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SECTION
ROCKET
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GROUP

3



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▶ ROCKET INDUSTRIES GROUP:

Rocket Industries Group (R.I.G.) is one of the subsidiary groups of defense industries organization (D.I.O), whose scope of activities is Research & Development, Production, Reconstruction, and Optimization of various types of rockets such as Artillery, Anti Armor and Anti personnel Rockets as well as Rocket Weapon Systems as follows:

- Production of Artillery Rockets such as 107mm, 122mm, 240mm, 333mm with different ranges and performances
- Developing of Rocket Weapon Systems in the fields of Ground Combats, Coastal Defense, Navy and Air to Ground
- Shoulder-launched Rocket Systems like Anti Armor, Anti personnel, Anti fortifications, etc.
- Research and production of types of Warheads, Solid Fuel Motors, Aircraft Seat Ejection Rocket,
- Based on the technical and professional capability of its featured experts, R.I.G. has achieved the necessary know how in many fields of Rocket Systems and with the know how of tests for flights, static and explosives, it promotes its products. Moreover by establishing production lines of various products and based on native knowledge, R.I.G. has been able to be prepared for transferring the technology of producing different types of rocket weapon systems.
- Utilizing the wide range of suppliers' network, R.I.G. has expanded its potentials and by having precise instruments and special machineries, is able to produce complicated parts and components of rockets.
- By applying management systems like Project Management, ISO 140001, 9001/2008, OHSAS 18001, etc., R.I.G. has set before the eyes quality and safety as its working patterns.



ROCKET INDUSTRIES GROUP PRODUCTS:

- FADJR 1 ROCKET 107 mm FIN STABILIZED
- FADJR 2 ROCKET 240 mm FIN STABILIZED
- FADJR 3 ROCKET 240 mm FIN STABILIZED
- FADJR 5 ROCKET 333 mm FIN STABILIZED
- FADJR 5 TWO STAGES ROCKET 333 mm FIN STABILIZED
- FALAGH 1 ROCKET 240 mm FIN STABILIZED
- FALAGH 2 ROCKET 333 mm FIN STABILIZED
- FADJR 5 BOXY LAUNCHER WITH AUTOMATION
- FADJR 3 BOXY LAUNCHER WITH AUTOMATION
- COMMAND CABIN
- MOBILE REPAIR ARTIELIER VEHICLE
- FADJR 5 BOXY LOADING MACHIN
- FADJR 3 BOXY LOADING MACHIN
- LOADING CRANE
- SIGHT MOUNT FOR LAUNCHER 240 mm & 333 mm
- SHORT RANGE ARASH UNGUIDED ROCKET 122 mm
- STANDARD ARASH UNGUIDED ROCKET 122 mm
- LONG RANGE ARASH UNGUIDED ROCKET 122 mm
- AIR TARGET IMITATOR OKM ROCKET 132 mm
- FATH ANTI ARMOR ROCKET 40 mm
- NAFEZ ANTI ARMOR ROCKET 40 mm
- SAEGHEH ANTI PERSONNEL ROCKET 40 mm
- ZAFAR ANTI ARMOR ROCKET 73 mm
- GHADIR ANTI ARMOR ROCKET 105 mm



ROCKET INDUSTRIES GROUP

SECTION 3

▣ General Specifications:

122 mm rocket projectiles are used against enemy man-power in the open and in the field shelters, soft skinned equipment, armored personnel carriers, command posts and other targets. This rocket can be fired with a launcher that is compatible with BM-21.

▣ Technical Specifications:

Maximum Range	12 km
Minimum Range	1.5 km
Rate of fire	40 Rounds in 20 seconds
Caliber	122 mm
Total weight	44 kg
Maximum velocity	530 m/s
Length	1850 mm
Warhead	HE Fragmentation
Weight of Warhead	19 kg
Fuse	Mechanical Impact



▣ **General Specifications:**

122 mm rocket projectiles are used against enemy man-power in the open and in field shelters, Soft skinned equipment, armored personnel carriers, command posts and other targets. This rocket can be fired with a launcher that is compatible with BM-21.

▣ **Technical Specifications:**

Maximum Effective Range	21 Km
Minimum range	1.6 Km
Rate of fire	40 rounds in 20 seconds
Caliber	122 mm
Total Weight	65 kg
Maximum velocity	710 m/s
Length	2860 mm
Warhead	HE Fragmentation
Weight of Warhead	19 Kg
Fuse	Mechanical Impact



▣ **General Specifications:**

122 mm rocket projectiles are used against enemy man-power in the open and in field shelters, Soft skinned equipment, armored personnel carriers, command posts and other targets. This rocket can be fired with a launcher that is compatible with BM-21.

