School of Engineering

Dept of Engineering Trades
Motor Engineering Workshop & Laboratory

Health and Safety File

Workshop & Laboratory
W101, W102, W104

File 1

Rev: April 2016

School of Engineering

Dundalk Institute of Technology

Ancillary Safety Statement

April 2016

This Ancillary Safety Statement is to be read in conjunction with the Parent Safety Statement of Dundalk Institute of Technology

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1. Introduction

Under the provisions of The Safety, Health and Welfare at Work Act 2005, Dundalk Institute of Technology is required to ensure so far as is reasonably practicable the health, safety and welfare of all its employees and students engaged in work or study, and all visitors to the Institute premises.

In view of the recent extensive expansion that has taken place on the campus and in order to comply with the requirements of the 2005 Act, the Institute has decided to review and update its Safety Statement. Dundalk Institute of Technology's safety management programme consists of a Parent Safety Statement supplemented by seven ancillary Safety Statements, which apply to different functional areas of the Institute. These ancillary Safety Statements take account of the diverse range of activities, which apply across the Institute.

The Institute's overall Safety Statement is comprised of the following documents:

- Parent Safety Statement
- Ancillary Safety Statement – School of Business & Humanities
- Ancillary Safety Statement – School of Health & Science
- **Ancillary Safety Statement – School of Engineering**
- Ancillary Safety Statement – School of Informatics & Creative Arts
- Ancillary Safety Statement – Secretary/Financial Controller's Functional Area
- Ancillary Safety Statement – Registrar's Functional Area
- Ancillary Safety Statement – Regional Development Centre Functional Area
- Emergency Evacuations Procedures Manual

The purpose of the Ancillary Safety Statements is to provide details of the specific hazards and control measures which apply in these areas. Each Ancillary Safety Statement should be read in conjunction with the Parent Safety Statement.

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2. General Statement of Policy within the School of Engineering

The School of Engineering Functional Area is committed to ensuring that high standards of health and safety are achieved and maintained throughout all areas under our control. The key mechanism for achieving and maintaining safety is Risk Assessment, by which we identify hazards, which have the potential for harming health or causing accidents, evaluate the risks arising and select and implement appropriate precautions.

Throughout the School of Engineering Functional Area, Risk Assessments are carried out in all areas under our control periodically. Risk Assessments must take account of any changes with regard to the structure of the organization, Academic Staff, work practices; use of machinery, design techniques or equipment all may necessitate periodic changes to this document as well as any periodical amendments or updates to legislation.

It is essential that all staff and students contribute and cooperate to this process, thus ensuring that the School of Engineering Functional Area's stated objective of providing in so far as is reasonably practicable a safe place of work is achieved. Employees are encouraged to contribute to the improvement of health and safety by making suggestions to their departmental manager. The success of this policy depends on the co-operation of all staff and students, and it is therefore extremely important that staff:

Read and understand the safety information provided

Know their role and responsibilities.

Always abide by the arrangements the Institute has put in place to ensure their health, safety welfare, and that of their colleagues and others.

The process of Risk Assessment in the School of Engineering Functional Area enables us to take all relevant precautions to ensure that Dundalk Institute of Technology's legal standard as an employer is fulfilled particularly in relation to:

- Exercising all due care
- Putting in place necessary protective and preventative measures
- Identifying hazards and assessing risks likely to result in accidents or ill-health
- Not being required to take further measures where these would be grossly disproportionate having regard to the unusual, unforeseeable and exceptional nature of the circumstances.

Health and Safety is overseen in the School by the Functional Area Safety Committee which contains representatives from all of the areas within the School (See Appendix I for membership details)

Signed on behalf of School of Engineering, Dundalk Institute of Technology,

_____

Mr. Eugene Roe
Head of School of Engineering

3.0 School of Engineering Functional Safety Area: Description

The School of Engineering is divided into Four Departments, one Research Centre.

1. Department of Electronic & Mechanical Engineering
2. Department of the Built Environment
3. Department of Engineering Trades
4. Centre for Renewable Energy at DkIT(CREDIT)

The School of Engineering is predominantly located in the following areas of the Institute:

Location	Description	Primary Activity
North Block	Dept. Electronic & Mechanical Engineering	○ Lecture rooms ○ Computer Labs ○ Office based activities ○ Work Placements ○ Laboratories ○ Workshops
North Block South Block	Dept. of the Built Environment	○ Lecture rooms ○ Computer Labs ○ Office based activities ○ Laboratories ○ Fieldwork
North Block South Block The Carroll's Building	Dept of Engineering Trades	○ Lecture Rooms ○ Computer Labs ○ Office based activities ○ Drawing Offices ○ Motor Engineering Workshop ○ Plumbing Workshops ○ Carpentry Workshops ○ Electrical Workshops ○ Motor Engineering Lab ○ Electrical Lab ○ Plumbing Lab

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Risk Assessment is carried out at least once per year in each location in the School of Engineering functional area under the direction of the Head of School, Mr. Eugene Roe who is the responsible person.

The wide range of workplace activities and the associated risks to health, safety and welfare within the School of Engineering can be broadly categorized as follows:-

- Offices, (Administration and Lecturing Staff) – low to medium risk.
- Lecture Rooms, Drawing Offices, Computer Labs. – low to medium risk
- Workshops – low to high risk

Refer to Appendix II for School of Engineering safety management organizational layout.

Hard copies of this Functional Area Ancillary Safety Statement are available at the following locations:

1. Administration Office, School of Engineering
2. Workshop locations
3. Laboratories

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4.0 School of Engineering – Overview of Risk Assessment Process.

This Ancillary Safety Statement covers all activities carried out by the School of Engineering, and should be read in conjunction with the Institute Parent Safety Statement.

Dundalk Institute of Technology will adapt the "General principles of prevention" as outlined in the 2005 Act Schedule 3

When a hazard is identified and the risk assessed, the necessary arrangements are put in place to protect safety and health.

Dundalk Institute of Technology will utilize the hierarchy of controls A series of common sense steps for hazard control (often called hierarchy of control) **where elimination of the risk is not reasonably practical**,.

These steps are:

1. Substitute the hazard (e.g. use a less harmful substance).
2. Isolate the hazard.
3. Use engineering controls (e.g. Physical controls).
4. Put in safe work practices (e.g. Instruction, training, supervision).
5. Use Personal Protective Equipment (PPE) such as gloves / overalls.

If a hazard cannot reasonably be eliminated it is the policy to work through this list to minimise exposure to risks. For example, the Institute will try to substitute the hazard first. If this is not possible, will go to the next step and so on. In some cases it may be appropriate to implement a combination of the steps e.g. Steps 3, 4 and 5.

The list above indicates an "order of priority" for remedial measures for any hazard situation which Dundalk Institute of Technology will adapt.

The process of Risk Analysis is by numerical format.

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

The above risk analysis is incorporated into the School's **Safe Work Practice Sheets**

The Analysis takes into account who is exposed
The initial Risk Rating before controls are implemented
The Reduction Risk Rating after controls is in place

A risk is the probability or likelihood of a hazard actually causing a degree of injury or damage.

A hazard is anything that can potentially cause harm.

After a hazard has been identified, it is evaluated in order to assess what its impact would be if steps to control it were not taken. In practical terms, one determines the likelihood of an accident happening and the consequences of it happening.

There are inevitable difficulties in assessing risks. Some risks such as exposure to e.g.- Chemicals / Manual Handling / Lone Workers / Trainees may require physical or organisational measurements to be taken. Risk depends on many (often related) circumstances:-

Is anyone exposed to the hazard? Is the hazard likely to cause injury?
Is the hazard well controlled? Is the level of supervision adequate?
How long people are exposed and what are are the levels of exposure that should not be exceeded (e.g. Equipment, chemicals, poor lifting techniques)

Risk Assessment will be carried out at least once a year in all of the different sites in the School. The Risk Assessment process adopted by the School of Engineering identifies hazards posed by activities within the School and quantifies the risk posed by same.

In most cases these hazards can be controlled by adhering to procedures detailed in the School's **Safe Work Practice Sheets** (Appendix III) which are developed on an as-needed basis and identified through regular area-by-area risk assessment / Inspection. As part of the annual Risk Assessment process, all Safe Work Practice Procedure Sheets will be reviewed and updated to ensure that they take account of any changing circumstances that have arisen during the course of the year, any changes to work practices, introduction of equipment, changes in legislation will also require updating as is necessary.

Safe Work Practice Sheets are available in the School of Engineering Administrative office, Heads of Departments, Workshop Locations, Laboratories and on the Institute's website

The list of these SWPS is also included in Appendix III of this document. More generic college wide SWPS are also to be adhered to and are available at:

The primary objective of the Safe Work Practice procedures is to eliminate, reduce or control any risks posed as a result of the hazards that exist throughout the School. These Safe Work Practice Procedures are also made available to all staff and students operating in any lab, workshop or classroom environment that is the subject of a risk assessment and safe work practice procedures.

Adherence to the Safe Work Practice Procedures is the primary means of risk control in the School of Engineering. However, hazards may arise from time to time, which are not covered by

these procedures. Under Section 13 (h)(i - iii) of the 2005 Safety, Health & Welfare at Work Act, all staff are required to report any hazards that they notice or observe to their employer. Within the School of Engineering, any hazard noted or observed by any member of staff must be reported to their immediate superior.

Incidents and Dangerous Occurrences must be notified to the relevant supervisor using the forms included in Appendix IV.

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5.0 Functional Area Safety Records

Functional Area safety records include but are not limited to the following documents:

1. Ancillary Safety Statement, including Safe Work Practice Sheets
2. Health and Safety Training Records
3. Accident, Incident and Near Miss Dangerous Occurrence Reports
4. Functional Area Safety Committee Meeting Records
5. Inspection Certificates (where applicable)

(1-5) can be located as follows for:

(a) **The School of Engineering**

Record Type	Building	Room No.	Contact
Ancillary Safety Statement, including Safe Work Practice Sheets	North Block	School of Engineering Office, NC121	Orlagh Devine orlagh.devine@dkit.ie, ext. 2894
		Offices	
	North Block	Mr. Eugene Roe (HOS) NC126	eugene.roe@dkit.ie ext. 2893
		Mr. Simon O'Neill (HOD) NC124	simon.oneill@dkit.ie ext. 2847
		Mr. Noel McKenna (HOD) NC127	noel.mckenna@dkit.ie ext. 2891
		Mr. Pat McCormick (HOD) NC128	pat.mccormick@dkit.ieext. 2551
		Mr. Padraig McGuigan (Section Head) NW207	padraig.mcguigan@dkit.ie ext. 2698
		Mr James Mulvany (Section Head) NW216	james.mulvany@dkit.ie ext 2520
	South Block	Mr. John Doherty (Section Head) S120	john.doherty@dkit.ie ext. 2692
Training Records	North Block	School of Engineering Office, NC121	Orlagh Devine orlagh.devine@dkit.ie, ext. 2894
Incident & Accident Reports	North Block	School of Engineering Office, NC121	Orlagh Devine orlagh.devine@dkit.ie, ext. 2894
FASC Meeting Records	North Block	School of Engineering Office, NC121	Orlagh Devine orlagh.devine@dkit.ie, ext. 2894
Inspection Certificates	North Block	School of Engineering Office, NC121	Orlagh Devine orlagh.devine@dkit.ie, ext. 2894

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APPENDICES

Appendix I

Functional Area Safety Committee 2015/2016

1. Eugene Roe, Head of School of Engineering (Chairperson)
2. Simon O'Neill, Head of Department of Engineering Trades
3. Pat McCormick, Head of Department of Mechanical and Electronic Engineering
4. Padraig McGuigan, Head of Section: Mechanical Engineering
5. James Mulvany, Head of Section: Electronic Engineering
6. Noel McKenna, Head of Department of the Built Environment
7. John Doherty, Head of Section Carpentry/ Joinery / Plumbing
8. Orlagh Devine, Senior Administration
9. Jim Connolly, Senior Technical Officer
10. Paul Egan, Lecturer
11. William Lyons, Lecturer
12. Brendan Walsh, Lecturer
13. Dermot Clarke, Lecturer
14. Paul Durcan, Lecturer

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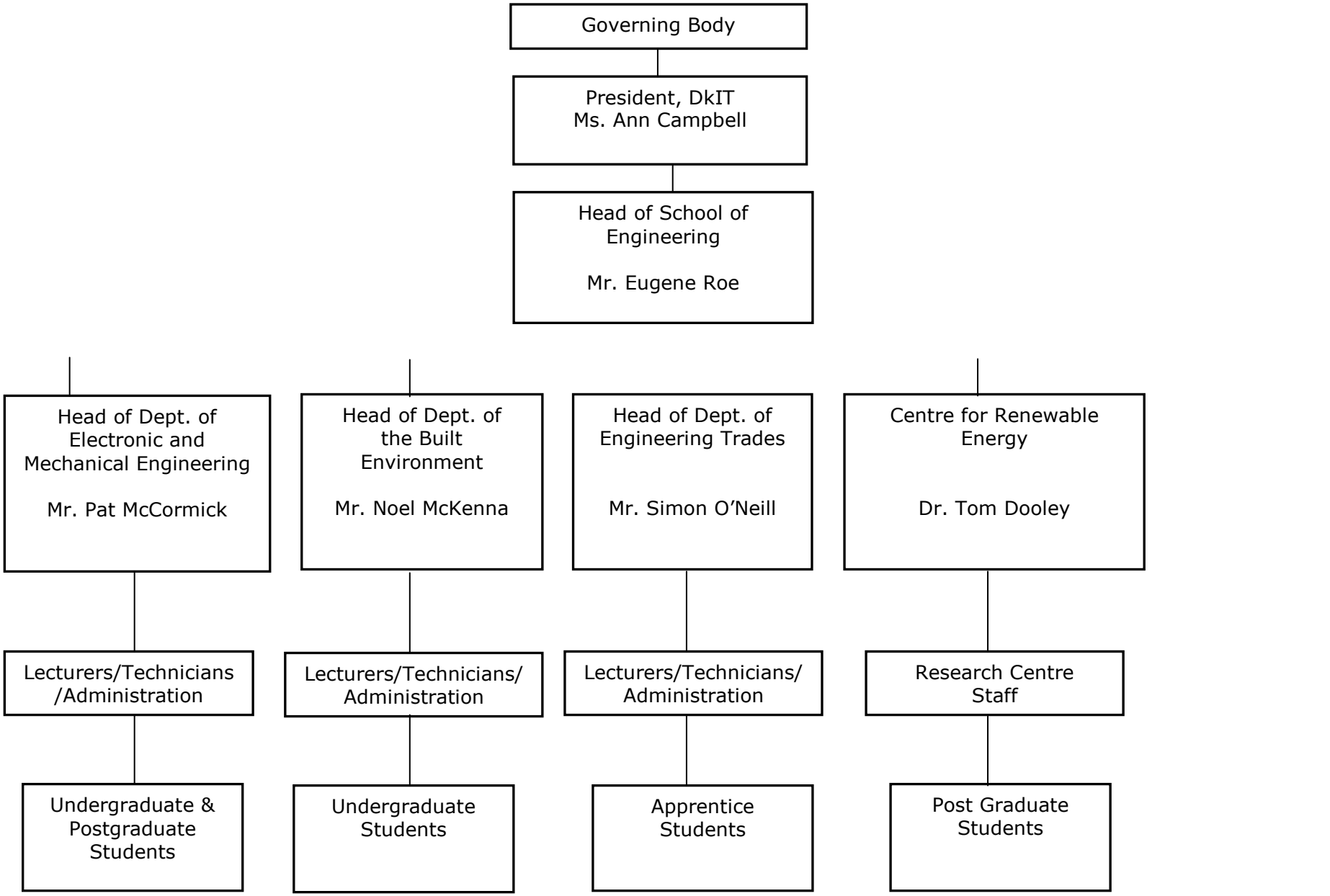
Appendix II

List of Responsible Persons within the School of Engineering

Head of School	**Mr. Eugene Roe**
Head of Dept of Mechanical & Electronic Engineering	**Mr. Pat McCormick**
Head of Section: Mechanical Engineering	**Mr. Padraig McGuigan**
Head of Section: Electronic Engineering	**Mr. James Mulvany**
Head of Dept of the Built Environment	**Mr. Noel McKenna**
Head of Dept of Engineering Trades	**Mr. Simon O'Neill**
Head of Section: C&J and Plumbing	**Mr. John Doherty**
Centre for Renewable Energy at Dundalk Institute of Technology (CREDIT)	**Dr. Tom Dooley**



School of Engineering
Safety Management Organisation Chart

Appendix III

Safe Work Practice Sheets

SWPS ID	Motor Engineering Labs/Workshops	W101 / W102 / W104

General Routine Safe Work Practice Sheets Used in this Area:

GEN 001	General Rules
GEN 002	Access and Egress
GEN 003	Fire Safety
GEN 004	Electrical Safety
GEN 005	Chemical Agents Risk Assessments
GEN 009	Slips, Trips and Falls
GEN 010	Lone Person Working
GEN 013	Manual Handling
GEN 019	Storage Areas
GEN 025	General Workshop Safety
GEN 026	Use of Hand Tools
SWPS 007	Safe Use of Ladders/ Stepladders
GEN 027	Cutters, Scalpels and Stanley Knives

Engineering Specific Safe Work Practice Sheets Used in this Area:

MOT 001	Alternator Test Bench
MOT 002	Brake Systems
MOT 003	Diesel Engine Fuel System
MOT 004	AG Block, Diesel Engines (Peugeot, Citroen & Golf)
MOT 005	Four Post Lift
MOT 006	Petrol Engine Fuel Systems
MOT 007	AG Bloc, Petrol Engines (Audi, Opel Vectra, Ford Mondeo)
MOT 008	Roller Brake Test (NCT Lane)
MOT 009	Steering / Suspension Systems
MOT 010	Transmission Systems
MOT 011	Compressed Air
MOT 012	Strands Bench & Pillar Drilling Machine
MOT 013	AG Bloc Electric Power Steering Simulator
MOT 014	Maha Scissors Lift
MOT 015	Engine Blocks & Cylinder Heads
MOT 016	RAV & Wheelforce 1900 Wheel Aligner
MOT 017	60 Tonne Press
MOT 018	Christensen 10 Tonne Press
MOT 019	Peugeot, Clio & Starlet Demonstration Engines
MOT 020	Diesel Injector Tester and Aspirator
MOT 021	Golf, Honda and Isuzu Test Engines (Non Live)
MOT 022	1966 Ford Anglia Engine
MOT 023	ABS Display Boards
MOT 024	AG Bloc Ford Mondeo Engine Simulator Board
MOT 025	AG Bloc Window Winders Simulator Board
MOT 026	AG Bloc Central Locking Simulator Board
MOT 027	AG Bloc Air Bag System

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Appendix III

General Routine Safe Work Practice Sheets

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Safe Work Practice Sheet General Rules	Ref: SWPS 001
	Date: July 09
	Assessed by: E.Roe

Hazards

There is always an ever-present risk of accidents occurring due to lack of vigilance and awareness of staff and students

Person Exposed to Risk

✓ Students ✓ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

Everyday working environment

Controls

- Smoking, eating and drinking is prohibited in all areas other than designated
- areas. Smoking is prohibited in all areas.
- Exercise care when opening or closing doors on entering or leaving rooms. Never run.
- Conduct yourself in a responsible manner and do not act in a way that could be dangerous to yourself or others. Refrain from indulging inappropriate behavior as it could have serious consequences.
- No student or member of staff should ever work alone in a Laboratory, Workshop, Service Duct or Plant Room, without prior notification to Line Manager.
- All bags and coats are to be left in designated areas. All work and teaching areas should be kept tidy when in use and left tidy when finished.
- All accidents however minor must be reported to immediate superior.
- No member of staff or student is to interfere with any workplace equipment.
- Report any malfunctioning or dangerous or defective equipment to immediate supervisor without delay. Never attempt to effect repairs, no matter how trivial.
- Become familiar with position and use of safety equipment for each area in which you work.
- Study carefully and obey the Safe Work Practice Sheets for any area in which you are required to work.
- Co-operate with Employer in fulfilling duties imposed under Section 13(1)(a- h) of the Safety, Health & Welfare Act 2005

Checks & Inspections

Constant vigilance and awareness

Information, Instruction & Training

Not applicable

Personal protective equipment required (last resort)

Not applicable

Initial Risk Rating (without any control measures)

Probability :	2	x	Severity	3	=	Risk Factor	6 high risk

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	1	x	Severity	3	=	Risk Factor	3 low / medium risk

Risk Assessment Review

As and when process changes or yearly

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Safe Work Practice Sheet Access and Egress	Ref: SWPS 002 Date: July 09 Assessed by: E.Roe

Hazards

Inadequate access and egress in the workplace can result in slips, trips and falls. Obstructed access roads and paths can also pose a risk of injury to pedestrians and to vehicle operators and can also delay emergency escape and emergency vehicle access.

Person Exposed to Risk

✓ Students ✓ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

Everyday working environment on campus

Controls

1. All doorways and access points in the workplace must be kept clear of obstructions.
2. All passageways and pedestrian routes must be kept clear from obstructions.
3. Materials must be stored in designated areas away from pedestrian and vehicular routes.
4. All stairways with more than 3 steps should be provided with handrails and maintained in good condition.
5. Adequate lighting must be provided throughout the Institute at all entry points, exit points and along corridors and passageways.
6. Workplaces must be kept clean and tidy at all times.
7. All spillages must be cleaned up immediately.
8. All cabling and hosing must be neatly tied off or ramped in order to prevent tripping.
9. Workplace floors must be kept in a level and even condition where possible in so far as is practicable. All holes and trip hazards should be removed, filled in or covered.
10. Trip hazards which cannot be removed must be clearly visible or signed as such.
11. Chairs, desks or drawers should never be used to access shelving or any other elevated area.
12. Stepladders or kick stools must always be used.
13. Vehicle drivers must exercise extreme caution when driving on Institute site.

All defects in flooring, lighting, stairwells, etc must be reported to the Estates Office via the Maintenance Request online system.

Checks & Inspections

Constant vigilance and awareness.

Information, Instruction & Training

Not applicable

Personal protective equipment required (last resort)

Not applicable

Initial Risk Rating (without any control measures)

Probability :	2	x	Severity	3	=	Risk Factor	6

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	1	x	Severity	3	=	Risk Factor	3

Risk Assessment Review

As and when process changes or yearly

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Safe Work Practice Sheet Fire Safety	Ref: SWPS 003 Date: July 09 Assessed by: E.Roe

Hazards

The outbreak of fire can lead to:

- Serious bodily injury or fatality
- Damaged property or plant
- Disruption of premises causing loss of facilities **Person**

Person Exposed to Risk

✓ Students ✓ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

There is always an ever-present risk of fire occurring in all workplaces. Common fire hazards include improperly stored combustible or flammable materials, the use of naked flames, faulty electrical equipment, the use of flammable fuels, the use of inappropriate equipment, the build up of flammable materials or wastes in the workplace and smoking in undesignated areas. The accidental release of chemical material may also lead to the outbreak of fire, especially if the material is pyrophoric, extremely flammable or is a strong oxidiser.

Controls

The Institute is committed to providing a fire safety programme that guards against the outbreak of fire in all areas and also makes provisions for the safety of all persons in the event of a fire. The Institute would like to reiterate to all staff at this point that every employee has a responsibility to guard against the outbreak of fire in the workplace through the implementation of good fire safety practises and where applicable the adherence to the control measures outlined below.

Employees should also refer to specific fire risk assessments that apply to their specified places / type of work.

Fire Detection, Equipment & Emergency Lighting

Layout drawings, detailing the location of the fire detection and alarm systems, throughout the campus have been prepared by the Estates Office. Copies of these drawings are held by members of the Caretaking Staff, to assist in the identification of the location of any alarm signal.

Fire detection and alarm systems are installed and maintained in accordance with current standards. Emergency lighting systems are in operation in all parts of the Campus. These are installed to and regularly maintained in accordance with current standards.

Fire mains and Hydrants and Fire Hose Reels are inspected and maintained in accordance with current

standards The date of the most recent inspection is noted on each hose reel. Test reports on ring mains and hydrants are held in the Estates Office and Fire Registers.

Portable fire extinguishers are inspected and maintained in accordance with current standards. The date of testing is noted on each extinguisher.

Copies of all testing and certificates are held in Estates Office in the Fire Register.

Emergency Response

1. Each building has in place an emergency plan detailing the reponse to be taken in the event of the sounding of a fire alarm or the discovery of a fire. Refer to http://ww2.dkit.ie/about_dkit/health_safety/emergency_evacuations_procedures_manual for further details.
2. Fire response procedures are displayed in prominent locations within the area covered by their provisions.
3. Emergency response procedures are tested at least annually by use of a fire drill.

Procedural Controls

1. It is prohibited to use a naked flame (outside of a laboratory area) or to engage in 'hot' work (outside of designated workshops) anywhere within the Institute without first obtaining a 'Hot Work Permit' from the Institute Estates Office. Hot work is defined as grinding, welding (all types), hot cutting, and any other work with the potential to generate a spark or an ignition source.
2. It is prohibited to disengage a fire detection device, remove a fire extinguisher from its designated location or to isolate a component of a fire safety system without the express permission of the Institute Estates Office.

Training

1. It is the responsibly of individuals within the Institute to ensure that they are familiar with the provisions of any relevant emergency procedures.
2. Fire safety training is available through the Staff Training & Development Officer for all interested parties.

Means Of Escape

1. All Institute premises will be provided with clearly signed suitable means of escape and emergency exits for use in the event of a fire.
2. All escape routes and emergency exits throughout a building / premises must be kept clear at all times.
3. It is the responsibility of all Institute employees to ensure that escape routes and emergency exits in their working area are kept free from obstruction.
4. No individual may obstruct or remove from service an escape route or emergency exit without prior arrangement with the Institute Estates Office.
5. In the event that employees have a concern regarding means of escape then they must contact their manager immediately. Urgent concerns can be conveyed directly to the Institute Estates Office.

Hazardous Agents

1. As part of a hazardous agent risk assessment fire safety provisions for handling the agent(s) in question must be detailed.
2. Flammable materials may only be handled and stored in accordance with the requirements of their Material Safety Data Sheets, with due regard being paid to their fire risks.

3. Flammable materials must be stored in a suitable storage area. The requirement for low voltage or flame proof wiring should be considered.
4. The large scale storage of flammable materials (>200l / kg) in a single location requires completion of a specific risk assessment prior to storage taking place.

1. Where new buildings are constructed by the Institute or existing buildings are substantially modified the requirements of Part B of the Building Regulations (1997) Technical Guidance Documents will be adhered to.
2. Smoking is prohibited in all indoor workplaces within the Institute.
3. Employees are encouraged to make themselves familiar with the location of alarm activation points and escape routes in their working areas.
4. Employees must not attempt to repair any electrical equipment unless they are competent to do so. All electrical repairs and installations within the University must only be completed by a competent person, following the rules laid down in the National Rules for the Electrical Installations, as prepared by the Electro-Technical Council of Ireland.
5. The amount of combustible materials stored within the workplace should be kept to a minimum.
6. In the event of an evacuation all persons must leave the workplace without exception and assembly at their designated assembly point.
7. Employees must adhere to any instructions given by Institute Fire Wardens or emergency services personnel in the event of an emergency.
8. Persons must not fight workplace fires unless they have been trained to do so and it is safe to do so.

All employees are reminded of their statuary obligation to protect their own and their co-workers safety by guarding against the outbreak of fire in the workplace through the use of safe systems of work

Checks & Inspections

Information, Instruction & Training

- Fire Drills
- Fire Warden Training
- Use of fire fighting equipment

Personal protective equipment required (last resort)

Not applicable

Initial Risk Rating (without any control measures)

Probability : **2** x Severity **3** = Risk Factor **6 high risk**

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	1	x	Severity	3	=	Risk Factor	3 Low Risk

Risk Assessment Review

As and when process changes or yearly

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Safe Work Practice Sheet Electrical Safety	Ref: SWPS 08
	Date: March 2009
	Approved by: E. Roe

Hazards

- Electrocution
- Electric shock
- Burns
- Inadvertent starting of machines

Person Exposed to Risk

✓ Students ✓ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

A range of electrical appliances are used in the Institute. This Safe Work Practice Sheet covers Portable Appliance Testing and general electrical safety

Controls

- **General**
- Installation or repair work may only be carried out by qualified electricians.
- New installations will comply with the requirements of the General Application Regulations and the Electro-Technical Council of Ireland publication 'National Rules for Electrical Installations.
- Flexible cables will be adequately protected against external mechanical and heat damage.
- Flexible cables should not be run across floors or walkways. Where electrical cables have to be run across open floor areas ramps will be placed over them to prevent the tripping and damage to cables.
- Adequate fusing or excess protection, e.g. circuit breakers, must be provided for all fixed and portable equipment.
- RCDs should be tested at the beginning of each term.
- Areas around fuse boards will be kept clear of flammable materials and the fuse board cabinets will be kept closed at all times.
- Work on electrical appliances by contractors or work requiring isolation of electrical supplies requires an Electrical Work Permit. Buildings and Estates must be contacted.
- Staff must report defective equipment and take out of service Portable AC electrical appliances that may be subject to deterioration as a result of their use such as power supplies and oscilloscopes must be visually inspected and tested at regular intervals. The schedule of testing should be determined by following the Electrical Technical Councils guidelines available at www.etci.ie/docs/ET215(2008).pdf. A record of testing and inspection must be kept by the relevant departments.
- Live working is prohibited except in circumstances where it is not possible to carry out the work in any other manner.

The following precautions must include as appropriate;

- the use of people who are properly trained and competent to work safely on live equipment
- the provision of adequate information to the person carrying out the work, about the live parts involved, the associated electrical installation and the likely risks, the use of suitable tools including insulated tools, equipment and protective clothing
- For example, insulating gloves, insulating boots and insulating rubber matting, the use of suitable insulated barriers or screens,
- the use of suitable instruments and test probes,
- accompaniment by a second person who is trained and able to act in an
- emergency, e.g. switch off power and give first aid treatment for electric shock,
- effective control of any area where there is danger from live parts.
- A safe system of work must be drawn up.

Checks & Inspections

• Portable appliance testing must be carried out on certain portable AC electrical equipment
• RCDs tested once per term
• Electrical circuits tested every 3 years

Information, Instruction & Training

- Trained First Aider/CPR (available when live working is carried out)

Personal protective equipment required (last resort)

Safety boots

Initial Risk Rating (without any control measures)

Probability :	3	x	Severity	3	=	Risk Factor	9 High Risk

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	2	x	Severity	2	=	Risk Factor	4 Medium Risk

Risk Assessment Review

As and when process changes or yearly

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Safe Work Practice Sheet Chemical Agents	Ref: SWPS 05
	Date: 20/04/2011
	Assessed by: P. Killeen Approved by: E. Roe

Hazards

Exposure to certain chemical agents can cause a range of injuries from minor to serious long term damage. Exposure may be through ingestion, inhalation, skin absorption, absorption through the mucous membranes.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

Staff and students may be exposed to a range of chemicals in the School including but not limited to;

- Petrol
- Cutting/cooling fluids
- Ferric chloride
- Solder
- Glues
- Cement/ Bitumen
- Hardwood dust
- Welding fume

Exposure frequency and duration is variable depending on the activity.

Controls

- Material safety data sheets are obtained for all potentially hazardous chemicals or chemical agents and hard copies are kept with the School Safety Statement.
- A chemical agents risk assessment form (attached to this Safe Work Practice Sheet) is completed for each activity involving the use of chemicals as required by the Chemical Agents Regulations.
- Where a number of chemicals are associated with an activity they must be assessed together.
- The hazards associated with each chemical substance and the precautions that must be taken are brought to the attention of the users through the chemical agents risk assessment form.
- Where necessary local exhaust ventilation is installed and maintained.
- Appropriate personal protective equipment (PPE) is provided for staff. Students are alerted to the requirement for PPE.
- Hazardous chemicals are stored in accordance with the requirements set out in the Material Safety Data Sheet. Chemicals re not decanted into unmarked containers. Where chemicals are placed in other containers an appropriate hazard warning label is attached.
- Gas lines are marked with the gas name at intervals along their length.

Checks & Inspections

- Local exhaust ventilation should be checked annually to ensure it is extracting efficiently.

Information, Instruction & Training

The hazards associated with each chemical substance are brought to the attention of the users (Senior technical staff are responsible for informing other technical staff, lecturers are responsible for informing students)

Personal protective equipment required (last resort)

Care must be taken in the selection of personal protective equipment, e.g. select the correct glove to ensure that the chemical does not readily break through

Personal protective Equipment should be CE marked.

Initial Risk Rating (without any control measures)

Probability :	2-3	x	Severity	2-3	=	Risk Factor	4-9

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	variable	x	Severity	variable	=	Risk Factor	variable

Risk Assessment Review

As and when process changes or yearly

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Form 2: DKIT School of Engineering Chemical Agents Risk Assessment.
Lead Free Petrol

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1. Location: - Motor Workshop

2. Assessment carried out by: Paula Killeen

3. Date 20/04/2011

4. Short description of the process involving the use of the chemical(s) –

Used to fuel motors for experimental demonstrations.

