

Code of Practice for the Training of Operators
and the Safe Operation of Ride-on and
Pedestrian Operated Cleaning Equipment





*Code of Practice for the Training of
Operators and the Safe Operation of*

**RIDE-ON AND PEDESTRIAN
OPERATED CLEANING EQUIPMENT**

June 2011

This Code of Practice is compiled and published by:

Industrial Cleaning Machine Manufacturers Association
Salisbury House
London Wall
London
EC2M 5QQ

Tel: 0207 920 9638

Fax: 0207 638 6990

E-mail: secretariat@icmma.org

Website: www.icmma.org

Compliance with this Code of Practice is not compulsory and organisations are free to apply their own operating standards and criteria. However, if you do comply with this Code of Practice you will normally be doing enough to comply with current legislation. Local Authority and Health and Safety inspectors seek to ensure compliance with the law and may refer to this document as illustrating good industry practice.

European Directives: Directives made under Article 118A of the Treaty of Rome set minimum requirements for the protection of workers. The common theme of these directives, implemented in Great Britain by Regulations made under the Health and Safety at Work Act 1974, is to require employers to assess risks to their employees and others and to implement control measures that either eliminate the hazards or reduce the risks from them. For full details of the requirements reference should be made to the implementing Regulations and associated guidance. However the guidance in this document should assist employers in assessing the hazards and identify suitable control measures for the safe operation of cleaning and sweeping equipment. The relevant European Directives that have been adopted at the date of publication of this document are listed in Appendix 2 and their implementing Regulations included in Appendix 1. It is, however, to be noted that English, Scottish, Welsh and Northern Irish law applies to the United Kingdom and enacts the European Directives.

Acknowledgements

ICMMA offers its grateful thanks to all the organisations that gave their time and assistance towards the compilation and preparation of this Code of Practice.

©ICMMA 2010.

No part of this publication may be stored in a retrieval system or transmitted neither in any form nor by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of the copyright holders.

CONTENTS

SECTION 1 - EQUIPMENT CATEGORIES

- 1.1 RIDE-ON
- 1.2 PEDESTRIAN OPERATED

SECTION 2 - TRAINING & ASSESSMENT OF OPERATORS

- 2.1 FOREWORD
- 2.2 SELECTION OF OPERATORS FOR TRAINING
- 2.3 TRAINING OF OPERATORS
- 2.4 BASIC TRAINING
- 2.5 TRAINING AREA AND FACILITIES
- 2.6 TRAINING STRUCTURE AND CONTENT
- 2.7 SPECIFIC JOB TRAINING
- 2.8 PRACTICAL OPERATIONS TRAINING
- 2.9 ASSESSMENT
- 2.10 FURTHER OPERATOR TRAINING
- 2.11 INSTRUCTOR SELECTION AND TRAINING
- 2.12 ASSESSORS
- 2.13 COMPETENCY CERTIFICATION AND RECORDS

Annex 1 Example of Employees Training Record

SECTION 3 - THE SAFE OPERATION OF EQUIPMENT

- 3.1 EQUIPMENT CATEGORIES
- 3.2 MANAGEMENT OF OPERATIONS
- 3.3 LAYOUT AND MAINTENANCE OF AREAS
- 3.4 EQUIPMENT PARKING AND STORAGE AREAS
- 3.5 PROTECTION OF PERSONNEL

SECTION 4- CLEANING EQUIPMENT

- 4.1 EQUIPMENT CHARACTERISTICS
- 4.2 MOTIVE POWER AND RISKS OF FIRE OR EXPLOSION
- 4.3 MAINTENANCE
- 4.4 PORTABLE APPLIANCE TESTING (P.A.T.)

- APPENDIX 1** STATUTORY REQUIREMENTS
- APPENDIX 2** RELEVANT EUROPEAN DIRECTIVES
- APPENDIX 3** HSE PUBLICATIONS
- APPENDIX 4** TRAINING ORGANISATIONS
- APPENDIX 5** GUIDE TO MEDICAL STANDARDS FOR EQUIPMENT OPERATORS
- APPENDIX 6** ICMMA GUIDELINES FOR BASIC TRAINING

SECTION 1- EQUIPMENT CATEGORIES

The purpose of this Code of Practice is to give general guidance on the safe operation and use of cleaning equipment and ancillary attachments. In all cases the operating instructions of the manufacturer or authorised supplier should be followed. This Code of Practice is not intended to cover driver-operated equipment covered by HGV regulations.

Although the list of equipment illustrated and described in this section are the main types covered by this Code of Practice, the list is not intended to be definitive but to demonstrate the diversity of types of equipment available. When choosing equipment, care should always be exercised in matching the stated capability of equipment with the duties intended to be carried out.

1.1 **RIDE-ON**

This category covers battery, LPG, petrol and diesel powered ride-on equipment. Types within this category include scrubber driers, vacuum sweepers and combined sweeper/scrubber driers. It should be noted that some types of equipment may be specifically designed for street or public highway operation and will be covered by the Road Traffic Act. In these cases careful checks should be made of all statutory items such as lights, mirrors, hazard lamps and signs prior to operation, by the driver/operator.

1.2 **PEDESTRIAN OPERATED**

Equipment in this category is generally battery or mains electricity powered although some manufacturers offer an internal combustion engine alternative for outdoor use. Types within this category include scrubber driers and sweepers and may also incorporate a ride-on option. It should be noted that some types of equipment may be designed for street or public highway operation. In these cases careful checks should be made of all statutory items such as lights, mirrors, hazard lamps and signs prior to operation, by the driver/operator.

SECTION 2- TRAINING & ASSESSMENT OF OPERATORS

2.1. FOREWORD

In 2009 – 2010, there were over 3,400 accidents to cleaning operatives in the UK. Accidents can frequently be associated with lack of suitable operator training. Such training is an essential first step in preventing and reducing damage and injury to key personnel. Safe operation of any plant or equipment requires proper training. It is quite wrong to assume that because an employee holds a licence to drive, say, a motor vehicle on the public highway he or she has the skills to operate a ride-on cleaning or sweeping machine.

SCOPE AND INSTRUCTIONS

Employers are responsible for ensuring that adequate training is provided for their employees. Employers should satisfy themselves that any training given takes account of these guidelines.

- i. Employers have a responsibility to provide adequate supervision and it is essential that supervisors themselves have sufficient knowledge to recognise unsafe operation of equipment. Employers, supervisors and employees should have read and be familiar with the
- ii. instruction manuals of the equipment they use. External qualifications accredited by a recognised third party may be appropriate. Experienced operatives may also act as supervisors, but their competence should be checked to ensure that they have not learned incorrect procedures.

