

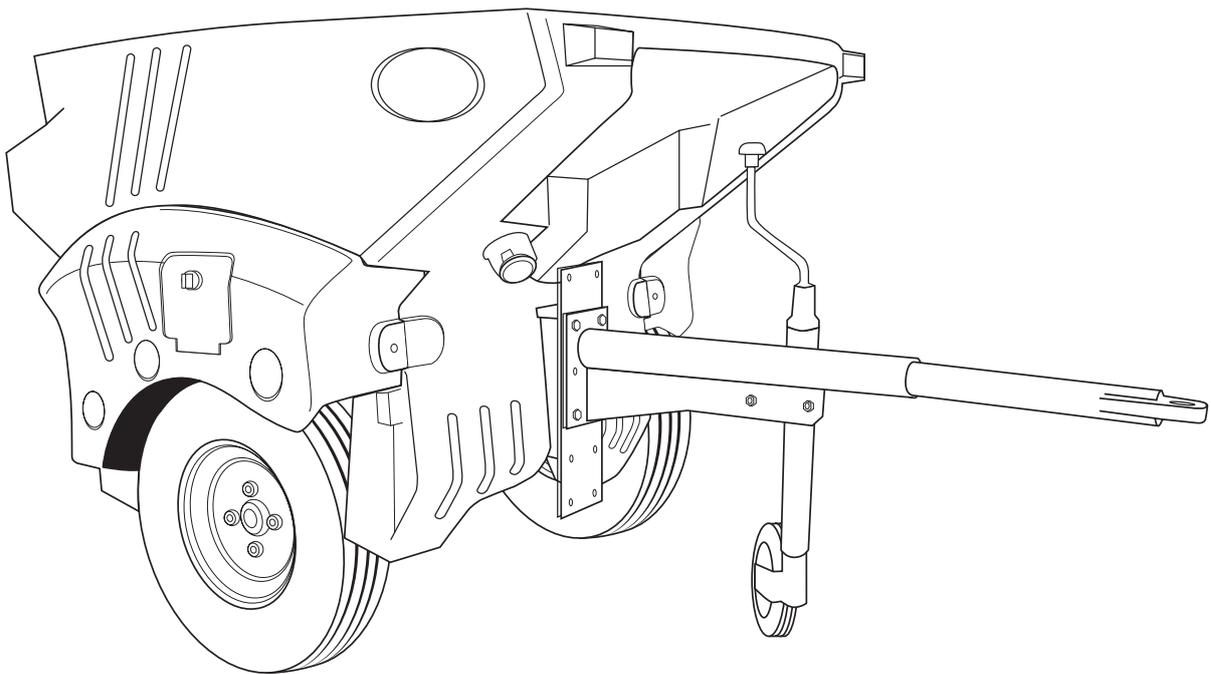


Operating & Maintenance Manual

TURBOCAST 800™

Towable Grit/Salt Spreader

This manual must be read before operating the machine



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Operating & Maintenance Manual

Thank you for purchasing a Glasdon Turbocast 800 Towable Grit/Salt Spreader.
This manual contains important information for the operation and future care of your product.

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1 Introduction

The Turbocast 800 Towable Grit/Salt Spreader has a capacity of 200 litres (250 kg) and can either broadcast or drop spread grit/salt. The rate of spread can be adjusted over a range of speeds between 5-20mph. A variance in particle size and moisture content of the gritting material will be tolerated because the spreader can spread white and brown rock salt either wet or dry. However, certain materials such as pure salt and kiln-dried sand are too fine to spread effectively.

The Turbocast 800 is supplied with either a ball hitch or a pin hitch as standard. Hitch height range accommodated is 290 to 690mm.

! IMPORTANT INFORMATION !

ROUTINE MAINTENANCE

Routine cleaning and maintenance of the Turbocast 800 Grit/Salt Spreader is essential to ensure its optimum performance and to prevent unnecessary damage. Do NOT leave any grit/salt in the hopper, even when the Turbocast 800 is covered or being stored internally. Being hygroscopic, salt will absorb moisture and then set hard like 'concrete'.

Salt in solution with water is incredibly corrosive and will attack metalwork and seize bearings. It is therefore very important to empty the hopper after each use and closely follow the maintenance instructions contained in this manual.

ANNUAL SERVICING

An annual or end of season service is essential to ensure the optimum performance of the Turbocast 800. We appreciate that some of our customers may not have a facility to undertake such work and we therefore offer an Annual Service Scheme for all existing and new customers across the UK. Please contact us by email on sales@glasdon-uk.co.uk or by telephone on 01253 600410 for more information.

GENERAL USAGE

The Turbocast 800 is not designed for gritting extensive areas of public roads and highways.

TOWING SPEEDS

The maximum towing speeds (page 3) for the Turbocast 800, when spreading and not spreading, must be strictly adhered to at all times.

LOADING OF GRIT/SALT

Care must be taken when loading the hopper. It is recommended that bagged or loose grit/salt is shovelled into the hopper. Drop loading must be avoided as this may cause serious damage to the hopper and spreading mechanism.

POTHoles AND SPEED HUMPS

If the area being gritted has potholes or speed humps, caution must be exercised and driving speeds kept to a maximum of 5mph.

TOWING VEHICLE

A competent person must approve the suitability of the towing vehicle being used, which must take account of the recommended towing height for the Turbocast 800.

1 Introduction

Speed Restrictions

The tyres and machine have been designed to operate at between 5mph - 20mph.

NOTE: 1. Spread rates are calculated at 5 to 20mph (8-32kph) for optimum performance.

2. The maximum towing speed (including not spreading) = 20mph (32kph).

As the vehicle incorporates neither suspension nor brakes - the maximum towing speed for the machine when spreading is 20mph and all spread rates have been calculated up to this maximum speed.

Towing: The Legal Requirements on the Public Highway

The machine has been designed to conform to the Road Vehicles (Construction and Use) Regulations 1986 relating to trailers and gritting trailers for use on the public highway. In the case of light trailers, weighing less than 3500kg maximum laden weight, there is no specified relationship in UK law between the weight of the towing vehicle and the weight of the trailer. The machine incorporates lights which conform to the Road Vehicles Lighting Regulations 1989 as amended, and so make it legal for use on the public highway. It should be noted that gritting trailers are exempt from certain regulations set out in the Road Vehicles (Construction and Use) Regulations 1986.

Furthermore there is a European Directive 2007/46/EC, enforced in the UK by the Vehicle Certification Agency (VCA). This Directive is a legal requirement that all vehicles used on the road conform to a set of standardised design criteria - where vehicles such as trailers must be Type Approved to demonstrate that they are fit for safe use on the highway. Turbocast 800 has been issued a European Community Whole Vehicle Type Approval (ECWVTA).

M1 Category Vehicles

For M1 category vehicles (i.e. Motor vehicles used for the carriage of passengers and comprising not more than eight seats in addition to the driver's seat) the maximum permissible trailer weight is quoted by the vehicle manufacturer. Alternatively, the vehicle manufacturer may provide a maximum gross train weight (train weight = the laden weight of the trailer plus the laden weight of the towing vehicle). If this is exceeded it is possible that the Courts or Insurance Companies may take the view that it constitutes a danger.

Light Goods Vehicles

The maximum laden weight of a trailer that may be towed by a light goods vehicle depends on both the stated gross train weight of the towing vehicle and the vehicle manufacturer's recommended maximum permissible trailer weight. Neither the maximum permissible trailer weight or the maximum gross train weight (i.e. The laden weight of the trailer plus the laden weight of the towing vehicle) should be exceeded. It is possible that the stated gross train weight is less than the sum of the stated maximum permissible laden weight of the towing vehicle and the stated maximum permissible laden trailer weight. In this case the towing vehicle and the trailer must be loaded so that each does not exceed its individual maximum limit and the sum of both does not exceed the maximum gross train weight.

Breakaway or Safety Cable

There are no service brakes on the machine so a safety cable has been fitted so that in the unlikely event of an accidental de-coupling the machine is retained to the towing vehicle.

2 Before Use - Important Information

Check the proposed towing vehicle is suitable for towing the Turbocast 800.

- Is the towing vehicle fitted with either a pin hitch or ball hitch attachment?



Pin Hitch Attachment



Ball Hitch Attachment

- Check the hitch point on the towing vehicle is rated to carry a minimum load of 420kg.
- Check the towing vehicle has a towing capacity greater than the maximum laden weight of the Turbocast 800, 420kg.

