

ABNORMAL PROCEDURES

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ABNORMAL PROCEDURES (Not specific to CAS Messages) (Continued)

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ABNORMAL PROCEDURES

For clarity, the following Abnormal Procedures are listed by system rather than with respect to a particular CAS or EPIC message. They will normally, however, be accompanied by one or more CAS or EPIC messages and aural warnings. Procedures for specific CAS and EPIC messages are listed separately and grouped by color.

■ ENGINE FAILURE/PRECAUTIONARY SHUTDOWN

1. AP/TRIM/NWS DISC Button - PRESS.
2. Throttle (operating side) - MCT DETENT or AS REQUIRED.
3. BUS TIE Switch (lift cover-guard) - CLOSED.
4. Rudder and Aileron Trim - AS REQUIRED.
5. Airspeed - MAINTAIN (as required).
6. Throttle (affected side) - IDLE (2 minutes minimum prior to shut down).

CAUTION

THE ENGINES MUST REMAIN AT IDLE FOR A MINIMUM OF TWO MINUTES PRIOR TO SHUTDOWN TO ALLOW THE ENGINE INTER-TURBINE TEMPERATURES TO STABILIZE.

7. Throttle (affected side) - CUTOFF.

NOTE

If the engine windmills for more than 15 minutes without a positive indication of oil pressure or 3 hours with a positive indication of oil pressure, ground maintenance procedures are required. Refer to the Pratt and Whitney Engine Maintenance Manual for procedures.

8. Electrical Load - REDUCE as required.

NOTE

If the right engine is the operative engine, consideration should be given to starting the APU when conditions permit and having the APU generator supply power to the left electrical bus. Refer to Normal Procedures, APU GROUND OR IN-FLIGHT START (At Or Below FL200).

9. Transponder - SELECT TA ONLY.
10. Autopilot - AS DESIRED.
11. Fuel CROSSFEED Knob - AS REQUIRED.
12. Fuel BOOST Switch (if flight will exceed 10 minutes, affected side) - ON.
13. BAGGAGE HEAT Switch - OFF.
14. Land as soon as practical.

● IF IN ICING CONDITIONS

15. Refer to Abnormal Procedures, CONTINUED FLIGHT IN ICING ENVIRONMENT AND SINGLE BLEED AIR SOURCE and INFLIGHT RESTART - ONE ENGINE, as required.

Procedure completed

(Continued Next Page)

■ **ENGINE FAILURE/PRECAUTIONARY SHUTDOWN** (Continued)

● **IF NOT IN ICING CONDITIONS**

15. Refer to Abnormal Procedures, SINGLE-ENGINE APPROACH AND LANDING or INFLIGHT RESTART - ONE ENGINE, as required.

Procedure completed

■ **INFLIGHT RESTART - ONE ENGINE** (Refer to Figure 3-1 for Engine Airstart Envelope)

1. Throttle (affected side) - CUTOFF
2. Fuel CROSSFEED Knob - OFF.
3. Fuel BOOST Switch (affected side) - ON.
4. Hydraulic Pump ENG Switch (affected side) - UNLOAD.
5. BUS TIE Switch (lift over-guard) - CLOSED.
6. ENGINE FIRE Switch - CHECK OPEN (FUEL FW SHUTOFF CAS message not displayed).
7. Anti-Ice ENGINE/STAB and WING Switches (affected side) - OFF for start.

CAUTION

- IN ORDER TO MAINTAIN ITT BELOW THE START LIMITS FOR ITT, ENSURE THE ENGINE ITT IS $\leq 500^{\circ}\text{C}$ PRIOR TO START INITIATION.
- DO NOT ATTEMPT TO RESTART AN ENGINE IF IT IS POSSIBLE THAT ICE HAS FORMED IN THE ENGINE OR ENGINE INLET. SIGNIFICANT DAMAGE TO THE ENGINE CAN OCCUR.
- ALTHOUGH THE ENGINES MAY BE STARTED AT ANY TIME AND ACCELERATED ONCE A STABLE IDLE IS ACHIEVED, IN ORDER TO MINIMIZE THE POTENTIAL OF TURBINE BLADE RUB, THE FOLLOWING PROCEDURE IS RECOMMENDED FOR INTENTIONAL ENGINE SHUT DOWNS AND RESTARTS FOR FUNCTIONAL CHECK FLIGHTS, TRAINING, ETC. INITIATE START WITHIN ONE MINUTE OF ENGINE SHUTDOWN, OR WAIT TEN MINUTES OR MORE AFTER ENGINE SHUTDOWN. REMAIN AT IDLE FOR AT LEAST TWO MINUTES AFTER ACHIEVING STABILIZED IDLE, IF THE ENGINE HAD BEEN OPERATED ABOVE IDLE DURING THE PREVIOUS 30 MINUTES.

