

## KMZ - Kiev Motor Works (Ukraine SSR) – Dnieper 1980s

# HIGH-POWERED PRODUCTION OF HIGH- POWERED MOTORBIKES



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The Kiev Motorcycle Works, founded in 1945, specialises in the production of heavy motorcycle and sidecar combinations. A powerful, rugged engine, high cross-country capacity on any terrain and reliable performance of all units and assemblies are behind the great popularity of the Kiev motorbikes both in the USSR and abroad. They are exported to dozens of countries, including France, the FRG, Great Britain, Holland, Italy and Japan.

Our works is a high-powered mass production organisation, in 1978 alone, 84,000 motorcycles rolled off its main assembly line and part of them went for export.

We have everything necessary for turning out high quality products — efficient modern equipment, progressive technology and top-class engineers, designers, technicians and workers.

Our shops are equipped with multi-spindle automatic, semi-automatic, unit-built and special machine tools, and also automatic presses. Finishing and other critical operations are performed on high-precision machines.

The motorcycle components are painted in an electrostatic field on conveyor lines. Protective and decorative coatings are applied on special automatic and mechanised galvanisation lines. Engines and gearboxes are assembled on floor-level assembly lines. The final assembly of motorcycle and sidecar combinations is done on a pulse-type suspended main assembly line.

Here are some figures to illustrate the scale of production and technical standards. In all, we have 140 lines for processing and machining motorcycle parts. Welding operations are 86 per cent mechanised. Our automatic presses produce 85 different parts. Handling and storage operations are 78 per cent mechanised. The overall level of mechanisation is as high as 73 per cent.

The overall length of the conveyor lines at the Kiev Works is 15 kilometres. Overhead conveyor for the delivery of components to the cylinder head machining line.



Much attention is paid at our works to checking the finished product and to the manufacture of spare parts. The running-in and adjustment of engines is done on stationary stands with circulation-type oil filtering. The assembled motorcycles and their units are also checked on special rigs.

Technical progress never stands still and we react accordingly. At present, our Works is being retooled and extended, which will result in a further growth of output — in 1980 it will put out 120,000 modern, high-powered motorbikes.

Our modernisation programme calls for the installation of five automatic lines to cut rolled blanks and new high-capacity equipment in the foundry to produce certain parts by investment casting instead of hot stamping (which will reduce their mechanical processing). Six mechanised production lines are being installed in the press shop for silencers, fuel tanks, the sidecar panels, the front fork shrouds and mud guards.

About 30 per cent of our machine tools are being replaced with new equipment, including 161 automatic and semi-automatic and 87 special-purpose and unit-built machines. New equipment is used in the production of critical parts such as cylinder heads, distributor shafts, valves, pistons, brake drums, gearbox shafts, axles etc.

With the completion of new delivery conveyors and two monorail roads, the total length of our conveyors will reach 15 km.

New advanced production techniques, such as plastic deformation, used instead of cutting to obtain the final dimensions of parts, are being introduced on a wide scale resulting in continuous quality improvement, which makes Soviet motorbikes increasingly competitive on the world market.



Dnieper MT10-36, official factory photograph, note the markings on the mudguards and sidecar nose

# MOTORCYCLE AND SIDECAR COMBINATION TRANSPORTATION OF PASSENGERS AND GOODS IN ALL CONDITIONS

## Dnepr MT-10-36 motorbikes from Kiev

The Dnepr MT-10-36 motorcycle with sidecar, a powerful and reliable vehicle, has been developed at the Kiev Works for people who live far away from good roads, who like to go shooting in the forest, who like picking mushrooms and wild berries or who need to carry passengers and goods in bad road conditions. However, the Dnepr MT-10-36 also gives a good account of itself in city streets with heavy traffic and on fast motorways.

The principal advantage of the motorcycle is the carefully thought out design of the various units and assemblies, which have been constantly improved and modernised over a period of many years.