420 kg

**!! If any of these conditions is not met, the towing vehicle will be unsuitable for towing the Turbocast 800 !!
PLEASE FIND AN ALTERNATIVE VEHICLE.**

2 Before Use - Fitting the Tow Bar



Measure the height of the hitch point on the towing vehicle (to the centre of the ball or midpoint of the usable part of the pin). Use the Hitch Height Table (see Table 1) overleaf to determine which fixing position to set the tow bar in. Example - If the towing vehicle is fitted with a ball hitch whose height measures 400mm (16") from the ground, this falls within the height range 370-450mm. In this instance the tow bar should be fitted into position 2.

2

Before Use - Fitting the Tow Bar

Hitch Height Table

Table 1

	Position 1*	Position 2	Position 3	Position 4	Position 5
Fitting Location					
Suitable Hitch Height Range of Towing Vehicle (mm)	290-370	370-450	450-530	530-610	610-690

*with Tow Bar mounted upside down.

If the hitch is not at the correct height for the towing vehicle, do not fit the Turbocast 800 at an angle (see Fig. 2). This will impair the proper performance of the product. Instead, the hitch height will need to be adjusted so that the top of the hopper sits as parallel as possible to the ground (see Fig. 3). **The top of the hopper should be as level with the ground as possible for optimal performance.** In the first instance, measure the height of the hitch point on the towing vehicle and determine which position to fit the tow bar in to using Table 1.

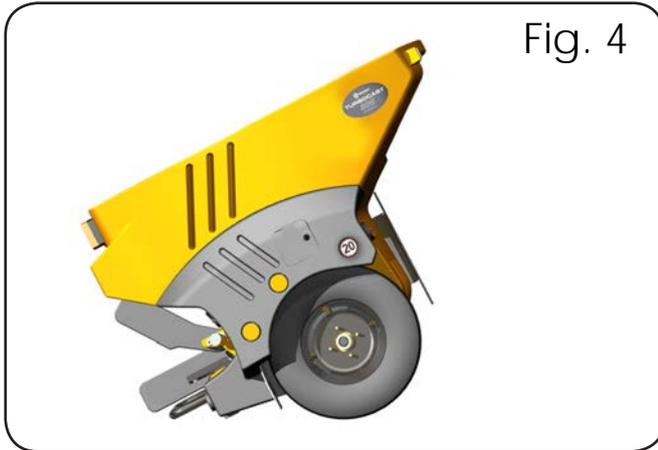


Fig. 2

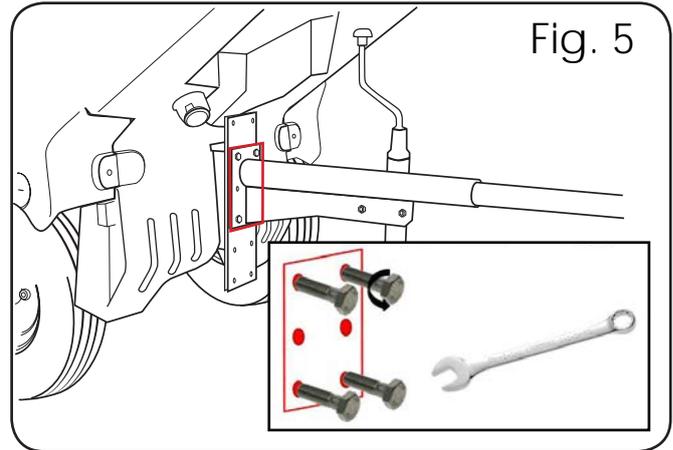


Fig. 3

2 Before Use - Fitting the Tow Bar



Before fitting first determine which position you intend to mount the tow bar in. Check the correct fitting position by referring to Table 1. The tow bar is supplied separately to the chassis and must be fitted prior to use. Before attempting fitting it will be necessary to rest the machine on the rear stand (see Fig. 4).



Place the 4 x M10 fixing bolts through the 4 fixing holes in the tow bar and through the matching fixing holes in the chassis mounting plate (see Fig. 5). Place the M10 nuts on the back and tighten using 2 x 17mm spanners or socket set.

2 Before Use - Information

Wheels & Tyres

With reference to the Road Vehicles (Construction and Use) Regulations 1986 relating to trailers and gritting trailers for use on the public highway, the Turbocast 800 is restricted to a maximum towing speed of 20mph on public highways.

Check that the tyres are the correct pressure before every use.

Tyre Specification

Size	Model	Max load	Max speed	Pressure
5.00 - 10 4PR	STARCO S-252	355kg	130kph (80mph)	51psi (3.5 Bar)

Jockey Wheel

The Turbocast 800 is equipped with an adjustable jockey wheel enabling the machine to free stand with the hopper and hitch horizontal.

Lights

Road-legal lighting is attached to the back of the machine as standard. Please ensure the electrical supply from the towing vehicle is connected to the spreader using the cable and plugs supplied.

3

Using the Machine - A Step-by-Step Guide

STEP BY STEP GUIDE.

The Turbocast 800 includes a series of on-product instructions to help guide the operator through using the product.

The guide listed here follows the same sequence. The numbers (e.g. 1) next to each STEP in the guide here correlate with the number system as used on the on-machine graphics. E.g. STEPS 2-5 relate to 'Hitching the Machine' - which is explained in graphic 1 on the machine.

Start

ENSURE THE DRIVE MECHANISM IS DISENGAGED BEFORE STARTING.

- 1 Hitch the coupling of the Turbocast 800 to the towing vehicle. Plug in the power before commencing spreading.
- 2 Set the desired spread rate by turning the Adjustment Wheel to the correct position for the type of spread required.
- 3 Set the Spinner Plate speed by setting the position of the Drive Wheel. Relocate and lock into position if required.
- 4 Check the Spread Limiter positions. Ensure Limiters are locked in the Up or Down positions by tightening the locking handles.
- 5 Engage drive by opening the Drive Cover and switching the Drive Mechanism 'on' before spreading. NOW SPREAD.

Loading

- Ensure the gritting machine is securely hitched to the vehicle.
- Maximum load 250kg
 - dry (approx. 10 bags)
 - wet (approx. 8 bags).

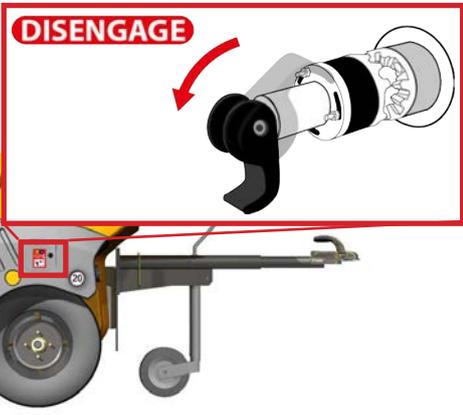
No shock loading!

Cleaning & Maintenance

- Grit salt sets hard like concrete when left. After use, empty the hopper and wash all traces of grit from working parts. **IMPORTANT!**
- Regularly ensure nuts and bolts are securely fastened, paying particular attention to the spinner plate nuts.



Fig. 6



STEP 1. The drive mechanism is housed under the drive cover flap on the near-side (red sticker on the outside) (see Fig. 6). Disengage the switch by flicking the handle out towards you. Check that the two clutches (the parts with the teeth) have disengaged from one another so that the teeth are no longer interlocking and will spin without touching. The outer clutch is spring loaded and so should spring out when disengaged. If it does not, this is normal, simply use your hand to firmly pull on the outer clutch assembly until it springs away from the inner clutch. Close the drive mechanism cover.



Fig. 7



STEP 2. Wheel the machine so that the ball hitch point on the Turbocast 800 rests over the ball hitch of the towing vehicle (see Fig. 7). A set of instructions is attached to the front of the hopper (see above) and operatives are advised to follow this sequence for every use.

