PRODUCT INFORMATION BULLETIN

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

FROM: GEORGE MARSHALL – DIRECTOR, BIG TRUCKS

SUBJ: BIG TRUCK IMPROVEMENTS

As a result of Hyster Company's continuous product improvement process, several changes have been made to the H360-450H with Cummins QSB engine, H550-700F with Cummins QSC engine & H800-1050E with Cummins QSM engine Fork Lift Trucks and container handlers resulting from the implementation of the Cummins Tier II diesel engines. Production implementations of these upgrades were effective August 11, 2003 with no increase in pricing. These new features include the following.

New Warning Light Cluster

The right-hand side warning lamp cluster now contains eight warning lamps. Besides the transmission oil pressure, transmission oil temperature and the alternator lamps, five new lamps have been added:
low fuel, maintenance, warning, wait-to-start and stop.

The low fuel lamp has been added since the fuel gauge had to be repositioned to the left hand side in the cab. It goes on when about 5% or less fuel is available. The meaning of the maintenance lamp is that one of the engine fluids (engine oil, coolant) levels is too low. The warning lamp warns the driver that the operating conditions for the engine (e.g. engine coolant temperature) are reaching the end of the permissible values. ***The operator is allowed to continue, but should be aware that the conditions might get worse.*** Depending on the detected condition, power de-rating may take place.

The wait-to-start lamp is only being used with QSB and QSC engines in H360-450H and H550-700F trucks and denotes the air intake grid heater activity. The stop lamp means that the conditions are beyond the permissible values (e.g. low engine oil pressure or high coolant temperature). The engine will immediately shut off to prevent damage. The engine oil pressure lamp has been removed, since the stop lamp will cover this. The warning and stop lamps are also being used in the diagnostic mode to identify the fault codes.

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Relocated Fuel Gauge

With four more engine warning lamps added to the instrument cluster in the steering pod, the fuel gauge has been relocated next to the other four gauges on the left hand side in the cab.

Electronic Throttle

An electronic throttle pedal has replaced the mechanical pedal. It contains a variable resistor and an idle validation switch. It's wiring is connected to the electronic control module on the engine. A replacement of the pedal requires a new calibration: switch ignition on and press the pedal slowly three times before starting the engine. Then switch ignition off for at least 30 seconds.

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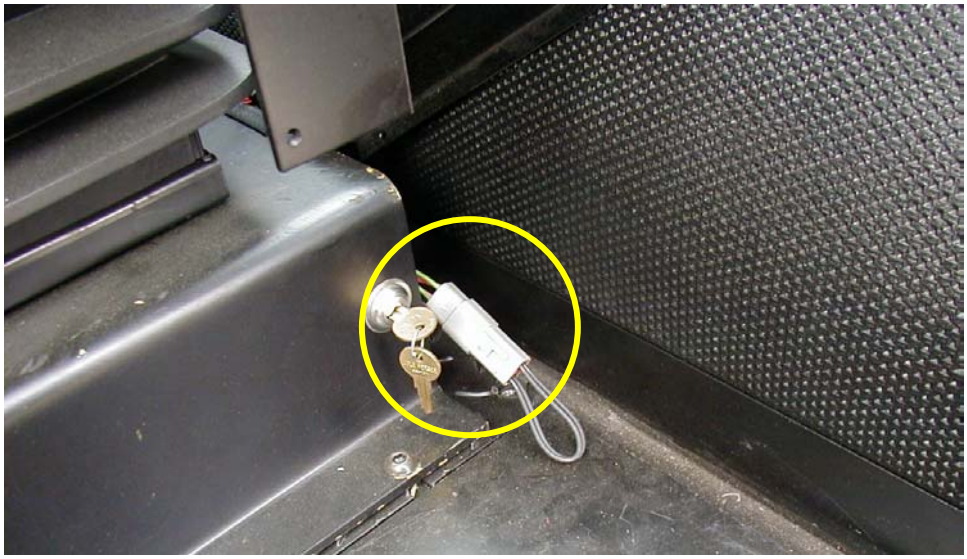
Diagnostic Switches

On the left-hand side in the operator compartment there are two diagnostic switches (one on/off switch (1/0), one increment/decrement switch (+/-)). When one of the maintenance, warning or stop lamps is on during operation, the operator keeps the diagnostic switch pressed in position 1. The Warning lamp flashes once to show the start of the fault codes. The stop lamp flashes a three-digit code to show the active fault code, e.g. 235 means low coolant level. This process will be repeated as long as the diagnostic mode is on. The increment/ decrement switch can be used to step through the active fault codes, if more than one fault occurs. If the problem is solved the fault codes become inactive. They are stored in the ECM and can only be erased by using the electronic tool Cummins Insite. When the diagnostic switch has been released, it returns to normal operation.

Transmission Control Unit

The APC 100 has been modified to suit the SOH 40000 transmission. Gear engagement and direction changes are only allowed below 1500 engine rpm and 4 km/h (2.5 mph) truck speed.
There is a four pin Deutsch connector jumper plug located underneath the seat that allows the operator to choose from two operating modes. With the plug installed, the transmission starts in second gear when the gear selector is in position 2 or higher. With the plug removed the transmission always starts in first gear. With this last option active, the downshift from second to first only takes place after the truck has come to a full stop.



