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SECTION
VEHICLE &
EQUIPMENT
INDUSTRIES
GROUP

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▣ VEHICLE & EQUIPMENT INDUSTRIES GROUP:

Vehicle & Equipment Industries Group is one of the reliable subsidiaries of Defense Industries Organization, located in different cities of Iran & is specialized for the production of various defense related products & services for meeting the requirements of the Armed Forces of the Islamic Republic of Iran & other potential customers either inside or outside the country in the fields of main battle tanks (T series), armoured personnel carriers, infantry combat vehicle, 155 mm self propelled gun, 122 mm howitzer, mine cleaner, protective components & composite armour, fire control & gate systems, training simulator for tanks & APC's, electrical, mechanical & rubber parts, aircraft tires, light, heavy-duty and tactical vehicles, tipper & tactical trucks, mini-bus, intercity bus including the following activities & services:

- Designing & manufacturing of armoured & special multi purpose vehicles, reactive armoured (parts, building & installation), different generation of camouflage coatings (Anti-radar, thermal, vehicles, ...), various simulator for armoured vehicles, fire control systems, supply of mechanical & electrical assembly & spare parts as per customer 's request.
- Upgrading of APC & MBT, offering training services in armoured fields (operating, repair and maintenance).
- Manufacturing of rail-way transportation equipment.

With respect to obtaining quality & environmental international certifications such as ISO 9001, ISO 9002, ISO TF 2002, ISO TS 16949 and Military Standards which have key roles for entering the worldwide competition, VEIG is proud of presenting a safe and reliable image of the company while fulfilling simultaneously, its obligations to its customers both internal & external.



VEHICLE & EQUIPMENT INDUSTRIES GROUP:

- T -72 S MAIN BATTLE TANK
- MODERNIZED TANK T 72 Z
- 155 mm - SELF PROPELLED GUN HOWITZER
- 155 mm SELF – PROPELLED GUN – HOWITZER
- BMP-II ARMORED PERSONNEL CARRIER APC BMP-2
- BORAQ ARMORED MISSILE LAUNCHER VEHICLE AIFV
- BORAQ ARMORED GUN VEHICLE 30 MM - AICV (Armored Infantry Combat Vehicle with 30mm Gun)
- BORAQ ARMORED MORTAR VEHICLE AMV - 120 MM
- BORAQ ARMORED PERSONNEL CARRIER APC
- TRACKED RESCUE & RELIEF SUPPORT VEHICLE TRRSV-1
- TRACKED RESCUE & EMERGENCY VEHICLE TREV-1
- BORAQ ARMORED AMBULANCE VEHICLE AAV (ARMORED /AIRBORNE INFANTRY FIGHTING VEHICLE)
- BORAQ ARMORED COMMAND VEHICLE EACV
- BORAQ ARMORED AMMUNITION CARRIER VEHICLE AAC
- ULTRA LIGHT ARMORED VEHICLE
- ARMORED PERSONNEL CARRIER (APC 4X4)
- 1 ¼ TON TACTICAL VEHICLE
- TACTICAL TRUCK 3/4 TON
- TACTICAL TRUCK 1/4 TON
- MINE SIFTER MECHANIZED MINE CLEARING EQUIPMENT TF5
- MECHANIZED MINE CLEARING EQUIPMENT ARMORED BULLDOZER MAB
- MINE CLEARANCE FLAIL VEHICLE MECHANIZED MINE CLEARING EQUIPMENT TAFTAN 2
- ARMORED TRACTOR MECHANIZED MINE CLEARING EQUIPMENT MAT
- RECOVERY TANK



VEHICLE & EQUIPMENT INDUSTRIES GROUP

SECTION 5

VEHICLE & EQUIPMENT INDUSTRIES GROUP:

- ARMoured ATELIER
- INFANTRY ATELIER
- HEAVY TELECOMMUNICATIONS SHELTER
- LIGHT TELECOMMUNICATIONS SHELTER
- SHELTER & MOBILE WORK SHOP
- SPECIAL REPAIR ATELIER
- SHELTER 3x1 EXPANDABLE
- TWO EXIS RIMOK
- MOBILE GENERATOR
- MOBILE COMMANDER STATION SHELTER
- MINE ROLLER TANK MECHANIZED MINE CLEARING EQUIPMENT MRT
- REMOTE CONTROL FLAIL SYSTEM TF3 MINI- FLAIL WITH REMOTE CONTROL SYSTEM TF3
- PASSAGE BRIDGE 24 METRE LAYER TANK
- SPONGY CONSOLIDATED TIRES
- AIRCRAFT TIRES
- MILITARY HELMET (ANTI BULLET AND FRAGMENT)
- ANTI BULLET & FRAGMENT VEST
- MULTI-SPECTRAL CAMOUFLAGE COATING
- ANTI MINE GARMENT
- ANTI BULLET PORTABLE FORT
- MECHANICAL COMPONENTS
- ELECTRICAL & ELECTRONIC COMPLEX
- CARAVAN
- WHEELED TEMPORARY HOUSE



VEHICLE & EQUIPMENT INDUSTRIES GROUP

SECTION 5

▣ General specifications:

The Helmets are made of aramid and /or polyethylene fibrics so they can stop bullets and fragments. They are used in military operations and by police forces against potential threats. The body of helmet resists standard fragments under NATO standard of STANAG 2920, between 550-680 m/sec of velocity. Different weights of helmets in respect of their applications are given below:



▣ Ballistic velocity (V50)

550 m/s
610 m/s
620 m/s
680 m/s

▣ Weight (medium size)

1300 gr
1350 gr
1400 gr
1550 gr

▣ Visored Helmet :

A visored helmet is used to neutralize mines. It is a combination of a military helmet and a transparent shield which stands against shrapnel and explosion shock wave for protection of head and face. A visor with 1.9 kg (4.2 lb) weight protects neck, face and forehead and can be attached to the most of the military helmets.

▶ Anti Bullet and fragment vest (type IIIA)

Anti Bullet vests are designed and made in different types for different missions. They are light, comfortable, flexible and ergonomic and can stand bullets under NIJ 0101.03 standard and fragment under Stanag 2920 standard. There are other bullet proof products made in this company such as different panels, brief cases and blankets. The weight of vests depends on the specific threat and the needed body protection level and they varies from 1.3 to 5.5 kg. The marine type, with life saving vest, is 6.5 kg.



▶ Polymeric anti bullet Panel (type III)

In order to increase the resistance in vest and provide protection against type III bullets (which have greater velocity and hardness than type IIIA and II) polymeric panels were built. These panels are used along with the vest to stand against bullets of type III, and comply with NIJ 0101.03 standard.

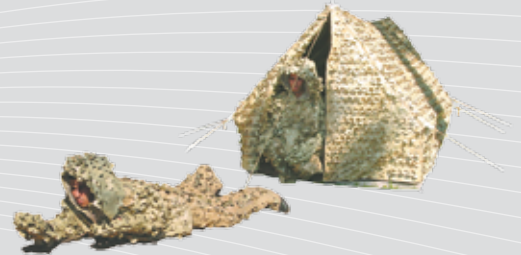
The panel is made of polyethylene which in certain conditions gets hardened and can resist bullets of type III.

▶ Composite ceramic panel, (type IV)

This panel is used along with anti bullet vest against bullets of type IV-AP and complies with NIJ 0101.03 The hardness of composite ceramic panels, due to their structure, is four times harder than steel. It shatters the steel core of a bullet and stops it.

► Camouflage Net

- To Camouflage targets in the range of visible wavelength of 400-700 nanometers.
- To Camouflage targets in the range of near infrared wavelength of 700-1200 nanometers.
- To Camouflage targets in the range of Thermal infrared wavelength of 3-5 and 8-14 micrometers
- To Camouflage targets in the range of radar X-band (8-12 GHZ)



► Mobile camouflage for 23 mm cannon

- 360° rotation during operation
- Ability to reduce being detected and recognized by visible, night vision, thermal cameras and radar system in the X- Band (8-12 GHZ)
- Useable during operations
- Capable of distorting the image



► Multi spectrum camouflage cloth

In a modern combat scene, it is necessary to observe without being observed. Also, it is essential to approach enemy lines before being recognized. Ordinarily, the soldiers who wear thermal cloth and compatible with their back ground (emit less heat) will have more survivability.

Light weight anti mine garment for protection against anti personnel mine with strong impulse and fragment.

Features :

1. Light weight (in different types)
2. Flexible
3. Greater protection in comparison with its foreign equivalents
4. Complete protection for front part of the body
5. Adjustable groin armor Plate.
6. Useable in hot and dry weather.

Mission: for searching and neutralizing mine fields.

Body protection: Protection against mine's fragments, over pressure, impulse and heat.

Weight of anti mine garment, type 7660: 13 kg



▶ **Anti Mine Polymeric Boots :**

With polymeric soles which their physical properties change during mine explosion process leads to reduction in energy transmission.



▶ **Anti mine Ceramic Boots :**

Its ceramic soles their physical properties change during mine explosion process resulting in energy absorption and reduction in energy transmission.



▶ **Anti mine Wedged- Sole :**

With a construction composed of an angled sole for maximum outwardly diversion of blast waves.

▶ **Spider Boots**

The boots maintain a distance between foot and the center of explosion to make energy reduce and divert.



▣ Anti Bullet Portable Fort :

Anti Bullet Forts are for protection of troops against all kinds of bullets and fragment of type IIIA, III, IV. Due to its flexibility and versatility, it is possible to use the fort in different vehicles, fences, hedges and bushes and provides protection for the soldier in kneeled or standing position. This fort is small in size and weights 9 kg only and in 30 seconds is ready to be used.



