



DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

MAINTENANCE EXPENDITURE LIMITS FOR
FSC GROUP 69
FSC CLASS 6930

Headquarters, Department of the Army, Washington, D. C.
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*This bulletin supersedes TB 750-99-69, 26 April 1972.

Section I

GENERAL

- 1. Purpose.** This bulletin established procedures for implementing the provisions of AR 750-1 for aircraft oriented synthetic and simulative trainers and applicable components.
- 2. Scope.** This bulletin is applicable to all active Army, US Army Reserve and US National Guard organizations and activities engaged in supply and maintenance (either contract or in-house) of aircraft oriented synthetic trainers and applicable components.
- 3. Definitions.** Synthetic and Simulative Trainers. Aircraft oriented training equipment specifically designed for and used to synthesize or simulate aircraft/system operation for training purposes.
- 4. Reporting of Improvements.** Report of errors, omissions and recommendations for improving this publication by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to DA Publications) and forwarded direct to: Commander, US Army Aviation Systems Command, ATTN: AMSAV-F, P. O. Box 209, St. Louis, Missouri 63166.

Section II

ONE-TIME REPAIR EXPENDITURE LIMITS

5. Procedure.

a. Maintenance expenditure limits expressed in Appendix A apply to Organizational, Direct Support and General Support Units.

(1) In order to prevent the repair evacuation of uneconomical repairable synthetic or simulative trainers and applicable components determinations as to the economical repairability of such will be made prior to accomplishment of repair/overhaul or evacuation.

(2) When the estimated cost to repair materiel covered by this technical bulletin equals or exceeds the expenditure limits prescribed in Appendix A, the materiel involved will be considered eligible for disposal except for those items specified in paragraph 7f of this bulletin.

b. Maintenance expenditure limits expressed in Appendix B apply to depot facilities only.

(1) The maintenance expenditure limits expressed in Appendix B are intended for classification use only. These guidelines will be used by depot facilities to determine whether the items specified within this bulletin are candidates for overhaul or disposal.

(2) When the estimated cost of repair equals or exceeds the maintenance expenditure limits expressed in Appendix B, and/or the established maintenance program, they will be reported to the NICP for disposition instructions, in accordance with the procedures prescribed in Appendix C of this bulletin prior to induction to repair/overhaul.

c. When requirements dictate, waivers of expenditure limits may be granted by:

(1) The Commander, US Army Aviation Systems Command, (USAAVSCOM) where NICP requirements are involved as provided in paragraph 4-31, AR 750-1. Such waiver is normally indicated in periodic supply letters published by the NICP in accordance with AR 710-1, but notice may be provided by message or other means in individual cases.

(2) Major Army Commanders and the Chief, National Guard Bureau where local requirements are involved as provided in paragraph 4-30, AR 750-1.

6. Expenditure Limits. Expenditure limits for synthetic simulative trainers and applicable components by Federal Supply Class (FSC) are contained in Appendix A. Applicable FSC Code is as follows:

Federal Supply Classification	Title
6930	Operational Training Devices

Section III

TECHNICAL INSPECTIONS

7. Procedure.

a. Technical inspection will be accomplished on materiel covered by this technical bulletin prior to commencing repair action to determine economic repair status. The inspection shall be sufficiently

thorough to determine man-hours and parts or materials required to return the item to the appropriate standard of serviceability. Maximum use will be made of authorized test and diagnostic equipment and disassembly will be held to the minimum consistent with an adequate determination of maintenance required. The results of the technical inspection and resulting cost computations will be recorded on DA Form 2404 (Equipment Inspection and Maintenance Worksheet) as prescribed in Appendix C.

b. Maintenance requirements for materiel covered by this technical bulletin, to be repaired or overhauled at organizational, direct support or general support level, shall be determined based on the standards of serviceability contained in the applicable technical manual.

c. Maintenance requirements for materiel covered by this technical bulletin, to be overhauled at depot level, shall be determined based on standards of serviceability established by the (USAAVSCOM).

