LOGIC

SLB400

270 LITRE TRAILED LIQUID BOWSER

USER MANUAL

WM2-SLB400

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SERIAL NO: ----------

Date of purchase: ----------

IMPORTANT INFORMATION: Fill in immediately. Use when ordering replacement spare parts or additional optional extras

1 INTRODUCTION

With the purchase of your LOGIC **SLB** Bowser you have made an excellent choice.

This Bowser should give first class service for a long time, if used correctly, and maintained as described in this manual.

The LOGIC **SLB** Bowser has been designed as a 'one piece' unit to allow quick attachment and easy operation.

Lightweight materials have been used without sacrificing strength and performance, making it ideal for both professional and domestic users.

If, after reading this manual there are any queries, please get in touch, we will be pleased to help.

NORTH & EXPORT
LOGIC MANUFACTURING LTD
Foundry Industrial Estate
Bridge End, Hexham
Northumberland NE46 4JL
Tel: 01434 606661 Fax: 01434 608143
E-mail: sales@LogicToday.co.uk
www.LogicToday.co.uk

SOUTH
LOGIC MH LTD - New Whiteway Works,
Fossecross Industrial Estate
Chedworth. Cheltenham
Gloucestershire GL54 4NW
Tel: 01285 720930 Fax:01285 720840
E-mail: sales@LogicToday.co.uk
www.LogicToday.co.uk

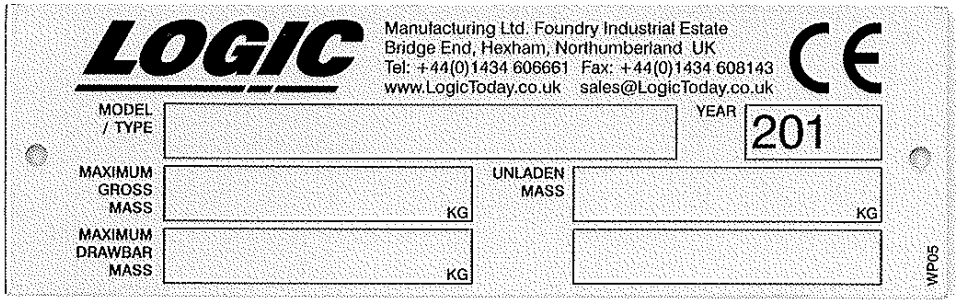
2 SAFETY FIRST

Please read this manual carefully, adhere to all instructions paying particular attention to the safety information. For further information or clarification of any of the points made, please contact Logic Manufacturing Ltd.
The Bowser can be towed by any suitable vehicle from UTVs to Landrovers to 4x4 pickups although it is ideally suited to ATVs
The Bowser is not suitable for use with ATVs with less than 300cc engine capacity or for use with leisure or sports models. 4 wheel drive vehicles are recommended for hilly ground. Using an ATV with an attached trailer introduces additional risks to operating an ATV alone, these should be thoroughly assessed and managed.

SAFE OPERATION

- Protective clothing must be worn, including a helmet with a visor or goggles, gloves, sturdy ankle covering footwear and strong clothing that covers your arms and legs. Carry a personal first aid kit including a large wound dressing.
- Never carry passengers on the Bowser. Individuals under 16 years are forbidden to use this equipment. Ages 17+ must have been trained in towing equipment or trailers. We strongly recommend these operators have completed the 'car and trailer driving test — category B+E'. The employer must supervise the daily use to ensure safe operation of the Bowser. Never carry additional weight which may affect stability, never exceed the gross weight of the Bowser.
- The towing vehicle (ATV) weight ratio must be within our guidelines.
  (See guidelines/ diagram and key weights on page 12)
  The unladen and gross weights of the Bowser is also found of the manufacturers plate which is riveted to the chassis.

⚠ If you are using the machine on uneven or hilly ground, we recommend reducing the amount of liquid in the tank by at least 25%. it is also recommended to reduce speed accordingly. Never cross a slope when towing a trailer.