▣ Anti Bullet Cover :

The cover works like a shield and provides protection for VIPs. The cover complies with NIJ 01.01.03 standards and protects the person against type IIIA bullets. The outer layer is made of leather and inner layer is made of anti ballistic polyethylene fibers.



▣ Anti Bullet Blanket :

The blanket can be used in rooms, inside cars and provides protection against IIIA bullets. The outer layer of this blanket is made of water proof fibers and inner layer is made of anti ballistic polyethylene fibers. The blanket is available in two sizes- small 100 X 80 cm and large 200X160 cm. Other sizes are available on request.



1 ¼ TON TACTICAL VEHICLE

▣ General specifications:

Equipped with two speed transfer case and mechanical engagement system. 4WD, with differential lock. Driver cab. Equipped with suspension system including leaf spring and telescopic shock absorber. Hard and soft top, folding wind screen. Having two combat and civil lighting system.



▣ Technical specifications

Number of cylinders:	4
Engine type:	OM314 M.B
Max. Power:	85 hp
Brake system:	Hydraulics with boosters
Suspension system:	Steel straps and telescopic type
Net Weight (unloaded):	3060 kg
Max. Weight (loaded) :	4310 kg
Max. Speed:	100 km/h
Steering wheel:	Regular
Clutch:	Single disk
Power source:	Single battery (12-volt, 150- ampere)

▶ Technical specifications (shelter) :

Dimensions: 2100x1900x1900 mm

Weight with equipment: 900 kg

Insulation: condensed foam between the two hulls

▶ Air-condition

Heating output: 9000 BTU

Chilling output: 1000 BTU

Single condenser, timer and adjustable thermostat

Single 60 W centrifugal vent

▶ Lighting

8 fluorescent lights

2 omni-direction adjustable halogen light bulbs

▶ Electrical current

220 V AC

12 V DC

▶ Mobile Workshop :

Manufactured to support equipment, mechanically & electrically, in the battle field.

▶ Technical specifications

Dimensions: 6000x2450x2120 mm

Cabin material: 2 hulls with metal

Frames, hulls made of steel sheets which are injected with polyurethane foam.

Equipped with working table, tools, foldable 3-ton crane, welding rectifier, acetylene welding, bed and refrigerator.



ARMORED PERSONNEL CARRIER (APC 4X4)

▣ General specifications:

Characterized by high speed on road and excellent off-road mobility, The vehicle can transport 10 men. The vehicle is fitted with a 12.7 mm Automatic Gun and can be fitted with different cupolas for various types of armaments. such as 7.62 mm machine gun, water spraying gun and a special for civil defense. The crew can see and fire through 10 vision blocks and firing ports and can be quickly embarked or deployed through one rear door and two side doors.



▣ Specific Equipment :

- Central inflating system
- Run flat system
- Winch
- Differential lock
- Air condition system

▣ Option Equipment :

- Ceramic-composite layer
- Protection against 12.7 mm Up to 14.5 mm
- Smoke discharger
- N.B.C system

▣ Technical specifications

Crew:	8+2
Length:	6067 mm
Width:	2405 mm
Max. height:	3100 mm
Fully loaded weight:	9000 kg
Max. load on front axel:	4200 kg
Max. load on rear axel:	5600 kg
Engine type:	MAN D0824 LF09
Max. power:	155hp/2400 rpm
Torque:	580 Nm/1500 rpm
Transmission:	ZF- 62S50 (6+1)
Brake system:	air pressure, 2- way
Max. speed:	100 Km/h



▣ Technical specifications:

- Length: 3010 mm
- Width: 1850 mm
- Height: 2450 mm
- Gross weight: 2060 Kg
- Suspension system: Pick-up
- Brake system: mechanical – MANUAL
- Motor: Perkins
- Model: 404C-22G
- Qty of cylinder: 4
- Starter: 12 V
- Generator: Stamford
- Model:BCI 184E1
- Output power: 10kw
- Output voltages: 110V, 60HZ, 1800 rpm
220V, 50HZ, 1500 rpm
- **Electrical board:**
- Model: double telecommunication
- Equipments: PLC control, all voltage transfer, motor
- Control gauges, Generator control markers
- Dimensions: 800 x 300 x 800mm
- Single axel trailer
- Double telecommunication motor generator carrier





▣ General specifications:

Inspired by technology taken as the main approach in production of the electrical and mechanical components for armored vehicles needed by armed forces, they are designed, optimized and produced locally.

The main strategy of production in this industry is based on Supply Chain Management (SCM) which brought about many advantages including reduction in production cost - in comparison with global production cost - rapid essential changes against potential adversaries and quick change in organizational structure.

► General specifications:

Using experienced specialists from academic and higher education institutions of the country, DIO has strode in field of design and production of electronic, electrical, electro-optic and electro- mechanic systems needed for military equipments. Following is some of the important implemented projects by DIO:

- 1) Design and optimization of fire control guidance system: Sea firing system like FGS and FDS
- 2) Design and manufacture of electrical and electronic sets: DC engines, micro switches, electromagnets, temperature and current regulators
- 3) Design and manufacture of repair testers and electrical kits: Starter testers, tank regulators, tank's linear sensor testers and fire fighting components
- 4) Design and supplying different simulators: Dynamic driving simulators, static tank simulators and personnel carriers
- 5) Modernizing military gears and systems: Modernizing T72, M60 and Chieftain main battle tanks, PKT heavy machine guns and anti aircraft guns.



More details:

Application: Camping Mobile, rescue, post Mobile clinic, Mobile Police station, Temporary work station.

Advantages:

It can be towed by commercial vehicle safety and easily, while having the same

facilities as a suite with kitchen with kitchen hood, refrigerator, cabinet, toilet, bed ,sitting room, wardrobe, air conditioning system and lighting system.



Technical specifications:

Weight	1300 kg
Overall dimension	length:5.60 m width :2.25 m height 2.5 m
Cab dimension	length:5 m width:2.25m height:2 m
Suspension	Hexagonal rubber suspension
Brake system	Coupling and mechanical brake with reverse gear release lever
Body	Sandwich panel produced in the factory
Door and windows	Aluminium suitable for caravan
Box fender mudguards and treadle	Made of ABS with ASA coating
Installations	Water supply system with a 220 lit reservoir and power supply system 12 v and 220 v

More details:

Application:

Temporary office for military, Temporary camping, Mobile Stations, Toilet, Clinic, Dormitory.

Advantages:

It can be transported by traction vehicles In various color and designs equipped with brake system, air conditioning system, and water reservoir.



Technical specifications:

Dimension	Length=6m width:2.5m height:2.70 m
Weight	1800 kg
Suspension	Spring plate
Brake system	Mechanical
Body	Sandwich panel thickness 4 cm polyurethane
Power supply	220 v
Installations	Water supply system with a 160 lit reservoir
Air conditioning system	Split air conditioner insulation Density 40
Chassis	From is made by standard steel profile (IPE) and TIG welding equipped with static lifting, movment and loading hook .

▣ General specifications:

T-72S is a full- tracked fighting vehicle with powerful armaments ,reliable armour protection and high maneuverability. The tank carries three crews. This tank is equipped with a 125 mm smooth-bore gun stabilized in elevation and azimuth, a coaxial 7. 62 mm PKT machine gun and a 12.7 mm anti-aircraft machine gun. The tank is provided with high - accuracy laying and sighting devices, as well as an automatic loading gear ensuring highly effective rate of gun fire. The anti - aircraft machine gun is provided with sighting and laying equipment that makes it possible to fire both at aerial and ground targets. The tank is also equipped with a dynamic protection system improving its protection against hollow – charged projectile. T-72S is equipped with devices designed to protect the crew and inner equipment from shock wave in case of a nuclear explosion as well as against radioactive dust when moving over a contaminated terrain. The tank is provided with the underwater stream - crossing and entrenching equipment (the latter being designed for cuts digging) as well as the means to protect it against napalm - type incendiary fuels. Provisions are also made for installation of the tread mine sweeper used for making passages in mine fields. To ensure concealment , the tank carries smoke-generating equipment and smoke grenade launching system. To extinguish fire inside the tank, the latter is equipped with fire fighting system.



T-72S MAIN BATTLE TANK

Technical specifications:

Crew	3
Engine type	V 84MS, 840 HP
Maximum speed	60 km/h
Maximum travel at rarchy roads	460 km
Maximum travel at rarchy roads	600 km
Cannon type	2 A46 M, 125 mm caliber, groove less
Co-axial machine Gun (7.62 mm caliber) & 12.7 mm caliber anti-air craft, equipped with stabilizer system (1A40, 1K13, ...) and reaction chain mail.	

Practical rate of fire:

Automatic charging	8 rds / m
Manual charging	2 rds / m
Gradient	30°
Side slope	25°
Vertical obstacle	850 mm



► Description & application:

As regards combat employment of advanced and modern equipments, the T72Z tank is upgraded version of T-55 MBT that provides the same capability of today's tanks worldwide in terms of mobility, fire accuracy and power as well as armor protection so that it can compete with various similar upgraded models and today's modern tanks.



► Features:

- Quick mounting and dismounting of power plant (MPP) in shortest possible time due to its integration and modularity.
- Provided with automatic and semiautomatic system of gear shifting.
- Equipped with fire control system EFCS-3 and laser range finder, model ND-YAG with range of 10 km.
- Capability of tracking target (aiming) during firing at night without searchlight.
- Incorporating stabilizer system with capability of tracking and hitting moving and stationary targets.
- Armor protection from single and double stage missiles by installation of explosive reactive armor boxes of generation 1 & 2.
- Communication and navigation equipments (incorporating VRC-222 radio set and capability to install VRC-122 & R-173).
- Armed with antiaircraft MG 12.7 mm cal. and coaxial MG cal.7.62 mm.

