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**DEPARTMENT OF THE ARMY TECHNICAL BULLETIN**

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**MAINTENANCE EXPENDITURE LIMITS  
FOR  
FSC GROUP 23  
FSC CLASSES 2320, 2330, AND 2310**

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**Headquarters Department of the Army, Washington, D.C.**

**15 September 1996**

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**REPORTING OF ERRORS AND RECOMMENDING IMPROVEMENTS**

You can help improve this bulletin. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to: Commander, U.S. Army Tank-automotive and Armaments Command, ATTN: AMSTA-IM-OPIT, Warren, MI 48397-5000. We will send you a reply.

**SECTION I. GENERAL**

1-1	Purpose	Paragraph 1-1
1-2	Scope	Paragraph 1-2

**SECTION II. DETERMINING EXPENDITURE LIMITS**

2-1	Procedures	Paragraph 2-1
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**SECTION III. TECHNICAL INSPECTION**

3-1	Procedures	Paragraph 3-1
3-2	Forms	Paragraph 3-2

**SECTION IV. COMPUTATION OF REPAIR COST ESTIMATE**

4-1	Repair Cost Estimates	Paragraph 4-1
4-2	Procedures	Paragraph 4-2
4-3	Computation Table	Paragraph 4-3

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\*This bulletin supersedes TB 43-0002-81, 15 July 1992

SECTION V. DISPOSITION

5-1 Procedures Paragraph 5-1

SECTION VI. WAIVERS

6-1 Procedures Paragraph 6-1

6-2 Approval Criteria Paragraph 6-2

SECTION VII. REFERENCES

7-1 Department of the Army Publications Paragraph 7-1

APPENDIX

A. Instructions for preparation of DA Form 461-5 (Vehicle Classification Inspection) A-1

B. Maintenance Expenditure Limit (MEL) Charts B-1

**SECTION I. GENERAL**

**1-1 Purpose.** This bulletin prescribes the Maintenance Expenditure Limits (MEL) which Direct Support/General Support (DS/GS) maintenance level technical inspectors will use to determine repair eligibility or disposition when inspections are performed on equipment received for repair to a serviceable condition and return-to-user, transfer, or for turn-in. These limits do not apply to DA directed repair programs. The materiel proponent (U.S. Army Tank-automotive and Armaments Command) is responsible for specifying what percent will be used in these programs.

**1-2 Scope.** This bulletin applies to organizations specified in 2a and 2b below; it does not apply to unit level or programmed depot repair. A decision concerning the eligibility/suitability of materiel for depot repair or disposal is made by materiel proponents prior to programming repair. Unit level maintenance is limited by the repairs authorized in the appropriate Technical Manual (TM) and need not consider dollar expenditures.

- a. All active Army, Army National Guard, and United States Army Reserve DS/GS support level maintenance units.
- b. Army depot activities when performing repair-and-return-to-user service.

## SECTION II. DETERMINING EXPENDITURE LIMITS

**2-1. Procedures.** A determination to ensure that the expenditure limits will not be exceeded is required each time an item is received at the DSIGS maintenance level or at depot level on a repair to-user basis. Repair will not be broken into separate jobs to reduce total cost. Whenever cost to repair exceeds the MEL, the item must be reported for disposition or a waiver to repair must be obtained. To determine limits:

a. The MEL percentage factors identified in Appendix B will be used to determine the maximum dollar amount which can be expended to return an item to a serviceable condition. The dollar amount is the limit of repair authorized. This limit is compared with the estimated cost of repair. Repair is not authorized if the estimated cost exceeds the MEL, unless a waiver is granted to exceed MEL.

b. An inspection is performed to determine the extent of the maintenance effort required for restoring the item to prescribed conditions or serviceability and determine if the item is economically repairable. The estimated repair cost is obtained during this process by computing the cost/elements which are required to repair an item to the standards specified in the appropriate TM. Procedures are in Section III of this TB.

c. The dollar expenditure limit is obtained by multiplying the appropriate percentage factor obtained in the TB by the Planning price of the item being repaired. The Planning Price (CURRENT FY-PRICE) for end items is contained in SB 710-1-1, chapter 7. Standard prices in the Army Master Data File (AMDF) (minus credit for return of unserviceable) will be used for secondary items. The cost to repair a secondary item must not exceed the cost of a replacement item (secondary item MEL = 100%). The average cost to repair assemblies or components may be used at Direct Support and General Support (D)S/GS) where repairs are accomplished by batch or production line process.

## SECTION III. TECHNICAL INSPECTION

**3-1. Procedures.** Support maintenance organizations and activities are responsible for performing the technical inspections incident to repair or evacuation of items listed in this bulletin. Technical inspections are to be made by a qualified individual with Military Occupational Specialty (MOS) or job classification specific to the item being inspected. Inspections will be performed in accordance with equipment maintenance and serviceability standards applicable to the maintenance level performing the repair. The results of the technical inspection will:

a. Determine if the unserviceable condition is the result of other than fair wear and tear; ensure components have not been removed; and inform owning unit of need to assess liability as necessary.

- b. Determine the extent of the maintenance effort required to restore the item to prescribed conditions of serviceability.
- c. Classify the item as economically or not economically repairable with correct condition code.
- d. Provide for verification of items with condition code P (unserviceable, materiel classified by inspection); or H (unserviceable, condemned).

**3-2. Forms.** Results of technical inspections will be recorded on the following forms. The appropriate form will reflect each applicable cost element and the estimated cost of repair. The expenditure limit will be included to compare the estimated cost and to make a determination as to repair or disposition. Instructions on preparation of DA Form 2404 and DA Form 2407 are found in DA PAM 738-750. Instructions on preparation of DA Form 461-5 are found in Appendix A of TB 43-0002-81.

