SL0025 Converting a SmartLift SB361 from RHL to LHL

Category

SmartLift.

Models and Markets

SB361, SB401.

Information

Purpose of this document

To provide the details for the wiring and program changes when converting a SB361 or SB401 Smartlift unit from Right Hand Lift (RHL) to Left Hand Lift (LHL).

This document assumes that the cranes are simply removed from a RHL trailer and mounted on a LHL trailer (I.e no changes have been made to the module box location in reference to its initial crane).

Requirements

Laptop computer
WinFlash
Hex files for front and rear ESX controllers.
Downloading Tool (EL-34366).
Downloading procedure “SL0004 Updating Front and Rear ECU Programmes.pdf”
Calibration procedure “SL0005 Calibrating SL Angle Sensors using Plumb-Bob.pdf”

Orientation and labels once all tasks completed.

RHL

Crane	Location	Box ID	ECU
Left Crane	Rear	"R"	"R"
Right Crane	Front	"F"	"F"

LHL

Left Crane	Front	"F"	"F"
Right Crane	Rear crane	"R"	"R"

1 LABEL CHANGES.

All label tasks below assume that the cranes are mounted in their new LHL orientation.

a) Remove the "F" label on the rear box and put this on the front box.
b) Remove the "R" label on the front box and put this on the rear box.
c) Remove the "F" label from the rear ECU and put this on the front ECU
d) Remove the "R" label on the front ECU and put this on the Rear ECU.

Note: All box locations and labels should now line up with the LHL orientation table above.

2 WIRING CHANGES.

All wiring tasks below assume that the cranes are now mounted in their new LHL orientation AND the labels have been changed in accordance with task 1.

Due to the change in the position of the cranes there are some wiring modifications required to allow the system to operate correctly.

1) Change the ID pin location.
    a. Remove the wire in the rear "R" module that runs from the ECU plug pin 19 to C3-ecu19
    b. Install this wire into the same location in the front "F" module box.

2) Change the terminating resistor location.
    a. Remove the resistor from terminals C1(10) & C1(11) in the rear "R" module.
    b. Install this resistor into the same location in the front "F" module.

3) Change the engine sensors
    a. Remove the wires in the rear "R" box from the ECU pins 16 & 17.
    b. Install the above in the front box in the same pin location as was used in the rear box.
    c. Remove the wires in the front box ECU pin 38,39,48.
    d. Install these into the rear box in the same pin location as was used in the front box.

4) Add new PVG control wire
    a. Install a new wire from the ECU pin 49 to the PCB terminal C3-ecu 49 in both front and rear boxes. (ref Service document LETT0065-A -PVG Coil Control Change.pdf).

5) Move the RED LED warning light.
    a. Remove the RED led warning light from the front box and seal off the hole.
    b. Install it into the rear box and wire into the same pin location as was used in the front box.

3 CAN NETWORK WIRING CHANGES.

a) Ensure the mulitcore wires 11 & 12 are connected into C5-15 core No 11 & 12 in the rear ”R” module box.
b) Ensure the mulitcores wires 11 &12 are not connected in the front “F” module box.

Note: the multicore cable from E box to the module boxes are connected to their correct description. i.e the front connect to the front “F” module box and the rear connects to the rear “R” module box.

4 RE PROGRAM THE ECU’S.

All programming tasks below assume that the cranes are now wired in their new LHL orientation in accordance with task 2.

Turn the system on/off twice to ensure the ECU’s have identified their new location.

Follow the procedure “SL0004 Updating Front and Rear ECU Programmes.pdf” to re program the ECU’s.

5 CONFIRM CORRECT OPERATION.

Ensure the joysticks operate to correctly.

Start up the system and select stabiliser mode
Perform a stabiliser tilt function.
The right joystick should operate the Right/Rear crane.
The left joystick should operate the Left/Front crane.

Confirm Correct sensor readings.

Use the display to confirm the system has identified the correct crane location by going to sensor values and look at the stabiliser sensor values. Move a stabiliser and ensure that the appropriate sensor (front or rear) changes.

Confirm Correct Interlocks

Place the rear stabiliser on the ground
Attempted to enter arms mode
Alarm “Front stabiliser not deployed” should activate.

Select stabiliser mode and lift the rear stabiliser off the ground and place the front stabiliser on the ground.

Attempt to enter arms mode
Alarm “Rear stabiliser not deployed” should activate.

6 RE CALIBRATE THE SYSTEM.

Perform a re-calibration as per procedure “SL0005 Calibrating SL Angle Sensors using Plumb-Bob.pdf”.

7 ADVISE STEELBRO.

E-mail or phone Steelbro NZ to inform them that the program and modifications have been done. Include as many details and photo’s as possible about the machine.