

Analysis on the Training Needs of Equipment Maintenance Support Sergeant

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Abstract

Organizing equipment maintenance support Sergeant training is an important measure to improve the equipment maintenance support capability of the army. Based on the analysis of the problems and current situation in the construction of equipment maintenance support Sergeant team, this paper attempts to study the QFD Model of sergeant training quality support, find out the key points of support through the model, and then put forward more scientific and reasonable suggestions on the quality of support training.

Keywords

Equipment maintenance support; Sergeant; Training needs.

1. Introduction

Equipment maintenance support sergeants mainly refer to those who have mastered the relevant professional skills of military equipment and can meet the needs of military equipment maintenance support jobs. They are the main body of the military equipment maintenance support force. Under the new situation, with the continuous development of science and technology and the continuous expansion of missions and tasks, the speed of upgrading military equipment is accelerating. Under the background of the army's large-scale combat training, various types of equipment are used more and used more intensively, and the number of equipment failures in the process of training and use also increases, which puts forward higher capability requirements for equipment maintenance support sergeants, and the construction of equipment maintenance support Sergeant team is becoming more and more important.

2. Problems Existing in The Construction of Equipment Maintenance Support Sergeant Team

At present, the army mainly improves the ability of maintenance support sergeants through various centralized training. There are three types of training: Army independent training, college pre selection training and upgrading training. In contrast, the number of posts for systematic training in Colleges and universities is relatively small, which can not meet the needs of army equipment support. Therefore, relying on the independent training of army training institutions is an important channel. According to the task requirements of equipment maintenance support, the current situation of military equipment maintenance support was investigated and analyzed, and it was generally felt that there were four problems in the construction of the current equipment maintenance support Sergeant team.

2.1. Personal Competence

The educational level is generally low, and the vast majority of the military equipment maintenance and support non commissioned personnel are middle school educated. ② The

theoretical foundation is relatively weak. Before enlistment, there is basically no relevant maintenance theoretical foundation. After enlistment, the relevant business training is mainly based on maintenance skills, with less theoretical teaching. ③ Lack of maintenance support experience, maintenance experience and skill level. In particular, corporal and conscripts have less opportunities to participate in training, lack of daily support experience and lack of ability to perform tasks independently. ④ The overall sense of responsibility of the personnel is not strong, the sense of ownership is not enough, the sense of love and management is weak, and the awareness of active learning is not high.

2.2. Training Support

① There is a lack of teaching support equipment. Apart from colleges and universities, independent training institutions of the armed forces generally lack special teaching support equipment, and the training support is insufficient, such as vehicle equipment. ② The combination of theory and practice is not close. To a large extent, the relevant business training focusing on maintenance skills only stays in books, and there are few opportunities for practical training. ③ Due to the limitation of equipment distribution and establishment, the number of equipment distribution is small, which leads to the limitation of training, especially the special operations equipment.

2.3. Personnel Training

① The educational level is generally low, and the vast majority of the military equipment maintenance and support non commissioned personnel are middle school educated. ② The theoretical foundation is relatively weak. Before enlistment, there is basically no relevant maintenance theoretical foundation. After enlistment, the relevant business training is mainly based on maintenance skills, with less theoretical teaching. ③ Lack of maintenance support experience, maintenance experience and skill level. In particular, corporal and conscripts have less opportunities to participate in training, lack of daily support experience and lack of ability to perform tasks independently. ④ The overall sense of responsibility of the personnel is not strong, the sense of ownership is not enough, the sense of love and management is weak, and the awareness of active learning is not high.

2.4. System and Mechanism

① The maintenance support mode is unreasonable. The maintenance of ordnance and weapons is too dependent on the superior or manufacturers, and the general vehicles and other non classified equipment are too dependent on local repair shops. ② The distribution of maintenance support tasks is uneven, and the training of maintenance support sergeants in each unit is different. ③ The daily duty and training tasks are heavy, and the contradiction between work and study is prominent, so it is difficult to concentrate on special training.

