



**REGULATION**  
**of the contest «Gunsmith Master»**

## I. General Guidelines

1. The General Directorate of Rocket and Artillery of the Ministry of Defense of the Russian Federation is responsible for the preparation and conduct of the International Maintenance Platoon Competition "Master Gunsmith" to be held as part of the International Army Games 2021 (hereinafter referred to as the Competition).

The composition of the team participating in the Competition **includes**:

the head of the delegation - 1 person;

the head of the Competition team - 1 person;

the Competition referee - 1 person;

the coaching staff of the team - 4 persons;

Maintenance platoon - 15 persons, **including**:

platoon leader - 1 person;

Maintenance squad (artillery armaments) - 8 persons (deputy platoon leader, senior master, masters - 3, mechanic, electrical technician driver, machinist driver);

Maintenance squad (artillery and tank armament) - 8 persons

- 3 persons. (squad leader, master, electrical technician driver);

Maintenance squad (small arms and means of small combat) – 4 persons

(squad leader, master, machinist driver);

the reserve staff (1 person for each repair squad) - 3 people, and if necessary, other supporting personnel (medical personnel, informational support).

2. The competition is held in five stages:

**The First stage** - "Competition on maintenance of 122 mm towed howitzer D 30A".

**The second stage** - " Competition on maintenance of 23 mm anti-aircraft gun ZU 23".

**The third stage** - " Competition on maintenance 122 mm multiple launch rocket launcher BM-21 (Grad)".

**The fourth stage** - "Arms biathlon. Relay race."

**The fifth stage** - "Complex relay race of repair platoons".

3. The competition is held using the following armament, military equipment or their analogs:

- 122 mm towed howitzer D 30A.

- 23 mm anti-aircraft gun ZU 23.

- 122 mm BM BM 21 multiple rocket launcher "Grad".

- 6×6 KamAZ truck with a cargo platform and an awning.

- A modernized artillery repair and maintenance workshop (hereinafter referred to as MRS ARM) based on the Ural 4320 vehicle.

- 5.45 mm Kalashnikov AK-74M assault rifle.

- 7.62 mm Kalashnikov machine gun.

- 40 mm hand-held anti-tank grenade launcher RPG-7V.
- 9 mm Makarov pistol.

4. To determine the results of the stages, a referee team shall be appointed, consisting of:

- the chief referee of the Competition - one representative from the side of the organizer (if necessary, an assistant chief referee shall be appointed).
- the referee committee of the Competition - one representative from each team - participant of the Competition.
- technical commission - one representative from each team-participant of the Competition for each stage.
- field referees - from the side of the organizer.

5. The Chief Referee shall be appointed for organizing, conducting and managing of the practical part of the Competition. **He is responsible for:** the order and rules of holding the stages of the Competition, timely submitting teams for the beginning and end of a stage (race or other norms), and in case of incidents or other abnormal situations, he/she gives a command to stop any actions and makes a decision to eliminate the situation in order to continue the Competition.

In case of a disputable event, in order to make an objective and fair decision, the chief referee and the referee commission may use video-audio data, hear the information of the technical commission and field referees, as well as other means of objective control. If the situation is not clarified further, the decision can be taken by open voting of the referee commission, in case of equality of votes the decision is made by the chief referee.

6. Referee Commission is appointed to control, evaluate and record the correctness of the stages (heats or other standards). If there are disputable issues, the referee commission participates in the analysis and voting according to the procedure above.

7. The technical commission is appointed to check the readiness of armament and military equipment before and after the next stage, as well as to make an expert opinion in case of failure of armament and military equipment or other abnormal situations, which require technical justification.

8. Field referees are appointed to monitor the correctness and completeness of the norms specified in the Regulations, as well as the observance of safety measures by participants and spectators of the Competition. The locations of field arbitrators at the Competition venues, their number and equipment shall be determined by the Competition organizer.

9. These Regulations define the procedure for conducting the "Master Gunsmith" Competition. Due to objective and subjective reasons, amendments and additions to the Regulations are possible, which, with the participation of the referee commission, shall be drawn up in an act and approved by the Chief Referee of the Competition.

10. In case of disagreement of the Contest referee commission with the Chief Referee's decision, it is possible to file an appeal, but not later than one hour after the discussion of the team for which the Chief Referee's decision was made.

## **II. Terms and conditions of the Contest**

11. Mass production weapon samples produced by the manufacturers are admitted to the Competition. Prototype models, including special models produced in small batches, are not admitted to the Competition. Changes to the design of ammunition samples during the Competition are not allowed.

12. In case the team participates in the Competition using its own armaments, in order to prepare the referee team and the competition venues, each participating country must provide the organizer with the tactical and technical specifications for armaments, military equipment, equipment, spares and ammunition in the official language of the competition no later than three months prior to the start of the competition.

13. Prior to the start of the competition the teams participating in the competition must accept armament and military equipment, and at the end of the competition they must hand over their armament and military equipment to the organizers with the drawing up of acts. During the period of the Competition armament and military equipment shall be maintained in good working order, and on the eve of the next competition day the team personnel shall conduct a control inspection of armament and military equipment with the following report on their readiness (or not readiness for their technical condition) to their representatives of the judicial and technical commission. In case of detection of technical failure, which does not allow to continue the stage and the team can not independently eliminate the failure, the team is declared a pit-stop, until the elimination (replacement) of the technical commission of the failure, the time of the pit-stop by the decision of the chief referee is credited to the team.

During the stage if the consumables (bolts, fasteners, registration number and other items that do not affect the performance of the standard) are out of order, the team is not given a penalty time.

At the end of the stage the team carries out maintenance and preparation of the equipment for the next competition day.

14. Faults in BBT are eliminated before the next competition day (stage) by the technical commission of the Contest, if necessary, in the presence of the commission of judges with the drawing up of the act.

15. Maintenance, repair (if necessary, at the request of participating teams, the organizer provides spare parts and accessories and specialists of the repair and restoration body), refueling with fuel and lubricants of BBT of the Competition teams are organized in the field vehicle park by forces and means of the Competition teams.

16. Teams prepare weapons and military equipment for each stage of the competition independently and report on their readiness to the chief referee of the competition. If after the report, during the readiness check by the technical commission before the start it is found out that some of the fasteners are not tightened all the way, the team will be awarded a penalty time from the calculation given in the Regulations.

17. At the first stage of the competition a pit stop will be appointed:

- to control the readiness of the product for the march;
- to check the correctness of putting on and taking off the CBRN equipment;
- to check the item's readiness for firing;
- in other cases, as decided by the field arbitrator to prevent emergency situations.

18. At the second stage of the competition, a pit stop is assigned:

- to check the completeness of disassembly of rifles;
- to check the readiness of the product for the march;
- to check that the equipment is correctly put on and taken off;
- to check that the product is ready to fire;
- in other cases, by decision of the field arbitrator to prevent emergency situations.

19. At the third stage of the competition a pit stop is appointed:

- to check the completeness of disassembly of the top row of the launching rail package;
- to check that the product is ready for firing;
- in other cases, at the discretion of the field arbitrator to prevent emergency situations or to eliminate obstacles.

20. At the fourth stage of the competition, a pit stop is assigned:

- in case of a misfire during firing;
- in other cases, by decision of the field arbitrator to prevent emergency situations.

21. At the fifth stage of the competition a pit stop is appointed:

- to check the readiness of the howitzer for firing;
- in case of misfire during firing;
- to check the completeness of disassembly of automatic howitzer;
- to check the readiness of the howitzer for firing;
- to check the completeness of disassembly of the upper row of the launcher rail package;
- to check the readiness of the BM-21 for firing;
  - in the event of a misfire during the firing of WPs and SRBs;
- in other cases, as decided by the field arbitrator in order to prevent emergency situations.

In all cases the repair squad commander announces readiness for the above checks to the field arbitrator by voice with simultaneous raising of hand, otherwise the time of performance of the standard is not stopped. 22.

22. On the first and second day of the competition the first team ready to march on the autodrome track immediately after the field arbitrator checks the readiness for the march. The second team begins to move on the autodrome track at the command of the field arbitrator after the first team reaches the set safe distance. In this case until this moment the second team is put on a pit stop.

23. A raised white flag of the field referee corresponds to the "ATTENTION" command. This is a preliminary command indicating that an executive command is about to arrive. Lowering the white flag corresponds to the executive commands: "START", "GO". When firing small arms and means of close combat, raising the white flag means that all targets are hit. A permanently raised white flag means that the team is on a pit stop.

A brief raising and subsequent lowering of a red flag by a field umpire indicates that a team has made a mistake, and when firing small arms and means of close combat, that not all targets have been hit. A continuously raised red flag indicates a general danger signal that a team has committed a safety violation or that weapons and military equipment are disabled in such a way that damage prevents the continuation of the competition events. At this command the personnel must stop the action and, if driving a vehicle, stop. Each field arbiter has the right to raise a red flag independently, as well as on the instructions of the chief judge of the competition. Each raising of a red flag the field arbiter makes a record in the protocol with indication of the reason.

The repair squad commander's report on the actions performed and the readiness of the personnel for the next action is made with a voice: "READY" and is duplicated by a show of hands.

