Propeller FULL INCR RPM
Assigned Alt Indicator SET
Flight Controls FULL, FREE & CORRECT
Baggage & Main Door LOCKED/SECURE

START PROCEDURE

- Throttle..... ½"OPEN
- Master Switch ON
- Circuit Breakers..... CHECKED
- Beacon ON
- Internal lights..... AS REQUIRED
- Electric Fuel Pump ON
- Mixture PRIME THEN ICO (COLD START ONLY)
- Electric Fuel Pump OFF
- Outside CLEAR PROP
- Starter ENGAGE
- Mixture FULL RICH
- Throttle..... ADJUST

CAUTION

Maximum starter engage duty cycle is 30 seconds ON, followed by a minimum of two minutes off.

START PROCEDURE (FLOODED ENGINE)

- Throttle..... OPEN FULL
- Master Switch ON
- Electric Fuel Pump OFF
- Mixture ICO
- Outside CLEAR PROP
- Starter ENGAGE
- Mixture ADVANCE
- Throttle..... RETARD

EXTERNAL POWER ENGINE START

Master SwitchOFF
 All electrical Equipment.....OFF
 Terminals CONNECT
 External Power Plug INSERT IN FUSELAGE

»Proceed with normal start«

Throttle.....LOWEST POSSIBLE RPM
 External Power PlugDISCONNECT FROM FUSELAGE
 Master Switch ON / CHECK AMMETER

WARNING

DO NOT ATTEMPT FLIGHT IF THERE IS NO INDICATION OF ALTERNATOR OUTPUT.

AFTER START

Oil Pressure GREEN
 Fuel Pump..... OFF, PRESSURE CHECKED
 Ammeter..... CHARGING
 Mixture LEANED
 AvionicsON / SET / CHECKED
 Engine Warm Up..... 1400-1500RPM

BEFORE TAKE OFF

- Master Switch ON
- Flight Instruments CHECKED
- Fuel Selector FULLEST TANK
- Electric Fuel Pump ON
- Engine Gauges CHECKED
- Alternate Air CLOSED
- Seat Backs ERECT
- Mixture SET
- Prop SET
- Belts/Harnesses FASTENED
- Empty Seats SEAT BELTS SNUGLY FASTENED
- Flaps SET
- Trim Tab SET
- Controls FULL, FREE, CORRECT
- Doors LATCHED
- Departure Briefing COMPLETE
- T/O Safety Brief COMPLETE
- Parking Brake RELEASED

LINE UP

- Pitot Heat ON (IFR ONLY)
- Instruments ALIGNMENT CHECKED
- Strobes & Lights ON
- Transponder ON / MODE C

AFTER TAKE OFF

Landing Gear UP / NO LIGHTS
 Flaps RETRACTED
 Engine Instruments CHECKED
 Power SET
 Electric Fuel Pump OFF

APPROACH AND LANDING

Fuel Selector PROPER TANK
 Seat Backs ERECT
 Harnesses FASTENED
 Electric Fuel Pump ON
 Mixture SET
 Prop SET
 Gear DOWN - 129KTS MAX
 Flaps SET - 103KTS MAX

FINAL APPROACH

PROPS FULL INCREASE RPM
 Undercarriage DOWN / 3 GREENS
 Flaps SET
 Windsock CHECKED
 Runway CLEAR/CLEARANCE RECEIVED

AFTER LANDING

Flaps IDENTIFIED & RETRACTED
Landing Lights & Strobes OFF
Electric Fuel Pump OFF
Pitot Heat..... OFF
Transponder..... STBY
Trims NEUTRAL

STOPPING ENGINE

Flaps RETRACTED
Electric Fuel Pump OFF
Avionics OFF
Prop FULL INCREASE
Magnetos..... CHECKED
Throttle..... FULL AFT
Mixture ICO
Magnetos..... OFF
Master Switch..... OFF

POST FLIGHT ACTIONS

Parking brake SET
Flight Record Book..... COMPLETE
Controls..... SECURE
Fuel Tanks DIP / CHECK QUANTITY
Aeroplane TIE DOWN / HANGAR

Aeroplane Type Information

GUIDE ONLY – REFER TO SPECIFIC FLIGHT MANUAL AS APPLICABLE

General

ENGINE

Lycoming IO-360-C1C6 four cylinder 200HP @ 2700 RPM.
Wet sump 8 qts capacity oil system.

PROPELLER

74" Constant Speed.
Oil pressure to low RPM (high pitch), dome pressure and springs to high RPM (low pitch).

LANDING GEAR

Hydraulically operated retractable tricycle landing gear. 30psi main wheels and 27 psi nose wheel.

Normal strut extension 2.75 ± 0.25 in nose and 2.5 ± 0.25 in main.

CONTROLS

Dual controls with conventional steering and toe brakes with rudder pedals. Manual trims are available for the elevator and rudder. Manual flaps are balanced and spring loaded to return to the up position. Flap detent selections are 10°, 25, and 40°.

FUEL SYSTEM

Grade	100/130 (Green) or 100LL (Blue)
Capacity	Total 292 L / 77 USG
	Usable 273 L / 72 USG
	Tabs 190 L

ELECTRICAL

14 volt / 60 amp alternator and a 12 volt / 25 amp battery.
Ammeter is of left zero design.

VACUUM SYSTEM

Single dry type pump. 4.8" to 5.1" normal.