► Technical specifications:

Mass	40 ton
No. of crews	4 men
Engine	Model V46-6 with 780 hp
Engine type	Diesel, 4-stroke, 12-cylinder with V-shaped arrangement, and water-cooled with supercharger
Power to weight ratio	19.5 hp/ton
Max. speed	65 km/h
Negotiation of vertical obstacle	Max. 0.85 m
Negotiable gradient/ side slope	Max. 30°/ 25°
Main armament	105-mm gun, rifled (grooved), model M68 with fire range of 14.6 km

122 mm - SELF PROPELLED HOWITZER

▣ General specifications:

Raad-1 122 mm self-propelled gun-howitzer is the first SPGH designed and manufactured in D.I.O of I.R.IRAN. High stability when firing, good maneuverability, firing at different angles, indirect and direct fires, rapid and independent firing, working properly at temperatures -45° to $+45^{\circ}$ C, rapid changes of positions, easy and fast maintenance are the main characteristics of this system. Raad-1 is equipped with a computer and a monitor to display and monitor the ballistic data. Enough space has been provided for the crew inside the vehicle and ergonomic conditions have been properly considered.



▣ Advantages:

- Stability during firing • Various shooting angles
- High mobility • Easy maintenance

▣ Technical specifications:

Crew	4	Trench (mm)	2300
Vehicle length (mm)	6500	Ammunition Weight (HE) (kg)	21.7
Width Including Track (mm)	2670	Ammunition Weight (ZBK-13) (kg)	18.2
Height (up to the barrel center) (mm)	2140	Night Vision Device	yes
Combat Weight (kg)	17500	Max. Rate of Indirect Fire	-----
Power-to-Weight Ratio (hp/ton)	18	Ground Pressure (kgf/cm ²)	0.54
Calibre (mm)	122	Loading From the Ground(rds/m)	400
Gun Length	39-cal	Loading From Ammunition Racks (rds/m)	4-5
Gun Type	2 A 31	Muzzle Velocity (complete charge)	686 m/s (HE) 721 m/s (ZBK-13)
Gun Weight (kg)	1440	Armor Thickness (Max) (mm)	17
Barrel Life (rounds)	3000 (with charge 8)	Transmission	Manual with 5 forward and 2 reverse gears
Gun Elevation/Depression	-30 to 720	Traverse	3600
Fire Control System	Semi automatic	Track	Live-padded
Firing Range (m)	15200	Engine	Air-cooled, 8- cylinder diesel
Max. Rate of Direct Fire (rds/m)	4-5	Suspension	Torsion bar
Max.Height (up to the top of the turret) (mm)	3000	Electrical System(V, DC)	28
Auxiliary Weapon (mm)	1x12.7 (machine gun)	Max. speed	- On High Way(km/h) 65 - Cross Country (km/h) 45
Max. Range (km)	40		
Ammunition Capacity	35 HE projectile	Vertical Obstacle (mm)	800

155 mm SELF – PROPELLED GUN – HOWITZER

▣ General specifications:

Raad – 2 155 mm self – propelled gun – howitzer is an armoured tracked vehicle designd and manufactured by D.I.O. The engine is located in front of the vehicle. There are 5 crews including commander ,gunner, driver and two ammunition loaders. The hull and the turret are made of all welded special alloy steel and provide enough space for the crew to operate freely. Raad -2 is equipped with automatic laying system, direct fire telescope, night vision device, NBC protection system, automatic and manual fire extinguishing equipment, radio & digital comm□□o weight ratio.



▣ Technical specifications:

Crew	5
Combat weight	36 tons
Engine type	V 84MS , 840 HP
Maximum travelling	450 km
Cannon type	M185
Maximum Fire range with BB projectile	24 km
Maximum rate of fire	4 rds / m
Obstacle crossing	800mm
Gradient	23°
Side slope	16°
Trench	2400 mm



▣ General specifications:

A 24 meter, easily erected bridge is mounted on 81 Serat bridge layer tank, which is applicable for the rapid and reliable passing of heavy and armoured vehicles and military equipment over canals and trenches with the maximum width of 23 meters. The width of the bridge is 3/5 meters and its loading capacity is 60 tons. It is made of Aluminum alloy and is assembled on T72 tank as a sliding drawer . The bridge assemblage (extension) and disassemblage are carried out hydraulically .The maximum time required for the erection of the bridge over canals and trenches is 6 minutes. The length, width, height and weight of the bridge layer tank (with the bridge being mounted) are 10/6 m, 3/59m, 3/84m and 42 tons, respectively. The crew number of the tank is 2. The bridge layer tank travels on the earthy roads at the speed of 45 km/h, and on asphalt roads at the speed of 50 km/h.



▣ Technical specifications:

length	24
width	Metre 4 /3
Automotive carrier	Tank
bridge genus	Aluminium
Bridge permissible load	60 ton
Assemblage time	6 minute
Erection mechanized	sliding



▶ Product specifications:

The outstanding feature of this type of tire is, its being bullet – proof under special conditions, If some sections of the tire is removed by shrapnels or other similar things, it has the capability of traveling and operating up to 50 kilometers (of course, on the condition that the vehicle itself is not damaged).

▶ Technical Specifications of solid tires:

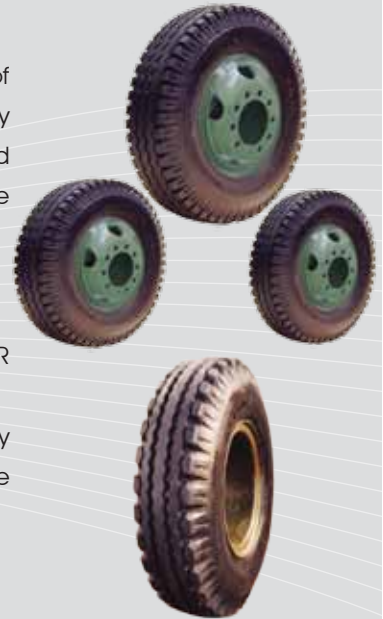
1. Tire size and PR (ply rating), 12.00 – 20 \geq 14PR & 7.50 – 20 \geq 14PR
2. (Ply rating represents tire car case consolidation.
3. Tire internal cavity is wholly filled with rubber foam with the density of 0/7 – 0/8 cm³ , so that the maximum difference between the density of foam in different sections is ./1 cm³.
4. The amount of pressure for measurement foam specifications under 165°C* 15 conditions is \leq %30.
5. Tires trade mark may be LUG RIB or SIMIRIB5

▶ General specifications of solid tires:

1. The applied sponge is of closed type.
2. Non slippage of tire when braking or under servicing .
3. Tire subsidence is lesser than %30.
4. The applied sponge is made of natural rubber.

▶ Operating specifications:

1. To be bullet and shrapnel proof.
2. Capability of traveling up to 50 kilometers when some parts of the tires brad have been hacked.
3. Maximum authorized speed at asphalted roads 60 km/h. Maximum authorized speed at leveled roads 40km/h. Maximum authorized speed at country roads 30 km/h.
4. Can be used by vehicles having weight under 8 ton.
5. The aforementioned tires may not have group cracking up to 1000 kilometers of operation.



▣ General specifications:

This is an advanced rubber production line, all types of aircraft tires such as: F4, F5, F14, Boeing707, 727, SU24, MIG29 main and nose are manufactured.



▣ Technical specifications:

Airplane type	Tire type	TireWidth (mm)	Tire Diameter (mm)	Speed Rating (Km/h)	Max.load (KN)	TT or TL	Equivalent Layer	Tire size
F5E.F	main	191.8-203.2	594.4-609.6	401	55.6	TL	18	24x8-13
F14	main	281-296	914—937	350	138.8	TL	28	37x11.5-16
F4M	main	279-292	730-756	389	115.6	TL	26	30x11.5-14.5
F5A.B	main	205.7-215.9	543.6-558.8	315	44.5	TL	16	22x8.5-11
C130	Nose	305-324	942-976	241	56.9	TL	12	12.5-16
C130	Main	488-511	1379-1422	322	206.4	TL	26	20-20
F4N	Nose	135-145	440-455	442	27.5	TL	14	18x5.5
Chinook	Main	208-221	627.4-651.5	111	25	TL	10	8.5-10
F5E.F	Nose	157-165	443-457	413	22.2	TL	12	18x6.5-8
F14	Nose	162.6-172.7	548.6-563.9	350	53.3	TL	20	22x6.6-10
F7	Main	175-185	640-660	330	34	TL	8N	660x200-11
F7	Nose	164-174	485-495	290	15	TL	6N	500x180G-1
IL76	Main	438-462	1225-1255	330	118.7	TT	14N	1300x480
IL76	Nose	326-346	1060-1090	310	66.71	TL	10N	1100x330
SU24	Nose	173-188	640-665	320	23.5	TT	8N	660x200
SU24	Main	266-282	920-940	400	89.18	TL	14N	950x300
MIG29	Nose	130-142	542-558	340	25.5	TT	8N	570x140
MIG29	main	260-280	795-825	330	83.35		12N	840x290



► General specifications:

This tank is an armoured assisting tank, being designed and manufactured for the recovery and rescue of armoured vehicles and heavy military equipment in the battle field. Najj 1 recovery tank

is equipped with a powerful 30-ton winch, which, using its bobbins, has the capability of elevating

loads with the approximate weight of 90 tons. By means of this winch the tank is capable of pulling out all heavy vehicles, getting stuck in the muddy terrains or being fallen in ditches. A telescopic crane with the loading capacity of 19 tons, and the mast turning capability of 360°, has been mounted on the tank to be applied for loading, repairing and recovering of tanks and military vehicles. The aforementioned crane simply lifts the engine and turret of T72 tank, and transports them to the desired destination. At the front part of the unit, an excavator blade has been mounted for digging trenches and leveling uneven terrains. When applying the winch and the crane, this blade will be applicable as the stabilizer arm of the unit. Other equipment being mounted on the tank are as follows:

Auxiliary winch, welding and cutting equipment. load carrying package along with a position assigned for mounting and reliable carrying of the tank engine. Najj 1 tank carries 2 crews. For the easy and rapid application of the winch and crane, a cable, portable, controlling panel (with the cable length of 15 meters) has been mounted on the tank. Due to the necessity of the presence of Najj 1 recovery tank in the war operations in which T72 tank is applied, its maneuverability should be as that of T72 tank's, so it should be carried with a cart having the same capabilities as the cart which carries T72 tanks. In addition, the recovery unit should be equipped with the same equipment mounted on T72 tanks, including the following: NBC system, night vision device, along



▣ Capability :

The capability of repairing all types of heavy vehicles and weapons Including : all types of cannons, personal carriers, tanks, mortars, missile launchers, etc... The capability of supporting artillery and armoured units in operational terrains. Increasing the mobility and operational speed of supporting units. Reducing repair costs.