24. In case of failure of the main armament and military equipment during the next stage of the competition, it is permitted to be replaced by the reserve one. The replacement is carried out at the Chief Judge's command by members of the Competition team who are not taking part in the Competition on that day. In this case, the reserve weapon or military equipment is moved (transported, transferred) along the established route to the place of malfunction of the faulty specimen, if necessary. At this time the team is put on a pit stop. If the cause of failure is not related to the actions of the team, the time for replacement is deducted from the notional time, otherwise it remains unchanged.

25. The number of teams simultaneously going to the start at each stage of the Competition is determined by the Chief Referee depending on the total number of teams participating in the Competition, weather conditions, safety of participants and spectators and other circumstances.

Start numbers of the teams and their position on the repair range before the start are determined by **drawing lots**. In addition, each team is assigned identification signs with the symbols of the Competition in different colors.

In the fifth stage, the order of performance is determined by the results of the four stages, the teams with the highest number of points perform first, then according to the reduction of points.

26. Participation of teams in separate stages of the Contest shall be permitted. The final places according to the results of the Competition shall be determined only among the teams that took part in all the competition days.

27. A team is removed from a stage of the Competition if it creates an emergency situation, which resulted in injuries or death of people, damage to weapons, military and special equipment. When a team is removed from a stage of the Competition it will be given a penalty time of 59 minutes 59 seconds.

Shortcomings detected in the course of inspection by the arbitrator (at the pit stop) are eliminated by the crew at the pit stop or in the team's time, until the observations are completely eliminated with the penalty time indicated in the Regulations (if the shortcomings are not indicated in the Regulations, the Chief Referee decides on this case).

In case of not overcoming any obstacle or failure to meet the standard specified in the Regulations, the team will be given a penalty time of 240 seconds.

All departures beyond the limits of the repair range, the driving range and other delimitations specified (involved) on the range will be penalized 30 seconds.

28. When using vehicles, the team must use the light and sound signals (reversing is carried out with the use of emergency signals), in case of non-compliance a penalty of 10 seconds, for each item not performed.

29. After completion of the standard, all tools (devices, components of the equipment) and the like are placed in their original position (standard, rack), followed by the continuation of the stage element, failure to comply with this requirement is interpreted as "violation of the stage sequence" and is fined 30 seconds, for each element.

Further in the text the order (actions) of performance of standards is given, deviations from the order refer to the above-mentioned violation, except for the fourth stage (when assembling and disassembling the SA and Means of small combats).

30. In case of shooting delays (misfires), as well as malfunctions that do not allow the continuation of the standard, the team has the right to eliminate them both independently and with the help of the referees (technical support).

The procedure for requesting technical support is as follows:

- the squad leader commands the squad to stop actions (performance of the standard) and informs the arbitrator about the impossibility of continuing the standard;
- the arbitrator starts the pit stopwatch and reports this to the chief referee;
- after which the personnel of the repair squad is forbidden to perform any actions with the armament.

Failure to do so will result in a penalty time of 59 minutes 59 seconds.

31. The equipment of participants in the competition: military uniform for the season, protective helmet, bulletproof vest, automatic rifle, gas mask. Gas masks are not used at the fifth stage.

### **III. Program of the Competition**

32. "Master Gunsmith" Contest begins with opening ceremony.

33. During the Competition, competition days shall be scheduled, as well as days for studying the objects of the Competition, preparing teams, armament and equipment for the next stages of the Competition, and holding cultural and leisure events.

34. In accordance with the tactical concept of the Competition (evacuation of weapons damaged during combat), at the beginning of each stage in order to create conditions as close to combat as possible, the organizers of the Competition use simulated explosions.

35. **The first stage of the Competition** - "Competition in maintenance of 122 mm towed howitzer D 30A", determination of places of maintenance squads (artillery equipment).

**Composition of the team:** maintenance squad (artillery equipment)

- 8 persons.

**Armament:** 122mm towed howitzer D 30A, tractor, MPC ARM workshop.

**Initial position.** The 122 mm howitzer D 30A is in the technical position in the marching position with the MRS ARM workshop with the crane arm mounted next to it. A tractor to transport the gun is in the technical position. The maintenance squad is in front of the howitzer in single-arm formation.

At the signal of the field arbitrator, the personnel of the maintenance squad checks the product for unloading and transfers the howitzer from the marching position to the combat position as follows:

- free the movable frames from their mounts and extend them until they stop on the howitzer's wheel tires;
- release the barrel from the mount, move the handle of the rotary worm switch mechanism from the "marching" position to the "fighting" position;
- raise the howitzer with a hydraulic jack so that there is a gap between the wheels and the ground;
- disengage the stopper, disengage the clutch of the wheel lift mechanism from engagement with the toothed ring of the shaft, raise the wheels to the stopper stop welded to the upper machine pin, and re-engage the clutch with the toothed ring of the shaft; lock the clutch with the stopper, fold the handle of the wheel lift mechanism and secure it in the lock welded to the shield boom;
- finally and simultaneously separate the frames and lock them;
- lower the howitzer on the ground by turning the valve in OPEN direction;
- set up the coulters;
- put the barrel mounting frame in the firing position and secure it with a stopper.
- It is prohibited to separate any parts prior to complete transfer to the firing position (installation of coulters). The penalty is 30 seconds for each part.

The personnel then proceeds to replace the barrel. The muzzle brake, the guards and the barrel with the breech block and recoil brake installed in the breech block. The barrel is detached using a crane-shooter of the MRS ARM repair workshop, the movement is fixed by full driving of the wheel into the marked area. After separation, the barrel with the breechblock installed is placed on two technological supports. After removing the sling from the hook of the crane jib and from the barrel, the workshop is moved backwards until it enters the designated area. Then the workshop is moved to the barrel, engaging the barrel with the installed anti-rebound devices and transporting it to the howitzer and driving the workshop to the designated area. After installing the barrel on the gun, the personnel of the maintenance squad installs the guard and muzzle brake. The breechblock must be opened before the barrel is returned. It is strictly forbidden to be between the breechblock and the bumper of the workshop before the workshop starts moving (steady motion) backwards. The penalty is 180 s.

It is forbidden to start transferring (unloading the howitzer from the ground) before putting the cradle cover in the closed position. After assembly is complete, the personnel will move the howitzer from the combat position to the marching position as follows:

- remove the cradles;
- take out the coulters;

- install the barrel along the stationary frame at an elevation angle of 5 8°;
- put the cover on the muzzle brake;
- close the bolt and release the firing pin;
- tilt the barrel mounting frame on the stationary frame in the walking position, lower the barrel until it stops in the socket of the frame; in this position pull the breechblock to the frame without a gap;
- raise the howitzer with a jack to its full height;
- release and bring the movable bed to the stationary bed (not to touch it) so that they do not interfere with the lowering of the wheels;
- release and move the wheel lift clutch to the left using the crank, lower the wheels until the crank stops on the pin of the upper machine;
- to move the wheels hoist clutch to the home position; lock the wheels hoist clutch with the stopper, fold the handle and secure it in the lick welded to the shield;
- lower the howitzer with the wheels on the ground, and then raise the tray up until it rests against the cover seal;
- finally bring the movable bed to the stationary one and secure it with a pull rod;
- put the crank of the worm shift mechanism in the walking position;
- put the covers on the sights, breech block and the cover of the general cover;
- put the kingpost on the hook of the tractor;
- remove the electrical equipment cable from the box on the shield and insert the plug into the socket on the tractor;
- take out the howitzer pneumatic system hose from the box on the shield and connect it to the tractor pneumatic system.

**Penalty time is assessed:**

- for not securing the hook of the workshop while parked and when the workshop is moving without load - 30 s; (while moving the hook may be in the hand of the number of the crew)
- for touching the barrel on the ground in all cases - 30 s;
- for uninstalled parts after barrel replacement - 45 s for each part;
- for falling parts and tools on the ground - 10 seconds for each element;
- for failure to perform an element of the standard - 30 seconds for each case;
- for using of tools for purposes other than intended - 30 seconds for each case.

Next, the personnel of the repair unit prepare the howitzer for the march. Before transportation four covers are put on the product (cover on the muzzle brake, cover on the mechanical sight, cover on the breech block, cover on the general cover). When ready, the driver pulls up the tractor, under the direction of the squad leader, and the personnel hitch the item. Readiness to march on the track of the driving range is determined by the field referee inspection of the road train.

**Penalty time is assessed:**

- for failure to guide the driver from the start of the movement to a complete stop when moving the vehicle, for unreliable connection or lack thereof in the connection of the pneumatic system, electrical cables, securing the hitch, buckles on the covers, as well as for each half-ring on the covers not passed - 30 seconds for each connection.

These violations apply to all stages of the Competition.

At the command of the field referee, duplicated by the commander of the repair squad, the personnel board the vehicle. The repair squad commander takes his place last, having made sure by visual inspection of the body from the rear side that all personnel have taken their places in the vehicle body and that the side latches are closed.

**Penalty time is assessed:**

- for failure to perform each element, 30 seconds.

The maintenance squad performs a march on a given route of the circuit length of about 4 km with overcoming a snake in the section of simulated action of incendiary weapons, a section of mine blast obstacles, a clearance corridor, a ford, a ditch with a track bridge, contaminated area with putting on and taking off personal protective equipment, changing a howitzer wheel, driving the tractor into a shelter, overcoming a hill (mound) with a stop on it, a passing overpass, repeated overcoming the hill (mound) as part of the train without stopping, overcoming high-speed sections and rough roads. When making a march the repair squad with personal weapons is in the tractor cab and on the cargo platform. Howitzer sights are carried in the tractor cab. During and after movement the doors of the vehicle must be closed, the windows must be raised to the extreme position and the canopy must be lowered. Failure to comply with these conditions will result in a 30-second time penalty.