DA Form 461-5 (Vehicle Classification Inspection)  
DA Form 2404 (Equipment Inspection and Maintenance Work Sheet)  
DA Form 2407 (Maintenance Request)

#### **SECTION IV. COMPUTATION OF REPAIR COST ESTIMATE.**

**4-1. Repair Cost Estimates.** Repair costs are based on all costs necessary to return materiel to a serviceable condition at the authorized level of maintenance which undertakes the repairs. If repairs are determined to be within the scope of support maintenance, serviceability standards applicable to the level concerned will be used to determine work required. Items of operating expense will not be included in the cost estimate only if the item being repaired is not excess to unit needs, was not damaged accidentally, or is repaired on a return-to-user basis. Items of operating expense include all scheduled and unscheduled services and repairs that are accomplished by the using organization, including repair parts. The repair cost estimate is derived from the total cost of the following elements:

a. Direct labor (military and civilian), excluding initial inspection costs, includes all labor which can be specifically identified with the repair. Direct labor rates which apply to the total man-hours estimated are obtained as indicated by procedures in paragraph 4-2a below.

b. Direct materials include all repair parts, components, and assemblies directly applied during the repair program, including PA-funded materiel. Cost of parts will be the AMDF price, except where local repair programs are already in effect. Credit is taken for the return of the repairable component in the amount equal to the current standard inventory price, less the estimated cost to repair the component. Use an estimated cost if materiel is required from local source or needs to be fabricated. Estimate cost against the price of a like item.

c. Indirect or overhead costs include cost of operating the shop and administrative expense chargeable to the activity or operation.

d. Contractual services. All costs for contracted services will be included whether the services will be for complete repairs or for a small portion of total repairs. Estimate will be from contract documents or expected cost.

e. Shipping and transportation costs.

(1) Freight will not be included as an element of cost when the equipment to be repaired is located in CONUS. When the equipment to be repaired is located overseas and no local capability to repair exists, the cost of freight to CONUS will be included as an element of cost. The cost of freight will include all transportation and handling cost from point of use to designated CONUS point of repair.

(2) When equipment cannot be repaired onsite, and costs are incurred to prepare the equipment for shipment, such cost (including materials) will be included in the estimate of cost to repair regardless of origin or destination.

f. Other charges. All costs expected to be incurred to complete repair which cannot be included in cost elements above. Estimate repair from past records or expected cost.

**4-2. Procedures.** Procedures to determine the total estimated cost of repair are as follows:

a. Direct Labor Costs. Apply the total estimated man-hours of direct labor to the direct labor hourly rate. The direct labor hours estimated will be based on the Maintenance Allocation Chart (MAC) or actual past experience. The direct labor hourly rate and total cost of direct labor is found by:

(1) Military Obtain the average hourly military wage rate of the mechanic performing the repairs, and multiplying by the direct man-hours of labor required. Use the current military pay scale to obtain average hourly rate.

(2) Civilian Obtain the average hourly rate of the individuals expected to perform the repairs, and multiply a factor of 1.29 to obtain the direct labor hourly rate (the factor compensates for holidays, allowable sick/annual leave, and Government contributed benefits). Multiply the direct labor hourly rate by the direct man-hours of labor to obtain total labor cost.

b. Determine total cost of the five remaining elements in paragraphs 4-1b through 4-1f above (if applicable) and add to total labor expense.

c. Obtain the MEL percentage factor from Appendix B in this TB and determine if repair is authorized.

d. If repair cost is equal to or less than ML value, the item may be repaired. If greater, the item will be returned to the customer for turn-in action or processing of a waiver to exceed the MEL. Items should only be repaired if requirements for the item exist. If you are unsure about whether or not requirements exist for an item, contact the NICP. The NICP strongly recommends that excess vehicles at or near the end of their useful life not be repaired (brought up to TM 10/20 standards) until the excess vehicle has been reported to the NICP and disposition instructions have been received.

**4-3. Computation Table.** A table which may be helpful in computing total repair cost estimates and MEL follows. Use of actual repair expense column may be completed to assist in future cost estimates. Use only those elements applicable and available.

**COMPUTATION TABLE  
ESTIMATING TOTAL REPAIR COST AND MEL \***

ELEMENTS	ESTIMATE	ACTUAL
a. Repair Hours Required= _____ Breakdown MIL _____ CIV _____		
b. MIL Avg Hr Rate x MIL Rep Hrs =		
c. Civ Hr Rate _____ x1.29= _____ x Civ Rep Hrs+		
d. Material Cost =		
e. Indirect Overhead Costs =		
f. Contractual Costs =		
g. Shipping / transportation Costs =		
h. Other Cost		
i. Total Repair Cost = b+c+d+e+f+g+h+= _____		
j. MEL Percentage Factor (from chart) _____ x Current Replacement Price **=MEL		*

k. Is MEL greater than estimated Repair Cost? YES/NO

l. If YES, repairs are authorized.

m. If NO, notify customer of results and return or assist in disposition; or retain pending results of customer's request to waiver limit All forms used in inspecting, classifying and determining maintenance limits will be provided to customer for assistance in disposal or reporting to Major Subordinate Command (MSC) for disposition instructions.

\* Do not include items of operating expense (unit maintenance which has not been performed) when repairing on a return-to-user basis.

\*\* The Planning Price (CURRENT-FY-PRICE) is used for Major items, (source SB 710-1-1); the Standard Price for secondary items, (source: AMDF).

## SECTION V. DISPOSITION.

**5-1. Procedures.** Disposition of materiel is the responsibility of the using unit and the Supply Support Activity (SSA) accountability officer. Disposition of materiel by supply activities will be in accordance with procedures in DA Pamphlet 710-2-1, Using Unit Supply System, Manual Procedures, and DA Pamphlet 710-2-2, The Supply Support Activity (SSA) Supply System. The reporting of unserviceable materiel to MSCs for disposition instructions will be in accordance with provisions in the supply update or other appropriate DA guidance.

a. Maintenance support units will assist SSAs or supported units, as necessary, in the evacuation of unserviceable or uneconomical repairable materiel to expedite turn-in or further evacuation.