- The Bowser should never be driven at speed. No more than 20mph is recommended.

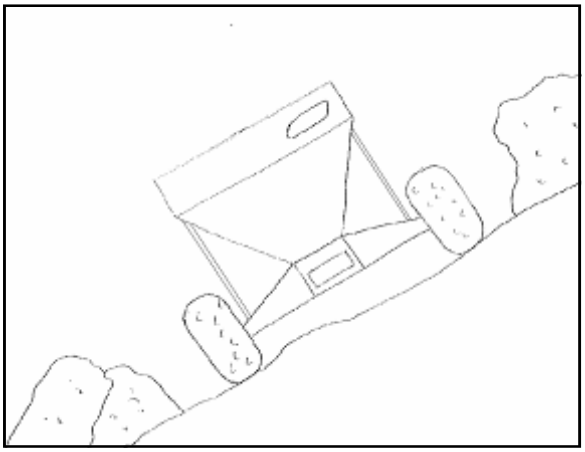
ROUTE PLANNING & ACCESS

- Plan the daily route and access well in advance of the day of use. 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). (for more info see HSE Ag info sheet 33 and AFAG701 sheet 39).
- 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. A full risk assessment should be carried out. Logic Manufacturing Ltd accept no responsibility for poor route planning.

⚠ If the weather is or has been wet or poor the route should be reassessed before travelling. Poor weather can affect the terrain being travelled and the handling of the towing vehicle, especially ATVs

- The Bowser is designed for off road use only.
- Using an ATV with a trailed attachment introduces additional risks to operating an ATV alone, these should be thoroughly assessed and managed.
- When navigating slopes, never cross a slope when towing the Bowser but 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 low gear and delicate use of controls. Consult your vehicle manufacturer's manual for advice on towing loads up and down slopes. Forward speed of the vehicle MUST always be dictated by local ground conditions, which vary from season to season.

DO NOT



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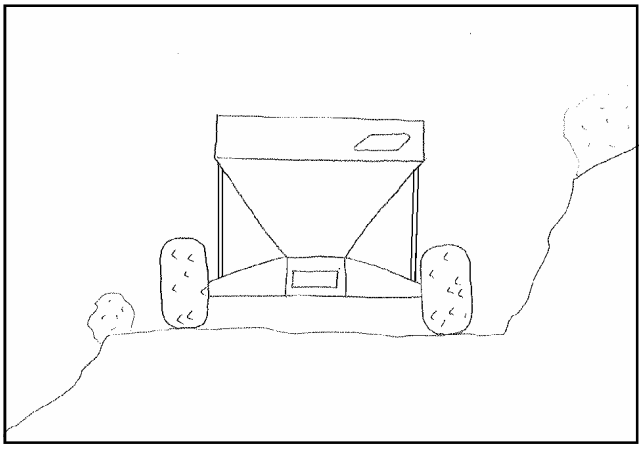
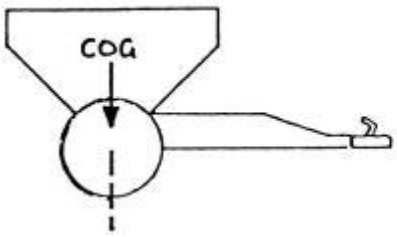
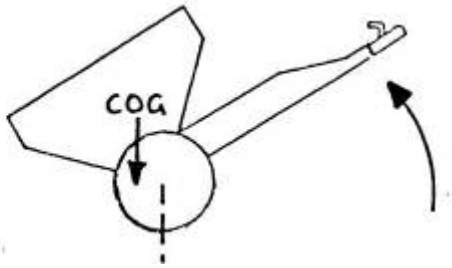


⚠ As with all trailed equipment of this type take **EXTRA CARE** when unhitching from the towing vehicle. **NEVER** unhitch the Bowser when fully laden.
NEVER lift the drawbar to a height which moves the centre of gravity behind its wheels,





