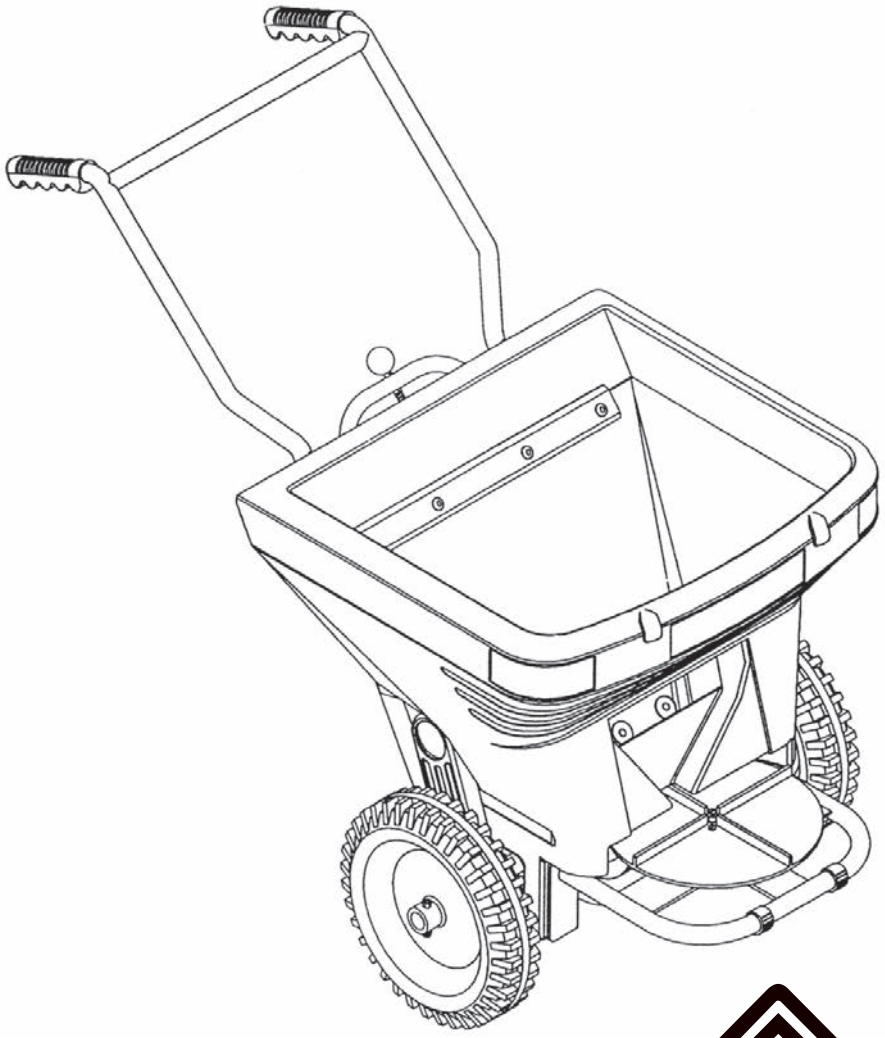
ENGLISH (UK) VERSION

Glasdon

Operating & Maintenance Manual

TURBOCAST 300™

A High Performance Manual Grit/Salt Spreader



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Operating & Maintenance Manual

Thank you for purchasing a Glasdon Turbocast 300 Manual Grit/Salt Spreader. This manual contains important information for the operation and future care of your product.

CONTENTS

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

1 Introduction

General Description

The Turbocast 300 is a high performance manual "Broadcast" spreader (3000 to 7300mm / 52 litres). It features the patented "Minimax" spreading mechanism, which is purposely designed to spread a wide range of materials. A large variance in particle size and moisture content will be accepted, particularly sodium chloride (unrefined brown rock salt), refined white rock salt, coarse sand etc.

The Turbocast 300's wide spread is ideal for light to medium coverage of car parks and short access roads. Its lighter spread rates comply with the guidelines in the Network Maintenance Manual Part 0 (July 2009) for maximum economy and minimal environmental impact.

The spinner plate is mounted at a height that allows material to be spread underneath parked vehicles, thus avoiding "pebbledashing" and providing traction without the need to empty the car park.

Speed Restriction

The tyres and the machine have been designed to operate at walking pace, i.e. approximately 3 to 6 kph (2 to 4 mph) with a full payload. Under no circumstances should the Turbocast 300 be towed.

Before-Use Check List

1. The wheels are securely attached and functional.
2. The rubber agitation sheet is sealing against the hopper, with no stones or obstructions.
3. All appropriate parts are lubricated and moving freely.
4. All fastenings and guards are secure and intact.
5. The drive belts are correctly tensioned and working, i.e. does the spinner plate and cam axle turn freely when the machine is pushed forward?
6. The spread adjuster is in the '0' position.

Before Spreading

a) The hopper is full of grit/salt and there is an adequate supply to complete the job.
b) The spread adjuster is in one of the spreading positions '1' to '4'.

After-Use Maintenance

1. The spreader should be thoroughly cleaned and any salt removed from the hopper.
2. General lubrication of all lubrication points.
3. Maintenance spray should be applied to all metal surfaces.
4. Any scratches in the metal coating should be treated.
5. The spreader should be covered if it is to be left outdoors.
6. Never use oil or grease on rubber parts, e.g. tyres, rubber sheet etc.

IMPORTANT NOTICE

Do NOT leave grit salt in the hopper, even when the Turbocast 300 is covered or being stored internally. Being hygroscopic, salt will absorb moisture and then set hard like 'concrete'.

Trying to push the spreader with this 'concrete' in the hopper will result in:
- **The red pulley belt coming off or snapping.**
- **The actuating arms bending resulting in the machine not spreading on the lower settings.**
- **The main drive belt snapping.**

Salt in solution with water is incredibly corrosive and will attack metalwork and seize bearings. It is very important after each use to empty the hopper and apply maintenance spray to all bearings and metal surfaces as outlined in the attached instructions. Maintenance spray drives out saltwater and then protects and lubricates. Regular use will prolong the life of the gritter and also reduce the likelihood of expensive maintenance.

