

H1050-1150HD-CH SERIES



**STRONG PARTNERS.
TOUGH TRUCKS.™**

HEAVY DUTY CONTAINER HANDLER



H1050-1150HD-CH SERIES

TOUGH TRUCKS FOR HEAVY DUTY APPLICATIONS

The Hyster® H1050HD-CH and H1150HD-CH trucks round out the high capacity product range in the Hyster® line of container handling products. An innovative Tier 4 Final powertrain offers improved fuel economy over the Tier 3 baseline Hyster® products.*

Two models are available: the H1050HD-CH with 80,000 lbs. of lifting capacity and the H1150HD-CH with 88,185 lbs. of lifting capacity. These trucks are engineered to provide up to 80,000 and 88,000 lbs. of container handling capability respectively on a 232" wheelbase.

80 years of Hyster's heritage in container handling and spreader design is brought to bear in this series to provide outstanding performance in container handling applications.

**Results will vary based on application, physical environment, fuel quality, etc.*





■ **DEPENDABILITY**

- Integrated Tier 4 Final powertrain
- High capacity cooling system
- Hydraulic systems

■ **LOW COST OF OWNERSHIP**

- On-demand cooling
- Travel speed limiters
- Empty seat engine shutdown
- Powertrain protection system
- ECO-eLO and Hi-P modes (Tier 4)

■ **SERVICEABILITY**

- Easy access to key components
- Optimized electrical layout and hydraulic routing
- Longer service intervals
- CANbus / On-board diagnostics

■ **ERGONOMICS**

- Cab comfort & visibility
- Ease of ingress/egress
- Display and controls
- Automatic throttle-up

■ **PRODUCTIVITY**

- Multiple performance modes
- TWIST module with vertical twistlocks
- High capacity spreader
- Hyster Tracker compatible

DEPENDABILITY

TOUGH ENOUGH TO ENDURE HEAVY DUTY APPLICATIONS.

■ INTEGRATED POWERTRAIN

TIER 4 FINAL

- The Tier 4 Final Cummins QSL 9L engine delivers 363 hp peak featuring cooled exhaust gas recirculation (EGR), selective catalytic reduction (SCR), water-cooled variable geometry turbocharger and an integrated diesel exhaust fluid (DEF) delivery system.
- The engine protects itself from excessive temperatures and pressures including:
 - high coolant temperatures.
 - high air intake temperatures.
 - high transmission oil temperatures.
- A torque derate strategy is implemented for engine and drivetrain protection.
- Rugged Spicer Off-Highway TE-32 transmission with proven field experience and reliability.
- Automatic throttle-up
- On-demand cooling
- A 24V electrical system with a 120 amp alternator, which includes a master battery disconnect switch.
- CANbus diagnostic connection is available in the cab to monitor engine, transmission, instruments, and load-moment protection systems and facilitate troubleshooting.

TIER 3

- Tier 3 Cummins QSM 11L engine delivers 365 peak horsepower.
- Rugged Spicer Off-Highway TE-32 transmission.
- On-demand cooling.
- Automatic throttle-up.
- Water-cooled wastegate turbo.
- 24V electrical system with a 120 amp alternator, which includes a master battery disconnect switch.
- CANbus diagnostic connection is available in the cab to monitor engine, transmission, instruments, and load-moment protection systems and facilitate troubleshooting.

■ TRAVEL SPEED LIMITERS (LADEN)

Travel speed limitation is a standard feature on these trucks with standard factory settings at 16 mph. When a container is detected, the speed will be limited to the standard factory preset speed of 10 mph.