3 Using the Machine - A Step-by-Step Guide

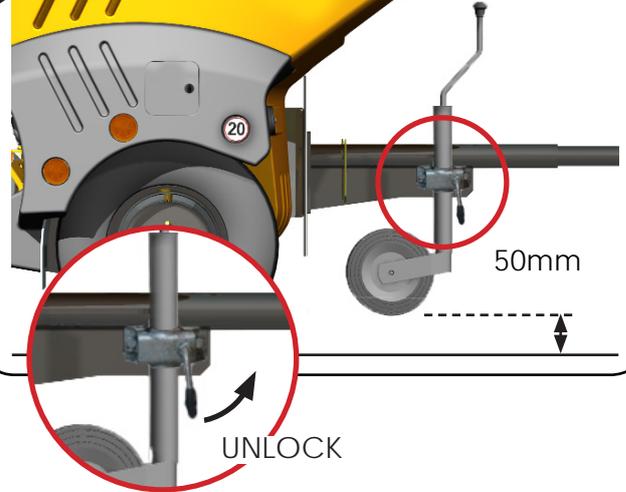
Fig. 8



STEP 3. First, place the security cable over the ball on the towing vehicle, then lift the security release lever on the ball hitch point and press the nose of the machine down firmly onto the ball hitch. It will be necessary to rotate the jockey wheel handle to raise the jockey wheel (to lower the nose of the machine) to give sufficient ground clearance to lock the hitch onto the ball. Release the security release lever on the ball hitch point and once it has been pushed down onto the ball it should make an audible 'click' once secured. Check that it cannot be pulled off the ball by pulling up firmly on the hitch point handle (without touching the release lever).

1

Fig. 9



STEP 4. Raise the jockey wheel as far as it will go to give at least 50mm ground clearance (see Fig. 9). If necessary, unclamp the jockey wheel attachment, move it higher up and re-clamp in position so that sufficient clearance is afforded. To unclamp the jockey wheel, turn the locking handle anti-clockwise until the clamp is sufficiently loose to allow the jockey wheel attachment to slide up.

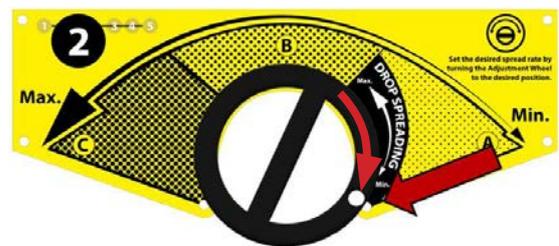
1 Fig. 10



STEP 5. Plug one end of the electrical connection cable supplied with the unit into the socket on the front of the machine. If a 7 Pin electrical socket has been fitted to the towing hitch of the towing vehicle, connect the opposite plug from the connection cable into the socket on the towing vehicle (see Fig. 10). Wind the slack from the cable around the draw bar along its length to minimise the risk of damage to the cable.

Fig. 11

2



STEP 6. Set the spread adjustment wheel to the **Min.** Output setting. Twist the handle clockwise until reasonably tight. Do not overtighten.

3

Using the Machine - A Step-by-Step Guide



Fig. 12

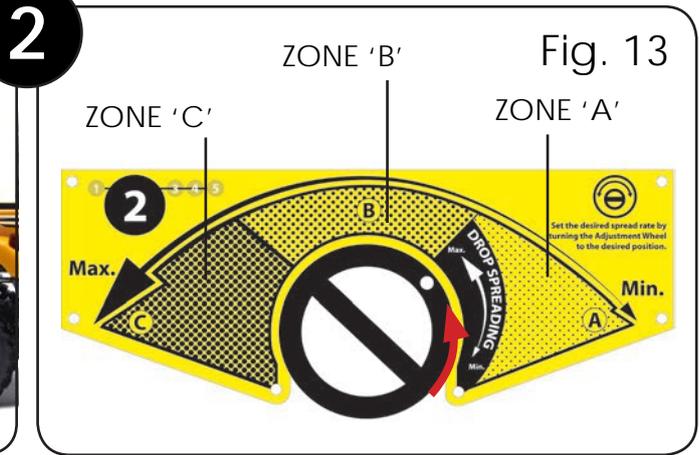


Fig. 13

STEP 7. Load the hopper with grit salt. **DO NOT SHOCK LOAD THE GRITTER!** Open bags inside the hopper or shovel in loose grit. Spread the loose grit salt around in the hopper to level it out.

STEP 8. Set the spread adjustment wheel to the required position for the desired output (refer to Table 2 on Pg. 11).

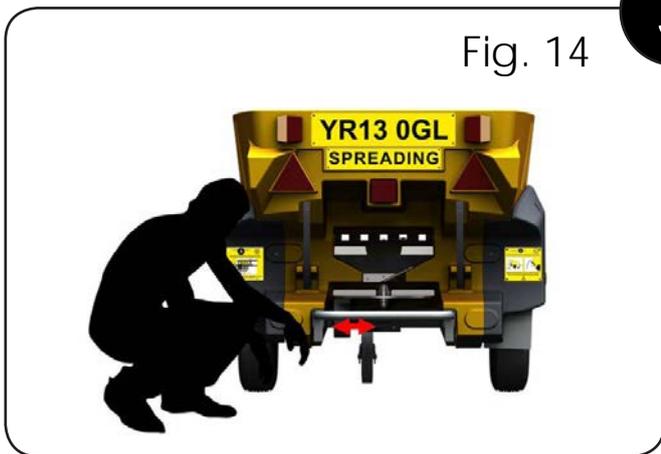


Fig. 14

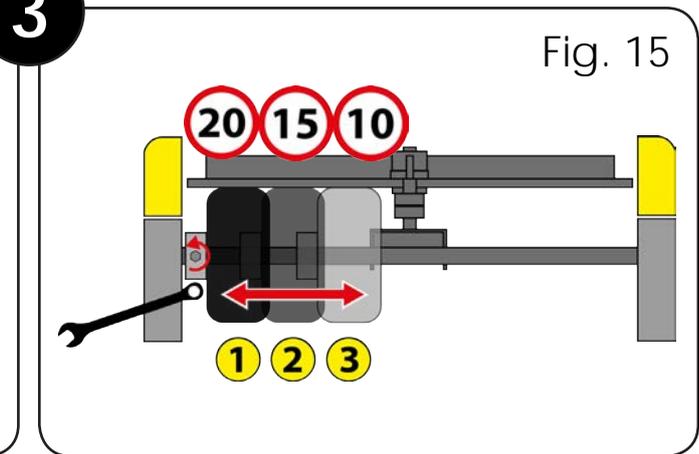


Fig. 15

STEP 9. Locate the rubber drive wheel which drives the spinner plate at the rear of the machine. Set this to give the desired spread output given the speed you will tow the vehicle at when up to speed. If it is not set in the corect position you will need to move the position of the drive wheel (see Fig. 14). Choose the correct position based on the output required (refer to Table 2).

STEP 10. The drive wheel is locked in position via a pair of M6 bolts, one is fitted in a slot in the drive wheel shaft which keeps the drive wheel aligned while another is located into one of the three speed setting holes in the drive wheel shaft (see Fig. 15). To set the drive wheel into a different position, loosen the fixing fitted into one of the setting holes using a 10mm spanner or socket until the screw is clear of the drive wheel shaft. The drive wheel can then be slid along the shaft into another setting position. You may find it useful to loosen the fixing which is in the alignment slot in the drive wheel shaft first to make moving the wheel a little easier. Once the fixing is aligned with the desired setting hole in the drive wheel shaft, retighten the fixing until the screw sits into the setting hole.

The 3 setting positions are speed-specific.

- Setting 1 - 15 to 20mph
- Setting 2 - 10 to 15mph
- Setting 3 - 5 to 10mph

3 Using the Machine - A Step-by-Step Guide

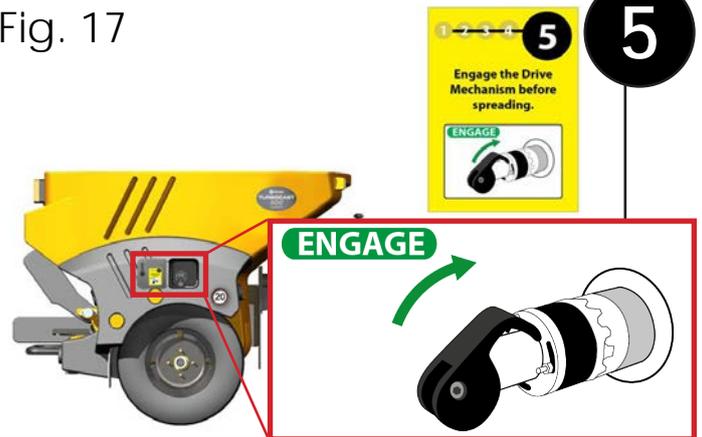
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Fig. 16



STEP 11. Check that the spread limiters are raised and locked in the 'up' position. The limiter locking handles operate on a spring pin and locate into holes in the limiters (see Fig. 16).

Fig. 17



STEP 12. Tow the machine to the desired start location. Open the drive mechanism cover and **engage** the drive mechanism see Fig. 17). Double-check that the clutch teeth are securely interlocked. If they are, close the cover.

