

# STEEL character

THE FIRST TRUCK  
OF UKRAINE HAS TURNED – 50!



# STEEL character

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10-11



12-13



18



19

# CONTENT

DNEPR KRAZ-222 DUMP TRUCK – THE FIRST UKRAINIAN TRUCK	4-5	18	AVTOKRAZ AND FINANCE AND CREDIT BANK STRIKE BACK AGAINST THE CRISIS
COMPANY NEWS	6-9	19	“KRAZY-CROCODILE” IS THE CHAMPION!
KRAZ – THE BASE VEHICLE OF THE MILITARY FORCES OF UKRAINE	10-11	20-21	NEW FORWARD-CONTROL KRAZ C20.0 DUMP TRUCK
KRAZ VEHICLES – EMERGENCY FIGHTERS	12-13	22-25	TERMINATION OF “BREAKTHROUGH” PROJECT
GORNIAK KRAZ C18.0 DUMP TRUCK – MORE POWERFUL, RELIABLE AND STRONG	14-16	26	KRAZ TALES
ALL-PURPOSE VEHICLES	17	27	BELORUSSIAN ADMIRER OF KRAZ TRUCK



14-16



17



20-21



22-25

# “DNEPR” “KRAZ-222” DUMP TRUCK – THE FIRST UKRAINIAN TRUCK!



On the 10th of April, 1959 the first Ukrainian truck was assembled at the Kremenchug automobile plant. That was “Dnepr” KrAZ-222 dump truck with 6x4 wheel arrangement and 10 tons payload.

KrAZ-222 dump truck has given start to the national machine-building industry.

On the 1st of May, 1959 the first KrAZ vehicles have taken part in festal demonstrations in Kremenchug, as well as in the regional center - Poltava.



**Official greeting of the Prime Minister of Ukraine Ms. Y. Tymoshenko:**

Dear friends!

I cordially congratulate the employees of the Holding company “AvtoKrAZ” on the 50th anniversary of the first domestic truck production.

Power, reliability and unpretentiousness of the Ukrainian bogatyr have won its recognition in many countries. KrAZ vehicles are truly considered to be a business card of Ukraine in different countries of the world.

Holding company “AvtoKrAZ” contributes considerably to the development of the Ukrainian economy. Its dynamic development and pursuit to rise to eminence in the world machine-building industry reflect credit upon employees, authorities and share holders of the enterprise.

Dear members of the automobile plant! I wish you a sound health, prosperity, happiness, harmony and fruitful work for the benefit of Ukraine.

Yours truly,  
Yuliya Tymoshenko  
Prime-Minister of Ukraine

**Dear auto makers!**

The 10th of April, 1959 undoubtedly brought forth one of the most important events in the economy of Ukraine. The production of the first truck by the Kremenchug automobile plant has marked the birth of the domestic motor industry.

Today, in the same way as before KrAZ vehicles are well-known and valued both in our country and far beyond its borders. More than 800 thousand vehicles created at the Kremenchug automobile plant have justified by time and roads their high technical level, have become a living legend of the domestic automotive industry.

I congratulate the authorities and employees of the Holding company “AvtoKrAZ” on this memorable date. I return thanks to everyone who has been producing and proceeds to produce KrAZ vehicles, for their reliability and endurance, to those who view “KrAZ” trade mark as a symbol of power, for the tremendous contribution to the economy of Ukraine.

I wish you dear members of the automobile plant a robust health, optimism, confidence in future.

To jubilee!

Konstantin Zhevago  
People’s Deputy of Ukraine



**Official greeting of the President of the Ukrainian Association of Automakers "Ukravtoprom" Mr. Mikhail Reznik**

Dear friends!

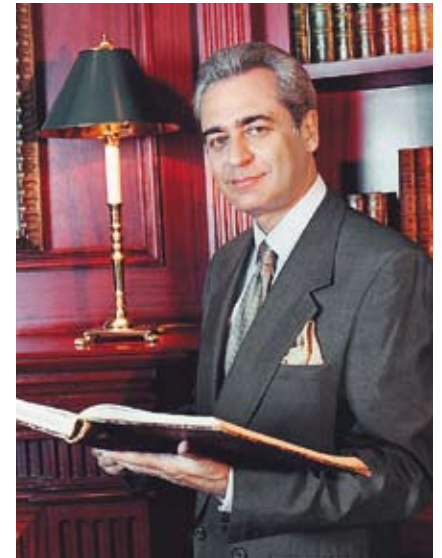
On behalf of the Ukrainian Association of Automakers "Ukravtoprom" I sincerely congratulate the employees of the Kremenchug automobile plant on the occasion of the 50th anniversary of the firstborn of the domestic automotive industry - **KrAZ-222** dump truck.

The importance of this event, that took place half a century ago, can scarcely be overestimated, as it was momentous not only for the Holding company "**AvtoKrAZ**", but also for the domestic motor industry in whole: the first truck of Ukrainian manufacture has marked the beginning of the cargo automobile construction age of our state. High prizes and state honours are the visual proof of the considerable contribution of the enterprise to the development of the domestic automotive industry. But they would have been impossible without inspired and selfless labour of thousands of plant employees.

We are pleased to acknowledge that today "**AvtoKrAZ**" is the leading enterprise of the Ukrainian automobile industry for heavy-duty vehicles production. The plant output is competition-worthy to its analogues in the international market, whereas **KrAZ** vehicles have become a visiting card of Ukraine in different countries and different continents. A united roar of engines of Kremenchug heroes is heard on many large-scale building sites in fifty six countries of the world. And Ukraine is proud of them!

Dear colleagues! Your work is socially important and professionalism is a valuable heritage of the automobile manufacturing of Ukraine. On this remarkable day on behalf of the members of the association of Ukrainian automakers I wish you new mighty achievements and breakthroughs, and your families - health, prosperity and comfort for many years.

Kind regards,  
M.B. Reznik  
President of "Ukravtoprom Association"



Dear readers!