5. Hazardous Chemical Agents to be used	**Amount %**	**Physical Form**
Unleaded petrol is preparation manufactured from the substance Gasoline, which Ethers and alcohols may be present at various concentrations	**Approx**: (<20Litres)	Liquid

6. Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

7. Indicate Hazard Classification (for all chemicals used)

Extremely Flammable: ☑ Very Toxic if ingested: ☑ Harmful: ☑ Irritant: ☑

Sensitiser: ☑ Carcinogenic ☑ Hazardous to the environment: ☑

8. Potential routes of exposure

Inhalation: ☑ Skin Contact: ☑ Ingestion: ☐ Sharps: ☐

9. Control Measures

9.1. PPE Required:

☑ Impervious gloves (chemical resistant gloves)
☑ Overalls where regular contact
☑ Goggles
☑ Barrier Creams

9.2. Engineering Controls: Exhaust fumes extraction ☑ General Ventilation ☑

Storage

Where the only flammable substance to be stored is petrol, must be stored in suitable containers in a flameproof cabinet. Only low volumes to be stored <20 litres.

9.3. Emergency Response

Combustion is likely to give rise to a complex mixture of airborne solid and liquid particulates (smoke) and gases, including carbon monoxide, oxides of sulphur and unidentified organic and inorganic compounds.

Extinguishing media
Dry chemical powder, Carbon dioxide, Foam

First Aid *(consult relevant MSDS for further information)*
An MSDS must accompany all victims of exposure when seeking medical advice. Always consult an MSDS following an exposure to a hazardous agent.

First Aid Measues:

Inhalation
Remove the affected person to fresh air. Please refer to "First Aid Contact List" posted If breathing has stopped an occupational first aider will administer artificial respiration provide CPR if necessary. If the person is breathing, but unconscious, place in the recovery position. Obtain medical assistance immediately.

Skin
Flush the contaminated skin with water. Use soap if available. Contaminated clothing should be soaked with water, removed, and laundered before reuse.

Eyes
Flush the eye with copious quantities of water. If irritation persists refer for medical attention.

Ingestion
DO NOT INDUCE VOMITING. If ingestion is suspected, wash out the mouth with water and send to hospital immediately.

Clean Up Method:

– Small spillages

Absorb liquid with sand, earth or other recommended absorbent material as soon as possible. Sweep up and remove to suitable, clearly marked container for disposal in accordance with the Institutes hazardous waste policy. Do not disperse using water or detergent. Larger spills -prevent from spreading by making a barrier with chemical absorbent material.

– Large spillages
Remove all possible sources of ignition in the surrounding area. Please refer to SWPS "Emergency Response" displayed. Do not take any personal risks. Do not breathe fumes or vapour. Do not operate electrical equipment. Avoid contact with skin, eyes, clothing. Ventilate area. Initiate "Evacuation Procedures"

Initial Risk Rating (without any control measures)

Probability :	3	x	Severity	3	=	Risk Factor	9 HIGH RISK

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	1-2	x	Severity	2-3	=	Risk Factor	4-6 MEDIUM RISK

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Safe Work Practice Sheet Slips, Trips & Falls	Ref: SWPS 009
	Date: July 09
	Assessed by: E.Roe

Hazards

Slips are caused by the presence of substances such as water, grease, oil, fats, soaps, granules, plastic sheets, packaging, leaves, ice etc deposited on the floor arising from the working conditions or in some cases the weather. Slip hazards can be found on both wet and dry surfaces.

Trips can be caused by such features as electric cables or compressed-air lines across walkways, curled-up or worn carpets, uneven floor surfaces and steps, or discarded work items.

Falls may be caused by slips or trips or when adjacent surfaces are at different levels leading to persons losing their balance because they had not anticipated the change in level. Slips or trips on stairs are particularly dangerous.

The hazards listed above are so ordinary and commonplace that people often accept them as part of normal living until they or someone close to them has an accident and is seriously hurt.

Person Exposed to Risk

✓ Students ✓ Employees ✓Public ✓ Contractors ✓ Visitors

Work Description
Everyday activity on campus

Controls

Observe & Adhere to Health & Safety Authority Guidelines as below

- The starting point lies with everybody becoming aware of these hazards and taking appropriate action.
- Management must take responsibility for controlling these hazards and must assign appropriate responsibilities to staff. Clear policies should address what people need to do to identify and monitor slip, trip and fall hazards and the action to take once they identify a hazard.
- Slips, trips and falls must be considered in the workplace hazard assessment that is required by law. This assessment should take account of:
- The type of hazard including how likely it is to occur
- Characteristics of the workplace such as the nature and condition of floor surfaces, quality
- of lighting
- Influence of the weather (e.g. rain, frost or leaves)
- Maintenance and cleaning procedures
- Workplace users
- Where workplaces are being modified or constructed there is an excellent opportunity to prevent slips and trips by selecting appropriate floor materials that are slip resistant and
- installed so as to minimise trip hazards.

Nature of the hazard

In some work areas such as certain food processing activities slip hazards may not always be completely avoidable and the control measures will need to assume the hazard is always present.

- In other situations the floor surface may be non-slippery for most of the time but leaks from
- plant or bad weather may lead to the creation of a slip hazard. It only takes a small amount
- of liquid on a smooth floor to create a hazard. In these situations the immediate control
- measures will focus upon detection of liquids and the actions to be taken to remove the hazard or reduce it by the provision of warnings and cordoning off areas.

- Permanent trip hazards should be removed as far as possible by such measures as the rerouting of pipes or cables, provision of more sockets to reduce long cable lengths, use of battery powered tools and the repair of uneven floor and stair surfaces.
- A good housekeeping regime will go a long way to reduce intermittent hazards from badly stored or discarded items. Materials should never be left or stored on stairs.
- Where changes in floor level cannot be avoided they should be clearly marked and the provision of handrails to control the movement of persons may be appropriate.
- Changes in level should not take people by surprise.

Characteristics of your workplace

- It is better to eliminate slip hazards by choosing a suitable surface rather than depending on cleaning regimes to keep a floor safe. Building designers should ensure that the intended appearance of a building does not compromise the choice of inherently safer floor options.
- Macro-rough surfaces (i.e. those that contain an aggregate) are recommended for areas that are expected to experience high levels of contamination. Floors that have hard particles throughout their thickness can maintain their slip resistance throughout their life but floors with a superficial layer of grit or slip resistant paint can become slippery as the layer is worn away.
- Profiled floors (ridges or blisters) are sometimes used in areas subject to slip hazards but these can become slippery over time as the profile becomes worn and contaminants can be left trapped within the profiles.
- Carpets or mats placed on smooth floors can pose both slip and trip hazards and, if used, should be securely fixed to the floor at their edges and at any joints.
- The slip resistance of steps is improved by the fitting of nosings which protect the edge of the step from wear and help users to the place their feet more accurately on it. Care has to be taken that the nosing itself does not constitute a hazard.
- The design of stairways in buildings will need to take account of Technical Guidance Documents B (Fire Safety), K (Stairways, etc) and M (Access for People with Disabilities) produced by the Department of Environment, Heritage and Local Government.
- Adequate lighting, including the avoidance of glare and shadows, is necessary to expose slip /trip hazards. Higher lighting levels are needed where older people are present.
- Poorly sited or excessive signage can distract people who are then less likely to notice slip or trip hazards.
-

The weather

- Building entrances can become slippery due to the ingress of moisture, mud and debris in bad weather. Measures such as having a slightly higher internal air pressure in the vestibule or the provision of a suitably designed shelter or canopy above the entrance can reduce the ingress of rain. Another simple measure is the installation of doors that do not blow open in the wind.
- Where matting is provided it should be aligned with the way pedestrians use the entrance. It should be laid immediately inside the door entrance and extend across the full width of the door. The existence of wet footprints beyond the entrance or matting is usually a sign that existing controls are not sufficient.
- Where mats in mat-wells are prone to becoming waterlogged the provision of drainage holes should be considered.

Maintenance and cleaning procedures

- Floor cleaning procedures should be incorporated in the operation and maintenance procedures for a company. The procedure should specify the methods and materials to be used as the use of the wrong cleaning method can increase the area of hazard and level of risk. The cleaning agent used should be suitable for the floor surface and the type of contamination encountered. A build -up of polish or detergent residues should be avoided. The drying of floors after cleaning is most important

for the control of slip hazards. Staff should be informed, trained and supervised with regard to:

- Cleaning and drying floors
- Importance of dealing with spillages/leaks

"Cleaning as you go"

- Reporting hazards as they arise and any equipment defects contributing to slip hazards or problems with the cleaning equipment itself
- Prompt incident reporting
- Use of suitable footwear
- Cleaning should, where practical, be carried out when there are less people around.
- Cleaning activity should be organised so as to provide dry paths through areas being cleaned. It is better to restrict access to areas that are being cleaned by the use of barriers rather than depending on the use of cones or signs alone.
- Research has shown that forewarning people of a hazard can lead them to modifying their gait so as to anticipate the situation but attention must be paid to removing signs when the hazard has been dealt with; otherwise people will tend to ignore them if their experience tells them that the signs are always displayed irrespective of the conditions underfoot.
- Where existing unsuitable floor surfaces are identified, the hazard can be reduced by controlling contamination, using mats, treating the surface or in some cases replacing it altogether with a safer material.

Workspace users

- Where there is control over access to the workspace, the risk of falls can be reduced by the introduction of a "sensible shoe" policy i.e. no high heels or loose fitting shoes. In addition: Shoe soles should have deep cleating and a well defined tread pattern.
- Safety footwear may not always be slip-resistant and purchasers should check that it is suitable for the conditions under which it is going to be used.
- Slip resistant shoes will not remain so if they become worn or contaminated underfoot.
- The risk of slipping while barefoot is often greater than when wearing shoes, so this factor needs to be taken into account in shower areas and in other tiled areas associated with swimming pools, etc
- Disposable plastic overshoes can have poor resistance on smooth floors
- In other workspaces where there is general public access there will greater dependence on the selection of floor material in combination with maintenance regimes to control slip, trip and fall hazards.

Checks & Inspections

- Visual checks and Risk Assessments as required in each Functional Area

Information, Instruction & Training

Not applicable

Personal protective equipment required (last resort)

Not applicable

Initial Risk Rating (without any control measures)

Probability :	2	x	Severity	3	=	Risk Factor	6 High RISK

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	1	x	Severity	2	=	Risk Factor	2 Low Risk

Risk Assessment Review

As and when process changes or yearly

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Safe Work Practice Sheet Lone Person Working	Ref: SWPS 010
	Date: March 09
	Assessed by: E.Bell

Hazards

- Persons working alone using hazardous chemicals or equipment may not be able to summons
- help in the event of an accident or spillage.
- Certain exit routes may not be available during out of hours working.
- Entrapment in areas or spaces due to negligence or accident

Person Exposed to Risk

☐ Students ✓ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

Definition of lone working

Lone working/out of hours working is defined as follows

Any Laboratory / Experimental work carried outside of 9 am - 5 pm Monday – Friday when there are no persons aware of your work within calling distance.

Any other work undertaken outside of 7 am-10 pm Monday – Friday and during the hours of 9am - 6pm on Saturday, Sunday & Bank Holidays.

All buildings must be vacated by 6pm on Saturdays, Sundays and Bank holidays to allow for full lock up. At Christmas & Easter the campus will close down for a specified number of days and access will only be granted under exceptional circumstances .

Lone working includes carrying out field work in hazardous terrain or in areas where there is a risk to personal safety.

Lone working may also include carrying out routine maintenance work in isolated areas such as roofs or plant-rooms.

Controls

General

- Lone working in laboratories is not permitted unless a risk assessment has been carried out in conjunction with an academic supervisor and the risk is deemed to be low. Typical work that may be allowed includes work on PCs, microscope work, viewing plates, taking items in and out of incubator.
- The supervisor may allow working on high risk activities if the person is competent (typically an experienced member of staff) and a buddy is in attendance.
- The supervisor may allow work on medium risk activities for competent researchers (with or without a buddy present).
- Where a person is working alone without other persons within shouting distance then a phone or mobile phone must be readily available. They must also notify a colleague of their intention, how long they intend to be working in the isolated area, and check back with the colleague at an agreed, pre-determined time, when the work in the isolated area is complete.
- Field work in hazardous terrain or where there is a risk of personal injury as a result of confrontation must not be carried out alone (see SWPS Fieldwork).
- Hazardous experiments must not be left unattended overnight.

Out of hours access

- If out of hours work is required permission must be sought from the Head of Department.
- All persons requiring 'Out of Hours' access must be aware of what to do in the event of an emergency, i.e. what emergency exit doors are available, how to raise the alarm, where to go etc.
- The Head of School must provide Security with the names and locations of persons working out of hours. The person must contact Security on leaving the building.
- Persons authorised to work out of hours must not admit any other person to the building out of hours. Persons claiming to be authorised but without a swipe access card or key should be referred to Security for access.
- Where the fire alarm is activated in the building after hours, those evacuating the building must assemble at the building fire assembly point. Otherwise emergency services will assume that they are still in the building.
- Researchers or Staff members who in exceptional circumstances, due to the nature of their research work, require access during 'Lock-Up' must seek authorisation for such access from Buildings and Estates.

Checks & Inspections

Visual checks and Risk Assessments as required in each Functional Area

Information, Instruction & Training

Not applicable

Personal protective equipment required (last resort)

Not applicable

Initial Risk Rating (without any control measures)

Probability :	2	x	Severity	2-3	=	Risk Factor	4-6

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	1	x	Severity	2-3	=	Risk Factor	2-3

Risk Assessment Review

As and when process changes or yearly

Lone working/Out of Hours working

	Name	Position	Date
Prepared by			
Reviewed by:			
Approved by			

Revision	Date	By	Description
1			
2			
3			

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Safe Work Practice Sheet Manual Handling	Ref: GEN 013
	Date: 30/03/2011
	Approved by: E. Roe

Hazards

Incorrect method of lifting
Attempting to lift something which is to heavy
Lifting sharp/awkward shapes
The main injuries associated with manual handling and lifting are:
Back strain, slipped disc, hernia,
Lacerations, crushing of hands or fingers.
Repetitive Strain Injury.
Bruised or broken toes or feet.
Various sprains, strains, etc.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

Staff and students may be required to lift or move heavy items from time to time including large pieces of wood, bags of aggregate, metal piping, moving rotating electrical boards, pushing/pulling trolleys and lifting engines and transmissions and various motor parts

Controls

- Risk assessments must carried out on manual handling tasks normally performed by staff As a rule of thumb an assessment is required where weights are above the guideline weights set out by the Health and Safety Authority and reproduced overleaf in figure 1. The assessment should be in writing and set out on form 1 Manual handling assessment attached to this procedure.
- Manual handling will be avoided where possible. Mechanical or other means of moving or lifting will be used such as trolleys and winches.
- Staff will be provided with manual handling training where manual handling is a regular part of their job.
- Seek assistance where possible when lifting heavy items.

Consideration must be given to the arrangement of stored items so that heavier items are not stored near floor or above shoulder height.

Risks

The injuries associated with objects involving, lifting, lowering, manoeuvring and handling objects are:

- Back injury, including slipped disks. The effect of the injury may be cumulative over a period of years (as with chronic backache).
- Pulled muscles and strained ligaments.
- Note: once the back or any other part of the body "goes", then it is easier to go again.

Primary controls

- Trained in the correct manual handling techniques and requirements
- Whenever and wherever possible and practicable use the correct mechanical means to lift, lower or manoeuvre heavy or awkwardly shaped loads.
- Split large loads into several smaller loads if possible.

Basic controls

1 Assessment

Carry out the following assessment process before you begin:

- Is it too heavy, too large, unwieldy or unstable?
- Will it require an unstable body posture position?
- Is the ground, floor or surface uneven or slippery?
- Are you able to maintain good posture while lifting?
- Will it require excessive lifting, lowering or carrying distances?
- Are you physically suited to carry out the task (e.g. physique, fitness, body strength)?
- Are you wearing suitable PPE (e.g. gloves, safety footwear)?

2 Safe to Manual Handle

When your assessment indicates that you can safely undertake the manual handling task, then proceed as detailed in section 3

Even when considered safe you should still use the correct mechanical means whenever and wherever possible and practicable.

3 ***If there is no alternative way then:***

Protect your back

- If you must lift, carry and move an object yourself or with others, then you must do so in accordance with the correct techniques that you have learned in training. These correct techniques are summarised as follows:
- Lifting: Stand close to the load, bend the knees, not the back. Get a firm grip of the load and rise up straight.
- Carrying: Keep the load close to the body, with back straight, and turn by pivoting your feet.
- Lowering: Lower the entire body bending the knees, with back straight.

Special Controls
Loading, transporting
& off-loading materials

- Use mechanical means to load heavy and awkward loads
- Wear gloves and boots to protect body from getting trapped between the load and any other surface.
- Secure and store safely on the transport vehicle

-

Checks & Inspections

- Senior technician to monitor that correct manual handling technique is being used.
- Trolleys should be visually checked before use. Trolleys with damaged wheels should be taken out of service.

Information, Instruction & Training

- Manual Handling Training provided to relevant staff. Manual Handling activities are monitored and refresher training and /or reinstruction is an integral part of the safety management programme.

Personal protective equipment required (last resort)

Initial Risk Rating (without any control measures)

Probability :	3	x	Severity	3	=	Risk Factor	**High Risk**

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability : **2** x Severity **1-2** = Risk Factor **2-4 Low-medium risk**

Risk Assessment Review

As and when process changes or yearly

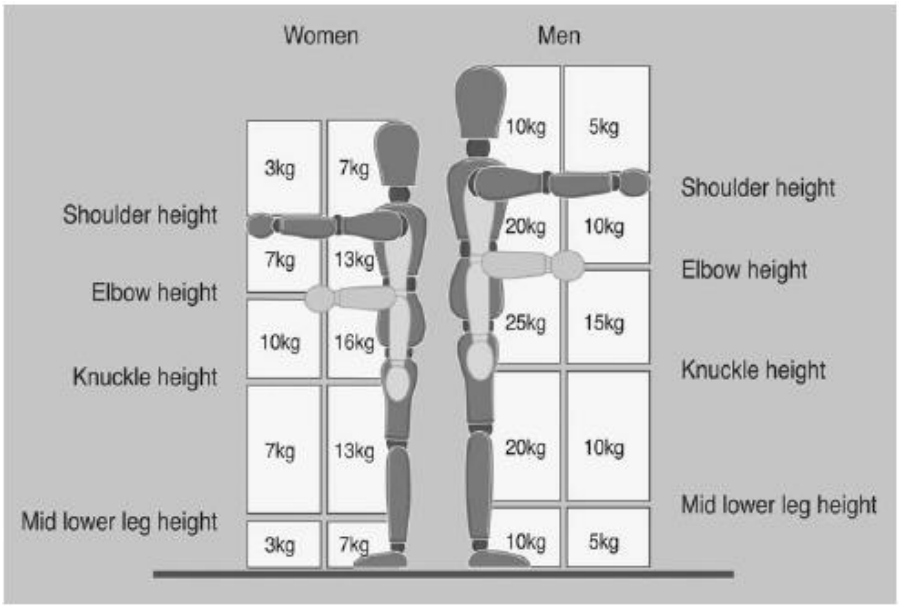

Figure 1. Guideline weights issued by the Health and Safety Authority.

Form 1 Manual handling risk assessment

Section A – Preliminary *** Circle as appropriate**

Job Description Factors beyond the limits of the guideline weights? (See SWPS Manual handling)	Is an assessment needed? (i.e. Is there a potential risk for injury, and are the factors beyond the limits of the guidelines?) Yes / No*

If 'yes' continue. If 'no' the assessment need go no further.

Operations covered by this assessment (detailed description): Locations: Personnel involved: Date of assessment:	Diagrams or other information:

Section B – See over for detailed analysis

Section C – Overall assessment of the risk of injury? Low/Med/High*

Section D – Remedial action to be taken:

Remedial steps that should be taken, in order of priority: 1. 2. 3. 4. 5. 6. 7. 8.
Date by which action should be taken:
Date for reassessment:
Assessor's name: Signature:

Section B – More detailed assessment, where necessary:					
Questions to consider:	If yes, tick appropriate level of risk			Problems occurring from the task (Make rough notes in this column in preparation for the possible remedial action to be taken).	Possible remedial action (Possible changes to be made to system/task, load, workplace/space, environment. Communication that is needed.
	Low	Med	High		
The tasks – do they involve: • holding loads away from trunk? • twisting? • stooping? • reaching upwards? • large vertical movements? • long carrying distances? • strenuous pushing or pulling? • unpredictable movement of loads? • repetitive handling? • insufficient rest or recovery? • a work rate imposed by a process?					
The loads – are they: • heavy? • bulky / unwieldy? • difficult to grasp? • unstable / unpredictable? • intrinsically harmful (e.g. sharp / hot)?					
The working environment – are there: • constraints on posture? • poor floors? • variations in levels? • hot/cold humid conditions? • strong air movements? • poor lighting conditions?					
Individual capability – does the job: • require unusual capability? • hazard those with a health problem? • hazard those who are pregnant? • call for special information / training?					
Other factors: Is movement or posture hindered by clothing or personal protective equipment?	YES / NO				

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Safe Work Practice Sheet Storage Areas	Ref: SWPS 019
	Date: July 09
	Assessed by: E.Roe

Hazards

Slips, trips, falls
Cut
Back Injury
Sprains
Falling object
Fire

Person Exposed to Risk

✓ Students ✓ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

Storage of hazardous and non-hazardous substances and materials

Controls

Checks & Inspections

- Keep all pathways clear
- Do not climb on shelves or storage racks
- Do not climb on shelves to reach heights – use stepladders only
- Keep aisleways clear
- Do not keep any hazardous materials and substances in general storage areas – they must be kept in designated protected store located in Maintenance Building.
- Store heavy items at low level.
- Store medium weight items on middle shelves.
- Store light items on high shelves.
- Store items on shelves in such a way that they can not fall off.
- Keep all hazardous materials and substances, papers, boxes, etc. away from electric heaters.
- Store material lengths or racking parallel to the aisle.
- Storage areas to be kept locked at all times.
- Only authorized personnel are allowed access to Storage Areas.
- Do not attempt to lift any loads unless you have received appropriate training in safe manual handling techniques.
- Smoking, eating and drinking is prohibited in all storage areas.

Information, Instruction & Training

Not applicable

Personal protective equipment required (last resort)

Not applicable

Initial Risk Rating (without any control measures)

Probability :	2	x	Severity	2	=	Risk Factor	4

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	1	x	Severity	2	=	Risk Factor	2

Risk Assessment Review

As and when process changes or yearly

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Safe Work Practice Sheet General Workshop Safety	Ref: SWPS 025
	Date: Aug 09
	Assessed by: E.Roe

Hazards

Improper storage of items can lead to items falling on staff,
- obstruction of exit routes,
- manual handling injuries,
- fire,
- failure of shelving.
- Operation of diesel or petrol engines in unventilated space may lead to asphyxiation
- Use of cutting equipment without extraction can lead to respiratory problems

Person Exposed to Risk

☐ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description
General activities in workshop

Controls

- The Workshop is fitted with fire detection and alarm system and emergency lighting which is serviced regularly.
- Exit routes must be kept clear of obstruction at all times.
- Adequate shelving is provided to allow safe storage of equipment.
- Heavier items should be stored on middle shelves with lighter items above shoulder height & floor height.
- Where heavy items are stored the condition of shelving should be checked every 6 months by the Supervisor.
- Diesel and petrol is stored in appropriate marked containers in small quantities (<20 litres).
- Diesel or petrol engines must not be operated indoors unless ventilation is operational.
- Extraction ventilation must be serviced annually.
- Cutting equipment should be used in conjunction with extraction.

Checks & Inspections
Extraction equipment must be serviced annually

Information, Instruction & Training
Staff must be shown the correct use of extraction equipment

Personal protective equipment required (last resort)

Safety boots

Initial Risk Rating (without any control measures)

Probability :	2	x	Severity	2	=	Risk Factor	4 Medium Risk

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	1	x	Severity	2	=	Risk Factor	2

Risk Assessment Review

As and when process changes or yearly

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Safe Work Practice Sheet Use of hand tools	Ref: SWPS 026
	Date: Aug 09
	Assessed by: E.Roe

Hazards

Cuts
Ejection of material
Eye damage
Stab injuries
Head injuries

Person Exposed to Risk

☐ Students ✓ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

Using hand tools such as chisels, Stanley knives, hammers, drills etc.

Controls

- Only staff with appropriate training or experience may use hand tools.
- The tools should be checked before use for signs of wear and tear. Damaged items should be taken out of service for repair or replacement.
- No power tools or electrical equipment of greater voltage than 110 volts shall be used in external locations.
- Where power tools have to be used off the main supply the source of supply must be fitted with residual current devices (ELCB) rated at 30 mAmps at 30 msecs.
- All cable connections must be properly made; under no circumstances is insulation tape to be used for any repair or joint in extension.
- Power tools must be maintained in good condition with casing intact and label fitted showing voltage and other information. An annual formal documented inspection should be carried out by a competent person.
- Mains operated equipment must be electrically tested.
- Where there is a risk of particles hitting the eye, eye protection must be worn.
- Ear defenders will not normally be required as the duration of exposure is expected to be low and infrequent.
- Tools should not be left unattended in public areas when going for breaks.
- Staff should not repair tools unless they are trained to do so.
- Only use tools in the manner in which they were designed to be used.
- Return tools to the workshop at the end of each day.

Checks & Inspections

- Check all tools before each use.
- Annual electrical test for mains operated equipment.

Information, Instruction & Training

- Only trained staff may operate equipment. Training may be provided in house by another
- competent member of staff.

Personal protective equipment required (last resort)

Personal protective equipment varies with tool being used. Where there is a risk of flying particles then eye protection should be worn.

Initial Risk Rating (without any control measures)

Probability :	2	x	Severity	3	=	Risk Factor	6 High Risk

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	1	x	Severity	3	=	Risk Factor	3 Low Risk

Risk Assessment Review

As and when process changes or yearly

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aSafe Work Practice Sheet Use of Ladders / Stepladders	Ref: SWPS 007
	Date: 10/05/2011
	Assessed by: P. Killeen Approved by: E. Roe

Hazards

- Physical injury due to fall of persons from ladder
- Objects dropped by ladder / stepladder user

Person Exposed to Risk

✓ Students ✓ Employees ☐ Public ☐ Contractors ☐ Visitors

NOTE:
The use of Ladders / stepladders is restricted to activities where the risk is deemed to be low (that it would be unlikely to cause injury), the work is of short duration (30mins max) or brief periods at a time, and where the risk assessment shows the use of other work equipment (e.g. working platforms) is not justified.

Low Risk is considered when: where the operator can maintain a handhold / grip on stile or handrail whilst placing a box on a shelf and where the user's both feet are fully supported on the same step / rung.

Ladders/ stepladders are not suitable for strenuous or heavy work or where the work involves carrying awkward objects, tools or equipment.

Work Description

The use of Ladders / Stepladders by staff is infrequent. As part of their work technicians on occasions access shelving and storage areas to gain access to materials or parts.

Controls

- Ladder work is restricted to work which can be carried out using one hand only and of short duration.
- The base of the ladder must be on firm and level ground.
- For extension ladders they must be at the correct angle of rest 75 degrees or a base to height ratio of 1:4 (1 out to every 4 units up) and made secured (tying at the top or bottom)
- Stepladders must be fully opened out.
- There must be no sideways loading.
- Maintain 3 points of contact (both feet on the same rung, firm grip on the stile or handrail)
- Over reaching from ladders / stepladders will be avoided.
- Do not work on the top 3 rungs of a ladder, or top 2 steps for stepladders (regardless of length)
- Do not straddle (or sit at the top) of an A frame ladder.

Checks & Inspections

- Ladders will be checked for the correct type of equipment for the job at hand.
- Ladders / Stepladders must be visually inspected before use.
- Inspection of ladders must be recorded on form GA3 for every 7 day of use or used for the first time.

Information, Instruction & Training

- Operatives will be instructed to the safe use of ladders and the hazards which are to be avoided.
- Operatives to follow the controls
- Operatives to report any defects
- A further risk assessment will be necessary where the work activity is deemed to be medium or a high risk.

Personal protective equipment required (last resort)

- PPE may be a requirement dependant on the Risk Assessment

Initial Risk Rating (without any control measures)

Probability : **2** x Severity **2** = Risk Factor **4**

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability : **1** x Severity **2** = Risk Factor **2**

Risk Assessment Review

Risk Assessment will be reviewed periodically

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Safe Work Practice Sheet Use of cutters, scalpel and stanley knives	Ref: SWPS 027
	Date: March 09
	Assessed by: E. Bell

Hazards

- Cuts when taking blades in and out of handle
- Cuts while using equipment
- Cleaning staff receiving cuts if blades disposed of to general waste
- Eye injury if blade breaks while used with force for tasks other than cutting

Person Exposed to Risk

✓ Students ✓ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

A range of cutting equipment is used in some areas by staff and students

Controls

- Where possible retractable blades or safety knives will be used.
- Blades must be disposed of to a designated sharps bin with a closable lid. Blades must never be disposed of to general waste.
- Users should use only sharp blades – blunt blades require more force and their use may result in injury
- Users should cut away from the body keeping the restraining hand well away from the blade.
- Unsheathed blades must never be carried in pockets or bags.
- Unsheathed blades must not be left in drawers or toolboxes.

Checks & Inspections

- Knives cutters used in classroom situations should be visually checked annually and damaged equipment removed from circulation.

Information, Instruction & Training

Students receive specific instruction on safe use of blades

Personal protective equipment required (last resort)

Initial Risk Rating (without any control measures)

Probability : **2** x Severity **3** = Risk Factor **6 High Risk**

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	1	x	Severity	2-3	=	Risk Factor	2-3 Low Risk

Risk Assessment Review

As and when process changes or yearly

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Appendix III

Specific Safe Work Practice Sheets

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Safe Work Practice Sheet Alternator Test Bench	Ref: SWPS MOT 001 Date: 19/07/2014 Revision No. 001 Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Manual Handling
Lifting or carrying the test unit or battery onto the workbench can result in lower back and or musculoskeletal injuries

Electricity
Incorrectly connected, poorly maintained or damaged electrical cable or plugs can cause electrocution-death or first second and or third degree burns to the hands and body parts.

Falling Equipment
Vibration causes the test unit to move and fall off the bench, battery not placed securely on the test equipment, test equipment placed at the edge of the work bench, carrying test equipment on your own can result in the equipment falling causing impact and crush injuries to the lower legs and feet .

Fire / Explosion
Battery is incorrectly connected and explodes or generates sparks that come into contact with fuel sources resulting in a fire and first, second and or third degree burns.

Mechanical
Contact with rotating motor and alternator drive belt can result in severing of fingers.

Bright Lights
Operating the test unit can result in temporary blindness, headache, and sore eyes from looking into bright lights on the test unit.

Chemicals
Manually handling a damaged or leaking battery can result in burns to the skin on the hands, fingers and other exposed skin parts from battery acid.

Slips Trips and Falls
Poor housekeeping, personal belongings, leaking battery acid, trailing electrical cable can result in slips or trips causing falls and impact injuries to the head and other body parts.

Noise
Operating the test equipment for long periods of time can result in acute hearing discomfort.

Person Exposed to Risk
☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description
Carrying out demonstrations on Alternator Test Bench (running and stationary)

Controls

- Students are permitted to operate the machine, under correct instruction and the lecturer or technician's supervision.
- Workshop working procedures / instructions must be followed at all times.

- The lecturer or technician must set up the test apparatus prior to use.
- Follow the manual handling training guidelines at all times when moving the machine or battery.
- Where possible leave the test unit on the same workbench.
- Seek assistance if required to move the test unit to a different workbench location.
- Inspect the electrical cable and plug of the motor and battery on the test unit prior to using.
- Do not use the test unit if electrical cable or plugs are damaged in any way and remove from use for repair.
- Electrical repairs must be carried out by a competent person.
- Ensure the battery is mounted securely onto the test apparatus.
- Ensure that the test apparatus is placed in from the edge of the workbench at all times.
- Fuel sources (petrol, diesel etc) or flammable materials must never be stored at or near the test apparatus.
- Ensure that the motor and alternator machine guards are in place prior to operating the test unit.
- Never look directly into the lights mounted on the test unit when it is running.
- Lights on the test unit must only be switched on for fault finding exercises.
- Inspect the battery for damage or leaks prior to moving to the test unit. Do not use if damaged in any way and seek a replacement battery if required.
- Maintain good housekeeping and work area free personal belongings at all times.
- Read the standard operating procedures and users manual thoroughly and be completely familiar with all machine controls.
- Ensure that the machine is rotating in the correct direction.
- Eye protection and protective clothing must be worn.
- Guard all moving parts such as pulleys, belts and gears and ensure all guards are in place and checked for security
- Ensue that the drive belt is tensioned correctly
- Ensure that the battery is connected correctly when setting up.
- Take care when connecting electrical cables to battery, connect the positive to the positive first (red cable) and negative to negative (black cable) second (make sure no sparks are allowed to be generated as this may result in battery exploding causing serious damage).
- When disconnecting the battery, disconnect the black cable first.
- Never move away from machine without first switching it off and waiting for it to come to rest.
- Wear hearing protection if using the test equipment for extended periods of time.
- If in doubt seek advice from the lecturer or technician,
- Safety precautions must be adhered to at all times.
- Wash hands after coming in contact with battery acid

Checks & Inspections

- Regular maintenance to be carried out according to manufacturers recommendations and records kept by the School
- Ensure all guards are in place and checked at regular intervals.
- Ensure all safety notices are readable and displayed in correct locations.
- Technicians to monitor compliance with control measures.
- Lecturers and technicians to monitor the wearing of PP.E

Information, Instruction & Training

- Students are permitted the use of the test equipment under the lecturer or technicians supervision.

