1.0 INTRODUCTION

Bristol Society of Model and Experimental Engineers was founded in 1909 to encourage and promote interest and high standards in model engineering in all its aspects. The range of modelling activity covered in today's Society is diverse, from locomotives, traction engines, stationary and hot air engines to ships, clocks and ploughs. Machine tools and their accessories are also designed and constructed by members in their leisure time. The Society has no workshop of its own so these models are produced in home workshops and whilst most members have access to a lathe, some of the work is done by hand to produce work to the highest standards of craftsmanship. The Society endeavours to stimulate an interest in new technologies.

Whilst many of our members are engineers, many walks of life are represented in the Society. Some of the best work is done by people without an engineering or technical education; patience and willingness to learn the necessary skills more than compensating for a lack of formal training. One of the benefits of belonging to a society such as ours is that there is always a wealth of experience which may be drawn on to extend one's skills. Many of our members are retired and take advantage of increased leisure time to work at this absorbing hobby.

1.1 Model Boating and Car Racing

The Bristol Model Power Boat Club.

After WW1 model power boating competitions continued to grow, with an increasing number of Society members taking part. For unknown reasons this group formed an independent organisation, the Bristol Model Power Boat Club, although most seemed to maintain membership of both. Power boating topics were still discussed at Society meetings by the same people, although competition entries seem to have been made through the new Club. In 1950, the Club sought to merge with the Society. This was recognised in the Society logo that up to 2010 included the words showed the MPBC name.

The Bristol and West Model Race Car Club

Towards the end of the 1930's, a group of car enthusiasts started to race model cars employing clockwork or rubber powered motors. Racing in a straight line took place at the Metropolis Garage near Olympia in London. After WW2 the interest in car racing was stimulated by the availability of small (less than 10cc) Internal Combustion engines and the Bristol and west Model Car Club was formed by people who were already interested in the model boat racing and also members of the Society. The first track was in the basement of St Agnes Church Hall, St Paul's and later an outdoor track of 42-foot radius was established at Wick on the outskirts of Bristol. However, problems about noise nuisance seriously curtailed the activities. At the Society AGM of 1952 the decision was taken to amalgamate the Model Race Car Club with the Society.

1.2 Society Activities

Meetings of the Society are held on the first and third Wednesdays of every month throughout the year. They are normally held at Stapleton and Begbrook Community Association in Frenchay Park Road, Bristol. Meetings start at 7-30pm and include talks, displays, sale of equipment and give members an opportunity to discuss items of interest and the construction of

models. Some meeting during summer months are held at the railway in Ashton Court.

The Society operates a miniature railway in Ashton Court Estate, Bristol. This includes a railway with three gauges: $3\frac{1}{2}$ and 5 inch on a raised track and $7\frac{1}{4}$ inch and 5 inch at ground level. Both circuits are about a third of a mile in length. There is also a grass tracked traction engine circuit laid out inside the raised railway track. This is best suited to the larger scale engines. The site is provided by the Bristol City Council, the infrastructure, track, rolling stock and locomotives by the Society.

Visits to exhibitions, other societies and sites of engineering interest take place throughout the year at very competitive prices. Such visits provide an excellent opportunity to socialise with other members and suggestions for suitable venues are always welcome.

The affairs of the Society are arranged by the General Committee which is elected at the Annual General Meeting. Bristol SMEE is a large organisation and information is disseminated amongst the membership via the Society's Newsletter, the Web Site at www.bristolmodelengineers.co.uk and the technical journal "THE COG"

All members are encouraged to sponsor new people to become members of Bristol SMEE. In so doing the sponsor is responsible for ensuring that the nominee is a fit person to be a member of Bristol SMEE and, very importantly, for assisting the new member to be introduced and integrated into the Society.

2.0 THE CONSTITUTION OF BRISTOL SMEE

2.1 LEGAL STATUS

In order to protect the liability of individual members the Society became a private limited company (Company No. 2893778) in February 1994. The Company has no shareholders and the liability of each member in the event of the Society being wound up is limited to one pound only.

In addition, the Society became a registered Charity (Charity Number 1094274) in February 2002 in recognition of the primary objective of the Society viz. "The advancement of public education in the construction of models of engineering in particular through provision of talks, demonstrations and facilities for running engineering models…"

The legal constitution of the Society is contained within both the Memorandum and Articles of Association. The Memorandum states our objectives and the liability of members whilst the Articles define how the Society is organised and operated, e.g. the membership categories, voting rights, general meetings, makeup of the General Committee, etc. Both these documents are presented in the Appendix to this handbook.

The Directors/Trustees, Officers and General Committee are elected annually at the Annual General Meeting of the Society. The AGM is held as early as possible in the New Year consistent with the requirement for the agenda and accounts to be published to members 21 days before the event.

The agenda for the Annual General Meeting includes the following:

• the consideration of the income and expenditure account and balance sheet,

- the reports of the Committee (usually by the Chairman, Treasurer and the Manager of the Ashton Court Site),
- the election of members of the Committee,
- the subscription for the following year.
- presentation of the Society's awards and trophies.

The items above are decided by ordinary resolution, i.e. they require more than 50% of voting members present to vote in favour. Changes to the name of the company and to the Articles of Association can only be approved by the Society in general meeting, either at the AGM or at an extraordinary general meeting. These changes must be presented as special resolutions, i.e. they require 75% of all the votes cast at the meeting if they are to be carried. All other business at any general meeting is presented as ordinary resolutions and requires a simple majority to be carried.

Subscriptions become due at the Annual General Meeting (see Art.7).

The Society's accounting period, i.e. the financial year, ends on 31st October.

2.2 ROLE OF THIS HANDBOOK

Our legal status and the nature of our activities require that we clearly define and have a formal approach to the way we undertake key activities and in particular those activities that have a health and safety connotation. Over the past years we have seen an increased role being taken by the Health and Safety Executive in our hobby and it is essential that we respond to this.

The Committee has therefore agreed that there will be a minimum number of control procedures in place to define how things are done and safe working practices in an endeavour to try to minimise the risk of errors and accidents. This is considered essential to protect members from allegations of negligence in the event of an incident. This is also an important part of our obligation under the terms of our Public Liability Insurance.

The Handbook is therefore to be seen as our primary procedural document that will be required to be revised as necessary.

2.3 CONTROLLING DOCUMENTATION

This Handbook, which is to be made available to all members, is the authoritative source for the following key documents:

- The Memorandum and Articles of Association, which is a document lodged at both Companies House and the Charity Commissioners and is subject to their change control procedure.
- The Testing of Steam-Raising Boilers (The Boiler Test regulations)
- The Ashton Court Estate Site Operations and Management.
- Safety Policy.

The Ashton Court Estate Miniature Railway Code of Practice, which is subordinate to

and an addendum of the Handbook, shall be the authoritative document for controlling the key operational activities specific to the Ashton Court Estate Site. This will be available to all members.

<u>The Lease of the Ashton Court Site</u>. The Secretary holds the master and a copy is available at the Site.

2.4 CONTROL OF CHANGES TO DOCUMENTATION

The following are the key elements of the control that will be adopted when revising the Controlling Documentation.