● **WITH STARTER ASSIST**

8. AP/TRIM/NWS DISC Button - PRESS.

NOTE

- The yaw damper may be re-engaged.
- During the start, equipment (including selected flight guidance modes) on the side of the starting engine may lose power momentarily and then recover.

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■ **INFLIGHT RESTART - ONE ENGINE** (Continued)● **WITH STARTER ASSIST** (Continued)

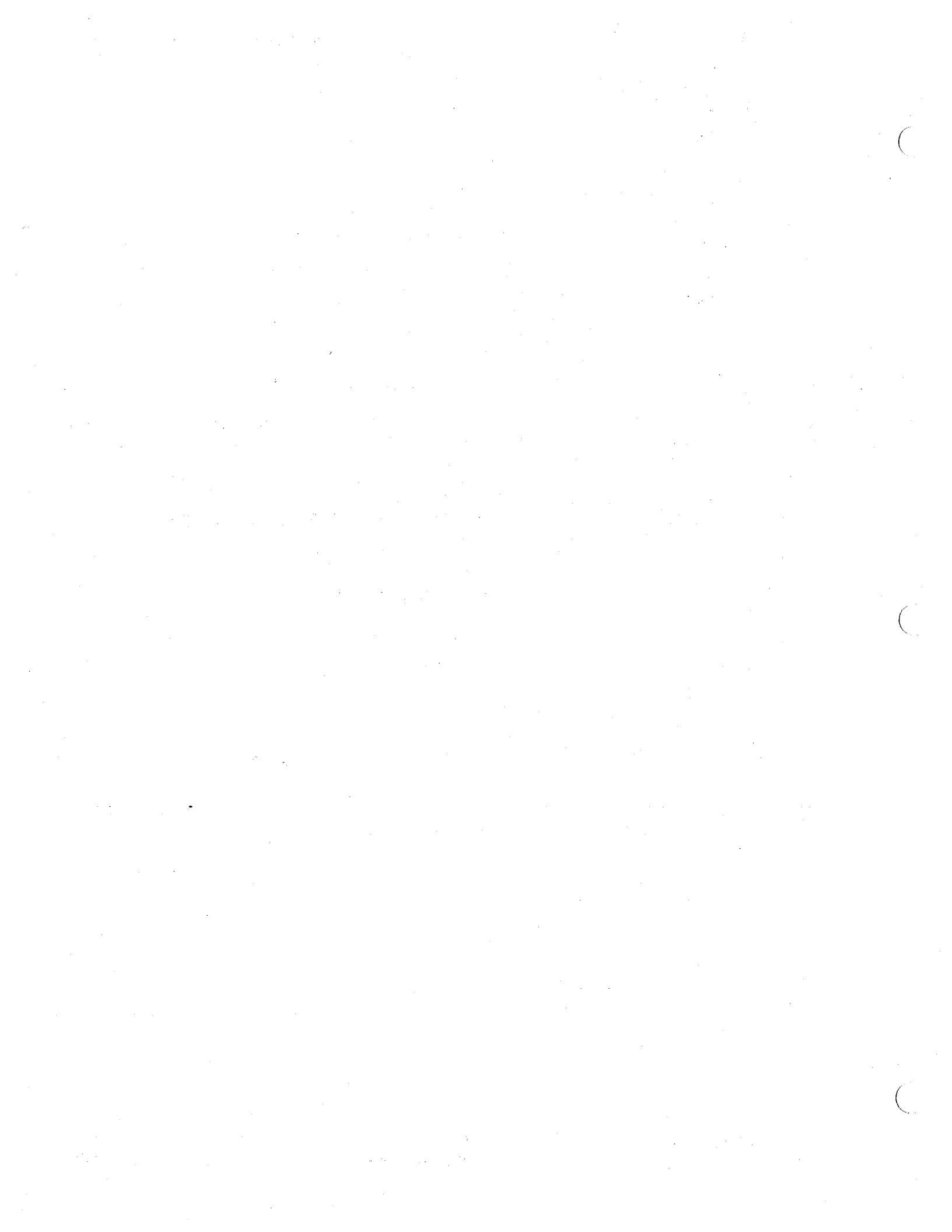
9. Engine START Button (affected side) - PRESS momentarily.
10. Throttle (affected side) - IDLE.

