



**NIPIGORMASH**



## MIXING-CHARGING TRUCKS

ENGINEERING ▶ MANUFACTURING ▶ MAINTENANCE SERVICE



## ABOUT COMPANY

NIPIGORMASH has a long history in providing equipment and skilled services to the mining industry. With its head office in Yekaterinburg, Russia, NIPIGORMASH was established in 1958 and has over the years become one of the Russian's leading mining equipment manufacturers. We design and build high quality and competitively priced equipment to the explosive sectors. The extensive range of products includes Mixing-Charging Trucks (MCT), loading and hauling equipment, drill rigs, track repair equipment, railway construction & maintenance machines, main mine ventilation fans & booster fans, raise climbers and Modular Portable Emulsion Plants MMTL.

Our design/engineering department can assist the customer with planning of equipment, best fitted to their needs. The product is manufactured in our own factory. Experienced field service provides technical support and pre-commissioning activities.



## NIPIGORMASH FIELD SERVICE



OUR SERVICE TEAM IS A SELECT GROUP OF HIGHLY EXPERIENCED INDUSTRY PROFESSIONAL TECHNICIANS SKILLED TO PROVIDE MAINTENANCE AND REPAIR SERVICES FOR\*:

- MIXING-CHARGING TRUCKS (MCT)
- MAIN MINE VENTILATION FANS & BOOSTER FANS
- RAISE CLIMBERS



### EQUIPMENT REPAIR

Request can be completed for **a single repair** as well as for **a full range** of services - 6 months or a year.

\* NIPIGORMASH mining equipment only

The Equipment Repair Request form should be completed and submitted to NIPIGORMASH service department by **fax number +7 (343) 256-87-49** or by **e-mail [servis@npgm.ru](mailto:servis@npgm.ru)**. You can also **phone by +7(343) 256-87-55** and get expert advice about technology and equipment.

Download Equipment Repair Request Form on our web-site **[www.npgm.ru](http://www.npgm.ru)**





## OUR CUSTOMERS:

- UGMK
- EVRAZ
- POLYMETAL INTERNATIONAL PLC
- POLYUS GOLD
- THE GOLD MINING COMPANY UGK
- ALROSA
- NORDGOLD
- SUEK
- BOGATYR KOMYR
- SSGPO



## KEY BENEFITS:

- **55 YEARS**  
experience in design, manufacturing and commissioning of mining equipment.
- **EXPERIENCED FIELD SERVICE TEAM**  
(mechanics, hydraulic, electrical engineering, electronics).
- **MODERN EQUIPMENT**  
for diagnostics and repair.
- **WAREHOUSE FOR SPARES**  
is available.

## CONTRACTED WORKS

We offer a full range of drilling and blasting services on own production equipment.

## OPTIONS FOR MCU'S EQUIPAGE



### STANDARD CONFIGURATIONS INCLUDE:

- Manufacturing of various formulations **WITHOUT PRE-CALIBRATION.**
- A closed loop hydraulic **CONTROL SYSTEM.**
- **RECORDING OF AN ARCHIVED DATA** on a **FLASH-DRIVE** (open-cut number, block number, mass of charge, amount of product in individual holes as well as specific formulation).
- Regulating of discharging capacity.



### ADDITIONAL OPTIONS:

- **Air-conditioning system** – providing the driver with a comfortable working environment.





### FOR ATTACHED IMPLEMENTS:

- **LORRY-MOUNTED CRANE** for self-loading of big bags with Ammonium Nitrate.
- **SWEEP DISCHARGE AUGER.**  
An overhead or side-mounted auger can easily be attached to a vehicle and moved around your site as required giving you more flexibility than stationary models.
- **ADDITIONAL BINS WITH A PROPORTIONING SYSTEM –**  
for manufacture of prilled explosives with additional components. (aluminium dust, carbon powder, etc.).
- **OUT-CAB REMOTE CONTROL** installed near a cross feeder or a hose reel.
- **ADDITIONAL REMOTE CONTROL** (wire/wireless).
- **«REMOTE ACCESS» SYSTEM.**  
This additional option allows users to correct, update and repair disabled software.