5

Fig. 18



STEP 13. Tow the machine at the correct speed and the machine will broadcast spread at a low spread rate, with a consistent 8m spread. Some fine tuning of the spread adjustment wheel position may be necessary to achieve the desired output given the conditions of the day and the type of grit salt being spread.

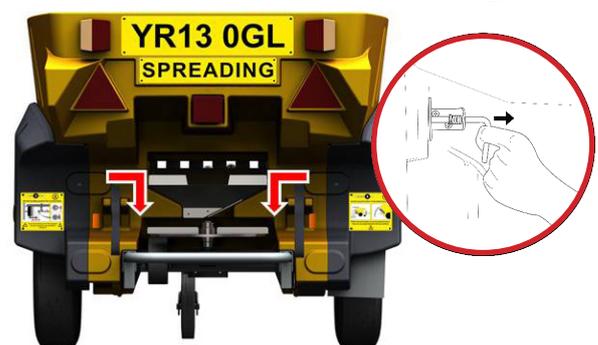
3 Using the Machine - Drop Spreading

Fig. 19



STEP 14. Complete STEPS 1-7. Set the spread adjustment wheel to a position within the 'Drop Spreading' range as indicated on the graphic. Refer to Table 3 on Pg. 13.

Fig. 20



STEP 15. Drop the spread limiters into the drop spread positions by unlocking the spring pin locks on both arms and dropping them down. (see Fig. 20).

3 Using the Machine - Drop Spreading

Fig. 21



STEP 16. Complete STEPS 9-13 (excluding 11) to begin spreading. Tow the machine at the correct speed and the machine will drop spread with a dense 1m spread. Some fine tuning of the spread adjustment wheel position may be necessary to achieve the desired output given the conditions of the day and the type of grit salt being spread.

3 Using the Machine - Directional Spreading

Fig. 22



STEP 17. Complete STEPS 1-7. Complete STEP 14 to set the desired output. Set the spread limiters in the desired position. For example, to spread to the right the left hand limiter should be lowered and the right raised and vice versa for spreading to the left. Check the orange limiter locking handles are hand-tight before setting off (see Fig. 22).

Fig. 23



STEP 18. Complete STEPS 9-13 (excluding 11) to begin spreading. Tow the machine at the correct speed and the machine will broadcast spread to the Left or Right (depending on which limiters you have set). Some fine tuning of the spread adjustment wheel position may be necessary to achieve the desired output given the conditions of the day and the type of grit salt being spread.

4

Broadcast Spread

Table 2

10




INPUTS			OUTPUT		
Towing Speed (m.p.h.)	Spread Setting	Speed Setting	Spread Width (approx.)	Spread Consistency	Spread Density *(g/m ²)
5-10	A	3	8.0m	EXCELLENT	15
5-10	A	2	4.0m	GOOD	30
5-10	A	1	2.0m	OK	60
5-10	B	3	8.0m	EXCELLENT	30
5-10	B	2	4.0m	GOOD	60
5-10	B	1	2.0m	OK	120
5-10	C	3	8.0m	EXCELLENT	60
5-10	C	2	4.0m	GOOD	120
5-10	C	1	2.0m	OK	240

15




INPUTS			OUTPUT		
Towing Speed (m.p.h.)	Spread Setting	Speed Setting	Spread Width (approx.)	Spread Consistency	Spread Density *(g/m ²)
10-15	A	3	8.0m+	SCATTERED	10
10-15	A	2	8.0m	EXCELLENT	15
10-15	A	1	4.0m	GOOD	30
10-15	B	3	8.0m+	SCATTERED	20
10-15	B	2	8.0m	EXCELLENT	30
10-15	B	1	4.0m	GOOD	60
10-15	C	3	8.0m+	SCATTERED	40
10-15	C	2	8.0m	EXCELLENT	60
10-15	C	1	4.0m	GOOD	120

20




INPUTS			OUTPUT		
Towing Speed (m.p.h.)	Spread Setting	Speed Setting	Spread Width (approx.)	Spread Consistency	Spread Density *(g/m ²)
15-20	A	3	8.0m+	SCATTERED	5
15-20	A	2	8.0m+	SCATTERED	10
15-20	A	1	8.0m	EXCELLENT	15
15-20	B	3	8.0m+	SCATTERED	10
15-20	B	2	8.0m+	SCATTERED	20
15-20	B	1	8.0m	EXCELLENT	30
15-20	C	3	8.0m+	SCATTERED	20
15-20	C	2	8.0m+	SCATTERED	40
15-20	C	1	8.0m	EXCELLENT	60

* Spread Density is an estimate only and will vary depending upon the type of grit product used and the climatic conditions at the time of spreading.

4

Drop Spread



Table 3



INPUTS			OUTPUT		
Towing Speed (m.p.h.)	Spread Setting	Speed Setting	Spread Width (approx.)	Spread Consistency	Spread Density *(g/m ²)
5-10	A	3	1.0m	EXCELLENT	120
5-10	A	2	1.0m	GOOD	120
5-10	A	1	1.0m	GOOD	120
5-10	B	3	1.0m	EXCELLENT	240
5-10	B	2	1.0m	GOOD	240
5-10	B	1	1.0m	GOOD	240
5-10	C	3	1.0m	EXCELLENT	480
5-10	C	2	1.0m	GOOD	480
5-10	C	1	1.0m	GOOD	480

10



INPUTS			OUTPUT		
Towing Speed (m.p.h.)	Spread Setting	Speed Setting	Spread Width (approx.)	Spread Consistency	Spread Density *(g/m ²)
10-15	A	3	1.0m	GOOD	120
10-15	A	2	1.0m	EXCELLENT	120
10-15	A	1	1.0m	GOOD	120
10-15	B	3	1.0m	GOOD	240
10-15	B	2	1.0m	EXCELLENT	240
10-15	B	1	1.0m	GOOD	240
10-15	C	3	1.0m	GOOD	480
10-15	C	2	1.0m	EXCELLENT	480
10-15	C	1	1.0m	GOOD	480

15



INPUTS			OUTPUT		
Towing Speed (m.p.h.)	Spread Setting	Speed Setting	Spread Width (approx.)	Spread Consistency	Spread Density *(g/m ²)
15-20	A	3	1.0m	GOOD	120
15-20	A	2	1.0m	GOOD	120
15-20	A	1	1.0m	EXCELLENT	120
15-20	B	3	1.0m	GOOD	240
15-20	B	2	1.0m	GOOD	240
15-20	B	1	1.0m	EXCELLENT	240
15-20	C	3	1.0m	GOOD	480
15-20	C	2	1.0m	GOOD	480
15-20	C	1	1.0m	EXCELLENT	480

20

* Spread Density is an estimate only and will vary depending upon the type of grit product used and the climatic conditions at the time of spreading.

5 Controls

Spread Adjustment

The spread adjustment wheel is located at the front of the hopper. In conjunction with the speed adjustment drive wheel (see below) this controls the output of grit. By turning the wheel counter-clockwise, the level of displacement which is afforded to the motion of the agitator fingers is increased. The larger the displacement the more grit is flicked out through the grit aperture and onto the spinner plate. Conversely, when the wheel is turned clockwise, the opposite occurs, with the displacement of the agitation fingers minimised to reduce the grit output.



Fig. 24

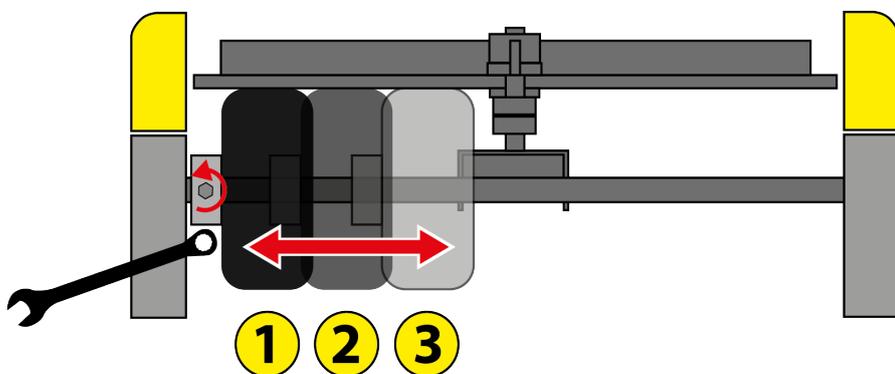


Fig. 25

When broadcast spreading the whole of the range of movement of the adjustment wheel is effective. The wheel can be rotated through approximately 270 degrees and is divided into 3 spread Zones, labelled 'A', 'B' and 'C' (see Fig. 24). The minimum output is given by setting the wheel to the lower end of Zone 'A', the maximum output setting coming at the upper end of Zone 'C'. When drop spreading, the user need only set the wheel within Zone 'A' (see Fig. 25). This is because when the spread limiters are engaged, the density of the output of grit is increased eight-fold due to the limitation of the spread width from 8m to 1m.

