For Ordering Information, Contact The Hyster Advertising & Sales Promotion Department.

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R50XMS2

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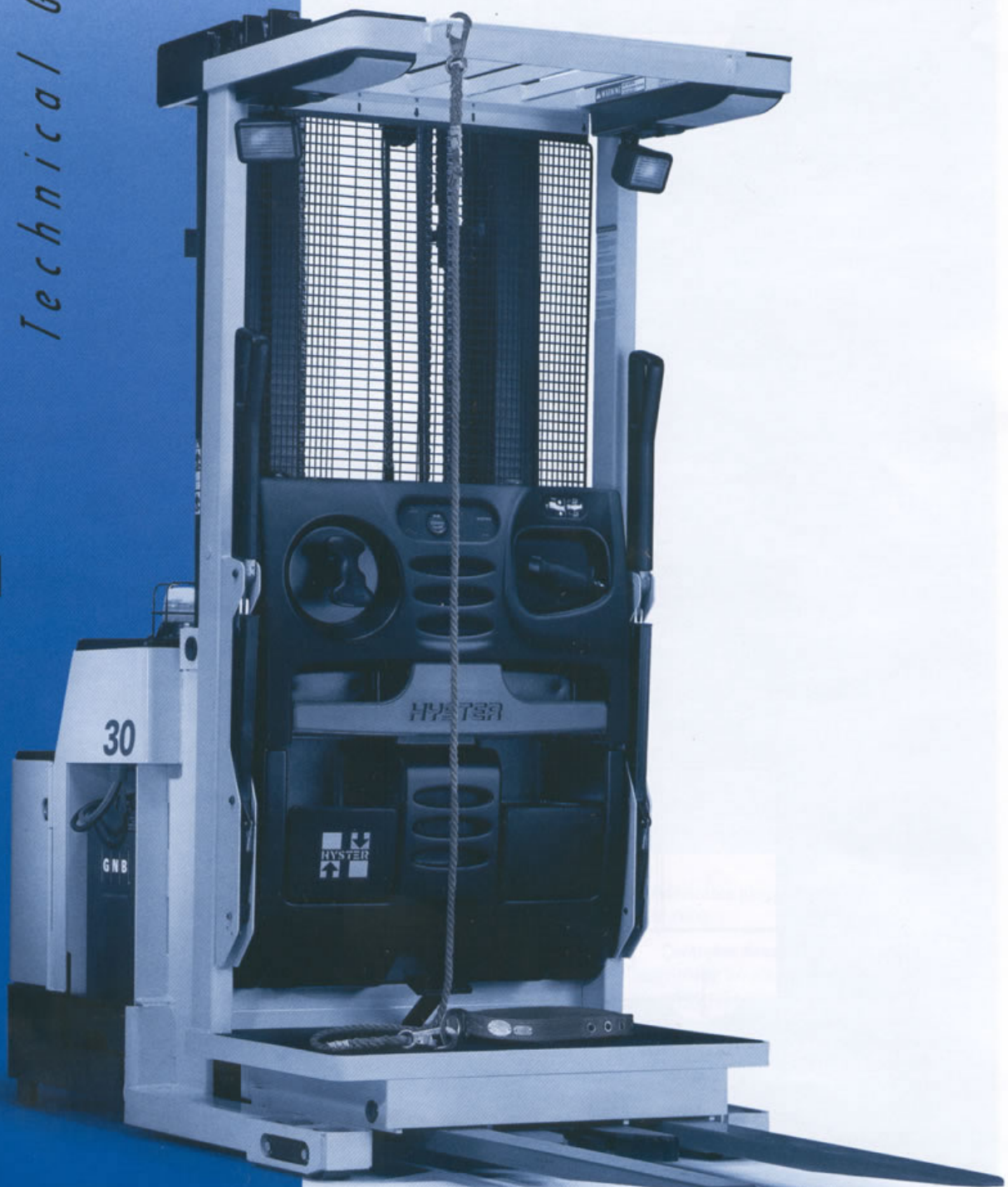
R30XMS2 OrderPicker