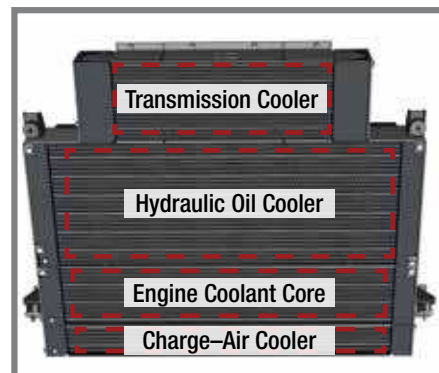


■ HYDRAULIC SYSTEM

- Leak-free ORFS (O-ring face seal) type fittings are used throughout the truck.
- Efficient filtration with new breathers. Full-flow return line filter with 5 micron cartridge on the main system, plus in-line pressure filter with 5 micron cartridge on power-assist and support systems.
- Hydraulic oil tank features a 158 gal. usable volume, with level, temperature gauge and magnetic drain plugs, providing additional cooling and reserve capacity.
- Centralized pressure check points.
- Fewer fittings, shorter hoses and conveniently located hydraulic components.

■ HIGH CAPACITY COOLING SYSTEM

- Designed for high temperature ambient conditions up to 113° F (45° C).
- Components last longer with cooler fluid temperatures.
- Puller fan draws cool and clean air, enabling the cooling system to operate more effectively.
- Hydraulically activated cooling system operates the cooling fan only when required, reducing fuel consumption and noise levels as the truck operates.
- Enhances component life by reducing wear and thermal degradation.



Quad-core configuration enables efficient cooling



Puller fan draws cool and clean air.



* Results may vary. Tier 4 Final features may help increase efficiency by delivering lower fuel consumption over Tier 3 products produced 5 years ago.

LOW COST OF OWNERSHIP

TECHNOLOGY THAT TRANSFORMS

When it comes to keeping costs down, Hyster beats the competition by offering significant savings in fuel consumption and less maintenance costs for your truck over its useful life. Because we understand that your total cost of ownership extends beyond just the initial acquisition costs, Hyster has collaborated with leading suppliers to provide well-integrated powertrains that reduce the overall cost of operations.

■ DURABLE COMPONENTS

The powertrain and drivetrain components have been designed to enable longer service intervals, up to 500 hours, thereby reducing the overall cost of operations for the truck. Advancements in hydraulic fluids and lubricating oils used also result in less frequent replacement and longer mean time between replacement.

■ LOWER FUEL CONSUMPTION

Fuel consumption is a key driver of the total ownership costs for container handling operations. Hyster provides a truck with superior fuel consumption characteristics compared to similarly sized trucks offered by the competition. The engine design produces greater power and torque using a high-pressure common rail fuel injection system with variable geometry turbochargers. Advanced controls enable the Cummins QSL 9L engine to provide peak performance and operating efficiency while delivering great fuel economy and durability.

All Tier 4 Final H1050-H1150HD-CH trucks require the use of diesel exhaust fluid (DEF) and feature engines with variable geometry turbocharging (VGT). A selective catalytic reduction (SCR) package for NOx reduction and a diesel oxidation catalyst (DOC) for particulate matter (PM) removal are also packaged onto each truck. DEF tanks have been sized to require fill-ups along with every other fill of the fuel tank.

Technological enhancements are also brought to bear in the Tier 3 QSM 11L optional engine to provide peak performance and outstanding torque in a durable package while delivering improved fuel economy over baseline Tier 3 engines produced 5 years ago.



*EPA Tier 4 Final Cummins QSL 9L diesel engine, lowers emissions and fuel consumption by up to 20%** from Tier 3 baseline.*



Optional EPA Tier 3 Cummins QSM 11L diesel engine (limited availability in US and Canada.)

* A Tier 4 Final engine must run on Ultra Low Sulphur Diesel (ULSD) fuel, with a maximum of 15 ppm sulfur content. Diesel fuel with a higher sulfur content than 15 ppm will compromise the emissions performance of the engine and may result in damage to components.

** Results may vary. Tier 4 Final features may help increase efficiency by delivering lower fuel consumption over Tier 3 products produced 5 years ago.

