

Manufacturers & Suppliers of Estate & Garden Machinery TELEPHONE 01473 328272 • FAX 01473 327177 www.schsupplies.co.uk

GENERAL HEALTH & SAFETY AND USER MANUAL

Read this manual carefully and adhere to all instructions.

This manual applies to anyone who is using the machine or is in the vicinity of the machine.

Contact us for advice if you are unsure of the correct safety procedures and/or operation of your machine.

INTRODUCTION

This manual outlines general Health & Safety guidelines for the safe use of your SCH product. Before operating any SCH equipment, carefully read and adhere to all information in this manual.

You must carry out your own risk assessment, factoring in ground conditions and the operation you intend to carry out before using any SCH machine. Seek further advice if you are unsure how to do this.

If you require further information or clarification of any of the points made throughout this manual, please contact SCH (Supplies) Ltd on 01473 328272 or email sales@schsupplies.co.uk

SAFETY DOCUMENTATION

The following list of manuals should also be carefully read before operating your SCH product.

- The separate Instruction Manual provided with your SCH product; this separate manual features safety information tailored to your specific machine.
- The manual that came with your towing vehicle, paying particular attention to information regarding attaching and safe use of towed/mounted attachments.
- 3. The engine manual provided with your SCH product (if applicable) paying particular attention to safety procedures.

If you are unsure how to safely operate your SCH product do **not** proceed to use it. Please contact SCH for assistance.

SUITABLE TOWING VEHICLE

It is important that the vehicle used to pull your attachment is adequate for the job.

A towed or mounted attachment to a vehicle will inevitably have negative consequences on a vehicles performance. Cornering and sharp bends require extra care, stopping distance can increase, and starting, particularly on hills can be much more laboured.

MACHINE/TRAILER LOADING & SAFETY

- Loads must be securely tied down or restrained.
- Loads should be evenly distributed across the machine/trailer and positioned in such a way as to keep the nose weight within the recommended limits.
- Refer to your towing vehicles manual for the maximum towing weight.

Good towing practice should always take into account the negative effects of a vehicles handling, braking and general stability.

- Loss of stability when loads are loose and move around.
- The load shooting forward when the brakes are applied.
- When travelling at speed there is a danger of light items being lifted out by the slipstream. Ensure all items are secured.

When loading or unloading, ensure the vehicle is kept on flat and level ground. Do **not** attempt to tip a trailer on an incline.

MAINTENANCE / SERVICE

Regular maintenance and checks are important to keep your machine safe and performing as intended. Maintenance checks should be performed for SCH products, and the towing vehicle. Consult the towing vehicles manual for instructions.

The correct Personal Protective Equipment should be worn when maintaining SCH machinery, including but not limited to gloves, eye protection, protective overalls and steel toe capped boots.

If you are unsure how to safely service your SCH product, please contact a trained professional.

- Never carry out maintenance work when the towing vehicle is running.
- Never carry out maintenance work when the engine of your SCH product is running.
- Never carry out maintenance work when your SCH product is loaded –
 e.g., fertiliser in a broadcaster, chemicals in a sprayer, green waste in a
 trailer, etc.

Maintenance for your specific SCH machine is printed in the Instruction Manual provided.

For engine maintenance, please follow the instructions in the Engine Manual provided.

Please check the following items daily / before each use.

- Check the condition of tyres and tyre pressure.
- Check wheel nuts / split pins.
- Visual check to ensure nothing is loose, worn, cracked or damaged.

Additional checks for your specific SCH machine are printed in the Instruction Manual provided.

ATTACHING TO THE TOWING VEHICLE

Before you secure any attachment to the towing vehicle, please read the manual that came with your vehicle, paying particular attention to information regarding attaching and safe use of towed/mounted attachments.

If you are unsure how to safely attach to the towing vehicle, please contact a trained professional.

