



Federal Aviation Administration

MMEL Policy Letter 25 Revision 17

Date: January 20, 2011

To: All Region Flight Standards Division Managers
All Aircraft Evaluation Group Managers

From: Manager, Air Transportation Division, AFS-200

Reply To: Manager, Technical Programs Branch, AFS-260
Attn Of:

MMEL GLOBAL CHANGE

PL-25 is designated as GC- 170

This Global Change (GC) is an approved addendum to all existing MMEL documents. Operators may seek use of the specific relief contained in this policy letter by revising their Minimum Equipment List (MEL). In doing so, each applicable sample proviso stating the relief in this policy letter, must be copied verbatim in the operator's MEL. Approval of a revised MEL is gained utilizing established procedures, through the Operator's assigned Principle Operations Inspector (POI).

Subject: Policy Concerning MMEL Definitions

MMEL CODE: 00 (GENERAL)

REFERENCE: Policy Letter 25, Revision 16, dated April 2, 2010
Policy Letter 25, Revision 15, dated November 2, 2009
Policy Letter 25, Revision 14, dated August 26, 2008
Policy Letter 25, Revision 13, dated September 11, 2006
Policy Letter 25, Revision 12, dated June 5, 2006
Policy Letter 25, Revision 11, dated July 5, 2005
Policy Letter 25, Revision 9, dated August 15, 1997
Policy Letter 25, Revision 8, dated January 31, 1995

PURPOSE:

The purpose of this policy letter is to provide a list of MMEL definitions.

DISCUSSION:

PL-25 Revision 17 adds a Note to definition 3, adds the Boeing model 747-8 to definition 23a and adds Appendix A. Definitions 22 and 24 are also modified for clarity.

PL-25 Revision 16 corrected revision bar requirement in definition #1e; deletes the Passenger Convenience definition #21; revises the Electronic Fault Alerting System for Airbus aircraft (definition #23c.); adds new MMEL definition #31 for HMV.

PL 25 Revision 15 revised definition 22.A. "Category A Repair Interval" by including a reference to "calendar days", aligning the criteria for Day of Discovery with definition 27 "Day of Discovery". A-380 aircraft added to definitions, 23c

PL-25 Revision 14 revised definition #1a to include the listing of the repair interval categories (A, B, C and D) in column 1, revises definition #7 to align with recent ETOPS rulemaking, adds day of discovery to definition #22 Category A, adds MEL repair interval extensions information to definition #22, adds "787" to definition #23a, adds G-150 and G-200 to definition #23g, corrects NEF Definition #30 to align with FSIMS 8900.1 Volume 4 (Aircraft Equipment and Operational Authorizations) Chapter 4 (MEL and CDL) Section 11 (NEF) paragraph 4-898.

PL-25 Revision 13 added clarification to definition 10. Icing Conditions for aircraft (structural) and engines (induction) icing.

PL-25 Revision 12 added definitions for "considered Inoperative", "is not used" and "Nonessential equipment and furnishings (NEF)." Added the term "14 CFR" to Definition 3 (As required by FAR).

PL-25 Revision 11 added the Boeing 717 and MD-10 aircraft to the definitions Paragraph 23-b. as both aircraft are Electronic Instrument Systems (EIS) equipped aircraft. Definition 23-c (Airbus) has been revised to add A-318 to the fleet listing and clarify requirements for MAINTENANCE status (Class II) messages. Definition 23-f (Embraer EMB-145) has been revised to add applicable models EMB-135/145 and ERJ-170/190. Definition 23-g (Gulfstream) has also been revised to add applicable models G-IV, GV-SP, and GIV-X. This revision also changes MMEL Definition to Revision #11

POLICY:

Rev 17 Definitions

1. System Definitions.

System numbers are based on the Air Transport Association (ATA) Specification and items are numbered sequentially.

a. "Item" (Column 1) means the equipment, system, component, or function listed in the "Item" column. Repair interval categories (A, B, C, and D) are listed on right side of column 1. Repair intervals are described in definition 22.

b. "Number Installed" (Column 2) is the number (quantity) of items normally installed in the aircraft. This number represents the aircraft configuration considered in developing this MMEL. Should the number be a variable (e.g., passenger cabin items) a number is not required.

c. "Number Required for Dispatch" (Column 3) is the minimum number (quantity) of items required for operation provided the conditions specified in Column 4 are met.