■ EMPTY SEAT ENGINE SHUTDOWN (OPTIONAL)

To further reduce operating costs, the Hyster® H1050-1150HD-CH is equipped with an Empty Seat Engine Shutdown feature. This feature ensures that the engine is shut down should the operator leave the seat, saving fuel. A time delay, adjustable within 3-15 minutes, enables flexibility in programming this function to best suit the customer's specific site applications. Primary electric power remains on during this time.

This feature prevents extensive idling and wear on engine and drivetrain components while reducing fuel consumed. The result is extended service intervals for the trucks and a reduced total cost of ownership.

■ POWERTRAIN PROTECTION SYSTEM

An engine protection system, acting on low oil pressure and high coolant temperature, is standard equipment. A transmission protection system, triggered by excessive oil temperature, is also standard equipment. In order to minimize damage to the truck, these systems will initially decrease the engine power when a problem is detected and derate the engine to creep mode if immediate action is not taken.

■ ON-DEMAND COOLING

On-demand cooling is provided by a hydraulically-driven fan, which reduces both noise and power consumption during cooling. The cooling system is designed for high ambient temperature conditions and provides on-demand cooling. The fan operates at variable speeds (depending on cooling needs) to ensure that the maximum engine power is available during driving and handling operations, thereby maximizing productivity. A heavy duty cooling system is standard, which provides all the necessary cooling of the engine and hydraulic system for working in ambient temperatures of up to 120° F.



SERVICEABILITY

SUPERIOR SERVICEABILITY AND EASE OF MAINTENANCE

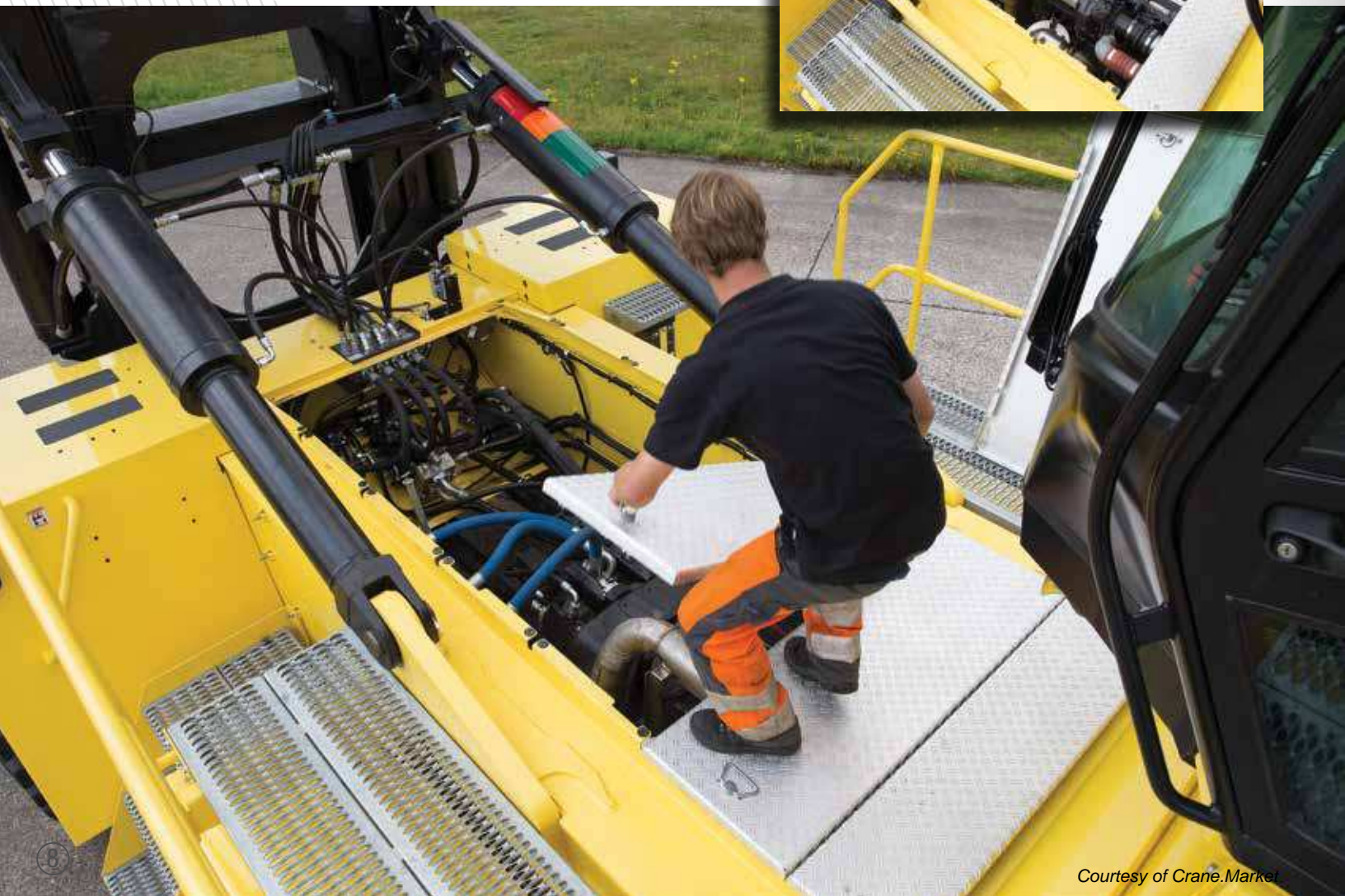
Hyster® trucks have been designed with the service technician in mind. The top deck is covered with easily removable aluminum cover plates with quick disconnect latches. When plates are removed, all major components - including the drivetrain and hydraulic systems - are easily accessible for service work.

