

Research on Equipment Information Check and Acceptance Method based on Actual Training

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Abstract—With the advancement of actual military training, the actual training of equipment has presented new characteristics. The traditional equipment check and acceptance model can no longer meet the requirements of actual combat training. It is imperative to carry out information check and acceptance. Focusing on the difference between the informatization check and acceptance and the traditional check and acceptance mode, the problems and key disposal issues that need to be paid attention to the information check and acceptance work are discussed, and relevant countermeasures are proposed.

Keywords — equipment, informatization, check and acceptance

I. INTRODUCTION

In recent years, with the advancement of actual combat military training, the utilization rate of military equipment has been greatly improved, and higher requirements have been placed on the quality of equipment. The current check and acceptance test conditions are based on the check and acceptance of the technical performance indicators of the products. The check and acceptance conditions are single, and the check and acceptance process is fixed. There is still a big gap between the requirements and the actual combat requirements. This has also caused reflections on the current check and acceptance mode at all levels, and it is imperative to implement the actual check and acceptance of equipment.

1Problems in equipment check and acceptance work under the background of actual combat military training

In recent years, actual combat military training has become the norm for military training. The training frequency is high, the time is long, the intensity is large, and the scope is wide. The design and manufacturing level of equipment are put forward higher requirements.

First, pay more attention to beating equipment in the actual combat background. The actual combat training of weapons and equipment can truly test the overall combat effectiveness of the acceptance equipment. The military training under actual combat conditions is characterized by multi-question, multi-scenario, multi-terrain and multi-style comprehensive exercises under all-weather conditions. Large-scale, cross-regional and long-distance maneuvers are becoming the norm, and high-intensity equipment is in actual combat. Under the background of training, some of the technical problems of using technology are frequently exposed, and even

endangering the life safety of officers and soldiers, which has affected the normal development of the daily training of the troops to some extent [1].

The second is to pay more attention to the overall performance of the equipment. Combat military training is organized according to combat missions, focusing on reconnaissance intelligence, command and control system establishment, various information fusion situation, target information analysis and damage effect evaluation. These are all equipment information system interconnection performance, sub-system performance reliability and The overall performance puts forward higher requirements. If the overall performance is not working properly, the increase in combat effectiveness will be greatly reduced.

The third is to pay more attention to the rapid generation of new equipment combat power. Under the background of actual combat military training, the troops have high expectations for new equipment. It is hoped that the equipment can quickly form combat power after being installed. However, many large-scale complex equipments lack practical combat check and acceptance before leaving the factory, often after delivery. It is still necessary to organize the development unit and the manufacturer to carry out repeated debugging, which takes a lot of time and effort, and has a great impact on the rapid formation of combat capability of the equipment.

II. THE DIFFERENCE BETWEEN THE ACTUAL CHECK AND ACCEPTANCE AND THE TRADITIONAL CHECK AND ACCEPTANCE WORK MODE

Compared with the traditional check and acceptance mode, it only pays attention to the technical indicators of the assessment equipment. The actual check and acceptance high lights the "real combat" and organizes the implementation in the context of the tactics to be determined. It emphasizes the operational targeting of the check and acceptance project, the complexity of the environmental conditions and the inspection. The rigor of acceptance criteria [2].

A. Concept

GJB1405A-2006 defines the check and acceptance as follows, through observation and judgment, appropriate combination of measurement and test for conformity evaluation. The military representatives carry out quality conformity check and acceptance according to the approved technical documents and drawings

(manufacturing and acceptance specifications) and the specified check and acceptance rules, which are commonly referred to as “conformity inspection and acceptance” [4].

The actual check and acceptance of equipment is to test the acceptance and assessment equipment with close to the actual environment, conditions, subjects and strengths, and to determine whether the equipment can meet the military's operational requirements and tactical technical indicators in terms of design and manufacturing [3].

B. Different Check and Acceptance Objects

Under the traditional check and acceptance mode, each system unit and military representative conducts individual check and acceptance for the equipment in charge. Even if there is interconnection requirement, the check and acceptance tooling is used for testing, and the whole system installation check and acceptance is less. These circumstances have caused the phenomenon that they cannot be connected or passed after delivery. The actual check and acceptance requires breaking the traditional check and acceptance mode for conformity check and acceptance of individual equipment based on manufacturing and inspection acceptance specifications, focusing on the overall coordination assessment of the weapon system, and carrying out system-level joint inspection on the basis of single inspection and acceptance. Acceptance, organization of actual combat joint debugging, focusing on the technical performance stability, tactical performance effectiveness and interconnection reliability of the check and acceptance system equipment [4].

C. The Assessment Environment and Boundary Conditions Are Different

Under the traditional check and acceptance mode, the military representatives only conduct check and acceptance according to the manufacturing and inspection acceptance specifications, while the manufacturing and inspection acceptance specifications are mainly prepared by the contracting unit, and it is difficult to change once approved. The assessment environment is far from the actual combat environment. For example, in low temperature, sandstorm, and complex electromagnetic environment, the phenomenon that the indicators fail to meet the specified requirements is not completed by the traditional check and acceptance mode. However, the actual check and acceptance requires military representatives to incorporate the various environmental and boundary conditions faced in the actual use process into the assessment subjects during the preparation of the pilot program, to maximize the actual combat environment and truly assess the equipment environment adaptability.