Upon arrival at the technical position of the repair body after the march the personnel of the repair squad unhook the gun in the designated place (the jack of the gun should touch the established mark). and transfers it from the marching position to the fighting position. The next step is to troubleshoot and repair the fault (cocking axis) in the bolt group with complete disassembly and reassembly of the bolt wedge using the spares kit, install the panorama, and prepare ammunition for firing.

**Penalty time is assessed:**

- for dropping parts - 10 s for each part;
- for incomplete disassembly and assembly of the bolt wedge - 30 s for each part;
- for stacking the bolt wedge on the wedge mirror - 30;
- use of non-standard spares - 60 s for each part
- jack of the gun does not touch the set mark - 30 sec.

Firing tests of the repaired gun with checking its serviceability are carried out by a blank shot at an angle of elevation of 7-50, which is set on the gun with the mechanical sight of the howitzer. When ready, the maintenance squad lines up behind the gun in a designated area outside the range of the recoil units. The commander fires the shot, lines the squad up in a single line on the designated line and raises his hand, which is the end of the stage.

If a delay in firing (misfire) occurs, the personnel identify the causes and eliminate them on the spot.

In the case of a misfire, the firing pin is cocked again and the firing pin is released. In the case of a second misfire, the cartridge case is removed from the barrel after one minute and replaced by another cartridge case. For each case of misfire, the Chief Referee of the Competition makes a decision. If the shot is not fired for reasons

beyond the team's control, the time taken to reshoot the shot will be deducted from the actual time. If the shot did not occur due to the fault of the team members, the actual time does not change.

**Penalty time is assessed:**

- for placing the shot vertically on the capsule sleeve - 30 s;
- for not making a shot - 180 s.

The winner of this stage of the Competition is determined by the conditional time of completion of all operations, which is algebraically summed up from the actual time of completion of operations and penalty time.

**The team is given a penalty time of 180 seconds:**

- for finding personnel between the bumper of the MRS-ARM and the breech of the gun before the MRS-ARM begins its specified movement.

**The team is assessed a penalty time of 59 min 59 sec:**

- for having maintenance personnel in front of the shield cover or near the recoil parts while firing;

- for a violation that resulted in injury or death, disabling of weapons, military and special equipment.

The winner of this stage of the Competition is determined by the conditional time of execution of all operations, which is algebraically summed up from the actual time of execution of operations and the penalty time.

**36. Order of overcoming obstacles.**

When overcoming the **snake** in the section of the simulated action of incendiary weapons, it is necessary to bypass each bar alternately on the right and left side without touching them with the car and the transported product.

**When passing the snake, a penalty time is assessed:**

- for touching the bar with any part of the road train - 30 s for each touch;
- leaving the border of the autodrome track - 30 seconds, for each exit;
- skipping the bar when maneuvering - 60 seconds for each skip.

**The minefield section** is crossed by driving through narrow marked areas without stopping and touching the limiters with the vehicle and the product being transported. In this case the section of the minefield is smoky and is crossed with the windows up and the rear canopy down.

**If this obstacle is passed, the penalty time will be assessed:**

- for touching the restraints by any part of the road train on the mine-blasted section - 45 seconds for each touch;

- for driving with lowered windows or raised rear canopy on the section of mine and explosive obstacles - 30 seconds.

**When overcoming the ford** (beginning of the ford is concrete slabs) it is necessary to maintain constant engine crankshaft speed, enter the water smoothly in low gear, do not make any turns, sudden changes of engine crankshaft speed, gear shifting and stopping the tractor. At the beginning of the ford and at the exit there are field arbitrator with flags for fixing violations of the rules of overcoming and prevention of emergency situations. All violations are fixed by raising a red flag. In case of jams and other reasons that prevent the team to overcome the ford, the field

arbitrator at the entrance raises the red flag and puts the team to a pit-stop. After eliminating the reason for the team to stop, the field arbitrator at the entrance to the ford raises the white flag, turns to the driving direction and puts his hand in the driving direction at shoulder level, which corresponds to the command "Forward".

**When overcoming the ford, a penalty time is awarded:**

- for stopping the car - 30 seconds;
- for switching gearbox at the ford - 30 seconds;
- for rolling the car into the water when leaving the ford - 30 seconds;
- for stopping the car engine - 30 s.

**A ditch with a track bridge** is overcome by driving a road train on a narrow track with a compulsory stop before the obstacle. Entry should be made at an angle close to a straight line at a speed that ensures safe overcoming the obstacle without galloping and yawing of the vehicle.

**When overcoming a ditch with a rut bridge a penalty time is assessed:**

- for overcoming a ditch with a rutted bridge without stopping the vehicle before the obstacle - 60 seconds;
- for stopping the vehicle outside the marked area - 30 seconds;
- for falling off the track bridge - 180 seconds.

The teams must wear gas masks when crossing the **contaminated section** of the terrain. After passing the section is a special treatment of the vehicle and towed equipment, as well as the removal of personal protective equipment.

Upon arrival at the given site, the driver stops the vehicle at the personal protective equipment line, puts it on the parking brake, turns off the engine and shuts off the mass. The team with the PPE gets out of the vehicle and lines up in a single line three paces in front of it. The squad commander, making sure that the entire squad is in front of the vehicle, gives the command, by which the maintenance squad begins to put on gas masks. After donning gas masks, the squad leader, by raising his hand, signals to the arbitrator that he is ready to check the position of the gas masks, closing them on the clips of the bags. The field arbitrator controls the correctness of putting on a gas mask. At the same time, participants are not allowed to correct personal protective equipment, equipment and weapons. During the control the team is put on a pit stop, and the time spent on the inspection is deducted from the actual time. At the end of the inspection, the field umpire raises a white flag.

At this command, the personnel unhook the howitzer from the tractor and replace the right wheel. At this time, the driver of the vehicle in personal protective equipment independently continues driving through the contaminated area with backing into a shelter, overcoming a single obstacle, a hill (mound) with stopping the vehicle, overcoming a passing overpass and returns along the established route to the place of changing the howitzer's wheel. At the same time drive into the shelter in reverse using the rear-view mirrors to the marked line. A passing trestle and a single guardrail are crossed without stopping the vehicle.

When overcoming a hill (mound) without a howitzer, the driver must stop the car on the rise in a designated place, put it on the parking brake, turn off the engine,

turn off the mass, start the engine and move off. In case of repeated overcoming the hill (mound) as a part of the road train there is no stopping on the hill (mound).

**When overcoming these obstacles the penalty time is assessed:**

- for touching a vehicle with a single clearance or the walls of a shelter
- 30 seconds for each contact;
- for failure to drive the truck into the shelter to the horizontal position - 240 seconds;
- for driving the tractor out of the track - 30 sec;
- for stopping the vehicle on the hill (mound) outside the marked area - 30 sec;
- for overcoming a hill (mound) on the tractor without stopping - 60 sec;
- for rolling the vehicle when starting off on an uphill (mound) for a distance of more than 50 cm - 30 s.
- for not turning off the mass - 10s.

After completing the replacement of the wheel and the arrival of the tractor personnel maintenance squad makes a howitzer hitch on the kingpin beam. Readiness to continue marching on the track is determined by the field arbitrator by inspection of the road train. At the command of the field arbitrator, duplicated by the squad leader, the personnel board the vehicle (stepping on the muzzle brake is not allowed). The maintenance squad commander takes his seat last, having made sure by visual inspection of the rear side of the body that all personnel have taken their seats in the body of the vehicle.

**When checking readiness for the march, penalty time is assessed:**

- for unreliable connection or lack thereof in connection of pneumatic system, electric cables, securing of hitch, clasps on covers - 30 s for each connection.
- for stepping on the muzzle brake - 30 s.
- final tightening of the nuts of the gun wheel in the coupled position - 30 s.

After passing the contaminated area, the driver directs the vehicle to the special treatment site. When driving on the special treatment site, the driver must not allow the vehicle or towed implement to go beyond the dimensions of the site, as well as stopping the tractor and touching the stationary arch structure.

After completing the treatment, the vehicle continues to drive to the point of removal of personal protective equipment. At the specified milestone, the vehicle must be stopped, the parking brake must be applied, the engine must be shut off, and the weight must be turned off. The team in respiratory protection gear gets out of the vehicle, lines up in a single line three paces in front of it and removes the personal protective equipment. The squad commander, making sure that the entire team is in front of the vehicle, gives the command, by which the maintenance squad begins to remove the gas masks. Once the gas masks have been removed and stowed, the squad leader, by raising his hand, signals to the field arbitrator that they are ready for inspection. At the same time the team is put on a pit stop. The field arbitrator controls the removal and placement of the masks. Then the field arbitrator by raising the white flag gives the command to get into the car and continue driving. The squad leader is the last to board the vehicle, having made sure that the personnel have taken their places in the back of the vehicle by inspecting the body from the back of the vehicle.

