



PRODUCT INFORMATION BULLETIN



D/C # 9

April 8, 2004

Series Impact: J160 (Formerly H160)

TO: ALL HYSTER DEALER PRINCIPALS, SALES MANAGERS, & SALES REPRESENTATIVES

FROM: PETER SIESSEL – VICE PRESIDENT, HYSTER MARKETING

SUBJ: NEW AC Controlled J30-40ZT Product

Hyster Company is pleased to announce the new AC Controlled J30-40ZT, 3 Wheel Sit, Counterbalanced Electric Rider product scheduled for July 2004 production. Hyster AC technology provides speed, torque, and controllability that is not possible with DC systems. Furthermore, better efficiency and thermal capabilities with the Hyster AC system enable the truck motors and controls to operate at lower overall temperatures, extending system service life and intervals between battery changes.

The new J30-40ZT model provides a host of new standard features that will include, AC Traction Motors and Controller, a new Thermal Management System, New Dash Display with Extended Shift Functionality, CANbus Based Electrical System, Wet Disc Brakes, Electric Seat Activated Parking Brake, Brushless On-Demand Power Steering, an 81" inch Overhead Guard as well as new Styling and Ergonomic improvements. The following provide the detail of these new features represented by the new product.

Hyster AC Advantage

The new Hyster AC traction control system features a single transistor controller that provides faster loaded speeds, faster acceleration, controlled ramp descent, improved efficiency and better thermal capabilities than other manufacturers conventional equipment. A unique feature of AC technology is the systems ability to provide a wide range of torque at any particular speed, enhancing the trucks range of traction performance. This system also provides smooth acceleration and deceleration in both forward and reverse directions as well as auto deceleration down to zero speed.

This new design enabled us to position the traction motors horizontally in the frame in lieu of vertically, allowing the floorboards to be lowered approximately 25mm in the front to provide a more comfortable angle for the operator's feet and ankles.

The J30-40ZT AC traction motors are less complex than equivalent DC motors; having ***no brushes, brush rigging or motor commutator***. These motors are designed to provide superior torque, speed capabilities, reliability, and thermal performance for years of maintenance free service. This directly translates to lower operating costs, higher reliability, and longer product life.

Thermal Management System

The Hyster Thermal Management System is well balanced between the thermal limits of the motors and the controller. The new Hyster thermal management system provides improved thermal performance over the previous DC system. Positioned up away from the floor, the traction controller is mounted in a sealed control compartment area behind the counterweight preventing external contamination. In tough thermal applications, the new system allows the truck to continue running at a reduced power level when needed, rather than shutting down.

Marketing Department

HYSTER

New Dash Display with Extended Shift Functionality

The new dash display provides diagnostic capabilities and on board ability to adjust truck performance settings for enhanced levels of performance. The extended shift feature is programmed through dash display through service access passwords. With the Extended Shift enabled (factory setting) the truck matches SEM performance. With Extended Shift disabled (high Performance setting) the truck exceeds SEM performance. *Keep in mind, whenever performance is increased, energy consumption is also increased regardless of truck manufacturer.*

- Standard Dash
 - Allows service passwords to control access to service functions available through the dash
 - Provides a comprehensive set of service functions using the mode buttons and the LCD display.
 - On Board Diagnostics in both runtime and static mode without the need for a handset.
 - Programmable to meet application requirements
- Premium Dash – includes features of the standard display plus...
 - Allows programmable user passwords to control driver access to the vehicle
 - Mode limits can be assigned for specific users
 - Provides 4 driving performance modes selectable through the dash display keypad.
 - Allows access to the pre-shift operator “check list” function

CANbus (Controller Area Network) Electrical System

Unlike other manufacturer’s existing designs, the new J30-40ZT uses Hyster’s field proven CANbus technology. This technology simplifies the electrical system by the reduction in the number of wire and wire connections required throughout the truck. This reduction greatly reduces the opportunity for wiring related failures and truck down time by minimizing time needed for trouble shooting. The result provides our customers with enhanced truck reliability and diagnostic capabilities that increase efficiency while decreasing the cost to maintain and repair.

Wet Disc Brakes

Wet Disc service brakes are **now standard** and are an integral part of the transmission. Designed for thousands of hours of reliable and maintenance free service, they are contained inside the transmission housing where they are sealed and operate with no degradation to performance in either wet or high moisture applications. Under certain conditions the wet disc brake pads can last as much as 8 to 10 times longer than other manufacturers dry type disc brake offerings.

Automatic Park Brake

The seat activated parking brake automatically applies after any one of the following examples; when a truck comes to complete stop, the key is turned off, the seat is unoccupied, or no travel direction is selected. The brake is disengaged once a seated operator selects a direction and the accelerator is depressed. This standard feature requires no reaching out to actuate the parking brake.

On-Demand Power Steering

The new J30-40ZT models utilize the existing rack and pinion steering actuator, however the steer system is powered by a **brushless** power steering motor with integrated steering controller that provides on demand steering with low noise and energy consumption. This brushless power steering motor eliminates service costs associated with parts and labor typical of a brushed motor; which, ultimately reduces truck down and increases truck up time for a more productive and cost efficient operation.

Overhead Guard

The overhead guard for the new J30-40ZT series has been raised to a new height of 81” inches. This provides more operator headroom and clearance as well as excellent overhead visibility for quick and precise load placement. The 78” inch overhead guard is still available as a low profile option as well as a drive-in-rack overhead guard available in an 81” inch overall height only.

