



U.S. Department of
Transportation
Federal Aviation
Administration

Advisory Circular

Subject: **MINIMUM EQUIPMENT REQUIREMENTS
FOR GENERAL AVIATION OPERATIONS
UNDER FAR PART 91**

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Initiated by: AFS-820

AC No: 91-67

1. PURPOSE. This advisory circular (AC) describes acceptable methods for the operation of aircraft under Federal Aviation Regulations (FAR) Part 91 with certain inoperative instruments and equipment which are not essential for safe flight.

a. These acceptable methods of operation are:

(1) Operation of aircraft with a Minimum Equipment List (MEL), as authorized by FAR § 91.213(a).

(2) Operation of aircraft without an MEL under FAR § 91.213(d).

b. This AC also explains the process for obtaining Federal Aviation Administration (FAA) approval of an MEL.

2. RELATED FAR SECTIONS. The following FAR provide additional information on operations with or without a FAR Part 91 MEL:

a. FAR § 43.9: Content, form, and disposition of maintenance, preventive maintenance, rebuilding, alterations, and alteration records (except inspections performed

in accordance with FAR Parts 91, 123, and 125 and FAR §§ 135.411(a)(1) and 135.419).

b. FAR § 43.11: Content, form, and disposition of the records for inspections conducted under FAR Parts 91 and 125 and FAR §§ 135.411(a)(1) and 135.419.

c. FAR § 91.205: Powered civil aircraft with standard category U.S. airworthiness certificates: Instrument and equipment requirements.

d. FAR § 91.405: Maintenance required.

3. FORMS AND REPORTS. The FAA Flight Standards District Office (FSDO) contacted by an MEL applicant provides the applicant a Master Minimum Equipment List (MMEL) for the applicant's particular aircraft.

4. RELATED READING MATERIAL. Users of this AC will find detailed background and indepth information in the Federal Register, Vol. 53, No. 239, December 13, 1988. The public may obtain copies of this issue of the Federal Register from the FAA, Office of Public Affairs, Public Inquiry Center, APA-230, 800 Independence Ave., SW., Washington, DC 20591.

5. BACKGROUND. Except as provided in FAR § 91.213, all instruments and equipment installed on an aircraft must be operative in order for the operator to operate it. However, the FAA recognized that safe flight can be conducted under the MEL concept and under specific conditions with inoperative instruments and equipment.

a. Regulatory History. Until the most recent change to FAR § 91.213, the MEL concept applied only to air carrier and commercial operations and general aviation operators of multiengine aircraft for which FAA had developed an MMEL. Operators of aircraft for which FAA had not developed an MMEL had to comply with FAR § 91.405. This section required that all aircraft discrepancies occurring between required inspections had to be repaired in accordance with FAR Part 43 before the aircraft could be operated. This meant that all the aircraft's instruments and equipment, regardless of whether they were essential or not to the flight operation conducted, had to be operative. This requirement often placed a burden on operators.

b. Amendments to FAR Part 91. Over the past decade, the FAA initiated several rulemaking projects to alleviate the regulatory burden of FAR § 91.405. Before the issuance of a final rule change, FAA encouraged public and industry participation, accepted and reviewed public comments, and conducted public hearings which were attended by other Government agencies and the industry.

(1) The FAA briefly suspended FAR § 91.213 and allowed issuance of MEL's by exemption. During this period, the FAA gained valuable information on the usefulness and safety aspects of using MEL's in general aviation.

(2) Further, general aviation operators have a history of safe operations using FAR § 91.205 as the sole reference for determining the instrument and equipment requirements for a particular flight.

(3) However, operators indicated the need for relief from FAR § 91.405, and the FAA agreed that the FAR should reflect current operational practices. Consequently, the FAA amended FAR Parts 43 and 91 in December 1988.

c. New Regulatory Requirements. The amendment to FAR Parts 43 and 91 provides a regulatory basis for the operation of aircraft with inoperative instruments and equipment. Operators conduct these operations within a framework of a controlled program of maintenance inspections, repairs, and parts replacement. However, operators must exercise good judgement and have, at each required inspection, any inoperative instrument or equipment repaired or inspected or the maintenance deferred, as appropriate.

6. DEFINITIONS.

a. Aircraft Evaluation Group (AEG). The AEG is the FAA office responsible for the development and publication of an approved MMEL for those aircraft within its area of responsibility.

b. Aircraft Flight Manual (AFM). The AFM is the source document for operational limitations and performance for an aircraft. The term AFM can apply to either an airplane flight manual or a rotorcraft flight manual. FAA requires an AFM for type certification. The responsible FAA Aircraft Certification Office (ACO) approves an AFM.

c. Aircraft Maintenance Manual (AMM). The AMM is the source document for maintenance procedures for an aircraft. The term AMM can apply to either an airplane maintenance manual or a rotorcraft maintenance manual. FAA requires the AMM for type certification.

d. Airworthiness Directive (AD). An AD is a mandatory airworthiness requirement for a particular make and model aircraft or installed equipment. An AD is supplementary to the aircraft original airworthiness approval.

e. Air Transportation Association (ATA) Numbering System. The standard ATA numbering system refers to systems on different aircraft in a standardized manner. MMEL's use the ATA numbering system.

f. Calendar Days include all days, with no exclusion for weekends and holidays.

g. Deactivation means to make a piece of equipment or an instrument unusable to the pilot/crew by preventing its operation.

h. Deferred Maintenance is the postponement of the repair or replacement of an item of equipment or an instrument.

i. Equipment List is an inventory of equipment installed by the manufacturer or operator on a particular aircraft.

j. Flight Operations Evaluation Board (FOEB). The FOEB is composed of FAA personnel who are operations, avionics, airworthiness, and aircraft certification specialists. The FOEB develops an MMEL for a particular aircraft type under the direction of the AEG.

k. Inoperative means that a system and/or component has malfunctioned to the extent that it does not accomplish its intended purpose and/or is not consistently functioning normally within its approved operating limits or tolerances.

l. Kinds of Operations List (KOL). The KOL specifies the kinds of operations (e.g., visual flight rules (VFR), instrument flight rules (IFR), day, or night) in which the aircraft can be operated. The KOL also indicates the installed equipment that may affect any operating limitation. Although the certification rules require this information, there is no standard format; consequently, the manufacturer may furnish it in various ways.

m. Letter of Authorization (LOA). The FSDO issues an LOA to the operator when the FSDO authorizes the operator to operate under the provisions of an MEL. Together, the LOA, the procedures document (paragraph v. following), and the MMEL constitute a Supplemental Type Certificate (STC). The operator must carry the STC in the aircraft during its operation.

n. Maintenance is the inspection, overhaul, repair, preservation, or replacement of parts. This definition excludes preventive maintenance (see paragraph u. following). After a mechanic performs maintenance, other than preventive maintenance, a properly certificated maintenance person must approve the aircraft for return to service.

o. MMEL. An MMEL contains a list of items of equipment and instruments that may be inoperative on a specific type of aircraft (e.g., BE-200, Beechcraft model 200). It is also the basis for the development of an individual operator's MEL.

p. MEL. The MEL is the specific inoperative equipment document for a particular make and model aircraft by serial and registration numbers; e.g., BE-200, N12345. A FAR Part 91 MEL consists of the MMEL for a particular type aircraft, the MMEL's preamble, the procedures document, and a LOA. The FAA considers the MEL as an STC. As such, the MEL permits operation of the aircraft under specified conditions with certain equipment inoperative.

q. Next Required Inspection is the one required under either an FAA-approved inspection program, a 100-hour inspection, or an annual inspection, as appropriate.

r. Operations (O) and Maintenance (M) procedures in the MMEL refer to the specific maintenance procedures the operator uses to disable or render items of equipment inoperative and to specific operating conditions and limitations, as appropriate.

(1) An O symbol in column 4 of the MMEL indicates that a specific operations procedure must be accomplished before or during operation with the listed item of equipment inoperative. Normally, the flightcrew accomplishes these procedures; however, other personnel, such as maintenance personnel, may be qualified and authorized to perform the procedure.