**When crossing an infected section of terrain, penalty time is assessed:**

- for completely stopping the tractor - 30 s;
- for driving beyond the point of donning or doffing personal protective equipment - 10 seconds;
- for not shutting off the engine when the team leaves the vehicle and unused parking brake - 10 seconds;
- for failure to turn off the mass - 10 s.
- if the team member adjusted personal protective equipment, equipment, weapons after the squad leader's signal about readiness to check - 10 seconds;
- if gas masks were put on (taken off) before the squad leader's signal - 10 s;
- the squad leader took his place in the vehicle without making sure that the personnel were ready to continue the march - 30 seconds;
- for shortcomings in the gas mask worn - 30 seconds for each participant;
- if while driving on the contaminated area the car doors are not closed, the car door windows are not raised, the awning is not lowered at the back of the car - 30 seconds for each violation;
- for touching the arched structure by the vehicle or towed implement - 30 s for each touching;
- for uncovered gas mask bag - 30 s;

Field arbitrators with white and red flags are posted along the whole route to control the course of the autodrome and to ensure safety. Driving off the road surface with at least one wheel of the tractor or towed product, as well as touching the boundary posts set along the track, is punishable by a penalty time of 30 seconds. When fixing this violation the field arbitrators raises a red flag.

**The team is assessed a penalty time of 59 min 59 sec:**

- for a violation that resulted in injury or death, disabling of weapons, military and special equipment.

**37. The second stage of the Competition** - "Competition in maintaining of 23 mm anti-aircraft gun ZU 23", determination of places of repair departments (artillery and tank armament).

**Team composition:** maintenance squad (artillery and tank armament) - 3 people.

**Armament:** 23 mm anti-aircraft gun ZU 23, tractor, trailer or flatbed truck platform, MRS ARM.

**Initial position.** The 23 mm ZU 23 anti-aircraft launcher with firing elements mounted is kept in the firing position at the repair range, next to it is the MRS ARM workshop with a crane-arm installed, a trailer and a tractor for transporting the anti-aircraft launcher. The repair compartment is in front of the anti-aircraft unit. The start of the teams is simultaneous.

At the signal of the field arbitrator, the personnel of the maintenance squad checks the gun for unloading, separates the ammunition boxes

(separated by placing the movable parts of the automatic rifle on the whipstock or by holding the movable parts in the rear position, by the cable handle of the reloading mechanism, opens the cover of the automatic rifle box. Holding the barrels only by the

grips, place them in the specified place, remove the submachine guns from the cradle of the anti-aircraft launcher and disassemble them to their 76 installed parts. Completeness of disassembly is controlled by the field arbitrator or judge during the pit stop. The timing of the end of the disassembly of the anti-aircraft rifles is determined by the maintenance squad commander by formation on the set line with a show of hands and is duplicated by the field umpire by raising the white flag.

**Penalty time is assessed:**

- for being in front of the barrels during the unloading check
  - – 180 c.;
- for not carrying out a check for unloading - 60 seconds;
- for incomplete disassembly of anti-aircraft equipment - 30 seconds for each part;
- for holding not by the handles of the barrels when removing and installing them - 30 s;
- for dropping a part - 10 seconds for each part.

Upon completion of the above operations, the MRS ARM workshop drives up to the ZU 23 item and separates the upper cradle machine from the lower machine. After that the workshop moves the lifted load to the trailer with driving into the home position and unhooks it, placing it in the platform (trailer) clearance. The starting position is marked by a marking line on the surface of the repair site. Then the repair workshop reverses without load back to the initial position, and then moves back to the trailer. The personnel of the repair section lift the upper machine from the trailer and move it to the anti-aircraft unit with the workshop backing up to the starting position.

When maneuvering at the technical position, each return of the repair workshop to the starting position is fixed by the field arbitrator, the wheel must completely cross the specified areas. The moment the vehicle stops is determined by the driver himself or with the help of other members of the maintenance squad. The fact of the car's return to the home position is fixed by the field arbitrator by raising the white flag. If the repair workshop is underrun or the front wheels are on the line, the field arbitrator raises the red flag.

The driver then returns the repair workshop to its original position, and the rest of the squad personnel mount the cradle to the lower machine, assemble the 23 mm machine guns, install them in the cradle of the flak unit with each belt simultaneously loaded with ten blank cartridges.

**Penalty time is assessed:**

- for incomplete assembly of an anti-aircraft gun - 30 s for each part;
- for dropping a part - 10 seconds for each part;
- for protrusion of the upper machine over the platform boundaries - 30 s;
- for unfastened chocks on the bumper when the workshop is moving without load - 30 s;
- for presence of the repair workshop personnel under the crane arm with suspended load, under the load in any position, as well as between the platform and the moving repair workshop is not allowed for safety reasons. These violations are punishable by a penalty time of 180 s;

- for dropping the MRS-ARM spring assembly - 10 s.
- for failure to sound the horn before each maneuvering of the MRS-ARM - 10 s.
- for not switching off the mass after the cradle is placed on the lower machine, when the MRS-ARM returns to its initial position - 10 s.
- when maneuvering the workshop, hitting or touching with suspended load the crane-arm rails, bumpers and other objects is not allowed for safety reasons. This violation is penalized by a time penalty of 60 s and may be recorded no more than twice, while moving the workshop from the anti-aircraft unit to the platform and back.

Next, the maintenance squad personnel prepare the anti-aircraft unit for the march. Before transportation, three covers are put on the unit - two covers for flame arresters and a cover for general cover. Readiness to march on the driving range track is determined by the field arbitrator by inspection of the vehicle train. At the command of the field arbitrator, duplicated by the squad commander, the personnel board the vehicle. The maintenance squad commander takes his seat last.

**When checking readiness for a march, a penalty time is assessed:**

- for unreliable (not fixed): connection or lack of such fixation of anti-aircraft guns, connection of electric cables, fixation of coupling device, clasps on covers - 30 s for each connection;
- for not releasing manual brakes of vertical and horizontal guidance - 30 s for each;
- for failure to set the stoppers on the march vertically and horizontally - 30 s for each.

The maintenance squad performs a march along the given route of the driving range of about 4 km according to the earlier procedure (the first stage), without changing the wheel on ZU-23.

During the march the maintenance squad with personal weapons is in the tractor cab, and the equipped belt remains in the technical position, next to the machine for the belt.

100-150 m before the repair site, the failure of the tractor is simulated and further transportation of the product is made by the calculation. For this purpose the personnel of the maintenance squad unhook the anti-aircraft unit from the tractor, closes the towbar and the buckle. The tractor is moved to the repair site, after which the driver has the right to assist the squad in towing the

ZU-23. When rolling the anti-aircraft unit it is necessary to overcome an area with artificial irregularities of the road surface. At the end of the march to the technical position, the unit is placed in the firing position at the designated location, ready to fire, and the 23 mm automatic rifles are loaded with strips filled with blank cartridges.

The readiness for firing is fixed by the field arbitrator by raising the white flag (angle of aiming 30 degrees, leveling of the item on the reference level, hanging the wheels till their complete rotation, switching off the walking and switching on the combat stoppers vertically and horizontally, with the light signal cable being removed into the compartment under the kingpin beam). After firing the shots and checking for unloaded submachine guns by giving the barrels an elevation angle of

0-10°, placing the automatic rifle on the whip, inspection of the automatic rifle box cover, inspection and disconnection of ammunition boxes, making a check trigger, the maintenance squad lines up behind the flak unit on the specified line with an arm raise, which is the end of the stage.

If delays in firing occur, the personnel will identify the causes and eliminate them on the spot.

For each such case, the Chief Referee of the Competition makes a decision. If no shots are fired for reasons beyond the team's control, the time taken to fire a second shot is deducted from the actual time. If the shot did not occur due to the fault of the team members, the actual time does not change.

**Penalty time is assessed:**

- for violation of the specified order - 30 s;
- for unproduced shots - 20 seconds, each;
- for not ready to shoot - 30 seconds, for each item.

The winner of this stage of the Competition is determined by the conditional time of all operations, which is algebraically summed up from the actual time of operations and penalty time.

According to the results of the activities of this stage, the conditional time for each team of the Competition is calculated, and according to it the place of the team. The team with the best conditional time is awarded first place, then second, third, etc.

**The team will be penalized 59 min. 59 sec:**

- for shooting outside the boundaries of the side restricted areas;
- for being in front of loaded barrels of ZU-23
- for violation, which resulted in injury or death of people, damage to weapons, military and special equipment.

**38. The third stage of the Competition** - "Competition for repair of 122 mm multiple rocket launcher BM-21 (Grad)".

**Team composition:** maintenance squad (artillery and tank armament) - 4 people.

**Armament:** 122 mm combat vehicle of multiple launch rocket system BM-21.

**Initial position.** BM 21 122 mm multiple rocket launcher rocket launcher with the vehicle mass off is mounted on the technical position,

with the rocking and rotating parts stops engaged, the technological table with tools and the tracker slats are installed. Next to the combat vehicle is the personnel of the maintenance squad (artillery armament) consisting of 4 people.

At the command of the chief referee, the personnel of the maintenance squad begins to perform the standard for disassembly-assembly of the top row of 10 launching rails package as follows:

- the loading pad is installed on the chassis frame;
- the front cover and the rear cover are removed;
- unscrew the block - contacts;
- remove the torque nuts from the straps securing the pack tubes, except for the torque nuts on the long transverse straps;
- triangular keys are removed;

- 10 guides of the upper row are removed;
- the square dowels are removed;
- the long straps that fasten the bundle tubes are removed;
- reassemble in reverse order.

