

MIL-C-9883B(USAF)
1 April 1968
SUPERSEDING
MIL-C-9883A(USAF)
26 October 1960

MILITARY SPECIFICATION

CHECKLISTS: ORGANIZATIONAL MAINTENANCE
(For Missile and Space Systems)

1. SCOPE.

1.1 This specification covers the detail requirements for the preparation of maintenance checklists for all missiles and space systems, except air launched missiles, rockets, and drones. Coverage includes Aerospace Vehicle Equipment (AVE) and Aerospace Ground Equipment (AGE) in direct support of missile or space systems.

2. APPLICABLE DOCUMENTS.

2.1 The following documents, of the issue in effect on date of invitation for bids, or request for proposal, form a part of this specification to the extent specified herein:

SPECIFICATIONS

Military

MIL-M-4410	Manuals, Technical: Title Page and List of Effective Pages; Certificate of Destruction Page; Transmittal Notice; Reproduction Assembly Sheet; Photolithographic Negatives; Printing, and Binders.
MIL-M-38784	Manuals, Technical: General Requirements for Preparation of.
MIL-C-38778	Checklists: Title Page, List of Effective Pages, Printing and Binders; General Requirements for Preparation of.

(Copies of documents required, by contractors in connection with specific procurement functions, should be obtained from the procuring activity or as directed by the contracting officer.)

3. REQUIREMENTS.

3.1 General. The maintenance technical manuals shall be used as the source documents for obtaining the basic checklist requirements. Checklists will be prepared with the intent to condense the tasks to the operational minimum; to standardize, control, integrate, and time phase the tasks. Tasks will be

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listed in the most logical and convenient sequence of accomplishment. Checklists shall tell what to do and when it should be accomplished, they will not contain instructions on how to do the task. Checklists shall be prepared when any of the following conditions for task performance exists:

- a. Task sequences must be performed with time-phased limits; i.e., the task is performed in a specific sequence and also performed within specified time frames.
- b. Communication between two or more individuals is necessary to control or accomplish the task.
- c. Potential damage or degradation of equipment may occur which will preclude accomplishment of its intended function.
- d. Potential injury or loss of life to personnel unless prescribed procedures are adhered to.
- e. Interaction occurs between two or more skilled specialists other than that involving a skilled worker being assisted by a helper.

3.2 Security classification. The checklist should be structured so that it will not contain classified information. If classified information is applicable, it shall be contained in a classified supplement and shall be identified in accordance with MIL-M-38784. The security classification shall be determined by the procuring activity.

3.3 Arrangement. Checklists shall be arranged in the following order:

- a. Title Page.
- b. List of Effective Pages.
- c. Introduction.
- d. Flow Chart.
- e. Preliminary Instructions.
- f. Checklist Requirements.

3.3.1 Title page. The title page shall be prepared in accordance with MIL-C-38778. The title page shall indicate either or both, the function and equipment to which the checklist is applicable.

3.3.2 List of effective pages. The list of effective pages shall be prepared in accordance with MIL-C-38778.

3.3.3 Introduction. The introduction shall begin with the standard paragraph specified in MIL-C-38778. It shall also explain the meaning of coded information, abbreviations, abbreviated nomenclature peculiar to the equipment, and other checklist elements. The introduction should cover, in a brief and

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concise manner, all essential information on the use of the checklist. (See figure 1.)

3.3.4 Flow chart. The flow chart shall contain a listing of all major checklist tasks in the sequence in which they are to be accomplished. These tasks shall be referenced by paragraph/figure number of the basic maintenance technical order and checklist page number. (See figure 2)

3.3.5 Preliminary instructions. The preliminary instructions shall precede the checklist tasks and shall contain information pertinent to accomplishment of the task, such as applicable technical orders, mechanic or AFSC types, special tools or equipment required, etc.

3.3.6 Checklist requirements. The checklist shall contain the tasks that must be performed. The checklist tasks shall be presented in a demand-response format, with the demands at the left and the responses at the right. The responses shall be in upper case letters or figures. Normal readings (and tolerances, if applicable) shall be shown in the response column. Leaders shall be inserted between the columns; e.g., "Demand Response". The demand-response presentation need not consist of a complete sentence. The applicable maintenance manual may be referenced at the end of the task in order to provide additional information to accomplish, amplify, or clarify a procedure, or to correct a discrepancy or malfunction that may develop when accomplishing the task. Tasks shall be grouped into major functions such as: Securing Launch Equipment Room or Missile Positioning into Transporter Erector. The function title, in upper case letters, shall be underlined. Each new function within a checklist shall be started on a new page. (See figure 3)

3.3.6.1 Technical order number and page number. The requirements of MIL-C-38778 are applicable.

3.3.6.2 Missile/Space system designation. When the checklist covers more than one missile or space system series and it is necessary to identify the series to which each page applies, the system designator for which the checklist page is applicable (example: LGM-30F) shall be placed in the upper inner corner of each page.