MAINTENANCE — A WELL MAINTAINED MACHINE IS A SAFER MACHINE

- Maintenance of the towing vehicle and towed equipment should be part of the daily routine.
- The ATV should have its brakes, throttle and tyre pressures checked daily. Tyre pressures are low on an ATV so a 1psi difference can cause vehicle control problems.
- Check that the brakes give a safe straight stop and the throttle operates smoothly in all steering positions.
- Brakes can have a relatively short life in the environment the machine will be used, so frequent cleaning, regular adjustment and proper maintenance will be required. The Bowser is unbraked so the towing vehicle is relied upon to provide the control. Check the towing vehicles manufacturers manual for further guidance.
- Ensure that the wheel bearings are regularly lubricated with grease. Every 3 months re-pack with new grease and adjust to take up any wear.

TRAINING

- There is a legal requirement for employers to provide adequate training for all operators of ATV equipment and attachments. Contact your local HSE office for approved training courses such as LANTRA for ATVs. The same requirements apply to the self-employed.

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

HSE information sheet

Agriculture Information Sheet No 33 (Revision 1)

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;
- 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, 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'.

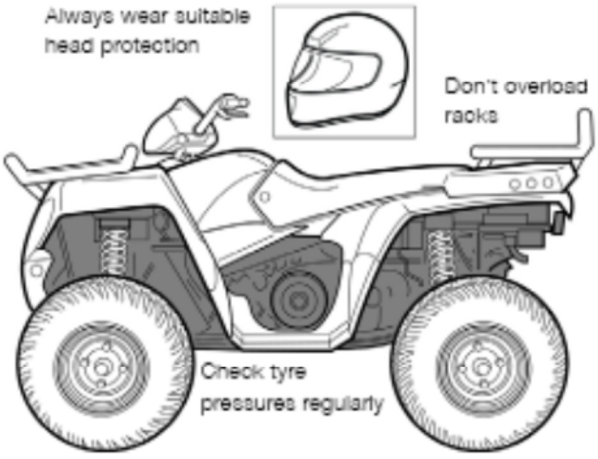


Figure 1 Example of a sit-astride ATV

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, ankle-covering 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/cm^2) 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 properly.
- 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 1.6 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

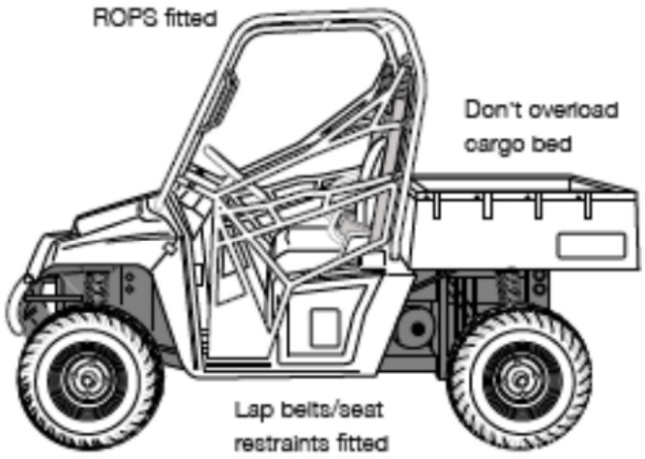


Figure 2 Example of a side-by-side ATV

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 roll-over 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.

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 the British Off Road Driving Association (BORDA). See www.borda.org.uk for details.

