

LOGIC

LGF100

LOGIC GAME-FEEDER



OPERATORS MANUAL

WM1-LGF100

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SERIAL No. _____

DATE OF PURCHASE _____

IMPORTANT INFORMATION fill in immediately. Use when ordering replacement parts or additional optional extras



WHERE THIS IS SHOWN, TAKE CARE TO AVOID A HAZARD

INTRODUCTION

With the purchase of your **LOGIC GAME-FEEDER** you have made an excellent choice.

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

The basic Game-Feeder provides a first class method of feeding birds using bulk feeds, in minimal time with good accuracy.

The **LOGIC GAME-FEEDER** is of strong construction and control equipment is high quality.

Options such as mudguards, Tonneau cover, larger wheels and extension sides can be added to provide a comprehensive feeding unit.


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

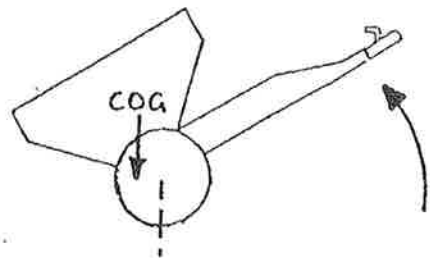
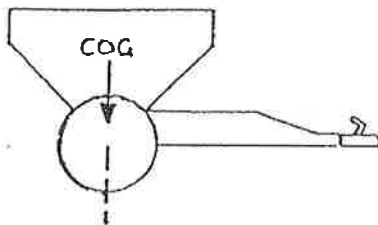
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"SAFETY FIRST"



1. Read this manual carefully, make sure only authorised personnel use this machine and have read these instructions.
2. Follow all safety advice stated in the operating instructions.
3. Check that all nuts, bolts and fittings are secure before starting, and check at regular intervals during operation.
4. **NEVER** allow passengers.
5. Always disconnect the power connection when inspecting the machine or when cleaning out the discharging chute. 
6. As with all trailed equipment of this type take **EXTRA CARE** when unhitching a part or fully laden Game-Feeder from the towing vehicle. **NEVER** lift the draw bar to a height that moves the centre of gravity behind its wheels, or the implement will tip up, increasing the risk of injury.



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



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

Agriculture Information Sheet No 33

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 and forestry, which are:

- 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 handlebars for steering control. They are intended to be used by a single operator with no passenger. However, this type also includes ATVs intended for use by a single operator, but with a special seat for a passenger behind the operator. These vehicles are generally called ATVs in agriculture, quad bikes in leisure use and all-terrain cycles (ATCs) in forestry;
- sit-in machines: side-by-side mini-utility vehicles, usually with a steering wheel, where the driver sits in a conventional seat and there is generally seating for one or more passengers. These are often called ATVs in both agriculture and forestry.

The ATVs covered by this sheet are those designed for off-road use only. However, agricultural, horticultural and forestry users can register an ATV as a 'Light agricultural vehicle' for limited on-road use in connection with their business (see 'Road use').

Accidents

Both types of machine 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. This is why most ATV accidents involve overturning.

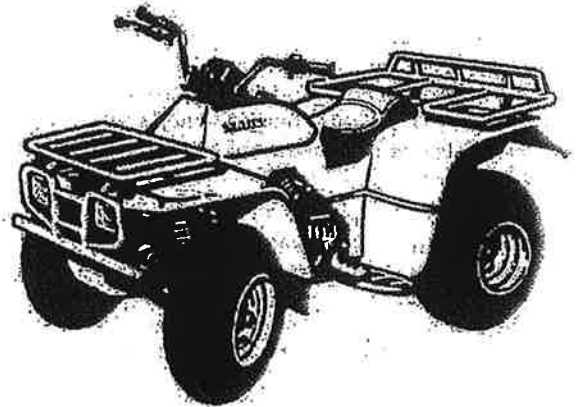
On average, two people die each year in ATV accidents. Non-fatal accidents are estimated to amount to over 1000 serious injuries per year. The underlying causes of accidents were usually one or more of the following:

- lack of structured training and/or experience;
- incorrect/lack of protective clothing;
- excessive speed;
- carrying a passenger or an unbalanced load;
- tipping on a bank, ditch, rut or bump;
- a steep slope combined with other factors, eg ground or load conditions;
- towing excessive loads with unbraked equipment.

Route planning and stability

Most accidents with these machines have occurred where they have either been driven on new routes over steep ground for the first time, or have been 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. Allow for changes in ground conditions and for the destabilising effect of loads or attachments.

Sit-astride ATVs (quad bikes/ATCs)



REMEMBER - GET PROPERLY TRAINED AND ALWAYS WEAR HEAD PROTECTION

Training

Under the Provision and Use of Work Equipment Regulations 1998 (PUWER), there is a legal requirement for employers to provide adequate training, and to ensure 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 ATVs. The same requirements apply to the self-employed. HSE regards training provided by recognised training providers as being 'adequate' for the purposes of PUWER.

You can get details of suitable training courses from franchised ATV dealers, manufacturers' websites, EASI (European ATV Safety Institute), the Forestry Commission and Lantra Awards. Training is also available from agricultural trainers and colleges accredited by these bodies.

Protective clothing

More than half of all ATV riders have been thrown off at some time. As these machines are not fitted with either a cab or roll bar, your only protection is what you wear.

- **Head protection is vital.** The majority of ATV fatalities in the UK in the last ten years have been caused by head injuries. Nobody who died from head injuries was wearing a helmet. Helmets would certainly have prevented most, if not all, the deaths. **You should always wear a helmet when riding an ATV.** Helmet types suitable for ATV operations, depending on the circumstances, are motorcycle helmets to BS 6658:1985 or UN ECE regulation 22.05, equestrian helmets to BS EN 1384:1997, including specialist ATV helmets, cycle helmets to BS EN 1078:1997 and mountaineering helmets to BS EN 12492:2000. All helmets should 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 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

Never carry a passenger on a sit-astride ATV unless it has been designed for, and is suitable for, that purpose. The long seat is for operators to shift their body weight backwards and forwards for different slope conditions, not for carrying passengers. Passengers on specially adapted ATVs must wear a safety helmet. 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.

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 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 driving methods

ATVs are rider-active machines, so 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 the 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, and recovery of stalled ATVs, on slopes.
- 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, as 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; and
 - 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 jack-knifing 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.
- ⊕ 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. Ropes or chains should not be used to drag a load where they can become caught on a wheel. This may lead to entanglement with the brake cable, causing unexpected braking.

Using sprayers

- ⊕ Pesticides should be used in accordance with the *Code of Practice for using plant protection products* published by Defra. (Available from Defra Publications, ADMAIL 6000, London SW1A 2XX Tel: 08459 556000.)
- ⊕ Sprayers should meet the requirements of BS EN 907 and 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 to 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 two hands are needed 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.