▣ Technical specifications:

- Type of vehicle: M.B Model: 2624L
- Room dimensions: 7000 x 2450 x 2300 mm
- Maximum distance from ground surface: 4000 mm
- Type of mobile unit walls: panel sandwich insulated for different ambient conditions (hot and cold and dust).
- Equipped with all types of instruments and equipments for the repair of armoured vehicles.
- Equipped with general instruments and equipments. loading capacity: one ton.
- Equipped with ceiling crane , length of outer arm = one meter permitted
- Equipped with welding equipments
- Equipped with heating and cooling systems
- Equipped with bench vice 150 mm , bench stone 150 mm, mini stone 750 w, finger stone , electrical drill with hold tool fill diameter 13 mm , pillar bench drill, machinery acetylene welding with complete equipment and hydraulic jack 5 ton.



▣ Capability :

Capability of repairing all types of light weapons including: KL rifle, Pistol (alarming, Browning Breta) all types of RPG, Girenov machine gun, Deraganov rifle, 12.7 mm MG. Increasing the mobility and operational speed of supporting units. Reducing the repair costs.

▣ Technical specification :

- Type of vehicle: Mini - Truck
- Permissible load: Maximum 6000 kg
- Room dimensions: 4800x2200x2000mm
- Type of walls: panel sandwich insulated against coldness, heat and dust. (With the thickness of 70mm)
- Equipped with all types of:
 - Instruments and equipment for the repair of light weapons .
 - Equipment and public tools.
 - 250A welding transformer.
 - Acetylene welding equipment.
 - Heating and cooling system.
 - Ventilating fan of system.
 - Washing up and water tank one hundred litre.
 - Special wardrobe tool and equipment.
 - Generator electricity.
 - Compressed air compressor 80 litre.
 - Cumulative stairway.



▣ Capability :

Increase the mobility and operational speed of telecommunication units and rapid transportation of them in operational regions according to modern's war doctrine. Capability of being mounted on all heavy vehicles. Capable of high maneuverability in operational regions. Rapid accessibility to required telecommunication equipments for operational forces. Rapid repair of telecommunication systems in operational region and reducing repair costs.

▣ Technical specifications:

- Hydraulic tactical telecommunication mast(with the height of 12 metre), having the capability of installing satellite dishes and up to seven telecommunication antennas.
- Tactical power source supplying the following outputs :
 - DC ,48 Voltage (15 A) applicable for widespread radio ranges.
 - DC ,24 Voltage (30A) applicable for combo LB wireless, etc.
 - DC ,12 Voltage (40A) applicable for VHF and UHF wireless.
 - AC, 220Voltage (UPC – 2KW)
 - 6.5 KW generator.
 - General electrical and electronic equipments.
 - Shelves and tables for maintaining telecommunication equipments.
 - Heating and cooling system.
 - Dimensions 4600x2400x2150 mm.

▣ Specifications of shelters room:

- Interior partitions made of compares
- External partitions made of St 37 sheet steely (corrugated)
- Middle partitions made of polystyrene for insulating the room against heat, coldness and dust .
- Official tools and equipment .
- Refrigerator water reservoir, cabinet and folding bedstand .
- Operator desk and radio equipment cases .
- Central controlling system for displaying and monitoring voltage current, temperature and other parameters related to electronical and electronical equipment .
- Telephone center cable cases .



▣ Capability and potentiality:

Increase mobility and fast deployment of telecommunications needed by the armed forces. Fast movements in operational regions with attention to modern wars doctrine. Powerfull maneuvers in operational regions. Quick availability in case the forces need communication equipments. Quick repairs of telecom. equipments in operational region which will reduce repair costs.

▣ Technical Specifications:

- Type of vehicle: Pickup truck
- Room specifications: Fabric Carry boy model CTHD 650
- Tactical antenna. (being installable the back and front of the vehicle .
- Telecommunication and communication equipment
- 24 and 12 volt power supplying source.
- Cable winding system.
- General electric and electronic equipment.
- Shelves and tables for maintaining telecommunication equipment.



▣ Capability :

Repair of electrical and mechanical equipment , small aerial vehicles and class four vehicles equipments. Repair of weapons and military equipments. The capability of making communications through HF, VHF UHF and Airband. The capability of presenting self – sufficient , basis meteorological information. The capability to help people suffered by flood ,earthquake and fire, air, automobile accident and The capability of demolishing concrete, consolidated walls, metal and wooden walls and bodies. Receiving and sending images through GPS, GPRS and internet.

▣ Technical specifications:

- Rear towing system for carrying caravan.
- Rimouk (and its relevant accessories).
- Electrical, mechanical and electronical and weapon repair equipment.
- Fire proof clothing and equipment .
- System of detecting drowned live people up to the depth of six metre.
- Pneumatic jacks with measurement ton till 24 ton.
- Two way electric and gasoline water pumps.
- Generator 5Kw starter electric generator for supplying electricity under emergency conditions.
- Shock and water proof military computer applicable below 10° C temperature (amid with bluetooth printer).



▣ Application Cases :

Field hospitals (operating room , radiography, laboratory, etc. Field Clinic. Commander post. Controlling room and monitoring room. Meeting room, prayer room, situation room.

▣ Capability :

- Rapid loading / unloading time
- Easy carriage with all types of trailers (due to its standard dimensions (20 foot container).
- The capability of assembling all types of required equipments related to shelter's application type.
- Rapid assemblage / disassemblage of the shelter by two people manually ,no need for any special equipments.
- Providing a flexible space with a 37 sq meters space.
- Increasing the mobility and operational speed of warring and supporting units.



▣ Capability :

Carriage and transportation of loads up to 4 tons. Transportation and displacement of infantry and military forces. Displacement of heavy military equipments. Displacement of engineering and logistics equipments.

▣ Technical specifications:

- Equipped with two axles.
- Equipped with pneumatics brake.
- Equipped with handy brake.
- Equipped with two mechanisms of 5th gear.
- The capability of opening the back and side doors.



Rimouk Weight	3100+50 kg
Rimouk Length	4625 mm
Rimouk chassis Width	2210 mm
Rimouk chassis Length	4600 mm
Distance from Rimouk floor to ground surface	1356mm
Distance from Rimouk floor to Rimouk ceiling	500 mm



► Capability :

Easy carriage with all types of heavy trailers without any traffic limit. Capable of housing forces in operational regions. Providing the required facilities and welfare possibilities in a short period of time.

Capable of deploying in difficult terrains due to its resistance structure.

► Application cases :

- As command Shelter, living quarter of commanders.
- As telecommunications Shelter (controlling and monitoring battle fields).
- As resting Shelter (living quarter, prayer, meeting room, and etc.
- As a bath room services (bath room , washbasin , toilet).



► Technical specifications of command & hygienic shelter:

Length	12000 mm
Width	2600 mm
Maximum height with trailer	3800 mm
Height without trailer	2600 mm
Weight of shelter and related accessories	5000 kg
Quality of structure	GS45; ST 52 ; ST 37
Equipped with heating and cooling system.	
Equipped with required welfare equipment.	
Dimension	2520X2360X2000 mm
Width	1800+20 kg
Equipped with bath room, washstand, toilet, cloakroom.	
Equipped with power facilities and separate installation.	
Quality of walls and ceiling	panel sandwich 40 mm



▣ General specifications:

It can be used by military operations forces as a platform for weapons and military equipment for deployment in military and peace support operations.



▣ Technical specifications:

1	Overall length	500±20 cm	12	Gearbox	32-4 Mechanical
2	Overall Width (with Side mirrors)	200±10 cm	13	Auxiliary gearbox	T130A mechanical without hand brake equipment
3	Net weight	Max 2700 kg	14	Type of front axle	Manufactured by Toyota FZJ80LGCMMNU
4	Maximum towable load off road	750 kg	15	Type of rear axle	Manufactured by Toyota FZJ80LGCMMNU
5	Traversal lateral gradient	33%	16	Front / rear suspension	Solid
6	Traversal longitudinal gradient	300 mm	17	Braking	2 CIRCUIT Hydraulic by vacuum booster
7	Engine model	CYQD32II	18	Clutch	Single disk ,dry with sun spring
8	Cylinders arrangement	4 in Line	19	Fuel capacity	90 Lit
9	T -turn Radius	7.5 m	20	No of seats	2 in front and 2 bench in rear
10	Engine power	13.3 hp / 3600 rpm	21	Occupants	11 (personnel carrier)
11	Emission standard	EURO II			

► General specifications:

Double differential, 1/4 ton tactical Jeep with suitable equipment for different requirements of headquarters and operational units of armed forces with special capabilities.