Broad, slip resistant running boards foster quick daily checks, while a large access bay enables easy radiator cleaning. The hydraulic oil tank features a sight glass for the oil level monitoring as well as magnetic drain plugs and two 3-inch shut-off valves for ease of maintenance.

Optimized electrical harness and hydraulic hose routing enable seamless service of the truck and shorten service times.

EASE OF SERVICE

Wide open access to major powertrain and hydraulic components enhance ease of serviceability for on-going maintenance.



LONGER SERVICE INTERVALS

Major engine and drivetrain components are engineered to operate on 500-hour service intervals. Extended service intervals ensure that the truck remains in operation with longer mean times between oil changes or servicing.

- Complete diagnostics available through the PC service tool include engine and transmission, hydraulic system, and troubleshooting.
- Designed to aid technicians in first-time repair, eliminating unnecessary parts changes, and preventing excessive downtime.



Convenient oil check.

AUTOMATIC GREASING SYSTEM

An automatic greasing system is optional on H1050-1150HD-CH trucks. Greasing is provided for the base truck and outer mast. Additional greasing is also available for the Spreader. Centralized greasing is designed for mast chain sheaves to enable longer service intervals on all models. Steer axles, tilt cylinders and mast chain sheaves are automatically greased.



Optional automatic greasing system.

FAST DAILY CHECKS



Diesel Exhaust Fluid (DEF) tank.



Hydraulic site glass located externally on the truck for clear/instant visibility of oil levels.



Tier 4 Final integrated pre-cleaner and air filter.

SUPPORTING CUSTOMERS WITH WORLD-CLASS PARTS & SERVICE

Four Parts Distribution Centers strategically located around the world provide a full range of original equipment and aftermarket parts that help maintain our customers' uptime. G.A.P., our Guaranteed Availability Program, guarantees that if a covered part is not available the next business day it will be provided to you FREE of charge.*

We also take that commitment into the field with the Hyster CERTECH® Certification training program. This technical training program provides both systems level as well as product-specific education to ensure lift trucks are repaired right the first time.



*Contact your local dealer for program details.

