

STEEL character

KRAZ-01-1-11/SLDSL — UKRAINIAN ARMORED VEHICLE



STEEL character

Corporate Magazine
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PRESIDENT OF UKRAINE TO HAVE HIGH OPINION OF KRAZ



Ukrainian President Viktor Yanukovich, arriving in Kremenchug on a working visit, has been shown new models of KrAZ trucks.

He has had a high opinion of domestic Ukrainian vehicles, pointing out: "AvtoKrAZ is making rapid progress in its development and implements new technologies". The President has declared to support AvtoKrAZ and increase its government orders, adding the plant to purpose-oriented government programs for development of public road systems, municipal and agricultural economies.

He has said: "One thing that remains certain the national policy will be always directed to the support of a national manufacturer"

DEUTZ-POWERED KRAZ FOR SOUTH AFRICA



Executing the order of System Use Contract Ltd British Company, AvtoKrAZ has designed and delivered the special-purpose vehicles of KrAZ-632217 and KrAZ-632207 (6x6) to South Africa. The vehicles have been made in cooperation with Ukrspetstechnika, Cherkassytechnomash and Aerotechnika-MLT Ukrainian Companies.

The right-hand drive trucks are powered with the Deutz BF6M1015C six-cylinder engine rated at 371 hp, the MFZ 430 single disk clutch, the 9JS200TA-G6499 9-speed transmission and wide cross-section tires more effective for driving over harsh terrains. The cabs are fitted with air conditioners.

The special-purpose trucks are intended to be used in geological survey expeditions, seismological laboratories and in natural reserves guard stations as well.

PRIME MINISTER TO MARK KRAZ HIGH



Attending the display of AvtoKrAZ vehicles at Sorochintsy National Ukrainian Fair, Ukrainian Prime Minister Nikolai Azarov has signified his satisfaction with a high quality of domestic vehicles.

He has inspected new models of KrAZ trucks displayed and received detailed information from General Director S. Sazonov about the company's works on development of KrAZ new models range. Government Executive has marked the Ukrainian truck very high and declared to include AvtoKrAZ Company in state-run programs.

WORKSHOP FOR RUSSIAN ENGINEERING WORKERS

AvtoKrAZ has held a workshop for chief designers and key specialists of Russian machinery plants. The necessity of the event has been reasoned from introduction of new emission standards in the territory of Russian Federation and further enhancement of KrAZ truck design.

The workshop participants could become familiar with the process of trucks manufacture at Kremenchug Automobile Plant. At the same time they have been shown recent KrAZ developments. Attendees have marked a level of the event organized very high, being satisfied with a deep progress AvtoKrAZ has achieved in development of new vehicles. The company's striving to comply with the customers' requirements and response to the market needs has been appreciated.



UKRAINIAN TRUCK OVERRIDE

Late in November 2012, Chief of General Staff and Commander in Chief of Ukrainian Armed Forces Colonel-General Vladimir Zamana have visited AvtoKrAZ.

In the course of the visit, the Chief of General Staff has been shown the advanced KrAZ military trucks, plant workshops, and new tools along with the updated production technologies applied and main assembly line as well. Training Centre and astonishing demonstration show of KrAZ trucks at test area have fascinated him at most.

Vladimir Zamana has marked the technical performance of the Ukrainian truck very high and shared the plans of the Ukrainian Armed Forces to purchase KrAZ vehicles. He has pointed out: "Ukrainian-made vehicles are our only preference".



UKRAINIAN FEDERATION OF TRADE UNIONS AWARD

General Director of AvtoKrAZ, Sergey Sazonov, has been honored with the Plaque for Development of Social Partnership. The prestigious award of Ukrainian Federation of Trade Unions has been handed to him by V. Dudnik, President of Central Council of Ukrainian Automobile and Farm Machine Industry Trade Union.

In his supported speech he has said: "In AvtoKrAZ such cooperation is always rewarded. Here the credit goes to the top management of AvtoKrAZ. That was the reason the Federation Presidium of Trade Unions had decided to award". The Federation considers AvtoKrAZ a case in point for others Ukrainian companies when one speaks about unifying of labour collective members to follow the company's development strategy and social progress.



KRAZ FOCUS ON ASIA

AvtoKrAZ is seeking to expand its presence in Asia. The company has signed the Agreement with AGT Equipment Pte Ltd, Singapore, to promote KrAZ trucks in the markets of Indonesia, Singapore, Malaysia and Myanmar. Executive Director Ng Xinway tells about the company, action plan and prospects for cooperation.

AGT Equipment Pte Ltd, the sole dealer of KrAZ trucks in Singapore, Indonesia, Malaysia and Myanmar, backed by its parent company Agritrade International Pte Ltd and its group of companies. The group has a portfolio of diverse business interests, including trading, mining, technology and hospitality in Singapore, Malaysia and Indonesia.

Throughout the many years of operating, Agritrade has built up a track record of trading, maintenance, repair and operation of second-hand heavy duty equipment for use in construction, mining, logging industries through its associate companies.