Personal protective equipment required (last resort)

- Safety boots.
- Eye protection.
- Barrier creams/gloves.

- Hearing protection.
- Overalls.

Initial Risk Rating (without any control measures)

Probability : **3** x Severity **3** = Risk Factor **9 High Risk**

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability : **1** x Severity **3** = Risk Factor **3 Low risk**

Risk Assessment Review

As and when process changes or yearly

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Safe Work Practice Sheet Brake Systems	Ref: SWPS MOT 002 Date: 19/07/2014 Revision No. 001 Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Collapsing Vehicle
Car is raised off the ground with a jack and fails or collapses, causing death by crushing or major crush injuries, cuts and bruises. Loosening the nuts on the wheels when raised can result in a collapsing vehicle and feet and hand crush injuries. .

Manual Handling
Removing and replacing the wheel/s on the car, carrying or lifting vehicle jacks or wheel supporting axles when repairing the braking system can result in lower back and or musculoskeletal injuries.

Mechanical
Contact with rotating engine belt when replacing or topping up brake fluid can result in a severing of finger.

Dust
Inhalation of brake dust can result in acute respiratory illness or chronic illness, mesothelioma.

Slips Trips and Falls
Poor housekeeping, personal belongings, leaking or spilled brake fluid on the ground, tools and vehicle parts lying on the ground can result in slipping and tripping causing fall impact head and body part injuries.

Sharps
Handling badly worn brake pads can result in coming into contact with metal sharps resulting in lacerations to the hands and fingers.

Chemicals
Contact with brake fluid when replacing or topping up, removing brake pads, contaminated clothing can result in irritation to the hands and fingers and other body parts. Inhalation or ingestion can result in death.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description
Carrying out demonstrations and repairs on Braking Systems.

Controls

- Students are permitted to operate the machine, under correct instruction and the lecturer or technician's supervision.
- Where possible always use the drive on ramps for tending to demonstrations and brake repairs on vehicles.
- If required, supplement a jack with axle stands.
- Never venture under a car that is only supported by a jack.
- Wheel nuts must be loosened prior to jacking the car up and tightened when the car wheels are on firm level ground.
- Follow the manual handling training guidelines when removing and replacing wheels from a vehicle.
- Ensure that the engine is switched off prior to jacking up the vehicle.

- Never leave the keys in the ignition when working on the vehicle, safely store them in your pocket.
- Always use hand protection and barrier creams as supplied.
- Stored energy in the form of springs and high pressures can result in severe injury, use specified tools and procedures to release energy and depressurise systems.
- Brake dust may contain asbestos and therefore should never be inhaled.
- Never blow down brake dust with compressed air. (see safe work practice sheet on compressed air)
- Never dry brush, brake dust down from the wheels or braking systems of vehicles.
- Use a water spray bottle with low water spraying pressure to wet down brake dust and dry off with a cleaning cloth.
- Dispose of brake dust cleaning cloth into a safe impermeable labelled container for safe disposal.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Spilled or leaking brake fluid must be cleaned from the ground immediately.
- Never leave tools or vehicle parts lying on the ground when working on the vehicle.
- Exercise caution when removing worn brake discs as they may contain sharp edges, use gloves if required and never brush hands and fingers against the brake pad.
- Never inhale brake fluid spray.
- Hydraulic brake fluids must be changed at specified intervals.
- Hydraulic brake fluid is poisonous, seek immediate medical attention if fluid is swallowed or gets into the eyes.
- Never renew brake pads on one side of vehicle only.
- Do not use petroleum-based solvents to clean brake parts.
- Do not allow brake fluid oil or grease to contact brake pads or disc.
- Carry out necessary checks and adjustments as outlined in workshop manuals or data books such as brake shoe adjustment, handbrake adjustment, load apportioning valve, wheel bearings etc.
- Check all hydraulic pipes and hoses for any signs of deterioration.
- Check all tyres for correct speed ratings, pattern, size, pressures, thread depth, and any signs of faults or deterioration.
- After carrying out work on braking systems always check to make sure that the brake pedal feel and clearance is OK and also handbrake, before initial road testing or driving the vehicle.
- Dispose or discard worn parts or brake fluid in accordance with present legislation.
- Always wash hands thoroughly when work is complete.

Checks & Inspections

- Ensure all safety notices are readable and displayed in correct locations
- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- Only trained staff and students allowed carrying out procedures on Braking Systems. New staff/students will be trained by technician and lecturing staff as required.
- MSDS
- Manual handling training
- Chemical handling training
- PPE training

Personal protective equipment required (last resort)

- Safety boots
- Eye protection
- Barrier creams/gloves
- Dust extraction system
- Overalls.

Initial Risk Rating (without any control measures)

Probability : **3** x Severity **3** = Risk Factor **9 High Risk**

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability : **1** x Severity **3** = Risk Factor **3 Low risk**

Risk Assessment Review

As and when process changes or yearly

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Safe Work Practice Sheet Diesel Engine Fuel Systems	Ref: SWPS MOT 003 Date: 19/07/2014 Revision No. 001 Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Chemicals
Working on the engines can result in coming into contact with diesel or engine oil, leaking battery acid and result in irritation (pain, redness, itching etc.) to the skin. Inhalation of diesel vapours or fumes can result in acute respiratory irritation (coughing, wheezing) or chronic illness (asthma).

Mechanical
Entanglement of long hair or loose clothing with rotating shaft of the fan belt resulting in asphyxiation and cuts and bruises. Nip point and loss of fingers when in contact with rotating fan belt. Crushing of fingers when closing the bonnet of the car.

Hot Surfaces
Engine running for a period of time will result in heat being generated in the engine, coolant system or exhaust etc. and result in minor burns to the hands, fingers or arms if in contact with.

Hot Liquids
Leaking coolant system, damaged coolant hose can result in scalding to the hands, fingers and arms resulting in first, second and or third degree burns

Slips Trips and Falls
Poor housekeeping, personal belongings, tools and engine parts lying on the ground, raised ramp parts, leaking diesel and oil can result in tripping and slipping causing fall head impact and bodily injuries.

Sharps
Contact with parts of the engine can result in minor cuts to the hands or fingers.

Fumes
Running the diesel engine can result in the inhalation of carbon monoxide from the exhaust pipe & cause death or acute respiratory illness.

Ejected Fluid
Leaking fuel lines can result in ejected fuel under pressure and penetrate the skin resulting in death or acute illness.

Fire
Diesel atomised in the air can rapidly ignite when in contact with an ignition source resulting in burns to the body.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

Carrying out demonstrations and repairs on diesel engine fuel systems (running and stationary)

Controls

- Always follow the proper instructions as given and observe the correct procedure as laid down in the work shop manuals.
- Students are permitted to operate the machine, under correct instruction and the lecturer or technician's supervision. .
- Food or drinks are not permitted in the work shop.
- Ensure that there is adequate ventilation prior to working on the engines and that the extract system is switched on.
- Apply barrier cream to the hands or wear gloves when working on the engines.
- Never touch a leaking battery with bare skin. Remove and replace with a new one, dispose of damaged one carefully and responsibly.
- Immediately remove any items of clothing that become contaminated with diesel, oil or battery acid.
- Wash hands or contaminated skin parts immediately when in contact with diesel, oil or battery acid.
- Never work on the engine where there is evidence of vapours or fumes.
- Loose clothing must not be worn when working on the engine.
- Long hair must be neatly tied back or a well fitted cap worn.
- Maintain hands and fingers free from the bonnet and frame of the car when closing the bonnet.
- Never touch the rotating fan belt with hands or fingers.
- Never place hand and fingers between the moving parts of the fan belt.
- Exercise caution if handling hot engine parts or the coolant system.
- Never rest hands or arms against the running engine.
- Wear heat resistant gloves if required to handle hot engine or coolant system or allow to cool down sufficiently.
- Ensure that the coolant system and hoses are free from leaks and securely fitted prior to commencing work on the engine.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Never leave tools or engine parts lying on the ground, always use workbenches.
- Observe and be aware of where the ramp is slightly raised off the ground.
- Immediately clean and safely dispose of any leaking diesel or oil from the ground.
- Exercise caution when handling parts of the engine as they main contain unforeseen hidden sharps.
- Ensure that the car exhaust pipe is connected onto the in-house exhaust extract system prior to starting the engine. Never work on the engine indoors if the exhaust extract system is not working.
- Naked flames or ignition sources are not permitted at or near the engine.
- Exercise caution when working under the bonnet of the car, open the bonnet as far as possible.
- If using compressed air see Safe Work Practice Sheet Compressed air.
- Use proper PPC and PPE as supplied.
- Have a fire extinguisher on standby.
- Fuel system should be properly depressurized in accordance with manufacturer's specifications prior to disconnecting any fuel pipes or lines.
- Diesel injection pumps supply fuel at very high pressure. Take care when working on the fuel injectors and fuel pipes.
- Warning: Never expose the hands, face or any other part of the body to injector spray; the fuel can penetrate the skin with potentially fatal results.
- Diesel fuel is a highly flammable substance when atomised and should be treat with great care
- Ensure correct fire extinguishers are available.
- Correct tools supplied to carry out work in a safe and efficient manner.
- On completion of system testing, check for any signs of leaks and repair as necessary..
- Thoroughly wash your hands when work is complete on the engines.

If in doubt seek advice from Lecturer or Technician. Normal safety precautions should be adhered to at all times

Checks & Inspections

- Regular maintenance to be carried out according to manufacturers recommendations and records kept by the School
- Ensure all guards are in place and checked at regular intervals
- Ensure all safety notices are readable and displayed in correct locations
- Ensure correct fire extinguishers are available
- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- Only trained staff and students allowed carrying out procedures on engines. New staff/students will be trained by technician and lecturing staff as required.
- MSDS
- PPE training
- Chemical handling training

Personal protective equipment required (last resort)

- Safety boots
- Eye protection
- Barrier creams/gloves
- Hearing protection
- Overalls

Initial Risk Rating (without any control measures)

Probability : **3** x Severity **3** = Risk Factor **9 High Risk**

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability : **1** x Severity **3** = Risk Factor **3 Low risk**

Risk Assessment Review

As and when process changes or yearly

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Safe Work Practice Sheet AG Block, Diesel Engines (Peugeot, Citroen & Golf)	Ref: SWPS MOT 004 Date: 19/07/2014 Revision No. 001 Assessed by: G. Caffrey Approved By: E. Roe

Hazards

Manual Handling
Pulling and pushing the engines to and from storage, topping the diesel tank up with fuel, removing and replacing the engine battery, can result in acute or chronic lower back and or musculoskeletal injuries

Hot Surfaces / Liquid
Contact with the engine exhaust, radiator and hoses can result in minor or major burns to the hands and fingers.

Fumes
Running the test engine can result in the Inhalation of exhaust fumes and cause death or acute or chronic respiratory illness.

Liquid Chemicals
Topping the diesel tank up with diesel, topping up with anti-freeze or coolant fluid, topping up the battery with water, leaking battery acid can result in loss of sight from splashing, contamination of clothing with battery acid can cause burns to the skin, hands and fingers, contact dermatitis.

Mechanical
Rotating radiator fan, fan belt or cooling fan can result in entanglement and cause asphyxiation. Contact with rotating fan belt can result in severing of fingers with fan belt pinch point.

Slips Trips and Falls
Poor housekeeping, personal belongings, spilled or splashed liquid chemicals on the ground can result in slipping and tripping causing fall impact head and body injuries.

Fire
Diesel liquid, spray or mist can result in fire when in contact with a naked flame or ignition source, causing death or burns to the body.

Collapsing Test Equipment
Damaged legs or wheels on the test apparatus can result in the apparatus collapsing causing lower leg and feet impact and crushing injuries.

Explosion
Battery is incorrectly connected and explodes or generates sparks that come into contact with fuel sources resulting in a fire and first, second and or third degree burns.

Noise
Running the engines for long periods of time can result in acute temporary hearing discomfort or chronic loss of hearing.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

Carrying out demonstrations and repairs on diesel engines (running and stationary)

NOTE:
All engines should be fitted with proper guards where possible.

Battery Location and storage should be in a position so as to prevent accidental short circuits.
Fuel Location and storage to be in a position to prevent any risk of uncontrolled combustion.
Always follow proper instructions and observe the correct working procedures as laid down in relevant workshop manuals.

Controls

- Students are permitted to operate the machine, under correct instruction and the lecturer or technician's supervision.
- Follow the manual handling training guidelines at all times. Seek assistance if required when moving test engines to and from storage.
- Toping up with diesel must be done with the use of a Gerri can of no more than 10 litre capacity.
- Ensure only trained personnel use the engines, students are permitted use of the engines under the lecturer or technicians supervision.
- Never touch the exhaust or radiator or engine parts when the test engine is running and allow for sufficient time to cool before handling.
- Ensure that all guards are in place prior to commencing work.
- Do not use the machine if any guards are missing.
- Ensure that the exhaust of the test engine/s is connected to the workshop extract system prior to use.
- Turn on the extract system prior to starting up the test engine/s.
- Wear safety glasses and gloves when topping the machine up with diesel, antifreeze, water coolant or the battery with water.
- Avoid the splashing of chemicals when pouring from holding containers. Where possible use a funnel.
- Use an attachable flexible spout when pouring diesel into the diesel tank.
- Inspect the battery for damage and leaks prior to use, do not use if damaged in any way (remove for safe disposal) and use a replacement.
- Clothing contaminated by diesel, antifreeze, water coolant or battery acid must be removed & replaced immediately.
- Loose clothing or jewellery must not be worn when operating the machine.
- Long hair must be neatly tied back or a well fitted cap worn.
- Never touch the moving or rotating parts of the engine.
- Never place hands and fingers in-between moving or rotating parts of the engine.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Immediately clean-up & safely dispose of any spilled or splashed liquid chemicals from the ground.
- Never disconnect a fuel line when the machine is running.
- Avoid working on engine if the fuel storage and supply and return lines are not fully secured.
- If repairs are being carried out on the fuel system make sure system is depressurized in accordance with manufacturer's instructions.
- Diesel injection pumps supply fuel at very high pressure. Take care when working on the fuel injectors and fuel pipes.
- Warning: Never expose the hands, face or any other part of the body to injector spray, the fuel can penetrate the skin with potentially fatal results.
- Diesel fuel is a highly flammable substance when atomised and should be treated with great care.
- Ensure that the correct fire extinguishers are available & close to hand when operating the engines.
- Naked flames or ignition sources must never be used at or near the test engines/s.
- Diesel must not be stored in the workshop, use the external designated storage area.
- Never remove pressurized radiator cap from cooling system while the system is pressurized.
- Inspect the legs and wheels of the apparatus for damage or defects prior to use, do not use if damaged or defected in any way and remove from use for repair.
- Students must request the battery from the lecturer of technician.
- Ensure to connect the positive to the positive first (red cable) and negative to negative (black cable) second (make sure no sparks are allowed to be generated as this may result in battery exploding

causing serious damage).

- When disconnecting the battery, disconnect the black cable first.
- Always make sure battery is disconnected while carrying out repairs on engine.
- Never leave the key in the ignition switch when working on the vehicle engine.
- Always use correct fitting spanners, discard broken or worn tools.
- Always make sure engine is switched of before moving away from it.
- Wear ear protection when operating the machine.
- Always wash your hands when work with the test engines is complete.

If in doubt seek advice from Lecturer or Technician. Normal safety precautions should be adhered to at all times

Checks & Inspections

- Regular maintenance to be carried out according to manufacturers recommendations and records kept by the School
- Ensure all guards are in place and checked at regular intervals.
- Ensure all safety notices are readable and displayed in correct locations
- Ensure correct fire extinguishers are available.
- Lecturers and technicians must monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- Only trained staff and students allowed carrying out procedures on engines. New staff/students will be trained by technician and lecturing staff as required.
- MSDS
- Manual Handling Training.
- Chemical Handling Training.
- PPE Training.

Personal protective equipment required (last resort)

- Safety boots,
- Safety Glasses,
- Barrier creams/ safety gloves,
- Hearing protection,
- Overalls,

Initial Risk Rating (without any control measures)

Probability :	3	x	Severity	3	=	Risk Factor	9 High Risk

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	1	x	Severity	3	=	Risk Factor	3 Low risk

Risk Assessment Review

As and when process changes or yearly

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Safe Work Practice Sheet Four Post Lifts	Ref: SWPS MOT 005
	Date: 19/07/2014
	Revision No. 001
	Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Electricity
Incorrectly wired or damaged electrical wires can result in electrocution-death, first, second or third degree burns.

Hydraulics
Topping the machine up with hydraulic fluid can result in splashing of fluid into the eyes or on exposed skin parts or contamination of clothing resulting in acute or chronic eye or skin irritation.

Pneumatics
Loose or damaged air lines can result in uncontrolled whipping airline resulting in permanent loss of sight.

Slips, Trips and Falls
Poor housekeeping, personal belongings, car parts or tools lying on the ground, leaking or spilled hydraulic fluid can result in slipping or tripping causing fall impact head and body injuries.

Manual Handling
Lifting and holding engines or car components, removing or replacing car wheels, gear box or axles can result in acute or chronic lower back and or musculoskeletal injuries.

Mechanical
Loss of fingers or breaking of bones if in between moving hydraulic scissors jack. Crushing and entrapment of hands, arms or fingers with descending hydraulic scissor jack, feet with car being driven onto the ramp. Crushing and entrapment with cable and pulley of the lift.

Fumes
Driving vehicles on and off the ramps, running the engine on the ramp can result in the inhalation of carbon monoxide and cause death or acute or chronic respiratory illness and or disease.

Falls from Heights
Standing on the lift when it is moving or working on a raised car can result in falling and death

Hot Surfaces
Touching the exhaust of a running vehicle can result in major burns to the hands and fingers.

Falling Tools, Car Parts or Vehicle
Tools / car parts on the ramp edge can fall causing blunt force blows to the head or body parts. Car not mounted correctly onto the ramp can roll back and fall resulting crushing injuries.

Traffic
Driving the vehicle indoors, on and off the ramp can result in striking a bystander causing serious injuries.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

Carrying out demonstrations on Vehicle brakes, overhauling, steering and suspension system while on the lift (running and stationary).

Note: The normal safety precautions as listed when working under or around a vehicle must be adhered to for this exercise.

Controls

- Students are permitted to operate the lift, under correct instruction and the lecturer or technician's supervision.
- Never exceed the manufacturer's weight lifting capacity as stated on the lift or jack.
- Ensure that all safety sensors, micro switches and rails are in place prior to operating the machine.
- Inspect the electrical cables of the lift for any damage, defects or loose wiring prior to operating the lift.
- Never use the lift where electrical cables are damaged, loose of defected in anyway.
- All electrical repairs must be carried out by a competent person.
- Ensure to slowly pour hydraulic fluid when topping up the machine.
- Immediately remove any clothing contaminated with hydraulic fluid.
- Ensure that all air lines are securely fitted and connected to the lift.
- Leaking air lines must be repaired immediately.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Car parts or work tools must never be stored or left lying on the ground beside the lift, always use a nearby work bench.
- Spilled or leaking hydraulic fluid must be cleaned from the ground immediately.
- Wear safety gloves and glasses when handling hydraulic oil.
- Follow the manual handling training guide lines at all times and seek assistance if required to lift or handle heavy or awkward loads. Never place hands or fingers in between the moving or descending hydraulic scissor jack.
- Never place feet on the lift when vehicles are being driven on to it.
- Always remain behind the yellow line around the lift when a vehicle is been driven on or off.
- Always remain behind the yellow line when the lift is in use.
- Never lean against or hold on to any part of the lift when it is use.
- Ensure that the exhaust of the vehicle is connected to the in-house fume extract system as soon as possible.
- Ensure that there is good workshop ventilation prior to commencing work on the lift.
- Never stand on the lift when it is ascending or descending.
- Never stand on the lift to work on a vehicle.
- Always allow for the exhaust of a vehicle to cool sufficiently prior to handling.
- Never leave tools or car parts on the edge of the lift, always use a nearby bench to place them on.
- Exercise caution when working underneath a raised lift.
- Follow the rules of the road when driving the vehicle in the garage and on and off the lift.
- Sound the vehicle horn before reversing off the ramp.
- Always drive the vehicle up on lift until it clears rear wheel stops.
- Only use turntables when vehicle is on lift if vehicle is properly secured.
- When lift is fully raised before starting work underneath it, ensure safety locks provided are in place.
- When using wheels free lifting system or lift jacks always place at recommended lifting points and support with axle stands where necessary.
- Always check head clearance between vehicle roof and workshop ceiling before raising lift.
- Take care when working underneath a vehicle on the lift, ensure that you have a working clearance that will prevent you accidentally bumping into protruding parts.
- Never touch parts such as exhaust systems without first ascertaining if these parts are cold.

- Before lowering lift, make sure that there are no obstructions which may cause damage or be damaged.
- Always keep doors closed when lift is being raised or lowered.

If in doubt seek advice from Lecturer or Technician. Normal safety precautions should be adhered to at all times

Checks & Inspections

- Regular inspections and maintenance to be carried out according to manufacturers recommendations and records kept by the School
- Ensure all guards are in place and checked at regular intervals
- Ensure all interlocks, safety sensors and automatic shutdown sensors are checked each term
- Ensure all safety notices are readable and displayed in correct locations
- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- Only trained staff and students allowed carrying out procedures on lifts. New staff/students will be trained by technician and lecturing staff as required.
- PPE training
- Chemical handling training
- Manual handling training
- MSDS

Personal protective equipment required (last resort)

- Safety boots,
- Eye protection,
- Barrier creams/gloves,
- Overalls.

Initial Risk Rating (without any control measures)

Probability :	3	x	Severity	3	=	Risk Factor	9High Risk

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	1	x	Severity	3	=	Risk Factor	3 Low risk

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Safe Work Practice Sheet Petrol Engine Fuel Systems	Ref: SWPS MOT 006
	Date: 19/07/2014
	Revision No. 001
	Assessed by: G. Caffrey Approved by: E. Roe

Hazards

-

Chemicals

Working on the engines can result in coming into contact with diesel or engine oil, leaking battery acid and result in irritation (pain, redness, itching etc.) to the skin. Inhalation of diesel vapours or fumes can result in acute respiratory irritation (coughing, wheezing) or chronic illness (asthma).

Mechanical

Entanglement of long hair or loose clothing with rotating shaft of the fan belt resulting in asphyxiation and cuts and bruises. Nip point and loss of fingers when in contact with rotating fan belt. Crushing of fingers when closing the bonnet of the car.

Hot Surfaces

Engine running for a period of time will result in heat being generated in the engine, coolant system or exhaust etc. and result in minor burns to the hands, fingers or arms if in contact with.

Hot Liquids

Leaking coolant system, damaged coolant hose can result in scalding to the hands, fingers and arms resulting in first, second and or third degree burns

Slips Trips and Falls

Poor housekeeping, personal belongings, tools and engine parts lying on the ground, raised ramp parts, leaking diesel and oil can result in tripping and slipping causing fall head impact and bodily injuries.

Sharps

Contact with parts of the engine can result in minor cuts to the hands or fingers.

Fumes

Running the diesel engine can result in the inhalation of carbon monoxide from the exhaust pipe & cause death or acute respiratory illness.

Ejected Fluid

Leaking fuel lines can result in ejected fuel and penetrate the skin resulting in death or acute illness.

Fire

Diesel atomised in the air can rapidly ignite when in contact with an ignition source resulting in burns to the body.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

Carrying out demonstrations and repairs on petrol engine fuel systems (running and stationary)

NOTE:

All engines should be fitted with proper guards where possible.

Battery Location and storage should be in a position so as to prevent accidental short circuits.
Fuel Location and storage to be in a position to prevent any risk of uncontrolled combustion.
Always follow proper instructions as given and observe the correct working procedures as laid down in workshop manuals.

Controls

- Always follow the proper instructions as given and observe the correct procedure as laid down in the work shop manuals.
- Students are permitted to operate the engines, under correct instruction and the lecturer or technician's supervision.
- Food or drinks are not permitted in the work shop.
- Ensure that there is adequate ventilation prior to working on the engines and that the extract system is switched on.
- Apply barrier cream to the hands or wear gloves when working on the engines.
- Never touch a leaking battery with bare skin. Remove and replace with a new one, dispose of damaged one carefully and responsibly.
- Immediately remove any items of clothing that become contaminated with petrol, oil or battery acid.
- Wash hands or contaminated skin parts immediately when in contact with petrol, oil or battery acid.
- Never work on the engine where there is evidence of vapours or fumes.
- Loose clothing must not be worn when working on the engine.
- Long hair must be neatly tied back or a well fitted cap worn.
- Maintain hands and fingers free from the bonnet and frame of the car when closing the bonnet.
- Never touch the rotating fan belt with hands or fingers.
- Never place hand and fingers between the moving parts of the fan belt.
- Exercise caution if handling hot engine parts or the coolant system.
- Never rest hands or arms against the running engine.
- Wear heat resistant gloves if required to handle hot engine or coolant system or allow to cool down sufficiently.
- Ensure that the coolant system and hoses are free from leaks and securely fitted prior to commencing work on the engine.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Never leave tools or engine parts lying on the ground, always use workbenches.
- Observe and be aware of where the ramp is slightly raised off the ground.
- Immediately clean and safely dispose of any leaking petrol or oil from the ground.
- Exercise caution when handling parts of the engine as they main contain unforeseen hidden sharps.
- Ensure that the car exhaust pipe is connected onto the in-house exhaust extract system prior to starting the engine. Never work on the engine indoors if the exhaust extract system is not working.
- Naked flames or ignition sources are not permitted at or near the engine.
- Exercise caution when working under the bonnet of the car, open the bonnet as far as possible.
- Ensure all guards are in place prior to commencing work
- If using compressed air see Safe Work Practice Sheet Compressed air.
- Use proper PPC and PPE as supplied.
- Have a fire extinguisher on standby.
- Fuel system should be properly depressurized in accordance with manufacturer's specifications prior to disconnecting any fuel pipes or lines.
- Fuel injection systems can supply fuel at high pressures. Take care when working on the fuel injectors and fuel pipes.
- Warning: Never expose the hands, face or any other part of the body to injector spray; the fuel can penetrate the skin with potentially fatal results.
- Correct tools supplied to carry out work in a safe and efficient manner.
- On completion of system testing, check for any signs of leaks and repair as necessary.
- Make sure all plug leads are fully secure before cranking engine.
- Petrol fuel is a highly flammable substance and should be treat with great care

- Check with Lecturer in charge before leaving this exercise so that you may be signed off.

If in doubt seek advice from Lecturer or Technician. Normal safety precautions should be adhered to at all times

Checks & Inspections

- Regular maintenance to be carried out according to manufacturers recommendations and records kept by the School
- Ensure all guards are in place and checked at regular intervals.
- Ensure all safety notices are readable and displayed in correct locations
- Ensure correct fire extinguishers are available.
- Lecturers and technicians must monitor compliance with control measures
  Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- Only trained staff and students allowed carrying out procedures on engines. New staff/students will be trained by technician and lecturing staff as required.
- MSDS
- PPE training
- Chemical handling training

Personal protective equipment required (last resort)

- Safety boots,
- Eye protection,
- Barrier creams/gloves,
- hearing protection,
- overalls,
- Fire extinguishers.

Initial Risk Rating (without any control measures)

Probability :	3	x	Severity	3	=	Risk Factor	9 High Risk

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	1	x	Severity	3	=	Risk Factor	3 Low risk

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Safe Work Practice Sheet AG Bloc, Petrol Engines (Audi, Opel Vectra, Ford Mondeo)	Ref: SWPS MOT 007 Date: 19/07/2014 Revision No. 001 Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Manual Handling
Pulling and pushing the engines to and from storage, topping the petrol tank up with fuel, removing and replacing the engine battery can result in acute or chronic lower back and or musculoskeletal injuries

Hot Surfaces / Liquid
Contact with the engine exhaust, radiator and hoses, hot water, steam, engine block can result in minor or major burns to the hands and fingers.

Fumes
Inhalation of exhaust fumes can cause death or acute and or chronic respiratory illness.

Chemicals
Topping up with petrol, anti-freeze, coolant fluid, battery water, leaking battery acid, hydraulics fluid can result in loss of sight from splashing, contamination of clothing and burns to the skin, hands and fingers.

Mechanical
Entanglement of long hair loose clothing or jewellery with rotating radiator fan, fan belt or cooling fan, wheel drive shafts can result in asphyxiation. Contact with rotating fan belt can result in severing of fingers. Crushing of fingers when in contact with closing breaking pads.

Slips Trips and Falls
Poor housekeeping, personal belongings, spilled, splashed or leaking liquid chemicals (Petrol, Coolant oil, Antifreeze, Battery Acid, and Brake Fluid) extract exhaust hose system can result in slipping & tripping causing fall impact head & body injuries.

Fire
Topping the petrol tank up, disconnecting the fuel line causing Petrol spray or mist, Petrol stored in the workshop can result in fire when in contact with a naked flame or ignition source, causing death or burns to the body.

Collapsing Test Equipment
Damaged legs or wheels on the test AG apparatus can result in the apparatus collapsing causing lower leg and feet impact and crushing injuries.

Explosion
Battery is incorrectly connected and explodes or generates sparks that come into contact with fuel sources resulting in a fire and first, second and or third degree burns.

Ejected fluid
Ejected hydraulic fluid (Opel Vectra) can penetrate the skin and result in death, skin irritation, dermatitis.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

The AG Bloc petrol engines are used to test automatic Opel Vectra and Ford Mondeo transmission systems and general engine management systems. The Audi 2.0L AG Bloc is used to fault find through diagnostics.

NOTE:

Battery Location and storage should be in a position so as to prevent accidental short circuits.
Fuel Location and storage to be in a position to prevent any risk of uncontrolled combustion.
Always follow proper instructions and observe the correct working procedures as laid down in relevant workshop manuals.

Controls

- Students are permitted to operate the equipment, under correct instruction and the lecturer or technician's supervision.
- Follow the manual handling training guidelines at all times. Seek assistance if required when moving test engines to and from storage.
- Toping up with petrol must be done with the use of a 10 litre Gerri can.
- Ensure only trained personnel use the engines, students are permitted to use the engines under the lecturer or technicians supervision.
- Never touch the exhaust or radiator or engine parts when the test engine is running and allow for sufficient time to cool before handling.
- Do not touch hot water or steam from the radiator or hoses.
- Ensure that all guards are in place prior to commencing work.
- Do not use the machine if any guards are missing.
- Ensure that the exhaust of the test engine/s is connected to the workshop extract system prior to use.
- Turn on the extract system prior to starting up the test engine/s.
- Wear safety glasses and gloves when topping the machine up with petrol, antifreeze, water coolant or the battery with water.
- Avoid the splashing of chemicals when pouring from holding containers. Where possible use a funnel.
- Use an attachable flexible spout when pouring petrol into the petrol tank.
- Inspect the battery for damage and leaks prior to use, do not use if damaged in any way (remove for safe disposal) and use a replacement.
- Clothing contaminated by petrol, antifreeze, water coolant or battery acid must be removed & replaced immediately.
- Loose clothing or jewellery must not be worn when operating the machine.
- Long hair must be neatly tied back or a well fitted cap worn.
- Never touch the moving or rotating parts of the engine.
- Never place hands and fingers in-between moving (brake pads) or rotating parts (fan belt, radiator fan) of the engine.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Immediately clean-up & safely dispose of any spilled, splashed or leaking liquid chemicals (Petrol, Coolant oil, Antifreeze, Battery Acid, and Brake Fluid) from the ground.
- Avoid trailing the exhaust extract hose along the ground where possible. Always walk around a trailing hose and never step over it.
- Never disconnect a fuel line when the machine is running.
- Do not work on the engine if the fuel storage and supply and return lines are not fully secured.
- If repairs are being carried out on the fuel system make sure system is depressurized in accordance with manufacturer's instructions.
- Warning: Never expose the hands, face or any other part of the body to injector spray, the fuel can penetrate the skin with potentially fatal results.
- Petrol fuel is a highly flammable substance when atomised and should be treated with great care.