Children

- ⊕ Never carry a child as a passenger. It is illegal and will reduce your ability to control the ATV.
- ⊕ Children under 13 are prohibited from using an ATV at work. Over 13 they should only ride ATVs of an appropriate size and power, after formal training on a low-power ATV.
- ⊕ **Check and adhere to the manufacturer's minimum age recommendations for your ATV.** The ratio of a child's weight to that of the ATV is significant, as weight transfer is the key to safe handling.
- ⊕ Always refer to the owner's manual and warning labels on the machine.

Roll bars, lap straps and weather cabs

- ⊕ Roll bars are not recommended for sit-astride ATVs. Research has shown that they are more likely to increase injuries by obstructing the rider, either when thrown off or when jumping off during an overturn. This causes the rider to fall to the ground alongside the ATV and increases the likelihood of injury. PUWER does not require roll bars where they would increase the overall risk.

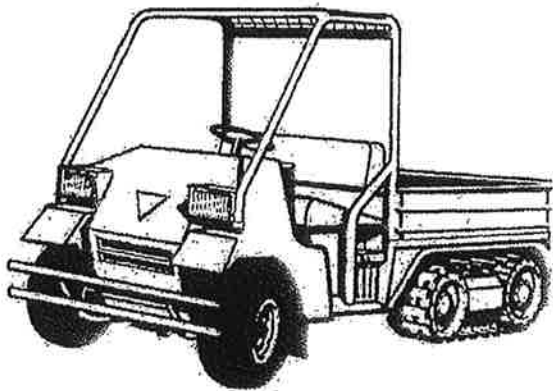
- Lap straps should not be fitted. They prevent active riding and would be potentially lethal without a full cab or roll cage.
- Weather cabs restrict a rider's ability to jump clear in an overturn. The rider is likely to be crushed within the cab unless it is strong enough to withstand the forces involved. Carefully assess the risks for your particular conditions of use before fitting any such structure and consult the manufacturer for information.

Road use

For road use, ATVs and trailers have to comply with the Road Vehicles Construction and Use Regulations 1986 (as amended) and the Road Vehicles Lighting Regulations 1989 (both enforced by the police) and be licensed in the appropriate class. They do not require an MOT and the maximum permitted speed is 20 mph. The minimum age for drivers is 17 and they need a Category B licence.

Sit-in ATVs

Sit-in ATVs include the Mule, Rhino, Argocat, Scot-Track, Gator, Ranger, Hiler, Goblin and other similar machines. They all have conventional sit-in seats and the driver does not use weight transfer to steer or control stability, although load balance is important in this respect. They range from machines designed for purely rough terrain to utility vehicles, which are also commonly used fully off-road.



Training

The legal requirements for training are the same as for the sit-astride ATVs. You should request advice on training from your suppliers, the training providers previously mentioned or, for forestry operations, from the Forestry Commission.

Rollover protection and seat belts

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

- Where there is a risk of the machine rolling over, PUWER requires an employer to fit some device to protect employees (the self-employed have the same duty to themselves). This would normally be a cab, rollover frame or roll bar. Such a structure could either be provided as part of the original machine or, if added afterwards, should be CE marked and approved by a recognised test body.
- Restraining devices such as seat belts should be fitted and worn by the driver and passengers where a roll bar or cab is fitted.
- Where a machine is amphibious and used on deep water as opposed to marshland, then the seat restraints (and possibly roll frame) 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.
- If there is a risk of overturning, employees at work who are carried in the rear of sit-in ATVs should be protected by rollover protection and seat restraints.
- Children should only be carried in these vehicles if they are in a passenger seat and wearing a properly designed and fitted seatbelt.

Parking

If you have to park on a slope, always park across it unless it is too steep. Accidents have occurred where 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 sets the machine into motion.

Further information

HSE priced and free publications are available by mail order from HSE Books, PO Box 1999, Sudbury, Suffolk CO10 2WA Tel: 01787 881165 Fax: 01787 313995 Website: www.hsebooks.co.uk (HSE priced publications are also available from bookshops and free leaflets can be downloaded from HSE's website: www.hse.gov.uk.)

For information about health and safety ring HSE's Infoline Tel: 0845 345 0055 Fax: 0845 408 9566 Textphone: 0845 408 9577 e-mail: hse.infoline@natbrit.com or write to HSE Information Services, Caerphilly Business Park, Caerphilly CF83 3GG.

This leaflet contains notes on good practice which are not compulsory but which you may find helpful in considering what you need to do.

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LOGIC GAME-FEEDER
ATV POWER SUPPLY
WIRING INSTALLATION INSTRUCTIONS

NOTE READ ALL THE INSTRUCTIONS BEFORE STARTING.

NOTE THE GAME-FEEDER POWER SUPPLY MUST BE WIRED DIRECT TO THE BATTERY, NOT TO THE AUXILIARY PLUG OR ANY OTHER POINT.

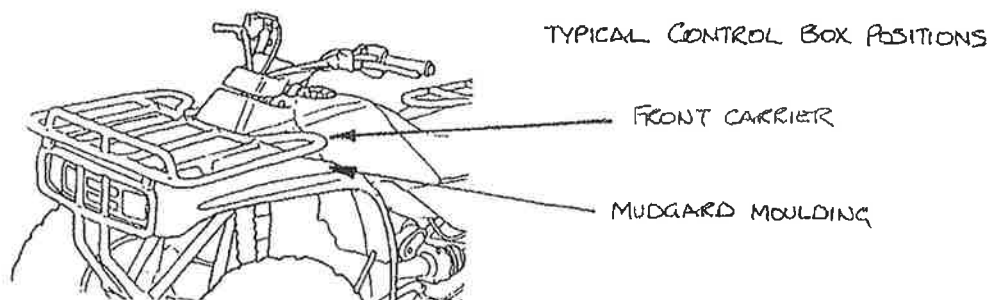
1. Open up the installation kit and check the contents, which include:
 - a) a complete wiring loom with ON/OFF Control box, battery connection terminals (including fuse unit) and socket.
 - b) a selection of clips, washers, nuts, bolts to attach the socket end of the loom to the ATV rear carrier or fender and the control box to the front end of the ATV.
 - c) spare wiring connectors for use if the battery wiring loom is shortened to facilitate a neat fit on the ATV, without spare wire in the way.

NOTE

The wiring loom has been supplied in this way to allow its use immediately if required, simply by connecting to the correct terminals on the battery, power will be available at the socket.