NOTE: Where the MMEL shows a variable number required for dispatch, the MEL must reflect the actual number required for dispatch or an alternate means of configuration control approved by the Administrator.

d. "Remarks or Exceptions" (Column 4) in this column includes a statement either prohibiting or permitting operation with a specific number of items inoperative, provisos (conditions and limitations) for such operation, and appropriate notes.

e. A vertical bar (change bar) in the margin indicates a change, addition or deletion in the adjacent text for the current revision of that page only. The change bar is dropped at the next MMEL revision.

2. "Airplane/Rotorcraft Flight Manual" (AFM/RFM) is the document required for type certification and approved by the responsible FAA Aircraft Certification Office. The FAA approved AFM/RFM for the specific aircraft is listed on the applicable Type Certificate Data Sheet.

3. "As required by FAR" means that the listed item is subject to certain provisions (restrictive or permissive) expressed in the Federal Aviation Regulations operating rules. The number of items required by the FAR must be operative. When the listed item is not required by FAR it may be inoperative for time specified by repair category. The term "14 CFR" may be substituted for "FAR" in MMELs or operator MELs.

NOTE: For MEL development, Appendix A may be used to identify the applicable CFRs for MMEL items that use terms such as "As required by FAR" or "Any in excess of those required by FAR may be inoperative". Appendix A is a non-inclusive list of CFRs.

4. Each inoperative item must be placarded to inform and remind the crewmembers and maintenance personnel of the equipment condition.

NOTE: To the extent practical, placards should be located adjacent to the control or indicator for the item affected; however, unless otherwise specified, placard wording and location will be determined by the operator.

5. "-" symbol in Column 2 and/or Column 3 indicates a variable number (quantity) of the item installed.

6. "Deleted" in the remarks column after a sequence item indicates that the item was previously listed but is now required to be operative if installed in the aircraft.

7. As used in MMELs, "ER" refers to Extended Operations (ETOPS) of an airplane with operational approval to conduct ETOPS in accordance with the applicable regulations.

8. "Federal Aviation Regulations" (FAR) means the applicable portions of the Federal Aviation Act and Federal Aviation Regulations.

9. "Flight Day" means a 24 hour period (from midnight to midnight) either Universal Coordinated Time (UCT) or local time, as established by the operator, during which at least one flight is initiated for the affected aircraft.

10. "Icing Conditions" means an atmospheric environment that may cause ice to form on the aircraft (structural) or in the engine(s) (induction).

11. Alphabetical symbol in Column 4 indicates a proviso (condition or limitation) that must be complied with for operation with the listed item inoperative.

12. "Inoperative" means a system and/or component malfunction to the extent that it does not accomplish its intended purpose and/or is not consistently functioning normally within its approved operating limit(s) or tolerance(s).

13. "Notes:" in Column 4 provides additional information for crewmember or maintenance consideration. Notes are used to identify applicable material which is intended to assist with compliance, but do not relieve the operator of the responsibility for compliance with all applicable requirements. Notes are not a part of the provisos.

14. Inoperative components of an inoperative system: Inoperative items which are components of a system which is inoperative are usually considered components directly associated with and having no other function than to support that system. (Warning/caution systems associated with the inoperative system must be operative unless relief is specifically authorized per the MMEL).

15. "(M)" symbol indicates a requirement for a specific maintenance procedure which must be accomplished prior to operation with the listed item inoperative. Normally these procedures are accomplished by maintenance personnel; however, other personnel may be qualified and authorized to perform certain functions. Procedures requiring specialized knowledge or skill, or requiring the use of tools or test equipment should be accomplished by maintenance personnel. The satisfactory accomplishment of all maintenance procedures, regardless of who performs them, is the responsibility of the operator. Appropriate procedures are required to be published as part of the operator's manual or MEL.