- Ensure the towing vehicle and attachment is on a flat surface. Apply the handbrake of the towing vehicle and attachment (if applicable).
- Be very aware of the possibility of trapping fingers when attaching to the towing vehicle. Keep fingers away from the hitch. Gloves are recommended.
- Always ensure the attachment is empty before attempting to hitch to the towing vehicle – e.g. no water in a bowser, no fertiliser in a broadcaster, etc. The additional weight may cause the machine to tip over backwards or behave in unexpected ways when lifted / tilted to attach to the towing vehicle.
- Be careful when reversing up to the attachment. Ensure people are standing far back and will not be hit.
- Remove any tow ball / electrical socket dust covers and security devices before attempting to hitch.
- If the machine has a jockey wheel, ensure it is tightened securely and raise/lower the jack instead of attempting to lift the machine onto the hitch.
- If lifting the machine is required to attach it, consider enlisting the help of another person to avoid injury if it is uncomfortably heavy.
- Plug in the lighting plug and check all lights and indicators work.

CHECKS BEFORE TOWING

The SCH machine operator or the driver of the towing vehicle, if different, has the responsibility for the safe operation of the machine and needs to carry out the following checks:

- If the machine is laden is the load correctly distributed i.e. Not too much or too little nose weight?
- Is the load within the machine's official payload?
- Is the actual gross weight being towed within the towing vehicle manufacturer's recommended maximum towing limit (whether braked or unbraked)?
- Is the load correctly secured?
- · Are all the lights undamaged and working correctly?
- Are the cable and plug undamaged?
- Is the breakaway cable or secondary coupling undamaged and correctly connected, to a suitable point on the tow bar or towing vehicle?
- Are the tyre pressures correct and all tyres free from cuts, bulges and with adequate tread?
- Are you satisfied that the wheel nuts/bolts are tightened to the correct torque?
- If required are the mudguards and flaps in satisfactory condition and secure?
- Is the machine correctly coupled to the towing vehicle?

TOWING VEHICLE CHECKS

Using a vehicle with a trailed attachment introduces additional risks to operating the vehicle alone; these risks should be thoroughly assessed and managed.

It is important that the vehicle you use to pull your trailer is adequate for the job.

- Check that the engine is large enough to tow the SCH attachment and any load.
- Check that the brakes are powerful enough to stop the vehicle and attachment safely.
- Check that the attachment Gross Weight does not exceed the Towing Capacity of the Towing vehicle.
- The most important check is the vehicle manufacturer's recommended towing limit, which should be in the vehicle manufacturer's handbook and on the VIN plate on the chassis.

The addition of a towed attachment to a vehicle will inevitably have a negative effect on the vehicle's performance. Starting, particularly on hills, can be much more laboured; stopping can take longer distances; cornering and negotiating sharp bends requires extra care.

Consider all these things very carefully when choosing your towing vehicle and attachment. Consult the manual that came with your towing vehicle.

TERRAIN SAFETY

The type of terrain and weather conditions can increase risk.

If the weather is or has been wet or poor the operation should be reassessed. Poor weather can affect the terrain being travelled and the handling of the towing vehicle.

- Plan the route and access in advance of the operation. We recommend you identify hazards and obstacles including: gates, tracks, public road crossings, field crossings, hill descents/ ascents, sharp corners, unsuitable ground, wet boggy areas, hidden obstacles (tree stumps, rocks etc).
- A full risk assessment should be carried out before any operation. It is
 the duty of the operators employer, in conjunction with the operators, to
 identify and plan the route as part of the health and safety routine
 planning.

If navigating rough ground, travel at a speed slow enough to prevent the towed attachment 'bouncing' on the wheels.

NAVIGATING SLOPES

When navigating slopes, never cross a slope when towing the attachment but instead ride up (ascend) and ride down (descend) vertically. A track may need to be cut into the bank or slope if it is not possible to navigate the slope safely. When riding down (descending) always use a low gear and delicate use of controls.

Consult your vehicle manufacturer's manual regarding towing loads up and down slopes. The forward speed of the vehicle MUST always be dictated by local ground conditions, which vary from season to season.

Make sure you are on flat ground if you are performing any adjustments or maintenance on your machine.

Make sure you are on flat ground when hitching your machine to the towing vehicle.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

The correct Personal Protective Equipment should be worn when using SCH machinery, including but not limited to gloves, eye protection, protective overalls and steel toe capped boots.

Conform to the advice given in the individual product manuals, and contact us if you are unsure and/or inexperienced in the correct PPE for your machine.

Take care to keep hands, feet, hair and loose clothing away from any moving parts of the machines.

- Hair must be tied up and kept away
- Loose clothing must **not** be worn eg. A Tie, toggles on a hooded jacket etc.
- Jewellery of any kind must not be worn when operating any SCH product.
- Follow the manufacturers' advice for the correct PPE to use on your towing vehicle – eg. A crash helmet, leather / protective clothing, ear defenders etc.