- Ensure that the correct fire extinguishers are available and close to hand when operating the engines.
- Naked flames or ignition sources must never be used at or near the test engines/s.
- Petrol must not be stored in the workshop, use the external designated storage area.
- Never remove the radiator cap from cooling system while the system is pressurized.
- Inspect the legs and wheels of the apparatus for damage or defects prior to use, do not use if damaged or defected in any way and remove from use for repair.
- Ensure to connect the positive to the positive first (red cable) and negative to negative (black cable) second (make sure no sparks are allowed to be generated as this may result in battery exploding causing serious damage).
- When disconnecting the battery, disconnect the black cable first.
- Always make sure battery is disconnected while carrying out repairs on engine.
- Never touch leaking or ejected hydraulic oil and switch off the engine prior to repairing.
- Ensure that the hydraulic hoses are free from defects, damage and leaks prior to using the machine.
- Never leave the key in the ignition switch when working on the vehicle engine.
- Always make sure engine is switched of before moving away from it.
- Always wash your hands when work with the test engines is complete.

If in doubt seek advice from Lecturer or Technician. Normal safety precautions should be adhered to at all times

Checks & Inspections

- Regular maintenance to be carried out according to manufacturers recommendations and records kept by the School
- Ensure all guards are in place and checked at regular intervals.
- Ensure all safety notices are readable and displayed in correct locations
- Ensure correct fire extinguishers are available.
- Lecturers and technicians must monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- Only trained staff and students allowed carrying out procedures on engines. New staff/students will be trained by technician and lecturing staff as required.
- MSDS
- Manual Handling Training.
- Chemical Handling Training.
- PPE Training.

Personal protective equipment required (last resort)

- Safety boots,
- Safety Glasses,
- Barrier creams/ safety gloves,
- Hearing protection,
- Overalls,

Initial Risk Rating (without any control measures)

Probability :	3	x	Severity	3	=	Risk Factor	9 High Risk

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	**1**	x	Severity	**3**	=	Risk Factor	**3 Low risk**

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Safe Work Practice Sheet Roller Brake Testing (NCT Lane)	Ref: SWPS MOT 008 Date: 19/07/2014 Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Electricity
Incorrectly connected, poorly maintained or damaged electrical cable or plugs of the test equipment can cause electrocution-death or first second and or third degree burns to the hands and body parts

Fumes
Driving vehicles on and off the test equipment, running the engine on the test equipment will generate exhaust fumes and can result in acute or chronic respiratory illness or disease.

Hot Surfaces
Contact with test vehicle exhaust pipe when connecting extract system or engine parts when probing temperature of the engine oil can result in minor burns to the hands and fingers.

Slips, Trips and Falls
Poor housekeeping, personal belongings, trailing extract hose or diagnostic cables, leaking brake, coolant, oil etc. fluid, raised NCT test equipment and cover lids above ground level can result in slipping and tripping causing fall impact head and body injuries.

Manual Handling
Lifting and closing the NCT test roller lid and vehicle bonnet can result in acute or chronic lower back or musculoskeletal injuries.

Mechanical
Entanglement of clothing or long hair with rotating car wheels, NCT rollers, engine fan belt can result in asphyxiation. Entrapment of feet and lower legs with NCT Rollers or rotating wheels on rollers and hands with engine fan belt.

Moving Traffic
Driving the vehicle indoors, on and off the NCT ramp can result in striking a bystander causing serious injuries.

Laser Beams
Using the head beam aligner can result in the loss of sight or temporary eye injury by directly looking into or by pointing it at an individual's eyes.

Falling test equipment
Moving the test equipment (head beam alignment or computers etc.) can fall resulting in lower leg and feet impact and crush injuries.

Chemicals
Checking the temperature of the oil or cleaning up leaking fluids can result in minor skin irritation.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description
Carrying out demonstrations on Roller brake testing, steering, shock absorbers and lights alignment.

Note: The normal safety precautions as listed when working under or around a vehicle must be adhered to for this exercise.
Always follow proper instructions and observe the correct working procedures as laid down in relevant workshop manuals.

- Students are not permitted the use of this test equipment.
- Lecturers or technicians must only operate the equipment.
- Inspect the electrical power cable and plug of the test equipment for damage or defects prior to use. Do not use if damaged in any way and remove from use for repair.
- Competent person/s must carry out all electrical repairs.
- Ensure that there is good ventilation prior to starting up the test vehicle engine.
- Ensure that the test vehicle exhaust is connected to the in house exhaust extract system as soon as possible.
- Do not touch any part of the exhaust pipe with bare hands when connecting to the extract system.
- Avoid touching any part of the engine with bare hands when checking.
- Wear heat resistant gloves or allow hot parts to cool sufficiently before handling.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Clean up any fluid leaks or liquid spills immediately from the ground and dispose of carefully.
- Where possible avoid the trailing of the extract hose and diagnostic cables.
- Observe and be aware of where the NCT fixed test equipment (Steering Rubber Mat, Shock Pads, and Lift etc.) is raised above ground level.
- Where possible always work outside the Yellow Border Line painted around the NCT test area.
- Bystanders and other personnel must remain outside the Yellow Border Line of the NCT at all times
- Follow the manual handling training guidelines at all times and seek assistance if required.
- Loose clothing or jewellery must not be worn when NCT testing.
- Long hair must be neatly tied back or a well fitted cap worn.
- Never touch any moving part with hands, fingers, feet or tools when NCT testing
- Never stand on the test equipment when idle or running.
- Ensure that the stainless steel cover plates enclose the rollers when they are not in use.
- Follow the rules of the road when driving indoors.
- Beep the horn of the vehicle when moving on or off the NCT test ramp.
- Never drive the vehicle at speed.
- Never look directly into the light of the head lamp beam aligner.
- Never point or direct the light of the head lamp beam aligner in to the eyes of a bystander.
- Only switch on the head beam aligner light when the vehicle is in place.
- Turn off the light of the head beam aligner when it is no longer required.
- Ensure that the head beam aligner is on the rails when wheeling in and out of storage.
- Maintain the rails free from obstructions at all times.
- Ensure that the computers and test equipment is secure on the trolleys when in use.
- Use gloves when handling leaks and oil spills or checking the temperature of the oil.
- Read the standard operating procedures and users manual thoroughly
- Only trained authorised personnel may operate this test equipment
- Check Tyres for correct pressure and serviceability
- Check manufacturer's instruction for correct driving on and of the rollers (exit the test stand only when the rollers are running)
- Wait for ready message
- Don't leave car when rollers are rotating
- Don't allow personnel to stand close to revolving wheels or rollers, all moving or rotating parts are potentially dangerous
- Once test has started proceed in forward direction otherwise machine damage may result (shock tester)
- Exhaust emissions testing should be done in well ventilated workshop.

- Don't run vehicle engine in enclosed area. (Potential carbon monoxide poisoning)
- Never start up vehicle engine using rollers
- Never park a vehicle on rollers
- Before starting headlight testing make sure height adjuster is set at zero.

The test stand should be secured and/or covered when not in use.
If in doubt seek advice from Lecturer or Technician. Normal safety precautions should be adhered to at all times

Checks & Inspections

- Regular maintenance to be carried out according to manufacturers recommendations and records kept by the School
- Ensure all guards are in place and checked at regular intervals.
- Ensure all interlocks and automatic shutdown sensors are checked each term
- Ensure all safety notices are readable and displayed in correct locations
- Lecturer and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- MSDS
- Chemical Handling training
- PPE training
- Manual Handling training.

Personal protective equipment required (last resort)

- Safety boots,
- Eye protection,
- Barrier creams/gloves,
- Overalls.

Initial Risk Rating (without any control measures)

Probability :	**3**	x	Severity	**3**	=	Risk Factor	**9 High Risk**

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	**1**	x	Severity	**3**	=	Risk Factor	**3 Low risk**

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Safe Work Practice Sheet Steering/Suspension Systems	Ref: SWPS MOT 009
	Date: 19/07/2014
	Revision No. 001
	Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Fumes
Inhalation of exhaust fumes can result in death or acute or chronic respiratory illness, disease, coughing and wheezing.

Manual Handling
Removing and replacing car wheels, suspension systems or using the suspension compressor jig can result in lower back and or muscular skeletal injuries.

Slips Trips and Falls
Poor housekeeping, personal belongings, suspension parts and tools lying on the ground can result in slipping and tripping causing fall impact head and body injuries.

Loaded Springs
Compressing and decompressing suspension sprigs can result in major head and body impact injuries resulting in death or major cuts and bruises.

Pneumatics
Using the spring compressor jig can result in a whipping airline causing loss of sight.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

Carrying out demonstrations on steering/suspension systems.

Controls

- Students are permitted to operate the equipment, under correct instruction and the lecturer or technician's supervision. .
- Ensure that the car exhaust is connected to the extract system as soon as possible.
- Turn on the workshop extract system prior to operating on the vehicle.
- Follow the manual handling training guidelines at all times.
- Refer to the MOT 005 SWPS for Four Post Lift when carrying out this activity.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Never store workshop tools or suspension parts on the ground, always use a nearby workbench.
- Wear safety glasses when carrying out this task.
- Always follow proper instructions and observe the correct working procedures as laid down in relevant workshop manuals.
- Always use hand protection and barrier creams as supplied.
- Always use proper spring compressors or use the spring compressor jig to aid removal of springs.
- Ensure airlines are free from defect or damage prior to use.
- Ensure airlines on compressor jig are correctly fitted if in use.
- Damaged steering components should never be repaired; they should be replaced with new ones.
- If a vehicle is involved in accidental damage all steering components should be inspected and checked. This will include dismantling steering rack (box) and checking it for damage.
- Carry out necessary checks and adjustments as outlined in workshop manuals or data books such

as wheel alignment front and rear, caster camber and swivel axis inclination angles, wheel bearings etc.

- Check all hydraulic dampers for any signs of leaks or deterioration.
- Check power steering for correct operation and also check for leaks.
- Make sure engine is not running before gauges are connected or disconnected.
- Check all tyres for correct speed ratings, pattern, size, pressures, thread depth, and any signs of faults or deterioration. Always adhere to tyre mixing and compatibility requirements.
- After carrying out work on Steering and Suspension systems always check to make sure that the steering wheel is free to move the correct number of turns.
- Check brake pedal feel and clearance is OK before test driving the vehicle.

If in doubt seek advice from Lecturer or Technician. Normal safety precautions should be adhered to at all times

Checks & Inspections

- Regular maintenance to be carried out according to manufacturers recommendations and records kept by the School
- Ensure all safety notices are readable and displayed in correct locations
- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- Only trained staff and students allowed carrying out procedures on steering and suspension systems. New staff/students will be trained by technician and lecturing staff as required.
- Manual Handling training
- PPE training

Personal protective equipment required (last resort)

- Safety boots
- Safety Glasses
- Overalls

Initial Risk Rating (without any control measures)

Probability : **3** x Severity **3** = Risk Factor **9 High Risk**

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability : **1** x Severity **3** = Risk Factor **3 Low risk**

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Safe Work Practice Sheet Transmission Systems	Ref: SWPS MOT 010
	Date: 19/07/2014
	Revision No. 001
	Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Manual Handling
Lifting and carrying the transmission system and differential unit to and from storage, dismantling the gear box can result in lower back and or musculoskeletal injuries.

Falling equipment
Unsecure hold of test transmission unit when moving to and from storage, transmission unit not secured in the vice or placed at the workbench edge, assembling and disassembling the unit can fall and result in feet crushing injuries.

Mechanical
Crushing of finger tips when hand rotating the transmission cog wheels. Entanglement of long hair or loose clothing with rotating cog wheel.

Slips Trips and Falls
Poor housekeeping, personal belongings, transmission parts or tools lying on the ground can result in slipping and tripping causing fall impact injuries to the head and body parts.

Chemicals
Immersing parts for degreasing with detergent, removing degreased parts for washing, brush cleaning parts, topping up or emptying the degreaser can result in splashing of detergent causing temporary or permanent loss of sight, burns to the hands and fingers or other body parts by contamination of clothing.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

Carrying out demonstrations on stationary front and rear Transmission systems.

Controls

- Students are permitted to operate the machine, under correct instruction and the lecturer or technician's supervision.
- Always follow proper instructions as given and use workshop manuals for the correct working procedures as laid down.
- Only dismantle transmission system when proper instruction is given.
- Follow the manual handling training guidelines at all times.
- Seek assistance if required to move transmission systems to and from storage.
- Maintain a secure hold of transmission units when moving to and from storage.
- Ensure that units are fitted securely into vice when in use.
- Always place the transmission unit in from the work bench edge.
- Never place fingers in between the rotating cog wheels of the unit.
- Loose clothing must not be worn when carrying out this task.
- Long hair must be neatly tied back or a well fitted cap worn.
- Maintain good housekeeping and work area free from personal belongings at all times.

- Never leave tools or transmission parts lying on the ground, always use the work bench for storage.
- See SWPS MEC 006 for degreasing parts.
- Lecturer to get students to sign in on exercise and instruct them as to the necessary PPC and PPE required to completing the exercise in a safe logical and efficient manner. Also a copy of a safe practice worksheet for that exercise should be made available.
- Make sure that transmission is properly secured or located on workbench or attached to engine.
- Use proper hand protection, barrier cream and gloves as supplied.
- Use selected tools such as soft hammers and drifts as supplied.
- The use of hydraulic press and selected pullers should be used for fitting and removing gears and bearings wherever possible. See safe work sheet for hydraulic press.
- If in doubt check with the Lecturer in charge.
- Always tidy up when work is complete and leave transmission ready for next demonstration.
- Dispose or discard worn parts or transmission fluid in accordance with present legislation.
- Check with Lecturer in charge before leaving this exercise so that you may be signed off.

If in doubt seek advice from Lecturer or Technician. Normal safety precautions should be adhered to at all times

Checks & Inspections

- Ensure all safety notices are readable and displayed in correct locations
- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- Only trained staff and students allowed carrying out procedures on transmission systems
- New staff/students will be trained by technician and lecturing staff as required.
- Manual handling training.
- PPE training.
- Chemical handling training
- MSDS

Personal protective equipment required (last resort)

- Safety boots.
- Eye protection.
- Barrier creams/gloves.
- Overalls.

Initial Risk Rating (without any control measures)

Probability :	**2**	x	Severity	**3**	=	Risk Factor	**6 High Risk**

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	**1**	x	Severity	**3**	=	Risk Factor	**3 Low risk**

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Safe Work Practice Sheet Compressed Air	Ref: SWPS MOT 011 Date: 19/07/2014 Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Explosions
Over pressuring of compressor, not being maintained can result in explosions and ejected flying metal missiles causing death, lacerations, deep puncture wounds, major and minor cuts and bruises.

Electricity
Loose or damaged electrical cables, plugs can result in electrocution or first, second or third degree burns.

Slips, Trips & Falls
Leaking water, untidy workspace, poor housekeeping, can cause personnel to slip trip and fall breaking limbs, incur cuts and bruises and or concussion.

Noise
Poorly marinated compressors, missing guards can increase noise levels and cause acute or chronic permanent or temporary hearing loss and discomfort.

Fire
Overheating of compressors can result in fire when in contact with fuel sources and cause first second or third degree burns.

Whipping air lines
Damaged air lines, partly left open valves, poorly fitted connections can cause uncontrolled whipping lines striking individuals and causing loss of sight minor cuts and bruises.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

Using compressing air to open and close demonstration valves, operate machinery, and particular hand held tools.

Controls

- Students are not permitted to turn on Air Compressor or use airline hoses.
- Maintain clean, clutter free surrounding of the compressor at all times.
- Ensure all machine guards and housing are in place at all times of operation.
- Ensure all airline valves are closed prior to turning on compressor.
- Switch on the compressor when required. Follow the manufacturer's instructions.
- Ensure all hose attachments and connectors are free from defects (do not use if damaged) prior to use. Leaking airlines must only be repaired by a competent person.
- All non-machine hose airlines must be stored in storage lab. Lecturer and technicians are only permitted to use hose airlines. Return hose air lines to storage when no longer required.
- Only trained persons may use the compressor.
- All pipes, hoses, and fittings must have a rating of the maximum pressure of the compressor.

Compressed air pipelines should be identified (psi) as to maximum working pressure.

- Air supply shutoff valves should be located (as near as possible) at the point-of-operation.
- Air hoses should be kept free of grease and oil to reduce the possibility of deterioration.
- Hoses should not be strung across floors or aisles where they are liable to cause personnel to trip and fall. When possible, air supply hoses should be suspended overhead, or otherwise located to afford efficient access and protection against damage.
- Inspect and check the rim flanges, tyre bead and tube prior to assembly for defects, rust and tyre lever damage. Check any liners in the tyre that may be covering casing splits/damage or patches.
- Stand to one side and do not position your head or shoulders over the tyre during inflation.
- Inflate the tyre when it is contained within a restraining device, positioned behind a barrier, or bolted to the vehicle with the wheel nuts fully tightened.
- Compressed air must not be used to blow down clothing etc. and disciplinary action will be taken against anybody seen directing a live compressed air hose at any other person, as compressed air can enter the body via the skin causing serious illness/fatality.

Checks & Inspections

- Annual test and inspection of the compressor must be completed by the insurer. A record of the test should be kept by the School.
- Inspect hose and fittings prior to use.

Information, Instruction & Training

Personal protective equipment required (last resort)

- Safety Glasses
- Safety Boots
- Hearing protection

Initial Risk Rating (without any control measures)

Probability :	3	x	Severity	3	=	Risk Factor	9 High Risk

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	1	x	Severity	3	=	Risk Factor	3 Low Risk

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Safe Work Practice Sheet Strands Bench and Pillar Drilling Machine	Ref: SWPS MOT 012
	Date: 19/07/2014
	Revision No. 001
	Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Electricity
Incorrectly wired, damaged machine power cables can result in electrocution-death or first second and third degree burns.

Mechanical
Loose clothing, long hair can result in entanglement with rotating drill causing cuts and bruises to the head and arms. Contact with rotating drill piece can result in cuts to the hands and fingers. Entrapment of hand and arm with descending cutting tool and base table, vice or work piece. Crushing of fingers when adjusting the table height of the machine.

Slips, trips and falls
Poor housekeeping, personal belongings, waste material, trailing power cables on the ground can cause trips and slips resulting in fall impact head injuries.

Flying Debris / Objects
Waste drilled pieces of wooden or metal material, disintegrated cutting tool can create flying debris and result in loss of sight. Unsecured work piece or clamp/vice can result in flying object and cause impact injuries to the head and body parts.

Sharps
Contact with rotating drill piece can result in lacerations to the hands and fingers.

Fire
Flammable materials in contact waste drilled material can result in a fire causing first, second and third degree burns to the skin or respiratory illness from inhalation of smoke.

Manual Handling
Adjusting the machine table height to the required working position, clamping tool or carrying heavy loads for drilling can result in lower back and or musculoskeletal injuries.

Falling Machine
Drilling machine not securely fixed to the work bench, topples over and falls causing lower leg and feet crushing injuries.

Noise
Drilling pieces of metal can result the generation of noise causing temporary hearing discomfort or chronic hearing loss from long term use.

Person Exposed to Risk

☑Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

The machine is used cutting holes into metal, wood or other materials of varying sizes and shapes.

Controls

- Students are permitted to use the machine, under correct instruction and the lecturer or technician's supervision.
- Inspect the machine power cable and plug prior to use. Do not use if damaged in any way and report to the lecturer or technician for removal from use.
- Electrical repairs must be carried out be a competent person.
- Loose clothing must not be worn when operating the machine.
- Long hair must be neatly tied back or a cap worn.
- Hands or arms must never come between the descending drill piece and material for cutting.
- Follow manual handling training guidelines at all times.
- Ensure the correct speed is selected when drilling materials.
- Always use both hands to support and adjust the table height.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Ensure that the machine is plugged into the wall socket above the workbench.
- Ensure all machine guards are in place prior to use.
- Safety glasses must be worn at all times when operating the machine.
- Inspect the cutting tool prior to use, do not use if damaged, hand back damaged cutting tool and request a new one from the lecturer / technician.
- Ensure to hold the work material firmly or clamp the work piece securely when operating the machine.
- Lecturer and technicians are only permitted to carry out repairs on cutting tools.
- Never blow or use air to remove swarf, Use a brush to clean or remove unwanted drilled material. Brush away from the body.
- Flammable materials must not be stored at or near the machine.
- Ensure the machine working table is adjusted to the required working height prior to use.
- Ensure that the machine is fixed bolted to the workbench.
- Never leave the machine running unattended.
- Always wait for the machine to come to a complete stop before adjusting or removing drilled material or parts.
- Ensure the cutting tool is adequately tightened before using.
- Wear hearing protection if using the machine for long periods of time.
- Switch off the machine when it is no longer required for use.

Checks & Inspections

- Regular maintenance to be carried out according to manufacturer's recommendations and records kept by the School.
- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- Manual handling training
- PPE training

Personal protective equipment required (last resort)

- Safety Glasses
- Safety Boots

- Hearing protection

Initial Risk Rating (without any control measures)

Probability :	3	x	Severity	3	=	Risk Factor	9 High Risk

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	1	x	Severity	3	=	Risk Factor	3 Low Risk

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Safe Work Practice Sheet AG Bloc Electric Power Steering Simulator	Ref: SWPS MOT 013
	Date:19/07/2014
	Revision No. 001
	Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Manual Handling
Carrying the battery to and from storage for use on the simulator, pulling, dragging and pushing the simulator to and from storage can result acute or chronic lower back and or musculoskeletal injuries.

Mechanical
Severing of fingers when in contact with the steering column when it is turning.

Slips Trips and Falls
Poor housekeeping, personal belongings, leaking hydraulic fluid lying on the ground can result in slipping and tripping causing fall impact head injuries.

Explosions
Incorrect setting up of the battery can result in explosions and cause puncture wounds to the body and or loss of sight.

Chemicals
Leaking or damaged battery can result in acid burns to the hands and exposed body parts.

Falling Battery
Battery not securely mounted and fastened on to the test unit, unsecure hold of the battery when carrying to and from storage

Fire
Flammable sources in contact with ignition source (battery) can result in a fire and cause first, second and or third degree burns to the body.

Collapsing test Unit
Damage to the wheels or frame of the test unit can result in a collapsing machine and cause crushing injuries to the feet.

Person Exposed to Risk

☑Students ☑ Employees ☐ Public☐ Contractors ☐ Visitors

Work Description

The simulator is used to demonstrate how electric power steering functions.

Controls

- Students are permitted to use the simulator under the under correct instruction and the lecturer or technician's supervision.
- Follow the manual handling training guidelines at all times when operating the machine.
- Seek assistance if required when moving the machine.
- Never place fingers or hands on the steering column when it is in use.
- Maintain good housekeeping and work area from personal belongings at all times.
- Immediately clean up any leaking hydraulic fluid from the ground.

- Technicians or lecturers must connect the battery to the test unit.
- Ensure to follow the battery wire colour coding when connecting to the unit.
- Inspect the battery for damage or leaks prior to use.
- Do not use battery if damaged or defected in any way and remove from use for safe disposal.
- Wear safety glasses and exercise caution when topping the battery cells up with water.
- Ensure to maintain a secure hold of the battery when carrying to and from storage.
- Ensure that the battery is securely mounted and fastened onto the machine when setting up.
- Ensure to connect the positive to the positive first (red cable) and negative to negative (black cable) second (make sure no sparks are allowed to be generated as this may result in battery exploding causing serious damage).
- When disconnecting the battery, disconnect the black cable first.
- Flammable sources must not be stored at or near the test unit.
- Ensure that the wheels and frame of the test unit are free from damage or defects prior to use.

Checks & Inspections

- Regular maintenance to be carried out according to manufacturer's recommendations and records kept by the School.
- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- Manual handling training
- PPE training
- Chemical Training
- MSDS

Personal protective equipment required (last resort)

- Safety Glasses
- Safety Boots
- Safety Gloves
- Overalls

Initial Risk Rating (without any control measures)

Probability :	2	x	Severity	3	=	Risk Factor	6 High Risk

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	1	x	Severity	3	=	Risk Factor	3 Low Risk

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Safe Work Practice Sheet Maha Scissors Lift	Ref: SWPS MOT 014 Date: 19/07/2014 Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Electricity
Incorrectly wired or damaged electrical wires can result in electrocution-death or first, second and or third degree burns.

Pneumatics
Loose or damaged air lines can result in uncontrolled whipping airline resulting in permanent loss of sight.

Slips, Trips and Falls
Poor housekeeping, personal belongings, car parts or tools, lying on the ground, raised NCT platform can result in slipping or tripping causing fall impact head and body injuries.

Manual Handling
Lifting or dragging the extension support plates, removing or replacing car wheels can result in acute or chronic lower back and or musculoskeletal injuries.

Mechanical
Loss of fingers or breaking of bones if in between moving pneumatic scissors jack or wheels free scissors jack. Crushing and entrapment of hands, arms or fingers with descending pneumatic jacks or feet with car being driven onto or off the ramp.

Fumes
Driving vehicles on and off the ramps, running the engine on the ramp can result in the inhalation of carbon monoxide and cause death or acute or chronic respiratory illness and or disease.

Falls from Heights
Standing on the lift when it is moving or working on a raised car can result in falling & cause death. Unsecure footing under the vehicle can result in falling into the pit or walking close to the pit edge when working on a vehicle and cause fall head impact injuries.

Hot Surfaces
Touching the exhaust of a running engine can result in burns to the hands and fingers.

Falling Tools, Car Parts or Vehicle
Tools / car parts on the ramp edge can fall causing blunt force blows to the head or body parts. Car not mounted correctly on the ramp can roll back and fall resulting in impact and crushing injuries.

Traffic
Driving the vehicle indoors, on and off the ramp can result in striking a bystander causing blunt force injuries.

Ejected Hydraulics
Leaking hydraulic fluid under pressure can result in loss of sight or piercing of the skin and death or irritation to the skin.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

Carrying out demonstrations on Vehicle brakes, overhauling, steering and suspension system while on the lift (running and stationary).

Note: The normal safety precautions as listed when working under or around a vehicle must be adhered to for this exercise.

Controls

- Students are permitted to use the lift, under correct instruction and the lecturer or technician's supervision.
- Ensure the vehicle in use is securely driven and mounted onto the lift prior to operating the lift.
- Never exceed the manufacturer's weight lifting capacity as stated on the lift.
- Ensure that all safety sensors, micro switches and rails are in place prior to operating the machine.
- Inspect the electrical cables of the lift for any damage, defects or loose wiring prior to operating the lift.
- Never use the lift where electrical cables are damaged, loose of defected in anyway.
- All electrical repairs must be carried out by a competent person.
- Ensure that all air lines are securely fitted and connected to the lift.
- Leaking air lines must be repaired immediately.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Car parts or work tools must never be stored or left lying on the ground beside the lift, always use a nearby work bench.
- Observe the raised ground (NCT Test Equipment) when working with the lift.
- Follow the manual handling training guide lines at all times and seek assistance if required to lift or handle heavy or awkward loads.
- Never place hands or fingers in between the moving or descending pneumatic scissors and wheel jack.
- Never place feet on the lift when vehicles are being driven on to it.
- Always remain behind the yellow line around the lift when it is being loaded or unloaded with a vehicle.
- Always remain behind the yellow line when the lift is in use.
- Never lean against or hold on to vehicle on the lift when it is use.
- Ensure that the exhaust of the vehicle is connected to the in-house fume extract system as soon as possible.
- Ensure that there is good workshop ventilation prior to commencing work on the lift.
- Never stand on the lift when it is ascending or descending.
- Never stand on the lift to work on a vehicle.
- Always allow for the exhaust of a vehicle to cool sufficiently prior to handling.
- Never leave tools or car parts on the edge of the ramp, always use a nearby bench to place them.
- Exercise caution when working underneath a raised lift.
- Follow the rules of the road when driving the vehicle in the garage and on and off the lift.
- Sound the vehicle horn before reversing off the ramp.
- Always drive the vehicle up on lift until it clears rear wheel stops.
- Only use turntables when vehicle is on lift and when vehicle is properly secured.
- When lift is fully raised before starting work underneath it, ensure safety locks provided are in place.
- When using wheels free lifting system or lift jacks always place at recommended lifting points and support with axle stands where necessary.
- Always check head clearance between vehicle roof and workshop ceiling before raising lift.
- Take care when working underneath a vehicle on the lift, ensure that you have a working clearance that will prevent you accidentally bumping into protruding parts.
- Never touch parts such as exhaust systems without first ascertaining if these parts are cold.
- Before lowering lift, ensure that there are no Persons or obstructions underneath the vehicle.

- Always keep doors of the vehicle closed when lift is being raised or lowered.
- Inspect the machine for leaking hydraulic fluid prior to use.
- Ensure that the hydraulic hoses are free from damage or defects prior to using the machine. Do not use if damaged or defected in any way and remove from use for repair.
- Never touch hydraulic fluid with bare skin.
- Always wear gloves when in contact with or handling hydraulic fluid.
- Competent person/s must only carry out hydraulic repairs.
- Wash hands thoroughly when work is complete

If in doubt seek advice from Lecturer or Technician. Normal safety precautions should be adhered to at all times

Checks & Inspections

- Regular inspections and maintenance to be carried out according to manufacturers recommendations and records kept by the School
- Ensure all guards are in place and checked at regular intervals
- Ensure all interlocks, safety sensors and automatic shutdown sensors are checked each term
- Ensure all safety notices are readable and displayed in correct locations
- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- Only trained staff and students allowed carrying out procedures on lifts. New staff/students will be trained by technician and lecturing staff as required.
- PPE training
- Chemical handling training
- Manual handling training
- MSDS

Personal protective equipment required (last resort)

- Safety boots,
- Eye protection,
- Barrier creams/gloves,
- Overalls.

Initial Risk Rating (without any control measures)

Probability :	3	x	Severity	3	=	Risk Factor	9 High Risk

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	1	x	Severity	3	=	Risk Factor	3 Low risk

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Safe Work Practice Sheet Engine Block & Cylinder Heads	Ref: SWPS MOT 015 Date: 19/07/2014 Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Manual Handling
Lifting and carrying the engine, cylinder head unit to and from storage, dismantling the engine can result in lower back and or musculoskeletal injuries.

Falling equipment
Unsecure hold of engine part or cylinder head when moving to and from storage, unit not secured in the vice or placed at the workbench edge, assembling and disassembling the unit can fall and result in feet crushing injuries.

Mechanical
Crushing of finger tips when rotating parts by hand. Entanglement of long hair or loose clothing with moving engine parts.

Slips Trips and Falls
Poor housekeeping, personal belongings, engine parts or tools lying on the ground can result in slipping and tripping causing fall impact injuries to the head and body parts.

Chemicals
Immersing parts for degreasing with detergent, removing degreased parts for washing, brush cleaning parts, topping up or emptying the degreaser can result in splashing of detergent causing temporary or permanent loss of sight, burns to the hands and fingers or other body parts by contamination of clothing.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

The test engines blocks and cylinder heads are used for practical demonstration purposes.

Controls

- Students are permitted to use the machine, under correct instruction and the lecturer or technician's supervision.
- Always follow proper instructions as given and use workshop manuals for the correct working procedures as laid down.
- Only dismantle engine blocks or cylinder heads when proper instruction is given.
- Follow the manual handling training guidelines at all times.
- Seek assistance if required when moving engines or parts to and from storage.
- Maintain a secure hold of engine and parts when moving to and from storage.
- Ensure that units are fitted securely into vice when in use.
- Always place the engine unit and parts in from the work bench edge.
- Never place fingers in between the rotating parts of the unit.
- Loose clothing must not be worn when carrying out this task.
- Long hair must be neatly tied back or a well fitted cap worn.
- Maintain good housekeeping and work area free from personal belongings at all times.

- Never leave tools or transmission parts lying on the ground, always use the work bench for storage.
- See SWPS MEC 006 for degreasing parts.
- Lecturer to get students to sign in on exercise and instruct them as to the necessary PPC and PPE required to completing the exercise in a safe logical and efficient manner. Also a copy of a safe practice worksheet for that exercise should be made available.
- Use proper hand protection, barrier cream and gloves as supplied.
- Use selected tools such as soft hammers and drifts as supplied.
- If in doubt check with the Lecturer in charge.
- Always tidy up when work is complete and leave transmission ready for next demonstration.
- Dispose or discard worn parts or transmission fluid in accordance with present legislation.
- Check with Lecturer in charge before leaving this exercise so that you may be signed off.

Checks & Inspections

- Ensure all safety notices are readable and displayed in correct locations
- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- PPE training
- Chemical handling training
- Manual handling training
- MSDS

Personal protective equipment required (last resort)

- Safety boots,
- Eye protection,
- Barrier creams/gloves,
- Overalls.

Initial Risk Rating (without any control measures)

Probability :	**2**	x	Severity	**2**	=	Risk Factor	**4 Medium Risk**

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	**1**	x	Severity	**2**	=	Risk Factor	**3 Low risk**

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Safe Work Practice Sheet RAV & Wheel force 1900 Wheel Alignment	Ref: SWPS MOT 016 Date: 19/07/2014 Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Electricity
Incorrectly wired, damaged wiring, poorly maintained wiring or plugs on the Rav machine can result in electrocution-death or first second and or third degree burns.

