

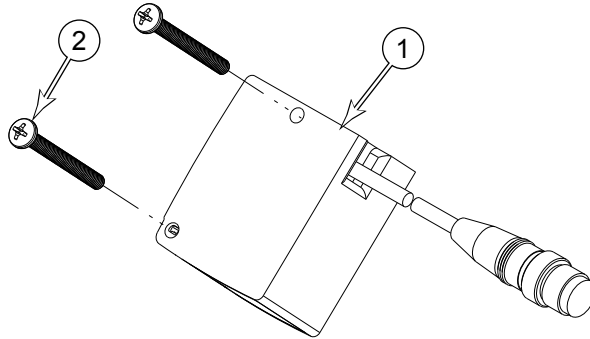
56122703 DISTANCE SENSOR KIT

For Liberty SC50 Models: ALL

CONTENTS OF KIT

Item	Part Number	Qty	Description
[]	56090379	1	Instruction Sheet
1		1	Distance (Dropoff) Sensor
2		2	Scr-Pan-Phil-M4-0.7x40mm

[] = Not Shown



INSTALLATION INSTRUCTIONS

⚠ CAUTION!

When working on an SC50 and a battery disconnect is needed, ensure that the Autonomy Module is completely powered off before the power is pulled from the system. To verify that the Autonomy Module is completely powered down simply wait for both the safety LiDAR's and Dropoff lasers to power off, plus an additional 15 seconds after that. If this procedure is not followed when disconnecting the battery, there is a chance that the Autonomy Module could be permanently damaged and would need replacement.

⚠ WARNING! Disconnect battery before servicing.

1. Disconnect the main battery connector for safety, any time you are working near the drive system.
2. **See Figure 1.** Remove the 4 screws (B) and washers (C) that secure the front nose (A) to the recovery tank, and remove the front nose.

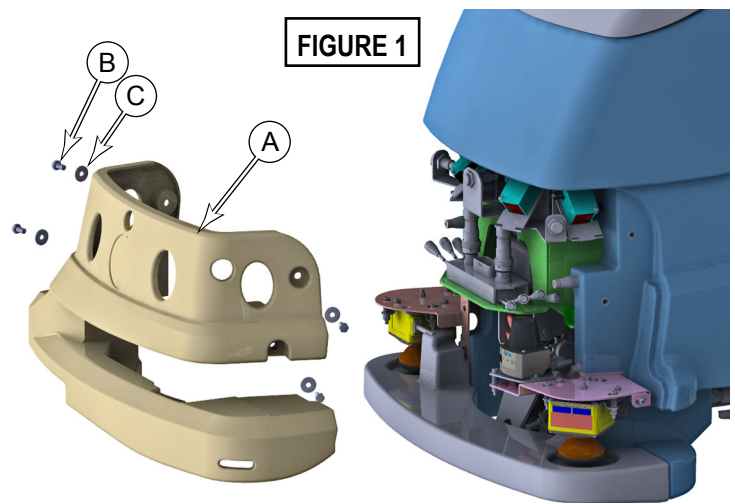


FIGURE 1

3. **See Figures 2 and 3.** Using a right-angle screwdriver, or similar, remove the two screws **(2)** that secure the faulty sensor **(1)** to the sensor bracket **(E)**.

- **Note:** If you do not have a right-angle driver to remove the upper screw, you can loosen or remove the two screws **(F)** that secure the entire sensor mounting bracket **(E)** to the machine's chassis, and move the bracket outward far enough to reach the screws.

4. Disconnect the threaded electrical connector **(D)** for the dropoff sensor, free up the wire as necessary and cut any wire ties retaining the wire. Then remove the sensor from the machine.

