



# PRODUCT INFORMATION BULLETIN



D/C # 3

February 18, 2004

Series Impact: G007, F019 (Formerly F007, E019)

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

FROM: PETER SIESSEL – VICE PRESIDENT, HYSTER MARKETING

SUBJ: H170-360HD –New Transmission, Cummins Tier II Engine and 3 Stage Masts

As a result of Hyster Company's continuous product improvement process, we are pleased to introduce several additions to the H170-360 product. Beginning with February/March production, a new standard TE-10 3 Speed Autoshift Transmission, an optional Cummins Tier II Engine and 3 stage masts will be offered. As we begin to introduce these new offerings to our customers, we wish to ensure you have the interim marketing tools. To this end, please find the following information attached:

A complete set of standard price pages. In the near future we will be providing the formal distribution of these pages, however they will be available on-line at [www.hysterusa.com](http://www.hysterusa.com) immediately. These pages are effective today, February 18, 2004. **Please remember to refresh HERO by selecting the "completely reload tables" option in the download area of the price book thereby activating this series.**

## TE10 Transmission

This new Hyster offering will provide our customers with an extremely efficient transmission that provides super soft shifts and inching performance, in addition to a much higher torque capacity superior to the previous T-50 transmission design.

This new Hyster standard TE-10 transmission will be fitted with the Tier II Perkins or Cummins engines. (As a reminder, the Perkins 1106-60TA Tier II engine was released back in March of 2003, mating only at that time with the T-50 Hyster built transmissions. **Refer to D/C #5 dated March 14, 2003.**

- The new TE-10 Transmission provides four distinct selections of the inching process: (1) No inching, (2) Speed control, (3) Low speed against brakes, and (4) De-clutch. The table below shows how the inch/brake pedal works vs. % travel of the pedal.
- (1)The first 5% of pedal movement has inching "disabled", (2) The 5% to 35% of pedal movement has continuous inching speed control with no vehicle braking occurring, (3) From 35% to 70% there is inching with vehicle braking capability combined, and (4) From 70% to 100% pedal movement the transmission is disconnected and progressive braking effort is applied.
- This 3 speed forward and reverse transmission has higher torque ratings than its predecessor, and is capable of handling the extra torque from the new Tier II engines. The location of the transmission oil filter will simplify and speed up service time for transmission oil changes. The hydraulic oil for the transmission is separate from the main hydraulics, and has its own, large sump. There is an external and easily accessible filter mounted on the top of the transmission that improves serviceability. In addition an oil cooler is mounted in the base of the main radiator to prolong clutch plate life.

| Brake Pedal Position | Effect                                                          |
|----------------------|-----------------------------------------------------------------|
| 0% – 5 %             | Inching is disabled                                             |
| 5% – 35%             | Continuous inching speed control – no vehicle braking           |
| 35% – 70%            | Inching combined with increasing brake force                    |
| 70% - 100%           | Transmission is disconnected – further increasing braking force |

Marketing Department

**HYSTER**

## **New Cummins QSB-30 Engine ~ Emission Compliant**

In accordance with U. S. Government (EPA) Regulations, Hyster Company is going forward with the introduction of the next series of Emission Compliant Cummins Diesel engine. The Cummins QSB-30 (Tier II compliant) will coincide with the implementation of the TE-10 Transmission, and will replace the current Cummins BT 5.9L Tier I compliant engine.

Below is a general overview of the main features of the new Cummins engine:

- The QSB-30 governed HP retains the same 155 HP @ 2500 rpm, however the max torque will be 440 ft lbs @ 1500 rpm. **Note: Maximum horsepower is 160 HP @ 2300 rpm. This engine maintains a higher torque level (between 1100 and 1900 rpm) than the Perkins, in the 7 - 10% range.**
- Unlike the Perkins Tier II engine where only the puller type fan is available at this time, the Cummins engine will offer both puller and pusher fan options.
- Both engines will now have electronic (fly by wire) throttle systems, which means that there are no mechanical parts to fail.
- Improved fuel consumption has been reported with this engine ( 5 – 10% estimated -depending on cycle)
- With the optional Exhaust Aspirated Air Cleaner, customers will realize improved efficiencies. Engineering estimates a 25% improved filter life over the previous design. The new aspirated system contains two filter elements: a primary and secondary. The primary filter prevents any contaminants from entering into the engine air intake. The second filter is used as a safety element to trap contaminants from entering the engine air intake in the event the primary filter is compromised. The secondary filter also prevents contamination from entering during primary filter changes. This superior filtration system design provides our customers with reduced maintenance costs while improving engine and filter life.

## **Three Stage Mast**

Originally available only on the H170-280HD series, these new 3-stage mast will be available on the H300-360HD immediately.

- Visibility - With the use of four hydraulic cylinders on the lift circuit, mast visibility has been dramatically improved when compared to previous model 3-stage masts.
- Carriages - With the exception of the Dual Function Sideshift Fork Positioner (DFSSFP) option, all carriage designs currently offered for the 2-stage masts will be available for the new 3-stage masts.
- Hose Groups - 3, 4 and 5 function hose groups will be available for the new 3-stage mast.
- Functionality - Use of # 10 hoses on the 3-stage mast will offer virtually identical functional speed characteristics as seen on the 2-stage mast. This means that for similar lift heights your Customers productivity should be the same when using the 2 or 3-stage masts.
- Forks - Will be common sizes between the 170 - 280 and 300 - 360 models of trucks, except where specific application sizes are restricted as you have seen previously.
- Interchangeability - The H300-360HD, 3-stage mast cannot be fitted to a H170-280HD, or vice-versa. The new mast from either an H170-280HD or H300-360HD will fit onto an XL model machine, HOWEVER, you will need to re-plumb the XL machine to take P & T hydraulics plus install the electrical system of the P & T's. This will be a costly and labor intensive exercise.

## **Additional Truck changes:**

- The combination of the "E" intelligent engines and transmissions result in a truck that has the ability to self protect the powertrain when abnormal operational situations are encountered such as an engine overheating. In this instance the truck will scale back performance until the truck's engine returns to within normal operational limits. The (4) red indicator lights on the steering pod will, in this situation, draw the operators attention to look at the control panel to see what system is encountering a problem. If the operator ignores these warnings the truck will scale back until it finally shuts the truck down for service. The systems allow an endless variety of speed selections that can be set to suit the customers work / shift plans. Top speed can be limited, directional speed change severity can be limited, etc.
- A 12 Volt power outlet will become standard for all units. This plug only type outlet replaces the cigarette lighter and is located on the dash panel to the right of the operator.
- The DC to DC converter is now a standard option which is mounted in the control panel area inside the right hand door in the operators compartment.

## **Marketing Department**

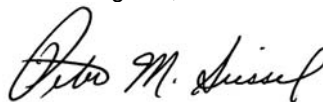
**HYSTER**

## **Summary**

Over the past few months several other changes have been phased in on the H170-360HD models that include such items as a revised fuel cap (easier to get on and off), the fuel spill area has been improved around this cap, access steps have a new traction pattern for easier access, the battery cover now is equipped with gas struts to make access to the batteries even easier, and with the introduction of our Tier II engines the exhaust muffler is now external to the engine compartment. In the near future, a detailed Hyster Product Information Bulletin will be provided that will describe each aspect of these changes in detail.

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.