The Turbocast 300 is designed to spread a wide range of wet and dry gritting materials. It is quite normal for wet/sticky (e.g. brown rock salt) or lightweight materials (e.g. Glasdon Icemelt™) not to spread on the lower settings, which are used to spread dry granular materials, e.g. white salt.

2 Spreading Mechanism

When pushed, one wheel (2) turns the main axle (3) which drives the cam axle (4) and the spinner plate (6), via pulleys and belts (11 & 12). Helically-mounted cam bearings (5) on the cam axle, successively strike the agitator bars (7) to produce a ripple motion within the rubber agitation sheet (8) forming one wall of the plastic hopper (1). Each ripple causes some grit/salt to fall to the hopper bottom and be lifted in the dispensing trough. It then falls over a lip (via an open chute) on to the rotating spinner plate (6), which throws out the salt (by centrifugal force) aided by the ribs on the plate.

The spreading width is speed related: the faster you walk the wider the spread.

The spreading rate (i.e. the heaviness of the spread) is easily adjusted by moving the adjuster frame handle (10) to one of 5 positions. Moving the adjuster frame (10) also moves the cam axle (4) and cams (5) nearer to or further away from the agitator bars (7), which:

1. Changes the amount the bars rise and fall.
2. Determines the size of the ripple motion.
3. Determines the quantity of material dispensed to the spinner plate.

When the adjuster frame (10) is placed in position '0', the cams (5) are moved so that they are no longer in contact with the agitator bars (7), thus the ripple motion is stopped.

Note: the rubber agitation sheet will never close off the dispensing trough in the bottom of the hopper.

Spreading Adjustment (Figs. 1.0 & 1.1)

1. Stand at the rear of the machine and hold the handle of the cross bar (14) with one hand. Let the machine rest on the front stand (13). Take particular care when the hopper is empty as it may tilt forward or back. A small amount of grit will overcome this tendency.
2. Lift the spring load adjuster pin (15) with your free hand until the pin is clear of the holes in the selector plate (16).
3. Move the adjuster frame (10) to select the appropriate spread rate from one of the four settings.
   i. For maximum spread push the adjuster frame (10) towards the front of the machine marked '4'.
   ii. To disengage the spreading mechanism (to move the machine without gritting), pull the adjuster frame (10) towards the rear of the machine marked '0'. Note there is a gap between '0' and '1'.
   iii. At first we suggest selecting a medium position and experiment from there (refer to the Spread Rate Chart on page 18).
4. Release the adjuster knob so that the pin enters the hole in the selector plate (16).

Spreading Width

The spreading width is speed related: the faster you walk the wider the spread.

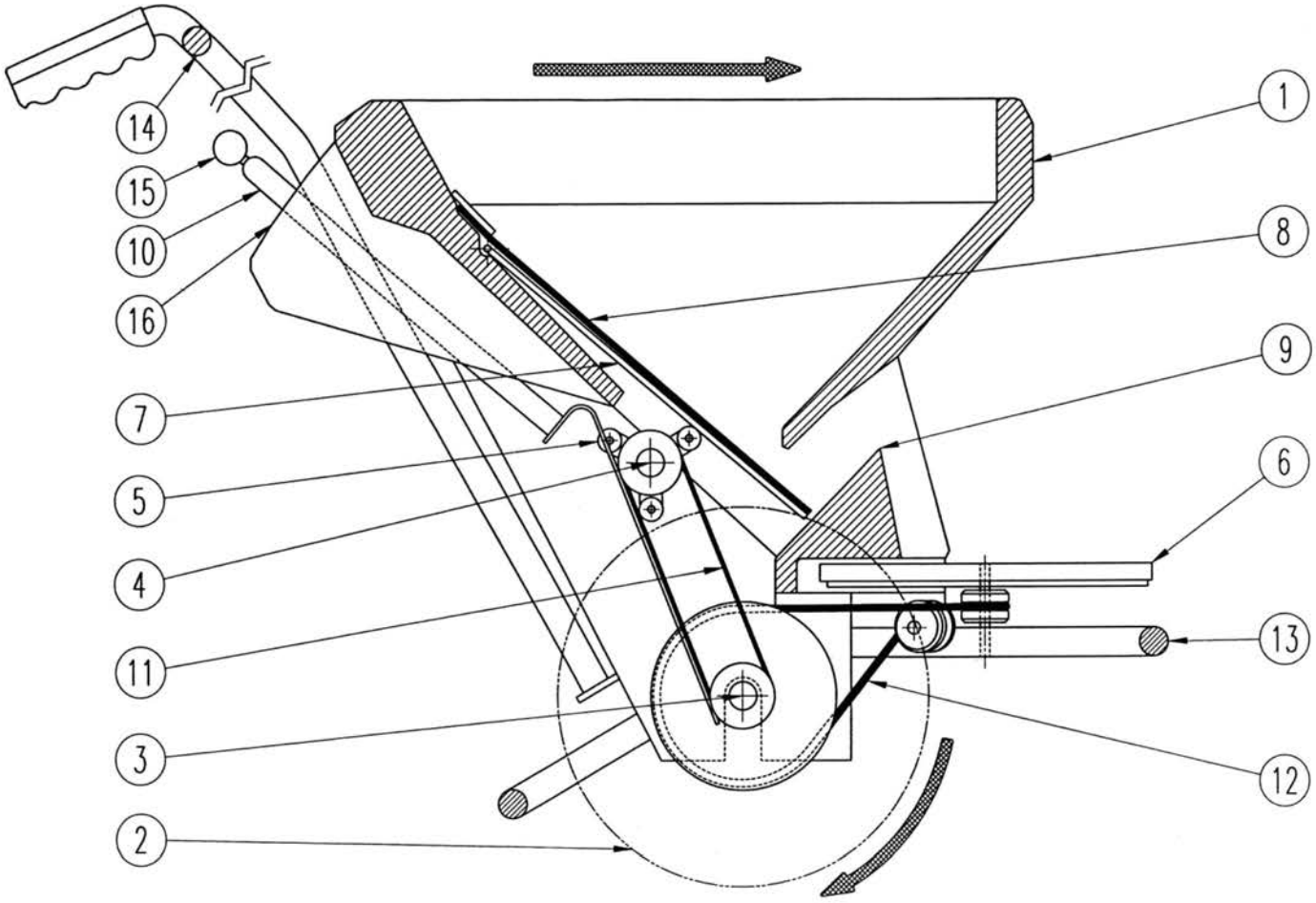
Walking pace	kph	mph	Icemelt	Damp White Rock Salt	Damp Brown Rock Salt
Slow	2.9	1.8	3.5m	3.5m	3.0m
Medium	4.5	2.8	4.5m	5.5m	5.5m
Fast	6.0	3.8	6.5m	6.5m	7.3m

Spread widths will be reduced if the material is very wet. Do NOT place large lumps of grit in the hopper. Do NOT leave grit or salt in the hopper overnight.

