

DO-181D FRAC Draft, June 2008 Consolidated Comment Matrix

No.	Reviewer Name	Paragraph	*N C S E	Comment / Rationale	Proposed Resolution(s)
7	J. Loewe Honeywell	1.4.4 and Appendix D	S	Isn't Hijack Mode supposed to be removed entirely? Is it now an option?	What is the plan for Hijack Mode? SC-209: Hijack mode is in DO-181D because the Europeans did not remove it from ED-73C and we left it in DO-181D to ensure harmonization. It is in DO-181D as an Appendix and is available if needed.
8	R. Bayh BAE Systems	1.4.4	E	Extra line spacing between DataFlash Application and Hijack Mode Capability	Delete extra spacing SC-209: Corrected
9	R.H. Saffell Rockwell Collins	1.6.2	E	No mention is made of sections 2.6, 2.7, and 2.8	After the second sentence, insert the following addition: "Test procedures provided in §2.6 and §2.7 verify the transponder's Elementary and Enhanced Surveillance Capabilities. Test procedures in §2.8 provide generic test procedures for interim use when Ground Initiated Comm-B Registers are added." SC-209: Agreed with suggested text and added to 1.6.2.
10	Showkat Honeywell	1.7	E	MTL Typo	MTL – Minimum Triggering Level SC-209: Corrected
11	R.H. Saffell Rockwell Collins	2.1.5	E	Delete the last paragraph, e.g., "Controls which..."	Material is covered directly after in section 2.1.6. SC-209: Agreed with suggestion. Sentence deleted as being redundant.
12	K Wilson Honeywell	2.1.6	E	What's the difference between this negative requirement and the last sentence in 2.1.5	Only one of these seems to be necessary SC-209: Agreed with suggestion to delete last sentence in 2.1.5. Sentence deleted as being redundant.
13	Showkat Honeywell	2.1.11.2	E	PulsetoPulse	Pulse-to-Pulse SC-209: Corrected

DO-181D FRAC Draft, June 2008 Consolidated Comment Matrix

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14	R.H. Saffell Rockwell Collins & Showkat Honeywell	2.2.1	E	Second line of the paragraph: transpondertoantenna should be changed to transponder-to-antenna.	Change “transpondertoantenna” to “transponder-to-antenna”. SC-209: Corrected
15	R. Bayh BAE Systems	2.2.2.4	E	Extraneous line between first and second paragraph	Remove extraneous line from draft SC-209: Extraneous line was actually a break for the footnote that was attached to the title of §2.2.2. The footnote was removed and the text of the footnote turned into a “Note” under §2.2.2.
16	R.H. Saffell Rockwell Collins & K Wilson Honeywell	2.2.2.4	C	Entire paragraph still needs to be resolved and may need to be correlated with Undesired Replies requirements provided in section 2.2.9.	Action to resolve is in process and expect to be discussed in Plenary and finalized. SC-209: Resolved by implementing the agreed upon text of the SC-209 teleconference below.
17	SC-209 Telecon Agreement 5 June 08	2.2.2.4 (g)	C	Pursuant to the agreement during the April Meeting of SC-209, manufacturers expressed their suggestions for the requirement to ensure a minimum number of spurious ATCRBS replies, and during a teleconference on 5 June 2008, it was agreed by all participants that §2.2.2.4.g should be changed.	Replace the text of §2.2.2.4.g with: g. The spurious ATCRBS reply ratio resulting from low level Mode-S interrogations shall be no more than: 1. an average of 1% in the input interrogation signal range between -81 dBm and the Mode-S MTL, and 2. a maximum of 3% at any given amplitude in the input interrogation signal range between -81 dBm and the Mode-S MTL. SC-209: Agreed and implemented as-is.

DO-181D FRAC Draft, June 2008 Consolidated Comment Matrix

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18	Showkat Honeywell	2.2.5.1 d(5)	S	“The two-pulse sidelobe suppression pair shall initiate suppression....”	“The two-pulse sidelobe suppression pair shall initiate ATCRBS suppression...” SC-209: Agreed and implemented
19	Paul Heller Raytheon & Showkat Honeywell	2.2.6.2 step a 2 nd para	E	Typo	Replace ‘F1’ with ‘P1’ SC-209: Corrected
20	Showkat Honeywell	2.2.8.1	E	“For all received signals levels...”	“For all received signal levels...” SC-209: Corrected
21	Showkat Honeywell	2.2.8.1	S	Reference to 2.2.17 does not make sense	Remove the text “according to 2.2.17” or reference section 2.2.18 and subparagraphs. SC-209: The requirement applies to all Mode-S transponders exactly as it was in DO-181C.
22	Le To Honeywell	2.2.8.6	S	For transponder receiver having greater sensitivity and signal to interference 20 dB, the transponder would fail this test.	Propose to change the signal to CW interference signal level be 25 dB or more. Add a note explaining the rationale for the requirement. SC-209: This requirement was set by agreements between ICAO and RTCA as far back as 2003 as documented in WP5-10 by Bev Nichols. No change
23	R. Bayh BAE Systems	2.2.11(b)	E	Microsoeconds is misspelled	Correct spelling of microseconds SC-209: Corrected
24	R. Bayh BAE Systems & Showkat Honeywell	2.2.12	E	Airtoair runs together	Change “airtoair” to “air-to-air” SC-209: Corrected

DO-181D FRAC Draft, June 2008 Consolidated Comment Matrix

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25	Don Walker Honeywell	2.2.13.1.2.f	S	Radio Altitude should be identified as an optional input. Everything preceding this bullet in this paragraph is mandatory. The implication is that this is mandatory as well.	Revise the first sentence to say: “The radio altitude data input is optional and may be used to support...” SC-209: Meeting agreed to revise to “If available, the radio altitude data input is...”
26	Don Walker Honeywell	2.2.13.1.2.g	S	Ground Speed should be identified as an optional input. Everything preceding this bullet in this paragraph is mandatory. The implication is that this is mandatory as well.	Revise the first sentence to say: “The ground speed data input is optional and may be used to support...” SC-209: Meeting agreed to revise to “If available, the ground speed data input is...”
27	Don Walker Honeywell	2.2.13.1.2.h	S	Airspeed should be identified as an optional input. Everything preceding this bullet in this paragraph is mandatory. The implication is that this is mandatory as well.	Revise the first sentence to say: “The airspeed data input is optional and may be used to support...” SC-209: Meeting agreed to revise to “If available, the airspeed data input is...”
28	Don Walker Honeywell	2.2.13.3.1.d	S	Replies to undelivered Comm A interrogations is a change to the existing requirement. The note suggests that this behavior is beneficial over the existing requirement. That looks like a recommendation. This affects test procedures and diagrams.	Evaluate impact of this requirement change on the test procedures and figures. Notes are warranted at least in the affected sections. SC-209: Concern is noted, but comment is retracted.
29	K Wilson Honeywell	2.2.14.4.6	E	Reference for DR and FS in CA=7 are not correct	Change to 2.2.14.4.12 and 2.2.14.4.14 SC-209: Agreed that references were incorrect and the suggestion is implemented
30	R. Bayh BAE Systems & J. Loewe Honeywell	2.2.14.4.24 &.25	E	Airtoair appears to be run together	Change “airtoair” to “air-to-air” SC-209: Corrected

