

Protolaunch Wescott Rocket Engine Test Facility



Site Health, Safety and Environmental Induction

PROTOLAUNCH

Induction Contents:

1. Site Details and Location
2. Access and Security
3. Areas of Responsibility
4. Site Rules
5. First Aid, Health and Welfare
6. Accident Reporting and Recording
7. Emergency Response Procedures
8. Personal Protective Equipment
9. Main Site Hazards
10. Hazardous Substances and COSHH
11. Environmental Protection
12. Competent Contractors
13. Working Safely
14. Main Contacts

1. Site Details

Main Priority

Protolaunch Ltd operates the site. We want to ensure that all works undertaken have a minimal health, safety and environmental impact on persons working on site and the surrounding area. We want everyone to go home as they arrive.

Site Details

Protolaunch Wescott Rocket Engine Test Facility is located in the Westcott Venture Park approximately 800m west of The town Westcott. The site infrastructure includes a concrete bunker and containerised engine test cell.

Site Address

Protolaunch Ltd

E site

Westcott Venture Park,

Westcott,

Near Aylesbury,

Buckinghamshire,

HP18 0XB

what3words "drag.retailing.clean"

Latitude 51.846784, Longitude -0.970282

1. Site Location



2. Access and Security

Site Access

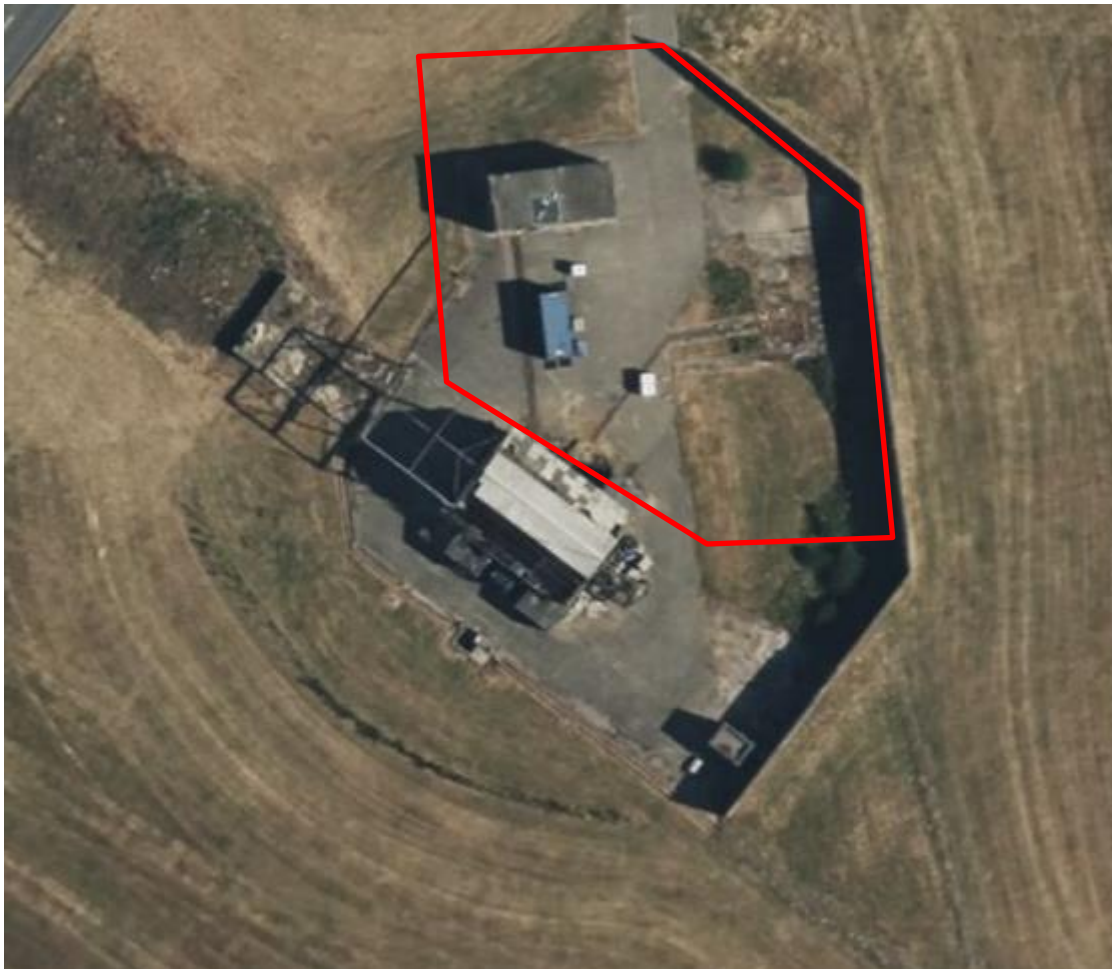
All persons attending the Protolaunch Rocket Engine Test Site site to perform any type of works are required to attend an induction by Protolaunch Ltd staff, as well as learning about key H&S and environmental information relating to the site.

