

# PIPER ARCHER III

## PA-28-181 QUICK REFERENCE CHECKLIST (QRC)

AIRCRAFT LOGBOOK	
ENSURE THE FOLLOWING INSPECTIONS HAVE BEEN COMPLETED:	
ANNUAL/ AD'S	
VOR TEST	
100- HOUR	
ALTIMETER/ PITOT STATIC	
TRANSPONDER	
ELT	
PRIOR TO PREFLIGHT	
PITOT COVER	REMOVE
FLIGHT CONTROL LOCK	REMOVE
FUEL SUPPLY	VISUALLY CHECK QUANTITY
DOORS	UNLOCK AND LOAD AIRCRAFT
SEATBELTS NOT IN USE	SECURED AND FASTENED
BAGGAGE	STOWED AND SECURED PROPERLY
DOCUMENTS	
AIRWORTHINESS CERTIFICATE	
REGISTRATION CERTIFICATE	
OPERATING LIMITATIONS/ PLACARDS	
AFM/ POH	
PERMANENT WEIGHT AND BALANCE INFORMATION	
THE FOLLOWING IS IMMEDIATELY AVAILABLE TO FLIGHT CREW:	
-GARMIN G1000 COCKPIT REFERENCE GUIDE	
-ASPEN EVOLUTION BACKUP DISPLAY PILOT'S GUIDE	

COCKPIT	
PARKING BRAKE	SET
INSTRUMENT PANEL AND OVERHEAD SWITCHES	OFF
MIXTURE	IDLE CUT-OFF
LEFT/ RIGHT MAGNETO SWITCHES	<b>OFF</b>
BATTERY MASTER SWITCH	ON
HAND MIC	ACCESSIBLE TO PILOT
INTERIOR LIGHTING (NIGHT FLIGHT)	VERIFY OPERATIONAL
FUEL QUANTITY INDICATIONS	CHECK IMBALANCE
PITOT HEAT SWITCH	ON
*PITOT HEAT GROUND OPERATION SHOULD BE LIMITED TO 3 MINUTES	
“PITOT HEAT OFF” CAS MESSAGE	EXTINGUISHED
EXTERIOR LIGHTING SWITCHES	ON
EXTERIOR LIGHTING	VERIFY OPERATIONAL
PITOT/ STATIC HEAD	CHECK WARM
STALL WARNING HORN	CHECK
PITOT HEAT SWITCH	OFF
“PITOT HEAT OFF” CAS MESSAGE	ILLUMINATED
ALL LIGHTING SWITCHES (EXCEPT FIN STROBE)	OFF
BATTERY MASTER SWITCH	OFF
FLAPS	EXTEND
PRIMARY FLIGHT CONTROLS	PROPER OPERATION
STABILATOR AND RUDDER TRIM	NEUTRAL
PITOT AND STATIC SYSTEM	DRAIN
WINDOWS	CHECK CLEAN
FUEL	
IF AIRCRAFT NEEDS FUEL, COMPLETE AFTER REFUELING	
RIGHT FUEL TANK	DRAIN AND CHECK FOR WATER, SEDIMENT, PROPER FUEL GRADE
RIGHT FUEL CAP	SECURE
NOSE SUMP	DRAIN
LEFT FUEL TANK	DRAIN AND CHECK FOR WATER, SEDIMENT, PROPER FUEL GRADE
LEFT FUEL CAP	SECURE

RIGHT WING	
SURFACE CONDITION	CLEAR OF ICE, FROST, SNOW, DAMAGE
FLAP AND HINGES	NO DAMAGE OR INTERFERENCE
AILERON AND HINGES	NO DAMAGE OR INTERFERENCE
STATIC WICKS/ANTENNAS	CHECK SECURE
WING TIP AND LIGHTS	CHECK
FUEL TANK VENT	CLEAR
MAIN GEAR STRUT	PROPER INFLATION (4.5 +/- .25 IN)
TIRE/ BRAKE BLOCK/ DISK	CHECK
TIE DOWN	REMOVE
FRESH AIR INLET	CLEAR
NOSE	
GENERAL CONDITION	CHECK
COWLING	SECURE
OIL	CHECK QUANTITY
OIL DIPSTICK	PROPERLY SEATED AND SECURE
OIL FILLER DOOR	SECURE
PROPELER AND SPINNER	CHECK
AIR INLETS	CHECK
NOSE GREAR STRUT	PROPER INFLATION (3.25 +/- .25 IN)
TIRE	CHECK
LEFT WING/ EMPENNAGE	
SURFACE CONDITION	CLEAR OF ICE, FROST, SNOW, DAMAGE
FRESH AIR INLET	CLEAR
MAIN GEAR STRUT	PROPER INFLATION (4.5 +/- .25 IN)
TIRE/ BRAKE BLOCK/ DISK	CHECK
TIE DOWN	REMOVE
FUEL TANK VENT	CLEAR
PITOT STATIC HEAD	HOLES CLEAR
OAT PROBE	CHECK
WINGTIP AND LIGHTS	CHECK
AILERON AND HINGES	NO DAMAGE OR INTERFERENCE
FLAP AND HINGES	NO DAMAGE OR INTERFERENCE
STATIC WICKS/ANTENNAS	CHECK SECURE
STABILATOR/ RUDDER	NO DAMAGE OR INTERFERENCE