LIFTING & MOVING - PPE

Steel toe capped boots and protective gloves **must** be worn when lifting or moving any piece of SCH machinery. Many of our machines are heavy and feature potentially hazardous steel corners and edges, and some products may have sharp or pointed protuberances. Ask someone for help when lifting machinery if it is too heavy or bulky to move yourself.

SPRAYERS - PPE

For any substance being distributed by a sprayer carefully read and follow the manufacturer's advice on protective equipment. Safety glasses, gloves, overalls and a ventilation face mask may need to be worn.

SPREADERS & BROADCASTERS - PPE

Safety glasses **must** always be worn by the machine operator and anybody in the vicinity.

For any substance being distributed by a spreader or broadcaster carefully read and follow the manufacturer's advice on protective equipment. Gloves, overalls and a ventilation face mask may need to be worn.

SWEEPERS & COLLECTORS - PPE

Safety glasses and ear defenders **must** be worn when using any sweeper or collector.

Do **not** point the discharge hose or tube at anybody.

PEOPLE CARRIERS

As our people carriers are built to order, the safety requirements can vary from product-to-product. Contact us for advice if you are not experienced in the safe operation of the people carrier.

- Seat belts must be worn if fitted.
- Do not stand while the vehicle is moving
- Secure all items before moving.
- Keep your entire body inside the vehicle at all times while moving.
- Follow the recommended towing speed contact SCH if you are unsure of the recommended speed.



Safe use of all-terrain vehicles (ATVs) in agriculture and forestry

HSE information sheet

Introduction

This information sheet gives advice on the safe use of ATVs. It covers the two main types used in off-road working in agriculture, forestry and the land-based industries, namely:

- Sit-astride ATVs: Any motorised vehicle designed to travel on four low-pressure tyres on unpaved surfaces, with a seat designed to be straddled by the operator and with handlebars for steering control (see Figure 1). These vehicles are intended to be used by a single operator without a passenger. They may also be referred to as quad bikes.
- Side-by-side ATVs: Small utility vehicles in which the driver and passenger sit alongside each other in conventional (ie sit-in) seats (see Figure 2). Most side-by-side vehicles are capable of carrying two occupants in this way; however, some vehicles are equipped with a second row of seating (and can therefore carry four occupants), while others have bench-style seats allowing up to three people to be seated in a row. The majority of side-by-side vehicles have four wheels, although six-wheel and full and partially tracked versions are also available. There is usually a cargo bed behind the seating area. Side-by-side ATVs are sometimes referred to as utility vehicles (UTVs) or rough terrain utility vehicles (RTVs).

ATVs are usually fitted with a tow hitch and are capable of towing a load such as a trailer, a trailed appliance or other equipment.

Hazards

Both types of ATV are designed to cope with a wide variety of terrain types, including steep slopes, but if used outside their safe operating parameters they can very rapidly become unstable. The main causes of serious or fatal injury associated with ATVs are from:

being thrown off during vehicle overturns or after loss of control:

Agriculture Information Sheet No 33 (Revision 1)

- collisions with structures, trees, other vehicles etc;
- being trapped/asphyxiated under an overturned machine;
- pedestrians being struck or run over by ATVs.

Contributory factors/underlying causes of accidents and injury with ATVs can include:

- lack of formal operator training and/or experience;
- incorrect/lack of appropriate head protection;
- excessive speed:
- age of the operator;
- carrying a passenger on a sit-astride ATV;
- unbalanced loads or overloading;
- tipping on a bank, ditch, rut or bump;
- loss of control on a steep slope combined with other factors, eg ground or load conditions;
- towing excessive loads with unbraked equipment;
- poor maintenance, eg faulty brakes, incorrect tyre pressures etc.

Control measures for sit-astride ATVs

Training

It is a legal requirement for employers to provide adequate training for employees who use work equipment such as ATVs, and to make sure that only employees who have received appropriate training in their safe use, including the use of any towed equipment or attachments, are permitted to ride them. The same requirements apply to the self-employed.

You can get details of suitable training courses from franchised ATV dealers, manufacturers' websites, Lantra, the Forestry Commission, EASI (European ATV Safety Institute), the British Off Road Driving Association (BORDA) and through colleges and training providers.