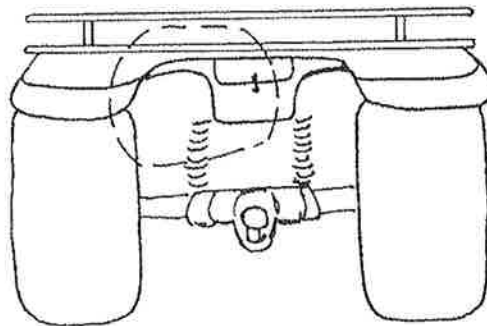
However when a more permanent installation is required follow the next steps.

2. First select the best position for the control box.
 From the control box position the wires are traced back to the battery, and the socket at the rear end.
 A suitable position would be either on the plastic moulded body, or on the back of the front carrier.
 Use 2 x rubber backed metal clips if the box is secured to the carrier frame.

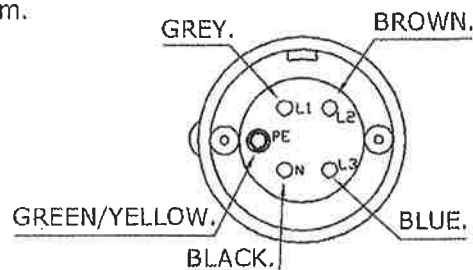


3. When fixing direct to the plastic moulding use a 6.5mm (¼") bit, drill through the plastic moulding at the marked positions 82mm apart, take care not to damage any other wiring or anything else in that position.
4. Locate the Control box in the holes. Secure in position with the washers and nuts provided.
5. Route the socket wire to the rear end of the ATV. This task will be easier if the socket is removed from the wire.
Take care when routing the wire to avoid sharp edges that could wear into the wiring or hot areas that would melt the insulation.
6. Before cutting the wire to refit into the socket, site the socket on the rear carrier or other suitable position.
7. Mount the socket as central as possible immediately under the rear carrier, either by clipping to the carrier or fixing to the plastic moulding e.g. the inner mudguard area or one of the surfaces of the ATV locker available on some models.

IMPORTANT If not central, the socket should be sited on the left side (near side) of the ATV, but not more than 200mm to the left of centre so that the plug wiring from the Game-Feeder will not be over stretched when turning.



8. Secure the socket to the ATV by either clipping onto the underside of the rear carrier using the stadium clips fitted to the socket. If the diameter of the carrier frame is too small, use alkathene piping fitted over the tubing to suit the stadium clips. Alternatively drill the plastic moulding and bolt the socket directly to it.
9. Once the socket is secured in position cut the power supply wire to the correct length, trim the 4 wires and connect to the socket terminal in the correct order - see diagram.



NOTE: Before trimming, note the Black wire with the Red sleeve and ensure this remains identifiable before reconnecting.

10. Re-assemble the socket taking care to ensure each wire is tight and the socket casing is seated properly, with the wire anchored.
11. Secure the power supply wire to the ATV frame with the cable ties supplied, to stop chaffing etc.
12. Now fit the battery wiring from the control box to the battery.
Locate the battery and remove any coverings from the battery terminals.
13. Route the wiring from the control box to the battery avoiding any sharp edges or hot areas that would damage the insulation.
14. There may be excess wire to cut off, in which case an extra battery connector is supplied for the negative (blue) wire, and a straight connector to allow the fused section of the positive (orange) wire to be shortened easily.
15. Secure the negative (blue) wire to the negative terminal and the positive (orange) wire to the positive terminal. Replace any terminal insulated covers. Secure the battery wiring to the ATV frame using the small cable ties supplied. Replace the battery cover.
16. Check that all fixing nuts are tight, and are kept tight thereafter.

WF1-LMF101

ACCESSORIES FITTING INSTRUCTIONS **MULTI-FEEDER TONNEAU KIT Part No LMF101**

1. Take the Tonneau cover support and position it on the Multi-feeder body. This can be sited in many positions but normally from side to side mid way - to allow access at the rear for filling without removal of the support.

Place the end of the support over the top lip of the hopper side, with the 'T' piece on the top of the hopper lip.

Slightly bend the support up over to allow similar entry on the opposite side of the hopper.

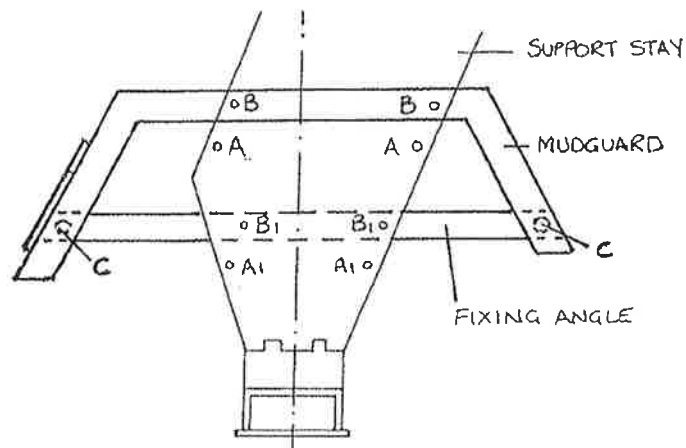
2. Position the Tonneau cover over the hopper and support.
3. Route the elastic rope through the eyelet's of the cover.
NOTE Ensure the rope is on the outside of the cover at each corner, to allow easy fitting of the cover.
Tie the two ends of the rope securely with just enough tension not to allow the elastic rope to hang down below the cover.

GAME-FEEDER MUDGUARD KIT**PART NO. LMF104 (for 25:10:12 Tyres)**

1. Select the correct mudguard for each side of the Multi-Feeder, with the reflective triangles to the rear.
2. Position the mudguard on the Game-Feeder support stay at the correct series of holes, and locate with 2 x M8 x 20 set studs finger tight (nuts on the inside).
SEE DIAGRAM

NOTE For LMF104 kits (25:10:12 tyres) use the holes at B.

SIDE VIEW R/H SIDE



3. Position the mudguard fixing angle behind the support stay and line up the corresponding holes with the mudguard.
NOTE For LMF104 kits use B1 holes
Secure in position with 2 x M8 x 55 bolts and nuts finger tight.
4. Use the 2 x mudguard spacer tubes at positions C to locate each end of the mudguard onto the fixing angle. Secure with 2x M8 x 50 bolts.
5. Carry out the same procedure to fit the other mudguard on the opposite side of the Game-feeder.
6. Tighten all bolts and ensure they are kept tight thereafter.

GAME-FEEDER ½ TONNE EXTENSION SIDES KIT FITTING INSTRUCTIONS

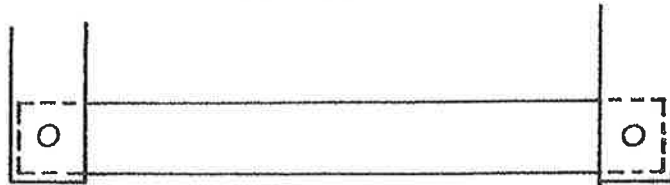
Fit the hopper reinforcement stays first.