The 10th of April, 2009 is a memorable date not only for the history of Holding company "**AvtoKrAZ**", but also for Ukraine on the whole. 50 years ago, on this day, the first Ukrainian dump truck - **KrAZ-222 "Dnepr"** - was assembled. The 10th of April, 1959 is the start point of the domestic truck production.

History-wide half a century is a short period of time. For "**AvtoKrAZ**" - this is a long and hard-won way to the summit of the world motor industry.

Today **KrAZ** vehicles are known in 60 countries of the world. I am proud that huge difficulties on the way to **KrAZ** revival haven't become a hindrance for those who were loyal to the plant and for those who did everything in order to breathe life into prostrated by economic crisis of 90s giant automaker.

I return thanks to all generations of automobile plant members who have shaped this proud name "**KrAZ**" with their selfless labour, knowledge and experience. I am genuinely grateful to the partners

and admirers of **KrAZ** who were side by side with the Kremenchug automobile plant and lent their shoulder. Thank you to everyone who has been helping and keeps on helping to gain ground of the only national manufacturer of heavy-duty trucks, and hence developing the automobile industry in Ukraine.

On behalf of the Holding company "**AvtoKrAZ**" management I congratulate everyone on this significant date. I wish you stability and confidence! And **KrAZ** - the plant and the vehicle - success and prosperity!

Sergey Sazonov  
General Director HC "**AvtoKrAZ**"

# MEMORABLE DATES AND EVENTS OF HOLDING COMPANY "AVTOKRAZ"



On **August 31th, 1945** USSR People's Commissariat for Transport Routes took a decision to build the mechanical and bridge plants. In **1956** the bridge plant was delegated to the Ministry for tractor and agricultural machinery industry and renamed into the combine plant. In **1958** the production of heavy-duty trucks was transferred from the Yaroslavl automobile plant to Kremenchug.

On **April 10th, 1959** the first two dump trucks KrAZ-222 Dnepr were assembled.

**1963** - the 25 thousandth KrAZ vehicle rolled off the production line.

October **1965** - the 50 thousandth vehicle was produced.

**21st October 1967** - the plant was awarded Honorary standard of the Central Committee of the Communist Party of the Soviet Union, of the Presidium of the Supreme Soviet of the USSR and the Council of Ministers of the USSR and All-Union Central Council of Trade-Unions.

**27th March, 1968** - the Minister for Automotive industry issued a warrant to award the title "Named after the 50th anniversary of the Soviet Ukraine" to the plant.

**30th December, 1968** - the 100 thousandth vehicle was made.

**22nd January, 1971** - the plant was awarded the Order of Lenin for five-year plan early execution and successful development of the new trucks.

**1975** - the 250 thousandth vehicle rolled off the production line.

On **15th January 1976** the production association "AvtoKrAZ" comprised of eight plants was created.

**14th December 1980** - the Kremenchug plant was awarded the Vietnamese Order of the People's Friendship for giving a helping hand to Vietnam.

**April 1984** - the 500 thousandth vehicle rolled off the production line.

**March 1993** - the 750 thousandth vehicle rolled off the production line.

**April 1996** - "AvtoKrAZ" Holding Company was created.

**29th October 2004** - HC "AvtoKrAZ" quality control system was certified with respect to conformity to the requirements of ISO 9001:2000.

**January 2006** - the 800 thousandth vehicle rolled off the main assembly line.

According to the results of "TOP 100. The most dynamic companies" rating published by press "Economica" in October 2006 "AvtoKrAZ" Holding Company won the first prize among 100 Ukrainian companies with the best rate of economic development according to the net profit growth.





## ANGOLA



## KRAZ VEHICLES AROUSED INTEREST OF THE GENERAL STAFF OF ANGOLA

“AvtoKrAZ” Holding Company was visited by members of the delegation of the General Staff of Armed Forces of Angola headed by General Staff Deputy Head General Mr. Zherardu Abreu Ukvashitembu.

During their visit the Angolan generals attended the main assembly line and inspected the model range of KrAZ vehicles.

The guests were especially impressed by demonstration of KrAZ vehicles capabilities at the Company demonstration-testing area.

Getting acquainted with the equipment General Staff of Angola Deputy Head Mr. Ukvashitembu personally tested side off-road vehicle KrAZ-6322 at work. He admired the ease of control and vehicle capabilities. The head of the delegation of the Angolan army pointed out, “We are very pleased with our visit at the plant. The vehicles have left an indelible impression. This visit can stimulate to achieve in the nearest future our goals in terms of crew, goods and military equipment transportation. We view KrAZ machinery as the one that is capable to meet our needs”.

Since year 1974 the Kremenchug automobile plant has delivered to Angola about 1.5 thousand KrAZ vehicles. The biggest for the last 20 years KrAZ vehicles delivery was carried out in 1988 - 350 vehicles.

## COOPERATION

## AVTOKRAZ – NATIONAL ACADEMY OF SCIENCES OF UKRAINE – MUTUALLY BENEFICIAL ALLIANCE



Holding Company “AvtoKrAZ” has entered into cooperation with Evgeniy Oskarovich Paton Electric Welding Institute of the National Academy of Sciences of Ukraine. This alliance encourages extensive prospects for the introduction of new technologies at the enterprise.

The meeting between General Director of HC “AvtoKrAZ” Mr. Sergey Sazonov and President of the National Academy of Sciences of Ukraine Mr. Boris Evgenievich Paton, his Deputy Mr. Leonid Lobanov and Director of Electric Welding Institute Experimental Design-Engineering Bureau Mr. Valeriy Romaniuk.

The meeting touched upon the issues of research and development work on welding automatization in frame-and-body production of the Kremenchug automobile plant. The parties also considered the question of establishment of the national center of automobile equipment testing based on Holding Company “AvtoKrAZ”.