Being in the mining and commodity industries for decades, now Agritrade has established a wide and diverse network of suppliers, contractors, mine and plantation owners, using trucks for various purposes. Naturally, the company's wide network justifies its intention to enter into this new line of business.

In our opinion KrAZ is one of the few continental brands able to establish a strong presence in Southeast Asia, and we believe this brand has a huge potential in the region.

Glorious history of the KrAZ brand, supported with com-



Ng Xinway,
Executive Director Agritrade
International Pte Ltd

mitment to high quality standards that is confirmed by the Quality Control System certification in compliance with the ISO 9001:2008 international standard requirements would make any dealer give a preference in favor of this very brand and no exception to AGT Equipment.

We strongly believe in the truck's appeal for its high functionality, serviceability and adaptability to various terrains and conditions.

First and foremost, AGT Equipment aims to build brand awareness through participating in exhibitions and trade shows, organizing trials and co-



operating with established local companies to carry KrAZ trucks in their fleets. Concurrently, tying up with local established sub-dealers would allow KrAZ to make a presence efficiently and then gain market share subsequently. Secondly, establishing a solid local after-sales support system is crucial for the success. We would focus on setting up warehouses, which are strategically located to provide prompt spares distribution, as well as ensuring proper skills of truck operators and technicians through adequate training.

In the long run, AGT Equipment envisages constructing a regional core assembly plant in Indonesia and establishing a network of showrooms and warehouses at strategic locations across the nation where the company has achieved high sales figures and gained substantial market share.

The first trial will be held at a mine in Baturaja, South Sumatra for four weeks. The KrAZ-65032 (6x6) and KrAZ-65055 (6x4) dump trucks will be put through a series of tests. Subsequently, the trucks will be tested together with the KrAZ C20.2M truck in Agritrade's own mine in Tamiang Layang, Central Kalimantan.

The KrAZ-6233M6 log truck will be showcased in Jakarta where



The KrAZ-6233M6 will be tested in Jakarta



The KrAZ C20.2 dump truck will undergo mine testing in Tamiang Layang



The KrAZ-65032 dump truck will be operated in quarry of Baturaja

we will invite our counterparts in the logging industry.

Though Volvo, Renault, MAN, Scania, Mercedes Benz, etc., are widely recognized and established truck brands in Indonesia, and Chinese trucks are also starting to penetrate the Indonesian market in aggressive way, we believe there is still a huge potential for Ukrainian trucks. We are confident that their durability, maneuverability and reliability coupled with a good service support system will enable us to make KrAZ a well-known brand in Indonesia.

While commencing operations in Indonesia, we will start to introduce KrAZ trucks to the markets of Malaysia, Singapore and Myanmar. Tailoring marketing strategies to requirements specific to each country would be paramount in penetrating these markets.

For example, Singapore places huge emphasis on emissions standards whereby only trucks with at least Euro 4 engine (and Euro 5 by 2014) are allowed to drive on roads.

Myanmar's economy is still undergoing reforms and unless the banking system undergoes a major overhaul, foreign investors remain on the sidelines. In addition, Myanmar is a huge second hand equipment market and thus we may need a customized business model to penetrate this market.

As for Malaysia, there is a huge market for off-road trucks where KrAZ can compete with leading truck brands such as Mitsubishi, Fuso and Scania.

Our modus operandi would be a partnership with local distributors as sub-agents and logistics companies for support in infrastructure, distribution, after-sales and marketing.

ESSENTIAL IN OPEN PITS



The KrAZ-5233HE (4x4) all-terrain crew change bus.
Kvarz Kremenchug quarry, 2006



The KrAZ-65053 (6x4) crew change bus, 2007



OVER a number of years, Ukrainian mining companies have been purchasing KrAZ trucks.

Currently Kremenchug Automobile Plant is trying to expand a lineup of vehicles intended for operation in open-pit mines.

Good share of orders placed with the company by mining customers are crew change vehicles. Recently, the special-purpose trucks, being popularly styled as Crew Bus, have become well received among miners.

Available in configurations 4x2, 4x4, 6x4 and 6x6, they can be operated over harsh terrain in severe duty conditions and open-pit mines.

Roomy passenger body of a crew bus can hold 28 passengers. The vehicle is provided with efficient heating, ventilation and environmental control systems. Comfortable passenger seats, modern-look upholstery and wide-angle view ensure the passengers' comfort.

Yevgeniy Puts', the Transport Department Head of Yuzhniy

The KrAZ-63221 all-terrain crew change bus in open pit of Poltava Mining and Concentrating Complex, 2010



The KrAZ-5233BE all-terrain crew change bus (4x4), 2011



Comfortable interior of the KrAZ crew change bus

Mining and Concentrating Complex in Krivorozhski iron ore-producing area, which operates KrAZ trucks, says: “We are satisfied with vehicles, I can say nothing bad about them. Some of them have already covered over 600 000 km without any major failures.

