

Diagnostics for the SAF-HOLLAND APL (Auto-PosiLift™) September 2016

Remember that you always need three (3) things for the APL to work; POWER, LOAD and AIR.

First thing would be to check that you have power and proper functioning ABS ECU. Disconnect the seven (7) way power plug and reconnect. There should be two (2) audible clicks per modulator (i.e. two (2) clicks for a 2S/1M, 4x 4S/2M, 6x 6S/3M). No clicks equal no power to the ABS ECU. The warning light on the side of the trailer should also come on and then go out for a few seconds. If the warning light stays on, you have a fault that may cause the APL not to work correctly. In this case, connect the diagnostics software and check the fault code. Find and correct the issue.

Correct ECU part numbers for use are 400 500 105 0 and 400 500 106 0 (accepts GIO inputs). Incorrect part numbers are 400 500 101 0 and 400 500 103 0 (does not accept GIO inputs).

Ensure that there is supply pressure to the red glad hand and no air leaks on the trailer.

NOTE: It is possible that any issues stem from power and/or air supply from the truck/tractor.

- A. Check connections D2 and D3 are connected correctly. If D2 is not plugged into the lift axle control valve, the lift will not work. Connections are marked (i.e. "D2") a few inches from the connection.
- B. Ensure connections A1 and A2 are connected correctly. If A2 is connected to the spring brake switch, which should be A1, then the lift will not work. Connections are marked (i.e. "A2") a few inches from the connection.
- C. Check the connections for the spring brake pressure switch and the air bag pressure transducer are coupled the correct way around. This is the other end of the A1 and A2 connectors. This should be traced from the marked A1 and A2 connectors and should be easily identifiable. The pressure transducer connects straight to the A2 cable, whereas the spring brake pressure switch connects via a short lead, then via a longer cable up to the A1 connector.
- D. This modulator cable is to control external modulators (i.e. Relay valves) where the modulators are not internally connected to the ABS ECU. This cable will be connected in 2S/1M systems and 6S/3M systems. 4S/2M (2 modulator systems) will not have this connector attached and it should be blocked off.
- E. Check the spring brake pressure switch is connected to a drop hose between the spring brake valve and the brake chamber. This should not be connected to the supply line between the spring brake valve and the glad hand.
- F. Check that the inputs in the lift axle control valve are not connected back to front. The port marked 1.1 should be connected to supply pressure from the air tank. The port marked 1.2 should be delivered from the air bags and should only have a low pressure in the airline.
- G. The ride height valve should not have a dump when run in conjunction with the lift axle. Some manufacturers still run a dump valve, but plumb supply pressure into the dump port effectively disables the dump feature. Ensure that the valve does not have a dump feature, or it is disabled as mentioned above.

Should the unit behave in shop conditions, but faults occur on the road, it is likely that there could be a sensor orientation issue. Primary sensor (YE1 and BU1) should always be on the rigid/static axle. The lift axle, if sensed, should have sensor (YE2 and BU2). If the primary sensors are connected to the lift axle, this will cause a fault.

