FAA APPROVED
AIRPLANE FLIGHT MANUAL SUPPLEMENT
for the
CESSNA S550 CITATION S/II AIRCRAFT
WITH DUAL FLIGHT DIRECTORS
and
REDUCED VERTICAL SEPARATION MINIMUM (RVSM) CAPABILITY

Serial Number _____

Registration Number _____

This supplement must be attached to the Approved Flight Manual, when the aircraft is modified in accordance with Supplemental Type Certificate Number ST02642AT and the maintenance instructions for Initial and Continued Airworthiness contained therein.

The information contained herein supplements or supercedes the information contained in the basic Airplane Flight Manual only for those areas listed herein.

FAA Approved Bruce D. Rowell

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RECORD OF REVISIONS

Rev	Date	Pages Affected	Description Of Revision	Approvals
IR	6/21/04	All	Initial Issue	Allan Hamann
A	7/16/04	7 8-12	Added Clarification regarding Altitude Alert to Section II. Revised the following steps: 1D, 2D, 3E, 4C, 5B4, 5C3, 6C, 9F, and 10F to include a statement about loss of RVSM compliance.	Eugene Bollin
B	N/A	1 7	Deleted Table of AFM document numbers and revised paragraph which referred to the table. Added Pitot and Static heaters to Section II.	N/A
C	2/24/05	8, 9, 10	Page 8 Revised Note 4 to add the word standby between correct and altitude. Page 9 – Revised Note 6 to add the word standby between correct and altitude. Page 10 – Revised Note 9 to add the word standby between correct and altitude.	Bruce Remick
D	See front sheet	4-14 7	Reference to IADDU added to all references to ADDU within this document. Configuration module part number 9B-03508-113 Mod A removed.	See front sheet

TABLE OF CONTENTS

SECTION I - INTRODUCTION

ABBREVIATIONS

Abbreviation	Definition
ADC	Air Data Computer
ADDU	Air Data Display Unit
AIU	Analog Interface Unit
ATC	Air Traffic Control
EMI	Electro Magnetic Interference
FAA	Federal Aviation Administration
LCD	Liquid Crystal Display
IADDU	Integrated Air Data Display Unit
RVSM	Reduced Vertical Separation Minimums
STC	Supplemental Type Certificate

DESCRIPTION

The air data system installed by this STC is a dual air data system. It consist of two (Integrated) Air Data Display Units (ADDUs/IADDUs) installed in the instrument panels, two Analog Interface Units (AIUs) installed in the forward avionics compartment, an ADC system select switch located on the copilots instrument panel and an auxiliary circuit breaker panel located on the copilots sidewall. See figure 1 for location of flight deck equipment.

The ADDUs/IADDUs are altimeters with an electromechanically driven pointer and LCD of baro- and static source error- corrected altitude and alert altitude. They also function as an air data computer which provides altitude to the transponders via the transponder control panel and to the flight directors, autopilot and VNAV controller via the AIUs.

The AIUs receives air data information from the ADDUs/IADDUs via RS422 data busses. The AIUs processes this data and output various altitude, airspeed and related air data products using digital and analog signals to various interfacing systems.

The ADC system select switch (ADC1/ADC2) is used to select which ADDU/IADDU is the source of the air data information being passed to interfacing systems by the AIUs. This switch also selects which ADDU/IADDU is the source of the altitude being supplied to the transponders, replacing the transponder air data system transfer switch (PRI/SEC) on aircraft equipped with this switch.

The RVSM Aux Circuit Breaker Panel is connected to the aircraft's power distribution system and supplies power to the air data system installed by this STC. See figure 2 for bussing arrangement for the Air Data system circuit breakers.