Right from the very start of operation, the crew change buses of Kremenchug have clearly showed their advantages over old crew change vehicles based on Ural chassis. Definitely, KrAZ consumes far less fuel than Ural.

Moreover, Kremenchug vehicles are multi-purpose. Apart from carrying crew staff, they can be used for tools transportation,

covering up to 150 km per working shift.

The KrAZ crew change buses easily overcome stony, often development roads, bulldozed after blast, as well as high grades and slopes. It had happed to be in the harsh winter time, all our buses in the fleet stopped due to the fuel equipment frozen. And only crew change buses of Kremenchug could have coped with a carrying of our personnel home-quarry and quite the reverse”.

Kremenchug Automobile Plant is planning to expand its lineup of special-purpose vehicles. Moreover, development of KrAZ cabovers enables to satisfy the needs of the most demanding customers.



Yevgeniy Puts', Transport Department Head Yuzhniy Mining and Concentrating Complex



The KrAZ-5233 crew change buses (4x2) for Yuzhniy Mining and Concentrating Complex. December, 2012



MEET THE CARAVAN

In mid autumn when it is time to hide a crop in granaries, we managed to test the unique grain truck – KrAZ-6230C4 “Caravan”. The first Ukrainian road-train impresses not only by its size, but also by interesting engineering solutions.

For the first time the KrAZ-6230C4 “Caravan” grain truck was shown at AGRO-2012 Agro-Industrial Exhibition held in September in Kiev. The truck quite reasonably stirred a great interest. Kremenchug designers were succeeded in development of the grain truck/trailer combination capable to transport up to 40 tons, with total volumetric capacity of 60 m³. And it is only the beginning. AvtoKrAZ is going to develop the grain truck/trailer combination with bigger capacity (80 and 100 m³).

Exterior and interior

The grain truck/trailer combination looks effectively.

It has been designed on the base of the KrAZ H23.2R cabover chassis of the new family. Here the cab from the French Renault Kerax truck was mounted on the truck (therefore, in the chassis' index there is a letter "R"). The truck was also fitted with the reinforced front suspension.

Both the truck and the trailer have identical double discharge dump bodies. They have load carrying capacity of 20 tons and useful capacity of 30 cubic meters each. Bodies were manufactured in AvtoKrAZ using the Zaporozhstal' metal. Besides drop sides, there are special hatches at the rear side used for grain discharge by tipping the truck on a loading ramp at old design elevators. Bodies have awnings on top; manually moved aside by means of special mechanisms. To make access to awnings more convenient, it is planned to equip frontal walls of both bodies with folding footboards.

The chassis of KrAZ-A261C3 three-axle trailer is of particular interest. Axles and suspension, built under license of the world leader BPW Bergische Achsen KG, Germany are applied here. Important innovative technology is Haldex brake system with electronic control unit. Along with ABS, it includes ESP Electronic Stability Program of the trailer: at its deviation during movement to the right or to the left a particular wheel starts braking – and as a result pitching of the trailer is eliminated.

In action

As far as the day was dry and sunny, it was decided to get to a field, the place of work of grain trucks. Of course in the middle of October we could not look at grain crop harvesting, but we could catch corn harvesting. Certainly, we didn't fill up grain in a brand new experimental dump truck, but we took some pictures near the harvester.



Drivers of old grain trucks just opened mouths, having seen a well-graced KRAZ-6230C4 “Caravan” truck.

Photo shooting is all good but we wonder how this road train does look in action too? Road-holding ability of this road train on hard-surface is perfect. The integral steering gear is applied at the latest KRAZ cab-over-engine vehicles. The YaMZ-6501.10 turbocharged diesel engine rated at 362 hp is capable to accelerate the truck up to 80 km/h quite quickly.

The modern dashboard adopted from Renault Kerax helps to control effective engine rpm speed: as soon as the tachometer’s pointer is over 2200 rpm, bright red light flashes on a scale along with a LED green zone.

We were surprised at easiness of gear shifting of 9-speed Fast Gear 9JS200TA gear box.



Platform tailgate with hinged doors with lateral screens and central locking



Manually moved awnings by means of special mechanisms



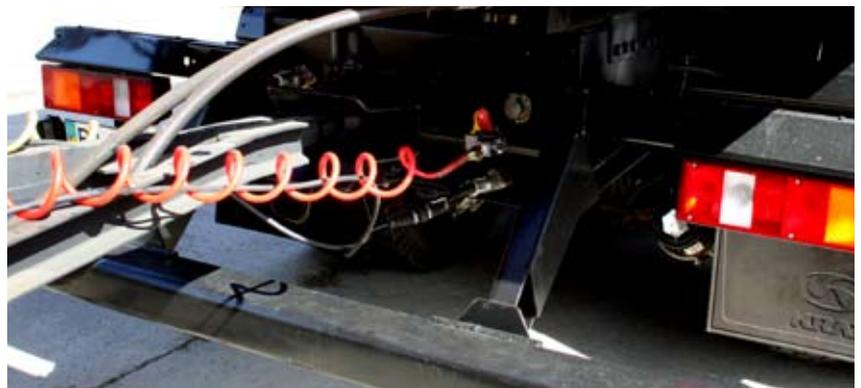
Unique and original dashboard

To shift from a low range (low gear – the fourth gear) to a high range (the fifth – the eighth), it's enough to push the lever to the right till specific click. But for low stature drivers who are moving a driver's seat forward, it is necessary to reach to the eighth gear, throwing a hand back. It would be desirable to locate the gear box lever closer to the front panel. Pedals are pleasant: small, moderate short-stroke, your feet are not tired of them. Especially clutch pedal which it is often necessary to run in towns and villages.