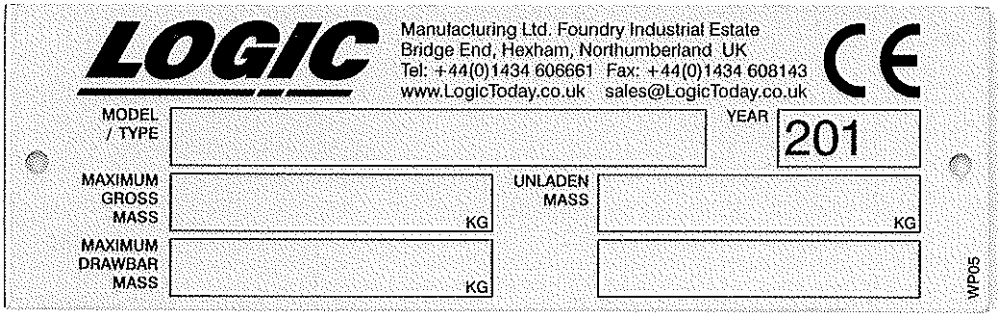
Further information

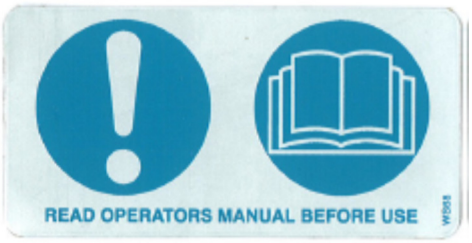
For information about health and safety, or to report inconsistencies or inaccuracies in this guidance, visit www.hse.gov.uk/. You can view HSE guidance online and order priced publications from the website. HSE priced publications are also available from bookshops.

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.

3 INSTRUCTIONS / WARNING DECALS





TYRE PRESSURE GUIDE (lbs/sq.in.)

OBSERVE TOWING VEHICLE MAX. TOWING LIMITS OR TRAILER MAX WEIGHTS

OFF ROAD TYRES (MAX SPEED 20 MPH)			ON ROAD TYRES		
TYRE SIZE	LIGHT LOAD	FULL LOAD	TYRE SIZE	LIGHT LOAD	FULL LOAD
22 x 11 x 8	3 - 5	6 - 10	16.5 x 6.5 x 8	40 - 44	45 - 47
25 x 12 x 9	4 - 6	5 - 8	185 x 850 x 8	40 - 44	45 - 50
13 x 5 x 6	17 - 20	17 - 20	195/60 R14	30	34 max
160/60 R8	36	36	165 R13	32	35 max
			205 x 60 x 13	28 - 32	40 max

KEEP WHEEL NUTS TIGHT WS38

The above decals should be located on your bowser. If any of the above decals are not located on your bowser or are damaged in any way contact Logic for some replacement decals before use.

4 OPERATING INSTRUCTIONS AND ADJUSTMENTS

INITIAL CHECK

Make sure that all nuts, bolts and fittings are securely fixed, and that packaging materials e.g. wire bands, tape, etc., have been removed

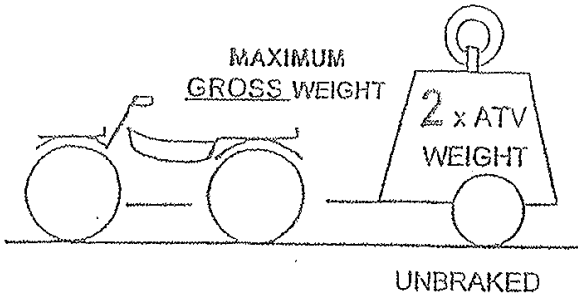
4.1 ATTACHING TO THE TOWING VEHICLE

The Bowser can be towed by any suitable vehicle from UTVs to Landrovers to 4x4 pickups although it is ideally suited to ATVs and is attached by a 50mm Swivel ball hitch.

WEIGHTS AND LOADING RECOMMENDATIONS

To comply with the weight restrictions detailed on the HSE information sheet 33. The following guidance must be fully understood and used.

An ATV can tow up to twice its own weight on an unbraked trailer on level ground.



⚠ Reduce the weight by 25% if working on uneven or hilly ground.

When towed behind other suitable vehicles refer to the vehicle operator manual and appropriate regulations for guidelines.

The unladen weight of the SLB400 Bowser is 70kg

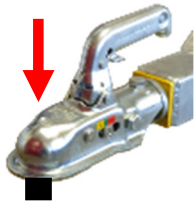
The Maximum gross weight of the SLB400 Bowser is 340kg

⚠ The maximum gross weight of the Bowser should never be exceeded.