DO-181D FRAC Draft, June 2008 Consolidated Comment Matrix

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31	R. Bayh BAE Systems & K Wilson J. Loewe Honeywell	2.2.14.4.30	S	Pr subfield (probability of Reply); Code = 3 states probability = 118. Code =3 should be probability = 1/8	Change PR Code = 3, probability = 1/8 SC-209: Corrected
32	R. Bayh BAE Systems	2.2.14.4.34 note	E	“...last 4 bits of 5-bit RR Code, if transformed into their decimal equivalent” should be “...into their hexadecimal equivalent”	Change “...decimal equivalent” to “hexadecimal equivalent”. For values under 10 (decimal)/A (hex), the values are the same. SC-209: Agreed and corrected
33	R. Bayh BAE Systems	2.2.17, 2.2.18	E	Groundtoair & airtoair runs together	Change “groundtoair” & airtoair” to “ground-to-air” & “air-to-air” SC-209: Corrected in both places
34	J. Loewe Honeywell	2.2.18.1 Figure 2-8	E	Typo: Figure 2-8, UF4 and UF5 “DL” field	FROM: “DL” to “DI” (2 instances) SC-209: Corrected in both places
35	R. Bayh BAE Systems	2.2.18.1 Figure 2-9	E	Add the CC and SL fields to the downlink format DF0	Add the CC and SL subfields to DF0 format even though they are set to zero SC-209: Reviewed and comment retracted.
36	J. Loewe Honeywell	2.2.18.2.1 Figure 2-10	E	Heading for second picture incorrect	FROM: “Transponder Encoder” TO “Transponder Decoder” SC-209: Corrected

DO-181D FRAC Draft, June 2008 Consolidated Comment Matrix

No.	Reviewer Name	Paragraph	*N C S E	Comment / Rationale	Proposed Resolution(s)
37	R. Bayh BAE Systems	2.2.18.2.2 Figure 2-12: Level 1 Transponder: Interrogation Acceptance	S	Box C; Already detected the 2 microsecond spacing should have caused the Suppress ATCRBS prior to the detection of P6 and Sync Phase rev, and if Box H is YES, it checks for UF formats but does not suppress ATCRBS. (Box H decision is NO will cause ATCRBS suppression)	At YES output of Box C, add square box for ATCRBS suppression before entering decision box C. If Box C decision is NO, remove Suppress ATCRBS square box and go to RECOVER SC-209: Accepted and changed as suggested. Produced Figure 2-12A1. Discussion with WG-49 produced additional correction and resulted in Figure 2-12A2.
38	J. Loewe Honeywell	2.2.18.2.2 Table 2-1	C	Several of these timers are resettable but this table indicates they are not.	Either delete the RESETTABLE column entirely -OR- Change the RESETTABLE column in the following rows FROM “No” to “Yes”: TD Timer (see DO-181C 2.2.16.2.4) TL Timer (see DO-181C 2.2.16.2.5) SPI Timer (see DO-181C 2.2.13.1.2.d and 2.2.16.2.7.d) SC-209: The title of the column was changed to “Can be Cancelled.” The text from Annex 10 Vol IV was taken and turned into a note below the table.

DO-181D FRAC Draft, June 2008 Consolidated Comment Matrix

No.	Reviewer Name	Paragraph	*N C S E	Comment / Rationale	Proposed Resolution(s)
39	J. Loewe Honeywell	2.2.18.2.7.a	S	The new sentence that was added simply adds confusion. Tc refers to the Temporary Alert Timer and a change in 4096 Code may either set it to one of the permanent alert codes (not governed by Tc) or the temporary alert codes (that are governed by Tc).	FROM: "The Tc timer shall be retriggered and continued for Tc seconds after any change has been accepted by the transponder function." TO: "The Tc timer shall be retriggered and continued for another 18 +/- 1 seconds after any change (other than 7500, 7600, 7700) has been accepted by the transponder function." SC-209: Agreed to replace the term "TC seconds" with "18 ±1 seconds."
40	J. Loewe Honeywell	2.2.18.2.7.c	S	This requirement has been changed to require that ALL xpdrs perform validation of declared on-the-ground status (whether they are equipped for extended squitter or not). Was this intentional to remove the DO-181C 2.2.16.2.7 Note 2 that required this only for aircraft equipped for extended squitter?	Make it explicit that this requirement applies to all transponder on-ground indications not just extended squitter. SC-209: This requirement applies to all on-ground indications, and not just to extended squitter as per the SARPs.

DO-181D FRAC Draft, June 2008 Consolidated Comment Matrix

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41	Don Walker Honeywell	2.2.18.2.7.c	C	This section does not state the rationale for the on-ground validation and uses numbers that may not be appropriate for some aircraft.	<p>Replace the text between the notes with this text. “Aircraft installations that use a mechanical strut switch (a.k.a weight on wheels) as an automatic means for determining the on-ground condition have been observed to become stuck in the on-ground state. Transponders installed with mechanical on-ground switches that have access to ground speed, radio altitude, or airspeed shall perform an on-ground validation check as defined below. If the automatically determined air/ground condition is not available, or is “airborne,” no validation shall be performed. If the automatically determined air/ground condition is “on-ground”, the air/ground condition shall be overridden and changed to “airborne” if: Ground Speed > 100 knots OR Airspeed > 100 knots OR Radio Altitude > 50 feet. <i>Note: Modern aircraft with integrated avionics suites commonly contain sophisticated algorithms for determining the air/ground state based on multiple aircraft sensors. These algorithms are customized to the airframe and designed to overcome individual sensor failures. These algorithms are an acceptable means to determine the air/ground state and do not require additional validation.”</i></p> <p>SC-209: Meeting agreed to only add the suggested Note as Note #4. Further discussion on this topic will continue during the presentations at the ICAO ASP TSG meeting in Paris in July 2008.</p>

DO-181D FRAC Draft, June 2008 Consolidated Comment Matrix

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42	J. Loewe Honeywell	2.2.19.1	E	Typo: First sentence, there is no section “b” in “1.4.3”	FROM: “1.4.3.b” TO: “1.4.3” SC-209: Reference changed to 1.4.3.2, which at one time was 1.4.3.b.
43	R. Bayh BAE Systems	2.2.19.1(c)	S	No reference to CA subfield (mentioned in Level 3/4 sections)	Add to (c) protocols: Report codes 4 – 7 in CA field (see 2.2.14.4.6) SC-209: Agreed and added to 2.2.19.1.c. Also removed from Level 3 & 4 in 2.2.20.1.1.d
44	SC-209 Meeting #8	2.2.19.1	S	Make the same change in Figure 2-15 as was made in Figure 2-12 to move the “Suppress ATCRBS” box.	Make the same change in Figure 2-15 as was made in Figure 2-12 to move the “Suppress ATCRBS” box. SC-209: Agreed and changed
45	J. Loewe Honeywell	2.2.19.1.4 Figure 2-16	S	UF24 processing should not be mentioned in a section for Level 2 transponders.	Remove row for UF24 from table. Change row for “others” to “No Reply”. SC-209: Agreed and changed
46	J. Loewe Honeywell	2.2.19.1.8 Figure 2-18	S	Figure was changed and now is incorrect for AQ = 0. When AQ = 0 the xpdr should insert data from the tcas interface into RI...not zero RI.	Change box for the “No” branch of AQ=1. Box should say “insert tcas interface data, if any”. SC-209: Agreed and changed (added case for RI=0 if no TCAS)
47	K Wilson Honeywell	2.2.19.1.9.a	E	Reference 2.2.14.4.39 should be 2.2.14.4.40	Change as described SC-209: Corrected

DO-181D FRAC Draft, June 2008 Consolidated Comment Matrix

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48	J. Loewe Honeywell	2.2.19.1.12.1	S	Existing DO181C sentence (for 2.2.17.1.12.1) was incorrect and should be changed. DI=3 interrogations also carry the RRS field indicating a particular BDS2 value.	FROM: "If the DI code of the Comm-B requesting interrogation is not equal to 7, the BDS2 code of the desired reply source shall be "0"." TO: "If the DI code of the Comm-B requesting interrogation is not equal to 7 or 3 , the BDS2 code of the desired reply source shall be "0"." SC-209: Agreed and changed
49	J. Loewe Honeywell	2.2.19.1.12.6.2	E	Typo – confusing word placement in sentence	FROM: "This 1-bit squitter (bit 66) capability..." TO: "This 1-bit (bit 66) squitter capability..." SC-209: Corrected
50	J. Loewe Honeywell	2.2.19.1.12.6.2	E	Reference to section 2.2.24 is incorrect, should be referring to Appendix B – Table B-3-16.	Change reference to Table B-3-16 SC-209: Discussed and comment was retracted.
51	Don Walker Honeywell	2.2.19.1.12.6.2	E	This paragraph should reference the other fields that need set for the various Level 2 functionalities like Enhanced Surveillance.	Reference the appropriate paragraphs in the document that describe the requirements for setting bits in BDS 10 p 2.2.24.3. Reference the BDS 10 register definition in Appendix B 3-16. SC-209: Discussed and comment was retracted.
52	R. Bayh BAE Systems	2.2.19.1.12.6.3 2 nd paragraph	S	Transponders initiate, generate and ANNOUNCE (in the DR subfield) the change in the Data Link Capability report. The ground sensor then requests the broadcast information and the transponder then transmits it	Change 2 nd paragraph first sentence to read "The transponder shall initiate, generate and announce the revised basic data link capability report even...." ICAO Annex 10 is changing their text to reflect above wording. SC-209: Agreed. Changed the word "transmit to announce.