One should note excellent visibility through exterior mirrors – along with the small turning radius they are very useful while maneuvering at the 18-meter road train. We also would like to mention the low internal noise level in a cab – even on high speed it is possible to hear each other quite clear.

Thus, Kremenchug designers created really unique grain truck. The KrAZ-6230C4 "Caravan" can be comparable to the leading West European analogs and at the same time surpasses them in such important criteria as the final price. Let's hope that our agrarians will evaluate the domestic manufacturer deservedly.

Test drive
of Leonid and Yuriy Gogolev
Kommercheskie Avtomobili Magazine



The Jost towing hitch (Germany) enables one person to hitch it



Fold-down grilled headlights simplify lamps replacement



Muammer Pirlanta axles (Turkey), mud wing of Eurowind (Hungary)



Bodies lift is carried out by the hydraulic system Penta (Italy)

SPECIFICATIONS

GENERAL DATA

Type	truck with side unloading
Chassis	KrAZ H23.2R
Length/width/height, mm	9200/2500/3400 (6600/2500/3400)
Road train length, mm	18150
Wheel base, mm	4700+1400 (3200+1350)
Number of seats in cab	2
Truck curb mass, kg	13900 (7500)
Load carrying capacity, kg	20000 (20000)
Gross train weight, kg	61400
Body capacity, m ³	30.0 (30.0)
Loading height, mm	1070
Turning radius, m	11.5
Fuel tank, L	250

ENGINE

Brand/type	YaMZ-6501.10/turbocharged diesel
Engine cubic capacity, cm ³	(EURO 3)
Cylinder arrangement and number of cylinders/valves per cylinder	11120
Power, hp/rpm	P6/2
Maximum engine torque at rpm	362/1600
	1670/1200

POWER DRIVE

Drive type	rear-wheel drive
Gear box, brand/type	9JS200TA/mechanical, 9-speed

CHASSIS

Front/rear suspension	dep. leaf/equal. beam-spring
Front/rear brakes	drum type/drum type
Tires	9.00 R20 (9.00 R20)

OPERATIONAL CHARACTERISTICS

Maximum speed, km/h	80
Average fuel consumption, L/100 km	approx. 30 (no-load condition)

BLACK BOX

The Kremenchug road train Caravan is equipped with a so-called “black box”; data about vehicle’s important performance parameters (loading, fuel consumption, stopovers, location etc.) arrive in it from on-board computer. All information is transferred through GPS system to the operator’s web portal, who can trace road trains operation in real-time mode.

SUMMARY

Advantages:

- big volumetric capability and load carrying capacity;
- good acceleration capability;
- accurate operation of gear box;
- excellent road-holding ability;
- low noise level in a cab.

Disadvantages:

- hampered access to shift the eight gear of gear box for low stature drivers;
- no place to access an awning drive and cargo vision.

PARADE STAR



Military parade on Constitution Day. Kazakhstan, 2011



Military parade on Independence Day. Ukraine, 2001

PARADES are an excellent possibility for any state to show friends and enemies its military power and readiness to defend its frontiers. Military formation and military equipment elates citizens, while walking in streets and squares of the world's cities.

The best weapons and most effective military equipment participate in military parades of any army. KrAZ trucks worthily participate in one parade column with elite war-fighting potential of many countries of the world. Reliability, simple design, good cross-country ability made this truck as one of the best.



Military parade on Armed Forces Day. Iraq



Military parade on Independence Day. Georgia, 2001



q, January 5, 2012



orgia, 2012



Parade on the occasion of the 50th anniversary of the founding of the People's Republic of China, 1999



Military parade on the occasion of the 50 anniversary of Independence. Congo, 2011



ARMORED VEHICLE

KRAZ-01-1-11/SLDSL







TARGET POINT AFGHANISTAN: TO STRUGGLE THE NATURE

In November, 2012 AvtoKRAZ, PJSC has signed the contract with the UNO to supply eight units of KrAZ-mounted specialty vehicles. The KrAZ-63221 all-wheel-drive chassis and KrAZ-65032 dump trucks are equipped with RASCO salt spreader for winter roads maintenance, vacuum cleaning equipment KATMER-CILER (Turkey) and snow blowers Retech (Korea).

AvtoKRAZ, PJSC is the official registered supplier of both civil and military vehicles to the UNO. Earlier KrAZ trucks have been repeatedly supplied to the UNO peacekeeping forces for use in various trouble points. AvtoKRAZ has also supplied its vehicles to the Ministry of Public Works of Afghanistan.

