AIRPLANE FLIGHT MANUAL

SECTION IV
NORMAL PROCEDURES

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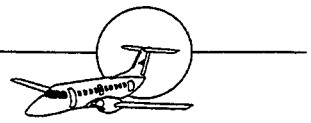
SECTION IV
NORMAL PROCEDURES

INTRODUCTION

The normal procedures presented herein assume that all the airplane systems are operating normally. The actions should be performed in the order given, according to a scanflow sequence. Deviations from the scanflow sometimes are necessary to agree with the requirements of the systems.
The normal procedures have been developed and recommended by the manufacturer and approved by the certification authorities for use in the operation of the EMB-120.
* Items marked with an asterisk are to be performed at least once every day.
Indented explanations (lines beginning further from the margin than the others) may follow a main item regarded as not being self-explanatory or lacking further details.



DAILY CHECKS

The items below should be checked at least once every day:

BEFORE ENGINE START

* Alarm Lights:
  ALARM LT Switch ..... TEST THEN RELEASE
  Check that the affected lights illuminate accordingly.
* Class-C BAGGAGE SMOKE FIRE EXT TEST Switch (if applicable) ..... TEST AND CHECK
* Propeller Auxiliary Pumps/Electrical Feather:

  NOTE: For battery starts, check second propeller auxiliary pump after first engine start. Minimum oil temperature required to unfeather the propeller is 0°C.

  Condition Levers ..... MIN RPM
  Power Levers ..... MAX REV
  PROP AUX PUMP Button ..... PRESS
  Press one button at a time and visually observe the propeller pitch decreasing or BETA light illuminated. Release button.

  Power Levers ..... GND IDLE
  Actuate each guarded ELEC FEATHER switch at a time until propeller pitch increasing is observed or BETA light extinguishes.

  Condition Levers ..... FUEL CUT OFF
* FIS Monitor:
  FIS ATT MON Switch (COLLINS FIS Version) ..... TEST THEN RESET
  Check that ATTITUDE DISPLAY light illuminates on multiple alarm panel while in TEST position.
* Back-up Battery:
  BACK-UP BATT Switch ..... TEST THEN ARM
  Check that the standby horizon and the BACK-UP BATT indicating light illuminate.
* EFIS/AHRS Transference:
  DISPLAY SOURCE Transfer Switch (COLLINS Version) .... XFR
  Check XFR light illuminated.

  DISPLAY SOURCE Transfer Switch (COLLINS Version) .... NORM
  AHRS ATT and AHRS HDG Switches ..... XFR
  Check the correspondent transfer indications.

  AHRS ATT and AHRS HDG Switches ..... NORM
* Voice Recorder:
  TEST Button ..... PRESS
  Check the pointer at the green band. A headphone may be plugged to the Voice Recorder panel to monitor the test through a regular 600 Hz tone.

DAILY CHECKS (Continued)

* Takeoff Aural Warning:
  AUTO FEATHER Switch ..... OFF
  Emergency/Parking Brake Handle ..... PULL
  Flap Selector Lever ..... UP
  Check flaps consistent with lever.
  Elevator Trim Wheel ..... OUT OF GREEN BAND
  One Power Lever ..... ADVANCE
  Check the aural warning and the words TAKEOFF, BRAKES, TRIM, and FLAPS sounding 2 cycles. In the third and following cycles the voice message AUTOFEATHER will also sound.
  Elevator Trim Wheel ..... TAKEOFF SETTING
  Check that the voice message TRIM does not sound anymore.
  Power Levers ..... GND IDLE

* Icing Condition Low Speed Alarm System:
  TEST Button ..... PRESS
  Check the buzzer sounding continuosly and the LOW SPEED amber light illuminated.
  Release button. Check sound and light extinguished.

– BEFORE ENGINE START DAILY CHECKS COMPLETED –

AFTER ENGINE START

* Inverters Transference:
  INVERTER 1 Switch ..... OFF
  Check only inverter 1 INOP light illuminated.
  INVERTER 1 Switch ..... ON
  Check inverter 1 INOP light extinguished.

* Fuel System:
  Fuel Pumps Switches ..... OFF
  Check no light illuminated.
  CROSSFEED Switch ..... OPEN
  Check both crossfeed OPEN lights and LOW PRESS lights illuminated.
  Proceed to the following test for each pump:
  Respective Pump Switch ..... AUT
  Check both LOW PRESS lights and respective pump light flashing.
  Respective Pump Switch ..... ON
  Check both LOW PRESS lights extinguished and respective pump light illuminated.
  Respective Pump Switch ..... OFF
  After having checked the last fuel pump:
  CROSSFEED Switch ..... CLOSE
  Check all lights extinguished.
  Fuel Pumps Switches ..... AUT

DAILY CHECKS (Continued)

* HMU Solenoid:

Power Levers ..... GND IDLE
Condition Levers ..... MIN RPM
EEC ..... MAN
N_H ..... CHECK ABOVE 50%
EEC ..... ON

NOTE:
- If N_H drops below 50%, check the HMU solenoid again, with bleed switches set at CLOSE. If N_H remains below 50%, the HMU solenoid may be locked in the energized position and the airplane is not cleared for takeoff.
- N_H values between 50% and 56% are acceptable for the test but do not allow the reset of EEC. In this case, advance the power lever until an N_H value above 56% is obtained, before turning the EEC on.

* Rudder System:

Steering Disengage Pushbutton ..... PRESS AND HOLD
Green System Isolation Switch ..... OFF
Check the respective INOP light on the overhead panel and RUDDER light on MAP illuminated.

Blue System Isolation Switch ..... OFF
Check the respective INOP light on the overhead panel illuminated.
Check pedals for freedom throughout full travel.
For each system separately and for both systems simultaneously, check pedals for freedom and centering.

After completing the check:

Steering Disengage Pushbutton ..... RELEASE
Green and Blue Systems Isolation Switches ..... ON
Check both INOP lights extinguished.

* TCAS (if installed) ..... TEST AND CHECK
Press the TEST button on the ATC/TCAS control panel and check for the correct self-test.

* Brake System:

CAUTION: DO NOT RELEASE PARKING BRAKE.

OUTBD and INBD TEST Buttons ..... PRESS
Brake Pedals (pilot's and copilot's) ..... PRESS
Check left and right OUTBD and INBD line pressure lights illuminated.

Brake Pedals (pilot's and copilot's) ..... RELEASE
Check left and right OUTBD and INBD line pressure lights extinguished.

OUTBD and INBD TEST Buttons ..... RELEASE

DAILY CHECKS (Continued)

* Autofeather:

Autofeather ..... CHECK AND ON
Power Levers ..... GND IDLE
AUTO FEATHER Switch ..... ON

Perform the following test for both propeller:

TEST 1 and 2 Switches ..... ACTUATE
Check ARMED light illuminated.

One TEST Switch ..... RELEASE
ARMED light will extinguish and, in the sequence, the corresponding propeller feathering will be initiated (Np will decrease).

Remaining TEST Switch ..... RELEASE
The same propeller will unfeather (Np will increase).

– AFTER ENGINE START DAILY CHECKS COMPLETED –

TAXI

* Steering System:

Disengage Switch (control wheel) ..... PRESS
For airplanes Pre-Mod. SB 120-32-0081, check both PEDAL STEER INOP lights illuminated on glareshield panel while the switch is being pressed.
For airplanes Post-Mod. SB 120-32-0081 or S/N 120.355 and on, check STEER INOP light illuminated on multiple alarm panel while the switch is being pressed.

Disengage Switch (control wheel) ..... RELEASE
With pedals centered, push the steering handwheel and move it beyond half its operating range.
Release handwheel and check both PEDAL STEER INOP lights illuminated.
Push the steering handwheel and center it to reset the system.
Check that both lights extinguish and nosewheel is centered.

– TAXI DAILY CHECKS COMPLETED –

INTERNAL SAFETY INSPECTION

COCKPIT

Maintenance Status ..... CHECK
Circuit Breakers ..... PRESS
Overhead and Instrument Panels Switches ..... OFF

Check all switches and knobs in their deenergized position, except BUS TIE 1 and 2 switches, which should be on.

Radar ..... OFF
PWR SELECT Switch ..... OFF

NOTE: If required to turn the lights on, the PWR SELECT switch may be set to GPU or BATT. APU may be started to use APU generator.

Fire Extinguishing Handles ..... PUSH IN
Glareshield Panel Switches ..... OFF
Landing Gear Lever ..... DOWN
Elevator and Aileron Disconnection Handles ..... PUSH IN
Gust Lock Lever ..... RELEASE
Passenger Oxygen Switch ..... AUTO
Emergency/Parking Brake Handle ..... PULL
Crew Oxygen Masks ..... CHECK

For pilot's and copilot's masks press the Test/Shutoff Sliding control and check the flow indicator momentarily turning yellow. With the sliding control depressed, press the Test/Emergency button (in the mask) and check the flow indicator momentarily turning yellow. Microphone electrical integrity can also be checked by listening the associated noise in the communication set.