**b. End of Vehicle Useful Life.** At the end of the useful life of a vehicle, the time at which the MEL has reached zero, repair expenditures will be permitted only when necessary to retain an acceptable level of readiness in a tactical unit.

c. When returning equipment to supported customers, all forms used in inspecting, classifying, and determining MEL will be provided to assist in requesting waiver, disposal, or reporting to MSC for disposition instructions.

## SECTION VI. WAIVERS

**6-1. Procedures.** A request to waiver the published MEL may be submitted by the using (owning) unit or by the supporting materiel management center through supporting maintenance channels responsible for repair to your MACOM commanders for approval. The MACOM commanders may exceed the published MEL when any of the conditions in AR 750-1 apply.

**6-2. Approval Criteria.** MACOM commanders will ensure the following in approving waivers:

a. The required repairs will not be broken into separate job estimates for the purpose of circumventing prescribed one-time repair allowances.

b. The unit or organization requesting the waiver has been unable to obtain timely replacement of the uneconomically repairable asset from the appropriate NICP.

c. An urgent operational or training requirement exists which justifies the uneconomical repair.

d. Resources are available (or can be made available) to the requisitioning organization or command to accomplish the required repairs within an acceptable period of time.



**SECTION VII. REFERENCES**

**7-1. Department of the Army Publications.** Department of the Army Publications applicable to this TB are as follows:

- a. Department of the Army Forms
  - (1) DA Form 461-5 (Vehicle Classification Inspection)
  - (2) DA Form 2404 (Equipment Inspection and Maintenance Work Sheet)
  - (3) DA Form 2407 (Maintenance Request)
  
- b. Department of the Army Pamphlets
  - (1) DA PAM 710-2-1 (Using Unit Supply System, Manual Procedures)
  - (2) DA PAM 710-2-2 (The Supply Support Activity, 55A, Supply System)
  - (3) DA PAM 738-750 (The Army Maintenance Management System, TAMMS)
  
- c. Department of the Army Regulations
  - (1) AR 37-60 (Pricing for Material and Supplies)
  - (2) AR 700-127 (Integrated Logistic Support)
  - (3) AR 750-1 (Army Materiel Maintenance Concepts and Policies)
  - (4) AR-4 (Depot Materiel Maintenance and Support/Training Activities)
  - (5) AR 725-50 (Requisitioning, Receipt, and Issue System)
  - (6) AR 37-1 (Army Accounting and Fund Control)
  
- d. Department of the Army Supply Bulletins
  - (1) SB 700-20 (Army Adapted/Other Items Selected for Authorization/List of Reportable Items)
  - (2) SB 710-1-1 (Standard Study Numbering System and Replacement Factors)
  
- e. Department of the Army Technical Bulletins
  - (1) TB 43-0001-39 Series (Equipment Improvement Report and Maintenance Digest)

## Appendix A

INSTRUCTIONS FOR PREPARATION OF DA FORM 461-5  
(VEHICLE CLASSIFICATION INSPECTION)

**A-1 Preparation.** Prepare DA Form 461-5 (Figure 1) as follows:

a. Preinspection Information. Before the inspection of a vehicle, enter the following information on the front upper portion of DA Form 461-5.

- (1) Nomenclature. Enter the complete vehicle nomenclature.
- (2) Registration Number. Enter the Army registration number marked on the vehicle, if not available, indicate N/A.
- (3) Date of Delivery. Enter the date of vehicle delivery to the Government as shown on the vehicle identification data plate or date of issue from depot storage.
- (4) Manufacturer. Enter the name of the vehicle manufacturer.
- (5) Model. Enter the vehicle model number as indicated on the data plate (e.g., M54A2C).
- (6) Serial Number. Enter the manufacturer's Vehicle Identification Number (VIN).
- (7) Age. Enter the number of years from the date of vehicle delivery to the Government or date of issue from depot storage, whichever is less. Date of delivery is obtained from the vehicle identification data plate and/or from DA Form 2408-9 (Equipment Control Record). The age of the vehicle includes time spent in storage and time in service. The time spent in storage is accrued at a rate of 50% for each year of storage after the first year of storage, for which no allowance is given. Time in service is counted at the full rate.
- (8) Mileage. Enter the odometer reading. If available records indicate that the speedometer/odometer was replaced and/or reset to zero, add all previously recorded mileage to the present odometer reading. For overhauled vehicles, consider mileage accumulated since the vehicle first entered the DA inventory. If there is no recorded mileage, and odometer reading accuracy is questionable, enter an estimate, preceded by "Est," on the form.
- (9) Reason. In concise terms, enter the reason for performing the inspection (e.g., "accident," "excess vehicle," or "major repair").
- (10) Echelon of Rep (Maintenance Level of Repair). Enter the lowest maintenance level that has the capability to undertake all the indicated repairs.
- (11) Inspection Standards. Enter the maintenance level, such as "direct" or "general," to indicate that the inspection was conducted in accordance with maintenance standards prescribed for direct support and general support levels of maintenance.

(12) Upper Margin. Enter the National Stock Number (NSN) and Line Item Number (LIN) of the vehicle. Also enter the document number of the excess report in this margin when reporting to National Inventory Control Point (NICP) in accordance with AR 725-50.

b. Inspection Results. Record the results of the actual vehicle inspection in the appropriate column of DA Form 461-5.

(1) Item. Fill out the Item column as follows:

(a) If two or more components or parts are listed, circle the item affected.

(b) Use blank lines to record significant items on the vehicle that are not listed on the form (e.g., the kingpin on towed vehicles).