DO-181D FRAC Draft, June 2008 Consolidated Comment Matrix

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53	R. Bayh BAE Systems	2.2.19.1.13(e)	S	Add 2 nd paragraph for loss of Aircraft Identification capability	Add 2 nd paragraph: “The transponder shall initiate, generate and announce the revised Aircraft Identification report even if the interface supplying the Aircraft Identification data is degraded or lost. To support this requirement, the transponder shall set the BDS subfield for the Aircraft Identification report”. [ICAO is adding these words to Annex 10]. SC-209: Agreed and added.
54	Don Walker Honeywell	2.2.19.2.1.1.c	S	There is a comment that the TMS field is described in another document. That is no longer true.	Change the last sentence to “Coding for this field is described in Appendix C Section 2.2.7.” If the linked Comm A protocol is required functionality, it should be moved to the body text. As it stands in an appendix now, one could infer that it is optional. Is Linked Comm A optional? SC-209: Agreed and changed
55	R. Bayh BAE Systems	2.2.19.3 Additional features	E	The additional features, diversity and mutual suppression are discussed in 2.2.12 & 2.2.11 respectively and provide no value in the Level 2 transponder requirements section.	Suggest deleting 2.2.19.3, et al. SC-209: Comment discussed and retracted.
56	K Wilson Honeywell	2.2.21.3.2.2 Figure 2-29	E	Why the red “YES” near diamond A?	SC-209: Probably because the guy who put it there was red-green color blind and didn’t know it was red! It has been corrected.

DO-181D FRAC Draft, June 2008 Consolidated Comment Matrix

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57	R. Bayh BAE Systems	2.2.22.1.2.2.3 Notes 1 & 2	S	Note 2 indicates that Bit 72 is Reserved. It is now defined for DO-185B	Either: Remove notes 1 & 2: information contained in 2.2.22.1.2.2.4 note 4 -or- change notes to read: 1. Bit 71 set to One and Bit 72 set to ZERO indicates ...DO-185A 2. Bit 72 set to ONE and Bit 71 set to ZERO indicates ...,DO-185B. SC-209: Comment discussed and retracted
58	R. Bayh BAE Systems	2.2.22.1.2.2.4 Note 4	E	For the table defining bits 71 & 72, for the DO-185B category, add (TSO-C119c pending) to match Table 2-3: TCAS versions and Compatible Systems	Add TSO – C119c (Pending) to the DO-185B entry under Meaning column SC-209: Agreed and changed
59	K Wilson Honeywell	2.2.22.4	S	What exactly does the last requirement (sentence) mean? This also sounds like a requirement on the flight crew / installer, not the transponder.	SC-209: Comment discussed and retracted
60	Tom Pagano	2.2.22.4 (c)	C	In Working Paper “ModeS-WP06-05 Bob Saffell and Antoine Herve attempted to resolve WG-49 Action Item A12/13, which requested the verification of altitude quantization in ED-73C, §3.27.4.c and DO-181D, §2.2.22.4.c. This was resolved by changing paragraph “c” and the text below it, although the resultant text in ED-73C did not exactly implement Bob Saffell’s suggestion in the Working Paper, but rather implemented the suggestion from Antoine Herve at the end of the Working Paper.	(1) Suggest that the two pieces of text below subparagraph “c” in DO-181D, §2.2.22.4 be deleted, but that the “Note” be retained. (2) Suggest that the “Note” after DO-181D §2.2.22.4.c be entered into ED-73C below §3.27.4.c. SC-209: Meeting agreed with deleting the two sentences and keeping the note. Subparagraph “c” also modified to retain “25 feet or less, or 100 feet” to be consistent with 735B Label 203, bit 11
61	K Wilson Honeywell	2.2.23.1.2.e	C	Since there are several event-driven squitters, does it make sense to run each of them through register 0A ₁₆ ? Should they not just be squittered out of their respective registers directly?	Change “with the contents of GICB Register 0A ₁₆ ” to “with the contents of the appropriate GICB Register” or change the Note... SC-209: Comment discussed and retracted

DO-181D FRAC Draft, June 2008 Consolidated Comment Matrix

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62	R. Bayh BAE Systems	2.2.23.1.3(a)	S	Extended squitter rate initialization, last paragraph after Note 2: Acquisition squitters shall be reported in addition to extended squitters unless Acquisition squitters have been disabled IAW 2.2.18.2.6(d)	Modify last paragraph to read: “Acquisition squitters shall be reported in addition to extended squitters as specified in 2.2.18.2.6(c) unless acquisition squitters have been inhibited as specified in 2.2.18.2.6(d)” SC-209: Comment discussed and retracted

DO-181D FRAC Draft, June 2008 Consolidated Comment Matrix

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63	J. Loewe Honeywell	2.2.23.1.3.a	S	<p>Existing DO-181C requirements allow squittering of registers 05, 06 and 09 with Type Code = 0 which doesn't allow a receiver to distinguish which register it's receiving.</p> <p>Suggest only 05h be squittered with Type Code = 0.</p>	<p>Initialization section:</p> <p>FROM: "If input to the register for a squitter type stops for 60 seconds, broadcast of that Extended Squitter type will be discontinued until data insertion is resumed. The insertion of altitude by the transponder shall satisfy the minimum requirement for continuing to broadcast the airborne position squitter. After timeout, this squitter type may contain an ME field of ALL ZEROs."</p> <p>TO: "If input to the 05h register stops for 60 seconds, broadcast of that Extended Squitter type will be discontinued until data insertion is resumed. The insertion of altitude by the transponder shall satisfy the minimum requirement for continuing to broadcast the airborne position squitter. After timeout, this squitter type may contain an ME field of ALL ZEROs.</p> <p>"If input to the 06h or 09h register stops for 2 seconds, broadcast of that Extended Squitter type will be discontinued until data insertion is resumed."</p> <p>SC-209: This comment is not being addressed in this version of DO-181D. It should be addressed beginning with the ICAO ASP, and is in that process currently.</p>

DO-181D FRAC Draft, June 2008 Consolidated Comment Matrix

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64	R. Bayh BAE Systems	2.2.23.1.4.2 Note 2	S	Note 2: “The Identification register 08 ₁₆ is not cleared...” does not comply with the register timeout requirements in Appendix B.	Remove first sentence of Note 2. Add to end of 2.2.23.1.4.2 first sentence: ,,within two seconds of the previous update and within 30.0 seconds for the Identification register 08 ₁₆ SC-209: Discussed and no change indicated.
65	K Wilson Honeywell	2.2.23.1.7 Note 5	E	This note is redundant with the requirement immediately preceding Note 4.	Remove Note 5. SC-209: Discussed and agreed that redundancy is better than deleting.
66	J. Loewe Honeywell	2.2.23.1.7	E	Table headings should be more specific	In first table, change FROM: “Code” TO: “TCS Code” In second table, change FROM: “Code” TO: “RCS Code” In third table, change FROM: “Code” TO: “SAS Code” SC-209: Agreed and changed
67	R. Bayh BAE Systems & J. Loewe Honeywell	2.2.23.2	E	BDS Code 6,1 ES Emergency/Priority: emergency misspelled	Correct spelling of Emergency SC-209: Corrected
68	J. Loewe Honeywell	2.2.23.2	E	Typo for DO-260 reference	FROM: “DO-260” TO: “DO-260A” SC-209: Corrected