Site Access Procedure

- Ahead of arrival at site you must arrange the visit with Protolaunch Ltd staff.
 - Contact: Matt Escott, 07955 528218, matte@Protolaunch.co.uk
 - Or Jack Coghén-Brewster, 07515 949 996, jack@protolaunch.co.uk
- Upon arrival at site and ahead of performing any works, you **must make yourself know to members of staff on site and sign in at the site control room.**
- **Protolaunch Ltd reserves the right to remove site access rights of any individuals who do not follow this above procedure**
 - the site log in book will be audited regularly.
- **All visitors** must be **accompanied** by an authorised Protolaunch member of staff.
- When leaving site each person leaving site is **required to complete the sign-in/out book**. If you are the last person on site ensure all doors are closed, locked and non-required electrical apparatus is turned off.

3. Areas of Responsibility

Protolaunch Ltd is the site manager and is responsible for managing the overall site within the boundary shown below in red



PROTOLAUNCH

3. Site Layout



4. Site Rules

Site Induction

You **MUST** complete a site induction to be granted access to site.

Access and Egress

All visitors must report to the security at the Westcott Venture Park gatehouse. Access and egress to and from the Protolaunch site is via the **site entrance ONLY**. Each time you enter the site and before you leave you **MUST** inform Protolaunch Staff, complete the sign in/out register which is held in the control room. Please don't lock the door if other staff are still on site.

Site Hours

Site hours are 24 hours a day and 7 days a week. Work will be as and when required as the site is operational and some works will be unscheduled.

Parking

Please park on the site road as shown on the site layout plan with at least two wheels remaining on the road. **DO NOT** park within 4 meters of the containerised rocket test cell.

Site Speed Limits

A 5 mph speed limit is enforced on the Protolaunch site and all site users must ensure they give way to larger or reversing vehicles. The Westcott Venture Park speed limit is 30MPH and overtaking is prohibited

Smoking

The site is no smoking only.

Prohibited Areas

To the south of the Containerised Engine Test Cell is another building which is not part of the Protolaunch site. Access to and around this building is prohibited

4. Site Rules

Drugs and Alcohol

- Recreational drugs and alcohol will not be tolerated.
- Anyone on prescribed or over the counter medication must seek advice from a GP regarding any side effect which could cause impairment before reporting for duty.
- If you have any known medical conditions please ensure that your company is aware in the event of an emergency.

Communications

The site is unmanned and all staff and contractors MUST ensure they bring mobile phones with them to site.

Lone Working

Please check and utilise your employer's policy on lone working before attending site.

Spills

Any contractor handling hazardous materials or liquids MUST carry spill kits, take action to prevent spread and contain a spill.

All Spills must be reported to Protolaunch Management.

5. First Aid, Health and Welfare

First Aid

The first aid kit, eye wash station and accident book are kept within the Control Room on your left as you enter the main door. As the site is operational and unmanned there are no designated first aiders on site. All accidents and first aid incidents should be recorded in the accident book and reported to Protolaunch staff and management.

