

**ENGINE – LPG**

K21 (2.1 liter) or K25 (2.5 liter) LPG

4-cylinder, in-line engines with Engine Concentrated Control Systems (ECCS) exceed EPA emissions standards. These low-RPM, high-torque industrial engines offer reduced maintenance requirements, exceptional emissions controls, fast acceleration, high performance, reliable durability and enhanced serviceability through engineering excellence.

- Engine uses LPG single-port (throttle body) fuel injection system. All engines are equipped with 3-way catalytic converters and closed-loop exhaust systems.
- All engines utilize an ECCS that continuously monitors data from the fuel pressure, accelerator throttle position, mass air-flow sensor, and heated oxygen sensor – for improved fuel economy, smooth operation, reliable starting in cold weather, and high performance throughout the operating range. An electronic throttle governor protects the engine against over-rev damage.
- Crankshaft and camshaft position sensors provide information to the ECCS for optimum ignition and fuel injection timing. Each cylinder has an individual ignition coil for precise control and reliability.
- An engine coolant temperature sensor and controller protects the engine against damage due to high engine temperature by automatically limiting engine speed during high-temperature operation. If the engine coolant temperature exceeds safe operation temperature, the engine will be shut down. An illuminated indicator on the instrument console indicates high-temperature operation, and gives the operator warning of engine shutdown.
- The aluminum alloy cylinder head has large intake and exhaust valves and a semi-hemispherical combustion chamber for efficient fuel consumption.
- The engine block is designed with five main bearings. All main and rod bearings are micro-grooved to improve lubrication and reduce wear.

**FUEL SYSTEM – LPG**

- LPG fuel system uses single-point, throttle body fuel injection. A removable 33 lb. or 43 lb. fuel tank is available with stationary, fold-back, or swing-out-and-down tank mountings.

**COOLING SYSTEM**

- The high-capacity aluminum radiator is designed with an efficient thermal transfer fin and integral oil cooler for the transmission torque converter.
- System design allows easy access to the reservoir for checking the coolant level.
  - High-volume cooling fan uses flexible plastic blades and shroud for maximum air volume and noise reduction.

**ELECTRICAL SYSTEM**

Standard instrument package and operator conveniences:

- 12-volt electrical system
- 50A alternator with built-in IC regulator
- Key-lock, anti-restart ignition switch
- High-torque, low-amp starter motor with planetary gear reduction
- Waterproof electrical connectors
- Electric fuel gauge, water temperature gauge, LCD hour meter
- Indicator lights for Neutral/Return to Neutral, Low Oil Pressure, Low Battery/Alternator Output, Check Engine Warning, Hydraulic Lock (Operator Presence), and ECCS Status Code
- ECCS Service Support Tool connector for rapid system diagnostics

**EZLIFT™ HYDRAULIC SYSTEM**

The EZlift Hydraulic System features a tandem pump assembly with separate pumps for load handling and steering. This enables faster lifting at engine idle speed for greater fuel economy and performance levels.

- Large hydraulic fluid reservoir integral to the truck frame reduces heat buildup in the system.
- Load sensing valve in the hydraulic circuit reduces the flow of oil to the power steering system when steering wheel is idle.
- EZlift Hydraulic System is fully filtered and features a powerful and efficient direct drive gear pump.

**FRAME**

An all-welded assembly with heavy-gauge steel and integral hydraulic tank provide exceptional durability.

- Welded front cross-member and bolted drive axle increase frame rigidity.
- Loads are transferred directly from the mast to the drive axle and onto the floor without being transmitted through the frame, reducing frame stress.
- Wide, open step is designed into the frame assembly without compromising the structure.

**DRIVE AXLE**

A heavy-duty, cast steel drive axle housing supports the load and chassis without placing a load on the free-floating axle shafts. A flange is mounted to the truck frame to improve load distribution and reduce frame flexing.

**TRANSMISSION**

Komatsu Torqflow single-speed, powershift transmission is specifically designed for industrial applications.

