**Wing Training Activity - H&S Brief – Arduino RC Cars.**

**20/04/2024 - 21/04/2024.**  **CWO Lucas Clark**

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When building Arduino circuits there are several hazards present from the electrical, mechanical and testing phases of the days.

When building the electrical components of the car we must consider the following on how to best reduce the harm these hazards may cause:

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| Sharp points | Safety glasses will be worn when building the cars. When force is being applied with tools (as appropriate) tools need to be pointing away from the you / others body and hands. |
| Element failure | No power supply should be connected to the circuit boards while building circuits.  When testing a power source should not be connected without the express permission of a member of training staff. We need to inspect for the correct wiring to prevent short circuits and damage to circuitry. |
| Small elements | Small elements pose the risk of being swallowed and causing choking, most training staff are AFA trained but regardless small elements should be kept away from mouths, you will be monitored to best reduce this from occurring. |

Mechanical components will also pose a hazard and should be addressed as follows:

|  |  |
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| Sharp tools | Training staff will direct you in the correct way to complete work with tools, but sharp drivers should only be used for low torque requirements.  For high torque requirements Allen keys should be used.  Horseplay with or without tools will in no way be tolerated and will result in immediate removal from the activity. |
| Small parts | Like small elements these can be swallowed and cause choking, as seen above you will be monitored throughout the evnet to ensure this does not occur. |
| Assembly | To reduce the chance of pinching skin, keep your hands clear from moving parts as much as possible and do not apply pressure with tools beyond what they are supposed to be used for (refer to sharp tools above). Always ensure the direction of force is away from the body and other individuals. |
| Sharp edges | Sharp edges can be found on a few of the components and cut zip ties so should be handled with care, make sure to inspect your bots for any sharp edges before placing on the ground. |
| Zip ties | Zip ties have the real possibility of cutting off circulation and causing permeant damage to the body, so should be used in a responsible manner without fingers in the loop. |
| Autonomously moving bots | There will be a testing area set out (direct attention) which should not be entered unless the area is clear of bots which will not cause a trip, preferable one bot at a time. DO NOT place a bot in the testing area if someone else is collecting a bot. Tripping is a serious accident and can cause huge amounts of harm. |

***Hand tool guidance:***

Always ensure a tool is:

* Designed for the job you are about to complete (ask staff).
* The right size (eg: screw drivers into a screw ect)
* Can be used in a comfortable position and requires a minimum of force.
* Do not modify a tool.

If at any point you feel that a tool is not in a suitable condition for use, then please immediately report it to staff and ***do not use the tool.***

***General H&S:***

* Keep work area clear and tidy.
* Avoid distractions when completing any stage of the build.
* Communicate with your teammates when completing work (ask for help).
* Pay close attention to what you, your team and instructions and me!!
* **RISE – Respect.**

**SAFETY ALWAYS COMES FIRST**

*Arduino Components:*

Arduino components are very fragile, and as such should always be treated with care.

These recourses should and need to be available to other cadets in the future so DO NOT BREAK THEM, be responsible and STOP THINK ACT if you come to a problem with components not fitting ect. **In 99% of these instances talk to staff and seek guidance.**

Staff are there to help and assist so please use us as a recourse at any point.