The site notice board in the site office highlights the location of any site based first aid kits, eye wash stations and fire extinguishers.

Control Room

As the site is unmanned there are no welfare facilities on site. Protolaunch staff have access to Unit 330 where welfare facilities are available. Contractors should either bring their own to site if working for prolonged periods or make use of the local services nearby, such as at the Gatehouse Café at Westcott Venture Park entrance.

The Control Room contains:

- The sign in / out register
- The site accident book
- First aid kit and eye wash station
- The site notice board containing: HSE legislation poster, fire emergency procedures, Emergency Contact Details, First Aid Kit, Fire Extinguisher locations, Route to Hospital, Protolaunch Environmental and HSE Policies, Site Rules, Site Layout Plan.

6. Accident Reporting and Recording

Reporting

Protolaunch believe in minimising accidents and incidents and in continuous improvement. Where first aid is required please seek the assistance of others that are on site. In the event of an accident, near-miss or lost time incident:

- You must report all accidents and incidents IMMEDIATELY to your employer (Protolaunch needs to be informed and they have a duty to report these also)
- Near misses, including unsafe conditions and behaviours, should also be notified so these can be addressed before an accident occurs.

For serious incidents (listed below) IMMEDIATE notification is required:

- Potential lost time injuries (LTI);
- Anyone leaving the site for medical treatment;
- HSE reportable injuries or dangerous occurrences;
- Any road traffic or plant/ vehicle collision;
- Significant environmental incidents;
- Incidents involving the carriage of dangerous goods;
- Loss of containment from any plant or equipment requiring deployment of oil/ chemical spill clean-up contractor;

6. Accident Reporting and Recording

Recording

Where an accident, incident, near-miss, damage or unsafe behavior/condition is reported, then a specific incident notification form should be completed and the incident reported immediately to your employer and to Protolaunch Management. Each contractor should follow their own company's investigation procedures. This should also include details of injuries to personnel and details of any serious near miss on site.

Please pass all incident records to your employer for HSE reporting purposes and to assess where improvements could be made to make the site safer.

PLEASE remember before leaving site:

- All accidents must be recorded in the site accident book (kept in the Control Room). In addition an investigation may be carried out to prevent a re-occurrence.

Safety is our priority and everyone is responsible in ensuring we work safely on site, remember:

1. **If you are not sure about something don't do it!**
2. **If you see anything that is unsafe - report it!**

Only together we can help ensure we work safely and reduce accidents.

Protolaunch Ltd Golden Rules

Protolaunch Ltd expects all employees and contractors to abide by the 8 Golden Rules at all times:

1. **Risk Assessments** – don't start work without a Risk Assessment
2. **Equipment Manuals** – Always operate equipment in accordance with the equipment manuals
3. **LOTO** – follow the Lock Out Tag Out (LOTO) procedure at all times
4. **Height** – don't work at height without appropriate fall prevention/protection measures in place
5. **Plant** – don't operate plant unless you are authorised to do so
6. **Drugs & Alcohol** – don't come to work if you are under the influence
7. **Personal** – don't walk by, be a safety leader today
8. **Reporting** – always report any accidents, near misses or hazards immediately

7. Emergency Response Procedures

These site emergency response procedures have been developed to ensure everyone knows what to do in the event of an emergency. The procedures are designed to enable a rapid response to any accident, incident or unforeseen event. A copy of the site emergency response procedures is available on site on the main noticeboard in the Control Room.

Fire Emergency Response

If you discover a fire:

- Immediately inform others on site, by radio, telephone and/or repeatedly shouting “FIRE FIRE FIRE”. If appropriate call the fire brigade on 999.
- Only if safe to do so and you have been trained or feel competent to do so, attack the fire with the appliances provided, but without taking any personal risk – fire extinguishers should primarily be used as a means of escape.
- Close doors (if applicable) on exit and only if safe to do so, and turn off any affected electrical appliances. Isolate rocket engine fuel supplies if safe to do so.
- Vacate the area and proceed to the fire assembly point by the site entrance.
- Do not delay your departure by stopping to collect personal belongings.
- Inform the Company Safety Management Team.

