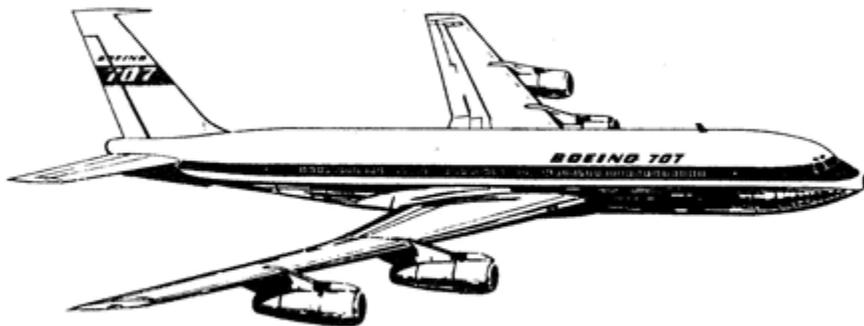


707



FLIGHT MANUAL

PART III - Normal Procedures

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DO NOT USE FOR FLIGHT

ABOUT THIS MANUAL

VERSION: 19 OCTOBER, 2010

WARNING: THIS MANUAL IS DESIGNED FOR MICROSOFT® FSX USE ONLY. DO NOT USE FOR FLIGHT.

The '707 Captain' FLIGHT MANUAL is organized into three Parts.
Each Part is provided as a separate Acrobat® PDF document:

Click START > Programs > Captain Sim > 707 Captain >

- **Part I – User's Manual**
- **Part II – Aircraft Systems**
- **Part III – Normal Procedures** - this document.

Adobe Acrobat® Reader Required

FOR GENERAL INFORMATION ON THE '707 CAPTAIN' PRODUCT PLEASE USE WWW.CAPTAINSIM.COM .
THIS MANUAL PROVIDES ADDITIONAL INFORMATION ONLY, WHICH IS NOT AVAILABLE ON THE WEB SITE.

707-300 FLIGHT MANUAL

PART III - NORMAL PROCEDURES

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DO NOT USE FOR FLIGHT

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DO NOT USE FOR FLIGHT**NORMAL CHECKLIST****BEFORE START**

Cockpit Preparation	COMPLETE	ALL
Interphone	CHECKED, ON & ALL	
Emergency Flaps	OFF	C
Anti-Skid	CHECKED & ON	
Rudder & Spoiler Switches. .	ON	C
Emergency Exit Lights	ARMED	C
Seat Belts Switches	ON F/O -	
INS	CHECKED & SET	CrF/O
Radio Altimeter	CHECKED	F/O
Window Heat	LOW	F/O
Pneumatic Brake	CHECKED	C
Fit Inst, Altimeter & Fit Dir.	SET& X-CHECKED	ALL
Compasses	SYNC & X-CHECKED	C,F/O
Radios, Radar & Transponder	SET & STANDBY	C, F/O
Start Levers	CUTOFF	C
Parking Brakes	SET	C
Rudder & Aileron Trim	FREE & ZERO	C
Battery	ON	F/E
Fuel	KGS, SET FOR START	F/E
Air Cond Units	OFF	F/E

CLEARED FOR START

Galley Power	OFF	F/E
Start Pressure	PSI	F/E
INS Mode Selectors	Doppler	C
Beacon	ON	C
Before Start Checklist	COMPLETE	F/O

AFTER START

Ground Equipment	CLEAR	C
Hydraulics	PRESS & QTY NORMAL, F/E INTERCONNECT CLOSED	
Doors	CLOSED	F/E
After Start Checklist	COMPLETE	F/O

BEFORE TAKEOFF

Nacelle Anti-Ice	OFF/ON	F/O
Ground Start Switch.	OFF	F/O
Window Heat	HIGH	F/O
Probe Heaters	ON	F/O
Fit Dir. Fit Inst & Radios.	SET FOR DEPARTURE	C,F/O
Speedbrake Lever	FULL FORWARD	C
Flaps	14, 14, GREEN LIGHTS	C
Start Levers	IDLE DETENT	C
Stabilizer Trim	UNITS	C
Flight Controls	CHECKED	C
INS	CHECKED	F/O
Electrical	NO LIGHTS, ESS 3	F/E
Galley Power	ON	F/E
Fuel	SET FOR T.O.	F/E
Fuel Heat	OFF	F/E
Hydraulics	PRESS & QTY NORMAL	F/E
Cockpit Door.	LOCKED	F/E

DO NOT USE FOR FLIGHT

Takeoff Briefing & Data .REVIEWED, BUGS SET ALL

CLEARED FOR TAKEOFF

Air Cond & Press	SET FOR T.O.	F/E
Transponder	ON	F/O
Engine Start Control Selectors	BOTH	F/E
Landing Lights	ON	F/O
Before Takeoff Checklist	COMPLETE	F/E

AFTER TAKEOFF

Anti-Ice	OFF/ON	F/E
Engine Start Control Selectors	OFF/ON	F/E
Seat Belts Switches	OFF/ON	F/E
Gear	UP & OFF	F/E
Flaps	UP, NO LIGHTS	F/E
Hydraulics	PRESS & QTY NORMAL	F/E
Air Cond & Press	CHECKED & SET	F/E

AFTER LANDING

Anti-Ice	OFF/ON	F/O
Engine Start Control Selectors .	OFF	F/E
Window Heat	LOW/OFF	F/O
Probe Heat	OFF	F/O
Flaps	UP, NO LIGHTS	F/O
Speedbrake Lever	FULL FORWARD	C
Radar & Transponder	STBY/OFF	F/O
Galley Power	OFF	F/E
Fuel	1 PUMP/ENGINE	F/E
Hydraulics	PRESS & QTY NORMAL	F/E
Outflow Valves	OPEN	F/E
After Landing Checklist	COMPLETE	F/E

SHUTDOWN

Electrical	EXTERNAL POWER ON	F/E
Seat Belts Switch	OFF	F/E
Beacon	OFF	F/O
Exterior Lights	AS REQUIRED	F/O
Start Levers	CUTOFF	C
Parking Brakes	RELEASED/SET	C
Fuel Boost Pumps	OFF	F/E
AC Aux Pumps	OFF	F/E
Air Cond Units	OFF	F/E
Shutdown Checklist (Through Flight)	COMPLETE	F/E

TERMINATING FLIGHT

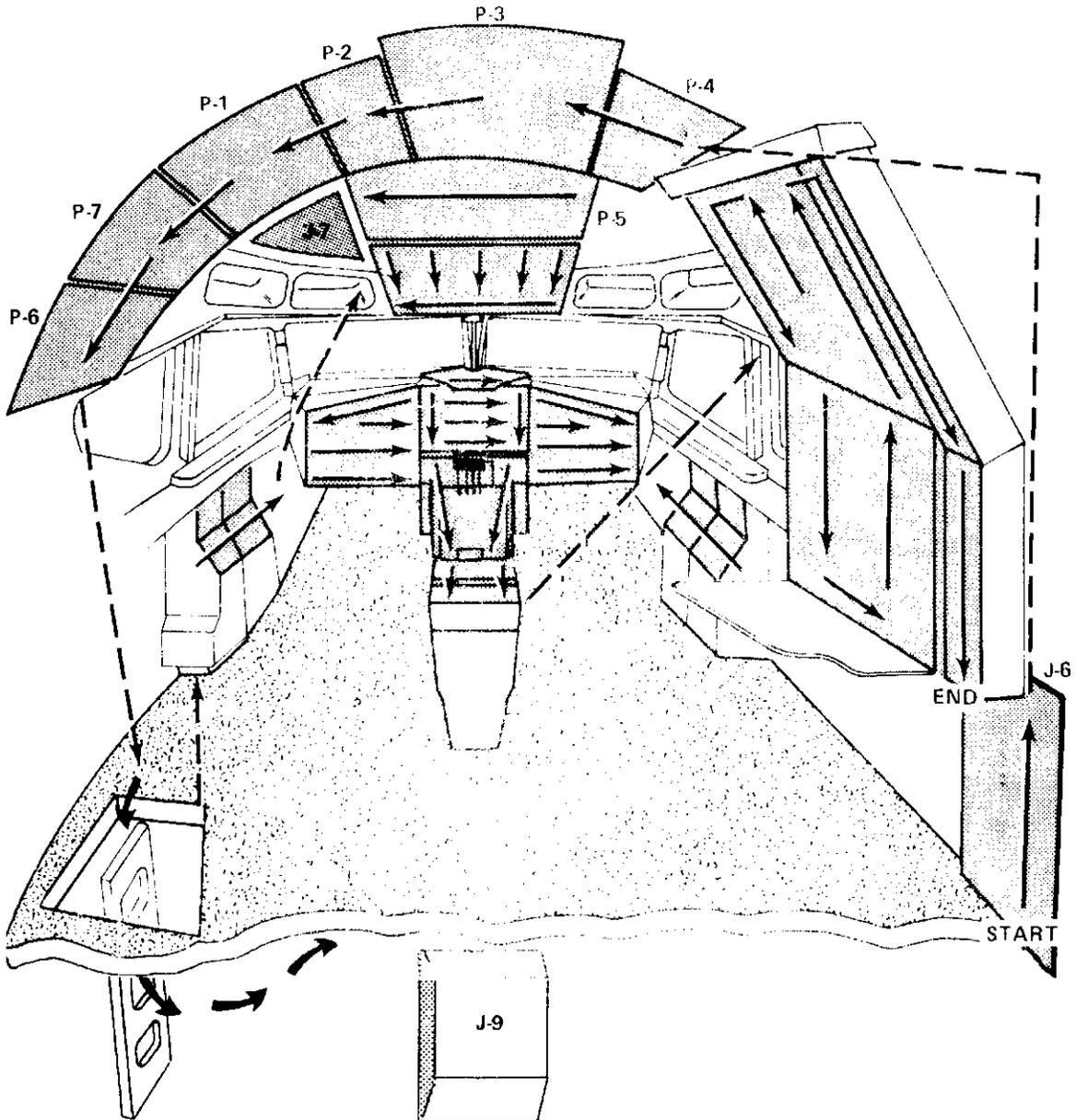
INS	OFF	F/O
Emergency Exit Lights	OFF	F/O
External Power	ON/OFF	F/E
Battery	ON/OFF	F/E
Oxygen Regulators	OFF, 100%	ALL
Oxygen Valve	CLOSED	F/E
Shutdown Checklist (Terminating Flight)	COMPLETE	F/E

DO NOT USE FOR FLIGHT

NORMAL PROCEDURES: GENERAL INFORMATION

SCAN FLOW PATTERNS

Normal procedures are accomplished by recall. Normal checklists are read at specified points to verify that certain critical or essential steps of the preceding procedures have been accomplished. Where possible, these steps and checklists follow a standardized scan flow for each panel as indicated below. This provides the flight crew with established patterns for performing the normal procedures and checklists.



The following charts identify the standard callouts required during CLIMB, DESCENT and FINAL APPROACH for either IFR or VFR conditions. Chart 1 contains all recommended standard callouts for a normal IFR or VFR flight. Chart 2 contains additional callouts to be made when accomplishing a category II or category IMA approach. The pilot not flying should accomplish these callouts on every flight while the flight engineer monitors. Airplanes with special alerting equipment (i.e. terrain warning, etc.) still require these callouts to be performed because these alerting systems normally monitor altitudes from the radio altimeter which can be influenced by irregular ground levels.

NOTE: DO NOT use radio altimeter as the instrument for standard callout references.

DO NOT USE FOR FLIGHT

STANDARD CALLOUTS		
CONDITION/LOCATION		CALLOUT
CLIMB AND DESCENT	Approaching: Transition Altitude (IFR and VFR)	"Transition Altitude, Altimeters Reset"
	1000 ft above/below assigned altitude (IFR)	"1000 Feet to Level Off"
DESCENT	10,000 ft (MSL) (reduce airspeed) (IFR and VFR)	"10,000 Feet"
	1000 ft above initial approach altitude (IFR)	"1000 Feet Above Initial"
FINAL APPROACH	First positive INWARD motion of localizer bar (IFR)	"Localizer Alive"
	First positive motion of glide slope bar (IFR)	"Glide Slope Alive"
	Final fix inbound (altimeter, instrument and flag crosscheck) (IFR)	"At Marker/VOR/NDB/, Etc. Time, Feet, Altimeters And Instruments Crosschecked"
	1000 and 500 feet above field elevation (altimeter, instrument and flag crosscheck) (IFR) (VFR)	"1000/500 Feet Above Field, Altimeters and Instruments Crosschecked"
	After 500 ft above field elevation (IFR and VFR)	(Call out significant deviations from programmed airspeed, descent and instrument indications)
	100 ft above DH or MDA (IFR)	"100 Feet Above Minimums"
	Reaching Decision Height - DH (IFR)	"Minimums, approach/strobe/centerline lights in sight—runway (or no runway) in sight"
	Reaching Minimum Descent Altitude - MDA (IFR)	"Minimums, approach/strobe/centerline lights in sight—runway in sight (if appropriate)"
Reaching Missed Approach Point - MAP (IFR)	"MAP, approach/strobe/centerline lights in sight—runway (or no runway) in sight"	

CHART I

DO NOT USE FOR FLIGHT

Category II And IIIA Callouts
 PF: Pilot Flying
 PNF: Pilot Not Flying

STANDARD CALLOUTS		
CONDITION/LOCATION	CALLOUT	
FINAL APPROACH	200 ft. above DH/AH PF calls - based upon airplane drift angle. PNF starts looking for visual cues	PF: "Look Left/Right/Ahead"
	Individual Sequence Flasher Lights Visible	PNF: "Strobe"
	Individual Approach Light Bars Visible	PNF: "Approach"
	Decision Bar (1000 ft. from threshold) Visible	PNF: "White Bar"
	Termination Bar (If installed)	PNF: "Red Bar"
	Threshold Lights	PNF: "Threshold"
	At DH - Visual reference established; i.e., PNF calling "approach"	PF: "Contact"
	At DH - Visual reference not established; i.e., PNF does not call any visual cues or calls only "strobe"	PF: "Go-around"

CHART II

DO NOT USE FOR FLIGHT

NORMAL PROCEDURES: PREFLIGHT

GENERAL

All preflight procedures are completed prior to each originating flight. Only those items marked with an asterisk need be accomplished on "through-flights" when there is no crew change.

Any lights which are not illuminated during a system test should be checked by press-to-test.

EXTERIOR SAFETY INSPECTION

This inspection is performed on each originating trip or crew change before entering the airplane to ascertain that no obviously unsafe conditions exist.

Chocks IN PLACE
Landing Gear Doors CHECK

WARNING: IF ANY GEAR DOOR IS OPEN, ENSURE RESPECTIVE DOOR RELEASE HANDLE IS IN OPEN DETENT. IF HANDLE IS IN RETRACTED POSITION AND DOOR IS OPEN, DOOR WILL CLOSE WHEN HYDRAULIC SYSTEM IS PRESSURIZED WHICH COULD RESULT IN PERSONNEL INJURY.

Flight Control Surfaces CLEAR

Ensure proper clearance of flight controls from all ground equipment or other obstructions.

Maintenance Status & Dispatch Deviations CHECK

Verify maintenance status agrees with authorized dispatch deviations.

COCKPIT SAFETY INSPECTION

This inspection is performed on each originating trip or crew change to ensure the cockpit controls are configured so as to permit electrical, by hydraulic and pneumatic power to be safely applied to the airplane at the proper time.

Emergency Flap Switches OFF

Check:
Arming switch guard closed.
Inboard and outboard switches off.

Landing Lights Switches OFF

Landing Gear Lever DOWN & IN

CAUTION: LANDING GEAR LEVER SHOULD NOT BE PLACED IN OFF DURING GROUND OPERATION DUE TO POSSIBILITY OF COLLAPSING NOSE GEAR.