When purchasing a new or used machine from a franchised dealer an industry-led scheme offers customers free training – see 'Useful contacts'.



Figure 1 Example of a sit-astride ATV

Personal protective equipment – the importance of head protection

Sit-astride ATVs are not fitted with either a cab or roll bar, so your only protection is what you wear. Head protection is vital. Many ATV fatalities in the UK have been caused by head injuries. Helmets would certainly have prevented most of, if not all, these deaths. You should always wear a helmet when riding an ATV.

Helmet types suitable for ATV operations, depending on the circumstances, are motorcycle helmets, equestrian helmets, specialist ATV helmets, cycle helmets and mountaineering helmets. All helmets should be manufactured and tested in accordance with the current relevant EN/BS standard, have a chinstrap and be capable of being used with suitable eye protection. The type of helmet chosen should be based on an assessment of the circumstances in which the ATV will be used, eg the types of surface travelled over and anticipated speeds. The harder the surface and higher the speed the greater the degree of protection needed. NB: Forestry helmets and industrial hard hats are not acceptable for any ATV operations.

Wear clothing that is strong and covers your arms and legs. Gloves are useful for protection and handlebar muffs can help to keep hands warm in cold weather for good control of the ATV. Wear sturdy, anklecovering footwear, eg boots or wellingtons that are strong, supportive and have good wet grip.

Protect your eyes from insects and branches with either a visor or goggles.

Passengers

The long seat on a conventional sit-astride ATV is to allow operators to shift their body weight backwards and forwards for different slope conditions,

a technique known as 'active' riding. It is **not** for carrying passengers. Manufacturers often display a sign on machines prohibiting passengers and this message is also repeated in operator manuals.

Do not carry a passenger in a trailer behind an ATV as any movement can make the machine unstable, particularly with independent rear suspension and trailers with axles wider than the ATV.

Some machines have received European Community Whole Vehicle Type Approval, allowing them to be ridden on the public highway. Some of these machines are designed to carry passengers. Such machines may not be suitable for carrying a passenger when used in off-road situations, eg on sloping ground, as the operator may not be able to use active riding techniques to maintain machine stability. Such machines may not have a locking differential and may not provide an acceptable level of traction to ensure safety in certain off-road conditions.

Before using an ATV you should assess the suitability of the machine for the intended tasks and working environment

Route planning and stability

Accidents can occur where ATVs are driven on new routes over steep ground for the first time, or are carrying or dragging destabilising loads. When travelling over rough terrain, get to know your own ground and stick to planned routes where possible. Walk new routes if necessary to check for hidden obstructions, hollows or other hazards. Allow for changes in ground conditions and for the destabilising effect of loads or attachments.

Safety checks and maintenance

Off-road use is especially harsh on equipment so it is essential to carry out safety checks and maintenance in accordance with the manufacturer's recommendations. In particular, pre-ride safety checks should always include:

- tyre pressures. These are low, eg typically around 2-7 psi, so even a 1 psi (0.07 kg/cm²) difference in pressure can cause vehicle control problems. Use a gauge that is designed for measuring and displaying low pressures – usually supplied with the ATV:
- brakes and throttle. Check that the brakes give a safe straight stop and that the throttle operates smoothly in all steering positions. Brakes can have a relatively short life in farming or forestry environments and need frequent cleaning, regular adjustment and proper maintenance.

Safe riding methods

On sit-astride ATVs rider positioning is vital to operate them correctly. The position of the rider on the machine needs to be changed depending on the terrain and motion. Riders must have the ability to move and balance the momentum of the ATV with their own body weight. Plan routes (and review the plan if a route is used regularly) to assess risks.

The following advice is no substitute for formal training.

