King Air C90A

Speeds (KIAS)

V_{MCA}	90	
V_{SSE}	97	
V_X	101	
V_Y	111	
V_{XSE}	100	
V_{YSE}	107	
V_A	169	
V_{REF}	100	
V_{MO}	208	
V_{FE}	178	35%
	137	100%
V_{LE}	156	
	129	Retraction only
Other		
	95	Balked landing climb
	125	Glide
	161	Turbulent air
Cruise climb		
	150	To 10 000’
	130	10 000 to 20 000’
	120	20 000 to 25 000’
	110	25 000 to 30 000’

Note: V_{MCA} and V_Y are not indicated on ASI.

Take-off Speeds

Weight (lbs)	**Take-off speeds (KIAS)**	
	Rotate	**At 50’**
9650	97	106
9500	96	105
9000	95	104
8500	94	103
8000	92	102

King Air C90A Normal Checklist

Before starting engines

Exterior inspection: .....Completed
Cabin door:.....Locked
Load and baggage:.....Secure
Weight and CG: .....Checked
*** Emergency exit:**.....Latched
Cabin seats:. Positioned (outboard), backs upright
Control locks: ..... Remove
Seat belts and harnesses:..... Fastened
Parking brake: .....Set
Pedestal circuit breakers: ..... In
Overhead panel: ..... Check
Oxygen control: ..... Pull on, check flow, push off
R sidepanel CBs: ..... Check
*** Oxygen system pressure:** .. Check (see manual)
*** Emergency static source:** ..... Normal
R subpanel CBs:..... Check
Cabin Temp Mode:.....Off
Landing gear handle: .....Down
Condition levers: .....Cut off
Propeller levers: .....High RPM
Power levers: ..... Idle
L subpanel switches:.....Off
Fuel panel:..... Check
    * **CBs:** ..... In
    * **Firewall valves:** ..... Closed
    * **Crossfeed:** .....Open, check ann., close
    Boost pumps: .....On (check sound)
    Battery switch: .....On
    FUEL PRESS ann.: ..... Check on
    Firewall valves: .....Open
    FUEL PRESS ann.: .....Check off
    Transfer pumps: .....On (check sound), Off
    If no Xfer pump: .. Xfer test, no annunciator
    Fuel quantities:.....Checked
Fire detectors:..... Check
Voltmeters:..... Check
Annunciators and Warnings: .Test, extinguished
Cabin signs: ..... FSB or NS&FSB

Engine Start (Battery)

R ign/start: .....On
R IGN ON: .....Check illuminated
Stable N_1 > 12%: .....Wait
R condition lever: ..... Low idle
ITT and N_1: ..Monitor (1090°C max., rise in 10 s)
R oil pressure:..... Check (prop unfeathering)
R condition lever: ..... High idle
Wait: .....N_1 > 51%
R ign/start: .....Off
R generator: .....Reset, On
Charge battery: ..... Load < 0,5, max. 5 min.

(**R generator:** .....Off)
L ign/start: .....On
L IGN ON: .....Check illuminated
Stable N_1 > 12%: .....Wait
(**R generator:** ..... On)
L condition lever: ..... Low idle
ITT and N_1: ..Monitor (1090°C max., rise in 10 s)
L oil pressure:..... Check
Wait: .....N_1 > 51%
L ign/start: .....Off
L generator: .....Reset, On
R condition lever: ..... Low idle

After start

Transfer pumps:.....On
Crossfeed:.....Auto
DC Voltage/Load: ..... Check
Inverter: .....Check both, select
Avionics master:.....On
Lights:.....As required
Fuel control heat: ..... Heat
Cabin temp/mode: As req'd (Check N_1/ITT/load)
Annunciators:.....Test, clear
Instruments: ..... Check
Flaps: .....As required

Taxi

Brakes:..... Check
Gyros: ..... Check

Before takeoff (Runup)

Boost pumps and auto crossfeed: Test
L Boost: Off (L FUEL PRESS off, XFEED on)
L Boost:.....On
Crossfeed: ...Closed, then Auto (XFEED off)
R Boost: Off (R FUEL PRESS off, XFEED on)
R Boost:.....On
Crossfeed: ...Closed, then Auto (XFEED off)
Avionics and Radar: ..... Check
Pressurisation:..... Check
.....Set (alt.+500/cabin 500 agl, rate)
*** Autopilot:** ..... Check, then off
Electric trim: .. Check (tab control, wheel switch)
Trim:.....Set (x3)
Engine frictions: .....Set (x4)
Flaps: .....Check, set
Flight controls: ..... Full, free, correct
*** Autofeather:**..... Check
Power:.....500 ft-lbs
Autofeather:.....Hold to test
Power levers: Retard each (400:ann. 260:fthr)
Power:..... Retard both (ann. out, no feather)
Autofeather:..... Arm
*** Overspeed governors:**.....Test
Propellers:..... Full forward
Power levers: ..... Below 1900 rpm
Overspeed governor test:.....Hold to test
Power:..... Increase to limit, watch ITT/Tq
Power:..... Reduce to 1900 rpm
Overspeed governor test:.....Release
*** Primary governors:** .....Exercise at 1900 rpm
*** Engine ice protection:**..... Pull, push; check Tq
Gyro suction, pneumatic pressure:..... Check
Power:..... Idle
Propeller: .....Check feathering
Fuel, flight & engine instruments: Check (oil temp!)
Engine frictions:.....Set