COMFORTABLE CAB. INTUITIVE CONTROLS.

Hyster Company is known for tough lift trucks, but we're also recognized for ergonomically advanced lift trucks. The H1050-1150HD-CH series builds on this reputation by simplifying container handling with intuitive controls while providing the quietest, most comfortable work environment possible. A spacious, comfortable operator environment and an operator interface with ergonomically-designed controls elevates productivity while minimizing operator fatigue.

■ COMFORCAB II FEATURES

- A 3-way adjustable seat combined with a 6-way adjustable armrest control module to ensure minimum fatigue and precise controllability during operation.
- A cabin air filtration system and high-volume air conditioning control cab environment. Top and rear sunshades further enhance comfort.
- Steps and intuitively placed grab handles on both sides of the cab provide easy 3-point access.
- An adjustable steering column, power-assisted steering and lever controls, push-button parking brake and conveniently positioned instruments.
- The soundproofing achieved on the ComforCab II creates a quiet and relaxed working environment, reducing fatigue and enhancing operator alertness.
- Responsive, fully hydraulic brakes and an automotive style pedal layout further contribute to driver confidence and comfort.
- Wide-view rear view mirrors inside cab, outside rear view mirrors on front fenders.
- A comprehensive set of work lights.
- The optional air-conditioning system is integrated into the heating and ventilation system with manual temperature control.
- Automatic throttle-up function when lifting.
 - When operating the lifting function, either when not in gear or when the inching pedal is pushed, the engine automatically revs up to 1800 rpm.
 - When in gear, the automatic throttle-up function is deactivated.
- Proportional controls for the spreader rotation functions and Powered Pile Slope (PPS optional on CH).
- Large and uncluttered cab allows ample room for auxiliary options.
- Optional traction speed limiter.
- Optional map reading light.



A quiet and spacious cab means a comfortable, more productive operator.



The ComforCab II offers large windows fitted with tempered safety glass, with excellent all-around visibility.



■ CAB COMFORT & VISIBILITY

Superb visibility allows easy positioning of containers at any height for more precise and efficient load handling. The unique mast design positions cross-members away from critical container lift heights, allowing ultimate forward vision while keeping twistlocks and rear obstacles in view at all times.

The cab's structural design and curved tempered glass windshield creates the best all-around visibility available, optimal for container stacking. Rearward visibility is further enhanced by counterweight profile. The steel fabricated, rear sloping counterweight is designed for excellent rearward visibility. Lifting points are incorporated into the counterweight.

■ AUTOMATIC THROTTLE-UP

Automatic throttle-up is available on Hyster® H1050-1150HD-CH Tier 4 Final trucks which provides automatic response to lift inputs from the operator when the lift lever is activated. A single-touch lever or joystick-controlled rev-up keeps the engine in the most efficient band delivering good fuel economy. Given the improved operator ergonomics, this feature helps enhance productivity. Automatic throttle-up feature applies only when the truck is in neutral.

■ DISPLAY & CONTROLS

The display and controls are located on the right hand side of the operator compartment for unobstructed forward visibility. The message center features key truck controls, functionality and troubleshooting.

Located at the operator's right hand, the intuitive joystick option was designed for simplicity to ensure easy, precise operation of the mast and spreader.

- Ergonomically designed electro-hydraulic controls
- Integrated into armrest
- Minimizes muscle and joint strain
- May reduce operator fatigue over long shifts



Rear sloping counterweight design.



Message center features key truck controls and functionality.



Optional joystick option allows easy operation of the mast and spreader.

PRODUCTIVITY

WHEN PRODUCTIVITY COUNTS, HYSTER MORE THAN MEASURES UP

Through the combination of engine, transmission and hydraulic technologies, the H1050-1150HD-CH lift truck provides superior performance in all facets of container handling, lowering the cost of a container move. A significant improvement in cycle speeds enables the movement of more containers per hour, combined with 5-6 high stacking capability for the most efficient use of yard capacity.