**Penalty time is assessed:**

- for uninstalled loading pad - 30 s;
- for not removed triangular keys - 30 seconds per piece;
- for not removed square keys - 10 seconds per piece;
- for mismatching the number of parts on the table (108 pieces) - 30 s for each part;
- for uninstalled square keys - 10 seconds per part;
- for untightened nuts fixing the guide package - 30 seconds for each part;
- for parts or tools dropping on the ground - 10 seconds per part;
- for an uninstalled front cover and rear guard - 30 seconds per part;
- for untightened fasteners with a torque wrench - 30 seconds per part;
- for untightened bolts of upper row block contacts of the starter rail package - 30 s for each part;
- for using the torque wrench inappropriately - 30 s, for each impact.

If when disassembling or reassembling the package the fastener fell into the package, the calculator gets it out on its own time with the help of auxiliary tools, which are on the repair site.

After completing the disassembly-assembly of the top row of launch rails, all keys are stacked on a rack.

The middle wheel on the right side is then replaced. Using a jack, the machine wheel is raised until it is off the ground, the nuts on the hub are unscrewed, the hub nuts are removed, then the wheel is removed. The removed wheel is rolled to the specified mark, then rolled to the product and installed in reverse order.

**Penalty time is assessed:**

- for not rolling the wheel to the specified place - 30 s;
- for untightened nuts (torque less than 180 N/m) - 30 seconds, for each part;
- for untightened nut fixing the swap hose to the crane - 30 s;
- for non-installed protection of wheel inflation hose in place - 30 s;
- for the jack not placed in its proper place - 30 s;
- for falling parts and keys on the ground - 10 seconds, for each item;
- for violation of the above-mentioned sequence of performance of the standard - 30 s;
- for missing a fixing element when checking the completeness of the assembly - 180 s, for each element.

After completing the repair work, all the keys are stacked on a rack.

Then the maintenance squad begins loading the top row of the guide package (10 blank shots), when ready the electrician driver and the squad leader take a seat in the cockpit, two numbers of calculation go to the shelter, a blank volley is fired at an angle of elevation of 7-50

and with a turn of the launch-guide package to the left at 3-50. When the launch-guide package is guided electrically, it must be turned off and the vehicle mass must be turned off after the end of the guiding.

**Penalty time is assessed:**

- for not firing shots - 60 s for each shot;
- for not switched off the car mass - 30 seconds
- for improper switching off of the electric drive - 30 s;
- for unclosed doors and windows - 30 s;
- for deviation in setting the angle of the target place and the transverse swing mechanism (deviation of the level bubble from the middle more than one risk) - 30 s;
- for each instrument not placed in its regular place (in the starting position) upon completion of the standards - 30 seconds;

The field arbitrator checks the readiness for firing during the pit stop. After firing all available ammunition, turn off the mass of the vehicle, the maintenance squad lines up at their BM, this completes this stage of the competition.

In case of an unsuccessful shot the referee raises the red flag and the team has to make a pit-stop (60 seconds), the crew is in the cockpit

and shelter. At the command of the arbitrator the maintenance squad lines up at their BM by turning off the vehicle mass, this completes this stage of the competition. The technical commission decides on the reasons for the failed shots after the inspection of the MLRS vehicle.

The winner of this stage of the Competition is determined by the conditional time of execution of all operations, which is algebraically summed up from the actual time of execution of the standards and the penalty time.

According to the results of the activities of this stage the conditional time for each team of the Competition is calculated, and according to it the place of the team. The team that shows the best conditional time is awarded first place, then second, third, etc.

**The team will be penalized 59 min. 59 sec:**

- for shooting outside the boundaries of the side exclusion zones;
- for finding personnel "behind", "in front of", "under" a loaded pack of launch rails, with the "mass" of the BM switched on;
- for violation, which resulted in injury or death of people, damage to weapons, military and special equipment.

**39. The fourth stage of the Contest** - "Weapons Biathlon. Relay race", determination of places of repair departments (small arms and close combat equipment).

Team composition: maintenance squad (small arms and close combat weapons) - 3 people and platoon commander.

Armament: 5.45 mm Kalashnikov AK74 assault rifle and its modifications, 7.62 mm Kalashnikov PK machine gun and its modifications, 40 mm RPG 7V anti-tank grenade launcher and its modifications, 9 mm Makarov PM pistol.

Initial position. The following rifles are laid out on the technological tables of the repair station: 5.45 mm AK74M Kalashnikov assault rifle, 7.62 mm PK(M)

Kalashnikov machine gun, 40 mm RPG 7V anti-tank grenade launcher, 9 mm Makarov pistol with pre-installed failures, and technological tables with serviceable parts to them. The maintenance squad (small arms and melee weapons) with the commander of the weapons maintenance platoon of 4 people are near their tables.

The competition is held in the form of a baton. The baton is handed over by touching any part of the body of the next participant, which is recorded by the field arbitrator by raising the white flag. If the baton transfer procedure is violated, the field arbitrator will record this fact by raising the red flag and the team will be given a 30-second penalty time.

**At the signal of the field arbitrator the first participant performs a full disassembly of a 5.45 mm AK74M automatic rifle.**

In the initial position on the technological table there is a machine, a cleaning kit, a jig.

The scope of disassembly is as follows:

- detach the magazine, then check if there is a cartridge in the chamber, for which purpose put the change lever down, pull the bolt handle back, inspect the cartridge chamber, release the bolt handle and release the trigger from the cocking device;
- detach the ramrod;
- detach the muzzle brake compensator;
- detach the receiver cover;
- detach the recoil mechanism;
- Separate bolt carrier and bolt;
- Separate the bolt from the bolt carrier;
- Separate the gas tube with the barrel lug;
- disassemble the magazine (magazine housing, magazine cap, spring, feeder);
- disassemble the return mechanism (return spring, guide rod, moving rod, clutch);
- disassemble the bolt (bolt body, pin, firing pin, ejector axle, ejector, ejector spring);
- disassemble the firing mechanism (trigger, hammer spring, trigger, single-shot sear, self-launch, self-launch spring, interpreter, three axes, single-shot sear spring, trigger retarder, trigger retarder spring, tubular axle);
- detach the fore-end;
- Separate the metal shield from the fore-end.

The moment of the end of disassembly is determined by the competitor by raising his hand and is duplicated by the field arbitrator by raising the white flag.

A 30-second penalty time is assessed for each unremoved part.

There is a deliberate malfunction in the submachine gun - a broken self-timer. After disassembly the participant arrives to the table with the spare parts, takes the damaged part, comes back and reassembles the 5.45 mm AK 74M automatic rifle.

Then the participant comes to the ammunition station, where he gets 35 pieces of 5.45 mm ammo, fills two magazines with 15 rounds each and 5 rounds in the third magazine (for accuracy shooting), goes to the firing point for target shooting, gets ready for firing and reports about his readiness for firing. Shooting is carried out with

mechanical (open) sight, short bursts with change of firing position. Single shots are not allowed, except for the last cartridge in the magazine.

Each single shot will incur a 10-second penalty time.

Targets are placed at three ranges.

At the first range, at a range of 300-400 m, two rostral figures (Appendix 1) are placed on a front of 6-8 m, which appear twice for 10 s with an interval of 10 s.

In case of incorrect change of position at the firing line, the penalty is 30 seconds. When moving on the firing line, the competitor puts the automatic rifle on the safety, for failure to comply with the requirement penalty 10 seconds.

On the second line at a range of 200-300 m two lumbar figures are placed on a front of at least 6 m, which appear on the far line at 20 s, and on the near line - at 15 s.

On the third line at a range of 100 200 m, a handgun figure and a chest figure on a front of at least 6 m, appearing at 30 seconds, are placed.

The change of the magazine is made by the participant himself. When all six targets are hit, the remaining ammunition is discharged to its full consumption, after which the shooting stops, the weapon is unloaded, checked for unloading, and the rifle is put on the safety.

After hitting six targets, the competitor attaches a third magazine with five rounds to the rifle and fires at chest target № 4 from the third position for accuracy. When the rifle is fired, it is unloaded, checked for loose ammunition, and the safety is put on, the competitor runs to the relay area, where he passes the right to participate to the next team member.

If a competitor fails to hit all six targets with 30 rounds, then, after the accuracy test, he receives 15 additional rounds from the gunner, fills one magazine and continues shooting from the second firing position (all unaffected targets are raised simultaneously, no time limit for hitting).

After 30 basic and 15 additional cartridges have been used up, a 30-second penalty time is assessed for each target that has not been hit. After that, the baton is handed over to the next competitor.

Failure to inspect the weapon after firing (disconnect the magazine, move the bolt carrier to its rearmost position, inspect the chamber, check the trigger, put the weapon on the safety) results in a 30 second time penalty for each action not carried out. A 30-second penalty will be assessed for any violation of the procedure.

**The second competitor takes over the baton and proceeds to complete disassembly of the 7.62 mm PK(M) Kalashnikov machine gun.**

The machine gun is in its initial position on the technological table.

The scope of disassembly is as follows:

- set the machine gun on the bipod;
- separate the box with the belt from the machine gun and check if there is no cartridge in the chamber;
- take out the pouch with accessories (stock cover, pouch);
- separate the ramrod links from the bipod leg (slide clamp);
- detach the guide rod with the recoil spring (guide rod, stock hole);
- remove the recoil spring from the guide rod;

- detach the bolt carrier with the bolt;
- separate the bolt from the bolt carrier;
- separate the firing pin from the bolt;
- detach the barrel;
- disassemble the bolt (bolt body, stud, extractor shaft, extractor, extractor spring);
- remove the gas regulator from the gas chamber;
- unscrew the flame arrester (the flame arrester of the PKPN machine gun is not unscrewed);
- disassemble the trigger mechanism (fuse, trigger shaft, trigger lever, trigger lever spring and trigger);
- separate the gas piston tube.