Before takeoff (ready to go)

Bleed air valves: .....Open
Annunciators:.....Out/considered
Transponder:.....On
Prop synchrophaser: .....As required
Strobes:.....On
Ice protection:.....As required
Auto-ignition: ..... Armed

During takeoff run

Ignition On annunciators: ... Check extinguished
Autofeather annunciators:.....Check illuminated
Engines:.....Check ITT/Tq in limits

After takeoff

Landing gear: .....Up
Flaps: .....Up
Autopilot/Yaw Damper:.....On if required
Engines:.....Climb power set, check limits
Auto-ignition: .....As required
Props:.....Set
Synchrophaser: .....On
Autofeather:.....Off
Engine instruments:..... Monitor
Cabin sign: .....As required
Cabin pressurisation: ..... Check

Descent

Pressurisation:..... Set cabin altitude (table), Rate
Altimeter: .....Set
Cabin sign: .....As required
Windshield anti-ice:.....As required
Power:.....As required

Pressurisation Settings:

QNH	970	980	990	1000	1010	1020	1030	1040	1050
Above	1800	1500	1200	900	600	300	0	-300	-600

Interpolate or use next lower QNH. Default 500'.

Before landing

Pressurisation: ..... Check deflated
Cabin sign: ..... FSB or NS/FSB
Prop autofeather: ..... Arm
Prop synchrophaser: ..... As desired
Flaps: .....Approach
Landing gear: .....Down
Lights:.....As required
Radar:..... Standby or off
Condition levers: ..... High if required
Auto-ignition: ..... Armed
Short final:
Props: .. High rpm (RVS NOT READY out)
After touchdown:
Power:.....Beta or reverse
Remove reverse at 40 kts

Balked landing

Power:.....Maximum
Props:..... Full forward
Airspeed: .....95 kts until clear of obstacles
Flaps: .....Up
Gear:.....Up

After landing

Landing and taxi lights: .....As required
Ice protection:.....Off
Auto-ignition: .....Off
Electrics:.....Observe load limits
Trim:.....Set
Flaps: .....Up
Transponder and radar: .....Off
Strobes:.....Off

Shutdown

Parking brake: .....Set
Transfer pumps:.....Off
Crossfeed:..... Closed
Inverter: .....Off
Avionics master:.....Off
Autofeather:.....Off
Cabin mode:.....Off
Blower: .....Auto
Subpanel and avionics:.....Off
Oxygen supply:.....Off
Battery:.....Charged
ITT: ..... Below 585°C for 1 min
Condition levers: .....Cut-off
Props:.....Feather
Wait: .....N_1 < 10%
Boost pumps: .....Off
DC Volt/Load: ..... Check voltage
Overhead panel switches: .....Off
Battery/Gen bar: .....Off
Control locks: .....Install
Park brake: .....On
External covers: .....Install
Chocks:.....Install
Park brake:.....Off

C90A Abnormal Checklist

Air start (Starter)

Cabin temp: .....Off
Blower: .....Auto
Radar:..... Standby or Off
Windshield heat: .....Off
Power lever:..... Idle
Condition lever:.....Cut-off
Fuel panel:..... Check
    Fuel firewall valve: .....Open
    Boost pump:.....On
    Transfer pump:.....On
    Crossfeed: .....Auto
Ign./engine start: .....On, check IGN annunciator
Wait: .....8 s
Condition lever:..... Low idle
Wait: .....N_1 > 51%
Ign./engine start: .....Off
Generator:.....Reset, on
Propeller: .....As required
Power lever: .....As required
Fuel control heat: .....On
Electrical equipment: .....As required

Air start (windmilling)

Cabin temp: ..... Off
Blower: ..... Auto
Radar: ..... Standby or Off
Windshield heat: ..... Off
Power lever: ..... Idle
Propeller: ..... 2200 rpm
Condition lever: ..... Cut-off
Fuel panel: ..... Check
- **Fuel firewall valve:** ..... Open
- **Boost pump:** ..... On
- **Transfer pump:** ..... On
- **Crossfeed:** ..... Auto

Generator (inop. engine): ..... Off
Airspeed: ..... 140 kts minimum
Altitude: ..... Below 20 000 ft
Auto-ignition switch: ..... Arm
Wait: ..... 8 s
Condition lever: ..... Low idle
Wait: ..... ITT peaks
Power, propeller levers: ..... As required
Generator: ..... Reset, on
Auto-ignition switch: ..... Off
Fuel control heat: ..... On
Electrical equipment: ..... As required

Landing gear manual extension

Airspeed: ..... 120 KIAS
Ldg Gr circuit breaker (copilot panel): ..... Pull
Landing gear handle: .....Down
Emergency engage handle: ..... Lift, clockwise
Extension lever: .. Release clip, pump till 3 greens

Landing gear up after manual ext.