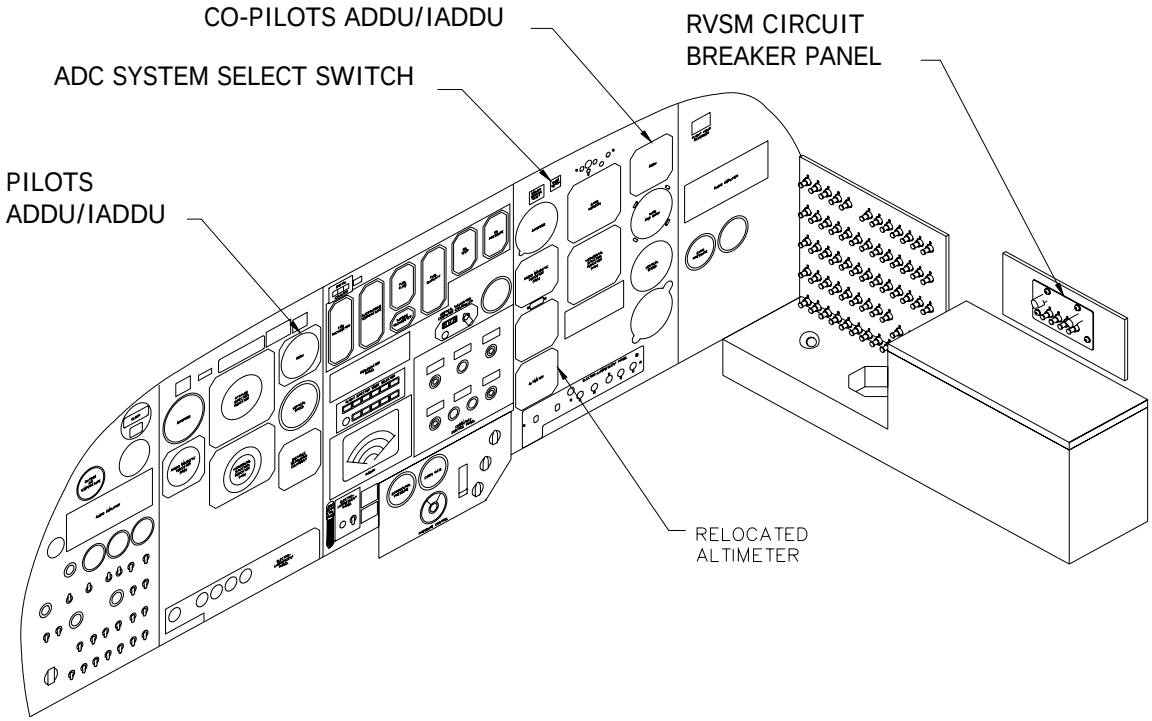

FIGURE 1

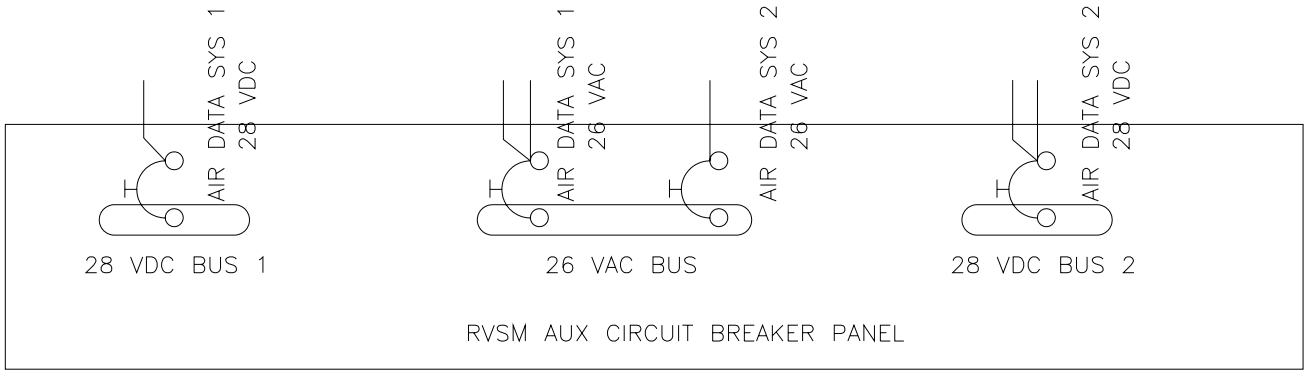

FIGURE 2

SECTION II - OPERATING LIMITATIONS

General

This aircraft has been evaluated in accordance with 14CFR, Part 91, Appendix G, "Operation in Reduced Vertical Separation Minimum (RVSM) Airspace", and FAA Document 91-RVSM, Change 1, dated 30 June 1999, "Interim Guidance Material on the Approval of Operators/Aircraft for RVSM Operations" and is qualified for operation as a group aircraft in RVSM airspace. This finding does not constitute approval to conduct Reduced Vertical Separation Minimum operations.

The airplane is not permitted to operate in RVSM airspace if the static port plates are damaged or if damage or surface irregularities are found within the RVSM critical region.