Winter came in Afghanistan. Heavy snowfall and frequent ground avalanches block transport movement through the Salang Pass, which links the northern and the southern regions of the country.

The tunnel, located at the height of 3 400 m in Parvan province, is essentially important for normal existence of the region with the population more than one million citizens, though it is of benefit to the entire country too.

It takes about seven days to clean road with the existing equipment after a storm near the Salang Pass. Such stoppages block free movement of vehicles, causing significant economic damage.

Similarly, the Province of Ghor in the Central Highland suffers human and economic losses due to poor infrastructure compounded by harsh cold season. Maintaining the safety and operability of the roads during harsh winter month is, therefore, a key ele-



The KrAZ-65032 snow removal vehicle
Salang Pass. January, 2013



The KRAZ-63221 road maintenance vehicle with Retch Korean company snow blower



Equipment control board



The KRAZ-63221 road maintenance equipment for summer season



The KRAZ-63221 all-purpose combined road maintenance vehicle

ment in Afghanistan's reconstruction and development that the United Nations is committed to strive towards.

The three KRAZ-65032 trucks were flown into Kabul in the world largest cargo plane to help to clean snow in and around Salang Pass, the essential thoroughfare, and in the remote Ghor province as well. The purchase and delivery of the vehicles by UNOPS is part of its two disaster management and preparedness projects funded by the Japanese government.

These are the first of eight snow clearance trucks that are being purchased and delivered by the United Nations Office for Project Services (UNOPS)

on behalf of the Japanese government. Six of the trucks will be used to clear snow in Salang Pass, while two the rest will support work in the Ghor province.

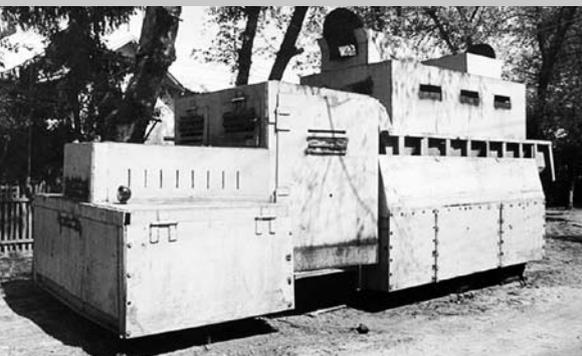
The maintenance staff has been trained operation basics and technical maintenance of trucks and their units.

ANDMA Director General, Doctor Mohammad Daim Kakar, in a ceremony in Kabul where H. E. Najibullah Aoudjan, Minister of MPW, has been handed over the snow clearance vehicles, underlined that with the Ukrainian vehicles delivered they would be able to save many lives that are lost each year due to harsh winters.

KRAZ IN ARMOR



Armored cab windshield
in the KrAZ-6Э6316 vehicle



Armored vehicle of the Dnieper
region designed on the KrAZ-2565

ARMY vehicles of KrAZ have been assimilated by military establishments of different countries in the world, holding longstanding and strong position.

They are able to show a fail-safe operation in any natural climatic and road conditions along with an assurance of peacetime and combat duty in various branches of the armed forces that have transferred the rough-terrain vehicles of Kremenchug into the universal soldiers.

These are already four generations of KrAZ vehicles which have been excellently serving in the armed forces of the world. In XXI century this five star serving has turned for the Ukrainian trucks into the VIP access to the Armored Vehicles Club.

But originally the KrAZ truck armor protection has been started to be developed at the Kremenchug Automobile Plant early eighties of the past century. Executing an order of the USSR Ministry of Defence there was a family of multipurpose army vehicles developed by the plant

engineers. The vehicles had the 6x6, 8x8 and 10x10 wheel arrangements along with a local cab armoring.

The cab windshield has been composed of three solid bullet-proof glasses sections. The exterior aluminum armor add-on plates have secured a crew protection against 12.7 mm balls.

The new high-potential family of vehicles has been designed; severe truck tests have been conducted; but this very project has not been developed properly due to the USSR breakup.

Straight after the age of marginal terrorism had begun there were first alarms recorded about the armored KrAZ ability not only to transport but also to carry on war. By the close of the twentieth century the USSR breakup, religious and territorial strives spreading has led to an enormous growth of armed conflicts and intraregional wars. There have not been any battle lines and field armies but mines and unblocked ambushes, afar unaimed artillery attacks of transport columns, sniper nests

The KrAZ-6322 HMPV-A
armored rough-terrain truck
at the IDEX 2007 in Abu Dhabi



and suicide bombers attacks: that all required new vehicles – the special purpose armored trucks.

Original armored KrAZ vehicles have seen the world owing to the knacky tinkers of military equipment shops. The vehicles have appeared to be rather crude in their armoring of the driver’s cab, truck body and life-critical aggregates. Sturdy frame, powerful running gear and cab behind engine configuration have carried any ruvid armoring of a truck at their best. The well-known example of 1992, when defenders of the Pridnieprovskaya Republic of Moldavia at the time of the Trans-Dniester conflict have developed such a kind of gun trucks on the KrAZ-256 chassis plated with steel.