BEFORE START	
CHOCKS	REMOVE
TOWBAR/ BAGAGE DOOR	PROPERLY STOWED/ SECURE
<b>*SEND A PHOTO OF MAINT. AND BILLING TIMES TO DISPATCH*</b>	
FLAPS	RETRACT
PARKING BRAKE	SET
CIRCUIT BREAKERS	IN
EMERGENCY BATTERY SWITCH	ARM
PREFLIGHT/ PASSENGER BOARDING BRIEF	COMPLETE
SEATS/ SEATBELTS/ SHOULDER HARNESSSES	ADJUST AND FASTEN
ALTERNATE AIR	CLOSE
ALTERNATE STATIC SOURCE	OFF
ELECTRICAL EQUIPMENT (EXCEPT FIN STROBE)	OFF
BATTERY AND AVION MASTER	OFF
VERIFY OPERATIONAL: PFD (NO RED X'S) AUDIO PANEL COM 1/ NAV 1 ENGINE INDICATIONS STANDBY FLIGHT INSTRUMENTS	
E VOLTS	23.3 MINIMUM
FUEL GAUGES	CHECK IMBALANCE
FUEL SELECTOR	FULLEST TANK

NOTES
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IF THE E VOLTS INDICATION IS LESS THAN 23.3 VOLTS, THE VOLTAGE CAN BE CHECKED AGAIN AT THE END OF THE GROUND CHECK CHECKLIST.

STARTER MANUFACTURER RECOMMENDS STARTER CRANKING PERIODS BE LIMITED TO 10 SECONDS WITH A 2 MINUTE REST PERIOD BETWEEN CRANKING PERIODS. **MAXIMUM OF 5 START PERIODS ALLOWED. IF START IS NOT ACHIEVED ON FIFTH ATTEMPT ALLOW STARTER TO COOL FOR 30 MINUTES BEFORE ATTEMPTING ADDITIONAL STARTS.**

IF A POSITIVE OIL PRESSURE IS NOT INDICATED WITHIN 5-10 SECONDS FOLLOWING ENGINE START, STOP THE ENGINE.

**\*USE HOT ENGINE PROCEDURES WHEN ENGINE WAS JUST ON (AFTER REFUELING) (CONSIDER OTHER START PROCEDURES IF YOUR ENGINE HAS NOT BEEN ON IN AWHILE)**

**\*USE COLD START PROCEDURE WHEN YOU SUSPECT THERE IS NO FUEL IN THE LINES**

**\*USE WARM START PROCEDURE AFTER A HOT SWAP (30-45 MINS HAVE PASSED AND THERE IS STILL SUSPECTED FUEL IN THE LINES)**

COLD ENGINE START	
FIN STROBE	ON
BATTERY MASTER/ALTERNATOR SWITCH	ON
LEFT/RIGHT MAGNETO SWITCHES	ON
THROTTLE/MIXTURE	OPEN FULL
FUEL PUMP <b>ON</b> until 4.1gph (or 4 seconds)	then <b>OFF</b>
MIXTURE	IDLE CUT-OFF
THROTTLE	RETARD/OPEN ½" INCH
PROPELLER	CLEAR
START SWITCH	ENGAGE
MIXTURE	ADVANCE WHEN ENGINE STARTS
THROTTLE	ADJUST 800-1200 RPM
OIL PRESSURE	CHECK POSITIVE
MIXTURE	LEAN AS APPROPRIATE
CAS/SYSTEM MESSAGES/PFD ANNUNCIATIONS	CONSIDER
HOT ENGINE START	
FIN STROBE	ON
BATTERY MASTER/ ALTERNATOR SWITCH	ON
LEFT/ RIGHT MAGNETO SWITCHES	ON
THROTTLE	½" INCH
MIXTURE	<b>IDLE CUT-OFF</b>
FUEL PUMP	ON
PROPELLER	CLEAR
START SWITCH	ENGAGE
MIXTURE	ADVANCE WHEN ENGINE STARTS
THROTTLE	ADJUST 800-1200 RPM
OIL PRESSURE	CHECK POSITIVE
FUEL PUMP	<b>OFF</b>
MIXTURE	LEAN AS APPROPRIATE
CAS/SYSTEM MESSAGES/PFD ANNUNCIATIONS	CONSIDER
IF <b>VAPOR LOCK</b> OCCURS	FUEL PUMP ON, INCREASE 1500 RPM
<b>IF ENGINE FAILS TO START PROCEED WITH FLOODED ENGINE START</b>	