Radar Mode Selector OFF

Transponder Mode Selector STBY

Galley Power Switch OFF

AC Aux Pump Switches OFF

Fuel Dump Panel Cover CLOSED

DO NOT USE FOR FLIGHT

PRELIMINARY COCKPIT PREPARATION (Beginning with no power on airplane)

Cockpit systems and controls are checked for normal operation, and the airplane is configured for exterior inspection, if required, and engine start.

* Circuit Breakers CHECK

Check circuit breakers set or collared.

Essential Radio Bus 1&2 OFF

External Power Switch OFF

*Battery Switch ON

Position battery switch and check generator breaker CIRCUIT OPEN lights illuminated.
Check DC volt meter indicates 24v & load meter indicates positive or zero.

*External Power CHECK
Check external power CONNECTED light illuminated.
AC Paralleling Selector - EXTERNAL POWER
Check voltage and frequency stabilized within limits.

*External Power Switch ON

Check PWR ON BUS light illuminates ammeter indicates load. Voltage and frequency remain stabilized within limits.

*Essential Power Source Selector EXT PWR

Check essential power failure warning lights extinguish

Air Conditioning Units ON/OFF

Essential Radio Bus 1&2 ON

PILOTS' STATION

Panel Lights TEST

Check all panel lights can be adjusted to desired intensity.

Manual Trim Wheel - TRIM MANUALLY IN BOTH DIRECTIONS

Spoiler Switches GUARDS CLOSED

Fire Warning TEST

Engine Fire Switches - IN
Transfer Switches - NORM

Engine Fire Test Switch - PRESS
Check engine fire warning and W/WELL FIRE warning lights illuminate.

Engine Fire Test Switch - RELEASE
Check engine fire warning and W/WELL FIRE warning lights extinguish.

Engine Start Control Selectors OFF

Wing Anti-Ice Switch OFF

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Ground Start Switch	GUARD CLOSED
Passenger & Personnel Accomodations Oxygen Switch	NORM
Seat Belts Switches	ON
Check chime sounds when seat belt switch positioned to ON.	
Emergency Exit Lights	TEST & OFF
Emergency Exit Lights Switch - ON	
Window Heat	TEST & LOW OFF
Window Heat Switches - LOW	
Overheat Lights - PRESS	
Check OVERHEAT lights illuminate.	
Window Heat Switches - OFF	
Check OVERHEAT lights extinguish.	
Window Heat Switches (if Required for Defogging) - LOW	
Probe Heaters	TEST & OFF
Probe Heater Switches - ON	
Check HEAT ON lights illuminate.	
Probe Heater Switches - OFF	
Check HEAT ON lights extinguish.	
Wing and Navigation Light Switches	ON
Pneumatic Brake	CHECK
Check pneumatic brake handle safe-tied.	
Thrust Reverser Operating Lights	EXTINGUISHED
Engine Instruments	CHECK
Check:	
EPR indicators 1.0 and bugs move freely.	
N1 RPM indicators zero.	
EGT indicators normal.	
Fuel flow indicators minimum indication.	
Landing Gear Lights	TEST & SET
Check:	
Landing GEAR warning light extinguished.	
Landing gear DOOR warning light extinguished (doors closed) or illuminated (doors open).	
Landing GEAR down lights illuminated.	
Flap Lever & Indicators	IN AGREEMENT
Total Air Temperature Indicator	CHECK
Check TAT OFF flag not in view.	
Static Air Temperature Indicator	CHECK
Check warning flag retracted and indication approximately ambient temperature or greater.	

Flight Engineer's Station

Panel Lights TEST & SET

AC Paralleling Selector ANY GEN

Check synchronization lights illuminate.

Essential Power

Failure Warning Lights TEST

Rotate essential power source selector to any GEN position and check both essential power FAILURE lights illuminated.

Rotate selector back to EXT PWR position and check lights extinguished.

DC Load & Volts Selector TEST

Select TR No. 3, 2 and ESS TR and check 2⁺-28v DC and equal load indication on DC meters at 3 & 2 positions.

Leave selector in ESS TR position.

Galley Power Switch ON

*AC Electrical System CHECK

Check:

Generator drive disconnect switch guards closed & safetied.

Generator drive LOW PRESSURE lights illuminated.

Bus-Tie breaker CIRCUIT OPEN lights extinguished.

KW/KVAR meters zero.

* Fuel System TEST & SET

Note initial fuel quantity indications.

Fuel Quantity Gages

Test Switch - PRESS & HOLD

Check each tank quantity indication decreases.

Fuel Quantity Gages Test Switch - RELEASE

Check all quantity indicators stabilize at original indications.

Check fuel totalizer quantity agrees with sum of fuel quantity indications.

All Forward Boost Pump Switches - ON

Check all forward LOW PRESSURE lights extinguish and all aft LOW PRESSURE lights remain illuminated.

Center Tank Left Boost Pump Switch - ON

(Only when tank contains fuel.) Check center tank left LOW PRESSURE light extinguishes and right LOW PRESSURE light remains illuminated.

All Forward Boost Pump Switches - OFF

Center Tank Left Boost Pump Switch - OFF

Check all LOW PRESSURE lights illuminated.

Repeat procedure for all aft boost pumps and center tank right boost pump.

Tank No. 2 Aft Boost Pump Switch - ON

All Crossfeed Selectors - CLOSE

Check VALVE POSITION lights illuminate momentarily, then extinguish.

All Crossfeed Selectors - OPEN

Check VALVE POSITION lights illuminate momentarily, then extinguish

Reserve Tank Fuel Transfer Selectors - OPEN

Check VALVE POSITION lights illuminate momentarily, then extinguish

Reserve Tank Fuel Transfer Selectors - CLOSE

Check VALVE POSITION lights illuminate momentarily, then extinguish.

Fuel Temperature Selector - NO. 1 TANK, ENG 1, ENG 2, ENG 3, ENG 4

Check temperature indication at each position.

Fuel Temperature Selector - NO. 1 TANK

Fuel Heat Switches - OFF

Check fuel icing lights extinguished.

Hydraulic Systems TEST & SET

DO NOT USE FOR FLIGHT

Hydraulic Reservoir Indicator - FULL
Ground Clearance for Hydraulic Pump Operation - OBTAIN
Engine 2 and 3 Pump Switches - ON
Hydraulic Fluid Shutoff Switches - GUARDS CLOSED & SAFE- TIED
Interconnect Valve Switch - BRAKE
AC Auxiliary Pump No. 2 Switch - ON
 Check:
 AC auxiliary pump No. 2 LOW PRESS light extinguished and AC auxiliary pump No. 1 LOW PRESS and both engine driven pump LOW PRESS lights illuminated.
 Rudder pressure at least 2800 psi.
 RUDDER BOOST LOW PRESS light extinguished and hydraulic brake pressure at least 2800 psi.
 Check utility hydraulic pressure remains at precharge.
Interconnect Valve Switch - SYSTEM
 Check utility hydraulic pressure remains at precharge and hydraulic brake pressure at least 2800 psi.
Parking Brakes - SET

AC Auxiliary Pump No. 2 Switch - OFF

AC Auxiliary Pump No. 1 Switch - ON

Engine Vibration Monitor Systems TEST

 Pickup Selector - DIFF
 Test Switch - PRESS & HOLD
 Check amplitude 4.0±0.5 mils on each indicator in each position of vibration filter selector.
 Pickup Selector - TURB
 Check amplitude 4.0±0.5 mils on each indicator in each position of vibration filter selector.
 Test Switch - RELEASE

Engine Start Air Pressure Indicator CHECK

 Check L & R pressure 2700-3000 psi.

Engine Instruments CHECK
 Check:
 N2 RPM and oil pressure indicators zero.
 Oil temperature indicators within normal range.

Equipment Cooling System CHECK

 Equipment Cooling Blower Switch - NORM
 Overboard Dump Switch - NORM

Engine Oil Quantity Indicators TEST

 Note initial oil quantity indications.
 Engine Oil Quantity Test Switch - PRESS & HOLD
 Check all oil quantity indications decrease.
 Engine Oil Quantity Test Switch - RELEASE
 Check all oil quantity indications stabilize at approximately original indications.

*Engine Oil Quantities CHECK

 Check oil quantities adequate for dispatch.

*Pressurization System TEST & SET

* Air Conditioning System TEST & SET

 Cabin Air Temperature Source Selector - CHECK
 Rotate selector to FWD, MID, AFT and INLET DUCT and check for normal indications at each position.
 Air Supply Duct Pressure - CHECK
 Zero unless ground air supplied.
 Conditioned Air Duct Pressure Indicator - CHECK
 Zero unless air conditioning unit operating or conditioned air being supplied.

DO NOT USE FOR FLIGHT

- Crew & Main Temperature Selectors - AUTOMATIC & SET
- Air Conditioning Unit Switches - OFF/ON
 - Check unit OVERHEAT lights extinguished.
- Engine Bleed Air Switches - OFF
- Wing Valve Switches, L and R - OPEN
- Air Compressor LOW OIL PRESS Lights - ILLUMINATED
- Air Compressor RPM Indicators, Eng's 2, 3 & 4 - 20%
- Ram Air Switch - GUARD CLOSED
- Coolant Air System - CHECK
 - Valve Selector - INLET
 - Check LH AND RH valves indicate full open.
- Valve Selector - EXIT
 - Check LH and RH valves indicate full closed.
- Valve Selector - SEC HEAT EXCH
 - Check LH and RH valves indicate full open.
- Valve Selector - TURBOFAN EXIT
 - Check LH and RH valves indicate full open.
- Valve Selector - TEMP CONTROL
 - Check LH and RH valves indicate full closed (modulating if A/Cond on).
- Turbofan Exit Valve Override L and R Switches - NORMAL
- Main Cabin Heating Panels Switch - AS REQUIRED

NOTE: Not normally required on ground unless outside temperatures are below freezing; may be used as desired for passenger comfort. Under these conditions, surface covering temperatures are ther-mostatically regulated to provide comfortable heat augmentation.

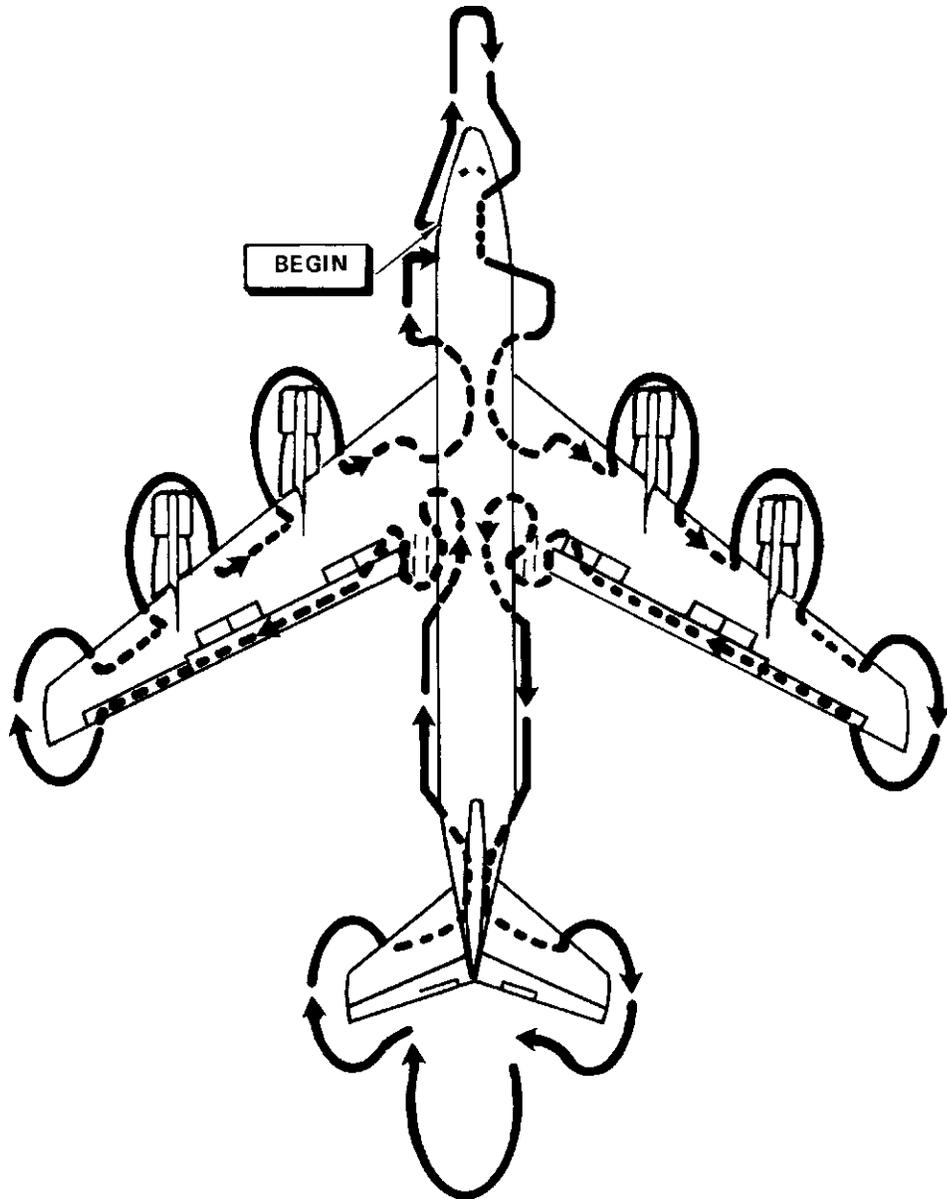
- Gasper Air Fan Switch - AS REQUIRED
- Cabin Temp Zone Control - CHECK
 - Check OVERHEAT light extinguished and valve indicators mid position (valves closed).

- Fuel Dump Door CLOSED
- Oxygen Pressure Indicators CHECK
 - Verify bottles are serviced by reference to pressure-temperature charts
- Oxygen & Interphone TEST, ON 100%

- Inspect mask, hose and fittings for security, grease or damage.
- Hold mask away from face.
- Oxygen Supply Lever - ON
- Oxygen Diluter Lever - 100%
- Emergency Oxygen Lever - TEST MASK To clear mask.
- Emergency Oxygen Lever - NORMAL
- Oxygen Supply Lever - OFF
 - Adjust mask to face and inhale, check mask pulls to face.
- Oxygen Diluter Lever - NORMAL
 - Inhale and check unrestricted flow.
- Oxygen Supply Lever - ON
 - Inhale and check flow indicator white.
- Oxygen Diluter Lever - 100?
 - Inhale and check flow indicator white.
- Emergency Oxygen Lever - EMERGENCY
 - Check flow indicator white and slight pressure in mask.
- Emergency Oxygen Lever - TEST MASK
 - Check flow indicator white and increased pressure in mask.
- Emergency Oxygen Lever - NORMAL
- Oxygen Mask Interphone - TEST
 - Adjust headset over oxygen mask and place OXY-B00M switch to OXY. Press radio/intercom switch to 1C: Speak into oxygen mask and check transmission.
- Remove oxygen mask and stow.

- Flight Recorder SET
- Emergency Equipment CHECK

DO NOT USE FOR FLIGHT



DO NOT USE FOR FLIGHT

COCKPIT PREPARATION - FLIGHT ENGINEER

*Airplane Loading CHECK
 Check:
 Fuel quantity agrees with flight plan fuel and is distributed properly
 Airplane gross weight agrees with flight plan weight.
 Airplane CG within limits.

