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HEAVY DUTY FORKLIFT TRUCK
PRODUCT BROCHURE

H400-450XD
SERIES



H400-450XD SERIES

HIGH CAPACITY TRUCKS FOR HEAVY DUTY APPLICATIONS

Hyster Company has a long history of designing and building high capacity forklift trucks. The Hyster® H400-450XD series offers a Tier 4 Final powertrain featuring the Cummins QSB 6.7L engine with cooled Exhaust Gas Recirculation (EGR) and Selective Catalytic Reduction (SCR). Using tested and proven components to help provide high productivity, reliability and overall lower ownership costs, this truck offers a strong performance solution for your unique application. The truck has been engineered for ease of service while offering up to 22% lower fuel consumption* over prior Tier 3 products. The H400-450XD forklift series is also available with a Tier 3 engine for certain markets without reliable access to Ultra Low Sulfur Diesel Fuel (ULSD).

Over 90 years of heritage building tough forklift trucks is brought to bear in the H400-450XD forklift, available in four models for use in applications such as steel, breakbulk/stevedoring, concrete and mining.

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



ENGINEERED FOR TOUGH APPLICATIONS

HEAVY DUTY MASTS & CARRIAGES

The Hyster® H400-450XD forklift, has been designed and suited for particularly tough applications and engineered for long load centers, wide loads and heavy duty-cycle conditions. Carriages are available in two options: hook type dual function sideshift fork positioners and pin type dual function sideshift fork positioner.

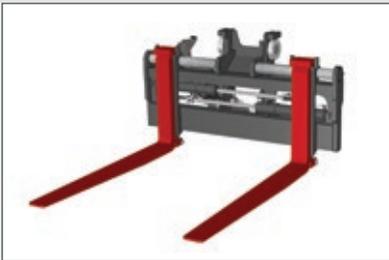
The mast, with robust mast channels, rollers, stub shafts and chain anchors, is designed to excel in heavy duty applications. The sturdy mast design for this truck series enables less mast deflections while offering a number of 2-stage mast options for a wide variety of applications in multiple industries.

Greaseable load rollers with roller bearings can provide years of dependable performance in the front end. Carriages are designed to have minimal capacity derate on sideshifting carriages, enabling the truck to provide close to full rated capacity under all operating conditions.

CARRIAGE & FORK OPTIONS

Different applications require different tools — customize your truck with available carriage and fork options on the H400-450XD truck series.

Hook type carriages allow for quick connect coupling of forks enabling increased flexibility in the use of the truck for other applications. Pin type dual function carriages provide a rugged heavy duty solution for dedicated forklift applications.



Quick disconnect, hook-type dual function sideshift fork positioner



Pin-type dual function sideshift fork positioner



SHORT WHEEL BASE

Hyster short wheel base forklift trucks deliver an optimum combination of compactness, nimbleness and agility for applications with space constraints requiring a tighter turning radius.

POWERTRAIN

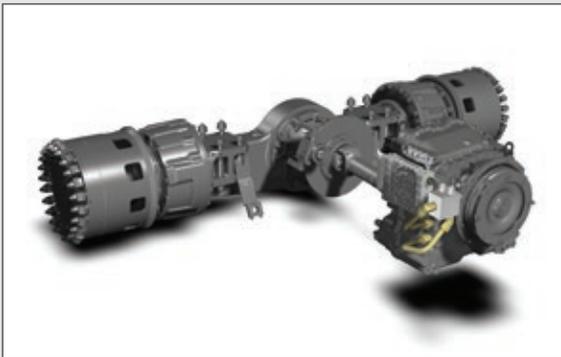
- Cummins QSB 6.7L engine providing 230 peak horsepower (220 hp rated).
- ZF WG 211 5-speed powershift transmission with proven field experience and reliability. The 5-speed transmission features improved shift point selection with an overdrive gear enabling maximum efficiency of the drivetrain while limiting fuel consumption.
- The Tier 4 Final drivetrain includes an emission reduction package featuring cooled Exhaust Gas Recirculation (EGR), a Selective Catalytic Reduction (SCR) system for NOx reduction, a Diesel Oxidation Catalyst (DOC) for particulate matter (PM) removal and a Diesel Exhaust Fluid (DEF) delivery system.
- Tier 3 engines are available as an option for non-regulated markets, featuring a Cummins QSB 6.7L engine and ZF WG 211 5-speed powershift transmission for all models.