(2) An M symbol in column 4 of the MMEL indicates that a specific maintenance procedure must be accomplished before beginning operation with the listed item of equipment inoperative. Normally, maintenance personnel accomplish these procedures; however, other personnel, such as the flightcrew, may be qualified and authorized to perform certain functions. Qualified maintenance personnel must perform procedures requiring specialized

knowledge, skills, or the use of tools or test equipment.

s. Operator refers to an individual or company (corporation, entity, etc.). As used in this AC, operator applies to those who are applicants for, or holders of, authority to conduct operations under the provisions of a FAR Part 91 MEL.

t. Placard is a decal or label with letters at least 1/8-inch high. The operator or mechanic must place the placard on or near inoperative equipment or instruments so that it is visible to the pilot or flightcrew and alerts them to the inoperative equipment.

u. Preventive Maintenance. The term preventive maintenance refers to simple or minor preservation operations and/or the replacement of small standard parts not involving complex assembly. FAR Part 43, Appendix A(c), contains a list of preventive maintenance items. Qualified mechanics or certificated pilots may accomplish preventive maintenance and approve the aircraft for return to service.

v. Procedures Document as referred to in this AC pertains to a separate document containing the O and M procedures developed by the operator and any other operating information applicable to operation with an MEL, such as the "as required by the FAR" items that list the FAR by part and section or stipulate the operating conditions.

w. Proposed Master Minimum Equipment List (PM MEL). The PM MEL is the working document used as the basis for development of the MMEL. Normally, the manufacturer proposes it during the certification process. However, an operator of a unique type aircraft, for which an MMEL does not exist, may submit a PM MEL for FAA approval.

x. **Return to Service.** Return to service has two applications. An appropriately certificated person approves an aircraft for return to service after an inspection or after maintenance. A certificated pilot, in fact, returns the aircraft to service after the pilot conducts an appropriate preflight and accepts the aircraft for an intended flight.

y. **Small Aircraft** means aircraft with a maximum certificated takeoff weight of 12,500 pounds or less.

z. **STC.** An STC is a major change in type design not great enough to require a new application for a type certificate under FAR § 21.19. An example would be installation of a powerplant different from what was included in the original type certificate.

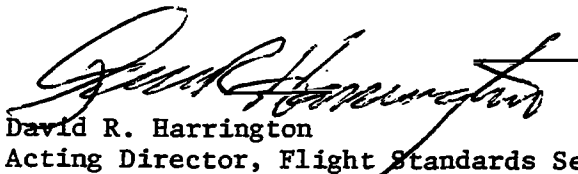
aa. **Type Certificate Data Sheets (TCDS)** and Specifications are documents issued

by the FAA which describes the aircraft's airworthiness requirements relating to a specific type, make, and model of aircraft. These documents are available at a FSDO.

7. COMMENTS INVITED. Comments regarding this publication should be directed to:

Federal Aviation Administration
Field Programs Division, AFS-500
Advisory Circular Staff
P.O. Box 20034, Gateway Building
Dulles International Airport
Washington, DC 20041-2034

Every comment will not necessarily generate a direct acknowledgement to the commenter. Comments received will be considered in the development of upcoming revisions to AC's or other related technical material.



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CHAPTER 1. GENERAL

1. APPLICABILITY. This AC provides guidance for the operation of the following aircraft under FAR Part 91:

a. Aircraft for which no MMEL has been developed by the FOEB:

- (1) Rotorcraft.
- (2) Nonturbine-powered airplanes.
- (3) Gliders.
- (4) Lighter-than-air aircraft.

b. Aircraft for which an MMEL has been developed but for which the FSDO has not authorized operation with an MEL.

- (1) Small rotorcraft.
- (2) Nonturbine-powered small single and multiengine airplanes.

c. All other aircraft which have an MEL or for which an operator seeks MEL authorization under FAR § 91.213.

d. An operator may operate an aircraft for which FAA has issued an original Experimental airworthiness certificate in accordance with FAR § 91.213 only when authorized in that certificate's operating limitations.

e. This AC does not apply to operators holding certificates issued under FAR Parts 121, 125, 129, and 135.

f. Holders of letters of full deviation authority from FAR Part 125 and operating under FAR Part 91, Subpart F, may apply for

authorization to operate with a FAR Part 91 MEL.

2. MEL VS. FAR § 91.213(d). Although FAA amended FAR Part 91 to provide relief to operators under the MEL concept, some operators may find it less burdensome or less complicated to operate under the provisions of FAR § 91.213(d). The applicant should discuss the requirements of each method with FSDO inspectors to decide which method of compliance better suits the particular operation. Appendix 3 contains a list of commonly asked questions which may assist in the decision.

a. An MEL is a precise listing of instruments, equipment, and procedures that allows an aircraft to be operated under specific conditions with inoperative equipment. The MMEL, as part of the MEL, by nature does not cover equipment installed or modified under other STC's. Any STC or other major modification may make the MMEL invalid for a particular modified aircraft.

b. The FAR require that all equipment installed on an aircraft in compliance with the airworthiness standards and operating rules be operative. The FAA-approved MMEL includes those items of equipment and other items which the FAA finds may be inoperative and yet maintain an acceptable level of safety. Obviously, the MMEL does not contain required items such as wings, flaps, rudders, etc. When a FAR Part 91 operator uses an MMEL as an MEL, all instruments and equipment not covered in the MMEL must be operative at all times regardless of the operation conducted, unless:

- (1) They are newly installed and are not instruments or equipment specifically required by the airworthiness rule under which

the aircraft is type certificated, required by AD, or required for specific operations under FAR § 91.213(b)(1)-(3), such as Traffic Alert and Collision Avoidance System (TCAS), an extra piece of navigational equipment, a windshear detection device, a ground proximity warning system, a radar altimeter, passenger convenience items, etc.;

(2) The operator has developed procedures for disabling or rendering them inoperative; and

(3) The operator has contacted the FSDO having oversight within 10 calendar days following an installation and requested that the equipment be added to the MMEL.

(i) The operator must furnish the following information:

(A) A copy of the STC or FAA Form 337, Major Repair and Alteration, that approved each equipment installation and the associated limitations listed in the AFM supplement or on the 337. The FOEB needs this information to account for installation differences as well as for maintaining MMEL relief that is consistent with the limitations.

(B) A system description that details sufficiently the interface of the equipment with the crew; i.e., location, controls, operations, how it is used, etc.

(C) A statement that describes the transfer of function when the equipment is inoperative; i.e., not required for the flight, as per crew procedures, because of alternate systems, etc.

(ii) If the FAA determines that the equipment has been previously considered by

the FOEB for inclusion in the MMEL and denied, or if the FOEB convenes and denies inclusion, the FAA will not grant relief. The equipment must be operational before aircraft can take off.

(iii) If the FOEB determines that the equipment should be added to the MMEL, the operator will receive the updated MMEL and must prepare O and M procedures for that piece of equipment.

c. If FAA has not authorized operating with an MEL for an operator's specific aircraft, the operator may apply for an MEL (Chapter 3, paragraph 20). However, the operator can always elect to operate without an MEL under the provisions of FAR § 91.213(d).

(1) FAR § 91.213(d) requires only those instruments listed in FAR § 91.213(d)(2) to be operative.

(2) The operator can operate the aircraft with those instruments and equipment not listed in FAR § 91.213(d)(2) inoperative.

3. RELATIONSHIP BETWEEN THE PMMEL, THE MMEL, AND THE MEL. When an aircraft is first manufactured, the FOEB determines the minimum operative instruments and equipment required for safe flight in that aircraft type in each authorized operating environment. During the type certification process, the manufacturer submits a PMMEL to the FOEB. Based on its determinations, the FOEB reviews the PMMEL and develops an MMEL from it. Once the FOEB approves the MMEL, a copy is available to each FSDO via an automated system that allows the FSDO to

download the MMEL onto a diskette or hard copy. The FSDO provides MMEL's to applicants to use, along with the procedures document, preamble, and LOA, as an MEL.

a. As technology changes and new equipment becomes available, the FOEB will reconvene to develop new MMEL's or to revise and update existing ones.

b. When an FOEB makes a change to an MMEL, all operators using that MMEL as their MEL will receive a postcard advising them of the revised MMEL. The FSDO provides operators copies of the revised MMEL. The operator then makes the necessary changes to the procedures document through the normal revision process (Chapter 3, paragraph 22).

4. SINGLE- AND MULTIENGINE MEL'S. The FAA has developed MMEL's for most of the FAA type certificated aircraft in general service today. All multiengine airplanes have an MMEL that is specific to the type design; e.g., Beech Baron, BE-58. The FAA has developed a generic, single-engine MMEL to provide to operators of single-engine aircraft.