⚠ 1 Litre of water weighs 1kg
Be aware of loading limits when filling the Bowser and the restrictions that may exist for towing stipulated by the vehicle manufacturer.
Assess the difficulty of ground conditions to be travelled e.g. Slopes or undulating terrain.
Restrict/reduce loadings to remain safe at all times and within vehicle limits.

The Unladen tow ball weight of the SLB400 Bowser is 9kg

The Laden tow ball weight of the SLB400 Bowser is 25kg



⚠ Tow ball weight based on a Bowser filled with 270 Litres of water. Ensure the weight does not exceed the towing vehicles recommendations. HSE recommend a tow ball weight around 10% of the gross weight of the trailed equipment. This should never be exceeded.

5 TRANSPORTING AND LIFTING

Ensure the vehicle used to lift and transport the Bowser has the necessary lifting and loading capacity. Follow all vehicle manufactures guidelines for lifting. Unladen weights are clearly marked on the Manufactures plate attached to the Bowser framework. Check the lifting weight complies with the vehicle lifting limits

When lifting the Bowser for transporting / delivery purposes always ensure to locate the lifting straps on each of the four corners ensuring the straps/chains are all the same length before lifting, or if using forklift tines ensure the Bowser is secure on the tines before lifting.

6 OUT OF SEASON OR WINTER STORAGE

When the Bowser is not going to be use care should be taken before putting away.

1. Clean the Bowser out thoroughly.

2. Drain the tank and pipe work free from liquid to prevent any frost damage in the winter months.

7 MAINTENANCE / SERVICE

SERVICE SCHEDULE

	DAILY	WEEKLY	MONTHLY	SEASONALLY
Check tyre pressures	●	●	●	●
Check condition of tyres	●	●	●	●
Visual check to ensure nothing is loose	●	●	●	●
Check all nuts and bolts		●	●	●
Oil the coupling mechanism and check for wear			●	●
Re-pack the stub axles with grease				●

TYRE / PRESSURE

Tyre pressure for: DURO 22 x 11 - 8 **(Min 4 Psi Max 10 Psi) OFF ROAD**
CARLISE 22 x 11 - 8 **(Min 4 Psi Max 10 Psi) OFF ROAD**

⚠ **DO NOT** exceed recommended tyre pressures.

Remember that temperature affects pressures

Never adjust the pressure immediately after driving, because driving heats up the tyres.
There are many individual causes of tyre troubles. However, the three abuses which will cause most problems, and the greatest costs, are under-inflation, overloading and speeding. When you check the tyre pressures also look for bumps, bulges in the side of the tyre or tread. Check the tyres for cuts, slits or cracks, nails or foreign objects embedded in the side of the tyre or tread. Check the tread for excess wear. Replace or repair any defect or fault with tyres before use.

SWIVEL HITCH HOUSING

Check coupling for signs of damage or wear, swivel the coupling 360 degrees and check that the bushes are not too worn. Replace any worn or damaged parts.

Oil the 50mm coupling; follow the diagrams on the hitch to ensure oil is applied correctly. This is shown below.

WHEEL BEARING MAINTENANCE

It is important that wheel bearings are maintained and adjusted correctly. Over tightening of tapered wheel bearings can cause as much damage as bearings being to slack or not have enough grease packed into them.
The instructions on the following page details how to check set and adjust tapered wheel bearings properly.

CHECKING AND ADJUSTING TAPERED WHEEL BEARINGS

- Jack one wheel up at a time off the ground and check for movement. Take a hold of the wheel and tyre and try to push and pull from side to side to see if there is any slackness in the bearings.

- If yes, remove the dust cap from the centre of the wheel. Remove the wheel from the stub axle if necessary to gain easier access to the dust cap.
- Remove the castle nut retaining clip/ pin.

- Reattach the wheel and tighten the castellated nut with a spanner while spinning the wheel with the other hand, the bearing will start to bind as you tighten more. Stop tightening.