HIGH CAPACITY COOLING SYSTEM

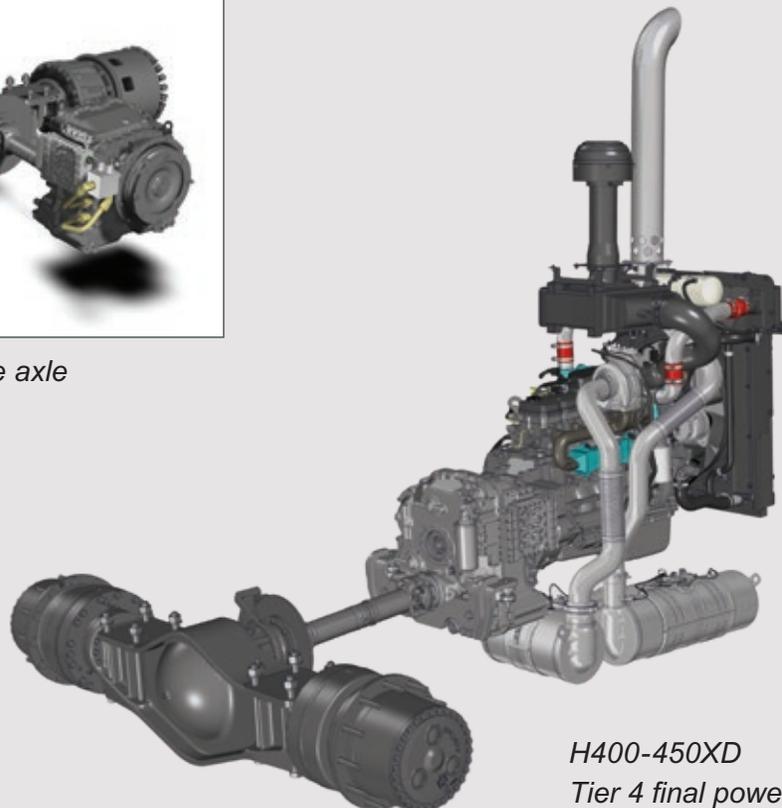
- High capacity cooling system is designed for high ambient temperature conditions up to 113° F (45°C).
- Puller fan enables the cooling system to operate more efficiently by drawing cool, clean air from above through the radiator.
- Components last longer with cooler fluid temperatures.

HEAVY DUTY STEER AND DRIVE AXLES

The Hyster H400-450XD forklift uses a heavy duty drive axle with wet disc brakes to provide long life. The sturdy design enables extended service intervals on wearable service components.



Heavy duty planetary drive axle



*H400-450XD
Tier 4 final powertrain*

LOWEST COST OF OWNERSHIP

Hyster understands that your total cost of ownership extends beyond initial acquisition costs. Hyster has engineered a well-integrated system to help reduce your overall cost of operations over the life of the truck.

INTEGRATED SYSTEMS DESIGN

Unique partnership with Cummins enables a harmonized powertrain featuring a Cummins QSB 6.7L engine paired with the ZF WG 211 transmission.

- Powertrain solution is optimized for maximum performance and improved fuel economy.
- Low-hassle Tier 4 Final solution requires no use of Diesel Particulate Filter (DPF) or active regeneration; utilizes urea-based SCR system with a diluter for lower exhaust temperatures.
- Innovative ECO modes: Hi-P and e-Lo (Tier 4 Final)
 - Hi-P provides maximum performance and good fuel economy.
 - e-Lo provides minimum fuel consumption while maintaining good productivity.

Tier 3

- The Tier 3 solution with no after-treatment continues to be available in all non-EPA regulated markets including Latin America and Brazil.

ON-DEMAND COOLING (TIER 4)

- This state-of-the-art feature provides on-demand cooling to match the required cooling expectations.
- Cooling fan draws power only when cooling is required, unlike direct drive fans which draw high levels of power at all times.
- Reduces accessory loads on the powertrain, consumes less fuel and lowers noise levels.

TOTAL SYSTEM FUEL SAVINGS*

Fuel consumption is a key driver to the total cost of ownership for high capacity lift trucks. Hyster provides a truck with superior fuel consumption characteristics compared to similarly sized trucks offered by the competition. A number of complementary technologies work together to deliver total system fuel savings including:

- On-demand hydraulics – Up to 10% fuel savings.
- Intelligent powertrain design with ZF transmission and advanced controls featuring ECO selectable modes
 - Up to 10% fuel savings.
- On-demand cooling – up to 5% fuel savings.