Fitting the extension sides

READ ALL THESE INSTRUCTIONS BEFORE STARTING

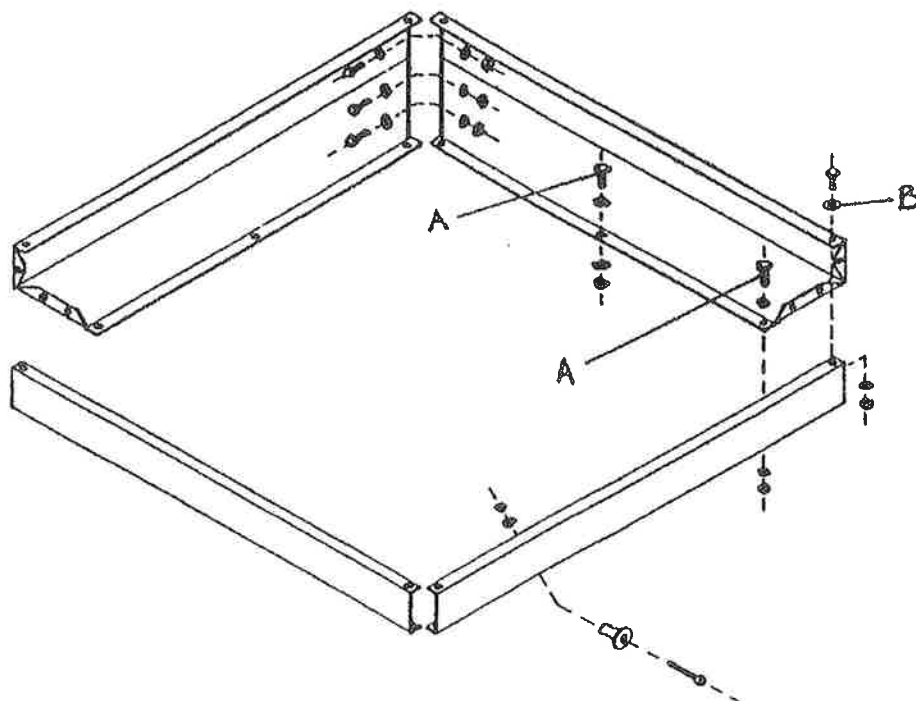
1. Lay out the panels in a square shape.
2. Bolt the sides together using the set studs, nyloc nuts and washers provided.
SEE DIAGRAM.
NOTE Use the 8 longer set studs, (M8 x 20) to bolt the extension sides to the Multi-feeder hopper (A).
NOTE Opposite panels should be fitted the same.

PLAN VIEW



NOTE Use the repair washers on the top of the sides at each corner (B)

Tighten the nuts only finger tight until all the set studs are fitted and the assembly complete. Then tighten all nuts properly.



3. Lift the assembly onto the Multi-Feeder hopper and position as accurately as possible to allow all bolts maximum purchase
NOTE You may find the sides for the Game-Feeder hopper are curved, this is not uncommon and is due to heat distortion during the galvanising process.
At this stage, concentrate on getting the corners positioned correctly.
4. Use 'G' clamps to hold the extension sides down onto the hopper lip and drill through the holes in the extension sides down through the hopper lip using an 8.5mm drill bit.
NOTE Drill one corner at a time and insert a M8 x 15 set stud with the repair washer on the top, nut finger tight before proceeding to the next hole.
5. When all corners are secured, tighten up all the nuts using a spanner but not completely tight.
6. Before drilling through the middle hole in the extension sides, it may be necessary to apply pressure on the side to align it with the hopper sides if distortion has occurred. Hold in position with 'G' clamps as before.
7. Drill each of the middle holes and secure with a set stud before proceeding to the next.
8. Tighten up all nuts on the extension sides kit and ensure they are kept tight thereafter.

ATTACHMENT TO THE ATV OR OTHER VEHICLE

The **LOGIC GAME-FEEDER** can be towed by any suitable vehicle, although it is ideally suited to ATV's and is attached by a 50mm Swivel ball hitch.

Connect the power supply plug to the socket, from the ATV or other vehicle battery.


APPLICATION RATE (based on wheat)

Feed Gate Setting	Feed Quantity Kg/min
1	2.8
2	7
3	12.7
4	16.75
5	23.5
6	35.95
7	49.6
8	51

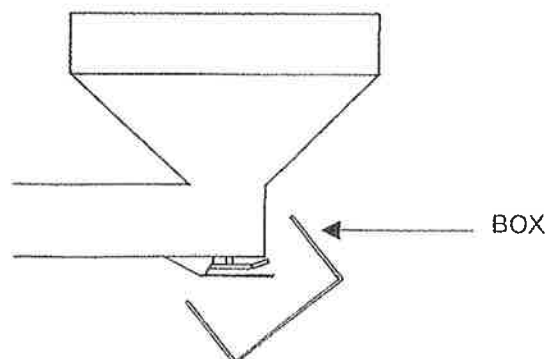
CALIBRATION

See the "Application Rate" table for a general guide to application rate settings. These have been calibrated using wheat. For a more accurate measure, when different products are being spread eg. Home mixes or pellets, it is wiser to calibrate the feeder to establish what the true application rate is.

CALIBRATION METHOD

- 1 The easiest method is simply to put a quantity of the feed into the hopper
2. Set the application rate at a suitable point e.g. 5
3. Place a cardboard box or similar collecting device around the spinning disc. **NOTE WEAR EYE GOGGLES AND GLOVES FOR PROTECTION, WHEN CARRYING OUT THIS CALIBRATION TEST.** 

SIDE VIEW



4. Switch on, this will open the chute and start the spinning disc, then switch off after 30 seconds.
5. Weigh the contents of the box, x 2 = **Output per minute (kg/min)**
6. Carry out further calibrations at different settings to establish a full application rate guide for each type of feed.
7. Enter the results into a simple reference chart. Showing results in Kg/min

	Kg/min							
Feedgate setting	1	2	3	4	5	6	7	8
Wheat	2.8	7	12.7	16.75	23.5	35.95	49.6	51
Home mix A								
Pellets								
Maize								

TO CALCULATE THE WEIGHT OF FEED SPREAD PER /SQ M

1. Spread a small quantity of feed to find the spreading width (metres)
2. Use the following formulae to work out the Kg/sq m

$$\frac{\text{Forward Speed (Kph)} \times 1000}{60} = \text{metres/min} \times \text{Spread Width (m)}$$

$$= \text{Area of spread (sq/m per min)}$$

$$\frac{\text{Output/min (taken from calibration test)}}{\text{Area of spread (sq/m per min)}} = \text{kg/sq m}$$