For observer mask, proceed as follows:

Oxygen and interphone plugs ..... PLUG

Don mask and check the ability to inhale with regulator positioned to N, then to 100% position, and check the movement of the flow indicator (green when inhaled, red when exhaled). With the N-100% control set to 100%, rotate the EMERGENCY control knob. After some breathings, cancel the emergency pressure.

Oxygen Pressure ..... CHECK

Check that the oxygen pressure meets the minimum pressure required for the dispatch conditions.

Passenger Oxygen Rotary Switch (if installed) ..... AUTO
Override and Free Fall Gear Actuation ..... CHECK
Electrical Override Switch ..... NORMAL AND GUARDED
Free Fall Lever ..... IN PLACE, CONDITION
Free Fall Sockets ..... NORM (FULL FORWARD)

INTERNAL SAFETY INSPECTION (Continued)

PWR SELECT Switch ..... EXT PWR OR BATT
Be sure that the GPU AVAILABLE light is illuminated before selecting EXT PWR.
Fuel Quantity and Totalizer ..... CHECK AND SET
PWR SELECT Switch ..... AS REQUIRED
Cockpit Emergency Equipment ..... CHECK
Verify all emergency equipment condition and in place.

PASSENGER CABIN

Cabin Emergency Equipment ..... CHECK
Verify all emergency equipment condition and in place.
Emergency Exits ..... CLOSE AND LATCH
Passenger Seats and Belts ..... CHECK FOR CONDITION
Galley and Toilet ..... CHECK FOR CONDITION

– INTERNAL SAFETY INSPECTION COMPLETED –

EXTERNAL SAFETY INSPECTION

Proceed to the external inspection, checking the following items:

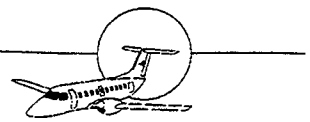
Wheel Chocks ..... IN PLACE

NOSE SECTION

Service Doors ..... CLOSE
Nose Hydraulic Compartment ..... NO LEAKS
Sensors and Pitot Tubes ..... CONDITION
UNOBSTRUCTED
Antennas ..... CONDITION
Nose Gear ..... CONDITION
Steering Jack Overtravel Indicator ..... INSIDE HOUSING
Ground Locking Pin ..... REMOVE
Static Dischargers ..... CONDITION
Lights ..... CONDITION
Air Intakes ..... UNOBSTRUCTED
Radome ..... CLOSE
Oxygen Disc and Recharging Panel ..... CHECK
Check green disc in place and oxygen pressure compatible with flight plans.
Toilet Service Doors ..... CLOSE

WINGS

Engines ..... CONDITION, NO LEAKS
Nacelle Air Intakes ..... UNOBSTRUCTED
Propellers and Spinners ..... CHECK
Make sure that the propellers are in the full feather position by checking the alignment of the yellow marks on the spinner and the number-one blade root.
Fueling Compartment Door (right side) ..... CLOSE
Pneumatic Deicers (leading edge/engine air inlet) ..... CONDITION
Main Gear ..... CONDITION, NO LEAKS
Gear Ground Locking Pins ..... REMOVE
Static Dischargers ..... CONDITION
Service Doors ..... CLOSE
Fire Extinguisher Red Disc (if installed) ..... INTACT, IN PLACE
Dripless Sticks ..... PUSHED IN
Pressure Fueling Adapter ..... CLOSE
Flight Controls Surfaces ..... CONDITION
Lights ..... CONDITION



EXTERNAL SAFETY INSPECTION (Continued)

TAIL CONE SECTION

Service Doors	CLOSE
APU Fire Extinguisher Red Disc	INTACT, IN PLACE
Lights	CONDITION
Pneumatic Leading Edge Deicers	CONDITION
Flight Controls Surfaces	CONDITION
Static Dischargers	CONDITION
Fuselage Drain (if installed)	UNOBSTRUCTED

– EXTERNAL SAFETY INSPECTION COMPLETED –

BEFORE ENGINE START

Internal and External Safety Inspections ..... PERFORM
Battery Voltage ..... CHECK ABOVE 24.0 V
If the battery voltage is below 24.0 V, report to the maintenance personnel.
PWR SELECT Switch ..... EXT PWR OR BATT
Be sure that the GPU AVAILABLE light is illuminated before selecting EXT PWR.
Internal and External Lights ..... AS REQUIRED
Seats, Pedals and Seat Belts ..... ADJUST
RADIO MASTER Switches ..... ON
Check AHRS for proper initialization (HDG and ATT red flags on the EHSI and EADI).
Fire Detection and Extinguishing Test Button ..... PRESS

NOTE: Perform the fire detection system test with ALARM LT switch selected to BRT position, to check the integrity of both lamps installed in each annunciator.

APU (if available) ..... AS REQUIRED
If APU will be used to supply electrical power and air conditioning, after starting the APU, proceed:
APU GEN Switch ..... ON
APU BLEED Switch ..... OPEN
Air Conditioning ..... AS REQUIRED
INVERTER 1 and 2 Switches ..... ON
Check all AC power lights extinguished.
* Before Engine Start Daily Checks ..... PERFORM

NOTE: When the battery is the sole source of electrical power, complete the Before Engine Start procedure with the following items:
- First engine Prop Aux Pumps/Electrical Feather Checking
- EEC set to ON
- IGNITION Switch set to AUTO
- BACK-UP BATT Switch set to ARM
- Communication Radios Setting
- Flight Recorder Checking
- Takeoff Aural Warning Checking

The remaining items shall be performed in the AFTER START checklist.

NO SMOKING Switch ..... AUTO
FASTEN BELTS Switch ..... ON
EEC ..... ON
IGNITION Switch ..... AUTO

BEFORE ENGINE START (Continued)

Pneumatic and Air Conditioning System ..... AS REQUIRED
- Cockpit Temperature Control Mode Selector ..... AUTO
- Cockpit Temperature Adjusting Knob ..... AS REQUIRED
- Cabin Temperature Control Mode Selector ..... AUTO OR CAB AT
- Cabin Temperature Adjusting Knob ..... AS REQUIRED
- RECIRC Switches ..... HIGH OR LOW
- GASPER Switch ..... AS REQUIRED
- W/S DEFOG Switches ..... AS REQUIRED
- Pack Control Selectors (if APU is running) ..... AS REQUIRED
- RAM AIR INLET Switch ..... CLOSE
- BLEED Switches ..... CLOSE
- CROSSBLEED Switch ..... AS REQUIRED

  If APU is running, crossbleed may be open to supply both air conditioning packs.

Flight Instruments, Navigation and Radios ..... SET AND X-CHECK

Proceed to a crosscheck between pilot, copilot and standby instruments.
- Altitude Alerter ..... SET
- Compass Compensator Unit ..... DG MODE OUT (BUTTON NOT LIT)
- Audio Panel ..... SET
- EFIS Control Panel (COLLINS Version) ..... SET
  - COMPOSITE MODE Switch ..... OFF
  - DISPLAY SOURCE and AHRS Switches ..... NORM
  - VOR CRS DEV Switch ..... AS REQUIRED
- EFIS Switching Panel (BENDIX Version) ..... SWITCHES AT NORM
- Display Control Panel ..... SET
- Airspeed Bugs ..... SET
- Altimeters ..... SET
- Clocks ..... SET
- Standby Horizon ..... UNCAGE
- BACK-UP BATT Switch ..... ARM
- Radios ..... SET
- Transponder ..... STBY

GPWS/EGPWS (if installed) ..... CHECK

Press and hold the GPWS TEST button.

Check for the correct self-test sequence and release the test button.

Radar ..... TEST AND STBY

NOTE: Do not operate weather radar during refueling near fuel spills or people.

BEFORE ENGINE START (Continued)

Flight Recorder (if installed)	CHECK AND SET
Check no failure lights illuminated and enter flight number.	
Power Levers	GND IDLE
Condition Levers	FUEL CUT OFF
Pressurization	SET
Mode Selector Switch	AUTO
Manual Controller Selector	FULL DOWN (GREEN MARK)
ALT, BARO and RATE Knobs	AS REQUIRED
Course and Heading Panel	AS REQUIRED
Autopilot	CHECK AND DISENGAGE
Stall Warning Systems	CHECK

Hold the control column at the full back stop with moderate force and press the TEST button. Wait the shaker and the pusher actuation. The fast/slow indicator pointer will move towards slow side and the aural warning will sound.
Perform the test for both systems separately.