*Takeoff Data Card PREPARE

Using the airplane gross weight and center of gravity information, current OAT, pressure altitude, runway slope, and wind factor and appropriate charts, compute the takeoff data. Data will include EPR settings, V_I, V_R, V₂, stabilizer trim setting and fuel dump time. The data will be entered on the takeoff data card and passed to the First Officer for verification of data.

*Fuel System SET FOR START

If inflight flaps up weight will not exceed normal max. inflight weight, flaps up, and center tank fuel (other than payload fuel) is less than 20,000 lb (9000 kg), or empty:

 Main Tank Boost Pumps - 1 ON PER TANK
 Position one boost pump switch ON in tanks No. 1, 3 & k. Check No. 2 ON. Check associated LOW PRESSURE lights extinguished.

 Crossfeed Selectors No. 1, 3 & 4 - CLOSE
 Check VALVE POSITION lights illuminate, then extinguish.
 Check crossfeed selector No. 2 open.

If inflight flaps up weight will not exceed alternate max. inflight weight, flaps up, and center tank fuel (other than payload fuel) exceeds 20,000 lb (9000 kg):

 Tank No. 2 & 3 & Center Tank Boost Pumps - 1 ON PER TANK
 Position one boost pump switch ON in tanks No. 3 & center. Check No. 2 ON.
 Crossfeed Selectors No. 2 & 3 - CLOSE

 Check VALVE POSITION lights illuminate then extinguish. Check crossfeed selector No. 1 & k open.

When cleared for engine start:

*Galley Power Switch OFF

* Air Conditioning Unit Switches OFF

DO NOT USE FOR FLIGHT**COCKPIT PREPARATION - CAPTAIN**

Life Vest	STOWED
Seat & Rudder Pedals	ADJUST
Sun Visors	STOWED
Audio Selector Panel	SET
Oxygen & Interphone	TEST, ON, 100%

Conduct oxygen check as described in Preliminary Cockpit Preparation.

Captain's Sliding Window	TEST
--------------------------	------

Check window opens and closes properly, and is clean and undamaged.

Evacuation Strap	STOWED
*Panel Lights	SET
Flight Recorder	ON

Check OFF light extinguished.

*Mach Airspeed Warning CHECK

*Anti-Skid	ON & TEST
------------	-----------

Check anti-skid switch guard closed.

Anti-Skid Test Switch - OUTBD & HOLD

Check inboard REL lights illuminate, and outboard REL lights remain extinguished.

Anti-Skid Test Switch - INBD & HOID

Check outboard REL lights illuminate, and inboard REL lights extinguish.

Anti-Skid Test Switch - RELEASE

Check all REL lights extinguished.

* [INS](#) CHECK & SET

Emergency Exit Lights Switch	GUARD CLOSED
------------------------------	--------------

Exterior Lights

Check:

Wheel well lights switch NORM. Wing lights switch ON/OFF. Beacon light switch OFF. Runway tumoff lights switch OFF.

Standby Compass	EXTEND
-----------------	--------

* Flight Director (If Required) TEST & SET

* Pneumatic Brake CHECK

Check pneumatic brake handle safe-tied and emergency brake pressure indicates 1200 ± 50 psi. Originating flight or crew change check is accomplished by Flight Engineer.

* Instrument Panels SECURE

Check forward and center panels in place and fasteners secured and locked.

* Flight Instruments CHECK & SET

Mach Airspeed Indicator - CHECK & SET

Check airspeed pointer zero, Mach indicator warning flag retracted. Set VI, VR, and V2 airspeed bugs in accordance with takeoff data card, if available.

ADI - CHECK

Check GYRO warning flag retracted.

DO NOT USE FOR FLIGHT

Altimeter - CHECK & SET

Check warning flag retracted. Current Barometric Pressure - SET
Check altitude comparable with field elevation.

Mode Switch - CADC

Check STDBY flag retracted and altitude comparable with previous value.

Radio Altimeter - CHECK

Check warning flag retracted and pointer at zero.

Clock - WIND & SET

Turn & Slip Indicator - CHECK

Check warning flag retracted.

HSI - CHECK & SET

Set heading pointer and desired course for departure.

RMI - CHECK & SET

Check warning flag retracted, compass system synchronized, and all compass headings comparable to Stow standby compass

NOTE: The standby magnetic compass is calibrated with landing gear lever lock solenoid energized (inflight configuration), so it is possible that discrepancies of 3~8° may exist on the ground.

Set ADF/VOR switch as desired. Vertical Speed Indicator - CHECK

Check pointer at zero. INS/RADIO Switch - RADIO

True Airspeed Indicator CHECK

Check warning flag retracted.

Standby Altimeter SET

Set current barometric pressure and cross check with field elevation.

Standby Horizon CHECK & SET

Check warning flag retracted, gyro erect and airplane symbol properly positioned.

Weather Radar STANDBY

*Radar Indicator SET

Range Marks - SET AS DESIRED

Speed Brake Lever FULL FORWARD

Engine Controls SET FOR START

Check reverse thrust levers full down, thrust levers closed and engine start levers CUTOFF.

Parking Brake SET

* VHF Navigation SET FOR DEPARTURE

Departure Frequency - SET

Identify station.

Check HSI VOR/LOC warning flag retracted. Check RMI bearing pointers for proper bearing. Perform system test if required.

*DME Mode Selector TEST & NORM

Mileage indicators on HSI and opposite instrument panel indicate all zeroes and off flags retract.

*Communications SET FOR DEPARTURE

*Autopilot DISENGAGED

*ADF SET FOR DEPARTURE

*Rudder Trim FREE & ZERO

DO NOT USE FOR FLIGHT

Rudder Trim - FULL LEFT THEN FULL RIGHT
Check for freedom of travel and corresponding rudder
Rudder Trim - ZERO

*Aileron Trim FREE & ZERO

Aileron Trim - FULL LEFT THEN FULL RIGHT
Check for freedom of travel and corresponding control wheel movement.
Aileron Trim - ZERO

When cleared for engine start:

INS Mode Selectors Doppler

* Beacon Switch ON

COCKPIT PREPARATION - FIRST OFFICER

Life Vest STOWED

*Seat & Rudder Pedals ADJUST

Briefcase Light CHECK

Sun Visors STOWED

* Audio Selector Panel SET

Oxygen & Interphone TEST, ON, 100%
Conduct oxygen check as described in Preliminary Cockpit Preparation.

First Officer's Sliding Window TEST

Check window opens and closes properly, and is clean and undamaged.

Evacuation Strap STOWED

Panel Lights SET

Radio Altimeters TEST

MDA Bugs - SET APPROXIMATELY 20 FEET

MDA Bug Controls - SET AT ZERO

*Window Heat LOW

CAUTION: SLIDING WINDOWS SHOULD BE CLOSED TO AVOID OVERHEATING

*Flight Director (If required) TEST & SET

*Flight Instruments CHECK & SET

Check and set as described for Captain.

*Ground Proximity System TEST
Ground Proximity System Test Switch - PUSH & HOLD
GRD PROXIMITY lights illuminate momentarily.

*Transponder SET & STANDBY

Set desired code.

DO NOT USE FOR FLIGHT

Stabilizer Trim	TEST
<p>Coordinate with Captain's stabilizer trim test. Stabilizer Trim Switches - NOSE UP THEN NOSE DOWN Verify stabilizer trim wheels move for corresponding switch position, and stabilizer trim light illuminates during the test.</p>	
Stabilizer Trim	SET
<p>Set stabilizer trim units in accordance with takeoff data card.</p>	
*VHF Navigation	SET FOR DEPARTURE
<p>Departure Frequency - SET Identify station. Check HSI VOR/LOC warning flag retracted. Check RMI pointers for proper bearing. Perform system test if required.</p>	
*DME Mode Selector	TEST & NORM
<p>Mileage indicators on HSI and opposite instrument panel indicate all zeroes and off flags retract.</p>	
*Communications	SET FOR DEPARTURE
*ADF	SET FOR DEPARTURE

COCKPIT PREPARATION - NAVIGATOR

Table, Panel and Flood Lights	SET
<p>Adjust lights to desired intensity.</p>	
Static Air Temperature Indicator	CHECK
<p>Check warning flag retracted and indication approximately ambient or greater.</p>	
*Altimeter	SET
<p>Set current barometric pressure and cross check with field elevation.</p>	
*RMI	CHECK
<p>Check warning flag retracted. Cross check heading with all com passes. VOR/ADF Switch - AS DESIRED</p>	
True Airspeed Indicator	CHECK
<p>Check warning flag retracted.</p>	
Audio Selector Panel	SET
Oxygen & Interphone	TEST, ON, 100%
<p>Conduct oxygen check as described in Preliminary Cockpit Preparation.</p>	

DO NOT USE FOR FLIGHT

AMPLIFIED BEFORE START CHECKLIST

When all appropriate preflight procedures are completed, the Captain will call for the Before Start Checklist. The First Officer will read aloud each challenge and receive the appropriate response from the designated crew member.

Cockpit Preparation	COMPLETE	ALL
Oxygen & Interphone	CHECKED, ON & 100%	ALL
Emergency Flaps	OFF	C
Mach Airspeed Warning	CHECKED	C
Anti –Skid	CHECKED & ON	C
Rudder & Spoiler Switches	ON	C
Emergency Exit Lights	ARMED	C
Seat Belts Switches	ON	F/O
INS	CHECKED & SET	C,F/O
Radio Altimeters	CHECKED	F/O
Window Heat	LOW	F/O
Pneumatic Brake	CHECKED	C
Fit Inst, Altimeter & Fit Dir	SET & X-CHECKED	ALL
Compasses	SYNC & X-CHECKED	C,F/O
Radios, Radar & Transponder	SET & STANDBY	C,F/O
	Check radios set for departure and. radar and transponder set to STBY.	
Start Levers	CUTOFF	C
Parking Brakes	SET	C
Rudder & Aileron Trim	FREE & ZERO	C
Battery	ON	F/E
Fuel	KGS, SET FOR START	F/E
	Check fuel loading per tank in accord with manifest and appropriate boost pumps on for engine start.	
Air Cond Units	OFF	F/E

-----CLEARED FOR START-----

Continue the checklist after receiving start clearance from the tower and ground personnel.		
Galley Power.	OFF	F/E
Start Pressure	_____ PSI	F/E
	Check air supply duct pressure indicator and announce the pressure.	
INS Mode Selectors	NAV	C,F/O
Beacon	ON	C
Before Start Checklist	COMPLETE	F/O

DO NOT USE FOR FLIGHT

ENGINE START PROCEDURE

The normal engine starting sequence is 3, 4, 2, 1.

CAPTAIN	FIRST OFFICER	FLIGHT ENGINEER
Announce engine start sequence.	Place Ground Start Selector switch to LOW PRESS	
Announce "Start Engine No. ". Position Engine Start Lever to IDLE detent when 15% N2 RPM reported and N1 rotation observed.	Position and hold Engine Start Control Selector to GROUND.	Check decrease in duct pressure and announce "Start Valve Open." Announce "N2 Rotating, Oil pressure rising" (within 30 sec.) Announce "15% N2"
Check fuel flow and EGT indication		
At 35% N2, command "Release."	Release Engine Start Control Selector at 35% N2 or on command "Release" or "Starter Cutout."	Call "35% N2." Check rapid increase in duct pressure and announce "Starter Cutout".
Check ENG LOW PRESS light extinguished.		Check oil pressure stabilizes within limits.
Check EGT stabilized, and engine instruments for normal indications.		
NOTE		Check generator drive LOW PRESSURE light extinguished.
Use same procedures for starting remaining engines.		
CAUTION		Airplane Elect. Power Establish After Starting Engines 3 and 4: AC Paralleling selector: GEN 4, GEN 3. Check voltage and frequency. Essential Power Selector: GEN 4, GEN 3 Check essential power FAILURE warning light extinguished in both positions. Gen. Breaker Switches: GEN 4, GEN 3, - CLOSE Check generator breaker CIRCUIT OPEN lights extinguished.
ADVANCING ENGINE START LEVER PREMATURELY CAN CAUSE A "HOT" START.		
KEEP HAND ON ENGINE START LEVER WHILE OBSERVING RPM, EGT, AND FUEL FLOW UNTIL STABILIZED.		
IF FUEL IS SHUT OFF INADVERTENTLY, BY CLOSING ENGINE START LEVER, DO NOT REOPEN ENGINE START LEVER IN AN ATTEMPT TO RESTART ENGINE.		
FAILURE TO HOLD ENGINE START CONTROL SELECTOR IN GRD UNTIL STARTER CUTOUT RPM IS REACHED CAN RESULT IN A "HOT" START. DO NOT RE-ENGAGE ENGINE START CONTROL SELECTOR UNTIL ENGINE HAS STOPPED ROTATING. STARTER DRIVE SHAFT MAY SHEAR IF STARTER IS ENGAGED DURING COAST DOWN.		

DO NOT USE FOR FLIGHT

AFTER START PROCEDURE

Airplane Electrical

- Power ESTABLISH
AC Paralleling Selector - GEN 2, GEN 1 return to GEN 3. Check voltage and frequency in GEN 2 and GEN 1 positions.
Essential Power Selector..GEN 2, GEN 1 return to GEN 3. Check Essential Power FAILURE warning light extinguished in GEN 2, and GEN 1 positions.
- Generator Breaker Switches GEN 2 - CLOSE, GEN 1 - CLOSE
Check generator breaker CIRCUIT OPEN lights extinguish.
- Air Compressor 2, 3, and 4 Start Switches START
- Galley Power Switch ON
- Fuel Boost Pump Switches ON
Position appropriate boost pump switches ON for fuel configuration and check associated LOW PRESSURE lights extinguish.
- Hydraulic System CHECK
AC Auxiliary Pump No. 2 Switch - ON
Check LOW PRESS light extinguishes.
Engine Pump No. 3 Switch - OFF
Check LOW PRESS light illuminates and utility system pressure indicates 2800-3100 psi at idle thrust.
Engine Pump No. 2 Switch - OFF
Check LOW PRESS light illuminates and utility pressure decreases, indicating interconnect valve closed.
Engine Pump No. 3 Switch - ON
Check LOW PRESS light extinguishes and utility system pressure indicates 2800-3100 psi at idle thrust.
Engine Pump No. 2 Switch - ON
Check LOW PRESS light extinguishes.
Interconnect Valve Switch - OFF
Check utility, brake and rudder pressure indicate 2800-3100 psi.
- Air Compressor 2, 3, and 4 Indications CHECK
Check air compressor tachometers stabilized and LOW OIL PRESS lights extinguished.
- Air Conditioning Unit Switches ON
- Doors CLOSED
Check all door annunciator lights extinguished.
- Ground Equipment DISCONNECT
Request ground crew to remove all ground equipment. Check external power CONNECTED light extinguishes when external power is disconnected.

DO NOT USE FOR FLIGHT

AMPLIFIED AFTER START CHECKLIST

Prior to taxi, and on the Captain's command, the First Officer will read aloud each challenge and receive the appropriate response from the designated crew member.

Ground Equipment	CLEAR	C
Observe ground equipment clear or receive signal from ground crew that all ground equipment has been removed.		
Hydraulics	PRESS & QTY NORMAL, INTERCONNECT CLOSED	F/E
Check utility and AC aux pump switches ON, all pressures (including hydraulic brake) and quantity normal. Check interconnect valve switch OFF.		
Doors	CLOSED	F/E
Check all door annunciator lights extinguished.		
After Start Checklist	COMPLETE	F/O

TAXI-OUT AND TAKEOFF

TAXI-OUT PROCEDURE

Good taxi technique requires an awareness of the proximity of obstacles, the effects of excessive noise, the force of the jet exhaust, and the possibility of ingestion of foreign objects.

Nose wheel steering and engine thrust are used for directional control.