Technical Guide



R30XM2 ORDERPICKER POCKET GUIDE

Performance

- **Standard HySense™ continuous height sensing** optimizes maximum travel speed at various fork heights above 60.0" compared to conventional stepped speed traction systems. It gradually reduces travel speed at fork heights between 60.0" – 212.0".
- **Widely spaced mast channels** make it easier to see ahead for improved maneuvering in picking aisle.
- **Separately excited motors** allow ideal tractive performance for productivity.
- **24-volt and optional 36-volt electrical system** offers optimum power for handling capacity loads.
- **Multi-function accelerator handle** provides simultaneous command of variable lift/lower speed, travel direction, acceleration, and horn for great load handling efficiency.
- **Return-to-Center steering** lets you maneuver orderpicker by rotating handle one-quarter of a circle. Eliminates need to turn a traditional wheel lock-to-lock and reliance on visual steer indicator.
- Steering System automatically **centers drive tire at every power start-up** so operator always knows direction of travel.
- **Pin-mounted forks** are adjustable to fit variety of pallet sizes.
- **Self-adjusting** pallet clamp automatically releases its jaws to accept pallet stringer.
- Robotically welded, formed **steel fork section** provides superior rigidity**.**
- **On-board storage compartments** keep work tools close-at-hand. **Removable trash bin** helps keep workspace clutter-free and efficient.
- Standard **polyurethane drive tire** is durable and offers less steering resistance for easier maneuvering.

Service

- **Single piece ABS service compartment hood** is easily removed by loosening 4 quarter turn fasteners.
- Two steel hinged doors reveal an **uncluttered compartment** which makes all components easily visible and within reach for quick servicing.
- **CAN communications** provide on-board capability for truck set-up, parameter adjustments, and diagnostics using the display gauge and system inputs. No handset, laptop or password needed. Over-the-mast cable only has 8 conductors (in lieu of the 27 conductors on previous model) regardless of option mix for increased reliability.
- **Backlit gauge** combines hour meter, BDI, and fault code messaging capabilities into one compact display.
- **External sight glass** permits visual inspection of hydraulic fluid without need to open compartment doors or remove filler cap.

Service cont.

- **Battery compartment is accessible** from both sides through convenient, easily removed side panels. Large 2.5-inch diameter **rollers allow easy battery access** for maintenance checks and removal.
- **Trunnion-mounted** mast makes it easier to remove mast for shipping or service work.
- **Adjustable side thrust wear plugs** help maintain zero clearance between them and the mast channel at the tightest point. They help keep the channel in the center position. An adjustment tool is available to make wear plug adjustment easier.
- **Drive tire** is easily removed by loosening five lug nuts.
- **Single bolt load wheel installation** simplifies load wheel replacement (one bolt per wheel).
- **Electrical wiring** is numbered for quick circuit tracing.
- **Six grease fittings** on entire truck: 2 on master drive unit bearing and 4 on platform thrust rollers.

Ergonomics

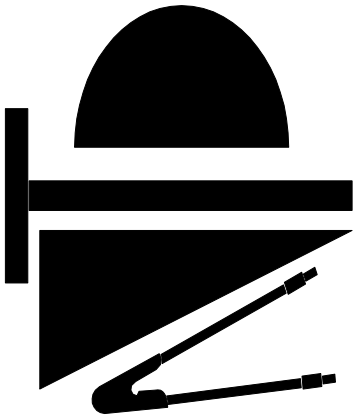
- **Large-sized platform** provides 27.5" deep x 40" wide working space at foot level.
- One-inch thick **floor mat cushions operator's feet yet provides right amount of firmness** for sure footing at high elevations.
- Gas spring-assisted **retractable sidegates** (optional on R30XMS$_2$) provide side protection for operator. This promotes a feeling of security and stability when working at higher elevations.
- **Wire mesh screen, overhead 2-speed fan and optional full body fan** work together to promote a comfortable work environment.
- **Flush mounted brake switch** eliminates potential trip point.
- **Ergonomically located controls and instrumentation** promote **easy interactive relationship** between operator and orderpicker.
- **Return-to-Center steer handle** is covered with soft-touch material for a comfortable grip**.**
- **Ergonomically designed accelerator handle** is mounted at 45° angle to match operator's natural forearm posture for a comfortable grip.
- **3-position detent accelerator handle and optional adjustable console** allow operators of varying heights and stature to assume the most comfortable driving position.
- **Regenerative braking** slowly brings orderpicker to a smooth stop.