DO-181D FRAC Draft, June 2008 Consolidated Comment Matrix

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69	K Wilson Honeywell	2.2.23.4	S	6.2 max? – do we need the emergency squitter with the Mode A test squitter?	Revisit the 6.2 max squitter rate requirement based on the test message and emergency message. Consider merging the Emergency and test message squitters. Contact air services Australia to evaluate impact to existing architecture. SC-209: This will be addressed in future updates to this and other MOPS documents.
70	Paul Heller Raytheon & K Wilson Honeywell	2.2.24.b.(8)	E	Reference to 2.2.12.2.19.1.13 is wrong. It should be 2.2.19.1.13	Change ‘2.2.12.2.19.1.13’ to ‘2.2.19.1.13’ SC-209: Corrected
71	Paul Heller Raytheon	2.2.24 step b. (8)	E	Typo	Change ‘in.’ to ‘in’ SC-209: Corrected
72	R. Bayh BAE Systems	2.2.24.3.2.1 note	E	“...by the transponer...” is misspelled	Correct spelling of transponder SC-209: Corrected
73	K Wilson Honeywell	2.2.24.3.2.2	E	Table 2-4 shows 9871, Edition 1 available in 2007. It should be at least 2008.	SC-209: For consistency across documentation, it was left as 2007 since the SARPs were effective in November 2007.

DO-181D FRAC Draft, June 2008 Consolidated Comment Matrix

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74	Don Walker Honeywell	2.2.24.3.2.3	S	This paragraph needs to elaborate on the use of this bit by Eurocontrol. The existing text understates the importance of setting this bit.	Add this note “Note: Eurocontrol uses Bit 25 to indicate that BDS 17 should be extracted. The capability bits for the Enhanced Surveillance registers 40, 50, and 60 are used from 17 to determine if the Enhanced Surveillance registers should be extracted. In effect, Enhanced Surveillance functionality will not be detected unless bit 25 is set.” SC-209: Agreed and implemented, but changed reference from ‘Eurocontrol’ to Bit 25 is sed to indicate.”
75	J. Loewe Honeywell	2.2.24.3.2.4	C	The term “capability” has been previously used to indicate that the capability exists in the xpdr and does not necessarily indicate that data has been received from the installation to load some particular register/field. Now, this particular “capability” bit is being specified in exactly the opposite way.	Before HI agrees to change this we would like some clarification on meaning of the term “capability” (for this bit and all other bits) and some explanation of why the “agreed-to” uses for this term keeps changing. SC-209: Discussed and comment was retracted.
76	Paul Heller Raytheon	2.2.24.5.2.1	E	Typo	Change the two instances of ‘17 ₁₆ ’ to ‘10 ₁₆ ’ SC-209: Corrected
77	J. Loewe Honeywell	2.2.24.5.2.1	S	Requirement is about 10h but note is about 17h. Part “a” about servicing any part of 10h could be interpreted as setting bits 1-8 therefore, the xpdr would ALWAYS service the 10h register which would make the setting of bit 41 in the 18h register a static setting.	At least remove the Note. SC-209: Corrected 17 ₁₆ to 10 ₁₆ .

DO-181D FRAC Draft, June 2008 Consolidated Comment Matrix

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78	Paul Heller Raytheon	New paragraph after 2.2.25.1.2.3	S	Add a new para between para 2.2.25.1.2.3 and 2.2.25.1.2.4 to include Bit 33, Aircraft Identification Reporting Capability. Use same words as ELS para. 2.2.24.3.2.4.	New para sentence: “Bit 33 of Register 10 ₁₆ is set to ONE (1) as defined in Elementary Surveillance (ELS) Compliant Transponder §2.2.24.3.2.4.” SC-209: Bit 33 does not apply in this case since it is already covered in ELS.
79	R. Bayh BAE Systems	2.2.25.1.2.3(a), (b)	E	Bit 25 is also set by supporting Extended Squitter registers 05, 06, 07, 08 & 09 (16). Since ADS-B operation is imminent, indicate extended squitter operation also sets the MSP bit. Extended squitter will be implemented prior to any Mode S Specific Services, i.e., Dataflash	<ul style="list-style-type: none"> Change 2.2.25.1.2.3(a) first sentence to: “register 10(16) (DLCR) bit 25 shall be set to ONE (1) if the transponder is receiving any data from the Aircraft installation with which to service Registers 05 through 09(16), 1D(16) through...” Change Note 2 to add the same wording Change (b) to add same words SC-209: Discussed and no change
80	J. Loewe Honeywell	2.2.25.1.3	E	Repeating the same requirements in section after section is not a good practice.	Just refer to the ELS section which has the exact same requirement. SC-209: Discussed and no change
81	J. Loewe Honeywell	2.2.25.2.1	E	Typo in second paragraph	FROM: “The Elementary Surveillance (ELS) compliant transponder...” TO: “The Enhanced Surveillance (EHS) compliant transponder...” SC-209: Agreed and changed
82	K Wilson Honeywell	2.2.25.2.2.5.a	E	“of FMS...” should be “or FMS...”	SC-209: Corrected
83	J. Loewe K Wilson Honeywell	2.2.25.3.1	E	Typo after Note #2 and before “a”	FROM: “Transponers” TO: “Transponders” SC-209: Corrected

DO-181D FRAC Draft, June 2008 Consolidated Comment Matrix

No.	Reviewer Name	Paragraph	*N C S E	Comment / Rationale	Proposed Resolution(s)
84	J. Loewe Honeywell	2.2.25.3.1	S	Typo in subpart “h” ... should be 50h register	FROM: “5F ₁₆ ” TO: “50 ₁₆ ” SC-209: Agreed and changed, added a new bullet between “h” and “I”
85	Paul Heller Raytheon	2.2.25.3.1	S	Add a new step for Register 19 ₁₆ bit 33. Add between steps g and h.	New step sentence: Register 19 ₁₆ bit 33 to indicate that the installation has the capability to provide data in Register 50 ₁₆ . SC-209: Agreed and changed, added a new bullet between “h” and “I”
86	Paul Heller Raytheon & K Wilson Honeywell	2.2.25.3.1 step h	E	Typo	Change ‘bit 33’ to ‘bit 18’ SC-209: Agreed and changed, added a new bullet between “h” and “I”
87	Paul Heller Raytheon & K Wilson Honeywell	2.2.25.3.1 step i	E	Typo	Change ‘bit 18’ to ‘bit 17’ SC-209: Agreed and changed, added a new bullet between “h” and “I”
88	K Wilson Honeywell	2.2.25.3.1	C	Register 50 ₁₆ needs to be included with the rest of the registers in a-i.	SC-209: Agreed and changed, added a new bullet between “h” and “I”
89	J. Loewe Honeywell	2.2.25.5.2.3.a(1)	S	The information would be best presented by putting item (b) first and item (a) last; since (a) only applies when the input data is in BCD format while (b) applies in all cases.	Renumber items (b), (c) and (d) as (a), (b) and (c). Renumber item (a) as (d). SC-209: Discussed and agreed not to change.
90	K Wilson Honeywell	2.2.25.7.2.4.a	S	“Barometric Pressure Setting” should be “FMS Vertical Mode”	SC-209: Agreed and changed