16. "(O)" symbol indicates a requirement for a specific operations procedure which must be accomplished in planning for and/or operating with the listed item inoperative. Normally these procedures are accomplished by the flight crew; however, other personnel may be qualified and authorized to perform certain functions. The satisfactory accomplishment of all procedures, regardless of who performs them, is the responsibility of the operator. Appropriate procedures are required to be published as a part of the operator's manual or MEL.

NOTE: The (M) and (O) symbols are required in the operator's MEL unless otherwise authorized by the Administrator.

17. "Deactivated" and "Secured" means that the specified component must be put into an acceptable condition for safe flight. An acceptable method of securing or deactivating will be established by the operator.

18. "Visual Flight Rules" (VFR) is as defined in FAR Part 91. This precludes a pilot from filing an Instrument Flight Rules (IFR) flight plan.

19. "Visual Meteorological Conditions" (VMC) means the atmospheric environment is such that would allow a flight to proceed under the visual flight rules applicable to the flight. This does not preclude operating under Instrument Flight Rules.

20. "Visible Moisture" means an atmospheric environment containing water in any form that can be seen in natural or artificial light; for example, clouds, fog, rain, sleet, hail, or snow.

21. "Passenger Convenience Items" Deleted, see NEF 30.

22. Repair Intervals: All users of an MEL approved under 14 CFR 121, 125, 129 and 135 must effect repairs of inoperative systems or components, deferred in accordance with the MEL, at or prior to the repair times established by the following letter designators. **14 CFR 91 MEL users do not need to comply with the repair categories, but shall comply with any provisos defining a repair interval (flights, flight legs, cycles, hours, etc). The letter designators are inserted adjacent to Column 2.**

Category A. Items in this category shall be repaired within the time interval specified in the remarks column of the operator's approved MEL. For time intervals specified in "calendar days" or "flight days," the day the malfunction was recorded in the aircraft maintenance record/logbook is excluded. For all other time intervals (flights, flight legs, cycles, hours, etc), repair tracking begins at the point when the malfunction is deferred in accordance with the operator's approved MEL.

Category B. Items in this category shall be repaired within three (3) consecutive calendar days (72 hours), excluding the day the malfunction was recorded in the aircraft maintenance record/logbook. For example, if it were recorded at 10 a.m. on January 26th, the three day interval would begin at midnight the 26th and end at midnight the 29th.

Category C. Items in this category shall be repaired within ten (10) consecutive calendar days (240 hours), excluding the day the malfunction was recorded in the aircraft maintenance record/logbook. For example, if it were recorded at 10 a.m. on January 26th, the 10 day interval would begin at midnight the 26th and end at midnight February 5th.

Category D. Items in this category shall be repaired within one hundred and twenty (120) consecutive calendar days (2880 hours), excluding the day the malfunction was recorded in the aircraft maintenance log and/or record.

An operator who has the authorization to use an MEL also has the authority to approve extensions to the maximum repair interval for category B and C items provided the responsible Flight Standards District Office (FSDO) is notified within 24 hours of the MEL extension. The operator is not authorized to extend A and D items in the MEL. Misuse of the MEL extension authority may result in the operators OpSpecs/Mspecs being amended by removing the authority for the operator to use the MEL extension authority and/or use an MEL.

23. Electronic fault alerting system – General New generation aircraft display system fault indications to the flight crew by use of computerized display systems. Each aircraft manufacturer has incorporated individual design philosophies in determining the data that would be represented.

The following are customized definitions (specific to each manufacturer) to help determine the level of messages affecting the aircraft's dispatch status. When preparing the MEL document, operators are to select the proper Definition No. 23 for their aircraft, if appropriate.

a. BOEING (747-400, **747-8**, 757, 767, 777, 787)

Boeing airplanes equipped with Engine Indicating and Crew Alerting Systems (EICAS), provide different priority levels of system messages (WARNING, CAUTION, ADVISORY, STATUS and MAINTENANCE). Any messages that affects airplane dispatch status will be displayed at a STATUS message level or higher. The absence of an EICAS STATUS or higher level (WARNING, CAUTION, ADVISORY) indicates that the system/component is operating within its approved operating limits or tolerances. System conditions that result only in a maintenance level message, i.e. no correlation with a higher level EICAS message, do not affect dispatch and do not require action other than as addressed within an operators standard maintenance program.