Speed Adjustment

The drive wheel is locked in position via a pair of M6 bolts, to set the drive wheel into a different position, loosen the fixing fitted into one of the setting holes using a 10mm spanner or socket until the screw is clear of the drive wheel shaft. The drive wheel can then be slid along the shaft into another setting position. You may find it useful to loosen the fixing which is in the alignment slot in the drive wheel shaft first to make moving the wheel a little easier.



When the new setting position has been selected - 1, 2 or 3 (see Fig. 26), simply align the screw thread with the corresponding hole in the shaft and re-tighten the retaining fixing until it is fully engaged with the shaft.

Fig. 26

5 Controls

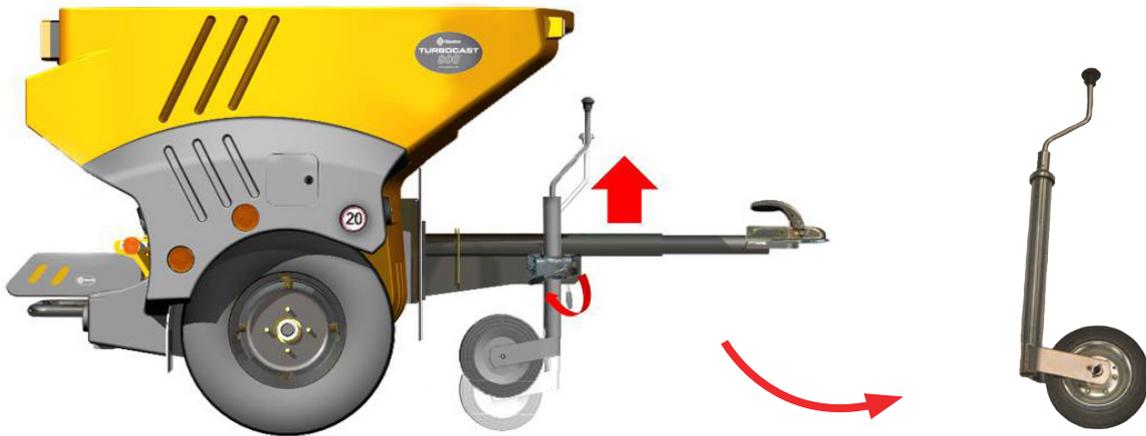


Fig. 27

The jockey wheel is adjustable to enable easier loading and unloading of the machine hitch onto that of the towing vehicle. To raise the nose of the machine, turn the cranked handle in a clockwise motion. To lower the nose of the machine, turn the handle anti-clockwise. Particularly when operating the machine with towing vehicles with a low hitch height (hitch positions 1 and 2), it may be necessary to unclamp and reset the position of the jockey wheel once the machine has been connected to the towing vehicle to increase the ground clearance. To do this, simply unclamp the locking handle on the clamp which holds the jockey wheel to the tow bar (see Fig. 27). Shift the position of the jockey wheel up and then re-clamp in place. In some cases it might be necessary to remove the jockey wheel entirely whilst the machine is attached to the towing vehicle to give sufficient ground-clearance.

NOTE: The jockey wheel will need to be reattached **BEFORE** unhitching the machine from the towing vehicle to ensure it can be safely manoeuvred when disconnected from the vehicle.

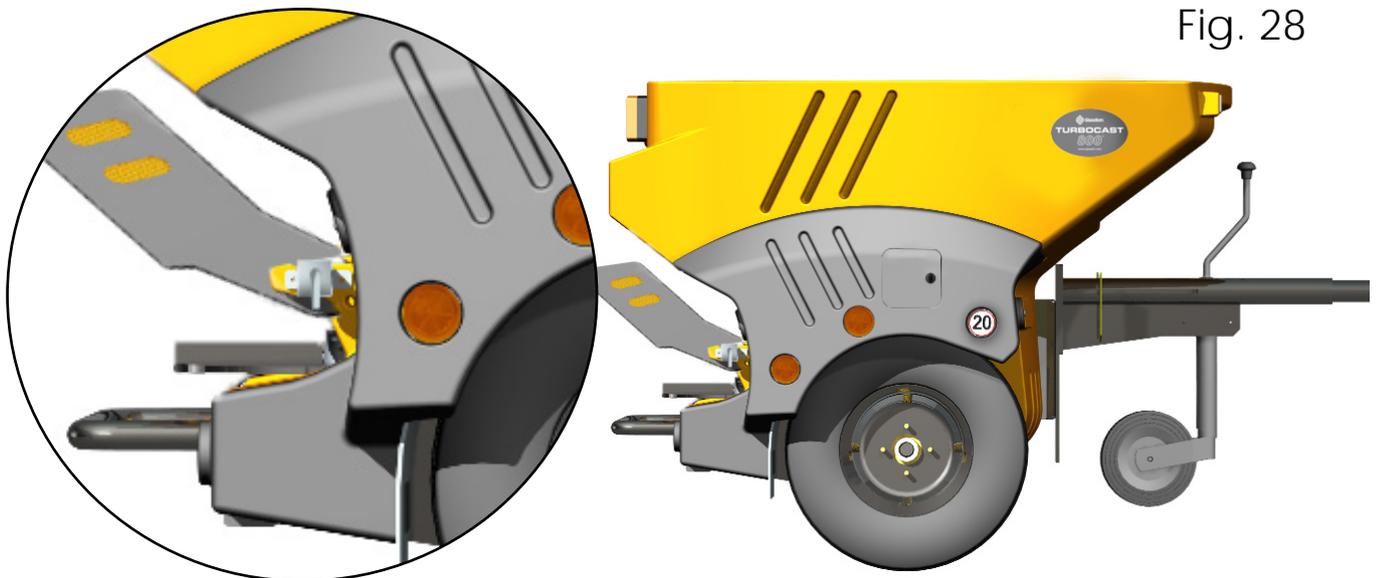


Fig. 28

The spread limiters are operated via a pair of spring pin locking handles, one for each limiter. When pulled the handles disengage the retaining pin which holds the limiter arms up and allows them to drop into position for drop spreading. The handles automatically engage the pin on top of the limiter arm to ensure it stays locked down whilst drop spreading. The limiters can be placed back in the raised position by pulling the lock handles to disengage the pin, raising the limiter arm and then releasing the handle so that the pin re-engages with the hole through the limiter arm itself to lock it in place.

6 Troubleshooting

1. The machine is not spreading, or is spreading intermittently.

Quick Check:

Is there sufficient material in the hopper?

If not. Refill.

Is the aperture at the bottom of the hopper jammed or clogged up with material?

Use a tool to free up the compacted material.

Is the drive engaged?

Check the engagement between the clutches. If not properly spaced, screw the handle clockwise until a position is reached where the clutches engage successfully and yet are still clear of one another when the handle is flicked into the disengaged position.

Am I towing at the speed which correlates to the settings chosen?

Re-check the spread settings. If not. Alter your towing speed accordingly.

Is the agitation mat lifting in a wave like pattern?

If not. Remove the agitation mat and check the condition of the cams. If the cams are worn, they may need replacing.

2. The machine is spreading, but it is spreading material more to one side and leaving a 'line' of grit down one side of the spread pattern (see Fig. 29).

Note: This may occur in either broadcast or drop spread modes.

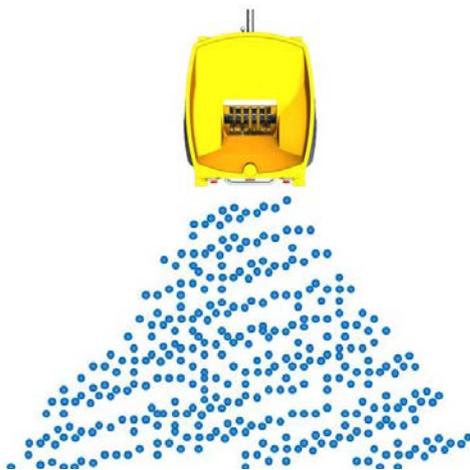


Fig. 29

Fig 29. Shows a typical, evenly distributed spread

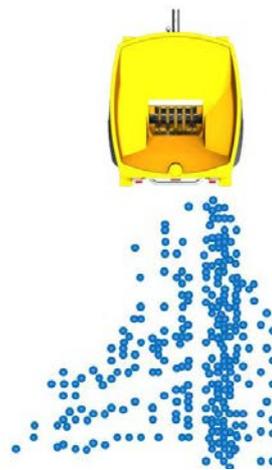


Fig. 30

Fig 30. Shows a skewed, linear spread pattern

Quick Check:

Am I towing at the speed which correlates to the settings chosen?