DO-181D FRAC Draft, June 2008 Consolidated Comment Matrix

No.	Reviewer Name	Paragraph	*N C S E	Comment / Rationale	Proposed Resolution(s)
91	J. Loewe Honeywell	2.2.26	S	This section needs to specify which registers it is referring to. Please do not make the manufacturer guess at what you mean.	Provide a list of registers this section either a) applies to or b) doesn't apply to (it's probably easier to list those it does not apply to). Don't say "...registers that have not been defined in detail" SC-209: Meeting agreed to remove "shalls" from this section since they should not be requirements and are examples. Changed "shall" to "will."
92	Don Walker Honeywell	2.2.26	S	This section is too weak to have shalls attached to it.	It is fine as commentary material but remove the shalls. SC-209: Meeting agreed to remove "shalls" from this section since they should not be requirements and are examples. Changed "shall" to "will" and added a statement about using "shall" in new requirements.
93	K Wilson Honeywell	2.3	S	DO-160F is now released. This document refers to DO-160E.	Reference DO-160F. SC-209: All references to DO-160 have been updated to reflect version "F" and subsequent versions.
94	Showkat Honeywell	2.3.1	S	"Table 2-12 lists the13 sets.", in table 2-12 should be 16 sets.	"Table 2-12 lists the16 sets." SC-209: Changed to "16 sets."
95	R.H. Saffell Rockwell Collins	2.3.1 Table 2-11	S	Table needs to add item 26 for Fire, Flammability in order to establish completeness with DO-160E.	Add new item 26 / Fire, Flammability / section 26 / Group 3 during, 2 after / When Required. SC-209: Agreed and changed
96	Showkat Honeywell	2.3.1	S	"Group 2 procedures apply to 8 of the sets.."	"Group 2 procedures apply to 10 of the sets.." SC-209: Agreed, but added a new and counted 12.

DO-181D FRAC Draft, June 2008 Consolidated Comment Matrix

No.	Reviewer Name	Paragraph	*N C S E	Comment / Rationale	Proposed Resolution(s)
97	Showkat Honeywell	2.3.1	S	“Group 3, 4, and 5 apply to 4, 3 and 3 of the sets of transponder performance tests, respectively”.	“Group 3, 4, and 5 apply to 5, 4 and 4 of the sets of transponder performance tests, respectively”. SC-209: Agreed and implemented
98	Showkat Honeywell	2.3/2.3.1	S	Since RTCA/DO-160F is released (FAA has not released the advisory circular for using it at this time), Do we want to replace DO-160E by DO-160F?	Research when the advisory circular will be released. Replace all references to RTCA/DO-160E by RTCA/DO-160F. SC-209: All references to DO-160 have been updated to reflect version “F”.
99	Dennis English Honeywell	2.3.1, Table 2-11	S	Row 25, Electrostatic Discharge - Field for Group is blank.	Propose adding a group or a Note clarifying when the test is to be performed. SC-209: Agreed and added to group 2 after

DO-181D FRAC Draft, June 2008 Consolidated Comment Matrix

No.	Reviewer Name	Paragraph	*N C S E	Comment / Rationale	Proposed Resolution(s)
100	Dennis English Honeywell	2.3.1, Table 2-11	S	New tests Lightning Direct Effects & Icing called out for Groups 3 & 2 respectively.	<p>Lightning Direct Effects and Icing tests should apply to the XPDR Antenna only because it is mounted outside the fuselage. They should not be conducted on the XPDR electronics equipment mounted in the pressurized equipment bay.</p> <p>Proposed Solution: Change the Group call out for Lightning Direct Effects from 3 to 6. Then add a note clarifying that this test pertain to the XPDR Antenna only and the antenna need not be tested while the XPDR is operational or even connected to XPDR hardware.</p> <p>Add a note that states the XPDR Antenna only is subjected the icing environment, not the XPDR electronics equipment. The XPDR shall be subjected to the performance tests of Group 2 while the Antenna is in the icing environment.</p> <p>SC-209: Tests are optional and only run when required by customer. No change</p>
101	Showkat Honeywell	2.3.2.4 Figure 2-33	S	Not used in any test	<p>Delete Figure 2-33</p> <p>SC-209: This was discussed and agreed not to delete.</p>
102	Showkat Honeywell	2.3.2.4 step 4	S	“.. reply rate is below 10%”.	<p>“.. reply rate is no more than 1%”.</p> <p>SC-209: Agreed and changed</p>
103	Showkat Honeywell	2.3.2.12	S	DO-160B	<p>RTCA/DO-160E (RTCA/DO-160F)</p> <p>SC-209: All references to DO-160 have been updated to reflect version “F”.</p>

DO-181D FRAC Draft, June 2008 Consolidated Comment Matrix

No.	Reviewer Name	Paragraph	*N C S E	Comment / Rationale	Proposed Resolution(s)
104	R.H. Saffell Rockwell Collins & Showkat Honeywell	2.4.2.1, Step 6	E	Section 2.4.2.1, Step 6, second line: “PRO” should be “PR=0”	Change “PRO” –to- “PR=0” SC-209: Corrected
105	R.H. Saffell Rockwell Collins	2.4.2.1, Step 9	C	Step 9 Procedure must be finalized to be consistent with the final clarification of 2.2.2.4 as discussed above in item #8.	Action to resolve is in process and expect to be discussed in Plenary and finalized. SC-209: See the resolution in the overall meeting agreement.

DO-181D FRAC Draft, June 2008 Consolidated Comment Matrix

No.	Reviewer Name	Paragraph	*N C S E	Comment / Rationale	Proposed Resolution(s)
106	SC-209 Telecon Agreement 5 June 08	2.4.2.1 (9)	C	Pursuant to the agreement during the April Meeting of SC-209, manufacturers expressed their suggestions for the test procedure to ensure a minimum number of spurious ATCRBS replies, and during a teleconference on 5 June 2008, it was agreed by all participants that §2.4.2.1, Step 9 should be changed.	Replace the text of §2.4.2.1, Step 9 with: Use the following three input interrogations: UF4 with PC=4; RR=12; DI=3; SD=4924; AP=AAAAAA; UF20 with PC=4; RR=12; DI=3; SD=4924; MA=49249249249249; AP=AAAAAA; UF20 with PC=4; RR=12; DI=3; SD=9000; MA=90009000900090; AP=AAAAAA; 1. Connect the transponder suppression output to a frequency counter (Fluke 7220A or similar). 2. Set the frequency counter resolution to 1 Hz. 3. Set the transponder address to any valid address other than AAAAAA in order to prevent Mode-S reply. 4. Turn off transponder squitter replies. 5. Interrogate at a rate of 100 PRF between -81dBm and the Mode-S MTL with the interrogations shown above. 6. Frequency counter will display ATCRBS reply rate. 7. Take the average of 10 frequency counter readings at each power level between -81 dBm and the Mode-S MTL. Verify that the average reply rate is no more than 1% ATCRBS replies averaged over the range between -81 dBm and the MTL, and no more than 3% ATCRBS replies at any power level between -81 dBm and the MTL. SC-209: See the resolution in the overall meeting agreement.

DO-181D FRAC Draft, June 2008 Consolidated Comment Matrix

No.	Reviewer Name	Paragraph	*N C S E	Comment / Rationale	Proposed Resolution(s)
107	Nolan Van Foeken Garmin	2.4.2.1 (9)	C	We suggest that several Steps in the Test Procedure could be enhanced with some minor editing.	Replace Steps 5 and 7 with the revisions shown in blue below: 5. Interrogate at a rate of 100 PRF between -81dBm and the Mode-S MTL with the interrogations shown above, using 1 dBm steps. In order to include the Mode-S MTL as the last test point, the last step may be smaller than 1 dBm. 7. Take the average of 10 frequency counter readings at each power level between -81 dBm and the Mode-S MTL. Verify that the average reply rate is no more than 1% ATCRBS replies averaged over the range between -81 dBm and the MTL for each interrogation , and no more than 3% ATCRBS replies at any power level between -81 dBm and the MTL. SC-209: See the resolution in the overall meeting agreement.