# ANFO TRUCKS

**WE CAN CHANGE SPECIFICATIONS AND CAPACITIES  
TO SUIT YOUR REQUIREMENTS. YOU CAN SPECIFY:**

- Explosive type
- Chassis type – Scania, Volvo, Iveco or Kamaz
- Load capacity – from 8 to 25 tonnes
- Additional options: a lorry-mounted crane, an overhead or side-mounted sweep discharge auger and others.

## MIXING-CHARGING TRUCKS OF MZ-3B SERIES



**MZ-3B-15**

MZ-3B-15 is intended to transport non-explosive components (ANFO) manufacture explosives from these components; charge holes with ready-made explosives (as well as charge cartridges into plastic sleeves) at open pit mines.

- ▶ **Type of explosive:**  
granulites
- ▶ **Load carrying capacity (explosive):**  
15 t
- ▶ **Discharge rate:**  
150–500 kg/min
- ▶ **Charging hole diameter recommended:**  
130–350 mm



**MZ-3B-15E**

MZ-3B-15E is intended to transport explosive components and charge holes with «Granulite-E», «Granulite-EM», which are manufactured during hole charging process at open pit mines.

«Granulite-E», -EM» is a mechanical mixture of Ammonium Nitrate and water-in-oil emulsion.

- ▶ **Type of explosive:**  
«Granulite-E»,  
«Granulite-EM»
- ▶ **Load carrying capacity (explosive):**  
15 t
- ▶ **Maximum load capacity:**  
500 kg/min
- ▶ **Charging hole diameter recommended:**  
at least 160 mm





- ▶ **Type of explosive:**  
ANFO (dynamons, igdanits)
- ▶ **Load carrying capacity (explosive):**  
12 t
- ▶ **Discharge rate:**  
igdanits 200–500 kg/min  
dynamons 150–300 kg/min

### MZ-3B-12S

MZ-3B-12S is intended to manufacture explosives (ANFO), consisting of a mixture of Ammonium Nitrate (oxidant) with liquid fuels (oil products) or powdered (brown coal powder).

Bulk fuel additives prevent oil products from flowing down a column of charge. The key benefit of this truck is the use of smooth prilled AN (often used as a fertilizer), which allows reducing the cost of explosives.



### Popular modifications

**MZ-3B-15-KM**  
with a lorry-mounted crane  
on the basis of Scania



**MZ-3B-12-KM**  
with a lorry-mounted crane  
on the basis of Iveco



The full range of MCT is available  
on the website [www.npgm.ru](http://www.npgm.ru)

## MIXING-CHARGING TRUCKS OF MSZ SERIES



**MSZ-15-NP-K**  
with a side-mounted sweep auger



- ▶ **Type of explosive:**  
granulites
- ▶ **Load carrying capacity (explosive):**  
15 t
- ▶ **Discharge rate:**  
100-250 kg/min
- ▶ **Charging hole diameter recommended:**  
at least 105 mm

This truck is equipped with a truck loader crane for loading of big bags with Ammonium Nitrate (not heavier than 1 t). A side-mounted sweep auger rotates 215 degrees, charging several holes while the MCT is in a stationary position.



Popular modification

**MSZ-15-NP-K**  
mounted on the Volvo FMX  
6×6



### **MSZ-12-VP-K with an overhead sweep auger**

The truck is equipped with a truck loader crane and an overhead sweep auger with a potential of 330 degrees rotation. This guarantees several holes charging while the MCT is in a stationary position.

One of the main advantages of this MCT type is a modern control system. The remote control allows the operator to keep track of all products delivered to a mine site, control charging process outside the cab and operate a sweep auger. The system keeps the operator informed of the percent of each ingredient as well as the total amount of product.