d. Materiel covered by this technical bulletin to be inducted into depot level maintenance will have a technical inspection accomplished prior to induction to determine the maintenance required to achieve the standard of serviceability prescribed by USAAVSCOM and to establish the economic repair status as required.

e. Materiel covered by this technical bulletin received by depot maintenance activities with a completed DA Form 2404 (Equipment Inspection and Maintenance Worksheet) reflecting technical inspection results and repair cost estimates, will be checked to validate the inspection findings and repair cost estimates prior to induction into maintenance.

f. Technical inspection for the purpose of determining economic repair status is not required below depot level maintenance in the following instances:

(1) When the NICP has indicated that items should be repaired or returned regardless of cost. See paragraph 5c(1) above. Such items will be immediately inducted into maintenance when within the capability and/or capacity of organizational, direct support or general support level, or evacuated to depot level.

Section IV

COMPUTATION OF REPAIR COST ESTIMATES

8. Cost Factors.

a. The following cost factors will be considered as a minimum when preparing cost estimates for repair/overhaul. These factors will be included on the DA Form 2404 as depicted in Appendix C. For computation of these costs, refer to AR 750-1.

- (1) Direct labor
- (2) Indirect labor
- (3) Parts and materials
- (4) General and administrative

b. Direct labor is that labor either civilian or military which can be specifically identified to the job to be performed.

c. Indirect labor is that labor identifiable to the maintenance activity, however, not identifiable to any particular job.

d. Parts and materials includes all materials directly applied and identified to the particular equipment undergoing repair.

e. General and Administrative expenses are costs incurred in general management or supervision of the installation.

9. Procedure.

a. Maintenance expenditure estimates will be based upon the total cost to return synthetic and simulative trainers or components thereof to the serviceable condition specified in the authorized equipment publication for the maintenance category undertaking the repair (either contract or in-house).

b. Necessary repairs will not be deferred or omitted so as to reduce the total estimated repair cost to a value less than prescribed by maximum maintenance expenditure limitations for the purpose of continuing the use of the materiel.

c. Repair eligibility on percentage basis will be established by comparison of estimated repair/overhaul cost with the product of the standard price (listed in the current Management Data List) multiplied by the maximum permissible maintenance expenditure limit percentage specified in Appendix A/B.

d. Transportation and handling costs, to include preservation and packing, will be included as an element of cost to repair. These costs are further defined as:

- (1) All costs involved in preparing the item for shipment at point of use.

(2) All transportation and handling cost from point of use to designated point of repair. Transportation and handling costs will not be included once an item has been received at the depot and is being reported to the NMP/NICP for disposition instructions.

Section V

DISPOSITION INSTRUCTIONS

10. Eligibility of Materiel for Evacuation to Depot Maintenance.

a. Synthetic and simulative trainers, determined to be economically repairable, but beyond the capability or capacity of general support will be evacuated to depot.

b. Synthetic and simulative trainers, and applicable components, determined to be uneconomically repairable, will not be repaired or evacuated to depot unless provided for in disposition instructions.

c. Synthetic and simulative trainer components with an assigned recoverability code of "D" (formerly Code "S" (AR 700-82)) will be processed through maintenance channels to depot level for evacuation and analysis before final disposition.

d. Synthetic and simulative trainer components, with an assigned recoverability code of "L" (formerly Code "T") will be evacuated to depot level for evaluation and analysis regardless of economical repair expenditure limitations unless the component is obviously damaged beyond repair.

11. Disposition Instructions.

a. Items designated in periodic NICP Supply Letters, will be automatically returned or reported for disposition as indicated in the Supply Letter and AR 710.1. Request for disposition instructions will be made in letter form with applicable DA Form 2404 (completed as prescribed in Appendix C) attached.

b. Synthetic and simulative trainers, and applicable components which are determined to be uneconomically repairable, and are not covered by the above disposition instructions, will be disposed of at the activity making this determination. Disposal will be made in accordance with applicable directives.