5. AIRCRAFT FOR WHICH NO MMEL HAS BEEN DEVELOPED.

a. If an FOEB has not developed an MMEL for a certain type of rotorcraft, nonturbine-powered airplane, glider, or lighter-than-air aircraft, that aircraft may be operated with inoperative equipment under the provisions of FAR § 91.213(d).

b. In those cases where an operator has an older or rare design aircraft that has no MMEL, the operator may submit a PMMEL to the appropriate FOEB for evaluation. Once the AEG approves the MMEL, the operator could use it as

the MEL along with the other required documents.

6. MEL RESTRICTIONS. Operators of small rotorcraft, nonturbine-powered small single- and multiengine airplanes, and other aircraft for which a MMEL has been developed, may elect to operate with a MEL or under the provisions of FAR § 91.213(d). However, the latter option does not apply if the aircraft has an MEL approved under FAR Parts 121, 125, 129, or 135. For example, an owner has leased an aircraft to an air carrier operator, and the air carrier operator has applied for and received an approved MEL for FAR Part 135 operations. Compliance with such an MEL is mandatory, even during FAR Part 91 operations. If the operator wants to operate under FAR § 91.213(d), the operator would have to surrender the MEL authorization.

7. REMOVAL OR DEACTIVATION. When an operator elects to operate without an MEL, any inoperative instrument or equipment must either be removed (FAR § 91.213(d)(3)(i)) or deactivated (FAR § 91.213(d)(3)(ii)), then placarded.

a. Removal of any item of equipment that affects the airworthiness of an aircraft requires following an approved procedure. A properly certificated maintenance person must record the removal in accordance with FAR § 43.9. A person authorized by FAR § 43.7 must make the appropriate adjustments to the aircraft's weight and balance information and the equipment list, fill out and submit FAA Form 337, and approve the aircraft for return to service.

b. The operator must evaluate any proposed deactivation to assure there is no adverse effect that could render another system less than fully capable of its intended function.

(1) A certificated pilot can accomplish deactivation involving routine pilot tasks, such as turning off a system. However, for a pilot to deactivate an item or system, that task must come under the definition of preventive maintenance in FAR Part 43, Subpart A.

(2) If the deactivation procedures do not fall under preventive maintenance, a properly certificated maintenance person must accomplish the deactivation. The maintenance person must record the deactivation in accordance with FAR § 43.9 (figure 1, Sample Maintenance Record Entries.).

c. Placarding can be as simple as writing the word "inoperative" on a piece of masking tape and attaching it to the inoperative equipment or to its cockpit control. Placarding is essential since it reminds the pilot that the equipment is inoperative. It also ensures that future flightcrews and maintenance personnel are aware of the discrepancy.

8. INOPERATIVE EQUIPMENT AND REQUIRED INSPECTIONS. An operator may defer maintenance on inoperative equipment that

has been deactivated or removed and placarded inoperative.

a. When the aircraft is due for inspection in accordance with the FAR, the operator should have all inoperative items repaired or replaced.

b. If an owner does not want specific inoperative equipment repaired, then the maintenance person must check each item to see if it conforms to the requirements of FAR § 91.213(d). The operator and maintenance personnel should also assess how permanent removal of the item could affect safe operation of the aircraft.

(1) The repair interval categories (A, B, C, D, etc.) in the MMEL do not apply to FAR Part 91 MEL's.

(2) The maintenance person must furnish the owner/operator with a signed and dated list of all discrepancies not repaired.

(3) The maintenance person must ensure that each item of inoperative equipment that is to remain inoperative is placarded appropriately.

Placard (Minimum 1/8-inch high letters)

Landing Light Inoperative:

PREVENTIVE MAINTENANCE ENTRY:

(DATE) Total time _____ hours. Landing light bulb removed in accordance with (manufacturer) maintenance manual, Chapter _____, page _____. Landing light switch placarded inoperative.

Pilot's Signature

Certificate Number

Placard (Minimum 1/8-inch high letters)

Aircraft Heater Inoperative:

MAINTENANCE ENTRY (FAR §43.9):

(DATE) Total time _____ hours. Aircraft heater and control switch deactivated by capping heater fuel lines in accordance with (manufacturer) maintenance manual, Chapter _____, page _____. Heater control switch placarded inoperative.

Mechanic's Signature

Certificate Number

Figure 1. Sample Maintenance Record Entries

9.-12. RESERVED.

CHAPTER 2. CONDUCTING OPERATIONS WITHOUT AN MEL

13. **APPLYING FAR § 91.213(d).** This chapter provides guidance for operators who elect to conduct flight operations under the provisions of FAR § 91.213(d). Operating under FAR § 91.213(d) requires no application to or approval from FAA. An operator, after operating under FAR § 91.213(d), may elect at any time to apply for authorization to operate under an MEL (Chapter 3).

14. **THE DECISION SEQUENCE.** Figure 2 is a flow chart depicting the typical sequence of events a pilot or operator, operating under FAR § 91.213(d), should follow when the pilot or operator discovers inoperative equipment. For example, during a preflight inspection for a VFR-day, cross-country flight, the pilot discovers that the number 2 automatic direction finder (ADF) head is inoperative.

a. The pilot checks the aircraft's equipment list or KOL to see if the number 2 ADF is a required item (FAR § 91.213(d)(2)(ii)). If the number 2 ADF is required in the equipment list or KOL, the aircraft is not airworthy. The operator must have the number 2 ADF replaced or repaired before operating the aircraft. In this example, the number 2 ADF is not a required item on the equipment list.

b. Next, the pilot checks the airworthiness regulation under which the aircraft was certificated to determine if the number 2 ADF is part of the VFR-day type certificate (FAR § 91.213(d)(2)(i)). (These requirements are summarized in a TCDS, copies of which are available at FSDO's or from qualified maintenance personnel.) If the number 2 ADF is required as part of the VFR-day type certification, the aircraft is not airworthy. The operator must have the number 2 ADF replaced

or repaired before operating the aircraft. In this example, the number 2 ADF is not required by type certification.

c. Next, the pilot checks to see if an AD requires the number 2 ADF. The pilot can accomplish this by checking the aircraft's maintenance logs to see if the number 2 ADF was installed as a result of an AD. However, it may be necessary for the pilot to consult a qualified maintenance person to determine AD compliance. If an AD requires the number 2 ADF to be operative, the aircraft is not airworthy. The operator must have the number 2 ADF replaced or repaired before operating the aircraft. In this example, there is no AD requiring the number 2 ADF to be operative.

d. Next, the pilot checks to see if the number 2 ADF is required by FAR §§ 91.215, 91.205, or 91.207. The pilot can accomplish this by checking those sections of the FAR or by consulting with a maintenance technician or FSDO personnel. If any of those sections of the FAR require a number 2 ADF, then the aircraft would not be airworthy with the number 2 ADF inoperative. The operator must have the number 2 ADF replaced or repaired before operating the aircraft. In this example, those sections of the FAR do not require the number 2 ADF to be operative.

e. At this point the inoperative number 2 ADF must either be removed from the aircraft (FAR § 91.213(d)(3)(i)) or deactivated (FAR § 91.213(d)(3)(ii)). The person removing or deactivating the number 2 ADF must placard it inoperative in the appropriate location. (A pilot should consult maintenance personnel before deactivating or having maintenance personnel remove any item of equipment.)