EXAMPLE:

For Home Mix A (we will assume, forward speed = 10 kph, calibration test at setting 6 = 36 kg/min, spreading width = 3m).

$$\frac{10\text{kph} \times 1000}{60} = 166.7 \text{ m/min} \times 3\text{m} = 500 \text{ sq/m}$$

$$= \frac{36}{500} = .072 \text{ Kg/sq m} = 72 \text{ grams/sq m}$$

3. Enter the results into a simple reference chart.

FEED	SPEED (kph)	SETTING	SPREAD WIDTH (m)	OUTPUT (grammes/sq m)
Wheat	10	6	3	72
Wheat	10	8	3	102
Maize				
Pellets				

MAINTENANCE

WEEKLY

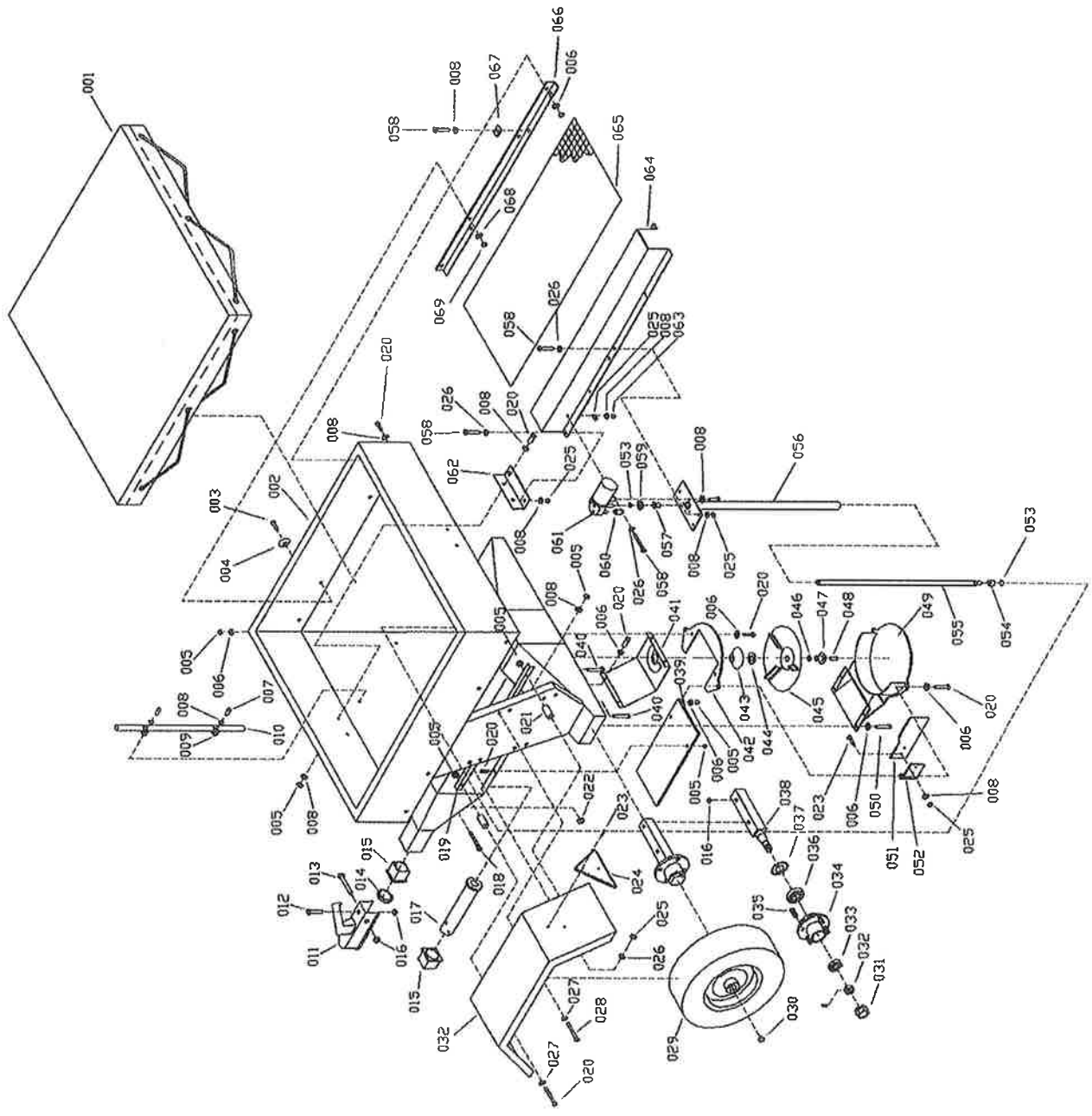
1. Clean out the hopper and discharge chute when empty, especially the metering plates at the bottom, to prevent the build up of sticky material.
2. Clean under the spinning disc, between the disc and skid plate.
3. Check wheel nuts.

END OF SEASON OR SUMMER STORAGE

1. Clean out the hopper and discharge chute thoroughly.
2. Clean out the motor housing area.
3. Inspect all wiring for signs of wear from chafing etc, replace if damaged.
4. Inspect the tonneau cover for wear, repair any damage immediately to prevent deterioration and effective use, before the next seasons begins.