- ▶ **Type of explosive:**  
ANFO
- ▶ **Load carrying capacity (explosive):**  
12 t
- ▶ **Discharge rate:**  
250kg/min
- ▶ **Charging hole diameter recommended:**  
at least 110 mm



The full range of MCT is available  
on the website [www.npgm.ru](http://www.npgm.ru)







# BLEND/PUMP TRUCKS

**WE CAN CHANGE SPECIFICATIONS AND CAPACITIES  
TO SUIT YOUR REQUIREMENTS. YOU CAN SPECIFY:**

- Explosive type
- Chassis type – Scania, Volvo, Iveco or Kamaz
- Load capacity – from 8 to 25 t
- Additional options: a lorry-mounted crane, an overhead or side-mounted sweep discharge auger.



## MIXING-CHARGING TRUCKS OF MZU AND MZV SERIES



### MZU-14

MZU-14 is designed to transfer emulsion explosive components such as emulsion, Ammonium Nitrate, gas-generating agents, oil products. It is also intended to manufacture emulsion explosives during wet and dry hole loading process at open pit mines.



### MZU-14-15K on the basis of Volvo

- ▶ **Type of explosive:**  
emulsion blends  
(30/70 ANFO/emulsion)
- ▶ **Load carrying capacity (explosive):**  
14 t
- ▶ **Maximum load capacity:**  
250 kg/min
- ▶ **Charging hole diameter recommended:**  
at least 160 mm



### MZU-25

MZU-25 is designed to transfer emulsion explosive components (emulsion, Ammonium Nitrate, gas-generating agents, oil products); manufacture emulsion explosives during wet and dry hole charging process at open pit mines.

- ▶ **Type of explosive:**  
emulsion blends (30/70 ANFO/emulsion)
- ▶ **Load carrying capacity (explosive):**  
25 t
- ▶ **Discharge rate:**  
250–500 kg/min
- ▶ **Charging hole diameter recommended:**  
at least 160 mm



The full range of MCT is available  
on the website [www.npgm.ru](http://www.npgm.ru)



### MZV-16

MZV-16 is intended to transport emulsion explosive components (emulsion gas-generating agents); charge wet holes with ready-made explosives using «under water charging» method as well as charge dry holes using «from collar» method.



**MZV-16 on the basis of Kamaz manufactured for Interrin company, Kazakhstan**

- ▶ **Type of explosive:**  
emulsion explosives (100%)
- ▶ **Load carrying capacity (explosive):**  
16 t
- ▶ **Maximum production capacity:**  
300 kg/min
- ▶ **Charging hole diameter recommended:**  
at least 160 mm

An emulsion tank and technological equipment are structurally  
**UNITED BY OVERALL THERMAL INSULATION.**

These guarantees trouble-free operation of MCT in extreme climate conditions.



## MIXING-CHARGING TRUCK AND EMULSION PLANT ON A COMMON CHASSIS



- **THE MAIN ADVANTAGE**  
 of this MCT type is a manufacturing of emulsion matrix only, when needed. It can also be used as a portable emulsion plant for loading other MCT.
- **ADAPTABILITY**  
 The unit can manufacture emulsion explosives and charge holes with factory-made emulsion as well as on-site manufacturing emulsion.
- The unit convert chemicals (hot Ammonium Nitrate 80% Solution, fuel blend) into emulsion at the blast site, eliminating the risk of transporting explosives which, in turn, **IMPROVES SAFETY.**

- ▶ **Type of explosive:**  
 emulsion blends (30/70 ANFO/emulsion), manufacture of emulsion matrix only is possible
- ▶ **Load carrying capacity (explosive):**  
 14 t
- ▶ **Maximum production capacity:**  
 250 kg/min
- ▶ **Charging hole diameter recommended:**  
 at least 160 mm

NIPIGORMASH equips all units with a closer loop **AUTOMATIC CONTROL SYSTEM.**  
 The system provides holes charging with various formulations without pre-calibration.