► Technical specifications:

1	Overall length	330±20 cm	12	Cylinder capacity	2389 cc
2	Width (with spare tyre)	180±10 cm	13	Displacement	96 mm
3	Gross weight	1600±50 kg	14	Maximum engine power	105 hp/4800 rpm
4	Net weight	Max 1600 kg	15	Emission standard	EURO II
5	Maximum towable load off road	250 kg	16	Maximum torque	191n.m / 2400 rpm
6	Maximum passable depth of water	60 cm	17	Gearbox	F4W81A
7	Longitudinal gradient	% 50	18	Auxiliary gearbox model	T130A Charkheshgar Integrated with main gearbox
8	Stability in latitudinal gradient	% 30	19	Braking	Hydraulic two circuit
9	Engine model	Z24 Produced by mega motor	20	Suspension	Solid ,sparing+ Hydraulic shock absorber
10	Cylinders arrangement	4 - in line	21	Clutch	Single disk ,dry with sun spring
11	Cylinder diameter	89 mm	22	Fuel capacity	75 Lit



► **General specifications:**

The fully tracked AMV providing capability for operation and firing of 120-mm mortar in diverse conditions of battle field (soft, sandy, rocky, and swampy grounds) with 360° angle of fire in traverse and ammunition storage of 50 rounds proved itself to be a decisive factor in irregular wars and unequal battles.



► **Features:**

- Body made of micro alloy steel with diameter of 5-19 mm and ballistic tolerance of 12.7 mm cartridge.
- Mobility and maneuverability on variable terrains at 65 km/h and 5km/h while afloat.
- Armed with 12.7 mm DSK MG for air defense with effective range of 3300m.

► **Technical specifications:**

Mass	15 ton
Number of crews	4 men
Engine	Deutz, BF8L 513, with power of 330 hp
Engine type	Diesel, 4-stroke, 8 cylinder , V-shaped arrangement, air-cooled, with turbocharger
Power to weight ratio	22 hp/ton
Speed on highway / while afloat	65 / 5 km/h
Negotiation of vertical obstacle	Max. 0.7 m
Negotiable gradient	Max. 30°
Negotiable side slope	Max. 25°
Main armament	A 120-mm cal. mortar
Armament operating system	Powered by hydro-elastic
Elevation / traverse angle	43-78 deg. / 360 deg.
Max. fire range	6250 m



► **General specifications:**

By light and modern ballistics armour, all types of personnel carrier, vehicle and significant centers and establishments resist the following projectiles in accordance with standard stanag 4569:

► **Technical specifications:**

7.62x 39 AP (AK47)	14.5 mm AP
30.06AP M2(NIJ)	20 mm FSP
12.7 mm AP (0.50 calibre AP)	23 mm APDS and 30 mm AP

In our country, this armour is used to make resistant the personnel carriers such as MBP2 and M113. As effects of present weapons on armour equipment in term of energy and calibre increase, it is necessary that personnel carriers get resistant against these threats. It should be mentioned that M113 and BMP2 resist only up to calibre 7.62 mm and BMP2 and BORAQ resist only up to calibre 12.7 mm weapons. The countries that take advantage of the technology of these armours include U.S, Israel, France, and Iran.

▣ **General specifications:**

The Boraq APC is one of the tracked amphibious types of APCs and well characterized among its other similar armored vehicles at the same level by proper armor protection, higher mobility, and capability of crossing obstacles and uneven roads at high speed as well as accomplishing heavy maneuvers.



▣ **Features:**

- Provided with micro alloy steel body 5-19 mm in diameter, and ballistic tolerance of 12.7 mm cartridges.
- Incorporating live track with rubber shoes.
- Incorporating communication and navigation equipments (VRC-222 radio set, with 40W power and 40 km range).

▣ **Technical specifications:**

mass	13 ton
no. of crews	12 men(driver, gunner, and 10 crew members)
engine	Deutz, BF8L 513 model, power 330 hp
engine type	Diesel, 4-stroke, 8-cylinder with V-shaped arrangement, air-cooled with turbocharger
power to weight ratio	25.4 hp/t
speed on high way(1st class road) / while afloat	65/ 5 km/h
capability of crossing vertical obstacle	Max. 0.7 m
negotiable gradient	Max. 30 deg.
negotiable side slope	Max. 25 deg.
main armament	12.7 mm DSK MG
rate of fire	600 round per minute(rpm) , velocity of 800 m/s
elevation/ traverse angle	26-78 deg./ 360 deg.
Max. fire range	1600 m
cruising range on dry land(fuel endurance)	625 km

▣ General specifications:

TRRSV-1 serves to provide support and relief in time of disasters such as earthquake, flooding, landslide, snow, storm with driving snow and fire to the areas in crisis and difficult to pass by wheeled vehicles, and also to carry fuel, foodstuffs, lodging equipment, medical aids and relief workers to accident site, transport and evacuation of casualties as well as people affected by the accident from the place of crisis.



▣ Features:

- Equipped with armored cabin providing the capabilities as follows:
- Necessary resistance to burst and blast wave.
- Fitted with bulletproof and anti-explosion glass.
- Proper insulation for sound and heat.
- Proper field of view and operator convenience.

▣ Technical specifications:

mass	13 ton
engine	Deutz, BF8L 513 model, with 330 hp power
engine type	Diesel, 4-stroke, 8-cylinder with V-shaped arrangement, air-cooled with turbocharger
gearbox	5 gear forward, 1 reverse gear
Max. speed	65 km/h
negotiation of cross trenches	Max. 2.4 m
capability of crossing vertical obstacle	Max. 0.7 m
negotiable gradient	Max. 30 deg.
negotiable side slope	Max. 25 deg.
cruising range (fuel endurance)	500 km

▣ General specifications:

TREV-1 serves to provide relief in time of earthquake, flooding, landslide, snow, storm with driving snow, excavating debris, removing obstructions, and also to provide relief and aid for the vehicles involved, transportation and loading of foodstuffs and equipments.



▣ Features:

- Incorporating live padded track with rubber shoes.
- Equipped with dozer for clearing roads and removing obstructions.
- Equipped with life detector, thermal vision device, rescue pneumatic jacks, scissors, hydraulic jack, and gas meter, etc.
- Provided with rescue equipments including winch, rope, pulley etc. and machines for cutting concrete, wood and metal.
- Incorporating communication and navigation equipments (equipped with a 40W power and 40 km range VRC-222 radio set).
- Incorporating a telescopic crane with 3.3 t capacity and operating range of 1.9 m for removing objects and obstructions.

▣ Technical specifications:

Mass	10 ton
Engine	Deutz, BF8L 513 model, with 330 hp power
Engine type	Diesel, 4-stroke, 8-cylinder with V-shaped arrangement, air-cooled with turbocharger
Gearbox	5 gear forward, 1 reverse gear
Max. speed	65 km/h
Negotiation of cross trenches	Max. 2.4 m
Capability of crossing vertical obstacle	Max. 0.7 m
Negotiable gradient	Max. 30 deg.
Negotiable side slope	Max. 25 deg.
Cruising range (fuel endurance)	500 km
Winch drag force	4082 kg

► General specifications:

The fully tracked amphibious AIFA armed with TOW missile launcher system serves as a mobile missile site in order to confront enemy sites and because of proper armor protection, very high mobility and also capabilities of crossing obstacles and bumps at high speed and exercising heavy maneuvers, it may have a decisive role in the battle fields.



► Features:

- Incorporating live padded track with rubber shoes.
- Incorporating communication and navigation equipments (equipped with a 40W power and 40 km range VRC-222 radio set).
- Provided with micro alloy steel body 5-19 mm in diameter, and ballistic tolerance of 12.7 mm cartridges.
- Armed with TOW missile launcher system.

► Technical specifications:

Mass	14 tON
Engine	Deutz, BF8L 513/ power 330 (hp)
Engine type	4-stroke diesel, 8-cylinder, V-shaped arrangement, air-cooled with turbocharger
Gearbox	5 gear forward, 1 reverse gear
Max. speed	65 km
Negotiation of cross trenches	Max. 2.4 m
Capability of crossing vertical obstacle	Max. 0.7 m
Negotiable gradient	Max. 30 deg.
Negotiable side slope	Max. 25 deg.
Cruising range on dry land(1st class road)	Max. 500 km
Power to weight ratio	23.5 hp/t
No. of crews	3 men

▣ General specifications:

The AAV is designed and manufactured for quick transport and evacuation of injured personnel to behind the front lines which provided with equipments such as air conditioner, respiratory, medicine cabinet and cardiography, orthopedic apparatus as well as four beds for carrying casualties.



▣ Features:

- Incorporating live padded track with rubber shoes.
- Equipped with gas cooler, air conditioning system, fire fighting system and water reservoir, and necessary installations for washing.
- Provided with NBC protection system, BHCTC-200 model (operated by centrifugal force).
- Incorporating communication and navigation equipments (equipped with a 40W power and 40 km range VRC-222 radio set).
- Provided with folding stretcher, first aid kit, suction machine and oxygen cylinder.