b. BOEING (B-717, MD-10, MD-11)

These aircraft are equipped with an alerting function which is a subsystem within the Electronic Instrument System (EIS). The alerting function provides various levels of system condition alerts (WARNING, CAUTION, ADVISORY, MAINTENANCE and STATUS). Alerts that affect aircraft dispatch will include WARNING, CAUTION, STATUS or MAINTENANCE level. MAINTENANCE alerts are displayed on the status page of the EIS display panel under the maintenance heading. A MAINTENANCE alert on the EIS indicates the presence of a system fault which can be identified by the Central Fault Display System (CFDS) interrogation. The systems are designed to be fault tolerant, however, for any MAINTENANCE alert, the MEL must be verified for dispatch purposes.

c. AIRBUS (A300-600, A310, A318/319/320/321, A330, A340, A380)

Airbus aircraft equipped with Electronic Centralized Aircraft Monitoring (ECAM) provide different levels of system condition messages {WARNING (red), CAUTION (amber)}. On A318/319/320/321, A330 and A340, the ECAM STATUS page also provides MAINTENANCE STATUS messages. Any message that affects airplane dispatch is displayed at the WARNING or CAUTION level. For A318/319/320/321, MAINTENANCE STATUS messages may also affect airplane dispatch. System faults that result only in messages on the Central Maintenance System (CMS) (for A330, A340 and A380) or on the Centralized Fault Display System (CFDS) (for A318/319/320/321) do not affect airplane dispatch and do not require action other than as addressed within the operator's standard maintenance program.

d. FOKKER (FK-100)

Fokker aircraft are equipped with Multi Function Display System (MFDS) which provides electronic message referring to the different priority levels of system information (WARNING (red), CAUTION (amber), AWARENESS (cyan) AND STATUS (white). Any messages that affects aircraft dispatch will be at the WARNING, CAUTION or AWARENESS level. In these cases the MEL must be verified for dispatch capability and maintenance may be required. System conditions that only require maintenance are not presented on the flight deck. These maintenance indications/messages may be presented on the Maintenance & Test Panel (MAP) or the Centralized Fault Display Unit (CFDU) and by dedicated Built In Test Evaluation (BITE) of systems.

e. CANADAIR (CL-65, CL-604)

Canadair aircraft equipped with Engine Indication and Crew Alerting Systems (EICAS) provide four classes of messages (WARNING, CAUTION, ADVISORY, and STATUS). Any message that affects aircraft dispatch will be at the WARNING, CAUTION, or STATUS level. System conditions that only require maintenance are not visible to the flight crew. These maintenance indications/messages are only activated by maintenance personnel using the Maintenance Diagnostics Computer.

f. EMBRAER (EMB-135/145, ERJ-170/190 Series)

The EMB-135/145 and ERJ-170/190 are equipped with an Engine Indicating and Crew Alerting System (EICAS) that provides three different message levels: WARNING, CAUTION, and ADVISORY. The ERJ-170/190 Series add STATUS messages. Failures that effect dispatchability are presented to the flight crew at one of these levels. Other failures may be presented only to the maintenance personnel on the Multi Function Display (MFD) maintenance pages or through the download of the Central Maintenance Computer (CMC). System conditions that result only in a maintenance level message, i.e. no correlation with a higher level EICAS message, do not affect dispatch and do not require action other than as addressed within an operator's standard maintenance program.

g. GULFSTREAM (G-IV, G-V, GV-SP, GIV-X, G-150 and G-200)

Gulfstream airplanes equipped with EICAS provide different priority levels of system messages: WARNING (red), CAUTION (amber), ADVISORY, STATUS and MAINTENANCE (cyan or blue). Any WARNING or CAUTION message affects airplane dispatch status and requires that the Airplane Flight Manual or the MEL be used to determine dispatch capability. STATUS messages which indicate a system failure (e.g., FMS 1 fail) require that the Airplane Flight Manual or the MEL be used to determine dispatch capability. MAINTENANCE messages do not affect airplane dispatch status. They indicate the presence of a system fault which can be identified by Maintenance Data Acquisition Unit (MDAU on the G-V) interrogation, Central Maintenance Computer (CMC on the GV-SP/GIV-X) interrogation or by reference to the Airplane Flight Manual.