Among the above-mentioned four aspects of personal ability and quality, training guarantee, talent training and institutional mechanism, the two aspects of training guarantee and institutional mechanism are more affected by objective reasons. Therefore, the following focuses on the two aspects of ability and quality and talent training that are more subjectively affected.

3. Analysis on Key Capabilities of Equipment Maintenance Support Corps

On the basis of investigating the current situation of the army's equipment maintenance support Sergeant team and inviting experts in relevant positions to score, the relevant house of quality model is constructed by constructing the relationship matrix between the task requirements of the equipment maintenance support Sergeant team and the capability requirements of the equipment maintenance support Sergeant team, and using the quality

function deployment (QFD) method, Analyze the key capabilities of the equipment maintenance support Sergeant team and the correlation between various capabilities.

3.1. Mission and Task Requirements Analysis of Equipment Maintenance Post

Military equipment repairmen are mainly responsible for the maintenance of vehicles, ordnance and other types of equipment. They are divided into three levels: primary, intermediate and senior (technicians). This scheme takes the intermediate repairman of ordnance equipment as an example for analysis, and the correlation analysis of repairmen at other levels is similar. According to the requirements of the outline and in combination with the army investigation, in the ordnance equipment maintenance task, the intermediate repairman is required to be ideologically and politically competent, voluntarily accept the post, love the post, be professional, have a strong sense of team, be familiar with relevant laws and regulations, master the basic knowledge of maintenance, understand the frontier development of the discipline, be familiar with the basic structure and performance of ordnance equipment, and master the operation and use methods of ordnance equipment, Master the replacement methods of ordnance equipment parts, be able to maintain and eliminate general faults, be able to prepare teaching plans for this major, conduct classroom theory teaching, and conduct "four sessions" teaching. The specific task requirements are shown in Table 2.1, in which the importance of task requirements is determined by expert scoring and in combination with the actual needs of the position. The five point system is used for evaluation, in which 5 is the most important and 1 is the least important.

Table 1. Mission requirements of ordnance equipment maintenance post

Serial number	Task requirements	Importance
1	Excellent ideological and political skills	5
2	Be familiar with the quantity and quality of ordnance equipment	3
3	Be familiar with the quantity and quality of ordnance equipment, and organize the "four sessions" teaching	3
4	Voluntary acceptance of post	4
5	Be familiar with the basic structure and performance of ordnance equipment	4
6	Be able to maintain and eliminate general faults	5
7	Master the operation and use methods of ordnance equipment	5
8	Master the replacement methods of ordnance equipment parts	5
9	Master the basic knowledge of maintenance	3
10	Be able to teach theory in class	3
11	Understand the cutting-edge development of the major	2
12	Love and dedication	4
13	Strong sense of teamwork	2
14	Familiar with relevant laws and regulations	3

3.2. Transformation from Mission Requirements to Capability Requirements

By analyzing the mission and task requirements, the intermediate maintenance workers of ordnance equipment maintenance posts need excellent ideological and political ability, good legal and regulatory literacy, solid professional ability, good teaching and training ability, strong learning and innovation ability, and good unity and cooperation ability, as shown in table

2.2. Among them, the relationship between these capabilities and task requirements is "one to one", "one to many" and "many to many".

Table 2. Capability requirements of ordnance equipment maintenance posts

Serial number	Capability requirements
1	Ideological and political ability
2	Law and regulation literacy
3	Basic professional ability
4	Teaching group training ability
5	Learning and innovation ability
6	Unity and cooperation ability

3.3. Building House of Quality Model

After the mission and capability requirements are determined, the correlation between mission and capability requirements is further determined through expert discussion, and different symbols are marked in the corresponding rooms of the house of quality according to the degree of correlation. Specifically, it can be divided into four cases, that is, if the two projects are strongly related, it shall be marked with "●"; If the correlation is strong, mark "○"; If the correlation is weak, mark "△"; Blank if there is no correlation. The correlation analysis between various capabilities can also be carried out on the quality roof of capability demand. The analysis and marking methods are the same as before. The established house of quality is shown in Figure 1.