Re-check the spread settings. If not. Alter your towing speed accordingly.

Is the agitation mat lifting in a wave like pattern?

If not. Remove the agitation mat and check the condition of the cams. If the cams are worn, they may need replacing.

Have I selected an appropriate spread setting?

Check that the output is not overloading the spinner plate with too much grit.

Probable Cause:

When the towing speed is lower than the speed setting the machine has been set in, it can mean that the spinner plate is spinning more slowly than is required to dispense the grit effectively. This can lead to the unusual pattern. Also, if the spread setting is set to give a very high output (i.e. Zone 'C' or Max.) this can exacerbate the effect.

6 Troubleshooting

Remedies:

- Increase the towing speed to fall within the recommendations for the speed setting.
 - If the towing speed is ok, move the speed adjustment drive wheel to a lower towing speed setting. For example, if you are in setting 2, move it to setting 3. This will increase the spinner speed and mean the spinner plate is better able to dispense the grit with an even distribution given the amount of grit being ejected from the hopper.
 - Decrease the spread output by turning the spread adjustment control. It is possible that too much grit is being released from the hopper for the spinner plate to effectively distribute.
-

3. The drive is engaged and yet no grit is being spread.

Quick Check:

Is there sufficient material in the hopper?

If not. Refill.

Is the aperture at the bottom of the hopper jammed or clogged up with material?

If so. Use a tool to free up the compacted material.

Is the drive engaged?

Check the engagement between the clutches.

If not properly spaced when engaged, screw the handle clockwise until a position is reached where the clutches engage successfully and yet are still clear of one another when the handle is disengaged.

Probable Cause:

The engagement handle which engages and disengages the machine has become loose (through normal use) or has been loosened by turning the handle. The position of the handle is factory-set, however has been designed with sufficient adjustment to allow the operator to adjust the position if required.

Remedies:

- Reset the spacing between the clutches by tightening or loosening off the engagement handle position.
-

Has the chain come off the drive train?

Remove the mudguard and protective plastic sheets covering the drive train on the near side of the machine (UK). If either of the chains has come off it will need to be remounted. It will be necessary to slacken off the chain tensioner(s) to allow the chain to be remounted. Always remember to re-tension the chain afterwards by setting the tensioner in a position where the nylon roller squeezes against the chain to keep it taught.

Probable Cause:

The machine has been used on uneven ground or over traffic calming measures which has caused the chain to jump off the sprockets or the chain has become stretched and done so of its own volition.

Remedies:

- Remount the chain and/or reset the chain tension by repositioning the chain tensioner(s).
- Ensure the chain tension is checked at least annually.

Has the clutch system been damaged in any way?

Check for signs of damage to the two white clutches which initiate the drive mechanism. These have been designed so that they will break under unusual loading conditions. E.g. If the machine becomes jammed by an impediment - such as a large stone jamming within the aperture in the hopper. If signs of damage are visible to the clutches then one or both will need to be replaced. This fail safe has been designed into the drive system to protect the rest of the drive train, rather than causing more significant damage elsewhere on the machine. The clutches are easily accessible and can be replaced by removing the mudguard, then disassembling the simple clutch assembly. Please contact Glasdon for details.

Probable Cause:

The machine has been used to spread a material which compacts readily (e.g. Soil). This has resulted in a jamming of the hopper aperture and caused the agitation system to temporarily seize up. In some instances, the clutches will break to prevent damage to the rest of the drive / agitation system.

Remedies:

- Replace one or both of the clutches from the drive mechanism assembly. Details on replacement will be advised by one of our Technical Services team.

4. The tail lights are not working correctly.**Quick Check:*****Is the plug correctly connected at both ends?***

Reinstall to make sure.

Are there signs of damage to the cable?

If so cease use of the cable immediately and request a replacement.

Are any of the bulbs in need of replacement?

If so request a replacement.

Are any of the connections loose?

Open the plug(s) to determine if there are any loose connections to isolate the fault.

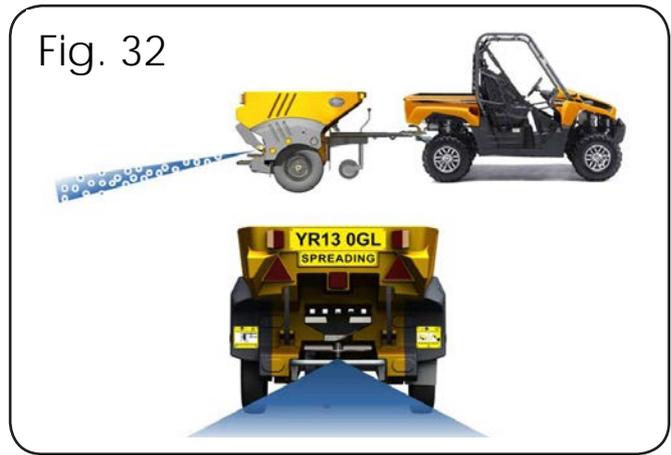
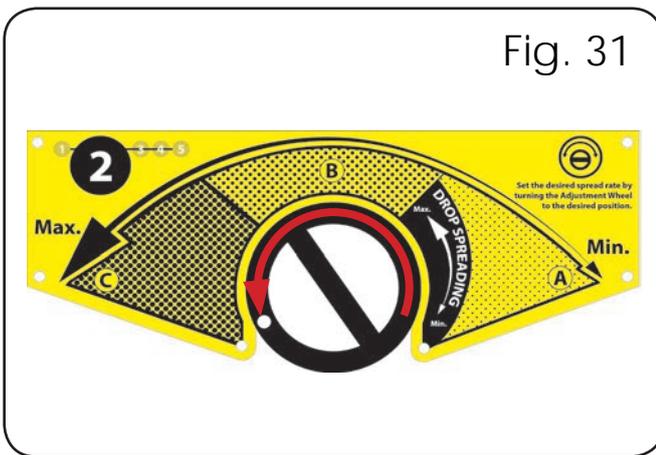
Are there signs that any of the connections are dirty or rusty?

Inspect the connections. Clean and spray any suspect connections with a lubricant such as WD40.

7 Maintenance

Emptying the Hopper

To rapidly evacuate the hopper of grit, first set the spread adjustment wheel to the maximum setting ('Max.' or 'Zone C') (see Fig. 31). **Engage** the drive mechanism and tow the machine around until the majority of grit has been dispensed (see Fig. 32). With the spread adjustment at its maximum output, it will release the material rapidly - so choosing an area where a dense spread is either beneficial, or where it will cause minimal disruption is recommended when doing this.



Storing the Machine

After Each Use

When storing the machine, the drive mechanism should be **disengaged** and the **spread adjustment wheel set in the Max. setting**. This will put the least amount of strain on the agitation mechanism as possible during storage. The machine should be thoroughly cleaned after each and every use. Any material which is left in the hopper may set solid as grit/salt is hygroscopic (moisture absorbing) and will harden like concrete if left. Cleaning after each use is important and will extend the lifetime of the machine. If left uncleaned, the grit can set and will damage the mechanics of the machine when next used.

