

Modernization of combat vehicle 9A33BM2(3) and transport-loading machine 9T217BM2 out of air-defense system 9K33M2(3) «OSA-AKM» up to the level 9A33-2B and 9T217-1B

DESIGNATION OF COMBAT VEHICLE 9A33-2B

It is used to protect the subunits and groupings of land army at fight field, also to protect warehouses and other military objects of combat and service support from enemy means of air attack at low and average height in conditions of electronic enemy suppression within affected area.

Modernization of main systems allowed to increase not only the efficiency, but also service life, to decrease operation spends, at the same time to better conditions and efficiency of operator's work.

TYPES OF TARGETS



UAV



AIRPLANES OF TACTICAL
AIR FORCES



NOISE-INDUCED
AIRPLANES



FIGHTER-JETS AND
BOMBERS



HELICOPTERS



WINGED MISSILES



UNGUIDED MISSILES



GUIDED AERIAL BOMBS

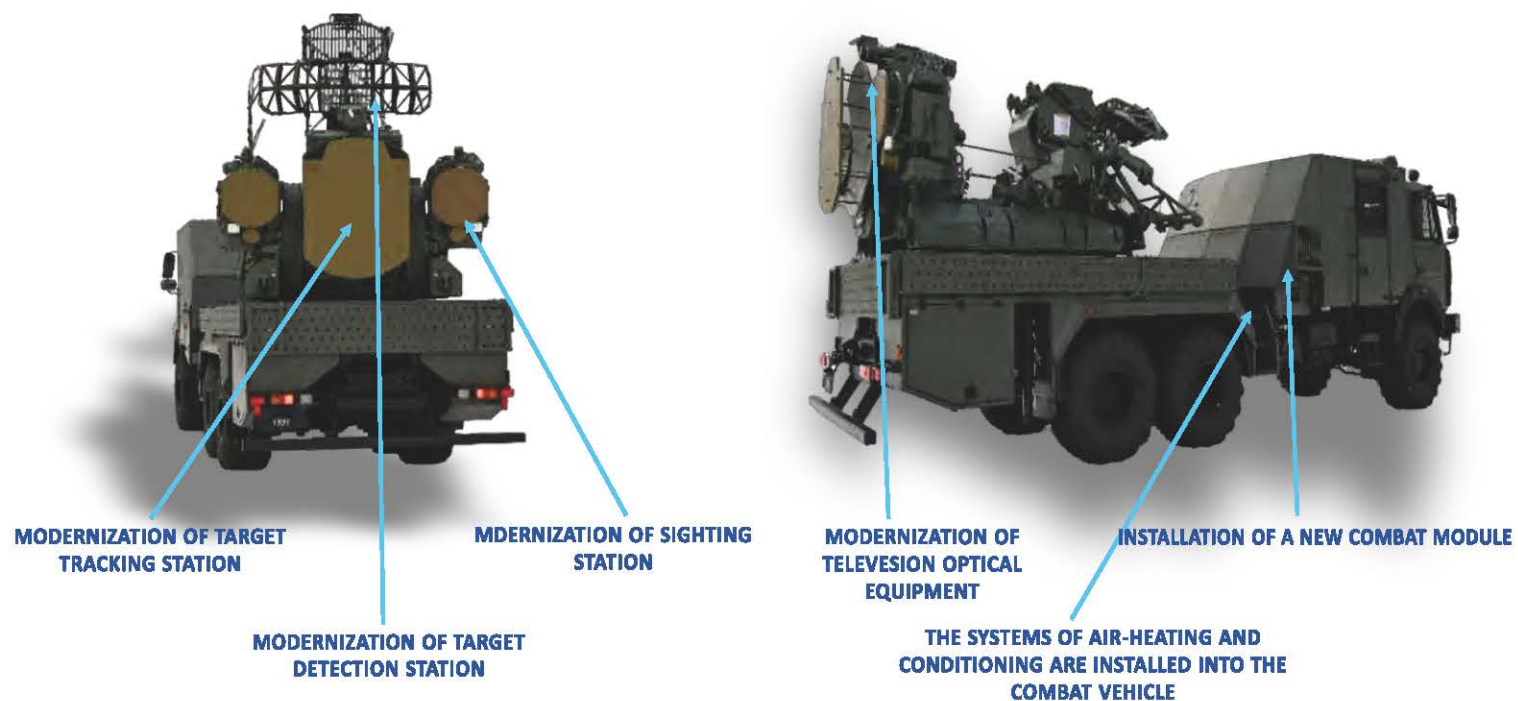
PURPOSES TO MODERNIZE THE COMBAT VEHICLE 9A33BM2(3)

- Improvement of technical and operational characteristics of the system.
- Possibility to implement the automated control with the help of higher command posts and interaction in automated mode with other means of ADMS.
- Implementation of modern communication and transmission means.
- Automation of the next processes – detection and tracking of targets.
- Restoration of resource indicators from the main system.
- Increase of combat possibility.
- Increase of radioelectronic equipment reliability and resistance to interference because of digital signal processing.
- Introduction of modern element base, digital technologies and software.
- Transfer onto a new cross-country chassis base - wheel formula 6*6 (100% source).
- Advantage in comparison with other ADS is the parameter of efficiency/price (not less than 3 times).

