

EQUIPMENT SERVICEABILITY CRITERIA
FOR
GENERATOR SET, GAS TURBINE ENGINE
30-KW, AC, 120/208-V, 3-PHASE, 400-HZ, SKID-MTD,
WINTERIZED, AIRESEARCH MDL GTGE 70-2, FSN 6115-849-6030;
45-KW, AC, 120/208, 240/416-V, 3-PHASE, 4-WIRE, 400-HZ
SKID-MTD, WINTERIZED AIRESEARCH MDL GTGE
70-6-1, FSN 6115-075-1639; AND
60-KW, AC, 120/208, 240/416-V, 3-PHASE, 4-WIRE
400-HZ, SKID-MTD, WINTERIZED, AIRESEARCH MDL
GTGE 70-9-2, FSN 6115-758-5492

Headquarters, Department of the Army, Washington, D.C., 15 June 1973

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*This manual supersedes TM 5-6100-223-ESC, 21 May 1969.

Section I. INSTRUCTIONS

1. Purpose. This manual furnishes the user a procedure for evaluating the readiness condition of the equipment to perform its primary mission for 90 days with normal maintenance support. Application of this procedure does not eliminate or reduce the requirement for prescribed maintenance service on the equipment and does not authorize replacement of components.

2. Definitions. *a. Equipment Category GREEN.* Equipment free of any condition that would limit the reliable performance of its primary mission for a period of 90 days of operation.

b. Equipment Category AMBER. Operationally ready equipment that possesses a limiting factor(s) which may curtail a reliable performance of its primary mission for a period of 90 days of operation.

c. Equipment Category RED. Equipment unable to perform its primary mission immediately or possessing an unacceptable reliability for sustained performance (90 days) of its primary mission.

3. General Instructions. *a.* This technical manual, unless classified, will be filed with the equipment log book.

NOTE

Preventive maintenance checks and services and troubleshooting tables in the applicable TM 5 manual are to be used in conjunction with this TM when performing the evaluation. Also the applicable LO 5 is required.

b. This evaluation will actually be performed on the item(s) being rated by the operator/crew.

c. Equipment serviceability criteria items covered in this manual,

but not authorized to the evaluating organization, will not be rated.

d. Authorized items not on hand will be given the lowest color rating authorized for that item.

e. This equipment is rated on the basis of capability for immediate operation and amount of wear life remaining on the components. The rating is not meaningful unless each check is made with the utmost care and accuracy.

f. Record the evaluation results on DA Form 2404, Equipment Inspection and Maintenance Worksheet, using a separate sheet for each multiple-aspect equipment, subsystem, and/or component, including those evaluated by separately published equipment serviceability criteria technical manuals. The blocks will be completed as shown below:

(1) *Block 1.* Insert the organizational designation of the unit performing the evaluation.

(2) *Block 2.* Insert the item name and model.

(3) *Block 3.* Insert the Federal stock number.

(4) *Block 4.* Insert the hours the equipment has been operated as of the date of the evaluation.

(5) *Block 5.* Insert the standard six-digit calendar date that the equipment serviceability criteria evaluation is performed. (Example: 3 January 1969 would be 690103.)

(6) *Block 6.* Insert the letters ESC.

(7) *Block 7.* Insert the equipment serviceability criteria technical manual number and its date of issue.

(8) *Column a.* Insert the checkpoint item number.

- (9) *Column b.* Place each obtained color rating opposite the item to which it applies. (Insert **GREEN**, **AMBER** or **RED** as applicable.)
 (10) *Column c.* Briefly describe each test item.

NOTE

Obtain the color rating for each subsystem by taking the lowest color rating given.

- (11) *Blocks 8 and 9.* Self Explanatory.
 (12) *Block 10.* Insert the overall equipment color categorization.

NOTE

The color category for the overall equipment will not be rated any higher than the lowest rated item. The color rating will be kept current by recording changes as they occur on DA Form 2404. (13) Staple all forms applying to the same system together, with those which apply to the basic system on top.

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- h.* Determine and record the appropriate rating for each checkpoint, each subsystem/component, and the system. The color rating for multiple-aspect equipment will be the lowest rating recorded for a subsystem/component.

NOTE

If an URGENT modification work order has not been applied to any authorized equipment, the equipment and the system will be rated **RED**.

- i.* Subsystems and components will be separately color rated.
j. A color rating will be assigned for the overall system.