Manual Handling
Attaching and disconnecting the alignment clamps to and from the vehicle wheels, setting up and dismantling the turn and sliding alignment tables, pulling and dragging the wheel force trolley to and from storage can result in lower back and or musculoskeletal injuries.

Slips Trips and Falls
Poor housekeeping, personal belongings, test equipment lying on the ground can result in tripping and slipping causing fall impact head and body injuries.

Fumes
Driving the test vehicle on and off the lift can result in the inhalation of carbon monoxide resulting in death or acute or chronic respiratory illness.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

The test equipment is used to test the front and rear wheel alignment of vehicles.

Controls

- Students are permitted to use the equipment, under correct instruction and the lecturer or technician's supervision.
- Inspect the electric cable and plugs on the test unit prior to use.
- Do not use the test unit if cable or plug damaged or defected in any way & remove from use for repair.
- Competent persons must carry out electrical repairs.
- Follow the manual handling training guidelines at all times when setting up and dismantling the test unit.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Never leave test equipment lying on the ground when in use, use a near by workbench.
- Ensure that the test vehicle is connected to the in-house exhaust extract system as soon as possible.
- Ensure that there is adequate ventilation at all times.
- See the Four Post Lift SWPS MOT 005 when carrying out this operation.

Checks & Inspections

- Regular maintenance to be carried out on the equipment as specified by the manufacturer and records maintained by the school.
- Ensure all safety notices are readable and displayed in correct locations
- Lecturers and technicians to monitor compliance with control measures

- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- PPE training
- Chemical handling training
- Manual handling training
- MSDS

Personal protective equipment required (last resort)

- Safety boots,
- Eye protection,
- Barrier creams/gloves,
- Overalls.

Initial Risk Rating (without any control measures)

Probability : **3** x Severity **3** = Risk Factor **9 High Risk**

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability : **1** x Severity **3** = Risk Factor **3 Low risk**

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Safe Work Practice Sheet 60 Tonne Press	Ref: SWPS MOT 017 Date: 19/07/2014 Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Manual Handling
Moving the pressing blocks into position, lifting, carrying or holding metal materials for pressing can result in lower back and or musculoskeletal injuries.

Mechanical
Entanglement of long hair or loose clothing with ratchet and pulley system resulting in minor neck injuries and bruising. Crushing of finger tips when caught in between the rotating cogs of the ratchet system. Crushing, entrapment or pinching of hands or fingers with the descending ram head and material or base block.

Ejected Hydraulics
Leaking hydraulic fluid under pressure can result in loss of sight or piercing of the skin and death or irritation to the skin.

Chemicals
Topping the hydraulic reservoir up with hydraulic fluid, cleaning up hydraulic leaks or spills, contaminated clothing can result in contaminating the hands and fingers with fluid and cause acute or chronic dermatitis.

Slips Trips and Falls
Poor housekeeping, personal belongings, hydraulic fluid or metal components lying on the ground can cause slipping or tripping that results in falls and major or minor head and body impact injuries.

Flying Missiles
Metal materials being pressed under pressure can shatter or break resulting in a flying metal missiles and cause loss of sight and or puncture wounds to the body.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

The machine is used for removing bearings from metal parts or shaping metal materials.

Controls

- Students are permitted to use the press, under correct instruction and the lecturer or technician's supervision.
- Follow the manual handling training guidelines at all time when operating the machine.
- Seek assistance if required when handling awkward loads for pressing.
- Loose clothing must never be worn when operating the machine.
- Long hair must be neatly tied back or a well fitted cap worn.
- Never touch or place hands or fingers in between the pulley and ratchet cog wheels when rotating.
- Use both hands when operating the pulley handle.
- Never place hands or fingers in between the descending ram head of the machine.
- Inspect the machine for leaking hydraulic fluid prior to use.

- Ensure that the hydraulic hoses are free from damage or defects prior to using the machine. Do not use if damaged or defected in any way and remove from use for repair.
- Never touch hydraulic fluid with bare skin.
- Always wear gloves when in contact with hydraulic fluid.
- Carefully pour hydraulic fluid when topping up the machine reservoir.
- Remove clothing contaminated with hydraulic fluid immediately.
- Always wash your hands thoroughly after handling hydraulic fluid.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Never store metal components on the ground around the machine, always use a nearby workbench.
- Immediately clean up any leaking hydraulic fluid from the ground or machine and carefully dispose of.
- Always wear safety glasses when operating the press.
- Ensure that the metal components being pressed are securely mounted on to the base of the machine.
- Group gatherings or individual onlookers must remain at a safe distance when the machine is in operation. Safe distance to be determined by lecturer or technician.
- Always operate the machine standing in front of the hydraulic controls.
- Seek assistance if required to hold materials in place.
- Never leave the machine unattended when it is use.

Checks & Inspections

- Regular maintenance to be carried out on the equipment as specified by the manufacturer and records maintained by the Institute.
- Ensure all safety notices are readable and displayed in correct locations
- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- PPE training
- Chemical handling training
- Manual handling training
- MSDS

Personal protective equipment required (last resort)

- Safety boots.
- Safety Glasses.
- Overalls.
- Safety gloves.

Initial Risk Rating (without any control measures)

Probability : **2** x Severity **3** = Risk Factor **6 Medium Risk**

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk

Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	1	x	Severity	3	=	Risk Factor	3 Low risk

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Safe Work Practice Sheet Christensen 10 Tonne Press	Ref: SWPS MOT 018 Date: 19/07/2014 Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Manual Handling
Moving the block bed into the correct height, lifting, carrying or holding metal materials for pressing can result in lower back and or musculoskeletal injuries.

Mechanical
Entrapment of long hair or loose clothing with ram head resulting in minor neck injuries and bruising. Crushing, entrapment or pinching of hands or fingers with the descending ram head and material or base block.

Ejected Hydraulics
Leaking hydraulic fluid under pressure can result in loss of sight or piercing of the skin and death or irritation to the skin.

Chemicals
Topping the hydraulic reservoir up with hydraulic fluid, cleaning up hydraulic leaks or spills, contaminated clothing can result in contaminating the hands and fingers with fluid and cause acute or chronic dermatitis.

Slips Trips and Falls
Poor housekeeping, personal belongings, hydraulic fluid or metal components lying on the ground can cause slipping or tripping that results in falls and major or minor head and body impact injuries.

Flying Missiles
Metal materials being pressed under pressure can shatter or break resulting in a flying metal missile and cause loss of sight and or puncture wounds to the body.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

The machine is used for removing bearings from metal parts or shaping metal materials.

Controls

- Students are permitted to use the press, under correct instruction and the lecturer or technician's supervision.
- Follow the manual handling training guideline at all times when operating the machine.
- Seek assistance if required when handling awkward loads for pressing.
- Always seek assistance when setting the block bed up at the correct height and ensure that the roller pins are secured into holding position.
- Loose clothing must never be worn when operating the machine.
- Long hair must be neatly tied back or a well fitted cap worn.
- Never place hands or fingers in between the descending ram head of the machine.
- Inspect the machine for leaking hydraulic fluid prior to use.
- Ensure that the hydraulic hoses are free from damage or defects prior to using the machine. Do not use if damaged or defected in any way and remove from use for repair.
- Never touch hydraulic fluid with bare skin.
- Always wear gloves when in contact with hydraulic fluid.
- Carefully pour hydraulic fluid when topping up the machine reservoir.

- Remove clothing contaminated with hydraulic fluid immediately.
- Always wash your hands thoroughly after handling hydraulic fluid.
- Competent person/s must only carry out hydraulic repairs.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Never store metal components on the ground around the machine, always use a nearby workbench.
- Immediately clean up any leaking hydraulic fluid from the ground or machine and carefully dispose of.
- Always wear safety glasses when operating the press.
- Ensure that the metal components being pressed are securely mounted on to the base of the machine.
- Group gatherings or individual onlookers must remain at a safe distance when the machine is in operation. Safe distance to be determined by lecturer or technician.
- Always operate the machine standing in front of the hydraulic controls.
- Seek assistance if required to hold materials in place.
- Never leave the machine unattended when it is use.

Checks & Inspections

- Regular maintenance to be carried out on the equipment as specified by the manufacturer and records maintained by the Institute.
- Ensure all safety notices are readable and displayed in correct locations
- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- PPE training
- Chemical handling training
- Manual handling training
- MSDS

Personal protective equipment required (last resort)

- Safety boots.
- Safety Glasses.
- Overalls.
- Safety gloves.

Initial Risk Rating (without any control measures)

Probability : **2** x Severity **3** = Risk Factor **6 High Risk**

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability : **1** x Severity **3** = Risk Factor **3 Low risk**

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Safe Work Practice Sheet Peugeot, Starlet and Clio Demonstration Engines	Ref: SWPS MOT 019 Date: 19/07/2014 Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Manual Handling
Pulling and pushing the engines to and from storage, topping the fuel tanks up with fuel, removing and replacing the engine battery can result in acute or chronic lower back and or musculoskeletal injuries

Hot Surfaces / Liquid
Contact with the engine exhaust, radiator and hoses, hot water, steam, engine block can result in first second or third degree burns to the hands and fingers.

Fumes
Running a test engine can result in inhalation of carbon monoxide and cause death or acute and or chronic respiratory illness.

Chemicals
Topping up the fuel tanks, leaking battery acid, can result in loss of sight from splashing or petrol or battery acid or contamination of clothing and burns to the skin, hands and fingers.

Mechanical
Entanglement of long hair loose clothing or jewellery with rotating radiator fan, fan belt or cooling fan can result in asphyxiation. Contact with rotating fan belt or drive belt can result in the severing of fingers.

Slips Trips and Falls
Poor housekeeping, personal belongings, spilled, splashed or leaking liquid chemicals (petrol, diesel, coolant oil, battery Acid) extract exhaust hose system can result in slipping & tripping causing fall impact head & body injuries.

Fire
Topping the fuel tank up, disconnecting the fuel line can result in aerosol fuel spray, fuel stored in the workshop can result in fire when in contact with a naked flame or ignition source, causing death or burns to the body.

Collapsing Test Equipment
Damaged legs or wheels on the frames of the engines can result in the apparatus collapsing causing lower leg and feet impact and crushing injuries.

Explosion
Battery is incorrectly connected and explodes or generates sparks that come into contact with fuel sources resulting in a fire and first, second and or third degree burns or puncture wounds to the body.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

The engines are mounted onto steel transportable frames and are working petrol (Starlet, Clio) and diesel (Peugeot) engines used to carry out various demonstrations.

Controls

- Students are permitted to use the press, under correct instruction and the lecturer or technician's supervision.
- Ensure to connect the positive to the positive first (red cable) and negative to negative (black cable) second (make sure no sparks are allowed to be generated as this may result in battery exploding causing serious damage).
- When disconnecting the battery, disconnect the black cable first.
- Follow the manual handling training guidelines at all times. Seek assistance if required when moving test engines to and from storage.
- Toping up with fuel must be done with the use of a 10 litre Gerri can.
- Never touch the exhaust, radiator or engine parts when the test engine is running and allow for sufficient time to cool before handling.
- Never remove the radiator cap when the engine is running.
- Never touch hot water or steam from the radiator or hoses.
- Ensure that all guards are in place prior to commencing work.
- Do not use the machine if any guards are missing.
- Ensure that the exhaust of the test engine/s is connected to the workshop extract system prior to use.
- Turn on the extract system prior to starting up the test engine/s.
- Wear safety glasses and gloves when topping the fuel tank up with fuel or battery with water.
- Avoid the splashing of chemicals when pouring from holding containers. Where possible use a funnel.
- Use an attachable flexible spout when pouring fuel into the fuel tank.
- Inspect the battery for damage and leaks prior to use, do not use if damaged in any way (remove for safe disposal) and use a replacement.
- Clothing contaminated by fuel, oil or battery acid must be removed & replaced immediately.
- Loose clothing or jewellery must not be worn when operating the machine.
- Long hair must be neatly tied back or a well fitted cap worn.
- Never touch the moving or rotating parts of the engine.
- Never place hands and fingers in-between moving or rotating parts (fan belt, radiator fan) of the engine.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Immediately clean-up & safely dispose of any spilled, splashed or leaking liquid chemicals (Petrol, diesel coolant oil, Battery Acid) from the ground.
- Avoid trailing the exhaust extract hose along the ground where possible. Always walk around a trailing hose and never step over it.
- Never disconnect a fuel line when the engine is running.
- Avoid working on engine if the fuel storage and supply and return lines are not fully secured.
- If repairs are being carried out on the fuel system make sure system is depressurized in accordance with manufacturer's instructions.
- Never expose the hands, face or any other part of the body to injector spray, the fuel can penetrate the skin with potentially fatal results.
- Petrol fuel is a highly flammable substance when atomised and should be treated with great care.
- Ensure that the correct fire extinguishers are available and close to hand when operating the engines.
- Naked flames or ignition sources must never be used at or near the test engines/s.
- Fuel for the engines must not be stored in the workshop, use the external designated storage area.
- Never remove pressurized radiator cap from cooling system while the system is pressurized.
- Inspect the legs and wheels of the apparatus of the engines for damage or defects prior to use, do not use if damaged or defected in any way and remove from use for repair.
- Follow the letter and colour coding on the battery when connecting to the engine.
- Never leave the key in the ignition switch when working on the vehicle engine.

- Ensure the engine is switched off before moving away from it.
- Always wash your hands when work with the test engines is complete.

Checks & Inspections

- Regular maintenance to be carried out according to manufacturers recommendations and records kept by the School
- Ensure all guards are in place and checked at regular intervals.
- Ensure all safety notices are readable and displayed in correct locations
- Ensure correct fire extinguishers are available.
- Lecturers and technicians must monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- Only trained staff and students allowed carrying out procedures on engines. New staff/students will be trained by technician and lecturing staff as required.
- MSDS
- Manual Handling Training.
- Chemical Handling Training.
- PPE Training.

Personal protective equipment required (last resort)

- Safety boots,
- Safety Glasses,
- Barrier creams/ safety gloves,
- Hearing protection,
- Overalls,

Initial Risk Rating (without any control measures)

Probability :	**3**	x	Severity	**3**	=	Risk Factor	**9 High Risk**

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	**1**	x	Severity	**3**	=	Risk Factor	**3 Low risk**

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Safe Work Practice Sheet Diesel Injector Tester and Aspirator	Ref: SWPS MOT 020 Date: 19/07/2014 Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Chemicals
Topping up the machine with diesel, maintaining or operating the machine can result hands and fingers in contact with diesel causing irritation to the hands and fingers or other body parts with contaminated clothing.

Ejected Diesel
Operating the machine will result in ejected diesel under pressure and could cause death if it penetrates the skin, loss of sight, respiratory illness if inhaled

Fumes
Inhalation of diesel fumes can result irritation to the respiratory system coughing and wheezing.

Fire
Ignition or heat sources in contact with diesel liquid or spray, diesel stored beside the machine can result in a fire and cause first, second and or third degree burns to the body.

Falling Machine
Machine not bolted to the table can fall causing lower leg and feet impact injuries.

Mechanical
Operating the hand pressure pump of the machine can result in minor crushing of fingers.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

The machine is used for checking various diesel fuel injected spray patterns under pressure.

Controls

- Students are permitted to use the machine, under correct instruction and the lecturer or technicians supervision.
- Wear gloves when topping up the machine with diesel or operating or maintaining the machine.
- Use a rubber bulb syringe for safe removal of diesel from sump/trauf.
- Clothing contaminated with diesel must be removed and replaced immediately.
- Wear safety glasses when operating or maintaining the machine.
- Ejected diesel spray must never be touched.
- Ensure the machine Perspex guard is in pace at all times when operating the machine.
- Ensure the diesel ejector is securely clamped prior to operating the machine.
- Ensure that all pipe work is securely connected prior to operating the machine.
- Follow the manufacturer's standard operating procedures at all times when operating the machine.
- Ensure that there is adequate ventilation when operating the machine.
- Turn on the garage extract system prior to operating the machine.
- Ignition or heat sources must never be used at or near the machine.
- Ensure that fire extinguishers are close to hand when operating the machine.

- Diesel must be stored in the designated outside storage area.
- Ensure that the machine is fixed bolted to the workbench table at all times of use.
- Always use the pressure pump of machine by its handle.
- Never place fingers in between the pressure pump handle base and machine.

Checks & Inspections

- Regular maintenance to be carried out on the equipment as specified by the manufacturer and records maintained by the Institute.
- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- PPE training
- Chemical handling training
- MSDS

Personal protective equipment required (last resort)

- Safety boots.
- Safety Glasses.
- Overalls.
- Safety gloves.

Initial Risk Rating (without any control measures)

Probability :	3	x	Severity	3	=	Risk Factor	9 High Risk

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	1	x	Severity	3	=	Risk Factor	3 Low risk

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Safe Work Practice Sheet Golf, Honda and Isuzu Test Engines (Non Live)	Ref: SWPS MOT 021 Date: 19/07/2014 Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Manual Handling
Moving the engines to and from storage can result acute or chronic lower back and or musculoskeletal injuries.

Mechanical
Crushing of fingers in between timing belt and or gear wheels when being rotated by hand. Entanglement of long hair or loose clothing with manual rotation of gear wheels resulting in minor bruising.

Slips Trips and Falls
Poor housekeeping, personal belongings, tools or engine parts lying in the ground can result in slipping and tripping causing fall head and body impact injuries.

Falling Engine
The wheels or the frame of the unit holding the engine in place fail or collapse resulting lower leg and feet crushing injuries.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

The engines are no longer operational by fuel or battery. They are permanently mounted on to steel frames for the purpose of demonstrating the removal of and fitting a timing belt, valve tuning and checking for piston engine ware and tare etc.

Controls

- Students are permitted to use the machine under the lecturer or technicians supervision.
- Follow the manual handling training guidelines at all times when moving the test engines.
- Never place fingers in between the timing belt and gear wheels or other moving parts when they are being rotated by hand.
- Loose clothing or jewellery must not be worn when carrying out this exercise.
- Long hair must be neatly tied back or a well fitted cap worn.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Always use a nearby work bench to store tools or engine parts in use.
- Ensure that the wheels of the trolley are in good working order prior to using the unit.
- Ensure that the frame of the trolley is free from damage or defects prior to use.
- Do not use the trolley if the wheels or frames structure is damaged or defected in any way and remove from use for repair by a competent person.

Checks & Inspections

- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- PPE training
- Chemical handling training
- MSDS

Personal protective equipment required (last resort)

- Safety boots.
- Safety Glasses.
- Overalls.

Initial Risk Rating (without any control measures)

Probability :	**2**	x	Severity	**2**	=	Risk Factor	**4 Medium Risk**

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	**1**	x	Severity	**3**	=	Risk Factor	**3 Low risk**

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Safe Work Practice Sheet 1966 Ford Anglia Engine	Ref: SWPS MOT 022 Date: 19/07/2014 Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Electricity
Poorly connected, loose or damaged electrical cables or plugs can result in electrocution-death or first, second and or third degree burns.

Mechanical
Entanglement of loose clothing, jewellery or long hair with rotating engine parts can result in asphyxiation. Pinching and crushing of fingers with rotating gear cogs. Impact injuries with ascending piston heads. Severing of fingers when in contact with rotating fan belt. Loss of fingers when in contact with the rotating chain.

Manual Handling
Moving the machine to and from storage can result in acute or chronic lower back and or musculoskeletal injuries.

Slips Trips and Falls
Poor housekeeping, personal belongings or trailing power cables can result in slipping and tripping causing fall impact head and body injuries.

Falling Machine
Machine is not bolted securely to the unit holding it in place, wheels fail on the trolley unit and engine falls over resulting in lower leg and feet crushing injuries.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

The Machine is used to demonstrate the layout of a working engine and gear box through the means of electricity.

Controls

- Students are not permitted to use this machine.
- Students are permitted to observe the mechanical workings of the machine under the supervision of the lecturer or technician.
- Ensure that all machine guards are in place prior to operating the machine.
- Inspect the machine electrical cable and plug for damage or defects prior to use.
- Do not use the machine if the cable or plugs are damaged in any way and remove from use for repair by a competent person.
- Loose clothing or long hair must not be worn when operating this machine.
- Long hair must be neatly tied back or a well fitted cap worn.
- Never touch the rotating cog wheels of the machine with hands or fingers.
- Never place hands or fingers in between piston or valve movement.
- Never touch the fan belt when it is rotating.
- Follow the manual handling training guidelines when moving the machine to and from storage.

- Maintain good housekeeping and work area free from personal belongings at all times.
- Avoid the trailing of power cables where possible, cover any trailing power cables with rubber mats.
- Ensure that the wheels of the trolley are in good working order prior to moving the machine.
- Ensure that the engine is secure and fixed bolted trolley.

Checks & Inspections

- Regular maintenance to be carried out on the equipment as specified by the manufacturer and records maintained by the Institute.
- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

Personal protective equipment required (last resort)

- Safety boots.
- Overalls.

Initial Risk Rating (without any control measures)

Probability :	3	x	Severity	3	=	Risk Factor	9 High Risk

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	1	x	Severity	3	=	Risk Factor	3 Low risk

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Safe Work Practice Sheet ABS Display Boards	Ref: SWPS MOT 023 Date: 19/07/2014 Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Electricity
Poorly connected, loose or damaged electrical cables or plugs can result in electrocution-death or first, second and or third degree burns.

Mechanical
Entanglement of long hair with rotating wheel speed gear on the display unit, loss of tip of fingers with rotating wheel speed gear.

Explosions
Incorrect setting up of the battery can result in explosions and cause puncture wounds to the face and other body parts.

Chemicals
Leaking or damaged battery, topping up with water can result in contact with battery acid that causes severe burns to the skin. Contact with leaking brake fluid or when topping up with brake fluid can result in irritation to the skin.

Manual Handling
Lifting and carrying the battery to and from the machine, moving the display boards to and from storage can result in acute lower back and or musculoskeletal injuries.

Ejected Brake Fluid
Damaged or leaking brake fluid pipe work or loose brake pipe connections can result in ejected brake fluid under pressure and cause loss of sight and or irritation to the skin.

Falling Display Board or Battery
The wheels or legs of the display board unit fail due to damage or defects causing the machine to fall over and result in lower leg and feet impact injuries. Unsecure hold of or damaged battery handle can result in a falling battery and crush injuries to the feet.

Slips Trips and Falls
Poor housekeeping and personal belongings can result in slipping and tripping causing fall impact head and body injuries.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

The display boards are used for the purpose of training in diagnostic trouble shooting on brake systems.

Controls

- Students are permitted to use the equipment, under correct instruction and the lecturer or technician's supervision.
- Ensure to connect the positive to the positive first (red cable) and negative to negative (black cable)

second (make sure no sparks are allowed to be generated as this may result in battery exploding causing serious damage).
- When disconnecting the battery, disconnect the black cable first.
- Ensure that all machine guards are in place prior to operating the machine.
- Inspect the machine electrical cable and plug for damage or defects prior to use.
- Do not use the machine if the cable or plugs are damaged in any way and remove from use for repair by a competent person.
- Loose clothing or long hair must not be worn when operating this machine.
- Long hair must be neatly tied back or a well fitted cap worn.
- Never touch the rotating wheel speed gears of the machine with fingers.
- Ensure that sensors are in place when checking wheel speed gears.
- Inspect the battery for damage or defects prior to use, do not use if damaged or defected in any way and remove form use for safe disposal.
- Remove any clothing contaminated with battery acid or brake fluid immediately.
- Wear gloves when topping up a battery with water or the unit with brake fluid.
- Follow the manual handling training guidelines when moving the machine or battery to and from storage.
- Ensure that the battery is mounted flat and secure on to the battery platform of the display unit.
- Ensure that the handle of the battery is free from damage or defects prior to carrying it.
- Maintain a secure hold of the battery when moving from storage.
- Inspect all brake pipe work and fittings for damage or leaks prior to using the machine.
- Wear safety gloves if required to handle leaking brake fluid or topping up with brake fluid.
- Do not use the machine if brake fluid pipe work is damaged or leaking in any way and remove from use for repair by a competent person.
- Wear safety glasses when operating or observing the operation of the machine.
- Inspect the wheel and legs of the machine for damage or defects prior to use, do not use if damaged or defected in any way and remove from use for repair by a competent person.
- Maintain good housekeeping and work area free from personal belongings at all times.

Checks & Inspections

- Regular maintenance to be carried out on the equipment as specified by the manufacturer and records maintained by the Institute.
- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- MSDS
- Manual Handling Training
- PPE Training
- Chemical Handling Training

Personal protective equipment required (last resort)

- Safety boots.
- Overalls.
- Safety Gloves
- Safety Glasses

Initial Risk Rating (without any control measures)

Probability :	3	x	Severity	3	=	Risk Factor	9 High Risk

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	1	x	Severity	3	=	Risk Factor	3 Low risk

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Safe Work Practice Sheet AG Bloc Ford Mondeo Engine Simulator Board	Ref: SWPS MOT 024 Date: 19/07/2014 Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Manual Handling
Moving the display unit or battery to and from storage can result in acute or chronic lower back and or musculoskeletal injuries.

Mechanical
Entanglement of loose clothing or long hair with rotating wheels on the display board can result in asphyxiation or major bruising of the neck.

Falling battery
Unsecure hold of battery when placing on to the unit, battery not mounted flat and secure on the display unit can result in a falling battery and crush injuries to the feet.

Falling Display Unit
The wheels or the legs of the display unit fail due to damage or defects resulting in the display unit falling over and causing lower leg and feet impact injuries.

Chemicals
A leaking or damaged battery can result in major acid burns to the hands and fingers or other body parts from contaminated clothing.

Slips Trips and Falls
Poor housekeeping, personal belongings or battery acid lying on the ground can result in slipping and tripping causing falls and head and body impact injuries.

Explosions
Incorrect setting up of the battery can result in an explosion causing loss of sight or puncture wounds to the face and body parts.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

The display board is used for the purpose of putting in practical engine faults for students to find through the use of diagnostics.

Controls

- Students are permitted to use the equipment, under correct instruction and the lecturer or technician's supervision.
- Ensure to connect the positive to the positive first (red cable) and negative to negative (black cable) second (make sure no sparks are allowed to be generated as this may result in battery exploding causing serious damage).
- When disconnecting the battery, disconnect the black cable first.
- Follow the manual handling training guide lines at all times when moving the display board or battery.
- Ensure that all machine guards are in place prior to operating the machine.

- Loose clothing or jewellery must not be worn when using the machine.
- Long hair must be neatly tied back or a well fitted cap worn.
- Ensure that the battery is mounted flat and secure on to the battery platform of the display unit.
- Ensure that the handle of the battery is free from damage or defects prior to carrying it.
- Maintain a secure hold of the battery when moving from storage.
- Inspect the wheels and legs of the display unit for damage and defects prior to use, do not use if damaged or defected in any way and remove from use for repair by a competent person.
- Inspect the battery for damage or leaks prior to use, do not use if damaged or leaking in any way and remove from use for safe disposal of.
- Wear safety gloves and glasses if required to handle a damaged or leaking battery.
- Remove any clotting contaminated by battery acid immediately.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Clean up and battery acid spills or leaks immediately and safely dispose of waste materials.

Checks & Inspections

- Regular maintenance to be carried out on the equipment as specified by the manufacturer and records maintained by the Institute.
- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- MSDS
- Manual Handling Training
- PPE Training
- Chemical Handling Training

Personal protective equipment required (last resort)

- Safety boots.
- Overalls.
- Safety Gloves
- Safety Glasses

Initial Risk Rating (without any control measures)

Probability :	**3**	x	Severity	**3**	=	Risk Factor	**9 High Risk**

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	**1**	x	Severity	**3**	=	Risk Factor	**3 Low risk**

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Safe Work Practice Sheet AG Bloc Window Winders Simulator Board	Ref: SWPS MOT 025 Date: 19/07/2014 Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Manual Handling
Moving the display unit or battery to and from storage can result in acute or chronic lower back and or musculoskeletal injuries.

Mechanical
Entanglement of loose clothing or long hair with rotating wheels on the rotating winders of windows unit resulting in minor neck injury. Nip point with the moving cog system and teeth of the front windows resulting in cuts to the tips of fingers.

Falling battery
Unsecure hold of battery when placing on to the unit, battery not mounted flat and secure on the display unit can result in a falling battery and impact injuries to the feet.

Falling Display Unit
The wheels or the legs of the display unit fail due to damage or defects resulting in the display unit falling over and causing lower leg and feet impact injuries.

Chemicals
A leaking or damaged battery can result in major acid burns to the hands and fingers or other body parts from contaminated clothing.

Slips Trips and Falls
Poor housekeeping, personal belongings or battery acid lying on the ground can result in slipping and tripping causing falls and head and body impact injuries.

Explosions
Incorrect setting up of the battery can result in an explosion causing loss of sight or puncture wounds to the face and other body parts.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

The display board is used for the purpose of demonstrating the function of the electric window winders in cars and finding faults through diagnostics.

Controls

- Students are permitted to use the equipment, under correct instruction and the lecturer or technician's supervision.
- Ensure to connect the positive to the positive first (red cable) and negative to negative (black cable) second (make sure no sparks are allowed to be generated as this may result in battery exploding causing serious damage).
- When disconnecting the battery, disconnect the black cable first.
- Follow the manual handling training guide lines at all times when moving the display board or battery.
- Ensure that the machine guard mesh on all four windows is in place prior to operating the machine.

- Loose clothing or jewellery must not be worn when using the machine.
- Long hair must be neatly tied back or a well fitted cap worn.
- Ensure that the battery is mounted flat and secure on to the battery platform of the display unit.
- Ensure that the handle of the battery is free from damage or defects prior to carrying it.
- Maintain a secure hold of the battery when moving to and from storage.
- Inspect the wheels and legs of the display unit for damage and defects prior to use, do not use if damaged or defected in any way and remove from use for repair by a competent person.
- Inspect the battery for damage or leaks prior to use, do not use if damaged or leaking in any way and remove from use for safe disposal of.
- Wear safety gloves and glasses if required to handle a damaged or leaking battery.
- Remove any clotting contaminated by battery acid immediately.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Clean up and battery acid spills or leaks immediately and safely dispose of waste materials.

Checks & Inspections

- Regular maintenance to be carried out on the equipment as specified by the manufacturer and records maintained by the Institute.
- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- MSDS
- Manual Handling Training
- PPE Training
- Chemical Handling Training

Personal protective equipment required (last resort)

- Safety boots.
- Overalls.
- Safety Gloves
- Safety Glasses

Initial Risk Rating (without any control measures)

Probability :	2	x	Severity	2	=	Risk Factor	4 Medium Risk

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	1	x	Severity	2	=	Risk Factor	2 Low risk

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Safe Work Practice Sheet AG Bloc Central Locking Simulator Board	Ref: SWPS MOT 026 Date: 19/07/2014 Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Manual Handling
Moving the display unit or battery to and from storage can result in acute or chronic lower back and or musculoskeletal injuries.

Falling battery
Unsecure hold of battery when placing on to the unit, battery not mounted flat and secure on the display unit can result in a falling battery and crush injuries to the feet.

Falling Display Unit
The wheels or the legs of the display unit fail due to damage or defects resulting in the display unit falling over and causing lower leg and feet impact injuries.

Chemicals
A leaking or damaged battery can result in acid burns to the hands and fingers or other body parts from contaminated clothing.

Slips Trips and Falls
Poor housekeeping, personal belongings or battery acid lying on the ground can result in slipping and tripping causing falls and head and body impact injuries.

Explosions
Incorrect setting up of the battery can result in an explosion causing loss of sight or puncture wounds to the face and body parts.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

The display board is used for the purpose of demonstrating the function of the electric window winders in cars and finding faults through diagnostics.

Controls

- Students are permitted to use the equipment, under correct instruction and the lecturer or technician's supervision.
- Ensure to connect the positive to the positive first (red cable) and negative to negative (black cable) second (make sure no sparks are allowed to be generated as this may result in battery exploding causing serious damage).
- When disconnecting the battery, disconnect the black cable first.
- Follow the manual handling training guide lines at all times when moving the display board or battery.
- Ensure that the battery is mounted flat and secure on to the battery platform of the display unit.
- Ensure that the handle of the battery is free from damage or defects prior to carrying it.
- Maintain a secure hold of the battery when moving to and from storage.

- Inspect the wheels and legs of the display unit for damage and defects prior to use, do not use if damaged or defected in any way and remove from use for repair by a competent person.
- Inspect the battery for damage or leaks prior to use, do not use if damaged or leaking in any way and remove from use for safe disposal of.
- Wear safety gloves and glasses if required to handle a damaged or leaking battery.
- Remove any clotting contaminated by battery acid immediately.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Clean up any battery acid spills or leaks immediately and safely dispose of waste materials.