The Dnepr MT-10-36 is powered by a 35 hp (26.5 kW) four-stroke two-cylinder 650 cc carburettor engine. It develops maximum power and a torque of 4.8 kgm at 6,000 rpm. It has a cruising speed of 105 kph and is designed to carry a load of 260 kg. It performs well both on hard-surfaced roads and in off-road conditions.

The horizontal (opposed) arrangement of the cylinders ensures normal cooling and makes for good balance of the crank-and-connecting rod assembly. Each cylinder is fitted with a separate carburettor, which increases engine power and makes for easy starting.

The crankshaft is made of extra-durable cast iron. The lower head of forged steel connecting rods is made in two sections to provide better access to the crankshaft and facilitate the replacement of bearings. The connecting rod bearings are lubricated under pressure. The lubricating oil is subjected to double filtration: by a full-flow centrifugal filter and, in the hollows of the crankpins, by centrifugal force. The steady delivery of filtered oil makes for a longer service life of the whole system.

The bimetallic engine cylinders are interchangeable.

The Dnepr has a reverse gear, a great advantage for manoeuvrability and off-road performance. The gearshift mechanism and the clutch release mechanism are made in one block. This arrangement is highly convenient for the driver.



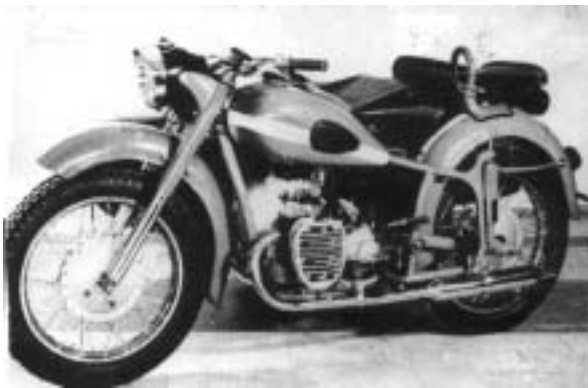
Где-то проблемы с дефицитом, а здесь со сбытом.



A line-up of Dneiper outfits await delivery outside the Kiev factory.

Views of the Kiev Motor Works compound in the Ukraine (1970s)  
Photographs top left and lower courtesy of Motor Cycle News UK.

The following Pages cover the civilian 650cc, 750cc and occasional 500cc OHV (Over Head Valve) models made in the Kiev Motor Works (KMZ).



KMZ K750 photo JRamba



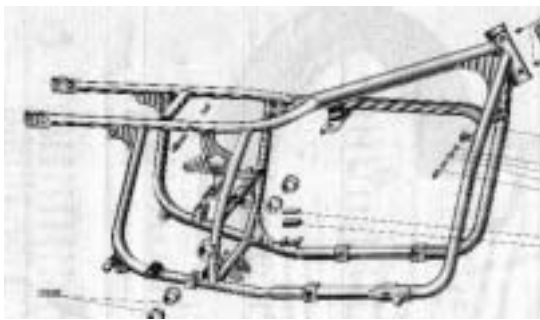
KMZ K650 (note paint scheme) photo JRamba



KMZ MT9 still with 'old' tank photo JRamba

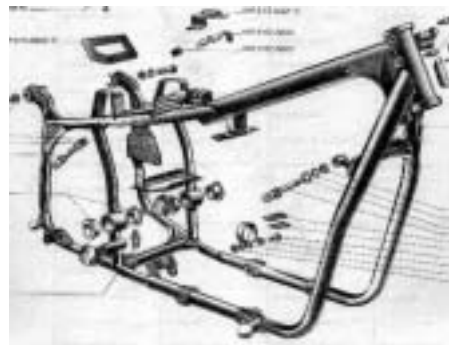


KMZ MT10, note rear frame! photo JRamba



MT10 frame

(from Dnieper Parts Books)



MT10-36 frame



MT10-36 photo JRamba



KMZ MT10-36 (Publicity Photo)



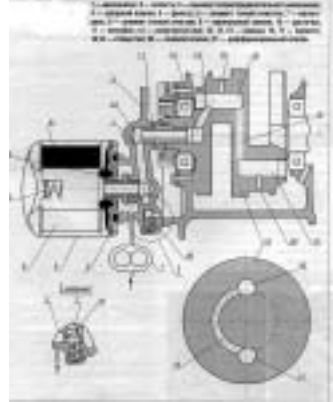
Dnieper MT12 Publicity Photo.



MT12 in England with later MT16 forks.  
Note 'Cossack' sticker although sold by Nevals.



Above and Right - the 650cc OHV engines at the end of the 1990s were fitted with external paper cartridge type oil filters to replace the "fling it and hope" centrifugal type that were OK at taking larger particulates out but not the finer bits. Photos MOTO



Left - Dnieper 'Excort' motorcycle engine hand built in small batch production at the Serpukhov institute (Not at Kiev works!). The engine still at 650cc produced 52 bhp (36 bhp in standard trim) compression ratio increased and cam profiles changed. Here fitted with Bing carbs and Bosch spark plugs. A complete bike built at a cost of £12,000 in 1980s. photo JRamba.



Left and Above – Kiev ‘Escort’ motorcycle, note the single big seat, and the protection bars. Photos from JRamba.

### KMZ Model codes

- Dnieper 11 – KMZ – 8.155-02 Standard solo or outfit.
- Dnieper 16 – KMZ – 8.922 twin wheel drive outfit.
- Dnieper KMZ 156 leading link forks sidecar drive
- Dnieper KMZ - 8.157-01 solo specification.



Мотоцикл КМЗ-8.157-02 "Днепр"



1991 KMZ Dnieper solo machines, photographs from MOTO.



Dnieper outfits with interesting factory sidecars, 1980s. Photo JRamba



Dnieper, note high level silencer Photo JRamba



Note neat spare wheel storage. Photo JRamba

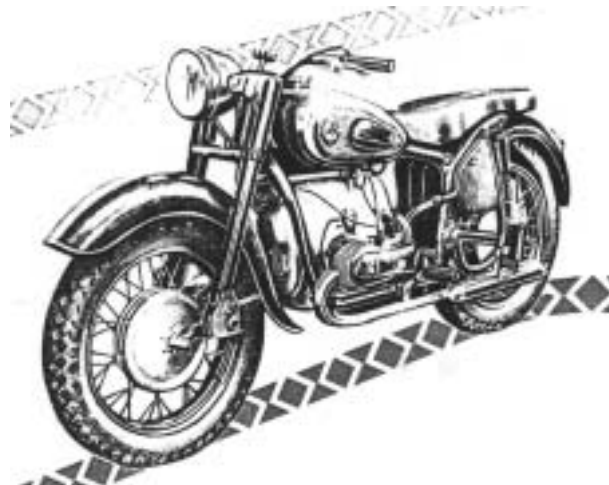
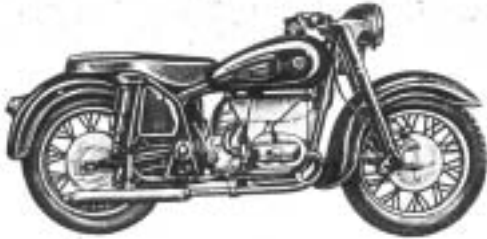


One of the last special Dnieper solo models



View of adjustable taper-roller rear swinging arm pivot.

The KMZ M53. Note the frame and forks from the K750 drawing below, though the forks are very slightly different. The engine is a 500cc OHV motor, seems similar to the Ural M52.



M53 on show at the 1958 World Fair in Bruxelles Belgium.

The above photograph was extracted from "BMW Twins and Singles" published in 1982, sadly after research the origins of the photograph are unknown.

Last but not least, the Dnieper 300 model.