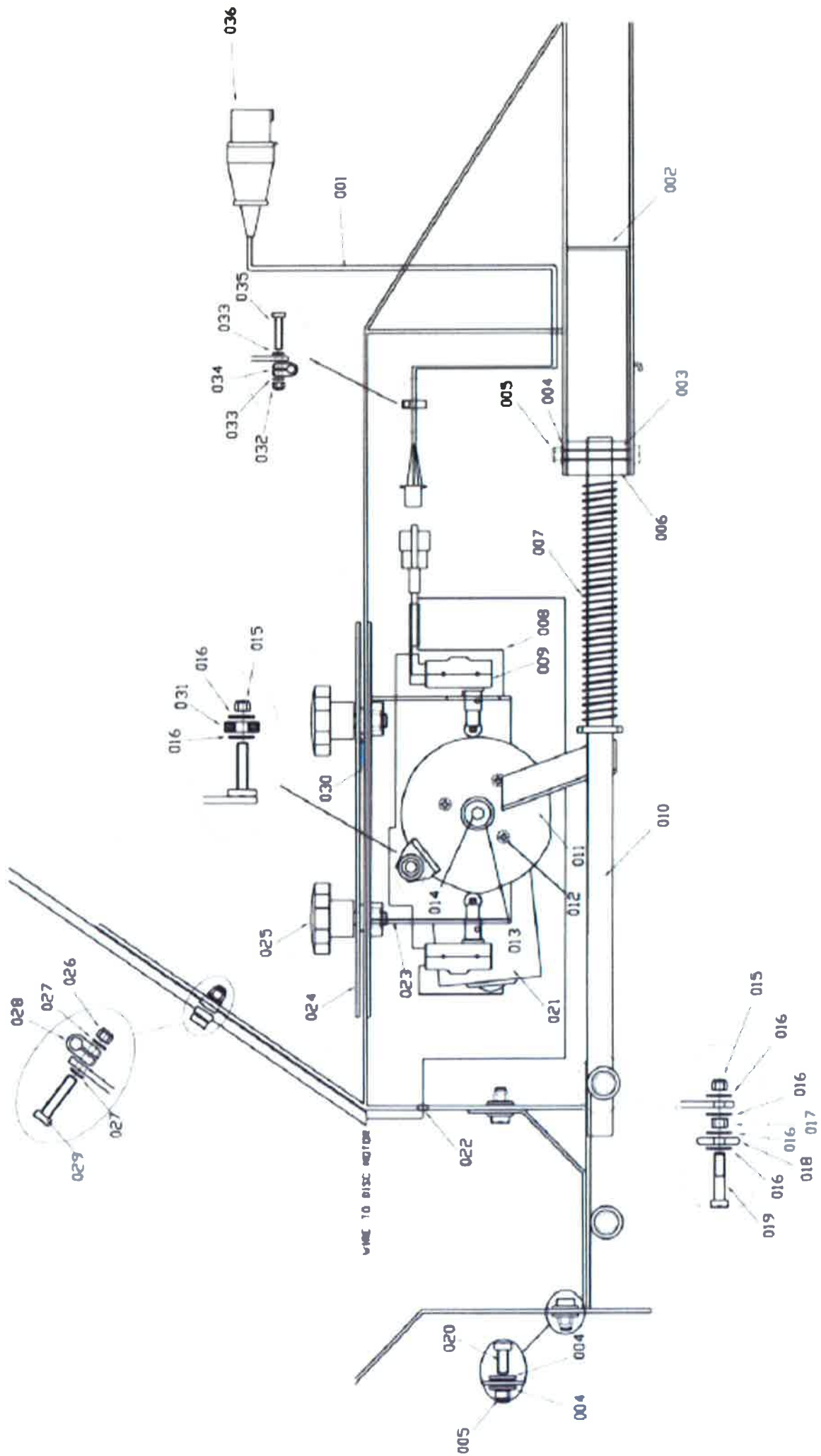
DO NOT'S

1. **DO NOT** overload the Game-Feeder with excessive capacity home made extension sides.
2. **DO NOT** travel at high speeds either during transport or while feeding.
3. **DO NOT** turn sharp corners when fully loaded to avoid an unstable situation especially on steep or undulating ground.
4. **DO NOT** carry passengers