▣ Technical specifications:

Mass	14 tON
Engine	Deutz, BF8L 513/ power 330 (hp)
Engine type	4-stroke diesel, 8-cylinder, V-shaped arrangement, air-cooled with turbocharger
Gearbox	Mechanical, with 5 forward gears, and 1 reverse gear
Max. speed	65 km
Negotiation of cross trenches	Max. 2.4 m
Capability of crossing vertical obstacle	Max. 0.7 m
Negotiable gradient	Max. 30 deg.
Negotiable side slope	Max. 25 deg.
Cruising range on dry land(1st class road)	Max. 500 km
No. of crews	5 men

General specifications:

The fully tracked APC BMP-II is capable of accomplishing operations and firing 30-mm rounds. Its high mobility provides APC BMP-II with effective higher firepower and protection of infantries from nuclear weapons. It serves to confront enemy ground and aerial targets such as tank and combat helicopters. This vehicle is also armed with a 7.62-mm MG coaxial with a 30-mm gun and a stationary- mobile missile launcher for destruction of armor targets.



Features:

- Fully tracked amphibious with live padded track (with rubber bush).
- Incorporating communication and navigation equipments (equipped with a 25W power and min. 40 km range R-173 radio set).
- Provided with smoke generating equipment, smoke grenade launcher system, and NBC protection system.

Technical specifications:

mass	14+ %2 ton
engine	YTD-20 model, power 300(hp) at 2600 RPM
engine type	4-stroke, 8-cylinder, V-shaped diesel engine, liquid-cooled
gearbox	Mechanic al, constantly engaged, with 5 forward gears,
Max. speed on flat road/ fording speed	and 1 reverse gear
negotiation of cross trenches	65/ 7 km/h
capability of crossing vertical obstacle	Max. 2.5 m
negotiable gradient	Max. 0.7 m
negotiable side slope	Max. 35 deg.
cruising range (fuel endurance) on main road	Max. 25 deg.
no. of crews	550-600 km
main armament	10 men(3 +7) (crews +combat forces)
effective range for ground targets	30-mm automatic gun/ cannon 2A42 with two(2) separate feeding belts
power to weight ratio	2000-4000 m (depending on type of round)



V.E.I.G

Boraq Armored Gun Vehicle

(Armored Infantry Combat Vehicle with 30mm Gun)

30mm - AICV

General specifications:

The AICV is capable of accomplishing operations and firing 30-mm rounds within fire angle from 6 to 75 degree in elevation. It serves to confront enemy ground and aerial targets. The 7.62-mm MG coaxial with 30-mm cannon is located at turret.



Features:

- Fully tracked amphibious with live padded track (with rubber bush).
- Incorporating communication and navigation equipments (equipped with a 40W power and 40 km range VRC-222 radio set).
- Provided with micro alloy steel body 5-19 mm in diameter, and ballistic tolerance of 12.7 mm cartridges.

Technical specifications:

Mass	16.2 ton
Engine	Deutz, BF8L 513 model, with 300(hp)
Engine type	4-stroke, 6-cylinder, V-shaped diesel engine, air-cooled with turbocharger
Gearbox	Mechanical, with 5 forward gears, and 1 reverse gear
Max. speed on flat road/ fording speed	60/ 7 km/h
Negotiation of cross trenches	Max. 2.4 m
Capability of crossing vertical obstacle	Max. 0.7 m
Negotiable gradient	Max. 35 deg.
Negotiable side slope	Max. 25 deg.
Cruising range(fuel endurance) on dry land	Max. 432 km
No. of crews	10 men
Main armament	30-mm automatic gun/ cannon with two(2) feeding belts and 3 type of rounds
Effective range for ground targets	2000-4000 m (depending on type of round)
Power to weight ratio	20.4 hp/t



V.E.I.G

Boraq Armored Command Vehicle | ACV

▣ General specifications:

The ACV is designed for supporting of operational units and serves as a mobile command station in battle fields. Due to equipments and facilities provided in the vehicle and its proper armor protection, mobility and maneuverability as well as combat employment on variable terrains, it plays a decisive role in direction of battle scenario and protection of battle field commanders.



▣ Features:

- Fully tracked amphibious with live padded track (with rubber bush).
- Incorporating communication and navigation equipments (equipped with a 40W power and 40 km range VRC-222 radio set).
- Provided with micro alloy steel body 5-19 mm in diameter, and ballistic tolerance of 12.7 mm cartridges.
- Provided with AC/DC power and air conditioning system.

▣ Technical specifications:

Mass	15 ton
Engine	Deutz, BF8L 513 model, with 300(hp)
Engine type	4-stroke, 8-cylinder, V-shaped diesel engine, air-cooled with turbocharger
Gearbox	Mechanical, with 5 forward gears, and 1 reverse gear
Max. speed	65 km/h
Negotiation of cross trenches	Max. 2.3 m
Negotiable gradient	Max. 30 deg.
Negotiable side slope	Max. 25 deg.
cruising range/fuel endurance on dry land (1st class road/ highway)	Max. 500 km
No. of crews	5 men
Power to weight ratio	22 hp/t



V.E.I.G

Boraq Armored Ammunition
Carrier Vehicle

AAC

▣ General specifications:

The full track AACV is designed for support of armor and infantry units with the capability to carry ammunition required for battle fields through areas difficult to pass and variable terrains and due to its proper speed and high maneuverability, the AACV will play a decisive role in quick supply of ammunition to operational units.

▣ Features:

- Fully tracked amphibious with live padded track (with rubber bush).
- Incorporating communication and navigation equipments (equipped with a
- 40W power and 40 km range VRC-222 radio set).

Provided with micro alloy steel body 5-19 mm in diameter, and ballistic tolerance of 12.7 mm cartridge.



▣ Technical specifications:

vehicle type	Full track, not amphibious(operated only on land)
cruising range on dry land	430 km
negotiable gradient	30 deg.
negotiable side slope	25 deg.
trench negotiable width	2.4 m
ammunition allowance capacity/ weight	11/ 4 t
no. of crews	2 men
engine	Deutz, BF8L 513 model, / power 300(hp)
power to weight ratio	3.1 (hp/t)
speed on even roads	75 km/h
communication and intercom system	VRC-222
fuel tank capacity	450 lit.
length of track on ground	3600 mm
ground pressure	0.57 kg/cm ²



V.E.I.G

Rakhsh - 4x4 Wheeled

APC

▣ General specifications:

Characterized by high speed on road and excellent off-road mobility. The vehicle can transport 10 men. The vehicle is fitted with a 12.7 mm Automatic Gun and can be fitted with different cupolas for various types of armaments. The crew can see and fire through 10 vision blocks and firing ports and can be quickly embarked or deployed through one rear door and two side doors.



▣ Advantages:

- Central inflating system
- Run flat system
- Winch
- Differential lock
- Option Equipment
- Ceramic-composite layer
- Protection against 12.7mm Up to 14.5 mm
- Smoke discharger

▣ Technical specifications:

Configuration	4x4	Angle of Departure	310
Crew	2 + 8	Max Road Speed (cm)	80
Unloaded Weight (kg)	6500	Fording (km/hr)	95
Combat Weight (kg)	7500	Gradient (%)	65
Overall Length (mm)	6067	Transmission	ZF-6S-850 (6+1)
Overall Height (to hull top) (mm)	2432	Steering	hydraulic ZF 8095
Overall Width (mm)	2405	Suspension	parabolic leaf spring with hydraulic shock absorber
Wheel Base (mm)	2910	Electric System	24 V
Track (mm)	1900	Armour Type:	armoured steel & armoured glass protection against 7.62 mm
Turning Radius (mm)	7500	Main Armament:	12.7 mm automatic Gun (different eapon systems in the cupola can be installed)
Angle of Approach	420	Tire:	12.5 R 20
		Engine:	DO 824LFL09 diesel, watercooled, 4 cylinder max over 155 hp at 2400 rpm max torque 580 N.m At 1500 rpm



V.E.I.G

Raad 1 - Self Propelled Gun Howitzer

▣ General specifications:

Raad-1 122 mm self-propelled gun-howitzer is the first SPGH designed and manufactured in Defense Industries of I.R.IRAN. High stability when firing, good maneuverability, firing at different angles, indirect and direct fires, rapid and independent firing, working properly at temperatures -45 to +45C, rapid change of position, and easy and fast maintenance are the main characteristics of this system. Raad-1 is equipped with a computer and a monitor to display and monitor the ballistic data. Enough space has been provided for the crew inside the vehicle and ergonomic conditions have been properly considered.



▣ Advantages:

- Stability during firing
- Various shooting angles
- High mobility
- Easy maintenance

▣ Technical specifications:

Crew	4	Trench(mm)	2300
Vehicle length(mm)	6500	Ammunition Weight (HE) (kg)	21.7
Width Including Track(mm)	2670	Ammunition Weight (ZBK-13) (kg)	18.2
Height (up to the barrel center)(mm)	2140	Night Vision Device	yes
Combat Weight (kg)	17500	Max. Rate of Indirect Fire	-----
Power-to-Weight Ratio (hp/ton)	18	Ground Pressure (kg/cm2)	0.54
Calibre(mm)	122	Loading From the Ground(rds/m)	400
Gun Length	39-cal	Loading From Ammunition Racks(rds/m)	4-5
Gun Type	2 A 31	Muzzle Velocity (complete charge)	686 m/s (HE) 721 m/s (ZBK-13)
Gun Weight(kg)	1440	Armor Thickness (Max) (mm)	17
Barrel Life (rounds)	3000 (with charge 8)	Transmission	Manual with 5 forward and 2 reverse gears
Gun Elevation/Depression	-30 to 720	Traverse	3600
Fire Control System	Semi automatic	Track	Live-padded
Firing Range (m)	15200	Engine	Air-cooled, 8- cylinder diesel
Max. Rate of Direct Fire(rds/m)	4-5	Suspension	Torsion bar
Max.Height (up to the top of the turret)(mm)	3000	Electrical System(V, DC)	28
Auxiliary Weapon(mm)	1x12.7 (machine gun)	Max. speed:	- On High Way(km/h) 65
Max. Range (km)	400		- Cross Country (km/h) 45
Ammunition Capacity	35 HE projectile	Vertical Obstacle(mm)	800

▣ General specifications:

RAAD-2 155mm self-propelled gun-howitzer is an armoured tracked vehicle designed and manufactured by D.I.O of Iran. The engine is located in front of the vehicle. There are 5 crews including commander, gunner, driver, and two ammunition loaders. The hull and the turret are made of all welded special alloy steel and provide enough space for the crew to operate freely.