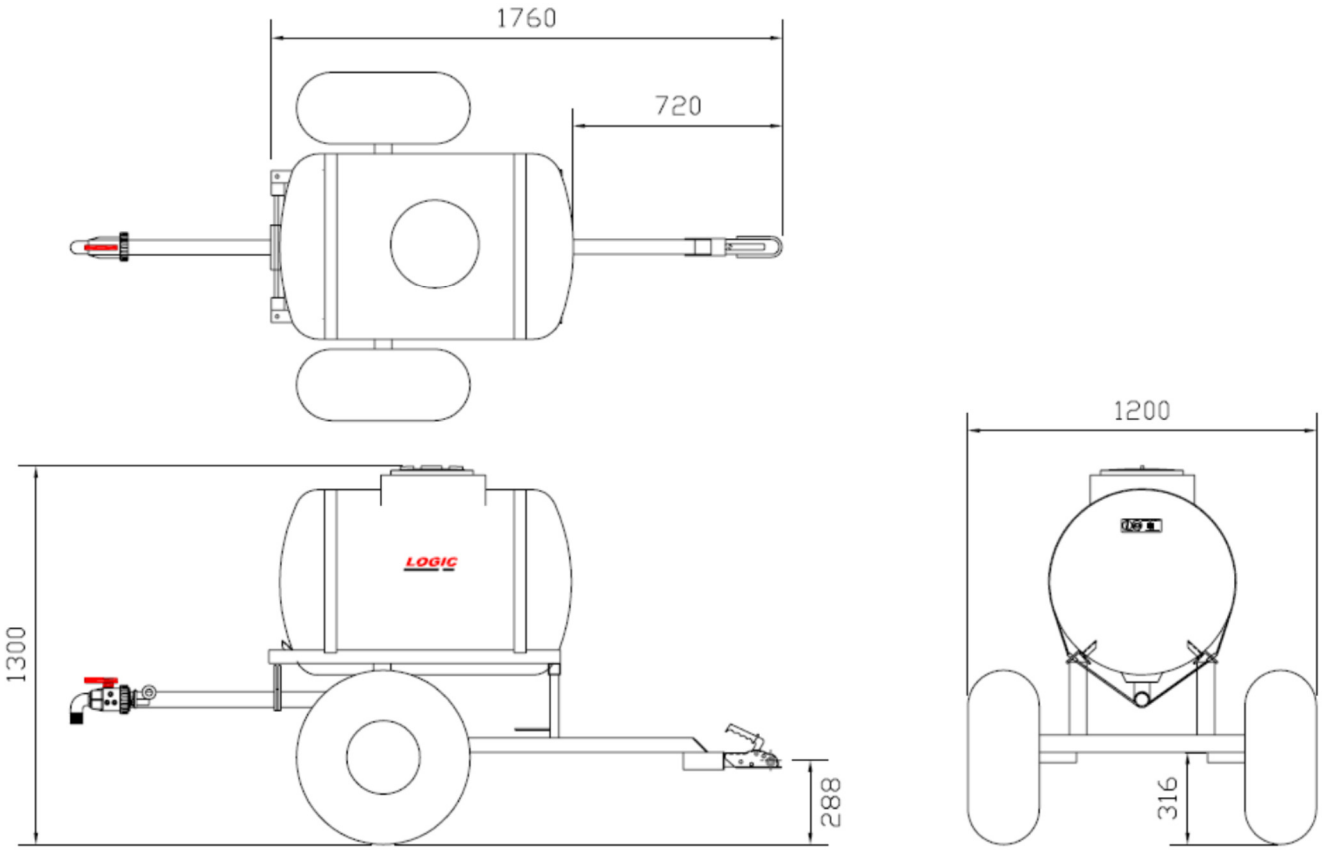
- Back the nuts off until you feel the binding resistance dissipate and one of the nut castellation line up with the retaining clip/ pin hole.
- Insert a new retaining clip/ pin to secure the nut.
- Finally half fill the dust cap with grease and tap back on.