WARM ENGINE START	
FIN STROBE	ON
BATTERY MASTER/ ALTERNATOR SWITCH	ON
LEFT/ RIGHT MAGNETO SWITCHES	ON
FUEL PUMP	<b>OFF</b>
THROTTLE	FULL
MIXTURE	VERIFY FUEL FLOW ABOUT 1.7 <i>*If no fuel flow, fuel pump on for 2 seconds*</i>
THROTTLE	RETARD TO ½" INCH
PROPELLER	CLEAR
START SWITCH	ENGAGE
MIXTURE	ADVANCE
THROTTLE	ADJUST
OIL PRESSURE	CHECK
MIXTURE	LEAN AS APPROPRIATE
FLOODED ENGINE START	
FINSTROBE	ON
BATTERY MASTER/ ALTERNATOR SWITCH	ON
LEFT/ RIGHT MAGNETO SWITCHES	ON
FUEL PUMP	OFF
THROTTLE	OPEN FULL
MIXTURE	IDLE CUTOFF
PROPELLER	CLEAR
START SWITCH	ENGAGE
MIXTURE	ADVANCE
THROTTLE	ADJUST 800-1200 RPM
OIL PRESSURE	CHECK
MIXTURE	LEAN AS APPROPRIATE
CAS MESSAGES/ PFD ANNUNCIATIONS	CONSIDER
ENGINE START – USING EXTERNAL POWER SOURCE	
REFERENCE ENGINE START CHECKLIST IN SECTION 4-12 OF THE POH	

BEFORE TAXI	
AVION MASTER SWITCH	ON
EMERGENCY BATTERY SWITCH	VERIFY ARM
MULTI-FUNCTION DISPLAY (MFD)	VERIFY DATABASE CURRENCY
MFD AUX WEIGHT PLANNING	ENTER WEIGHT AS REQUIRED
FUEL TOTALIZER	FOB SYNC OR ENTER MANUALLY
ANNUNCIATOR TEST	CHECK
CAS MESSAGES/ PFD ANNUNCIATORS	CONSIDER
STANBY FLIGHT INSTRUMENT	VERIFY ON WITH NO RED X'S
G1000/ COM RADIOS	SET AS DESIRED
ATIS/ ASOS/ AWOS	OBTAIN
G1000 AND STANDBY ALTIMETERS	SET AND CORRECT
TRANSPONDER	VFR ALT MODE
HEATER/ DEFROSTER	AS DESIRED
LIGHTS	AS REQUIRED
PARKING BRAKE	RELEASE
TAXIING	
TAXI AREA	CLEAR
THROTTLE	APPLY SLOWLY
BRAKES/ STEERING	CHECK
INSTRUMENT COCKPIT CHECK	AS REQUIRED
HEADING – <i>ON A KNOWN HEADING</i>	
AIRSPEED – <i>ZERO</i>	
ATTITUDE – <i>LEVEL</i>	
SLIP/SKID – <i>OPPOSITE THE DIRECTION OF TURN</i>	
ALTIMETER – <i>WITHIN 75FT OF AIRPORT ELEVATION</i>	
VERTICAL SPEED – <i>ZERO</i>	

*DURING EXTENDED PERIODS OF ENGINE IDLE AT HIGH AMBIENT TEMPERATURES, FUEL FLOW TO THE ENGINE CAN BE INTERRUPTED BY FORMATION OF FUEL VAPOR BUBBLES IN THE FUEL LINE. THIS CONDITION CAN BE CORRECTED BY TURNING THE ELECTRIC FUEL PUMP ON AND INCREASING ENGINE RPM ABOVE 1500 RPM.*

GROUND CHECK	
PARKING BRAKE	SET
FUEL SELECTOR	PROPER TANK
FLIGHT CONTROLS	FREE AND CORRECT
SEATS	BACKS ERECT/ ADJUSTED AND LOCKED
SEATBELTS/ SHOULDER HARNESSSES	FASTENED AND CHECKED
STABILATOR AND RUDDER TRIM	SET FOR TAKEOFF
MIXTURE	RICH
THROTTLE	APPLY SLOWLY 2000 RPM
MAGNETOS	CHECK BOTH (MAX DROP 175/ MAX DIFF 50)
ALTERNATE AIR	CHECK RPM DROP/ CLOSE
OIL TEMPERATURE/ PRESSURE	CHECK
VOLTS INDICATION	CHECK (28 +/- 1 VOLT)
ALTERNATOR AMPS	CHECK NORMAL
FUEL PUMP	OFF
THROTTLE	RETARD/ ADJUST
MIXTURE	LEAN
ENGINE INDICATIONS	CHECK
G1000 AND STANDBY FLIGHT INSTRUMENTS	CHECK
CAS MESSAGES/ PFD ANNUNCIATIONS	CONSIDER
AUTOPILOT	PREFLIGHT CHECK
<i>VERIFY HDG MODE</i> <i>VERIFY VS MODE</i> <i>VERIFY DISCONNECT</i>	
ALTITUDE/ HEADING BUG/ TRANSPONDER	SET
NAV EQUIPMENT/ COMM RADIOS	SET AS DESIRED
FLAPS SET FOR TAKEOFF	VISUALLY CHECK