- iii. Where safety representatives have been appointed by a trade union in accordance with the Safety Representatives and Safety Committee Regulations 1977, or otherwise appointed under the Health and Safety (Consultation with Employees) Regulations 1996, the safety representatives should be advised of the training arrangements for cleaning equipment operators. Safety representatives can play an important role in encouraging the safe operation of equipment.

- iv. Self-employed operators also have training responsibilities. Section 3(2) of the Health & Safety at Work Act 1974 (HSW Act) places a duty on self employed people to conduct their undertakings in such a way as to ensure, so far as is reasonably practicable, that they and other people (not being their employees) who may be affected are not exposed to risks to their health and safety. Where self-employed people operate cleaning equipment it is equally important that they have undergone adequate training and therefore these guidelines are also addressed to them.

- v. Employees too have responsibilities. Section 7 of the HSW Act requires them to take reasonable care for their own health and safety and that of other people. They must co-operate with their employers to assist them in complying with their statutory duty to ensure the health, safety and welfare of their employees. Section 3 of the HSW Act requires that employees should not interfere with or misuse anything provided in the interest of health, safety and welfare under health and safety legislation.

2.2 SELECTION OF OPERATORS FOR TRAINING

- i. Employers should carefully select potential cleaning equipment operators. Those selected for training should be reliable and have the ability to do the job in a responsible and competent manner.
- ii. Cleaning equipment operators should be over the minimum school leaving age. Operators of ride-on equipment should be at least 17 years old.
- iii. Those selected should have a reasonable degree of both physical and mental fitness, and intelligence. However, people with disabilities may well be able to work safely with cleaning equipment and in such cases medical advice may be advisable. Employers should ensure that they are compliant with the Disability Discrimination Act 2005 and the Equality Act 2010. Completion of a health questionnaire by potential operators is also advisable. Further information on medical considerations is given in the Guide to Medical Standards for Equipment Operators at Appendix 5.
- iv. Where employees claim to be trained or have sufficient operating experience already employers should insist upon evidence of it. They should satisfy themselves that the training and experience is in fact sufficient and suitable for the particular equipment to be operated safely in the working environment concerned. Where evidence is not available employers should require employees to be assessed and if necessary receive sufficient training to be competent.
- v. It may be useful to apply a selection test to avoid wasteful attempts to instruct unsuitable trainees.
- vi. Some employees may not have a good command of the English language. To ensure that training and information is satisfactory for them, it may be appropriate to use pictograms and translations of key documents. Similarly, potential literacy and numeracy issues should be considered to ensure that training is accessible for all.

2.3 TRAINING OF OPERATORS

- i. The training of equipment operators should always include the following three stages of training:
 - *Basic training* - the basic skills and knowledge required for safe and competent operation of cleaning equipment
 - *Specific job training* - knowledge of workplace and experience of any special needs and attachments
 - *Practical operations training* - operation in a 'real' working environment under close supervision

- ii. The first two stages may be combined or integrated but should always be carried out sheltered from production and/or other pressures. In either scenario it is essential that each stage is fully covered with due regard to the experience, if any, of the trainees and the category or categories of equipment that they will be expected to operate. The third stage should be carried out in a 'real' working environment, but under close supervision. This training may be carried out both on or off site as appropriate.
- iii. This Code of Practice applies to all operators. It should serve as a benchmark for the employers of existing cleaning equipment operators, as well as those newly employed to operate cleaning equipment. It also provides a guide for self-employed operators. This Code of Practice covers the categories of equipment shown in Section 1 which excludes those requiring HGV licensing.
- iv. Training in itself will not ensure the competence of individual operators which will develop with experience and should be monitored. Continued supervision will be necessary to ensure that good standards of operation are maintained.
- v. No person should operate equipment unless he or she has satisfactorily completed basic training and assessment as detailed in this document. Prior learning may be taken into account, but verification of such prior learning will need to be assessed and confirmed.

2.4 BASIC TRAINING

Basic training should cover fully the skills and knowledge required for the safe operation of equipment and ancillary attachments (if any) which the trainee will be required to operate.

Basic training should include the following objectives:

On completion of training the trainee should be able to:

- i. State the reasons for operator training and potential causes of accidents during the use of cleaning equipment.
- ii. State the responsibilities of operators to themselves and others, including their duties under sections 7 and 8 of the Health & Safety at Work Act.
- iii. Identify the basic construction and main components of the relevant equipment, stating the principles of operation and cleaning capabilities.
- iv. Identify ancillary attachments that may be used with the equipment.
- v. Be familiar with current legislation on the safe use of chemicals.
- vi. Identify various types of cleaning tasks and state the procedure for effective and competent equipment operation for that task.

- vii. Observe correct procedures when operating the equipment, referring to the manufacturer's instructions.
- viii. Use the appropriate Personal Protective Equipment (PPE) as set out in the risk assessment and method statement for the relevant cleaning task.
- ix. Carry out safety checks before and after using the equipment as set out in the manufacturer's instructions.
- x. Where applicable state the purpose of, and the procedures for the use of, relevant safety devices.
- xi. Clean equipment and accessories.
- xii. Disconnect, reconnect and charge batteries and re-fuel equipment. Disconnect and reconnect mains electricity powered equipment.
- xiii. Park/store the equipment, observing correct procedures and precautions.
- xiv. Carry out inspection and maintenance tasks appropriate to operators as required by the equipment's manufacturers or suppliers and any relevant legislation.
- xv. State the action to be taken in an emergency.

2.5 TRAINING AREA AND FACILITIES

- i. Basic training may be given at a suitable training centre or venue, or on the client's or employer's premises.
- ii. Equipment should be in good mechanical condition and suitable for the particular operation covered.
- iii. A suitable manoeuvring area should be provided and appropriately marked. Whilst training is in progress this area should be restricted to the instructor and the trainee(s). The area should be representative of the types of environment and surfaces likely to be encountered in practice.
- iv. A training room or other suitable accommodation, together with appropriate training aids, should be used when such facilities are available to enable the instructor to cover the principles of cleaning equipment operation out of the work environment.

2.6 TRAINING STRUCTURE AND CONTENT

- i. Training should be practical in nature and of sufficient length to enable trainees to acquire the basic skills and knowledge required for safe and competent operation. It should not be altered to suit immediate operational requirements. The manufacturer's manuals for the equipment should be an integral part of the training content.

- ii. The ratio of instructors to trainees should be such as to allow each trainee adequate time to practice operating the equipment under close supervision and to prepare for the practical assessment. As guidance ICMMA recommends a ratio of 1 teacher for every 6 trainees.
- iii. Training should follow a carefully devised programme, which ensures that each stage is introduced in an appropriate sequence, building on what has gone before, and allowing adequate time for learning and practice before the next stage is tackled. The easier skills should be dealt with first before progressing to more difficult operations. At each stage the instructor should demonstrate safe operation, which should then be practised by the trainees under direct supervision.
- iv. Basic training should be linked to one or more identified types of cleaning equipment and possibly also to specific equipment attachments. If the operator is subsequently required to operate another type of equipment, or there is a change of ancillary attachments, additional conversion training will be required. Training should also cover the use of consumables, accessories to the machine and appropriate maintenance as set out in the manufacturer's instructions.