CAUTION

SHOULD THE ENGINE FAIL TO ACHIEVE STABILIZED FLIGHT IDLE WITHIN 90 SECONDS OF LIGHT UP (INDICATED BY A RISE IN N_2 AND ITT), THE ENGINE IS DEEMED TO HAVE A "HUNG START" AND THE START MUST BE MANUALLY ABORTED.

11. Engine Instruments - MONITOR.
 - a. Abort Start if no oil pressure increase within 20 seconds of engine light up indicated by a rise in N_2 and ITT.
 - b. Abort Start if stabilized flight idle is not achieved within 90 seconds of engine light up indicated by a rise in N_2 and ITT.
 - c. Engine Instruments - CHECK NORMAL.
 - d. Fuel, Oil, and Generator CAS Messages (operating side) - CHECK CLEARED.
12. Engine START Switch - LIGHT EXTINGUISHED.
13. Refer to IF ENGINE DOES NOT START or IF ENGINE DOES START this procedure, as appropriate.

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TEMPORARY FAA APPROVED AIRPLANE FLIGHT MANUAL CHANGE

Publication Affected: Model 680 Citation Sovereign (680-0001 and On) basic FAA Approved Airplane Flight Manual, Revision 6, dated 17 October 2006.

Airplane Serial Numbers Affected: Airplanes 680-0001 thru -0189 not incorporating SB680-24-08.

Description of Change: Section III, Operating Procedures, Emergency Procedures, ENGINE START MALFUNCTION (ENGINE DOES NOT START), add a step to IF ABLE TO ATTEMPT ANOTHER START, ON GROUND.

Filing Instructions: Insert this temporary change in the Model 680 Citation Sovereign (680-0001 and On) basic FAA Approved Airplane Flight Manual adjacent to page 3-62.

Removal Instructions: This temporary change must be removed and discarded once SB680-24-08 has been complied with.

In Section III, Operating Procedures, Emergency Procedures, on page 3-62 under the heading of ENGINE START MALFUNCTION (ENGINE DOES NOT START) and the subheading of IF ABLE TO ATTEMPT ANOTHER START, add a step just after the subheading ON GROUND, and then renumber the existing step:

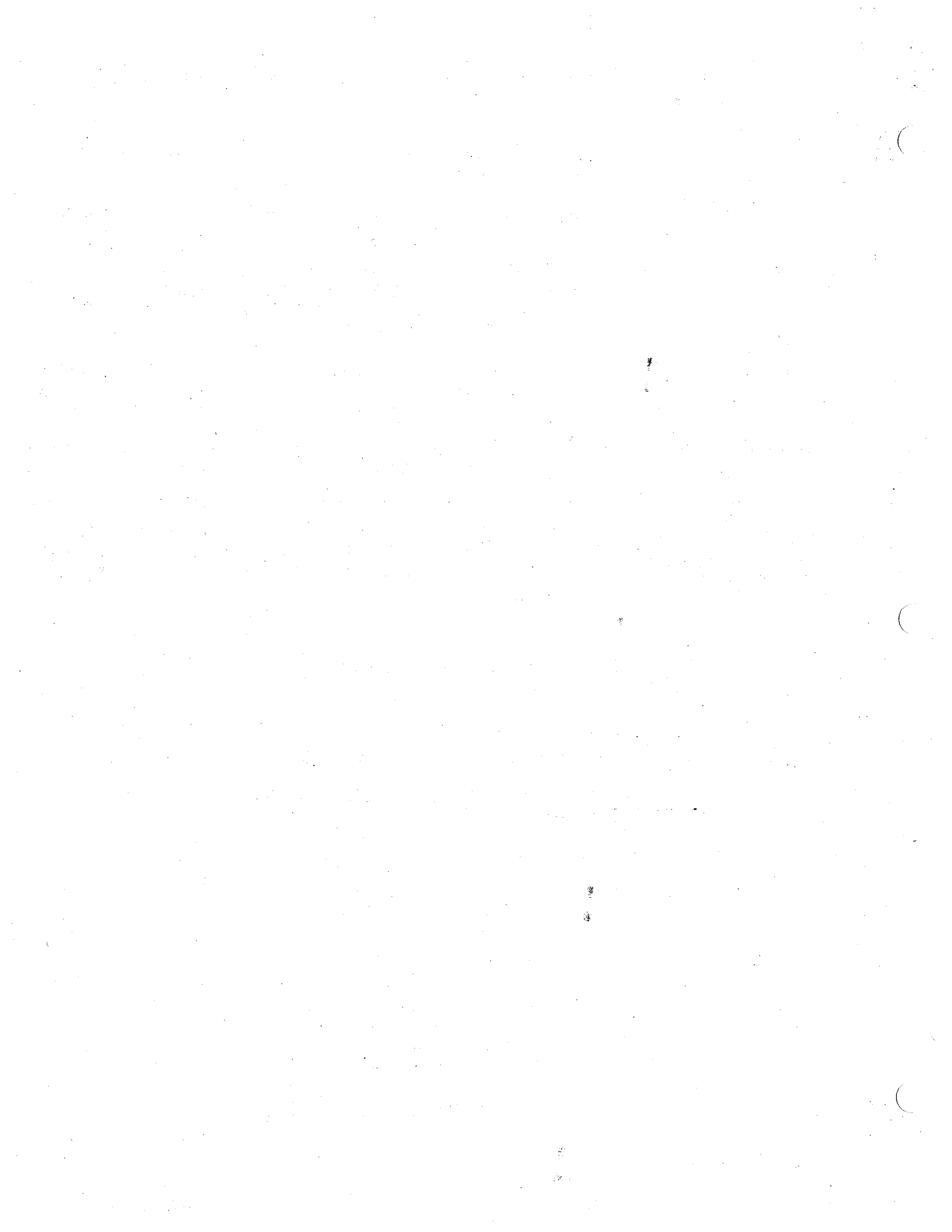
● **IF ABLE TO ATTEMPT ANOTHER START**

ON GROUND

3. GEN Switch (affected side) – RESET (hold for 3 seconds), then OFF.
4. Refer to Abnormal Procedures, DRY MOTORING prior to making another start attempt.

Procedure completed

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Wichita, Kansas
DATE OF APPROVAL 10/20/07



■ INFLIGHT RESTART - ONE ENGINE (Continued)

● WITHOUT STARTER ASSIST (WINDMILL)

8. Throttle (affected side; 9% N₂ RPM minimum) - IDLE.

CAUTION

SHOULD THE ENGINE FAIL TO ACHIEVE STABILIZED FLIGHT IDLE WITHIN 90 SECONDS OF LIGHT UP (INDICATED BY A RISE IN N₂ AND ITT), THE ENGINE IS DEEMED TO HAVE A "HUNG START" AND THE START MUST BE MANUALLY ABORTED.

9. Engine Instruments - MONITOR.
 - a. Abort Start if no oil pressure increase within 20 seconds of engine light up indicated by a rise in N₂ and ITT.
 - b. Abort Start if stabilized flight idle is not achieved within 90 seconds of engine light up indicated by a rise in N₂ and ITT.
 - c. Engine Instruments - CHECK NORMAL.
 - d. Fuel, Oil, and Generator CAS Messages (affected side) - CHECK CLEARED.
10. Refer to IF ENGINE DOES NOT START or IF ENGINE DOES START this procedure, as appropriate.

IF ENGINE DOES NOT START

1. Engine START DISENGAGE Switch (if required) - PRESS.
2. Throttle (affected side) - CUTOFF.
3. Fuel BOOST Switch (affected side) - NORM.
4. Fuel CROSSFEED Knob - AS REQUIRED.
5. Hydraulic Pump ENG Switch (affected side) - ON.
6. Transponder - SELECT TA ONLY.

NOTE

If the right engine is the operative engine, consideration should be given to starting the APU when conditions permit and having the APU generator supply power to the left electrical bus. Refer to Normal Procedures, APU GROUND OR IN-FLIGHT START (At Or Below FL200).

7. Refer to Abnormal Procedures, SINGLE-ENGINE APPROACH AND LANDING.

Procedure completed

IF ENGINE DOES START

1. Fuel BOOST Switch (affected side) - NORM.
2. Hydraulic Pump ENG Switch (affected side) - ON.

NOTE

The hydraulic pump should be turned on with the engine at idle.

3. ELEC Switch (affected side) - NORM.
4. GEN Switch (affected side) - ON.
5. BUS TIE Switch (if generators are on line; lift cover-guard) - OPEN
6. Transponder - SELECT TA/RA.

(Continued Next Page)

■ **INFLIGHT RESTART - ONE ENGINE** (Continued)

IF ENGINE DOES START (Continued)

7. Autopilot - AS REQUIRED.
8. Anti-Ice Systems - AS REQUIRED.

Procedure completed

■ **ENGINE START MALFUNCTION (ENGINE DOES NOT START)**

1. Throttle (affected side) - CUTOFF.
2. Engine START DISENGAGE Switch - PRESS.

● **IF UNABLE TO ATTEMPT ANOTHER START**

ON GROUND

Procedure completed

IN FLIGHT

3. Land as soon as practical. Refer to Abnormal Procedures, ENGINE FAILURE/
PRECAUTIONARY SHUTDOWN.

Procedure completed

● **IF ABLE TO ATTEMPT ANOTHER START**

ON GROUND

3. Refer to Abnormal Procedures, DRY MOTORING prior to making another start attempt.

Procedure completed

IN FLIGHT

3. Refer to Abnormal Procedures, INFLIGHT RESTART - ONE ENGINE.

Procedure completed

ENGINE AIRSTART ENVELOPE

NOTE

- Engine windmilling airstart requires a minimum turbine speed of 9% RPM (N₂); otherwise starter assist is required.
- Residual ITTs below 150°C increase the probability of a successful starter assisted airstart.