- All new procedures, and any amendments, will be approved by 1 Director and 1 General Committee Member. The composition of these will be the dependent on the document being issued and will be nominated by the Chairman.
- Approval of all documents will be recognised by a formal ratification at a General Committee Meeting and must be minuted.
- The requirements for amending the Memorandum and Articles of Association are defined in those documents.
- There will be no duplication of procedures, in differing documents, and where necessary they will be cross-referenced, i.e. the Code of Practice should refer to the Handbook as the source of the Boiler Test Regulations.
- The Secretary will be responsible for the issue of amendments via the Newsletter or THE COG and for holding the master copy of the Handbook and the Ashton Court Code of Practice. Members will be responsible for updating the documents they hold.

3.0 MEMBER'S FACILITIES

The Society has a substantial railway track, supporting infrastructure and surrounding grounds in the Ashton Court Estate. These are described in Section 5.0 of this handbook. In addition, the Society also has the following facilities available to members:

- LIBRARY: The Society possesses a very comprehensive library of books and periodicals on model and full-size engineering. The books can be borrowed from the Librarian on the evening of a Meeting at Begrook. A library catalogue is issued periodically and this enables members to identify any books that they may wish to borrow to meet their need/interest. In addition the Society holds a full set of bound copies of Model Engineer, Engineering In Miniature, Locomotives Large and Small, Live Steam and others. These are also available on loan and may be obtained by contacting the Librarian.
- VIDEO LIBRARY: A more recent facility is the video/DVD library. Operated by its own Librarian, the stock is growing quite rapidly covering aspects of modelling, engineering and workshop techniques. A catalogue is available and suggestions for new titles are always welcome.
- **SILVER SOLDER BANK:** A range of silver and soft solders and fluxes is available for sale at good prices at most Wednesday meetings.

• **ROLLING ROAD:** A rolling road is available for loco testing on steam or air. It is adjustable for up to 8-coupled 3 1/2 and 5 inch gauge locos. It is rather a heavy piece of equipment but it is better and much safer to use than temporary arrangements with a jacked-up loco.

In addition, the Society holds the following collections for the benefit of members. Lists of the available stock are published periodically in THE COG. Alternatively, the Secretary will direct members to the relevant guardian.

- **PATTERN LIBRARY:** The Society holds a stock of patterns for all sorts of castings. They have generally been donated by members on completion of a project. It is worth while enquiring before you make your own patterns.
- **DRAWING LIBRARY:** Likewise the Society has a library of drawings of locos, workshop equipment and so on, donated similarly by members. You could save yourself pounds by asking to see his list.
- **TOOLING**: A stock is held of little-used tooling like dovetail cutters, Morse taper reamers, etc. In addition the Society has a compressor and propane torch with bottle and burners if you need a bit of extra heat.

4.0 SOCIETY AWARDS AND TROPHIES

The Society endeavours to recognise and honour those people who make significant contributions to its success and development. This is achieved in a number of ways:

4.1. AWARDS FOR SERVICES TO THE SOCIETY

- **Honorary Life Membership** of the Bristol Society of Model and Experimental Engineers is awarded to a member to recognise and honour meritorious service to the Society and outstanding achievements in model engineering in its many forms. It is the greatest honour that the Society can offer and as such is rarely given. Free membership of the Society for life accompanies this award.
 - As a rough guide, Honorary Life Membership would only be considered after about twenty five years service in the Society. Recommendations for this award should be made to the General Committee by a Proposer and at least two Seconders. If the recommendation is accepted, a proposal to make the award will be presented to the Society in general meeting.
- Vice-Presidency is an honour offered to a member by the General Committee, at its discretion, for services of an exceptional nature to the Society over a considerable period of time. The General Committee may at any time consider a nomination for Vice-Presidency from any member or group of members. In order to protect the special nature of this award, the General Committee will consider the matter very carefully before allowing the number of Vice-Presidents to exceed four. This honour is retained during membership of the Society.
- **Honorary Membership** is offered as a result of recommendations to the General Committee to friends of Bristol SMEE who have made contributions to the well-being of the Society but who may not wish to become or remain full members. If the recommendation is accepted, a proposal to make the award will be presented to the Society in general meeting.

4.2 ANNUAL TROPHIES PRESENTED BY THE SOCIETY

The trophies are held for one year only. A certificate for the winner's retention accompanies the trophy. Trophies are awarded by the General Committee as a result of work completed during the year. Names of potential recipients should be brought to the attention of Committee members by the end of October. Presentation of trophies will normally occur at the Annual General Meeting. Trophy-winning models should be placed on display at the AGM if practical.

- The H M Webb Trophy Awarded to the most outstanding model of the year in any type or class.
- The Founders Cup Presented by J Griffith, J Lee, A E Pendock and J M Vaughan, all founder members of the Bristol Society of Experimental Engineers and Craftsmen. Awarded for work of an experimental nature.
- **The Steam Locomotive Cup** Awarded to the outstanding model steam locomotive (road or rail) or stationary engine.
- The IC Engine Cup Awarded for model engines of any type whether fitted to a model or on their own.
- The Roy Fedden Bristol PowerBoat Trophy The Bristol Model PowerBoat Club has long been amalgamated with the Society and the cup is awarded to the most outstanding model boat.
- The Machine Tool Cup Awarded for any machine tool work. The tool may be complete in itself or form a major accessory to an existing machine or model.
- The Junior Cup Awarded to a Junior or Associate member (i.e. 17 years old or younger) for any example of model engineering, not necessarily completed, or for some significant contribution to the Society.
- **The Chairman's Plate** For diversification and awarded to encourage members to work in more than one sphere.
- The Eric Griffiths Trophy Awarded for services to the Society.
- The Ted Knight Trophy Awarded for the best model road vehicle but, in the absence of suitable contenders, may be awarded at the discretion of the Committee for a model of any type.
- The Joe Ginn Trophy Awarded to a member for help and encouragement to a fellow member or members. Individual members should make proposals for potential recipients to the Committee and the successful proposer would normally make the presentation to the winner at the AGM.
- The Bristol Shovel Awarded to the winner of any nominated competition held on the railway at Ashton Park.
- The Ingenuity Cup This is awarded to any member for the innovative solving of any problem. It does not have to involve an original invention, but may be the innovative use of well established principles. It may be a totally new device or the unexpected use of well known tooling to solve a common problem. The extent or quality of the facilities available to the member is not relevant except insofar as they determine the need for the innovation

5.0 ASHTON COURT ESTATE SITE

The Society has a lease from the City Council of Bristol to use 4 ½ acres of the Ashton Court Estate. The major facilities comprise a raised 3½ and 5 inch gauge railway, a 5inch and 7¼ inch gauge ground level railway together with all their supporting infrastructure. A public passenger service is operated on the railways during the summer months. The site grounds have in general been planted with trees and a programme of habitat management is in place to provide a pleasant environment. There is space for other outdoor model engineering activities to be carried out.

5.1 OPERATIONS AND MANAGEMENT

The site is managed on behalf of the General Committee by the Manager of the Ashton Court Site who is a Director of the Company and as such is a member of the General Committee.

The Manager of the Ashton Court Site has a particular responsibility for ensuring the safety of all activities carried out on the site. Safety policy is explained more fully in Section 8.