The moment of the end of disassembly is determined by the contestant raising his hand and is duplicated by the field arbitrator by raising the white flag.

A 30-second penalty time will be assessed for each part not removed.

Penalty time is 30 seconds for not putting the tape in the box.

A malfunction is known to have been introduced into the machine gun - the trigger lever is broken. After disassembly, the competitor arrives at the table with the spare parts, takes the defective part, returns back and reassembles the machine gun.

A 30-second penalty time will be assessed for each missing part.

The competitor then arrives at the gunner's station, where he receives and fills his belt with thirty rounds of ammunition and advances to the firing range to shoot at targets. The order of displaying and hitting targets, the number and order of using additional ammunition, accrual of penalty time are similar to the first stage of the relay (as for the AK74, except there is no shooting on accuracy). Then the baton is handed over to the third competitor in the handover zone.

Failure to inspect the firearm after firing (disconnect the cartridge case, move the bolt carrier to its rearmost position, inspect the cartridge chamber, check the trigger, put the firearm on the safety) results in a 30-second time penalty for each action not carried out. Failure to comply with the procedure of the course of fire will incur a penalty of 30 c.

### **The third participant takes the baton and performs a full disassembly of a 40 mm RPG 7B grenade launcher.**

In the initial position on the table there is a grenade launcher, a device for disassembly and assembly of the firing mechanism, a screwdriver, a punch, threads, plasticine, a device for alignment of sights.

A target for alignment of sights is set at 20 m distance. The sighting device is in a pouch on the belt. On the firing line there is a stalk with a washer to remove the cartridge of the starter charge after the first shot.

The scope of disassembly is as follows:

- remove the casings first from the breech and then from the muzzle;
- separate the firing mechanism;
- Separate the firing mechanism (nipple, firing pin, firing pin spring, bushing);
- Separate the cover of the trigger guard;

- separate the barrel liners (separate the screws from the collars);
- disassemble the firing mechanism:
  - a) separate the trigger;
  - b) to separate the rod with the trigger spring;
  - c) separate the trigger;
  - d) Separate the safety and lock with spring;
  - e) detach the sidepieces;
- separate the shoulder strap and the strap with the pouches.

The end of the disassembly is determined by the contestant raising his hand and is duplicated by the field arbitrator by raising the white flag.

A 30-second penalty time is assessed for each missing part.

The grenade launcher is deliberately defective - the firing pin is broken. After disassembly of the grenade launcher the participant arrives at the table with spares, installed at some distance from the place of disassembly, takes the faulty part, comes back and makes assembly of 40 mm RPG 7B, with putting the safety on.

Next, the sight of the RPG 7B is aligned with the target to check the grenade launcher's sights. When aligning the grenade launcher sight, it is permitted for another team member to hold the alignment plate.

The procedure for sight alignment is as follows:

- set the grenade launcher on the sighting device;
- Draw the threads crosswise in the slots in the end of the sighting device and insert the device into the muzzle of the grenade launcher's barrel so that the protrusion (pin) of the device fully enters the slots in the muzzle of the barrel;
- point the grenade launcher through the barrel bore and sight hole at the upper target circle and secure the grenade launcher firmly in the gun; the crosshairs of the sight must coincide with the large crosshairs of the upper target circle;
- The "+" sign at the top of the reticle must align with the small crosshairs on the upper circle of the target. If this requirement is not met, correct the reticle installation by:
  - unscrew the cap of the reticle screw in the lateral direction; insert a screwdriver into the slot of the screw and rotate it until the "+" sign on the reticle coincides with the vertical line of the small crosshairs on the upper circle of the target;
  - unscrew the three side adjusting screws on the handwheel for 1.5-2.0 turns and, holding the handwheel in the position of the mark "+" against the indicator on the reticle body, rotate the adjusting screw.

the central screw until the mark "+" on the reticle coincides with the horizontal line of the small crosshairs of the upper circle.

- After checking the reticle, screw on the cover and the side screws until they fail, and then check that the grenade launcher is correctly aligned and the reticle is aligned.

Once the sight alignment is complete, the competitor arrives at the ordnance station, where he receives one inert round designed to engage armored targets. He is assisted in preparing the round and loading the grenade launcher by a member of the maintenance squad. From the firing point, the competitor fires a shot at the target

"APC" (Appendix 1) set at a range of 250-300 m. If the competitor misses with the first shot, he must return to the combat station to receive the second inert shot and fire it.

If the second shot misses, a 30-second penalty time is assessed.

The grenade launcher passes the baton to the fourth competitor in the handover zone.

Failure to inspect the firearm after firing will incur a 30-second penalty time.

A 30-second penalty will be assessed for violation of the order of the course of fire.

When inspecting the assembly, a 30-second penalty for each turn of the 360-degree propeller on the tightener is imposed.

After each shot the grenade launcher must present the grenade launcher for inspection by a field arbitrator to verify the absence of shot elements in the barrel's bore. If any are found, the grenade launcher removes them from the barrel bore independently and in an orderly manner.

**The fourth contestant takes over the baton and performs a full disassembly of a 9 mm Makarov pistol.**

In the initial position on the technological table there is a Makarov pistol and a wipe.

The scope of disassembly is as follows:

- remove the magazine from the base of the grip (check for a cartridge in the chamber);
- separate the bolt from the frame;
- remove the return spring from the barrel.
- Separate the sear and the bolt stop from the frame;
- separate the grip from the base of the grip and the combat spring from the frame;
- detach the trigger from the frame;
- detach the trigger rod with the cocking lever from the frame;
- separate the trigger from the frame;
- separate the safety catch and firing pin from the bolt;
- separate the extractor from the bolt (ejector, socket with spring);
- disassemble the magazine (magazine housing, cover, feeder, feeder spring).

The moment of disassembly completion is determined by the contestant raising his hand and is duplicated by the field arbitrator by raising the white flag.

A 30-second penalty time is given for each unremoved part.

The 9 mm Makarov pistol is deliberately defective - the combat spring is broken. After disassembling the pistol, the competitor arrives at the table with the spare parts, takes the defective part, goes back and reassembles the pistol.

The relay runner then arrives at the ammunition station, where he receives ten rounds of ammunition and fills two magazines with five rounds of ammunition. When ready, he moves to the firing line and shoots at the five rostral figures (Appendix 1) from a distance of 50 m, which appear at the same time for 60 seconds. A penalty time of 30 seconds is awarded for each target not hit. A hit is indicated by lowering the target.

After firing at the figures, the competitor, using the second magazine, shoots at the chest target № 4 (for accuracy).

At the end of shooting the competitor completes the relay in the established place. The pistol is carried to and from the shooting range in a holster. Failure to do so will result in a 30-second penalty time.

Failure to inspect a firearm after firing (unload the magazine, move the bolt to its rearmost position, inspect the chamber, check the trigger, put the firearm on the safety) incurs a 30-second penalty for each action not performed. A 30-second penalty will be assessed for any violation of the order of the course of fire.

All small arms and close combat weapons are fired from a standing position for safety reasons, and if necessary, bags of dirt or sand may be placed under the shooter's feet.

All the movements of the firearms and close combat equipment will be performed after the weapon is placed in the walking position and all the bags, pouches, holsters, etc. will be covered and shrouded to prevent the arms and ammunition from dropping on the ground. Failure to do so will incur a 30-second penalty per item.

For dropping weapons, ammunition, mechanisms, parts, spares, equipment elements on the ground, a penalty of 10 seconds for each element.

The winner of this stage of the Competition is determined by the conditional time, which is algebraically summed up from the actual time of all operations and the penalty time.

**The team is awarded a penalty time of 59 min. 59 sec:**

- for firing outside the boundaries of the side restricted areas;
- for directing the weapon to the rear of the shooting range at the firing position;
- for violation, which led or could lead to injury or death of people, damage to weapons, military and special equipment.

According to the results of the measures of this stage a conditional time is calculated for each team of the Competition, and according to it the place of the team. The team that shows the best conditional time is awarded first place, then second, third, etc. 40.

**40. The fifth stage of the Contest - "Maintenance Platoon Competition", determination of places of weapons repair platoons. All participating teams are invited to the relay race.**

**Team composition:** 15 men of weapons maintenance platoon.

**Armament:** 122 mm BM 21 "Grad" MLRS vehicle, 122 mm D 30A towed howitzer, 23 mm ZU 23 anti-aircraft gun, MRS ARM repair shop, 5.45 mm AK 74 Kalashnikov assault rifle, 7.62 mm PK(M) Kalashnikov machine gun, 40 mm RPG-7V hand grenade launcher with PGO-7V optical sight, 9 mm Makarov PM pistol.

**Initial position.** 5.45 mm AK 74M, 7.62 mm PK(M), 40 mm RPG 7V with PGO-7V, 9 mm PM. The maintenance squad (small arms and short-range weapons) with the commander of the weapons maintenance platoon of 4 men are near their desks.

The maintenance squad (artillery and tank armament), consisting of 3 people, is located at the first technical position on the repair

range, 23 mm ZU 23, on the established places.