Air Data Computer

During RVSM operations, the same ADDU/IADDU must provide input to the autopilot and the transponder.

SECTION II – OPERATING LIMITATIONS

Altimetry System Instrumentation

The following equipment must be installed and operational to enter RVSM airspace:

- Two (2) IS&S (Integrated) Air Data Display Units(1)
- Two (2) IS&S Analog Interface Units
- Two (2) IS&S Configuration Modules(1)
- One (1) Honeywell Automatic Flight Control System with altitude hold and altitude alert
- Two (2) SSR Altitude Reporting Transponders (2)
- Dual Pitot and Static Heater Systems

NOTES
1. When the IS&S Configuration Module is correctly installed, the (Integrated) Air Data Display Units (ADDU/IADDU) will display “C5.60” at start-up. If either ADDU/IADDU does not display “C5.60” at start-up, RVSM operations are prohibited.
2. If only one transponder is operational, it must be capable of reporting from either the pilot’s or copilot’s ADDU/IADDU.

SECTION III – OPERATING PROCEDURES

EMERGENCY PROCEDURES

NO CHANGE.

ABNORMAL PROCEDURES

1. Failure of Pilot's Air Data Display Unit (ADDU1/IADDU1) in RVSM Airspace

A. Select the Copilot's ADDU/IADDU by selecting ADC2 on the ADC (ADC1/ADC2) System Select Switch.

B. Determine aircraft altitude using the Copilot's ADDU/IADDU [3].

C. Cross-check aircraft altitude using the Standby Altimeter [4]- Record each altimeter reading. The difference between the Copilot and the Standby Altimeter readings should be noted for use in additional contingency situations. Repeat procedure each hour.

D. Notify ATC of loss of redundancy of primary altimetry systems and loss of RVSM compliance.

2. Failure of Copilot's Air Data Display Unit (ADDU2/IADDU2) in RVSM Airspace

A. Select the Pilot's ADDU/IADDU by selecting ADC1 on the ADC (ADC1/ADC2) System Select Switch.

B. Determine aircraft altitude using the Pilot's ADDU/IADDU [5].

C. Cross-check aircraft altitude using the Standby Altimeter [4]- Record each altimeter reading. The difference between the Pilot and the Standby Altimeter readings should be noted for use in additional contingency situations. Repeat procedure each hour.

D. Notify ATC of loss of redundancy of primary altimetry systems and loss of RVSM compliance.

NOTES

3. The operating ADDU/IADDU and the Flight Director coupled with the autopilot should normally be on the same side. Therefore when the ADC1/ADC2 switch is in the ADC2 position, the AP XFER switch should be in the FD2 position (if operational) and the Transponder 1/2 switch should be in the #2 position.
4. Refer to basic AFM Altimeter Position Correction Chart (Copilot's System) to determine correct standby altitude for current flight conditions.
5. The operating ADDU/IADDU and the Flight Director coupled with the autopilot should normally be on the same side. Therefore when the ADC1/ADC2 switch is in the ADC1 position, the AP XFER switch should be in the FD1 position (if operational) and the Transponder 1/2 switch should be in the #1 position.

SECTION III - OPERATING PROCEDURES – ABNORMAL PROCEDURES

3. Failure of The Altitude Hold Function in RVSM Airspace

A. Ensure Autopilot/Altitude Hold function is disengaged.

B. Select the other ADDU/IADDU using the ADC (ADC1/ADC2) System Select Switch.
   1. Re-engage Autopilot/Altitude Hold function of the selected Flight Director.
   2. Verify assigned altitude is being maintained.
   3. If problem still exists, ensure Autopilot/Altitude Hold function is disengaged - go to Item C.

C. Select the other Flight Director using the AP XFER (FD1/FD2) Transfer Switch.
   1. Select Pilot's ADDU/IADDU by selecting ADC1 on the ADC (ADC1/ADC2) System Select Switch.
   2. Re-engage Autopilot/Altitude Hold function for the selected Flight Director.
   3. Verify assigned altitude is being maintained.
   4. If problem still exists
      a. Disengage the Autopilot/Altitude Hold function.
      b. Select Copilot's ADDU/IADDU by selecting ADC2 on the ADC (ADC1/ADC2) System Select Switch.
      c. Re-engage Autopilot/Altitude Hold function for the selected Flight Director.
      d. Verify assigned altitude is being maintained.
      e. If problem still exists, ensure Autopilot/Altitude Hold function is disengaged - go to Item D.