To make smooth turns, grasp the steering wheel firmly and "pressure" it in the desired direction. The airplane should be taxied with all four engines at idle thrust. When an outboard engine is used to assist in a turn, use as little power as possible.

Differential braking is not normally used for steering during taxi and should not be used in conjunction with nose wheel steering.

At light gross weights allow the airplane to accelerate, then brake to a very slow taxi speed, release the brakes and repeat the sequence.

Taxi Clearance	OBTAIN
Parking Brake	RELEASE
Check parking brake lever returns to OFF position and parking brake warning light extinguishes.	
Taxi	INITIATE
Flaps	EXTEND
Check LE FLAPS lights illuminate and both outboard and inboard flap position indicators indicate 14.	
Exterior Lights	SET
Retractable and Fixed landing lights, Runway Turn off lights:	AS REQUIRED
Nacelle Anti-Ice	TEST, OFF/ON
Attitude Warning	TEST
Ground Start Switch	GUARD CLOSED

DO NOT USE FOR FLIGHT

Window Heat Switches HIGH

Probe Heater Switches ON

Check probe heater HEAT ON lights illuminated.

Flight Directors, Flight Instruments and Radios CHECK, SET FOR DEPARTURE

Check flight director set to desired heading and pitch attitude. Compare indication of all ADI's, HSI's, RMI's, and standby compass during turns. Check radios and HSI's set for departure.

Stabilizer Trim SET FOR TAKEOFF

Set stabilizer trim in accordance with computed data. Setting the stabilizer trim anywhere in the green band range is not necessarily satisfactory for takeoff.

Flight Controls CHECK

Rotate control wheel full left then full right. Push then pull control column through its full fore and aft travel. Note that initial travel during control tab movement requires only light forces, but heavy forces are required to move control surfaces.

Move rudder pedals through full travel and check for freedom of movement.

Check RUDDER LOW PRESS light extinguished and normal pressure fluctuations in utility and rudder system pressures as controls are exercised.

INS CHECK

Check present position changes. Monitor ground speed.

Engine Operation CHECK

Check engine indicators normal, warning lights extinguished.

Electrical System CHECK

Check generator drive oil temperature rise indicators in green band and generator drive LOW PRESSURE, CIRCUIT OPEN and essential power FAILURE warning lights extinguished. Check KW loads on all 4 generators are approximately equal.

Fuel System SET FOR TAKEOFF

CAUTION: FUEL FROM TANKS TO BE USED FOR TAKEOFF MUST BE SAMPLED FOR A MINIMUM OF 4 MINUTES AT IDLE THRUST.

Recheck configuration for fuel load and gross weight. Check fuel heater switches OFF and engine fuel temperatures decreasing or low readings.

Hydraulic System CHECK

Check pressures and quantity normal, pump LOW PRESS lights extinguished.
Equipment Cooling

NO AIRFLOW Light EXTINGUISHED

Air Conditioning and Pressurization Systems CHECK

NOTE: The airplane may be pressurized to a maximum of .125 psi positive cabin differential during takeoff and landing.

Check:

Duct temperature normal for conditions.

MAIN and CREW duct overheat lights extinguished.

Unit OVERHEAT and OFF lights extinguished.

Operating air compressors for RPM indication and LOW OIL PRESS light extinguished.

Temperature control valve positioned as required for existing conditions.

DO NOT USE FOR FLIGHT

Check coolant air system valve selector in TEMP CONTROL and valve position indicator for appropriate indications.

Takeoff Briefing CONDUCT

Pilot making takeoff will brief other pilot and Flight Engineer to monitor engine instruments and call out any failure affecting safety. He will request other pilot to hold column forward (with displaced lateral control if in crosswind), to set takeoff EPR to computed value by 80 kts, to call out "VI" and "Rotate" at VR and to silence fire bell if it rings.

When cleared onto the runway:

Flight Engineer's Seat POSITION FOR TAKEOFF

Position seat facing forward or a maximum of 30° right.

WARNING: WHILE THIS POSITION IS THE MOST CONVENIENT FOR FLIGHT ENGINEER, MAXIMUM SAFETY CONFIGURATION IS WITH SEAT FACING FORWARD AND SHOULDER HARNESS ON.

One Air Compressor (Normally No. 4) OFF

Pressurization System SET FOR FLIGHT

Prepare for Takeoff ANNOUNCE

Notify cabin attendants and passengers over PA system to prepare for takeoff.

When cleared for takeoff:

Transponder Mode Selector ON

Engine Start Control Selectors BOTH

Landing Lights ON

AMPLIFIED BEFORE TAKEOFF CHECKLIST

After leaving the gate and prior to taking the runway, the Captain will call for the Before Takeoff Checklist.

The Flight Engineer will read aloud each challenge and receive the appropriate response from the designated crew member.

Nacelle Anti-Ice	OFF/ON	F/O
Check nacelle anti-ice valves positioned OFF or ON as required.		
Attitude Warning	CHECKED	F/O
Ground Start Switch	OFF	F/O
Window Heat	HIGH	F/O
Check window heat switches on HIGH and OVERHEAT lights extinguished.		
Probe Heaters	ON	F/O
Check probe heater switches ON and HEAT ON lights illuminated.		
Fit Dir, Fit Inst and Radios	SET FOR DEPARTURE	C,F/O
Speedbrake Lever	FULL FORWARD	C
Flaps	14, 14, GREEN LIGHTS	C
Check both flap position indicators indicate 14 and green LE FLAP lights illuminated.		
Start Levers	IDLE DETENT	C
Stabilizer Trim	UNITS	C
Check stabilizer trim setting agrees with computed setting.		

DO NOT USE FOR FLIGHT

Flight Controls	CHECKED	C
INS	CHECKED	F/O
Electrical	NO LIGHTS, ESS 3	F/E
	Check all generator drive LOW PRESSURE, CIRCUIT OPEN and essential power FAILURE warning lights are extinguished and essential power selector is positioned to GEN 3.	
Galley Power	ON	F/E
Fuel	SET FOR T.O.	F/E
	Check fuel system set for proper takeoff configuration, appropriate boost pump switches ON, and LOW PRESSURE lights for operating boost pumps extinguished.	
Fuel Heat	OFF	F/E
Hydraulics	PRESS & QTY NORMAL	F/E
	Check system pressures normal, AC auxiliary and engine pump LOW PRESS lights extinguished and tank quantity at least full.	
Cockpit Door	LOCKED	F/E
Takeoff Briefing & Data	REVIEWED, BUGS SET	ALL
	The pilot making the takeoff shall review the takeoff data and brief the other crew members on their expected actions during and immediately after takeoff.	
	Check that airspeed and EPR bug settings agree with the computed data.	
	-----CLEARED FOR TAKEOFF-----	
Continue the checklist after receiving takeoff clearance.		
Air Cond & Press	SET FOR T.O.	F/E
	Check only two air compressors operating and cabin altitude 200 to 250 feet below airport elevation.	
Transponder	ON	F/O
Engine Start Control Selectors	BOTH	F/E
landing Lights	ON	F/O
	For collision avoidance check the fixed landing lights ON.	
Before Takeoff Checklist	COMPLETE	F/E

DO NOT USE FOR FLIGHT

TAKEOFF PROCEDURE

PILOT FLYING	PILOT NOT FLYING	FLIGHT ENGINEER
Align airplane on runway.	Transponder - ON.	
Advance thrust levers to vertical position (approximately 1.4 EPR) and allow engines to stabilize.		
Check engine instruments normal. Advance thrust levers to takeoff thrust.	Hold light forward pressure on control column.	Check panel for warning lights and abnormal engine indications.
Verify correct takeoff thrust is set.	Adjust takeoff EPR between 40 and 80 knots, if required. Monitor engine instruments.	Monitor forward engine instrument panel. Scan for any abnormal indications.
NOTE: After takeoff thrust is set, the Captain's hand must be on the thrust levers until V1.		
Monitor airspeed.	Monitor airspeed indications and call out any abnormalities.	
Verify 80 knots.	Call "80 KNOTS."	
Verify V1 speed. Rotate at VR and establish a positive rate of climb.	Call out "V1" and "ROTATE" at VR. Monitor airspeed and vertical speed.	
Call for "GEAR UP" when positive rate of climb is established.	Verify positive rate of climb, then position Landing Gear UP.	Scan panel for warning lights and hydraulic quantity.
	When landing gear lights extinguish, position landing gear lever OFF.	

WARNING

NO. 3 ENGINE THRUST LEVER MUST BE MOVED TO A QUADRANT POSITION FORWARD OF ZERO DETENT TO ALERT TAKEOFF WARNING SYSTEM

DO NOT USE FOR FLIGHT

REJECTED TAKEOFF PROCEDURE

The decision to reject a takeoff rests solely with the CAPTAIN. The decision must be made so stopping action can begin by V1. If the Captain decides to reject the takeoff he/she should clearly announce "REJECT", commence the stopping action, and assume control of the airplane. If the First Officer is making the takeoff, he/she should not abandon control of the airplane until the Captain makes a positive input to the controls.

Prior to 80 knots, the takeoff should be rejected for system failure(s), unusual noise or vibration, tire failure, abnormally slow acceleration, engine failure, engine fire, unsafe takeoff configuration warning, or if the airplane is unsafe or unable to fly.

Above 80 knots, reject for engine failure, engine fire, or if the airplane is unsafe or unable to fly.

During the takeoff, the crewmember recognizing the malfunction calls it out clearly and precisely.

CAPTAIN	FIRST OFFICER	FLIGHT ENGINEER
<p><u>Without Delay:</u></p> <p>Simultaneously close the thrust levers and apply maximum wheel brakes.</p> <p>Speedbrake Lever UP FULL</p> <p>Apply maximum allowable reverse thrust on symmetric engines consistent with conditions.</p> <p>Continue maximum braking until certain the airplane will stop on the runway.</p>	<p><u>Verify actions as follows:</u></p> <p>Thrust levers closed. Maximum brakes applied. Verify speedbrake lever UP and call "SPEEDBRAKES UP." If speedbrake lever not UP, call "SPEEDBRAKES NOT UP." Reverse thrust applied symmetrically.</p> <p>Call out any omitted action items.</p>	<p>Monitor engine instruments. Advise Captain of any limits being approached or other abnormalities. Verify speedbrake lever UP.</p>
<p><u>Field length permitting:</u></p> <p>Initiate movement of the reverse thrust levers forward at approximately 80 knots.</p> <p>At approximately normal taxi speed, slowly move the reverse thrust levers to the full down position. Observe REVERSER OPERATING Lights for proper indication.</p>	<p>Call 80 knots.</p> <p>Communicate the rejected takeoff decision to the control tower and appropriate crew members as soon as practical.</p>	<p>Monitor hydraulic brake and pressure indicators.</p>
<p>When the airplane is stopped, perform procedures as required.</p> <p>Review Brake Cooling Schedule for brake cooling time and precautions (refer to Ops Man Ch. 04.18).</p> <p><u>Consider the following:</u> The possibility of wheel fuse plugs melting, the need to clear the runway, the requirement for remote parking, alerting fire equipment, not setting parking brakes unless passenger evacuation is necessary, advising the ground crew of the hot brake hazard, advising passengers of the need to remain seated or evacuate, and completion of the Emergency/Abnormal checklist (if appropriate) for conditions which caused the RTO.</p>		

DO NOT USE FOR FLIGHT

ENGINE FIRE/FAILURE AFTER V₁

PILOT FLYING	PILOT NOT FLYING	FLIGHT ENGINEER
Fly the airplane. Maintain directional control.	Call or verify ENGINE FIRE or ENGINE FAILURE and engine number.	Call or verify ENGINE FIRE or ENGINE FAILURE and engine number.
When positive rate of climb indicated, call "GEAR UP."	Call positive rate of climb. On command, position landing gear lever UP. Observe warning lights illuminate.	Scan Flight Engineer's panel for abnormal indications.
<1> Climb at V ₂ ; limit bank angle to 15°.	When landing gear warning lights extinguish, position landing gear lever OFF.	Monitor forward engine instrument panel.
Command initiation of appropriate checklist. Accomplish recall actions, if appropriate.	Assist pilot flying as directed.	Accomplish recall actions of appropriate checklist.
At desired speed and flap retraction altitude, retract flaps on flap speed schedule.	Retract flaps on command. Monitor flap indicators and LE flaps lights.	Scan panels for abnormal indications.
Complete appropriate checklist.	Complete appropriate checklist.	Read appropriate checklists and complete appropriate checklist items.
Determine next course of action.	On command, notify ATC and advise of next course of action.	On command, set Maximum continuous thrust as required.

<1> If an engine failure occurs prior to V₂, maintain V₂ up to height required for obstacle clearance. If an engine failure occurs after V₂ but less than V₂ + 10 knots, maintain speed reached at time of the engine failure. If an engine failure occurs at V₂ + 10 knots, maintain speed V₂ + 10 knots. If an engine failure occurs at a speed higher than V₂ + 10 knots with flaps at takeoff setting, increase pitch attitude and reduce speed to and maintain V₂ + 10 knots until clear of obstacles.

DO NOT USE FOR FLIGHT

AFTER TAKEOFF PROCEDURE

PILOT FLYING	PILOT NOT FLYING	FLIGHT ENGINEER
At altitude selected for flap retraction, accelerate to $V_2 + 30$ (Minimum.) Call "Flaps Up".	Position flap lever to UP position Monitor flap retraction and leading edge device operation.	Monitor hydraulic quantity during flap retraction.
Monitor forward panel warning lights and engine instruments.		
Call "Landing Lights OFF".	Place landing lights not being used for Collision Avoidance to OFF.	Obtain readings from TAT indicator and altimeter. Compute climb EPR.
After flap retraction, reduce thrust to approximately 100% N1 and call "Set Climb Thrust."		Set climb thrust.
	Nacelle and/or wing anti-ice - AS REQUIRED	Engine start control selectors - AS REQUIRED No Smoking and Seat Belts Switches - At Captains command OFF
Continue to accelerate to $V_2 + 50$ (Maneuvering capability at 0 flaps). Then $V_2 + 70$ (Best Climb Angle Speed), then appropriate climb speed (250 Kts maximum below 10,000 ft).		Exit Valves - OPEN Turbofan Exit Valves - CLOSED
		Monitor hydraulic systems for normal operation.
	Maintain traffic surveillance and monitor flight instruments.	Re-adjust engine climb thrust as required.
When flaps selected up, call for AFTER TAKEOFF checklist.	Check flaps indicate UP and LE FLAPS lights extinguished.	
Establish autopilot control if desired.		Silently accomplish AFTER TAKEOFF checklist. Announce "After Takeoff Checklist completed."
		Rescan panel for possible abnormal indications. The third air compressor may be started. Monitor radio communications during departure and climb to level off.

DO NOT USE FOR FLIGHT

AMPLIFIED AFTER TAKEOFF CHECKLIST

When commanded by the Captain, the Flight Engineer will read silently each challenge and verify that the appropriate action has been accomplished. If any action has not been accomplished, he will read aloud the challenge to the designated crew member and after the action has been completed, receive the correct response. After all actions have been completed and verified the Flight Engineer will announce to the Captain: "After Takeoff Checklist complete."