The Site Manager appoints assistants as necessary to support the operation of the site with particular emphasis on :

- Civil Engineering
- Electrical Engineering
- Mechanical Engineering
- Railway Operations
- Administration
- Safety Engineering
- Project Management

All activities at the site are covered as necessary by written procedures which may be seen on application to the Manager. They recognise the requirements of our insurers and the current Health and Safety Executive guidelines, in particular HSG216 "Passenger-carrying Miniature Railways – Guidance on Safe Practice and contain a fair measure of common sense. The brief notes in this Handbook pick up salient points but are not a complete specification of them.

The Society's safety policy as applied to the site is:

- 1) Operating a safe miniature railway.
- 2) Improving safety where potential hazards are identified within the infrastructure we control and the locomotives, rolling stock and equipment we use.
- 3) The provision of training and/or regulation where a need is recognised.
- 4) The implementation of maintenance and inspection schedules on specific assets.
- 5) The provision of adequate records to support a commitment to safety.

Neither the Society nor its insurers will accept any responsibility for any boiler steamed at the site which does not have a current Boiler Test Certificate unless it is being steamed in the presence of a Boiler Inspector for the purpose of obtaining a Certificate.

Authorised Boiler Inspectors are appointed by the General Committee usually, but not necessarily, on the recommendation of the Manager.

All steam locomotives and traction engines operated at the Ashton Court Estate Site at any time, whether members of the public are present or not, shall be fitted with an effective means of preventing the escape of sparks from the chimney. Effective as of Jan 1st 2002.

5.2 PUBLIC PASSENGER HAULING

The days nominated for public running of the railway are detailed on publicity leaflets published each year. Leaflets are available to members who wish to assist in advertising the railway by encouraging display in local libraries, shops, social groups, etc.

On each running day, there is a nominated "Person in Charge" who has ultimate responsibility for hours of running, order of running, and all aspects of safety, manning, discipline, etc. Members are expected to co-operate with the Person in Charge and comply with his instructions.

The Society relies on support from individual members to provide locomotives or traction engines for passenger hauling and sufficient motive power is essential to avoid potential customers queuing for unreasonable periods. Locomotive and traction engine drivers during public running sessions <u>must</u> be authorised (see below) **and** have passed their eighteenth birthday. All drivers (including visitors) should familiarise themselves with the guidance that is offered in the Driver's Code of Practice, copies of which are available at the railway.

There are other tasks involved in running the railway, e.g. operational and station staff and the many maintenance commitments, etc. The Manager will be pleased to help members to play a part in these operations.

5.3 MAINTENANCE

There is a large continuing programme of work to maintain the site and whilst support from locomotive owners is essential, there is also work on:

- Mechanical repairs to rolling stock, etc.
- Buildings/structures repairs and painting
- Trackwork alignment, renewal and ballasting
- Earthworks/site weeding, grasscutting, flower beds

The Manager welcomes assistance from any member who wishes to help with working parties arranged for weekend or weekdays to suit individuals or groups.

5.4 LOCO DRIVER AGE LIMITS, TRAINING AND AUTHORISATION

The Society issues permits to locomotive and traction engine drivers of demonstrated competence. Applications for a permit should be made to the Manager who will, if agreed to be necessary, arrange for appropriate training to be given.

Unless being trained, or directly supervised by an experienced driver, all persons driving on the railway or traction engine circuit at any time must hold a permit for the type of unit being driven. Only drivers holding a permit may drive during public sessions. See above.

Children below the age of twelve may handle the controls of a locomotive or traction engine at a private event but only when accompanied by an authorised driver over sixteen years old who must retain full control of the engine at all times.

Young persons over twelve but under eighteen may be issued with a permit but are not allowed to drive during public sessions and the permit will be endorsed accordingly.

5.5 PRIVATE USE OF THE RAILWAY FACILITIES

The railway facilities are available for member's private use when not closed for maintenance, etc. or in use for public running. Members using the facilities should be in possession of and understand the Codes of Practice for driving, operating and taking charge of the railway and are advised for their own protection to keep within the rules. Users must hold a current permit to drive or be undergoing tuition in accordance with the Society's Code of Practice. A list of keyholders can be obtained from the Secretary. Members wishing to use the facilities should familiarise themselves with the security arrangements and leave the site clean, tidy and secure.

5.6 BSMEE RECOMMENDED WHEEL STANDARDS

The Society wheel standards for the gauges in common use are shown in Figure 1. They are known as the SMEE standards and were published in the Model Engineer of 7th May 1976. The 7½ Gauge Society also published standards for 7½ inch gauge models and they are very similar to the SMEE values in that the profile is exactly the same - a flange with a 20 degree angle and a root radius of 0.1 to 0.125 inches. Coning the tread by 2 degrees, whilst being true to full-size practice, is largely a matter of personal preference. It is strongly recommended that locomotive wheels should be built to the standards given in Figure 1. Dimensions are in inches.

When considering passenger cars, the same angles and corner radii should be used but the flange depth should be a little deeper. A depth of 0.170 in. instead of 0.140 in. was used on the raised track cars and a pro-rata increase on the $7\frac{1}{4}$ in. gauge passenger stock.

Back-to-back measurement is particularly important on the ground level track. Builders should ensure, regardless of the standards they have employed, that wheel sets do not foul guard-rails on points.

Since the tread loading is much higher on passenger cars than on locos, the wear on car wheels should be checked at least once a year and the use of steel tyres/wheels rather than cast iron is recommended.

5.7 COUPLINGS BETWEEN LOCOMOTIVE AND TRAIN

A solid bar should always be used as the coupling between a loco and its train on the Ashton Court Estate Railway. On safety grounds, chains are not acceptable. On both raised and ground level tracks, the rear of the tender should carry a fork to couple to the train via a solid

bar. The fork should be drilled through both limbs to carry a coupling pin. The dimensions of the fork for both tracks are shown in Figure 2.

5.8 LPG FIRED STEAM LOCOMOTIVES.

The pressure vessel of a LPG fired locomotive (or traction engine) must be fitted with a hose – failure valve and the base of the LPG pressure vessel container should be provided with ventilation to atmosphere.

6.0 INSURANCE

The Society carries a Public Liability Insurance to protect both it and members acting on its behalf. The limit of indemnity is currently £5M in any one incident. In essence, the policy covers all sums that the Society shall become legally liable to pay as damages in respect of:

- a) Death or bodily injury to any person.
- b) Accidental loss or damage to property.

All accidents involving injury or could lead to personal injury shall be reported to the Secretary in accordance within the Code Of Practice. In addition, each member is covered for personal accidents. Public Liability cover is also provided for individual members who represent the Society at another venue. A certificate to this effect may be obtained from the Secretary.

The policy extends to cover liability arising to members and to explosions of steam boilers up to 12 inches diameter and for which a valid Test Certificate is held. Invited Clubs and Guests wishing to operate Locomotives are expected to provide their own insurance, hold a valid boiler test certificate and sign the visitors book

This should not be regarded as a complete description of the policy and members may obtain more complete details by consulting the Secretary.

The law relating to the Insurance of Motor Vehicles has changed- Motor Vehicles (Compulsory Insurance) regulations 2000 of the 3rd April2000. Whereas before, the requirement was originally for "a motor vehicle on the road to be covered by an appropriate policy of insurance" the wording has been altered so that after "road" there shall be inserted "or other public place". Unfortunately this applies to the use of miniature traction engines, miniature road rollers and miniature road vehicles and therefore it is mandatory that such insurance is required to drive such vehicles on off-road locations, private land, rally fields, etc, where the public may have access. Consequently, anyone wishing to operate one of these miniature vehicles at the Club site at Ashton Court must have the appropriate 3rd party insurance.