■ POWER & PERFORMANCE

LIFTING, LOWERING AND TRAVEL SPEEDS

Hyster® H1050-1150HD-CH container handling trucks deliver high productivity with 4-mode average speeds of 51 ft/min (0.26m/s),* quite competitive in the industry at rated laden container handling capacities.

Travel Speeds:

15 mph (24.1km/h) with or without load

Lifting Speeds:

59 ft/min (0.30 m/s) - Unladen

51 ft/min (0.26 m/s) - Laden

Lowering Speeds:

98 ft/min (0.50 m/s) - Unladen

98 ft/min (0.50 m/s) - Laden

HIBERNATE IDLE MODE (TIER 4 FINAL ONLY)

Hibernate idle mode lowers the engine idle revolutions, from 900 to 700 RPM, after 30 seconds of idling if no driver input is received, thereby saving fuel.

ECO-MODE

ECO-mode controls maximum engine RPM and throttle response to provide the required balance of performance and fuel savings:

- Hi-P provides maximum performance and good fuel economy.
- e-Lo provides minimum fuel consumption without losing productivity.

■ SPREADER PERFORMANCE OPTIONS

- Powered Pile Slope (PPS) function on the CH spreader.
- 30 ft. automatic stop is required when handling 30 ft. containers. Includes: spreader reinforcements and electrically operated mechanical stop locks at 30 ft. spreader position.
- Four extra lifting eyes are located on the underside of the container spreader. Placed at 98" wide distance for lifting compact general cargo (e.g. coils, blocks, machinery). Capacity is 40 tons maximum, 10 tons per lifting eye. Includes reinforcements of the spreader structure. The four lifting eyes at the four corners of the spreader near the twistlocks, are standard equipment.
- Automatic greasing for the spreader is available on all H1050-1150HD-CH lift trucks.
- Light Emitting Diode (LED) lights on the spreader are also available for enhanced visibility of twistlocks.
- LED twistlock indicator lights on the spreader are standard.

* Average speed calculated using: laden lift speed (ft/min) at full rated capacity; unladen lift speed; laden lowering speed at full rated capacity; unladen lowering speed.

■ HIGH-CAPACITY SPREADER

Productivity is a primary focus on Hyster® container handlers. Consequently, the trucks are equipped with Hyster® 800 series spreaders with the following features and functionality:

- Gantry-mounted for laden containers up to 88,000 lbs.
- Both mechanical and powered pile sloping capability is available for the handling of containers on a sloping surface enabling up and down floating movement of the engagement heads by +/- 6 degrees of pile sloping.
- Hydraulic telescoping designed for 20 ft. or 40 ft. ISO containers powered by one dedicated hydraulic cylinder inside each beam.
- Hydraulic slew and reach capability powered by two hydraulic cylinders that connect the spreader to the gantry. Individual or simultaneous actuation of these cylinders realize +/- 6 degrees of slewing and up to 9.4 inches of reach capability. A third cylinder between the spreader and gantry enables the sideshift motion.
- Four vertical hardened pendular ISO quick exchange twistlocks ensure the container is securely attached prior to lifting.
- Four lifting eyes located near the twistlocks on the spreader.
- A twistlock indication system provides electrical and mechanical twistlock protection. Twistlock indicator lights (one red, two orange and one green) located on the spreader and in the cab provide a visual indicator of twistlock status to ensure safe handling of both laden and unladen containers.
- Mechanical twistlock interlock helps to prevent lifting a container on less than two corners prior to handling a container.
- A lift-interrupt system helps to prevent lifting a container with partially engaged twistlocks.
- An over-lowering interrupt device reduces shocks on the spreader by eliminating slacking of mast lift chains, header cables and header hoses.