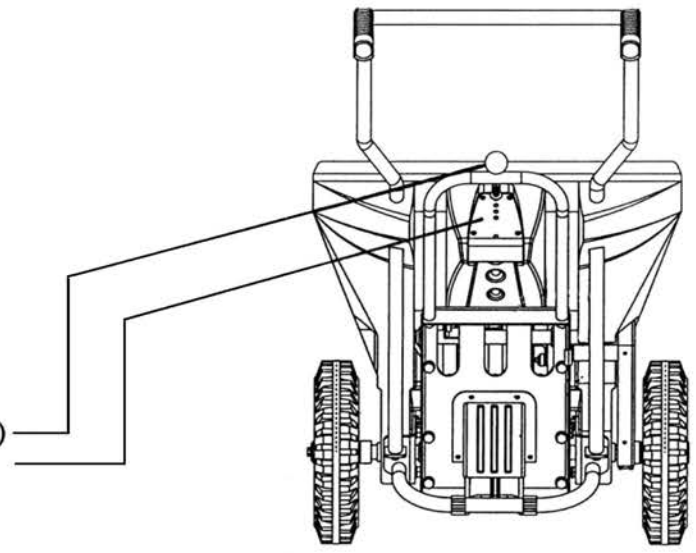
See page 18 for the Spread Rate Chart.

2 Spreading Mechanism

(Fig. 1.0) Spreading Mechanism



Item	Description	Exploded view item reference pages 10&11
1.	Plastic Hopper	(1)
2.	Drive Wheel	(2b)
3.	Main Axle	(3)
4.	Cam Axle	(16)
5.	Cam Bearings	(24)
6.	Spinner Plate	(6)
7.	Agitator Bars	(7)
8.	Rubber Agitation Sheet	(8)
9.	Dispensing Trough and Lip	(-)
10.	Adjuster Frame Handle	(4)
11.	Timing Belt (Toothed)	(23)
12.	Polyurethane Belt	(20)
13.	Front Stand (Trunion Frame)	(9)
14.	Handle Cross Bar	(5)
15.	Adjuster Pin	(25/26)
16.	Selector Plate	(11)



(Fig. 1.1) Spread Adjuster

3 General Use

To Empty the Hopper

Holding the handles tip the machine forward, so that the hopper front rests on the ground (like a wheel barrow). Tip further forward to empty any residual salt (see Fig. 2) or spread material by pushing the machine in the normal way. Care should be taken to ensure you have an adequate footing.

The Frame Handle

For manoeuvring when not gritting, the frame handle allows the operator to push or pull by holding either the handgrips or the cross bar. Some operators may prefer to pull the machine in a horse and carriage manner when going up ramps or gradients, however we would strongly recommend that this method is not employed when going down gradients, and that the operator always walks behind the machine when going downhill.

The Rear Stand and Front Supports

The machine is designed so that it may be tilted either:

1. Forwards to rest on the front stand, or
2. Backwards to sit on the rear stand.

It is envisaged that most operators will prefer to allow the machine to come to rest on the front stand.

To set off, hold the handgrips, place one foot on the rear stand and press down until the hopper becomes level with the ground.

NOTE: the rear stand also acts as a safety stop to prevent the machine from falling on to the operator. The stand has a high ground clearance for mounting kerbs.

Mounting Kerbs

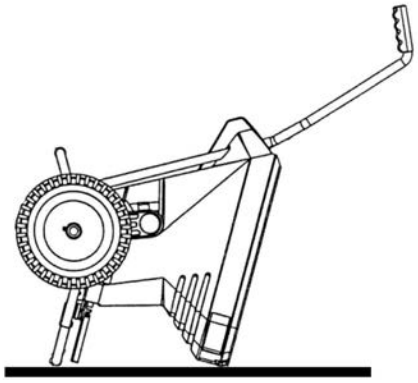
It is recommended that the spreader is pulled backwards when mounting kerbs.

The Use of a Shovel

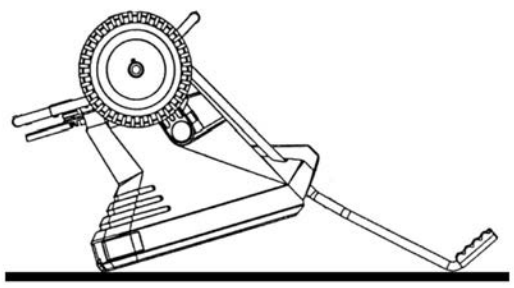
Whilst the spreader is highly manoeuvrable and able to gain access to relatively restricted areas, there are occasions when the operator may prefer to use a shovel.

The Optional Shovel Rest

An optional shovel rest may be fitted at the factory or retrofitted and comes complete with a plastic shovel, the use of which is highly recommended, to avoid unnecessary damage to the machine. When the hopper is full or part full, a shovel may be simply pushed into the grit/salt with its handle resting against the crossbar. When the hopper is empty, a shovel may be carried by placing the blade into the hopper and pushing the handle into the clip.