⚠ **DO NOT** exceed recommended tyre pressures. Hard tyres will make the machine bounce more on rough ground putting more stress onto the bearings.

8 SPECIFICATION

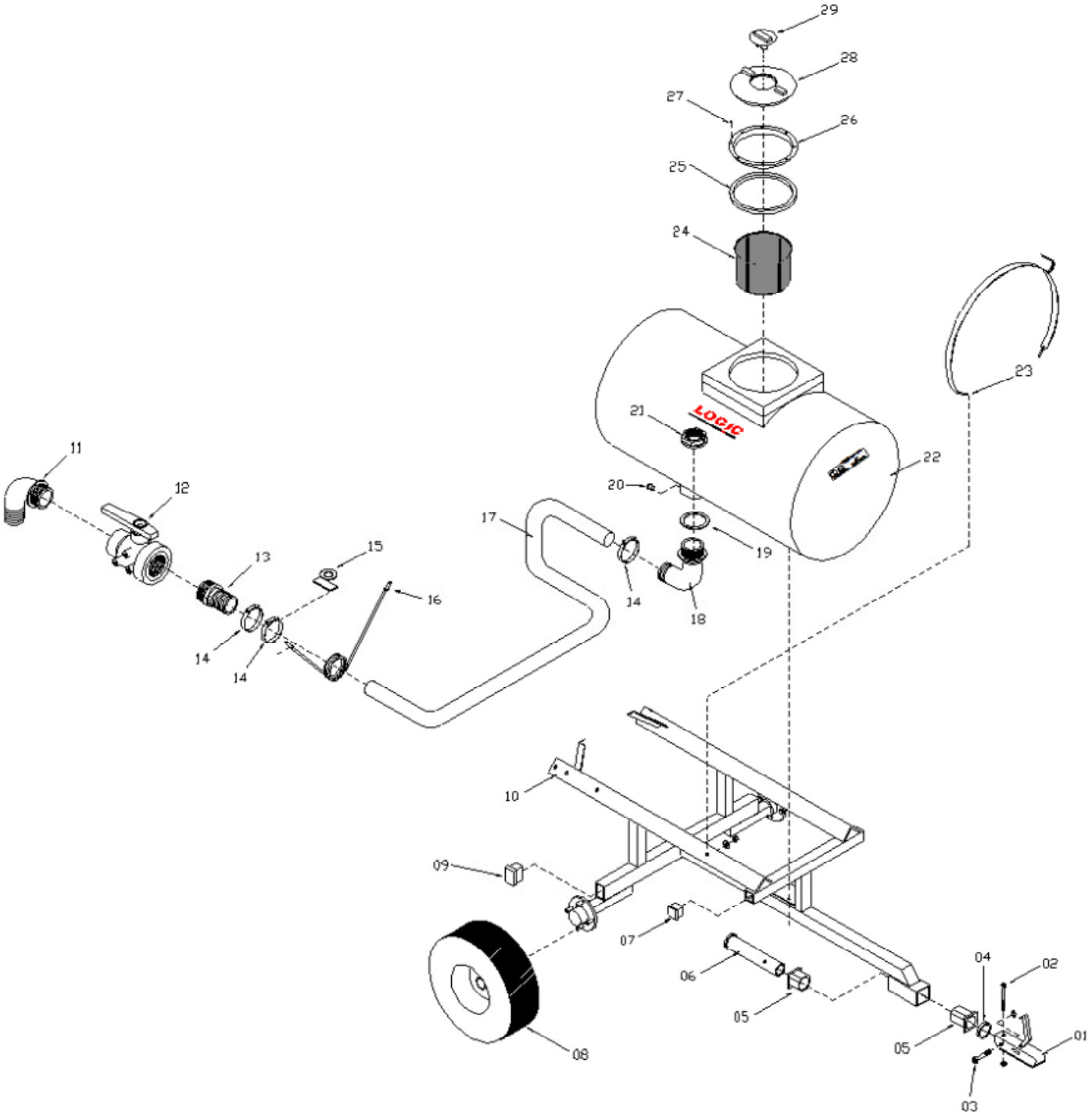
	SLB400
Max machine length	1760mm
Max machine width	1200mm
Max machine height	1300mm
Tank capacity	270 litres
Pump	N/A
Outlet pipe length	2000mm
Unladen weight	70kg
Laden weight	300kg

