PRODUCT INFORMATION BULLETIN

D/C # 1 **January 15, 2004**
Series Impact: G108 (formally F108)

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

FROM: PETER SIESSEL – VICE PRESIDENT, HYSTER MARKETING

SUBJ: New E45-65Z AC Controlled Model

Hyster Company is pleased to announce the new ***AC Controlled*** E45-65Z Counterbalanced Electric Rider product scheduled for April 2004 production. Fueled by rapid developments in AC control technology, Hyster Company is able to provide the benefits offered through AC motors and controllers to the Counterbalanced Electric Rider product line that has previously used DC motor/control systems.

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 January 22, 2004 that will provide the formal distribution of these pages, the feature brochure and technical guide, the E45-65Z 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.***

Recent developments in control technology have greatly enhanced the speed and torque control capabilities, as well as the efficiency and performance of AC motors and controllers. AC provides vehicle performance options that were not possible with DC control systems of the past. The traction and pump motors on these new Hyster products operate on 3-phase AC power provided by the motor controllers. A speed sensor built into the motor bearing, provides closed loop feedback to the motor controller (direction and RPM). This speed sensing allows a full range of motor speed control not currently available with the DC control system (top speed and acceleration). The following provides the advantages of AC motors and controllers

AC ADVANTAGE

- The Hyster AC traction motor is less complex than the equivalent DC motor, providing superior torque, speed capabilities, reliability, and thermal performance..

  - This directly translates to lower cost, higher reliability, and longer product life.
  - The simplicity of the new Hyster AC motor allows it to operate at lower overall temperatures than equivalent DC motors. The simplicity in design eliminates the need to service brushes, brush rigging, and motor commutators. The result is **No arcing – No sparking – No maintenance -- which directly translates to lower cost, higher reliability, and longer product life.** (*DC motors require regular brush replacements and frequent cleaning of built up carbon as the brushes wear.)*
  - Similar to our current DC system, the new Hyster AC controller can directly accelerate or decelerate (regenerative brake) the traction motor in both directions. However the benefit of the AC controller is that it instantaneously switches torque from one direction to the other providing a very smooth transition between forward and reverse increasing operator productivity.

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Hoist Motors

- The *optional* AC hoist motor has all the same features as the traction motor. The Hyster AC hoist motor, when controlled by the Hoist Motor Controller provides equal torque and speed performance as the transistor controlled DC Hoist Motor. As a result, energy consumption is equivalent as well. ***Note: This option is required when an attachment other than a side-shifter is used.***

Note: The ***standard*** contactor controlled system utilizes the current ***DC*** hoist motor with brush wear indicators and a temperature sensor. With this feature, the brush wear indicators provide an advanced warning to the operator when the motor must be serviced.

OTHER NEW HYSTER DESIGN BENEFITS

Control System Advantages

- On board ability to adjust truck settings can be achieved to meet customer requirements (through technician password) to take advantage of enhanced levels of performance. Hyster trucks outperform other manufacturer,s conventionally equipped DC and AC products in many cases. ***Keep in mind, whenever performance is increased, energy consumption is also increased regardless of truck manufacturer.***

- The Hyster Thermal Management System is well balanced between the thermal limits of the motors and the controls. The new Hyster AC system provides improved thermal performance over the previous DC system. Positioned up away from the floor, the AC traction and pump motor controllers are mounted in a sealed control compartment area behind the counterweight preventing external contamination. Fresh air, provided by two industrial quality fans, move the air through the compartment, transferring the heat conducted from the controls out. The fans are thermostatically controlled and do not operate until the control reaches predetermined temperature limits. In tough thermal applications, the new AC system will run longer before initiating performance reductions. Additionally, the new system allows the truck to continue running at a reduced power level, rather than shutting down.

- Our new control system provides on board diagnostic capabilities in both run and non run-time scenarios resulting in minimized truck down time.

On-Demand Power Steering

The Hyster brushless power steering motor with integrated steering controller provides on demand steering for low noise and low energy consumption. This feature allows us to provide our customers with a **100% brushless** truck if ordered with the transistor controlled hydraulic option.

CANbus Technology

Unlike other manufacturer's existing designs, these new Hyster AC products will utilize CANbus technology. This field proven technology is found on the current Hyster three wheel StanDrive® and Orderpickers. A significant advantage of this system is the reduction of wires typically not found on other manufacturers conventional systems. This reduction greatly reduces the opportunity for wiring related failures and truck down time by minimizing time needed for troubleshooting. ***The result is increased efficiency and decreased cost to maintain and repair.***

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Brake and Back-up Lights

The brake and back up lights have been redesigned. The new brake and back up lights have been upgraded to LED lights in lieu of incandescent lights. The new LED brake and back up lights will offer the following benefits to our customers:

- LEDs are solid state and have no filaments; therefore, they are much more tolerant to vibration.
- LED life expectancy is many times longer than incandescent light bulbs.
- LEDs draw less amps than incandescent light bulbs, as much as four to five times less.
- LEDs are low profile and therefore provide limited visual obstruction and are positioned closer to the truck overhead guard…lessening the chance of inadvertent damage.

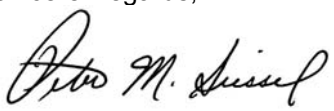
SUMMARY

The introduction of the Hyster E45-65Z AC 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. Perhaps the most influential customer realization will be the extended service intervals through the use of the Hyster **BRUSHLESS** AC traction motor, the (optional) AC hoist motor, and on-demand power steer motor.

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,



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