

MIL-STD-1604(OS)
 NOTICE-2
 31 January 1974

MILITARY STANDARD

TECHNICAL AND MAINTENANCE
 OVERHAUL AND REPAIR STANDARDS,
 PREPARATION OF

TO ALL HOLDERS OF MIL-STD-1604(OS):

1. THE FOLLOWING PAGES OF MIL-STD-1604(OS) HAVE BEEN REVISED AND SUPERSEDE THE PAGES LISTED:

<u>New Page</u>	<u>Date</u>	<u>Superseded Page</u>	<u>Date</u>
1	31 January 1974	1	Undated
9	31 January 1974	9	Undated
10	31 January 1974	10	Undated
11	31 January 1974	11	Undated
12	31 January 1974	12	Undated
12a	31 January 1974		

Note: On all revised pages, changed portions of the text are indicated by vertical lines in the left margin.

2. Make the following changes and additions:

a. Page 2, Paragraph 2.1., Directly beneath "FED-STD-101" add "Cataloging Handbook H2-2, "Federal Supply Classification, Part 2, Numeric Index of Classes", and Latest Supplement".

b. Page 13, Paragraph 4.8.2(e). Change "(See 4.8.4)" to read "(See 4.8.3)".

c. Page 22, Paragraph 5.1.5.2.2.1, Third Sentence. Change "ISEA/MEA" to read "MEA".

3. RETAIN THIS NOTICE AND INSERT BEFORE TABLE OF CONTENTS.

4. Holders of MIL-STD-1604(OS) will verify that page changes and additions indicated above have been entered. This notice page will be retained as a check sheet. This issuance, together with appended pages, is a separate publication. Each notice is to be retained by stocking points until the Military Standard is completely revised or cancelled.

FSC MISC

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1.0 SCOPE

1.1 Purpose. The purpose of this standard is to delineate uniform requirements and criteria for the preparation of Technical and Maintenance Overhaul and Repair Standards (TRSs).

1.2 Applicability. This standard is applicable to TRS preparation for those NAVORDSYSCOM systems, equipments, and components in new acquisition procurement and those currently in service which will be operational in the fleet in the Post FY-75 period.

The TRS will supplement data published in Ordnance Publications (OPs) and Ordnance Data (ODs) to provide the more extensive and detailed technical data necessary for the performance of intermediate and depot maintenance. For new acquisition systems and equipments, TRSs will be prepared in addition to the OPs and ODs required for Planned Maintenance System (PMS) use.

1.2.1 Conformance. Conformance with TRS requirements is required of contractors, NAVORDSYSCOM managed field activities, or other service-managed field activities when this standard is cited in contractual documents, work directives, Ordnance Tasks (ORDTASKs), and Military Interdepartmental Purchase Requests (MIPRs).

1.3 Implementation. This standard will be used in preparing Technical and Maintenance Overhaul and Repair Standards (TRSs). These TRSs are prepared for systems, equipments, and components and will provide specific planned examination, maintenance, and test criteria, in conjunction with associated Quality Assurance Test and Inspection Plans (QATIPs), for overhaul or repair at the identified level of maintenance.

1.3.1 Objective. The objective of this military standard is to provide adequate instructions for the preparation of the TRSs to the extent that each TRS and associated QATIP shall stress quality and workmanship standards in the accomplishment of overhaul and repair to produce products which meet designed performance requirements. This military standard shall provide for inclusion in the TRSs and associated QATIPs adequate instruction for the handling, storage, preservation, packaging, and transportation of the item as necessary during the overhaul or repair activity.

1.3.2 Compliance. This military standard requires that each TRS shall be prepared for compliance by the appropriate levels of maintenance to specifically identify the work to be performed by the intermediate or depot level activity. The technical complexity of work performance will be scoped to the capability of the maintenance level in the applicable TRS for that activity.

1.3.3 Constraints. This military standard requires that the TRS will not repeat normal maintenance and test procedures covered in applicable Ordnance Publications (OPs) and Ordnance Data (ODs) for the item, except when deemed necessary for clarity or continuity; instead, reference to the appropriate document will be made.

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4.4.2 Paper Stock. Any good quality white paper stock (8 inches by 10-1/2 inches) which is suitable for the intended method of reproduction may be used. Fold out sheets may be used when necessary.

4.4.3 Assembling. TRSs shall be prepared in loose-leaf form suitable for insertion in standard 3-ring binders. Each document shall be stapled. The pages shall be punched or drilled as follows:

Number of holes - - - - - 3
Hole size - - - - - 1/4 inch
Distance, left edge - - - - - 7/16 inch
Distance, center to center - - 4 1/4 inches

4.5 Revisions.

4.5.1 Changes. Information amending, correcting, or modifying a TRS shall be issued as a permanent change. Such permanent changes shall be produced in accordance with the following change control procedures.