(Fig. 2) Emptying Position



(Fig. 3) Maintenance Position

4 Maintenance

After-Use Maintenance

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2. General lubrication of all lubrication points.
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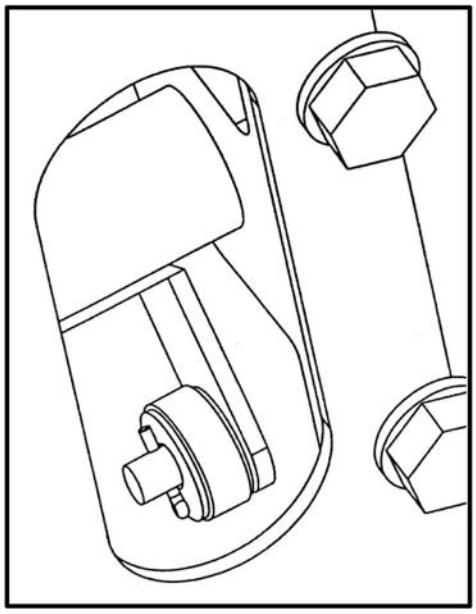


(Fig. 4) Detail of Cam Bearing

Removal and Fitting of Cam Bearings

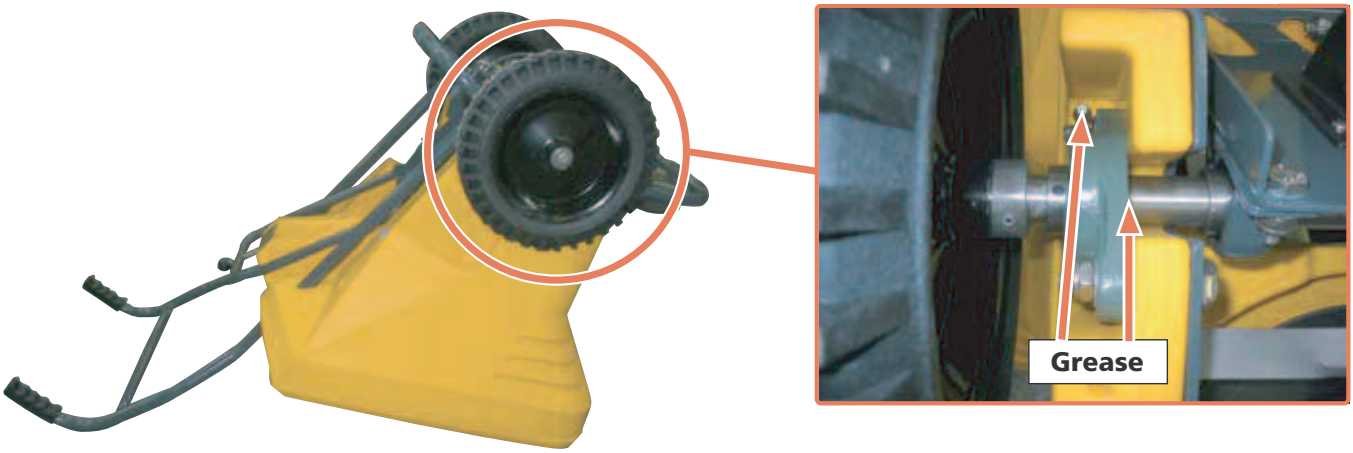
1. Place the machine in the maintenance position - see Fig. 3.
2. The cam bearings should be immediately accessible through the large slots in the adjuster frame - see Fig. 4.
3. Remove the cotter pin by straightening the bent ends and pulling the head with a pair of pliers.
4. Remove the washers and bearing then clean the shaft of the stub.
5. Replace with a new cam bearing, with a washer either side, from spares kit No. 2.
6. Insert the cotter pin and split and bend over the ends with pliers. Repeat for other 2 cam bearings.