Some of the KrAZ-6322 vehicles delivered to Iraq, just after the overthrow of Saddam Hussein’s regime, have been armored similarly to their Moldavian “colleagues”.

The project of KrAZ vehicle local armoring has been recommended by the high-skilled professionals of the Streit Armored Group Canadian Company and Vehicle Engineering Company of Italy.

The Canadians, with their recognized extensive experience in a dedicated development of vehicles to be operated in UN peace keeping missions in flash points and in others of that kind as well as in humanitarian convoys, have designed a new vehicle on the KrAZ-6322 base: the escort vehicle with concealed local armoring.

The armored truck, being named Raptor has astonished the international defence chiefs with its magnificent potential at the test range of the IDEX 2007, the International Defence Exhibition. Complementary to the concealed armoring of cab and other vehicle aggregates, the Raptor MTT armored vehicle has had a defiladed habitation module for 20 seats mounted on its platform. The KrAZ with all its armor and GVW of more than five tonnes has not lost its speed and cross-country ability in the slightest. Easy and masterful crossing of obstacles, showed by the Ukrainian armored hero had pretty startled the audience that its picture was included in the IDEX exhibition album dedicated to its 10th anniversary.

Sophisticated mine and ballistic protection along with all-round reprisal porthole fire have secured a high efficiency perfor-



The KrAZ-6322 Raptor Armored module



The KrAZ-6322 Raptor Armored cab



The KrAZ-6322 armored cab (local armoring with steel plates). Iraq, 2006



The KrAZ-SLDSL armored on the KrAZ-5233 base



The KrAZ-6322 armored vehicle. Designed by Vehicle Engineering, Italy 2006



The armored vehicle of one of the departments in the Ministry of Internal Affairs of Ukraine, 2011



The armored RM on the KrAZ-63221 base



MaxxPRO Armored Vehicle



International APC Armored Vehicle

mance of the vehicle crew and combat team.

The Italian designers have also developed an innovative armoring of the KrAZ-6322 vehicle. In 2006 they have designed and produced a limited quantity of armored trucks intended to be used in antiterrorist commitments and to carry special UN missions in the armed conflict territory in one of the countries of Southeast Asia.

The vehicle with a complete external armoring has suggested armored trains of the Civil War times in Russia.

Armored plates have been mounted on the rectangular pipes frame. Ceramic sheets have enforced a steel armor to raise up a protection level.

Cab behind engine configuration of KrAZ vehicles in itself ensures a reliable mine and ballistic front protection of a driver, while the armoring of a cab behind engine improves a crew passive safety even in case of grenade launchers frontal firing, not to mention a mine explosion under the front axle.

In 2010 AvtoKrAZ Company has launched a practical armored vehicle development project. The efforts of the company's engineers in collaboration with the designers of the Shri Lakshmi Defence Solutions Ltd (SLDSL)

Indian Company have resulted in the KrAZ-SLDSL armored vehicle.

The KrAZ-5233BE off-road vehicle with the 4x4 wheel arrangement has been taken as a base for a newly developed armored truck. One of the biggest differences of the truck has been its right-hand steering. Being equipped with YAMZ-238DE2 engine of 330 hp, rigid frame and reliable transmission the vehicle has perfectly matched with the armored shell developed by the Indian engineers. The armored shell has been tested with perfect results in part of its strength, mine and ballistic resistance.

The armored vehicle can carry 12 members of combat crew with their battle suits. It is equipped with a rotatable machine-gun turret (angle of rotation: 360°), turret ports and warfare support as well as with advanced surveillance and communication systems.

And it didn't make a sensation with this mobile armored combat carrier, possessing high armored protection, towing and dynamic performance when a series of African countries had shown a keen interest in it.

The company has been constantly receiving various collaboration proposals for development of special purpose

armored vehicles on the KrAZ trucks base.

In 2012 the Ares Security Vehicles LLC United Arab Emirates Company has developed a KrAZ armored vehicle prototype.

The armored vehicle concept has been originated from a field experience of the best samples of the equivalent vehicles produced by various international companies. The ones of those, being considered have been MaxxPRO and International APC armored vehicles manufactured by Navistar and International American Companies; Golan armored carrier of Rafael Israeli Company; Gila armored carrier with a special mine protection developed by IVEMA South African Company.

The armored vehicle can be produced in different design variants: reconnaissance patrol vehicle; armored combat carrier; infantry combat vehicle and mobile command post.

Equipment and weapon configurations of the armored vehicle can be adjusted in compliance with the customers' requirements.

The new KrAZ will be unveiled at IDEX 2013 International Defence Exhibition.