Anti-Ice	OFF/ON	F/E
Engine Start Control Selectors	OFF/ON	F/E
Check engine start control selectors set as required for flight conditions.		
Seat Belts Switches	OFF/ON	F/E
Check switches OFF if flight conditions permit.		
Gear	UP & OFF	F/E
Check landing GEAR down light and GEAR and DOOR warning lights extinguished and landing gear lever in OFF position.		
CAUTION: DO NOT ACTUATE BRAKE PEDALS DURING GEAR RETRACTION. SUFFICIENT BRAKING IS AUTOMATICALLY APPLIED TO WHEELS WHEN HANDLE IS UP AND GEAR IS IN TRANSIT. SUDDEN APPLICATION OF BRAKE PEDAL FORCE DURING RETRACTION CAUSES VIOLENT PITCHING OF MAIN GEAR TRUCK AND INDUCES HEAVY LOADS ON TRUCK LEVELING SYSTEM. IF BRAKE PEDALS HAVE BEEN ACTUATED INADVERTENTLY DURING GEAR RETRACTION, MAINTENANCE INSPECTION MUST BE CARRIED OUT.		
Flaps	UP, NO LIGHTS	F/E
Check flaps retracted and LE FLAPS lights extinguished.		
Hydraulics	PRESS & QTY NORMAL	F/E
Check utility system and brake pressures 2800 psi after landing gear and flap retraction		
Air Cond & Press	CHECKED & SET	F/E
Check cabin altitude selection indicator set to planned cruise altitude plus 1500 to 2000 feet, cabin rate of climb normal, cabin air duct pressure in green band, crew and main cabin temperature selectors in automatic range.		
After Takeoff Checklist	COMPLETE	F/E

DO NOT USE FOR FLIGHT

CLIMB PROCEDURE

- Autopilot (If Desired) ENGAGE

- Radios SET FOR VOR NAVIGATION

Tune radios to desired frequencies, check warning flags retracted and identify stations. Set course pointer as desired.

- Autopilot (If Desired) SET FOR VOR NAVIGATION

With autopilot engaged, position mode selector to HDG and select desired heading. When aircraft is on intercept heading, rotate mode selector to LOC VOR and check autopilot V/L light on approach progress display illuminates amber. When airplane has captured selected radial, observe autopilot V/L light illuminates green.

- Flight Director (If Desired) SET FOR NAVIGATION

Check ADI and HSI warning flags retracted. Position controls on flight director control panel as desired for enroute navigation.

- Climb Thrust MONITOR

Reset climb EPR, as necessary, using quick reference data and existing TAT and altitude.

- Landing lights OFF

Fixed landing lights should be turned OFF when passing through 10,000 feet.

- Operating Systems MONITOR

Monitor the following operating systems periodically as flight conditions permit.

 - Electrical System - CHECK
Check:
AC voltage and frequency within limits.
DC system voltmeter & load meter indications normal.
Generator drive LOW PRESSURE lights extinguished.
Generator drive oil temperature rise indications normal.
Bus tie breaker CIRCUIT OPEN lights extinguished.
Generator breaker CIRCUIT OPEN lights extinguished.
KW/KVAR loads within limits and balanced.
 - Fuel System - CHECK
Check:
Operating boost pump LOW PRESSURE lights extinguished.
Quantity indicator operation and fuel used consistent with operation.
Fuel temperature at least 3°C above fuel freezing point.
 - Hydraulic System - CHECK
Check:
Hydraulic quantity indicator reflects gear and flap retraction.
Note quantity decreases as OAT decreases, due to cold soak effect at high altitude.
Utility hydraulic system pressure normal and rudder pressure reduced to 2250 psi above 245 kt IAS.
AC auxiliary and engine pump LCW PRESS lights extinguished.
 - Engine Operation - CHECK
Check:
Engine vibration indications
HI & N2 indications within limits.
EGT indications stabilized & within limits.
Fuel flow approximately equal for each engine.
Engine oil pressure and temperature indications within limits.
Engine oil quantities sufficient for remainder of flight.

- Air Conditioning and Pressurization Systems – CHECK

- Coolant Air System - CHECK

DO NOT USE FOR FLIGHT

Check:
Inlet and exit valves positioned OPEN or as desired for performance•
Secondary heat exchanger valves positioned to agree with temperature control valve position.
Turbo fan exit valve positioned closed.
Temperature control valve positioned as required for existing conditions.
Main Cabin Heating Panels - AS DESIRED
Gasper Fan Switch - AS REQUIRED FOR VENTILATION
Oxygen Systems - CHECK
Check pressures normal.

Cruise Data

PRECOMPUTE

Compute projected gross weight at level-off. Use appropriate performance tables to determine indicated Mach No. (if required), indicated airspeed, average EPR and fuel flow for cruise.

Altimeters

SET & CROSS-CHECK

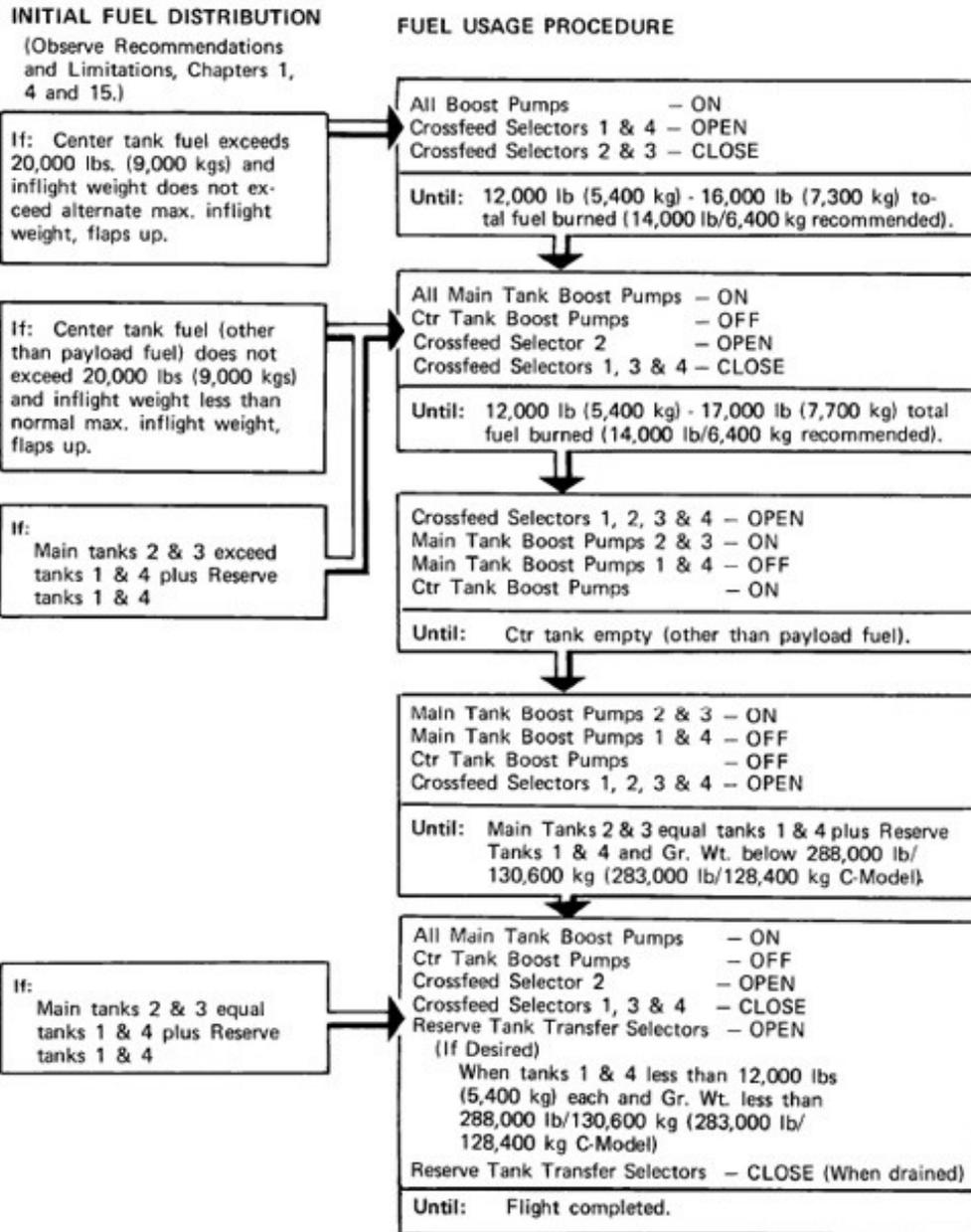
At transition altitude each pilot and navigator sets altimeters to 1013 MB/29.92 in Hg and crosschecks. F/E resets cabin altimeter.

Fuel Management (As Required)

ACCOMPLISH

Establish fuel usage for all inflight operations according to the diagram below.

DO NOT USE FOR FLIGHT



DO NOT USE FOR FLIGHT

CRUISE PROCEDURE

Cruise Thrust	SET
<p>When cruise altitude is reached, allow airplane to accelerate slightly higher than cruise chart speed. Cruise Thrust EPR - SET Adjust cruise thrust according to gross weight as fuel is burned off to maintain charted speed schedule.</p> <p>NOTE: If indicated speed falls below charted value, use up to maximum continuous thrust to recover charted speed.</p>	
Autopilot (If Desired)	SET FOR DESIRED NAVIGATION
Flight Director (If Desired)	SET FOR DESIRED NAVIGATION
Fuel Management	MONITOR
<p>Accomplish fuel management according to fuel usage procedure. Monitor fuel quantities at frequent intervals. Compute total fuel and gross weight hourly and as required for navigation reports.</p>	
Operating Systems	MONITOR
<p>Continue monitoring operating systems for normal indications.</p>	
Cabin Temperature Zone Control (as desired)	ADJUST

DESCENT - APPROACH PROCEDURE

Pressurization	SET
<p>Move cabin altitude selection indicator to landing field elevation minus 200 to 250 feet. Check cabin rate of descent normal.</p>	
Cabin Air Thrust Valve Switch	NORMAL/OFF
<p>Close cabin air thrust valves or adjust thrust levers to maintain the desired rate of change of altitude.</p>	
Anti-Ice	OFF/ON
<p>Check anti-ice OFF or ON as required.</p>	
Descent	INITIATE
Coolant Air Valves (19,000 Feet)	OPEN
<p>Position inlet and exit valve switches to OPEN. Open exit valve first, then inlet, in increments. Check indicators move to full OPEN position.</p>	
Circuit Breakers	CHECK
Seat Belts Switch	ON
Landing Lights	ON
<p>For collision avoidance turn ON the turn off lights when descending through 10,000 feet.</p>	
Altimeters	SET & CROSS-CHECK
<p>When descending through transition altitude each pilot sets current altimeter setting and cross-checks altimeter readings. F/E sets barometric correction indicator and cabin altimeter to altimeter setting of destination airport (QNH).</p>	

DO NOT USE FOR FLIGHT

Radio Altimeter SET

Set minimum decision altitude.

Flight Director (If Required) SET FOR DESCENT

Autopilot (If Desired) SET FOR DESCENT

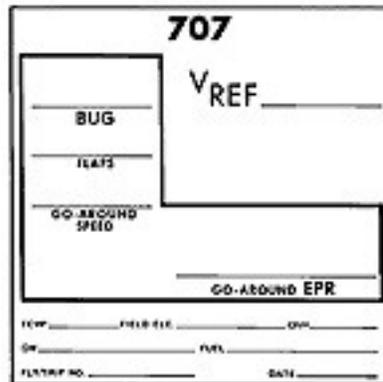
Position mode selector to HDG or VOR LOC as desired and position altitude hold switch OFF. Set heading pointer to desired heading. Pitch control may be maintained using the pitch controller. Check airplane tracks selected heading or radial and pitch angle.

Landing Data Card COMPLETE

The F/E will obtain, compute and record the following data on the Landing Data Card.

Temperature, elevation and QNH at destination airport plus gross weight and fuel. He then extracts the V_{pgp} and go-around EPR from the QRH or performance chapter, enters these plus the bug speed, landing flaps and go-around speed (bug + 10 knots) in the appropriate spaces on the data card. The F/O will verify the entries.

EPR & Airspeed Bugs SET



Fuel System SET FOR LANDING

Position all main tank fuel boost pump switches ON and observe all main tank WW PRESSURE lights extinguish. Check fuel heater switches OFF. Set main-tank-to-engine configuration.

Hydraulic Systems PRESSURES & QUANTITY NORMAL

NOTE; If brake pressure increases above 3500 psi, actuate brakes momentarily to bleed off pressure.

Speed Brake Lever FULL FORWARD

Spoiler Switches GUARDS CLOSED

ADF Radios SET FOR APPROACH

Tune to frequency of outer marker or other fix and identify station. Verify RMI bearing to station.

VHF NAV Radios SET FOR APPROACH

Tune to ILS frequency, identify station and observe appropriate ADI and HSI warning flags retracted. Set course pointers/ counters to localizer course.

Autopilot SET FOR APPROACH

With autopilot engaged, position mode selector to HDG. Select desired heading. When aircraft is on intercept heading, rotate mode selector to G/S AUTO and observe amber illumination, of autopilot

DO NOT USE FOR FLIGHT

V/L and G/S annunciators. At ILS entry altitude, place altitude hold switch ON. If ILS coupled approach is not desired, use autopilot in manual mode to make approach, tracking raw data or flight director indications.

Flight Director SET FOR APPROACH

Position mode selector from HDG to AUTO-APP and check flight director V/L and G/S annunciators illuminate amber. Check command bar directs flight on selected heading until localizer capture. Engage altitude hold when appropriate.

Localizer CAPTURE (AUTOPILOT)

At 2 dots displacement of course bar, check airplane banks to align with localizer, and autopilot V/L annunciator illuminates green. Check airplane tracks localizer.

Localizer CAPTURE (FLIGHT DIRECTOR)

At 2 dots displacement of course bar, check command bar directs a bank to align with localizer and flight director V/L annunciator illuminates green. Check command bars track localizer.

Glide Slope CAPTURE (AUTOPILOT)

At glide slope capture, check autopilot G/S annunciator illuminates green, and altitude hold switch trips OFF. Check airplane tracks glide slope.

Glide Slope CAPTURE (FLIGHT DIRECTOR)

Immediately prior to glide slope beam center, check command bars direct a pitch-down to track glide slope, altitude hold switch trips OFF, and flight director G/S annunciator illuminates green.

AMPLIFIED DESCENT - APPROACH CHECKLIST

When commanded by the Captain, the Flight Engineer will read aloud each challenge and receive the appropriate response for the items accomplished by Captain and First Officer, reading and responding in a normal voice those items accomplished by himself.

Pressurization	SET	F/E
Verify cabin altitude selector set for landing.		
Anti-Ice	OFF/ON	F/O
Check Anti-ice OFF or ON as required.		
Coolant Air Valves (19,000 feet)	OPEN	F/E
Circuit Breakers	CHECKED	F/E

-----19,000 feet-----

Complete the checklist after reaching final approach altitude.

Seat Belts Switch	ON	F/E
Landing Lights	ON	F/O
For collision avoidance check the fixed landing lights ON when descending through 10,000 feet.		
EPR & Airspeed Bugs	SET	C,F/O
Altimeters	SET & X CHECKED	ALL
Check altimeters and barometric correction indicator set at current airport barometric pressure, and altimeters in agreement .		
Radio Altimeters	SET	C,F/O
Set minimum decision altitude.		

DO NOT USE FOR FLIGHT

Fit Dir, Fit Inst & Radios	SET & X-CHECKED	C,F/O
Check flight directors, flight instruments and radios set for approach and corresponding instruments in agreement.		
Fuel	SET FOR LANDING	F/E
Check all main tank boost pump switches ON, all main tank LOW PRESSURE lights extinguished, system configured main- tank-to-engine and fuel heater switches OFF.		
Hydraulics	PRESS & QTY NORMAL	F/E
Check utility and AC auxiliary pump switches ON, all LOW PRESS lights extinguished and quantity normal.		
Descent-Approach Checklist	COMPLETE	F/E

DO NOT USE FOR FLIGHT

LANDING PROCEDURE

Prior to and during the final approach, accomplish the following tasks in sequence to properly configure the airplane for landing. The pilot not flying executes standard callouts in the approach.

