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The Main Trends in the Development of Modern Small-Arms

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People’s need for modern small arms constantly grows, forcing manufacturers to actively develop their industry and find new ways to improve products. This process is rapidly gaining momentum and affects companies from different countries worldwide. It will allow us to form specific trends and determine current directions for developing small arms.

Application of modern materials

Until recently, most design elements of small arms were made of various metals. There was no alternative to them for a long time, but with the development of modern technologies, many polymers and composites have become more accessible to people. These modern materials have begun to be widely used in various fields of activity, including weapons production. Due to their characteristics, small arms developers have significantly reduced the weight of the models produced without creating problems with their strength and reliability. By widely using modern materials, manufacturers have eliminated such problems as fatigue during prolonged wearing weapons and the difficulty of transporting them. Experts do not doubt that the trend of using lighter materials will be relevant for a very long time, which means the chances for further development in this area are high.

Use of modular design

Comparing small arms of the recent past and present, everyone will notice that modern models consist of more components than their predecessors. This feature complicates new products’ production and assembly process but allows for their universalization. Following this trend, small arms produced today have a base section and many components attached to it. Thanks to modularity, owners of modern guns, rifles and pistols have unlimited opportunities to adapt to current environmental conditions, specific tasks, individual human needs, etc. Also, the modular design simplifies replacing damaged elements of small arms with new ones and makes it possible to repair them even in field conditions. The latter advantage is significant for models used in the military sphere. In this regard, new weapons with a modular design first go to soldiers and only become available to civilians.

Adaptation of weapons to work with various optics

Manufacturers of modern small arms try to make their products suitable for various tasks. To do this, developers pay great attention to the issues of its adaptation to work with such optical devices as civil and **military night-vision rifle scopes**, rangefinders, laser designators, etc. This process

has become a visible trend that is relevant in all countries of the world. Following it, developers provide for the possibility of installing various optical devices on weapons, regardless of where and by whom they were produced. For this, universal types of mounts and other useful tricks are often used to simplify the lives of small arms owners. Because modern models are initially adapted to work with various optics, they are becoming more in demand among the military and civilians. This, in turn, allows manufacturers to win the competition and increase their income.

Increasing the safety of weapon operation

Another noticeable trend in the development of modern small arms is the desire of manufacturers to make their operation more predictable and less dangerous for the user. For these purposes, developers constantly improve the design and use additional safety features. This approach reduces the likelihood of accidental shots that can injure or even kill the owner of the small arms. In addition, manufacturers are actively working to protect their products from unauthorized access. For example, some companies are testing today, and others are already implementing protection using a fingerprint scanner and face recognition system. This will allow the owner of a small arms to avoid situations in which anyone possessing the weapon can fire. The trend towards improving the safety of pistols, shotguns and rifles is highly relevant today. This gives hope that it can minimize the number of unpleasant incidents and protect people from dangers associated with using small arms.

Integration with innovative technologies

Recently, small arms manufacturers came up with the idea of ??integrating their products with other modern technologies. Many specialists (primarily military personnel) liked it, so it quickly became promising. Today, this idea is given more and more attention every year, and the first positive changes are already becoming noticeable even to civilians. All of the above has allowed us to form a new trend that will be relevant for many years. So far, the most significant progress has been achieved in integrating modern small arms with data networks. Theoretically, this will make it possible to collect real-time information about the user’s actions and exchange it to obtain a particular benefit (for example, on the battlefield). In addition, small arms developers are actively integrating them with various wearable gadgets (smart watches, VR and AR devices). In the future, this may help improve data exchange efficiency and awareness of events happening around.

Modern small arms are constantly being modernized. Their manufacturers introduce new technologies, apply innovative solutions, and implement unique ideas. All this allows us to formulate the main development trends briefly described in this article. Having carefully studied them, we can determine the directions in which changes should be expected in the near future and predict what small arms will be like in a few years.

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