– BEFORE ENGINE START CHECKLIST COMPLETED –

ENGINE START

Doors and Windows ..... CLOSE
Check indicating lights extinguished.
RADIO MASTER Switches ..... OFF
External Lights ..... AS REQUIRED
ROT BCN Switch ..... ON
When cleared to start:
One Relevant Fuel Pump Switch ..... ON
The following actions must be performed simultaneously:
Chronometer ..... START
Relevant START Switch ..... ON
IGNITION Light ..... CHECK ON
If ignition light does not illuminate, it may be an indication that back-up battery is turned off or inoperative.
N_H ..... INCREASING

CAUTION: PERFORM AN ABORTED STARTING PROCEDURE IF IGNITION LIGHT DOES NOT ILLUMINATE WITH N_H STABILIZED AROUND 25% AND CORRESPONDENT VOLTAMMETER INDICATING 400 A.

At 10% N_H:
Condition Lever ..... FEATHER

CAUTION: PERFORM AN ABORTED STARTING PROCEDURE IF ENGINE FAILS TO LIGHT UP WITHIN 10 SECONDS FROM SETTING CONDITION LEVER TO FEATHER. PERFORM A DRY MOTORING BEFORE ATTEMPTING ANOTHER START.

NOTE: Minimum oil temperature required to unfeather the propeller is 0°C.

Engine Instruments ..... MONITOR
Engine Oil Pressure ..... POSITIVE INDICATION BEFORE 45% N_H

CAUTION: PERFORM AN ABORTED STARTING PROCEDURE IF ANY ABNORMAL CONDITION OR LIMITS EXCEEDING OCCUR DURING STARTING PROCEDURE.

At 50% N_H:
IGNITION Light ..... OFF

CAUTION: PERFORM AN ABORTED STARTING PROCEDURE IF IGNITION LIGHT DOES NOT EXTINGUISH AFTER 50% N_H.

After 60% N_H:
Condition Lever ..... MIN RPM

ENGINE START (Continued)

Engine Instruments ..... CHECK
Relevant Main and Auxiliary Generators Switches ..... ON

Repeat the procedure for the other engine.

NOTE:
- It is recommended that right and left engine starting be alternated.
- When starting the second engine with battery and operating starter/generator or APU generator, the following applies:
  - Advance the operating engine power lever above GND IDLE before starting the second engine, to avoid EEC manual reversion on the operating engine. However, if that happens, reset the EEC of the first engine after second engine starting cycle is completed.
  - Delay the second engine starting until the operating generator load is below 150 A.
  - With EEC on, increase in torque is normal on the operating engine.

ABORTED START

If it is necessary to abort start, proceed:

Condition Lever ..... FUEL CUTOFF
Relevant START Switch ..... ABORT

If N_H remains stabilized at 25% and current above 400 A or if IGNITION light does not extinguish, proceed:

Electrical Emergency Switch ..... EMERG
BUS TIE 1 and 2 Switches ..... OFF

If even so, IGNITION light does not extinguish, proceed:

PWR SELECT Switch ..... OFF
Main and Auxiliary Generators Switches ..... OFF
APU GEN Switch ..... OFF

Report to the maintenance personnel.

DRY MOTORING

Condition Lever ..... FUEL CUTOFF
IGNITION Switch ..... OFF
START Switch ..... START

Keep starter running up to 30 seconds maximum.

START Switch ..... ABORT
IGNITION Switch ..... AUTO

Allow the required and cooling period for the starter before any further starting is attempted.

– ENGINE START CHECKLIST COMPLETED –

AFTER ENGINE START

RADIO MASTER Switches ..... ON
* After Engine Start Daily Checks ..... PERFORM
Electrical Panel ..... CHECK AND SET
INVERTER 1 and 2 Switches ..... ON
Main and Auxiliary Generators Switches ..... ON
PWR SELECT Switch ..... BATT
Check all BUS lights extinguished, except the AUX GEN OFF BUS lights.
Verify the battery temperature within limits.
Press the Battery Overheat Test button and check for normal test indications.
Electrical Emergency Switch ..... NORMAL

Internal and External Lights ..... AS REQUIRED
EMERG LT Switch ..... ARM
APU (if installed) ..... AS REQUIRED
Consider the use of APU bleed during takeoff in order to save engine bleeds, thus improving climb performance.

CROSSFEED Switch ..... CLOSE
Fuel Pumps Switches ..... AUT
PROP SYNC Switch ..... OFF
Flaps ..... CHECK AND 15°

NOTE: The electrical transients which appear during engine startings or when turning on the electric hydraulic pumps may cause a flap control fault. In this case, press RST button before pressing BIT button.

Flap Selector Lever ..... UP
BIT Button ..... PRESS
Check for the normal test indication in the flap panel.

RST Button ..... PRESS
Flap Selector Lever ..... 15°

AFTER ENGINE START (Continued)

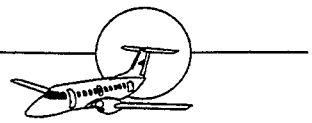
Rudder System GREEN and BLUE Switches ..... ON
OUTBD and INBD ANTISKID Switches ..... ON
Check that INOP lights extinguish when turning anti-skid on.
Hydraulic System ..... CHECK AND SET
Check fluid quantity and pressure in the green range and all system lights extinguished.
Hydraulic ELEC PUMP Switches ..... AUTO
Ice Protection System ..... AS REQUIRED
The ice protection system should be left on whenever necessary.
PITOT/STATIC 1, 2 and AUX Switches ..... ON
Check INOP lights extinguished.
Pneumatic and Air Conditioning System ..... SET
Left and Right Bleed Switches ..... AS REQUIRED
If APU bleed is available, engine bleed may be closed.
CROSSBLEED Switch ..... AS REQUIRED
If APU will be used during takeoff, crossbleed may be open to supply both packs. Otherwise, crossbleed should be closed.
Pack Control Selectors ..... LOW OR NORM
HI position is allowed during flight, if the system can not maintain the desired cabin temperature with bleed switches at AUTO and packs selectors at NORM.
APU BLEED Switch ..... AS REQUIRED
If APU will be used during takeoff, APU bleed may be open to supply packs. Otherwise, APU bleed should be closed.
Flight Controls ..... CHECK
Check all flight controls moving free, by commanding full travel for each one.

NOTE: When commanding rudder, disengage nose wheel steering through steering disengage pushbutton on control wheels.

Ground Equipment ..... CLEARED
Wheel Chocks and Ramp Microphone ..... REMOVE

NOTE:
- On icing ramps, make sure that power levers are set to GND IDLE before removing the chocks to prevent airplane sliding.
- Control engine oil temperature by selecting power levers between GND IDLE and FLT IDLE.

– AFTER ENGINE START CHECKLIST COMPLETED –



TAXI

NOTE:
- Ensure that the airplane is not moved until the attitude flags disappear and the attitude is presented on the EADI displays.
- The use of reverse is allowable for pushback purposes. Refer to Section 2 for Np limitations.
- If the airplane is to be towed away with engines running or electric hydraulic pumps on, disengage the steering system by pressing the disengage switches on the control wheels.

* Taxi Daily Checks ..... PERFORM

TAXI Lights Switch ..... ON

Parking Brake ..... RELEASE

Check the indicating lights extinguished.

Brakes ..... CHECK

Apply brakes smoothly to check its operation.

Condition Levers ..... FEATHER, THEN MIN RPM

Feather the propellers once, in order to purge the propeller pitch system. Propeller feathering is confirmed when Np indication drops to approximately 20%.

Trim Controls ..... SET

Set the elevator trim to the units required for takeoff by actuating the electric trim switch on the control wheel. Observe that TRIM annunciator light illuminates on the flight control panel.

Set the rudder and aileron trims to zero.

– TAXI CHECKLIST COMPLETED –

BEFORE TAKEOFF

Takeoff Briefing ..... PERFORM

Power rating setting, takeoff speeds and takeoff briefing should be estabilished prior to takeoff.

AUTO FEATHER Switch ..... CHECK ON

Air Conditioning ..... AS REQUIRED

If APU is not available, bleed switches should be set to LOW or to CLOSE position. With bleed switches in LOW, select packs to LOW.

Flap Selector Lever ..... CHECK 15°

Autopilot ..... CHECK DISENGAGED

– BEFORE TAKEOFF CHECKLIST COMPLETED –

CLEARED INTO POSITION

LANDING Light Switches ..... ON
STROBE Light Switch ..... ON
Transponder ..... ALT

– CLEARED INTO POSITION CHECKLIST COMPLETED –

CLEARED FOR TAKEOFF

Condition Levers ..... MAX RPM
Multiple Alarm Panel Lights ..... CHECK EXTINGUISHED

– CLEARED FOR TAKEOFF CHECKLIST COMPLETED –

TAKEOFF

Power Levers ..... ADVANCE

Advance the power levers until the torque indication match the calculated static takeoff torque. For rolling takeoff, set power levers to approximatelly 75% of torque determined by power setting chart on runway alignment and advance up to takeoff power, before reaching 60 KIAS during takeoff run.

NOTE: During takeoff run, pedals should be used to steer the airplane.

Engine Parameters ..... MONITOR

During takeoff run, Np digital indication may oscillate up to 2%. depending on wind speed. This characteristic should disappear after takeoff.