2.7 SPECIFIC JOB TRAINING

Specific job training is a further essential element of training. The specific job training should normally follow the completion of basic training but may be combined or integrated with it.

Specific job training will be tailored to the employer's individual needs and should include, where appropriate:

- i. Knowledge of the operating principles and controls of the equipment to be used, especially where those relate to ancillary attachments or where the controls differ from those on which the operator has been previously trained.
- ii. Routine inspection and servicing of that equipment in accordance with the operator's handbook and/or any other instruction issued by the manufacturer should be covered, in so far as they may reasonably be carried out by the operator. This should be repeated where the design of equipment is changed.
- iii. Use of the equipment in conditions that the operator will meet at work, e.g. conditions that are representative of the environment and surfaces likely to be encountered in practice.
- iv. Instructions on site rules, site layout, general emergency procedures, use of protective clothing and equipment, sludge, dust, effluent storage or disposal, hearing protection (where appropriate) and any specific site hazards.
- v. Training in the particular work to be undertaken on the specified site.

2.8 PRACTICAL OPERATIONS TRAINING

This is the third element of training. It should be carried out on the job, covering the application *under realistic working conditions* of the skills already learned. It should include all particular features of the work that it is not practicable to teach off the job. Close supervision is essential and could be given by the trainee's usual supervisor provided these objectives are met.

2.9 ASSESSMENT

- i. The instructor should make continuous assessment of a trainee's progress to ensure that the required standards are achieved at each stage of the training. The trainees should be required to prove competence for the safe operation of equipment to the employer's satisfaction.
- ii. Employers may wish their employees to be assessed to the relevant standards such as National (Scottish) Vocational Qualifications, or the BICSc Cleaning Operative Proficiency Scheme.

2.10 FURTHER OPERATOR TRAINING

Refresher training may be appropriate for trained and experienced equipment operators, particularly if they have not operated equipment for some time or there is a change in their working conditions, the equipment in use, or any health and safety risk. ICMMA recommends a maximum period of 3 years for refresher training. Conversion training, to enable operators to extend the range of equipment they are qualified to operate, may also be appropriate.

INSTRUCTOR SELECTION AND TRAINING

- i. The instructor/trainer must be appropriately qualified as competent.

This may include:

- The appropriate Unit Certificates indicating competence to National Occupational Standards.
 - The appropriate certificates indicating competence to the relevant BICSc Cleaning Operative Proficiency Scheme.
 - Manufacturer endorsement of training competence on appropriate equipment.
- ii. A good instructor should:
 - have the ability to adapt his or her approach to suit the needs of different trainees
 - be able to communicate effectively
 - be able to lead and control

2.12 ASSESSORS

Assessors must hold or be working towards (and achieve within 12 months of starting) the Employment NTO Unit Certificate(s) D32 and D33 as appropriate or, be able to show actual evidence of an appropriate assessor qualification for the BICSc COPC scheme. Assessors should be independent of the trainers whose work they assess.

2.13 COMPETENCY CERTIFICATION AND RECORDS

- i. Employers should not authorise personnel to operate equipment on any premises without the approved and relevant certificate of competence (except in the case of a trainee under close supervision).
- ii. The employer should keep Personnel Training Records (an example of which can be found at Annex 1 of this section) for each employee who has satisfactorily completed training and assessment in accordance with this Code of Practice. The record should include sufficient information to identify the employee and the nature of training and assessment completed. The record should either include or record the details of the Certificate of Competence and be signed by the trainee.

Annex 1 Example of Employee's Training Record

Company name and address:

Employee's full name:

Payroll Number:

Department:

N.I. Number:

Basic Training

Type of equipment used for training:

Model:

Attachments:

Organisation carrying out training:

Course description, location, reference number:

Duration and date of course:

Name of instructor:

Ref. number:

Date of assessment:

Name of Assessor:

Ref. Number:

Specific Job Training

Equipment used for training:

Model:

Number:

Instructed by:

Duration of training:

Date of training:

Familiarisation Training

Equipment used for training:

Model:

Number:

Instructed by:

Duration of training:

Date of training:

Details of Certificate of Competence

Date of issue:

Equipment category:

Issuing body:

Signature of Employee

Signature of Trainer

SECTION 3- THE SAFE OPERATION OF EQUIPMENT

3.1 EQUIPMENT CATEGORIES

The responsibility for the safe operation of cleaning equipment lies with:

- Occupiers of premises undergoing cleaning
- Employers of operators of such equipment (including self employed sub-contractors)
- Managers of cleaning operations
- Supervisors of cleaning operations
- Operators of cleaning and sweeping equipment
- Other personnel working on or near the specified equipment

The aim of this Code of Practice is to underpin that responsibility with common sense guidance on the training of operators and subsequently the safe operation of all categories of cleaning equipment shown in Section 1.

3.2 MANAGEMENT OF OPERATIONS

Of the many reasons for accidents causing injury or damage in the work place the main ones are:

- Lack of operator training
- Wilful misuse of equipment
- Unsuitable areas of operation
- Poor equipment maintenance

All of these can be avoided by the effective control of equipment use. It is, therefore, the responsibility of management to regularly assess cleaning operations and ensure that safe systems of work are in place to eliminate or reduce risks as far as is 'reasonably' possible.

- i. Safe systems of work should include adequate procedures for:
 - Equipment operator training
 - Equipment, traffic and pedestrian movement
 - Control and maintenance of equipment
 - Review of relevant Risk Assessment
- ii. These systems should be regularly monitored and updated. Such activity forms part of management's overall safety responsibilities.
- iii. Operation managers and supervisors of cleaning operations should be adequately trained and assessed to the relevant standards, e.g. National Occupational Standards or BICSc COPC, in the principles of the safe operation of cleaning equipment. Managers and supervisors should, in addition, possess sufficient knowledge of equipment operation to be capable of recognising the training needs of the equipment's operators, and any inadequacies or shortcomings in the operation of the equipment.