Limitations

SPEEDS

- V_{NE} 183 KIAS
- V_{NO} 146 KIAS
- V_A 118 KIAS (1247KG) 96 KIAS (845KG)
- V_{FE} 103 KIAS
- V_{LO1} 129 KIAS
- V_{LO2} 107 KIAS
- V_{LE} 129 KIAS
- V_S (0 Flap) 60 KIAS
- V_S (40 Flap) 55 KIAS
- Best Glide 79 KIAS
- Max X/W 17 Kts

For all other speeds, refer to approved flight manual for specific model.

FLIGHT

- Positive Load 3.0G (Normal)
- Negative Load 0.0G (No inverted manoeuvres permitted)

POWER

Take off	Full Throttle/2700 RPM
Climb	Full Throttle/2700 RPM
Cruise	<i>Refer to approved flight manual for specific model</i>

Emergency Procedures

ENGINE POWER LOSS DURING TAKE OFF

If sufficient runway remains for a normal landing, leave gear down and land straight ahead.

If area is rough, or if it is necessary to clear obstructions:

- Gear selector switchUP
- Emerg gear lever (if equipped)LOCKED OVERRIDE ENGAGED

If sufficient altitude has been gained to attempt a restart:

Maintain safe airspeed

- Fuel Selector.....SWITCH TO TANK CONTAINING FUEL
- Electric Fuel PumpON
- Mixture RICH
- Alternate Air..... OPEN
- Emergency Gear Lever AS REQUIRED

If power is not restored:

- Emergency Shutdown and Pre landing Checks COMPLETE

ENGINE POWER LOSS IN FLIGHT

Control AeroplaneTRIM FOR 79 KIAS
 Fuel SelectorSWITCH TO TANK CONTAINING FUEL
 Electric Fuel PumpON
 Mixture..... RICH
 Alternate Air OPEN
 Engine Gauges CHECKED FOR INDICATION OF PWR LOSS
 If no fuel pressure indicated, check tank selector position to be sure
 it is on a tank containing fuel.

If power is not restored:

Ignition.....L / R / BOTH
 ThrottleCYCLE then CLOSED if no change
 Mixture.....CYCLE then RICH if no change
 Maday Call / Transponder / ELT
 Pax Brief

Emergency Shutdown and Pre landing Checks..... COMPLETE

If power is restored:

Alternate Air CLOSED
 Electric Fuel PumpOFF

EMERGENCY SHUTDOWN (POWER OFF LANDING)

IgnitionOFF
 Master SwitchOFF
 Fuel Selector.....OFF
 Mixture ICO
 Seatbelts and HarnessesTIGHT

ENGINE FIRE DURING START

- Starter..... CRANK ENGINE
- Mixture IDLE CUT-OFF
- Throttle..... ELECTRIC FUEL PUMP
- Fuel Selector.....OFF

ABANDON IF FIRE CONTINUES

FIRE IN FLIGHT

- Source of fireCHECK
- ELECTRICAL FIRE (smoke in cabin):
- Master Switch.....OFF
- Vents OPEN
- Cabin HeatOFF

LAND AS SOON AS PRACTICABLE

ENGINE FIRE:

- Fuel Selector.....OFF
- Throttle..... CLOSED
- Mixture ICO
- Electric fuel pump.....OFF
- Heater and DefrosterOFF

Proceed with power off landing procedure

LOSS OF OIL PRESSURE / HIGH OIL TEMP

Land as soon as possible and investigate cause.
Prepare for power off landing.

LOSS OF FUEL PRESSURE

- Electric Fuel Pump.....ON
- Fuel Selector CHECK ON FULLEST TAN

ALTERNATOR FAILURE

- Anunciator / Ammeter VERIFY FAILURE
- Load REDUCED AS MUCH AS POSSIBLE
- ALT Circuit Breakers CHECK
- ALT Switch OFF FOR 1 SEC, then ON
- If no output:
- ALT Switch OFF
- Reduce electrical load and land as soon as practicable

NOTE

If battery is fully discharged, the gear will have to be lowered using the emergency gear extension procedure. Position lights will NOT illuminate

EMERGENCY LANDING GEAR EXTENSION

Prior to emergency extension procedure:

- Master Switch ON
- Circuit Breakers CHECK
- Panel Lights OFF (IN DAYTIME)
- Gear indicator bulbs CHECK
- If landing gear does not check down and locked:
- Airspeed BELOW 87 KIAS
- Landing Gear Selector DOWN
- Emergency Gear Lever (backup gear ext.) . OVERRIDE ENGAGED
(While fishtailing aeroplane)
- If landing gear does not check down and locked:
- Emergency Gear Lever EMERGENCY DOWN
(While fishtailing aeroplane)

SPIN RECOVERY

Rudder..... FULL OPPOSITE TO DIRECTION OF ROTATION
 Control Wheel FULL FORWARD
 Ailerons NEUTRAL
 Throttle IDLE
 Rudder..... NEUTRAL
 (When rotation stops)
 Wing Flaps..... Up (if extended)
 Control Wheel AS REQUIRED
 TO SMOOTHLY REGAIN LEVEL FLIGHT

OPEN DOOR

To close door in flight:

Slow aeroplane to 87 KIAS
 Cabin vents CLOSED
 Storm Window..... OPEN
 If upper latch is open LATCH
 If side latch is open PULL ON ARMREST WHILE MOVING
 LATCH HANDLE TO LATCHED POSITION
 If both latches are open LATCH SIDE then LATCH TOP

INTENTIONALLY BLANK

INTENTIONALLY BLANK

INTENTIONALLY BLANK