▣ **Technical Specifications:**

Maximum Range	40 km
Minimum Range	4 km
Rate of fire	40 Rounds in 20 seconds
Caliber	122 mm
Total weight	67.5 kg
Maximum velocity	1100 m/s
Length	2892 mm
Warhead	HE Fragmentation
Weight of Warhead	22 kg
Fuse	Mechanical Impact



▣ General Specifications:

It is designed to be used as an aerial target for practice firing of IR homing surface to air missile.

▣ Technical Specifications:

Maximum Range	5000 m
Maximum Altitude	1200 m
Maximum Velocity	275 m/s
Caliber	132 mm
Total Weight	45 kg
Length	1420 mm
Launch Angle	30 to 40
Flight Duration	30 s
Number of flares	6
Visibility of flares	up to 5 Km



▣ **General Specifications:**

It is designed for destroying tanks, self propelled guns and other armored vehicles. It can also be used for destroying enemy troops in field shelters and other fortifications.

▣ **Technical Specifications:**

Maximum Effective Range	300 m
Minimum range	50 m
Rate of fire	4 Rounds / minute
Caliber	40 mm
Total Weight	2.350 kg
Muzzle Velocity	120 m/s
Maximum velocity	300 m/s
Length	920 mm
Warhead	HEAT
Penetration	300 mm
Fuse	Electro Mechanical Impact
System	Anti tank grenade Launcher RPG-7



▣ **General Specifications:**

It is designed for destroying tanks, self-propelled guns and other armored vehicles. It can also be used for destroying enemy troops in field shelters and other fortifications.

▣ **Technical Specifications:**

Maximum Effective Range	200 m
Minimum range	50 m
Rate of fire	4 Rounds / minute
Caliber	40 mm
Total Weight	2.700 kg
Muzzle Velocity	112 m/s
Maximum velocity	270 m/s
Length	960 mm
Warhead	HEAT
Penetration	500 mm
Fuse	Electro Mechanical Impact
System	Anti tank grenade Launcher RPG-7



▣ General Specifications:

It is designed for targeting the enemy troops in open, trenches, and field shelters and brick-walled fortifications.

▣ Technical Specifications:

Maximum Effective Range	700 m
Minimum range	100 m
Rate of fire	4 rounds/minute
Caliber	40 mm
Total Weight	1.550 kg
Muzzle velocity	140 m/s
Length	590 mm
Warhead	HE Fragmentation
Fuse	Mechanical Impact
System	Anti Tank Grenade Launcher RPG -7



▣ General Specifications:

It is designed for destroying tanks, self-propelled guns and other armored vehicles. It can also be used for destroying enemy troops in field shelters and other fortifications.

▣ Technical Specifications:

Maximum Effective range	800 m
Rate of fire	2 rounds/minute
Caliber	73 mm
Total Weight	4.390 kg
Muzzle velocity	435 m/s
Maximum velocity	730 m/s
Length	1100 mm
Warhead	HEAT
Penetration	300 mm
Fuse	Mechanical Impact
System	Anti Tank Grenade Launcher SPG -9



▣ General Specifications:

It is Intended for destroying tanks including those with explosive reactive armor (ERA), self-propelled guns and other armored vehicles. It can also be used suppressing infantry and firing position in brick and reinforced concrete buildings and earth shelters.

▣ Technical Specifications:

Maximum Sighting Range	500m
Blank point range	300m
Minimum range	50m
Rate of fire	4 rounds/minute
Caliber	105 mm
Total Weight	6.700 kg
Muzzle velocity	230 m/s
Length	1100 mm
Warheadtion	Tandem HEAT
penetration	600 mm after ERA
Fuse	Electro Mechanical Impact
System	anti tank Grenade Launcher RPG 29