PILOT FLYING	PILOT NOT FLYING	FLIGHT ENGINEER
Speedbrake Lever - FULL FORWARD Spoiler Switches - ON Call for flap extension on the flap/speed schedule in accordance with the landing approach requirements.	Position flap lever as directed. Monitor flap extension and leading edge flaps operation.	Check hydraulic system quantity.
Prior to crossing the outer marker, cross-check all flight and navigation instruments, check warning flags retracted, tune and identify radios, and check LOC and G/S displayed.		
Call "GEAR DOWN" in accordance with the landing approach requirements.	Position landing gear lever DOWN. Observe lights for proper landing gear extension. If conditions require, use windshield wipers and rain repellent to improve visibility.	Engine Start Control Selectors - BOTH No Smoking - ON Check 4 REL's on brake release indicators. Check landing gear down and locked, hydraulic quantity and pressure normal.
Call for "LANDING Checklist down to FLAPS".		Read LANDING Checklist down to flaps.
At final approach fix/OM, verify crossing altitude.		
Call for "Flaps 50" and "Complete Landing Checklist".	Select flaps for landing. Monitor extension.	Check hydraulic brake and system pressure indicators and system quantity indicators normal. One Air Compressor - OFF. Read LANDING checklist.
Check landing gear down and locked, both flap position indicators at landing flap position, and green LE FLAPS light illuminated.		Monitor all systems with particular attention to forward panels.

CAUTION

RE-TRIM AIRPLANE ON APPROACH TO MAINTAIN ZERO ELEVATOR CONTROL FORCES. SUFFICIENT ELEVATOR CONTROL FOR FLARE MAY NOT BE AVAILABLE IF STABILIZER TRIM IS SET SO AS TO REQUIRE SUBSTANTIAL BACK PRESSURE ON CONTROL COLUMN TO MAINTAIN FLIGHT PATH AND APPROACH AIRSPEED. LANDING FLARE SHOULD BE PERFORMED BY USE OF ELEVATOR CONTROL ONLY.

The Boeing recommended approach speed and wind correction is V_2 the steady headwind component plus all of the gust value up to a maximum of 20 knots. In all cases, the gust correction should be maintained to touchdown while the steady wind correction may be bled off as the airplane approaches touchdown. Fly the airplane onto the runway at the desired touchdown point. Do not bleed off excess airspeed in the air by holding the airplane off the runway as a long landing will result.

It is recognized that the actual wind encountered on the approach may vary from that reported by the tower due to terrain or climatic phenomenon. However, unless actual conditions are known, i.e., reported wind shears or known terrain induced turbulence areas, it can be considered reasonable for convenience of operation and to avoid additional cockpit workload to adjust the approach speed by the "V2 steady wind plus gust"

DO NOT USE FOR FLIGHT

values as reported by the Tower. Headwind corrections are made for any steady wind in the forward 180° arc $\pm 90^\circ$ on each side of the runway heading.

When the wind is reported calm or light and variable, and no wind shear exists, $V_{ref} + 5$ knots is the recommended airspeed on the final approach. The 5 knots will normally bleed off during the flare as the airplane approaches touchdown.

AMPLIFIED LANDING CHECKLIST

Prior to landing, when directed by the Captain, the Flight Engineer will read the following challenges and receive the specified response from the appropriate crew member.

Speedbrake Lever	FULL FORWARD	C
Spoiler Switches	ON	C
Engine Start Control Selectors	BOTH	F/E
Gear	DOWN, IN, 3 GREEN	C
Check landing gear lever positioned down and in, and 3 green landing GEAR DOWN lights illuminated.		
Anti-Skid	4 RELEASES	F/E
Flaps	50, 50, GREEN LIGHTS	C
Check inboard and outboard flaps at selected landing flap position, and green LE FLAP lights illuminated.		
Hydraulics	PRESS & QTY NORMAL	F/E
Landing Checklist	COMPLETE	F/E

DO NOT USE FOR FLIGHT

GO-AROUND PROCEDURE

The following procedures will be accomplished in the event of a missed approach or other circumstances necessitating a go-around with the airplane in the landing configuration.

PILOT FLYING	PILOT NOT FLYING	FLIGHT ENGINEER
Simultaneously; Thrust levers - ADVANCE to GO- AROUND EPR and Autopilot (if applicable)- DISENGAGE Rotate to Go-Around attitude Call out "Go-Around, Flaps 25."		MONITOR EPR Indicators
Flight Director - HDG Set 10° pitch up with PITCH CMD	Adjust engine thrust as required. Position flap lever to 25 and monitor retraction.	Monitor forward engine instrument panel.
When positive rate of climb indicated, call "Gear Up."	Position landing gear lever UP and check for normal gear retraction.	Scan panel for warning lights, hydraulic quantity normal.
Accelerate to Bug +10 knots.		
Call "Flaps 14." Retract flaps on flap/speed schedule.	Position flap lever to 14. Monitor flap and leading edge device retraction.	
Thrust - SET Reduce to that required for missed approach pattern or climb. If climb, call for F/E to set climb EPR.		If directed, set climb EPR.
		Accomplish after takeoff procedures.
Call for AFTER TAKEOFF checklist.		

DO NOT USE FOR FLIGHT

LANDING ROLL PROCEDURE

After touchdown and during landing roll, the following tasks are accomplished during normal deceleration

PILOT FLYING	PILOT NOT FLYING	FLIGHT ENGINEER
Thrust levers - IDLE		
Speed Brake Lever - FULL UP	Verify speedbrake lever UP and call "SPEEDBRAKES UP." If speedbrake lever not UP, call "SPEEDBRAKES NOT UP."	Verify speedbrake lever UP.
Brakes - APPLY Keep wings level.		
Reverse Thrust - ACTIVATE Rapidly raise reverse thrust levers and move aft into spring detent. CAUTION: Exercise caution in use of reverse thrust. The application of reverse thrust produces a nose-up pitching moment. Therefore, before reverse thrust actuation, the nose wheel should be lowering onto the runway through application of braking and nose-down elevator.		Monitor REVERSER OPERATING lights for normal indication. Monitor engine instruments. Advise pilots of any engine limits being exceeded or abnormalities.
At approximately 80 knots, start moving reverse thrust levers forward and continue lever motion toward reverse idle at a rate which will avoid engine surge.	Hold forward pressure on the control column. Keep wings level.	Monitor Hydraulic Brake and System Pressure Indicators.
At approximately normal taxi speed, slowly move reverse thrust levers to full down position. Observe REVERSER OPERATING lights for normal indication.		Observe reverser lights. Advise pilot flying of reverser lights remaining illuminated.

WARNING: AFTER INITIATING THE LANDING PROCEDURE, A FULL STOP LANDING SHOULD BE MADE. A GO-AROUND OR TAKEOFF MUST NOT BE ATTEMPTED AFTER REVERSE THRUST HAS BEEN INITIATED.

Deployed speed brakes, or reversers not retracted in the full forward and locked position could result in an unsuccessful go-around or takeoff.

DO NOT USE FOR FLIGHT

TAXI-IN AND PARK

AFTER LANDING PROCEDURE

CAUTION: OPERATING TWO ENGINES IN REVERSE TO DECREASE TAXI SPEEDS MAY RESULT IN ENGINE DAMAGE, SINCE THE REVERSE JET BLAST MAY BE SUFFICIENTLY STRONG TO LIFT FOREIGN OBJECTS UP IN FRONT OF ENGINE INLETS. TAXIING IN REVERSE MAY ALSO RESULT IN INGESTION OF EXHAUST GASES INTO AIR CONDITIONING SYSTEM.

Exterior Lights AS REQUIRED

Flaps UP, NO LIGHTS

Retract flaps when convenient prior to entering a congested area.

Speedbrake Lever FULL FORWARD

Anti-Ice Switches OFF/ON

As required by ground conditions.

Window Heat LOW/OFF

On through flights all window heat switches may be left in the LOW position if conditions require. On terminating flights position all switches to OFF.

Probe Heat Switches OFF

Radar Mode Selector STBY/OFF

Position selector to STBY on through flights and to OFF on terminating flights.

Transponder Mode Selector STBY/OFF

Position selector to STBY on through flights and to OFF on terminating flights.

Radios SET FOR GROUND OPERATION

Engine Start Control Selectors OFF

AC Paralleling Selector EXTERNAL POWER

Galley Power Switch OFF

DC Meter Selector BATT

Boost Pumps ONE PER ENGINE

Hydraulic & Brake Pressure MONITOR

Outflow Valves CHECK OPEN

Air Compressor Switches AS DESIRED

Operate at least 2 air compressors for ventilation.

Coolant Air Valves CHECK POSITION

Position coolant air valve selector to EXIT and check CLOSED.

Position coolant air valve selector to TURBOFAN EXIT and check OPEN. Reposition selector to TEMP CONTROL.

Gasper Fan Switch ON

Position gasper fan switch as desired

DO NOT USE FOR FLIGHT**AMPLIFIED AFTER LANDING CHECKLIST**

When clear of the active runway, the Captain will call for the After Landing Checklist. The Flight Engineer will read silently each challenge and verify that the appropriate action has been accomplished. If any action has not been accomplished, he will read aloud the challenge to the designated crew member and after the action has been completed, receive the correct response. After all actions have been completed and verified, the Flight Engineer will announce to the captain: "After Landing Checklist complete."

Anti-Ice	OFF/ON	F/O
Engine Start Control Selectors	OFF	F/E
Window Heat	LOW/OFF	F/O
	Window heat may remain in LOW if through flight is planned.	
Probe Heat	OFF	F/O
Flaps	UP, NO LIGHTS	F/O
	Check flap indicator zero and LE FLAPS lights extinguished.	
Speedbrake Lever	FULL FORWARD	C
Radar & Transponder	STDBY/OFF	F/O
Galley Power	OFF	F/E
Fuel	1 PUMP/ENGINE	F/E
	Check one boost pump is on in each main tank which is supplying fuel to an operating engine.	
Hydraulics	PRESS & QTY NORMAL	F/E
Outflow Valves	OPEN	F/E
After Landing Checklist	COMPLETE	F/E

PARKING PROCEDURE

Allow the airplane to roll straight ahead a few feet before stopping following a turn to relieve torsional stresses in the main landing gear structure.

Parking Brake	SET
	Check parking brake warning light illuminates.
Air Conditioning Units	OFF
Air Compressors	STOP
Anti-ice	OFF
	Check that the anti-ice is OFF before engine shutdown.
Engine Start Levers (1, 2, 4)	CUTOFF
INS	AS REQUIRED
	On terminating flights, place INS mode switch to OFF. On through flights, INS may be left in NAV mode if: Ground power is of proper quality and will not be interrupted. INS accuracy was within 1.5 miles per hour in NAV mode on previous flight. Sufficient equipment cooling will be maintained.
	NOTE: Ground power interruption will deplete INS battery units.
Electrical Power	EXTERNAL ON

DO NOT USE FOR FLIGHT

Check external power CONNECTED light illuminates. Position AC paralleling selector to EXT and check frequency and voltage within limits. Position external power switch generator switch to ON and essential power source selector to EXT.

Engine Start Lever No. 3	CUTOFF
Beacon Light Switch	OFF
Emergency Exit Lights Switch	ARMED/OFF
Seat Belts Switch	OFF
Communications	SET FOR RAMP OPERATIONS
Parking Brake	RELEASE
Release Parking Brakes when CHOCKS are in place. Check parking brake warning light extinguishes.	
Galley Power Switch (If Required)	ON
Fuel Boost Pumps	OFF
AC Au CUTOFF auxiliary Pumps	OFF
Temperature Control Valves	FULL CLOSED
Oxygen Regulators	ON/OFF, 100%

Oxygen supply levers may remain ON if through flight is planned.

If terminating flight:

External Power	ON/OFF
Battery	ON/OFF

AMPLIFIED SHUTDOWN CHECKLIST

After parking the airplane, and when commanded by the Captain, the Flight Engineer will read aloud each challenge and receive the appropriate response for the items accomplished by Captain and First Officer, reading and responding in a normal voice those items accomplished by himself. On a through flight the checklist will be read down to the line. On a terminating flight complete the checklist.

Electrical	EXTERNAL POWER ON	F/E
Seat Belts Switch	OFF	F/E
Beacon	OFF	F/O
Exterior lights	REQUIRED	F/O
Check all exterior limits not required:	OFF	
Start levers.	CUTOFF	C
Parking Brakes	RELEASED/SET	C
Fuel Boost Pumps	OFF	F/E
AC Aux Pumps	OFF	F/E
Air Cond Units	OFF	F/E
Shutdown Checklist (Through Flight)	COMPLETE	F/E

DO NOT USE FOR FLIGHT

-----TERMINATING FLIGHT-----

INS	OFF	F/O
Emergency Exit Lights	OFF	F/O
Ext Power	ON/OFF	F/E
Battery	ON/OFF	F/E
Oxygen Regulators	OFF, 100%	ALL
Oxygen Valve	CLOSED	F/E
Shutdown Checklist (Terminating Flight)	COMPLETE	F/E

DO NOT USE FOR FLIGHT

PERFORMANCE TABLES

TAKEOFF SPEEDS

PA, FT	TEMPERATURE RANGE, °C																				
	-54 to -40			-39 to -21			-20 to -1			-54 to -21			-20 to 0			-20 to +2			+3 to +29		
10,000 8000																					
6000 4000	-54 to -40 -54 to -10			-39 to -21 -9 to 0			-20 to -1 +1 to +14			0 to +13 +15 to +38			+14 to +37 +39 to +41								
2000 1000	-54 to +6 -54 to +13			+7 to +14 +14 to +33			+15 to +37 +34 to +42			+38 to +45 +43 to +47											
Sea Level -1000	-54 to +32 -54 to +37			+33 to +37 +38 to +42			+38 to +46 +43 to +49			+47 to +49 +50 to +51											
TOGW LB x 1000	V1	Vr	V2	V1	Vr	V2	V1	Vr	V2												
333	148	154	168	150	155	168															
325	146	152	167	148	153	167															
320	145	150	165	146	151	165	149	153	165												
315	143	149	164	145	150	164	147	151	164												
310	142	148	163	143	148	163	145	150	163												
305	140	146	162	142	147	162	144	148	161												
300	138	144	161	140	145	160	142	146	160												
295	137	143	159	138	144	159	141	145	159												
290	136	142	158	137	143	158	139	144	157	142	145	157									
285	134	140	156	135	141	156	137	142	156	140	143	156									
280	133	138	155	134	139	155	136	140	155	138	142	155									
275	131	137	154	133	138	154	134	139	154	137	140	153									
270	130	135	152	131	136	152	133	137	152	135	139	152	138	140	152						
265	129	133	151	130	134	151	131	136	151	133	137	151	136	138	150						
260	127	132	150	128	133	150	130	134	149	132	135	149	134	137	149						
255	126	130	148	127	131	148	128	132	148	130	134	148	132	135	148						
250	124	128	147	125	129	147	126	130	147	128	132	147	130	134	146	132	135	146			
245	123	127	146	124	128	145	125	129	145	126	130	145	128	132	145	131	133	145			
240	121	125	144	122	126	144	123	127	144	125	129	144	127	130	143	129	132	143			
235	↑	123	143	120	124	143	121	125	142	123	127	142	125	128	142	127	130	142			
230	↑	121	142	119	122	141	120	123	141	121	125	141	123	127	141	126	128	140			
225	↑	↑	140	↑	120	140	118	122	139	120	123	139	122	125	139	124	126	139			
220	↑	↑	139	↑	119	138	116	120	138	118	121	138	120	123	138	122	125	137			
215	↑	↑	137	↑	↑	137	114	118	137	116	119	136	118	121	136	120	123	136			
210	↑	↑	136	↑	↑	136	↑	116	135	114	118	135	116	119	135	118	121	134			
205	↑	↑	134	↑	↑	134	↑	114	134	112	116	134	114	118	133	116	119	133			
200	↑	↑	133	↑	↑	133	↑	↑	132	110	114	132	112	116	132	114	117	131			
195	↑	↑	131	↑	↑	131	↑	↑	131	↑	↑	130	111	114	130	112	115	129			
190	↑	↑	130	↑	↑	129	↑	↑	129	↑	↑	129	109	112	129	110	113	128			
185	↑	↑	128	↑	↑	127	↑	↑	127	↑	↑	127	106	109	127	108	111	126			
180	↑	↑	↑	↑	↑	126	↑	↑	126	↑	↑	126	↑	↑	126	106	109	125			
175	↑	↑	↑	↑	↑	↑	↑	↑	124	↑	↑	124	↑	↑	124	104	107	124			
170	↑	↑	↑	↑	↑	↑	↑	↑	123	↑	↑	122	↑	↑	122	102	105	121			
165 & Below	↑	↑	128	↑	↑	126	↑	↑	121	↑	↑	120	↑	↑	120	102	103	120			

**SPEEDS ARE
KNOTS IAS**

NOTES:

- Add 1 kt for each 20 kt of headwind.
- Subtract 1 kt for each 2Yr kt of tailwind.
- Shaded areas show performance affected by minimum control speed.
- If antiskid is inoperative, see Performance General section.
- Omit wind and slope corrections when V1 falls in shaded area.
- When V1 is shaded, available runway length must be sufficient for highest TOGW in shaded area; otherwise runway length is insufficient

V1 CORRECTION:

- Add 1 kt for each 1 % upslope.
- Subtract 1 kt for each ½ % downslope.
- Add 1 kt for each 20 kt of headwind.
- Subtract 1 kt for each 2 ½ kt of tailwind.