D. If problem still exists,
   1. Ensure the ADC (ADC1/ADC2) System Select Switch is selected to ADC1 and the AP XFER Transfer Switch is selected to AP XFER/ FD1.
   2. Evaluate capability to maintain assigned altitude using Pilot's ADDU/IADDU.

E. Notify ATC of the loss of altitude hold capability and loss of RVSM compliance.

4. Failure of Both ADDU1/IADDU1 and ADDU2/IADDU2 in RVSM Airspace

A. Ensure Autopilot Altitude Hold Function is disengaged.

B. Maintain assigned altitude using the Standby Altimeter. (6)

C. Notify ATC of loss of all primary altimetry systems, loss of RVSM compliance and execute contingency procedures as appropriate.

NOTES
6. Refer to basic AFM Altimeter Position Correction Chart (Copilot's System) to determine correct standby altitude for current flight conditions.

SECTION III - OPERATING PROCEDURES - ABNORMAL PROCEDURES

5. Divergence of Primary Altimeters By More Than 200 ft in RVSM Airspace

A. Identify the defective altimetry system. (7)

B. If able to identify defective altimetry system:
   1. Set ADC (ADC1/ADC2) System Select Switch to the operating ADDU/IADDU (8).
   2. Determine aircraft altitude using the operating ADDU/IADDU.
   3. Cross-check aircraft altitude using Standby Altimeter (9) – record each altimeter reading. The difference between the operational ADDU/IADDU and the Standby Altimeter reading should be noted for use in additional contingency situations. Repeat procedure each hour.
   4. Notify ATC of loss of redundancy of primary altimetry system and loss of RVSM compliance.

C. If unable to determine accuracy of either altimetry system:
   1. Disengage Altitude Hold function of the Autopilot.
   2. Monitor and maintain assigned altitude using the Standby Altimeter. (9)
   3. Notify ATC of loss of all primary altimetry systems, loss of RVSM compliance and accurate altitude reporting capability, and execute contingency procedures as appropriate.

6. Failure of Altitude Alert in RVSM Airspace

A. Ensure Autopilot is engaged with the Altitude HOLD function selected.

B. Monitor and maintain assigned altitude.

C. Notify ATC of loss of the altitude alert system and loss of RVSM compliance.

NOTES

7. The Copilot and Standby Altimeter share a common static source. Therefore the standby altimeter should not be used in determining which system is defective.
8. The operating ADDU/IADDU and the Flight Director coupled with the autopilot should normally be on the same side. Therefore when the ADC1/ADC2 switch is in the ADC1 position, the AP XFER switch should be in the FD1 position (if operational) and the Transponder 1/2 switch should be in the #1 position. Likewise if the ADC1/ADC2 switch is in the ADC2 position, the AP XFER switch should be in the FD2 position (if operational) and the Transponder 1/2 switch should be in the #2 position.
9. Refer to basic AFM Altimeter Position Correction Chart (Copilot's system) to determine the correct standby altitude for current flight conditions.

SECTION III - OPERATING PROCEDURES - ABNORMAL PROCEDURES

7. Loss of SSEC On Pilots ADDU/IADDU In RVSM Airspace

A. This is indicated by the STBY flag in view on the ADDU/IADDU.

B. Follow procedure for loss of Pilots ADDU/IADDU.

8. Loss of SSEC On Copilots ADDU/IADDU In RVSM Airspace

A. This is indicated by the STBY flag in view on the ADDU/IADDU.

B. Follow procedure for loss of Copilots ADDU/IADDU.

9. Loss of SSEC On Both ADDU/IADDU In RVSM Airspace

A. This is indicated by the STBY flag in view on the ADDUs/IADDUs.

B. Cross Check Altitude of each ADDU/IADDU with the Standby Altimeter.

C. If Altitude of Selected ADDU/IADDU and Standby Altimeter agree do not disengage ALT Hold.

D. If Altitude of selected ADDU/IADDU disagrees by more than 100 ft from the Standby Altimeter but the other ADDU/IADDU agrees with the Standby altimeter.

1. Select the other ADDU/IADDU using the ADC (ADC1/ADC2) System Select Switch.
2. Select the other transponder via the Transponder (TFR 1 / 2) Switch.