▣ Advantages:

- Stability during firing
- Various shooting angles
- Quick and independent firing
- Automatic fire control system
- High mobility



RAAD-2 is equipped with automatic laying system, direct fire telescope, night vision device, NBC system, automatic and manual fire extinguishing equipment, radio communication, digital communication, gunner's control panel and display, commander's control panel and display, GPS system, and air conditioner system. The engine is multi-fuel with high power to weight ratio.

▣ Technical specifications:

Crew	5	Engine	V 84 MS
Combat Weight (ton)	36	Max. Engine Power (hp)	840
Length (gun forwards) (mm)	9140	Power-to-Weight Ratio (hp/ton)	23
Width (mm)	3380	Ground Pressure (Average) (kg/cm ²)	0.67
Height	-----	Transmission	Hydraulic, sun gear, spat-1200, 7 speeds forward and one reverse
Up to Turret Roof (mm)	2600	Suspension	
Up to Machine Gun (mm)	3467	Track	Torsion bar with hydraulic shock absorber
Turret Height (mm)	840		Live-padded
Ground Clearance (mm)	450	Max. Armour Thickness (mm)	20
Height of Fire Line to OO(mm)	2240	Auxiliary Weapon (mm)	12.7 (machine gun)



V.E.I.G

Raad 2M - Self Propelled Gun Howitzer

▣ General specifications:

RAAD-2 M 155mm self-propelled gun-howitzer is an armoured tracked vehicle designed and manufactured by Iran. The engine is located in front of the vehicle. The vehicle has 5 crew members including commander, gunner, driver, and two ammunition loaders. The hull and the turret are made of all welded special alloy steel and provide enough space for the crew to operate freely. RAAD-2 M is equipped with automatic laying system, direct fire telescope, high vision device, NBC system, automatic and manual fire extinguishing equipment, radio communication, digital communication, gunner's control panel and display, commander's control panel and display, GPS system, and air conditioning system. The engine is multi-fuel with a high power to weight ratio.



▣ Advantages:

- Stability during firing • Various shooting angles • Automatic Fire Control System
- Air conditioning system • Proper vision of the driver

▣ Technical specifications:

Crew	5	Vertical Obstacle (mm)	800
Combat weight (kg)	36000	Trench(mm)	2400
Length(gun forwards) (mm)	9055	Fording (mm)	1200
Width (mm)	3380	Time Needed in and out of action	Less than 1 min
Height:	----	Ambient Temperature	- 40 to +550C
Up to Turret Roof(mm)	2600	Max. Road Range (km)	450
Up to Machine Gun(mm)	3467	Gun	M185
Turret Height (mm)	840	Calibre(mm)	155
Ground Clearance (mm)	450	Gun length	39 - cal
Height of Fire line to 00(mm)	2240	Max. Range (with charge 8 and Proj,ERFB-HE M107) (m)	18100
Ground Pressure (Average) (kg/cm2)	0.67	Max. Range (with proj.BB)(m)	24000
Engine	Diesel 5TDF, water cooled	Max. Range (with charge 2)(m)	3000
Max. Engine Power (hp)	700	Max. Rate of fire (rds/m)	4
Power-to-Weight Ratio (hp/ton)	19.4	Min. Rate of fire (rds/m)	2
Transmission	Hydraulic,sun gear , 7 speeds	Barrel life	5000 rounds with charge 8
Suspension	Forward and one reverse	Auxiliary Weapon (mm)	12.7 (machine gun)
Shock absorber	Torsion bar with hydraulic	Elevation	-3 to 75 o
Track	Shock absorber	Traverse	360o
Max. Armour Thickness(mm)	live-padded	Ammunition Capacity (rounds)	30
Max. Speed	Highway (km/h)	Charge (bags)	30
Max. Speed	Cross Country(km/h)	Direct Fire Telescope	yes
Face Slope	23o	Night Vision System	yes
Side Slope	16o	NBC System	yes

- Fast and simple installation, maintenance and repair.
- Original fire control equipment stays in use as a reserve.
- High first round hit probability and short engagement time.
- Day and night operation capability.
- Firing-on-the-move with stabilized gunner's field of view and gun-independent aiming line.
- A variety of system configurations and optional equipment.
- Optimal performance-to-cost ratio.





V.E.I.G

Stabilized Gunner's Day/Night Laser Sight

▣ Technical specifications:

Day channel	-----
Magnification	10x
Field of View	6o
Night channel	-----
Magnification	7.5x
Field of View	7.5o
Image Intensifier	Second Gen.
Stabilized top mirror	-----
AZ Deflection (mils)	± 45
EL Deflection (mils)	-22.5/+67.5
Laser range finder	-----
Wave Length (um)	1.064
Output Energy (mj)	>30
Number of Targets	two targets
Accuracy (m)	± 7.5
Max. Range (m)	9995
Fire control computer	-----
Input Range	laser or manual
Ammunition	up to 7 types
Trunnion Tilt	-15/+15o
Computing Accuracy (mils)	0.1
Deviation of Nominal Muzzle Velocity (m/s)	-50/+50
Input Meteo-Ballistic Data	-----
Air Temperature	-35/+65oC
Power Temperature	-35/+65oC
Air pressure (mbar)	600/1133
Crosswind (m/s)	- 40/+40

► **General specifications:**

Navy FGS-2 is a precise electronic fire gate system designed for installation on different kinds of fast patrol boats equipped with rocket launcher, for increasing fire accuracy and quick reaction of the boat attacking system



► **Technical specifications:**



As M-60 MBTs lacks any gun stabilizer and night vision system, there are some changes in its modernized version, including:

► **Equipping with driver's night vision periscope.**

Periscope specification:

- Vision field: 30 degree
- Magnification: 1
- Installation type: at night time and on the driver's hatch
- Time of assembly & disassembly: 30 sec.

► **Equipping with gun stabilizer in elevation & traverse.**

Main components of M-60 MBT stabilizer include:

- Elevation & traverse electro hydraulic drivers.
- Upgraded hydraulic system.
- Upgraded control panel of gunner.
- Central control unit.
- Gyroscope & 3 phases feed source.

► **Equipping with stabilized panoramic commander site. (optional) :**

- Independent of turret in elevation & azimuth.
- Stabilized in elevation & traverse.
- Magnification: 7 times (variable, optional)
- Vision field: 8.5 degree (variable, optional)
- Laser range finder with range of 20 km and precision of 10m.
- Capable of being linked with anti airgun (optional)



► **Fire control system EFCS-3 fire control system :**

General specification:

- Laser range finder with precision of 5 m.
- Automatic receiving of ballistic & environmental parameters.
- Automatic ballistic and environmental calculation.
- Fully digitally ballistic calculation at less than 0.1 sec.
- Night vision system of Generation II
- Field of view: 7.5 m
- Magnification: 7 times
- Elevation and azimuth stabilized mirror.

Applying modular power pack as a driven unit of the tank T-55 The concept of modular units has been applied in the process of upgrading the tank T-55 due to the fact that modular units have many advantages over the standard units in the process of maintenance and in case of quick replacement. The modular power pack is an integrated drive unit which consists of the following assemblies and parts shown in figure 1 such as engines, gearboxes, support and other required assemblies and parts.

▣ **Advantages of applying Modular Power Pack (M.PP)**

- Very fast mounting and dismounting on the tank.
- It makes easier and facilitates maintenance and repair of the assemblies and systems.
- Time reduction of combat readiness with replacing new M.PP in case of every defect or damage in the M.PP.
- Time & cost reduction of maintenance and repair
- Very simple process which there is no need for high specialists and technicians.
- The least changing in the hull of the tank in the process of upgrading tank with M.PP.
- Components and parts which are accommodated in the M.PP are more accessible than standard unit.
- Pivotal and movable radiator for access to lower parts.



▣ **Fire Control System EFCS-3**

The EFCS-3 is a modern expandable fire control system for MBTs. which is designed to achieve high accuracy, speed, reliability, HP (first round hit probability) and simple operation as well. The system can operate at any time of day/night against stationary or moving targets in every environmental conditions. EFCS-3 calculates accurately lead angles to which the gun to be positioned continuously, taking into account all the parameters such as Range, Ammunition type and meteoballistics. Some features of the system are fast and easy installation on different MBTs, programmability, high reliability, computer simulation (training & operational), reserve mode of original equipment.

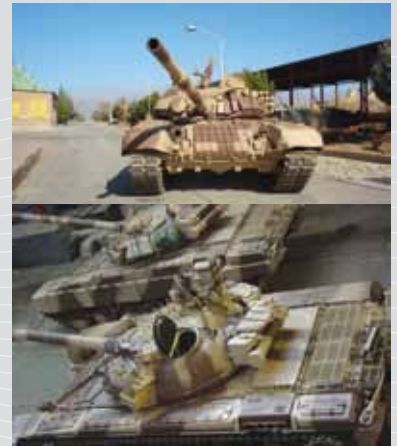


V.E.I.G

Modernized Tank - T 72

General specifications:

As regards combat employment of advanced and modern equipments, the Type 72Z tank is upgraded version of T-55 MBT that provides the same capability of today's tanks worldwide in terms of mobility, fire accuracy and power as well as armor protection so that can compete with various similar upgraded models and today's modern tanks.