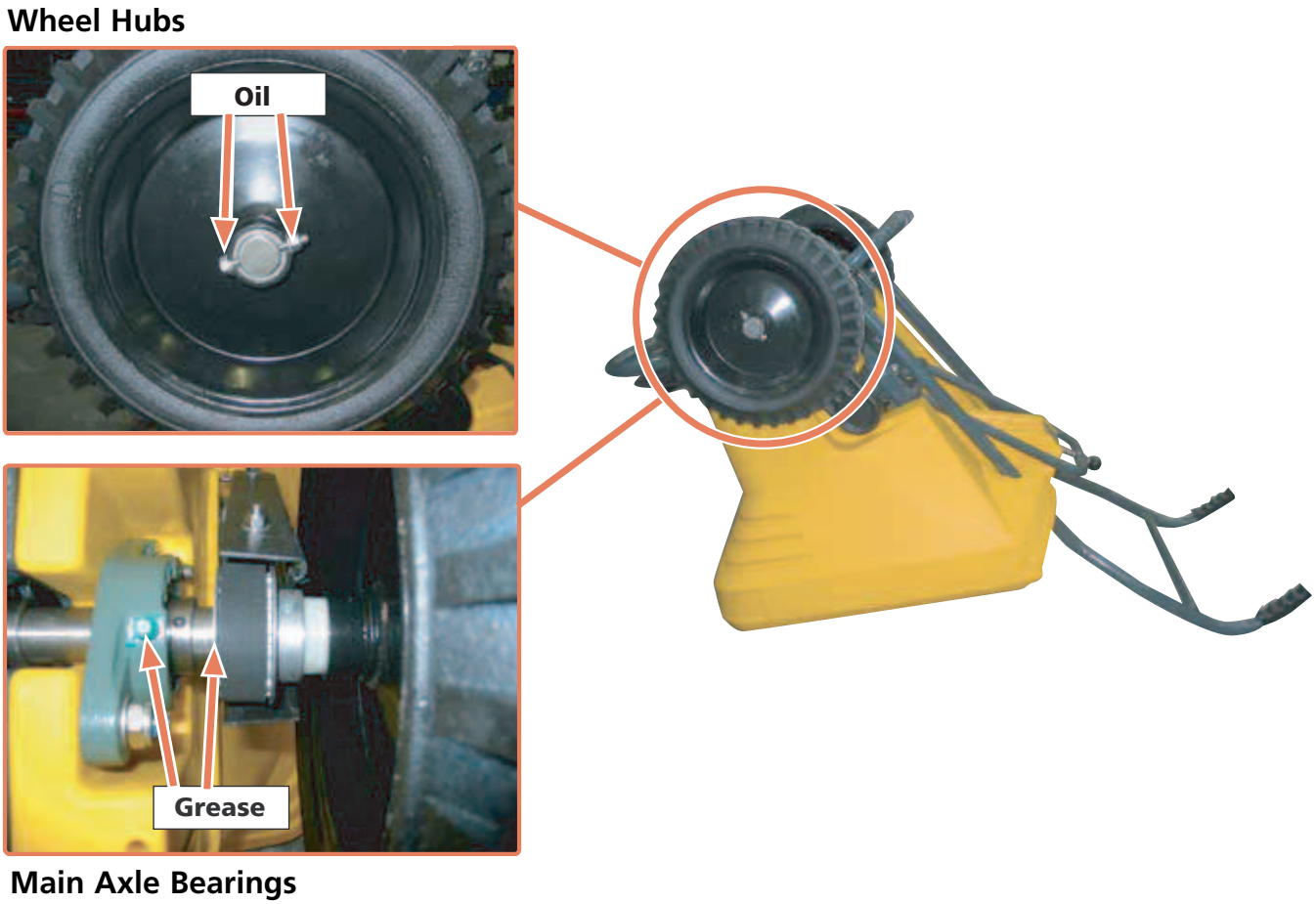
4 Maintenance

Lubrication

All the moving parts shown in the diagram below should be lubricated after every week of operation. A grease gun is required for the 2 main axle bearings. Particular attention should be paid to the lubrication of the cam bearings (top of page 9) and the pulley bearings (middle of page 9). Maintenance spray should be used after gritting operation to dispel any highly corrosive salt from metal parts and, specifically, the bearings shown in the photographs below.