(c) Indicate, with an asterisk (\*) near the name of the item concerned, damage resulting from accident or from causes other than fair wear and tear, and explain briefly under Remarks: for example, "accident," "no water," "no antifreeze," "no lubricant" (for components such as engines and gear cases).

(2) Diagnosis. Fill out the Diagnosis column as follows:

(a) Opposite the item concerned, enter the nature of the unsatisfactory condition in concise terms, such as "broken," "worn," "leaks," "noisy," or "corroded."

(b) Enter the total quantity to be repaired or replaced if two or more of a component or part are used in the vehicle (e.g., "doors, repair (1) and replace (1)").

(3) Satisfactory. Enter an "X" if the component or part is serviceable according to appropriate established standards.

(4) Repair. Enter an "X" if an unserviceable component or part can be restored to serviceability by adjustment or repair at the direct or general support maintenance level.

(5) Replace. Enter one of the following symbols if the component or part requires replacement:

(a) U - If the item is uneconomically repairable.

(b) M - If the item is missing.

(6) Man-Hours Labor. Opposite the item concerned, enter the total number of man-hours required to effect item repair or replacement (include direct and indirect labor).

#### NOTE

Repair or Replacement man-hours for vehicle components are contained in the applicable MAC. If vehicle repairs are undertaken at the maintenance activity performing the technical inspection, man-hour data locally developed through experience will take precedence over data in the MACs

(7) Cost of Parts. Opposite the item concerned, enter the total cost of all parts and materials that will be used in the repair or replacement operation. This is to include the cost of new, overhauled, or fabricated repair parts, assemblies, modules, and components. Item unit prices are obtained from the AMDF. Replacement components and assemblies used in the repair process will be costed at the standard inventory price. Credit will be taken for the return of the repairable component in an amount equal to the current standard inventory price, less the estimated cost to repair the component.

(8) Subtotals. Enter the totals for labor and cost of parts in their respective boxes.

(9) Modifications. List the number and title of each modification work order (MWO) required to be applied.

(10) Other Shortages. Enter all shortages (e.g., tools, equipment, and manuals) other than those already shown elsewhere as missing.

(11) Remarks. Enter an explanation of damage resulting from accident or causes other than fair wear and tear, as indicated in paragraph A-1b(l)(c). Use this space for any other information pertinent to the inspection.

(12) Total Repair Costs.

(a) Total Man-Hours Labor. Enter the sum of the subtotals of all Man-Hours Labor columns and indirect labor and overhead.

(b) Labor & Overhead Rate Per Man-Hour. Enter the appropriate hourly labor rate. MACOM commanders and directors of agencies may establish and use standard hourly rates for direct and indirect (or overhead) labor so long as such rates are consistent with AR 37-1 (Army Accounting and Fund Control). When standard rates are established, separate rates will be established for each category of supportable materiel or weapons system (e.g., aircraft, automotive equipment, combat vehicles, construction equipment, electronics and communications equipment, missile systems, ships, munitions armament, weapons armament, rail equipment, general equipment, and commodity groups of equipment) and for each major geographic area where wage levels vary significantly.

(c) Total Cost of Labor & Overhead. Enter the product of line (12)(a) and (12)(b) above.

(d) Total Cost of Parts. Enter the sum of the subtotals of all the Cost of Parts columns.

(e) Total Cost of Repairs. Enter the sum of (12)(c) and (12)(b) above and (14) ("Other Costs") below.

(f) Individual Repair Expenditure Limit. For repair of the vehicle inspected, enter the maximum expenditure permitted up through general support level of maintenance. Maximum repair expenditures are determined by multiplying the current replacement cost times the appropriate MEL. The current replacement costs are listed in SB 710-1-1. The Army Master Data File (AMDF) will not be used in determining the replacement cost of end items. MELs are listed as percentages; they are listed in descending sequence based on vehicle age and mileage. MELs are reviewed and updated annually.

(g) Total Cost of Previous Repairs. Enter NA (not applicable).

(h) Accumulated Rep (Repair) Expenditure Limit. Enter NA.

(13) Costs Due to Damage. From items marked with an asterisk (\*) [see A-1b(l)(c)], obtain data for (a), (b), and (c) below for use in establishing dollar liability during statement of charges action. Exclude these costs from the total cost of repair if the responsible individual is held liable; however, do not exclude these costs if the vehicle is to be reported to the NICP as excess in accordance with AR 725-50.

(a) Cost of Labor and Overhead. Enter the total cost of labor (both direct and indirect) required to repair items damaged as a result of accident or causes other than fair wear and tear.

(b) Cost of Parts. Enter the total cost of parts used to replace those damaged as a result of accident or causes other than fair wear and tear. See paragraphs that follow.

(c) Total Cost. Enter the sum of (13)(a) and (13)(b) above.

(14) Other Costs. Enter other costs pertinent to the vehicle--for example, additional costs incurred for shipping, and related charges when vehicle is being returned from overseas to continental United States (CONUS) for depot overhaul. The following costs will not be included in the estimate of cost to repair:

(a) Basis Issue. Replacement of basic issue items will not be included.

(b) MWOs. The labor cost of applying MWOs will not be included.

(c) Accessory Items. The cost to overhaul or replace accessory items used to adapt equipment for special uses (e.g., rank insignia, winterization kits, flashing lights, two-way radios, and toolkits) will not be included. Individual estimates to overhaul such items will be made as appropriate and required.

(d) Items of Operating Expense. Items of operating expense will not be included when the item being repaired is not excess to unit needs, has not been accidentally damaged, or will be repaired by higher-level maintenance on a return-to-user basis.