3.3 LAYOUT AND MAINTENANCE OF AREAS

- i. Employers should ensure the safe movement of cleaning equipment as part of their overall safety policy for people, plant and equipment under Section 2 of the Health & Safety at Work Act. Self employed people and sub-contractors will have similar responsibilities under Section 3 of the Health & Safety at Work Act. The Workplace (Health Safety and Welfare) Regulations 1992 require that pedestrians and vehicles can circulate in a safe manner. Further guidance on these Regulations can be found in the relevant HSE publications.
- ii. Work areas should have sufficient width and overhead clearance for the largest pieces of cleaning equipment in use to operate safely and, if necessary, to allow vehicles/machines and operators to pass each other in safety. Attention should be paid to reducing risks at points where cleaning equipment might meet vehicular or pedestrian traffic.
- iii. Where practicable, people and vehicular traffic should be prevented from entering areas in which cleaning equipment is operating. Where this is not practicable, for example during daytime cleaning operations, an assessment of the risks to people should be made, recorded and procedures put in place that adequately control the risks. Clear direction signs and the marking of areas undergoing cleaning operations can help to avoid unnecessary people and vehicular traffic movements. Safety signs should conform to current safety signs regulations.
- iv. Where hazards cannot be removed the risk should be reduced following the recommendations of the risk assessment for the activity. This may include the use of barriers, signs or cones, which are clearly marked with the appropriate colours and markings. Where barriers cannot be used signs, warning devices and/or mirrors etc should be used. Instructions to sound horns, warning buzzers or other devices or a speed restriction should be considered. Care should be taken as barriers and signs are not always respected.
- v. The edges of loading bays, railway platforms, excavations and pits should be clearly marked, e.g. by black and yellow diagonal stripes. Where possible, edges should be fitted with barriers.
- vi. Operating areas should be as free as possible of obstructions, but features of the building such as support columns, pipe-work, racking or other plant, may need to be specially identified.
- vii. It is important to select equipment that is suitable for use in all the conditions likely to be encountered in the workplace in which they are to be used. Generally the surfaces used by cleaning equipment are level and firm. Some ride-on sweeping equipment is designed to operate on rough or uneven surfaces. Potholes or large accumulations of loose material dropped from vehicles, etc are particularly hazardous to small-wheeled cleaning equipment.
- viii. Cleaning equipment should not move across a slope or incline unless designed for such work. In no case should any equipment be required to operate on a slope or incline that exceeds the maximum gradient specified by the manufacturer or authorised supplier.

ix. Areas of operation should be adequately lit particularly:

- at road junctions and rail crossings
- near buildings and plant
- in pedestrian populated areas
- where there is regular movement of vehicles and other mobile plant
- in the area immediately inside a building where vehicles or pedestrians may pass from bright sunlight into the building

3.4 EQUIPMENT PARKING AND STORAGE AREAS

- i. Cleaning equipment should, as far as is possible, be stored in a secure or supervised area where it will not be easily accessible to unauthorised people. These areas should, if practicable, be separate from operating areas where equipment is kept on the client's site. If used for charging battery-driven cleaning equipment or for fuelling internal combustion-engine cleaning equipment, the storage area should meet the recommendations given for 'Motive Power and the Risks of Fire and Explosion'.
- ii. Keys to cleaning equipment, where provided, should be kept in a secure place.

3.5 PROTECTION OF PERSONNEL

Protection of personnel depends on having safe systems of work. Measures which should be considered for inclusion in a safe system for cleaning operations, if appropriate to the risks are:

- i. *Segregation of pedestrians* - Pedestrians should, where possible, be segregated from cleaning operations by a physical barrier, otherwise (for example in daytime cleaning operations) alternative pedestrian routes should be clearly marked. Where it is not possible to provide separate means of access and egress for pedestrians other arrangements, such as the use of audible or visual warning devices should be made to ensure their safety.
- ii. *Audible warning devices on cleaning equipment* - These may vary from the simple manually operated horn to the automatic reversing bleeper. In deciding the effectiveness of such a device all criteria involved in the operation of the equipment will need to be taken into account. These include the number of pieces of cleaning equipment operating in the area, the background noise levels and the likely effect on overall noise levels. Reference should be made to, and an assessment carried out to ensure compliance with, the Control of Noise at Work Regulations 2005 or any subsequent legislation.
- iii. *Flashing beacons on cleaning equipment* - The use of these devices may be effective particularly where lighting is poor, where cleaning equipment operates intermittently or where audible devices are likely to be ineffective (Note: Epileptic fits may be triggered by flashing beacons, see medical considerations in Appendix 5).
- iv. *High visibility clothing* - Where equipment is being used in a working environment (e.g. factories, warehouses, etc) where potential hazards exist from mechanical handling equipment or fork lift trucks, operators should be issued with high visibility clothing and required to wear it at all times.

- v. *Head protection* - Safety helmets should be worn where there is a risk of head injury from falling objects. There are specific requirements for the construction industry contained in the Construction (Head Protection) Regulations 1989.
- vi. *Personal Protective Equipment (PPE)* - should be issued to all operatives who require such protection, following an appropriate risk assessment.

SECTION 4- CLEANING EQUIPMENT

4.1 EQUIPMENT CHARACTERISTICS

It is essential that those operating cleaning equipment or supervising their operation understand their characteristics.

- i. *Lights* - Suitable lights should be provided at the front and rear of ride-on equipment if it has to be driven in areas with insufficient natural or artificial light. Consideration should be given to fitting a flashing yellow light on the top of the equipment to warn other people.
- ii. *Noise* - The Control of Noise at Work Regulations 2005 require employers to prevent or reduce risks to health and safety from exposure to noise at work. Employees have duties under the Regulations too. The Regulations require you as an employer to:
 - Assess the risks to your employees from noise at work;
 - Take action to reduce the noise exposure that produces those risks;
 - Provide your employees with hearing protection if you cannot reduce the noise exposure enough by using other methods;
 - Make sure the legal limits on noise exposure are not exceeded;
 - Provide your employees with information, instruction and training;
 - Carry out health surveillance where there is a risk to health.
- iii. *Protection from adverse weather conditions* - Where ride-on cleaning equipment is used outside adequate provision should be made to protect the operator from the effects of adverse weather conditions. Where possible cleaning equipment should be fitted with cabs or appropriate operator protection should be used.
- iv. *Protection from vibration* – both to hands and arms and also to the whole body.
- vi. *Hazardous substances* - The Control of Substances Hazardous to Health Regulations 2002 (COSHH Regulations) require an assessment to be made of exposure to hazardous substances and, where necessary, appropriate control measures to be introduced. Examples of hazardous substances that may be encountered in cleaning operations are exhaust fumes from cleaning equipment powered by internal combustion engines, fuel oils, battery acid and various types of chemicals or substances used in the cleaning process. When handling fuel oils or fuelling relevant equipment, protective gloves should be worn. Where there is a possibility of splashing of battery acid the minimum protection required is protective gloves and eye protection. Maintenance operations and certain cleaning operations may expose people to other hazardous substances. These, and the methods to control exposure to them, should be identified by the assessment under the COSHH Regulations. Procedures to be followed in the event of spillage or leakage of hazardous substances should be established and all staff made aware of them. Appropriate first-aid facilities should be available. More information on the COSHH Regulations is available in the HSE publication "*Control of Substances Hazardous to Health*". For more information on provision of first aid see the HSE publication "*First Aid at Work*".
- vii. *Waste Management* - Producers of effluents, sludges or dry waste substances which may be categorised as "Special Waste" have a duty of care under the Environmental Protection Act Regulations 1990 and subsequent regulations to dispose of such waste in a safe and authorised manner. Legislation requires documentation such as:

- Transfer Notes
- Compliance with Duty of Care
- Waste Management Policy

vii. Legislation relevant to this issue is covered by:

- Duty of Care (for waste management) (1990 E.P.A.)
- Registration of Carriers (1979 Code of Practice Act amendment)
- Special Waste Regulations (Amendment)

N.B. Operators should be aware that any waste, wet or dry, generated as a result of a cleaning process should be regarded as "Special Waste" and disposed of in accordance with current legislation.