If you hear a person raising the fire alarm:

- Leave the building and area immediately and proceed to the fire assembly point by the site entrance.
- Do not stop to collect belongings.
- Remain at the fire assembly point until you are told that it is safe to re enter the area and building.

Do not attempt to extinguish a fire unless it is safe to do so – fire extinguishers are there to help you get out, not to fight a FIRE!

Only move injured persons if they are in danger and it is safe to do so!

7. Emergency Response Procedures

Environmental Emergency Response

Contractors should bring their own spill kits to site and be trained to react to a spill. In the event of a significant spill:

1. Stop work
2. Protect sensitive areas if safe to do so. Identify the source of the spill
3. Use appropriate PPE
4. Contain the spill (using absorbent materials)
5. Clean up (do not use water to wash the area)
6. Notify your employer and Protolaunch Management

7. Emergency Response Procedures

General Emergency Response

In the event of an emergency, the procedures listed below are to be followed:

- Assess the situation and conduct a primary assessment.
- Administer initial first aid as required.
- Contact the emergency services using 999 or 112 and give them the following information:

- **When: Accident happened;**
- **Where: Grid/GPS coordinates of the site i.e.**

Protolaunch Ltd
E site
Westcott Venture Park,
Westcott,
Near Aylesbury,
Buckinghamshire,
HP18 0XB
what3words “drag.retailng.clean”
Latitude 51.846784, Longitude -0.970282

- **What: Description of accident and injuries;**
- **What: Treatment you have/are giving;**
- **What: Assistance you require.**
- As soon as possible inform Westcott Venture Park Security on (01296) 651 870 or (01296) 651 888.
- Advise your employer and Protolaunch Management.
- Conduct a secondary assessment.
- If possible and safe to do so evacuate the casualty to the site office.
- Have an employee meet the emergency services at the entrance to the site.

7. Emergency Response Procedures

Full Site Evacuation

In the event of a full site evacuation please:

1. Vacate the site immediately,
2. Do **NOT** stop to collect personnel belongings,
3. Move directly to the designated assembly point: Protolaunch Rocket Engine Test Site entrance.
4. Do not return to site until instructed to do so.

Emergency Services Contacts

Please dial 999 or 112 in the event of any emergency and ask for Police, Fire or Ambulance. As soon as possible inform Wescott Vventure Park Security on (01296) 651 870 or (01296) 651 888.

The nearest hospital is:

Stoke Mandeville Hospital

Mandeville Road

Aylesbury

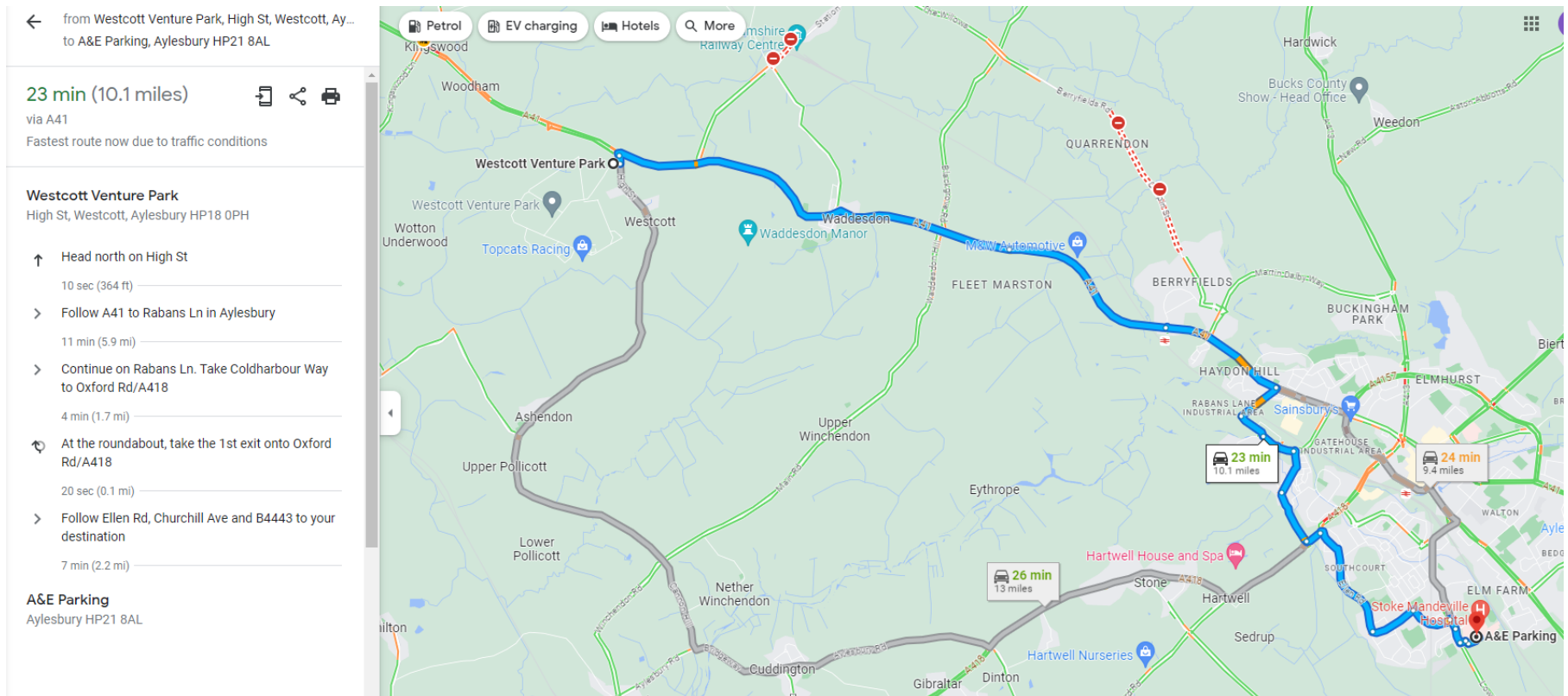
Buckinghamshire

HP21 8AL

24 hours – 01296 315000(Hospital is approximately 8 miles from site)

7. Emergency Response Procedures

Route to Hospital



8. Personnel Protective Equipment

Mandatory PPE

All site staff and contractors shall ensure they bring and wear the following PPE:

General Westcott Rocket Engine Test Site Entry **minimum** requirements;

- Safety footwear to EN 346

When an engine is made “live” with a solid connection to a fuel supply;

- Safety footwear to EN 346
- Eye protection
- Antistatic and flame-retardant overcoat when in the vicinity of the engine test cell to EN ISO 11612 A1+A2, B1, C1, F1.

During water pressure/flow component testing;

- Safety footwear to EN 346
- Eye protection
- Hand protection vicinity of the engine test cell

- Eye protection if risk assessment requires this
- Hand protection if risk assessment requires this

Remember safety is everyone's responsibility if you see something unsafe REPORT IT!

Before attending site please refer to your employers code of practice and task specific risk assessments to check whether additional PPE is required such as eye and hearing protection.



9. Main Site Hazards

Engine Fuel Supplies

Rocket Engine testing requires the use of highly flammable gasses and liquids. These are stored close to the Containerised Engine Test Cell and connected to the Containerised Engine Test Cell prior to engine testing. It is important that there are no sources of ignition such as from smoking or grinding in the area of the Containerised Engine Test Cell without express permission of the Protolaunch Management

Electricity

The control room and Containerised Engine Test Cell have 230V supplies. The main point of isolation is in the control room on the opposite wall to the main entrance in the leftmost corner as you enter.

Vehicle and Plant movement

Whenever people and vehicles operate together there is always the potential for incidents and accidents. Please ensure wherever possible do not block the main access road and adhere to the speed limits. Pay special attention to park in the designated parking area.