3.3.6.3 Notes, cautions, and warnings. Notes, cautions, and warnings shall be used in accordance with MIL-M-38784. They shall include references to applicable emergency procedures, as required.

3.3.6.4 Numbering of steps. Steps shall be numbered consecutively in Arabic numerals, indented alpha-numbered sub-steps shall be used, when appropriate, to achieve word economy and effective presentation.

3.3.6.5 Effectivity markings. Effectivity markings, such as asterisks, flag note symbols, base codes, and other indicators, should be used to denote wing applicability, configurational deviations, instructional options, alternate actions, and other missile and space procedural differences.

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3.3.6.6 Blank lines. Blank lines shall be provided to the right of the responses as check spaces. If insufficient space is available, the blank line will be entered below each response. The method used shall be consistent throughout all the checklists for that system.

3.3.6.7 Emergency procedures. A portion of a checklist shall be prepared to cover emergency actions required to return the system to a safe condition and to initiate corrective action. These pages shall be prepared only for those conditions endangering personnel or equipment. These pages shall be identified by black diagonal markings around the border in accordance with MIL-C-38778. (See figure 4)

3.3.6.7.1 Emergency procedures shall be included within the normal checklist pages, in applicable phases, and shall also be contained at the end of the checklist. If the same emergency is apt to occur in more than one phase, the emergency procedure may be repeated for each phase. Emergency procedure pages at the end of the checklist shall be numbered separately.

3.4 Reproduction assembly sheet, negatives, printing. The requirements of MIL-M-4410 are applicable.

4. QUALITY ASSURANCE PROVISIONS

4.1 Quality assurance provisions shall be in accordance with MIL-M-38784.

5. PREPARATION FOR DELIVERY.

5.1 Checklists shall be prepared for delivery in accordance with MIL-M-38784.

6. NOTES

6.1 Intended use. Checklists prepared to this specification are intended for use by Air Force organizational field maintenance activities as an abbreviated guide for performing maintenance tasks on missile and space systems.

Custodian:

Air Force - 16

Preparing Activity:

Air Force - 16

Review Activities:

Air Force - 01, 10, 70, 71, 80, 82, 84

LGM-30A and B	T.O. 21M-LGM30A-2-10CL-1
INTRODUCTION	
<p>This checklist is a step-by-step guide in abbreviated form for use as a reference to insure accomplishment of selected tasks by a predetermined sequence procedure. The intent of this checklist is to eliminate the probability of omission of a step in the accomplishment of the intended task. The procedures contained herein are presented in the shortest practical form for use by qualified personnel and are not intended to provide full technical instructions. This checklist provides, in abbreviated form, sequenced procedures for Site Penetration and Departure. The procedures herein are derived from, but do not replace, the detailed procedures contained in T.O. 21M-LGM30A-2-10. When malfunctions are encountered, reference to the source data T.O. 21M-LGM30A-2-10 shall be made.</p> <p>No particular AFSC is called out in this checklist since functions may be accomplished by any qualified specialist. The team chief may change the sequence of procedures to facilitate operation if no required test is omitted, no test or inspection invalidated, no safety features violated, and reliability is not compromised. The sequence of actual electrical test procedures must not be changed, but this does not apply to test preparations.</p> <p>Recommended changes or additions to this checklist should be submitted to OOAMA (OONST) Hill AFB, Utah 84401.</p>	
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Figure 1. Sample of Introduction Page.