DO-181D FRAC Draft, June 2008 Consolidated Comment Matrix

No.	Reviewer Name	Paragraph	*N C S E	Comment / Rationale	Proposed Resolution(s)
108	Tom Pagano	2.4.2.1 (9)	C	I suggest that the test procedure would be better served by exactly specifying the usage of the three input interrogations, and by correcting the references to the substeps so as not to confuse the substeps of "Step 9" with the previous Steps of the overall test procedure in §2.4.2.1.	<p>(1) I suggest that the three interrogations be specifically labeled as "1," "2," and "3," and that each of the test substeps be relabeled as "a," "b," "c," "d," etc.....</p> <p>(2) I suggest altering Step "g," and adding Steps "h" and "i" as follows:</p> <p>g. Take the average of 10 frequency counter readings at each power level between -81 dBm and the Mode-S MTL. Verify that the average reply rate is no more than 1% ATCRBS replies averaged over the range between -81 dBm and the MTL for interrogation "a" above, and no more than 3% ATCRBS replies at any power level between -81 dBm and the MTL.</p> <p>h. Repeat Steps "e," "f" and "g" above, except that you interrogate using power levels between -80.5 dBm and the Mode-S MTL, in 1 dB steps, with interrogation "2" above. This offsets the test by 0.5 dB in order to ensure that the sensitivity to signal level is checked..</p> <p>i. Repeat Steps "e," "f" and "g" above, except that you interrogate using interrogation "3" above.</p> <p>SC-209: Discussed and agreed to implement the suggestions from the SC-209 teleconference, as modified by Nolan Van Foeken and this suggestion by Tom Pagano.</p>
109	Showkat Honeywell	2.4.2.3.3 step 7	S	Note 4 has delay variation as +/- .4%. It is +/- .25/128 or +/- 0.2%. Newer scope can measure 250ns (delay variation) or 80ns jitter with a 128us reply delay. There is no need for external reference clock/time-base marker.	<p>Delete note 4</p> <p>SC-209: Agreed and actually deleted the "footnote."</p>

DO-181D FRAC Draft, June 2008 Consolidated Comment Matrix

No.	Reviewer Name	Paragraph	*N C S E	Comment / Rationale	Proposed Resolution(s)
110	Showkat Honeywell	2.3.2.4 step 1 and 2.4.2.4 step 1	S	“Verify that the reply ratio is less than 1 percent”. Less than 1% implies 0%. The requirement is no more than 1% reply during SLS.	“Verify that the reply ratio is no more than 1 percent”. SC-209: Agreed and changed in both places
111	Showkat Honeywell	2.4.2.4 step 5	S	“..until the transponder replies to less than 1 percent of the interrogations”.	“..until the transponder replies to no more than 1 percent of the interrogations”. SC-209: Agreed and changed
112	Le To Honeywell	2.4.2.7 Step 9	S	In paragraph 2.4.2.7 Step 9, the second subparagraph “Insert non-coherent CW interference at a frequency of 1030 ±0.2 MHz. and at signal levels of -70 dBm”. For transponder receiver having greater sensitivity and signal to interference greater than 20 dB, the transponder would fail this test.	Propose to change the CW interference signal level to -75 dBm in the test procedure and change the CW interference “...at signal level of 25 dB or more below...” in paragraph §2.2.8.6. SC-209: The requirement was set by agreements between ICAO and RTCA as far back as 2003 as documented in WP5-10 by Bev Nichols. No change
113	J. Loewe Honeywell	2.5.4.6.2.2, Step 3, Step 4, Step 5, Step 6, Step 7, Step 10	C	There is no Appendix B, Table B-1 (and Table B-2-1 specifies the maximum update interval). By requiring use of the Maximum update intervals in this test you have changed the intent of the test from one verifying the squitter protocol to one verifying both protocol and max update interval. The testing of the maximum update intervals should be allowed to be implemented in other tests.	Change wording regarding the input data rate in all sections: FROM: “Provide Extended Squitter updates to the transponder at a rate as specified in Appendix B, Table B-1.” TO: “Provide Extended Squitter updates to the transponder at a rate as least as fast as that specified in Appendix B, Table B.2.1.” SC-209: The table referenced actually refers to the “maximum update intervals.”
114	J. Loewe Honeywell	2.5.4.7	E	Typo on Transponder States item “C”	Under “Transponder States, state C” FROM:”T _L timer runs” TO: “T _I timer runs” SC-209: Agreed and changed

DO-181D FRAC Draft, June 2008 Consolidated Comment Matrix

No.	Reviewer Name	Paragraph	*N C S E	Comment / Rationale	Proposed Resolution(s)
115	J. Loewe Honeywell	2.5.4.7	S	SSS Code Validation Test (DO-181C typo carried over to DO-181D). Alert with SPI results in SSS = 1 but when the 4096 Code changes (“clear the alert Register”) the resulting SSS will be 2 (temporary alert) not 3.	For item 5) FROM: “...verify that SSS = 3 until the TI timer expires.” TO: “...verify that SSS=2 until the TI timer expires.” SC-209: After discussion, #5 was changed as follows: “SSS=1 when Alert Register is set and SPI Condition is active. Clear the alert and verify that SSS=2 as TC timer is now active. Set the SPI Condition, which will set the TI timer. Verify that SSS=2 until the TC timer expires. Verify that SSS=3 upon expiration of the TC timer and that SSS=0 upon expiration of the TI timer.” Step 6 was incorporated into Step 5 as above and the Steps below were renumbered.
116	J. Loewe Honeywell	2.5.4.15	C	Some wording from DO-181C about verifying no reply to interrogations not appearing on the interface is missing.	FROM: “One second after the first burst, verify that the content of at least the first 50 interrogations has appeared at the interface.” TO: “One second after the first burst, verify that the content of at least the first 50 interrogations has appeared at the interface and that the transponder has not generated a reply to those interrogations whose content has not appeared at the interface.” SC-209: The new test text now reflects the changed requirements. No change.

DO-181D FRAC Draft, June 2008 Consolidated Comment Matrix

No.	Reviewer Name	Paragraph	*N C S E	Comment / Rationale	Proposed Resolution(s)
117	J. Loewe Honeywell	2.6.3.2.3	C	<p>The term “capability” has been previously used to indicate that the capability exists in the xpdr and does not necessarily indicate that data has been received from the installation to load some particular register/field.</p> <p>This definition agrees with what’s stated in 2.2.24.3.2.3 and in B.4.1.5 (“the setting of this bit is preferably static”) but the test in 2.6.3.2.3 indicates that 10h bit 25 may change from 0 to 1 once data starts being received by the xpdr.</p>	<p>Change the test in 2.6.3.2.3 to reflect the static setting of 10h bit 25 based on the xpdr’s “capability”.</p> <p>SC-209: The setting of bit 25 is dynamic. No change.</p>
118	K Wilson Honeywell	2.6.3.2.4	E	9”AIS” should be (“AIS”	<p>Replace “9” with (“</p> <p>SC-209: Corrected</p>
119	K Wilson Honeywell	2.6.5.2.1	S	This indicates all bits within the MB field should be set to ZERO. Should 41 and 33 (BDS 10 ₁₆ and 18 ₁₆ respectively) be set to ONE?	<p>SC-209: Discussed and considered, but no change.</p>
120	K Wilson Honeywell	2.6.6.1.g.(3) Note 2	S	Why would servicing of register 21 ₁₆ cause bit 25 to be set?	<p>SC-209: If you are servicing register 21, then you must set bit 25.</p>
121	K Wilson Honeywell	2.6.6.1.i.(3)	S	Add a note similar to the one for 2.6.6.1.h.(2)	<p>Add Note stating “If Register 21₁₆ is not being serviced, then Bit 56 (bit 24 of the “MB” field) is set to ZERO (0).”</p> <p>SC-209: Discussed and considered, but no change.</p>
122	K Wilson Honeywell	2.6.6.2.e.(1)	S	Will this bit be set to ONE if 21 ₁₆ is not being serviced?	<p>SC-209: In this case, in this test procedure, no it will not be set to ONE.</p>
123	K Wilson Honeywell	2.6.6.3.e.(1)	E	The “(1)” doesn’t line up with its associated text.	<p>SC-209: Corrected</p>
124	K Wilson Honeywell	2.6.6.6.a.(2)	S	The “following table” is missing.	<p>Provide table</p> <p>SC-209: ACTION – Bob Saffell - the table will be supplied.</p>