At V_R, rotate the airplane smoothly to 7°.

At V_2 + 10 KIAS and 35 ft height, with positive rate of climb:

Landing Gear Lever ..... UP

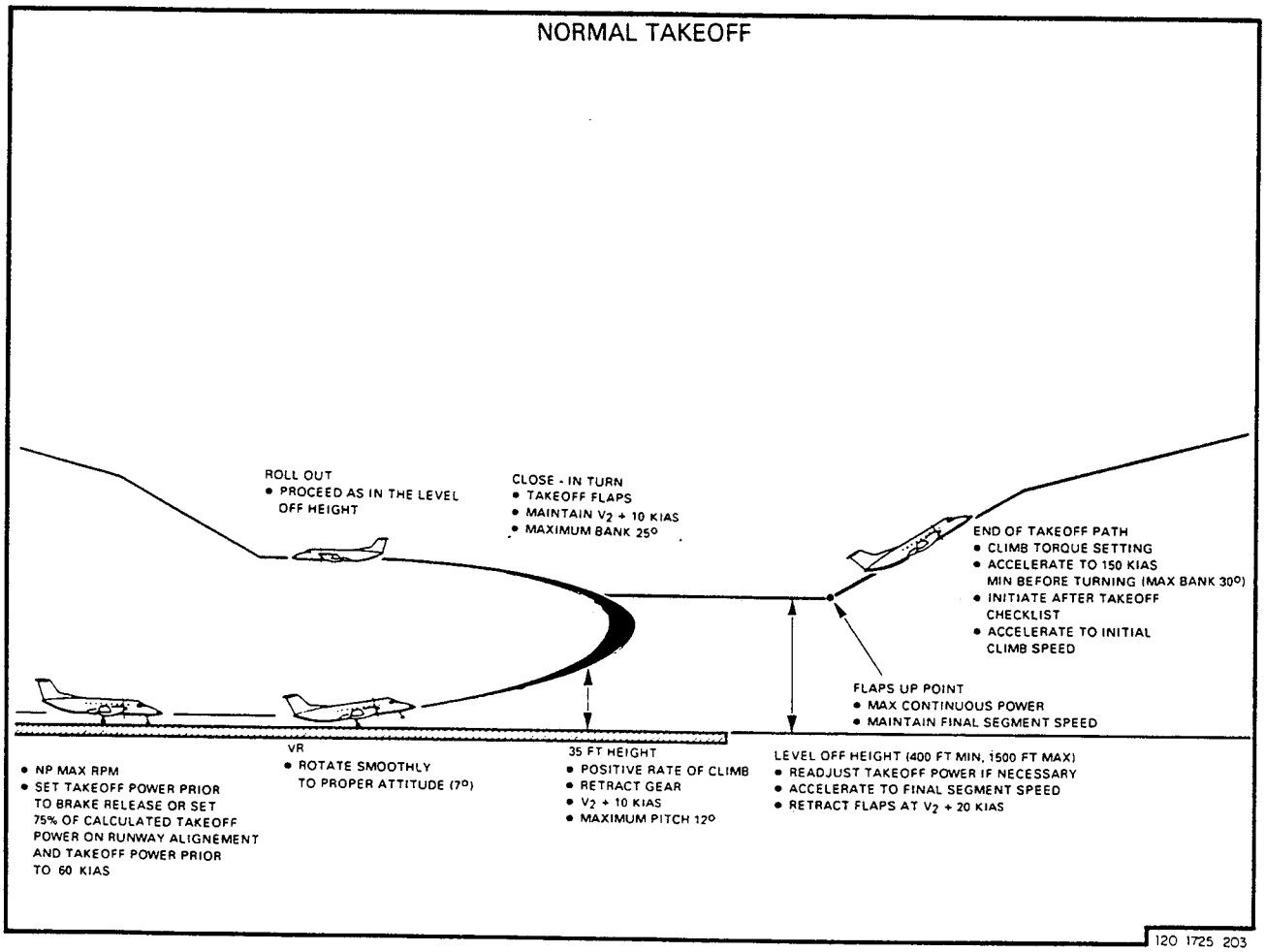
At V_2 + 20 KIAS and level off height:

Flap Selector Lever ..... UP

Accelerate to Final Segment Airspeed.

NOTE: When at or near critical field length, static takeoff technique may be accomplished. In this case, release brakes after engine has reached the calculated static takeoff torque. The torque reading may increase during takeoff, which is normal. During the climb beyond 400ft AGL, if necessary, readjust the torque to the calculated static torque setting.

– TAKEOFF CHECKLIST COMPLETED –



CTA APPROVED

AFTER TAKEOFF

Landing Gear ..... CHECK UP
Flaps ..... CHECK UP
LANDING Lights Switch ..... OFF
APU (if available) ..... AS REQUIRED
AUTO FEATHER Switch ..... OFF
PROP SYNC Switch ..... ON
Air Conditioning ..... SET

To supply air conditioning packs with air bled from the engines, proceed:

RAM AIR INLET Switch ..... CLOSE
Left and Right Bleed Switches ..... AUTO
Left and Right Pack Control Selectors ..... LOW OR NORM
W/S DEFOG Switch ..... AS REQUIRED

Altimeters ..... SET/ X CHECK

Reset the altimeter to 29.92 in.Hg (1013.2 mb) and crosscheck when crossing the local established transition altitude.

– AFTER TAKEOFF CHECKLIST COMPLETED –

CRUISE

FASTEN BELTS Switch ..... AS REQUIRED
Power Levers ..... SET
Pressurization ..... CHECK
Verify the triple indicator and the electronic controller for proper indication.

– CRUISE CHECKLIST COMPLETED –

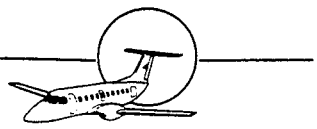
DESCENT

CAUTION: NEVER SET POWER LEVER BELOW FLT IDLE IN FLIGHT.

NOTE: Above 14000 ft, any significant asymmetry in engine parameters, with power levers set at FLT IDLE, should be reported to the maintenance personnel. This asymmetry may be due to a failure in energizing the HMU enrich solenoid. This failure may be verified by selecting MAN position on the EEC of the engine with low parameters. If the equalization of the parameters of both engines occurs, the failure in the HMU enrich solenoid of the engine with high parameters is confirmed.

FASTEN BELTS Switch ..... ON
LANDING Lights Switches (when crossing 10000 ft) ..... ON
Windshield Heating Switches ..... AS REQUIRED
W/S DEFOG Switch ..... AS REQUIRED
Airspeed Bugs ..... SET
Pressurization ..... SET
Set the BARO knob. Set the cabin altitude to a value equal to landing field elevation minus 300 ft.
Flight Instruments/Nav/Radios ..... SET AND X CHECKED

– DESCENT CHECKLIST COMPLETED –



APPROACH

CAUTION: NEVER SET POWER LEVER BELOW FLT IDLE IN FLIGHT.

Airspeed ..... APPROPRIATE TO FLAP POSITION

NO SMOKING Switch ..... AS REQUIRED

The NO SMOKING sign will automatically illuminate when the landing gear is down. However, it may be turned on earlier, if required.

APU (if available) ..... AS REQUIRED

Consider the use of APU bleed during landing, in order to save engine bleeds, thus improving climb performance in case of a go-around.

Air Conditioning ..... AS REQUIRED

If APU bleed is available:

- Crossbleed Switch ..... OPEN
- Left and Right Bleed Switches ..... CLOSE
- Left and Right Pack Control Selectors ..... LOW OR NORM

If APU bleed is not available:

- Left and Right Bleed Switches ..... CLOSE OR LOW
- Left and Right Pack Control Selectors ..... LOW
- With engine bleed switches at CLOSE position:
  - RAM AIR INLET Switch ..... OPEN

Altimeters ..... SET AND X CHECKED

Reset and crosscheck the altimeter to local altimeter setting, when descending through the local transition level.

For instrument approach:

VOR CRS DEV Switch (COLLINS EFIS CONTROL PANELS) ..... ANG

Active Course/Preselect Course (As Applicable) ..... AS REQUIRED

Bearing Buttons ..... AS REQUIRED

ADF/NAV Controls ..... SET (FOR ILS, SAME FREQUENCY ON BOTH SIDES)

After selecting the intended navigation source, set the same frequencies on both ADF/NAV controls to avoid the autopilot intercepting another source in case of a malfunction which will require an autopilot transference.

Flight Director/Autopilot ..... AS REQUIRED (SAME FD SELECTION ON BOTH SIDES)

Select the same mode on both autopilot panels to avoid a sudden attitude or heading change in case of a malfunction which will require an autopilot transference.