## UPGRADING

## TECHNICAL RE-EQUIPPING IS IN PROGRESS



According to technical re-equipment program Holding Company “AvtoKrAZ” continues to upgrade the production by introducing new high-performance equipment. Thus, new technologies site of the automobile plant press-room has been replenished by another modern device - laser-cutting machine “Amada” LC 1212b IV NT (Japan).

A new laser station “Amada” LC 1212b IV NT is intended for cutting work-pieces and parts of different form and dimensions with accuracy of 0.1 mm from the rolled steel sheets with 12 mm maximum thickness and 220 kg maximum weight.

The new station provides for more than 1200 parts types manufacturing. This equipment will substitute for work of the whole site of gear-cutting and boring machines.

Automatic bandsaw machines H-260HB with software of automated 133 systems of rolled metal and pipes delivery for cutting intended for cutting of work-pieces from pipes and rolled metal with 260 mm maximum size were introduced at the premachining installation of the press-room.

New equipment introduction contributed to considerably save time and expenditure for preproduction, to boost production and substantially improve the quality of the parts manufactured. All in all in 2008 HC “AvtoKrAZ” allotted more than 50 mln. hrn for production development





## KERCH "ZALIV" HAS TURNED 70!

On the 17th of October, 2008 one of HC "AvtoKRAZ" partners - Kerch ship-building yard "Zaliv" celebrated its 70th anniversary.

Many guests gathered in Kerch on account of this event, among those were the administration of the Autonomous Republic of Crimea, companies' management, former management of the plant, long-service employees and ship-builder' families.

The turning-point of "Zaliv" jubilee celebration was the ceremony of dry-dock launching of the ship "SX 121" (production serial number 283) manufactured by order of Norwegian holding Ulstein. The ship named Sarah of 8200 tons load-carrying capacity and 4604 tons gross weight has become an outstanding example of "Zaliv" employees' high professionalism.

This is a pioneering project not only for the domestic ship-building industry, but world-wide as well. The hull form with arc-back enhances the ship nautical properties, makes it more steady and high-speed under storm conditions. The ship will be connected with the system on the sea bottom. The ship introduced was submitted under strict observation of contractual terms - this fact, as well as the quality of the work performed, were highly praised by the customer. Ulstein company immediately placed one more order for ship hull construction to the shipbuilding yard.

Holding Company "AvtoKRAZ" made its own gift to "Zaliv". General Director of Holding Company Mr. S. Sazonov presented the keys of the new dump truck KrAZ-65055 to "Zaliv" employees. The truck was driven from Kremenchug to Kerch under its own power.



### JUBILEE

## "AVTOKRAZ" RESTORES LEGENDARY "KATYUSHA"

On the eve of Victory Day celebration the general management of "AvtoKRAZ" Holding Company was addressed by the governor of Poltava regional state administration with a request to render assistance in renovation of the monument to the Soviet military vehicle "Katyusha" in Dikanka village.

The monument represents a pedestal where the legendary weapon of the Great Patriotic War - the rocket launcher BM-13- is mounted. It was built in 1973 in honour of the first shot of "Katyusha" at the South-west front in September 1941. In 36 years the military vehicle has got out of order almost completely.

In the middle of April the rocket launcher was delivered to the Kremenchug automobile plant. In the shortest possible time a range of renovation works was carried out by experts of the automobile plant experimental shop. The military vehicle-monument underwent complete restoration of the cabin and body parts: fenders, bonnet panels, bonnet, radiator case. A new armoured protection was installed on the truck cabin. Tires and discs were completely replaced, transmission was restored. Base coating and painting of the vehicle were carried out.

On the 7th of May the renewed "Katyusha" took its place on the pedestal in Dikanka village. And on the 9th of May on Victory Day a brand-new, as if just having rolled off the assembly line, military artillery vehicle BM-13 was greeted with honours by the veterans of the Great Patriotic War their eyes filled with tears.



### RENOVATION

## HC "AVTOKRAZ" GENERAL DIRECTOR IS AMONG THE LEADERS OF THE FIELD

At the end of 2008 the rating magazine "GVardiya" together with the Expert Council of the edition introduced the best and the most successful top-managers - "The Guard of Management-2008".

General Director of Holding Company "AvtoKRAZ" Mr. Sergey Sazonov occupies the second of the nine positions in the rating "The most successful management in the automobile industry of Ukraine". Position number six in the branch rating is taken by Mr. Roman Cherniak, General Director of Poltava Auto Aggregate Plant (a part of the Holding).

In the general rating of the most successful management of Ukraine General Director of HC "AvtoKRAZ" is in the 74th position among 250 nominees.

The rating was founded on the systematic integrated approach taking into account management efficiency, competitiveness and production quality, sociability, level of social responsibility and goodwill.

### RATINGS





# KRAZ – THE BASE MILITARY FORCE

Holding Company “AvtoKRAZ” was visited by Chief of the General Staff - Commander-in-Chief of Ukraine, General of the Army Mr. Sergey Kirichenko with the group of the Ukrainian army generals: Land Forces Commander of the Armed Forces of Ukraine, general-colonel Mr. Ivan Svida, Supporting Forces Commander of the Armed Forces of Ukraine, general-lieutenant Mr. Stanislav Tregubenko, Head of the Central Automobile Armament Command of the Logistics Directorate General of the Armed Forces of Ukraine Supporting Forces Command, colonel Mr. Nikolay Mrachko.

The visit of the Armed Forces Executives was dedicated to implementation of the program to re-equip the Ukrainian army with domestic vehicles of KRAZ trade mark.

Mr. Sergey Kirichenko expressed a high opinion of the domestic vehicle KRAZ. In particular he ob-

served, “We were given an excellent opportunity to look at the accomplishments of Ukrainian manufacture - high level manufacture which can be envied by many developed countries of the world.