Engine Exhaust

When an engine is tested the area to the rear of the Engine and the rear of the Containerised Engine Test Cell will be subject to extremely hot rocket engine exhaust gases. Access to this area is strictly prohibited and controlled by the Lead Test Engineer.

9. Main Site Hazards

Restricted spaces

When an Engine is tested the area to the rear of the engine and the rear of the Containerised Engine Test Cell will be subject to rocket engine hot exhaust gases. Access to this area is strictly prohibited during test periods and controlled by the Lead Test Engineer and can only be accessed under their permission and direct supervision. A Engine Test period is indicated by a red flag on the control room roof.

To the south of the Containerised Engine Test Cell is another building which is not part of the Protolaunch site. This building is in a poor state of repair - access to and around this building is prohibited.

Weather

The site is quite exposed. Whilst site operation and maintenance activities can be unplanned ALWAYS ensure you consider the weather before attending site. Please ensure you review your company's policies with regard to electrical storms and cold weather and bring the appropriate clothing and PPE before arrival on site.

10. Hazardous Substances and COSHH

Hazardous Substances

There are a number of hazardous substances used on site which include:

- Bottled Oxygen
- Bottled Hydrogen
- Bottled Nitrogen
- Bottled Nitrogen Dioxide
- Solvents
- Paints
- Other gaseous fuels

These substances will be strictly controlled to protect personnel and the environment.

COSHH

The Control of Substances Hazardous to Health (COSHH) is critical to HSE welfare on site.

All hazardous substances used on site **MUST** be either stored in secure locations or disposed of from site after use via registered hazardous waste carriers. Copies of hazardous waste consignment notes must be kept.

There should be a copy of the material safety data sheet (MSDS) available for each substance used together with a COSHH assessment. Contractors **MUST** ensure they are aware of the precautions to be taken **BEFORE** handling any substances.

11. Environmental Protection

Pollution Prevention

Protection of the natural environment is a key objective for Protolaunch Ltd. We want to prevent pollution and keep the site clean and tidy. This is achieved in a number of ways at the Protolaunch Rocket Engine Test Site Storage Site by:

- 1. *Removing litter and waste from site***
- 2. *Bunded storage:*** Any liquid chemicals should be stored on a bund
- 3. *Controlled handling of substances and materials:*** via approved and competent contractors ONLY
- 4. *Controlled waste disposal:*** via registered waste carriers for both hazardous and non-hazardous waste
- 5. *A site accident plan:*** including spill response measures

Materials, substances and waste MUST be stored and disposed of correctly, either in suitable containers or removed by authorised registered waste contractors for disposal off site.

11. Environmental Protection

Fuel Management

Liquid Fuel and oil storage containers must be located away from the site drainage system and the edge of watercourses (such as the site swales). All contractors MUST ensure adequate measures are identified to prevent or contain any spillage such as creating a fall away from any drainage grid or blocking drainage points.

- All liquids which could give rise to pollution shall have secondary containment.
- Fuel/oil stores are located away from vehicle movement areas to prevent collision.
- Liquid Fuel/oil storage must be sited on an impermeable base within a bund to contain at least 110 per cent of the maximum capacity. (See Environment Agency PPG 2 and 26 for a standard fuel storage design). All ancillary equipment (valves, hoses etc.) should be contained securely within the bund when not in use. Ensure that tanks are properly labelled as to their contents and capacities.

Waste Management

All waste generated on site must be CONTROLLED to ensure it is disposed of correctly. No waste is to be left on site unless it is contained and secured prior to collection and disposed of by registered waste carrier.

Hazardous waste MUST be collected and disposed of via a registered and approved waste haulage contractor. Copies of hazardous waste consignment notes must be provided to Protolaunch Ltd.

All general waste (including packaging waste) must also be disposed of via an authorised waste carrier or at a licenced recycling facility. For general waste collections copies of waste transfer notes must be provided to Protolaunch Ltd.