Hydraulic Control

The J30-40ZT offers three hydraulic control options; Manual Hoist Levers with Contactor or Transistor control, and Electro-hydraulics with Transistor control. All three options utilize a DC Hydraulic Pump Motor with brush wear and temperature indicators. Energy use, heat generation and noise vary depending on the option selected.

1. With the **Standard Contactor Control** being the least efficient feature, the hoist motor runs at full speed all the time, regardless of control handle position, therefore providing full flow. The advantage is that it is the least expensive option and is a simple, traditional option that customers are familiar with.
2. The **Optional Transistor Controlled** system reduces motor speed to match the flow required to perform a specific function. The manual lever transistor control does this in a stepwise manner and offers several advantages with regard to the electrical system. The advantage is that the Transistor control is quieter, and more efficient, so the motor runs cooler increasing brush life.

For trucks equipped with either option above, the main control valve and manual levers are located just to the right of the operator's seat. The levers are ergonomically shaped and positioned for quick, accurate hand placement and lever actuation. There is no reaching out to activate the hand levers; reducing operator fatigue while increasing productivity. With a manual valve the operator has excellent feedback control. *If finesse is required, this is the best choice for your customer.*

3. Not available on the previous series, the **Optional Electro-Hydraulics** provide a new level of operator comfort with fingertip control of hydraulic functions, including an adjustable padded armrest for individual preferred positioning. In addition, this option also includes a step on the right side for entry and exit from either side of the truck. The armrest swings up and out of the way allowing unfettered entry and exit from the right side of the truck. The floor plate changes on the right side of the truck (as viewed by the operator) to include the step when the Electro – Hydraulics option is used.

With this feature, pump speed is matched proportionally to desired flow. This provides the quietest, most efficient performance of the three options. Fingertip control is easier and probably the most comfortable to operate.

Transistor Control - Requirement vs. Recommended

Attachments where Transistor Hydraulics are **REQUIRED** for High Duty-Cycle applications with hydraulic usage-dependent operation include, but are not limited to: Clamps (paper roll, carton, bale, etc.), Rotators, Push-pull/Slip-sheet units. Maximum operating cost savings will be realized with the above attachments.

Attachments where Transistor Hydraulics are **OPTIONAL**, but **RECOMMENDED** for most applications: Sideshifts, Fork Positioners, Side-Shifting Fork Positioners, applications with Tall Masts or 4-Stage Masts, applications with frequent mast raises or frequent hydraulic attachment activations. The customer will save money in the long run using Transistor Hydraulics. Contact Applications Engineering when necessary to ensure the truck will be ordered properly equipped to handle the hydraulic demands of the customer's duty cycle.

Styling and Ergonomic Improvements

- **Steer Column Angle Changes:** The steer column pivot position has been moved forward and upwards providing more knee clearance and a more natural range of driving motions. Featuring five lockable tilt positions, the column comfortably matches the operator's preferred steering wheel angle. The standard 14" diameter steering wheel features a rubber coating for comfortable gripping and quick, precise steering. A compact 12" steering wheel with spinner knob is an available no-charge option.
- **Floor Plate Angle Changes:** The operator compartment floorboard is uncluttered and open for operator comfort and ease of use. The tilt cylinders are mounted under the floor plate, as well as the hydraulic control valve plumbing, providing legroom and versatility in the operator compartment. The new floorboard design has been lowered approximately 25mm in the front to provide a more comfortable angle for the operator's feet and ankles. The drop in floor plates are easily removed (lift-off) without the use of tools and have hand hole cutouts on both the L.H. and R.H. floor plate for easy servicing.

- **Battery Compartment Hood:** The front top edge of the battery compartment cover has been re-contoured / chamfered to have a lower profile, which provides more calf clearance and allows easier ingress and egress from the truck.
- **Operator Seat:** The operator's seat has been raised 12mm and moved back, depending on wheelbase and seat selection. The repositioning enhances hip and knee angles and allows more maneuverability. The new model also provides 6" of seat travel whereas the previous only allowed for 4" of seat travel.

SUMMARY

As we make the conversion from old to new, we wish to ensure you have the interim marketing tools for the new series. To this end, please find the following information attached.

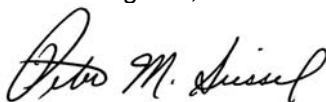
A complete set of standard price pages. A Hyster launch box will be sent to your dealership by the end of April that will provide the formal distribution of these pages, the feature brochure and technical guide, the J30-40ZT Sales Training CD, the High Lift sheets as well as the SPED price pages. For your convenience, the Standard and SPED price pages are available immediately online at www.hysterusa.com. ***Please remember to refresh HERO by selecting the "completely reload tables" option in the download area of the price book thereby activating these series.***

The introduction of the Hyster J30-40ZT AC controlled product will advance our competitive position in the marketplace by providing improved reliability over the current DC SEM offerings. By design, these new Hyster products use fewer components, allow for software updates that don't require hardware changes and utilize simple but durable motors with fewer wearable parts.

We are excited about the release of this very important addition to our Class I family and the many opportunities and competitive advantages this series will provide your dealership. For further detail or assistance, please contact your Regional Product Manager or the Hyster Marketing Department.

As always, we appreciate the support of our distribution network and the sales organization.

Sincere Regards,



Peter M. Siessel
Vice President of Marketing – Hyster Company

The information contained in this bulletin is for information purposes only, Hyster Company reserves the right to change the design of our products without incurring an obligation to modify previously manufactured products.