The Armed Forces of Ukraine are in the process of restructuring in order to indemnify the sovereignty and independence of Ukraine, and re-equipping with new technique is a substantial part of it. We mean new airplanes, new systems of radar support, new artillery mounts and missile launchers, updated communication and control systems. All these branches require a base vehicle that is capable to run the assigned mission. I am sure Ukraine has an excellent opportunity to supply the army with a good national KRAZ vehicle. Today we have seen it ourselves. Last year budgetary stringency prevented us from buying an ample quantity of vehicles, but next year we are going to enlarge figure 50 by





# THE VEHICLE OF THE ARMY OF UKRAINE



Mr. Sergey Kirichenko (the third from the left) and Mr. Sergey Sazonov near the army truck KrAZ-6322 "Soldat".

*In 2008 HC "AvtoKrAZ" supplied the Ministry of Defence of Ukraine with 103 KrAZ vehicles: 87 all-wheel drive vehicles KrAZ-6322 "Soldat" and 16 dump trucks KrAZ-6510.*

scores of time, and government order plan for 2009 envisages more than 1000 KrAZ vehicles. But even this figure is not final on the assumption of the fact that Ukraine is capable of manufacturing vehicles that would ensure combat effectiveness of the Armed Forces. I think the next year order for 1000 vehicles is only the beginning of orders that will be placed by the Armed Forces to "AvtoKrAZ". We are very pleased that the expectations of the General Staff concerning Holding Company and KrAZ vehicles for development of the automotive part of the national army weaponry have been more than justified".



Inspection of the automobile plant press-room.



The Armed Forces of Ukraine management on the platform of the demonstration-testing area



# KRAZ VEHICLES – EMERGENCY FIGHTERS

Fires, floods, earthquakes, methane explosions in mines and other emergencies accompany, unfortunately, the man's progress and are nature reactions to it.

The most efficient way to eliminate emergency situations consequences is to apply special-purpose vehicles and equipment. Among the equipment intended to bring down emergency Kremenchug vehicles are employed as well. For more than half a century the Kremenchug automobile plant has been manufacturing special-purpose fire-fighting vehicles. Over recent years the purpose of this type of KrAZ vehicles and their technical capabilities have considerably enlarged. These are fire tank trucks AC-40 based on chassis KrAZ-5233H2 (4x2), KrAZ-5233HE (4x2), AC-60 based on chassis KrAZ-65053 (6x4), airfield fire fighting truck AK-60 based on chassis KrAZ-63221 (6x6), vehicle of combined extinguishing AKT-2/5 based



Pyrotechnic vehicle KrAZ-5233BE during maneuvers of the Ministry of Emergency Situations "Dnestr-2009" in Chernovtsy region



Special-purpose vehicle KrAZ-63221 (6x6) during mine clearing maneuvers. Kiev, 2009.



A new fire-fighting truck AC-60 based on chassis KrAZ-65053. 2009



KrAZ-63221 vehicle with equipment for combined fire extinguishing during emergency drill of the Ministry of Emergency Situations in Poltava region. 2008

on chassis KrAZ-63221 (6x6), pyrotechnic vehicles KrAZ-5233BE and KrAZ-63221 etc.

Carrying a variety of search-and-rescue systems KrAZ vehicles are beyond comparison. High qualities of fire special-purpose machinery based on KrAZ chassis were demonstrated during maneuvers of the Ministry of Emergency Situations in 2008 that were held in Poltava region and in Chernovtsy region during maneuvers "Dnestr-2009".

Application of different special-purpose KrAZ vehicles during flood containment. Emergency drill of the Ministry of Emergency Situations "Dnestr-2009".



WE REPRESENT:

## GORNIAK KRAZ C18.0 DUMP TRUCK

MORE POWERFUL, RELIABLE AND STRONG

Holding Company "AvtoKRAZ" completes testing and brings to the market of heavy equipment a new dump truck KrAZ C18.0 "Gorniak".





Vladislav Kalashnik  
Deputy Chief Designer,  
HC "AvtoKRAZ"

Dump truck **KrAZ C18.0 GORNIAK** is a thorough upgrading of **KrAZ-65055**. Its major is to work in open pits.

Almost all systems and units of the base dump truck have been improved; they differ noticeably from the serial vehicle by their high parameters. The vehicle has a new "heart" - bet-

ter said - three hearts, each of which can be chosen by a buyer of the vehicle:

- Power unit YAMZ-658 Euro 3 that is comprised of a new clutch YAMZ-184-15 and a gear box YAMZ-2391 with gear ratios 12,24 that provides for high towing-dynamic characteristics at vehicle operation in difficult pit-run conditions;
- Engine Cummins ISLe 375 30 (Euro 3) with clutch MFZ 430 and gear box 9JS150TA-B;
- Engine YAMZ-238DE2 (for those countries where Euro 2 emission standard is applicable) with gear box YAMZ-238 or, as an option, Cummins L 360 20 with gear box 9JS150TA-B.

The following units and systems of the vehicle were subjected to the most considerable changes in design:

- Brake chambers of bigger standard size - "type 30" (instead of "type 24") - were installed in the brake system, pneumatic components manufactured by Knorr-Bremse company, fittings by Camozzi company;
- A new rear balancing suspension with increased reliability and payload was installed;
- Reinforced cardan drive was applied in transmission, a new cardan shaft intermediate bearing by type of **KrAZ-7140H6** was installed, material of the interaxle differential carrier was changed, the differential fixed by pins is applied to increase reliability of this unit and axles on the whole;
- A new platform of 12m<sup>3</sup> capacity has a prolonged shield that protects the roof from falling loose and bulk loads on it; the design of platform rear boosters was changed and rear side locking was updated.

A new steering mechanism of integral type enabled to reduce the steering wheel effort from 12 kg to 8 kg. The driver's seat manufactured by Pilot company mounted in the cab facilitated to decrease the driver's fatigue at work.

Prior to enter the market the upgraded dump truck passed the testing in actual operating conditions at Poltava mining and concentration complex.

Even now as judged from the prototype testing results **GORNIAK** dump truck will be in demand. Design engineers of the plant and operators were pleased with testing results. Their conclusion is simple: the improved version of **KrAZ C18.0 GORNIAK** has succeeded and has good prospects both in the internal and external markets.