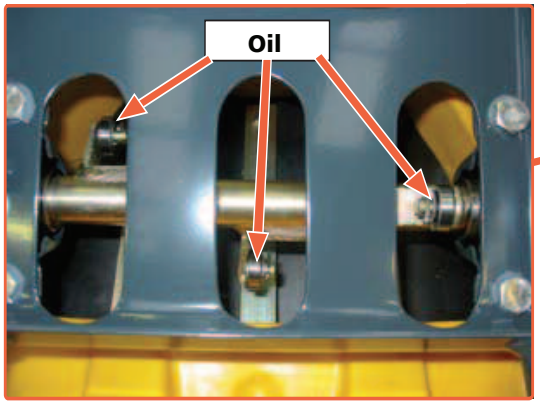
Lubrication Points

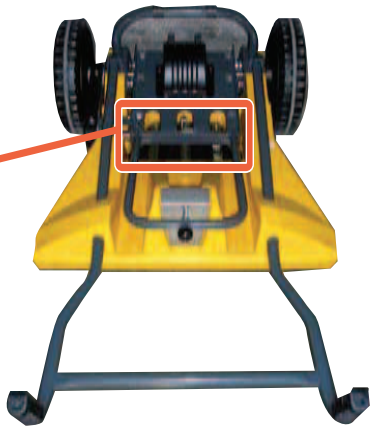




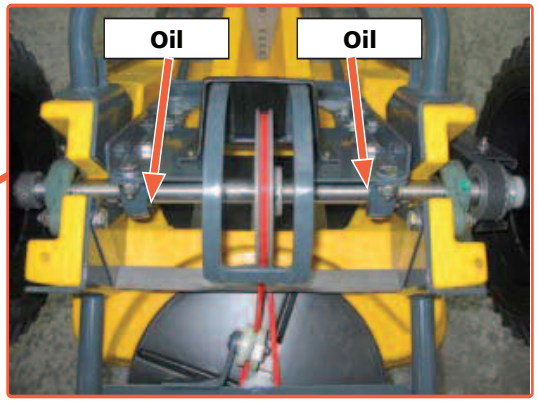
4 Maintenance

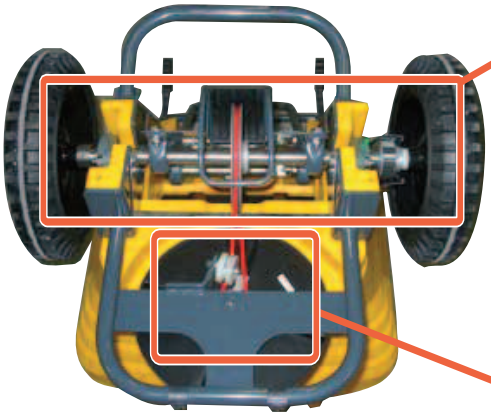
Cam Bearings

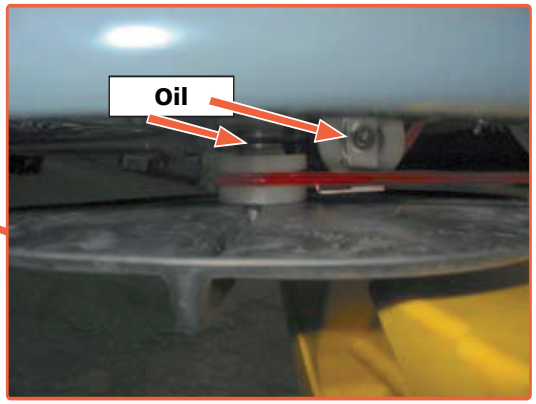




Adjuster Bearings

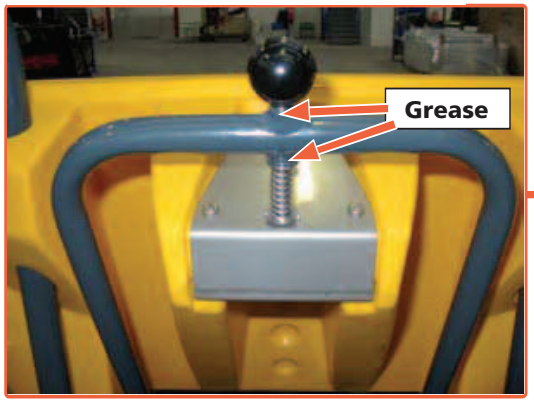






Spinner Pulley Bearings

Adjuster Bar



5 Turbocast 300 Exploded View (Fig. 5)

No.	DESCRIPTION	QTY
1	HOPPER	1
2a	FREE WHEEL	1
2b	DRIVE WHEEL (SLOTTED)	1
3	MAIN AXLE SHAFT	1
4	ADJUSTER FRAME	1
5	HANDLE FRAME	1
6	SPINNER PLATE	1
7	AGITATOR BARS	3
8	AGITATOR SHEET	1
9	TRUNNION FRAME	1
10	PIVOT PLATE FOR AGITATORS BARS	1
11	SELECTOR PLATE	1
12	CLAMP PLATE	1
13	PULLEY PLATE (TRUNNION FRAME)	1
14	MAIN AXLE BEARING	2
15	TOOTHED PULLEY	2
16	CAM AXLE SHAFT	1
17	ADJUSTER BEARING	4
18	'V' PULLEY ø165mm	1
19a	SPINNER PULLEY c/w PILOT HOLES	1
19b	SPINNER PULLEY	1
20	POLYURETHANE BELT	1
21	CONNECTOR FOR POLYURETHANE BELT	1
22	RUBBER HANDLE GRIP	2
23	TIMING BELT	1
24	CAM BEARING	3
25	ADJUSTER BAR	1
26	KNOB FOR ADJUSTER BAR	1
27	PULLEY COVER	1
28	TOOTHED BELT COVER	1
29	TOOTHED BELT COVER BRACKET	1
30	SPINNER PULLEY BEARING	4
31	FREE WHEEL SPACER	1
32	PENNY WASHER S/S	4
33	WASHER M6 S/S	8
34	WASHER M10 S/S	16
35	WASHER M8 S/S	10
36	SCREW SOCKET HEAD M6 x 16 S/S	6
37	SCREW SELF-TAPPING No.8 S/S	8
38	SCREW HEX HEAD M6 x 50 S/S	1
39	SCREW HEX HEAD M8 x 20 S/S	3
40	SCREW HEX HEAD M10 x 25 S/S	8
41	SCREW PAN HEAD M5 x 10 S/S	4
42	WASHER M12 S/S	4
43	SCREW SOCKET HEAD M8 x 25 S/S	7
44	NUT NYLOC M6 S/S	5
45	SCRAPER UNIT	1
46	NUT NYLOC M10 S/S	12
47	SCREW HEX HEAD M10 x 60 S/S	4
48	SPIROL PIN ø6 x 40	3
49	SPIROL PIN ø6 x 50	1
50	SPIROL PIN ø3 x 20	1
51	SPACER M12 x 35	4
52	COMPRESSION SPRING	1
53	COTTER PIN ø2.5 x 16 S/S	3
54	SELECTOR PLATE GRAPHIC	1
55	NAME GRAPHIC	1
56	DATA PLATE	1
57	REFLECTIVE STICKER CLASS 2	2
58	SADDLE FOOT	4
59	RIVET FOR SADDLE FOOT	4
60	WASHER NYLON ø8.05 x ø12.7	2
61	WASHER NYLON ø11.25 x ø19.05	12
62	SPINNER PULLEY SCRAPER	1
63	SPACER FOR TOOTHED PULLEYS	2
64	SPACER NYLON ø26 x ø33 x 4.85	2

6 Drive and Belts

Cam Axle Drive and Belt (Figs. 5 & 8)

The cam axle is driven by a timing (toothed) belt and pulleys mounted at the drive end of the main axle and cam axle.

Cam Axle Drive Belt Specification

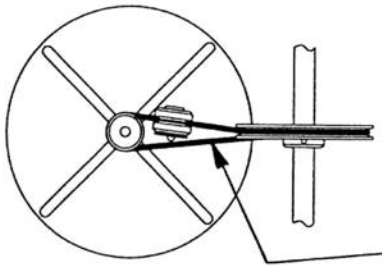
Isoran RPP synchronous timing belt to suit pulley type P18L075, circumference length 610mm x width 19mm (diameter 54mm pulleys at 220mm centres. 64 teeth based on a 3/8" pitch).

Cam Axle Drive Belt Removal (Fig. 8)

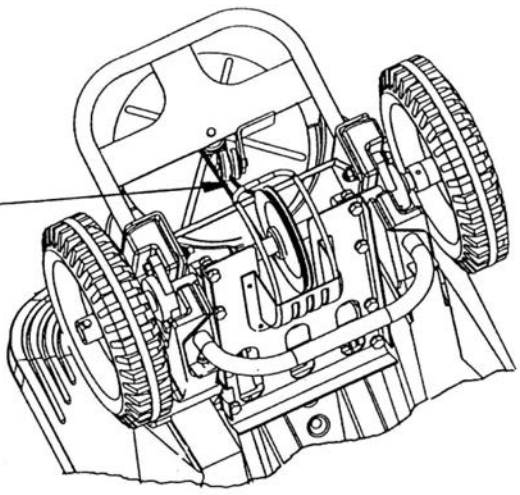
1. Tip the machine forward until it is upside down, for stability and ease of access – See Fig. 3.
2. Remove the drive wheel (by undoing the M6 Nyloc nut and removing the M6 x 50 hex set screw).
3. Remove the timing belt guard by undoing the M6 bolt – see Fig 8.
4. Knock out the spirol pin (Item 48) from the toothed pulleys (Item 15) on both the cam axle and the main axle. Take note of the orientation of the pulleys, then slide both toothed pulleys along with spacers (Item 63) and the timing belt (Item 23) off the axles.

Cam Axle Drive Belt Fitting & Belt Tension (Figs. 5 & 8)

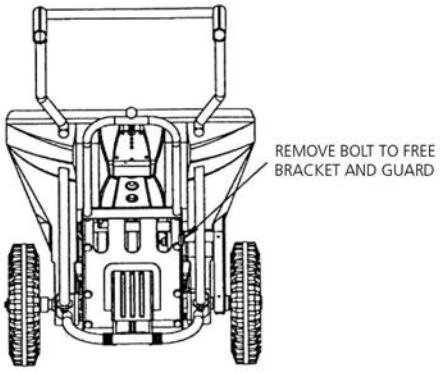
1. Ensure the orientation of the toothed pulleys are as shown (see Exploded View – Fig. 5). Place the new timing belt around the two toothed pulleys.
   Note: take care not to crimp the belt at any time as this may affect the longevity of the component.
2. Insert the spacers (Item 63) into the toothed pulleys and ensure that that fixing holes all line up.
3. Fitting is the reverse of removal detailed above.
4. The distance between the cam axle and the main axle provides the belt tension. This should not have been affected during this re-fitting process.
5. If the tension of the belt needs adjusting, loosen the two bolts securing the adjuster bearing (Item 17, in which the Cam Axle rotates) nearest to the belt. Tension is increased by pulling the cam axle away from the main axle. Hold in place (ideally with another person helping) then tighten up the adjuster bearing bolts.
6. Check the belt is running true and freely and the teeth are seated into the slots in the pulleys.