E. If Altitude of both ADDUs/IADDUs disagree by more than 100 ft from the Standby Altimeter.

1. Disengage Altitude HOLD.
2 Maintain assigned altitude using the Standby Altimeter. (6)

F. Notify ATC of loss of SSEC, loss of RVSM compliance and execute contingency procedures as appropriate.

10. Loss Of Altitude Reporting In RVSM Airspace

A. Select the other Transponder via the Transponder (TFR 1/2) Switch.

B. Verify that ATC is receiving Transponder information.

C. If ATC is still not receiving Transponder information, select the other ADDU/IADDU via the ADC (ADC1/ADC2) System Select switch.

D. Verify that ATC is receiving Transponder information.

E. If ATC is still not receiving Transponder information, select the other Transponder via the Transponder (TFR 1/2) Switch.

F. If ATC is still not receiving Transponder information notify ATC of loss of RVSM compliance and obtain direction from ATC.

SECTION III – OPERATING PROCEDURES

NORMAL PROCEDURES

1. EXTERIOR PREFLIGHT INSPECTION

A. Left Skin / Static Port Inspections ..... CHECKED[10]

B. Right Skin / Static Port Inspections ..... CHECKED[10]

2. RVSM SERVICEABILITY CHECKS

A. BEFORE STARTING ENGINES

1. Altimeters ..... MAX DIFFERENCE 75 FT [11]
2. Altitude Preselect Controller ..... CHECKED
   a. Select Pilot ADDU/IADDU by selecting ADC1 on the ADC (ADC1/ADC2) System Select Switch.
   b. Set ADDU/IADDU to the closest 100 feet.
   c. Match the Preselect Controller altitude to the indicated altitude.
   d. Using the Pilot's ADDU/IADDU Baro Knob increase/decrease the indicated altitude until the altitude deviation alerts occurs. Altitude deviation alert tolerance is 300 feet ± 50 feet.
   e. Select Copilot ADDU/IADDU by selecting ADC2 on the ADC (ADC1/ADC2) System Select Switch and repeat Items b-d using the Copilot's ADDU/IADDU.
   f. Reset both ADDUs/IADDUs to local conditions.

NOTES
10. Visually inspect the static port plates and the area of the skin surface (RVSM Critical Region) surrounding the static port plates. No paint ridges or non-homogenous paint distribution shall be allowed near the static ports. The static ports must also be inspected for corrosion, elongation, deformation, and/or obstruction and the operator must ensure that no foreign matter is found within the port orifice.
11. Ensure matched baro settings.

SECTION III – OPERATING PROCEDURES - NORMAL PROCEDURES

B. AFTER STARTING ENGINES

Check Autopilot/Altitude Hold by:

1. Set airport altitude in the Pilot and Copilot's Altimeters (ADDU1/IADDU1 & ADDU2/IADDU2).
2. Select Pilot's Altimeter (ADDU1/IADDU1) using the ADC (ADC1/ADC2) System Select Switch.
3. Engage Altitude Hold on Flight Director
4. Engage Autopilot
5. Increase altitude in the Pilot's Altimeter with the Baro Knob
6. Check that the control column moves forward
7. Decrease the altitude in the Pilot's Altimeter with the Baro Knob
8. Check that the control column moves aft
9. Select Copilot's Altimeter (ADDU2/IADDU2) using the ADC (ADC1/ADC2) System Select Switch.
10. Repeat Items 5-8 using the Copilot's ADDU/IADDU and Baro Knob
11. Disengage Autopilot
12. Set airport altitude in the Pilot and Copilot's Altimeters (ADDU1/IADDU1 & ADDU2/IADDU2)

C. CRUISE

1. Cross-check Altimeters..... MAX DIFFERENCE 200 FT (12)
2. Altimeters ..... RECORD ALTIMETERS SETTINGS (13)
3. Altitude Hold performance ..... ±65 FT (14)

NOTES
12. Ensure matched baro settings (29.92in Hg or 1013mb) and record setting in the flight plan master log.
13. Record Pilot, Copilot and Standby Altimeter readings in flight plan Master Log upon entering RVSM airspace for contingency situations.
14. Tolerance is ±65 FT of altitude set in the altitude Preselect Controller.