Since this insurance is on an individual basis it is not possible for the Society to arrange blanket cover. Each person must arrange their own insurance.

Insurance Companies are now selling Model Steam Road Policy that provides cover for vehicles up to 6in scale. Typically the policy holder or any person driving with his permission has to be over 17 years old and hold a Category b driving license if the vehicle is driven on the road. If driven on "off road" locations the driver must be over 16 years old.

7.0 LIMITED LIABILITY STATUS AND THE INDIVIDUAL

In all normal circumstances, claims for damages against the Society would be expected to be met by our Public Liability insurance. Currently the Society insures for claims up to £5M. Claims for damages arising from Society activities, either when en masse, e.g. public running at Ashton, or from individual's activities which fall within the stated aims of the Society, eg. private running at Ashton or running a traction engine at a fete would be made against the public liability policy. The Society would fully support such claims in all normal circumstances.

There may be circumstances where the insurance company consider we have acted outside the terms of the policy and would not support the claim, e.g. an accident involving an uncertificated boiler. It is likely that in any legal claim for damages, the court would find against the body with the greatest assets. Since the Society became a private limited company, our assets amount only to the value of the Society's property and effects plus each member's liability of £1. It is possible therefore that the financial consequences of any action that breaches the contract between us and our insurers would fall in large part on the assets of the individual(s) concerned.

In member's personal interests it is vital therefore that safety is part of each individual's thinking and is uppermost in organising our activities. Members should familiarise themselves and act in accordance with the Safety Policy shown below and with the various Codes of Practice the Society has established. The Society has an excellent safety record. Let us keep it that way.

8.0 SAFETY POLICY

Safe practices must affect everything we do. Whatever part we play in Society activities, we have a constant duty to avoid situations in which accidents could occur to:

- Members of the public participating in our activities.
- Members of the public visiting our site when we are not present.
- Our fellow members or anyone carrying out work on our behalf.

Safe operations and activities are paramount and are every member's responsibility. To this end the Society adopted the following Safety Policy which is a broad statement of the principles which should guide our thinking and actions:

"We must all work to create a climate in which we are alert to potential risks and ensure that:

- 1) Society officers and committee members are made aware of member's views and observations on safety matters.
- 2) Members are advised of specific safety requirements agreed by the Committee.

When applied to the Ashton Court Railway this means (refer also to the Health and Safety Site Manual):

- 1) Operating a safe miniature railway.
- 2) Improving safety where potential hazards are identified within the infrastructure we control and the locomotives, rolling stock and equipment we use.
- 3) The provision of training and/or regulation where a need is recognised.
- 4) The implementation of maintenance and inspection schedules on specific assets.
- 5) The provision of adequate records to support a commitment to safety.

To this end a continuing process of risk assessment and reduction shall be implemented and the Safety Engineer shall record the results of this in The Risk Assessment Document. Two copies shall be kept, one on display at the Railway site and the other retained by the Safety Engineer.

By doing this we can continue to enjoy ourselves and, at the same time, make safety an on-going objective.

9.0 THE TESTING OF STEAM-RAISING BOLIERS 9.1 BOILER TEST REGULATIONS

The Pressure Systems Safety Regulations 2000 (PSSR) do not normally apply to those operating pressure systems as a hobby. However, the Health and safety Executive has advised that they consider it good practice if these requirements were to be followed. The various branches of the model-engineering hobby have therefore come together to produce a common standard for the examination and testing of miniature steam boilers. These requirements, which cover the maintenance, operation and testing of miniature steam boilers are defined in:

The Examination & Testing
Of
Miniature Steam Boilers
(latest issue)
Published by the British Model Engineering Liaison Group

The Society Insurers require that we adhere to these requirements and therefore these Regulations are to be taken as an integral part of this Handbook by being added as an Appendix. In the event of any conflict between the contents of this Handbook and the Regulations then the latter shall take precedence. The latest issue is available from the Membership Secretary

9.2 SYSTEM FOR THE EXAMINATION AND TESTING OF MINIATURE BOILERS IN THE OWNERSHIP OF ITS MEMBERS

The Society has its own internal Inspection Team of competent people to examine, test and ensure the correct operation of pressure vessels up to a maximum of 500 bar litres as required by the Regulations.

The Inspection Team will consist of a number of Boiler Inspectors, one of the team being nominated as the Senior Boiler Inspector (SBI). At least one meeting per annum will be arranged by the SBI. Information will be exchanged and discussed between the team on matters relative to the examination of the pressure systems under the insurance coverage provided by the Society.

Each inspector will be issued with a numbered pressure gauge. These gauges will be checked every two years against a dead-weight test unit and the results of the tests will be retained with the gauge. A suitable trade supplier or repairer will carry out any necessary repairs to the test gauges. If any inspector has any reason to suspect the accuracy of his gauge, he must without delay, arrange for a further calibration check and immediately remove the suspect gauge from use. The SBI will ensure that a register of test gauges used by the inspection team is available. It must list, date of test, the gauge number and any other relevant details he may consider necessary.

To maintain control over locomotives used on the Ashton Court Estate Railway, the SBI will provide the Railway Manager a current list of boilers owned by the Society and Members of the Society. A copy will be available at the Ashton Site for consultation during running days. Listings will be updated bi-monthly during the running season. Boilers without current boiler certificates will be listed separately. Duplicates of all listings and data issued to the Railway Management will be kept under the personal control of the SBI.

9.3 THE BOILER TEST PROCESS

Boiler tests are to take place in the presence of two people, neither being the owner of the model. One shall be an Authorised Boiler Inspector, the other a competent member of the Society, not being under 18years of age. And not related to either the owner of the boiler or the Inspector. Once a boiler has fulfilled the requirements of these regulations, a Test certificate shall be issued to the owner for each boiler tested. This certificate is not transferable should the owner leave the Society or the model be sold.

Records are maintained by the Society, containing details of all boilers tested, and shall include: the working pressure, the test pressure, the test and expiry dates and any relevant comments concerning the condition of the boiler.

The conducting of a boiler test shall be by appointment with one of the Society's Authorised Boiler Inspectors, at a time convenient to both parties. It is the owner's responsibility to provide a means of raising pressure within the boiler (i.e. a suitable hand pump) and adapter to fir the Society's official test gauges (see later drawings). All such tests are to be carried out with one of the Society's calibrated test gauges.

It is in the owner's interest to carry out his own test prior to presenting the boiler for the official test to ensure that no unforeseen problems occur and that the boiler with fittings is capable of such a test. To avoid damage, the model pressure gauge should be removed from the boiler during the test. Its connection to the boiler must be blanked off.

9.4 TOY BOILER, LPG TANKS

Any member having a pressure vessel in this category should consult with the Senior Boiler Inspector to agree certification requirements.

10.0 POLICY FOR ENGAGEMENT WITH YOUNG PEOPLE

This Policy has been produced after careful consideration of:

- The requirements of the Safeguarding Vulnerable Groups Act (2006).
- What is best for our membership?
- What needs to be done to ensure the medium/longer term future of the Society?