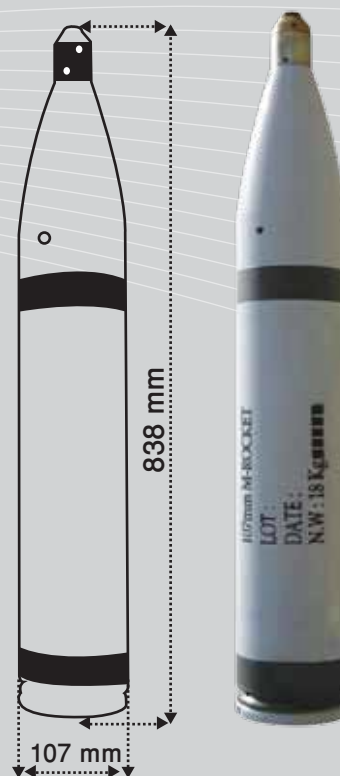


General Specifications:

107 mm Fadjr1 rocket has been designed and produced to destroy enemy's offensive forces and hidden forces in trenches. It can also be used to target artillery batteries fires and destroy platoons of tanks, armored vehicles and technical equipments. This rocket is capable to strike ground equipment, command posts and ordnance depots.

Technical Specifications:

Maximum range in sea level	8.3 km
Fragmentation radius	100 m
Maximum speed	375 m/s
Average time of the motor operation	0.6 s
Rocket length	838 mm
Rocket caliber	107 mm
Rocket weight	18 kg
Warhead weight	7.9 kg
Quantity per box	Two rounds
Type of warhead	High explosive
Type of propellant	Double base
Warehousing	15 years

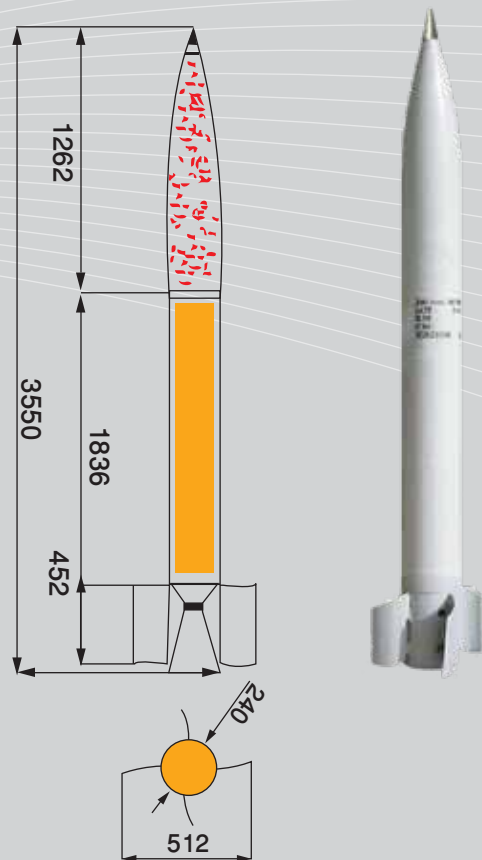


▣ **General Specifications:**

Solid propellant, wrap around fins, multiple launch rockets have been designed and generated for different artillery missions. 240 mm Fadjr 2 multiple rocket system is deployed to attack enemy's special forces such as command, logistic, economical and political centers, radar stations, communication networks, airfields and other important targets.

▣ **Technical Specifications:**

Maximum range in sea level	23 km
Fragmentation radius	300 m
Maximum speed	670 m/s
Average time of the motor operation	4 s
Rocket length	3550 mm
Rocket caliber	240 mm
Rocket weight	275 kg
Warhead weight	85 kg
Type of warhead	High explosive
Type of propellant	Double base
Warehousing	15 years

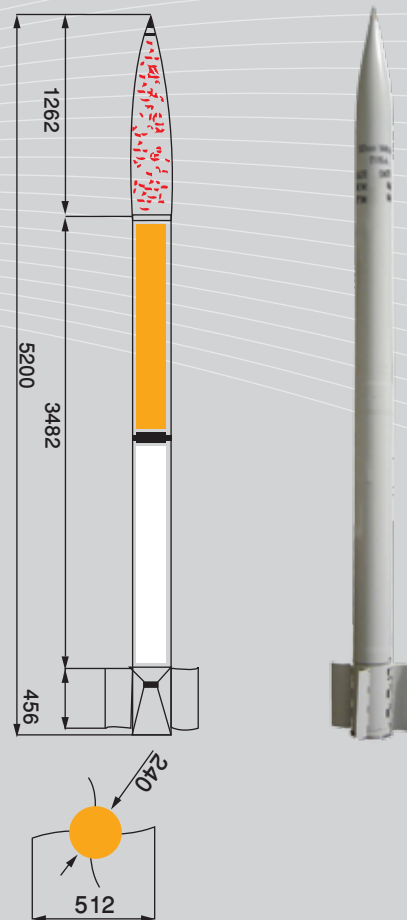


▣ **General Specifications:**

Solid propellant, wrap around fins, multiple launch rockets have been designed and generated for different artillery missions. 240 mm Fadjr 3 multiple rocket system is deployed to attack enemy's special forces such as command, logistic, economical and political centers, radar stations, communication networks, airfields and other important targets.