- Column-mounted electrical shift lever gives the operator easy directional control without removing a hand from the steering wheel.
- Optimized stall ratio for torque converter provides high torque without sacrificing travel speed.
- A modulating control valve absorbs initial pressure spikes during initial engagement and directional change. This improves shifting capabilities and prolongs the life of the entire drive train.
- Transmission oil is double-filtered by a 125-micron mesh on pickup, and a 35-micron cartridge on the return line.
- Transmission oil cooler is integral with the radiator.
- Inching control and auxiliary brake pedal combination allows the operator precise truck positioning with positive control.

**BRAKES**

Hydraulic brakes are self-energizing and self-adjusting.

- Brake fluid reservoir is located under the console cover for fast, easy inspection and maintenance.
- High-friction brake shoes are free of asbestos.
- Heavy-duty brake backing plate and thick brake drum provide reliable braking action and reduced heat.
- Mechanical parking brake has two-stage latching mechanism for positive engagement.

**STEER AXLE**

Fully Hydrostatic Power Steering is standard.

- Independent power steering pump separates steering function from main hydraulics for smoother, more reliable action.
- Heavy-duty fabricated steer axle has double-acting, double-ended power steering cylinder and no drag links or tie rods.
- Steering stops are machined into the steering cylinder to reduce stress impact on steering linkages.
- Grease fittings on all linkages are accessible without lifting the truck.

**MAST, CARRIAGE, LBR AND FORKS**

High-visibility EZview mast assembly has a 6-roller carriage that is available in two-, three-, and four-stage Free Lift, Free View designs.

- Sealed bearings require no maintenance.
- Angle-mounted bearings and a shaped rail flange prevent excessive wear and friction, while maintaining correct side thrust clearance.
- ITA Class II or Class III carriages accept a variety of fork sizes and common load-handling attachments.
- 48-inch-high load backrest is standard for increased load control and operator protection.
- Single or double auxiliary hydraulic-function internal hose routing is available.

**OPERATOR COMPARTMENT**

A unique Komfort Zone suspension compartment isolates the operator from the floor surface and from engine vibrations, for greater operator comfort and productivity.

- Orthopedically-designed Komfort seat has built-in lumbar support, retractable seat belt, lateral restraint system, and fore and aft adjustment.
- Hydraulic control levers are positioned for optimum access and ease of use. International symbols on the contoured grips indicate the function.
- Tilting steering console has small-diameter steering wheel and electronic instrumentation. Tilt is infinitely adjustable, with extended room between the engine cover and console.
- Wide-open floorboard has suspended brake and inching pedals with ribbed rubber pads for comfort and safety. Integral accelerator mechanism has a transfer roller for smooth operation.
- Full-width rubber floor mat provides a large, non-slip surface and reduces noise, vibration and heat in the Komfort Zone.
- Open step in the frame with a traction surface and a large handgrip provide easy entry and exit for the operator.
- Standard headlight/turn indicator control lever is mounted on the steering column for easy use.
- Full-width overhead guard provides excellent visibility for high stacking and meets or exceeds ITSDF requirements.

**SERVICEABILITY**

The engine and transmission can be easily accessed for daily inspection without the use of any tools.

- Single-piece, all-steel engine cover and seat support is fully insulated to reduce noise and heat transfer to the Komfort Zone.
- Engine cover has gas-filled cylinder with an automatic locking device to assist in opening and to prevent the cover from unexpectedly closing.
- Easy-access, easy-operation engine cover latch is recessed to prevent interference when entering and exiting the operator compartment.
- Engine cover is shaped for easy access into the engine area for maintenance and service.

**COMPLIANCE, APPROVALS AND ENVIRONMENTAL CONCERNS**

Designed for maximum recycling at end of life, with special attention to materials and construction.

Counterweight designed for breakup during recycling process. Transmission case is recyclable aluminum.

Komatsu forklifts meet or exceed American National Standard Institute, ITSDF B56.1-Part III Safety Standards for Powered Industrial Trucks.

Classified by Underwriters Laboratories, Inc. for fire hazard only. Contact your dealer for application-specific requirements.

Meets or exceeds EPA emissions standards 40 CFR.

# BX50

## SPECIFICATIONS



# KOMATSU®

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# KOMATSU®



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**CUSHION TIRE FORKLIFTS**

4,000 – 6,500 LBS. CAPACITY | LPG