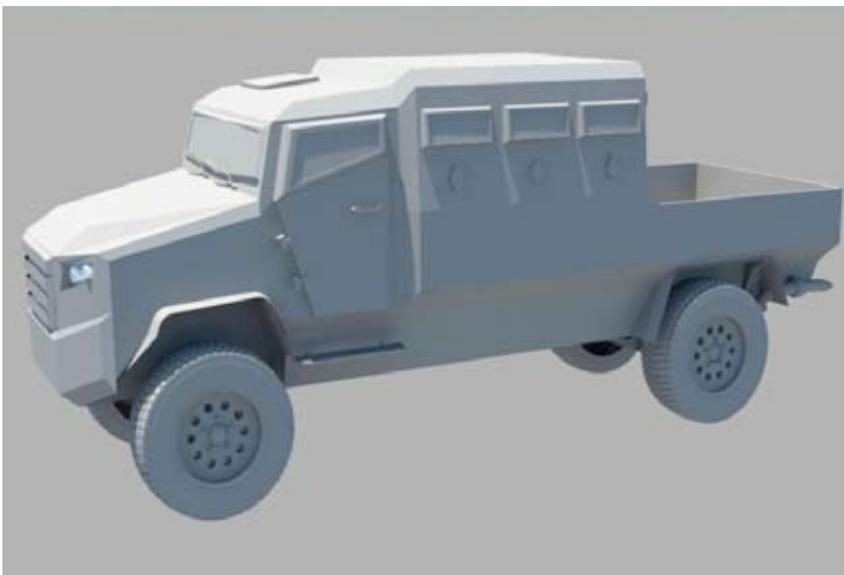


The KrAZ armored carrier thumb-nail sketch. Designed by O. Kolesnikov, 2012

One more example of 2012, when all existing mass media have written about development of the first Georgian armored vehicle prototype. President of Georgia has personally visited a test area to enjoy a demonstration of the new armored RM operational capabilities.

The columnists have pointed out aptly that the Georgian Armed Forces would be weaponed with a deathful GRAD-KrAZ Russian-Ukrainian mix.

New multiple launch rocket system of national production has been based on the KrAZ-6322 Soldier vehicle.



The KrAZ armored vehicle 3D model. Designed by Ares Security Vehicles LLC

AvtoKrAZ has been developing new armored vehicles prototypes of the KrAZ brand, trying to promote the existing cooperation projects in this field. The company's engineers have been collaborating closely with a series of European companies, finding out the ways of the advanced armored cabs and shells to be adapted on KrAZ vehicles. They are also looking to the future. Today the plant's engineers headed by Mr. O. Kolesnikov, one of the most talented Ukrainian automobile designers have been creating a new KrAZ armored vehicle, unique and originally Ukrainian.

THE KRAZ-255B: 45 YEARS GUARD

The KrAZ-255B is considered to be a legend of the Soviet automobile industry. Being known as rugged and low-maintenance vehicle, it has been operated in the fields of 57 international armies over a period of fifty years. And that is what no one company in the world but AvtoKRAZ can be proud of.

In 1967 the KrAZ-255B legendary subduer of impassable roads has started to be produced. Also this year the Kremenchug Automobile Plant has been recognized a development and production implementation of the KrAZ-255B vehicle with the first degree diploma of the USSR National Economy Achievement Exhibition. The Exhibition General Committee has awarded fifteen plant workers with gold, silver and bronze medals.

In 1967 the KrAZ-255B has passed into service of the Soviet Army.

Over a period of 23 years up to 82 000 military vehicles of KrAZ-255B/Б1 have been produced and delivered by Kremenchug Automobile Plant in the Soviet Army, the Warsaw Pact countries as well as in the armies of other countries.

In 1981 the company has established a record delivered 5591 units of 255B1 vehicles to the address of Ministry of Defense and for export.



Interior bay throw off in river
Float bridge set on the KrAZ-255B



PRB 16Б Radar Complex
on the KrAZ-255B chassis



The KrAZ-255B tow



ЭОБ-421 excavator



The KrAZ-255B1 with БМК-Т power boat



The KrAZ-255B1 with semitrailer at transportation of 3PK S-200



...ws MIG-25 fighter



...r on service in peacekeeping forces. Kosovo, 90's



The KrAZ-255B carries 2A6 weapon



... missile launcher



Bridge-crossing with heavy mechanized bridge on the KrAZ-255B base

The KpA3-255Л log truck designed on the KrAZ-255B base has been one-of-a-kind in its load class and transported up to 40 cubic meters of timber on paved roads and in forest corridors. A key difference of the KrAZ-255Л log truck has been its processing equipment intended not only for loading/discharging of timber but for transportation of timber drag placed on truck tractor. In 1972 the USSR National Economy Achievement Exhibition has awarded the KrAZ-255Л log truck with its gold medal.

The KrAZ-255 has been three times certified against the USSR Senior-Grade Quality Standard.

The Kremenchug Automobile Plant has produced in total 197 155 vehicles, where platform trucks and chassis of KrAZ-255B/Б1 made 160 732 units; KrAZ-255B/Б1 truck tractors – 6957 units; KrAZ-255Л/Л1 log trucks – 29 466 units.