(Fig. 6) Orientation of Polyurethane Belt



(Fig. 7) Orientation of Polyurethane Belt



(Fig. 8) Removal of cam axle drive belt

6 Drive and Belts

The cam axle and the spinner plate are driven via pulleys and belts by the main axle. See Figs. 6-8.

Spinner Drive and Belt (Figs. 6 & 7)

The spinner plate is belt driven by a 45mm diameter pulley (to which it is directly attached) from the large 160mm diameter Z section pulley mounted in the middle of the main axle. A second 45mm diameter pulley acts as a guide.

Spinner Drive Belt Specification

The belt is a Polyurethane round hollow section, joined with a toothed fastener, similar in principle to an emergency fan belt. Diameter 6.35mm (1/4") x length 770 (BLT 'Quik-Go 85A').

Spinner Drive Belt Tension

The flexible hollow section permits the belt to sit deeper in the pulley, giving improved drive through a greater range of tension. If the belt does not drive the spinner plate, i.e. if the belt is slipping (assuming the main axle and the pulleys are freely running and the drive wheel is secure) then the Polyurethane belt may be shortened by cutting the belt close to the metal connector, removing the short stub of belt remaining on the connector (by slitting along its length) and re-inserting the connector into the open end of the belt. The optimum belt length is 770mm.

Under no circumstances attempt to increase belt tension by making an extra twist in the belt, as this not only reverses the drive, which would adversely affect the spreading, but grossly increases belt friction to an unacceptable level.

Spinner Drive Belt Removal (Figs. 6 & 7)

The belt is easily removed by one of two methods. In either case tip the machine forward until it is upside down, for stability and ease of access - see Fig. 3. Note the orientation of the belt before proceeding.

1. If the belt is to be shortened (if the spinner plate does not rotate, particularly when spreading), cut the belt next to the fastener and remove.

2. If the belt is to be saved at the existing size for refitment (when making other maintenance work):
   a) Holding the belt either side of the connector, twist and fold in half (like "wringing a neck").
   b) Remove the belt.

Spinner Drive Belt Fitting (Figs. 6 & 7)

1. Tip the machine forward until it is upside down, for stability and ease of access – see Fig. 3.
2. Insert the connector into one end of the belt. This will be easier if the belt is warmed by placing the end into warm water. Do not use any type of flame.
3. Feed the belt around the spinner plate pulley, underneath the guide pulley, over then under the main axle.
4. Join the belt by inserting the connector firmly into the remaining open end.
5. Roll the belt under the large pulley.
6. Turn the drive wheel to roll the belt into the groove and ensure that the belt is seated in the pulley.
7. Check the orientation of the belt with the illustration (Fig. 6 & 7).
8. Return the machine to its operating position and push forwards and check that the spinner plate is rotating anti-clockwise when viewed from the front.

6 Drive and Belts

Fitting/Resizing the Spinner Drive Belt

The spinner drive belt acts as a failsafe and helps to prevent other main components on the machine becoming damaged. If you are experiencing problems with the belt failing please ensure all pulleys are moving freely and are well lubricated.

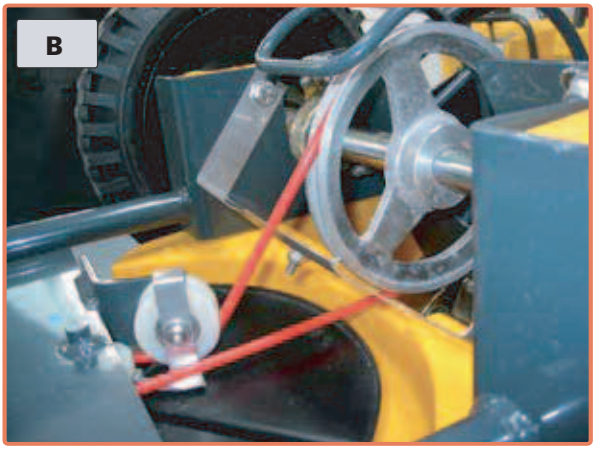
Resizing

If the belt does not drive the spinner plate, i.e. the belt is slipping, it can be resized by cutting 15mm off the belt at the end with no connector.

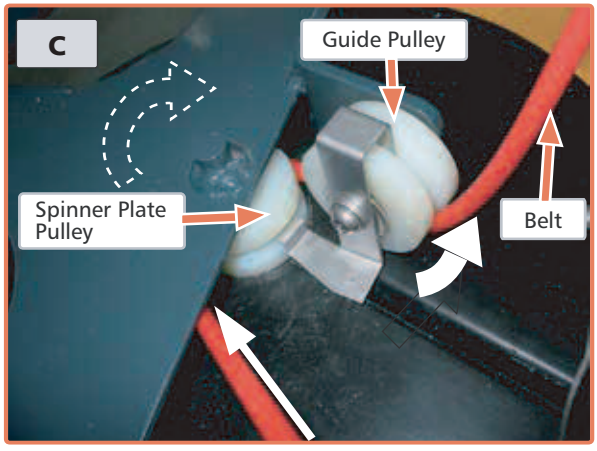
Belt Preparation

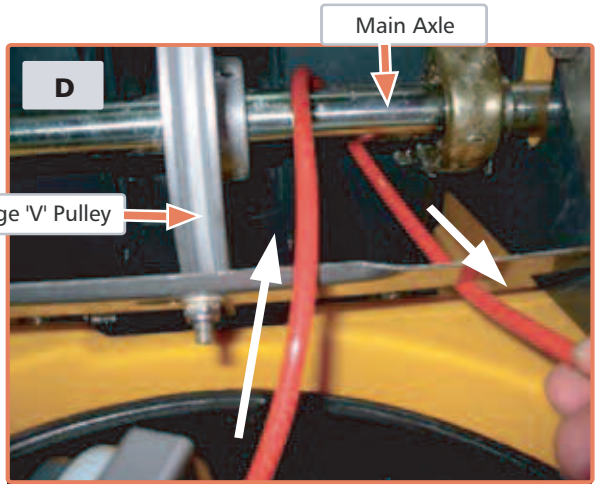
Immerse the belt in warm water for approximately 5 minutes to ease assembly. Do not use any type of flame.