10.1 YOUTH INITIATIVE - POLICY STATEMENT

• The protection of children, vulnerable adults and all of our members is of paramount importance to us. Therefore the Society will maintain guidelines that try to ensure the well -being of young people and vulnerable adults when they are at any of our events,

and which will also endeavour to protect the interests of our members when they are in the presence of young people.

- The Society will continue to facilitate membership by people under the age of 18 years by having a Junior member category for those below 14 years and an Associate member category for those between 14 and 18 years. A reduced subscription rate will apply to each category. Young people may also join as part of a Family group.
- Junior, Associate or young Family members will be required to be accompanied by a parent or guardian at all times when they attend any Society activities. The parent or guardian is to be a member of the Society.
- The Society will continue to host infrequent visits by groups of young people provided such groups are adequately supervised by their own dedicated leaders to ensure their correct behaviour, safety and well-being.
- Subject to the evolving interpretation of the Safeguarding Vulnerable Groups Act 2006
 the Society will not promote or undertake, or allow the promotion or undertaking in the
 name of the Society, any activity that requires any member to undergo criminal record
 bureau checks under the auspices of the Act. The nature of the activity and the
 frequency it is undertaken are key features that need to be considered.
- The Society may support appropriate initiatives, suggested and supported by the membership, aimed at encouraging young people into the engineering sphere where such activities allow all members to participate, under the auspices of the Act, without the need for them to undergo any criminal records bureau checks.

GAUGE	2 ½ inches	3 ½ inches	5 inches	7 ¹ / ₄ inches
Back to back B	2.281 in	3.281 in	4.687 in	6.800 in
Tyre width W	0.268 in	0.375 in	0.535 in	0.776 in
Flange depth D	0.085 in	0.110 in	0.140 in	0.203 in
Root radius RR	0.035 in	0.050 in	0.070 in	0.100 in
Flange radius FR	0.020 in	0.030 in	0.045 in	0.065 in
Chamfer X	0.015 in	0.020 in	0.030 in	0.040 in
Tread dia. Pt. P	0.090 in	0.126 in	0.176 in	0.254 in
Machined dim. Y	0.055 in	0.076 in	0.106 in	0.154 in
Machined dim. Z	0.034 in	0.051 in	0.077 in	0.110 in
Flangeway F	0.093 in	0.130 in	0.190 in	0.270 in

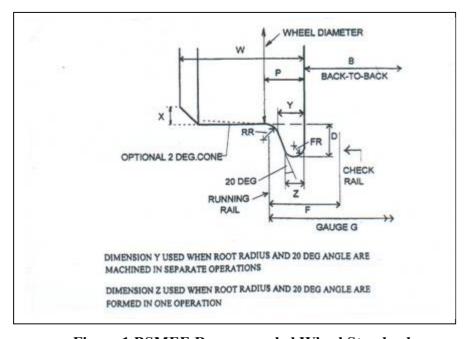


Figure 1 BSMEE Recommended Wheel Standards

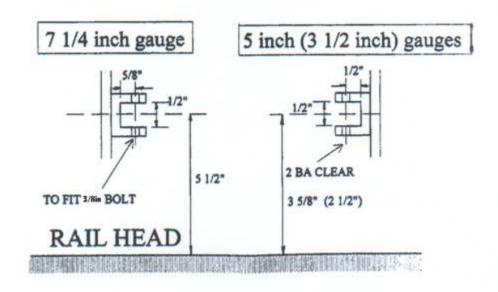


Figure 2 Dimensions of Carriage Couplings

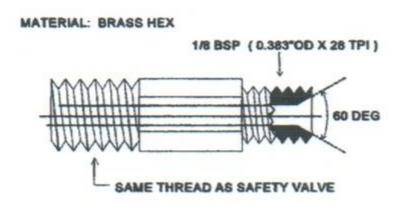


Figure 3 Dimensions of Pressure Test Connector

APPENDIX

THE MEMORANDUM AND ARTICLES OF ASSOCIATION OF THE SOCIETY

THE COMPANIES ACTS 1985 and 1989

COMPANY LIMITED BY GUARANTEE AND NOT HAVING A SHARE CAPITAL

MEMORANDUM OF ASSOCIATION OF THE BRISTOL SOCIETY OF MODEL AND EXPERIMENTAL ENGINEERS ISSUE 3

- 1. The name of the Company (hereinafter called "the Company") is THE BRISTOL SOCIETY OF MODEL AND EXPERIMENTAL ENGINEERS.
- 2. The Registered Office of the Company is situated in England and Wales.
- 3. The objects for which the Company is established are:

The advancement of public education in the construction of models of engineering in particular through provision of talks, demonstrations and facilities for running engineering models and in furtherance of this object the Company shall have powers:

- To bring together, as a society, those persons supporting the above object.
- To print, reproduce, publish books, treatises, photographs, diagrams, drawings and other publications of all descriptions relating to model and other engineering of any description to further the education of the public.
- To carry on any activity similar to the activities mentioned or which may be conveniently or advantageously carried on or combined with them and which furthers the education of the public.
- To purchase or sell or develop, take or let on lease, take or give in exchange or on hire, or
 otherwise acquire, hold or dispose of any estate or interest in lands, buildings, easements,
 concessions, machinery, plant, stock in trade, goodwill, trade marks, patents, copyright or
 licences, or any other real or personal property or any right, privilege, estate or interest.
- To sell, lease, let on hire, improve, manage, develop, mortgage, dispose of, turn to account
 or otherwise deal with all or any of the property and rights of the Company for such
 consideration as the Company may think fit.
- To provide use and maintain work and machine shops club rooms and place or places of refreshment licensed or otherwise for the use of Members and other persons authorised to use the same.
- To borrow or raise money for the purposes of the Company and for that purpose to mortgage or otherwise charge the whole or any part of the Company's property and assets.
- To pay out of the funds of the Company all expenses of, or incidental to, the formation

and registration of the Company.

- Subject to appropriate legal requirements to amalgamate with any Company or society having objects similar to those of this Company.
- To subscribe or guarantee money for any charitable, benevolent, educational or social object, or for any exhibition or for any public, general, or useful object which the Directors may think furthers the aims and objectives of the Company.
- To invest the moneys of the Company not immediately required in or upon such securities and in such manner as the Directors may from time to time determine. Provided that:-
 - In case the Company shall take or hold any property which may be subject to any trusts, the Company shall only deal with or invest the same in such manner as allowed by law, having regard to such trusts.
 - The Company shall not support with its funds any object, or endeavour to impose or procure to be observed by its members or others, any regulation restriction or condition which if an object of the Company would make it a Trade Union.
 - The income and property of the Company derived from any source whatsoever shall be applied solely towards the promotion of the objects of the Company as set forth in this Memorandum of Association save donations may be made to other charities whose aims and objectives are not necessarily the same as those of the Company in respect of the death of a member or other appropriate circumstances; such donations to be limited to a nominal amount. No part thereof shall be paid transferred or declared directly or indirectly by way of dividend bonus or otherwise by way of profits to the Members. Provided that nothing contained herein shall prevent payment in good faith of reasonable and proper reimbursement to any officer or servant or Member of the Company as provided in the Memorandum and Articles of Association.
 - To do all such other things as are incidental or the Company may think conducive to the attainment of the above objects or any of them.
- 4. The liability of the Members is limited.
- 5. Every Member of the Company undertakes to contribute to the assets of the Company, in the event of the same being wound up during the time that he is a Member, or within one year afterwards, for payment of the debts and liabilities of the Company contracted before the time at which he ceases to be a Member, and of the costs, charges and expenses of winding up the same, and for the adjustment of the rights of the contributories amongst themselves, such amount as may be required not exceeding one pound.