SECTION IV – PERFORMANCE

ALTIMETER POSITION CORRECTION - FEET

PILOT & COPILOT SYSTEMS

CONDITIONS:
Flaps Up
Gear Up

EXAMPLE
A. Airspeed = 170 Knots
B. Pressure Altitude = 14,000 feet
C. Altimeter Position Correction = -47 ft
D. Actual Pressure Altitude = 13,953 feet

ALT	AIRSPEED - KIAS																		
FT	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280
0	-17	-19	-21	-23	-25	-27	-29	-31	-33	-35	-37	-39	-41	-27	-11	0	0	0	0
1000	-18	-20	-22	-24	-26	-28	-30	-32	-34	-36	-38	-40	-37	-21	-3	0	0	0	0
2000	-18	-20	-22	-24	-26	-28	-30	-32	-35	-37	-39	-41	-31	-14	0	0	0	0	0
3000	-19	-21	-23	-25	-27	-29	-31	-33	-36	-38	-40	-40	-25	-6	0	0	0	0	0
4000	-20	-22	-24	-26	-28	-30	-32	-35	-37	-39	-41	-36	-18	0	0	0	0	0	0
5000	-20	-22	-25	-27	-29	-31	-33	-36	-38	-40	-43	-29	-10	0	0	0	0	0	0
6000	-21	-23	-25	-28	-30	-32	-34	-37	-39	-41	-40	-22	-2	0	0	0	0	0	0
7000	-22	-24	-26	-28	-31	-33	-36	-38	-40	-43	-34	-15	0	0	0	0	0	0	0
8000	-22	-25	-27	-29	-32	-34	-37	-39	-42	-44	-28	-6	0	0	0	0	0	0	0
9000	-23	-25	-28	-30	-33	-35	-38	-40	-43	-40	-20	0	0	0	0	0	0	0	0
10000	-24	-26	-29	-31	-34	-36	-39	-42	-44	-34	-12	0	0	0	0	0	0	0	0
11000	-25	-27	-30	-32	-35	-38	-40	-43	-46	-26	-3	0	0	0	0	0	0	0	0
12000	-25	-28	-31	-33	-36	-39	-42	-44	-40	-18	0	0	0	0	0	0	0	0	0
13000	-26	-29	-32	-34	-37	-40	-43	-46	-33	-9	0	0	0	0	0	0	0	0	0
14000	-27	-30	-33	-36	-38	-41	-44	-47	-25	0	0	0	0	0	0	0	0	0	0
15000	-28	-31	-34	-37	-40	-43	-46	-41	-17	0	0	0	0	0	0	0	0	0	0
16000	-29	-32	-35	-38	-41	-44	-47	-34	-7	0	0	0	0	0	0	0	0	0	0
17000	-30	-33	-36	-39	-42	-46	-49	-25	0	0	0	0	0	0	0	0	0	0	0
18000	-31	-34	-37	-41	-44	-47	-43	-16	0	0	0	0	0	0	0	0	0	0	0
19000	-32	-35	-39	-42	-45	-49	-34	-5	0	0	0	0	0	0	0	0	0	0	0
20000	-33	-36	-40	-43	-47	-51	-26	0	0	0	0	0	0	0	0	0	0	0	0
21000	-34	-38	-41	-45	-49	-45	-16	0	0	0	0	0	0	0	0	0	0	0	0
22000	-35	-39	-43	-47	-50	-37	-5	0	0	0	0	0	0	0	0	0	0	0	0
23000	-37	-40	-44	-48	-52	-28	0	0	0	0	0	0	0	0	0	0	0	0	0
24000	-38	-42	-46	-50	-49	-17	0	0	0	0	0	0	0	0	0	0	0	0	0
25000	-39	-43	-48	-52	-41	-5	0	0	0	0	0	0	0	0	0	0	0	0	0
26000	-41	-45	-49	-54	-31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27000	-42	-47	-51	-55	-20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28000	-44	-48	-53	-46	-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29000	-46	-50	-55	-36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30000	-47	-52	-57	-25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31000	-49	-54	-53	-12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32000	-51	-56	-44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33000	-53	-59	-33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34000	-55	-61	-20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35000	-58	-55	-5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36000	-60	-43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37000	-63	-30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38000	-66	-16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39000	-59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40000	-47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41000	-33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42000	-17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

SECTION V– SUPPLEMENTS

NO CHANGE.

SECTION VI – WEIGHT & BALANCE, DATA & AIRPLANE EQUIPMENT LIST

NO CHANGE.

SECTION VII – ADVISORY INFORMATION

NO CHANGE.