Checks & Inspections

- Regular maintenance to be carried out on the equipment as specified by the manufacturer and records maintained by the Institute.
- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- MSDS
- Manual Handling Training
- PPE Training
- Chemical Handling Training

Personal protective equipment required (last resort)

- Safety boots.
- Overalls.
- Safety Gloves
- Safety Glasses

Initial Risk Rating (without any control measures)

Probability :	2	x	Severity	2	=	Risk Factor	4 Medium Risk

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	1	x	Severity	2	=	Risk Factor	2 Low risk

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Safe Work Practice Sheet	Ref: SWPS MOT 027
	Date: 19/07/2014
AG Bloc Air Bag System	Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Manual Handling
Moving the display unit or battery to and from storage can result in acute or chronic lower back and or musculoskeletal injuries.

Falling battery
Unsecure hold of battery when placing on to the unit, battery not mounted flat and secure on the display unit can result in a falling battery and crush injuries to the feet.

Falling Display Unit
The wheels or the legs of the display unit fail due to damage or defects resulting in the display unit falling over and causing lower leg and feet impact injuries.

Chemicals
A leaking or damaged battery can result in major acid burns to the hands and fingers or other body parts from contaminated clothing.

Slips Trips and Falls
Poor housekeeping, personal belongings or leaking battery acid lying on the ground can result in slipping and tripping causing falls and head and body impact injuries.

Explosions
Incorrect setting up of the battery can result in an explosion causing loss of sight or puncture wounds to the face and body parts.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

The machine is used for fault finding on a car air bag system through diagnostics on a 12 Volt system.

Controls

- Students are permitted to use the equipment, under correct instruction and the lecturer or technician's supervision.
- Ensure to connect the positive to the positive first (red cable) and negative to negative (black cable) second (make sure no sparks are allowed to be generated as this may result in battery exploding causing serious damage).
- When disconnecting the battery, disconnect the black cable first.
- Follow the manual handling training guide lines at all times when moving the display unit or battery.
- Ensure that the battery is mounted flat and secure on to the battery platform of the display unit.
- Ensure that the handle of the battery is free from damage or defects prior to carrying it.
- Maintain a secure hold of the battery when moving to and from storage.
- Inspect the wheels and legs of the display unit for damage and defects prior to use, do not use if

damaged or defected in any way and remove from use for repair by a competent person.

- Inspect the battery for damage or leaks prior to use, do not use if damaged or leaking in any way and remove from use for safe disposal of.
- Wear safety gloves and glasses if required to handle a damaged or leaking battery.
- Remove any clotting contaminated by battery acid immediately.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Clean up any battery acid spills or leaks immediately and safely dispose of waste materials.

Checks & Inspections

- Regular maintenance to be carried out on the equipment as specified by the manufacturer and records maintained by the Institute.
- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- MSDS
- Manual Handling Training
- PPE Training
- Chemical Handling Training

Personal protective equipment required (last resort)

- Safety boots.
- Overalls.
- Safety Gloves
- Safety Glasses

Initial Risk Rating (without any control measures)

Probability : **2** x Severity **2** = Risk Factor **4 Medium Risk**

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability : **1** x Severity **2** = Risk Factor **2 Low risk**

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Safe Work Practice Sheet AG Bloc Air Conditioning Mobile Unit	Ref: SWPS MOT 028 Date: 19/07/2014 Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Electricity
Poor connected, loose or damaged electrical cables or plugs can result in electrocution-death or first, second and or third degree burns.

Manual Handling
Moving the display unit or battery to and from storage can result in acute or chronic lower back and or musculoskeletal injuries.

Mechanical
Contact with the water coolant rotating fan or motor drive belt can result in severing of finger tips. Entanglement of loose clothing or long hair with rotating coolant fan or air con motor.

Falling battery
Unsecure hold of battery when placing on to the unit, battery not mounted flat and secure on the display unit can result in a falling battery and crush injuries to the feet.

Falling Display Unit
The wheels or the legs of the display unit fail due to damage or defects resulting in the display unit falling over and causing lower leg and feet impact injuries.

Chemicals
A leaking or damaged battery can result in major acid burns to the hands and fingers or other body parts from contaminated clothing. Leaking refrigerant gas from the unit hoses can result in acute minor irritation to the respiratory system if inhaled.

Temperature
Touching escaping gas from hoses etc. can result in frostbite to the hands and fingers.

Slips Trips and Falls
Poor housekeeping, personal belongings, trailing power cables or leaking battery acid lying on the ground can result in slipping and tripping causing falls and head and body impact injuries.

Explosions
Incorrect setting up of the battery can result in an explosion causing loss of sight or puncture wounds to the face and body parts.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

The machine is used for fault finding in a car air bag system through diagnostics on a 12 Volt system.

Controls

- Students are permitted to use the equipment, under correct instruction and the lecturer or technician's supervision.

- Ensure to connect the positive to the positive first (red cable) and negative to negative (black cable) second (make sure no sparks are allowed to be generated as this may result in battery exploding causing serious damage).
- When disconnecting the battery, disconnect the black cable first.
- Inspect the machine electrical cable and plug for damage or defects prior to use.
- Do not use the machine if the cable or plugs are damaged in any way and remove from use for repair by a competent person.
- Follow the manual handling training guide lines at all times when moving the display unit or battery.
- Ensure all machine guards are in place prior to operating the machine.
- Loose clothing must not be worn when operating the unit.
- Long hair must be neatly tied back or a well fitted cap worn.
- Ensure that the battery is mounted flat and secure on to the battery platform of the display unit.
- Ensure that the handle of the battery is free from damage or defects prior to carrying it.
- Maintain a secure hold of the battery when moving to and from storage.
- Inspect the wheels and legs of the display unit for damage and defects prior to use, do not use if damaged or defected in any way and remove from use for repair by a competent person.
- Inspect the battery for damage or leaks prior to use, do not use if damaged or leaking in any way and remove from use for safe disposal of.
- Wear safety gloves and glasses if required to handle a damaged or leaking battery.
- Remove any clotting contaminated by battery acid immediately.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Clean up any battery acid spills or leaks immediately and safely dispose of waste materials.
- Avoid the trailing of electrical power cables when setting up the unit for use.
- Ensure that there is good ventilation when operating the unit.
- Never touch escaping refrigerant gas with bare skin.

Checks & Inspections

- Regular maintenance to be carried out on the equipment as specified by the manufacturer and records maintained by the Institute.
- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- MSDS
- Manual Handling Training
- PPE Training
- Chemical Handling Training

Personal protective equipment required (last resort)

- Safety boots.
- Overalls.
- Safety Gloves
- Safety Glasses

Initial Risk Rating (without any control measures)

Probability :	3	x	Severity	3	=	Risk Factor	9 High Risk

KEY

PROBABILITY	SEVERITY	RISK FACTOR
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	1	x	Severity	3	=	Risk Factor	3 Low risk

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Safe Work Practice Sheet Blue Point Mobile Engine & Gear Box Mounted Stands	Ref: SWPS MOT 029 Date: 19/07/2014 Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Manual Handling

Moving the stands to and from storage, removing or replacing engine and gear boxes can result in acute or chronic lower back and or musculoskeletal injuries.

Slips Trips and Falls

Poor housekeeping or personal belongings can result in slips and trips causing fall impact head and body injuries.

Falling Stand

Damage to the caster wheels or legs of the unit can result in the stand and engine falling over and causing feet crushing injuries.

Rotating Unit

Manually rotating the unit can result in bystanders being struck by the moving unit and causing minor bruising.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

The stands are used for holding in place non live engines and gearboxes so that students can visually see the various parts of an engine or gear box.

Controls

- Students are permitted to use the stands, under correct instruction and the lecturer or technicians supervision.
- Follow the manual handling training guidelines when moving the stands to and from storage.
- Seek assistance if required when removing or replacing engines or gear boxes on the stands.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Inspect the wheels and frame of the stand for damage or defects prior to moving from storage.
- Do not use the unit if the wheels or frame is damaged in any way and remove from use for repair by a competent person.
- Never lay directly underneath the test unit when it is in use.
- Ensure that bystanders are clear from moving arc of the unit when it is being rotated into position.
- Never touch the unit when it is being rotated.
- Never stand on the frame of the unit when stationary or being transported.
- Safety boots must be worn.

Checks & Inspections

- Regular maintenance to be carried out on the equipment as specified by the manufacturer and records maintained by the Institute.

- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- Manual Handling Training
- PPE Training

Personal protective equipment required (last resort)

- Safety boots.
- Overalls.

Initial Risk Rating (without any control measures)

Probability :	**2**	x	Severity	**2**	=	Risk Factor	**4 Medium Risk**

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	**1**	x	Severity	**2**	=	Risk Factor	**2 Low risk**

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Safe Work Practice Sheet AG Bloc Ignition Turret Trainers	Ref: SWPS MOT 030 Date: 19/07/2014 Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Manual Handling
Moving the training units or battery to and from storage can result in acute or chronic lower back and or musculoskeletal injuries.

Mechanical
Contact with the machine rotating drive shaft for the distributor or drive motor can result in entanglement of loose clothing or long hair causing minor injuries.

Falling battery or Ignition unit
Unsecure hold of battery or ignition unit when moving or placing on work bench, battery or training unit not mounted flat, secure, and at the work bench edge can result in a falling battery or training unit and impact injuries to the lower legs and feet.

Chemicals
A leaking or damaged battery can result in major acid burns to the hands and fingers or other body parts from contaminated clothing.

Slips Trips and Falls
Poor housekeeping, personal belongings or leaking battery acid lying on the ground can result in slipping and tripping causing fall and head and body impact injuries.

Explosions
Incorrect setting up of the battery can result in an explosion causing loss of sight or puncture wounds to the face and body parts.

Fire
Flammable materials or liquids within close proximity of the training unit can combust resulting in first second and third degree burns.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

The machines are used to demonstrate how the ignition system of a vehicle operates and is powered through a on a 12 Volt battery system.

Controls

- Students are permitted to use the equipment, under correct instruction & the lecturer/technician's supervision.
- Ensure to connect the positive to the positive first (red cable) and negative to negative (black cable) second (make sure no sparks are allowed to be generated as this may result in battery exploding causing serious damage).
- When disconnecting the battery, disconnect the black cable first.
- Follow the manual handling training guide lines at all times when moving the training unit or battery.
- Use a trolley for moving the training units or battery to and from storage.
- Ensure all machine guards are in place prior to operating the machine.
- Loose clothing must not be worn when operating the unit.
- Long hair must be neatly tied back or a well fitted cap worn.

- Ensure that the distributor cap and all guards are in place prior to operating the machine.
- Ensure that the battery and training unit are mounted flat and secure on the workbench.
- Place the battery and training unit in from the workbench edge.
- Ensure that the handle of the battery is free from damage or defects prior to carrying it.
- Maintain a secure hold of the battery or training unit when moving to and from storage.
- Inspect the battery for damage or leaks prior to use, do not use if damaged or leaking in any way and remove from use for safe disposal of.
- Wear safety gloves and glasses if required to handle a damaged or leaking battery.
- Remove any clotting contaminated by battery acid immediately.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Clean up any battery acid spills or leaks immediately and safely dispose of waste materials.
- Inspect the wheels and legs of the trolley for damage or defects prior to use, do not use if damaged or defected in any way and remove from use for repair by a competent person.
- Never leave a training unit unattended when in use.
- Flammable materials, liquids must not be stored at or near the training units.
- Never touch the electrical spark generated through spark plug.
- Never touch the electrical cable contact points with hands or fingers.

Checks & Inspections

- Regular maintenance to be carried out on the equipment as specified by the manufacturer and records maintained by the Institute.
- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- MSDS
- Manual Handling Training
- PPE Training
- Chemical Handling Training

Personal protective equipment required (last resort)

- Safety boots.
- Overalls.
- Safety Gloves
- Safety Glasses

Initial Risk Rating (without any control measures)

Probability : **2** x Severity **2** = Risk Factor **4 Medium Risk**

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)							
Probability :	**1**	x	Severity	**2**	=	Risk Factor	**2 Low risk**

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Safe Work Practice Sheet Draper Engine Bloc Stand	Ref: SWPS MOT 031 Date: 19/07/2014 Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Manual Handling
Moving the stands to and from storage, removing or replacing engine and gear boxes, adjusting the engine into desired working position can result in acute or chronic lower back and or musculoskeletal injuries.

Slips Trips and Falls
Poor housekeeping or personal belongings can result in slips and trips causing fall impact head and body injuries.

Falling Stand
Damage to the caster wheels or legs of the unit can result in the stand and engine falling over and causing feet crushing injuries.

Rotating Unit
Manually rotating the unit can result in bystanders being struck by the moving unit and causing minor impact bruising.

Inadvertent movement of engine
The engine not locked into position can move suddenly and cause serious impact head and body injuries resulting in death and or concussion, cut and bruises.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

The stand is used for holding in place non live engines and gearboxes so that students can visually see the various parts of an engine or gear box.

Controls

- Students are permitted to use the engine stand, under correct instruction and the lecturer or technicians supervision.
- Follow the manual handling training guidelines when moving the stands to and from storage.
- Seek assistance when removing or replacing engines or gear boxes on the stands.
- Seek assistance when adjusting the engine into the working position.
- Use the metal lever when rotating the engine into desired position.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Inspect the wheels and frame of the stand for damage or defects prior to moving from storage.
- Do not use the unit if the wheels or frame is damaged in any way and remove from use for repair by a competent person.
- Never lay directly underneath the test unit when in use.
- Ensure that bystanders are clear from moving arc of the unit when it is being rotated into position.
- Never touch the unit when it is being rotated.

- Never stand on the frame of the unit when stationary or being transported.
- Safety boots must be worn.
- Ensure to tighten the safety locking bolt on the rotating shaft when the engine is in desired position.

Checks & Inspections

- Regular maintenance to be carried out on the equipment as specified by the manufacturer and records maintained by the Institute.
- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- Manual Handling Training
- PPE Training

Personal protective equipment required (last resort)

- Safety boots.
- Overalls.

Initial Risk Rating (without any control measures)

Probability :	**3**	x	Severity	**3**	=	Risk Factor	**9 High Risk**

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	**1**	x	Severity	**3**	=	Risk Factor	**3 Low risk**

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Safe Work Practice Sheet Churchill Engine Stands	Ref: SWPS MOT 032 Date: 19/07/2014 Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Manual Handling
Moving the stands to and from storage, removing or replacing engine and gear boxes, adjusting the engine into desired working position can result in acute or chronic lower back and or musculoskeletal injuries.

Slips Trips and Falls
Poor housekeeping or personal belongings can result in slips and trips causing fall impact head and body injuries.

Falling Stand
Damage to the caster wheels or legs of the unit can result in the stand and engine falling over and causing feet crushing injuries.

Rotating Unit
Manually rotating the unit can result in bystanders being struck by the moving unit and causing minor impact bruising.

Mechanical
Inadvertent crushing of fingers tips or pinching of skin on hand when adjusting the locking pin or tightening the brake on the unit can result in minor cuts and bruises.

Engine movement
The engine not locked into position can move unaided and cause serious impact head and body injuries resulting in death and or concussion, cut and bruises.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

The stand is used for holding in place non live engines and gearboxes so that students can visually see the various parts of an engine or gear box.

Controls

- Students are permitted to use the engine stand, under correct instruction and the lecturer or technicians supervision.
- Follow the manual handling training guidelines when moving the stands to and from storage.
- Seek assistance when removing or replacing engines or gear boxes on the stands.
- Seek assistance when adjusting the engine into working position.
- Ensure to loosen and tighten the safety bolt as required.
- Use a metal lever when rotating the engine into desired position.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Inspect the wheels and frame of the stand for damage or defects prior to moving from storage.

- Do not use the unit if the wheels or frame is damaged in any way and remove from use for repair by a competent person.
- Never lay directly underneath the test unit when in use.
- Ensure that bystanders are clear from moving arc of the unit when it is being rotated into position.
- Never touch the unit when it is being rotated.
- Never stand on the frame of the unit when stationary or being transported.
- Safety boots must be worn.
- Exercise caution when adjusting and tightening the locking pin and brake of the stand.
- Ensure that the engine is locked into position and that the locking pin and brake are working properly.

Checks & Inspections

- Regular maintenance to be carried out on the equipment as specified by the manufacturer and records maintained by the Institute.
- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- Manual Handling Training
- PPE Training

Personal protective equipment required (last resort)

- Safety boots.
- Overalls.

Initial Risk Rating (without any control measures)

Probability :	3	x	Severity	3	=	Risk Factor	9 High Risk

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	1	x	Severity	3	=	Risk Factor	3 Low risk

Risk Assessment Review

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Safe Work Practice Sheet Epco Manual Hydraulic Hoist	Ref: SWPS MOT 033 Date: 19/07/2014 Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Manual Handling
Pulling and dragging the hoist to and from storage or moving when loaded with an engine etc., moving the extension jib into position can result in acuter or chronic lower back and or musculoskeletal injuries.

Falling Extension Jib
The extension jib slips and falls when been adjusted or when bearing a load and causes crushing or death, feet crush injuries, lower leg impact injuries.

Failed Jib, hook or sling
The jib, sling, rope or hook fails and breaks, overloading thus causing the load been lifted to fall causing death or crush injuries to the lower leg and feet. Object being removed is not properly secured and falls causing crush injuries.

Slips Trips and Falls
Poor housekeeping, personal belongings, leaking or spilled hydraulic fluid on the ground, stepping over the support legs of the hoist can result in slips and trips causing falls and head and body impact injuries.

Mechanical
Crushing and entrapment of finger tips with descending ram, base of the hydraulic lever, severing of finger tips with descending jib hinge. Severing of finger tips if touching the steering linkage.

Chemicals
Leaking hydraulic fluid or topping up with hydraulic fluid can result in irritation to the hands and eyes and exposed body parts.

Swinging Load
The object hoisted and been transported swings freely and strikes a bystander or hoist operator with a blunt force, causing head or body impact injuries.

Fall From Height
Persons are transported on the hoist by standing on it and fall causing head and body impact injuries.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

The hoist is used for removing and replacing engines and heavy loads in vehicles.

Controls

- Students are permitted to use the hoist, under correct instruction and the lecturer or technicians supervision.

- Follow the manual handling training guidelines when using the hoist.
- Seek assistance when removing or replacing engines or gear boxes with the hoist.
- Ensure that the jib and connecting arm of the hoist are horizontal to the ground when adjusting to the required length.
- Ensure that all the locating safety pins are in place prior to operating the hoist.
- Inspect the hoist, jib, sling and hook for damage or defects prior to use, do not use if damaged or defected in any way and remove from use for repair by a competent person.
- Ensure that the object being hoisted for removal or replacement is properly secured by the sling or rope prior to hoisting.
- Never work underneath the hoist loaded or unloaded.
- Never exceed the manufacturer's recommended weight bearing capacity of the hoist.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Immediately clean up any hydraulic leaks or spills from topping up the machine, safely dispose of waste.
- Never step over the support legs of the machine, always walk around it.
- Never place fingers in between descending ram of the hoist.
- Never hold onto the descending ram of the hoist.
- Do not place fingers tips in between a moving hydraulic lever.
- Never touch or hold the jib hinge of the machine.
- Never hold or touch the steering linkage of the machine.
- Wear safety gloves and glasses if required to clean up leaking hydraulic fluid or top up with hydraulic fluid.
- Immediately remove and replace any clothing contaminated with hydraulic oil.
- Ensure all by standers are standing clear from the hoist when it is in use.
- Inspect slings or ropes for damage or defects prior to use, do not use if damaged or defected in any way and remove form use.
- Always use the shortest possible sling or rope to support lifting an object.
- Always transport the loaded or unloaded hoist raised as close to the ground as possible.
- Never stand on any part of the hoist.
- Transporting personal on the hoist is strictly prohibited.

Checks & Inspections

- Regular maintenance to be carried out on the equipment as specified by the manufacturer and records maintained by the Institute.
- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- Manual Handling Training
- PPE Training
- Chemical Handling Training
- MSDS

Personal protective equipment required (last resort)

- Safety boots.
- Overalls.
- Safety Glasses
- Safety Gloves

Initial Risk Rating (without any control measures)

Probability :	3	x	Severity	3	=	Risk Factor	9 High Risk

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	1	x	Severity	3	=	Risk Factor	3 Low risk

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Safe Work Practice Sheet Sealey Manual Hydraulic Trolley and Stand	Ref: SWPS MOT 034 Date: 19/07/2014 Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Manual Handling
Pulling and dragging the stand to and from storage or moving when loaded with a gear box can result in acute or chronic lower back and or musculoskeletal injuries.

Toppling Machine
The machine topples over when loaded with a gear box due to a damaged wheel, trolley leg or with items lying on the floor causing lower leg and feet crushing injuries.

Falling Gearbox
The gear box resting on the trolley is not secure, the support arms of the trolley are damaged resulting in a falling gear box and lower leg and feet impact and crush injuries.

Mechanical
Crushing of finger tips when in contact with hydraulic foot pedal hinge.

Slips Trips and Falls
Poor housekeeping, personal belongings, machine parts, tools and leaking hydraulic lying on the ground can result in slipping and tripping causing fall impact head and body injuries.

Chemicals
Leaking hydraulic fluid or topping up with hydraulic fluid can result in irritation to the hands and eyes and exposed body parts.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

The manual hydraulic stand is used for supporting a gear box removal or replacement in a vehicle.

Controls

- Students are permitted to use the stand, under correct instruction and the lecturer or technicians supervision.
- Follow the manual handling training guidelines when using the mobile hydraulic lift.
- Seek assistance when removing or replacing gear box from a vehicle and when transporting a gearbox on the trolley.
- Inspect the trolley and wheels for damage or defects prior to use, do not use if damaged or defected in any way and remove from use for repair by a competent person.
- Ensure that the gear box is mounted securely on the holding base of the trolley.
- Ensure that the gear box being removed or replaced is resting securely on the trolley stand.
- Never touch or operate the hydraulic foot pedal with hands or fingers.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Never leave machine parts or tools lying on the ground and use a nearby work bench to rest them on.

- Immediately clean up any leaking hydraulic fluid lying on the ground and safely dispose of.
- Wear safety gloves and glasses if required to handle leaking or hydraulic fluid.
- Immediately remove and replace any clothing contaminated with hydraulic fluid.

Checks & Inspections

- Regular maintenance to be carried out on the equipment as specified by the manufacturer and records maintained by the Institute.
- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- Manual Handling Training
- PPE Training
- Chemical Handling Training
- MSDS

Personal protective equipment required (last resort)

- Safety boots.
- Overalls.
- Safety Glasses
- Safety Gloves

Initial Risk Rating (without any control measures)

Probability :	**2**	x	Severity	**3**	=	Risk Factor	**6 High Risk**

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	**1**	x	Severity	**3**	=	Risk Factor	**3 Low risk**

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Safe Work Practice Sheet Bosch FSA 740 Diagnostic Testing	Ref: SWPS MOT 035 Date: 19/07/2014 Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Electricity
Poorly connected, loose or damaged electrical cables or plugs can result in electrocution-death or first, second and or third degree burns.

Manual Handling
Pulling and dragging the stand to and from storage can result in acute or chronic lower back and or musculoskeletal injuries.

Falling Machine
The machine falls over due to damaged or defected wheels, moving the machine when wheels are locked, debris lying on the ground catches the wheel resulting in lower leg and feet impact injuries

Slips Trips and Falls
Poor housekeeping, personal belongings, machine parts, trailing cables, tools, oil and water lying on the ground can result in slipping and tripping causing fall impact head and body injuries.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

The machines are used for running diagnostics on live engines and exhausts.

Controls

- Students are permitted to use the equipment, under correct instruction and the lecturer or technicians supervision.
- Read the relevant SWPS for the live engine selected for testing.
- Inspect the machine electrical cable and plug for damage or defects prior to use.
- Do not use the machine if the cable or plugs are damaged in any way and remove from use for repair by a competent person.
- Follow the manual handling training guidelines at all times.
- Inspect the wheel of the trolley for damage or defects prior to use, do not use if damaged or defected in any way and remove from use for repair by a competent person.
- Ensure that the wheels are unlocked prior to moving.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Never leave machine parts or tools lying on the ground.
- Immediately clean up water or oil lying on the ground.
- Avoid the trailing of electrical cables.
- Where applicable use a rubber mat to cover any trailing cables.
- Ensure that the rubber mat is lying flat and level on the ground

Checks & Inspections

- Regular maintenance to be carried out on the equipment as specified by the manufacturer and records

maintained by the Institute.

- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- Manual Handling Training

Personal protective equipment required (last resort)

- Safety boots.
- Overalls.
- Safety Glasses
- Safety Gloves

Initial Risk Rating (without any control measures)

Probability : **3** x Severity **3** = Risk Factor **9 High Risk**

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability : **1** x Severity **3** = Risk Factor **3 Low risk**

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Safe Work Practice Sheet Mobile Sun DGA Diagnostic Testing	Ref: SWPS MOT 036 Date: 19/07/2014 Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Electricity
Poorly connected, loose or damaged electrical cables or plugs can result in electrocution-death or first, second and or third degree burns.

Manual Handling
Pulling and dragging the stand to and from storage can result in acute or chronic lower back and or musculoskeletal injuries. Holding the smoke detector box for extended periods of times can result in work related upper limb disorder.

Falling Machine
The machine falls over due to damaged or defected wheels, moving the machine when wheels are locked, debris lying on the ground catches the wheel resulting in lower leg and feet impact injuries

Slips Trips and Falls
Poor housekeeping, personal belongings, machine parts, trailing cables, tools, oil and water lying on the ground can result in slipping and tripping causing fall impact head and body injuries.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

The machines are used to diagnostically test petrol or diesel emissions.

Controls

- Students are permitted to use the equipment, under correction instruction and the lecturer or technicians supervision.
- Read the relevant SWPS for the live engine selected for testing.
- Inspect the machine electrical cable and plug for damage or defects prior to use.
- Do not use the machine if the cable or plugs are damaged in any way and remove from use for repair by a competent person.
- Follow the manual handling training guidelines at all times.
- Do not hold the smoke detector for extended periods of time, where possible split the work load with fellow colleagues or tend to other duties for a period of rest.
- Inspect the wheels of the trolley for damage or defects prior to use, do not use if damaged or defected in any way and remove from use for repair by a competent person.
- Ensure that the wheels are unlocked prior to moving.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Never leave machine parts or tools lying on the ground.
- Immediately clean up water or oil lying on the ground.
- Avoid the trailing of electrical cables.
- Where applicable use a rubber mat to cover any trailing cables.
- Ensure that the rubber mat is lying flat and level on the ground

Checks & Inspections

- Regular maintenance to be carried out on the equipment as specified by the manufacturer and records maintained by the Institute.
- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- Manual Handling Training

Personal protective equipment required (last resort)

- Safety boots.
- Overalls.
- Safety Glasses
- Safety Gloves

Initial Risk Rating (without any control measures)

Probability : **3** x Severity **3** = Risk Factor **9 High Risk**

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability : **1** x Severity **3** = Risk Factor **3 Low risk**

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Safe Work Practice Sheet Mobile Verus, Pico and HDS Diagnostics Testing	Ref: SWPS MOT 037 Date: 19/07/2014 Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Electricity
Poorly connected, loose or damaged electrical cables or plugs can result in electrocution-death or first, second and or third degree burns.

Manual Handling
Pulling and dragging the stand to and from storage can result in acute or chronic lower back and or musculoskeletal injuries. Lifting test equipment off the trolley stands can result in acute lower back and or musculoskeletal injuries.

Falling Machine
The machine falls over due to damaged or defected wheels, moving the machine when wheels are locked, debris lying on the ground catches the wheel resulting in lower leg and feet impact injuries

Slips Trips and Falls
Poor housekeeping, personal belongings, machine parts, trailing cables, tools, oil and water lying on the ground can result in slipping and tripping causing fall impact head and body injuries.

Sharps
Mishandling of probing tools can result in needle stick injuries causing deep puncture wounds to the hands and fingers.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

The machines are used to diagnostically test engines and car parts.

Controls

- Students are permitted to use the equipment, under correct instruction and the lecturer or technicians supervision.
- Read the relevant SWPS for the live engine selected for testing.
- Inspect the machine electrical cable and plug for damage or defects prior to use.
- Do not use the machine if the cable or plugs are damaged in any way and remove from use for repair by a competent person.
- Follow the manual handling training guidelines at all times.
- Inspect the wheel of the trolley for damage or defects prior to use, do not use if damaged or defected in any way and remove from use for repair by a competent person.
- Ensure that the wheels are unlocked prior to moving.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Never leave machine parts or tools lying on the ground.
- Immediately clean up water or oil lying on the ground.
- Avoid the trailing of electrical cables.

- When applicable use a rubber mat to cover any trailing cables.
- Ensure that the rubber mat is lying flat and level on the ground.
- Exercise caution when handling diagnostic probing pins and use a recommended by the manufacture.

Checks & Inspections

- Regular maintenance to be carried out on the equipment as specified by the manufacturer and records maintained by the Institute.
- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- Manual Handling Training

Personal protective equipment required (last resort)

- Safety boots.
- Overalls.
- Safety Glasses
- Safety Gloves

Initial Risk Rating (without any control measures)

Probability :	**3**	x	Severity	**3**	=	Risk Factor	**9 High Risk**

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	**1**	x	Severity	**3**	=	Risk Factor	**3 Low risk**

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Safe Work Practice Sheet Cryton Armature Testing Growler	Ref: SWPS MOT 038 Date: 19/07/2014 Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Electricity
Poorly connected, loose or damaged electrical cables or plugs can result in electrocution-death or first, second and or third degree burns.

Manual Handling
Lifting and carrying the machine to and from storage can result in lower back and or musculoskeletal injury.

Falling Machine
The machine falls when been carried, the machine falls from the workbench it is placed on and causes lower leg and feet impact injuries.

Slips Trips and Falls
Poor housekeeping, personal belongings, machine parts, trailing cables, tools, oil and water lying on the ground can result in slipping and tripping causing fall impact head and body injuries.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

The mobile machines are used to check for electrical faults in the starter armature of a vehicle.

Controls

- Students are permitted to use the equipment, under correct instruction and the lecturer or technicians supervision.
- Inspect the machine electrical cable and plug for damage or defects prior to use.
- Do not use the machine if the cable or plugs are damaged in any way and remove from use for repair by a competent person.
- Follow the manual handling training guidelines at all times.
- Maintain a secure hold of the machine when transporting it to and from storage.
- Ensure to place the machine in from the work bench edge.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Never leave machine parts or tools lying on the ground.
- Immediately clean up water or oil lying on the ground.
- Avoid the trailing of electrical cables, where possible plug the machine into a socket mounted above the workbench or on the table.

Checks & Inspections

- Regular maintenance to be carried out on the equipment as specified by the manufacturer and records maintained by the Institute.
- Lecturers and technicians to monitor compliance with control measures

- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- Manual Handling Training

Personal protective equipment required (last resort)

- Safety boots.
- Overalls.
- Safety Glasses

Initial Risk Rating (without any control measures)

Probability :	3	x	Severity	3	=	Risk Factor	9 High Risk

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	1	x	Severity	3	=	Risk Factor	3 Low risk

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Safe Work Practice Sheet Draper And Cryton Battery Chargers	Ref: SWPS MOT 039 Date: 19/07/2014 Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Electricity
Poorly connected, loose or damaged electrical cables or plugs can result in electrocution-death or first, second and or third degree burns.

Manual Handling
Lifting and carrying the batteries or chargers to and from the charging work top can result in lower back and or musculoskeletal injury.

Falling Battery
The battery falls when been transported, the battery falls from the work top it is placed on and causes lower leg and feet impact injuries.

Slips Trips and Falls
Poor housekeeping, personal belongings, trailing cables, battery acid or water lying on the ground can result in slipping and tripping causing fall impact head and body injuries.

Explosion
Incorrectly wired battery being charged can result in an explosion and cause puncture wounds to the face and body from flying debris or burns to the face form and skin form battery acid.

Fire
Flammable materials or liquids in contact with sparks from a battery when incorrectly set up can combust and cause a fire and result in death and major burns.

Chemicals
Lifting and carrying damaged batteries, topping up batteries with distilled water or battery acid can result in minor to major burns to the hands, face and other body parts contaminated with acid.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

The machines are used to charge 12 and 24 Volt batteries.

Controls

- Students are not permitted to use the battery chargers.
- Inspect the chargers electrical cable and plug for damage or defects prior to use.
- Do not use the chargers if the cable or plugs are damaged in any way and remove from use for repair by a competent person.
- Follow the manual handling training guidelines at all times.
- Maintain a secure hold of the battery and use the handle on it when transporting it to and from charging.
- Ensure to place the battery in from the work top edge.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Immediately clean up water or battery acid lying on the ground and dispose of waste carefully.
- Avoid the trailing of electrical cables, plug the machine into a socket mounted above the work top.
- Battery charging must be carried out by the lecturer or technician.
- Battery charging must be carried out in the battery room W103 in the motor workshop. The key of the room W103 must remain under the lecturer or technicians control at all times.

- Ensure to connect the positive to the positive first (red cable) and negative to negative (black cable) second (make sure no sparks are allowed to be generated as this may result in battery exploding causing serious damage).
- When disconnecting the battery, disconnect the black cable first.
- Never touch or cross the negative and the positive metal parts together.
- Flammable materials or liquids must never be stored in Battery room W103.
- Wear safety gloves and glasses at all times when handling battery for charging or topping up.
- Inspect the battery and surrounding area for leaks or damage prior to handling.
- Remove and replace any clothing contaminated by battery acid immediately.
- Immediately wash any skin contaminated by battery acid with cold water.
- Always switch off the charger when it is no longer required.

