

## Lebanon 511 and 514 Pump Engagement

These instructions apply explicitly to 511 and 514 and are the procedures that should be used for these two apparatus. Depending on which version of NFPA 1901 the apparatus was built to and which options were installed, differences in procedures, interlocks and indicators exist; therefore, these procedures may not be identical to instructions for other pumps. If a step fails, it needs to be corrected before performing subsequent steps. Some steps are order dependent. The pump will not work until all steps are completed.

Normally these steps can be completed in less time than it takes to read them; however, if problems occur, reporting the first step to fail will allow faster problem isolation and repair of intermittently failing components.

### **Pump Engagement Procedure**

1. Apply the parking brake. The "red parking brake applied" light (number 12 in Figure 1: [Console Lights](#)) should come on.
2. Make sure the transmission is in neutral. The "Digital Display" (see Figure 2: [Allison Pushbutton Selector](#)) should show an "N".

Continuing without an "N" displaying will not work and may cause physical damage. If pressing the "N" selector button does not cause an "N" to display, you may try stopping the truck engine and turning the master power switch off for 5 seconds. When you restart the engine, the transmission should be in neutral. Be sure to report this problem so repairs can be made.

3. Move the Hale pneumatic pump transfer switch from "Road Gear" (top position) to "neutral" (middle position) and, after all air exhausts, to the "Pump" (bottom position) by pulling the yellow collar with your first two fingers toward the black handle end. Your thumb should be on the black handle.

The "Pump Engaged" light (number 22 in Figure 1: [Console Lights](#)) should come on.

If the pump engaged light does NOT come on:

- a. Confirm that the parking brake light is on.
- b. Confirm that the "door ajar light" is off with the driver's door open.

If either of the preceding conditions exist, attempt recovery by releasing and reapplying the parking brake. The problem may also go away after a few seconds. Be sure to report this problem so repairs can be made.

If a and b were ok, it is possible, (but unlikely) that the pump transmission did not shift. It can be checked by looking at the manual pump override handle on the pump panel. It should have moved out a few inches. (You should be able to see it move in when going to road gear and out when going to pump gear.) If nothing is obstructing this lever, and it does not move when changing from road to pump gear, you may attempt recovery by following the manual pump shift override procedure below.

Unless the "Pump Engaged" lamp is burned out (an unlikely event) proceeding will be unsuccessful.

4. Push "D" on the transmission (see [Figure 2: Allison Pushbutton Selector](#)). The "Digital Display" on the transmission should show a "4". The "OK to Pump" light (number 23 on the [Figure 1: Console Lights](#)) should come on, and the speedometer should read at least 10 MPH.

A "5" showing on the Allison digital display would normally mean a preceding step was not followed. In addition to correcting the preceding step, the transmission will need to be returned to neutral for several seconds. Not staying in neutral long enough for internal transmission parts to stop spinning will cause repeated failures when returning to drive even if no other problems exist.

FYI. At this point the cab throttle pedal and fast idle switch should be disabled.

Set wheel chock(s).

5. At the pump panel the "Throttle engaged" light should be on. (In bright sunlight this may be hard to see. If everything else appears correct, assume this is on.) If other problems are occurring, make an effort to determine if this light is on.
6. Booster tank procedure:  
Open both "Tank to Pump" valves fully. Open "Tank fill" slightly (slightly can be defined as until a slight pressure drop is noted on the discharge gauge).
7. Advance the throttle to the desired pressure. (NEVER EXCEED 250 PSI. Lebanon's pumps have only been hydrostatically tested to 250 PSI. Exceeding this pressure can result in blown seals and expensive time-consuming repairs and have the truck out of service for an extended time period.)

If advancing the throttle does not result in an increased RPM and the "Throttle engaged" light is on, confirm that the throttle was screwed all the way in before you started. If not, screw it all the way in (low idle) and then start advancing it. The engine speed should now increase if the

"Throttle enabled light" is on.

8. Set the Pressure Relief Valve.

Note: This should be set even if only a single line is in use.

9. Note: After pumping, reset pressure relief valve to 150 psi. **DO NOT CRANK IT UP TO MAXIMUM PRESSURE** as this leads to problems with this particular valve. This may be different for pumps with other types of pressure control devices.

## Manual Pump Shift Override Procedure

*Note:* Attempting this procedure should be a last resort and only attempted if the shift lever does not move when Hale pneumatic pump transfer switch is moved between Road and Pump positions. Manually shifting the pump can easily lead to lengthy expensive repairs and have the truck out of service for an extended time period.

Normally the Hale pneumatic pump transfer switch would be placed in the neutral position for this procedure. Alternatively, it may be possible to have it in the desired position of the transfer case as long as air is not leaking. It will not be possible to shift against the air pressure applied to the pump transmission without causing damage, nor may it be shifted while the truck is moving without causing damage.

With the truck engine off and wheels chocked front and back, parking brake applied, and the Hale pneumatic pump transfer switch in neutral, the manual transfer lever may be moved. It may be necessary to rotate the drive shaft slightly to get the gears to align. **WARNING:** it is dangerous to touch the driveshaft unless the truck is off. Expect to use a reasonable amount of muscle to move the shift lever. Use extreme care when restarting the truck. If the shift lever was not fully engaged, gears could grind or be chipped. A second person could be used to apply pressure to the transfer handle until you are certain it is fully engaged.

# FIGURES:

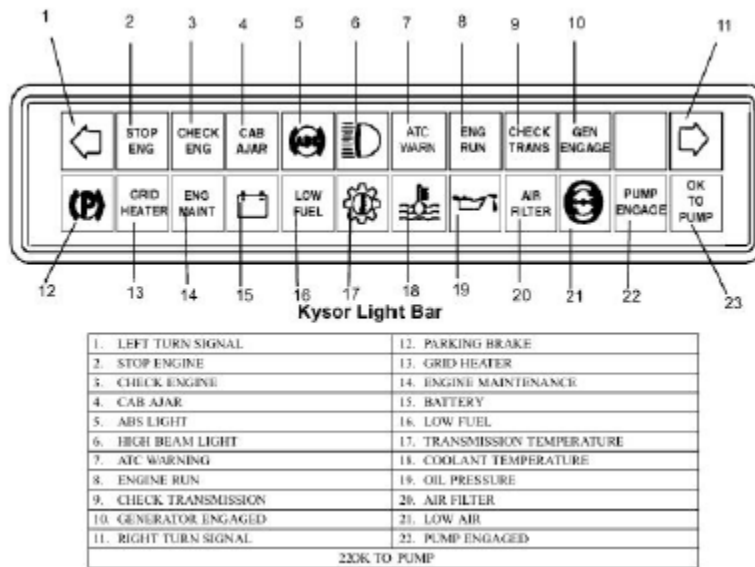


Figure 1: Console Lights

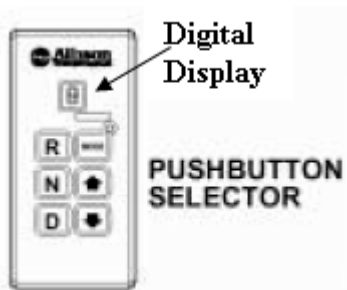


Figure 2: Allison Pushbutton Selector