DO NOT USE FOR FLIGHT

DO NOT USE FOR FLIGHT

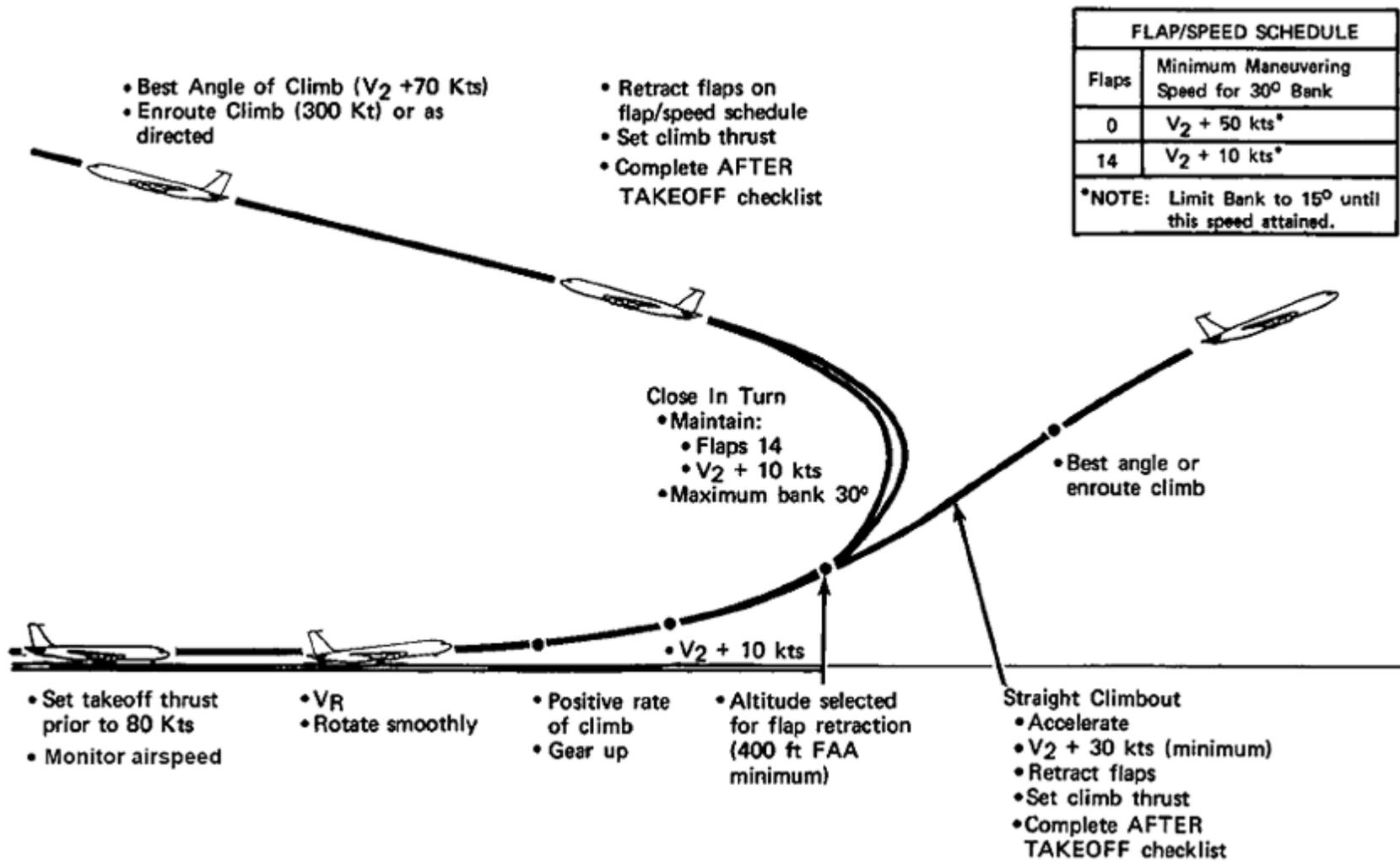
CRITICAL SPEEDS

300C/B CRITICAL SPEEDS IAS								2&3 ENG CLIMB SPEED	MINIMUM CONTROL SPEEDS	
WEIGHT 1000 LB	THRESH SPEED		STALL SPEED - KNOTS							
	FLAPS 50	FLAPS 40	FULL	40°	25°	14°	0°			
160	110	111	88	89	91	94	112	175	3 ENG BOOST	
170	113	114	91	92	94	97	115	180		
180	116	118	93	95	97	100	119	186		
190	119	121	96	97	99	103	123	191	ON	OFF
200	122	124	98	99	102	106	126	196	120	180
210	125	127	101	102	105	109	130	201	2 ENG BOOST	
220	128	130	103	105	108	112	133	206	ON	OFF
230	131	133	105	107	110	114	136	211	170	
240	134	136	107	109	113	117	139	215		
250	137	139	110	112	115	120	142	220		
260	139	142	112	114	117	122	144	225	235	
270	142	144	114	116	120	125	147	229		
280	145	147	116	118	122	128	150	233		
290	147	150	118	121	124	130	152	237		
300	150	153	120	123	127	133	155	242		
310	152	155	122	125	129	135	157	246		
320	155	158	124	127	131	138	160	250		
330	157	160	126	129	133	140	162	253		