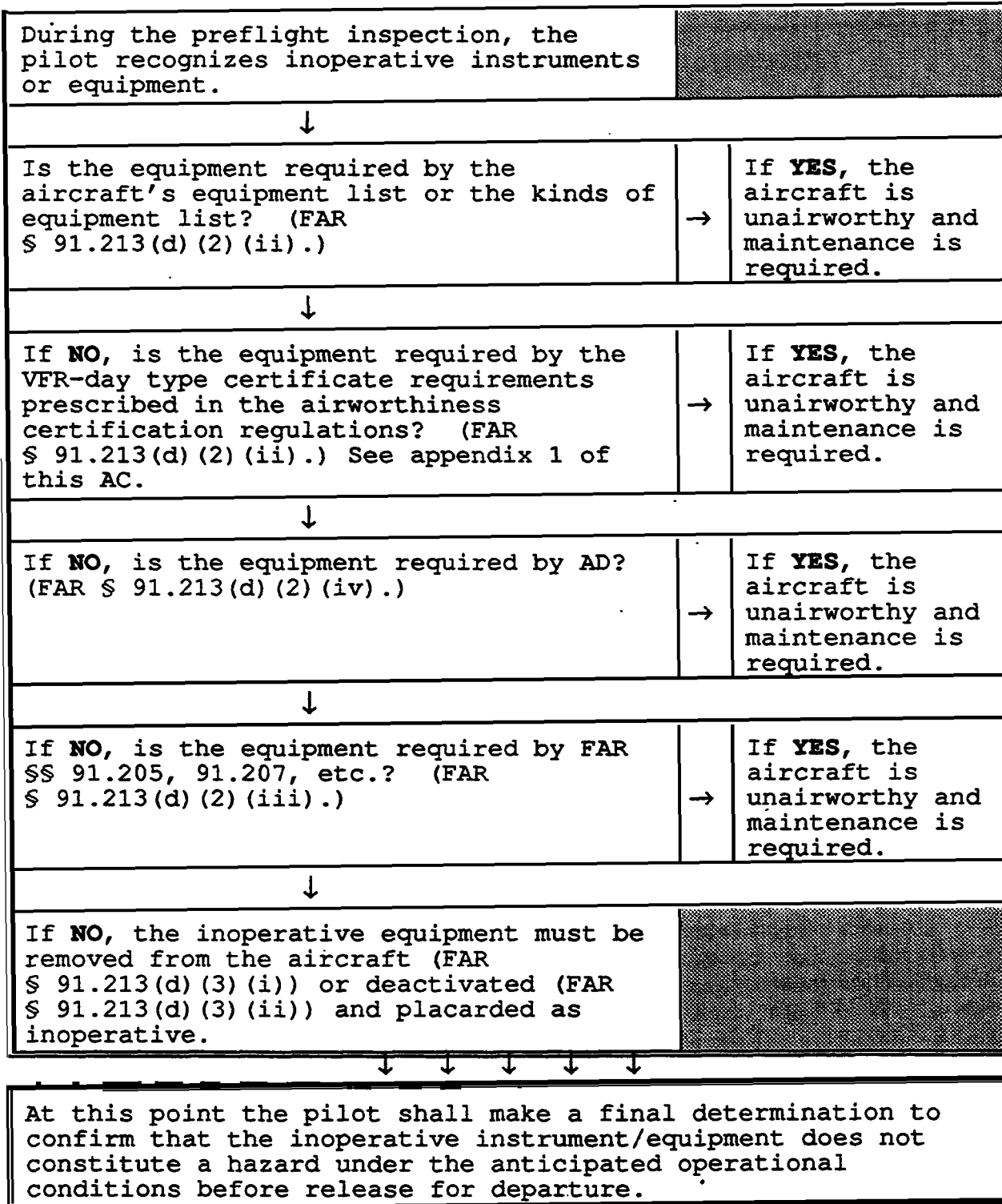


Figure 2. Pilot Decision Sequence When Operating Without An MEL.

f. Finally, the pilot should decide whether the inoperative number 2 ADF creates a hazard for the anticipated conditions of the flight, e.g., VFR-day.

15.-18. RESERVED.

CHAPTER 3. OPERATING AIRCRAFT WITH AN MEL

19. APPLICABILITY. This chapter provides guidance for operators who want to conduct flight operations under the provisions of an MEL.

20. APPLYING FOR MEL APPROVAL. FAA has only one procedure for the issuance of FAR Part 91 MEL's, and it is the procedure the FSDO will follow for FAR Part 91 MEL authorizations. The operator who wishes to conduct operations with an MEL must contact the FSDO which has jurisdiction over the geographic area where the aircraft is based and make an appointment.

a. FAR Part 91 operators who received MEL authorization under the approval system in place before July 5, 1990, have letters of authorization that will expire. Those operators may continue to operate as usual; however, at least 30 days before the letter is due to expire, the operator should contact the issuing FSDO so that the FSDO can issue a new LOA.

b. For FAR Part 91 operators seeking MEL authorization under the current approval system, the FSDO will assign a Flight Standards inspector to advise the applicant about FAR requirements pertinent to using an MEL. During the initial appointment, the applicant will likely be dealing with a team of inspectors from the operations, airworthiness, and avionics units.

c. The inspector will provide the applicant with a copy of the appropriate MMEL, a copy of this AC, and a copy of the preamble to the MMEL. If the operator has installed items of equipment that are not on the MMEL, the operator must request that the MMEL be amended to include those items of equipment. This request is made to the FSDO.

d. The operator and the team of inspectors discuss the requirements for the procedures document. When FSDO personnel believes that the operator understands the requirements for operating with an MEL, the FSDO issues the operator the LOA (appendix 4).

(1) The LOA contains the legal name of the operator and the address of the operator's principal base of operations.

(2) Both the FAA inspector and the operator (or the operator's bona fide representative) sign the LOA.

e. If, after meeting with FSDO personnel and discussing MEL operational considerations, an inspector believes that the applicant does not have a good understanding of the requirements, the FSDO will not issue the LOA. If the LOA is still desired, the applicant should obtain the necessary understanding of the requirements from appropriate sources. After obtaining and understanding the requirements, the applicant can again request the LOA from the FSDO. The applicant could also elect to operate under FAR § 91.213(d).

f. Once the FSDO issues the LOA, the applicant is then responsible for developing a document that contains O and M procedures for disabling or rendering inoperative items of equipment in accordance with FAR Parts 43, 91, or 145 (if a repair station accomplishes the activity), as appropriate. No further FAA approval is necessary, and the operator can begin flight operations. The MMEL, preamble, LOA, and the procedures document are now considered an MEL.

(1) The operator should develop the O and M procedures using guidance contained in the manufacturer's aircraft flight and/or maintenance manuals, the manufacturer's recommendations, engineering specifications, and other appropriate sources. The operator may consult FSDO airworthiness inspectors for advice or clarification, but the operator is responsible for preparing the document.

(2) The operator must consider the following when preparing the procedures document:

(i) The operator's procedures document may be more restrictive than the MMEL either by the applicant's choice or because of AD's or operating rules. The operator's procedures document may not be less restrictive than the MMEL.

(ii) The title page of the procedures document must contain the following statement:

This MEL is applicable to FAR Part 91 operations only and may not be used for operations conducted under FAR Parts 121, 125, 129, or 135.

(iii) The operator must use the ATA numbering system for equipment and instruments, as is used in all MMEL's (appendix 1). The operator must use the ATA numbering system in sequence when describing O and M procedures, including the numbers for equipment installed in the aircraft. When equipment is not installed in a specific aircraft, the applicant need not develop O and M procedures for those items of equipment.

(iv) Operators must ensure that the procedures document lists the items of equipment that are actually installed on the specific aircraft. This provides guidance to a pilot as to which

items of equipment may be inoperative for a particular operation.

(v) Equipment specifically required by the airworthiness rule under which the aircraft is type certificated, equipment required by AD, and equipment required for specific operations under FAR § 91.213(b)(1), (2) and (3) must be operative. It is important to note that all items related to the airworthiness of the aircraft that are not included on the MMEL must be operative.

(vi) The A, B, C, and D codes, listed in column 1 of the MMEL, apply only to operations conducted under FAR Parts 121, 125, 129, and 135.

(vii) Where the MMEL states "as required by FAR," the procedures document should list the particular FAR by part and section, or describe the actual FAR requirement applicable to the operator's particular operation. For example, where the FAR requires a clock for IFR flight, the operator's procedures document should say, "May be inoperative for VFR."

(viii) The procedures document must specify suitable limitations in the form of placards, maintenance procedures, crew operating procedures, and other restrictions to ensure an acceptable level of safety.

(ix) The procedures document must specify those conditions under which an item may be inoperative. The remarks must also identify required maintenance or operational tasks. The symbol "O" or "M", placed in column 4 of the MMEL (appendix 1), indicates that an O or M procedure is applicable to that item. Indicating the O and M procedures in the procedures document provides flightcrews and ground support personnel with a single procedural reference document.

(x) If the O and M procedures are already stated in the AFM, the maintenance manual, or other available FAA-approved source, the operator needs to show only the reference; e.g., O: AFM, pp. 3-8 through 3-10, para. 3-47. If the operator uses this reference format in the procedures document, the referenced source must be readily available to the ground support personnel, and a copy of the references source must be carried in the aircraft and be readily available to the flightcrew.