4.2 MOTIVE POWER AND RISKS OF FIRE OR EXPLOSION

- i. Cleaning equipment may be powered by mains electricity, batteries or by internal combustion engines. There are risks associated with each that call for proper precautions, such as the provision of good ventilation and the elimination of the risk of ignition.

- ii. When the batteries of battery-powered equipment are being charged, care should be taken to avoid a risk of explosion from an accumulation of hydrogen gas. Charging should only take place in a clearly marked area set aside for the purpose which is away from the work or storage area and any main thoroughfare. The charging area should be cool, well-ventilated, designated NO SMOKING AND NO NAKED LIGHTS and free from other sources of ignition.

- iii. The manufacturer's instructions should be followed when charging batteries. Main covers and lids should be opened or removed where indicated. The equipment, charger and all electrical connections should comply with the most up to date relevant legislation. Before the charger is disconnected from the battery or equipment on charge the current should be switched off so as to reduce the risk of a spark. Battery charging should not be undertaken by untrained personnel.

- iv. In workplaces where cleaning equipment is driven by internal combustion engines it is important that the ventilation should be adequate to remove exhaust fumes and that the engines are properly maintained. Exhaust fumes may be significantly reduced by the use of filter systems or catalytic converters. However, these systems are not a substitute for providing adequate ventilation. Exhaust filters should be checked regularly in order to maintain their effectiveness. Petrol and liquefied petroleum gas (LPG) powered cleaning equipment is particularly hazardous in confined spaces and should not be used there. Care should be exercised when vehicles are stationary by air vents, open door ways, etc. Equipment should not be left unattended with motors running.

- v. Due to the risk of explosion, petrol and LPG-engine equipment should not be used in areas where there is a risk of a flammable vapour, gas or dust concentration being present. Electrical equipment should be appropriate for use in an explosive atmosphere.

- vi. Mains or battery-powered equipment should only be used if they have been suitably protected. Advice should be sought from the manufacturer or authorised supplier before use or before any modification is carried out. Advice on electrical equipment for use in potentially explosive atmospheres can be found here:

<http://www.hse.gov.uk/fireandexplosion/dsear.htm>.

4.3 MAINTENANCE

The manufacturer's or authorised supplier's instructions on inspection, maintenance and servicing should be followed. The operator, unless suitably qualified and authorised, should not carry out repairs and adjustments to the equipment. If equipment is hired, then arrangements should be made to ensure proper inspection, maintenance and servicing.

4.4 PORTABLE APPLIANCE TESTING (P.A.T.)

Any item which may be used whilst connected to the fixed mains supply, or to a locally generated supply, and which could result in an electric shock, burn or fire, due to damage, wear or misuse is covered by P.A.T. testing. P.A.T tests should be undertaken annually as cleaning equipment is likely to experience heavy usage.

Management should monitor the effectiveness of the system and action should be taken where faults are found, particularly where detected fault levels or types of faults are found repeatedly.

APPENDIX 1- Statutory Requirements

1. Health and Safety at Work etc Act 1974, as amended by the Employment Protection Act 1975
2. Factories Act 1961 – Largely superseded by Health and Safety Work Act 1974 and the remainder was amended by Workplace (Health Safety and Welfare) Regulations 1992 and Work at Height Regulations 2005
3. Offices Shops and Rail Premises Act 1963, as amended by Workplace (Health Safety & Welfare) Regulations 1992
4. Petroleum (Consolidation) Act 1928, as amended by Dangerous Substances and Explosive Atmospheres Regulation 2002
5. Control of Substances Hazardous to Health Regulations 2002 (COSHH Regulations), as amended by COSHH 2003 and COSHH 2004
6. Construction (Design and Management) Regulations 2007
7. Construction (Head Protection) Regulations 1989
8. Electricity at Work Regulations 1989
9. Health and Safety (First Aid) Regulations 1981
10. Pressure Systems Safety Regulations 2000
11. Control of Noise at Work Regulations 2005
12. Road vehicles (Construction and Use) Regulations 1986, as amended
13. Road Vehicles Lighting Regulations 1989, as amended
14. Pressure Systems Safety Regulations 2000 as amended by the Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009
15. Health and Safety (Safety Signs and Signals) Regulations 1996
16. Supply of Machinery (Safety) Regulations 2008
17. Management of Health and Safety at Work Regulations 1999
18. Manual Handling Operations Regulations 1992
19. Provision and Use of Work Equipment Regulations 1998
20. Personal Protective Equipment at Work Regulations 1992
21. Workplace (Health Safety and Welfare) Regulations 1992
22. Safety Representatives and Safety Committee Regulations 1977
23. Health and Safety (Consultation with Employees) Regulations 1996
24. Disability Discrimination Act 2005 and Equality Act 2010
25. Environmental Protection Act 1990 and subsequent Regulations
26. Special Waste Regulations 1996, as amended
27. The Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 1996, as amended
28. The Dangerous Substances and Explosive Atmosphere Regulations 2002
29. Controlled Waste (Registration of Carriers and Seizure of Vehicles) Regulations 1991, as amended by the Controlled Waste (Registration of Carriers and Seizure of Vehicles)(Amendment) Regulations 1998

APPENDIX 2- Relevant European Directives

1. 89/392/EEC Machinery Directive 1989, as amended by Council Directive 91/368/EEC
2. 89/391/EEC Framework Directive 1989, as amended by Regulation (EC) No 1882/2003 and Directive 2007/30/EC
3. 89/654/EEC Workplace Directive 1989
4. 2009/104/EC Use of Work Equipment Directive
5. 89/656/EEC Use of Personal Protective Equipment Directive 1989
6. 94/9/EC ATEX 95 Directive
7. 1999/92/EC ATEX 137 Directive