D. The Military Representative Skills Are Different

In the past, military representatives only need to be familiar with the equipment they are responsible for, and they can carry out check and acceptance according to the manufacturing and inspection acceptance specifications

and check and acceptance rules. For complex weapons and equipment, due to the large number of sub-systems involved, the wide range of disciplines involved, the military representatives have good professional capabilities, not only familiar with equipment structure, manufacturing and process equipment, but also familiar with the actual situation of the troops, so that the assessment subjects can be better set up comprehensive assessment of equipment performance.

III. EQUIPMENT ACTUAL COMBAT CHECK AND ACCEPTANCE KEY LINK DISPOSAL

A. Disposal of Exposure Problems

Distinguish the nature of the fault. Equipment failure is inevitable, but not all faults are technical quality problems. Therefore, in the process of dealing with technical quality problems, we must do the following three aspects: to distinguish the nature of the fault, to remove non-technical quality problems; to make a good judgment on the quality of technical problems; repeated analysis, the same type of the problem is merged.

Conduct a site survey. The on-site investigation is to find out the mechanism of the problem. In the first scene of the problem, the phenomenon check, damage check, material evidence collection and visit witness are carried out. The information is filtered, sorted and verified, and the logic between various phenomena is straightened out. Relationship, the process of restoring the problem, the preliminary positioning of the cause, determining the degree of harm and impact, and finally forming the process of the on-site investigation report.

Problem handling. For the technical quality problems that arise, the responsible unit shall analyze the reasons for rectification, and after the approval of the test leading group, implement double reset management and finally submit a zero return report. The military representatives must strictly define the nature of the exposure problem, strictly dispose of the procedures, and effectively solve the problem of zeroing. Through the test and assessment, the quality and performance of the weapon system can be clarified.

B. Determination of Test Results

Experimental data analysis and processing. The test data is an important data to promote the improvement of equipment quality level. According to the overall requirements of equipment quality improvement project, the test data accumulated by the classification and disposal can not only comprehensively evaluate the existing equipment, but also predict the risk and explore the law. It can also provide decision-making basis for the superior system life-cycle cost guarantee for the above-mentioned equipment, and provide a powerful reference for equipment quality improvement and improvement.

Test conclusions. The actual check and acceptance has broken through the original manufacturing and inspection acceptance specifications, and the systematic check and acceptance is carried out. The judgment of the inspection acceptance conclusion should also break

through the original qualification standards. According to the specific conditions of the test, the military representative office of the overall factory will take the lead and organize relevant units to hold a trial summary meeting to deal with the problems left over from history. The overall report and the military representative office of the station will jointly issue a test report as a system for actual inspection and acceptance. Basis.

C. Recovery of Equipment

Due to the large number of live-fire shooting tests, maneuvering tests and other operational items in the actual inspection and acceptance, the equipment will wear to varying degrees, and some accessories may be lost, so the equipment needs to be restored. The recovery work should be led by the overall military representative office, involving the cleaning, oiling, painting, packaging and accessories inventory and replenishment of the equipment.

D. Improvement of the Rules

In the actual check and acceptance process, if the rules are found to be wrong, the test method is not feasible, the qualification criteria are unreasonable, or the new problems in the troops need to be verified by the actual inspection and acceptance, these involve changes to the rules. Referring to the changes in the previous test syllabus and rules, the general changes are changed by the manufacturer's research and reported to the military representative office; the changes involving the methods, contents and results of the trials are changed by the military agency.

IV. THE PROBLEM THAT EQUIPMENT INFORMATION INSPECTION AND INSPECTION NEEDS TO GRASP

A. Close to the Information Standard

Objectively speaking, the equipment is mainly tested according to the set conditions, and there is still a big gap from the informatization inspection standard, which causes some problems to be "hidden and not obvious". It is necessary to simulate the actual practice of the troops in an all-round way, highlight the system communication and system operational capability assessment, and fully expose the problem. When the military representatives jointly prepare the test outline and implementation rules with the producers, they must embody the force operational command process, equipment extreme use conditions, and operational environment requirements into the test procedures and subjects. During the test, it is necessary to adhere to strict standards, strict conditions, strict method steps, strict boundary conditions, and rigorous testing methods.

B. Highlighting Problem Orientation

Informatization inspection and acceptance work, fundamentally speaking, is close to the troops, close to actual combat, to find problems and solve problems from

different angles, different environments and different methods. In the process of leap-forward development of equipment, the main technical indicators of equipment have achieved a qualitative leap, but there is still a big gap in the basic accumulation of general quality characteristics. Therefore, information inspection and acceptance must be problem-oriented and practically consistent. Examined qualified equipment and unsuitable problems are exposed, the problem is identified, and multiple faults are easily solved in the test, which really promotes the improvement of equipment quality.

C. Bold Innovation Practice

In the preparation of the outline, it is necessary to get rid of the constraints of the check and acceptance specifications, set up the corresponding check and acceptance subjects according to the actual operational command process, and add various environmental and boundary conditions existing in the use of the troops to the assessment subjects, and expose the exposed The problem is inferior, from the multi-angle of combat training, maintenance support, and all-round check and acceptance of the real performance of equipment, to ensure that the equipment is easy to use, useful, top-use . In the test, if it is found that the syllabus reviewed in the previous period is not very operative, it must be boldly proposed, and the organization will make changes.

CONCLUSION

Equipment informatization inspection is a new subject that our military will inevitably face in deepening actual combat military training. It requires military representatives to break the traditional inspection mode, and its purpose is to promote the leap of equipment quality. Carrying out the research on equipment informatization inspection not only lays a certain theoretical foundation for the military representatives to conduct in-depth practical testing, but also provides useful reference for future research.

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