▣ **Technical Specifications:**

Maximum range in sea level	43 km
Fragmentation radius	300 m
Maximum speed	930 m/s
Average time of the motor operation	4 s
Rocket length	5200 mm
Rocket caliber	240 mm
Rocket weight	407 kg
Warhead weight	85 kg
Quantity Per metal Pallet	3 Round
Type of warhead	High explosive
Type of propellant	Double base
Warehousing	15 years

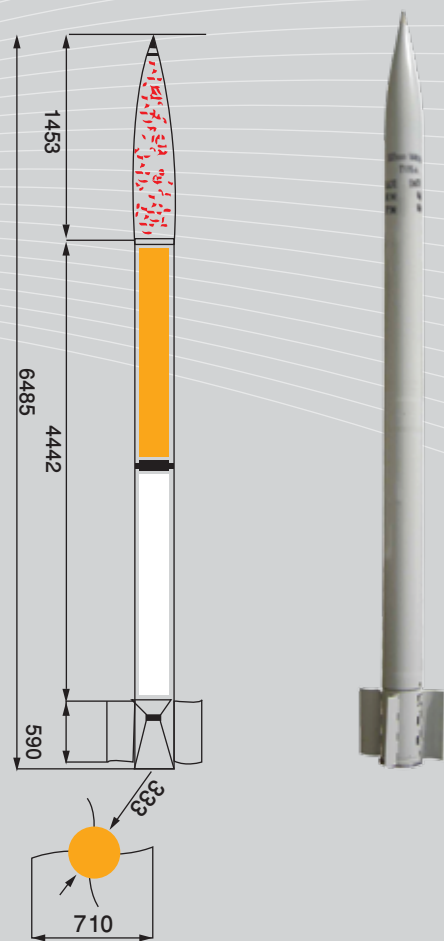


General Specifications:

Solid propellant, wrap around fins, multiple launch rocket have been designed and generated for different artillery missions. 333 mm Fadjr5 multiple rocket system is deployed to attack enemy's special forces such as command, logistic, economical and political centers, radar stations, communication networks, airfields and the other important targets.

Technical Specifications:

Maximum range in sea level	75 km
Fragmentation radius	500 m
Maximum speed	1100 m/s
Average time of the motor operation	5.3 s
Rocket length	6485 mm
Rocket caliber	333 mm
Rocket weight	907 kg
Warhead weight	175 kg
Quantity per box (metal pallet)	One round
Type of warhead	High explosive
Type of propellant	Double base
Warehousing	15 years

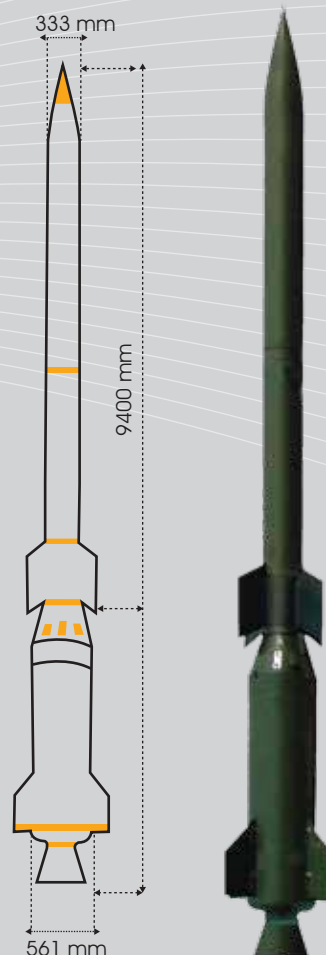


▣ **General Specifications:**

561/333 mm two stages Fadjr 5 rocket is used to attack enemy's special forces such as command, logistic, economical and political centers, radar stations, communication networks, airfields, factories and other important targets.