Application Specific Offerings / Optional Equipment

- VISTA™ 3-stage masts are available with **maximum fork heights up to 23-feet** (25 feet through SPED). Note: Refer to the SPED price book for masts with free lift and other mast options.
- Orderpicker can be programmed to stop overhead guard height from interfering with lowest obstruction in picking area. Capability available with **mast lift limit** option.
- Orderpicker can be programmed to restrict the maximum fork height but allows ability to override governed height with the **mast lift limit override** option.
- Optional **mast lower override** allows operator to lower forks beyond pre-set limit. This option is typically equipped on orderpickers if they are primarily handling picking carts or baskets.
- Optional **3-stage, zero free lift mast with a 300"** maximum fork height is available through SPED. Consult SPED Price Book and/or Application Engineering.
- Optional **platform widths** (48", 54" or 60") extend the working room as much as 10–inches on each side.
- Optional **Lexan shield** is available as a SPED alternative to the standard wire mesh screen. Consult SPED Price Book and/or Application Engineering.
- **Steel or aluminum auxiliary platforms** are available in various sizes through SPED. Platforms slide onto forks. They are used when picking loads longer than a pallet. Most often, this option is utilized in the furniture industry. Note: Platforms reduce lifting capacity. Consult SPED Price Book and/or Application Engineering.

APPLICATION SPECIFIC OFFERINGS / OPTIONAL EQUIPMENT CONT.

- Adjustable console option allows **console to be height-adjustable** up to 6-inches so controls are at a comfortable reach.
- An optional **base width** (48") provides a wider truck footprint for improved stability for fork heights above 213".
- **Two adjustable spotlights** can be added to standard light and fan package as an option. These spotlights provide extra illumination of load areas, aisle ways, and bins.
- **Fixed hoop side rails** are offered as an option to the standard retractable side gates. These rails are welded to platform upright, which eliminates the need for traction cutout compared to the standard offering.
- Optional **4-post type overhead guard** is available through SPED. Consult SPED Price Book and/or Application Engineering.
- **Safety tethers** are available in different styles to suit operator preferences. Options include: tether line with medium size belt (waist size 36 to 44); retractable tether with medium size belt; tether with full body harness; or retractable tether with full body harness.
- Additional **fork lengths** (36", 42", 48", 54" or 78") are available to accommodate different load lengths.
- Optional **Siped polyurethane drive tire** is available to match customer floor requirements.
- **Freezer** option allows truck to work continuously in temperatures to -20º Fahrenheit.
- Optional **multi-turn steering** offers an alternative to return-to-center steering. Audible alarm sounds if truck is over steered. Advantageous option if customer has a mixed fleet of orderpickers equipped with multi-turn steering.
- Optional **base arm guide rollers** are necessary for truck operation in rail-guided aisles.
- Truck can be ordered without pallet clamp. Most often, this option is ordered when orderpicker is carrying non-palletized loads such as bins.
- **36 volt power** option provides needed power boost for high cycle, high productivity picking operations.
- **Twelve-volt power supply** option is available for accessory equipment such as RF scanners. Consult SPED Price Book and/or Application Engineering.
- Optional **UL Type EE** construction is required if orderpicker is working in locations where volatile, flammable liquids or gases and ignitable fibers are present. Typical EE batteries with lockable covers are not required since the truck equipped with the EE option has lockable battery covers.
- Optional **wire guidance package** is available for 6.25 or 5.25 kHz frequencies for compatibility with various manufacturers' systems.
- **High-level** traction option permits traction above 212" while in the aisle.
- Optional **16.6" wide battery compartment** available through SPED. Consult SPED Price Book and/or Application Engineering. Note: Batteries exceeding specified maximum amp hour rating will void UL.
- Optional **60" pin-type fork length** is available through SPED. Consult SPED Price Book and/or Application Engineering.
- Optional **toggle ignition** (keyless entry) is available through SPED. Option replaces standard key switch. Consult SPED Price Book and/or Application Engineering.
- **Audible, motion, or backup alarms** are available through SPED. Consult Guide for Users of Industrial Trucks brochure to help determine the appropriateness of these audible and signaling devices. Also, consult SPED Price Book and/or Application Engineering.



Glossary of Terms

- **General and Mechanical Terminology**
- **Electrical & Control System Terminology**

The definitions found on the following pages are intended to simplify some of the technical terminology that is used throughout the Product Marketing Guide. Understanding the truck's many features and control systems is key for successful selling.

Gaining the customer's confidence is a challenge for the salesperson. Understanding the designs and features that make our product is critical for successful selling. A salesperson with the knowledge and capability to have a technical discussion, is a confidence builder for the customer. Product knowledge cannot be substituted.