4.5.1.1 TRS Change Control Procedures. The purpose of the change control procedures is to provide a standard, systematic method for documenting and controlling major, minor, and complete changes (revisions) to the TRSs. To effect a change, the recommended change(s) shall be originated by (1) the repair/overhaul activity (or commercial activity) responsible for initial TRS preparation, or (2) the validated repair/overhaul activity designated to repair/overhaul the item, or (3) the NAVORD technical code, Maintenance Engineering Agent (MEA), or In-Service Engineering Agent (ISEA), and shall be submitted to the cognizant MEA via the most expeditious means of communication (e.g., telephone, message, letter) commensurate with the urgency of the change. Immediate authorization to effect pen-and-ink changes to the TRS may be granted by the MEA by return communications; however, all telephone requests, approvals, and disapprovals must be confirmed by message. All change information must be entered on the Description of Change sheet (see Figure 3, page 28). The second sheet of each TRS must reflect the method of MEA action, and the change (revision) number must be placed in the lower left hand corner of the affected page(s).

4.5.1.2 Minor Changes. Changes in this category are defined as those changes in TRS wording or work process description which do not affect the test specification, do not require immediate incorporation, and can be accomplished on a routine basis. Minor changes shall be prepared in final format and forwarded to the MEA for approval and change number assignment, prior to incorporation. A new cover sheet bearing the next change number as a part of the document number shall be issued.

4.5.1.3 Major Changes. Changes in this category are those which must be made to an existing TRS in order to perform production overhaul/repair processing, to correct assignable conditions adverse to effective operations, or to perform acceptance testing in accordance with specifications. If the change involves a major revision to one or more pages, new pages incorporating the change data into the TRS body shall be prepared

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together with a new cover sheet bearing the next change number. Changes in this category will require the approval of NAVORD or the designated MEA prior to use.

4.5.1.4 Complete Change. A complete revision of the TRS is required if (1) a single change affects more than 25 percent of the pages, or (2) after ten (10) changes have been made to the TRS. The TRS shall be reprinted in its entirety, assigned the next revision letter as part of the document number, and forwarded to the MEA for review and approval prior to use.

4.6 TRS Document Number. As a technical publication, each TRS will be assigned an identifying number which correlates with the NAVORD TRS numbering system.

4.6.1 TRS Number Assignment. NAVORD or a designated representative will assign the document numbers for each TRS and STRS and will monitor change number assignments.

4.6.2 TRS Numbering System. The TRS number will consist of one numeric group and one numeric or alphanumeric group in combination specifically oriented to the item which the TRS describes. A 4-digit numeric code, assigned by NAVORD or a designated representative to identify the repairable item category, will be a 4-digit class number (same as the 4-digit class number used in the Federal Stock Number) from Handbook H2-2. Selective identification of the repairable item within the category will be accomplished by assigning the appropriate drawing number.

4.6.2.1 The identification of the next higher level of assembly to which the repairable item covered by the TRS is applicable will be listed on the TRS/STRS cover sheet. The next higher level of assembly will be derived from data contained in the Engineering Document Requirements List (EDRL) (see 4.8.3). The level of indenture structure format of the EDRL for TRSs will identify the hierarchy of repairable items which make up the item for which the EDRL is prepared.

If the number of next higher level assemblies is excessive, selected assemblies (at NAVORD's discretion) will be listed. The complete list of next higher assemblies will be maintained in ORDLIS and may be distributed as required by NAVORD.

4.6.2.2 In assigning the numeric or alphanumeric groups which specifically identify the repairable items for TRS numbering system purposes, the following nomenclature will be used: List of Drawings (LD) number, Material List (ML) number, or Assembly Drawing number in that

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order of priority. MK/MOD designation or Jan nomenclature is not to be used. In the examples provided below for illustrative purposes, the first 4-digit group represents the NAVOPD TRS numbering system class number. The second group (containing nine alphanumeric/numeric characters) represents the noun name coding for the repairable item. Where the group describing the LD, ML, or Assembly Drawing nomenclature does not contain nine characters, sufficient zeros should be prefixed to the numeric portion of the group to make a total of nine characters.

• Examples of TRS Numbers

a. Example 1. TRS No. 1230-LD0324556. The first numeric group (1230) identifies the class number for a Fire Control System, Complete. The second (alphanumeric) group (LD0324556) identifies the LD number of the system (e.g., GFCS MK 68 MOD 11). Although this system has a MK/MOD designation, such designation is not to be used; the LD number for the system is used for the second group. Further, in TRS No. 1285-002345667, the first numeric group (1285) identifies the class number for Fire Control Radar Equipment, except Airborne. The second (numeric) group (002345667) identifies the assembly drawing number of a specific radar set (e.g., SPG53A (JAN nomenclature)). Although this equipment has a JAN designation, such designation is not to be used; the assembly drawing number for the equipment is used since LD or ML identification had not been assigned to this repairable.