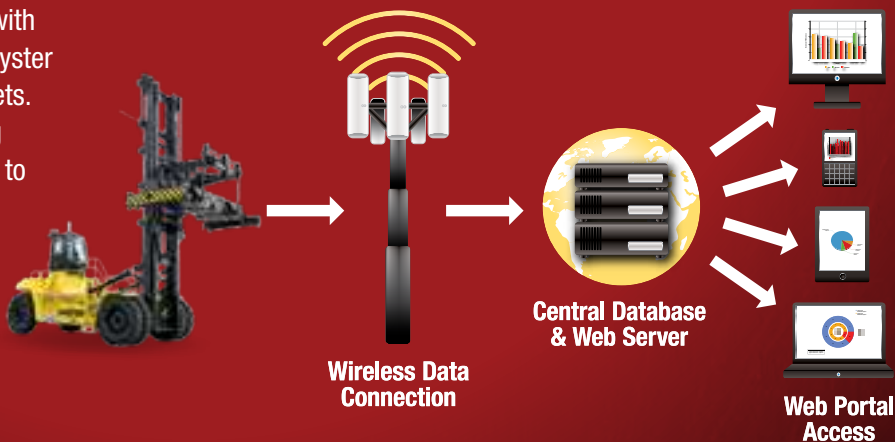


HYSTER TRACKER - WIRELESS ASSET MANAGEMENT

Take your fleet operation to the next level with wireless asset management from Hyster. Hyster Tracker provides a scalable solution for fleets. From monitoring truck utilization to limiting operator access, Hyster Tracker allows you to track your fleet at your fingertips.



TRACKER



INNOVATIVE TRUCKS ENGINEERED TO MEET THE MOST DEMANDING APPLICATIONS

For more than 80 years, Hyster has been conquering the world's most demanding applications. In the 1920's Hyster started as a manufacturer of lifting machines used in the rigorous logging industry of the United States' Pacific Northwest. A few years later the first forklift trucks were invented and the Hyster brand quickly gained its reputation for rugged quality. Hyster® lift trucks are designed to lower your cost of operations. Every truck we make — gasoline, LPG, diesel and electric — is purpose-built to excel in its application. Every truck is also backed by an unmatched network of specialists.



Dealer Network — Our Dealer Network can offer the expertise of fleet managers, parts suppliers, capital procurement specialists and trainers. Hyster's carefully chosen dealers fully understand customer applications, assist in selecting the right lift truck and provide fast, reliable support.



Hyster Fleet Services — Even if you operate other brands, we can manage your maintenance and replacement plan. We can offer complete fleet analysis, fleet history summary and a cost-effective proposal for replacement and scheduled maintenance.



Parts — With genuine Hyster replacement parts and UNISOURCE™ parts for all makes of lift trucks, we are your one-stop source for lift truck parts. In fact, we offer more than 2 million part number crosses for most brands of materials handling and other in-plant mobile equipment.



Rental Products — When leasing or buying isn't a practical option, we have access to more than 14,000 units for short- and long-term rental. We'll help you maintain output in a cost-effective manner.



Hyster Capital — We can arrange solutions for special financing requirements, taking the difficulties out of buying the equipment you need. Whether you purchase or lease a new or used lift truck, Hyster Capital offers superior service and competitive rates.



Special Products Engineering Department (SPED) — Different materials require different handling. That's why we can work with you to customize your lift trucks. From strobe lights to specially made forks, SPED has the tools to help you get the job done right.



Operator Training — Proper education in operating lift trucks minimizes the risk of injuries due to accidents while increasing productivity. Hyster offers OSHA-compliant materials that support the training of qualified operators.



Service — Your local Hyster® dealer offers a flexible, customized and comprehensive maintenance plan based on each lift truck's operation environment. Hyster service programs offer scheduled inspections and maintenance, along with quick, responsive service dispatched to your location.




HYSTER



Hyster Company
P.O. Box 7006
Greenville, North Carolina
27835-7006
Part No. H1150HDC/B
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