*Reference: Starting from 2009 Holding Company "AvtoKRAZ" has introduced a new system of KrAZ vehicles identification. It is less detailed than the old one introduced in 1996, but more informative in content.*

## C 18.0EX

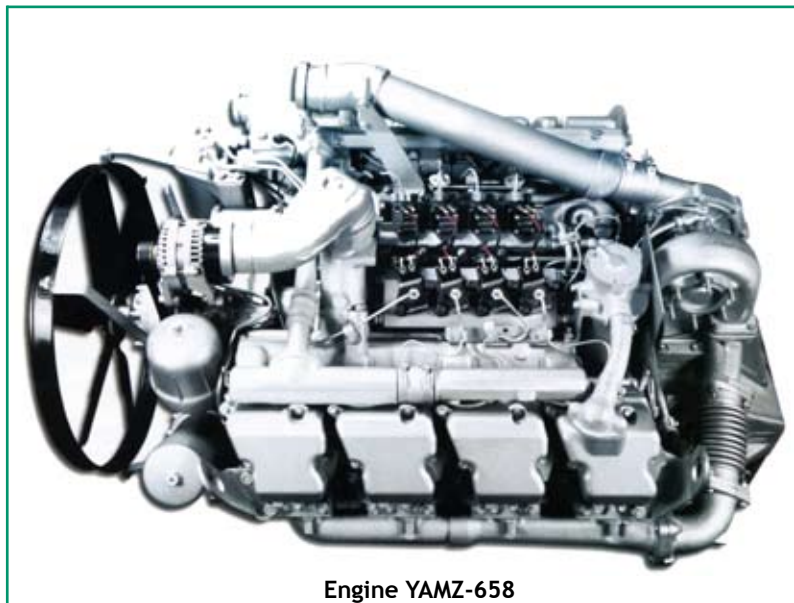
all-wheel drive  
(if the symbol is absent -  
vehicle is not all-wheel drive)

single-type wheels  
(if the symbol is absent -  
vehicle has double-type wheels)

version

payload in tons

vehicle type



Engine YAMZ-658



A test driver of the research-and-development shop Mr. Aleksandr Masliy, the one who tested the vehicle, makes the following judgement about the new truck, “The new dump truck has been working equally with other equipment including the imported one. Payload of the new vehicle is higher than of the serial one.

The vehicle is easy in control, more efficient and economical, durable and reliable than its foreign analogues, in particular than vehicles produced in China which underwent comparative tests with the new dump truck. Gorniak is an excellent truck. I am sure this vehicle has a good future”.

Loading on KrAZ C18.0 dump truck by means of an excavator with 5m<sup>3</sup> bucket capacity. Poltava mining and concentration complex, 2009.







# KRAZ-65053 SCRAP METAL CARRIER: ALL-PURPOSE VEHICLE



Scrap metal carrier truck on chassis  
KrAZ-65053

Holding Company “AvtoKrAZ” carries out a huge work to extend the usage of KrAZ vehicles chassis for new types of modern superstructures. One of the recent designs is scrap metal carrier truck based on chassis **KrAZ-65053**. The truck has 6x4 wheel arrangement. It is equipped with powerful turbocharged engine **YAMZ-238-DE3** (330 h.p.).

This special-purpose vehicle was designed in cooperation with the company “Velmarsh-Ukraine” (Kharkov).

There is a high demand in a reliable vehicle capable of loading, dumping and carrying of scrap metal. Such trucks are imposed special requirements. A new scrap metal carrier is one of few trucks that meets them completely.

Scrap metal carrier truck possesses a number of important advantages over other samples of similar vehicles. In the first place it is equipped with reinforced dump bunker made of high-quality alloyed steel. Manipulator has 6-spade clamp hook. Dump bunker of 30 m<sup>3</sup> capacity has rear dumping. The truck body is

mounted on a solid foundation and has an increased quantity of stiffening bars. The body floor is made of 6 mm thickness sheet metal being 2 mm more than in the most other vehicles. The body foundation has stabilizers that prevent it from torsion and bending, as well as brackets preventing from lateral and longitudinal shifting relative to the frame.

The rear side is made in the form of swinging gates that open to 270° and can be fixed in the open position to the body sides with the help of chains. Gate hooks are located opposite to each other to prevent them from breaking. The lock of the scrap metal carrier gates connects and fixes at the top both shutters, and can protect from accidental opening.

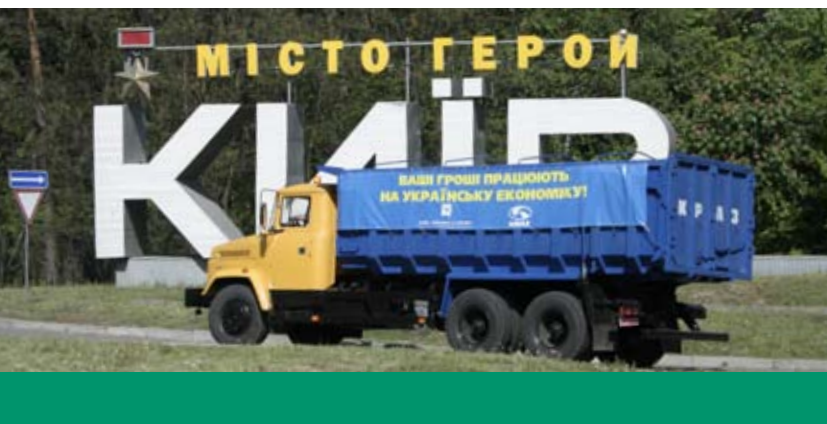
The truck is capable to transport about 16.5 t of scrap metal. Scrap metal carrier can be operated with a trailer.

Under the customer’s demand the equipment can be mounted on chassis **KrAZ-63221** with 6x6 wheel arrangement.