(xi) If the O and M procedures are not in the AFM, the maintenance manual, or other available FAA-approved source, or if the operator wishes to use a different procedure, then the operator must list the procedure in the procedures document.

(xii) The procedures document may not conflict with the AFM limitations, emergency procedures, AD's, or the AMM.

(3) An operator may begin operations before completion of the procedures document. If the operator has not yet developed a procedure for an item, that item must be operative. When an instrument or item of equipment becomes inoperative, the operator must follow the procedure indicated in the procedures document or the operator could be in noncompliance with the FAR.

21. MEL AUTHORIZATION. The MEL applies only to a particular aircraft make, model, serial number, and registration number. Also, it applies only to the operator who received the authorization.

a. When more than one operator has operational control of a specific aircraft, all operators must meet with inspectors from the

issuing FSDO to discuss MEL operational considerations, as described in paragraph 20. The FSDO may find it appropriate to list all operators on the LOA. Each operator must sign the "Statement of Operator" on the LOA.

b. The FSDO may issue operators who use several aircraft of the same type a single LOA that lists each aircraft by serial and registration numbers. The FSDO will issue separate letters for different types of aircraft.

(1) When operators add or delete aircraft of the same type from their fleet, they must notify the FSDO having oversight within 10 calendar days following the change. The FSDO will reissue the LOA containing the new information. Again, both the operator and the inspector must sign the new LOA.

(2) The operator must surrender the previous letter upon reissuance of a new one. The FSDO should place the old letter in the operator's file.

c. At any time after operating with a FAR Part 91 MEL, an operator may elect to operate under FAR § 91.213(d). The operator must surrender the LOA to the issuing FSDO and must conform to all provisions of FAR § 91.213(d) during operations.

22. REVISIONS. The operator may have to revise the procedures document under several conditions. The AEG may authorize an FOEB to revise the MMEL, the operator may add equipment, or the FOEB may develop a type-specific MMEL for a single-engine aircraft.

a. When the FOEB revises an MMEL, the FAA automated, national MMEL data base notifies operators who have MEL authorizations by mail. The operator is then responsible for

obtaining a copy of the revised MMEL from the FSDO that issued the authorization. Within 30 calendar days of notification, the operator must replace the superseded revision of the MMEL with the current revision and add or delete procedures to the procedures document, as applicable.

b. Within 10 calendar days of installing new equipment not on the MMEL, the operator may request that the MMEL be amended.

(1) If the items of newly installed equipment are not instruments or equipment specifically required by the airworthiness rule under which the aircraft is type certificated, an AD, or for specific operations under FAR § 91.213(b)(1), (2) or (3); and exceed what is listed on the MMEL; and the FSDO has determined that the equipment has not previously been denied for inclusion in an MMEL, the operator may petition the FOEB for inclusion of the newly installed equipment in the MMEL. All petitions, with appropriate supporting information, will be forwarded by the FSDO to the appropriate FOEB. Then the operator may add the equipment temporarily to the MMEL and develop appropriate O and M procedures for the equipment. The operator may then operate with the equipment inoperative pending a decision by the FOEB on the operator's request for an MMEL revision to include the equipment.

(2) If the FOEB has previously denied the inclusion of the equipment, or if the equipment is safety related, or if the equipment was previously installed or is "factory original," the operator may still petition the FOEB through the FSDO for inclusion of the equipment in the MMEL. However, the operator may not gain relief for the equipment by adding the equipment to the MMEL temporarily and adding procedures to the procedures document pending the FOEB's

decision. The equipment must be operative before operating the aircraft.

c. Although FAA has developed a generic MMEL for operators of single-engine aircraft, an FOEB may decide that a complex, turbine-powered single-engine aircraft requires a type-specific MMEL. For example, an FOEB has developed a type-specific MMEL for the Cessna 208, Caravan.

(1) When an FOEB develops a specific MMEL for a single-engine aircraft, the FAA will notify all holders of MEL's for that aircraft under the generic MMEL that the specific MMEL is available.

(2) Within 30 calendar days of notification, the operator must obtain the MMEL from the FSDO and begin the process for a new LOA. Only by issuing a new LOA will the FSDO be assured that the operator has and is using the type-specific MMEL.

(3) Once the FSDO issues the new LOA, the operator must develop, within an additional 30 calendar days, a new procedures document that conforms to the requirements of the type-specific MMEL. The operator will find that most of the procedures that were acceptable under the generic MMEL will transfer to the new procedures document. If equipment becomes inoperative while the operator is developing the new procedures document, the operator may still use the previous procedures, as appropriate.

23. CONDUCTING OPERATIONS WITH AN MEL. In addition to carrying the documents that comprise the MEL onboard the aircraft, the operator must have onboard any technical manuals needed to accomplish O and M procedures. Figure 3 illustrates the sequence of events involved in applying the MEL to inoperative equipment.

a. Inoperative Items Before Flight. During a preflight inspection for a VFR-day flight, the pilot discovers a navigation light is inoperative.

(1) The pilot checks the aircraft's MEL to determine under what, if any, flight conditions the aircraft could be operated without operator navigation lights. The MEL indicates that the aircraft may be operated during daylight hours without operable navigation lights.

(2) The pilot checks the procedures document and deactivates the navigation lights by pulling the correct circuit breaker and having it collared by an appropriately certificated person.

(3) The pilot places a placard which indicates that the lights are inoperative near the navigation light control.

(4) The pilot examines the conditions of the proposed flight and determines that the flight can be conducted safely without navigation lights.

b. In-Flight Failures. An MEL applies only to the takeoff of an aircraft with inoperative instruments or equipment. The pilot's operating handbook or the AFM indicate procedures to follow for instrument or equipment failure in flight. The pilot in command (PIC) should handle the in-flight failure in accordance with those procedures. As soon as possible after landing safely, the PIC must enter a notation of the inoperative equipment in the aircraft's maintenance records, logbooks, or discrepancy record. Before the next takeoff, the pilot must apply the MEL to inoperative equipment as per the procedures in paragraph a. above. An MEL allows the PIC to defer maintenance on many items under the following conditions:

(1) The aircraft is in a condition for safe flight, and

(2) For the inoperative item, the pilot has followed the specific conditions, limitations, and procedures in the procedures document.

c. Deactivation or Removal and Placarding. See Chapter 1, paragraph 7.

d. Correcting MEL Inoperative Items. The MEL permits operations with inoperative items of equipment for the minimum period of time necessary until the equipment is repaired. It is important that operators have repairs done at the earliest opportunity in order to return the aircraft to its design level of safety and reliability. In all cases, inoperative equipment must be repaired or the maintenance deferred at the aircraft's next required inspection (FAR § 91.405(c)).

(1) Operators shall establish procedures to correct those inoperative items authorized within specified time requirements.

(2) Owners of aircraft operated under FAR Part 91 may opt to use one of several types of airworthiness inspection systems, depending upon the operator's use of the aircraft. Therefore, the time between required inspections or inspection segments will vary.

(3) Items of inoperative equipment, authorized by the MEL to be inoperative, must be inspected or repaired by qualified maintenance personnel, or maintenance deferred, at the next 100-hour, annual, progressive, or unscheduled inspection. However, if FAR § 91.213 requires that an item be repaired, the item cannot be deferred.

e. Recordkeeping Requirements. A record of inoperative equipment must remain in the aircraft so pilots will be aware of all discrepancies.