(15) Classification Code (see AR 725-50). Compare the total cost of repairs [(12)(e) above] against the expenditure limit [(12)(f) above]. If the technical inspection reveals no requirements for repair other than to improve appearance, or no need for any replacements, enter the word "serviceable" in the Classification Code block on the front top right corner of the form. If the total cost of required repairs and/or replacements does not exceed the permissible expenditure limit, the vehicle is eligible for repairs up through the general support level of maintenance; the letter "F" for "Unserviceable Repairable" should be placed in the Classification Code block. If repair costs exceed the expenditure limit, the vehicle is not eligible for repairs and the letter "H" for "Unserviceable (Condemned)" or "P" for "Unserviceable (Reclamation)," as applicable, should be placed in the Classification Code block. The date of technical inspection should be placed in the Date of Unecon Rep ["Uneconomical Repairable"] block. When the Condition block is coded "H" or "P," the verification inspector's name and stamp number will be recorded in the Remarks block.

**NOTE**

Excess vehicles in overseas commands will not be evacuated to CONUS when the total cost of repairs plus one-way surface, nonpremium, shipping costs exceed the expenditure limit. Total cost of repairs will not include the costs described in paragraph A-1b(14)(c).

(16) Date of inspection. Enter the date on which the inspection was completed.

(17) Installation. Enter the complete identification and address of the installation or activity where the inspection was conducted.

(18) Signature of Inspector. Enter the complete typed or printed name and the signature of the inspector who made the inspection.

(19) Telephone No. Enter the Defense Switched Network (DSN) number of the inspector. If a DSN is not available, list the commercial number.

**A-2. Disposition of Inspection Forms.** Forward completed DA Form 461-5 and other appropriate reports required by AR 725-50, to Commander, U.S. Army Tank-Automotive and Armaments Command, (AMSTA-IM-H), Warren, MI 48397-5000, under the following circumstances:

a. Nonrepairable Vehicle. If the vehicle is inspected at either direct support or general support maintenance activity and repairs determined to be required are beyond the scope of general support maintenance.

b. Excess Vehicle. If the vehicle is excess to the requirements of an installation or a major command.

c. Depot Inspected. If the vehicle is inspected at a depot maintenance activity.

d. Estimated Cost Too High. If the estimated repair cost exceeds the maximum established expenditure limit applicable up through the general support level of maintenance.

**NOTE**

When vehicles are reported to the NICP as indicated above, they will not be scheduled for maintenance or be diverted to other use; however, they will be maintained in reported condition and will be accorded minimal care and preservation to prevent deterioration, damage, and/or loss from fire or theft (to include cannibalization), pending receipt of final disposition instructions from the NICP. Reports on these vehicles may include a request for individual extensions or deviations.

VEHICLE CLASSIFICATION INSPECTION										CLASSIFICATION CODE			
For use of this form, see TB 43-0002-81; the proponent agency is ODCSLOG										F			
NOMENCLATURE TRUCK, TANK, FUEL (HEMTT)					REGISTRATION NO			DATE OF DELIVERY					
MANUFACTURER OSHKOSH TRUCK CORP					MODEL M978		SERIAL NO 9M1043515		AGE 2 YR		MILEAGE 6230		
REASON ACCIDENT DAMAGE AT TFR 92/93		ECHELON OF REPS			INSPECTION STANDARDS GENERAL			CONDITION BAD		DATE OF UNECON REP			
ITEM	DIAGNOSIS	SATISFACTORY	REPAIR	REPLACE	MAN HOURS LABOR	COST OF PARTS	ITEM	DIAGNOSIS	SATISFACTORY	REPAIR	REPLACE	MAN HOURS LABOR	COST OF PARTS
FRAME AND BRACKETS		X					RADIATOR		X				
BUMPERS	NA						THERMOSTAT AND HOSES		X				
TOWING CONNECTIONS	* SHACKLE (4 FA)			U	0.2	97.08	WATER PUMP AND FAN		X				
FIFTH WHEEL	NA						DRIVE BELTS		X				
BRUSH GUARD AND GRILL	BRUSH GUARD BENT		X		2.0		AIR COMPRESSOR		X				
HOOD AND FENDERS	* HOOD PANEL'S L/FENDER & MOUNT			U	3.0	500.52	AIR GOVERNOR		X				
BODY	REAR GRILL DECK BENT		X		10.0		AIR TANKS AND LINES		X				
CANVAS	NA						GENERATOR OR ALTERNATOR		X				
PAINT	REPAINT W/CARC		X		80.0	311.14	REGULATOR		X				
CAB AND DOORS	* BUCKLED AND BENT			U	20.0	10,050.95	RECTIFIER		X				
WINDSHIELD AND WINDOWS	* BROKEN/ MISSING			U	5.0	244.05	BATTERY		X				
WIPER MOTOR AND BLADES	* BENT BLADES MOUNTS LOOSE			U	0.3	8.08	STARTER AND SOLENOID		X				
HORN AND MIRROR	* MIRRORS AND MOUNTS BROKEN			U	0.5	62.40	DISTRIBUTOR AND POINTS	NA					
HEATER		X					IGNITION COIL	NA					
SPEEDOMETER & TACHOMETER		X					SPARK PLUGS AND CABLES	NA					
AMMETER OR VOLTMETER		X					SVC & BLACK-OUT HEADLIGHTS		X				
GAGES AND SENDING UNIT		X					SVC & BLACK-OUT TAILLIGHTS		X				
SEATS AND UPHOLSTERY		X					CLEARANCE AND MARKER LIGHTS	* HEADLIGHTS MISSING REAR CLEARANCE BROKEN			U	2.0	72.05
FLOOR		X					SWITCHES	* VALVE SOLENOID FETHER-MISSING			U	1.0	21.49
INTERIOR TRIM		X					WIRING AND CONNECTORS		X				
ENGINE		X					CARBURETOR AND GOVERNOR		X				
CYL HEAD AND BLOCK		X					AIR CLEANER	* BENT			U	2.0	561.43
VALVES AND PISTON RINGS		X					FUEL PUMP AND FILTER		X				
INT AND EXH MANIFOLDS		X					FUEL TANK AND LINES		X				
OIL PAN		X					MUFFLER	GUARD BENT	X			1.0	
OIL PUMP AND LINES		X					EXHAUST AND * TAILPIPES	BENT/MISSING PARTS			U	0.5	27.68
OIL FILTER AND ELEMENTS		X					CLUTCH	NA					
SUBTOTALS					121.0		SUBTOTALS					6.5	682.65