DO-181D FRAC Draft, June 2008 Consolidated Comment Matrix

No.	Reviewer Name	Paragraph	*N C S E	Comment / Rationale	Proposed Resolution(s)
125	K Wilson Honeywell	2.6.6.8	E	Capitalize “data” in the section header	SC-209: Corrected
126	K Wilson Honeywell	2.6.6.8.f.(2)	S	Shouldn't a ZERO indicate NO Aircraft Identification capability?	SC-209: Agreed and corrected
127	Don Walker Honeywell	2.7.3.2.1	S	BDS 18 will not be all zero in some implementations. If it is being loaded at all, bits for registers serviced by the transponder may be set upon power-up (BDS 10, BDS 17, 18-1C, etc.)	Change last sentence to read... “Bits 33 - 88 (bits 1 - 56 of the “MB” Field) set appropriately to indicate either NO Capability has been established to service the BDS Codes designated in Register 18 ₁₆ (ZERO) OR the transponder services the register (ONE).” SC-209: Discussed and considered, but no change.
128	Don Walker Honeywell	2.7.3.2.2- 2.7.3.2.4	E	These paragraphs are not correct per the previous comment.	These registers should be set to ONE to indicate that they are serviced by the transponder. SC-209: Discussed and considered, but no change.
129	Don Walker Honeywell	2.7.4.1	S	BDS 1D may have uplink channel 05 set if the transponder is capable of interfacing to TCAS II to indicate SLC command capability.	Change the last sentence to read... “Bits 33 - 88 (bits 1 - 56 of the “MB” field) set to ZERO (0) to indicate NO Capability has been established to service the Mode S Specific Services (MSP channel) designated in Register 1D ₁₆ . Bit 5 of the MB field may be set to ONE to indicate that the SLC Command uplink channel is supported.” SC-209: Procedure is currently written as per the SARPs. SLC command is driven by requirements in 2.2.22. ACTION Don Walker to write WP for TSG meeting in July.

DO-181D FRAC Draft, June 2008 Consolidated Comment Matrix

No.	Reviewer Name	Paragraph	*N C S E	Comment / Rationale	Proposed Resolution(s)
130	J. Loewe Honeywell	2.7.5.2	E	Item (3) Baro Pressure Setting Minus 800 mb encoding has a table titled “Barometric Correction Encoding Derivation” and it isn’t really clear why this table is needed.	Remove the second table “Barometric Correction Encoding Derivation” SC-209: Discussed and considered, but no change.
131	J. Loewe Honeywell	2.7.5.2	S	Part (b) Note 1 – the note is incorrect, the interrogation does not start the broadcast timer (the change in 10h does). Note 2 more accurately describes why the timer starts. This same text should be removed from the 50 and 60 test sections as well.	Delete Note 1 SC-209: Note changed to indicate that the “transponder should initiate the” ...
132	J. Loewe Honeywell	2.7.5.2 Item (3)	C	The tables listing the values that should be “encoded” for Baro Pressure Setting Minus 800 mb are missing the setting of the “Status” Bit	Add in the Status bit setting for Baro Pressure Setting Minus 800 mb field. SC-209: Status is covered in the verification state.
133	J. Loewe Honeywell	2.7.5.2	S	There are parts of this procedure that are repetitive and should be consolidated. This will help to make the procedure more clear as well as make the document more maintainable.	Combine 2.7.5.3, 2.7.5.4 and 2.7.5.5 (they appear to differ only in a few areas). Combine/summarize any other sections that are repetitive as well. SC-209: Discussed and considered, but no change.
134	K Wilson Honeywell	2.7.6.1.e	S	Will bits 33 and 41 be set in 18 ₁₆ to represent (BDS 10 ₁₆ and 18 ₁₆)?	SC-209: Discussed and considered, but no change.
135	K Wilson Honeywell	2.7.6.3 Note 1	E	Subscript the 16 in 5016	SC-209: Corrected
136	K Wilson Honeywell	2.7.6.10.a.(4) Note 2	E	“0_1 0101 0101” is equivalent to “(155 Hex)”, not 2AB	SC-209: Agreed and corrected
137	K Wilson Honeywell	2.7.6.12.a.(5)	E	Table states “[See Note 2,3]” however there is no “Note 3”	SC-209: Agreed and corrected

DO-181D FRAC Draft, June 2008 Consolidated Comment Matrix

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138	K Wilson Honeywell	2.7.6.12.a.(5)	S	How does a “Data Value” of 682.625 equate to a “Rounded Input Data Value” of 1,366?	SC-209: ACTION Bob Saffell to verify
139	K Wilson Honeywell	2.7.6.14 Notes 1 & 2	E	Need updated for “Part 14”	SC-209: Agreed and corrected
140	K Wilson Honeywell	2.7.6.14.b	E	Update to reflect Part 14.a (not Part 3.a)	SC-209: Agreed and corrected
141	K Wilson Honeywell	2.7.6.14.c	E	Update to reflect Part 14.b (not Part 3.b)	SC-209: Agreed and corrected
142	K Wilson Honeywell	2.7.6.14.d	E	Update to reflect Part 14.b (not Part 3.b)	SC-209: Agreed and corrected
143	K Wilson Honeywell	2.7.6.14.e	E	Update to reflect Part 14.b (not Part 3.b)	SC-209: Agreed and corrected
144	K Wilson Honeywell	2.7.6.14.f	E	Update to reflect Part 14.a (not Part 3.a)	SC-209: Agreed and corrected
145	K Wilson Honeywell	2.7.6.14.g	E	Update to reflect Part 14.f (not Part 3.f)	SC-209: Agreed and corrected
146	K Wilson Honeywell	2.7.6.14.h	E	Update to reflect Part 14.g (not Part 3.g)	SC-209: Agreed and corrected
147	Richard Jennings FAA AIR-130	Membership Page 516	E	Top of page, “Minimum Operational Performance Standards for Mode S Airborne Beacon & Data Link System”.... Doesn’t match title of document on Page 1	Suggest changing to “Minimum Operational Performance Standards for Air Traffic Control Radar Beacon System/Mode Select (ATCRBS/Mode S) Airborne Equipment ” SC-209: Corrected
148	K Wilson Honeywell	A.1	E	Add ELS, EHS, UAT, VOR, SLS, MSB	SC-209: All were added to A.1.

DO-181D FRAC Draft, June 2008 Consolidated Comment Matrix

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149	R.H. Saffell Rockwell Collins	Appendix A After Page A-16	E	Delete BLANK page after page A-16 such that Appendix B starts on an odd numbered sheet	Clean up document structure such that appendix B starts first page face up. Then verify that appendix C and D start first page face up. Currently, both appendices start first page face down. SC-209: The structure of the document will be cleaned up prior to publication to ensure that all first pages start “face-up.”
150	K Wilson Honeywell	B.2.1 (and other sections in B)	C	Do we really want requirements (shall) in appendices?	Move all requirements to the appropriate place in the document SC-209: Discussed and agreed not to make any changes in the Appendix.
151	K Wilson Honeywell	B.2.2.1	C	So, the setting/servicing of any register outside the ones listed requires bit 25 of BDS 10 ₁₆ to be set? Is that a requirement somewhere?	SC-209: Yes there is a requirement in the EHS section in §2.2.25
152	K Wilson Honeywell	B.2.2.2. 4) Note 2.	E	Last sentence is a repeat of Note 1.	SC-209: We realize that it is redundant but it is in keeping with the text in Doc 9871 and other MOPS documents.
153	K Wilson Honeywell	B.3 Note 1	S	1090 ES Status registers are squittered as specified by DO-260A. Why does this note state that they are not squittered?	SC-209: The note as written is indicating what also appears in Doc 9871 and maybe other MOPS documents and as such should not be changed.
154	K Wilson Honeywell	Table B-3-16 Note 12	E	The date for DO-181D is listed as 2007. it should be at least 2008.	SC-209: The date 2007 references the effective date of the ICAO Annex 10 and Doc 9871. DO-181D is compliant with the modified requirements in Amendment 82 of the SARPs.