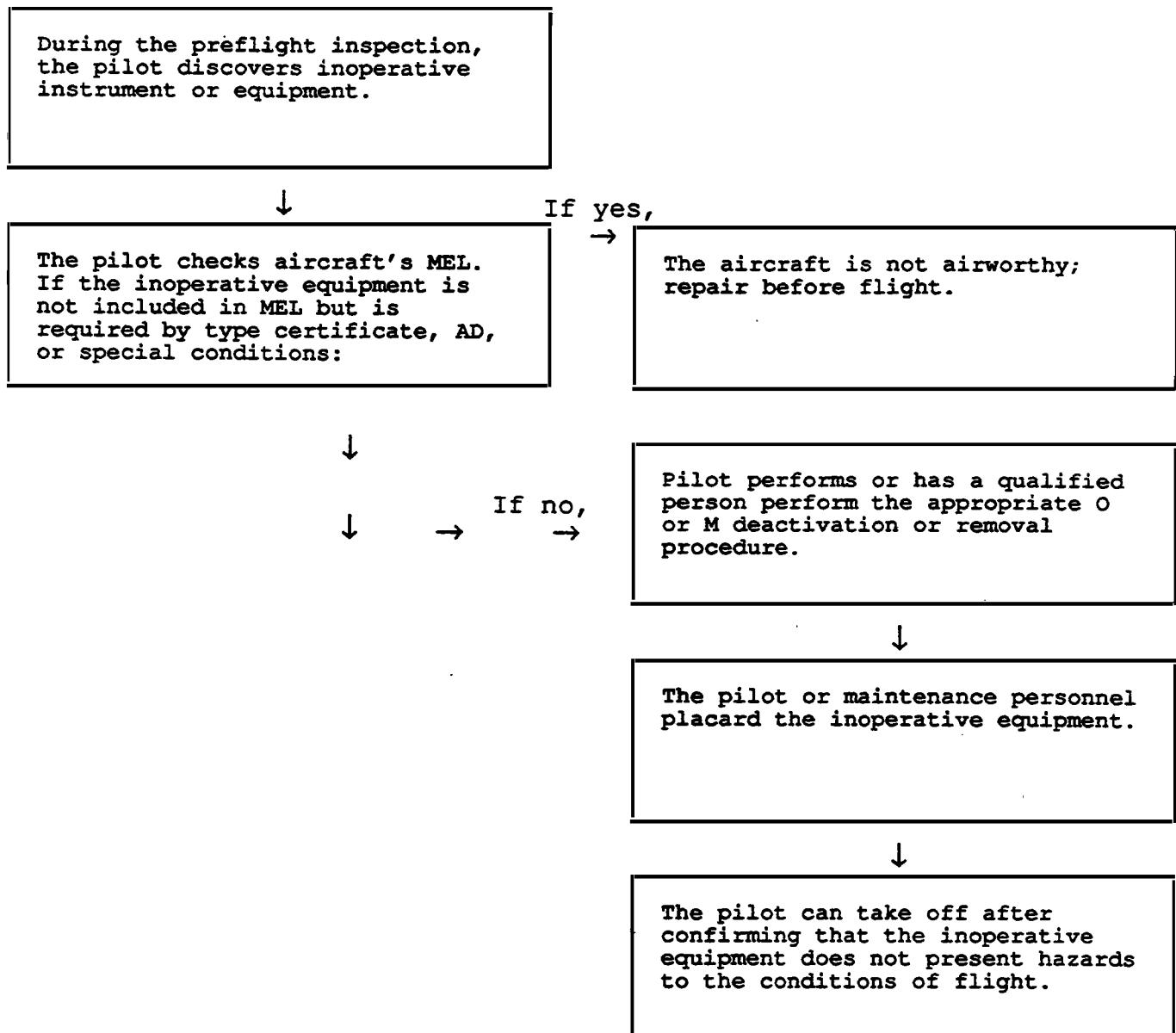


Figure 3. Pilot Decision Sequence When Operating With An MEL

(1) Since some operators do not carry aircraft logbooks in the aircraft, a discrepancy record or log (figure 4) is a good alternative. When an operator uses this type of discrepancy log in lieu of the aircraft's maintenance records, the operator must retain the log as a part of the aircraft's records as per FAR § 91.417(b).

(2) If the operator elects to use the aircraft maintenance record to log inoperative items, that portion of the record must be carried onboard the aircraft during all operations.

(3) Corrective actions and maintenance procedures shall be accomplished and recorded in accordance with FAR §§ 43.9, 91.405, and 91.417.

(4) Failure to record an inoperative item may result in an operation of the aircraft contrary to the FAR because subsequent pilots would not be able to determine the airworthiness of the aircraft.

f. Aircraft Used in Multiple Operations. FAR § 91.213(c) allows a person who has an approved MEL under FAR Parts 125, 129, or 135 to use that MEL for FAR Part 91 operations. The FAR Parts 121, 125, 129, or 135 MEL must specify requirements for authorized FAR Part 91 operators to comply with the more restrictive provisions established in the approved MEL. It is important that operators be capable of conducting operations in accordance with the MEL. This includes, but is not limited to, accomplishing required maintenance in accordance with the certificate holder's requirements.

(1) The use of a leased aircraft creates a situation where several persons may be operating

the same aircraft under different regulations. For example, a Cessna 340 could be operated by an approved school under FAR Part 91, by an air carrier under FAR Parts 135, and by a rental pilot under FAR Part 91. FAA will not approve multiple MEL's, which would create pilot confusion, with discrepancy lists and sets of procedures for the same aircraft. In the example, the aircraft would operate under the FAR Part 135 MEL, including the A, B, C, and D codes, with approval from the FSDO for other users to conduct operations under other regulations.

(2) FAA will grant operators approval for multiple users of an MEL under FAR Parts 121, 125, 129, or 135 MEL, subject to the following conditions:

(i) The operator is responsible for training all persons in the MEL's use, including the logging and clearing of discrepancies and the use of the A, B, C, and D codes.

(ii) Operators shall maintain a complete, current list of all persons trained and authorized to use the MEL.

(iii) The operator is responsible for determining the aircraft's maintenance status on its return from a FAR Part 91 operation. The operator must accomplish this before the aircraft is put back into FAR Parts 121, 125, 129, or 135 service.

(iv) FAA Principal Operations Inspectors shall verify that operators have established procedures that ensure an acceptable level of safety before authorizing persons to use the MEL under FAR Part 91.

COMPANY or OPERATOR'S NAME: _____

N _____

LOG SHEET NUMBER: _____

DATE: _____

LOCATION: _____

DISCREPANCY: _____
_____CORRECTIVE ACTION: _____

Signature_____
Certificate Number_____
Date**Figure 4. Sample Aircraft Equipment Discrepancy Record**

APPENDIX 1. SAMPLE MMEL DOCUMENTS**FEDERAL AVIATION ADMINISTRATION
MASTER MINIMUM EQUIPMENT LIST****Page:**
Revision:
Date:**(AIRCRAFT TYPE)****Preamble - PART 91 ONLY**

This preamble is applicable to, and will be included in, Master Minimum Equipment Lists (MMEL) issued under the provisions of Section 91.213(a)(2). It is not applicable to MMELs issued under the provisions of Parts 121, 125, 129, and 135 of the FAR.

Except as provided in Section 91.213(d), or under the provisions of an approved MMEL, all equipment installed on an aircraft in compliance with the airworthiness standards or operating rules must be operative. Experience has shown that with the various levels of redundancy designed into modern aircraft, operation of every system or component installed may not be necessary when the remaining equipment can provide an acceptable level of safety.

An MMEL is developed by the FAA, with participation by the aviation industry, to improve aircraft utilization and thereby provide more convenient and economic air transportation for the public. The FAA-approved MMEL includes only those items of equipment which the Administrator finds may be inoperative and yet maintain an acceptable level of safety by appropriate conditions and limitations. The MMEL and FAA-issued letter of authorization are used as an MEL by an operator and permit operation of the aircraft with inoperative equipment.

The MMEL includes all items of installed equipment that are permitted to be inoperative. Equipment required by the FAR, and optional equipment in excess of FAR requirements, are included with appropriate conditions and limitations. For each listed item, the installed equipment configuration considered to be normal for the aircraft is specified. Items of equipment installed on aircraft (except for passenger convenience items such as galley equipment and passenger entertainment devices), such as "TCAS," wind shear detection devices, and ground proximity warning systems (GPWS) that are in excess of what is required, and are not listed on the MMEL must be operational for dispatch unless MMEL relief is sought through the FSDO having

APPENDIX 1. SAMPLE MMEL DOCUMENTS (Continued)

jurisdiction for the operator. If MMEL relief is sought, the operator must notify the FSDO who will make a request of the FOEB to convene and consider adding the equipment to the MMEL. The operator may then dispatch with the equipment disabled, or rendered inoperative, in accordance with all FAR. It is incumbent on the operator to endeavor to determine if O and/or M procedures for that equipment must be developed. If so, any procedures developed must comply with all FAR. Procedures developed to use the MMEL must not conflict with either the Aircraft Flight Manual Limitations, Emergency Procedures, or with Airworthiness Directives (AD), all of which take precedence over the MMEL and those procedures. Suitable conditions and limitations in the form of placards, maintenance procedures, crew operating procedures, and other restrictions, as necessary, are required to be accomplished by the operator to ensure that an acceptable level of safety is maintained. Those procedures should be developed from guidance provided in the manufacturer's aircraft flight and/or maintenance manuals, manufacturer's recommendations, engineering specifications, and other appropriate sources. Procedures must not be contrary to any FAR. Wherever the statement "As required by FAR" appears in the MMEL, the operator must either list the specific FAR by Part and Section and carry the FAR on board the aircraft, or specify the requirements and/or limitations to conduct the flight in accordance with the appropriate FAR.