<b>IF E VOLTS INDICATION LESS THAN 23.3 IN BEFORE START CHECK:</b>	
EMERGENCY BATTERY SWITCH	VERIFY ARM
AVION MASTER	OFF
ALTERNATOR/ BATTERY MASTER SWITCH	OFF
E VOLTS INDICATION	23.3 MINIMUM
<b>IF E VOLTS LESS THAN 23.3 VOLTS</b>	<b>CORRECT ISSUE PRIOR TO FLIGHT</b>
<b>IF E VOLTS GREATER OR EQUAL TO 23.3 VOLTS:</b>	
BATTERY/ALTERNATOR/AVION MASTER SWITCHES	ON



BEFORE TAKEOFF	
BATTERY MASTER/ ALTERNATOR SWITCH	VERIFY ON
LEFT/ RIGHT MAG SWITCHES	VERIFY ON
TAKEOFF AND EMERGENCY BRIEFING	COMPLETE
CABIN DOOR	LOCKED AND SECURED
ACTIVE COMM FREQUENCY	TOWER/CTAF
AFTER RECEIVING CLEARANCE:	
<i>MIXTURE: RICH</i>	
<i>LIGHTS – ON</i>	
<i>FUEL PUMP – ON</i>	
<i>PITOT HEAT – ON AS REQUIRED</i>	

VFR TAKEOFF AND EMERGENCY BRIEF
DEPARTING RUNWAY AND RUNWAY LENGTH
TAKEOFF PERFORMANCE
ABNORMALITIES ON TAKEOFF ROLL
ABORT POINT
ENGINE FAILURE AFTER TAKEOFF BELOW ~700FT AGL/ _____ MSL
ENGINE FAILURE AFTER TAKEOFF ABOVE ~700FT AGL/ _____ MSL
DESIGNATE PILOT IN COMMAND IN THE EVENT OF AN EMERGENCY

IFR TAKEOFF AND EMERGENCY BRIEF
ENSURE GPS RECEPTION
DEPARTING RUNWAY AND RUNWAY LENGTH
TAKEOFF PERFORMANCE
ABORT POINT
DEPARTURE PROCEDURE
RATE OF CLIMB
URGENCY REQUIRING RETURN TO AIRPORT
ABNORMALITIES ON TAKEOFF ROLL
ENGINE FAILURE AFTER TAKEOFF BELOW ~700FT AGL/ _____ MSL
ENGINE FAILURE AFTER TAKEOFF ABOVE ~700FT AGL/ _____ MSL
IMC ENGINE FAILURE

AIRSPEEDS	
$V_R - 60$ KIAS	$V_G - 76$ KIAS
$V_Y - 76$ KIAS	$V_{FE} - 102$ KIAS
$V_X - 64$ KIAS	$V_{NO} - 125$ KIAS
$V_S - 50$ KIAS	$V_{NE} - 154$ KIAS
$V_{SO} - 45$ KIAS	$V_O - 98$ KIAS (1917 LBS)
CRUISE CLIMB – 87 KIAS	$V_O - 113$ KIAS (2550 LBS)

RATE OF CLIMB OR DESCENT TABLE									
RATE REQUIRED FOR GS ROUNDED UP TO 50 FPM									
GRAD	FT/NM	60GS	80GS	90GS	100GS	110GS	120GS		
1.9	200	200	300	300	350	400	400		
2.1	223	250	300	350	400	450	450		
2.3	244	250	350	350	400	450	450		
2.5	265	300	400	400	450	500	550		
2.7	286	300	400	450	500	550	600		
2.8	297	300	400	450	500	550	600		
2.9	307	350	450	500	550	600	650		
3.0	318	350	450	500	550	600	650		
3.1	329	350	450	500	550	650	700		
3.2	339	350	500	550	600	650	700		
3.3	350	350	500	550	600	650	700		
3.5	371	400	500	600	650	700	750		
3.7	392	400	550	600	700	750	800		
3.9	413	450	600	650	700	800	850		
4.0	424	450	600	650	750	800	850		
4.2	445	450	600	700	750	850	900		
4.4	466	500	650	700	800	900	950		
4.6	487	500	650	750	850	900	1000		
4.8	508	550	700	800	850	950	1050		
5.0	530	550	750	800	900	1000	1100		
HEADWIND/CROSSWIND									
WIND	10°	20°	30°	40°	50°	60°	70°	80°	90°
10KTS	10 2	9 3	9 5	8 6	6 8	5 9	3 9	2 10	0 10
20KTS	20 3	19 7	17 10	15 13	13 15	10 17	7 19	3 20	0 20
30KTS	30 5	28 10	26 15	23 19	19 23	15 26	10 28	5 30	0 30
40KTS	39 7	38 14	35 20	31 26	26 31	20 35	14 38	7 39	0 40

