



**MINISTRY OF DEFENCE**  
**SECRETARIAT GENERAL OF DEFENCE AND NATIONAL ARMAMENTS**  
**DIRECTORATE OF AIR ARMAMENTS AND AIRWORTHINESS**

**NATO AGS**  
**RQ-4D AIR SEGMENT**  
**REGULATION FOR THE AUTHORIZATION AND**  
**MANAGEMENT OF EMERGENCY REPAIRS**

## LIST OF EFFECTIVE PAGES

**ATTENTION:** This regulation is valid only if it made of the pages listed below, duly updated.

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# 1. INTRODUCTION

## 1.1 General

The AER.00-01-33 “*Norma per l’autorizzazione e la gestione delle riparazioni di emergenza su aeromobili militari*” is the Italian regulation for the military aircrafts, concerning the authorization and management of repairs carried out in case of the emergency conditions.

This tailored regulation has been developed to address NATO AGS Air Segment peculiarity.

## 1.2 Aim

The aim of this regulation is to establish the criteria and procedures to be used to regulate the authorization and management of Emergency Repairs on the NATO AGS Air Segment and to provide the guidelines to enable the NAGSF, through internal directives, to proceed with their execution.

## 1.3 Applicability

This regulation is applicable to the NATO AGS Air Segment that are registered in the Italian Military Aircraft Registry under DAAA responsibility.

## 1.4 Validity

This regulation shall come into effect as of its approval date.

## 1.5 Related Documentation

A. AER(EP).00-01-33	Norma per l’autorizzazione e la gestione delle riparazioni di emergenza su aeromobili militari
B. AER(EP).0-0-2/RQ-4D	NATO AGS RQ-4D Air Segment and Pilot Trainer Definition and Regulation of the D.A.A.A. System for Handling Technical Publications Aircraft Maintenance Training Organisations

## 1.6 Definitions

Refer to AER(EP).0-0-2/RQ-4D, Annex VI for the general definitions.

The peculiar definitions applicable to this regulation are the following:

ABDR	Aircraft Battle Damage Repair
ERA	Emergency Repair on NATO AGS Air Segment
FCS	Non-Standard Configuration– <i>Fuori Configurazione Standard</i>
HOL	Head of Local Operations
LTH	Local Technical Head
NAGSF CSA	NAGSF Office in charge of Configuration Status Accounting

## 2. AUTHORIZATION AND MANAGEMENT OF EMERGENCY REPAIRS ON NATO AGS AIR SEGMENT

### 2.1 Applicability of ERA

Emergency Repairs on NATO AGS Air Segment (ERA) are quick repair solutions, aimed at restoring the operating capability of the Air Segment in case of the emergency conditions quoted in this regulation.

They may apply non-standard techniques, such as "Aircraft Battle Damage Repair" (ABDR), which need not necessarily be considered applicable only for war or armed conflicts, but also for particular operating requirements due to contingent urgency situations and/or danger to persons and/or things (e.g.; natural disasters, scenarios with the presence of hostile armed activities, Peace Keeping or Peace Enforcing Operations).

Moreover, ERAs should not be considered to be applicable only to the repair of war damage (e.g.; shots of firearms, anti-aircraft guns), but also to remedy generic unpredictable malfunctions (e.g.; bird strike, accidents on the ground, lightning, tire brush).

In general, an Emergency Repair shall strive for the best possible maintenance solution, compatibly with the available resources.

ERAs are temporary and their relative validity over time is closely linked to the continuation of the particular operational requirement that has justified its use, compatibly with the type of repair that it was possible to carry out. ERAs may have an extremely short validity (e.g.; limited to a ferry flight) and restore only the Air Segment's minimum required operating capacity, or may be semi-permanent and capable of restoring full functionality to the Air Segment, this making the asset available for the entire duration of the operational requirement. The use of an ERA shall be reported to both the NAGSF Office in charge of the configuration status accounting (NAGSF CSA) of the Air Segment and to the Vice Technical Directorate – *Vice Direzione Tecnica* (VDT) of the DAAA, and involves changing the Air Segment 's status to Non-Standard Configuration – *Fuori Configurazione Standard* (FCS).

The possible continuation of the operational requirement and of the emergency conditions requiring keeping the Air Segment subject to ERA in FCS conditions for more than 30 days shall be reported at the end of that period to both the NAGSF CSA and to the VDT of the DAAA, detailing the reasons to do so.

At the end of the particular operating requirement, the ERA shall be removed and the return to operational conditions of the Air Segment shall be performed, when practicable, by a definitive repair in accordance with (i.a.w.) the TPs on ordinary maintenance, or by maintenance performed by the SDR.

Use of an ERA may be authorized only when the following two essential conditions are met at the same time:

- there shall be particular operating requirements that justify the risk linked to a potential reduction in the level of airworthiness of the Air Segment (i.e. Emergency Conditions);
- it shall not be possible to carry out ordinary maintenance.

### **2.1.1 Presence of Emergency Conditions**

The operational needs that justify the use of an ERA have different inherent characteristics from the "normal" operating requirements for which ordinary maintenance procedures are used; therefore, they shall be considered to arise from participation in operations and/or to the occurrence of events that, due to their contingent nature of urgency and/or danger to persons and/or property, require the maximum operational capability of all available assets.

Events of this kind may be considered (but not limited to):

- armed conflicts (declared and not declared);
- Peace Keeping or Peace Enforcing operations in regions characterized by logistical problems, unusual operating and climatic environments or potentially exposed to hostile actions.