General and Mechanical

Hydrostatic: All hydraulic. Basically; this is the replacement of mechanical linkages with hydraulic lines.

MFH (Maximum Fork Height): The maximum lift distance that a mast will raise the forks. Measured distance from the topside of the fork tip to the floor.

OAH (Over All Height): In this application, the OAH is referring to the measured distance from the floor to the top of the mast while the mast is fully collapsed / lowered.

FL (Free Lift): FL refers to the attainable lift from the extreme lowered position of the carriage before the stated overall collapsed height of the mast is exceeded by any standard part of the forks, mast or carriage assemblies.

LFL (Limited Free Lift): A limited / restricted amount of free lift either as standard or as optional.

FFL (Full Free Lift): The maximum amount of free lift available either as standard or as optional.

GPM (Gallons Per Minute): A unit of liquid flow measurement. In lift trucks, this measurement refers to the amount of hydraulic oil flow / output that can be generated from the trucks hydraulic pump and motor.

ANSI-(American National Standards Institute)-B-56: Standard adopted by the Industrial Truck Association (ITA), which details safety requirements for industrial trucks.

ASME-(The American Society of Mechanical Engineers) B56.1-2000: Safety standard adopted by the Industrial Truck Association (ITA), which details and regulates safety requirements for industrial trucks.

Cycle Time: The total of travel, load time, and unload time.

Gradeability: The percent (%) of grade that a truck can ascend or descend.

Transition: The maximum change in grade the trucks geometry allows before bottoming out.

OHG (Overhead Guard): The framework part of the truck that is mounted over the operator compartment to guard / protect the operator in the event of falling objects from overhead.

OAW (Over All Width): Width of the lift trucks extremities measured in direction of fork width.

OAL (Over All Length): Length from the rearmost extremity of the lift truck to the face of the fork.

OEM (Original Equipment Manufacturer): Refers to the original manufacturer of a particular make of equipment.

Electrical Terms

DC (Direct Current): Where the positive and negative polarity remains in same relative position (does not reverse). The electron movement in a direct current is always in one direction. This is characteristic of current delivered by batteries.

AH (Amp-Hour): This rating gives an indication of how much current can be supplied over a period of time. For example: a battery with a rating of 100 Amp-Hours can supply 100 Amps for 1 hour (100 x 1) or 10 Amps for 10 hours (10 x 10).

Mosfet (Metal Oxide Semiconductor Field Effect Transistor): The MOSFET is a voltage-controlled device that requires a minimal (small) input current. It is also characterized by its very high speed switching times that are in the nanoseconds.

SEM (Separate Excited Motors): SEM features independent control of the armature and field. Using a separately excited motor and a SEM controller eliminates the need for forward and reverse contactors and allows power to the drive motor(s) as required by operator input for more efficiency and control.

CAN (Controller Area Network) Bus: The CAN Bus system allows multiple control systems to be connected using a two-wire communications system. The CAN Bus communication protocol provides error and fault detection to ensure proper signal and command transmission and reception. Additionally, the use of the CAN Bus system considerably reduces the complexity of the wire harnesses.

Hall Effect Sensor: Hall effect devices use sensors, which measure magnetic fields. They use a magnet-mounted mechanism, which moves the magnet closer to or further from the sensor. Hall effect devices are used in applications to replace potentiometers due to their greater reliability.

MCU (Master Control Unit): A solid-state device that controls / regulates the current to multi-system controllers.

Class “H” Motor Insulation: A class rating of insulation materials has been established based on a motor’s ability to withstand a specific temperature over a specific period of operation. Class “H”, the highest class rating, specifies that the motor insulation must withstand an armature temperature of 356 degrees.

Electro-Opto Interrupters: Electro-Opto interrupter switches perform similar tasks to mechanical switches. They provide exceptional reliability and a minimum of maintenance since there are no moving parts to wear or break. The switches work by interrupting a beam of light with a shutter, turning the circuit on and off.

Electronic Solid State Control: A solid-state control is one, which employs solid-state devices, transistors, or Silicon Controlled Rectifiers. By switching the battery voltage on and off at a high rate (200 to 300 times per second), the motor responds to the average value of applied voltage.

Volt: A unit of electrical force. When electrons have been transferred from one body to another, there is a difference of “potential” energy between them. This difference in potential energy is measured in volts.

Ampere: A unit of flow of electricity or current. It is the rate at which electrons move through a body. It is similar to the flow of water in a pipe measured in gallons per minute.

Original Files
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