Emergency engage handle: .....CCW, push down
Extension lever: ..... Stow
Ldg Gr circuit breaker: .....Push in
Landing gear: .....Up

Zero thrust

Propeller: .....1800 rpm
Power lever: .....Set Tq = 100 ft-lbs

C90A Emergency Checklist

Engine shutdown

Condition lever:.....Cut-off
Prop lever:.....Feather
Fuel firewall valve:..... Closed
Fire extinguisher: .....Actuate if required
Clean up (inop. engine):
- **Bleed air valve:**.....As required
- **Engine auto ignition:** .....Off
- **Boost pump:**.....Off
- **Fuel transfer pump:**.....Off
- **Crossfeed:** ..... Closed
- **Generator:** .....Off
- **Fuel control heat:**.....Off
- **Autofeather:**.....Off
- **Synchrophaser:** .....Off

Electrical load: ..... Monitor

Engine fire on ground

Condition lever:.....Cut-off
Fuel firewall valve:..... Closed
Starter switch: .....Starter only
Boost pump:.....Off
Fuel transfer pump:.....Off
Crossfeed:..... Closed
Fire extinguisher: ..... Actuate (if required)

Engine failure during ground roll

Power levers: ..... Idle
Brakes:.....As required
If insufficient runway for stopping:
- **Condition levers:**.....Cut-off
- **Fuel firewall valves:**..... Closed
- **Master switch:**.....Off with gang bar
- **Boost pumps:** .....Off

Engine failure after lift-off (can't land)

Power:..... Max. allowable
Prop RPM:.....Full increase
Airspeed: ..... Maintain (takeoff speed or above)
Landing gear: .....Up
Power lever (inop. engine): .Idle after autofeather
Propeller (inop. engine):.....Feather
Airspeed: .....V_{YSE} (after obstacles cleared)
Clean-up (inop. engine):
- **Condition lever:** .....Cut-off
- **Bleed air valve:**.....As required
- **Engine auto ignition:** .....Off
- **Fuel firewall valve:** ..... Closed
- **Boost pump:**.....Off
- **Fuel transfer pump:**.....Off
- **Crossfeed:** ..... Closed
- **Generator:** .....Off
- **Fuel control heat:**.....Off
- **Autofeather switch:** .....Off
- **Synchrophaser:** .....Off

Electrical load: ..... Monitor

2nd engine flame-out

Power lever:..... Idle
Propeller: .....Do not feather
Condition lever:.....Cut-off
Air start:.....Conduct

Smoke and fumes: Electrical

Oxygen: .....Handle On, Connect/don masks
Cabin temp mode:.....Off
Vent blower: .....Auto
Avionics master:.....Off
Nonessential electrical equipment: .....Off
If fire or smoke ceases:
.....Individually turn on equipment to isolate
If fire or smoke persists:
Cabin pressure switch:.....Dump
Land as soon as practical

Smoke and fumes: Environmental

Oxygen: .....Handle On, Connect/don masks
Cabin temp mode:.....Off
Vent blower: .....Auto
Left bleed valve: ..... Closed
If smoke decreases: ..... Continue operation
If smoke does not decrease:
Left bleed valve:.....Open
Right bleed valve: ..... Closed
If smoke decreases: ..... Continue operation

Emergency descent

Power levers: ..... Idle
Prop controls: ..... Full high RPM
Wing flaps:.....Approach
Landing gear: .....Down
Airspeed: ..... 156 KIAS (V_{LE})

Glide

Landing gear: .....Up
Wing flaps:.....Up
Try restart before feathering both
Propellers:.....Feather
Airspeed: ..... 125 KIAS

Boost pump failure

Identified by CROSSFEED On
Crossfeed:.....Momentarily off
Identify failed pump
Inoperative pump: .....Off
Consider continued flight:
Lower power setting
Lower altitude
Cool fuel
10 h maximum before pump overhaul

Crossfeed

Fuel boost pumps:.....On
Transfer pumps:.....On
Crossfeed:.....Open, check CROSSFEED ann. on
Boost pump (non-feeding side):...Off, check ann.

Crossfeed Off

Fuel boost pumps:.....Both on
Crossfeed switch: ..... Closed
Fuel boost pump (inop. eng.):.....Off

Circuit breaker tripped

Nonessential circuit: .....Do not reset in flight
Essential circuit:.....Push to reset, once only
Subpanel feeder circuits:.....Do not reset in flight

Pressurisation differential in red

Cabin altitude selector: ..... Select higher setting
If condition persists:
Bleed air valves: ..... Closed
Cabin pressure switch:.....Dump
Bleed air valves: .....Open

Cracked windshield

Outer panel:..... No action required
Inner panel: .. Descend or < 3 PSI diff. in 10 min.