DA FORM 461-5, MAY 96

Edition MAR 89 is obsolete

Figure 1. Vehicle Classification Inspection, DA Form 461-5 (sheet 1 of 2)

ITEM	DIAGNOSIS	Satisfactory	Repair	Replace	MAN HOURS LABOR	COST OF PARTS	MODIFICATIONS			
TRANSMISSION*	FILTER HOUSING LEAKING			U	0.5	8.10				
TRANSFER		X								
POWER TAKEOFF		X								
INTERMEDIATE AXLE		X								
REAR AXLE		X								
WINCH AND CABLE	NA									
HOIST OR CRANE	NA									
SVC BRAKE SYSTEM		X								
MASTER CYLINDER		X								
AIR HYDRAULIC CYLINDER		X								
WHEEL CYLINDERS		X					OTHER SHORTAGES			
HAND BRAKE SYSTEM		X								\$
STEERING GEAR AND CONTROLS		X								
SPRINGS AND SHACKLES		X								
SHOCK ABSORBERS		X								
WHEELS	* SPARE TIRE CARRIER MISSING			U	2.0	458.92				
TIRES AND TUBES	* SPARE FLAT R/S INTER AXLE WHL		X		6.0		REMARKS  ACCIDENT DAMAGE WHILE ON TASK FORCE RUSHMORE 92-93 FY  <u>David L. Rowe</u> INSP. FRMN			
HYDRAULIC TANK	* BENT/CRACKED			U	2.9	1,171.00				
DATA PLATES, REAR	MISSING			U	0.5	189.00				
FUEL TANK	* DAMAGED			U	8.0	16,890.50				
LEFT REAR MUDFLAP	* MISSING			U	0.5	17.64				
HOSE REEL ROLLERS	* BROKEN			U	0.5	41.72	TOTAL REPAIR COSTS		COSTS DUE TO DAMAGE	
STORAGE BOX L/SIDE FENDER	* BENT			U	0.5	52.86	TOTAL MAN-HOURS LABOR	193.0	TOTAL MAN-HOURS LABOR	\$ 5,322.94
MODULE ASSY TANKER	* LEFT REAR DAMAGED			U	25.0	6,331.74	LABOR & OVERHEAD RATE PER MAN-HOUR	\$ 27.58	COST OF PARTS	\$38,293.96
HOSE REELS REAR COMPARTMENT	* BROKEN NOZZLE FITTING VALVE CAPS			U	15.0	1,127.12	TOTAL COST OF LABOR & OVERHEAD	\$ 5,322.94	TOTAL COST	\$ 43,621.90
HOSE STORAGE CANISTER	* BENT			U	0.5	53.49	TOTAL COST OF PARTS	\$ 38,298.96	OTHER COSTS (List)	
STORAGE COMPARTMENTS	BENT/CRACKED		X		4.0		TOTAL COST OF REPAIRS	\$ 43,621.90		\$
							INDIVIDUAL REPAIR EXPENDITURE LIMIT	\$92,366.50		
							TOTAL COST OF PREVIOUS REPAIRS	NA		
SUBTOTALS					65.5	26,342.09	ACCUMULATED REP EXPENDITURE LIMIT			
DATE OF INSPECTION	INSTALLATION		NAME OF INSPECTOR							
19 AUG 93	Fort Hood, Texas		James W. Brown, SFC							
			SIGNATURE OF INSPECTOR					TELEPHONE No.		
			<i>JW Brown, SFC</i>					DSN 779-4639		

Figure 1. Vehicle Classification Inspection, DA Form 461-5 (sheet 2 of 2)

A-7/(A-8 Blank)



**Appendix B**

**MAINTENANCE EXPENDITURE  
LIMIT (MEL) CHARTS**

**INDEX:**

**Chart**

B-1....Retired Tactical Vehicle Systems ..... Page B-2  
 B-2....M1008 Series, Commercial Utility Cargo Vehicle (CUCV) ..... Page B-2  
 B-3....M998 Series, High Mobility Multipurpose Wheeled Vehicle ( HMMWV) ..... Page B-3  
 B-4....M35/M44 Series 2 1/2 Ton trucks ..... Page B-4  
 B-5....M39 Series 5 Ton Trucks ..... Page B-5  
 B-6....M939, M809 Series 5 Ton Trucks and FMTV family of vehicles ..... Page B-6  
 B-7....M915 thru M920 Series Trucks (early M915 family) ..... Page B-7  
 B-8....M915A2/M916AI Series Trucks (New Freightliner family) ..... Page B-7  
 B-9....M876 Telephone Maintenance Truck ..... Page B-8  
 B-10..M878 Yard Tractor ..... Page B-8  
 B-11..M911 Tractor and M747 Trailer, Heavy Equipment Transporter (BET)..... Page B-9  
 B-12..M1070 Tractor and M1000 Trailer, Heavy Equip Transport Sys (HETS). ..... Page B-9  
 B-13..M977 Series, Heavy Expanded Mobility Tactical Truck (HEMTT)..... Page B-10  
 B-14..Palletized Loading System (PLS) ..... Page B-10  
 B-15..Trailers & Semitrailers (tankers, flat bed, low bed & van type trailers) ..... Page B-11  
 B-16..Trailers (cargo, chassis, other misc types) ..... Page B-12

**Chart B-1. Retired Tactical Vehicle Systems.**

MODEL	MEL-ZERO
M123/M125 Series 10 Ton (all models)	Retired
M151/M718 Series 1/4 Ton Truck (all models)	Retired
M520 Series 8 Ton GOER (all models)	Retired
M746 22 1/2 Ton BET	Retired
M880 Series Dodge 1 1/4 Ton (all models)	Retired
M561/M792 Series GAMA GOAT Trucks (all models)	Retired
M274 Series 1/4 Ton trucks (all models)	Retired
M656/M757/M791 8x8 Multi-Fuel 5 Ton Trucks	Retired

NOTES:

1. See Chart B-4 for identification of 2 1/2 Ton Truck model numbers still being supported.
2. See Chart B-5 for identification of old 5 Ton Truck model numbers still being supported.