APPENDIX 3- HSE Publications

1. An Intro to Health and Safety 2003
2. L5 Control of Substances Hazardous to Health (5th edition) 2005
3. L122 Safety of Pressure Systems 2000
4. L74 First Aid at Work. The Health and Safety Regulations 1981. 2009
5. HSR 25 Memorandum of Guidance on the Electricity at Work Regulations 1989. 2007
6. ATEX and DESEAR: General Guidance and Enforcement Issues
7. LPGA Code of Practice 1. Bulk LPG Storage at Fixed Installations (pts 1,2,3 and 4)
8. HSG 38 Lighting at Work 1987
9. HSG 176 The Storage of Flammable Liquids in Tanks 1998
10. HSG 51 The Storage of Flammable Liquids in Containers 1990
11. L108 Controlling Noise at Work: Guidance on the Control of Noise at Work Regulations 2005
12. HSG 113 Lift Trucks in Potentially Dangerous Atmospheres
13. Workplace Transport Safety 2005
14. L21 Approved Code of Practice Management of Health and Safety at Work 1992
15. L24 Approved Code of Practice and Guidance for Workplace Health, Safety and Welfare 1992.
16. L23 Manual Handling 1992 (as amended) 2004
17. L25 Personal Protective Equipment at Work 1992 (Second edition) 2005
18. L22 Work Equipment 1992 (1998 edition)
19. HSG 107 Maintaining Portable and Transportable Electrical Equipment 2004

The future availability and accuracy of the references listed in this publication cannot be guaranteed.

PM 58 Diesel engine lift trucks in hazardous areas 1986 – Superseded by HSG 113 Lift trucks

APPENDIX 4 Training Organisations & Trade Associations:

Information on training can be obtained from:

Asset Skills,
Sol House,
29, St. Katherine's Street,
Northampton,
NN1 2QZ

Telephone: 01604 233336
Facsimile: 01604 233573
Website: www.assetskills.org
E-mail: Northampton@assetskills.org

The British Institute of Cleaning Science,
9, Premier Court,
Boarden Close,
Moulton Park,
Northampton,
NN3 6LF

Telephone: 01604 678710
Facsimile: 01604 645988
E-mail: info@bics.org.uk
Website: www.bics.org.uk

Cleaning & Support Services Association,
478-480, Salisbury House,
London Wall,
London,
EC2M 5QQ


Telephone: 020 7920 9632
Facsimile: 020 7638 6990
E-mail: alarge@cleaningassoc.org
Website: www.cleaningindustry.org

Training Organisations & Trade Associations:

Information on training can be obtained from:

Industrial Cleaning Machine Manufacturers' Association,
C/o 478-480, Salisbury House,
London Wall,
London,
EC2M 5QQ

Telephone: 020 7920 9638
Facsimile: 020 7638 6990
E-mail: contact@icmma.org.uk
Website: www.icmma.org.uk
Facsimile: 020 7638 6990
E-mail: contact@icmma.org.uk
Website: www.icmma.org.uk



British Cleaning Council,
C/o 478-480, Salisbury House,
London Wall,
London,
EC2M 5QQ

Telephone: 020 7920 9640
Facsimile: 020 7638 6990
E-mail: info@britishcleaningcouncil.org
Website: www.britishcleaningcouncil.org

APPENDIX 5- Medical Standards

Guide medical standards for cleaning and sweeping equipment operators:

5.1 The following notes give advice to occupational health professionals about the medical fitness of operators or riders of stand on type operated equipment. The detailed recommendations are derived from the standards for ordinary driving licence holders given in *DVLA Medical Aspects of Fitness to Drive**. The standard should be regarded as a guide, which can be adapted to individual circumstances. For example, when assessing fitness for work, consideration will also have to be given to the requirements of other duties which may be expected of the equipment operator. In some cases a more stringent standard may be required e.g. when operating in the vicinity of testing physical hazards. Also, for example, where directional hearing ability may be particularly important, assessment of hearing thresholds by audiometry may be indicated.

5.2 Each person's fitness for operating cleaning and sweeping equipment should always be judged individually. Some disabled workers have developed skills which compensate for their disability, however, their competence in an emergency should always be considered.

5.3 All cleaning and sweeping equipment operators and potential operators should be screened for fitness before employment and at five yearly intervals from age 40. An operator who continues after age 65 should have annual assessments for fitness.

Assessment is also recommended after an absence greater than one month or after a shorter absence if it is likely that the illness may have affected fitness to operate equipment. Assessment is also appropriate if the operator or his employer suspects that he has developed a condition which may affect his continuing ability to operate specific cleaning and sweeping equipment.

5.4 Fitness to operate equipment may be impaired temporarily by the effects of alcohol or medication whether prescribed or purchased over the counter. Operators should seek advice from their general practitioner about the potential effects of any medication prescribed for them on their ability to operate cleaning and sweeping equipment. In some cases it may be necessary for them to stop operating equipment until the nature and extent of any side effects has been established. Operators should not consume alcohol during the working shift.

5.5 Operators should be a minimum of 17 years of age. All operators should be of a stable disposition with a mature sense of responsibility.

5.6 There should normally be full movement of the trunk, neck, upper and lower limbs. Stable deformities such as an arthrodesed joint should be assessed according to the effect on functional ability and this may require the advice of a cleaning and sweeping equipment instructor.

An experienced operator who loses a limb or part of a limb may be able to continue in employment after suitable retraining.

5.7 *Diabetes Mellitus*; This will not be a bar to cleaning and sweeping equipment operation if well controlled on insulin, oral hypoglycaemic agents and / or diet.

5.8 Cardiovascular conditions

(a) *Ischemic heart disease*

- History of a single uncomplicated myocardial infarction is not a bar to cleaning and sweeping equipment operation.
- Angina is not a bar unless provoked by or otherwise interfering with equipment operation or unless medication produces side effects which may interfere with equipment operation.
- A second or complicated myocardial infarction will require careful assessment in the light of residual function risk factors, etc.

(b) *Hypertension*

This would be a bar to cleaning and sweeping equipment operation if responding poorly to treatment (diastolic remaining above 110 mm Hg) or if medication has caused postural hypertension or other symptoms.

(c) *Arrhythmia*

Complete heart block is a bar to equipment operation unless successfully treated with a pacemaker for which follow up is satisfactory.

(d) *Other conditions*

Syncopal attacks not treated by a pacemaker, regular tachyarrhythmias and transient ischaemic attack following heart valve surgery would be a bar to cleaning and sweeping equipment operation.

5.9 Vision

(a) Corrected visual acuity should be 6/12 with both eyes.

(b) Trainees shall have binocular vision. An experienced equipment operator who becomes monocular may be successfully retrained.

(c) Persistent diplopia and binocular field defects will disqualify an individual from operating cleaning and sweeping equipment.

