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## Health and Safety

- Tools must only be used for the purpose they were designed for
- Any tool which becomes defective reported, and will be replaced
- Tools are stored in the tool box provide when not in active use
- All tools and parts are to be returned at the end of the project either fitted to the robot in the case of parts or in the toolbox/storage tray, failure to comply could result in up to 10% of marks being deducted reference “Good Working Practice”
- The team working areas in both the EIETL and Dyson are maintained in a clean state at all times this will be monitored, failure to comply could result in up to 10% of marks being deducted reference “Good Working Practice”

If in doubt, ASK.

## Parts, Tools, and Bench Equipment List EIETL

### Electronic/Electrical/Mechanical

1 x Arduino Uno/Adafruit Motor Drive  
1 x Orange Pi  
4 x Line Sensor Modules  
1 x TOF Sensor Module  
1 x Ultrasonic Module  
4 x LED Modules 1ea. red, green, blue, and white  
2 x Push Button Modules  
2 x Crash Sensor Modules 1 Left, 1 Right  
1 x 12v Battery  
1 x 12v Mains Adaptor  
1 x Battery Lead  
2 x Large Wheels

- 2 x Small Wheels
- 2 x Wheel to Motor Adaptors
- 2 x 40RPM Motors
- 2 x 18RPM Motors
- 1 x Proto Shield Board
- 1 x Ball Caster
- 1 x Standard Servo
- 1 x Programming Lead

## Tools

- 1 x Small Flat Bladed Screwdriver
- 1 x Cross point Screwdriver
- 1 x Long Nosed Pliers
- 1 x Solder Sucker
- 1 x Solder
- 1 x Scissors
- 1 x Wire Cutters
- 1 x Wire strippers
- 1 x Tape Measure
- 1 x Toolbox

## Bench Equipment

- 1 x Oscilloscope
- 1 x Oscilloscope Probe
- 1 x Oscilloscope Probe with Hook
- 1 x Power Supply
- 1Pair x Power Supply Lead
- 1Pair x Hooked Probes
- 1 x Multimeter
- 1Pair x Multimeter Probes

## Parts, Tools, and Bench Equipment List Dyson

### Screws and Fixings

- M2.5 x 12 Skt. head Cap Screws motor mount
- M3/M4/M5/M6 Studding
- M3 x 4, 10, 16, 20 Socket Head Cap Screws
- M4 x 10, 16, 20, 25 Socket Head Cap Screws
- M5 x 16, 20, 25 Socket Head Cap Screws
- M6 x 16, 25, 40 Socket Head Cap Screws
- No4x25mm Round Head Screws
- No4x25mm Countersunk Screws
- M3 Nylon nut, bolts and screws
- M4 Nylon nut, bolts and screws
- M5 Nylon nut, bolts and screws
- M6 Nylon nut, bolts and screws
- Pop rivets

## Adhesives

Hot glue

RP Araldite

White Wood Glue

Superglue HV (EIETL

Sheet, Bar, Rod, Angle ETC

## Sheet

Mild steel sheet, 0.7mm thick 450mm×450mm

Aluminium sheet, 1.5mm thick 200mm×150mm

## Rod

Aluminium rod, 8mm diameter 150mm long

Alum. angle, 12.5×12.5×1.6 1 21swg = 0.8mm 600mm Long

Steel tube (5/16od × 21swg) 1 18swg = 1.2mm 300mm long

Steel tube (3/8od × 22swg ) 1 16swg = 1.6mm 300mm long

Aluminium tube, 19mm diameter, 1mm wall 150mm long

## Wood Sheet, PLA and Cardboard

Polypropylene sheet 300×150×1.5 1

MDF (3mm, 4mm, 6mm) for laser cutting

Plywood (3mm, 4mm, 6mm for laser cutting

PLA for 3D printing

Cardboard for testing