Checks & Inspections

- Regular maintenance to be carried out on the equipment as specified by the manufacturer and records maintained by the Institute.
- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- Manual Handling Training
- MSDS
- Chemical Handling training
- PPE Training

Personal protective equipment required (last resort)

- Safety boots.
- Overalls.
- Safety Glasses
- Safety Gloves

Initial Risk Rating (without any control measures)

Probability :	**3**	x	Severity	**3**	=	Risk Factor	**9 High Risk**

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	**1**	x	Severity	**3**	=	Risk Factor	**3 Low risk**

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Safe Work Practice Sheet	Ref: SWPS MOT 040
	Date: 19/07/2014
Mobile Bosch BAT 490 Charging Unit	Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Electricity
Poorly connected, loose or damaged electrical cables or plugs can result in electrocution-death or first, second and or third degree burns.

Manual Handling
Lifting and carrying the battery or wheeling to and from storage can result in lower back and or musculoskeletal injury.

Falling Charger
The battery charger falls when been transported or falls from the trolley and causes lower leg and feet impact injuries.

Slips Trips and Falls
Poor housekeeping, personal belongings, trailing cables, battery acid or water lying on the ground can result in slipping and tripping causing fall impact head and body injuries.

Explosion
Incorrectly wired battery being charged can explode and cause puncture wounds to the face and body from flying debris or burns to the face form and skin from battery acid.

Fire
Flammable materials or liquids in contact with sparks from a battery when incorrectly set up can combust and cause a fire and result in death and major burns.

Chemicals
Lifting and carrying damaged batteries, topping up batteries with distilled water or battery acid can result in minor to major burns to the hands, face and other body parts contaminated with acid.

Toppling Trolley
The wheels of the trolley are damaged and fail resulting in the trolley falling over causing lower leg feet impact injuries.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

The mobile battery charger is used to maintain proper voltage in the battery of a vehicle being worked on.

Controls

- Students are permitted use of the battery charger, under correct instruction and the lecturer or technicians supervision.

- Inspect the charger electrical cable and plug for damage or defects prior to use.
- Do not use the charger if the cable or plugs are damaged in any way and remove from use for repair by a competent person.
- Follow the manual handling training guidelines at all times.
- Maintain a secure hold of the charging unit if required to lift or carry. Where possible leave the charging unit on the trolley provided for it.
- Ensure to place the charger inside the brackets on the trolley.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Immediately clean up water or battery acid lying on the ground and dispose of waste carefully.
- Avoid the trailing of electrical cables by plugging the machine into a socket mounted above the work top.
- Use the rubber mats to cover any trailing cables and ensure the rubber mat is lying level and flat on the ground.
- Ensure to connect the positive to the positive first (red cable) and negative to negative (black cable) second (make sure no sparks are allowed to be generated as this may result in battery exploding causing serious damage).
- When disconnecting the battery, disconnect the black cable first.
- Never touch or cross the negative and the positive metal parts together.
- Flammable materials or liquids must never be stored at or near the vehicle being worked on.
- Wear safety gloves and glasses at all times when handling a battery for charging or topping up.
- Inspect the battery and surrounding area for leaks or damage prior to handling.
- Remove and replace any clothing contaminated by battery acid immediately.
- Immediately wash any skin contaminated by battery acid with cold water.
- Always switch off the charger when it is no longer in use.
- Inspect the wheels of the trolley for damage or defects prior to use, do not use if damaged or defected in any way and remove from use for repair by a competent person..

Checks & Inspections

- Regular maintenance to be carried out on the equipment as specified by the manufacturer and records maintained by the Institute.
- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- Manual Handling Training
- MSDS
- Chemical Handling training
- PPE Training

Personal protective equipment required (last resort)

- Safety boots.
- Overalls.
- Safety Glasses
- Safety Gloves

Initial Risk Rating (without any control measures)

Probability :	3	x	Severity	3	=	Risk Factor	9 High Risk

KEY

PROBABILITY	SEVERITY	RISK FACTOR
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	**1**	x	Severity	**3**	=	Risk Factor	**3 Low risk**

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Safe Work Practice Sheet	Ref: SWPS MOT 041
	Date: 19/07/2014
Portable Battery Boost Starter	Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Electricity
Poorly connected, loose or damaged electrical cables or plugs of the battery unit can result in electrocution-death or first, second and or third degree burns.

Manual Handling
Lifting and carrying the booster starter unit to and from storage can result in acute or chronic lower back and or musculoskeletal injury.

Falling Booster unit
The booster starter falls when been transported, from the work bench when being charged, falls from the vehicle and causes lower leg and feet impact injuries.

Slips Trips and Falls
Poor housekeeping, personal belongings, battery acid or water lying on the ground can result in slipping and tripping causing fall impact head and body injuries.

Explosion
Incorrectly wired booster starter can result in an explosion and cause puncture wounds to the face and body from flying debris or burns to the face and exposed skin parts from battery acid.

Fire
Flammable materials or liquids in contact with sparks from a booster unit when incorrectly set up can combust and cause a fire resulting in death or major burns.

Mechanical
Nipping of finger tips, crushing of fingers when in in between the jaws of the heavy duty clamps.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

The battery unit is used to provide power for starting up vehicles.

Controls

- Students are permitted to use the booster starter, under correct instruction and the lecturer or technicians supervision.
- Inspect the booster starter electrical cable and plug for damage or defects prior to use.
- Do not use the booster starter if the cable or plugs are damaged in any way and remove from use for repair by a competent person.
- Follow the manual handling training guidelines at all times.
- Maintain a secure hold of the booster starter when transporting to and from required location.
- Ensure the booster starter is placed in from the work bench edge when charging.
- Ensure the booster starter is placed flat and secure when being used on a vehicle.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Immediately clean up water or battery acid lying on the ground and dispose of waste carefully.
- Avoid the trailing of electrical cables by charging the booster starter on a work top with socket mounted on a wall above it.

- Never touch or cross the negative and the positive metal parts of the booster together.
- Ensure to connect the positive to the positive first (red cable) and negative to negative (black cable) second (make sure no sparks are allowed to be generated as this may result in battery exploding causing serious damage).
- When disconnecting the battery, disconnect the black cable first.
- Switch on the battery booster.
- Switch off the battery booster when complete.
- Remove the black cable of the battery booster from the battery first and then proceed with removing the red cable from the battery.
- Flammable materials or liquids must never be stored at or near the vehicle being worked on.
- Inspect the battery and surrounding area for leaks or damage prior to handling.
- Never place fingers or hands in between the jaws of the heavy duty clamps when attaching to or removing from a battery unit.

Checks & Inspections

- Regular maintenance to be carried out on the equipment as specified by the manufacturer and records maintained by the Institute.
- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- Manual Handling Training
- MSDS
- Chemical Handling training
- PPE Training

Personal protective equipment required (last resort)

- Safety boots.
- Overalls.
- Safety Glasses
- Safety Gloves

Initial Risk Rating (without any control measures)

Probability :	**3**	x	Severity	**3**	=	Risk Factor	**9 High Risk**

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	**1**	x	Severity	**3**	=	Risk Factor	**3 Low risk**

Risk Assessment Review

As and when process changes or yearly

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Safe Work Practice Sheet	Ref: SWPS MOT 042
	Date: 19/07/2014
Electric Power Steering Unit	Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Manual Handling
Lifting the steering unit to and from storage can result in lower back and or musculoskeletal injuries.

Falling Unit
The unit falls when being transported, falls from the workbench edge and results in lower leg and feet impact injuries.

Slips Trips and Falls
Poor housekeeping, personal belongings, oil or water on the floor can result in slipping and tripping causing fall head and body impact injuries.

Mechanical
Nipping of finger tips with gearing of steering unit.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

The steering unit is used for the purpose of demonstrating how an electrical power assisted steering system operates.

Controls

- Students are permitted to use the steering unit, under correct instruction and the lecturer or technicians supervision.
- Follow the manual handling training guidelines at all times.
- Maintain a secure hold of the unit when transporting from storage, use a trolley for transporting if required.
- Ensure to place the unit in from the workbench edge when setting up for demonstration.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Clean up any oil or water lying on the floor immediately and dispose of carefully.
- Do not touch or place finger tips in or on the gearing unit when it is being rotated.

Checks & Inspections

- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- Manual Handling Training

Personal protective equipment required (last resort)

- Safety boots
- Overalls

Initial Risk Rating (without any control measures)

Probability :	**2**	x	Severity	**2**	=	Risk Factor	**4 Medium Risk**

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	**1**	x	Severity	**2**	=	Risk Factor	**2 Low risk**

Risk Assessment Review

As and when process changes or yearly

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Safe Work Practice Sheet Portable Trolley Jacks	Ref: SWPS MOT 043 Date: 19/07/2014 Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Manual Handling
Lifting or carrying the trolley jacks, dragging pulling or pushing the trolley jacks to and from storage, failed and damaged trolley jack wheels can result in acute or chronic lower back and or musculoskeletal injuries.

Slips Trips and Falls
Poor housekeeping, personal belongings, topping up trolley jack with hydraulic oil, leaking trolley jack hydraulic oil or water on the floor, stepping over the jack can result in slipping and tripping causing fall head and body impact injuries.

Hydraulic Oil
Pouring and toping up a trolley jack with hydraulic fluid, cleaning up a trolley jack hydraulic fluid leak can result in contamination of clothing, hands and fingers resulting in skin irritation. Irritation to the eyes from splashing when pouring.

Mechanical
Pinching or crushing of fingers, feet with chassis and frame of trolley if in between moving parts when operating it.

Collapsing Car
The trolley fails and the car being jacked up collapses resulting in death, the ground is not level of uneven and results in the car falling over resulting in death.

Transporting Individuals
Individuals stand on the trolley to be transported from one area to another can result in an individual falling and incurring head and body impact injuries.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

The trolley jacks are used to lift cars and suspend them in the air in order to remove the wheels of a vehicle.

Controls

- Students are permitted to use the trolley jacks, under correct instruction and the lecturer or technicians supervision.
- Inspect the trolley jack and wheels for damage, defects or leaks prior to use, do not use if damaged or defected in any way and remove from use for repair and replacement.
- Follow the manual handling training guidelines at all times.
- Where possible always wheel the trolley jack to and from storage.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Clean up any oil or water lying on the floor immediately and dispose of carefully.

- Always walk around the jack when it is use and store away from walk ways when not in use.
- Wear safety gloves and glasses if required to clean up hydraulic fluid leaks or top up with hydraulic fluid.
- Always wash hands if in contact with hydraulic fluid.
- Immediately remove and replace any clothing contaminated by hydraulic fluid.
- Always carefully pour hydraulic fluid when topping up trolley jack.
- Never place hands, fingers or feet in between the moving parts of the trolley when operating it.
- Ensure bystanders are clear of trolley when pumping the hydraulic lever.
- Never rely solely on a trolley jack to support a jacked car, always use the car jack stands for added support see SWPS MOT 044 for Car Jack Stands.
- Ensure that the ground is even, level and solid prior to jacking up a car.
- The transporting of individuals on the trolley jacks is strictly prohibited.
- The trolley jack must be used in accordance with the manufacturer's specifications.

Checks & Inspections

- Regular maintenance to be carried out on the equipment as specified by the manufacturer and records maintained by the Institute.
- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- Manual Handling Training
- Chemical Handling training
- PPE training
- MSDS

Personal protective equipment required (last resort)

- Safety boots.
- Overalls.
- Safety Glasses
- Safety Gloves

Initial Risk Rating (without any control measures)

Probability :	**3**	x	Severity	**3**	=	Risk Factor	**9 High Risk**

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	**1**	x	Severity	**3**	=	Risk Factor	**3 Low risk**

Risk Assessment Review

As and when process changes or yearly

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Safe Work Practice Sheet Car Jack Stands	Ref: SWPS MOT 044 Date: 19/07/2014 Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Manual Handling
Lifting or carrying the jack stands to and from storage can result in lower back and or musculoskeletal injuries.

Slips Trips and Falls
Poor housekeeping, personal belongings, oil or water on the floor, stepping over the jack stand can result in slipping and tripping causing fall head and body impact injuries.

Mechanical
Pinching or impact injuries to fingers with collapsing jack extension shaft and saddle.

Collapsing Car
The car jack fails and the car being supported collapses resulting in death, the ground is not level of uneven where the jack stand is placed and results in the car falling, the locating pin of the jack fails and the car collapses resulting in death. Crushing of fingers and hands if in between jack saddle and car part being supported

Falling Jack Stand
The jack stand being lifted and carried falls from the persons grip and results in lower leg and feet impact injuries. The jack extension falls form the jack and result in lower leg and feet impact injuries.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

The stands are used to support raised vehicles from the ground.

Controls

- Students are permitted to use the jack stands, under correct instruction and the lecturer or technicians supervision.
- Inspect the jack stands and locating pin for damage or defects prior to use, do not use if damaged or defected in any way and remove from use for repair and replacement.
- Follow the manual handling training guidelines at all times.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Clean up any oil or water lying on the floor immediately and dispose of carefully.
- Always walk around the jack when it is use and store away from walk ways when not in use.
- Always wash hands if in contact with oil.
- Never hold the jack at the bottom of the jack extension when adjusting the jack height.
- Ensure that the ground is even, level and solid prior to using a jack for support.
- The jack stands must be used in accordance with the manufacturer's specifications.
- Never place hands or fingers in between jack saddle and part of vehicle being supported.
- Ensure to maintain a secure and firm grip of the stand when carrying to required location.

- Where possible use a trolley to transport jack stands.
- Ensure the jack locating pin is inserted in the jack extension prior to moving.

Checks & Inspections

- Regular maintenance to be carried out on the equipment as specified by the manufacturer and records maintained by the Institute.
- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- Manual Handling Training
- Chemical Handling training
- PPE training
- MSDS

Personal protective equipment required (last resort)

- Safety boots.
- Overalls.

Initial Risk Rating (without any control measures)

Probability :	**3**	x	Severity	**3**	=	Risk Factor	**9 High Risk**

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	**1**	x	Severity	**3**	=	Risk Factor	**3 Low risk**

Risk Assessment Review

As and when process changes or yearly

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Safe Work Practice Sheet Sun Battery Load Tester	Ref: SWPS MOT 045 Date: 19/07/2014 Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Manual Handling
Lifting and carrying the load tester to and from storage, removing or replacing a failed vehicle battery can result in acute or chronic lower back and or musculoskeletal injury.

Falling load tester unit
The tester unit falls when been lifted or carried, falls from the work bench edge or vehicle battery being tested and causes lower leg and feet impact injuries.

Slips Trips and Falls
Poor housekeeping, personal belongings, battery acid, oil or water lying on the ground, trailing tester cables can result in slipping and tripping causing fall head and body impact injuries.

Explosion
Incorrectly wired load tester to battery can result in an explosion and cause puncture wounds to the face and body from flying debris or burns to the face form and skin form battery acid.

Fire
Flammable materials or liquids in contact with sparks from incorrectly set up load tester wiring and battery can combust causing a fire resulting in death or major burns.

Crocodile clips
Nipping of finger tips, crushing of fingers and parts of hands when in between the jaws of the heavy duty crocodile clips.

Chemicals
Leaking or damaged battery can result in coming into contact with battery acid and burns to the skin.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

The load tester is used to establish the working condition of a vehicle battery.

Controls

- Students are permitted to use the load tester, under correct instruction and the lecturer or technicians supervision.
- Follow the manual handling training guidelines at all times.
- Maintain a secure hold of the handle of the load tester when transporting to and from storage.
- Never carry or drag the load tester by the electrical cables.
- Where applicable use the handle on the battery unit if carrying or lifting.
- Ensure the load tester is placed in from the work bench edge when in use.
- Ensure the load tester is placed flat and secure when being used on a vehicle.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Immediately clean up any oil, water or battery acid lying on the ground and dispose of waste carefully.

- Avoid the trailing of electrical cables where possible by carrying out work on a work bench
- Ensure to connect the positive to the positive first (red cable) and negative to negative (black cable) second (make sure no sparks are allowed to be generated as this may result in battery exploding causing serious damage).
- When disconnecting the battery, disconnect the black cable first.
- Never touch or cross the negative and the positive metal parts together.
- Flammable materials or liquids must never be stored at or near the battery being load tested.
- Inspect the battery and surrounding area for leaks or damage prior to handling. Carefully remove any damaged or leaking batter for safe disposal.
- Never place fingers or hands in between the jaws of the crocodile clips when attaching to or removing from a battery unit.
- Wear safety gloves and glasses if handling leaking or damaged battery.

Checks & Inspections

- Regular maintenance to be carried out on the equipment as specified by the manufacturer and records maintained by the Institute.
- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- Manual handling training
- Chemical handling training
- PPE training
- MSDS

Personal protective equipment required (last resort)

- Safety boots.
- Overalls.
- Safety Glasses
- Safety Gloves

Initial Risk Rating (without any control measures)

Probability :	**3**	x	Severity	**3**	=	Risk Factor	**9 High Risk**

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	**1**	x	Severity	**3**	=	Risk Factor	**3 Low risk**

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Safe Work Practice Sheet	Ref: SWPS MOT 046
	Date: 19/07/2014
CAN BUS Diagnostic Board	Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Manual Handling
Lifting and wheeling the diagnostic trolley bench to and from storage, removing or replacing the battery on the trolley bench can result in acute or chronic lower back and or musculoskeletal injury.

Falling test board or battery
The test board falls from the bench trolley, the battery falls when being transported and results in lower leg and feet impact injuries.

Slips Trips and Falls
Poor housekeeping, personal belongings, battery acid, oil or water lying on the ground, trailing tester cables can result in slipping and tripping causing fall head and body impact injuries.

Explosion
Incorrectly wired battery can result in an explosion and cause puncture wounds to the face and body from flying debris or burns to the face and exposed skin from battery acid.

Fire
Flammable materials or liquids in contact with sparks from incorrectly wired battery can combust causing a fire and resulting in death or major burns.

Crocodile clips
Nipping of finger tips, crushing of fingers and parts of hands when in between the jaws of the crocodile clips.

Chemicals
Leaking or damaged battery can result in coming into contact with battery acid and burns to the skin.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

The CAN BUS board is used for the purpose of diagnosing microcontroller and device communication faults.

Controls

- Students are permitted to use the CAN BUS board, under correct instruction and the lecturer or technicians supervision.
- Inspect the wheels of the trolley for damage or defects prior to use.
- Follow the manual handling training guidelines at all times.
- Ensure to use the telescopic handles on the trolley bench when moving to and from storage.
- Always use the handle on the battery unit when carrying or lifting.
- Ensure the CAN BUS work board is securely fixed to the trolley bench
- Maintain good housekeeping and work area free from personal belongings at all times.
- Immediately clean up any oil, water or battery acid lying on the ground and dispose of waste carefully.
- Avoid the trailing of electrical cables where possible by placing the battery under the trolley bench.
- Ensure to connect the positive to the positive (red cable) first and negative to negative (black cable)

second (make sure no sparks are allowed to be generated as this may result in battery exploding causing serious damage).

- When disconnecting the battery, disconnect the black cable first.
- Never touch or cross the negative and the positive metal parts together.
- Flammable materials or liquids must never be stored at or near the battery being load tested.
- Inspect the battery and surrounding area for leaks or damage prior to handling. Carefully remove any damaged or leaking batter for safe disposal.
- Ensure that the battery is placed firm and secure on the underneath of the trolley bench.
- Never place fingers or hands in between the jaws of the crocodile clips when attaching to or removing from a battery unit.
- Wear safety gloves and glasses if handling leaking or damaged battery.

Checks & Inspections

- Regular maintenance to be carried out on the equipment as specified by the manufacturer and records maintained by the Institute.
- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- Manual handling training
- Chemical handling training
- PPE training
- MSDS

Personal protective equipment required (last resort)

- Safety boots.
- Overalls.
- Safety Glasses
- Safety Gloves

Initial Risk Rating (without any control measures)

Probability :	**3**	x	Severity	**3**	=	Risk Factor	**9 High Risk**

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	**1**	x	Severity	**3**	=	Risk Factor	**3 Low risk**

Risk Assessment Review

As and when process changes or yearly

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Safe Work Practice Sheet Grease Gun	Ref: SWPS MOT 047 Date:19/07/2014 Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Slips Trips and Falls
Poor housekeeping, personal belongings, spilled grease, oil or water on the floor can result in slipping and tripping causing fall impact head and body injuries.

Mechanical
Crushing of fingers when operating the pumping handle of the grease gun.

Ergonomics
Operating the tool in crunched awkward positions and for extended periods of time can result in acute or chronic lower back and upper body musculoskeletal injuries.

Chemicals
Removing and replacing the grease cartridge, wiping down greased components, operating the grease gun, clearing up spilled grease from the ground can result in minor irritation to the eyes, skin on the hands or skin from exposed clothing.

Person Exposed to Risk

☑Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

The grease gun is used to lubricate various moving components.

Controls

- Students are permitted to use the grease guns, under correct instruction and the lecturer or technicians supervision.
- Inspect the grease gun for damage or defects prior to use, do not use if damaged or defected in any way and remove from use for repair or replacement.
- Always use the grease gun as untended by the manufacturer.
- Follow the manufacturer's grease cartridge loading and unloading instructions at all times.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Never place fingers in between the pumping handle and hinge when operating the gun.
- Do no operate the gun in awkward crunched positions for extended periods of time, tend to other duties for periods of rest or split the work load with other colleague.
- Wear safety gloves and glasses at all times when operating the greasing gun, wiping down greased components or cleaning up grease spills.
- Immediately remove and replace any clothing contaminated with grease.
- Safely dispose of any waste grease cartridge or greased material waste.
- Never grease a moving or rotating part of an engine or machine.
- Always wash hands immediately after carrying out greasing operation.

Checks & Inspections

- Regular maintenance to be carried out according to manufacturer's recommendations and records kept by the School.
- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- PPE training.
- MSDS
- Chemical Handling

Personal protective equipment required (last resort)

- Safety Glasses
- Safety Boots
- Safety Gloves
-

Initial Risk Rating (without any control measures)

Probability :	2	x	Severity	2	=	Risk Factor	4 Medium Risk

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	1	x	Severity	2	=	Risk Factor	2 Low Risk

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As and when process changes or yearly

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Safe Work Practice Sheet Air Gun and Air Pressure Gauges	Ref: SWPS MOT 048 Date: 19/07/2014 Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Slips Trips and Falls
Poor housekeeping, personal belongings, trailing air hoses can result in slipping and tripping causing fall impact head and body injuries.

Flying Debris
Exceeding the recommended PSI or BAR inflation limit of the tyre can result in flying debris (exploding tyre) and loss of sight and or puncture wounds to the face and body parts, temporary hearing loss and discomfort.

Whipping Air Lines
Poorly fitted, connected, damaged or defected air hoses can result in a whipping air line and loss of sight and or bruising to body parts.

Person Exposed to Risk

☑Students ☑ Employees ☐ Public☐ Contractors ☐ Visitors

Work Description

The air gun is used to inflate the tyres on wheels of vehicles of cars and trolleys.

Controls

- Students are permitted to use this equipment, under correct instruction and the lecturer or technicians supervision.
- Air gun and gauge must be requested from the lecturer of technician and returned when no longer required.
- Inspect the air gun, pressure gauge and hoses for damage or defects prior to use, do not use is damaged or defected in any way and remove from use for repair by a competent person.
- Follow the manufacturer's standard operating procedures at all times.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Avoid the trailing of air hoses where possible.
- Always read the tyre inflating limit prior to inflating and never over inflate. Follow the pressure gauge on the air gun.
- See SWPS MOT 011 Compressed Air.
- Never point the air gun or hose at other people.
- Wear glasses at all stages of the use of the equipment.

Checks & Inspections

- Regular maintenance to be carried out according to manufacturer's recommendations and records kept by the School.
- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- PPE training.
- MSDS
- Chemical Handling

Personal protective equipment required (last resort)

- Safety Glasses
- Safety Boots
- Safety Gloves
-

Initial Risk Rating (without any control measures)

Probability :	2	x	Severity	2	=	Risk Factor	4 Medium Risk

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	1	x	Severity	2	=	Risk Factor	2 Low Risk

Risk Assessment Review

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Safe Work Practice Sheet Degreasing Bath	Ref: SWPS MOT 049
	Date: 19/07/0214
	Revision No. 001
	Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Electricity
Incorrectly connected, poorly maintained or damaged electrical cable or plugs of the degreasing machine can cause electrocution-death or first second and or third degree burns to the hands and body parts.

Manual Handling
Topping up or emptying the degreaser of detergent requires lifting or carrying, lifting engine or gear parts in and out of the degreasing basin can result in acute or chronic lower back and or musculoskeletal injuries.

Chemical
Immersing parts for degreasing with detergent, removing degreased parts for washing, brush cleaning parts, topping up or emptying the degreaser can result in splashing of detergent causing temporary or permanent loss of sight, burns to the hands and fingers or other body parts by contamination of clothing.

Slips, Trips and Falls
Poor housekeeping, personal belongings, parts for cleaning lying on the ground, trailing power cable, spilled detergent lying on the ground can result in slipping and tripping causing fall impact head injuries and cuts and bruises.

Fumes
Topping up the machine with detergent, removing cleaned parts, brushing parts down with detergent can result in the inhalation of detergent fumes causing acute or chronic respiratory illness.

Fire
Detergent or engine components for degreasing can catch fire when in contact with an ignition source and result in first, second and or third degree burns.

Falling Engine Parts
Lifting or removing engine parts to or from the degreaser can slip and fall causing lower leg and feet crush injuries.

Mechanical
Hands or fingers are inadvertently crushed when closing the lid of the degreaser.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

- The machine is used for degreasing engine and gear box parts of grease, oil, wax, dirt etc.

Controls

- All degreasing operations must be carried out in the degreasing bath in the Motor Shop
- Students are not permitted to carry out this task.
- The Lecturer or technician must only carry out this task.
- Inspect the electrical cable and plug of the degreasing machine prior to use.

- Do not use the test unit if electrical cable or plugs are damaged in any way and remove from use for repair.
- Electrical repairs must be carried out by a competent person.
- Follow the manual handling training guide lines at all times when operating the degreaser.
- Always seek assistance when emptying the degreasing barrel or heavy engine parts.
- Safety glasses must be worn at all stages of the use and maintenance of the degreaser.
- Protective clothing i.e. overalls non-absorbent gloves must be worn (See PPE Required).
- Contaminated clothing must be removed immediately when in contact with degreaser.
- Ensure that the machine is plugged into the socket on the wall at the back of the machine.
- Spilled detergent must be cleaned up immediately.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Parts for cleaning must never be stored on the ground around the machine, use the surrounding work benches.
- Ensure that there is adequate ventilation when operating the degreaser and that the area ventilation system is switched on.
- When possible close the lid of the machine for degreasing or draining parts from detergent.
- Never place hands or fingers between the lid and frame of the degreaser when closing the lid.
- Do not inhale fumes. Wear a mask.
- Do not use in the vicinity of welding operations.
- Do not use in the presence of naked flame or other source of ignition.
- Eating, drinking, smoking & using mobile phones are prohibited from all workshop and laboratory areas.
- Allow parts that are cleaned by detergent to drip dry in the detergent bath before removing.
- Rinse/wash component by immersing, washing or spraying with water.
- Wash both hands thoroughly when finished.
- Adhere to instruction in manufacturers Material Safety Data Sheets.
- All waste solvents must be disposed of according to Material Data Sheets.
- Appropriate fire extinguisher to be close at hand.
- Observe great care when using this process.

Checks & Inspections

- Regular maintenance to be carried out according to manufacturer's recommendations and records kept by the School.
- Lecturer and technicians to monitor compliance with control measures.
- Operator to check extraction is operational before starting process.

Information, Instruction & Training

- .
- MSDS
- Manual Handling training
- PPE Training
- Chemical Handling Training

Personal protective equipment required (last resort)

- Safety glasses
- Industrial safety gloves (Black Gauntlet Gloves CE 0321, extended length 450mm)
- Protective apron/overalls
- Safety shoes/boots
- Safety Mask

Initial Risk Rating (without any control measures)

Probability :	3	x	Severity	3	=	Risk Factor	9 High Risk

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	1	x	Severity	3	=	Risk Factor	3 Low Risk

Risk Assessment Review

As and when process changes or yearly

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Safe Work Practice Sheet Mobile Sun Air Conditioning Units	Ref: SWPS MOT 050 Date: 19/07/2014 Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Electricity
Poorly connected, loose or damaged electrical cables or plugs can result in electrocution-death or first, second and or third degree burns.

Manual Handling
Moving the machine to and from storage, lifting and carrying gas cylinders for topping up with refrigerant can result in acute lower back and or musculoskeletal injuries.

Slips Trips and Falls
Poor housekeeping, personal belongings, trailing cables and hoses can result in slipping and tripping causing fall impact head and body injuries.

Toppling Unit
The wheels of the mobile unit are damaged and fail resulting in the trolley falling over causing lower leg feet impact injuries.

Hoses
Loose, damaged or poorly fitted hoses can result in acute or chronic respiratory illness from the inhalation of refrigerant gas R134a, uncontrolled whipping action that causes loss of sight and or cuts and bruising.

Temperature
Connecting and topping up the unit with R134a can result in frostbite to the hands and fingers from refrigerant gas rapidly escaping.

Fire
Rapid release of R134a into the air can result in a fire when in contact with and ignition source causing first, second and or third degree burns.

Explosion
Gas cylinders exposed to heat or a naked flame, dropping cylinders to the ground can result in an explosion causing death or major puncture wounds to the face and body parts.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

The machinery is used to remove and refill Refrigerant R134A from car air conditioning systems.

Controls

- Students are not permitted to use this machinery.
- Trained persons (lecturer or technician) may only carry out this task.
- See the PPE required for when operating the mobile unit.
- Operators of the Air Con unit must be trained in how to use it.
- Follow Snap-on's air con unit standard operating procedures at all times

- Inspect the electrical cables of the unit for damage or defects prior to use, do not use if damaged or defected in any way and remove from use for repair by a competent person.
- Follow the manual handling training guide lines at all times.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Avoid the trailing of electrical cables and hoses where possible.
- Insect the wheels of the mobile unit for damage or defects prior to use, do not use if damaged or defected in any way and remove from use for repair by a competent person.
- Inspect the hoses on the mobile unit for damage or defects prior to use, do not use if damaged or defected in any in any way and remove from use for repair or replacement by a competent person.
- Never inhale or touch escaping R134a gas.
- Ensure that the work area is well ventilated and that the extract system is switched on when operating the mobile unit.
- Ignition sources and naked flames are not permitted at or near the unit when it is in operation.
- Cylinders must be stored away from heat sources and naked flames.
- Never throw or drop a cylinder to the ground.

Checks & Inspections

- Regular maintenance to be carried out on the equipment as specified by the manufacturer and records maintained by the Institute.
- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- Manual Handling Training
- MSDS R134a
- Chemical Handling training
- PPE Training

Personal protective equipment required (last resort)

- Safety boots.
- Overalls.
- Safety Glasses
- Safety Gloves

Initial Risk Rating (without any control measures)

Probability :	3	x	Severity	3	=	Risk Factor	9 High Risk

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	1	x	Severity	3	=	Risk Factor	3 Low risk

Risk Assessment Review

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Safe Work Practice Sheet Hand Tools	Ref: SWPS MOT 051 Date: 19/07/2014 Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Sharps
Incorrect handling and misuse of saws, screwdrivers, snips etc. can result in lacerations, puncture wounds or abrasions to hands and fingers.

Damaged Tools
Poor storage, misuse, wear and tear of tools can result in damaged tools resulting in minor cuts and blisters to hands and fingers. Repairing or replacing damaged cutting tools, saw blades etc. can result in lacerations the hands and fingers.

Falling Hand Tools
Incorrect hold of tool tool lying at the workbench edge, carrying too many at a time can result in a falling hand tool causing lower leg and feet puncture wounds, cuts and bruises.

Slips Trips and Falls
Poor Housekeeping, personal belongings, falling hand tools lying, waste cut offs from wiring and components etc. on the ground can result in slips, trips and fall impact head injuries.

Ergonomics
Use of tools for extended periods of time can result in work related upper limb disorder.

Flying Debris
Use of various hand tools can result in flying debris from cutting wires, hammering pieces of metal, bending pieces of metal etc. resulting in the loss of sight or puncture wounds to body parts. Using a knife or blade with a side load to pry away material can result in loss of sight.

Mechanical
Fingers or hands in between closing jaws of snips, pliers, wire strippers etc. can result in pinching of fingers or severing of finger tips.

Sharps
Using your body as resting support for a component or part etc. resulting in self stabbing with screw driver etc. Cutting towards the body with knives can result in lacerations to the hands and fingers.