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LGM-30A		T.O. 21M-LGM30A-2-10CL-1	
and B			
FLOW CHART (Cont)			
FUNCTION TITLE	T.O. REF	PAGE	
Securing Personnel Access Shaft	2-16	30	
①① Securing the Support Building and LF	2-18	34	
①② Securing Support Building and Gate	2-19	38	
①③ Securing Support Building and Gate	2-20	43	
①④ Securing Support Building and Gate	2-21	48	
①⑤ Securing Support Building and Gate	2-22	52	
EMERGENCY PROCEDURES			
① Launch Facility Emergency Shutdown Procedure	Figure 10-3	E-1	
① Partial or Complete Power Removal From Installed Missile	Figure 10-4	E-5	
① ∅ ⑤ Launch Facility Emergency Shutdown Procedure	Figure 10-3	E-7	
① ∅ ⑤ Partial or Complete Power Removal From Installed Missile	Figure 10-4	E-11	
Evacuation of LF in Event of EWO Launch Notification	10-18, 10-19	E-14	
v			

Figure 2. Sample of Flow Chart.

LGM-30A and B	T.O. 21M-LGM30A-2-10CL-1
<u>④ ① ② ⑤ UNLOCKING SAFETY CONTROL SWITCH</u>	
1. Briefing by MCCC REQUESTED	
WARNING	
To avoid possible personnel danger if communication with MCCC fails, do not continue with this procedure. Monitor VHF radio and/or SIN tele- phone for instruction.	
2. Key into lock pin assembly. INSERTED	
3. Key to stop TURNED	
4. Key and lock pin assembly. REMOVED	
5. Safe-arm indicator shows "S" VERIFIED	
CAUTION	
Serious GC section damage could result if COMPUTE/IDLE button is accidentally pressed during the following step.	
6. GC coupler SCS TEST button PRESSED	
NOTE	
If COMPUTE/IDLE button was inad- vertently pressed, press again and notify MCCC and MC.	
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Figure 3. Sample of Typical Checklist Requirement Page.

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LGM-30A		T.O. 21M-LGM30A-2-10CL-1	
and B			
① ⑤ LAUNCH FACILITY EMERGENCY			
SHUTDOWN PROCEDURE			
NOTE			
<ul style="list-style-type: none"> • The following emergency shutdown procedure is to be followed in the event of fire, loss of cooling air, or other abnormal operating conditions within the launch facility. • The SAC team chief or senior ranking man in the launch facility may make the decision to shut down without contact with Wing Maintenance Control if the situation warrants. In a dire emergency, any man in the equipment room may make the decision to shut down. 			
WARNING			
To minimize danger to personnel, the SAFETY CONTROL switch must be locked in the safe position immediately after the equipment room is entered and must remain locked until the launch tube is secured.			
1.	Safety control switch locked	VERIFIED
2.	Safe-arm indicator shows "S"	VERIFIED
3.	All CBs on distribution box (432).	OPENED
4.	SHUTDOWN LAUNCH FACILITY button on programmer group (403)	PRESSED
E-7			

Figure 4. Sample of Emergency Procedures Page.

SPECIFICATION ANALYSIS SHEET		Form Approved Budget Bureau No. 119-R004
INSTRUCTIONS		
This sheet is to be filled out by personnel either Government or contractor, involved in the use of the specification in procurement of products for ultimate use by the Department of Defense. This sheet is provided for obtaining information on the use of this specification which will insure that suitable products can be procured with a minimum amount of delay and at the least cost. Comments and the return of this form will be appreciated. Fold on lines on reverse side, staple in corner, and send to preparing activity.		
SPECIFICATION		
ORGANIZATION		CITY AND STATE
CONTRACT NO.	QUANTITY OF ITEMS PROCURED	DOLLAR AMOUNT \$
MATERIAL PROCURED UNDER A		
<input type="checkbox"/> DIRECT GOVERNMENT CONTRACT <input type="checkbox"/> SUBCONTRACT		
1. HAS ANY PART OF THE SPECIFICATION CREATED PROBLEMS OR REQUIRED INTERPRETATION IN PROCUREMENT USE?		
A. GIVE PARAGRAPH NUMBER AND WORDING		
B. RECOMMENDATIONS FOR CORRECTING THE DEFICIENCIES		
2. COMMENTS ON ANY SPECIFICATION REQUIREMENT CONSIDERED TOO RIGID		
3. IS THE SPECIFICATION RESTRICTIVE?		
<input type="checkbox"/> YES <input type="checkbox"/> NO IF "YES" IN WHAT WAY?		
4. REMARKS (Attach any pertinent data which may be of use in improving this specification. If there are additional papers, attach to form and place both in an envelope addressed to preparing activity)		
SUBMITTED BY (Printed or typed name and activity)		DATE

FOLD

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