Gulfstream mid-cabin airplanes (G-150, G-200) equipped with EICAS provide different priority levels of system messages: WARNING (red), CAUTION (amber), ADVISORY (green), and STATUS (white). The Airplane Flight Manual prohibits take off with any WARNING message displayed. CAUTION, ADVISORY and STATUS messages may affect airplane dispatch status and requires the Airplane Flight Manual or the MEL be used to determine dispatch capability. The airplane may dispatch with CAUTION, ADVISORY and STATUS messages that indicate proper system operation and are not illuminated due to a system failure (i.e. FUEL STBY PUMP ON when the pump is selected ON, GND A/B OUT with LAND selected on the ground, or APU GEN OFF with the switch OFF). MAINTENANCE and MAINTENANCE DATA STATUS messages do not affect airplane dispatch status. They indicate the presence of a system fault which can be retrieved from the Maintenance Diagnostics Computer. In all cases, the Airplane Flight Manual must be referenced and procedures compiled with for the displayed message prior to applying MEL dispatch relief.

h. De-HAVILLAND (DASH 8 SERIES 400)

Series 400 aircraft are equipped with a Caution/Warning Panel that annunciates all cautions and warnings. Advisory messages are displayed by the Electronic Indication System (EIS) or individual advisory lights supplied in the cockpit. "Class 1 failures" are failures that prevent continued operation of a specific Line Replacement Unit or channel and are annunciates via advisory messages: caution, warning or advisory lights in the flight compartment. Dispatch with such posted failures are to be in accordance with the MMEL. "Class 2 failures" are failures which do not prevent continued system function. These faults will not be annunciates to the flight crew and the absence of the higher level alert (warning, caution, advisory) indicates that the system/component is operating within its approved operating limits or tolerances. Such faults would be evident during maintenance interrogation performed during maintenance activities. Class 2 faults do not affect dispatch and will be listed in the Fault Isolation Manual (FIM). Class 2 faults will be left to the discretion of the operators when these faults are to be rectified.

24. "Administrative control item" (**ACI**) means an item listed by the operator in the MEL for tracking and informational purposes. **As an example, ACI may be used to track ETOPS accomplishment of required APU cold-soak, or in-flight verification starts.** It may be added to an operator's MEL by approval of the Principal Operations Inspector provided no relief is granted, or provided conditions and limitations are contained in an approved document (i.e. Structural Repair Manual, airworthiness directive, etc.). If relief other than that granted by an approved document is sought for an administrative control item, a request must be submitted to the Administrator. If the request results in review and approval by the FOEB, the item becomes an MMEL item rather than an administrative control item.

25. "****" symbol in Column 1 indicates an item which is not required by regulation but which may have been installed on some models of aircraft covered by this MMEL. This item may be included on the operator's MEL after the approving office has determined that the item has been installed on one or more of the operator's aircraft. The symbol, however, shall not be carried forward into the operator's MEL. It should be noted that neither this policy nor the use of this symbol provides authority to install or remove an item from an aircraft.

26. "Excess Items" means those items that have been installed that are redundant to the requirements of the FARs.

27. "Day of Discovery" is the calendar day an equipment/instrument malfunction was recorded in the aircraft maintenance log and or record. This day is excluded from the calendar days or flight days specified in the MMEL for the repair of an inoperative item of equipment. This provision is applicable to all MMEL items, i.e., categories "A, B, C, and D."

28. "Considered Inoperative", as used in the provisos means that item must be treated for dispatch, taxi and flight purposes as though it were inoperative. The item shall not be used or operated until the original deferred item is repaired. Additional actions include: documenting the item on the dispatch release (if applicable), placarding, and complying with all remarks, exceptions, and related MMEL provisions, including any (M) and (O) procedures and observing the repair category.

