Charging Information, Trouble-Shooting and Other Technical Details

Charging Notes

- Turn off Tuff-Bot when charging it. Tuff-Bot will not operate during charging.
- To charge Tuff-Bot, plug the DC jack (small round end) into Tuff-Bot. Plug the USB end into a USB socket that has power.
- During charging, the segments will light green in turn to indicate the charge level.
- Charging takes approximately 1–2 hours to fully charge Tuff-Bot.
- Once fully charged, Tuff-Bot will run for 1–2 hours running time in normal use.

Status LEDs

- There are 6 segments within the ring around the command buttons. During each step, these will light green to indicate that the command is being carried out.
- When Tuff-Bot is first turned on, the segments will light to indicate the battery level. More segments indicate that Tuff-Bot has more charge.
- When connected to Bluetooth, the segments will light blue.
- In programming mode, the lights will flash yellow to indicate that a button has been pressed.

Pairing Tuff-Bot to Bluetooth

- Turn on Tuff-Bot to make it discoverable with your device.
- Locate the Bluetooth settings on your device.
- Switch Bluetooth on and search for nearby devices.
- The Rugged Robot will appear on the list.
- Select Rugged Robot from the list to pair it to Tuff-Bot.
- Once paired, Tuff-Bot can be controlled from the device.

If you are using the Rugged Robot app, you may be able to turn on Tuff-Bot and open the app, which automatically looks for nearby devices. If it finds Tuff-Bot, you will be prompted to select the Rugged Robot.

Read about **Specifications** and **Trouble-Shooting** on the next page.

Specifications (20 cm is just under 8 inches)

Specification	
Forward/Backward movement	Approx. 20cm
Left/Right turn	Approx. 45 degree turns
Obstacle Sensor	Approx. 20cm
Battery	3.7V 850mAh Lithium polymer
Battery Life	approx. 1-2 hours in normal use (depends mainly on amount of movement)
Frequency Band range	2.400-2.483GHz
Maximum Radio-Frequency power	<10mW
Speed of movement:	1 x speed = Approx. 0.15m/s 2 x speed = Approx. 0.27m/s

Trouble-Shooting

Problem	Solution
Product will not operate	Ensure that the power switch is pressed and the battery is sufficiently charged
Product will not move as expected	Check the ground is suitable and the wheels are free from dirt
Sound is not audible	Ensure the sound button is pressed and the battery is sufficiently charged
Lights have come on but no movement	Recharge by plugging in the USB cable
Product is working intermittently	Switch the product off and on again to reset.
Robot is not avoiding obstacles	Press the obstacle avoidance button - it should illuminate green when active. Ensure the obstacle is high enough to trigger the sensor - small objects may not be seen by the sensor.