## HEAVY ANFO OF MSZU SERIES



### MSZU-15-NP-K

MSZU-15-NP-K is designed to transfer factory-made explosive components or non-explosive components; manufacture prilled explosives/heavy ANFO in different ingredient percentage and individual ingredient rates (50/50, 35/65, 30/70, 25/75) from non-explosive components, and charge holes «from collar».

This unit consists of an Ammonium Nitrate storage bin and an Emulsion storage tank that has a bottom hatch to transfer bulk components. The design allows you to fully use bin loading capacity to manufacture various proportions of prilled explosives and heavy ANFO.

- ▶ **Type of explosive:**  
heavy ANFO, ANFO
- ▶ **Load carrying capacity (explosive):**  
15 t
- ▶ **Maximum production capacity:**  
300 kg/min
- ▶ **Charging hole diameter recommended:**  
at least 100 mm



Trucks of MSZU series can be equipped with a **PORTABLE SIDE-MOUNTED AUGER** which makes it possible to charge several holes while the truck is in a stationary position.

### MSZU-14-NPB



- ▶ **Type of explosive:**  
ANFO, heavy ANFO,  
emulsion explosives
- ▶ **Load carrying capacity  
(explosive):**  
14 t
- ▶ **Maximum production  
capacity:** 300 kg/min
- ▶ **Charging hole diameter:**  
at least 100 mm

Depending on the type of explosives MSZU NPB-14 is able to charge holes using a side-mounted auger («under water charging» method) or a loading hose («from collar» method), which makes this **TRUCK UNIVERSALLY APPLICABLE.**

## CHARGING UNITS FOR UNDERGROUND MINING



**Charging unit  
MZKS-160**

Charging unit MZKS-160 is intended for pneumatic conveying of bulk explosives and charging them in underground mining. The compact design is ideal for tunnels and shafts where space is restricted. A special system prevents a build-up of static electricity to provide safe charging process. MZKS-160 is driven by compressed air. It has twin bin feeders and the remote control system. The unit is mounted on a wheel pair and can be shipped by rail of 750 mm gauge.

► **Delivery rate**  
at least 160kg/min



**Charging unit  
ZMK-1A**

Charging unit ZMK-1A uses an air delivery system to charge underground mines with bulk explosives. ZMK-1A is designed to improve occupational health and safety by reducing the transport and manual handling of explosives.

► **Delivery rate**  
at least 20kg/min

► **Removable batching barrels**  
2,5 kg  
3,5 kg  
5 kg



## AUXILIARY EQUIPMENT



**Lube Truck**

Lube Truck brings large volumes of service lubricants into the field to keep high production mining machines running at their full capacity. Engineered and designed for service applications jobs on the mine site.

The truck is mounted on the Volvo FMX 8x4. It is equipped with nozzles, product pumps, mounted product tanks that have an oil delivery system as well as used an oil retrieval system. Automatic fire-extinguishing system is also available.



**Stemming truck**

Stemming truck is capable of delivering of stemming material for opencast mining.

- we provide stemming trucks fitted on chassis specified by the client
- the process is fully controlled from the driver's seat via a joystick. Proportional hydraulic control allows accurate control and placement of stemming material.
- crushed stone, sand and industrial refuse can be used as stemming materials (max fragment size is 15mm)

▶ **Charging hole diameter recommended**  
**160-320 mm (depending on modification)**

Located in Yekaterinburg, Russia, NIPIGORMASH has been providing superior solutions to our customers for over 50 years. We have designed and manufactured a wide range of equipment for the explosives and mining industry. Our design/engineering department can assist the customer with planning of equipment, best fitted to their needs. The finished product always exceeds the required standards and national regulations.

We manufacture and supply:

- ▶ Modular Portable Emulsion Plants MMTL for the manufacture of emulsion explosive semi-finished products
- ▶ Mixing-Charging Trucks
- ▶ Raise Climbers
- ▶ Track repair equipment
- ▶ Main mine ventilation fans & booster fans
- ▶ Loading and hauling equipment
- ▶ Railway construction & maintenance machines
- ▶ Mining drilling rigs
- ▶ Dust exhauster and other equipment



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