Advanced controls enable Hyster® model series H400-450XD trucks to provide peak performance and operating efficiency while delivering cumulative great fuel economy and durability.



Cummins QSB 6.7L
Tier 4 Final Engine with
Aftertreatment



Cummins QSB 6.7L
Tier 3 Engine



On-demand cooling fan



ON-DEMAND HYDRAULICS

The Hyster on-demand, load-sensing hydraulic system is designed to deliver flow only when required. A variable displacement pump, capable of more oil displacement even at low pump speeds, means the engine runs at lower speeds, extending the life of components while operating more quietly. The system consumes up to 10% less fuel than a typical fixed displacement hydraulic system while producing less heat. Oil and filters last longer; hoses, seals and components also wear less and last longer.

TRAVEL SPEED LIMITERS (OPTIONAL)

This system reduces traction speeds and can be pre-set to suit varying customer applications:

- Unconditional travel speed limiter to set the maximum speed.*
- Loaded travel speed limiter – limits traction speeds to a set point when a specified load weight is sensed on the forks factory preset to 8 mph.

This feature helps drivers to operate the truck in an optimal manner with regard to site limitations. Unconditional travel speed limiter is customer adjustable.

AUTOMATIC THROTTLE-UP

Automatic throttle-up, available on Hyster® H400-450XD trucks, 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.

AUTOMATIC ENGINE SHUTDOWN WITH TIMER (OPTIONAL)

An optional empty seat engine shutdown function reduces fuel consumption by shutting the truck down when the operator is out of the seat for extended periods, thus limiting idle hours on the truck.

AUTOMATIC GREASING

An automatic greasing system is optional on many Hyster Big Trucks. This ingenious option lowers your service and labor costs by providing greasing to your truck at all times while ensuring that it gets done. Automatic greasing is provided for the base truck and outer mast.

* Less speed means lower fuel consumption

ACCESS MAJOR COMPONENTS IN SECONDS

EASE OF SERVICE

Hyster® trucks have been designed with the service technician in mind. Gull-wing hoods provide quick access to key components, and daily checks don't require tilting the cab. A tilting cab provides easy access to hydraulic components in seconds. Broad, slip-resistant running boards foster quick daily checks, while ample room enables easy access for radiator cleaning. A hydraulic sight gauge enables at-a-glance fluid level checks.

ON-BOARD DIAGNOSTICS

CANbus on-board diagnostics is available for easy servicing and troubleshooting. Fault codes and system notifications are provided through the Integrated Performance Display for quick and effective identification of service issues while enabling rapid implementation of remedies, reducing downtime and frequency of repairs.



Wide running boards



Gull-wing hoods



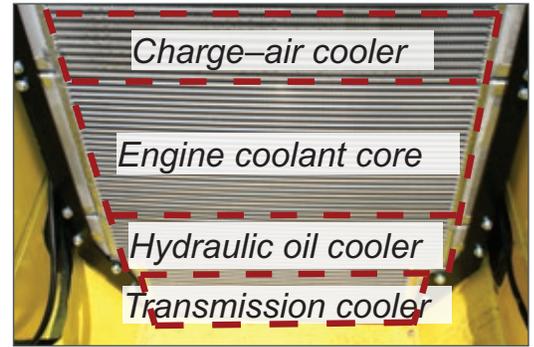
Hydraulic sight gauge

EXTENDED SERVICE INTERVALS

Major engine and drivetrain components are engineered to operate on 500-hour service intervals. Extended hydraulic oil change intervals of up to 10,000 hours (with sampling) allow the truck to remain in operation with more time between oil changes or servicing.

COOLING SYSTEM

- Designed for heavy duty cooling applications requiring additional cooling capacity.
- Cooling cores are packaged such that cool air (not pre-heated air) is channeled across cores.
- Quad-core radiator features four separate cooler cores.
- Cool overhead air is drawn in for more efficient cooling than in stacked radiator configurations.
- Louvered cooling fins for maximum air flow to radiator.
- Hinged hood pivots at wide angles to provide easy access to cooling system.
- Easy to clean since coolers are not stacked in front of each other.



Quad-core configuration enables efficient cooling



Hinged cover enables easy serviceability access to radiator cooler



Cab tilt provides easy access to major hydraulic components

DESIGNED AROUND THE OPERATOR



CAB COMFORT

With the largest cabin entry area in the industry, the operator cabin on the Hyster H400-450XD series provides ample space for operators of any size to easily and more comfortably enter and exit the cabin. Once inside, operators enjoy the comfort of a spacious cockpit style cabin that keeps all truck information and controls within reach.