CLIMB	
FLAPS	UP
AIRSPEED	AS APPROPRIATE
FUEL PUMP	OFF
ENGINE INSTRUMENTS	CHECK/ MONITOR
CRUISE	
POWER	SET PER POWER TABLE
MIXTURE	ADJUST OR LEAN/ ALWAYS LEAN ABOVE 5000FT
ENGINE INSTRUMENTS	CHECK/ MONITOR
LIGHTS	AS REQUIRED
FUEL SELECTOR	SWITCH TANKS AS DESIRED
IN RANGE/ DESCENT	
ATIS/ AWOS/ ASOS	OBTAIN
G1000 AND STANDBY ALTIMETERS	SET
LIGHTS	AS APPROPRIATE
COM/ NAV RADIOS AND AVIONICS	SET
POWER	SET
MIXTURE	ENRICHEN AS APPROPRIATE
BEFORE LANDING	
PARKING BRAKE/ TOE BRAKES	VERIFY OFF/ CHECK
FUEL PUMP	ON
LIGHTS	AS REQUIRED
FUEL SELECTOR	FULLEST TANK
MIXTURE	RICH
ALTERNATE AIR	AS REQUIRED
SEATBELTS/ SHOULDER HARNESSSES	ON
FLAPS	AS REQUIRED
AFTER LANDING	
FLAPS	UP
FUEL PUMP	OFF
MIXTURE	LEAN
LIGHTS	AS REQUIRED
TRANSPONDER	VFR

SHUTDOWN	
TRANSPONDER	VFR/ STANDBY
FUEL PUMP	OFF
EMERGENCY BATTERY SWITCH	OFF
AVION MASTER	OFF
ELECTRICAL SWITCHES (EXCEPT FIN STROBE)	OFF
ALTERNATOR SWITCH	OFF
THROTTLE	1000 RPM
MIXTURE	IDLE CUTOFF
LEFT/ RIGHT MAGNETOS	<b>OFF</b>
INTERIOR LIGHTS	OFF
BATTERY MASTER SWITCH	OFF
STANDBY INSTRUMENT	VERIFY SHUTDOWN
POST FLIGHT	
<b>*SEND A PHOTO OF MAINT. AND BILLING TIMES TO DISPATCH*</b>	
FLAPS	FULL UP
ENSURE THE FOLLOWING ARE SECURED: <i>FLIGHT CONTROLS</i> <i>TIE DOWNS</i> <i>CHOCKS</i> <i>PITOT COVER</i> <i>SUNSHADES</i>	
AIRCRAFT INTERIOR	CLEAN
DOORS	LOCKED

# PIPER ARCHER III

## EMERGENCY REFERENCE

### FIRE

ENGINE FIRE – DURING START	
START SWITCH	CONTINUE CRANKING ENGINE
MIXTURE	IDLE CUTOFF
THROTTLE	OPEN
FUEL PUMP	OFF
FUEL SELECTOR	OFF
IF FIRE CONTINUES	EGRESS
EGRESS	
EVACUATE THE AIRCRAFT	
ENGINE FIRE – IN FLIGHT	
FUEL SELECTOR	OFF
THROTTLE	CLOSED
MIXTURE	IDLE CUTOFF
FUEL PUMP	OFF
HEATER/ DEFROSTER	OFF
IF FIRE PERSISTS	INCREASE AIRSPEED 110 KIAS
PROCEED WITH POWER OFF LANDING PROCEDURE	
ELECTRICAL FIRE – IN FLIGHT	
EMERGENCY BATTERY SWITCH	VERIFY ARM
BATTERY MASTER SWITCH	OFF
ALTERNATOR SWITCH	OFF
VENTS	OPEN
HEATER/ DEFROSTER	OFF
FIRE	EXTINGUISH
EMERGENCY DESCENT	IF APPROPRIATE
LAND AS SOON AS POSSIBLE	

# ENGINE POWER LOSS

ENGINE ROUGHNESS	
ALTERNATE AIR	OPEN
ENGINE INDICATIONS	CHECK
IF ROUGHNESS CONTINUES AFTER 1 MIN: <i>MIXTURE – ADJUST</i> <i>ALTERNATE AIR – CLOSE</i> <i>FUEL PUMP – ON</i> <i>FUEL SELECTOR – SWITCH TANKS</i> <i>LEFT AND RIGHT MAGS – INDIVIDUALLY OFF THEN ON</i>	
PREPARE FOR POWER OFF LANDING	
ENGINE POWER LOSS – DURING FLIGHT	
AIRSPPEED	MAINTAIN 76 KIAS
FUEL SELECTOR	SWITCH TANKS
FUEL PUMP	ON
MIXTURE	RICH
ALTERNATE AIR	OPEN
LEFT/ RIGHT MAG	OFF THEN ON
WHEN POWER IS RESTORED:	
ALTERNATE AIR	CLOSE
FUEL PUMP	OFF
LAND AS SOON AS PRACTICAL	
IF POWER IS NOT RESTORED: PREPARE FOR POWER OFF LANDING	
POWER OFF LANDING	
AIRSPPEED	MAINTAIN 76 KIAS
<b><i>SQUAWK 7700 AND MAKE EMERGENCY CALL IF TIME PERMITS on 121.5</i></b>	
THROTTLE/ MIXTURE	CLOSE/ IDLE CUTOFF
ELT	ON
LEFT/ RIGHT MAGNETOS	OFF
ALTERNATOR SWITCH	OFF
BATTERY MASTER SWITCH	OFF
FUEL SELECTOR	OFF
WHEN COMMITTED TO LAND: ESTABLISH LANDING PATTERN – 1000’ ABOVE DOWNWIND POSITION AIRSPPEED – 66 KIAS FLAPS – AS DESIRED SEATBELT/SHOULDER HARNESS – TIGHTEN DOOR – UNLATCH/OPEN	
PROCEED WITH EGRESS PROCEDURE	