Power to Go-Around (Takeoff Power In-flight Setting) ..... CHECK

Decision Height ..... SET

– APPROACH CHECKLIST COMPLETED –

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BEFORE LANDING

AUTO FEATHER Switch	ON
PROP SYNC Switch	OFF
Radar	STBY
Landing Gear Lever	DOWN AND CHECK
Flap Selector Lever	LANDING SETTING
Condition Levers	MAX RPM
Pressurization	CHECK
AP/Yaw Damper	OFF

– BEFORE LANDING CHECKLIST COMPLETED –

GO-AROUND

Power Levers	ADVANCE TO TAKEOFF POWER (IN-FLIGHT SETTING)

Rotate to proper attitude (7°).

Airspeed	V_2 + 10 KIAS
Flap Selector Lever	15°

With positive rate of climb:

Landing Gear Lever	UP

At the level off height, proceed as for a normal takeoff.

– GO-AROUND CHECKLIST COMPLETED –

LANDING

Brakes ..... APPLY
Power Levers ..... REVERSE, THEN GND IDLE

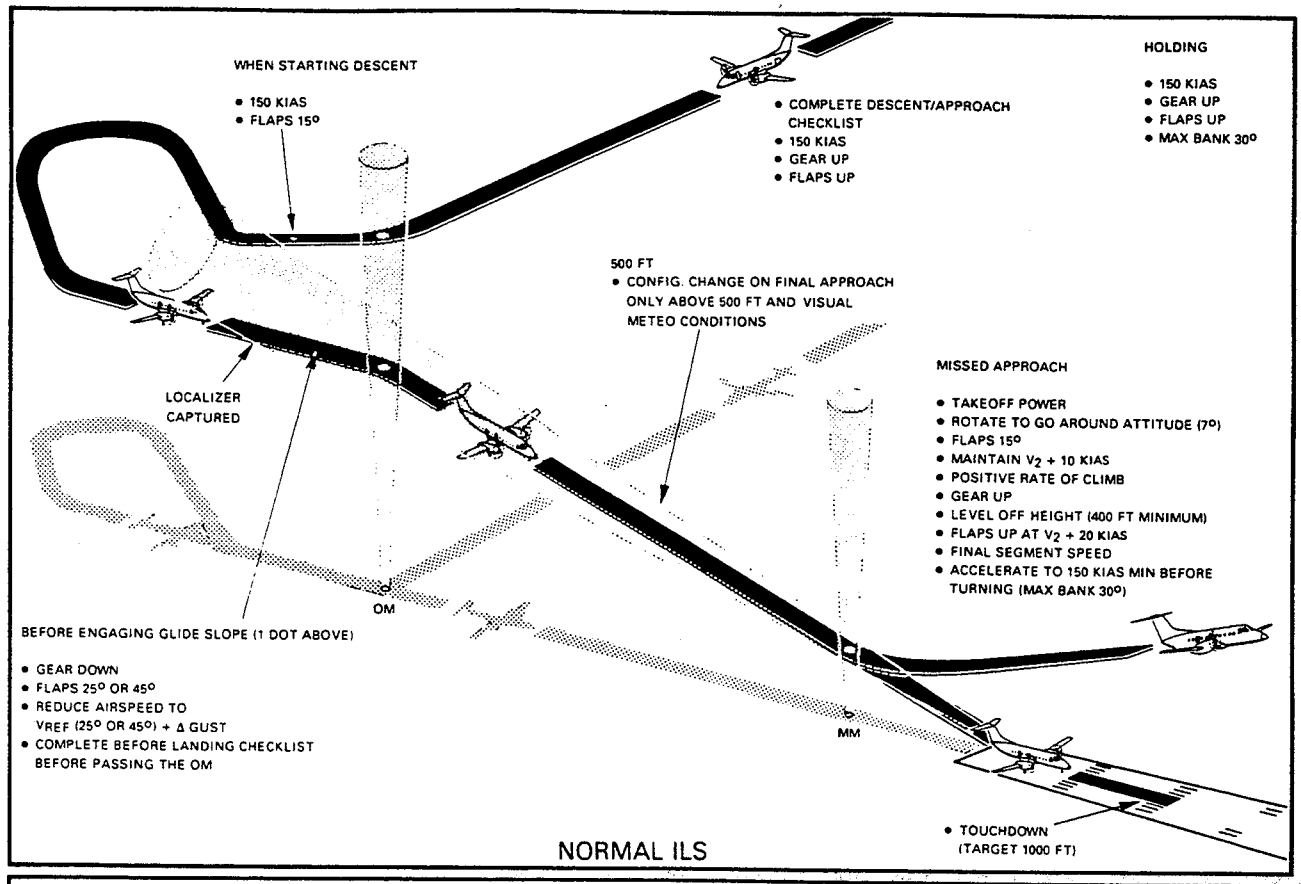
NOTE: During landing run, pedals should be used to steer the airplane.

At taxi speed:

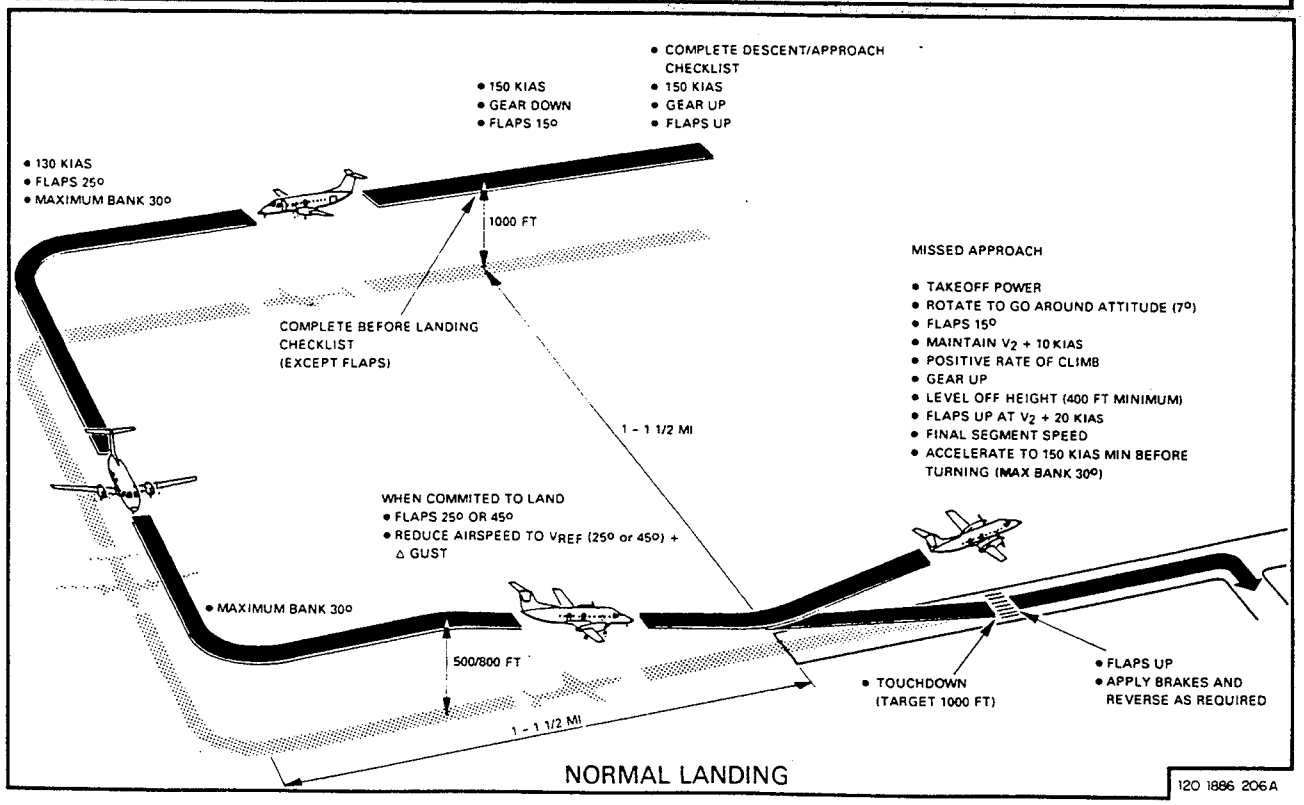
Condition Levers ..... MIN RPM

CAUTION: AVOID MAX REVERSE IN AREAS OF STANDING WATER.

– LANDING CHECKLIST COMPLETED –



NORMAL ILS



NORMAL LANDING

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AFTER LANDING

LANDING and TAXI Lights Switches ..... AS REQUIRED
STROBE Lights (Anticollision) Switch ..... OFF
AUTO FEATHER Switch ..... OFF

Ice Protection Switches ..... OFF
Air Conditioning ..... AS REQUIRED
If engine bleeds had been closed for landing, they may be open to supply air conditioning packs, provided RAM AIR INLET switch is set at CLOSE.

Transponder ..... STANDBY
Trim Controls ..... SET ALL TO ZERO
Pressurization ..... CHECK
Check airplane depressurized.

