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SERVICE BULLETIN #57

DATE SEPTEMBER 16, 1994

TO: ALL MIDSHIP, LIGHT TRUCK CUSTOMERS AND SERVICE CENTERS

FROM: JOE COSTELLO, SERVICE MANAGER

SUBJECT: CSD/FSD/HFM PUMPS

This bulletin contains updated guidelines for the proper installation and operation of our clutched Front Mount Pump line.

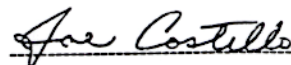
Effective immediately, all of the subject pumps with normal vertical gearbox configuration, will be provided with a lifting eye bracket. This bracket is located at the unit's center of gravity. It will support the weight of the unit and must be used during handling, installation, or repair. The bracket has a 1-3/8 inch diameter hole suitable for lifting with a chain or strap.

It is essential that these units be shifted into pump operation with the truck's engine at idle speed, and with the discharge valves closed. At idle speed the clutch engages smoothly and quietly using either the manual or pneumatic power shift option. In the case of the pneumatic power shift, an interlock must be provided which will allow the shift to take place only if the engine is at idle speed. This can be accomplished as shown in the attached electrical schematic diagram. Failure to provide this idle speed interlock on the pneumatic power shift will void the pump's warranty.

If the discharge valves are closed when shifting, the torque load on the clutch synchronizer is reduced by at least a factor of two. This will also ensure smooth engagement and long clutch life. It is also not a problem to run a "wet pump" as long as you do not open any discharge valves until after the unit has completed its shift into pump position, and the "ok to pump" light is on.

We have taken steps on the pneumatic power shift to move the switches which sense road and pump position out of harms way. These switches will now be located between the shift cylinders and the gearbox. We would remind you that these switches, the flow control, and the air regulator are all preset at the factory. No field adjustments are necessary. If you feel these items are not properly set always call the factory first.

As always, should you have any further questions or need additional information or assistance, do not hesitate to contact us.

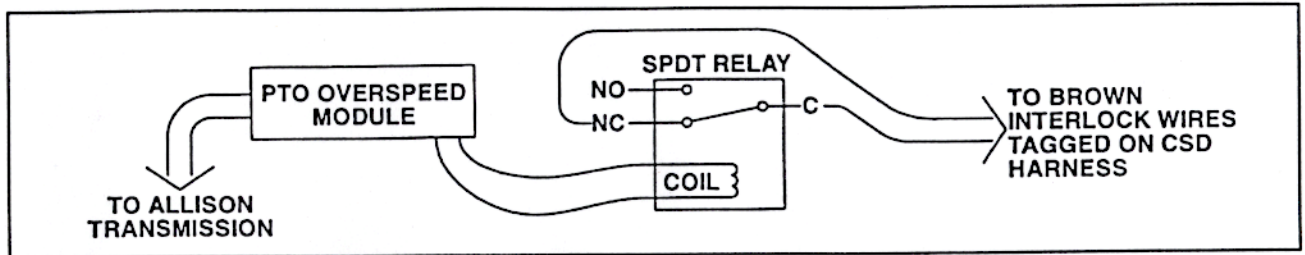


JOE COSTELLO
SERVICE MANAGER

IDLE SPEED INTERLOCK

The installation of a Hale CSD/FSD pump with pneumatic power shift requires a Hale interlock. This interlock should be a contact closure that is only closed at idle and will open at speeds above idle. The voltage is 12 vdc and the current draw is less than 500mA.

There are a number of ways to achieve this interlock. If the vehicle is using an Allison World Automatic Transmission (MD or HD), a PTO overspeed module should be available. This module has a speed adjustment and will power an overspeed light.

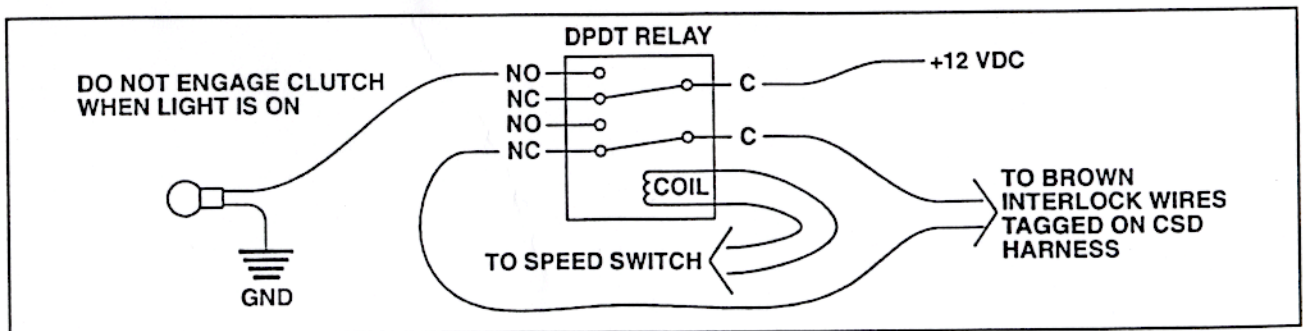


The module can power a relay with a normally closed contact. By adjusting the overspeed module to a speed just above idle, the relay will energize, opening the interlock whenever the engine is above idle speed.

Another way to obtain an idle speed interlock that is independent of engine or transmission, is an independent speed switch. These types of switches are readily available and can obtain their signal from tachometer signal, magnetic pick-up or a tach generator in the mechanical tach drive cable. Again, the common and normally closed relay contacts are used and the speed switch is adjusted to turn on just above idle. This action will open the clutch wiring circuit and prevent high speed engagement.

Note: Do **not** use locking or latching type option on the speed switch. Always make sure the speed switch and relay components are compatible.

On either type of idle speed interlock, a panel mounted indicator light is recommended so the operator will know that engine speed is too fast and that is why the pump does **not** engage. To install such an indicator light, a DPDT relay can be used so when relay is energized the clutch interlock is opened and the indicator lamp is lit.



One final note about idle speed:

Different engines idle at various speeds with various options.

For CSD/FSD pumps with pneumatic power shift, idle speeds should be below 750 RPM. The lower the engine idle the less wear on the clutch assembly.

Consult factory for applications with higher idle speeds.