S-125-2TM PECHORA-2TM MEDIUM RANGE AIR DEFENSE MISSILE SYSTEM

The *S-125-2TM PECHORA-2TM* Air Defense Missile System (ADMS) is designed to fight modern and prospective aerial attack assets in the complex jamming environment. The *PECHORA-2TM* ADMS enables efficient destruction of low-altitude and small-size targets under the conditions of all types of jamming. The *PECHORA-2TM* ADMS can be employed to destroy ground and water-surface targets.

The *PECHORA-2TM* ADMS fight both independently or as part of an Air Defense (AD) grouping. The *PECHORA-2TM* ADMS can be integrated into any AD system interfacing with all types of radars and suites including the air traffic control system.

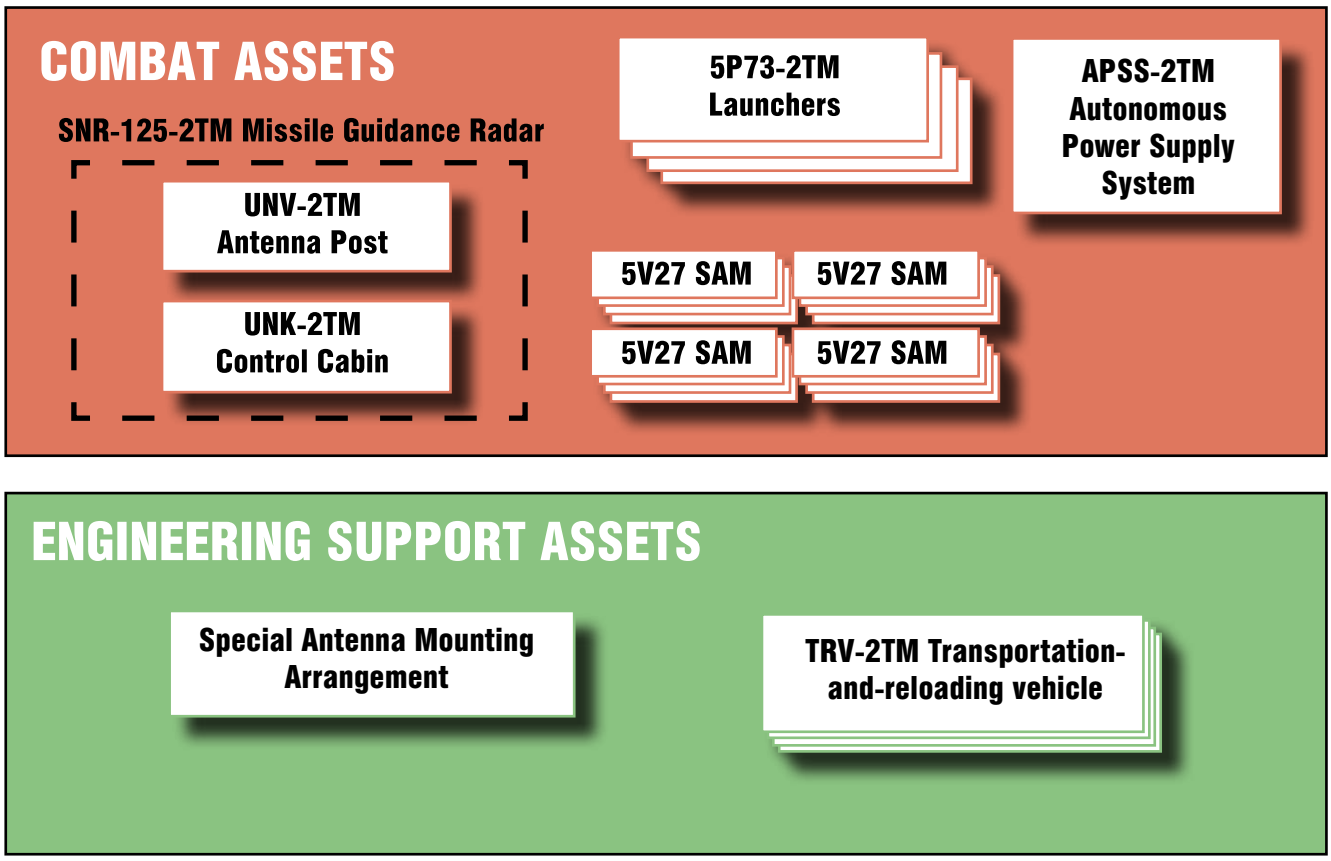
The *PECHORA-2TM* ADMS is fitted with the GPS navigation system; this ensures substantial shortening of the time required for its movement, prompt emplacement of the ADMS in a new position area, topographic siting and positioning.