We, the several persons whose names and addresses are subscribed, are desirous of being formed into a Company in pursuance of this Memorandum of Association.

NAMES, ADDRESSES AND DESCRIPTIONS OF SUBSCRIBERS

Eric Lindsay 12 Ashgrove Peasedown-St-John Bath BA2 8EB Stuart Bond Farrington Villa Farrington Gurney Bristol BS18 5UN

General Manager

Fleet Engineer

Dated the Twelfth day of January 1994

Witnessed by: Donald Cordall

6 Rysdale Road Westbury on Trym Bristol BS9 3QU Research Officer

<u>Issue 2 adopted 7th day of February 2002 following the amendment of Articles 3 a, b, c, i, j, and l approved by motions passed at the Annual General Meeting of 6th February 2002</u>

Signed by:

B J Hacker T G Chambers

B J Hacker T G Chambers
Chairman Secretary

Dated 7th day of February 2002

<u>Issue 3 adopted 18th day of September 2002 following the amendment of Articles at paragraph 3 as approved by special resolution passed at the Extraordinary General Meeting of 18th September 2002</u>

Signed by:

B J Hacker T G Chambers

B J Hacker T G Chambers
Chairman Secretary

Dated 19th September 2002

THE COMPANIES ACTS 1985 and 1989 COMPANY LIMITED BY GUARANTEE AND NOT HAVING A SHARE CAPITAL

ARTICLES OF ASSOCIATION Of THE BRISTOL SOCIETY OF MODEL AND EXPERIMENTAL ENGINEERS ISSUE 6

GENERAL

1. The Company is a Private Company and, subject as hereinafter provided and except where the same are varied or excluded by or are inconsistent with these Articles, the regulations contained in Table A in the Schedule to the Companies (Tables A to F) Regulations 1985 as amended by the Companies (Tables A to F) (Amendment) Regulations 1985 (such regulations being hereinafter called "Table A") shall apply to the Company and shall be deemed to form part of these Articles. References herein to Regulations are to regulations in Table A unless otherwise stated.

DEFINITIONS

2. In these Articles unless the context otherwise requires:

"the Act" means the Companies Act 1985 but so that any reference in these Articles to any provision of the Act shall be deemed to include a reference to any statutory modification or reenactment of that provision for the time being in force;

"these Articles" means these Articles of Association in their present form or as from time to time altered;

"Director" means a Director of the Company and a Trustee of the Charity;

"Member" means a member of the Company;

"the Committee" means the management committee for the time being of the Company;

"the Office" means the registered office of the Company;

"Secretary" means any person appointed to perform the duties of the Secretary of the Company;

Unless the context otherwise requires, words or expressions contained in these regulations bear the same meaning as in the Act but excluding any statutory modification thereof not in force when these regulations become binding on the Company.

Words importing the masculine gender only shall include the feminine gender.

MEMBERSHIP

- 3. The subscribers to the Memorandum of Association and all other persons as are admitted to membership in accordance with the Articles shall be Members. No person shall be admitted a Member unless he is approved by the Committee. Every person who wishes to become a Member shall deliver to the Committee an application for membership in such a form as the Committee shall require together with the appropriate enrolment fee as decided from time to time by the Company in general meeting.
- 4. The Company shall have six classes of Membership as follows:
 - (a) Ordinary Members who shall be at least eighteen years of age;
 - (b) Associate Members who shall be aged fourteen to seventeen (inclusive);
 - (c) Junior Members who shall be under fourteen years of age;
 - (d) Family Members who shall comprise two adults and their children who shall be less than eighteen years of age provided all live at the same address;
 - (e) Honorary Members who shall be associated with the Company on criteria set down by the Committee. This class of membership shall be conferred by ordinary resolution at a general meeting:
 - (f) Honorary Life Members who shall be recommended by the Committee. This class of membership shall be conferred by ordinary resolution at a general meeting.
- 5. The Annual General Meeting shall decide by ordinary resolution an annual subscription fee ("the Subscription Fee") once in every calendar year payable by the Members detailed in Articles 4(a),(b),(c) and (d) above and may vary the conditions of membership in any way it sees fit save that Honorary Members and Honorary Life Members shall not pay the Subscription Fee and any Ordinary Member who is aged sixty years or over shall pay half the Subscription Fee or such other proportion as shall be decided from time to time by the Company. The Annual General Meeting shall decide by ordinary resolution other special rates as deemed appropriate.
- 6. Notwithstanding any other provision of these Articles, the Committee may refuse or decline any application for Membership or may rescind or refuse to renew the Membership of any person. A Member may resign his Membership at any time and shall do so by sending written notice to the Company. Any Member whose membership has been rescinded under the provision of this Article may appeal to the Committee and may, if he deems necessary, appeal to an Extraordinary General Meeting of the Company which shall be convened by the Secretary at the request in writing of the Member who's Membership has been rescinded.
- A person shall cease to be a Member by non-payment of the Subscription Fee within three months from the date when the same shall be due provided that the Committee if they deem fit may readmit such person to membership upon payment of the current arrears of subscription.

GENERAL MEETINGS

- 8. The Company shall hold a general meeting in every calendar year as its Annual General Meeting at such a time and place as may be determined by the Committee and shall specify the meeting as such in the notices calling it provided that every Annual General Meeting except the first shall be held not more than fifteen months after the holding of the last preceding Annual General Meeting and so long as the Company holds its first Annual General Meeting within eighteen months after its incorporation it need not hold it in the year of its incorporation or in the following year.
- 9. All general meetings other than Annual General Meetings shall be called Extraordinary General Meetings.
- 10. The Committee may whenever it thinks fit convene an Extraordinary General Meeting and Extraordinary General Meetings shall also be convened on such requisition, or, in default, may be convened by such requisitionists as provided by the Act, or on the requisition of thirty Members.
- 11. At least twenty-one clear days notice in writing of every Annual General Meeting and of every meeting convened to pass a Special Resolution and at least fourteen clear days notice in writing of every other general meeting specifying the place the day and the hour of the meeting shall be given in manner hereinafter mentioned to such persons as are under these Articles or under the Act entitled to receive such notices from the Company. However an Annual General Meeting may with the consent of all the Members having the right to attend and vote thereat, or any other general meeting with the consent of such proportion of them as is prescribed by the Act, may be convened by such notice as those Members think fit.
- 12. The accidental omission to give notice of a meeting to or the non-receipt of such a notice by any person entitled to receive notice thereof shall not invalidate any resolution passed or proceedings at that meeting.

PROCEEDINGS AT GENERAL MEETINGS

- 13. All business that is transacted at an Annual General Meeting shall be deemed special with the exception of the consideration of the income and expenditure account and balance sheet and the reports of the Committee, the election of members of the Committee in place of those retiring and the election of Honorary Members, Honorary Life Members and the appointment of the accountant.
- 14. No business shall be transacted at any general meeting unless a quorum is present when the meeting proceeds to business. Thirty Members present in person shall be a quorum.
- 15. If from half an hour of the time appointed for the holding of a general meeting a quorum is not present the meeting if convened on the requisition shall be dissolved. In any other case it shall stand adjourned to the same day in the next week at the same time and place or at such other time and place as the Committee may determine and if a quorum is not present within half an hour of that adjourned meeting it shall be dissolved.