Flap Selector Lever ..... UP

– AFTER LANDING CHECKLIST COMPLETED –

SHUTDOWN

Parking Brake ..... APPLY
Check the parking brake indicating light illuminated.

Power Levers ..... GND IDLE
Conditions Levers ..... FEATHER
INVERTER Switches (2 then 1) ..... OFF
Main and Auxiliary Generators Switches ..... OFF
NO SMOKING Switch ..... AS REQUIRED
FASTEN BELTS Switch ..... OFF
Internal Lights Switches ..... AS REQUIRED
External Lights Switches ..... AS REQUIRED
Electric Hydraulic Pumps Switches ..... OFF
Air Conditioning ..... AS REQUIRED
When bleeding air from APU:

CROSSBLEED Switch ..... OPEN
Left and Right Bleed Switches ..... CLOSE
Left and Right Pack Control Selectors ..... LOW OR NORM
RECIRC Switches ..... HIGH OR LOW
GASPER Switch ..... AUTO
W/S DEFOG Switch ..... OFF

For terminating flights or when the air conditioning ground equipment is used:

CROSSBLEED Switch ..... CLOSE
Left and Right Bleed Switches ..... CLOSE
Left and Right Pack Control Selectors ..... OFF
RECIRC Switches ..... OFF
GASPER Switch ..... OFF
W/S DEFOG Switch ..... OFF

RADIO MASTER Switches ..... AS REQUIRED
Fuel Pump Switches ..... OFF
If APU is being used, one fuel pump must be turned ON. Crossfeed must be opened, if any left pump is being used.

Condition Levers ..... FUEL CUT OFF

APU (if available) ..... AS REQUIRED
PWR SELECT Switch ..... AS REQUIRED
If APU Generator is available:

PWR SELECT Switch ..... BATT

If GPU is available (GPU available light illuminated):

PWR SELECT Switch ..... EXT PWR

– SHUTDOWN CHECKLIST COMPLETED –

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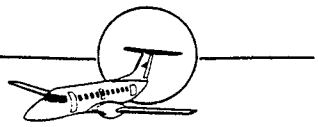
LEAVING THE AIRPLANE

Overhead Panel Switches and Selectors ..... OFF

NOTE: If required, keep internal lights on.

Glareshield Panel Light Knobs ..... OFF
BACK-UP BATT Switch ..... OFF
RADIO MASTER Switches ..... OFF
Radar ..... OFF
Gust Lock ..... LOCK
Position control column full forward and control wheel full left before locking.
Aft Console Switches and Knobs ..... OFF
PWR SELECT Switch ..... OFF
Standby Horizon ..... CAGE, AFTER STOP

– LEAVING THE AIRPLANE CHECKLIST COMPLETED –



AUXILIARY POWER UNIT (IF INSTALLED)

APU STARTING

NOTE:
- It is recommended that RADIO MASTER switches be turned off during APU starts on the ground.
- When starting the APU with battery or external electrical power, the starter duty cycle allows:
  - For APU Garrett, 3 consecutive start attempts, with a maximum of 30-second cranking with 3-minute interval between each cranking.
    A fourth 30-second cranking starting attempt may be made only after a 30-minute interval.
  - For APU Sundstrand, 3 consecutive start attempts only, with a maximum of 30--second cranking with 5-minute interval between each cranking.

BACK-UP BATTERY Switch ..... CHECK ARM
Internal Safety Inspection Procedure ..... PERFORM
APU BLEED Switch ..... CHECK CLOSED
APU GEN Switch ..... CHECK OFF
Battery Condition ..... CHECK
Check that battery voltage is 22 V minimum before starting APU.
Fire Detection and Extinguishing ..... CHECK
Press the fire test button on the glareshield panel and check all the lights on the APU fire panel illuminated.
Rotating Beacon Switch ..... ON
One Fuel Pump Switch ..... ON
CROSSFEED Switch ..... AS REQUIRED
Open the crossfeed, if any left fuel pump is being used to start and supply the APU.
APU Master Switch ..... ON
Fuel LOW PRESS Light ..... CHECK OFF

CAUTION: THE SWITCHES OF THE INOPERATIVE MAIN GENERATORS MUST BE SET TO OFF AND THE ELECTRICAL EMERGENCY SWITCH MUST BE SET TO NORMAL TO PERMIT APU STARTING.

APU Master Switch ..... START
Check START CONTACTOR light illuminated, then release APU Master switch.
RPM ..... MONITOR
EGT ..... MONITOR

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AUXILIARY POWER UNIT (IF INSTALLED) (Continued)

When APU RPM reaches 50% (APU Garrett) or 70% (APU Sundstrand):

START CONTACTOR Light ..... CHECK OFF

If the START CONTACTOR light does not extinguish above 50% RPM (APU Garrett) or 70% RPM (APU Sundstrand), shut the APU down.

When APU RPM reaches 100%:

Oil LOW PRESS Light ..... CHECK OFF

– APU STARTING CHECKLIST COMPLETED –

APU SHUTDOWN

APU STOP Button ..... PRESS

Verify APU EGT and RPM decreasing.

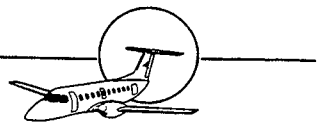
When RPM reaches zero:

APU BLEED Switch ..... CLOSE
APU GEN Switch ..... OFF
APU Master Switch ..... OFF

NOTE: For APU Garrett, do not cycle APU ON-OFF master switch during the APU rolldown after shutdown.
This procedure may cause the APU to restart.

CROSSFEED Switch ..... AS REQUIRED
Fuel Pump Switches ..... AS REQUIRED

– APU SHUTDOWN CHECKLIST COMPLETED –



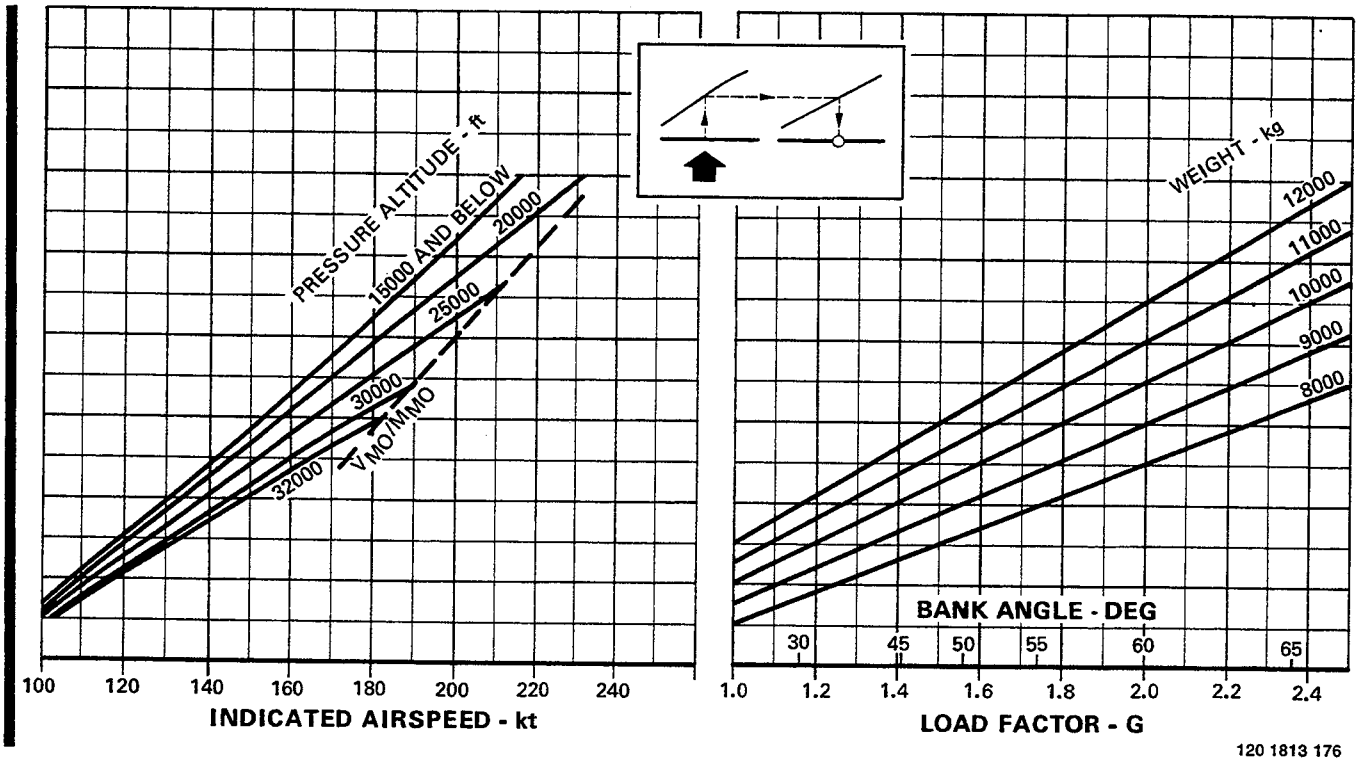
BUFFET ONSET ENVELOPE

At any flight condition, it is possible to determine maneuvering margins, before buffet onset occurs, by referring to the following charts.