THE COMPOSITION OF THE PECHORA-2TM ADMS

The *PECHORA-2TM* ADMS is composed of the following assets:

Combat assets:
- *SNR-125-2TM* Missile Guidance Radar (MGR):
  - *UNV-2TM* Antenna Post (AP)
  - *UNK-2TM* Control Cabin (CC)
- *5P73-2TM* Launchers (4 pcs.)
- *APSS-2TM* Autonomous Power Supply System (APSS)
- *5V27* Surface-to-Air Guided Missiles (SAM)

Engineering support assets:
- the special antenna mounting arrangement on high cross-country capacity automobile chassis (6x6)
- TRV-2TM Transportation-and-reloading vehicle



MISSILE GUIDANCE RADAR

The MGR comprising the AP and the CC is a three-coordinate pulse Doppler target acquisition, tracking and missile guidance radar.

The MGR-125-2TM is designed to solve the following tasks:

- target search, acquisition based on target designation data or autonomously;
- automatic or manual tracking of one or two targets assigned (selected) for engagement;
- preparation of firing input data;
- automatic launch preparation and missile launching;
- automatic tracking and guidance of missiles at the target;
- evaluation of firing results.

The MGR-125-2TM features two target channels and two missile channels. It means that the MGR-125-2TM is capable of engaging either two targets with two missiles or one target with two missiles.

THE ANTENNA POST

The AP is mounted on the special UV-600-2TM automobile trailer. A kit of equipment (crane-manipulator) is installed on a separate automobile chassis in order to transfer the AP either to the combat or march position. When in the march position, the vehicle along with the crane-manipulator tows the UV-600-2TM trailer.

The following assets are installed in the AP:

- antenna-waveguide system
- radio transmitting device
- command radio transmitter
- radio receiving devices of the target and missile sighting channels
- *EOS-2TM* mixed electro-optical system (EOS)
- interfacing and communication instrumentation.

The MGR is equipped with the EOS comprising:

- IR day/night channel
- TV cameral
- instrumentation for automatic tracking of targets
- instrumentation for information displaying

The AP transfer time is:

- from the march position to the combat one – no more than 25 min
- from the combat position to the march one – no more than 25 min

Antenna Post in the combat position

THE CONTROL CABIN

The CC is mounted on a high cross-country capacity automobile chassis (6x6). The autonomous power supply system (*APSS-UNK*) is also mounted on the same chassis.

Control Cabin

Automated Workstations of Combat Crew Personnel

The following assets are accommodated in the CC:

- automated workstations (AWS) of combat crew personnel outfitted with high resolution color LCD monitors
- functional check and combat crew training instrumentation
- digital instrumentation of the coordinate determination device and command generation device
- main amplifiers of the radio receiving device of the target and missile sight channel
- combat operation documenting equipment
- interfacing and communication equipment
- air conditioning and heating system
- SPTA kit

The built-in technical control system is installed in the CC equipment which ensures troubleshooting and output of information about faulty units, subunits and cells.

THE LAUNCHER

The Launcher is designed for pre-launch preparation of missiles, aiming them in azimuth and elevation to fire into the MGR scanning sector, enabling missile launches. One Launcher cradles four type *5V27* missiles.

The Launchers are equipped with hydraulic emplacement/displacement systems (for transferring the launchers to the combat and march positions).

The time required for transferring the Launcher from the march position to the combat position and back does not exceed 10 minutes.