Capability requirements	thought Politics ability	law statute accomplishment	repair major ability	teaching organize and train ability	study And creation New energy ability	unite cooperat ion ability	Importance
Excellent ideological and political skills	●	●		●	△	○	5
Be familiar with the quantity and quality of ordnance equipment	△		●	○	○		3
Can organize "four sessions" Teaching			●	●	△	○	3
Voluntary acceptance of post	●				△		4
Be familiar with the basic structure and performance of ordnance equipment			●	○	△		4
Be able to maintain and eliminate general faults			●	○	△		5
Master the operation and use methods of ordnance equipment			●	○	△		5
Master the replacement methods of ordnance equipment parts			●	○	△		5
Master the basic knowledge of maintenance			○	○	●	△	3
Be able to teach theory in class			●	●	△		3
Understand the cutting-edge development of the major			○	△	○		2
Love and dedication	○	△				○	4
Strong sense of teamwork	○	△		○		●	2
with relevant laws and reg	●	●			△	△	3
Degree of importance	79	46	155	138	67	52	
Relative weight	0.15	0.09	0.29	0.26	0.12	0.10	

Figure 1. Quality house model for capability requirements of equipment maintenance Sergeant

After determining the correlation analysis, calculate the four different degrees of correlation according to 5, 3, 1 and 0. In this way, the correlation judgment matrix $\mathbf{R}$ can be obtained. In combination with the task demand weight $\mathbf{W}$, the importance $\mathbf{Q}$ of the capability demand can be obtained, that is, $\mathbf{Q} = \mathbf{R}^T \cdot \mathbf{W}$, which is substituted into the calculation: $\mathbf{Q} = (79, 46, 155, 138, 67, 52)^T$, converted into relative weights, which are 0.15, 0.09, 0.29, 0.26, 0.12 and 0.10 respectively.

4. Suggestions on Improving the Training Quality of Army Support and Maintenance Sergeant Team

Through the analysis and comparison of the relevant data of the constructed house of quality model, it can be seen that among the various ability needs, they are sorted by importance as professional maintenance ability, teaching group training ability, ideological and political ability, learning and innovation ability, team cooperation ability and legal and regulatory literacy.

4.1. Focus on the Cultivation of Professional Maintenance Ability and Teaching Group Training Ability

In the house of quality model, professional maintenance ability and teaching group training ability have the highest weight. Training institutions should focus on improving the two abilities of participating soldiers and set up as many relevant training subjects as possible, such as practical operation courses and organization training courses. If necessary, periodic assessment can be organized to strengthen and supplement the weak in time. At the same time, through the autocorrelation analysis of various abilities on the quality roof, it can be seen that the professional maintenance ability and the teaching group training ability have a strong autocorrelation. These two abilities are highly correlated and can be considered for collaborative training, mutual improvement and promotion. For example, in the training of professional maintenance ability, the improvement of the teaching group training ability should be considered simultaneously to maximize the training benefits.

4.2. Improve Both Ideological and Political Ability and Learning and Innovation Ability

The quality of Ideological and political ability determines whether the ranks of non commissioned officers can have firm faith and listen to the party's command. Its importance is self-evident. No matter how strong a sergeant's professional ability is, he cannot be entrusted with important tasks as long as his ideological and political ability is not strong. In the long-term planning of personnel training, learning and innovation ability is an essential and important ability of the non commissioned forces. Therefore, when training institutions focus on the cultivation of professional maintenance ability and teaching group training ability, they should also take into account the improvement of Ideological and political ability and learning and innovation ability. Cultivate the maintenance and support sergeants of the Department into talents with all-round qualities.

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