▣ **Technical Specifications:**

Maximum range in sea level	180 km
Maximum flight altitude	85 km
Fragmentation range	500 m
Rocket total length	9400 m
Warhead weight	175 Kg
Type of warhead	High explosive
Type of Propellant	Double base
Shelf life (based on military standards)	15 years

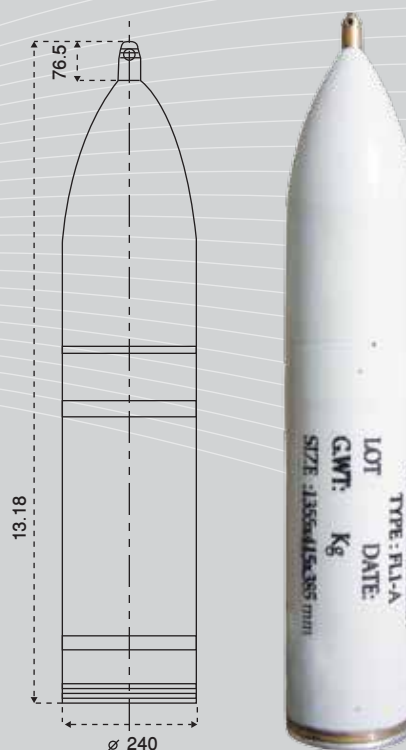


▣ **General Specifications:**

Having a wide spreading explosion rocket, 240 mm Falagh1 has been designed to be deployed in attacking and defending positions. Reinforcement of artillery fires and destroying enemy's Forces and equipments are the other purposes of its design. This rocket can be installed on vessels.

▣ **Technical Specifications:**

Maximum Range in sea level	10 km
Maximum flight altitude	3500 m
Fragmentation radius	150 m
Maximum speed	445 m/s
Average time of motor operation	1.3 m/s
Rocket length	1320 m/s
Rocket caliber	240 mm
Rocket weight	113 kg
Warhead weight	50 kg
Quantity per wooden box (can)	one round
Type of warhead	high explosive
Type of propellant	Double base

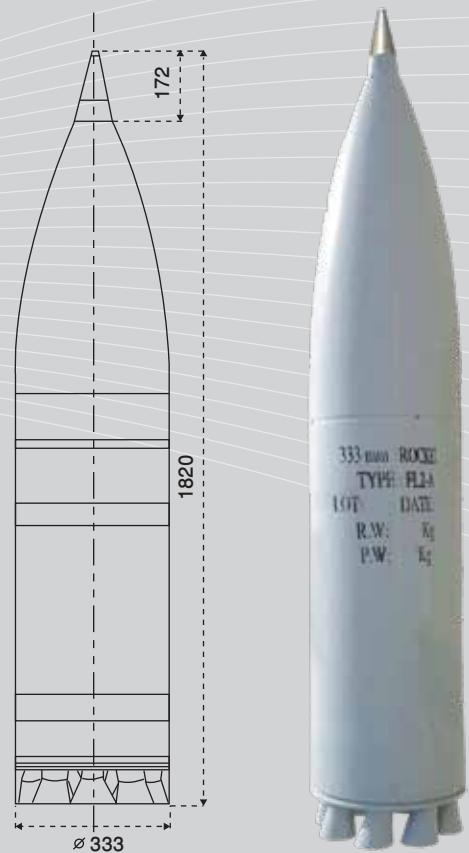


▣ **General Specifications:**

Having a wide spreading explosion rocket, 333 mm Falagh 2 has been designed to be deployed in attacking and defending positions. Reinforcement of artillery fires and destroying enemy's Forces and equipment are the other purposes of its design. This rocket can be installed on vessels.

▣ **Technical Specifications:**

Maximum Range in sea level	10. 8 km
Maximum flight altitude	3200 m
Fragmentation radius	300 m
Maximum speed	376 m/s
Average time of motor operation	1/85 m/s
Rocket length	1820 m/s
Rocket caliber	333 mm
Rocket weight	256 kg
Warhead weight	117 kg
Quantity per wooden box (can)	one round
Type of warhead	high explosive
Type of propellant	Double base



General Specifications:

333 mm Fadjr5 mobile launcher is one of the efficient short range launchers, with high mortality radius and accuracy, plays an effective role in providing heavy fires. Having high maneuverability, low seating and launching time, it can help the launcher to be deployed fast and be more effective in surprising enemy's forces. In addition, because of having specified and defined rocket battalion with low forces and equipments, it is possible for the launcher to do striking operations. 333 mm Fadjr5 multiple launch rocket system is used to create massive and effective fires to support operating forces during combat, destroy economic and military installations and stations, and insecure naval routes in 75 km radius. Capability of displacement in difficult terrains, performing launching operations at night, ability of firing in single shot or salvo and reloading operations, and rapid deployment has increased its operating power. Using automation and firing control system, high efficient electromechanical and communicative mechanisms, disuse of hydraulic mechanisms which require particular maintenance, has given more efficiency to the rocket launcher in difficult terrains. Advanced electronic systems are able to provide a network of different launchers. Fire management plays an important role in guidance the fire volumes to produce an effect on the launcher within specified time loading operation accompanied with firing tubes' box replacement in fastest possible time and simplicity to operate, will increase the weapon loading operation speed during combat operations. The launcher can be used for reform missions in different combat organizations such as artillery units (ground forces), rocketry (air forces) and coastal artillery (naval forces).



Technical Specifications:

Launcher length in traveling state	10000 mm
Launcher width in traveling state	2500 mm
Launcher height in traveling state	3340 mm
Maximum width of the launcher in combat state (azimuth 90°)	6135 mm
Maximum height of the launcher in combat state (azimuth 75°)	5450 mm
Firing tube length	5360 mm
Weight without rocket	15000 kg
Weight with 4 rounds rocket	19900 kg
Rate of fire	Single and salvo
Range angle	53°
Azimuth angle	± 45 °



▣ General Specifications:

240 mm Fadjr 3 mobile boxy launcher is one of the efficient short range launchers, having high mortality radius and accuracy, plays an effective role in providing heavy fires. With high maneuverability, low seating and launching time, it can help the launcher to accelerate operations and be more effective in surprising enemy's forces. In addition, because of having specified and defined rocket battalion with low forces and equipment, it is possible for the launcher to be deployed in striking operations. The launcher can be used for performing missions in different combat organizations such as artillery units (ground forces), rocketry (air forces) and coastal artillery (naval forces). 240 mm Fajr 3 multiple launch rocket system is used to create massive and effective fires to support operating forces during combat, destroy economic and military installations and stations, and insecure naval routs in 43 km radius. Capability of displacement in difficult terrains, performing launching operations at night, ability of firing in single shot or salvo and reloading operations and rapid deployment has increased its operating power. Using automation and firing control system, high efficient electromechanical and communicative mechanisms, disuse of hydraulic mechanisms which require particular maintenance, has given more efficiency to the rocket in difficult terrains. Advanced electronic systems are able to provide a network of different launchers. Fire management plays an important role in guidance the fire volumes to produce an effect on the launcher within a specified time. Loading operation accompanied with firing tubes' box replacement in fastest possible time and sufficient simplicity, will increase the weapon loading operation speed during combat operations. Installed automation system on the rocket is cable to control range and azimuth automatically. Based on precise servo system and measurement elements, acquiring both of them is possible. Home made software and internal security protocols give a special capability to the system.



▣ Technical Specifications:

Launcher length in traveling state	10000 mm
Launcher width in traveling state	2500 mm
Launcher height in traveling state	3340 mm
Maximum width of the launcher in azimuth angle (57°)	6135 mm
Maximum width of the launcher in azimuth angle (90°)	5450 mm
Firing tube length	5360 mm
Weight without rocket	15000 kg
Weight with 12 rounds rocket	19900 kg
Maximum range angle	57°
Maximum azimuth angle (right)	90°
Maximum azimuth angle (left)	100°



▣ General Specifications:

Command cabin vehicle is a mobile system responsible to manage fire control of the Fajr3 and Fajr 5 launchers equipped with automation system. Giving a precise definition of the mission of every launcher plays an appropriate role for weapon efficiency. The most important responsibility of field management is to determine the required fire mass, relative to the type of targets and schedule fires between different launchers. Here the key point is harmonizing with other available weapons in battlefield. Weapons with high responsive activity and momentary relevance with all launchers can help field management to acquire it. The command cabin must obtain geographic coordinate of targets (geographical longitude and latitude and height of sea level) and sends them to the related launcher in any possible manner. It also sends meteorology information (such as wind direction, wind speed, temperature and humidity) to the launchers to modify firing table. By having the target coordinates and meteorology information and geographical longitude and Latitude related to the launcher position, the launcher enables accurate aim on the target. The command cabin has been made of fiber glass materials. It has standardized thermal and acoustical isolation.