5.10 Nervous system

(a) Attacks of vertigo and giddiness and disorders of balance will be a bar to equipment operation.

(b) After acute illness such as a stroke the extent of recovery should be assessed. Where recovery is complete then cleaning and sweeping equipment operation can be recommended.

(c) Long standing static deficits such as weakness of a limb following poliomyelitis should be assessed for functional ability. Equipment operation may be practical, possibly with the help of suitable adaptation to the specific equipment. Again, the advice of a cleaning and sweeping equipment instructor may be required.

5.11 Epilepsy

This will not be a bar to equipment operation where an individual qualifies for an ordinary driving licence (i.e. has had no waking seizures for two years). Any necessary medication should be maintained and a recurrence of seizures should result in a reassessment. (Note: account should be taken of possible effects from the use of flashing beacons on equipment.)

5.12 Hearing

Operators should be able to hear instructions and warning signals using a hearing aid if necessary.

5.13 Mental Disposition

(a) An individual who is dependent on alcohol or drugs should not be employed as an equipment operator. Where there is such a history there should be a clear period of freedom from dependence before employment as an equipment operator is considered.

(b) A history of an episode of neurotic illness should not be a bar to equipment operation. An equipment operator who develops such an illness may require a period away from cleaning and sweeping equipment operation until stabilised on medication. Such an episode would be cause for a health review.

(c) A history of previous psychotic illness will require careful assessment. A single acute episode of schizophrenia from which a full recovery has been made need not be a bar to equipment operation. Some individuals suffering from chronic schizophrenia if on regular medication and otherwise working satisfactorily may be acceptable for operating equipment in areas where there are no special hazards. A history of an affective psychosis is likely to be a bar to operating equipment.

* DVLA Medical Aspects of Fitness to Drive – Issued by the Drivers Medical Group DVLA Swansea February 2010.

This document is amended every six months and the next revision is due autumn 2011

APPENDIX 6- ICMMA GUIDELINES FOR BASIC TRAINING

Contents

- 6.1 Introduction
- 6.2 Training
- 6.3 Why Training is Necessary
- 6.4 Operator Training Requirements
- 6.5 Operator Requirements
- 6.6 Course Syllabus
- 6.7 Operator Safety Code
- 6.8 Maintenance
- 6.9 Pre-Operational Checks
- 6.10 Rules for Charging & Changing Batteries
 - 6.10.1 Hydrometer Readings*
- 6.11 Battery/Electric Machines
- 6.12 Diesel and LPG Machines

6.1 Introduction

This appendix is intended as a guide to the safe operation of cleaning and sweeping equipment. Although most machines are designed for ease of operation, improper use and poor maintenance can compromise safety.

NO MATTER WHAT TYPE OF EQUIPMENT IS BEING USED IT IS THE RESPONSIBILITY OF THE EMPLOYER TO ENSURE THAT OPERATORS ARE FULLY TRAINED IN ITS SAFEST OPERATION.

6.2 Training

Knowledge of equipment controls is not sufficient to qualify an operator in its safe, correct or economic operation. An individual can only be deemed fit to operate a machine if they:-

- Have satisfactory medical and eyesight tests (if appropriate)
- Have satisfied their supervisor that they are competent in the operation of cleaning equipment
- Have received training to operate the specific item of equipment that they are expected to use

In addition, the equipment itself should comply with all relevant safety standards and be in safe working order. Under no circumstances should equipment be operated where its safe operation is compromised through lack of maintenance.

DO NOT TAKE SAFETY FOR GRANTED. ALWAYS OPERATE MACHINERY ACCORDING TO MANUFACTURER'S INSTRUCTIONS. IF IN ANY DOUBT, ALWAYS CONTACT THE EQUIPMENT MANUFACTURER/SUPPLIER FOR FURTHER ADVICE.

6.3 Why Training is Necessary

- To comply with the law.
- To promote a safer working environment.

6.4 Operator Training Requirements

- How to gain maximum use of your machine.
- A good knowledge of the machine capabilities and limits.
- The importance of accident prevention and appreciation of your responsibility in this respect.
- To take care when operating inside buildings to prevent damage to fixtures and fittings.
- To eliminate lost time and reduce maintenance costs by having pride in the job and respect for the machine.
- To be able to recognise and identify faults arising from the use of the machine and record and report faults intelligently.
- To consider the health and safety of all other persons.
- To be able to leave the machine in a safe position, properly parked and unable to be used by unauthorised persons.
- The result will be an improvement in operating efficiency which will reduce costs and reduce accidents.

6.5 Operator Requirements

In order to achieve the above requirements operators need:-

- To be physically fit and have good eyesight.
- To be able to judge speed and timing.
- To have a keen sense of responsibility, not only to yourself but to others around you and to the machine you are operating.
- To undertake regular training from an experienced provider.
- To have a sound knowledge of the machine's capabilities and limits.

6.6 Course Syllabus

- Introduction to cleaning machines using suitable training aids.
- A lecture explaining the machine's capabilities and limitations.
- Operator's safety code.
- A lecture on all aspects of safe operating practice.
- Daily maintenance, battery care and charging.
- Everyday routine procedures to ensure that the machine is ready and safe to use.
- How to record and report faults.
- Correct operating practices.
- Practical instruction on safe and correct machine usage.
- This course will be followed by a theoretical and a practical test that requires the operator to demonstrate correct usage of the equipment to the instructor.
- Certificates will be awarded to operators reaching the required standards.

6.7 Operator Safety Code

The following points are self-explanatory and can be applied to both cleaning and sweeping equipment. Operators should always consider both their own and THIRD PARTY SAFETY at all times.

- Be aware of people in your working area. Never drive directly at anyone.
- Make your presence known. Use horns, if fitted. Indicate your route with hand signals.
- Erect warning signs, if applicable, such as "Caution Wet Floor" etc.
- Ensure your working path is free from obstructions.
- Maintain a distance of at least THREE machine lengths when following a moving vehicle.
- Always operate equipment at a safe working speed.
- Approach all pedestrian crossing points and doorways with caution. Be prepared to stop.
- Make pedestrians aware of your presence.
- Avoid sharp turns and sudden stops. Be aware of other machine operators in your working area.