Manual Handling
Lifting or carrying several tools (large spanners etc.) to and from storage, pulling and pushing on materials and components with hand tools can result in over loading of the body and cause acute or chronic musculoskeletal injuries.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

Various manually operated hand tools are required to assist in carrying out particular motor shop tasks. The hand tools can range from spanners, chain whips, vice grips, wire strippers, plyers, torque wrenches, screw drivers, snips, hammers, hacksaws etc.

Controls

- Students are permitted to use the hand held tools, under correct instruction and the lecturer / technicians supervision.
- Students must request the tools from the lecturer or technician.
- Inspect the hand tool for damage or defects prior to use, do not use if damaged or defected in any way and hand back to lecturer or technician for removal from use.
- Wear safety glasses when using hand held tools.
- Always lift or carry a hand tool by its handle.
- All hand tools must be used in accordance with the manufacturers intended use and design.
- Always use the correct tool for the job in hand.
- Students are not permitted to carry out repair to damaged tools. All repairs, replacement blades or cutting tools must be carried out by a lecturer or technician.
- Ensure that tools required are resting in from the workbench edge.
- Falling hand tools must be picked up from the ground immediately.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Ensure that the floors are swept clean from material cut offs as soon as possible.
- Avoid using hand tools for extended periods of times by tending to other duties where possible or periodically take small breaks.
- Always cut and snip materials away from the body and never in the direction of bystanders or other workbenches.
- Never use a knife or blade to pry open materials.
- Never use blunt blades for cutting. Maintain free hand out of the line of cutting area.
- Never place hands or fingers in between the closing jaws of pliers or snips and ensure to keep hands and fingers at a safe distance when in use.
- Never use your body as a supporting aid for work being carried out, always use the work bench as a means of support.
- Follow the manual handling training guidelines at all times.
- Use a trolley for the transportation of several hand tools or hand to individuals on request.

- Never subject a hand tool to unnecessary force or hammering.
- Never use a pipe or extension to gain leverage on a hand tool.
- Do not substitute one tool for another, for example, a pliers for a wrench.
- Discard any screw drivers with cracked or damaged handles.

Checks & Inspections

- Regular maintenance to be carried out on the equipment as specified by the manufacturer and records maintained by the Institute.
- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- Manual Handling Training
- PPE Training

Personal protective equipment required (last resort)

- Safety boots.
- Overalls.
- Safety Glasses

Initial Risk Rating (without any control measures)

Probability :	**2**	x	Severity	**2**	=	Risk Factor	**4 Medium Risk**

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	**1**	x	Severity	**2**	=	Risk Factor	**2 Low risk**

Risk Assessment Review

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Safe Work Practice Sheet AG Bloc Headlights Board	Ref: SWPS MOT 052 Date: 19/07/2014 Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Manual Handling
Moving the training units or battery to and from storage can result in acute or chronic lower back and or musculoskeletal injuries.

Falling battery
Unsecure hold of the battery when carrying, moving or placing on to the test stand, handles of the battery fail, resulting in a falling battery or training unit and impact injuries to the lower legs and feet.

Slips Trips and Falls
Poor housekeeping, personal belongings, trailing battery cables can result in slipping and tripping casing falls and body impact injuries.

Explosion
Incorrectly wired battery can result in an explosion and cause puncture wounds to the face and body from flying debris or burns to the face form and skin form battery acid.

Impeded Walkway / Exit
Setting up the unit in front of an exit or walkway can prevent safe passage of exit for individuals resulting in minor to major injuries.

Fire
Incorrect wiring of the battery can result in flammable source catching fire from sparks resulting in first second and or third degree burns.

Chemicals
Leaking or damaged battery can result in coming into contact with battery acid resulting n majors chemical burns to the hands and contaminated body parts.

Collapsing Trolley
The wheels or legs of the trolley are damaged and results in the trolley collapsing and falling over causing lower body and feet impact injuries.

Bright Lights
Looking directly into the headlights of the unit can result in temporary blindness, visual discomfort.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

The machine is an automotive electrical training unit with various automotive electrical functions.

Controls

- Students are permitted to use the equipment, under correct instruction and the lecturer or technician's supervision.

- Ensure to connect the positive to the positive first (red cable) and negative to negative (black cable) second (make sure no sparks are allowed to be generated as this may result in battery exploding causing serious damage).
- When disconnecting the battery, disconnect the black cable first.
- Lecturers or technicians must set up the unit.
- Follow the manual handling training guide lines at all times when moving the training unit or battery.
- Ensure to maintain a secure hold of the battery when transporting to and from the storage.
- Inspect the battery and handle for damage or defects prior to use, do not use if damaged or defected in any way and remove from use for safe disposal of.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Avoid the trailing of battery cables and use the battery stands mounted on the test unit.
- Ensure that the battery is wired correctly, live to the live and neutral to the neutral.
- Flammable sources must never be stored at or near the test unit when in use.
- Inspect the wheels and frame of the trolley for damage or defects prior to use, do not use if damaged or defected in any way and remove from use for repair by a competent person.
- Never look directly into the beam of the head lights when they are turned on.
- Always operate the unit where students or bystanders can look at the lights from the side on.
- Never leave the lights turned on for any longer than they are required.
- Lock the wheels of the trolley when it is in the required demonstrating or storage area.
- Follow the manufacturer's standard operating procedures at all times.
- Wear safety gloves and glasses if required to handle a damaged or defected battery.
- Ensure the test board does not block exits or walkways when in use.

Checks & Inspections

- Regular maintenance to be carried out on the equipment as specified by the manufacturer and records maintained by the Institute.
- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- MSDS
- Manual Handling Training
- PPE Training
- Chemical Handling Training

Personal protective equipment required (last resort)

- Safety boots.
- Overalls.
- Safety Gloves
- Safety Glasses

Initial Risk Rating (without any control measures)

Probability : **3** x Severity **3** = Risk Factor **9 High Risk**

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced) Probability : **1** x Severity **3** = Risk Factor **3 Low risk**
Risk Assessment Review *As and when process changes or yearly*

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Safe Work Practice Sheet AG Bloc Ignition Systems Rig	Ref: SWPS MOT 053 Date: 19/07/2014 Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Electrical
Poorly connected, loose or damaged electrical cables or plugs can result in electrocution-death or first, second and or third degree burns.

Mechanical
Severing of finger tips with rotating drive belt or linkage of wiper motor, entanglement of ling hair or loose clothing with rotating motor.

Manual Handling
Pulling or pushing the training unit to and from storage, lifting or carrying the battery or turrets can result in acute or chronic lower back and or musculoskeletal injuries.

Falling battery / Turrets
Unsecure hold of the battery when carrying, moving or placing on to the test stand, handles of the battery fail, resulting in a falling battery or training unit and impact injuries to the lower legs and feet.

Slips Trips and Falls
Poor housekeeping, personal belongings, trailing cables can result in slipping and tripping casing falls and body impact injuries.

Explosion
Incorrectly wired battery can result in an explosion and cause puncture wounds to the face and body from flying debris or burns to the face form and skin form battery acid.

Impeded Walkway / Exit
Setting up the unit in front of an exit or walkway can prevent safe passage of exit for individuals resulting in minor to major injuries.

Fire
Incorrect wiring of the battery can result in flammable source catching fire from sparks resulting in first second and or third degree burns.

Chemicals
Leaking or damaged battery can result in coming into contact with battery acid resulting n majors chemical burns to the hands and contaminated body parts.

Collapsing Trolley
The wheels or legs of the trolley are damaged and results in the trolley collapsing and falling over causing lower body and feet impact injuries.

Bright Lights
Looking directly into the headlights of the unit can result in temporary blindness, visual discomfort.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

The test board is used to carry out various functions and fault findings exercises, for example, on headlights.

Controls

- Students are permitted to use the equipment, under correct instruction and the lecturer or technician's supervision.
- Ensure to connect the positive to the positive first (red cable) and negative to negative (black cable) second (make sure no sparks are allowed to be generated as this may result in battery exploding causing serious damage).
- When disconnecting the battery, disconnect the black cable first.
- Inspect the electrical cables or plugs of the unit for damage or defects prior to use, do not use if damaged or defected in any way and remove from use for repair by a competent person.
- Ensure all machine guards are in place prior to operating the machine.
- Lecturers or technicians must set up the unit.
- Follow the manual handling training guide lines at all times.
- Ensure to maintain a secure hold of the battery or turrets when transporting to and from the storage. Use a trolley if required.
- Inspect the battery and handle for damage or defects prior to use, do not use if damaged or defected in any way and remove from use for safe disposal of.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Avoid the trailing of cables, use sockets mounted on the walls or work benches when plugging in the unit, use the battery stands mounted on the test unit.
- Ensure that the battery is wired correctly, live to the live and neutral to the neutral.
- Flammable sources must never be stored at or near the test unit when in use.
- Inspect the wheels and frame of the trolley for damage or defects prior to use, do not use if damaged or defected in any way and remove from use for repair by a competent person.
- Always operate the unit where students or bystanders can look at the lights from the side on.
- Never leave the lights turned on for any longer than they are required.
- Lock the wheels of the trolley when it is in the required demonstrating or storage area.
- Follow the manufacturer's standard operating procedures at all times.
- Wear safety gloves and glasses if required to handle a damaged or defected battery.
- Never look directly into headlights of the unit or set up in the direction of onlookers.
- Ensure the test board does not block exits or walkways when in use.

Checks & Inspections

- Regular maintenance to be carried out on the equipment as specified by the manufacturer and records maintained by the Institute.
- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- MSDS
- Manual Handling Training
- PPE Training
- Chemical Handling Training

Personal protective equipment required (last resort)

- Safety boots.
- Overalls.
- Safety Gloves

- Safety Glasses

Initial Risk Rating (without any control measures)

Probability :	**3**	x	Severity	**3**	=	Risk Factor	**9 High Risk**

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	**1**	x	Severity	**3**	=	Risk Factor	**3 Low risk**

Risk Assessment Review

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Safe Work Practice Sheet Corded and Cordless Hand Held Drills	Ref: SWPS MOT 054 Date: 19/07/2014 Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Electricity
Poorly or incorrectly connected, fitted, damaged or defected electrical cables and plugs can result in electrocution-death or first, second and or third degree burns.

Slips Trips and Falls
Poor housekeeping, personal belongings or a trailing electrical cable, hand tools lying on the ground can result in slipping and tripping causing fall impact head and body injuries.

Mechanical
Entanglement of long hair or loose clothing with rotating tool or chuck head can result in minor cuts and bruises. Cuts to hands and fingers when in contact with rotating cutting tools.

Ergonomics
Operating the tool in crunched awkward positions and for extended periods of time can result in acute or chronic lower back and upper body musculoskeletal injuries**.**

Vibration / Torque
Drilling various materials for extended periods of times can result in vibration and cause hand and vibration injuries (white finger). Drilling various materials can result in sprains to the wrist and elbow when the drill comes to a sudden stop.

Flying Debris
Drilling various materials can generate flying swarf and result in loss of sight, drill bits can shatter when in use resulting in loss of sight or minor cuts.

Noise
Drilling various materials can result in the generation of noise and cause temporary hearing discomfort**.**

Sharps
Drill bits can contain sharps resulting in minor lacerations to the hands and fingers when handled.

Falling Machine
Unsecure hold of hand tool when operating it, hand tool placed on the edge of a work bench can result in a falling tool and cause lower leg and feet impact injuries.

Person Exposed to Risk

☑Students ☑ Employees ☐ Public☐ Contractors ☐ Visitors

Work Description

The hand tools are used for drillings holes or screws etc. into various materials.

Controls

- Students are permitted to use the equipment, under the lecturer or technicians supervision.
- Where possible always use a battery operated or 110v drill.
- Where power tools are used off the mains supply the source of supply must be fitted with an RCD (residual current device).
- Inspect the electrical cable, plugs and drill for damage or defects prior to use.
- Do not use if cable or drill is defected or damaged in any way and remove from use for repair by a competent person or safe disposal of.
- Maintain good housekeeping and work area free from personal belongings at all times.
- Avoid the trailing of electrical cables where possible.
- Never leave a hand tool lying on the ground, use a nearby work bench to rest it on.
- Loose clothing must not be worn when operating the machine.
- Long hair must be neatly tied back or a well fitted cap worn.
- Never touch a rotating cutting tool.
- Never assist in stopping or slowing down a rotating tool or chuck head.
- Do not use the hand tool for long periods of time and tend to other duties for periods of rest or split the work load with another work colleague if possible.
- Maintain a firm and secure hold of the hand tool when drilling materials.
- Always place the hand tool in from the edge of a work bench when not in use.
- Wear safety glasses when drilling materials.
- Never touch swarf with bare hands.
- Wear safety hearing protection when required.
- Always use the drill as intended by the manufacturer.
- Never hold or handle a drill bit by its cutting tool head, wear gloves if required.
- Never leave a drill unattended and return to storage when no longer required.
- Always hold the tool with both hands when drilling materials.

Checks & Inspections

- Regular maintenance to be carried out according to manufacturer's recommendations and records kept by the School.
- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- PPE training.
- Safe use of operating the tool.

Personal protective equipment required (last resort)

- Safety Glasses
- Safety Boots
- Safety Gloves
- Hearing protection

Initial Risk Rating (without any control measures)

Probability :	3	x	Severity	3	=	Risk Factor	9 High Risk

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	1	x	Severity	3	=	Risk Factor	3 Low Risk

Risk Assessment Review

As and when process changes or yearly

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Safe Work Practice Sheet	Ref: SWPS MOT 055
	Date: 19/07/2014
Workshop Floor Cleaning	Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Electricity
Contact with damaged, loose or poorly maintained electrical cables can result in electrocution-death or minor injuries, first, second and or third degree burns.

Manual Handling
Pushing and pulling hoover/buffer, cleaner, moving furniture, machinery etc. can result in acute or chronic lower back and or musculoskeletal injuries.

Chemicals
Applying cleaning chemicals and emptying machinery can result in chemical burns to the eyes, hands, face and other body parts and contamination of clothing. Damage to the lungs by acute wheezing or chronic asthma from the inhalation of fumes.

Slips Trips and Falls
Poor Housekeeping, wet floors, oil and dirt on the floors, trailing cables can cause slips trips and falls resulting in broken limbs, musculoskeletal injuries, broken fingers, cuts and bruises.

Mechanical
Contact with rotating buffer can result in entanglement of long hair, loose clothing causing asphyxiation, cuts and bruises.

Person Exposed to Risk

☑ Students ☑ Employees ☐ Public ☑ Contractors ☑ Visitors

Work Description

Class aid is required to clean the floors of motor work shop by means of electrical hoover, buffer, Taski vacuum liquid sucker and liquid chemicals.

Controls

- Floor Cleaning must be carried out when students, contractors, visitors or other staff are not present.
- Food and drink are not permitted in the work shop/ lab at any time.
- Safety signage must be used when cleaning in progress.
- Inspect the electrical cable and plug of the cleaning equipment for damage or defects prior to use. Do not use if damaged or defected in any way and remove from use for repair or replacement.
- Class Assistant must not carry out repairs on cables, plugs or damaged cleaning equipment.
- All electrical repairs must be carried out by a competent person.
- Never transport cleaning equipment by pulling on the electrical cables.
- Chemicals must be stored (under lock and key controlled by class assistant) away in a designated area.
- Chemicals must remain in original containers with original Identification label description.
- Ensure that there is adequate ventilation prior to commencing cleaning and turn on the extract system where available.

- Liquid waste (Taski liquid vac hoover, bucket etc.) must be disposed of to external drains.
- Care must be taken when moving or lifting class furniture (seek assistance if required). Follow manual handling training at all time and seek assistance when required.
- Use a pallet truck for moving work benches or other items of furniture and repeat the process when returning to their original position.
- When cleaning machinery is in use, trailing electrical cables must be draped over shoulder of class assistance.
- Remove and replace any clothing contaminated by chemicals.
- When using a mop bucket do not over fill with water.
- When chemicals are required for cleaning ensure to apply them sparingly.
- On completion of cleaning, all cleaning machinery must be returned to storage.
- Observe where cleaning machinery cables are at all times, avoid walking over cables where possible.
- Always use cleaning equipment and chemicals as intended by their manufacturer.
- Never touch the rotating parts of cleaning machinery with any body part.
- Never wear loose clothing when operating cleaning machinery.
- Long hair must be neatly tied back or a well fitted cap worn.

Checks & Inspections

- Cables and Plugs on electrical machines must be checked before use.

Information, Instruction & Training

- Manual handling training.
- Chemical Handling training.
- PPE training.
- MSDS

Personal protective equipment required (last resort)

- Wear safety glasses, boots and gloves when cleaning in operation

Initial Risk Rating (without any control measures)

Probability :	3	x	Severity	3	=	Risk Factor	9 High Risk

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	1	x	Severity	3	=	Risk Factor	3 Low Risk

Risk Assessment Review

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Safe Work Practice Sheet Mobile Air Compressor	Ref: SWPS MOT 056 Date: 19/07/2014 Assessed by: G. Caffrey Approved by: E. Roe

Hazards

Electricity
Incorrectly wired, damaged compressor power cables or plug can result in electrocution-death and or first second and third degree burns.

Manual Handling
Pushing, pulling and wheeling the compressor into required work area can result in lower back injuries.

Hot surfaces
Parts of the machine may become heated from compressing air and can cause burns to the hands if in contact with hot surface.

Slips, trips and falls
Poor housekeeping, personal belongings, machine power cable and air lines can cause slips and trips resulting in impact head injuries from falls.

Explosions
Badly maintained or damaged machine can result in flying missiles from explosions and cause loss of sight, puncture wounds to various body parts.

Fire
Flammable fuel sources may ignite when in contact with machine hot parts and cause burns to the skin or respiratory illness from inhalation of smoke.

Whipping air lines
Poorly fitted or damaged airline hoses etc. may result in uncontrolled whipping action that results in loss of sight, and minor bruising.

Falling Machine
Machine falls as a result of damaged wheels and results in crushing of feet.

Person Exposed to Risk

☑Students ☑ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

The machine is used for pressure testing of class projects.

Controls

- Group gatherings are not permitted with this machine unless under the lecturers supervision.
- Students are permitted to operate the machine, under correct instruction and the lecturer or technician's supervision.
- Inspect the machine, power cables and plug for any defects prior to use.
- If required, seek assistance to manoeuvre machine into the required work shop. Follow manual handling training guidelines at all times.
- Ensure wheels on the compressor are in good working order prior to use.
- Do not touch hot parts of the machine during and after use.

- Use the machine handle when transporting the machine to and from storage.
- Maintain machine work area free from clutter and personal items.
- Maintain good housekeeping at all times.
- The wearing of loose or nylon clothing is prohibited.
- Long hair must be neatly tied back or a cap worn.
- Personal belongings and materials must not be stored on top of or beside the machine.
- Ensure cut out switch is good working order.
- Wear safety glasses at all times when operating the machine.
- Flammable materials must not be stored at or near the machine.
- Never drag the machine by the airline hoses.
- Ensure all quall plex and airlines are free from damage or defects and securely fitted prior to use.
- Switch off the machine when it is no longer required for use.

Checks & Inspections

- Regular maintenance to be carried out according to manufacturer's recommendations and records kept by the School.
- Lecturers and technicians to monitor compliance with control measures
- Lecturers and technicians to monitor the wearing of PPE

Information, Instruction & Training

- Manual handling training
- PPE training

Personal protective equipment required (last resort)

- Safety Glasses
- Safety Boots

Initial Risk Rating (without any control measures)

Probability :	3	x	Severity	3	=	Risk Factor	9 High Risk

KEY		
PROBABILITY	**SEVERITY**	**RISK FACTOR**
Probable 3	Critical 3	1-3 Low Risk
Possible 2	Serious 2	4 Medium Risk
Unlikely 1	Minor 1	6-9 High Risk
Risk Factor = Probability x Severity		

Risk Reduction Rating (after controls introduced)

Probability :	1	x	Severity	3	=	Risk Factor	3 Low Risk

Risk Assessment Review

As and when process changes or yearly

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Safe Work Practice Sheet General Health and Welfare Provisions	Ref: SWPS 015 Date: 2/02/2011 Assessed by: P. Killeen Approved by: E. Roe

The workplace regulations (general application) regulations 2007 S.I. No. 299 in particular regulation 18 and 19 gives specific standards to be maintained in the place of work.

These regulations refer to adequate facilities for "taking meals / consumption of food" "cleanliness," also that rest areas are "large enough". These facilities must be kept in a state that is free from accumulations of any dirt, dust etc..

Regulation 18 states:

(f) "the taking of meals by employees is prohibited at any location in the place of work where there is likely to be a risk to safety, health or welfare."

The motor workshop store would not be deemed suitable as a place for taking meals (which includes beverages) for a number of reasons including the space limitations, the location of items stored at height, the lack of hygiene facilities and the fact that it is deemed a work area for a member of staff. The fact that it is a store within a workroom.

Regulation 19 states:

An employer shall ensure that—
"(a) where, because of—
(i) the type of activity carried out, or
(ii) the presence of more than a certain number of employees, and
(iii) the safety, health and welfare of employees so requires,
employees are provided with an easily accessible rest room or appropriate rest area,"

providing relaxation during breaks,
(b) rest rooms are large enough and equipped with tables with easily cleaned surfaces and seats with backs, adequate for the number of employees,

The motor workshop and store would not meet the criteria set out in section 19 above, because of the work activity carried out (where there is a presence of dirt and dust) and (it is deemed a work area) and (Insufficient space). Therefore under both sections of the Safety, Health and Welfare at Work (general application) regulations 2007 DkIT would be breaching the requirements.

Washing, food preparation and eating areas are made available at various locations: The Well, The Coffee Dock, The Main Canteen, The Staff Room.

Information, Instruction

To meet the requirements of Health and Safety Legislation and to ensure that good hygiene practices are employed at all times, it is prohibited to consume or bring into laboratories or workshops any drinks or beverages.

Signed: _____

Head of School of Engineering

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EMERGENCY RESPONSE	Ref: SWPS 016
	Date: 26/01/2011
	Assessed by: P. Killeen Approved by: E. Roe

Person Exposed to Risk

✓ Students ✓ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

Emergency protocol for everyday working environment.

Emergency Contacts

- Dial 9 for an outside line, then 999 or 112 and you will be connected directly to the emergency services.
- Be prepared to give the following information:
- Information on the condition of the victim, if there is a casualty.
- Details of any hazards, i.e. fire/chemical/gas/radiation/biohazard etc.
- Exact location of the accident (room number and building).
- Call the Estates Office (2671/2670) and give the above details.
- If deemed necessary, contact the Nurse (2777) and trained Department first aiders.
- Call Reception (500), ask them to alert the caretaker on duty and give them the above details.
- Report to the Head of Department, Head of School, and your Supervisor (where relevant).
- As soon as practically possible, report the accident on an accident/incident report form and submit to the Head of Department/ Head of School of Engineering

- Emergency contact numbers are strategically located throughout the School of Engineering

Fire Fighting Equipment

The majority of fire-fighting equipment points are located in workshops, laboratories and on each floor in the School of Engineering building. There are a number of trained fire wardens in the School. Fire warden courses are run on a regular basis and are available through the Estates Office. The School abides by the Institute Policy and Procedures on fire safety.

Information, Instruction & Training

All training in First Aid, Emergency Response, and Fire Safety/Wardens is available through consultation with your Head of Dept and HR Office. The School abides by the Institute Policy on first aid safety.

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EMERGENCY CONTACT NUMBERS	Ref: SWPS 017 Date: 26/01/2011 Assessed by: P. Killeen Approved by: Eugene Roe

Person Exposed to Risk

✓ Students ✓ Employees ☐ Public ☐ Contractors ☐ Visitors

Work Description

Important contact details which are available throughout all Departments in case of emergency

General

- Ambulance/Fire Brigade: 112 or 999
- Health Centre/Campus Nurse: 2777
- Doctor: Dr. Shane Gleeson: 2702/ 042 9320038
- Hospital: Louth Hospital: (042) 933 4701

A List of First Aiders is prominently displayed in all workshops and Lab Locations

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Appendix IV

Accident / Incident, Near Miss and Dangerous Occurrence Reporting Procedures

ACCIDENT, INCIDENT, NEAR MISS AND DANGEROUS OCCURRENCE REPORTING PROCEDURES

Dundalk Institute of Technology is committed to reducing accidents and ill-health to staff and students of the Institute. Procedures are in place in the Institute to ensure that all Accidents, Near Misses and Dangerous Occurrences are recorded. These procedures not only ensure compliance with the law, but are also used as a basis for analysing trends throughout the Institute, in an effort to reduce accidents and ill-health to staff and students. All reports are reviewed at each meeting of the Institute Safety Monitoring Committee.

The purpose of an investigation is to establish all the facts relating to the incident, to draw conclusions from the facts and to make recommendations to prevent reoccurrence. Each incident will be looked at from the point of view of place, plant, procedures and people, to see where the safety system has failed and to tighten controls. It is important to note the definitions of all incidents (Accidents, Near Misses & Dangerous Occurrences) in order to take the correct action.

DEFINITIONS

An **Accident** is defined as an unplanned event resulting in personal injury or property damage. This could include, but is not limited to:

- Sprain
- Laceration
- Broken bone
- Concussion
- Unconsciousness
- Ill-health
- Sickness due to exposure to a dangerous substance, fumes or gases, fire or explosion
- Sickness due to a chemical spill or environmental pollution
- Damage to building
- Damage to property

A **Near Miss** is defined as an incident in which there was no injury or property damage but where the potential for serious consequences existed.

A **Dangerous Occurrence** is one of a number of specific, reportable adverse events, which are defined within the Twelfth Schedule of the General Application Regulations 2007. Dangerous Occurrences are reportable to the Health & Safety Authority (HSA) using Form lR3 or via the HSA online notification process. Any Dangerous Occurrences which are notifiable to the HSA will be forwarded by the Health & Safety Co-ordinator.

These are incidents with a high potential to cause death or serious injury, but which happen relatively infrequently. Dangerous occurrences usually include incidents involving:

- Lifting equipment
- Pressure systems
- Overhead electric lines
- Electrical incidents causing explosion or fire
- Explosions, biological agents
- Radiation generators and radiography
- Breathing apparatus
- Diving operations
- Collapse of scaffolding
- Train collisions
- Wells
- Pipelines or pipeline works

All Accidents are 'Incidents'. However, the definition of an Incident is wider in that it includes Dangerous Occurrences and Near Misses.

REPORTING PROCEDURES

All incidents must be reported immediately using the DkIT relevant incident report forms. These are located in the Parent Safety Statement and also on the DkIT website at https://www.dkit.ie/safety/incidents-accidents-reporting-procedures. All sections of the form must be completed with as much accurate information as possible.

The immediate supervisor must investigate the cause of the incident, and complete the Institute Accident/Incident Report Form or Near Miss Form. A copy of this form must then be made available to the Head of Department/School/Function for review and final sign off. Copies of the completed form should be forwarded to the Health & Safety Co-ordinator, Secretary/Financial Controller and the Estate's Office. Copies of these forms are contained within this document.

Accidents involving visitors and contractors must be investigated by the staff member to whom the injury was reported, in conjunction with the staff member they are visiting or working with.

Accidents, which involve serious or fatal injuries to an employee, student or any third party must be notified to the Health and Safety Co-ordinator and the HSA without delay.

Any accidents at work that involve an employee being unable to carry out his/her duties for three or more consecutive days, or that involve a third party being injured and requiring treatment from a medical practitioner, are reportable to the HSA and must be notified using Form lR1 or via the HSA online process, as soon as practicable. Dangerous Occurrences are reportable to the HSA using Form lR3 or via the HSA online notification process. Any incidents, which are notifiable to the HSA, will be forwarded to the HSA by the Health & Safety Co-ordinator.

Internal Reporting Procedure

It is the responsibility of each Head of Department/School/Function to ensure that the appropriate investigation procedures take place in the event of an Accident, Near Miss or Dangerous occurrence arising in their area. Heads of Department/School/Function must also ensure that the appropriate forms are completed and forwarded to **each** of the relevant parties (i.e. Estates Office, Secretary/Financial Controller, Health & Safety Co-ordinator).

It is the responsibility of the Health & Safety Co-ordinator to ensure that all reported incidents are tabled and discussed at each ISMC meeting.

External Reporting Procedure

Arising from the internal reporting procedure, any incidents, which are notifiable to the HSA, will be forwarded to that body by the Health & Safety Co-ordinator.

ACCIDENT / INCIDENT REPORT FORM

Note:
This form should be completed whenever an accident or incident occurs which results in injury or damage to personnel or property.
If personnel or property WERE NOT injured or damaged during the Accident/ Incident, do not use this form. Use the NEAR MISS REPORT FORM.

Accident / Incident Report Form			
i	**Name of person involved in Accident/Incident:**		
ii	**Address:**		
	Phone:		
iii	**Who was involved in the Accident/Incident:** ☐ **Student** ☐ **Employee** ☐ **Public** ☐ **Contractor** ☐**Visitor**		
iv	**Occupation:**		
v	**If an employee of the Institute please state Department:**		
vi	**If no, please elaborate:**		
vii	**Particulars of Accident/Incident & circumstances under which the Accident/Incident occurred:** *Use additional pages and/or photos if necessary.*		
viii	**Place:**		
ix	**Time:**	**Date:**	
x	**Witness Phone No & Address:**		
	Witness Phone No & Address:		
xi	**When and to whom was the Accident/Incident initially reported?**		

xii **Details of injury/damage:**

Indicate type of injury (put an 'x' in one box only)

- ☐ Bruising, contusion
- ☐ Concussion
- ☐ Internal injuries
- ☐ Open wound
- ☐ Abrasion, graze
- ☐ Amputation
- ☐ Open fracture (i.e. bone exposed)
- ☐ Closed fracture
- ☐ Dislocation
- ☐ Sprain, torn ligaments
- ☐ Suffocation, asphyxiation
- ☐ Gassing
- ☐ Drowning
- ☐ Poisoning
- ☐ Infection
- ☐ Burns, scalds and frostbite
- ☐ Effects of radiation
- ☐ Electrical injury
- ☐ Property damage, Specify_____
- ☐ Other, Specify_____

xiii **Indicate part of body most seriously injured (put an 'x' in one box only):**

- ☐ Head, except eyes
- ☐ Eyes
- ☐ Neck
- ☐ Back, spine
- ☐ Chest
- ☐ Abdomen
- ☐ Shoulder, upper arm, elbow
- ☐ Lower arm, wrist, hand
- ☐ Fingers, one or more
- ☐ Hip joint, thigh, knee cap
- ☐ Knee joint, lower leg, ankle
- ☐ Foot
- ☐ Toes, one or more
- ☐ Extensive parts of the body
- ☐ Multiple injuries
- ☐ Other, Specify_____

xiv **Consequences of the Accident/Incident:**

Fatal ☐

Non Fatal ☐

Date of resumption of work if back

Year ____ Month _____ Day ___

Anticipated absence if not back

4-7 days ☐

8-14 days ☐

More than 14 days ☐

xv **Treatment:**

xvi **Doctor's report and recommendation:**

xvii **Steps taken to prevent reoccurrence of this type of Accident/Incident:**

Signature of person completing report:	**Date:**
Print Name & Job Title:	
Signature of Head of Department/School/Function:	**Date:**
Print name:	

(Copies of the completed Institute Accident Report are to be sent <u>separately</u> to the Institute Health & Safety Co-ordinator, the Secretary/Financial Controller and the Estates Office)

NEAR MISS REPORT FORM

Note:
This form should be completed whenever a Near Miss occurs - that is an incident WITHOUT injury to person or damage to property.
If personnel or property were injured or damaged during the incident, do no use this form. Use the 'ACCIDENT / INCIDENT REPORT FORM'.

NEAR MISS REPORT FORM			
i	**Date of Near Miss:**	**Time of Near Miss:**	
ii	**Location of Near Miss:**		
iii	**Who was involved in the Near Miss:** ☐ **Student** ☐ **Employee** ☐ **Public** ☐ **Contractor** ☐**Visitors**		
iv	**Name of person(s) involved in Near Miss:**		
v	**Name, Address & Contact details of any witnesses to Near Miss:**		
vi	**Description of Near Miss:**		
vii	**Steps taken to prevent a reoccurrence of this type of Near Miss incident:**		
	Signature of person completing report:		**Date:**
	Print Name & Job Title:		
	Signature of Head of Department/School/Function:		**Date:**
	Print name:		

(Copies of the completed Near Miss Report Form are to be sent to the Health & Safety Co-ordinator, the Secretary/Financial Controller and the Estates Office)

First Aid and Emergency Contacts

	Location	
Jim Connolly	Mechanical Engineering Workshop	Ext 2966
Phil Dillon	Engineering Administration	Ext 2754
Simon O' Neill	Plumbing Workshop	Ext. 2847
Larry Quigley	Plumbing Workshop	Ext. 2594
Nick O'Rourke	Plumbing Workshop	Ext. 2593
Alan Gorham 9396510	Plumbing Workshop	042

- Ambulance/Fire Brigade: 112 or 999
- Health Centre/Campus Nurse: 2777
- Doctor: Dr. Shane Gleeson: 2702/ 042 9320038
- Hospital: Louth Hospital: (042) 933 4701

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