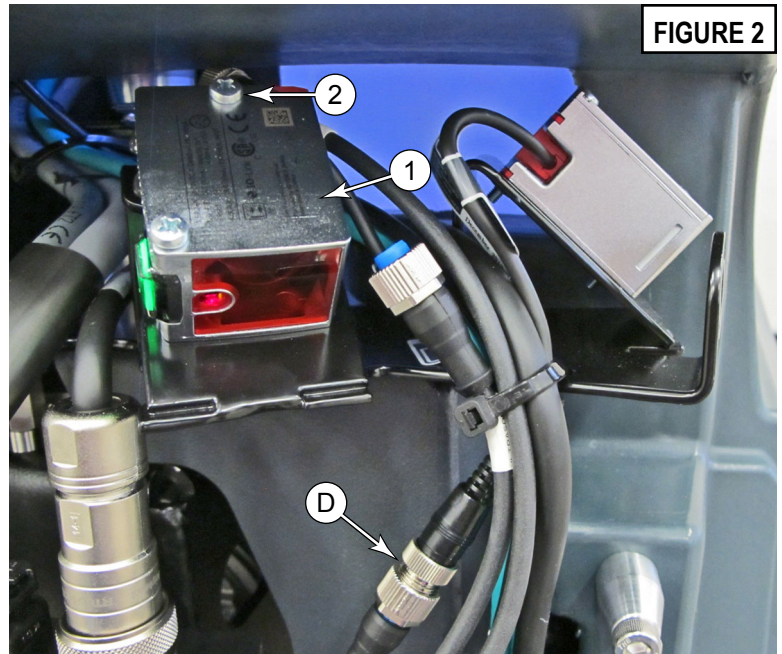


FIGURE 2

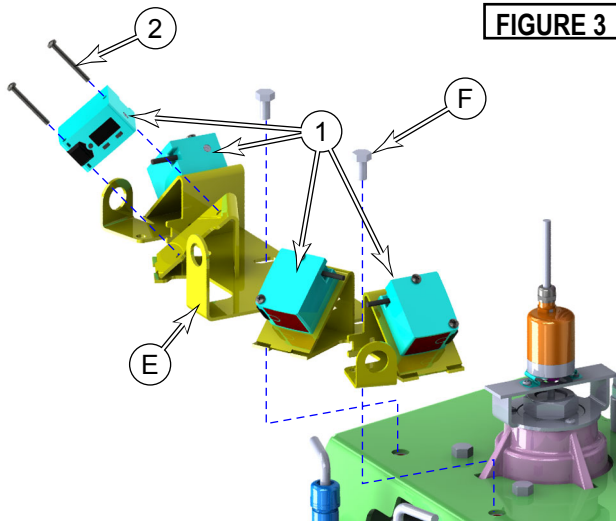


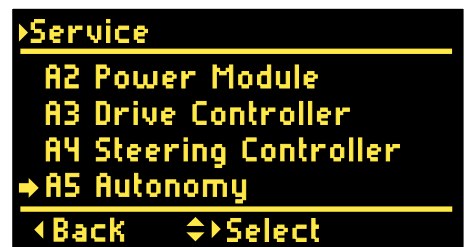
FIGURE 3

SENSOR REPLACEMENT

- Install the new sensor by reversing the disassembly steps, and torque the sensor mounting screws to 25 in-lbs (2.82 Nm).
- Make sure to replace any cable ties cut during disassembly. Do not install the front nose until after the sensor has been calibrated. This is done to avoid an obstruction while calibrating.

DROPOFF SENSOR CALIBRATION

1. Move the machine to an area with a flat floor, which remains flat from the rear wheels of the machine and forward to include all 4 laser dots from the dropoff sensors shining on the floor. Make sure the floor is not mirrored and that there are no shiny metallic objects in the field of view.
2. Power the machine with service mode access.
 - a. Press and hold the Scrub and Vacuum buttons.
 - b. Press and release the Power button.
 - c. When the display illuminates and the machine begins its bootup process, you may release the Scrub and Vacuum buttons.
3. Press the Information Switch (i) and use the arrow keys to scroll down to **“Service”**.
4. Enter **“Service”** and scroll down to **“A5 Autonomy”**.



DROPOFF SENSOR CALIBRATION - CONTINUED

5. Enter “A5 Autonomy” and scroll down to “Calibrate Dropoff sensors”.
6. Make sure all four lasers are unobstructed and striking their typical position on the floor.
7. Press the right arrow at menu Dropoff sensors to select “Calibrate” and initiate the calibration process.
8. The display will indicate that the Autonomy module is “Recording. . .” the dropoff laser outputs.
9. When the “Recording. . .” message clears and returns to “Calibrate”, the calibration is complete.

```

>>A5 Autonomy
  Laser average distance
  Check Dropoff Sensors
  Check Steering Angle
  → Calibrate dropoff sensors
  ◀ Back      ⇄ Select
  
```

```

>>A5 Autonomy
  Dropoff sensors Calibrate
  ◀ Back      ⇄ Select
  
```

```

>>A5 Autonomy
  Dropoff sensor Recording...
  ◀ Back      ⇄ Select
  
```

```

>>A5 Autonomy
  Dropoff sensors Calibrate
  ◀ Back      ⇄ Select
  
```

10. Check the sensor values by going through the menu.

11. Press the Information Switch (i) and use the arrow keys to scroll down to “Service”.

12. Enter “Service” and scroll down to “A5 Autonomy”.

```

Menu
  Hours
  Faults
  Keys
  → Service
  i Exit      ⇄ Select
  
```

```

>Service
  A2 Power Module
  A3 Drive Controller
  A4 Steering Controller
  → A5 Autonomy
  ◀ Back      ⇄ Select
  
```

13. Enter “A5 Autonomy” and select “Dropoff sensors”.

14. Press right arrow to “Refresh” sensor values. Review the readings.

- a. Sensors Dropoff Side Left and Side Right should display values between 636 and 746.
- b. Sensors Dropoff Front Left and Front Right should display values between 648 and 760.

```

>>A5 Autonomy
  → Dropoff sensors
  Wheel counts
  Laser average distance
  Check Dropoff Sensors
  ◀ Back      ⇄ Select
  
```

```

>>A5 Autonomy
  Dropoff Side Left      670
  Dropoff Front Left     701
  Dropoff Front Right    708
  Dropoff Side Right     687
  ◀ Back                  ▶ Refresh
  
```

15. Reinstall the front nose with hardware (A, B & C). Torque to 91 in-lb (10.3 Nm).
16. The machine must be rebooted after the completion of this calibration procedure.
17. Recheck the sensor values by repeating steps 11-14 and verify the front nose is not obstructing the view and that values are still within the acceptable range.