Cleaning

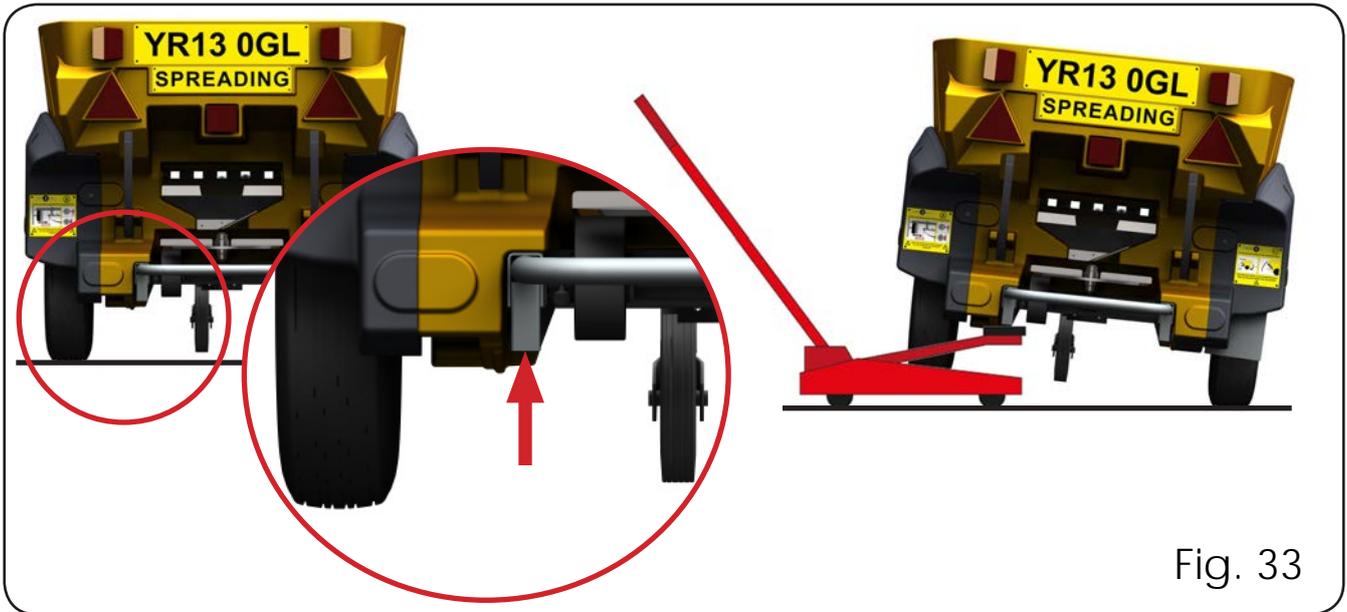
To clean, use a hosepipe, or ideally a jet wash to rinse away any excess material that remains after the hopper has been emptied. For particularly stubborn deposits, it may be necessary to employ the use of a brush to sweep away any build ups. Pay particular attention to ensuring the rubber agitation mat, the grit aperture through which grit exits the hopper and spinner plate are all thoroughly cleaned and devoid of grit. The entire exterior of the machine can be cleaned. Do not remove any of the machine's protective covers before cleaning as these areas should already be shielded from grit contamination. Care should be taken, particularly when using a jet wash, not to focus the jet on any areas which must be greased (see Pg. 21). This can remove the grease from moving parts - meaning more need be applied afterward. The machine should be stored on its wheels with the tow bar attached, or can be rested on the rear stand.

7 Maintenance

End of Season (Annual Service)

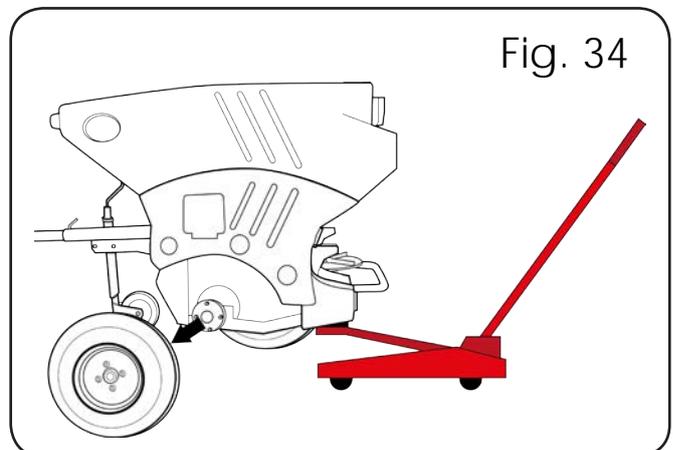
A more thorough maintenance regimen should be undertaken at the end of each season. In addition to thoroughly cleaning, it is important to check, inspect and re-grease the drive train and agitation system to ensure it is ready to use again next season.

To access the drive train, first, remove the wheel and tyre from the drive side of the vehicle (kerb side). The jack points are located on the chassis, underneath the spinner plate at the rear of the machine (see Fig. 33).



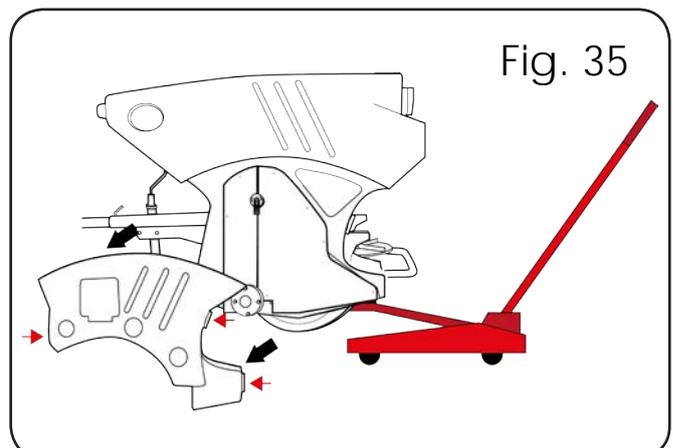
Removing the Wheels

Raise the kerb side side of the machine off the ground using a car jack (pneumatic type illustrated for example). Once the machine is off the ground, use a wheel nut removal wrench tool (17mm) to loosen the 4 x wheel nuts. Once the nuts are removed, remove the wheel (see Fig. 34) and place to one side.



Removing the Mudguards

Remove the mudguard which covers the drive side of the machine. Unscrew the 3 x fixing screws (positions marked with arrows in Fig. 35) using a 4mm allen key. Remove and place to one side, taking care not to lose the fixing screws.