# ENGINE INDICATING SYSTEM

<b>OIL PRESSURE – MASTER WARNING</b>	
<b>LOW OIL PRESSURE:</b>	
THROTTLE	MINIMUM REQUIRED
LOW OIL PRES. + HIGH OIL TEMP: LAND AS SOON AS POSSIBLE	
LOW OIL PRES. + NORMAL OIL TEMP: LAND AS SOON AS PRACTICAL	
<b>HIGH OIL PRESSURE:</b>	
THROTTLE	MINIMUM REQUIRED
LAND AS SOON AS PRACTICAL	
<b>IF ENGINE STOPS PROCEED WITH POWER OFF LANDING</b>	
<b>OIL TEMPERATURE – MASTER WARNING</b>	
THROTTLE	MINIMUM REQUIRED
MIXTURE	FULL RICH
AIRSPED	INCREASE IF PRACTICAL
<b>LAND AS SOON AS POSSIBLE, PREPARE FOR POWER OFF LANDING</b>	
<b>LOSS OF FUEL FLOW</b>	
<b>FUEL DEPLETION IN ONE TANK:</b>	
FUEL PUMP	ON
FUEL SELECTOR	SWITCH TANKS
FUEL PUMP	OFF
<b>ENGINE DRIVEN FUEL PUMP FAILURE:</b>	
THROTTLE – CLOSE	
FUEL PUMP – ON	
THROTTLE	RE-ESTABLISH AS REQUIRED
<b>FUEL QUANTITY LOW – MASTER WARNING</b>	
<b>ONE TANK LOW FUEL QUANTITY:</b>	
FUEL SELECTOR	FULLEST TANK
<b>LAND AS SOON AS PRACTICAL</b>	
<b>BOTH TANKS LOW FUEL QUANTITY:</b>	
FUEL SELECTOR	ALTERNATE TANKS TO MAINTAIN FUEL SUPPLY
<b>LAND AS SOON AS POSSIBLE</b>	

# ELECTRICAL FAILURES

<b>ALTERNATOR FAILURE – MASTER WARNING</b>	
VERIFY FAILURE	CHECK ALTR AMPS
ALTERNATOR SWITCH	OFF
ALTR CIRCUIT BREAKER (ROW 1 COL 13)	RESET IF TRIPPED
ALTR FIELD CIRCUIT BREAKER (ROW 2 COL 13)	RESET
ALTERNATOR SWITCH	ON
<b>IF ALTERNATOR STILL FAILED:</b>	
ALTERNATOR SWITCH	OFF
ELECTRICAL POWER REMAINING	30 MIN OR LESS
ELECTRICAL LOAD	SHED IN LESS THAN 3 MIN
NON ESS BUSS CIRCUIT BREAKER (ROW 1 COL 1)	PULL
LIGHTING BUS CIRCUIT BREAKER (ROW 1 COL 2)	PULL
AVION MASTER SWITCH	OFF
<b>TO ENSURE 30 MIN OF BATTERY LIFE:</b>	
BATTERY DISCHARGE	-13 AMPS MAX
PITOT HEAT	14 MIN USAGE MAX
COM RADIO	3 MIN USAGE MAX
FUEL PUMP	2 MIN USAGE MAX
<b>LAND AS SOON AS POSSIBLE</b>	
<b>COMPLETE ELECTRICAL FAILURE</b>	
EMERGENCY BATTERY SWITCH	VERIFY ARM
STANDBY FLIGHT INSTRUMENTS	VERIFY OPERATIONAL
BATTERY MASTER SWITCH	OFF
ALTERNATOR SWITCH	OFF
<b>APPROXIMATELY 30 MIN ELECTRICAL POWER IS AVAILABLE</b>	
<b>LAND AS SOON AS POSSIBLE</b>	
<b>EMERGENCY BATTERY VOLTAGE – MASTER WARNING</b>	
<b>COMPLETE ELECTRICAL FAILURE IS IMMINENT</b>	
<b>LAND AS SOON AS POSSIBLE</b>	