b. Example 2. TRS No. 1285-LD0324567. The first numeric group (1285) identifies the class number for Fire Control Radar Equipment, except Airborne. The second (alphanumeric) group (LD0324567) identifies the LD number for a power supply component within the Fire Control Radar Equipment. Similarly, in TRS No. 1285-ML0345678, the first numeric group identifies the class number for Fire Control Radar Equipment, except Airborne. The second (alphanumeric) group (ML0345678) identifies the ML number for a power amplifier assembly within the Fire Control Radar Equipment. In these examples, LD or ML designation, as assigned, is used for these repairables.

c. Example 3. TRS 1285-002345678. The first numeric group (1285) identifies the class number for Fire Control Radar Equipment, except Airborne. The second (numeric) group (002345678) identifies the number for the Assembly Drawing of a terminal board within the Fire Control Radar Equipment. In this example, LD or ML designation had not been assigned to this repairable.

4.6.3 Maintenance Levels. The maintenance level code shall consist of a dash and a single number, following the numbering structure shown above, to indicate the level of maintenance for which the TRS was prepared, i.e., -1 indicates a Designated Overhaul Activity (DOA),

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Depot level, -2 indicates a Specialized Overhaul Activity (SOA), Depot level, -3 indicates a Designated Repair Activity (DRA), Intermediate level, and -4 indicates Tender Repair (TR), Intermediate level.

- Example of TRS Number with Maintenance Level Modifier.

a. Example 1, TRS No. 1285-ML0345678-2. This TRS number represents the assignment of a power amplifier assembly TRS to an SOA, Depot level.

4.6.4 Supplementary TRS Numbering. When STRSs are prepared for appending to an existing TRS in accordance with 4.3.2, STRS numbering will conform to the numbering system shown in 4.6.3, except that a dash and a 2-character alphanumeric code will be added to the TRS number in order to identify the singular nature of the STRS. The cover sheet of the existing TRS will be modified to include the identification of the repairable and the STRS number; similarly, the STRS cover sheet will include identification of the existing TRS and the repairable which it covers.

- Example of TRS Number with Maintenance Level and STRS Modifiers.

a. Example 1, STRS No. 1285-ML0345678-2-A1. This STRS number represents the assignment of a power amplifier assembly STRS to an SOA, Depot level.

4.6.4.1 In those instances where it is desirable to initiate TRS preparation for two or more similarly configured repairables in consonance with 4.3.2 and a lead TRS does not exist, the TRS prepared for the basic item shall be numbered in accordance with procedures set forth in 4.6.2, and STRSs prepared for the similar repairables and appended to that TRS will be numbered in accordance with procedures set forth in 4.6.4.

4.6.5 Change Number Assignments. Change number assignments will follow the TRS or STRS Number (see examples in 4.6.3 and 4.6.4). For example, a change to an assembly level STRS may be indicated as follows: 1285-ML0345678-2-A1 Change 1. The change request shall be forwarded to the MEA for approval and change number verification. The required change data must be entered on the Description of Change page, and affected pages must contain the change number on the lower left hand corner of the page (See 4.5.1.1).

4.6.6 Revision Number Assignments. Revision number assignments will follow the TRS or STRS Number (see example in 4.6.3 and 4.6.4). For example, a revision to an assembly level STRS may be indicated as follows: 1285-ML0345678-2-A1 Revision A. The revised STRS will be forwarded to the MEA for review, approval and revision number verification. The revision data must be reflected in the body of the STRS; i.e., Revision A replaces 1285-ML0345678-2-A1 Changes 1 through 10 in their entirety.

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4.7 Engineering Judgement Record. Concurrent with procurement of new weapon systems, equipment, or components, a concise, formal Engineering Judgement Record (EJR) shall be provided for each item for which a depot level TRS is prepared by commercial activities. This record shall accompany the TRS but shall not form a part of the TRS. This record shall contain the engineering analyses and reasoning in support of all tolerances, limits, and other parameters included in the standard. Each parameter discussed shall be identified with the associated paragraph number(s) of the TRS. The approving authority (activity) shall retain this record for reference and information. It is to be noted that departure from design specifications is not authorized, per se, through this procedure. If deviations from specification requirements are necessary, requests for deviation must be submitted together with separate engineering analyses in accordance with established procedures as required by MIL-STD-480 or MIL-STD-481, as applicable. EJRs developed in accordance with this Standard shall be numbered identically with the corresponding depot level TRS (see 4.6.2 above) with the exception of the maintenance level modifier which shall be excluded. EJRs shall be identified in the Engineering Document Requirements List (EDRL) (see 4.8.3 below). (Provisions of this paragraph are not applicable to TRS preparation for existing weapon systems, equipment, or components.)

4.8 Contract Information.

4.8.1 Ordering Data. Procurement documents should specify the following:

4.8.1.1 Procurement Requirements.

- (a) Title, number and date of this standard.
- (b) Exceptions to this standard.
- (c) Applicable drawings and other documents.