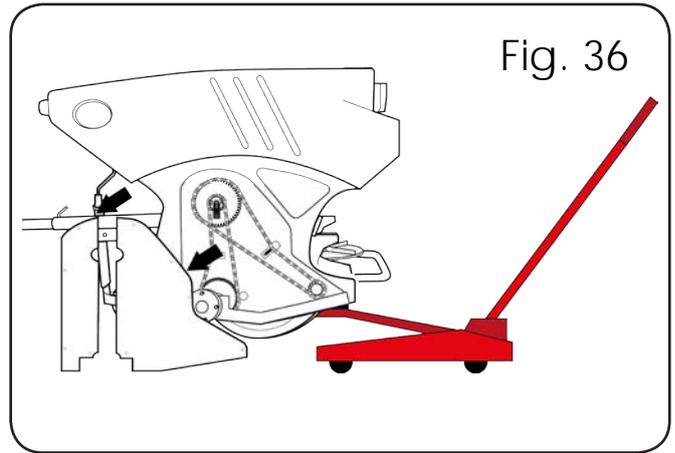


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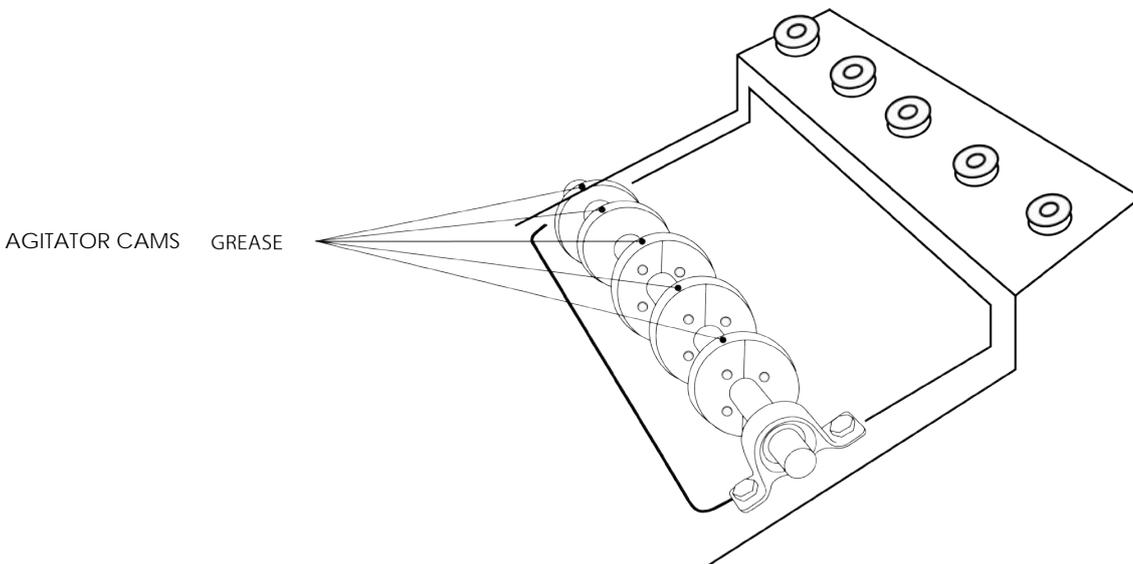
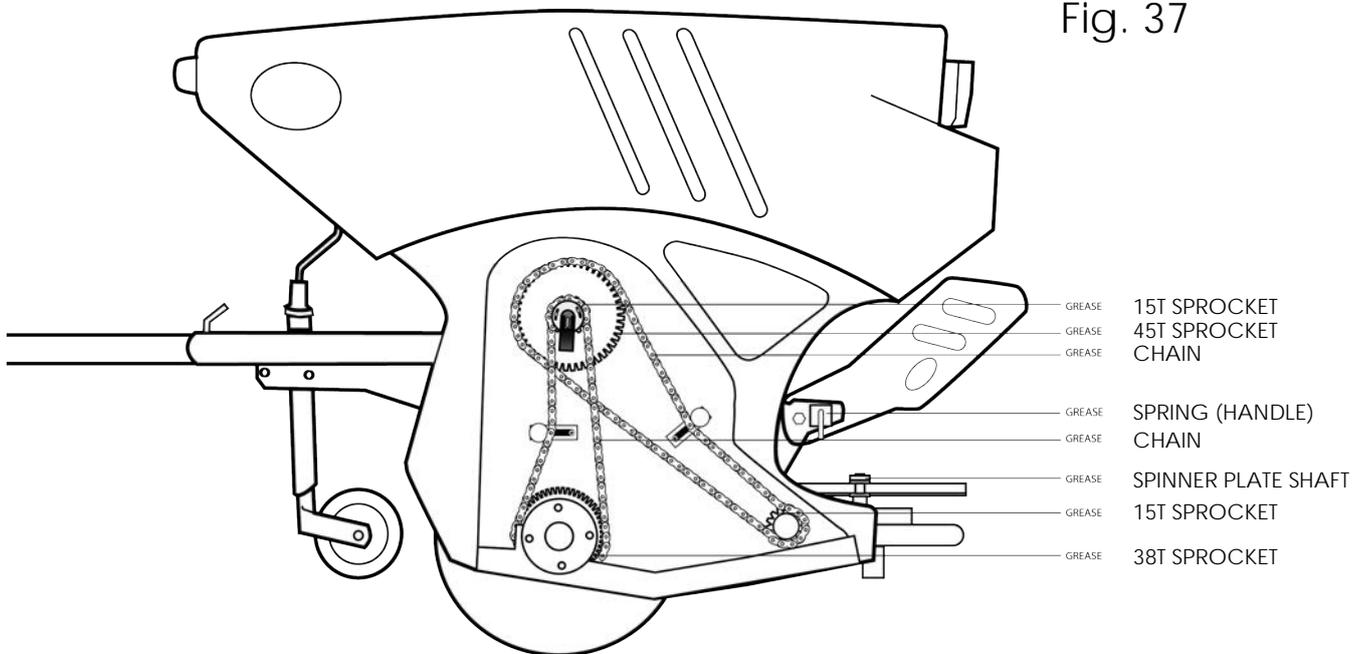
Maintenance

Removing the Protective Covers

Next, remove the two protective covers that shield the drive train. These are fitted with a series of fixing screws around the perimeter of each cover. Remove these fixings using a 10mm spanner or socket and remove the covers (see Fig. 36).



Lubrication Points



7 Maintenance

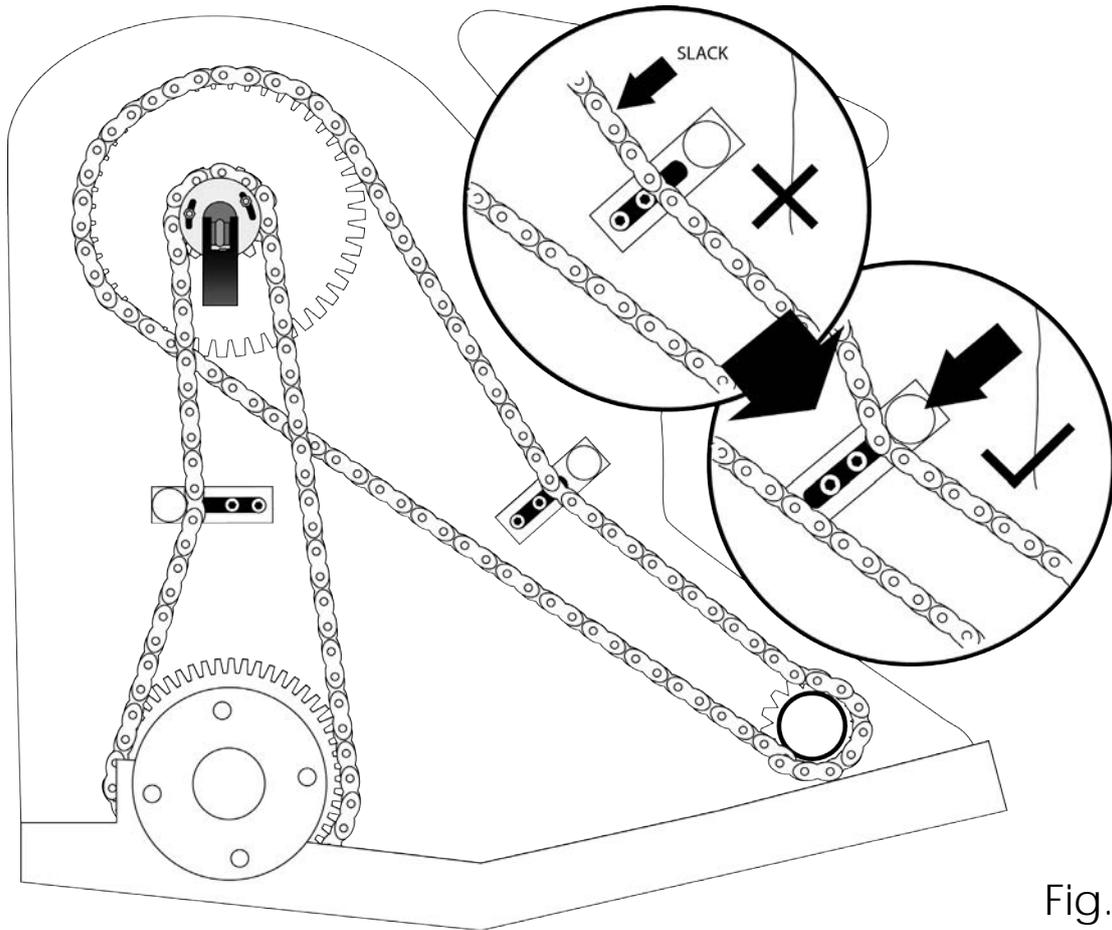


Fig. 38

The drive train has an in-built chain tension adjustment mechanism to ensure the chains run smoothly. The white nylon roller in each of the two chain tensioner assemblies should press against the chains to keep them taut as the chains are driven. To check the tension is suitable, press against the chain and check the deflection. If the chain feels loose and can be deflected a significant amount - it may need adjusting (see Fig. 38).

To adjust the chain tension, loosen the two fixings which secure the chain tensioner assembly to the chain tensioner mountings using a 10mm spanner or socket. Then whilst pressing the nylon roller into the chain, re-tighten the fixings to secure the roller in this position. The nylon rollers need only press against the chain to prevent the chain from 'sagging'.

NOTE: Do not secure the chain tensioners in a position that puts undue stress on the chain as this may increase chain wear.



The Turbocast 800 is CE Marked, it has been designed to comply with the relevant Standards and Directives for its product classification.

An EC Declaration of Conformity certificate and a copy of the CE Marking Turbocast 800 Technical File is available from the Glasdon UK Quality Assurance Department upon request.

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- A planned maintenance schedule of regular inspection is recommended, replacing components as necessary.
 - Replacement components are available direct from Glasdon.
 - Glasdon cannot be held responsible for claims arising from incorrect installation, unauthorised modification or misuse of the product.

Should you require any further assistance please contact us on
tel: 01253 600410, fax: 01253 792558 or email: sales@glasdon-uk.co.uk



In accordance with our policy of continuous development and improvement, we reserve the right to make changes in design and specification without notice. Glasdon UK Limited products are manufactured under license worldwide and various components of the models are patented and design registered.