- 16. The Chairman (if any) of the Committee shall preside at every general meeting but if there be no such Chairman or if at any meeting he shall not be present within fifteen minutes after the time appointed for holding the same or shall be unwilling to preside the Members present shall chose some member of the Committee or if no such member is present or if the members of the Committee present decline to take the chair they shall choose some Member of the Company who shall be present to preside.
- 17 If so requested by the Committee, the President shall preside as Chairman at any general meeting of the Company.
- 18. The Chairman may with the consent of any meeting at which a quorum is present (and shall if so directed by the meeting) adjourn the meeting from time to time and from place to place but no business shall be transacted at any adjourned meeting other than business which might have been transacted at the meeting from which the adjournment took place. Whenever a meeting is adjourned for thirty days or more notice of the adjourned meeting shall be given in the same manner as of an original meeting. Save as aforesaid the Members shall not be entitled to any notice of an adjournment or of the business to be transacted at an adjourned meeting.
- 19. At any general meeting a resolution put to the vote of the meeting shall be decided on a show of hands unless a poll is before or upon the declaration of the result of the show of hands demanded by the Chairman or by at least two Members present in person or by proxy and unless a poll be so demanded a declaration by the Chairman of the meeting that a resolution has been carried or carried unanimously or by a particular majority or lost or not carried by a particular majority and an entry to that effect in the minute book of the Company shall be conclusive evidence of the fact without proof of the number or proportion of the votes recorded in favour of or against that resolution. The demand for a poll may be withdrawn.
- 20. Subject to the provisions of Article 19 if a poll is demanded in manner aforesaid it shall be taken at such time and place and in such a manner as the Chairman of the meeting shall direct and the result of the poll shall be deemed to be the resolution of the meeting at which the poll was demanded. The demand for a poll shall not prevent the continuance of a meeting for the transaction of any business other than the question on which the poll has been demanded.
- 21. No poll shall be demanded on the election of a Chairman of a meeting or on any question of adjournment.
- 22. In the case of equality of votes whether on a show of hands or on a poll the Chairman of the meeting shall be entitled to a second or casting vote.
- 23. Subject to the provisions of the Act a resolution in writing signed by all the Members for the time being entitled to receive notice of and to attend and vote at general meetings shall be as valid and effectual as if the same had been passed at a general meeting of the Company duly convened and held.

VOTES OF MEMBERS

- 24. Honorary Members and Junior Members shall be entitled to attend but not to vote at general meetings of the Company.
- 25. Any Member present who is also the proxy of another Member or Members shall have one vote for himself and one for each of the Members of which he is the proxy.

- 26. In the case of Family Membership all persons comprising that Membership who would ordinarily qualify for Ordinary or Associate or Honorary Life Membership shall be entitled to one vote whether in person or by proxy.
- 27. No Member shall be entitled to vote at any general meeting unless he has paid his Subscription Fee within three months of the due date subject to the provisions of Article 7
- 28. On a poll votes may be given either personally or by proxy. The instrument appointing a proxy shall be deemed to confer authority to demand or join in demanding a poll.
- 29. A vote given in accordance with the terms of an instrument of proxy shall be valid notwithstanding the previous death of the appointer or revocation of the proxy provided that no intimation in writing of such death or revocation shall have been received by the Company at the Office before the commencement of the meeting or adjourned meeting at which the proxy is used.
- 30. An instrument appointing a proxy shall be in writing under the hand of the appointer or his attorney duly authorised in writing and shall be in the following form or as near thereto as circumstances will admit:

"The Bristol Society of Model and Experimental Engineers

as my/our proxy to vote in my/our name(s) and on my/our behalf at the annual/extraordinary general meeting of the Company to be held on the

(date) 19, and at any adjournment thereof.

Signed on 20 ."

MANAGEMENT COMMITTEE

- 31. The members of the Committee shall be the following:
 - (a) the Directors of the Company, being the Chairman, the Vice-Chairman the Treasurer; and the Manager of the Ashton Court Site
 - (b) the Company Secretary (who shall also be a Director);
 - (c) five other voting Members.
 - (d) the Programme Secretary
- 32. At every Annual General Meeting all the Directors shall retire from office but shall be eligible for re-election to the same office save that no Director shall be eligible for re-election to the same office at the third successive Annual General Meeting following his appointment. Other members of the committee shall retire at each Annual General Meeting but shall be eligible for re-election. Nominations for the Directors shall be advised in writing to the members at least twenty-one clear days in advance of the Annual General Meeting.

Nominations for all other Officers may be given to the Secretary no later than thirty minutes prior to the commencement of the Annual General Meeting

- 33. The Vice Chairman shall have reporting to him four non voting Officers of the company being, the Newsletter Editor, the Membership Secretary, the Librarian, and the COG Editor. They shall be elected by the Society at the Annual General Meeting and retire at each subsequent Annual General Meeting, but shall be eligible for re-election
- 34. The Company at the meeting at which a member of the Committee retires may fill the vacated office by electing a person thereto unless at such a meeting it is expressly resolved not to fill such a vacated office.
- 35. The number of members of the Committee at the date of incorporation shall be fourteen and the Company may from time to time by Ordinary Resolution increase or reduce the number of members of the Committee.
- 36. The members of the Committee shall have power at any time and from time to time to appoint any Member of the Company to be a member of the Committee, either to fill a casual vacancy or by way of addition to the Committee.
- 37. The Company may by Ordinary Resolution of which special notice has been given in accordance with the Act remove any member of the Committee before the expiration of his period of office notwithstanding anything in these Articles or in any agreement between the Company and such member of the Committee. The Company may by Ordinary Resolution appoint another Member of the Company in place of a member of the Committee so removed from office and without prejudice to the powers of the Committee under any other Article, the Company in general meeting may appoint any Member of the Company to be a member of the Committee either to fill a casual vacancy or by way of addition to the Committee.
- 38. No person who is not a Member of the Company shall in any circumstance be eligible to hold office as a member of the Committee.
- 39. The Committee may exercise all the powers of the Company to borrow money and to mortgage or charge its property or any part thereof and to issue debenture stock and other securities whether outright or as security for any debt liability or obligation to the Company.
- 40. Members of the Committee shall not be entitled to any remuneration nor to travelling or other expenses incurred by them in attending and returning from meetings of the Committee save as may be resolved by the Company in general meeting.

POWERS OF THE COMMITTEE

41. The business of the Company shall be managed by the Committee who may pay all such expenses of and preliminary and incidental to the promotion formation establishment and registration of the Company as they may think fit and may exercise all such powers of the Company and do on behalf of the Company all such acts as may be exercised and done by the Company and as are not by statute or by these Articles required to be exercised or done

by the Company in general meeting subject nevertheless to any regulations of these Articles to the provisions of the Act and to such regulations being not inconsistent with the aforesaid regulations or provisions as may be prescribed by the Company in general meeting but no regulation made by the Company in general meeting shall invalidate any prior act of the Committee which would have been valid if such regulation had not been made.