13. Working Safely

Working safely is critical in keeping ourselves, our colleagues and our site safe. All approved contractors working at Protolaunch Rocket Engine Test Site MUST employ safe systems of work or a safe working practice. This should include the following:

1. **Protolaunch Equipment manuals**– A clear method of operating specialised Protolaunch equipment.
2. **Risk Assessments** – An assessment of the ‘likelihood and severity’ of each hazard, including control measures to ensure the ‘risk’ is reduced or eliminated.
3. **Toolbox talks** – A summary discussion with the work team of the activities to be completed prior to commencing them.
4. **Respect of Lead Test Engineer decisions and permissions** is essential during engine test activities.
5. **LOTO** - Follow lock out tag out procedures for working on energy systems.

Please remember stay alert, even if you are doing something that you do regularly take the time beforehand to think about the risks and how to control them. We want everyone to go home as they arrived.

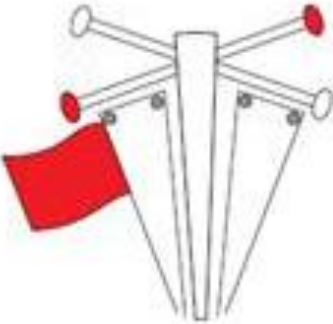
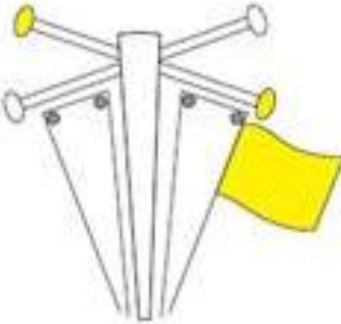
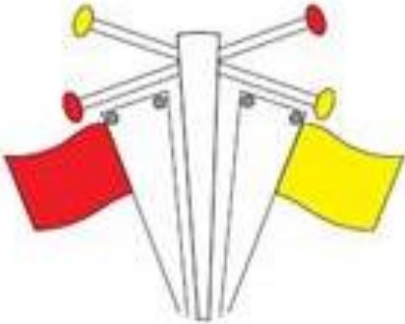


13. Working Safely

Along with the employer, you are responsible for your own and others health and safety at work.

- **Manual handling:** Assess all loads and if you think they are too heavy do not lift them. Correct use of lifting aids is essential and colleague assistance should be considered where necessary.
- **Control of Substances Hazardous to Health (COSHH):** Ensure you know how to use all substances safely. Make yourself aware of the COSHH assessments and health risks associated with the substances.
- **Personal Protective Equipment (PPE):** It is your responsibility to use and store your PPE as instructed and report damage or request replacements to your manager.
- **Hazard awareness and housekeeping:** If you notice something that that may cause harm to you or others report it to your manager. It is also your responsibility to keep your workplace clean and tidy to avoid accidents.

14. Flag Warning System

DANGER AREA WARNING SIGNALS

<p>RED FLAG</p>  <p>DANGEROUS CHEMICALS & OR EXPLOSIVES ON SITE</p>	<p>YELLOW FLAG</p>  <p>PRESSURE TESTING IN PROGRESS</p>	<p>RED & YELLOW FLAGS</p>  <p>ENGINE FIRING IN PROGRESS</p>
 <p>ENTER TEST AREA WITH CAUTION</p>	 <p>STRICTLY NO ENTRY TO TEST AREA UNLESS AUTHORISED</p>	

15. Siren Warning System

TWO SHORT Bursts: Engine Firing will begin in approximately 2 minutes

ONE LONG Burst: Engine firing is imminent

ONE SHORT Burst: Firing is complete

14. Main Contacts

Protolaunch Ltd

- Matt Escott 07955 528 218 matte@protolaunch.co.uk
- Jack Brewster 07515 949 996 jack@protolaunch.co.uk
- Westcott Venture Park Site Security
 - 01296 651 870 or 01296 651 888



End of Induction

Thanks for taking the time to attend this induction.

Any Questions?

Thanks!