12. References:

- a. AR 700-82
- b. AR 710-1
- c. AR 750-1
- d. TM 38-750

Appendix A

**REPAIR EXPENDITURE LIMITS FOR AIRCRAFT SYNTHETIC AND SIMULATIVE TRAINERS AND APPLICABLE COMPONENTS
(Organizational, Direct Support and General Support Units)**

REPAIR EXPENDITURE LIMITS IN PERCENTAGE OF ACQUISITION PRICE ACCORDING TO AGE IN YEARS

EQUIPMENT	FSC	1	2	3	4	5	6	7	8	9	*10
All aircraft oriented synthetic and simulative trainers and applicable components.	6930	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%

* NOTE: Age, in excess of 10 years will be computed against the 10 year column.

Appendix B

**REPAIR EXPENDITURE LIMITS FOR AIRCRAFT SYNTHETIC AND SIMULATIVE TRAINERS AND APPLICABLE COMPONENTS
(Depot Facilities)**

REPAIR EXPENDITURE LIMITS IN PERCENTAGE OF ACQUISITION PRICE ACCORDING TO AGE IN YEARS

EQUIPMENT	FSC	1	2	3	4	5	6	7	8	9	*10
All aircraft oriented synthetic and simulative trainers and applicable components.	6930	60%	60%	60%	60%	60%	60%	60%,	60%	60%	60%

* NOTE: Age, in excess of 10 years, will be computed against the 10 year column.

Appendix C

PROCEDURE FOR RECORDING DISCREPANCIES AND COST ESTIMATES ON DA FORM 2404, BASED ON TECHNICAL INSPECTION

1. DA Form 2404 (Equipment Inspection and Maintenance Worksheet) will be utilized for recording all technical inspections, as described in this technical bulletin. Preparation of this form will be accomplished in conjunction with TM 38-750 and as follows:

a. Column *c* (Deficiencies and Shortcomings). List each discrepancy in exact descriptive language.

Also, indicate generally the maintenance required to correct the discrepancy, e.g., "Brushes Worn, Need Replacement."

b. Column *d* (Corrective Action). List direct maintenance man-hours required to correct each discrepancy and also itemize repair parts required to correct the discrepancy. Repair parts will be listed by part number, nomenclature and Federal stock number.

c. Column *e* (Initial When Corrected). This column will be used to reflect dollar cost of maintenance man-hours and necessary repair parts adjacent to the applicable items in column *d*.

d. Below the completed columns, *c*, *d*, and *e*, as above, include entries as follows:

(1) Total cost of direct maintenance man-hours.

(2) Total cost of repair parts. Refer to applicable supply manuals.

(3) Total cost of indirect maintenance man-hours.

(4) Total cost of general and administrative expenses.

(5) Total cost of transportation as described in paragraph 9d.

(6) Any other cost required to accomplish the required maintenance which can be identified to the repair will be included.

2. Where the repair/overhaul of the item is accomplished within the maintenance activity that performed the technical inspection, the DA Form 2407 (copy #5) and disposed of in accordance with TM 38-750. Where the item is evacuated through supply channels, after performing a technical inspection, the DA Form 2404 will accompany the item to supply and be retained with the item until it is delivered to the maintenance activity performing the repair, or to the property disposal officer when forwarded for disposal.

3. Requests for disposition will be submitted on DA Form 2404, with cover letter to Commander, US Army Aviation Systems Command, ATTN: AMSAV-F, P. O. Box 209, St. Louis, Missouri 63166.

4. Prepare the DA Form 2404 as follows:

a. Block 1. Enter organization and station to which the equipment is assigned.

b. Block 2. Enter equipment nomenclature.

c. Block 3. Enter equipment serial number (if known or applicable).

d. Block 4. Enter hours of operation in block *b* (if known or applicable). Leave blocks 4a, *c* and *d* blank.

e. Block 5. Enter the Julian date the DA Form 2404 was prepared.

f. Block 6. Enter TB 750-99-69.

g. Block 7. Leave blank.

h. Block 8a. Enter name, grade, title, signature and organization of the technical inspector preparing the DA Form 2404.

i. Block 8b. Enter N/A.

j. Block 9a. Enter name, grade, title, signature and organization of supervising officer or authorized representative.

k. Block 9b. Enter N/A.

l. Block 10. Enter total cost to restore equipment to prescribed serviceability. Total cost will include those factors outlined in paragraph 8 of this technical bulletin.

m. Complete remainder of form in accordance with paragraph (1) above.