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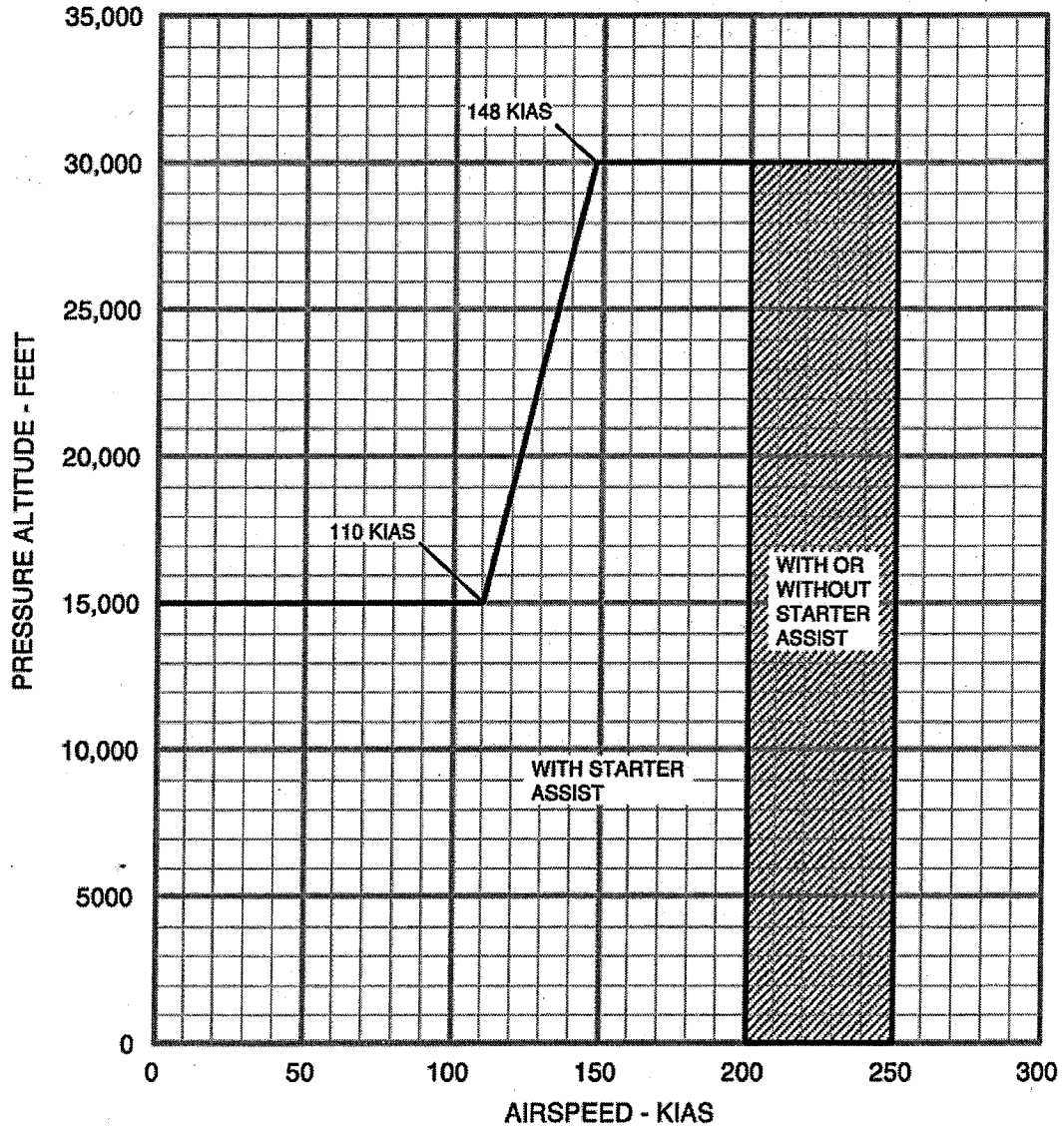


Figure 3-1