DIRECTIONS TO UPGRADE THE COMBAT VEHICLE 9A33BM2(3)

No п/п	List of systems	Upgraded or not
1	Target detection station	Upgraded
2	Target tracking station	Upgraded
3	Target sighting station	Upgraded
4	Command transmitter station	Upgraded
5	Computing device 9S456M3	Replaced
6	Automatic starting system and launch device	Not upgraded
7	Equipment of functional control	Replaced
8	Television optical sight	Upgraded
9	System of power supply	Some improvements
10	Wheeled self-propelled chassis	Replaced
11	Communication means	Replaced

MODERNIZATION RESULTS OF COMBAT VEHICLE 9A33BM2(3)



GENERAL VIEW OF COMBAT VEHICLE 9A33-2



1 – hydraulic advancing cylinder; 2 – SPTA compartments; 3 – compartment of power supply system;
4 – ventilation compartment; 5 – combat crew module

COMPARATIVE CHARACTERISTICS OF COMBAT VEHICLES 9A33BM2(3) AND 9A33-2B

Name of the parameter	9A33BM2, 9A33BM3	9A33-2B
Maximum target detection range, km	Up to 45	Up to 45
Maximum target destroy range, km	10,5	10,5
Maximum target destroy altitude, km	5	5
Maximum course profile of target to be destroyed, km	6	6
Number of simultaneously tracking targets by target detection station	1	up 32
Possibility to hit the target by one missile	0,7	0,8
Possibility of autonomous target tracking with the help of television optical sight	absence	exist
Possibility of combat crew training	absence	exist
Possibility of information record	absence	exist
Control of SAM loop with the help of "electronic shoot" method	absence	exist
Automatic identification of target tracks from multiple sources	absence	exist
Possibility of automatic target designation receive	absence	exist

CONFIGURATION OF THE EQUIPMENT IN THE COMBAT CREW'S MODULE



COMMANDER'S
WORKPLACE

RANGE OPERATOR'S
WORKPLACE

SEARCH OPERATOR'S
WORKPLACE

NAVIGATION OPERATOR'S
WORKPLACE

EQUIPMENT CONFIGURATION INSIDE OF COMBAT CREW MODULE



REPLACEMENT OF CHASSIS BA 5937 ONTO CHASSIS MAZ-6317



MAIN PARAMETERS:

- Engine-YaMZ-65853 (330 h.p.), 9-speed gearbox.
- Value of fuel tank - 350 l.
- Chassis clearance - 355 mm.
- Change of pressure in tires.
- System – differential lock
- Wide tires.
- Track - up to 70 cm.

SPECIALIZED EQUIPMENT:

- Filter installation(FI/ΦBY);
- Air-condition system;
- Winch for self-pull.

MODERNIZATION OF TRANSPORT-LOADING MACHINE (TLM) 9T217BM2 UP TO THE LEVEL 9T217-1B

DESIGNATION:

It is designed to load the items 9M33M2(M3) to combat vehicle 9A33-2B, items' transportation on all types of roads and off-road, and also for their temporary storage.

Main tasks are to be solved:

- ✓ Transmission of items from TLM to combat vehicle and back;
- ✓ Transmission of items from dropside truck to combat vehicle (or TLM) and back;
- ✓ Transmission of items from combat vehicle or TLM to the trolleys of the rigging equipment kit and back;
- ✓ replacement of faulty ITEMS on the combat vehicle with a fully loaded TLM;
- ✓ Refueling of combat vehicle from the additional tanks;

MAIN PARAMETERS

Name of the parameter	Value of the parameter	
	9T217BM2	9T217-1B
Weight of chassis	5A3 - 5939	MA3 - 5316
Fuel consumption, l/100km	62	43
Number of SAM which can be transported, pcs.	Up to 12	Up to 12 (packages) Up to 24 (clusters)
Maximum length of crane, m	5	6
Cargo carrying capacity at maximum arm extension length, kg	650	680
Lifting capacity in length, degree.	330	Not less than 360
Possibility to the refuel the combat vehicle	exist	exist
Type of the equipment to refuel	mobile	mobile

