

MIL-M-38780A(USAF)  
AMENDMENT 1  
4 April 1973

MILITARY SPECIFICATION

MANUAL, TECHNICAL: NONDESTRUCTIVE INSPECTION

This amendment forms a part of Military Specification  
MIL-M-38780A(USAF) dated 1 February 1973.

Page 1, paragraph 2.1, Military Standards: Delete MIL-STD-882.

Page 2, paragraph 3.1: Delete "and MIL-STD-882".

Page 2, paragraph 3.2.1.1: Delete the third sentence and substitute "Proposals for inclusion of methods and equipment not presently used should be submitted as soon as identified. Equipment requirements will be identified using Aerospace Ground Equipment (AGE) provisioning procedures."

Page 3, paragraph 3.2.3.1, First sentence: Add "3.2.4.2".

Page 3, paragraph 3.2.3.2, Last sentence: Delete "two" and substitute "one".

Page 3, paragraph 3.2.3.3: Add "As a minimum" to the beginning of the first sentence.

Page 4, paragraph 3.2.5: Delete and substitute:

"3.2.5 Safety. Each inspection procedure included in the manual shall be developed with complete consideration of required safety precautions. Specific hazards and precautions involving inspection of the system, subsystem, or component, or use of NDI equipment on operationally configured systems shall be included in the applicable inspection procedures. General safety precautions shall be included in Section I, General."

Page 4, paragraph 3.3.2, subparagraph 1: Delete second and third sentences and substitute: "The procedures prescribed by this manual are intended to provide step-by-step instructions for the nondestructive inspection of locations where service defects would prevent items from performing their designated functions and of components for serviceability. These procedures are developed through maintenance engineering experience, comparison with similar installations on service equipment, and engineering evaluation."

Page 5, paragraph 3.3.2, subparagraph 4, last sentence: Delete "The integrity of these areas" and substitute "serviceability".

Page 5, paragraph 3.3.2, subparagraph 7: Add the word "particle" after the word "magnetic" in parentheses.

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Page 5, paragraph 3.4.3, First sentence: Delete "The first part of" and substitute "include" for "consist".

Page 6, paragraph 3.5.2, First sentence: Delete and substitute "Each section shall contain an index listing the components or parts, part number, and the respective inspection procedure".

Page 6, paragraph 3.6.1, Third sentence: Delete "(2-1, 2-2, -23, etc.)" and substitute "(-2, -3, -23, etc.)"

Page 6, paragraph 3.6.2: Delete second sentence.

Page 6, paragraph 3.6.3.2: Delete and substitute:

"3.6.3.2 Narration shall include the material and alloy, heat treat condition, method of manufacture (i.e., casting, forging, extrusion, sheet, etc.), surface treatments, coatings, or finishes when the inspection techniques are sensitive to surface condition, ultrasonic and radiographic techniques are sensitive to the type of material being inspected, eddy current techniques are sensitive to material, alloy, and heat treat condition, etc."

Page 6, paragraph 3.6.3.3: Delete and substitute:

"3.6.3.3 Concise statement or summary of the purpose or function of the component or part, including the direction and type of loads shall be included when these factors have an impact on the inspection procedure."

Page 6, paragraph 3.6.4, paragraph heading: Insert "or Condition" between the words "Defect" and "Description". Delete reference to para 3.6.3 in the second sentence.

Page 7, paragraph 3.6.5.1, Fourth sentence: Delete "(ref para 3.2.3.2)" and substitute "(ref para 3.2.4.2)".

Page 7, paragraph 3.6.5.2, Second sentence: Delete and substitute "The narrative shall describe any preparation necessary, such as: Remove electronics bay forward rack per TO 1F-4D-2-12, para 6-187."

Page 7, paragraph 3.6.5.5: Add "If other NDI methods are required, detailed instructions shall be provided."

Page 7, paragraph 3.6.5.7: Delete and substitute:

"3.6.5.7 All inspection procedures shall conclude with the following statement as a subparagraph: "Mark defect(s) as necessary and record per TO 00-20-5. See Section I for approved marking materials."

Page 8, paragraph 3.7.3, Inspection Procedure 7: Delete and substitute:

"7. Amperes of magnetizing current (meter reading) or ampere-turns of current required. Time and number of shots. Number of turns and size of coils or cable loops used for longitudinal magnetization."

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Page 8, paragraph 3.7.4, NDI Equipment Setting/Standardizing/Setup, 2: Delete the word "defect".

Page 8, paragraph 3.7.4, Inspection Procedure 2: Delete "Defect" and substitute "Instrument".

Page 9, paragraph 3.7.5, NDI Equipment Settings/Standardizing/Setup, 2: Delete the word "defect".

Page 9, paragraph 3.7.5, Inspection Procedure 1: Delete "defect" and substitute "Instrument".

Page 9, paragraph 3.7.6, NDI Equipment Settings/Standardizing/Setup, 4: Delete first sentence and substitute "The following information shall be provided on the illustration(s): film placement on the component or subsystem to be inspected; location of film identification marker: aiming point plus two dimensions for location; and location of source.

Page 9, paragraph 3.7.6, NDI Equipment Settings/Standardizing/Setup, 7: Delete and substitute:

"7. If required, penetrometer location, IQI level, screens, and blocking or masking requirements."

Custodian:  
Air Force - 16

Preparing Activity  
Air Force - 16

Review Activities  
Air Force - 01, 10, 11, 82

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