The ergonomically designed, seat-mounted control arm is fully adjustable and includes a wrist cushion and TouchPoint™ mini-levers to help reduce fatigue when operating the hydraulics. The reliable CANBUS controls for all main components and modular design of the control arm makes it possible to cover almost any possible truck configuration while being easily serviceable.

The 7" full color, touchscreen Integrated Performance Display tracks all truck activity, allows for easy access to change or calibrate truck settings and is integrated with Hyster Tracker™ telemetry system. The display also offers high-level onboard diagnostics allowing for advanced and quick troubleshooting.

A variety of seat configurations are offered to suit operator preference including mechanical or air suspension, cloth or vinyl cover, lumbar support and ventilated or heated seats. The air conditioning system can be pre-set for automatic climate control and the unique high and rear louvers provide direct air flow toward the operator.

OUTSTANDING ALL-AROUND VISIBILITY

A low profile carriage enables a clear line of vision for an optimized view of fork tips. Forward visibility is uncluttered by the position of hydraulic valves, hoses or mast cross-members with a clear view through the mast window. Canted hoses are arranged along the line of sight so the operator sees only one hose and has good visibility.

Curved, scratch resistant, tempered glass front and rear windshields, armored glass top window and steel-framed glass doors provide operators with excellent all-around visibility. On the exterior, sloping counterweights enhance visibility of steer tires for improved maneuverability and reduced tire gouging.



A 7 inch full-color Integrated Performance Display provides truck performance data in one clear screen.

MORE LOADS MOVED PER HOUR

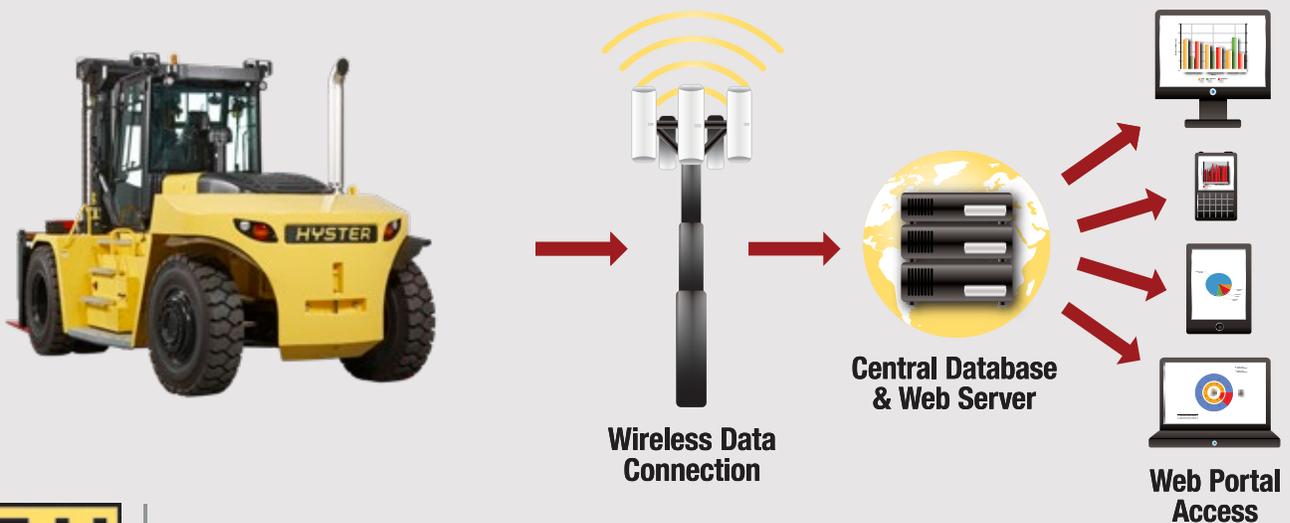
AUTO-SHIFTING TRANSMISSION WITH TRUE INCHING

This truck series is equipped with ZF transmissions paired with Cummins engines to provide inching capability and better controllability. The auto-shift transmissions enable smooth shifts that enhance the longevity of the drivetrain and operator comfort by reducing jolt.



HYSTER TRACKER™ - WIRELESS ASSET MANAGEMENT

Take your fleet operation to the next level with wireless asset management from Hyster. Hyster Tracker™, standard on the H400-450XD, 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

** 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.*



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