DISQUALIFICATION OF MEMBERS OF THE COMMITTEE

- 42. The office of a member of the Committee shall be vacated:
 - (a) If a receiving order is made against him or he makes any arrangement or composition with his creditors or if being a company a liquidator administrator or administrative receiver is appointed;
 - (b) If he becomes of unsound mind;
 - (c) If he ceases to be a Member of the Company;
 - (d) If by notice in writing to the Company he resigns his office;
 - (e) If he ceases to hold office by reason of any order made under the Act;
 - (f) If he is removed from office by a resolution duly passed pursuant to Section 303 of the Act

PROCEEDINGS OF THE COMMITTEE

- 43. The Committee may meet together for the dispatch of business adjourn and otherwise regulate their meetings as they think fit. Unless otherwise determined six members shall be a quorum of which three must be Directors. Decisions at any meeting shall be determined on a show of hands by a majority of Votes. In the case of equality of votes the Chairman of the meeting shall be entitled to a second or casting vote.
- 44. A member of the Committee may and on the request of a member of the Committee the Secretary shall at any time summon a meeting of the Committee by notice served upon the several members of the Committee. A member of the Committee who is absent from the United Kingdom shall not be entitled to notice of a meeting.
- 45. The Chairman of the Company shall be entitled to preside at all meetings of the Committee at which he shall be present but if no such Chairman be elected or if at any meeting within ten minutes after the time appointed for holding the same the Chairman be not present and willing to preside the members of the Committee present shall choose one of their number to be Chairman of the meeting.
- 46. A meeting of the Committee at which a quorum is present shall be competent to exercise all the authorities' powers and discretions by or under the regulations of the Company for the time being invested in the Committee generally.
- 47. All acts bona fide done by any meeting of the Committee or by any person acting as a member of the Committee shall notwithstanding that it be afterwards discovered that there was some

defect in the appointment or continuance in office of any such member or person acting as aforesaid or that they or any of them were disqualified be as valid as if every such person had been duly appointed or had duly continued in office and was qualified to be a member of the Committee.

- 48. The Committee shall cause proper minutes to be made of the proceedings of all meetings of the Company and of the Committee and all business transacted at such meetings and any such minutes of
 - any meeting if purporting to be signed by the Chairman of such meeting or by the Chairman of the next succeeding meeting shall be sufficient evidence without any further proof of the facts therein stated.
- 49. A resolution in writing signed by all the members for the time being of the Committee who are entitled to receive notice of a meeting of the Committee shall be as valid and effectual as if it had been passed at a meeting of the Committee duly convened and constituted.

PRESIDENT

- 50. The Company may at the Annual General Meeting appoint a President for the ensuing year.
- 51. The President shall be an Honorary Member of the Company.

SECRETARY

52. Subject to the Act the Secretary shall be appointed annually by the Company at the Annual General Meeting provided re-appointment does not occur on more than two consecutive occasions in accordance with Article 32. The Committee may from time to time by resolution appoint an assistant or deputy secretary and any person so appointed may act in place of the Secretary if there is no Secretary or no Secretary capable of acting.

ACCOUNTS

- 53. The Committee shall cause proper books of account to be kept with respect to;
 - (a) all sums of money received and expended by the Company and the matters in respect of which such receipts and expenditure take place;
 - (b) all sales and purchases of goods by the Company;
 - (c) the assets and liabilities of the Company.

Proper books shall not be deemed to be kept if there are not kept such books of accounts as are necessary to give a true and fair view of the state of the affairs of the Company and to explain its transactions and to accord with the requirements of the Act.

54. The books of account shall be kept at the Office or subject to the Act at such other place or places as the Committee shall think fit and shall always be open to the inspection of the members of the Committee.

55. At the Annual General Meeting in every year there shall be laid before the Company final accounts for the period since the last preceding account (or in the case of the first account since the incorporation of the Company) such accounts to be delivered not less than twenty-one clear days before the date of the meeting to all persons entitled to receive notices of general meetings in the manner in which notices are hereinafter directed to be served.

NOTICES

- A notice may be served by the Company upon any Member personally or by delivering it by hand or by sending it through the post in a prepaid letter addressed to such Member at his registered address as appearing in the register of Members.
- 57. Any Member described in the register of Members by an address not within the United Kingdom who shall from time to time give the Company an address within the United Kingdom at which such notices may be served upon him shall be entitled to have notices served upon him at such address but save as aforesaid and as provided by the Act only those Members who are described in the register of Members by an address within the United Kingdom shall be entitled to receive notices from the company.
- Any notice if served by post shall be deemed to have been served on the day following that on which the letter containing the same is put into the post and in proving such service it shall be sufficient to prove that the letter containing the notice was properly addressed and put into a post office as a prepaid letter.

INDEMNITY

59. Subject as hereinbefore provided and to the provisions of the Act every member of the Committee Secretary or other officer of the Company shall be entitled to be indemnified by the Company against all costs charges losses expenses and liabilities incurred by him in the execution and discharge of his duties or in relation thereto.

DISSOLUTION

60. If upon the winding up or dissolution of the Company there remains after the satisfaction of all its debts and liabilities any property whatsoever the same shall not be paid to or distributed among the Members of the Company but shall be given or transferred to some other institution or institutions having objects similar to the objects of the Company. The choice of such institution or institutions shall be made by the Company at or before the time of dissolution and if and so far as effect cannot be given to such provisions then to some charitable object.

We, the several persons whose names and addresses are subscribed, are desirous of being formed into a Company in pursuance of these Articles of Association.

NAMES, ADDRESSES AND DESCRIPTIONS OF SUBSCRIBERS

Eric Lindsay Stuart Bond
12 Ashgrove Farrington Villa
Peasedown-St-John Farrington Gurney

Bath Bristol BA2 8EB BS18 5UN

General Manager Fleet Engineer

E. LINDSAY S. BOND

Dated the TWELFTH day of JANUARY 1994

WITNESS to the above signatures

Donald Cordall 6 Rysdale Road Westbury on Trym Bristol BS9 3QU

Research Office

DONALD CORDALL

ISSUE 2

Articles, 2,13, and 55 amended in line with the motions passed at the Extraordinary General Meeting held the 4th January 1995

B. G. NORTH

Dated the 4th January 1995

ISSUE 3

Articles 31, 32, 33, and 43 amended in line with the motions passed at the Extraordinary General Meeting held the 16th April 1997

G.A.Ganley B.J.Hacker

G.A.Ganley B. Hacker Chairman Secretary

Dated the 30TH Day of JULY 1997

ISSUE 4

Article 2 amended in line with the motion passed at the Annual General Meeting on 6th February 2002

B J Hacker T G chambers

B J Hacker T G Chambers

Chairman Secretary

Dated the 7TH Day of FEBRUARY 2002

ISSUE 5

Article 13 amended in line with the motion passed at the Annual General Meeting on 5th February 2003

B J Hacker S G Bond

B J Hacker S G Bond

Chairman Secretary

Dated the 26th Day of MARCH 2003

ISSUE 6

Articles 31 and 33 amended in line with the motion passed at the Annual General Meeting on 17th March 2004

R Lilley S G Bond

R Lilley S G Bond Chairman Secretary

Dated the 17th Day of March 2004

ISSUE 7

Article 32 amended with the motion passed at the Annual General Meeting on 1st February 2012

K Slater D C Todman

K Slater D C Todman Chairman Secretary

Dated the 1st Day of February 2012