DO-181D FRAC Draft, June 2008 Consolidated Comment Matrix

No.	Reviewer Name	Paragraph	*N C S E	Comment / Rationale	Proposed Resolution(s)
155	J. Loewe Honeywell	Table B-3-16	S	Notes 15, 16, 17 and 18 are repeated text from section 2.2.22.1.2.2.4 (and are repeated again in B.4.1.2. Repeated requirements tend to be unmaintainable (they change in one place and not in the other place(s).	<p>In Table B-3-16, Delete: Notes 15, 16, 17 and 18 Add new Note 15: “For bits 16 and 37-40, refer to section 2.2.22.1.2.2.4”.</p> <p>In section B.4.1.2, Delete all existing text. Add new text: “The setting of these bits is dynamic; they are set by TCAS but may be zeroed by the transponder for failure of the xpdr/tcas interface. Refer to section 2.2.22.1.2.2.4.”</p> <p>SC-209: Duplicate sets of requirements are in several MOPS documents and cannot be changed in one without changing the other.</p>
156	J. Loewe Honeywell	Table B-3-81	C	The text of Note 1 and the addition of Note 4 do not comply with what is in Doc 9871.	<p>Please identify which requirements for the 5,1h register are the correct requirements...those in Doc 9871 or those in DO-181D.</p> <p>Once identified, please correct the other document.</p> <p>SC-209: The draft version of Doc 9871 that you may be reviewing does not have the most recent changes, which are in fact reflected in the draft of DO-181D.</p>

DO-181D FRAC Draft, June 2008 Consolidated Comment Matrix

No.	Reviewer Name	Paragraph	*N C S E	Comment / Rationale	Proposed Resolution(s)
157	J. Loewe Honeywell	Table B-3-82	S	The text for the FOM/SOURCE coding does not comply with what is in Doc 9871.	Please identify which requirements for the FOM/SOURCE coding of the 5,2 register are correct...those in Doc 9871 or those in DO-181D. Once identified, please correct the other document. SC-209: The draft version of Doc 9871 that you may be reviewing does not have the most recent changes, which are in fact reflected in the draft of DO-181D.
158	K Wilson Honeywell	B.4.1.3	E	The date for Doc 9871 is listed as 2007. It should be at least 2008.	SC-209: For consistency across documentation, it was left as 2007 since the SARPs were effective in November 2007.
159	K Wilson Honeywell	B.4.1.5	S	Definition for setting of bit 25 needs work.	SC-209: Taken care of in previous resolutions to Honeywell comments.
160	J. Loewe Honeywell	B.4.3.1	C	The interpretation to zero the 20h register for loss of Flight ID (when it's variable data) is new and manufacturers should not be forced to use this interpretation at this late date. HI has interpreted when to zero the character fields in 20h based on the one existing requirement for the timeout of the 08h register (which carries the same information as 20h). See DO-181C 2.2.16.2.6.2.3 and 2.2.16.2.6.2.4.2.	Make the timeout requirements for Register 20 and 08 the same. SC-209: The maximum update interval for register 20 ₁₆ is 5.0 seconds, therefore the Plenary agrees that the timeout is 10.0 seconds at which time the data will be zeroed. It is also acceptable to zero out 08 ₁₆ at 10.0 seconds as well.
161	Don Walker Honeywell	B.4.4	S	What is the expectation regarding setting bits 48-56 in register 40?	Discuss the challenges with existing equipment. SC-209: Requirements for these bits are covered in §2.2.24.

DO-181D FRAC Draft, June 2008 Consolidated Comment Matrix

No.	Reviewer Name	Paragraph	*N C S E	Comment / Rationale	Proposed Resolution(s)
162	J. Loewe Honeywell	B.4.4	E	Typo in paragraph number.	FROM: "Paragraph B.4.2.1" TO: "Paragraph B.4.4.1" SC-209: Corrected
163	K Wilson Honeywell	B.4.4.1	E	Extraneous "(" under description of target altitude.	SC-209: Corrected
164	K Wilson Honeywell	B.4.4.2	E	Two "TBDs" in table.	Resolve SC-209: They are not yet defined, so TBD is appropriate in this case.
165	J. Loewe Honeywell	Table B-2-1 & 2.2.25.6.3	S	<p>Inconsistent Minimum Update Rates (Maximum Update Intervals).</p> <p>Minimum Update rates for registers 09h, 50h, and 60h are inconsistent between ICAO Annex 10 Vol III Amendment 77 (0.2, 1.0 and 1.0 seconds respectively) and DO-181D (1.3, 1.3 and 1.3 seconds respectively). I'm not sure if this was intentional or is a typo.</p> <p>Minimum Update rate for 65h is inconsistent between Doc 9871 (1.7 seconds) and DO-181D (2.5 seconds). I'm not sure if this was intentional or is a typo.</p>	<p>If this is a typo, then simply fix it. If this was intentional please explain why these are changing.</p> <p>SC-209: The Update Intervals for 09h, 50h and 60h were changed with the publication of Annex 10 Vol III, Amendment 82, effective November 2007, when the table containing these rates/intervals was moved to the [yet to be published] ICAO Doc 9871. The Update Interval for 65h was changed to 2.5 seconds in a yet to be implemented editorial change to the draft of Doc 9871 that is circulating.</p>

DO-181D FRAC Draft, June 2008 Consolidated Comment Matrix

No.	Reviewer Name	Paragraph	*N C S E	Comment / Rationale	Proposed Resolution(s)
166	R.H. Saffell Rockwell Collins & Don Walker Honeywell	C.2.2.6.1.1.4, Table C-2-3	E	Table C-2-3, third line: “Correwction” should be “Correction”	Change “Correwction” –to- “Correction” SC-209: Corrected
167	Don Walker Honeywell	C 3.2.1.1	S	Steps 3 and 4 may not be possible depending on the AE interface design. These steps should be more generic.	Change steps 3 and 4 to generate an interface error and verify that the broadcasts do not occur. SC-209: Discussed and agreed that Step 3 will be altered by adding “if supported by the interface” and combining with Step 4.
168	Don Walker Honeywell	C 3.2	S	The tests in this section are so generic, I’m not sure they are even possible to run on our radios. It may be more useful to indicate that the protocols be tested by the individual applications that use them (i.e. TIS, Dataflash).	Remove tests and replace with a statement that the frame protocols be tested by the applications that use them. SC-209: Appendix C is optional anyway.
169	D. Oey Honeywell	Appendix D.3.1.2	C	This is a requirement pertaining to the design of the installation but the wording makes it appear as though the transponder must have battery backup to operate if power is removed via circuit breakers. Need to be less specific to allow any appropriate installation design that will achieve the objective.	FROM: “...when the Hijack Mode is triggered that unauthorized removal of electrical power to the transponders, via the flight deck circuit breakers, shall not affect the continuous operation of the transponder to output the Hijack Code in both...” TO: “...when the Hijack Mode is triggered that unauthorized removal of electrical power to the transponders is not allowed.” SC-209: Appendix D is optional anyway and is here to retain the capability if needed.

DO-181D FRAC Draft, June 2008 Consolidated Comment Matrix