# «AVTOKRAZ» AND «FINANCE AND CREDIT» BANK STRIKE BACK AGAINST THE CRISIS



If you can not cope with the crisis with economic methods, let a motor rally to do it. Such an unusual strategy have been chosen by the bank “Finance and Credit” bank and “AvtoKrAZ” Holding Company and on May 16, 2009 they organized an anti crisis motor rally involving the most strikingly looking domestic heavy duty trucks.



The auto show symbolically named “Finance and Credit” bank and HC AvtoKrAZ - motor rally against crisis” united under its banner 10 modifications of the powerful KrAZ trucks. They passed through Kiev via Kharkovskaya Square - Leningradskaya Square - Moskovsky Prospect - Naberejnyoe Shosse - Lesya Ukrainka Boulevard - Victory Square.

Then a briefing was held with the participation of Yaroslav Bondarenko, HC AvtoKrAZ Prime Deputy General Director- Economics and Finance Director and Vladimir Khlyvniuk, Chairman of the Board of “Finance and Credit” bank.

Yaroslav Bondarenko told newspapermen about the KrAZ models presented at the rally, he said: “I feel confident of this event effectiveness, as you may know, our people are not taken by fine words, and for them it is much more important to see how their savings work. Cooperation between “Finance and Credit” bank and HC AvtoKrAZ is strategic partnership which has been lasting 10 years. It has always been fruitful and still keeps on maintaining domestic economy.

Vladimir Khlyvniuk, Chairman of the Board, said that the aim of this event was to draw attention of the Ukrainians to the main challenges facing our economy: absence of well-coordinated actions and financial instability. On the other hand, we tried to demonstrate advantage of well-coordinated cooperation and its beneficial effect on the domestic economy.

“Finance and Credit” bank launched “Domestic producer support program”. UAH 300 million was reserved for entrepreneurs who wish to buy any KrAZ truck under this program.





# «KRAZY-CROCODILE» – IS THE CHAMPION!



Cup for the most creative styling

A first stage of styling and auto sound competition “EMMA 2009” took place on April 25-26, 2009 in Kharkov’ sports palace to the delight of all auto sound, styling, speed maneuvering, extreme biking and beautiful vehicles fans.

“AvtoKRAZ” Holding Company took part in this competition and presented show-truck Krazy-Crocodile - customized KRAZ-255B truck. Krazy took part in such kind of competitions for the first time, but the first step was not troublesome.

Among around 90 automotive vehicles presented at the competition in Kharkov, Krazy was in the focus of attention. This truck made itself singular due to its unusual look.

Crowds of visitors surrounded the truck taking pictures and video shooting near Krazy. In one voice they said that it was the best exhibit and it was confirmed later after summing up. Krazy-Crocodile has received the first prize for “Super styling” and the prize for the most creative styling.



# KRAZ C.20.0 - NEW CA



**The KrAZ C.20.0 truck is a firstborn of the fifth family of the Kremenchug vehicles. An original design of a new dump truck has been created by the specialists of the Chief Designer Office of the Kremenchug automobile plant.**

The main difference between the new truck and series-produced one is in the cab design. It is a cab-over truck. Notwithstanding that a bonnet is absent, the vehicle is easily recognizable as KrAZ truck due to a radiator guard which remained unchanged.

The cab is of frame and panel type, which results in great reduction in lead-time and pre production costs. Plastic panels allow for quick changing of the cab interior. 5 types of cab were developed: a cab without sleeping berth, two low cabs with semi-single and single sleeping berths, and two high cabs with semi-single sleeping berth and double sleeping berth.

The designers have devoted great care to ergonomics of driver's place while developing

the cab. A new dash panel, a height-adjustable steering column and comfortable controls make driving much easier. An air-conditioning unit, effective ventilation system and side window blowers ensure high level of comfort, enhance visibility via rear-view mirrors and prevent misting.

The cab insulated with modern sound-proofing materials, springs and four hydraulic shock absorbers decrease in-cab noise level and load vibration.

Powering the KrAZ C.20.0 truck is the YaMZ-engine 6501 (one of a new family of Yaroslavl motor plant engines) rated at 360 HP and meeting Euro 3 emission standards.

Front suspension is provided with lengthened springs, which are 100 mm longer than in



# AB-OVER DUMP TRUCK

standard ones and allows for greater payload up to 8 tons. Designers also created the new rear centerpoint suspension with increased carrying capacity, the weight of it is 70 kg less than earlier.

A semicircular dump body, known for its durability, was designed with due account for cutting-edge design solutions.



The KrAZ C20.0 dump truck cab interior

## The KrAZ C20.0 dump truck specifications

Wheel arrangement	6x4
Curb weight, kg	13200
through front axle, kg	5800
through rear boggy, kg	7400
Truck full mass, kg	33200
through front axle, kg	8000
through rear boggy, kg	25200
Load-carrying capacity, kg	20000
Engine	YaMZ-6501.10
Emission standard	Euro 3
Power, hp	362
Single disc clutch	MFZ 430
Transmission	9JS200TA
Final ratio	6,154
Tires	315/80R22,5
Fuel tank, l	1x250
Dump body volume, m <sup>3</sup>	14
Maximum speed, km/h	80
Maximum negotiable slope, not less than	% 30
Turning radius between walls, m	8,7

First appearance of the new KrAZ C20.0 dump truck at the Motor-Show "KrAZ-2009".  
June 28, 2009



# TERMINATION OF “BREAKTHROUGH” PROJECT

Maxim Shelepenkov,  
photo by author and  
Aleksandr Govorukha

I am especially pleased to have made little but valuable contribution to saving a unique KrAZ-736316 truck otherwise known as “Siberia”. Today this truck, the gem of the plant collection of old-timers, is in no danger but there were other times in the past.

## A GLIMPSE OF HISTORY

In the mid 1970s the USSR’s military circles matured an idea to replace a part of tracked automotive vehicles with wheeled ones. Such a step would ensure 3-4 times cost reduction while also preserving main specifications all in one.