Features:

- Quick mounting and dismounting of power plant (MPP) in shortest possible time due to its integration and modularity.
- Provided with automatic and semiautomatic system of gear shifting.
- Equipped with fire control system EFCS-3 and laser range finder, model ND-YAG with range of 10 km.
- Capability of tracking target (aiming) during firing at night without searchlight.
- Incorporating stabilizer system with capability of tracking and hitting moving and stationary targets.
- Armor protection from single and double stage missiles by installation of explosive reactive armor boxes of generation 1 & 2.
- Communication and navigation equipments (incorporating VRC-222 radio set and capability to install VRC-122 & R-173).
- Armed with antiaircraft MG 12.7 mm cal. and coaxial MG cal.7.62 mm.

Technical specifications:

Mass	40 ton
No. of crews	4 men
Engine	Model V46-6 with 780 hp
Engine type	Diesel, 4-stroke, 12-cylinder with V-shaped arrangement, and water-cooled with supercharger
Power to weight ratio	19.5 hp/ton
Max. speed	65 km/h
Negotiation of vertical obstacle	Max. 0.85 m
Negotiable gradient/ side slope	Max. 30°/ 25°
Main armament	105-mm gun, rifled(grooved), model M68 with fire range of 14.6 km

- ▶ Chieftain MBT has a primitive fire control system which includes a periscope coaxial with the gun by a mechanical parallelogram. Target and range finding, measuring the ballistic parameters, ballistic calculations and applying them are all done automatically by fire control system EFCS-3 that is substituted for the present fire control system of the tank. Upgraded chieftain MBT is equipped with driver night vision periscope and because of fire control system has a night vision system, so finally this tank is equipped with a night vision system generation II.



▶ Stabilizer upgrading

Upgrading chieftain MBT stabilizer system in terms of accuracy and speed.



▣ General specifications:



▣ Features:

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▣ Technical specifications:



V.E.I.G

Armour Training Simulator

▣ General specifications:

D.I.O of Iran designed and manufactured T-Series Tank Simulators (driver, gunner, commander) and APC's Simulators. Training simulators are designed for a joint instruction and training three groups of vehicle crew (commander, gunner and driver) in primary level. The 3 dimensional animation is used to simulate different climates, day / night, and emergency conditions. The crew will operate with all kinds of ammunition. ATGM (Anti Tank Guided Missile) in the basic and emergency mode at halt and move, stationary and moving tank against the stationary or moving targets as well as flying targets (e.g.helicopters,...) without using real ammunition and consuming service life of combat or training vehicles in condition of A class.



V.E.I.G

Mine Clearance Flail Vehicle Mechanized Mine Clearing Equipment

Taftan 2

General specifications:

The mine clearing vehicle Taftan 2 fitted with mine clearing flail system is capable to clear both anti-personnel and anti-tank mines and provides the vehicle with a higher maneuverability and mobility due to the equipment proper weight.

Features:

- Proper function of flail system on negative and positive slopes.
- Driver proper field of view in four directions.
- Provided with cooler, heater, and air conditioner.
- Possible continuation of flailing operations in one working shift(8 hours)
- Communication and navigation equipments (equipped with Motorola multi-channel, gyro radio set of vehicle type , model G025
- Provided with hydraulic steering, drive hydraulic joy stick (triple positions) and pneumatic brakes.



Technical specifications:

Max. clearance power and mine detonation	10 kg TNT
Clearance depth	30 cm
Clearance width	3.04 m
Flailing mechanism	Hammer and chain
Clearance speed	On surface 2-3 km/h
Engine type	MB-OM 355-A
Engine power	280 hp
Vehicle protective system	Armored
Power transmission system	Hydrostatic
Cabin	Armored with anti blast glass
Crews	2 men

► **General specifications:**

The mine clearing roller vehicle is designed and prototyped regarding the requirement for higher reliability and completion of clearance process (using a combination of mechanized equipments) with the capability of detonation of various anti-personnel and anti-tank mines.



► **Features:**

- Maintaining the regular arrangement and array of minefields during clearance by MRT and minimum displacement of mines.
- Provided with ergonomic cabin (fitted with cooling and heating, communication, control and navigation systems).
- The equipment can withstand explosion of the most powerful and destructive anti-tank mines and consequent fragments and bursts.
- Capability of operating to enhance clearance assurance coefficient during different clearance processes.
- Communication and navigation equipments (equipped with Motorola multi-channel, gyro radio set of vehicle type , model G025
- Possible replacement of damaged rollers in less than 15 minutes.



► **Technical specifications:**

Type of vehicle	T-55 Tank
Max. vehicle speed	15 km/h
Flailing mechanism	roller
Max. clearance power and mine detonation	4.5 kg TNT(resistant to anti-tank mines)
Min. clearance speed	On surface 4km/h
Clearance lane width	3.4 m
Max. clearance depth	30 cm
Roller system weight	12 ton
Weight	45ton
Cabin	Armored with anti blast glass
Crews	2 men

▣ General specifications:

The Mine Sifter is designed and prototyped for completion of clearance process (use of combined mechanized equipments) and for collecting residual mines and UXOs (after mine clearance operations by mine clearing flail and roller equipments).

▣ Features:

- Use of sifter mine sweeper mechanism and automatic discharge of sieved things (debris, fragments etc.).
- Enhancement of clearance efficiency by other mechanized clearance equipments.
- Equipped with a safe and ergonomic armored cabin for operator.
- Full protection of hydraulic assemblies of flail mechanism drive from probable blasts.
- Ease of operation similar to road machinery and more similarity of parts with other road construction machines.
- Fitted with depth sensor and monitoring system.



▣ Technical specifications:

Type of vehicle	Bulldozer D-155-A2
Max. vehicle speed	11.8 km/h
Flailing mechanism	Sifter
Max. clearance power and mine detonation	4.5 kg TNT (resistant to anti-tank mines)
Min. clearance speed	2 km/h
Cleared lane width	3 m
Max. clearance depth	35 cm
Sweeper system weight	6 ton
Operational weight	35 ton
Cabin	Armored with anti blast glass

► **General specifications:**

The armored bulldozer is designed and prototyped for completion of mechanized clearance cycle and upon request of State De-mining Center taking advantage of bulldozer D-155-A2 as the mover vehicle fitted with armor body and plowshares mainly used for final mine clearing and plowing of agricultural areas.



► **Features:**

- Provided with communication system.
- Provided with heating and cooling system as well as wiper.
- Fitted with armored plowshare.



► **Technical specifications:**

Type of vehicle	Bulldozer D-155-A2
Max. traveling speed	11.8 km/h
Max. power	314 hp at 2000 rpm
Max. clearance power and mine detonation	4.5 kg TNT (resistant to anti-tank mines)
Min. plowing depth	40 cm
Plowing width	3 m
Distance between plowshares	10 cm
Max. gradient and side slope	30°
Operational weight	45 ton
Cabin	Armored with anti blast glass
Crew	1 man

► **General specifications:**

The armored Tractor is designed and prototyped for final plowing of cleared areas and preparing the ground for first plantation (in agricultural fields) based on Tractor NEW-HOLLAND TS125.



► **Features:**

- Equipped with armored cabin providing the capabilities as follows: Necessary resistance to burst and blast wave.
- Fitted with bulletproof and anti-explosion glass.
- Proper insulation for sound and heat.
- Proper field of view and operator convenience.

► **Technical specifications:**

Type of vehicle	Tractor New Holland TS125
Engine power	125 hp
Steering system	Hydrostatic
Dimensions	4368*2012*2633
Weight	7 ton
Thickness of armored cover around body	10 mm
Thickness of armored cover under body	10 mm



▣ **General specifications:**

In order to support military and especially armoured equipment, Armoured Support Plants has designed and manufactured types of Mobile Workshop in variant forms of communicative, electrical, vehicle and laboratory repairs.

▣ **Features:**

- Double layered walls with suitable isolation
- Mountable on all types of vehicles
- Equipped with heating and cooling air conditioner
- Equipped with AC & DC system
- Equipped with internal crane
- Internal arrangement according to customer order
- Equipped with all types of equipment and tools according to customer order

V.E.I.G

1 1/4 Ton Tactical Vehicle

▣ General specifications:

Equipped with two speed transfer case and mechanical engagement system. 4WD, with differential lock. Driver cab. Equipped with suspension system including leaf spring and telescopic shock absorber. Hard and soft top, folding wind screen. With two war and civil lighting systems.

▣ Technical specifications:

Engine	Benz OM 364, by IDEM Tabriz, Co
Max torque power (rpm)	90 hp at 2800
Max torque (rpm)	266 N. m at 1500
Gear box	ZF S5-24. 3 by Charkheshgar Tabriz Co
Type	synchronized with 5 forward and 1 reverse gears
Transfer Case high and neutral	two speeds with 3 position: low, high and neutral
Brake	(main) hydraulic (parking) mechanical
Suspension	Leaf spring and telescopic shock absorber
Steering	mechanical or hydraulic
Clutch	Single dry plate F & S
Electrical system (V /Ah)	12, 150
Tires	900 R 16 C
Vehicle weight	-----
Unloaded weight (kg)	3060 -loaded weight: 4310 max
Technical load (kg)	1250
Max Speed (km/h)	100
Fuel Capacity(lit)	120
Max. Gradient	70% side slope: 30%