29. "Is not used" in the provisos, remarks or exceptions for an MMEL item may specify that another item relieved in the MMEL "is not used." In such cases, crewmembers should not activate, actuate, or otherwise utilize that component or system under normal operations. It is not necessary for the operators to accomplish the (M) procedures associated with the item. However, operational requirements must be complied with, and an additional placard must be affixed, to the extent practical, adjacent to the control or indicator for the item that is not used to inform crewmembers that a component or system is not to be used under normal operations.

30. Nonessential equipment and furnishings (NEF) are those items installed on the aircraft as part of the original type certification, supplemental type certificate, or other form of alteration that have no effect on the safe operation of flight and would not be required by the applicable certification rules or operational rules. They are those items that if inoperative, damaged or missing have no effect on the aircraft's ability to be operated safely under all operational conditions. These nonessential items may be installed in areas including, but not limited to, the passenger compartment, flight deck area, service areas, cargo areas, crew rest areas, lavatories, and galley areas. NEF items are not items already identified in the MEL or CDL of the applicable aircraft. They do not include items that are functionally required to meet the certification rule or for compliance with any operational rule. Operator's NEF process shall not provide for deferral of items within serviceable limits identified in the manufacturer's maintenance manual or operator's approved maintenance program such as wear limits, fuel/hydraulic leak rates, oil consumption, etc. Cosmetic items that are fully serviceable but worn or soiled may be deferred under an operator's NEF process.

31. As used in MMELs, Heavy Maintenance Visit (HMV) is a scheduled C-check/D-check or airworthiness maintenance program inspection where the aircraft is scheduled to be out of service for 4 or more days.

John Duncan, Manager
Air Transportation Division, AFS 200

PL-025 Appendix A Applicable 14 CFR Parts 91, 121, 125, 129, 135 Current as of June 7, 2010 This listing is for guidance only, and any questions regarding the applicability of a particular regulation should be resolved by a review of the regulation involved.			
ATA Ch. #	PL-#	Item	14 CFR References
<u>ATA 21</u>		Ozone Converters	14 CFR 121.578
<u>ATA 23</u>	PL-029	Cockpit Voice Recorder (CVR) System	14 CFR 91.609, 91.1045, Appendix E to Part 91 14 CFR 121.359 14 CFR 125.227 14 CFR 129.24 14 CFR 135.151
	PL-058	Flight Deck Headsets/Headphones	14 CFR 91.511 14 CFR 121.318, 121.349, 121.359 14 CFR 125.203, 125.227 14 CFR 135.151, 135.165
	PL-106	High Frequency (HF) Communication Systems	14 CFR 91.511 14 CFR 121.345, 121.347, 121.349, 121.351 14 CFR 125.203 14 CFR 135.98, 135.165
	PL-009	Passenger Address System	14 CFR 121.318 14 CFR 135.150
	SATCOM	Satellite Communication System	14 CFR 121.99, 121.122, 121.345, 121.347, 121.349, 121.351 14 CFR 125.203 14 CFR 135.98, 135.165
	PL-095	VHF and UHF Communications Systems	14 CFR 91.126, 91.127, 91.129, 91.130, 91.131, 91.135, 91.205, 91.511 14 CFR 121.345, 121.347, 121.349, 121.351 14 CFR 125.203 14 CFR 129.17 14 CFR 135.161 135.165