### **2.1.2 Impossibility of carrying out ordinary maintenance**

The inability to restore the full functionality of a damaged asset so as to satisfy a specific operating requirement, using ordinary maintenance procedures, may depend on the following factors:

- insufficient time available;
- lack of replacement components;
- lack of specific equipment or peculiar AGEs;
- lack of support services for the maintenance activities;
- lack of the infrastructure needed to carry out the maintenance activities;
- lack of a specific diagram or repair procedure;
- unavailability of specialized technical staff;
- impossibility of an intervention by the SDR.

## **2.2 Cycle of Preliminary Actions to the Execution of ERA**

NAGSF shall define, by means of appropriate internal directive, a cycle of actions that are preliminary to the execution of an ERA, which indicatively involves the following phases:

- **Phase 1:** analysis of the technical problems and assessment of whether or not to perform ordinary maintenance in the context and in the conditions imposed by the current operational requirements;
- **Phase 2:** analysis of the operational requirement and assessment of whether this justifies use of an ERA;

- **Phase 3:** assessment of the possibility of solving the technical problem using an ERA.

Only at the end of all the steps described above it is possible to proceed with an authorization to perform an ERA.

## 2.3 Execution of ERA

NAGSF shall regulate by means of an appropriate internal directive, the phases of execution of an ERA, which shall include, indicatively, the following:

- **Technical Assessment:** accurate assessment of the damage and determination of the related repairs that can be performed with the resources available;
- **Risk Assessment:** assessment of the risks associated with the use of an ERA;
- **Repair:** execution of the repair i.a.w. the NATO AGS TPs applicable to crisis or war situations (e.g.; the ABDR manuals).

## 2.4 Responsibility and Authorization to Perform ERA

The NAGSF's internal directive on the management of ERAs shall also identify the Head of Local Operations (HOL), who is responsible for assessing whether or not the current operational needs justify the use of an ERA on the basis of what is indicated in this TP.

If so, it is always the responsibility of the HOL to assess, on the basis of the results of the Technical and Risk assessment submitted by the Local Technical Head (LTH), the acceptability of any level of risk determined by the application of the identified ERA, in this case, formally authorize the LTH to proceed with its implementation to restore the operational conditions of the damaged aircraft.

The LTH shall assess the possibility of carrying out the maintenance activity needed to restore proper operation of the Air Segment by using ordinary maintenance procedures and if not possible report the circumstance to the HOL, requesting at the same time the authorization to use an ERA.

Therefore, the LTH shall suggest to the HOL the feasibility of an ERA, submit the results of the Technical and Risk Assessments and, after receiving his permission to proceed, order it and monitor its implementation through the ERA Team identified and appointed i.a.w. the specified requirements in the NAGSF's internal directive (e.g.; ERA Supervisor, ERA Mechanical/Electrical Technician, Certified Technician for the NATO AGS).

## 2.5 Documentation and Communications

An authorization by the HOL is required to perform an ERA.

That authorization shall be formalized by issuing a special document that shall be stored together with the Air Segment's documentation.

Attachment "A" gives an example of an authorization to perform an ERA, which reports to the NAGSF CSA and DAAA the aircraft's FCS status.

A "Work Sheet" shall be also produced concerning the performed ERA on the Air Segment, referencing the details of the authorization document mentioned above and certifying that the ERA has been performed i.a.w. the applicable TPs, including the approved ABDs.

The "Work Sheets" shall contain all the individual maintenance operations performed during the ERA and be initialed by the maintainers that performed them. This document shall be kept together with the Air Segment's documentation. All temporary measures taken by an ERA shall be reported on the relevant Technical Log with the corresponding service life, operating instructions, warnings, limitations and/or for extraordinary checks to be performed, if any.

Suitable references shall also be entered in the relevant Logbook.

## **2.6 Reinstatement**

When the Emergency Conditions cease, for which the ERA has been authorized, the NAGSF shall independently or by involving the SDR reinstate the standard configuration of the Air Segment, as was in force prior to performing the ERA.

Once the appropriate remedial measures have been taken, the reinstatement of the Military Registration Number to the standard configuration shall be promptly reported to the NAGSF CSA and VDT DAAA.

Where necessary, the NAGSF shall also realign the Air Segment configuration by introducing the Service Bulletins that had not been applied because they were incompatible with the ERA that was performed.





Place, .....

Head of Local Operations

To:

NAGSF TASK GROUP  
TECHNICAL SECTION

and copy to:

NAGSF SQUADRON

VDT-DAAA

NAGSF CSA

Prot.nr.: .....

Subject: \_\_\_\_\_ OPERATION. AUTHORIZATION TO PERFORM AN EMERGENCY  
REPAIR ON NATO AGS AIR SEGMENT MRN \_\_\_\_\_.

Reference: a) NAGSF internal directive  
b) Applicable Technical Publications  
c) ...

1. In accordance with the directives at reference a), considering the impossibility of carrying out ordinary maintenance and the occurrence of Emergency Conditions, I hereby authorize the use of an Emergency Repair on the subject NATO AGS Air Segment to restore its operational conditions.
2. On the basis of the authorization in question, the aircraft MRN \_\_\_\_\_ is in a "Non-Standard Configuration". At the end of the above conditions and once the maintenance activities necessary for reinstatement with the standard configuration have been completed, the addresses will be promptly informed.

Head of Local Operation

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