Due to its high cross-country ability, unique ruggedness, low-maintenance, the KrAZ-255B vehicle model has remained in production over a period of almost thirty years.



Ignat Khlebnikov
Robotics Technology
Development and Introduction
Chief Officer, TOV PROLEGO

Even if LEGO Danish Company has never made any special creators of KrAZ vehicles, that can't stop fans of LEGO and Ukrainian trucks. One of the respected LEGO creator professional in Ukraine, Mr. Ignat Khlebnikov from Kiev, who teaches LEGO-Education science at school, pointed out as subject recommended by the Ministry of Education of Ukraine for educational institutions since 2009, as well as at Vynakhidnyk Young Engineers Creative Studio would like to share his experience in creating KrAZ-LEGO with our readers.

I have created my first KrAZ-LEGO five years ago, inspired with the idea to make something dedicated to the Victory Day. Military parades were the first that have just come back to my memory. And what are the coolest vehicles at parades? Surely, KrAZ! And of different kinds: truck tractors with missile launchers, launch rocket systems and artillery tractors. I have chosen the brilliant all-wheel drive truck tractor of KrAZ-6322, towing Giatsint-B 155 mm gun-howitzer.

A peculiar interest I have paid to creation of KrAZ suspension and tiny external units: tanks, mirrors and carrier bracket with spare wheel. Just remember, screwing around with this finished small truck, I could not believe its ground clearance that would make any impassible off-road terrain passable for KrAZ!

Needless to say, that looking for drawings and pictures of KrAZ-6322, I have found infinity of materials related to other KrAZ models. The picture of 1986 with KrAZ-256 has impressed me

at most. This vehicle plated with lead sheets have been used for Chernobyl atomic accident elimination. That is the story of how I have become KrAZ-addicted.

Aiming to create a replica-type model with LEGO, one shall be ready the process will take a lot of time but bring an enormous satisfaction. I adore heavy-duty and mobile vehicles, like KrAZ vehicles intended for military and building sectors.

In principle I work on kits with scales of 1:42 и 1:22. The first one scale refers to LEGO mini figures. This kind of models is not big and they can be easily placed close to standard buildings of LEGO cities, being occupied with people and to play with.

Surfing the net can offer various drawings, charts, performance data, good pictures that will help to fill in the gaps in technical knowledge. Not necessary to be a degreed engineer to know a black bottom-placed pipe is a propeller shaft leading to rear-axle differentials.



Plenty of tiny parts
don't affect body ruggedness



Tailgate drop as by real
KrAZ-65055 dump trucks



The KrAZ-65053 (KTA-32) automobile crane

One can also try to build a model in eye, without considering technical peculiarities, but that will cause a perverted original model. Worth to say, the net offers various fascinating stories about KrAZ brand and its history.

I have expanded my KrAZ fleet with a model kit of KTA-32 automobile crane on the KrAZ-65053 chassis as well as of KrAZ-65055 dump truck. Incidentally, setting up of the KrAZ-65055 has happened to be rather difficult. The most complicated task here has been a make of a true-looking body with all visible reinforcement ribs, curving and drop tailgate, considering the minimal thickness of body walls. The truck has been made with rear suspension, steering wheel and even with scratched hydraulic piston, in a full compliance with the original. Also spare wheel with flexible bracket carrier and tool box have not been forgotten.

Soon I plan to build log truck, fire fighting vehicle and concrete mixer truck. No doubt, they all will be on KrAZ chassis!

Somebody will ask why KrAZ? Because it is the Ukrainian truck and I am a true patriot of my country. Besides I find KrAZ well balanced if to consider its appearance and powerful core. All those high fashioned and smooth looking vehicles can't make my heart beating faster.

I teach kids about LEGO-creation and they, unfortunately, know only a little about KrAZ trucks. They are brought up on new ideals, respecting the net and movie heroes. And there one can hardly notice any KrAZ vehicle. But when I show them my KrAZ models they put me a lot of questions about what kind of truck it is and how to build something of such kind.

For my part I would like to wish KrAZ a financial health. Let it make us happy with new truck models. And we promise to build them: in a small scale.



The KrAZ-2145 assembled model

KRAZ-214B MODEL: RECENT OF RODEN CO.

Innovative development of 2012 for collectors and hipped on history of national vehicles: the first KrAZ-2145 army vehicle model kit in 1:35 scale.

Made by Roden Ukrainian Company, global leader in producing of airplanes, automobiles and armored vehicles plastic model kits.

Creation of the KrAZ-2145 model kit opens a new page in the plastic model kits history book of Roden Company, which earlier has made model kits with the scale of 1:32, 1:48 and 1:72.

KrAZ-2145 assembled model length makes 24.3 cm; width: 7.7 cm. Model kit consists of 334 parts, included eight rubber tires and vacuum formed canopy. Detailed instruction on parts gluing and painting can be found attached.

In the future Roden Company plans to create 1:35 model kits of trucks on the KrAZ-2145 chassis: float bridge sets, heavy mechanized bridges, excavators and famous 2K5 Korshun missile complex.



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