- Obstructions such as humps, railway lines or sliding doorway tracks may be more safely crossed at an angle. ALWAYS REDUCE SPEED OVER OBSTACLES.
- Stop and remove loose objects lying in the machine path. With sweeping equipment, do not attempt to sweep items that may cause machine damage.
- Ensure there is sufficient headroom to operate all items of equipment. Make a note of areas of restricted access. Check for overhead ducts and heaters.
- Keep a firm grip of control handles or steering wheels. Do not operate equipment with wet or slippery hands.
- On inclines, avoid making sharp turns. Do not make a turn if there is any doubt about the safety of doing so.
- Do not travel between jobs with the equipment in its working mode. Make sure items like brushes and squeegees will clear ramps and other obstacles. Drive at reduced speeds over uneven surfaces.
- Check in all directions before moving off and never reverse without looking.
- Keep a firm grip of control handles or steering wheels.
- Do not operate equipment with wet or slippery hands.
- On inclines, avoid making sharp turns.
- Do not make a turn if there is any doubt about the safety of doing so.
- Do not travel between jobs with the equipment in its working mode. Make sure items like brushes and squeegees will clear ramps and other obstacles.
- Drive at reduced speeds over uneven surfaces.
- Check in all directions before moving off and never reverse without looking.
- Never carry any passengers on the equipment.
- Remember the machine's primary function.
- Do not use it to tow other equipment.
- Be aware of vehicle gross weight, including operator.
- Ensure lifts, elevators, loading ramps or dock levellers have sufficient capacity to carry vehicle safely. Exercise extreme caution when driving on lorry beds.
- Ensure relevant personnel are informed that you are operating in a given area.

PARKING

- Engage parking brake. Switch off power source.
- Remove starter key.
- Avoid parking on a slope. Use chocks to supplement parking brake if forced to park on an incline.
- Park the machine safely. Do not obstruct access points, emergency exits, gang-ways, fire-fighting equipment or First Aid Posts.
- Return key to central key board if machine is to be left idle for an extended period. If machine is stopped for a short period, keep key with you.
- Machines with dirt collection hoppers or dirty water tank receptacles should only be emptied when the parking brake is applied. In the case of sweeping machines, ensure the

hopper has sufficient lift to clear the sides of waste containers. With scrubbing machines, ensure contaminated water is emptied into an approved drain. Avoid pollution. Do not allow water to spill onto surfaces and cause a hazard to other traffic.

- Always engage controls smoothly. Avoid snatching which may lead to unintentional operations.
- If required to travel on a public highway, ensure the vehicle is insured and licensed to do so. Check your own qualifications to do so. Check all lights and indicators are working before driving on the road.

6.8 Maintenance

In order to ensure that the machine is able to work safely and efficiently, it must be regularly maintained and repairs carried out promptly. All maintenance should be carried out by a trained service engineer. Basic maintenance and daily inspection routines should be carried out by the operator at the start of the working shift. Machines operated for extended periods should be checked periodically during operation.

6.9 Pre-Operational Checks

The following should be undertaken when starting a day's work, taking a machine over from another operator and between shifts. Machine familiarity will speed up these routine tasks, and will help avoid downtime. Always have a machine log into which faults can be entered and checked off when rectified.

Always check machine log when taking over an item of equipment. Faults noted in the log should be rectified before operating the machine.

- On battery electric machines ensure the charger is switched off both on the machine and at the mains.
- Check battery electrolyte levels. If fluid levels are repeatedly low, have machine checked for battery leakage.
- Prior to re-charging the machine, check batteries and top up the fluid if required.
- Check tyre condition, remove any contaminants such as swarf. If pneumatic tyres are fitted, check for correct inflation pressure. This should be clearly marked on the vehicle body.
- Check wheel nuts for tightness. Physically check the machine for signs of mechanical damage.
- Check for hydraulic fluid leaks around pipes and unions. Look for fluid spilled on the floor and clear up all spillages.
- Check hydraulic and, if applicable, engine and transmission oil levels. Report any consistent losses.
- Check all hopper lifts for correct operation when empty. Ensure all safety mechanisms work correctly.
- Check brush drives for the build-up of foreign bodies such as string and banding wire. Check both squeegee and rubbers for distortion and damage.
- Check that all guards and covers are properly fitted and secured.

- Check all indicators, controls and instruments are working correctly.
- Check the horn works.
- Check brakes for correct operation in both directions.
- Check the steering works correctly.
- Check fuel and oil levels.
- On completion of the above, which should take only a few minutes, complete the log book check list and enter any faults found.
- The machine should not be operated unless the faults are rectified. Repairs should be entrusted to trained personnel.

6.10 Rules for Charging & Changing Batteries

- Batteries should be topped up and charged at regular intervals or at recommended specific gravity readings. Periodically they should receive an equalising charge. Manufacturer's instructions should be referred to for precise details. **TRACTION BATTERIES SHOULD NOT BE OVER-CHARGED OR OVER-DISCHARGED.**
- Boost or lunchtime charging is not recommended and should only be used on specific instructions from the supervisor.
- Battery charging and changing should only be carried out at specified points and by trained and authorised personnel.
- No smoking or naked lights are allowed in the vicinity of the battery changing or charging area.
- Precautions should be taken to prevent sparks or arcs. Tools and other metallic objects should be kept away from the tops of uncovered batteries.
- **DO NOT USE AN OPEN FLAME FOR ILLUMINATION** when checking the level of the electrolyte.
- The machine should be properly positioned and brakes applied before attempting to charge or change batteries.
- Disconnect battery connector before topping up, charging or servicing the battery.
- Electrolyte contained in traction batteries is highly corrosive and any spillage should be wiped away immediately.
- **OVER FILLING OF BATTERY CELLS IS DANGEROUS.**
- When charging batteries, open up or remove covers to allow gases to escape and keep the vent caps in place to avoid electrolyte spray.
- Report at once if the battery has not completed its charging cycle at the commencement of the working shift.

- Batteries should not be lifted until the main lead to the machine has been disconnected (unless arrangements are provided to facilitate self-changing).
- Care should be exercised at all times to ensure that lifting chains slings or hooks do not come into contact with the terminals or cables of the battery.
- Ensure that the battery charging lead is disconnected before preparing a machine for duty.
- Check that battery retaining wedges or locating devices are in place whether or not a battery change has been effected.
- Do not operate a machine with the battery cover removed.
- It is dangerous to operate a machine with a weight, size or type of battery other than that specified by the manufacturer.

6.10.1 Hydrometer Readings

- Fully charged should read 1.26 to 1.28 specific gravity.
- Discharged 1.15sg or below, put machine battery on charge.

6.11 Battery/Electric Machines

- At the end of an operation, the traction batteries should be recharged using the correct charging plant. The instructions marked on the charger should be followed.

6.12 Diesel and LPG Machines

- Do not refuel when engine is running. Wipe away spillages, replace filler cap and do not restart the engine until the spilled fuel has evaporated.

CAUTION: Do not smoke or use a naked flame when checking fuel or battery levels.





This Code of Practice is compiled and published by:

Industrial Cleaning Machine Manufacturers Association
Salisbury House
London Wall
London
EC2M 5QQ

Tel: 0207 920 9638

Fax: 0207 638 6990

E-mail: secretariat@icmma.org

Website: www.icmma.org