By Order of the Secretary of the Army:

Official:

VERNE L. BOWERS

Major General, United States Army

The Adjutant General

CREIGHTON W. ABRAMS

General, United States Army

Chief of Staff

DISTRIBUTION:

To be distributed in accordance with DA Form 12-31 (qty rqr blocks No. 98, 102, and 106 cumulative for all blocks) requirements for organizational maintenance instructions for 1CA-1, 2B-3A, and 2B-12A flight simulators.

The Metric System and Equivalents

Linear Measure

1 centimeter = 10 millimeters = .39 inch
 1 decimeter = 10 centimeters = 3.94 inches
 1 meter = 10 decimeters = 39.37 inches
 1 dekameter = 10 meters = 32.8 feet
 1 hectometer = 10 dekameters = 328.08 feet
 1 kilometer = 10 hectometers = 3,280.8 feet

Weights

1 centigram = 10 milligrams = .15 grain
 1 decigram = 10 centigrams = 1.54 grains
 1 gram = 10 decigrams = .035 ounce
 1 decagram = 10 grams = .35 ounce
 1 hectogram = 10 decagrams = 3.52 ounces
 1 kilogram = 10 hectograms = 2.2 pounds
 1 quintal = 100 kilograms = 220.46 pounds
 1 metric ton = 10 quintals = 1.1 short tons

Liquid Measure

1 centiliter = 10 milliliters = .34 fl. ounce
 1 deciliter = 10 centiliters = 3.38 fl. ounces
 1 liter = 10 deciliters = 33.81 fl. ounces
 1 dekaliter = 10 liters = 2.64 gallons
 1 hectoliter = 10 dekaliters = 26.42 gallons
 1 kiloliter = 10 hectoliters = 264.18 gallons

Square Measure

1 sq. centimeter = 100 sq. millimeters = .155 sq. inch
 1 sq. decimeter = 100 sq. centimeters = 15.5 sq. inches
 1 sq. meter (centare) = 100 sq. decimeters = 10.76 sq. feet
 1 sq. dekameter (are) = 100 sq. meters = 1,076.4 sq. feet
 1 sq. hectometer (hectare) = 100 sq. dekameters = 2.47 acres
 1 sq. kilometer = 100 sq. hectometers = .386 sq. mile

Cubic Measure

1 cu. centimeter = 1000 cu. millimeters = .06 cu. inch
 1 cu. decimeter = 1000 cu. centimeters = 61.02 cu. inches
 1 cu. meter = 1000 cu. decimeters = 35.31 cu. feet

Approximate Conversion Factors

<i>To change</i>	<i>To</i>	<i>Multiply by</i>	<i>To change</i>	<i>To</i>	<i>Multiply by</i>
inches	centimeters	2.540	ounce-inches	Newton-meters	.007062
feet	meters	.305	centimeters	inches	.394
yards	meters	.914	meters	feet	3.280
miles	kilometers	1.609	meters	yards	1.094
square inches	square centimeters	6.451	kilometers	miles	.621
square feet	square meters	.093	square centimeters	square inches	.155
square yards	square meters	.836	square meters	square feet	10.764
square miles	square kilometers	2.590	square meters	square yards	1.196
acres	square hectometers	.405	square kilometers	square miles	.386
cubic feet	cubic meters	.028	square hectometers	acres	2.471
cubic yards	cubic meters	.765	cubic meters	cubic feet	35.315
fluid ounces	milliliters	29.573	cubic meters	cubic yards	1.308
pints	liters	.473	milliliters	fluid ounces	.034
quarts	liters	.946	liters	pints	2.113
gallons	liters	3.785	liters	quarts	1.057
ounces	grams	28.349	liters	gallons	.264
pounds	kilograms	.454	grams	ounces	.035
short tons	metric tons	.907	kilograms	pounds	2.205
pound-feet	Newton-meters	1.356	metric tons	short tons	1.102
pound-inches	Newton-meters	.11296			

Temperature (Exact)

°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C
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