# AVIONICS FAILURES

PFD FAILURE	
STANDBY INSTRUMENT	VERIFY OPERATIONAL
DISPLAY BACKUP BUTTON ON AUDIO PANEL	PUSH
COM2	ACTIVATE AND TUNE AS NECESSARY
NAV2	ACTIVATE AND TUNE AS NECESSARY
COM2/ MIC	SELECT ON AUDIO PANEL
<i>COM1/ NAV1/ GPS1/ TRAFFIC WILL BECOME INOPERATIVE</i>	
<b>EXIT AND AVOID IFR CONDITIONS AS SOON AS PRACTICAL</b>	
MFD FAILURE	
DISPLAY BACKUP ON AUDIO PANEL	PUSH
<i>COM2/ NAV2/ GPS2/ ADF WILL BECOME INOPERATIVE</i>	
<b>EXIT AND AVOID IFR CONDITIONS AS SOON AS PRACTICAL</b>	
ADAHRS FAILURE	
<b>ON GROUND:</b>	
SYSTEM MESSAGE SOFTKEY	CONSIDER
ADAHRS CIRCUIT BREAKER (ROW 2, COL 8)	RESET
IF ADAHRS DATA STILL INVALID <b>AVOID FLIGHT IN IFR AND ICING CONDITIONS</b>	
<b>IN FLIGHT:</b>	
STANDBY INSTRUMENTS	VERIFY NO FAILURE INDICATIONS
ATTITUDE AND HEADING	REFERENCE STANDBY
COURSE	SET USING CRS KNOB ON PFD
SYSTEM MESSAGES SOFTKEY	CONSIDER
ADAHRS CIRCUIT BREAKER (ROW 2, COL 8)	RESET
IF ADAHRS DATA STILL INVALID <b>AVOID FLIGHT IN IFR CONDITIONS</b>	
COM1 AND COM2 FAILURE	
AUDIO MKR CIRCUIT BREAKER (ROW 2, COL 9)	PULL
<b>EXIT AND AVOID IFR CONDITIOND AS SOON AS PRACTICAL</b>	
ERRONEOUS OR LOSS OF ENGINE AND FUEL DISPLAYS	
GEA CIRCUIT BREAKER (ROW 2, COL 3)	RESET
<b>IF ALL GEA PARAMETERS ARE STILL UNAVAILABLE LAND AS SOON AS PRACTICAL</b>	
ERRONEOUS OR LOSS OF WARNING/ CAUTION CAS MESSAGES	
IF A YELLOW X APPEARS OVER CAS MESSAGE LAND AS SOON AS PRACTICAL	
DUAL GPS FAILURE – AMBER “DR”	
NAVIGATION	USE ALTERNATE SOURCE OF NAVIGATION
AVIONICS COOLING FAN FAILURE – CAS ADVISORY	
IF FAILURE OCCURS <i>ON GROUND</i>	DO NOT FLY
IF FAILURE OCCURS <i>IN FLIGHT</i>	FIX PRIOR TO NEXT FLIGHT

# MISC.

SPIN RECOVERY	
*INTENTIONAL SPINS ARE PROHIBITED IN THIS AIRPLANE*	
THROTTLE	IDLE
AILERONS	NEUTRAL
RUDDER	FULL OPPOSITE DIRECTION OF ROTATION
CONTROL WHEEL	FULL FORWARD
<b>WHEN ROTATION STOPS:</b> RUDDER – NEUTRAL CONTROL WHEEL – SMOOTH BACK PRESSURE TO RECOVER FROM DIVE	

STARTER ENGAGED – MASTER WARNING	
<b>IF ON THE GROUND:</b>	
THROTTLE	REDUCE
ENG START CIRCUIT BREAKER (ROW 1, COL 10)	PULL
ENGINE	SHUTDOWN
<b>IF IN FLIGHT:</b> THROTTLE – REDUCE ENG START CIRCUIT BRAKER (ROW 1, COL, 10) - PULL	
<b>LAND AS SOON AS POSSIBLE</b>	

PITOT HEAT FAILURE – MASTER CAUTION	
PITOT HEAT SWITCH	OFF
PITOT HEAT CIRCUIT BREAKER (ROW 2, COL 2)	RESET
PITOT HEAT SWITCH	ON
<b>IF PITOT HEAT STILL INOPERATIVE, EXIT AND AVOID IMC CONDITIONS</b>	

CO DETECTOR WARNING – MASTER WARNING	
“CO RST” SOFTKEY (ON ENGINE PAGE)	PRESS
<b>IF WARNING OR CAUTION CONTINUES:</b>	
FRESH AIR SOURCE	OPEN IMMEDIATELY
CABIN HEAT/ DEFROSTER	CLOSE
<b>LAND AS SOON AS CONDITIONS PERMIT</b>	

DOOR OPEN IN FLIGHT	
AIRSPEED	REDUCE TO LESS THAN 87 KIAS
CABIN VENTS	CLOSE
STORM WINDOW	OPEN
IF BOTH LATCHES OPEN	CLOSE SIDE THEN TOP LATCH