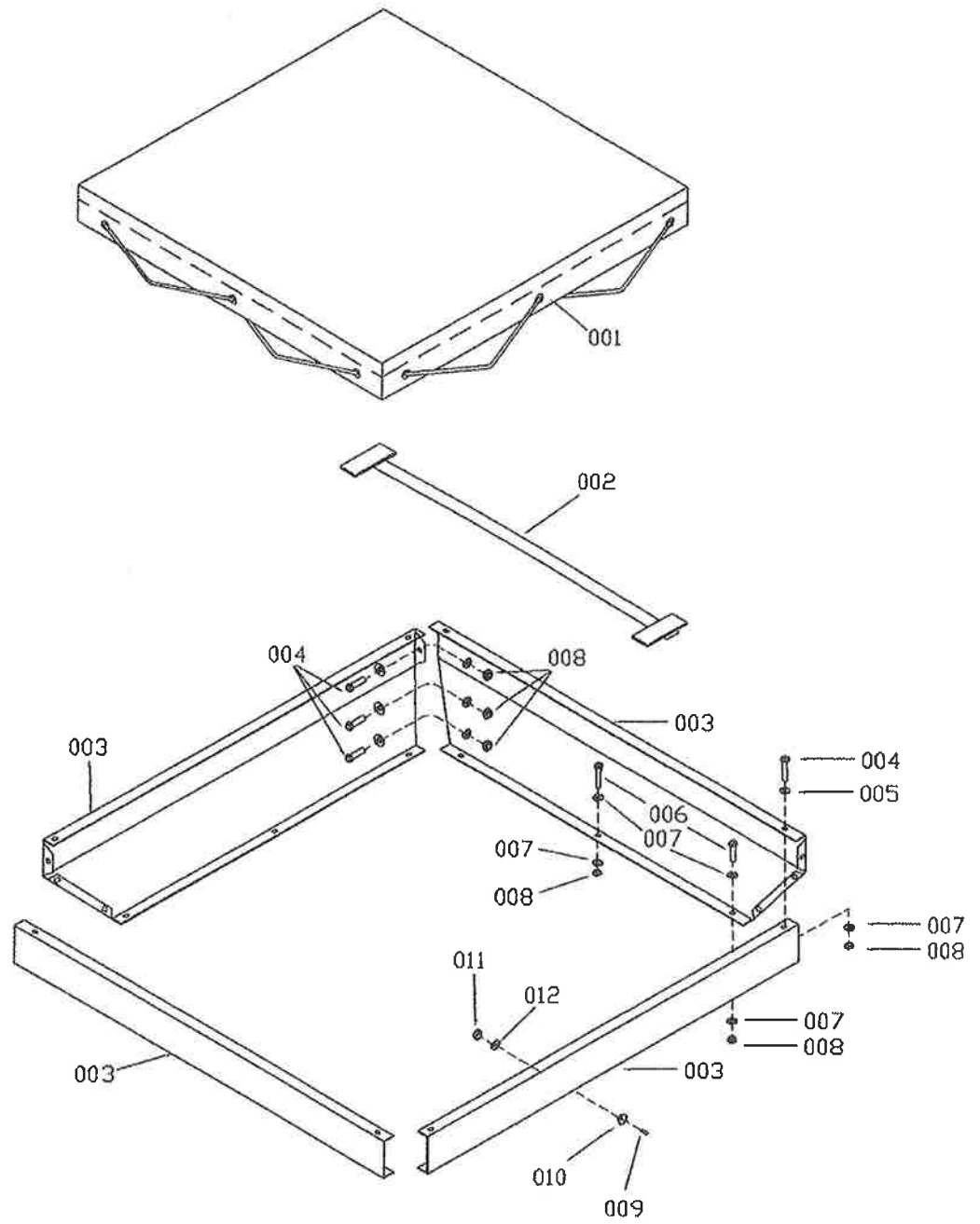


Item	Part Number	Description
001	LMF101-01	Tonneau Cover
002	LMF100-01A	Hopper/Main Body
003	FSD05016	Set Screw Che Hd Slot M5 X 16 mm
004	OCT107-06	Bobbin Rope Hook
005	FNN08	Nut Nyloc M8
006	FWF08	Washer Flat M8
007	FSH06035	S/Screw M6 X 35 mm
008	FWF06	Washer Flat M6
009	MSU-C015	Cleat Poly 8-20 mm
010	LGF101-10	Cable Guide
011	C900	Coupling
012	FBH12065	Bolt M12 X 65 mm
013	FBH12070	Bolt M12 X 70 mm
014	CM100-01A	Swivel Hitch Thrust Washer
015	CM100-03A	Swivel Hitch Nylon Bush
016	FNN12	Nut Nyloc M12
017	CM100-04	Swivel Hitch Draw Tube
018	FSH10025	S/Screw M10 X 25 mm
019	LMF103-02A	Mudguard Fixing Angle
020	FSH08020	S/Screw Hex Head M8 X 20 mm
021	LMF103-03A	Mudguard Spacer Tube
022	FNN10	Nut Nyloc M10
023	FBR06020	Bolt Roofing M6 X 20 mm
024	LB201	Triangle
025	FNN06	Nut Nyloc M6
026	FWR06020	Washer Repair M6
027	FWR08025	Washer Repair M8 x 25 mm
028	FBH08055	Bolt M8 X 55 mm
029	WT400	Wheel/Tyre 22 X 11 X 8
	WT500	Wheel/Tyre 22 X 11 X 8 (Carlisle)
	WT801	Wheel/Tyre 25 X 10-12 TRAKSMAX-WT801
030	SA135-1012	Wheel Nut Special
031	SA135-1011	Dust Cap
032	SA135-1009	Nut Castle Complete With Pin
033	BH1204	Bearing Outer
034	SA140D	Hub Complete
035	SA135-1013	Wheel Stud
036	BH1206	Bearing Inner
037	SA140-1006	Seal
038	SA135D	Stub Axle Complete
039	LMF100-07	Drawbar Bottom Cover
040	FBH12060	Bolt M12 X 60 mm
041	LGF101-04	Hopper Outlet Plate
042	LGF101-05	Disc Cover Plate
043	LGF101-18	Disc Centre Cone
044	FWF16	Washer Flat M16
045	LGF101-17	Spreader Disc

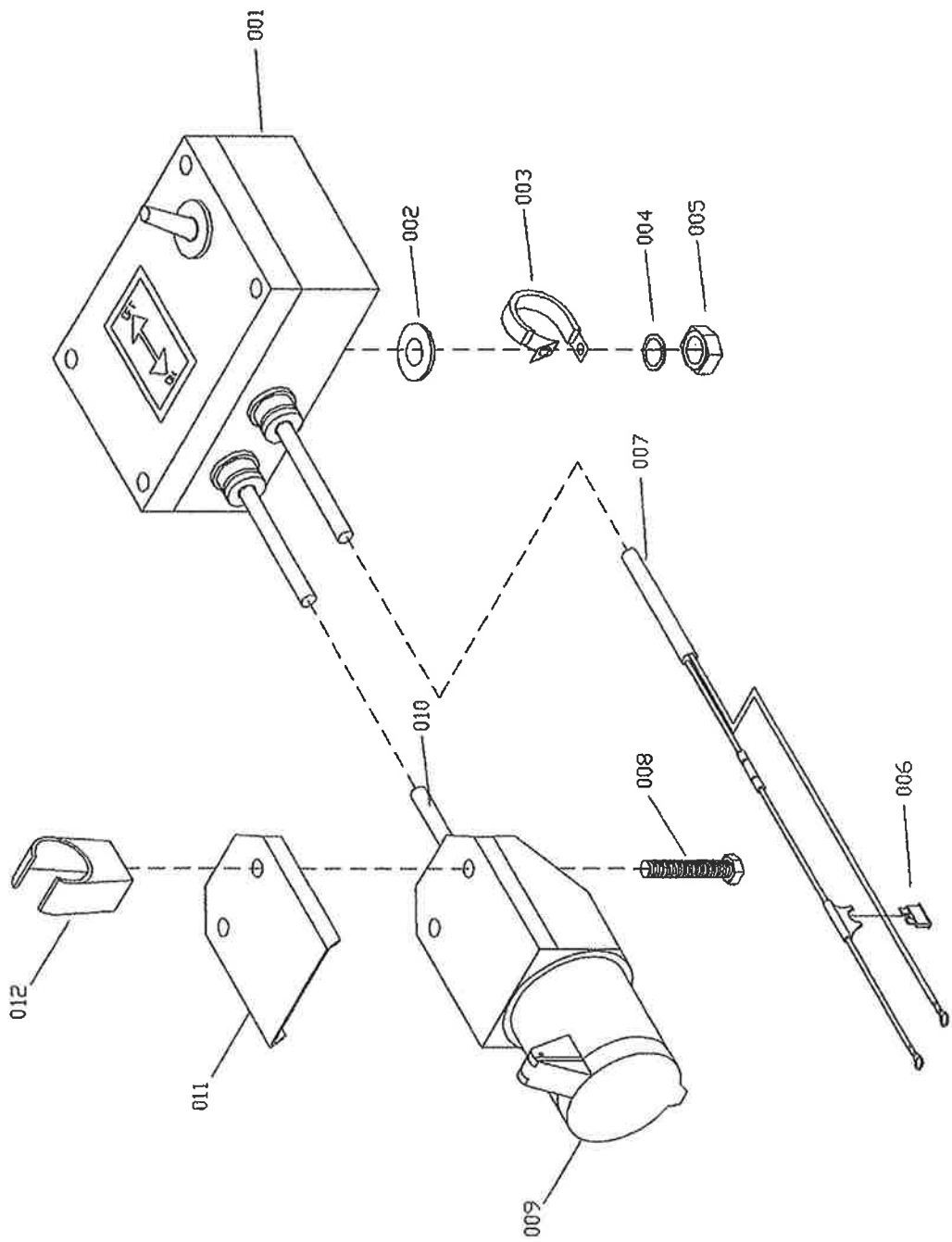
Item	Part Number	Description
046	FWN19	Washer Flat Nylon M19 X 34 X 1.5 mm
047	LGF101-19	Disc Locating Boss
048	FSC08025	Screw Countersunk Socket 8 X 25 mm
049	LGF101-06A	Skid Plate Assembly
050	FBH08090	Bolt Hex Head M8 X 90 mm
051	LGF101-09	Side Deflector
052	LGF101-11A	Side Deflector Hinge Assembly
053	FCE15	Circlip External 15 mm
054	LGF101-21	Bush Disc Drive Shaft Bottom
055	LGF101-15	Disc Drive Shaft
056	LGF101-13	Disc Drive Tube
057	LGF101-20	Bush Disc Drive Shaft Top
058	FSH06020	S/Screw Hex Head M6 X 20 mm
059	FWCD40	Washer Compression Disc M40 SC
060	LGF101-14	Spacer-Disc Motor Mounting
061	LGF101-22	Motor Disc Drive
062	LGF101-02	Motor Support Panel End Bracket
063	FCC11	Clip Cable (p) 8 mm
064	LGF101-01	Motor Support Panel
065	LGF101-08A	Hopper Mesh
066	LGF101-03A	Mesh Support Bracket
067	LGF101-23	Mesh Clamping Plate
068	FWF05	Washer Flat M5
069	FNN05	Nut Nyloc M5