CAUTION: AS THE SPEED INCREASES, THERE IS A DECREASE IN CONTROL COLUMN FORCE TO OBTAIN THE SAME LOAD FACTOR.

NOTE: Takeoffs above 11500 kg are only permitted for airplanes EMB-120ER.

AIRPLANES PRE-MOD. SB 120-053-0036



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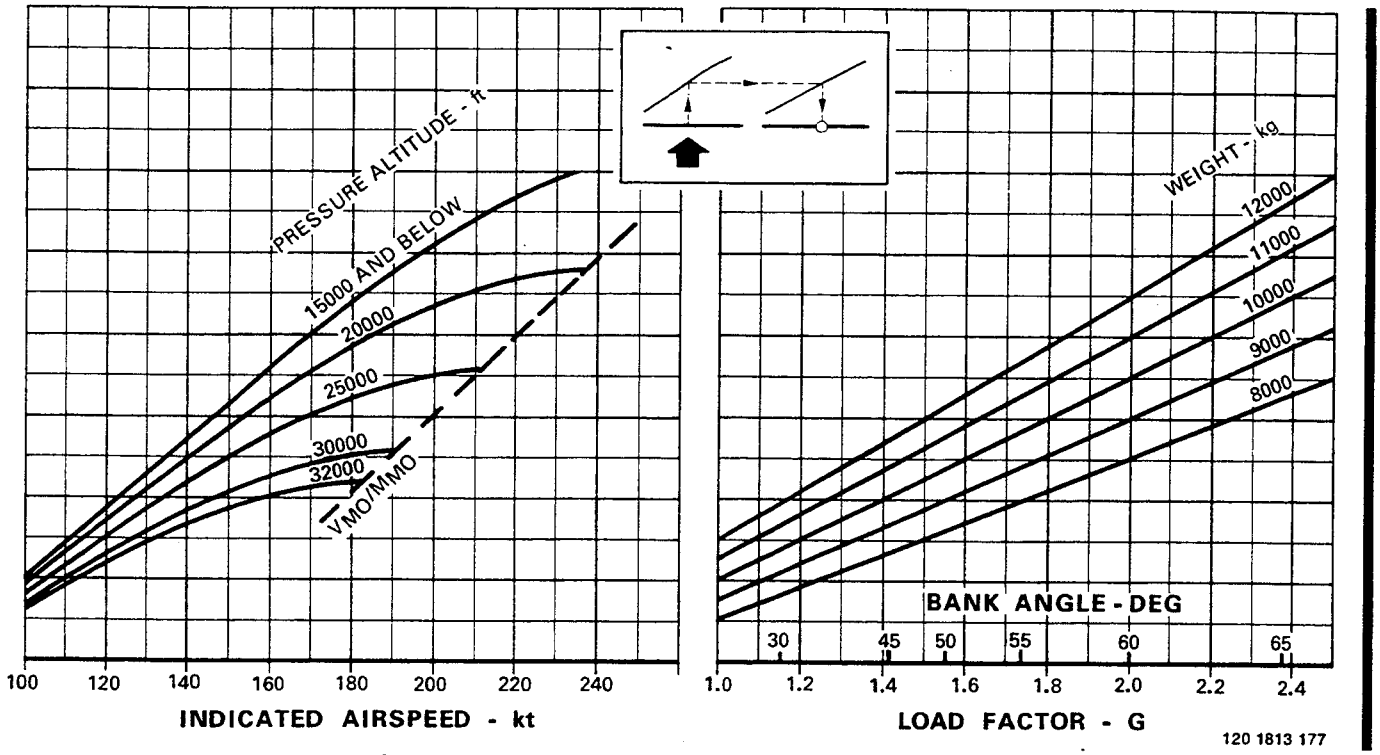
BUFFET ONSET ENVELOPE (Continued)

AIRPLANES POST-MOD. SB 120-053-0036 OR S/N 120.076, 120.079 AND ON



OPERATION IN ICING CONDITIONS

ICE PROTECTION SYSTEM TEST (AFTER ENGINE START)

Perform the following tests at the first flight of the day or at intermediate flights, if icing conditions are known or forecast:

Engine Bleed ..... LOW OR AUTO
MONITOR Switch ..... TEST
Check for the normal test sequence.

For all switches below, check no INOP lights illuminated and the NORMAL lights (when applicable) lit during system operation.

Both Condition Levers ..... MIN RPM
Both Power Levers ..... ADVANCE UNTIL 80% N_H MINIMUM
Leading Edge Deicers Switch ..... TIMER 1
Inflation Cycle Switch ..... LIGHT
Check lights.

Leading Edge Deicers Switch ..... TIMER 2
Inflation Cycle Switch ..... HEAVY
Check lights.

In both cases, check all wing leading edge deicers inflating and deflating.

Engine Air Inlet Deicer Switches ..... ON
Check lights.

Both Power Levers ..... GND IDLE
Propeller Deicing Switch ..... TIMER 1
Cycle Selection Switch ..... COLD
Check lights.

Propeller Deicing Switch ..... TIMER 2
Cycle Selection Switch ..... NORM
Check lights.

Total Air Temperature (TAT) Switch (if installed) ..... ON
Angle of Attack (AOA) Switches ..... ON
Side Slip Sensor Switch ..... ON
Check INOP lights extinguished.

Windshield Heating Test Switch ..... LEFT, THEN RIGHT
Check normal test sequence.

Ice Detection System TEST Button (if installed) ..... PRESS
Check normal test sequence.

After the test, return the switches to the former condition.

OPERATION IN ICING CONDITIONS (Continued)

FLYING IN KNOWN OR FORECAST ICING CONDITIONS

NOTE:
- Icing conditions exist inflight when the OAT is 10°C (50°F) or below and visible moisture in any form is present (such, as clouds, fog with visibility of one nautical mile or less, rain, snow, sleet, ice crystal).
- The frontal windshield corners (unheated areas), propeller spinners and wing leading edges will provide good visual cues of ice accretion.
- The ice accretion will also be indicated by the ICE CONDITION light illumination on the multiple alarm panel.
- For airplanes Post-Mod. SB 120-36-0013, airplanes equipped with a shutoff valve to the pneumatic deicing system feed line, or which have an equivalent modification factory incorporated, at least one engine bleed switch must be positioned to LOW or AUTO to allow pneumatic deicing system operation.
- The minimum N_H required for operation of pneumatic deicing system is 80%. At lower N_H values, the pneumatic deicing system may not totally inflate, and the associated failure lights on the overhead panel may illuminate. If this occurs, increase N_H.
- **ICING CONDITIONS:** Are the conditions during or after an ice accretion in which the de-icing boots are not completely clear of ice. There is still some residual ice visible on the boots. This is also the condition when the Ice Detector is detecting ice and/or the de-ice boots are activated.
- Notwithstanding ice detector monitoring, the flight crew remains responsible for monitoring icing conditions and for activation of the ice protection system if icing conditions are present and the ice detection system is not detecting ice.

When atmospheric or ground icing conditions exist, or at first sign of ice accretion anywhere on the airplane, or if ICE CONDITION light is illuminated, or if SWC ICE MODE light is illuminated, whichever occurs first, proceed:

AOA, TAT, SLIP and Engine Air Inlet Switches ..... ON
IGNITION Switches ..... ON

Airspeeds:

– Flaps and Gear Up ..... 165 KIAS MINIMUM
– Flaps 15°/Gear Up ..... 140 KIAS MINIMUM

Propeller Deicing Switch ..... ON

Select NORM mode if OAT is above –10°C (14°F) or COLD mode if OAT is below –10°C (14°F).

Windshield Heat Switches ..... ON
Leading Edge Deicers Switches ..... ON (TIMER 1 OR TIMER 2)

NOTE: During takeoff, delay activation of the leading edge deicers until reaching the final segment speed.

OPERATION IN ICING CONDITIONS (Continued)

WARNING: IF LARGE OR FREQUENT CHANGES IN LONGITUDINAL TRIM, AND/OR EXCESSIVE PERFORMANCE DEGRADATION OCCUR (IDENTIFIED BY LARGE INCREASES IN POWER REQUIRED TO MAINTAIN AIRSPEED AND ALTITUDE), IMMEDIATELY REQUEST AIR TRAFFIC CONTROL INSTRUCTIONS OR CLEARANCE PRIORITY TO EXIT ICING CONDITIONS.

CAUTION:

- DO NOT INTERRUPT THE AUTOMATIC SEQUENCE OF OPERATION OF THE LEADING EDGE DE-ICE BOOTS ONCE IT IS TURNED ON. THE SYSTEM SHOULD BE TURNED OFF ONLY AFTER LEAVING THE ICING CONDITIONS AND AFTER THE PROTECTED SURFACES OF THE WING ARE FREE OF ICE.
- THE ICE PROTECTION SYSTEMS MUST BE IMMEDIATELY TURNED ON (EXCEPT LEADING EDGE DEICERS, DURING TAKEOFF) WHEN THE ICE CONDITION LIGHT ILLUMINATES ON THE MULTIPLE ALARM PANEL OR WHEN ANY ICE ACCRETION IS DETECTED BY VISUAL OBSERVATION OR OTHER CUES.

Holding configuration:

Airspeed ..... 165 KIAS MINIMUM
N_P ..... 85% MINIMUM
If propeller vibrations occurs, increase N_P as required.

Approach and landing procedures:

Increase the landing reference speeds, according to the following flap settings, until landing is assured:

Flaps 25° – Increase airspeed by 15 KIAS ($V_{REF\ 25}$ + 15 KIAS).
Flaps 45° – Increase airspeed by 10 KIAS ($V_{REF\ 45}$ + 10 KIAS).

Go-around procedure:

For all-engines operating go-around, use the landing climb speed increased by 15 KIAS (for flaps 25°) or 10 KIAS (for flaps 45°).
For one engine inoperative go-around use the approach climb speed increased by 15 KIAS.

NOTE: Increase power to maintain airspeed and altitude in case of buffet occurrence.

Approach and landing performance:

Approach and landing performance calculation must consider the appropriate ice accretion corrections presented in Section V – Performance from the basic AFM or from Supplement 5 (Operation with PW 118A Engines) for the following parameters:
– Approach Climb and Landing Climb Gradients;
– Maximum Landing Weights – Approach Climb and Landing Climb Limited;
– Landing Field Lengths;
– Maximum Landing Weights – Brake Energy Limited.

OPERATION IN ICING CONDITIONS (Continued)

FLYING IN SEVERE ICING CONDITIONS

Severe ice conditions should be determined by the visual cues specified in the Limitations Section of this manual.

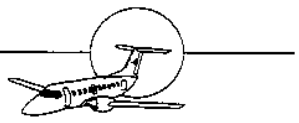
The following weather conditions may be conductive to severe icing in flight:

– Visible rain at temperatures below 0°C (32°F) ambient air temperature.

– Droplets that splash or splatter on impact at temperatures below 0°C (32°F) ambient air temperature.

When flying in severe ice conditions, proceed as follows. These procedures are applicable to all flight phases from takeoff to landing.

1. Immediately turn all ice protection systems on. Select leading edge deicers inflation cycle switch to HEAVY for airplanes Pre-Mod. SB 120-30-0032 and propeller deicing switch to COLD or NORM, as required.
2. Immediately request priority handling from Air Traffic Control to facilitate a route or an altitude change to exit the severe icing conditions in order to avoid extended exposure to flight conditions more severe than those for which the airplane has been certificated.
3. Avoid abrupt and excessive maneuvering that may exacerbate control difficulties.
4. Do not engage the autopilot.
5. If the autopilot is engaged, hold the control wheel firmly and disengage the autopilot.
6. If an unusual roll response or uncommanded roll control movement is observed, reduce the angle-of-attack.
7. Do not extend flaps during extended operation in icing conditions. Operation with flaps extended can result in a reduced wing angle-of-attack, with the possibility of ice accretion on the upper surface further aft on the wing than normal, possibly aft of the protected area.
8. If the flaps are extended, do not retract them until the airframe is clear of ice or unless flap retraction is essential for go-around.
9. Report these weather conditions to Air Traffic Control.



TURBULENT AIR PENETRATION

Flight through turbulence should be avoided, if possible. When flying at 30000 ft or higher, it is not advisable to avoid a turbulent area by climbing over it.
If possible reduce altitude to increase buffet margin.
The recommended procedures for turbulent air penetration are:

1. Airspeed

   175 KIAS

   Severe turbulence will cause large and often rapid variations in indicated airspeed. Do not chase the airspeed.

2. Attitude

   Maintain wings level and proper pitch attitude. Use attitude indicator as the primary instrument. In extreme drafts, large attitude changes may occur. Do not use sudden large control inputs.

3. Elevator Trim

   Maintain control of the airplane with the elevators. After establishing the trim setting for penetration speed, do not change elevator trim.

4. Altitude

   Large altitude variations are possible in severe turbulence. Sacrifice altitude in order to maintain the desired attitude. Do not chase altitude.

5. Power Setting

   Engine ignition should be ON. Make an initial power setting for the target airspeed. Change power setting only in case of extreme airspeed variation.
   In case of inadvertent negative-g condition, reduce power levers.

CAUTION: NEVER SET POWER LEVERS BELOW FLT IDLE IN FLIGHT.

NOTE: Do not extend flaps except for approach and landing.

TRAFFIC ALERT AND COLLISION AVOIDANCE (IF INSTALLED)

The pilot must not initiate evasive maneuvers using Traffic Advisory information (TA) only, without visually sighting conflicting traffic.
The traffic display and advisories are intended for assistance in visually locating the indicated conflicting traffic.
Maneuvers that are in the opposite direction of the Resolution Advisories (RAs) are extremely hazardous, especially RAs involving altitude crossing, and thus are prohibited unless it is visually determined to be the only means to assure safe separation.

WARNING: IT IS POSSIBLE IN SOME CASES TO HAVE INSUFFICIENT AIRPLANE PERFORMANCE TO FOLLOW THE TCAS COMMAND WITHOUT FLYING INTO STALL WARNING OR BUFFET. CONDITIONS WHERE THIS MAY OCCUR INCLUDE:

- **BANK ANGLE IN EXCESS OF 15°.**
- **OPERATIONS AT AIRPORTS ABOVE 5300 FT MSL OR TEMPERATURES GREATER THAN ISA + 28°C (50°F).**
- **ENGINE INOPERATIVE.**
- **FAILURE TO CONFIGURE THE ARPLANE TO GO-AROUND FOLLOWING A CLIMB RA IN LANDING CONFIGURATION.**
- **FAILURE TO ADVANCE THRUST TO MAX CONTINUOUS THRUST FOLLOWING A CLIMB RA AT REDUCED THRUST.**
- **SPEEDS LESS THAN NORMAL OPERATING SPEED.**
- **ABNORMAL CONFIGURATIONS THAT REDUCE PERFORMANCE (E.G. GEAR DOWN).**
- **BUFFET MARGIN LESS THAN 0.3 G.**

WARNING: IF STALL WARNING OCCURS DURING AN RA MANEUVER, IMMEDIATELY ABANDON THE RA AND EXECUTE STALL RECOVERY PROCEDURES. TCAS II WILL CONTINUE TO PROVIDE RAS DURING STALL WARNING AND RECOVERY PROCEDURE.

WARNING: IF HIGH SPEED BUFFET IS ENCOUNTERED WHEN INITIALLY RESPONDING TO AN RA, RELAX PITCH FORCE AS NECESSARY TO REDUCE BUFFET, BUT STILL CONTINUE TO MANEUVER.

WARNING: FOR CROSSING RA, NON-COMPLIANCE BY ONE AIRPLANE CAN RESULT IN REDUCED VERTICAL SEPARATION WITH THE NEED TO ACHIEVE SAFE HORIZONTAL SEPARATION BY VISUAL MEANS.

CAUTION: UNDER CERTAIN CONDITIONS, COMMANDED MANEUVERS MAY SIGNIFICANTLY REDUCE STALL MARGINS WITH THE NEED TO RESPECT THE STALL WARNING WHERE THIS MAY OCCUR.

TRAFFIC ALERT AND COLLISION AVOIDANCE (IF INSTALLED) (Continued)

NOTE:

- For a non-crossing RA, the vertical speed must be accurately adjusted to comply with the RA in order to avoid negating the effectiveness of a coordinated maneuver by the intruder airplane.
- Evasive maneuvering should be made with autopilot disengaged, and limited to the minimum required to comply with the RA.
- Exaggerated responses to TCAS RAs are not desirable or appropriate because of the other potential traffic conflicts and ATC consequences. From level flight, proper response to a TCAS RA typically results in an overall altitude deviation of 300 to 500 ft to resolve a traffic conflict.
- If a CLIMB RA is issued with the airplane in the landing configuration, a normal go-around should be initiated including the appropriate thrust increase and configuration change.
- Compliance with TCAS resolution advisories is required unless the pilot considers it unsafe to do so.
- The pilot should promptly return to the previous ATC clearance after the TCAS voice message "Clear of Conflict" is announced, unless otherwise directed by ATC.
- An immediate smooth response to a RA is required to obtain maximum separations. TCAS II algorithms are based on the pilot initiating the initial maneuver within 5 seconds of the RA and within 2.5 seconds for additional corrective RA's (increases or reversals). Any delay in responding to RA's will reduce the separations provided.