The MMEL is intended to permit operations with inoperative items of equipment for the minimum period of time necessary until repairs can be accomplished. It is important that repairs be accomplished at the earliest opportunity in order to return the aircraft to its design level of safety and reliability. Inoperative equipment in all cases must be repaired, or inspected and deferred, by qualified maintenance personnel at the next required inspection Section 91.405(c). The repair intervals indicated by the Letters A, B, and C inserted adjacent to column 2 are NOT applicable to this MMEL.

The MMEL provides for release of the aircraft for flight with inoperative equipment. When an item of equipment is discovered to be inoperative, it is reported by making an entry in the aircraft maintenance records. The item is then either repaired, or deferred per the MMEL or other approved means acceptable to the Administrator, prior to further operation. In addition to the specific MMEL conditions and limitations, determination by

APPENDIX 1. SAMPLE MMEL DOCUMENTS (Continued)

the operator that the aircraft is in condition for safe operations under anticipated flight conditions must be made for all items of inoperative equipment. When these requirements are met, the aircraft may be considered airworthy and returned to service. Operators are responsible for exercising the necessary operational control to ensure that an acceptable level of safety is maintained. When operating with multiple inoperative items, the interrelationship between those items, and the effect on aircraft operation and crew workload, must be considered. Operators are expected to establish a controlled and sound repair program, including the parts, personnel, facilities, procedures, and schedules to ensure timely repair.

WHEN USING THE MMEL, COMPLIANCE WITH THE STATED INTENT OF THE PREAMBLE, DEFINITIONS, CONDITIONS, AND LIMITATIONS SPECIFIED IN THE MMEL IS REQUIRED.

APPENDIX 1. SAMPLE MMEL DOCUMENTS (Continued)

FEDERAL AVIATION ADMINISTRATION
MASTER MINIMUM EQUIPMENT LIST

Page:
Revision:
Date:

TYPE AIRCRAFT

Definitions

1. System Definitions. System numbers are based on the ATA Specification Number 100 and items are numbered sequentially.

a. "Item" (column 1) lists the equipment, system, component, or function in a column.

b. "Number Installed" (column 2) is the number 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.

d. "Remarks or Exceptions" (column 4) in this column include 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 revision of that page.

2. "Airplane Flight Manual or Rotorcraft Flight Manual" (AFM/RFM) is the document required for type certification and approved by the responsible FAA ACO. The FAA approved AFM/RFM for the specific aircraft is listed on the applicable TCDS.

3. "As required by FAR" means that the listed item is subject to certain provisions (restrictive or permissive) expressed in the FAR operating rules. The number of items required by the FAR must be operative. Items installed that are in excess of the FAR requirements may be permitted to be inoperative if not otherwise required by the MMEL.

4. The asterisk "*" symbol in column 4 indicates the listed item, if inoperative, 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 is determined by the operator.

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

APPENDIX 1. SAMPLE MMEL DOCUMENTS (Continued)

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. "ER" refers to extended range operations of a two-engine airplane which has a type design approval for ER operations and complies with the provisions of Advisory Circular 120-42A.

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

9. "Flight Day" refers to 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" indicate an atmospheric environment causing ice to form on the aircraft or in the engine(s).

11. Alphabetical symbol in column 4 indicates a proviso (condition or limitation) for operation with the listed item inoperative.

12. "Inoperative" indicates a system and/or component malfunction that 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 provide additional information for crewmember or maintenance consideration. Notes are used to identify applicable material intended to assist with

compliance, not to relieve the operator of the responsibility for compliance. Notes are not a part of the provisos.

14. Inoperative components of an inoperative system are 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.

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 operator is responsible for the satisfactory accomplishment of all procedures, regardless of

APPENDIX 1. SAMPLE MMEL DOCUMENTS (Continued)

who performs them. Appropriate procedures are required to be published as a part of the operator's manual.

NOTE: The (M) and (O) symbols require the operator to develop procedures for the removal, disabling, or rendering inoperative of items of equipment, in accordance with FAR Part 91, Part 145, or Part 43, as appropriate.

17. "Deactivated" and "Secured" suggest that the specified component is in an acceptable condition for safe flight. The operator will provide an acceptable method of securing or deactivating.

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

19. "Visual Meteorological Conditions" (VMC) indicate an atmospheric environment that allows a flight to proceed under the visual flight rules.

20. Three days are 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 3-day interval

would begin at midnight the 26th and end at midnight the 29th.

21. Category C. Items in this category shall be repaired within 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. The letter designators are inserted adjacent to column 2.

22. Engine Indicating Crew Alerting System (EICAS), Electronic Centralized Aircraft Monitoring System (ECAM) or similar systems that provide electronic messages refer to a system capable of providing different priority levels of systems information messages (e.g., Warning, Caution, Advisory Status and Maintenance). Any airplane discrepancy message that affects dispatchability will normally be at status message level (e.g., Advisory Status) or higher.

23. The three asterisk "***" 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. It should be noted that neither this definition nor the use of this symbol provide authority to install or remove an item from an aircraft.

6/28/91

AC 91- 67
Appendix 2

APPENDIX 2. SAMPLE LETTER OF AUTHORIZATION

Flight Standards District Office
Portland-Hillsboro Airport
3355 N.E. Cornell Road
Hillsboro, OR 97124

July 25, 1991

Mr. John Dough, President
John Dough Enterprises
Hangar 9, Suite 203
Portland-Hillsboro Airport
Hillsboro, OR 97124

Dear Mr. Dough:

This letter is issued under the provisions of FAR § 91.213(a)(2) of the Federal Aviation Regulations (FAR) and authorizes John Dough Enterprises only to operate Cessna Citation 500, N81149, Serial No. 12345, under the Master Minimum Equipment List (MMEL), using it as a Minimum Equipment List (MEL).

This letter of authorization and the MMEL constitute a Supplemental Type Certificate for the aircraft and must be carried on board the aircraft as prescribed by FAR § 91.213(a)(2).

Operations must be conducted in accordance with the MMEL. Operations and maintenance (O and M) procedures for the accomplishment of rendering items of equipment inoperative must be developed by the operator. Those procedures should be developed from guidance provided in the manufacturer's aircraft flight and/or maintenance manuals, manufacturer's recommendations, engineering specifications, and other appropriate sources. Such operations or maintenance procedures must be accomplished in accordance with the provisions and requirements of FAR Part 91, Part 145, or Part 43.

A means of recording discrepancies and corrective actions must be in the aircraft at all times and available to the pilot in command. Failure to perform O and M procedures in accordance with Part 91, Part 145, or Part 43 as appropriate, or to comply with the provisions of the MMEL, preamble, O and M procedures and other related documents, is contrary to FAR and invalidates this letter. All MMEL items that contain the statement "as required by FAR" must either state the FAR by part and section (e.g., 91.205) with the appropriate FAR carried aboard the aircraft, or the operational requirements/limitations required for dispatch must be clearly stated. When the MMEL is revised by the Flight Operations Evaluation Board (FOEB), John Dough Enterprises will be notified by post card of the revision. John Dough Enterprises must then obtain a copy of the revision from this Flight Standards District Office (FSDO), or the FSDO having jurisdiction, and incorporate any changes as soon as practicable including O and M procedures as required.

John Dough Enterprises must develop O and M procedures that correspond with those listed in the MMEL. John Dough Enterprises must also list the "as required by FAR" by specific FAR part and section, or state the operational requirements/limitations for aircraft dispatch. These items must be contained in a procedures document that is

6/28/91

APPENDIX 2. SAMPLE LETTER OF AUTHORIZATION (Continued)

separate from the MMEL and must accompany the MMEL, preamble, and letter of authorization (LOA). They must all be onboard the aircraft anytime it is operated.