5P73-2TM Launcher

THE AUTONOMOUS POWER SUPPLY SYSTEM

The APSS of the *PECHORA-2TM* consists of two systems:

- *APSS-UNV* antenna post's autonomous power supply system
- *APSS-UNK* control cabin's autonomous power supply system

The *APSS-UNV* antenna post's autonomous power supply system is mounted on a separate trailer and provides electric power supply to the AP, CC and four 5P73-2TM Launchers.

The *APSS-UNV* is controlled either in the automatic or manual mode directly from the electric station control console or in the remote mode from the UNK-2TM control cabin.

The *APSS-UNK* is mounted on the UNK-2TM control cabin chassis and designed to provide electric power supply to the CC during combat duty and routine maintenance.

The *APSS-UNV* is the main electric power supply source for all assets of the "*PECHORA-2TM*" SAM System during combat operation.

The *APSS-UNK* may be used as the alternative electric power supply source and may supply electric power to the AP, CC and one of the 5P73-2TM Launchers.

The *APSS PECHORA-2TM* enables electric power supply to the SAM system assets from industrial power sources.

APSS-UNV System

TRV-2TM TRANSPORTATION-AND-RELOADING VEHICLE

The TRV-2TM is designed for storage, transportation and reloading of up to 4 5V27 SAMs of any types.

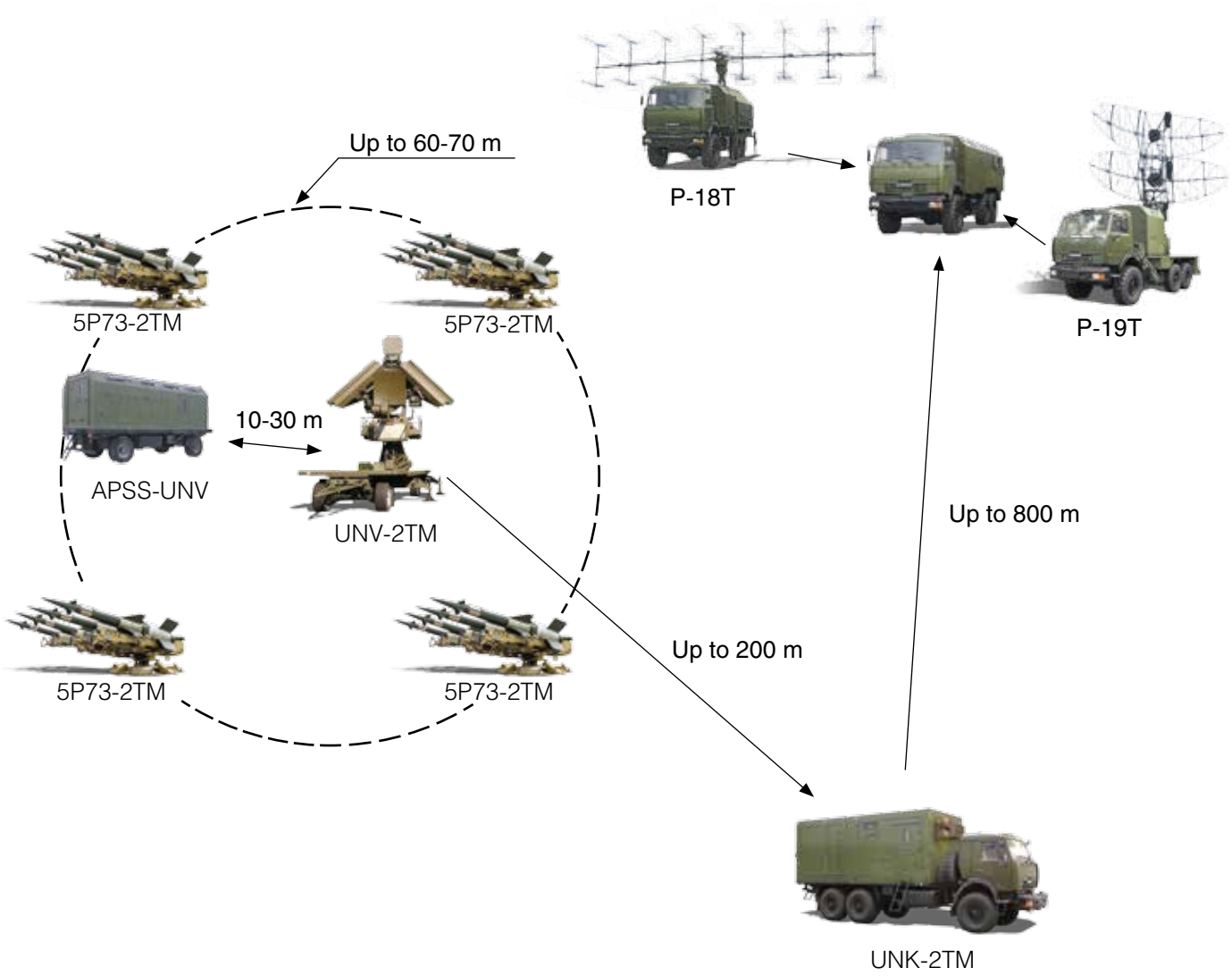
The TRV-2TM ensures reloading of 5V27 SAMs from hangar platform truck (loading and link-up platform) onto its logement, from its logement onto the 5P73-2TM launcher and backwards.

