

National Institute of Standards and Technology

Retail Motor-Fuel Dispensers and Consoles

Remove the nozzle from the boot and switch the dispenser on. When switched on, the dispenser's indicating elements should automatically reset to zero, with no values visible during the resetting process (S.1.3., discussed in the last chapter, under **Indicating and Recording Elements, Advancement and Return to Zero**). Before the discharge nozzle is operated, quantity and total sale price indicators should read zero exactly. However, you may observe what is known as “computer jump”, that is, the indicators jumping ahead and showing a slight amount when the dispenser is pressurized, even though no fuel has actually been delivered. This condition is not abnormal when the dispenser has been out of use for a matter of hours. So if computer jump is observed, shut off the dispenser, re-zero the computer, and try again. If the computer jumps again on the second try, the device is not operating properly. You should inform the operator of this condition, even if the dispenser performs within tolerances, since it indicates a need for prompt attention to prevent the cause from affecting accuracy.

Computer jump can be attributed to one of several causes (see Figure 6-5):

- a deteriorated or substandard discharge hose that “gives” when the pump is pressurized, requiring a small amount of fuel to pass through the dispenser control valve and the meter before pressure is equalized;
- malfunctioning check or relief valves, allowing pressure to bleed back to the pump side;
- a malfunctioning antidrain means; or
- the effects of temperature change on the volume of fuel in the system, especially in the discharge hose

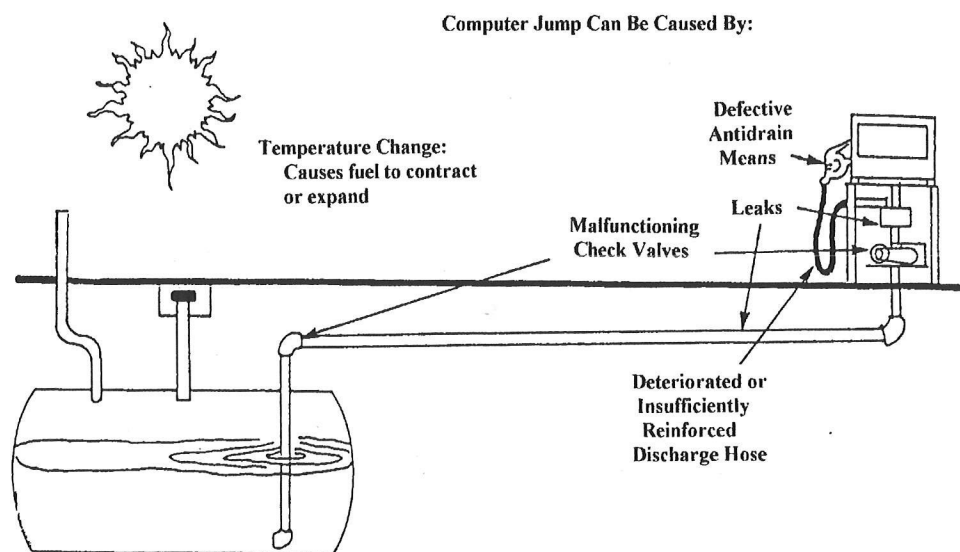


FIGURE 6-5. COMPUTER JUMP