On the second technical position are installed 122 mm BM 21, technological table for spare parts and trestle for rails, on the established places is the repair department (artillery armament) consisting of 4 people, during the stage help to the department to repair 122 mm D-30A is not allowed.

On the third technical position is installed 122 mm D 30A in the marching position, workshop MRS-ARM with installed crane boom and trestles.

The personnel of the maintenance squad (artillery armament) consisting of 4 persons (the second half) are at the established positions.

#### **Procedure of complex relay race.**

At the signal of the field arbitrator the maintenance squad (small arms and close combat equipment) proceeds to disassembly of small arms samples in the scope described earlier in these Regulations. After completing the disassembly of the last sample at the signal of the field arbitrator the participant of the competition runs to the first technical position and passes the baton by hand touching the participant from the maintenance squad (artillery and tank weapons).

The rep maintenance air squad (artillery and tank armament) begins to remove the barrels and disassemble the 23 mm ZU 23. The moment of completion of all disassembly activities is indicated by the squad commander and duplicated by the field arbitrator by raising a white flag. At this signal the member of the maintenance squad (artillery and tank armament) runs to the second technical position and passes the baton to the member of the first half of the maintenance squad (artillery armament). There is no separation of the upper machine at this stage.

The maintenance squad (artillery piece) disassembles the launcher rail package, removes the top row of the launcher rail package of the combat vehicle. The end of disassembly activities is indicated by the squad leader and duplicated by the field arbitrator by raising the white flag. At this signal the member of the maintenance squad (artillery piece) runs to the third technical position and passes the baton to the member of the second half of the maintenance squad (artillery piece). After the disassembly operations, the tools and fasteners used must be assembled in a box, which is placed on the technological table. A penalty time of 30 s is assessed for violation of this requirement. Wheel replacement at this stage is not carried out.

Next, the personnel of the maintenance squad (artillery armament) performs removal of the 122 mm D 30A barrel using the MRS ARM. In this case, after installing the barrel on the trestle, the workshop drives away to the designated area, the hook is fixed to the bumper, the machine is silenced, the weight is turned off, the sling from the barrel is removed, the driver gets in line. The moment the barrel removal is completed is indicated by the squad leader and duplicated by the field arbitrator by raising the white flag.

At this signal, the competitor runs to the repair station (small arms and close combat) and hands the baton to a member of the repair station (small arms and close combat). No wedge action repair is performed at this stage.

The maintenance squad (small arms and melee) takes turns in assembling all small arms. Each soldier on completion of weapons assembly moves to a combat supply point, then loads the weapon at the starting line and moves to the firing line. At

the field arbitrator's command, targets are fired at. In the event of a miss, the serviceman uses additional ammunition in the same manner as on the third day of the competition and passes the baton to the next competitor. The last soldier passes the baton to a member of the maintenance squad (artillery and tank armament). Participants with an assault rifle and a pistol also shoot for accuracy. Reconciling the sight of the 40 mm RPG-7 at this stage is not performed.

The maintenance squad (artillery and tank armament) begins simultaneously to assemble and load 23 mm barrels and automatic rifles ZU 23. The moment of completion of all activities of assembly and loading of the product is indicated by the squad leader and duplicated by the field arbitrator by raising the white flag. At this signal, blank cartridges are fired and the item checked for unloading. The participant of the maintenance squad (artillery and tank armament) runs to the second technical position and passes the baton by hand to the participant from the maintenance squad (artillery armament) of the artillery armament maintenance squad.

The (artillery pieces) maintenance squad reassembles the launcher rail package in reverse order and loads them with 10 blank rounds. At the arbitrator's command they launch and pass the baton to the 122 mm D 30A howitzer repair squad. In this case the loading platform and the mechanical sight bracket are not removed after all the operations.

The maintenance squad (artillery armament) installs the howitzer's barrel. The moment of the end of the howitzer assembly activities is indicated by the squad leader and duplicated by the field arbitrator by raising the white flag. At this signal the howitzer is loaded and a blank shot is fired, the platoon lines up on the indicated line and raises its hand, which is the end of the final relay.

The winner of the final relay is determined by the conditional time, which is determined by adding the actual time of all operations to the penalty time.

The penalty time in the final relay is calculated similarly to the previous days of the Competition.

At the end of the relay of maintenance platoons, maintenance of AMF, preparing it for transportation and handover to the organizer, holding cultural and leisure events, closing of the Competition at the venue.

#### **IV. Procedure for Determining the Winner of the Contest**

41. The winner of the Contest shall be determined by the decision of the Contest Referee Committee based on the results of passing the five stages of the Contest, by the smallest sum of places taken.

In case two or more participating teams have the same sum of places, preference shall be given to the team which has more first, second, third, etc. places, until the Platoon Relay.

After five stages, in the case of equal sum of places at two or more teams-participants, the winner is determined by the best result obtained in the Comprehensive Relay of maintenance platoons.

## V. Awarded Nominations.

Best maintenance squad for the 122mm D 30A towed howitzer.

Best maintenance squad for the 23 mm anti-aircraft gun ZU 23.

Best maintenance squad for 122 mm BM RSLW BM-21 (Grad).

Best maintenance squad for SAs and Close combat ammunition).

Best driver of the maintenance squad (artillery weapons).

Best driver of maintenance squad (artillery and tank armament).

Best shooter out of an AK-74M (in accuracy shooting).

The best PK (in accuracy shooting).

The best armament maintenance platoon according to the results of five stages of the Contest - is the Winner of the Contest.

For the will to win (audience award).

Also, an established record for each stage is recorded.

## VI. Technical requirements for Armament

42. In order to determine the compliance of armament with the specified technical requirements, determine the causes of armament's failures, resolve disputes, and develop technical and organizational proposals, the Chief Referee of the Competition creates a technical commission, which includes one representative from the participating countries.

43. Tractor-tractor vehicles participating in the Competition are subject to the requirements presented in Table 1.

Table 1. Technical characteristics of tractor-trucks and trailers

Characteristics	Requirements
Wheel arrangement	6×6
Outside dimensions, mm:	
- length	Not less than 7700
- width	Not less than 2500
- height	Not more than 3300
Wheel tread, mm	1900-2100
Depth of the ford to be overcome, m	не менее 1,5
Type of the engine	Diesel
Specific power (engine power in kW/gross vehicle weight in tons), kW/t	Not more than e 12,0
Высота платформы прицепов, mm	Not less than 1250

In case of non-compliance with technical characteristics presented in Table 1 a penalty time of 30 seconds for each line of Table 1 is imposed.

Tractors that do not meet the requirements for height, track size, ford depth, wheel formula are not allowed to take part in the Competition.

Fuel for tractor-trailers is provided by the host party and must be used by all participants of the Competition. The use of other fuel or additional additives to it is not allowed.

44. The 122 mm towed howitzers participating in the Competition are subject to the requirements shown in Table 2.

Table 2. Technical characteristics of towed howitzers

Characteristics	Requirements
Maximum angle of elevation of the barrel, deg.	not more than 70
The smallest angle of elevation of the barrel, deg.	not more than -5
Weight of howitzer in firing position, kg	not more than 3300
Weight of the gate wedge, kg	not more than 35
Number of wheel nuts, pcs.	not more than 8
Wheel hub stud length, mm	not more than 22
Wheel diameter, mm	not more than 1030
Number of operations when disassembling the bolt	not more than 11

In case of non-compliance with the technical characteristics presented in Table 2, a penalty time of 30 seconds for each line of Table 2 is assessed.

45. The 122 mm MLRS combat vehicles participating in the Competition are subject to the requirements presented in Table 3.

Table 3. Technical characteristics of combat vehicles of MLRS

Characteristics	Requirements
Manual actuator pointing speeds per handwheel revolution, min	
- according to azimuth	not more than 6
- according to elevation angle	not more than 4
Travel speed on paved roads, km/h	not more than 75
Presence of flame protection cover on the FO package	obligatory
Presence of inserts between the profiles of the flame-protection cover	obligatory
Tightening torque of the guide rail nuts, kgf m	not less than 3
Number of handrail mounting screws	not less than 6
Number of nuts fixing the flame protection hood profiles to the FO package	not less than 30
Air pressure, MPa:	
- in the tires	0,30...0,32
- in the receiver	0,55...0,65

If the technical characteristics presented in Table 3 do not match, a penalty time of 30 seconds on each line of Table 3 is imposed.

46. The anti-aircraft units of the ZU 23 type, participating in the Competition, are subject to the requirements presented in Table 4.

Table 4. Technical specifications of anti-aircraft systems

Characteristics	Requirements
Number of assault rifles, pcs.	not more than 2
Barrel caliber, mm	not more than 23
Barrel length without flame arrestor, mm	not less than 1880
Barrel length with flame arrestor, mm	not less than 2010
Length of automatic rifle without flame arrestor, mm	not less than 2425
Length of automatic rifle with flame arrestor, mm	not less than 2555
Tip speed in two revolutions of the flywheel per second: - horizontally, deg/s - vertically, deg/s	not more than 60 not more than 40
Ground clearance, mm	not more than 360
Stroke width, mm	not less than 1690
Overall dimensions of the unit in the walking position, mm: - length - width - height	not more than 4620 not more than 1870 not more than 1940
Weight of the unit in the walking position with cases and ammunition boxes, kg	not more than 950
Weight of one dispenser, kg	not more than 76
Weight of the swing part with two assault rifles, kg	not more than 240
Weight of the rotating part with two assault rifles, kg	not more than 460
Weight of ammunition box with 50 rounds and belt, kg	not less than 35,5
Number of operations of barrel separation, rifle removal and its disassembly	not less than 30
Number of operations of the upper cradle machine separation	not less than 4

In case of non-compliance with the technical characteristics presented in Table 4, a penalty time of 30 seconds for each line of Table 4 is assessed.