The TRV-2TM comprises the following:

- KAMAZ-43118 mobile chassis
- Loading device mounted on the chassis
- Logements for 5V27 SAMs stowage

The design of the TRV-2TM enables 4 SAMs to be transported (2 SAMs in 2 layers).

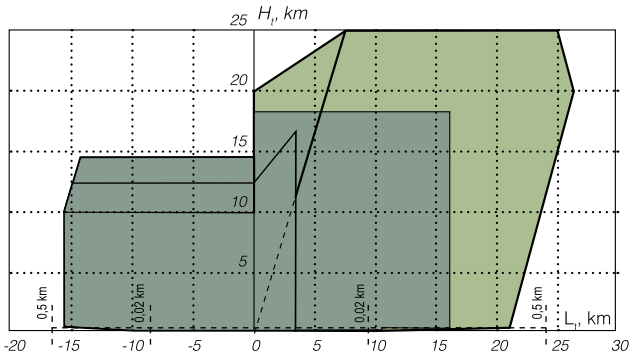
LAYOUT OF THE PECHORA-2TM IN THE COMBAT POSITION

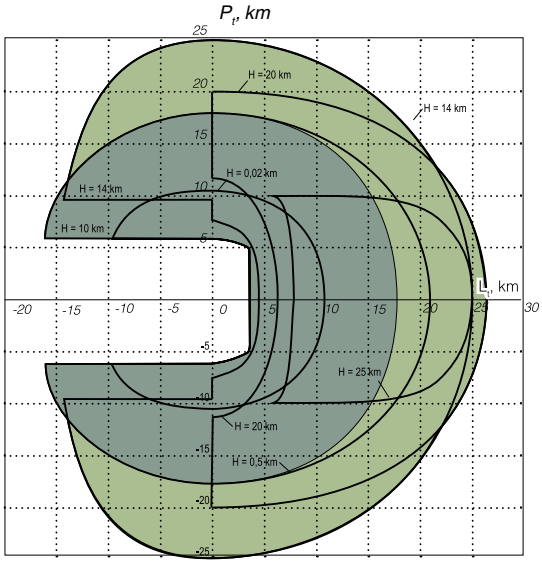


MAIN COMBAT CHARACTERISTICS OF THE PECHORA-2TM ADMS

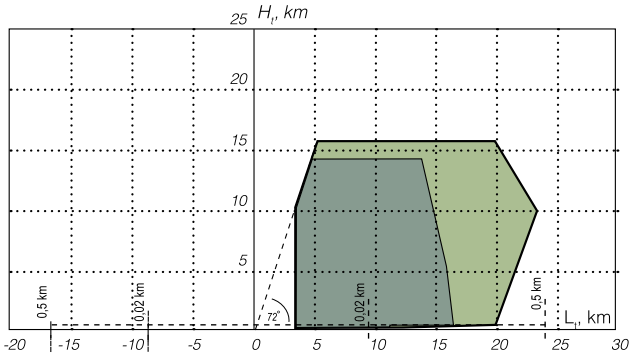
Number of targets killed simultaneously	2
Maximum range of targets engaged	35.4 km
Altitude of targets engaged	0.02 – 25 km
Maximum cross range of targets engaged	25 km
Maximum speed of targets engaged	900 m/s