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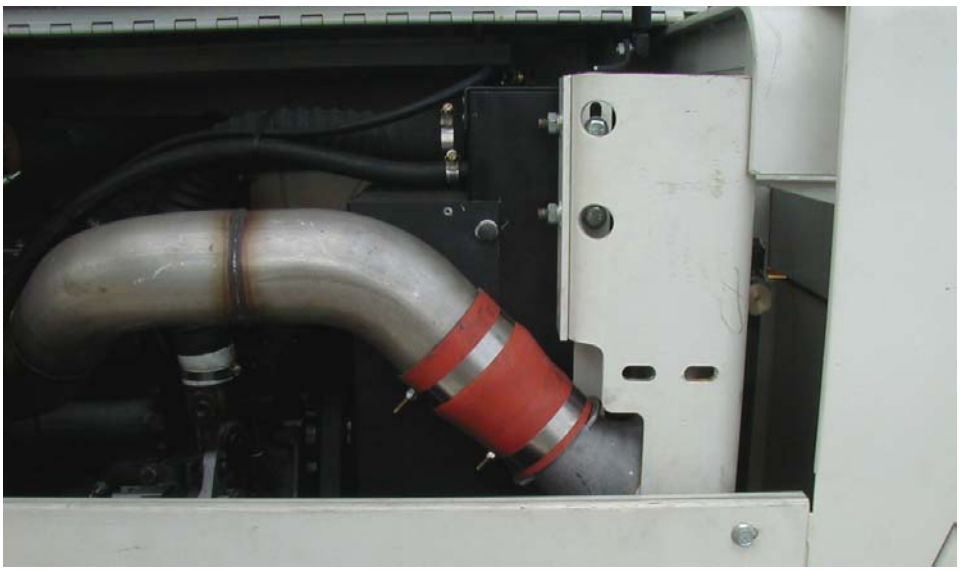
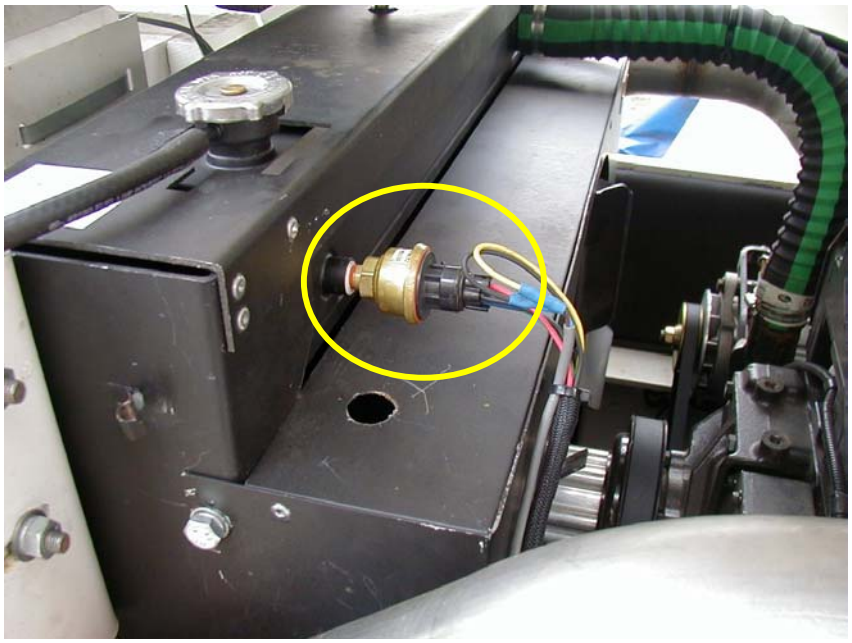
Charge Air Cooler

In order to meet the Tier 2 emission regulations and to achieve the higher engine torque output, a charge air cooler has been applied. This cooler is placed in front of the radiator to ensure fresh air supply. Stainless steel tubes with high temperature resistant Nomex sleeves and spring-loaded clamps connect the engine with the cooler.



Radiator Coolant Level Switch

In the radiator top tank, a radiator coolant level switch has been fitted to monitor the coolant level. The ECM switches on the maintenance lamp if the level is too low. In diagnostic mode, fault code 235 will be shown by the warning and stop lamp. Power de-rating becomes active.



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Engine Settings

The Cummins electronic system includes new functionality like engine power de-rating and engine speed de-rating if coolant level temperature is too high, or engine shut-off if engine oil pressure is too low or no throttle activity has been detected during fifteen minutes.

Power Supply to ECM

This vehicle is provided with a main switch to disconnect the battery during maintenance or shipment. The power supply to the ECM (Engine Control Module) is connected to the output terminal of this main switch. In order to allow the ECM store its data, the main switch should **not** be switched off within 30 seconds after switching off the ignition key. For the same reason it is not advised to operate the main switch with the engine running. An instruction label is placed near the main switch. The ECM power supply is protected by two splash proof fuses of 10 amps on the H800-1050E, 5 fuses (2 x 10 A, 3 x 7.5 A) on other models, located in the battery compartment.

We are excited about the release of these very important design improvements and the many opportunities and competitive advantages they will provide you. For further detail or assistance, please contact your Hyster Field Sales Big Truck Manager or the Greenville Big Truck Team.

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

Sincere Regards,

George Marshall
Director – Big Trucks, Hyster Company

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