- Most ATVs have no differential and so do not handle in the same way as other machines. This means that when you turn, the ATV tries to keep going in a straight line.
- When cornering on an ATV with no differential, or with the differential lock engaged, where your body weight needs to be positioned depends on how sharp the corner is and on how fast you are going. Correct body position allows you to transfer weight to the outside of the turn through the footrests while maintaining balance with the torso. This lets the inside wheels skid slightly allowing the ATV to make the turn property.
- You must understand how the transmission system of your machine will affect engine braking for both riding on slopes and recovery of stalled ATVs.
- When riding across a slope, keep your weight on the uphill side of the ATV.
- When going downhill, slide your weight backwards, select a low gear and use engine braking, reducing the need to use the brakes.
- When going uphill, it is important to review the route before starting the climb. Move your weight forwards and maintain a steady speed. It is important to shift your body weight forwards as much as possible. If necessary, stand up and lean forward, keeping both feet on the footrests at all times and always maintain momentum.
- Avoid sudden increases in speed. This is a common cause of rearward overturning accidents, even from a standing start on flat ground where there is good grip.
- Never put your foot onto the ground to stabilise an ATV when riding, but shift your weight across the ATV away from the imbalance.
- Always read the owner's manual.

Trailed equipment and loads

Ensure all riders know the manufacturer's recommended towing capacity and drawbar loading limit. Always operate within these requirements. Remember that your ability to control the ATV by your body movements will be considerably reduced when carrying a load or towing a trailer.

- When selecting trailed equipment look for:
 - over-run brakes:
 - a swivel hitch drawbar:
 - bead lock rims on wheels:
 - a low centre of gravity and a wide wheel track;
 - a long drawbar;
 - attachment points for securing a load.
- Check the weight ratio between your ATV and its trailed load. This needs to be assessed for each operation. As a general guide, on level ground braked trailed equipment can be a maximum of four times the unladen weight of the ATV. For unbraked trailed equipment the maximum should be twice the unladen weight. These loads should be reduced when working on slopes, uneven ground or poor surface conditions. Follow the manufacturer's advice for your particular machine.
- Weight transfer is also important. Stability and resistance to jackknifing is improved if some load is transferred onto the ATV's drawbar. Approximately 10% of the gross weight of the loaded trailer is recommended, but this should not exceed the manufacturer's drawbar loading limit. Remember that weight transfer can change dramatically when you start going up or down hill.
- When selecting mounted equipment, make sure it is within the manufacturer's approved weight limit, with a low centre of gravity and controls which are easy to operate but do not create a hazard. Where equipment is added to one end of the machine, add ballast at the other end to maintain stability.
- Loads carried on racks must be well secured, eg with ratchet straps, and be evenly balanced between the front and rear, except where they are deliberately altered to aid stability when going up or down a slope. Maximum weights that can be carried should be specified in the operator's manual and may be marked on the machine. These should not be exceeded.
- Only tow a load from the hitch point. Loads towed from other points, such as the rear rack, have caused sudden rear overturning even on slight slopes or with slight acceleration. Do not use ropes or chains to drag a load; they can become caught on a wheel. This may lead to entanglement with the brake cable, causing unexpected braking.

Using sprayers

- Sprayers should be fitted with an induction hopper unless the filling point is less than 1.5 m from the ground and within 0.3 m from the edge of the sprayer. A separate clean water tank for washing must be provided containing at least 15 litres of clean water and a tap that allows the water to run without being continuously pressed.
- When buying a sprayer look for a low centre of gravity and internal baffles to reduce liquid surge and improve stability when turning on slopes.

- ATVs should only be used with rear-mounted spray booms or other equipment that reduces the risk of pesticide exposure to the operator.
- Do not hold a spraying lance while riding your ATV as you need two hands for safe control.

Accessories

Beware of the potential dangers of accessories which are not approved by manufacturers, eg home-made gun racks and boxes. Either use accessories supplied/approved by manufacturers or seek their advice as to the suitability of those sourced elsewhere.

Any weight added above the centre of gravity will decrease the ATV's stability, eg feed hoppers/dispensers fixed above the rear rack.

Children

- Never carry a child as a passenger. It is illegal and will reduce your ability to control the ATV.
- Children under 13 years old are prohibited from using an ATV for work. Over-13s should only ride ATVs of an appropriate size and power after formal training on a low-power ATV.
- Children under 16 years old are prohibited from using most adult-sized machines. Check and adhere to the manufacturer's minimum age recommendations for your ATV; this information may be displayed on the machine and in operator manuals. Similar restrictions apply to side-by-side machines
- The ratio of a child's weight to that of the ATV is significant, as weight transfer is the key to safe handling.
- In the event of an overturn, a child may be crushed by the weight of an adult-sized ATV. They may be unable to lift it off unaided.