Target kill probability, with one SAM	0.92
Jamming immunity against active barrage jams	2700 W/MHz
Maximum range of detecting targets	100 km
Emplacement/displacement time	25 min

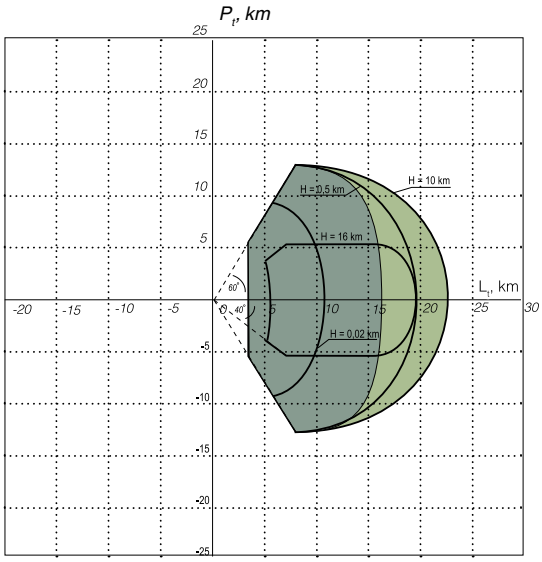
THE PECHORA-2TM ADMS KILL ZONE



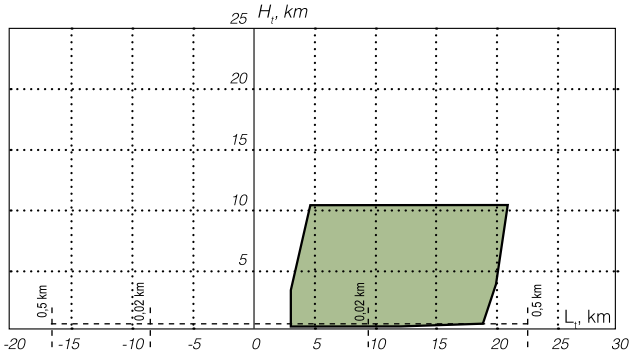


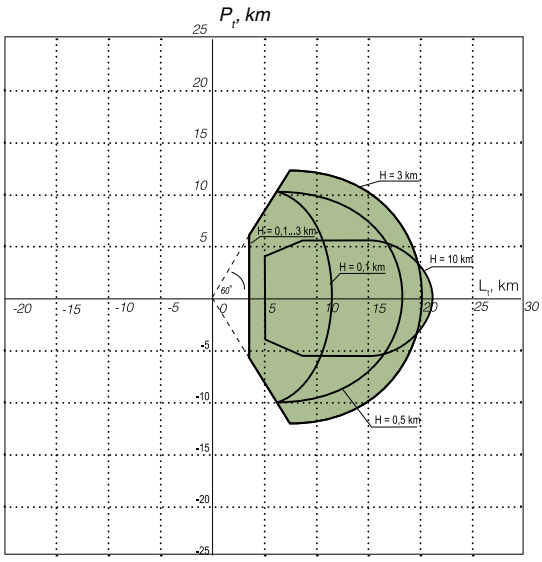
«Pechora» and «Pechora-2TM» ADMS kill zones, firing at approaching targets flying at $V_t \leq 300$ m/s.





«Pechora» and «Pechora-2TM» ADMS kill zones, firing at approaching targets flying at $V_t = 700$ m/s.





«Pechora-2TM» ADMS kill zone, firing at approaching targets flying at $V_t = 900$ m/s.

– «Pechora» ADMS

– «Pechora-2TM» ADMS