**Chart B-2. MEL factors for MI 008 Series, Commercial Utility Cargo Vehicle (CUCV)**

Age (in years)	MEL (%)
1	91
2	82
3	73
4	64
5	55
6	45
7	36
8	27
9	18
10	9
11 and over	0

NOTE: Use the percentages listed in this chart for all models except the M1010. The MEL for the M1010 model is zero regardless of vehicle age. The MI010 is being replaced by M977 HMMWV's.

**Chart B-3. MEL factors for M998 Series, High Mobility Multipurpose Wheeled Vehicle (HMMWV)**

Age (in years)	MEL (%)
0	94
1	86
2	78
3	71
4	64
5	58
6	53
7	48
8	44
9 and over	40

NOTE: This chart also applies to the new heavy variant of the MWV (M1037).

Chart B-4. MEL factors for M35/M44 Series 2 1/2 Ton Trucks.

MODEL	MEL (%)
M35A2	12
M35A2C	12
M36A2	12
M49A2C	12
M50A3	12
M109A3	12
M185A3	12
-----	
ESP (Extended Service Program) Models	
M35A3	67
M35A3C	67
M36A3	67

## NOTES:

1. All M35/M44 Series 2 1/2 Ton Trucks not listed above are retired and have a MEL of zero.
2. All 2 1/2 Ton Trucks repowered with late multifuel engines should be redesignated as A2's with the NSN changed accordingly.

**Chart B-5. MEL factors for M39, M39A1, and M39A2 Series S Ton Trucks.**

<b>MODEL</b>	<b>MEL (%)</b>
M39 Series (Gas, all models)	RETIRED
M39A1 Series (Mack Diesel, all models)	RETIRED
M39A2 Series (Multifuel, all models)	ZERO

## NOTES:

1. The M39 and M39A1 Series 5 Ton Trucks are displaced vehicles and are to be retired immediately.
2. Also included in the displaced vehicles category are the M656 Series 8 X 8 multifuel vehicles, which are primarily M656 Cargos, M757 Tractors, and M791 Vans.
3. The M39A2 Series multifuel 5 tons are not part of the DA-directed retirement list. However, if vehicles are excess to an entire OCONUS region or area, they should be reported to the MACOM and held to satisfy FMS requirements. Models included in this series are: M5S A2, M52A2, M54A2, M54A2C, M55A2, M29IA2, M292A2, M543A2 and M62A2.

**Chart B-6. MEL factors for FMTV (MTV and LMTV), ND39, M939A1, M939A2 Series, and M809 Series 5 Ton Trucks.**

Age (in years)	MEL (%)
1-6	67
7	61
8	57
9	53
10	50
11	46
12	43
13	40
14	38
15	35
16	29
17 - 19	22
20 - 23	15
over 23	10

NOTE: The M819 (M809 Series) Truck Tractor-Wrecker is a displaced vehicle. It's MEL is zero and should be retired.

**Chart B-7. MEL factors for the M915/M915A1 Line Haul Tractors and M916/M917I918/ ND19/M920 vehicles.**

<b>MODEL</b>	<b>MEL (%)</b>		
M915 Line Haul tractor	39 or 13 (see note below)		
M915A1 Line Haul Tractor	38		
M916 Tractor, Light Equip Transporter	65		
M917/F5070 20 Ton Dump Truck	25		
-----			
M918/D60 Truck, Dist, Bitum	Effective for	FY 97	30
		FY 98	25
-----			
M919 Truck, Concrete	Effective for	FY 97	35
		FY 89	30
-----			
M920 Tractor, Med Equip Transporter	65		

NOTE: The MEL for the M915 Line Haul Tractor is 39% when repair of the vehicle to 10/20 standards includes remove/replace/repair of a major assembly (engine, transmission, axle, or winch). A MEL of 13% applies when replacement of a major assembly is not required to repair the vehicle to 10/20 standards. This two tier MEL is provided to allow removal/replacement/repair of major assemblies.

**Chart B-8. MEL factors for M915A2/M916A1 Line Haul Tractor and Med Equip Transporter.**

<b>Age (in years)</b>	<b>MEL (%)</b>
1	92
2	90
3	88
4	86
5	84

**Chart B-9. MEL factors for M876 Telephone Maintenance Truck.**

Age (in years)	MEL (%)
Any	7

**Chart B-10. MEL factors for M878 Yard Tractor.**

Age (in years)	MEL (%)
Any	24



Chart B-11. MEL factors for M91 11M747 Heavy Equipment Transporter (BET).

MODEL	MEL (%)
M911	65
M747	65

Chart B-12. MEL factors for M1070/M1000 Heavy Equipment Transporter System (BETS).

Age (in years)	MEL (%)
1	92
2	90
3	88

**Chart B-13. MEL factors for Heavy Expanded Mobility Tactical Trucks (HEMTTs): M977, M978, M983, M984, M984A1, M985, and M985A1.**

<b>Age (in years)</b>	<b>MEL (%)</b>
0 - 1	91
2	82
3	73
4 and over	65

**Chart B-14. MEL factors for the Palletized Loading System (PLS): M1074 Tractor w/M1075 Tractor w/o MM, M1076 Trailer, and M1077 Flatracks.**

<b>Age (in years)</b>	<b>MEL (%)</b>
1	92
2	90
3	88

Chart B-15. MEL factors for Tactical Towed Vehicles.