47. The repair workshops participating in the Competition are subject to the requirements presented in Table 5.

Table 5. Technical characteristics of repair workshops

Characteristics	Requirements
Carrying capacity, t	not less than 2,0
Type of hoisting device	Crane arm

In case of non-compliance with the technical characteristics presented in Table 5, a penalty time of 30 seconds for each line of Table 5 is assessed.

48. Pistols participating in the Competition are subject to the requirements shown in Table 6.

Table 6. Technical characteristics of pistols

Characteristics	Requirements
Caliber, mm	not less than 9,0
Muzzle energy, J	not more than 500
Weight, kg	not less than 0,7
Trigger release force, kg	not less than 1,5
Type of sight	mechanical, sectoral
Type of fire	single
Number of separable parts at complete disassembly, pcs.	not less than 20

In case of non-compliance with the technical characteristics presented in Table 6, a penalty time of 30 seconds for each line of Table 6 is assessed.

49. The machines participating in the Contest are subject to the requirements shown in Table 7.

Table 7. Technical characteristics of assault rifles

Characteristics	Requirements
Muzzle energy, J	not more than 2000
Weight, kg	not less than 3,0
Trigger release force, kg	not less than 1,5
Type of sight	mechanical, sectoral
Type of fire	single, automatical
Number of separable parts at complete disassembly, pcs.	not less than 30

In case of non-compliance with the technical characteristics presented in Table 7, a penalty time of 30 seconds for each line of Table 7 is assessed.

50. Machine guns participating in the competition are subject to the requirements shown in Table 8. The machine gun must be pointed and held by the shooter or mounted on a bipod when firing; firing from a machine gun is not allowed.

Table 8. Technical characteristics of machine guns

Characteristics	Requirements
Muzzle energy, J	not more than 3500
Weight, kg	not less than 3,0
Trigger release force, kg	not less than 7,0
Type of sight	mechanical, sectoral
Type of fire	uninterrupted
Adjustable clearance between the bottom of the bolt cup and the rear cut of the barrel by the adjusting screw, mm	thread pitch not more than 0,75
Number of detachable parts, units.	not less than 26

51. Grenade launchers participating in the Competition are subject to the requirements shown in Table 9. The grenade launcher must be aimed and held by the shooter when firing, firing from a machine gun is not allowed.

Table 9. Technical characteristics of grenade launcher

Characteristics	Requirements
Caliber, mm	40,0
Weight, kg	not less than 6,0
Shot weight, kg	not less than 2,0

Magnification of telescope sight, multiples	not more than 3
Trigger release force, kg	not less than 2,5
Type of sight	optical
Number of separable parts at complete disassembly, pcs.	not less than 25

If the technical characteristics presented in Table 9 do not match, a penalty time of 30 seconds on each line of Table 9 is assessed.

52. The use of optical, collimator, laser, opto-electronic, thermal imaging, sights and rangefinders is not allowed.

If aperture sights (diopter sights) are used, as provided by the design, 15 seconds penalty time will be assessed.

53. The optical sight for a grenade launcher must have an adjustable reticle to enable the sight to be aligned.

54. If the number of detachable parts for complete disassembly is less than that specified in the technical specification, 10 seconds penalty time will be assessed for each part.

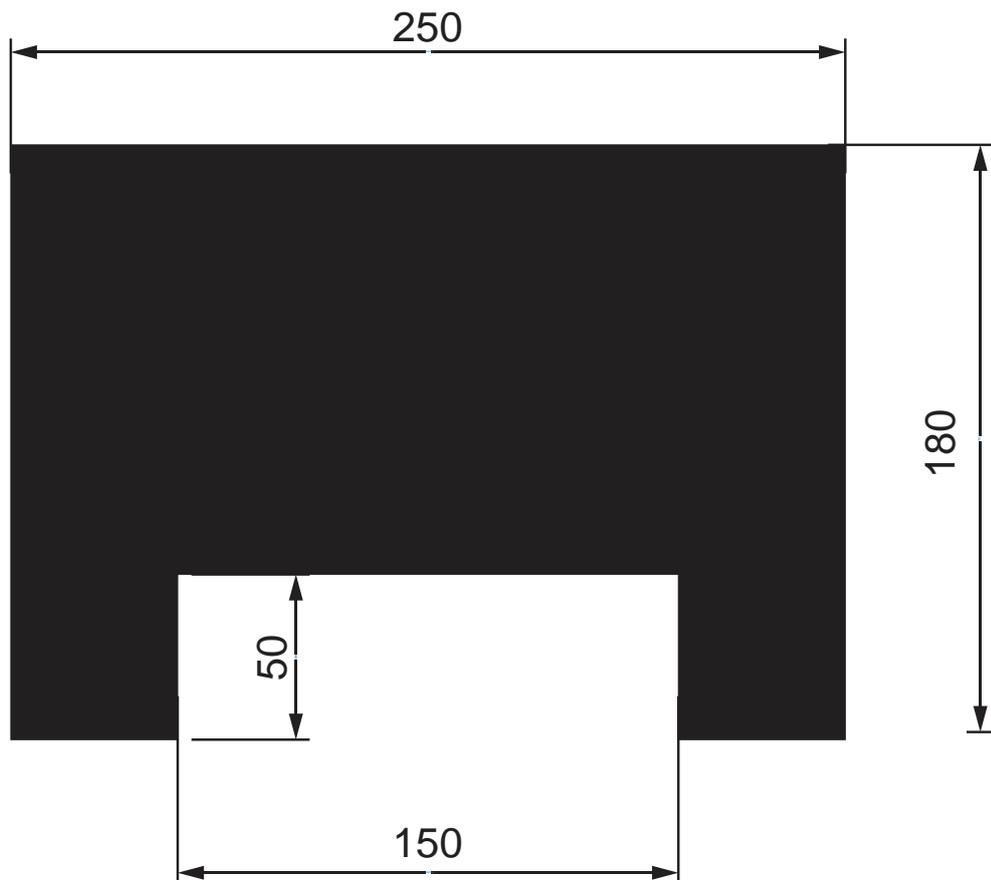
55. Combat front protectors, which are part of the equipment of the competitors, are subject to the requirements shown in Table 10.

Table 10. Technical characteristics of combat front protectors

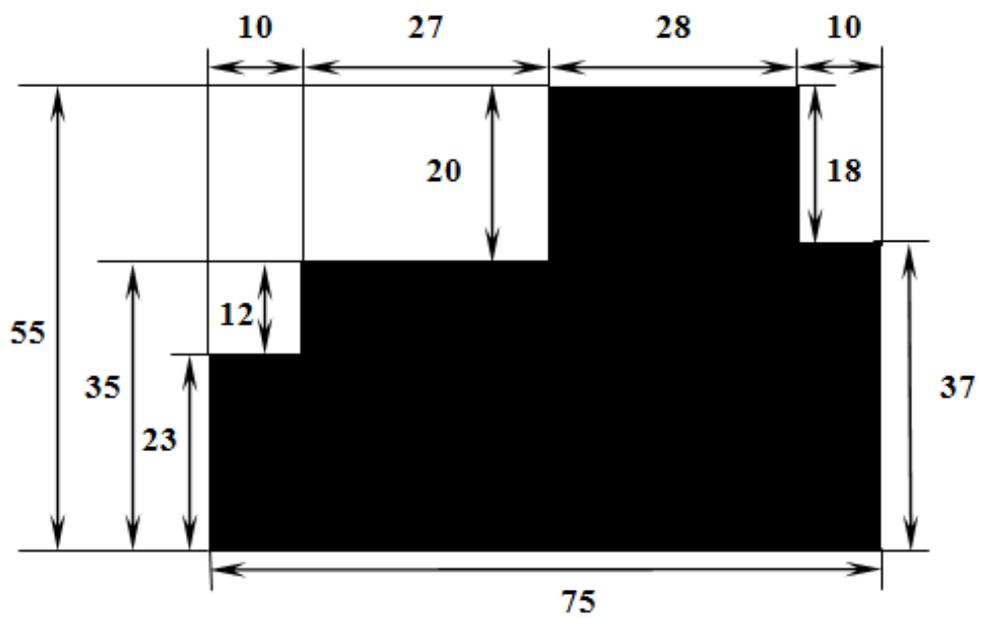
Characteristics	Requirements
Front protector class	not less than 2
Protection class of the spinal module	not less than 2
Weight of the front protector kg	not less than 2,45
Weight of the spinal module, kg	not less than 1,35
Front protector area, dm <sup>2</sup>	not less than 14,0
Spinal module protection area, dm <sup>2</sup>	not less than 10,0

If the technical characteristics presented in Table 10 do not match, a penalty time of 30 seconds on each line of Table 10 is assessed.

Protective helmet, included in the equipment of participants of the Competition, must have a mass of not less than 0.95 kg and an area of protection of not less than 11.0 sq.dm.



**Pic. 1** Armored Personnel Carrier



**Pic. 2** Handheld machine gun



**Pic. 3** A life-size figure