Roll-over protective structures (ROPS)

- HSE's current advice is that roll-over protective structures (ROPS or crush protection devices) are not recommended for sit-astride ATVs. Research has shown that they may lead to an increased risk of injury in the event of an overturn by either preventing the operator from separating from the machine or striking the operator as the machine overturns.
- Lap straps/seat restraints should not be fitted.
 They prevent active riding and would be potentially lethal without a full cab or roll cage.
- Weather cabs on sit-astride ATVs restrict a rider's ability to jump clear in an overturn. The rider is likely to be crushed within the cab unless it is strong enough to withstand the forces involved. Carefully assess the risks for your particular

conditions of use before fitting any such structure and consult the manufacturer for information.

Side-by-side ATVs

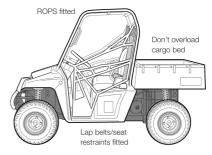


Figure 2 Example of a side-by-side ATV

Utility side-by-side ATVs are used for many of the same purposes as tractors and designed for similar work activities, ie off-road use on difficult terrain. They have conventional sit-in seats, and the main controls comprise a steering wheel and pedals. The driver does not need to use weight transfer to steer or to control stability. Nevertheless, the correct distribution of weight on-board the vehicle is important, particularly when carrying a load or on uneven surfaces. Loads carried on the cargo bed should not exceed the recommended weight and should be secured against movement.

Training

The legal requirements for training are the same as for the sit-astride ATVs.

ROPS and seat belts

The requirements for these machines are quite different to those of sit-astride ATVs:

- To reduce the risk of injury in the event of a rollover or other incident, side-by-side vehicles require lap belts/seat restraints as well as ROPS that essentially form a protective structure around the seating area. The compartment is usually open, although some vehicles are fitted with a windscreen and/or side doors. The driver and all passengers should be protected by ROPS and wear lap belts.
- Where a machine is amphibious and used on deep water as opposed to marshland, then the seat restraints (and possibly ROPS) could increase the

overall risk rather than reduce it. In this case, do not use seat restraints while on the water. Assess the risk from the roll frame according to its design and the likelihood of trapping the occupants if the machine should sink.

© Crown copyright If you wish to reuse this information visit www.hse.gov.uk/copyright.htm for details. First published 05/99.

Parking

If you have to park on a slope, always park across it unless it is too steep. Accidents have occurred when machines have run down slopes because of poor brake maintenance or application, particularly while they are being loaded and movement or the increase in weight has set the machine in motion.

Useful contacts

EASI®, the European All-Terrain Vehicle Safety Institute, is a not-for-profit organisation which provides safety training courses for ATV riders.

EASI's UK operation is sponsored by a number of ATV manufacturers and delivers a programme of specialist ATV training courses which are designed to improve rider skills, safety levels and awareness of the capabilities of ATV machines.

Buyers who purchase a new or used ATV from one of these manufacturers via an authorised UK dealer are eligible for **free** or highly subsidised training, subject to qualifying terms, conditions and availability. See www.quadsafety.org/ for details.

Training is also available from other organisations, such as Lantra (lantra-awards.co.uk) and the British Off Road Driving Association (BORDA) (www.borda.org.uk).

Further information

For information about health and safety, or to report inconsistencies or inaccuracies in this guidance, visit www.hse.gov.uk/. You can view HSE guidance online and order priced publications from the website. HSE priced publications are also available from bookshops.

This guidance is issued by the Health and Safety Executive. Following the guidance is not compulsory, unless specifically stated, and you are free to take other action. But if you do follow the guidance you will normally be doing enough to comply with the law. Health and safety inspectors seek to secure compliance with the law and may refer to this guidance.

This leaflet is available at: www.hse.gov.uk/pubns/ais33.htm.

Published by the Health and Safety Executive AIS33(rev1) 11/14 5 of 5 pages

STORING THE MACHINE

Care should be taken when storing SCH products to minimise accidental injury.

- 1. In storage, any machine with sharp protuberances should be positioned with the protuberances safely against a floor or wall.
- Take care not to leave SCH equipment where someone may trip or fall over it.

CONTACT DETAILS

Do **not** take risks. Contact us for advice if you are unsure about the safe and correct operation of our machinery.

If you require further information or clarification of any of the points made throughout this manual, please contact SCH (Supplies) Ltd on 01473 328272 or email sales@schsupplies.co.uk