Equipment installed on this aircraft (other than passenger convenience items such as galley equipment and passenger entertainment devices) that are in excess of what is required, and are not listed on the MMEL, must be operational for dispatch unless a request is made to this FSDO (or subsequent FSDO that has jurisdiction) to seek relief from the FOEB, through a revision to the MMEL, at the earliest opportunity for the FOEB to convene. If MMEL relief is sought, this FSDO (or subsequent FSDO) must be notified within 10 calendar days (including weekends and holidays) following installation. The operator may then conduct operations with the equipment inoperative for dispatch provided it is disabled, or rendered inoperative, in accordance with all the FAR. It is the responsibility of John Dough Enterprises to determine if O and/or M procedures must be developed for disabling, or rendering inoperative, the equipment. If so, any procedures that are developed must comply with all FAR. If MMEL relief is not sought, the FSDO need not be notified following installation of the equipment.

Should John Dough Enterprises relocate its principal base of operations (address), they must notify in writing both this FSDO, and the new FSDO that will have jurisdiction, within 10 calendar days following relocation.

This letter is issued without an expiration date and will remain valid until voluntarily surrendered by John Dough Enterprises, John Dough Enterprises ceases to be the operator of N81149, or it is suspended or revoked for cause by the Federal Aviation Administration (FAA). In any case, should it become invalid, it must be returned to this office or the FSDO having jurisdiction within 10 calendar days from the date it becomes invalid.

Sincerely,

Principal Operations Inspector

STATEMENT OF OPERATOR

As evidenced by my signature below, I certify that John Dough Enterprises will operate Cessna 500, N81149, in compliance with the authorizations, provisions, and limitations incumbent with the utilization of this LOA issued in accordance with FAR § 91.213(a)(2). A copy of this letter will be made a part of the MEL file maintained by this FSDO of John Dough Enterprises.

Signature

Title

Date

APPENDIX 3. SAMPLE TITLE PAGE

JOHN DOUGH ENTERPRISES

MINIMUM EQUIPMENT LIST
PROCEDURES DOCUMENT

Cessna 500 N81149

This minimum equipment list is applicable to FAR Part 91
operations only and may not be used for operations
conducted under FAR Parts 121, 125, or 135

APPENDIX 4. COMMONLY ASKED QUESTIONS ABOUT MEL'S

1. Can the operator make changes to an MEL document without changes having been made to the MMEL? How do they get approved?

To make changes to the MEL, the operator must write to the FSDO exercising jurisdiction over its operation that it wishes to have the MEL revised. This would apply to newly installed equipment that is not required by type certification rules, operating rules, and/or is in excess of what is required and is not listed on the MMEL. The FSDO will contact the FOEB and request the equipment be considered at the next meeting of the FOEB. During the interim, the aircraft may be operated with the items of equipment inoperative provided the operator has developed O and M procedures (as applicable) that comply with all the FAR.

2. What happens if my aircraft is destroyed in an accident? Do I need to return the MEL and Letter of Authorization (LOA) to the issuing FSDO?

If the MEL and LOA survive in a readable form, they must be surrendered to the issuing FSDO, or the FSDO having jurisdiction for the operator, with an official notification of the aircraft's destruction in an accident. A National Transportation Safety Board's indication of the aircraft's destruction is sufficient evidence if the aircraft was destroyed outside of the appropriate FSDO's jurisdiction.

3. What if an FAA inspector asks to see my MEL, procedures document, and LOA?

Because the FAR requires that the MEL, procedures document, and LOA be carried onboard the aircraft, the operator must show an FAA inspector, or other authorized representative of the Administrator, the documents when requested.

4. What happens when the original MEL is no longer appropriate?

This would depend on the conditions that caused the MEL to become inappropriate, since MEL's must be revised when MMEL's are revised.

5. Does the FAA perform any type of surveillance after approval of an MEL? If so, how often?

FAA inspectors do not specifically survey or inspect operators using an MEL. However, as part of a ramp inspection, inspectors will check to determine if an aircraft is operating with an MEL or under the provisions of FAR § 91.213(d).

6. What happens to the MEL if the aircraft is sold?

The MEL and LOA are not transferrable. The MEL and LOA must be surrendered to the FSDO exercising jurisdiction. The new owner must decide if he/she wants to operate with an MEL or under the provisions of FAR § 91.213(d). If the owner elects to operate with an MEL, he/she must apply for one at the appropriate FSDO as described in this AC.

APPENDIX 4. COMMONLY ASKED QUESTIONS ABOUT MEL'S (Continued)

7. Can an operator request withdrawal of an approved MEL and elect to operate under FAR § 91.213(d)?

Both provisions of FAR § 91.213 offer relief to operators. Operators will find more relief operating with an MEL. However, an operator can surrender an MEL and LOA by submitting them to the issuing FSDO with a letter indicating that the operator no longer wishes to operate with an MEL. As of the date the MEL and LOA were surrendered, the aircraft must be operated under FAR § 91.213(d), provided it can meet the requirements of FAR § 91.213(d). If the FSDO determines it cannot, it must continue to operate under the MEL.

8. Can the applicant operate the aircraft under FAR § 91.213(d) while waiting for an approval to a proposed MEL?

Under the regulation, the operator would have no choice except to operate under FAR § 91.213(d), to whatever extent he/she can, until authorization to operate under an MEL is received and the LOA issued.

9. If an MEL LOA is issued in one FSDO's jurisdiction, do I have to have it reissued if I'm operating in another area of jurisdiction?

No. The FAA considers an MEL LOA issued by one FSDO as sufficient for use in any other FSDO's jurisdiction.

10. How do I transfer my MEL and LOA if I move out of the jurisdiction of the issuing FSDO?

For a FAR Part 91 operation, the operator must notify both the FSDO exercising oversight, and the FSDO that will exercise oversight, of the new location of the aircraft within 10 calendar days following the relocation. The previous FSDO will then forward the operator's MEL file to the acquiring FSDO through the FAA's regional office having jurisdiction for the new location. The acquiring FSDO will enter the new location information into the national MMEL data base for revision and update.

11. There are a number of items on the Beech 58P Baron MMEL that need clarifying. For example, the MMEL states that you can take off with one fuel quantity indicator inoperative provided that an approved reliable means is established to determine there is enough fuel required by regulation. What is an example of "an approved means"?

The pilot can visually check the fuel and, if it were full, know how much fuel was onboard for the flight. A dipstick calibrated for that aircraft or any other means that provides a positive measurement would be acceptable.

12. Does an operator have to use the sample discrepancy record provided in this AC?

The sample is the preferred method, but the operator may devise one of their own choosing; however, it must contain at least the information indicated in the sample in this AC.

APPENDIX 4. COMMONLY ASKED QUESTIONS ABOUT MEL'S (Continued)

13. If I hold a Part 125 Deviation, may I receive authorization to conduct operations under a Part 91 MEL?

If an operator holds a Deviation to Part 125 and does not hold a Part 125 Operating Certificate, he/she may be issued a LOA to conduct operations under the provisions of a FAR Part 91 MEL.

14. If I currently have an approved MEL issued under Part 91, how does this new procedure affect me and my operation under that MEL?

You may continue to operate under your present LOA until it expires at which time you would be reissued the new letter. You could also choose to surrender your current letter, prior to its expiration date, in exchange for a new letter along with the MMEL. Either way, you may continue to use your MEL document containing O and M procedures as the procedures document referenced in this AC.

15. Since I no longer have to submit my O and M procedures to the FSDO for approval prior to receiving the LOA, can I accomplish the activity by mail?

No. It is important that Aviation Safety Inspectors (ASI) from the issuing FSDO meet with you (or a bonafide representative of you or your organization/company, etc. having signature authority) to discuss MEL operating procedures

prior to issuance of the LOA. This is necessary to ascertain your ability to operate in accordance with the provisions of an MEL. All MEL LOA, therefore, can only be issued in person.

16. Who is a bonafide representative?

It can be anyone with signature authority; ie., the chief pilot, director of operations, director of maintenance, or other company officer. In the case where none of the above are applicable, a letter on company letterhead introducing the individual as a bona fide representative and signed by a company officer may suffice.

17. Must I make my request for a meeting with the FSDO inspectors in writing?

There is no specified requirement that the request be made in writing, however, it is the prerogative of the FSDO to make such a request at their option.

18. Must ASI from all three disciplines; operations, maintenance, and avionics, be available for the meeting to discuss MEL operating procedures?

It is preferred that all three disciplines be represented; however, it is not necessary if due to work constraints they will not be available within a reasonable period of time. It is important that an operations inspector be involved in the discussion since the MEL is an operating document.