▣ Technical Specifications:

Room's exterior dimensions	4.8 x 2.4 x 2.3 m
User's interior dimensions	315 x 2.2 x 1.97 m
Diesel's room interior dimensions	1.35 x 2.2 x 1.97

▣ Accompanying Equipment:

- 1- Industrial computer with L.C.D monitor, with touch screen capability.
- 2- Meteorology box, having static weather sensor
- 3- GPS
- 4- Diesel generator



▣ General Specifications:

Mobile repairs unit is used to perform all type of ground equipment repairs, which are deployed in launching site in level 2 . The unit has ability to perform all the related tests, repairs of the ground equipment rocket parts, and conducts every kind of repairs at night.



▣ Technical Specifications:

Equipped with:

- Semi-isolated cabin
- High ampere fuse (cut - out switch) in battery direction
- Fuse and safety relays
- Electricity panel
- Alarm and flashing light
- Mobiles repairs general equipment
- Mobiles repairs mechanical equipment
- Mobiles repairs electrical equipment
- Mobiles repairs communication equipment



▣ Dimensional specifications:

Length	7 m
Width	2.5 m
Height	3.5

▣ Capabilities:

Deploying for ground artillery units.
Ability of performing repairs at night.
Usability for mountainous regions.
Deploying in camouflaging.



▣ **General Specifications:**

333 mm Fadjr5 boxy loader has been applied to load twin barreled box of the Fajr5 launcher. A railed chainwheel system is used for loading the barrel box in this product. Fastest possible loading time and highest accuracy, simple operation and increasing the loading safety, decreasing the rocket body damage and human dangers during manual loading, time saving, lightness and portability are the most important features of the 333 mm Fadjr5 boxy loader. Since this product can be rapidly assembled and disassembled, it is possible to transfer it everywhere if necessary.



▣ **Technical Specifications:**

Length	120000 mm
Width	1600 mm
Height	1050 mm
Type of packing	Waterproof cover
Quantity of loadable rockets in every stage	One round
Loading time for every rocket	2 minutes
Consumed electricity	Uni-phase and triple phase



▣ General Specifications:

333 mm Fadjr 3 boxy loader has been applied to load twin barreled box of the Fadjr 3 launcher. A railed chainwheel system is used for loading the barrel box in this product. Fastest possible loading time and highest accuracy, simple operation and increasing the loading safety, decreasing the rocket body damage and human dangers during manual loading, time saving, lightness and portability are the most important features of the 333 mm Fadjr 3 boxy loader. Since this product can be rapidly assembled and disassembled, it is possible to transfer it every where if necessary.



▣ Technical Specifications:

Length	10400 mm
Width	1100 mm
Height	1300 mm
Type of packing	Waterproof cover
Quantity of loadable rockets in every stage	3 round
Loading time for every rocket	2 minutes
Consumed electricity	Uni-phase and triple phase



▣ General Specifications:

This crane has been deployed to displace the existent tubes, rockets, boxes that have the capability of installing on the different type of vehicles. It can be more helpful to the possibility of loading and transferring the rockets and related Fadjr 3 and Fadjr 5 boxes, loading the filled boxes on the carrier vehicles in the fastest possible time. The crane has 4 rounds hydraulics jacks which make the loading possibility safer and easier.



▣ Technical Specifications:

Type of crane	Joint folding
Model	EFEER 155-25
Loading weight in maximum distance	2200 kg
Loading weight in minimum distance	4800 kg



▣ General Specifications:

This product in company with the capability of angle finding, elevation and azimuth adjustment is used for accurate sighting and impact to the target, after reaching the ballistic conditions. It is capable to be installed and applied in various launchers such as 240 mm Fadjr3 and 333 mm Fadjr5. In fact, it is a mechanical inclinometer consisting of two main sections such as tripod and collimating sight. They are connected to each other by a simple mechanism. In this product, the range angle is mounted on the drum of the tripod and the azimuth angle on the drum of the collimating sight due to the eastern mil (a complete circle, 6000 mil). This inclinometer is not only capable of mounting on the 240 mm Fadjr3 and 333 mm Fadjr5 rockets but also on the self propelled artilleries such as 130 & 152 mm canon, 122 & 170 mm Howitzer, 175 mm Howitzer Guns and Zelzal launchers.



▣ Technical Specifications:

Technical code	25 E and 3 I
Accuracy	1 mil
On the pods' installable equipment	Inclinometer camera and collimator