SLB400



9 PARTS DIAGRAM AND PARTS LIST

SLB400



Item	*Part Number*	*Description*
01	C900	Coupling 50mm H/D Winterhoff
02	FBH12070, FNN12	Bolt M12 X 70, Nyloc Nut
03	FBH12065,FNN12	Bolt M12 X 65, Nyloc Nut
04	CM100-01A	Swivel Hitch Thrust Washer
05	CM100-03A	Swivel Hitch Nylon Bush
06	CM100-04	Swivel Hitch Draw Tube
07	FIP040040	Insert Plastic 40 x 40 x 26-4MM
08	WT400	WL/TY 22 x 1100-8 Duro W500
09	FIP060040	Insert Plastic 60 x 40 x 32-4MM
10	SLB401	Trailed Chassis 250 Ltr
11	SLB101-15	1 ½ Elbow
12	SLB101-18	1 ½ X 1 ½ On/Off Valve
13	SLB101-16	1 ½ X 2 Hose Tail
14	FCH5065	Clip Hose Jub 50-65 MM
15	SLB101-50A	Fixing Lug
16	SLB101-60A	Hose Support
17	SLB101-12	Hose
18	MTF-061	Elbow 2” MBSP X 2 “ Barb
19	SLB101-20	Seal 3.0 OD X 2.3 ID X 1/8
20	WW300-1021	Filler Plug
21	SLB101-21	Nut Plastic 2”
22	TS250	Tank 270 LT
23	SLB101-04A,FWF10,FNN10	Tank Strap, Flat Washer, Nut Nyloc M10
24	TS250-1001	Tank Strainer
25	TS250-1002	Filler Neck Seal
26	FSP05016	S/Screw Pan HD M5 X 16
27	TS250-1003	Filler Neck Ring
28	TS250-1004	Screw Cap
29	TS250-1005	Screw Cap Insert

10 LOGIC MANUFACTURING PRODUCTS OWNER GUARANTEE

This Logic Manufacturing product is guaranteed against faulty workmanship and materials for a period of 6 months from the date of purchase.

On Engine-Powered equipment, the engine manufactures guarantee will apply, any claims being subject to their terms and conditions.

All claims must be made in writing within 28 days of the alleged failure.

All claims must be made through the dealer who originally supplied the machine.

Any defective parts must be kept for inspection and if requested, sent to the factory or dealer.

The customer must bring equipment for repair to the dealer.

This guarantee becomes void if unauthorised modifications have been made, or if parts not manufactured, supplied or approved by Logic Manufacturing have been fitted to the machine.

We accept no liability for normal wear and tear, misuse or abuse, or where recommended maintenance has not been carried out.

All guarantee work must be authorised by Logic manufacturing prior to any work being done. Work carried out without our consent may not be reimbursed.

DECLARATION OF CONFORMITY
93 / 44 EEC

LOGIC MANUFACTURING LTD
Foundry Industrial Estate
Bridge End
HEXHAM
Northumberland

Product Type: **SLB400**

Covered By Technical File Number: **CE – SLB400**

Serial Number:

Standards and Regulations Used:

The Supply of Machinery (Safety) Regulations 1992
HSE Guide Lines on ATV Equipment (Agric Sheet No. 33)

Place of Issue: **United Kingdom**

Name of Authorised Representative: **S A WEIR**

Position of Authorised Representative: **PRODUCT DEVELOPMENT MANAGER**

Declaration,

I declare that as the authorised representative, the above information in relation to the supply / manufacture of this product, is in conformity with the stated standards and other related documents following the provisions of 93/68EEC directives

Signature of Authorised Representative 

Date: **28/08/2012**