This task was committed to the two automobile plants of the Ministry of Automotive Industry. Kamsky automobile plant worked at creation of all-wheel-drive vehicles with payload of 6-10 t within the frameworks of the “Mustang” project, while Kremenchug plant was charged to develop 6x6,

8x8, 10x10 all-wheel-drive trucks with payload of 10-18 t under the “Breakthrough” project.

There was no problem with 6x6 trucks, as such a vehicle was at the plant; it needed only some reworking to meet additional requirements. A 10x10 version could be built on basis of the KrAZ-260 road train in combination with a truck tractor and a semitrailer

with the driving bogie. The greatest challenges were 8x8 trucks, as they were to be created from the start.

A great deal of various 8x8 trucks was made under the “Breakthrough” project. Among them there were articulated frame trucks as on the “Kirovets” farm tractor. Eventually, more usual cab over truck with front steering axles has been chosen. The military men accepted this decision, too.

Preliminary tests of the trucks under the “Breakthrough” project were completed in December, 1987, but before their completion (in November) a customer - Ministry of Defense of the USSR - had made a decision to hold state (acceptance) tests. However, there was just one big hitch. The plant was imposed to present 8x8 engine-behind-cab trucks for the tests while preceding tests were passed by the vehicles with quite differently designed cab.



“BREAKTHROUGH” project provided for creation of several 6x6 trucks:

- the KrAZ6315 drop side truck, payload 10 t;
  - the KrAZ-63151 drop side truck, payload 12 t;
  - the KrAZ-6440 fifth-wheel tractor, bolster load 12 t;
- and 8x8 trucks:

- the KrAZ-6316 drop side truck, payload 15 t;
- the KrAZ-63161 drop side truck, payload 16 t.

The last of a family was the KrAZ-6010 tractor-semitrailer combination, carrying capacity 18 t. The combination was composed of the KrAZ-64401 fifth-wheel tractor, engine output through transfer box to the KrAZ-9485 semitrailer equipped with same axles and bogie as the tractor.



The Kremenchug auto makers had to build quickly a new engine-behind-cab truck; it's a good thing that several exploratory works were performed at the plant. Thus, in a short space of time, the KrAZ-636316 truck (63 symbols before the main code stand for 6th range of prototypes) came into the world.

In whole the new 8x8 trucks passed acceptance tests, though some defects in the cab and engine systems were found. No wonder, it was nonsense to present for acceptance tests incompletely engineered truck with a new cab and layout, wasn't it?

The new originally-designed three-seat cab of the KrAZ-636316 truck could be provided with hinged armored plates. On the prototypes they were replaced with 6-mm aluminum plates. This imitation was necessary to integrate into the cab design attachment points of true armored plates to meet revised requirements. To hide it away from curious eyes, there was an inscription Siberia-Turbo in front of the cab.

After the completion of the acceptance tests in December, 1988, by a decision of Head Automobile Department of the USSR's MoD, all prototypes - the KrAZ-6315, the KrAZ-6316 and the KrAZ-6010 - were dispatched to the Research and Development Establishment-21, Bronnitsy. Only two trucks were left at the plant - the KrAZ-6363161 (8x8) and the KrAZ-6363151 due



The KrAZ-636316 truck towing the KrAZ-5363151 drop side truck



The KrAZ-636316 truck with hinged armor plates imitating



Siberia towing semitrailer across country

to necessity to check conformity of designers' solutions to the new truck design requirements of the MoD on location. A new prototype, the "Siberia" KrAZ- KrAZ-7363161 truck was built in 1989 on basis of the KrAZ-636316 truck. It differed from its earlier version in unusual horizontal engine cooler offering twice cooling area than the cooler at the KrAZ-6363161 truck.



We mentioned in an article (published in the 4th issue, 2007, Grusovik-Press) about the Museum of military automotive vehicles, Riasan', that among other exhibits there was the only extant KrAZ-636316 truck. It was transferred to the museum by the Research institute-21, Bronnitsy, after the tests. It stands to reason that it had not been brought to a level of the 7th range. No wonder that Kremenchug and Riasan's trucks differ from each other in some details: in addition to the engine cooler location, Riasan's truck has armored windscreen imitation but has no door shields, whilst Kremenchug truck has armored plates on the doors but non-armored windscreen.





### SPECIFICATIONS THE 8X8 KRAZ-636316 TRUCK

Kerb weight, kg	15700
Trailer weight, kg	15000
Engine power, h.p.	450
Payload, kg	15000
Maximum speed, km/h	85
Fuel consumption, l/100km	45
Fuel distance, km	1000
Fording depth, m	1,6
Clearance, mm	370

new director, Sergey Sazonov came to the plant, not indifferent to the enterprise and the KrAZ trucks particularly. An earlier KrAZ-214 model, 1960, was found at the plant thanks to his efforts. It had been well renewed till 2003. Many, not only plant employees, welcomed unusual initiative of their director. Pressmen of specialized magazines,

To improve durability and reliability of a cooler core it was divided in 5 sections which could be replaced irrespective of the others. Upon completion of the tests the plant was proposed to eliminate defects on Siberia and present improved truck in December, 1989. However, in November, in the same year, the Ministry of Defense approved a new

program including more severe requirements. In fact, the plant had to start again, but, while the Ministry of Automobile Industry and the Ministry of Defense were preparing ways to proceed with the project, 1991 year came, the USSR collapsed... and the project was abandoned.

#### SINK INTO OBLIVION

Once the tests were completed the KrAZ-6363161 truck set near the fence of a development shop side by side with the KrAZ-63151 (420 hp engine). In the making of market relations the trucks vanished from a parking by themselves. That was a time of big troubles: production volume decreased, funding went down, and our sole goal was to survive! Nobody cared very much where the vehicles disappeared.

If it was not for some events Siberia would disappear without a trace. Due to change of owner, in 2002, a



Acceptance of the restored truck by S.Sazonov, General Director







Cab interior



The KrAZ-736316 truck platform



The KrAZ-7363161 truck restored in the research shop at the Kremenchug plant

lavish in praise, did not stand back and returned lead. Encouraged, the KrAZ workers get inspired to restoring old-timers.