<u>ATA 25</u>		Crash Ax/Crow Bar	14 CFR 91.513 14 CFR 121.309 14 CFR 125.207 14 CFR 135.177
	PL-120	Emergency Locator Transmitter (ELT)	14 CFR 91.205, 91.207 14 CFR 121.353, 121.339
	PL-073	Emergency Medical Equipment (AED, EMK, FAK)	14 CFR 91.513 14 CFR 121.803 14 CFR 125.207 14 CFR 135.177
		Extended Overwater Equipment (Emergency, Flotation, Survival)	14 CFR 91.205, 91.509 14 CFR 121.339, 121.340 14 CFR 125.209 14 CFR 135.167
		Flashlight Stowage/Charger Assemblies (Including Flashlights)	14 CFR 121.310, 121.549 14 CFR 135.107, 135.178
	PL-097	Flight Attendant Seat Assembly (Single or Dual Position)	14 CFR 91.533 14 CFR 121.391 14 CFR 125.269 14 CFR 135.107
	PL-047	Megaphones	14 CFR 91.513 14 CFR 121.309 14 CFR 125.207
	PL-056	Observer Seat	Aircraft operated under 14 CFR 91 are not required to have an observer seat 14 CFR 135.75
<u>ATA 26</u>	PL-075	Portable Fire Extinguishers	14 CFR 91.513, 91.525 14 CFR 121.309 14 CFR 125.119 14 CFR 135.155

<u>ATA 31</u>		Clocks	14 CFR 91.205
	PL-087	Flight Data Recorder (FDR) System	14 CFR 91.609, 91.1045, Appendix E to Part 91, 14 CFR 121.343, 121.344, 121.344a 14 CFR 125.225, 125.226 14 CFR 129.20 14 CFR 135.152
<u>ATA 33</u>	PL-123	Passenger Notice System (Lighted Information Signs)	14 CFR 91.517 14 CFR 125.207, 125.217 14 CFR 135.127, 135.177
<u>ATA 34</u>		ADF Systems	14 CFR 91.205 14 CFR 121.347, 121.351 14 CFR 125.203
	PL-039	Altitude Alerting System	14 CFR 91.219, Appendix G to Part 91 (RVSM)
	PL-076	ATC Transponder/Automatic Altitude Reporting Systems	14 CFR 91.130, 91.131, 91.135, 91.215, Appendix G to Part 91 (RVSM)
	PL-105	Automatic Dependent Surveillance - Broadcast (ADS-B) System	None
	PL-003	Distance Measuring Equipment (DME)	14 CFR 91.205 14 CFR 121.349 14 CFR 125.203 14 CFR 129.17
		Flight Management Computer System (FMCS)	14 CFR 91.205 14 CFR 121.347, 121.349, 121.351 14 CFR 125.203 14 CFR 129.17 14 CFR 135.161, 135.165
	PL-054, PL-067	Ground Proximity Warning System (GPWS)	14 CFR 91.223, 91.1045 14 CFR 121.354, 121.358 14 CFR 135.154

ATA 34 (Cont'd)		Instrument Landing System (ILS)	14 CFR 121.347, 121.349 14 CFR 129.17 14 CFR 135.165
		Long Range Navigation Systems (GPS, INS, Loran, Omega)	14 CFR 121.351, 121.355 14 CFR 125.267
		Marker Beacon System	14 CFR Appendix A to Part 91 (Cat II Operations) 14 CFR 121.349 14 CFR 125.203 14 CFR 129.17 14 CFR 135.165
	PL-111	Standby Attitude Indicator	14 CFR 91.205, 91.507 14 CFR 121.305 14 CFR 135.149, 135.159
		Thunderstorm Detection	14 CFR 135.173
	PL-032	Traffic Collision and Avoidance System (TCAS)	14 CFR 91.221, 91.1045, Appendix G to Part 91 (RVSM) 14 CFR 121.356 14 CFR 125.224 14 CFR 129.18 14 CFR 135.180
		VOR Navigation Systems	14 CFR 91.131, 91.205, 91.511 14 CFR 121.345, 121.347, 121.349, 121.351 14 CFR 125.203 14 CFR 129.17 14 CFR 135.161 135.165
	PL-067	Weather Radar System	14 CFR 91.1045 14 CFR 121.357, 121.358 14 CFR 125.223 14 CFR 135.175

<u>ATA 35</u>		Oxygen System (Chemical or Gaseous)	14 CFR 91.211 14 CFR 121.329, 121.333, 121.574 14 CFR 125.219 14 CFR 135.157
		Portable Oxygen Dispensing Units (Or Equivalent) (Bottle and Mask)	14 CFR 121.329, 121.333
	PL-043	Protective Breathing Equipment (PBE)	14 CFR 121.337