DO NOT USE FOR FLIGHT

FLIGHT PATTERNS

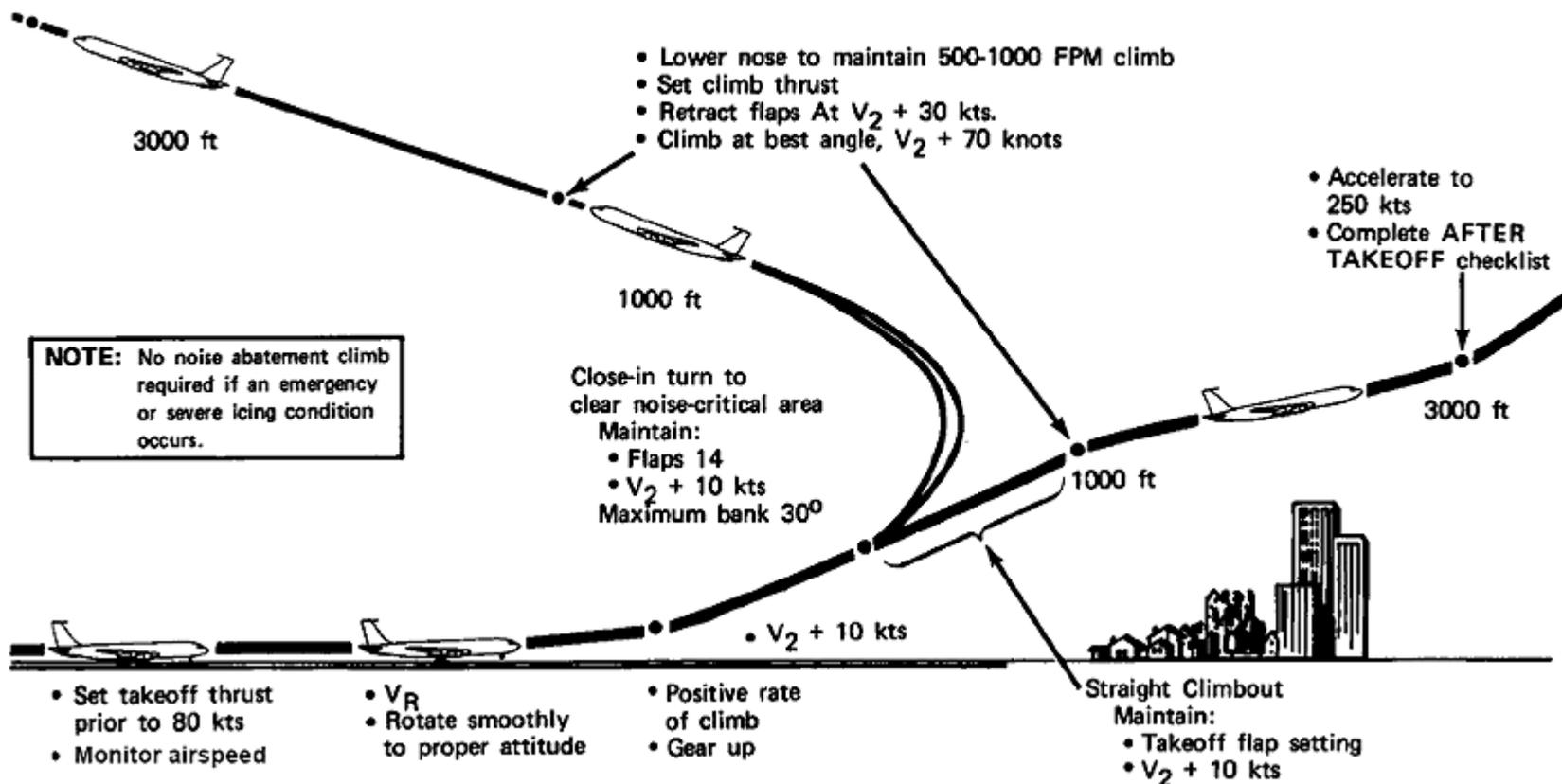
NORMAL TAKEOFF



DO NOT USE FOR FLIGHT

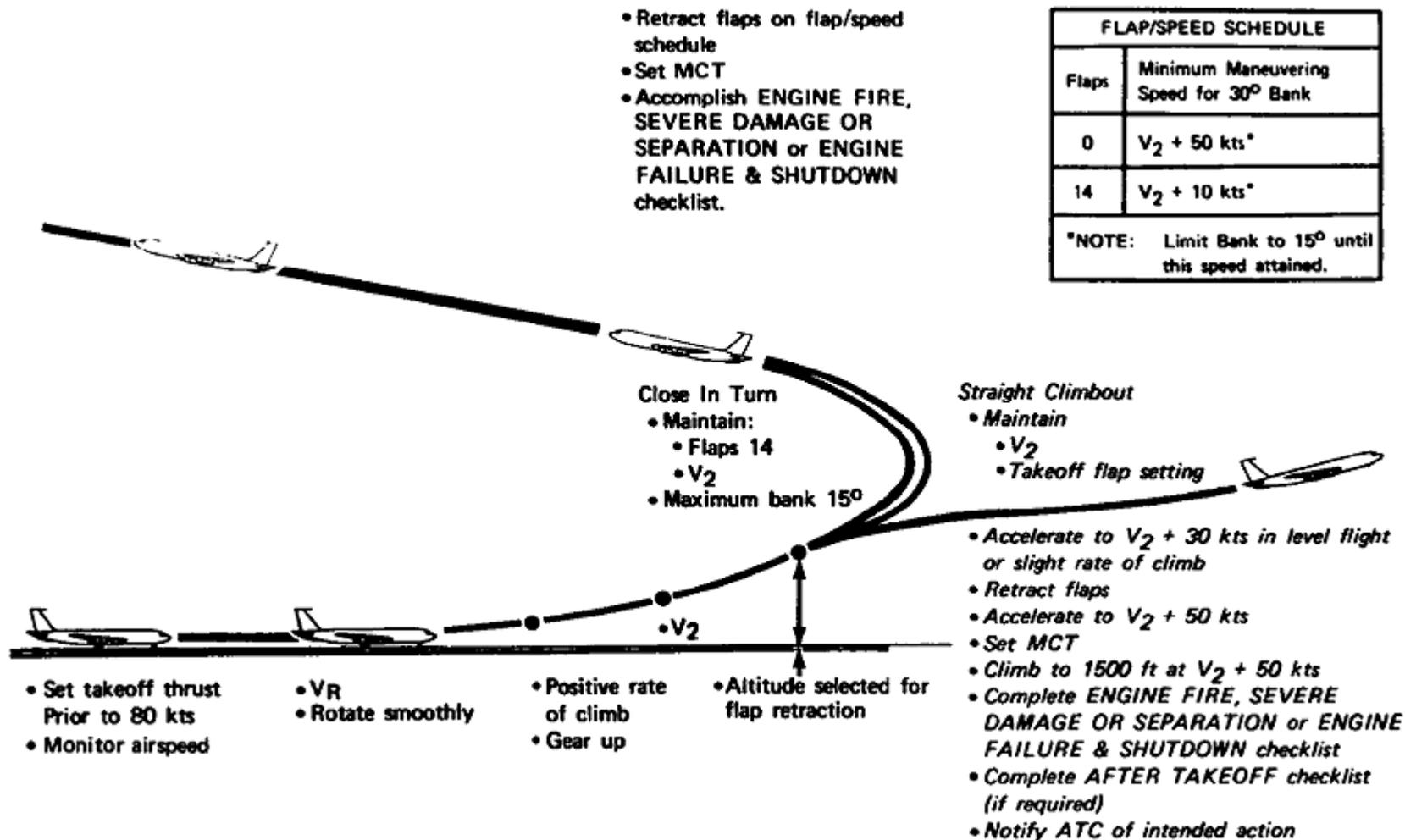
NOISE ABATEMENT TAKEOFF

- Accelerate to 250 kts
- Complete AFTER TAKEOFF checklist



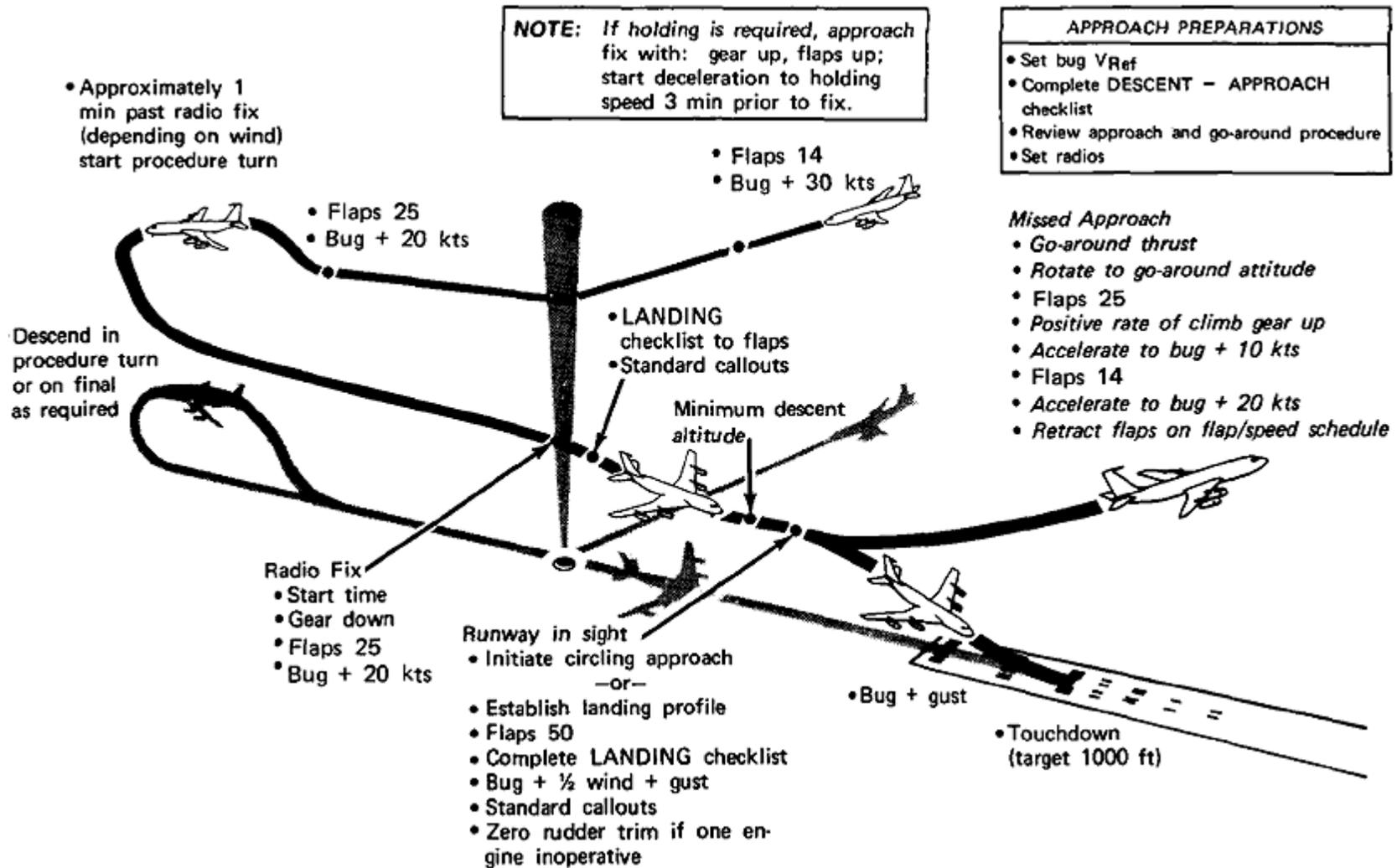
DO NOT USE FOR FLIGHT

TAKEOFF – ENGINE FIRE/FAILURE AFTER V₁



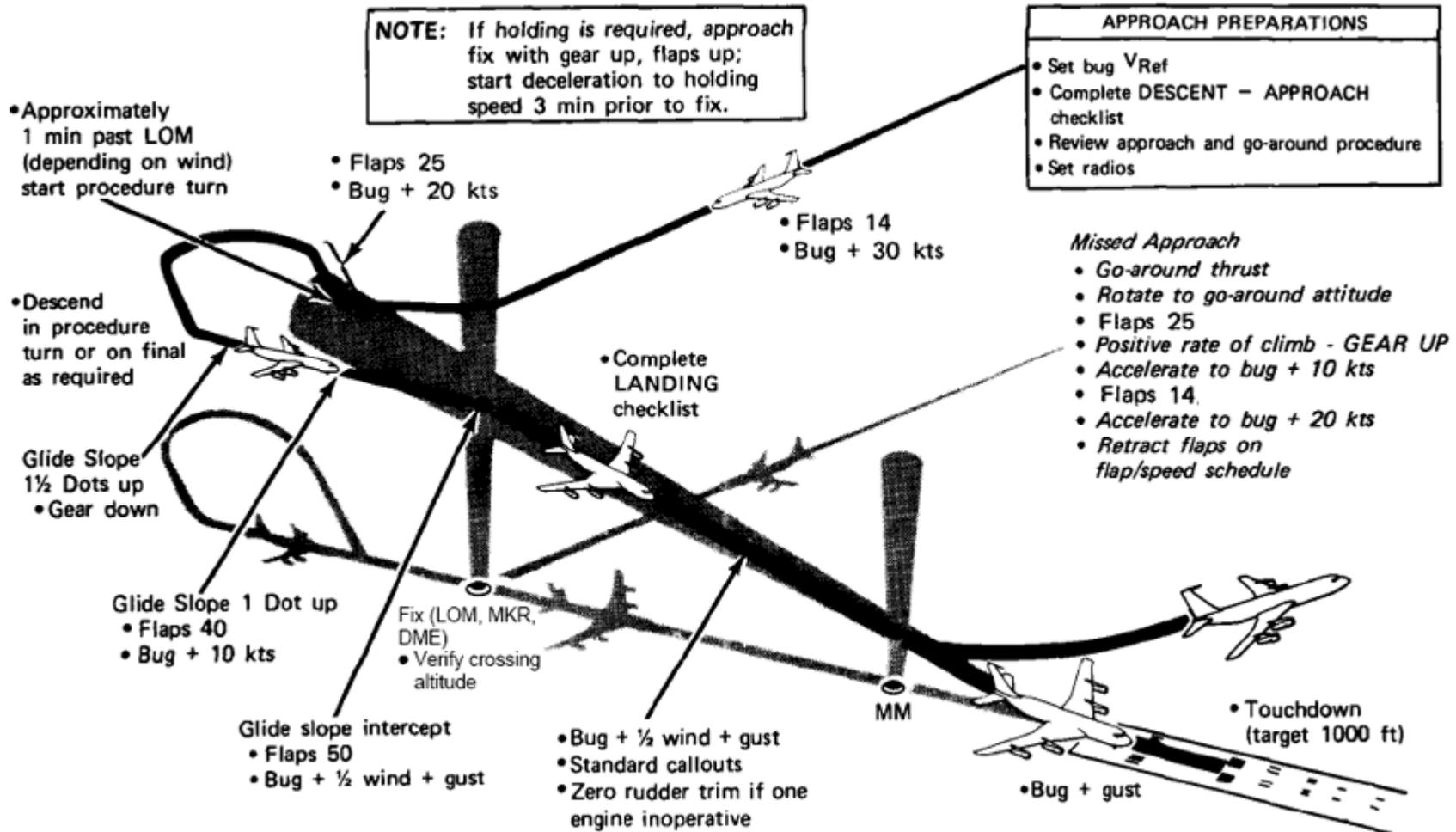
DO NOT USE FOR FLIGHT

NORMAL OR ONE ENGINE INOPERATIVE VOR APPROACH



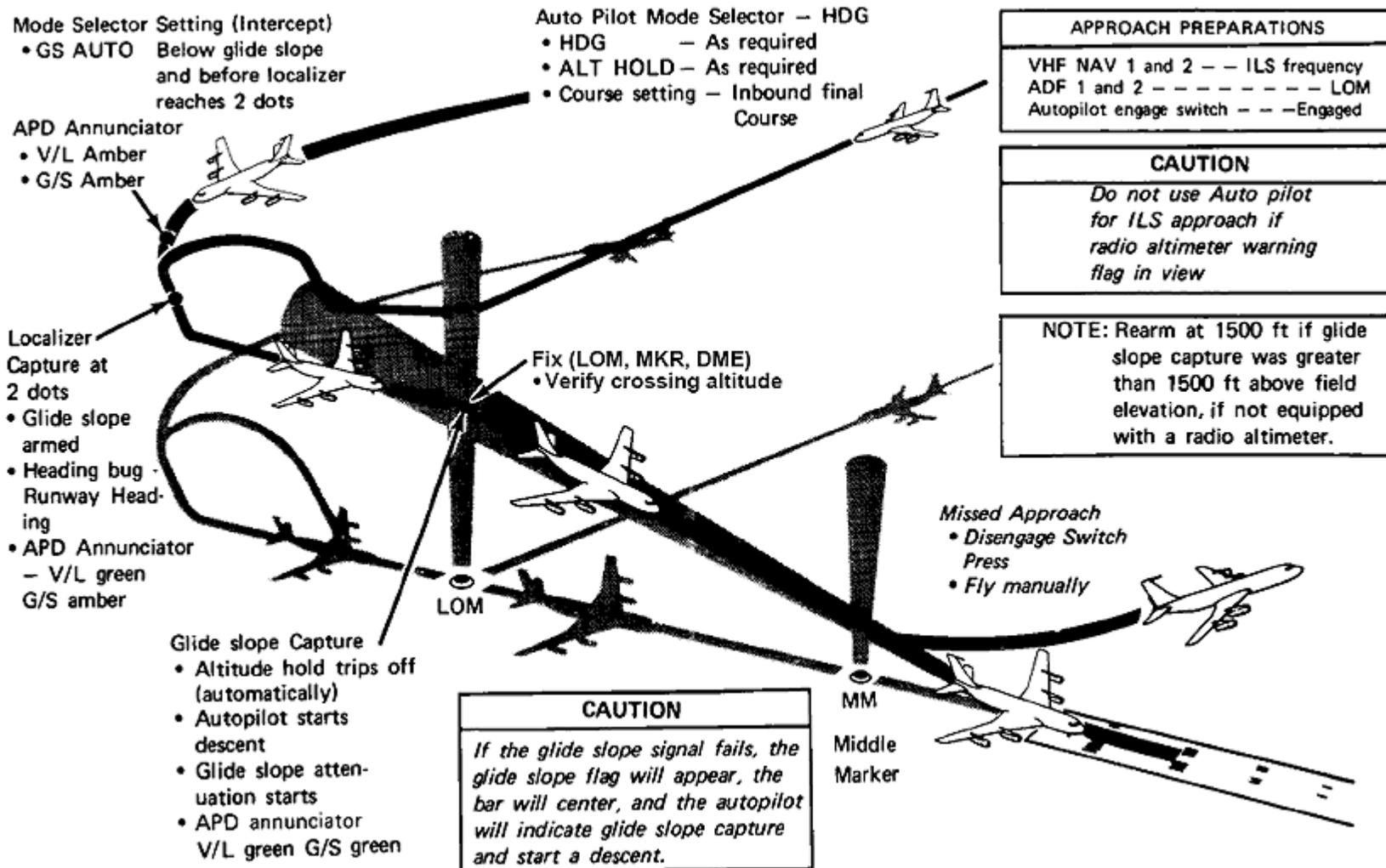
DO NOT USE FOR FLIGHT

NORMAL OR ONE ENGINE INOPERATIVE ILS APPROACH



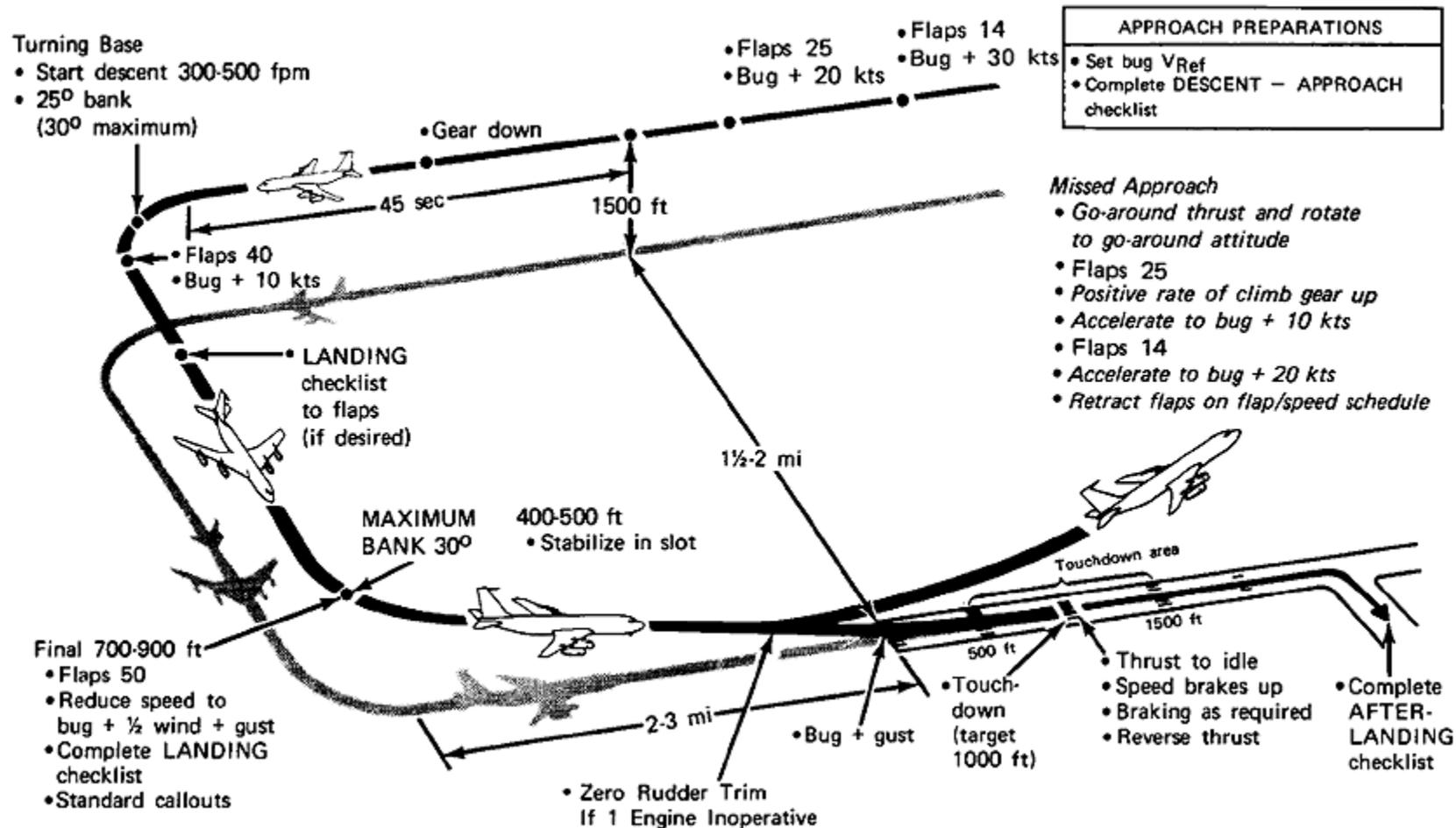
DO NOT USE FOR FLIGHT

ILS AUTOPILOT



DO NOT USE FOR FLIGHT

NORMAL OR ONE ENGINE INOPERATIVE LANDING



DO NOT USE FOR FLIGHT

CUSTOMER CARE

FORUM

You are invited to join Captain Sim [community forum](#)

DAILY NEWS

For Captain Sim *daily* news please follow us at [Twitter](#) or [Facebook](#).

VIDEO CHANNEL

For Captain Sim videos please watch our YouTube [channel](#).

TECH SUPPORT

The '707 Captain' is the most advanced, complete and accurate digital replica of the B707 ever available for any game platform.

Our product is not perfect (unfortunately nothing is). But we are working on improvements. If you have some important issue to report, please check-in to [Your Profile](#) then click Product Name > Customer Support > and use the Trouble Ticket System. We process all tickets and consider the most significant issues for the next service packs.