4. Reporting of Equipment Publication Improvements. The reporting 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 Publications and forwarded direct to: Commander, US ATROSCOM, ATTN: AMSTS-MP, St. Louis, MO 63120.

Section II. GENERATOR SET EVALUATION PROCEDURE

5. Evaluation Requirements. Before inspecting the generator sets, insure that fuel, lubricating oils and battery levels are adequate and that the generator set will, without damage, operate satisfactorily to perform the requirements of this evaluation.

6. Procedures. *a. Evaluation.* All information will be determined by actual inspection and operation of the equipment. Evaluate each item listed and record the proper rating on DA Form 2404 as described in section I. All operator/crew preventive maintenance checks and services will be performed prior to evaluation.

Item 1. MODIFICATION WORK ORDERS (MWOs)

PROCEDURE	RATINGS		
	GREEN	AMBER	RED
Determine if all urgent MWOs have been applied. Refer to DA Form 2408-5 in the log book.	All urgent MWOs have been applied.		One or more urgent MWOs have not been applied.

Item 2. BATTERIES -. INSPECTION

Inspect for obvious defects which make the batteries unserviceable, such as cracked or broken cases or burned posts.	All batteries are present. The batteries rotate the turbine to the required starting RPM.		One or more batteries missing or will not rotate the turbine to the required starting RPM.
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Item 3. ENGINE OPERATION - INSPECTION AND OPERATION

Start the engine. After ignition, check the acceleration speed to the maximum governed RPM, 60 <i>seconds</i> maximum. At the maximum governed RPM, with no load, check for any erratic operation, unusual noise or vibration.	Operates properly.	Detectable noise, no vibration. Operates properly.	Excessive noise or vibration. Not operating properly or inoperative.
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PROCEDURE	RATINGS		
	GREEN	AMBER	RED
Item 4. LEAKAGE - INSPECTION AND OPERATION			
With the engine running, inspect the fuel lines, lubricating oil lines, fuel tank, filters, and engine oil tank.	No leakage (may be moist to the touch but no droplet formation.)	Less than 3 drops in a 5-minute period.	More than 3 drops in 5 minutes or visible cracks.
Item 5. INSTRUMENTS AND CONTROLS - INSPECTION AND OPERATION			
During operation inspect to determine whether the instruments and controls are functioning properly. Check the start and stop switch, oil pressure and temperature gages, ammeter(s), voltmeter(s), hourmeter, frequency meter, frequency control and voltage adjust rheostats, and the main circuit breaker.	All items operate properly.	One or more items that are not listed in RED are not operating properly or are missing.	One or more instruments, controlling or selector switches not operating properly, inoperative or missing.
Item 6. GENERATOR COMPONENT ASSEMBLY - INSPECTION AND OPERATION			
During operation of the engine, determine that the generator functions properly at its rated output. Detect any unusual noise or vibration that might indicate damaged or worn parts.	Operates properly.	Detectable noise or vibration. Operates properly.	Excessive noise or vibration. Not operating properly or inoperative.
Item 7. ENGINE OIL CONSUMPTION			
Determine how many quarts of oil were consumed during the last 100 hours of	0-1	1-2	Over 2

PROCEDURE	RATINGS		
	GREEN	AMBER	RED
operation. If less than 100 hours have been accumulated since the last oil change, use data between previous changes. Do not consider the amount of oil used in making the change.			
Item 8. ENGINE HOURS OF OPERATION (DA Form 2408-1 or 2408-10)			
Determine the hours the engine has been in operation since it was new or overhauled. If the hourmeter has been replaced, add the hours at the time of replacement(s) to the present hourmeter reading for the total hours of operation since the engine was new or overhauled.	0 - 4500	4500 or over	

b. Rating.

- (1) Determine if any AMBER ratings were recorded.
- (2) Determine if any RED ratings were recorded.
- (3) The color rating will be the lowest rating recorded.

By Order of the Secretary of the Army:

CREIGHTON W. ABRAMS
General, United States Army
Chief of Staff

Official:

VERNE L. BOWERS
Major General, United States Army
The Adjutant General

Distribution:

To be distributed in accordance with DA Form 12-25D, Operator Maintenance Requirements for Generator Sets: 30-KW, 400-HZ; 45-KW, 400-HZ, and 60-KW, 400-HZ.

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