# CREW ALERTING SYSTEM MESSAGES

## WARNING MESSAGES – RED

CAS EVENT	CAS MESSAGE	POH PAGE	CAUSE
NON-HIDDEN CAS MESSAGES			
ALTERNATOR FAILURE	ALTR FAIL	3-17	ALTERNATOR IS TURNED ON AND HAS FAILED
CO LEVEL HIGH	CO LVL HIGH	3-33	CO LEVEL GREATER THAN 200 PPM
FUEL QUANTITY LOW	R FUEL QTY L FUEL QTY	3-16	L FUEL QTY OR R FUEL QTY $\leq$ 3 GAL
STARTER ENGAGED	START ENGD	3-30	ENGINE STARTER ENGAGED FOR MORE THAN 30 SECONDS
HIDDEN CAS MESSAGES – CHECK ENGINE INDICATION SYSYTEM			
PROPELLER OVERSPEED	-	N/A	PROPELLER RPM IS IN WARNING RANGE
OIL TEMP EXCEEDANCE	-	3-15	OIL TEMP $\geq$ 245°F
OIL PRESSURE EXCEEDANCE	-	3-14	OIL PRESSURE $\geq$ 25 PSI OR $\geq$ 115 PSI
TOTAL FUEL QUANTITY LOW	-	N/A	TOTAL FUEL QUANTITY $\leq$ 6 GALLONS
BATTERY VOLTAGE	-	N/A	PRIMARY BATT VOLTAGE LESS THAN: 24V WHEN RPM $\geq$ 1100, 25V WHEN RPM $\geq$ 1100 OR $\geq$ 32V
ALTERNATOR AMPERAGE	-	N/A	ALTERNATOR AMPS > 65 AMPS
EMERGENCY BATTERY VOLTS	-	3-20	EMERGENCY BATTERY VOLTS $\geq$ 20V OR $\geq$ 32V

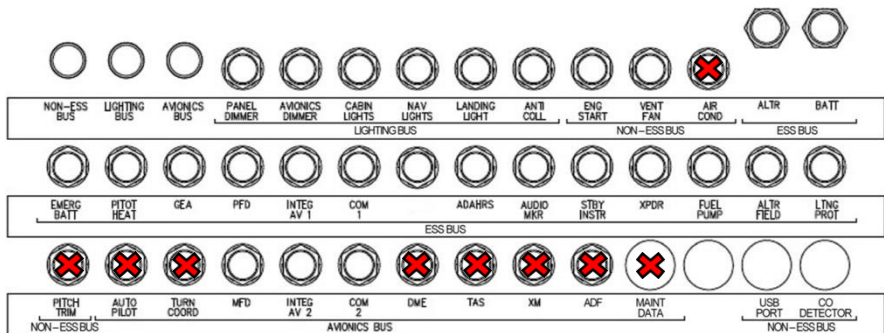
## CAUTION MESSAGES – AMBER

CAS EVENT	CAS MESSAGE	POH PAGE	CAUSE
NON-HIDDEN CAS MESSAGES			
CO LEVEL HIGH	<b>CO LVL HIGH</b>	3-33	CO LEVEL ≥ 50 BUT ≤ 200 PPM
FUEL QUANTITY LOW	<b>L FUEL QTY R FUEL QTY</b>	N/A	L FUEL QTY OR R FUEL QTY ≤ 5 GALLONS
PITOT HEAT FAILURE	<b>PITOT HEAT FAIL</b>	3-30	PITOT HEAT IS ON AND INOPERATIVE
PITOT HEAT OFF	<b>PITOT HEAT OFF</b>	N/A	PITOT HEAT IS OFF
HIDDEN CAS MESSAGES – CHECK ENGINE INDICATION SYSYTEM			
OIL PRESSURE	-	3-14	OIL PRESSURE 26 PSI -55 PSI WHEN RPM ≥ 1100
TOTAL FUEL QUANTITY LOW	-	N/A	TOTAL FUEL QUANTITY ≤ 10 GALLONS
EMERGENCY BATTERY VOLTAGE	-	N/A	EMERGENCY BATTERY VOLTAGE ≤ 20V AND ≥ 23.3V

## ADVISORY MESSAGES – WHITE

CAS EVENT	CAS MESSAGE	POH PAGE	CAUSE
NON-HIDDEN CAS MESSAGES			
AVIONICS FAN FAIL	<b>AV FAN FAIL</b>	3-29	ONE OR MORE EXTERNAL AVIONICS COOLING FANS FAILED
EMERGENCY BATTERY IN USE	<b>EMERG BATT ON</b>	3-19	EMERGENCY POWER IN USE
FUEL IMBALANCE	<b>FUEL IMBAL</b>	N/A	LEFT AND RIGHT TANK FUEL QUANTITY DIFFER BY 10 GALLONS
MFD FAN FAIL	<b>MFD FAN FAIL</b>	3-29	EXTERNAL COOLING FAN FOR MFD FAILED
PFD COOLING FAN FAIL	<b>PFD FAN FAIL</b>	3-29	PFD COOLING FAN HAS FAILED

# CIRCUIT BREAKER PANEL



THE PILOT SHOULD ONLY RESET A **TRIPPED CIRCUIT BREAKER** IF THE SYSTEM IS CONSIDERED ESSENTIAL FOR SAFETY OF FLIGHT. PRIOR TO RESETTING THE CIRCUIT BREAKER, WAIT AT LEAST ONE MINUTE AND VERIFY THERE IS NO SMOKE OR BURNING SMELL. IF THE CIRCUIT BREAKER OPENS A SECOND TIME, LEAVE THE CIRCUIT BREAKER OUT. DO NOT RESET ANY NON-ESSENTIAL CIRCUIT BREAKERS IN FLIGHT.