Item	Part Number	Description
001	LGF217	Game Feeder Power Lead
002	LMF100-08	Slide End Cover
003	FBH08070	Bolt Hex Head M8 X 70 mm
004	FWF08	Washer Flat M8
005	FNN08	Nut Nyloc M8
006	LMF100-25	Slide Bearing
007	LMF100-19	M/Feeder Slide Spring
008	LGF315-10A	Park/Stop Switch And Motor Lead
009	ME-S043	Switch Micro Roller SDPT No/Nc 15A 250VAC
010	LCF215-01A	Slide Assembly
011	LMF315-01A	Lmf/Lgf/Lcf Cam Disc
012	FSP06012	S/Screw Tri-Lobe Pozi HD M6 X 12 mm
013	FWR05020	Washer Repair M5 X 20 mm OD
014	FSH04010	S/Screw Hex Head M4 X 10 MM
015	FNN10	Nut Nyloc M10
016	FWF10	Washer Flat M10
017	FNP10	Nut Plain M10
018	DSS100-21A	Snacker Slide Roller
019	FBH10040	Bolt Hex Head M10 X 40 mm
020	FSH08020	S/Screw M8 x 20MM
021	LMF215-31	Motor
022	ME-G002	Grommet Rubber 6.35 MM
023	LMF215-01A	Motor Mounting Leg
024	LMF100-27	Quantity Indicator Plate
025	OBS135-17	Hand Wheel
026	FNN06	Nut Nyloc M6
027	FWF06	Washer Flat M6
028	MSU-C015	Cleat Poly 8-20 MM
029	FSH06035	S/Screw M6 x 35 MM
030	FWR10030	Washer Repair M10 X 30 mm OD
031	WAS100-410	Bearing
032	FNN06	Nut Nyloc M6
033	FWF06	Washer Flat M6
034	MSU-CO13	Cleat poly 4-10 mm
035	FSH06035	S/Screw M6 X 35 mm
036	ME-P008	Plug 5 Pin 415V 16 Amp Red



Item	Part Number	Description
	LMF109	Extension Sides Tonneau Cover Kit Complete
001	LMF109-01	Tonneau Cover
002	LMF109-02A	Support Stay
	LMF108	½" Tonne Extension Sides Kit Complete
003	LMF108-01	Extension Side
004	FSH08015	S/Screw Hex Head M8 X 15 mm
005	FWR08025	Washer Repair M8 x 25 mm
006	FSH08020	S/Screw Hex Head M8 X 20 mm
007	FWF08	Washer Flat M8
008	FNN08	Nut Nyloc M8
009	FSD05016	S/Screw Cheese Head M5 X 16 mm
010	OCT107-06	Bobbin Rope Hook
011	FNN05	Nut Nyloc M5
012	FWF05	Washer Flat M5

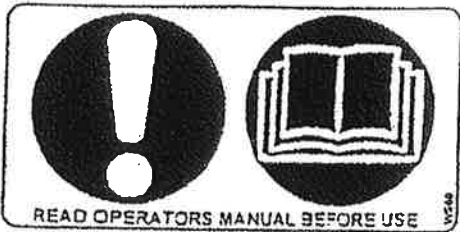


Item	Part Number	Description
001	LGF105	Control Box Harness Complete
001	LMF105-01	Control Box
002	FWR06020	Washer Repair M6 X 20 mm OD
003	FCF19	Clip Fix Rubber Lined 19.0 mm
003	FCF22	Clip Fix Rubber Lined 22.2 mm
004	FWS06	Washer Spring M6
005	FNP06	Nut Plain M6
006	ME-F013	Fuse 20 Amp Blade Type
007	LMF107-01	Lead Battery/Control Box
008	FSD06030	S/Screw Che Hd Slot M6 X 30 mm
009	ME-S025	Socket 5 Pin 415V 16 Amp Red
010	LGF105-01	Lead Control Box/Socket
011	LMF105-03	Socket Cover
012	S216-047	Stadium Clip

COPY OF STICKERS USED ON THIS MACHINE
(not to scale)

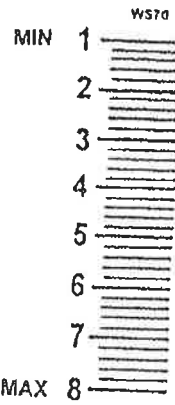
LOGIC

North & Export 01434 606661 South 01285 720930 WS01

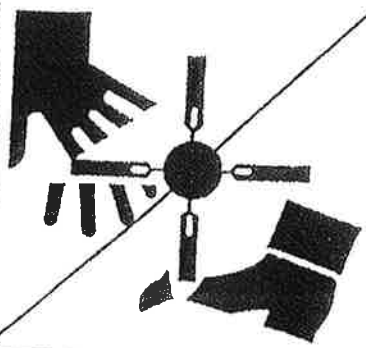


MULTI FEEDER

WS71



FEED QUANTITY



! DANGER

Keep clear of rotating blades until all motion has stopped.

LOGIC MANUFACTURING LTD WS10



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	18.5 x 8.50 x 8	40-44	45-50
13 x 5 x 6	17-20	17-20	1.45 x 10	28-32	34 max
16 x 6.5 x 8	18-22	18-22	20.5 x 60 x 13	28-32	40 max

KEEP WHEEL NUTS TIGHT

PATENT APPLIED FOR

WS21

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.

CE



DECLARATION OF CONFORMITY

93 / 68 EEC

LOGIC MANUFACTURING LTD
Foundry Industrial Estate
Bridge End
HEXHAM
Northumberland

Product Type: **LGF100 – LOGIC GAME FEEDER**

Covered By Technical File Number: **CE – LGF100**

Serial Number:

Standards And Regulations Used:

The Supply of Machinery (Safety) Regulations 1992
HSE Guide Lines On ATV Equipment (Agric Sheet No: 11

Place Of Issue: **United Kingdom**

Name Of Authorised Representative: **P. G. RIDLEY**

Position Of Authorised Representative: **RESEARCH & 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:

