MTZ-Kirovets K744 - overview

The toughness, durability, reliability, and simplicity you can count on in the MTZ-Kirovets K744 were passed on from its great ancestor's. From the 7010 models sold in the USA and Canada in the '80s to today’s model. Always simple to operate, simple to maintain and simple to repair and return quickly into the action.

Modern agriculture has come with complex high tech systems that can quickly disable a machine.

Most tractors today require costly repairs, specialized tools, and highly trained technicians to get the machine back into action.

But not the K744! You can do your repairs yourself in your yard or shop, saving you downtime as well the cost of transportation to your dealer’s repair shop.

The MTZ-Kirovets K744 keeps your power under your control.

Productive
MTZ-Kirovets tractors deliver real productivity gains. They cost less to buy and less to run. They have efficient engines and drivetrains, simple and straightforward maintenance requirements and low cost service and replacement parts.

Tough
MTZ-Kirovets tractors are designed to work under the world’s toughest conditions. They have solid construction, powerful engines and a robust drivetrain. Engineered to handle the big loads, a MTZ-Kirovets is built to last.

Useful
A MTZ-Kirovets is unpretentious, functional and designed to handle any job. A floating drawbar and a cat. IV, 3 point hitch ($25,000 value) with Walterscheid lower links are fitted as standard equipment. Duals, Tracks and a 1000 rpm 1 24\(^{"}\) (44.45mm) x 20 spline PTO are optional extras. Bosch Rexroth 74 gpm (280 l/min) hydraulics are standard.

MTZ-Kirovets tractor ticks all the boxes

These machines embody all of the proven technical principles; equal-sized wheels, all driven, a massive articulated frame, ballasted for ideal weight distribution, powerful engines, strong transmissions and auto-locking axles. A MTZ-Kirovets tractor is easy to handle, comfortable, inexpensive to maintain and free from the overly complex and service intensive features common to many contemporary designs.

<table>
<thead>
<tr>
<th>Model</th>
<th>K-744</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercedes Benz engine OML470</td>
<td>435 hp</td>
</tr>
</tbody>
</table>
Frame
The frame provides the structural platform of the tractor, a
mounting for all of its power generating, transmitting and
controlling parts.
With ballast and a full fuel load, a MTZ-Kirovets can weigh
over 44,000 lbs. (twenty tones). The frame needs to be
strong enough to support the mechanical parts and absorb
all the working loads, whether imposed by towed or attached
implements or by difficult terrain. The frame must be built to
endure, without failure or fatigue, a working life that may easily
extend to more than forty years.
The MTZ-Kirovets frame is a solidly made all-enclosed box
section steel weldment. Frame parts are cut and folded,
assembled, carefully welded and precision machined. A
massive centre pivot articulates the front and rear parts of the
frame through a trunnion yoke with large, fully sealed, bearing
surfaces.
This yoke provides for relative movement of the front and
rear frame elements with two degrees of freedom;
+/−32° on the vertical axis and +/-16° on the
longitudinal axis. It is this design feature
that gives articulated tractors their
advantageous characteristics;
the ability to maintain all-
wheel ground contact on
undulating terrain,
a compact turn
radius and a
steering
geometry
that, unlike
fixed-frame
front wheel
steered machines, ensures that the
leading and trailing wheels
follow the same path.
Suspension
When the initial design brief
for the first big MTZ-Kirovets
was drawn up over fifty years ago, a
requirement was that the machine be able
to perform a wide range of tasks.
Apart from its prime agricultural function, a MTZ-Kirovets
was expected to be capable of performing on and off road
transportation tasks and serve as a military tractor if required.
To reduce operator fatigue when used on the most arduous
terrain, the design team included a truck-type cantilever
laminated spring front suspension with hydraulic shock
absorbers.
This feature has carried forward in all subsequent design
iterations and provides for a more comfortable ride than
conventional, unsuspended, designs.
Air Ride cab is included in basic configuration.
Engine
The German made Mercedes-Benz OM 470 (MTU 1100 series) is a 647 cu in. (10.6 litre) in-line six cylinder turbo-diesel with electronic engine management for superior
fuel economy and emissions performance. The engine is configured to Tier 4F standard and very efficient on the use of AdBlue® (DEF) and
does not require DPF. The engine has a noise optimized cast
iron block with wet cylinder liners and separate four-valve
cylinder heads, oil-cooled aluminium pistons, precision
forged connecting rods and an induction-hardened seven-bearing crankshaft. The oil cooler is integrated
within the crankcase.
The Mercedes-Benz engine offers exceptional
durability and fuel economy (205 g/kWt), proven
to function throughout the world in many agricultural and
transportation equipment applications.
Mercedes-Benz engine was tested by Nebraska
institute and found to be most fuel efficient engine in this
category ever tested by Nebraska.
Mercedes engines are available with Industry leading warranty
up to 10,000 hours/7 years.
Engine air supply is cleaned through a two-stage cyclonic filter
with elevated intake and an exhaust bypass. Access to the filter
 cartridge for purging or replacement is at ground level.
A large capacity fuel tank is mounted on the rear frame
element. Capacity is 211 gal. (800 litres); enough to sustain
the longest working shift.
Transmission

MTZ-Kirovets tractors use a constant mesh semi-powershift transmission with sixteen forward and eight reverse speeds in four ranges. Within each range, speeds can be selected under power, without interruption, by hydraulically actuating the appropriate clutch pack. The clutch packs are multi-disc assemblies with alternating steel and ceramic plates.

Ranges are engaged by axially sliding sleeve gears on the middle and bottom shafts. Gears are selected by an automotive type T-bar lever. Ranges, forward-reverse and 2WD-4WD modes are selected by switches and engaged by pneumatic actuators.

The transmission is pressure lubricated and has a front mounted oil cooler. The design is thoroughly proven, simple, robust and durable. Spur gears are used throughout for power transmission efficiency and the elimination of axial thrust loads within the transmission casing.

Gear wheels are processed from in-house cast and forged blanks on CNC gear-cutting machines. After heat treatment, tooth profiles are finish ground to precise final dimensions and geometry (DIN class 7 & 8). Transmissions are hand assembled by master technicians and thoroughly bench tested prior to installation on the tractor frame. (take a look at https://youtu.be/5c_uz255TRw)

Axles

Power is transmitted via cardan shafts to the front and rear axles. MTZ-Kirovets axles are of a unique “no-spin” design that lock in the straight ahead position to provide unsurpassed tractive performance.

An important feature is that the rear axle can be disengaged for smoother running in transport mode on hard surfaces. Planetary gear assemblies are mounted, together with the truck-type air brakes, on the axle extremities.

Self-locking differential locks are included in the basic package. The compact axle design allows wheels with wide, deep-section 710/70R38 or 800/65R32 low compaction tires to be fitted.

The tires have an R1W tread pattern to enhance ride comfort. Dual wheels and spacers are available as an option.

The design of the transmission, axles and wheel set, taken together, provide MTZ-Kirovets tractors with exceptional tractive efficiency.

Operator’s Station offers modern fingertip control center

Trimble Auto Guidance is available as an option.

Speed - Standard Tires

<table>
<thead>
<tr>
<th>R</th>
<th>G</th>
<th>mph</th>
<th>km/h</th>
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Speed - Optional Tires

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<tr>
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<td>18.6</td>
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Attachments

Equipment for mounting all types of implement is standard. Towed implements are attached by a floating drawbar and attached implements by the ISOCat IV 3-point linkage with Walterscheid lower links. Drawbar is rated for 4,900 Kg (11,000 lbs). In cab Electronic Hitch Control (EHR) is available as an option.

Bosch Rexroth Axial Flow Pump

Hydraulics are load sensing type with five pairs of outputs (1 used for 3pt hitch + 4 available plus returns. The system is supplied by a Bosch-Rexroth axial flow pump with 74 gpm (280 l/min) capacity.

Dependable use of power is achieved by positive drive design with large rotating parts.

Tracks

Tracks kit is available to allow interchange of wheels with tracks as needed, on the same tractor, in your yard, in about two hours. No need for a second expensive tractor with only tracks. Caterpillar track, designed specifically for this tractor, allows the tractor to operate on the same tractor, in your yard, in about two hours.

A 1000 rpm PTO with 44.45 mm (1 1/8”) 20 spline output shaft is optional. Alternative output shaft configurations are available on request.

Complete Air System

Standard; Air compressor, Air tanks, hoses.

Technical data - Specifications

<table>
<thead>
<tr>
<th>Engine</th>
<th>Manufacturer</th>
<th>Mercedes-Benz</th>
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<tbody>
<tr>
<td>Horsepower*</td>
<td>OM470 (MTU 1100 series)</td>
<td></td>
</tr>
<tr>
<td>Displacement</td>
<td>10.6L (647 cu. in.)</td>
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</tr>
<tr>
<td>Rated Speed RPM</td>
<td>2100 (630)</td>
<td></td>
</tr>
<tr>
<td>Type</td>
<td>6 cyl; In line, 24 valves, Tier 4</td>
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</tr>
<tr>
<td>Aspiration</td>
<td>Turbocharged / Air-to-Air aftercooled</td>
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<tr>
<td>Fuel Consumption</td>
<td>151 gr/hp hr (205 gr/kWt hr)</td>
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<tr>
<td>Oil change interval</td>
<td>600 hours</td>
<td></td>
</tr>
</tbody>
</table>

Transmission

Type | Semi Powershift |
No. of Gears | 16F (in 4 Ranges) / 8R (in 2 Ranges) |
Speed Range| Forward: 4.24 to 34.4 km/h (2.63 to 21.4 mph) |
| Reverse | 5.27 to 25.7 km/h (3.27 to 15.9 mph) |
| Tracks: speed is lower by 1.2x |

SFC

Front Axle | Full-time |
Final Drive | Planetary |
Rear Axle | Manually engaged |
Differential | Self-locking |
Suspension in front | Leaf springs with double stroke shock absorbers |

Cab

Built-in ROPS, thermo/vibro/ noise insulated. Radio, Heat and Air Conditioning

Technical data - Specifications

Fuel Tank

1 Tank, 850 L (211.3 gal.)

Hydraulic System

Closed Center, Load Sensitive (LS)

Hydraulic System

Pressure Maximum | 215 bar (3,068 psi) |
At the coupler | 185 bar (2,683 psi) |
Standard Pump | 280 L/min (74 gpm) |
Standard Pump maximum | 453 L/min (103 gpm) |
Remote Valves | 4 free + 1 connected to 3pt hitch |
Steering | 80 lumn (21 gpm) |

PTO (Optional)

1,000 rpm, 20 spline, 45 mm (1 1/8")

Lift capacity @ hitch point 9000 Kg (19,841.6 lbs)
Return line from hydraulic motor, standard, low restriction, straight to hydraulic tank.

Brakes

Air power - dry drum, 2 independent circuits plus spring actuated parking brake

Tires

Front/Rear | 710/70R38 |
Front/Rear Optional | 800/65R32 (30.5R32) |

Weights

Weight (Singles/Duals) | 17,000/19,200 kg (37,478/42,240 lbs.) |
Weight distribution (Singles) | 8,800 kg (19,001 lbs.) |
Weight distribution (Duals) | 8,200 kg (18,078 lbs.) |

Dimensions - m - (ft) with 710/70R38 tires

<table>
<thead>
<tr>
<th>Length</th>
<th>Width</th>
<th>Wheelbase</th>
<th>Ground Clearance</th>
<th>Forntale Depth</th>
<th>Wheel Tread</th>
<th>Height</th>
<th>Minimum turning radius</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.06 m</td>
<td>3.75 m</td>
<td>3.62 m</td>
<td>1.00 m</td>
<td>3.1 m</td>
<td>2.10 m</td>
<td>3.56 m</td>
<td>7.96 m</td>
</tr>
<tr>
<td>26.5 ft</td>
<td>12.3 ft</td>
<td>12.2 ft</td>
<td>3.28 ft</td>
<td>10.1 ft</td>
<td>6.9 ft</td>
<td>11.6 ft</td>
<td>26.1 ft</td>
</tr>
</tbody>
</table>
Comfortable working environment.

Proven design - Most popular high powered tractor in the world: over 500,000 units produced since 1962.

Fuel Tank - 211 gallons - 800 liters.

Sun protected tinted glass provides panoramic view from the operator's position.

Includes many extra features as part of the standard package: Partial Power Shift, Differential locks, Drawbar and more.

Mercedes-Benz Tier 4F engine.

Bosch-Rexroth hydraulic system.

Duals Kit or Track System available.

Easy to service and maintain with basic tools, available on most farms.

Solid mechanical design of the power train.

Front suspension: simple effective leaf spring suspension plus additional shock absorbers.

Optimal weight distribution 52/48, ideal for pulling implements.

4 WD with automatic "no slip" differential locks.

MTZ-Kirovets - historical background

Established in 1801, Petersburg Tractor Works (PTZ, manufacturer of the "MTZ-Kirovets"), started mass producing licensed Fordson-Putilovets tractors in 1924. Since 1962, the plant has been manufacturing unique high-power articulated tractors under the brand name MTZ-Kirovets with total production exceeding 500,000 units. For many years, the MTZ-Kirovets brand has been occupying a leading position in the market segments of high-power wheel-prise tractors.

PTZ was among the first in the world to organize mass production of high-power wheeled tractors and with more than 90 years of experience in the tractor manufacturing industry, allows us to compete successfully with global tractor industry leaders. Today our plant moves forward. We are evolving. We have made active and consistent improvements in our company and our product line for several years. We manufacture our transmission in-house. As a result, we now have state-of-the-art production lines, an efficient quality control system, and a highly professional team.

ORIGINAL SPARE PARTS

Original spare parts are the same as the parts and components supplied to our assembly line. All spare parts are branded with the Kirovsky Zavod trademark. Depending on the process conditions, the part branding is engraved, or a self-destructing vinyl label with the part number on it is applied. By branding the products, the MTZ Equipment Ltd. guarantees the quality and compliance with all requirements and standards.

Each tractor comes with a crate full of everyday components, and there are parts warehouses across the USA and Canada.

MTZ-Kirovets tractors have been in use on farms in the USA and Canada since the '80s. Factory original parts are available for all older and new models, allowing the farmers to maximize the return on their initial investment.