Water and Fuel tanker Trailers and Semitrailers	MEL (%)	Flat bed, Low bed, Tilt bed Trailers and Semitrailers	MEL (%)	Dolly Sets and Converters	MEL (%)
M106 Series Water Tkr, 400 Gal	0	M162 Series 60 Ton Low bed	65	M197 Series Dolly	10
M107 Series Water Tkr, 400 Gal	0	M172 15 Ton Low bed	0	M189 Series Dolly	10
M131 Series Fuel Tkr, 5000 Gal	0	M172A1 22 Ton Low bed	65	M199 Dolly	Retired
M149 & M149A1 Water Tkr, 400 G	0	M269 Series 12 Ton Low bed	0	M354 Dolly	Retired
M149A2 Water Tkr, 400 Gal	65	M270 Series 12 Ton Low bed	0	M689 Dolly	Retired
M967 Series Fuel Tkr, 5000 Gal	65	M345 10 Ton Flat bed	0	M707 Series Dolly	Retired
M969 Series Fuel Tkr, 5000 Gal	65	M524E2 55 Ton Flat bed	65	M720 Series Dolly	10
M970 Series Fuel Tkr, 5000 Gal	65	XM789 6 Ton Flat bed	0	M832 Dolly	65
M1098 Water Tkr, 5000 Gal	65	M793E1 65 Ton Low bed	Retired	M840 Dolly	65
60PRSWater Dist, 6000 Gal	65	M870 Series 40 Ton Low bed	65	M1022 Series Dolly	65
WD6SWater Dist, 6000 Gal	65	M871 Series 22.5 Ton Low bed	65		
		M872 Series 34 Ton Flat bed	65		
		XM974 Low bed	0		
.....	.....	M979 5 Ton Low bed	0		
M1062 Fuel Tkr, 7,500 Gal		XM1034 6 Ton Flat bed	50		
1 year old	92	XM1048 Flat bed	65		
2 years old	90	M1061A1 5 Ton Flat bed	65		
3 years old	88	XM1073 Flat bed	65		
4 years old	86	D60-D57 60 Ton Low bed	65		
5 years old	84	HPIST-MIL 15 Ton Tilt bed	0		
		KS-8FW 8 Ton Low bed	0		

Van Trailers	MEL (%)	Van Trailers	MEL (%)
M119 Series 6 Ton Van	0	M749 & M750 6 Ton Van	0
M128A1 & A1C 12 Ton Van	0	XM822E1 Van, Petro Lube	65
M128A2C 12 Ton Van	65	XM971 Series 10 Ton Van	65
M129 Series 12 Ton Van	0	XM991 Series 10 Ton Van	65
M146 Series 6 Ton Van	0	XM995 Series 10 Ton Van	65
M295 Series 6 Ton Van	65	XM999 Control Center Van	65
M313 Van, Expandable	0	XM1005 6 Ton Elect Van	0
M348 Series 6 Ton Van	0	XM1007 6 Ton Elect Van	0
M349 Series 7 1/2 Ton Refer Van	0	XM1063 Elect Van	65
M373 Series 6 Ton Van	0	XM1065 Command Post Van	65
M447 Series 6 Ton Van	0	MILVAN	0

Chart B-16. MEL factors for Cargo and other Miscellaneous Tactical Trailers.

MODEL	MEL (%)	MODEL	MEL (%)
M100	Retired	M296	0
M101 & M101A1	0	M310	0
M101A2 & M10A3	65	M332	0
M103 Series	0	M353	0
M105 & M105A1	0	M367	Retired
M105A2 (less than 10 yrs old)	50	M390C	65
M105A2 (10 to 20 years old)	30	M416 Series	Retired
M105A2 (over 20 years old)	0	M457	0
M116&M116A1	0	M458	0
M116A2 & M 15A3	25	M459	0
M118 Series	0	M463	0
M127 Series	0	M569 Series	Retired
M200	0	M716	0
M200A1(less than 10 yrs old)	65	M794	0
M200A1(10 to 20 years old)	50	M795	0
M200A1(over 20 years old)	0	M796	15
M271 Series	0	M796A1	50
		M989 Series	65

## NOTES:

1. Removal of equipment such as generators, tool sets, steam cleaners, radar sets or search lights, etc. often results in excess chassis remaining for which there are no separate requirements. Contact the NICP for disposition before initiating any repair action. In some instances, a cargo body may be added to a M116A2 or M103A3 chassis to create a M101A2 or M105A2 cargo trailer. There are no authorizations for most chassis, and some may have been modified to a point that they are not suitable for repair and redistribution.
2. All M296, M271, and M271A1 trailers are over age and type classified for contingency and training use only. As this equipment becomes excess, it is being removed from the inventory.
3. In 1992, approximately 2500 M116A2 3/4 ton chassis were issued to the field to modernize a portion of the M101 Series fleet. Any M101 Series 3/4 ton trailer which is modernized with a chassis that has a hydraulic brake actuator assembly and the CUCV wheel and tire configuration should be designated as a M101A2 model and should be reported under NSN 2330-01-102-4697.
4. Very old trailers with model numbers that do not appear in the AMDF or FEDLOG may in fact be retired and should not be repaired. Contact NICP for disposition.
5. **NOTE: ALL OTHER TRAILERS LARGER THAN 1/4 TON WHICH ARE LESS THAN 10 YEARS OLD AND NOT SPECIFICALLY NOTED ABOVE OR ON CHART B-15 HAVE AMEL OF 65%.**

By Order of the Secretary of the Army:

Official:



JOEL B. HUDSON  
Administrative Assistant to the  
Secretary of the Army  
02487

DENNIS J. REIMER  
*General, United States Army*  
*Chief of Staff*

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