Just at that moment I came to Kremenchug to test a standard dump truck which was to be carried out in a nearby open pit. We were ready to start, but a driver, my companion, knew outskirts as bad as me, passer-through pressman from Moscow. Far and by, after we unloaded at dumping ground, we simply get lost our way back. Straying on earth roads we ran into a collection of old

vehicles, in the very middle of it was Siberia. Amazed by what we've seen we hurried to return and tell about it as soon as possible. The first words were: "It's impossible because it's impossible in principle. It's not Siberia. You are dreaming, guys! However, the trip with the participation of the Chief Designer was arranged.

Further events developed in my absence and according eyewitness accounts looked like a true detective story. It was not so easy to return the truck, though it was a few steps

away from the plant. It took almost a year. New owners were reluctant to give it back, notwithstanding that formally the vehicle was plant's property!

They even have attempted to hide the KrAZ-7363161 truck and towed it to Kiev in secret. To solve this problem state force structures were involved in showdown, moreover, the plant had to assert itself.

#### REBIRTH

In the long run the truck was returned to the plant, but in very poor state, far from being ideal. Nevertheless, in whole main units were complete and under certain conditions the truck was quite reparable.

During 10-years forced outage a starter and turbo compressor were stolen from it, exhaust system rusted throughout, it had to be renewed.

At the same time many lubricated units were not damaged, they only needed some washing, lubricating and adjusting.

The major problem was originally-designed second steering axle of through-pass type. The problem was much accentuated by the lack of design documentation. All dust caps, sealing and other rubber parts were renewed as well as a new canvas cover for a platform. Photos speak louder than words about this tremendous restoring work.



Restored Siberia

# KRAZOVSKIE BYVAL'SCHINY

## HOW A BULL TESTED THE KRAZ TRUCK FOR RELIABILITY



A frame of the KrAZ dump trucks happened to be tested for durability in a very unusual way. An issue of the Izvestia, 1967, wrote: "A furious bull has laid a man flat. He poked him with horns, hoofed. The life of S.Datsko, worker of "Druzhba" collective farm, Odessa region, was in danger. Just at that moment

S.Pivtorak was driving his KrAZ along. He summed up a situation at a glance and directed the truck into the bull. The animal did not have a fear. Then the driver hustled him aside with a bumper. Unconscious man was now in safe keeping.

The KrAZ-222 dump truck has staved more dramatic incident near Gorniaty, a small settlement in Vorkuta region.

The Pravda, № 102, April 11, 1968, wrote: "A passenger-carrying coach was climbing up steep slope near the village of the mine No. 40, when, suddenly, brakes and engine failed to operate. The coach rolled down.

Felix Tuayev, a driver of auto transport enterprise at "Pechorashakhtstroy" integrated works, driving

behind, sized up a situation at a glance. The fearless driver decided to prevent accident and received the blow of the coach ripping down on the bumper of the truck".

Thus, truck reliability and driver's courage saved lives of 60 passengers.

## FAILURE, FROST AND BIBULOUS NOSE

An inspection team has inserted a rather amusing remark in the acceptance test report for the KrAZ-650601 truck. This remark concerned a new two-circuit brake system: "At a temperature of 30-25°C water separator, pressure regulator, safety and back valves, brake valve fail to operate". The fun about this remark was that to prevent this failure in brake system the KrAZ designers provided it with a commercial alcohol-powered anti-freezing device. The inspection team did not want to examine why it failed on Baikalo-Amurskaya Magistral but perfectly worked in other northern

regions. The connection between failure, frost and bibulous nose remained unclear.





# BYELORUSSIAN ADMIRER OF KRAZ TRUCKS

Among the KrAZ trucks' admirers there are people of different professions and nationalities. Dmitry Bobkov, locomotive engineer, Osipovichi locomotive shop, Byelorussia, is just one of them. On the occasion of the anniversary of the first KrAZ truck, the 10th of April, he brought a present.

Byelorussian craftsman said about his hobby:

"From earliest infancy I was interested in automotive vehicles, notably in the most impressive ones, such as KrAZ.

When I was a three-year boy, KrAZ truck caught my fancy with its efficient and harmonious design solution: nothing redundant, nothing in excess, no bells and whistles. Since KrAZ is a symbol of power and technical practicality for me. Needless to say that in the USSR it was the most reliable and powerful truck for the general use roads. KrAZ - is pathfinder in all large jobs, including BAM, Bratsk and Ust'-Ilim water power plants, KamAZ plant. They were engaged in removing dredged soil from pilot cuts and open-pit benches in quarries like in Ekibastuz, before special automotive equipment, pulling equipment and BelAZ trucks were delivered there. KrAZ has been always bearing the weight of hard job.

I was eager to make KrAZ scale model associating with the age of shock-work constructions and labor achievements. I have chosen the legendary KrAZ-256Б dump truck. Luckily, the drawings of aban-

doned trucks not only remained intact in archives but also are used to restore original prototypes for the museum of the KrAZ trucks. This model was built in 1:16 scale.

I used only easy to get materials - cardboard, paper, wire of different diameters, celluloid, PVA glue, aerosol paints. In spite of delicate workmanship my tools were: a ruler, a pencil, a knife, an awl, a file, sand paper, setsquare, sliding calipers, a pair of compasses, a hammer, brushes.

I worked between trips often nightly, because of the crisis which swept through the country I had more time on my hands - every cloud has its silver lining. It took 320 hours of work from November, 2008, till March, 2009 to make this model. To meet the deadline (I planned to take my regular leave in March) I stood over all my plans.

It's very good that KrAZ has been preserving its "face" since long time; thereby it stands out among all sorts of trucks.

On the occasion of fiftieth anniversary I would like to wish every success and prosperity to the Kremenchug plant and its team, to stay up against all the odds."



## КрАЗ-256Б





**KRAZ IS THE KEY TO YOUR SUCCESS!**



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