Turn your Turbocast 300 upside down on to its maintenance position to allow access to the pulleys (A).



The belt will be positioned as shown (B).

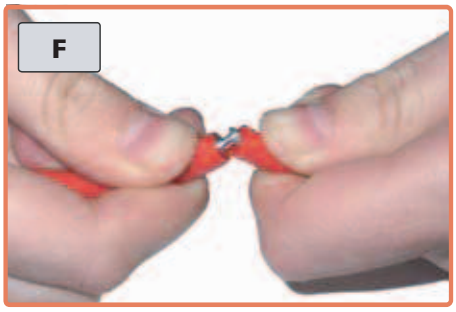




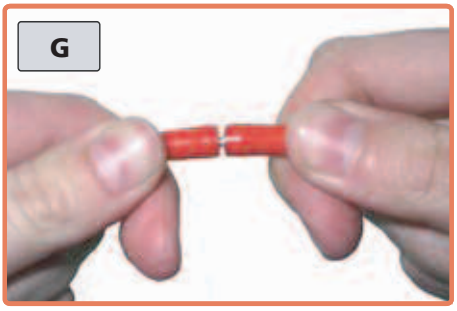
This is done by feeding the belt around the spinner plate pulley, underneath the guide pulley, over then under the main axle - not around the large pulley (C & D).

6 Drive and Belts

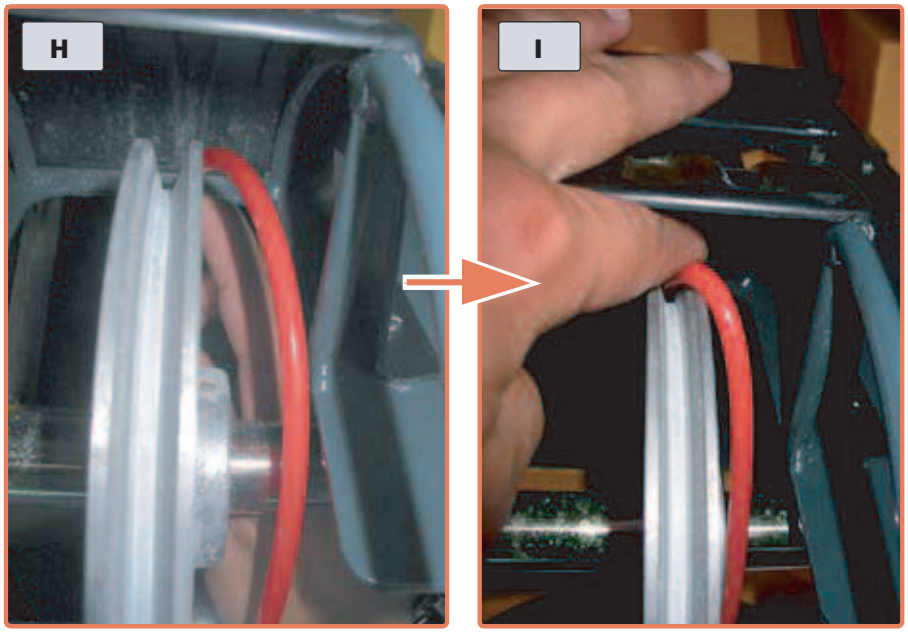
Position the metal connector at a right angle to the hole at the end of the belt.



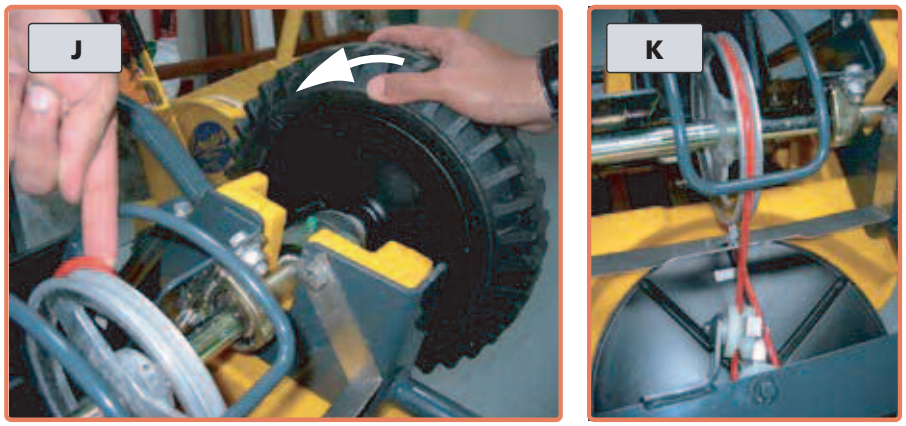
Whilst applying firm pressure rotate the metal connector into the hole.



Once inserted firmly, push both ends together.



Roll the belt under the large 'V' pulley and hold near the top (H & I).



While holding the belt turn the drive wheel to roll the belt into the groove. Ensure that the belt is seated in the pulley (J & K).
Check the orientation of the belt with B & C.

7 Spares Kits

Kit No.	Item No.	Quantity and Description (See exploded drawing on pages 10-11 for item number reference)	Stock No.
1	Item 16 Item 17 Item 24 Item 35 Item 53 Item 15 Item 63 Item 23 Item 48 Item 40 Item 46 Item 34 Item 61	**Cam Axle Shaft Kit** consisting of: 1 x Cam Axle Shaft 2 x Adjuster Pillar Bearing 3 x Cam Bearing 6 x M8 Plain Washer 3 x Cotter Pin (Ø2.5 x 16) 1 x Toothed Pulley 1 x Spacer for Toothed Pulley 1 x Timing Belt 2 x Spirol Pin (M6 x 40) 4 x Hex HD Screw (M10 x 25) 4 x M10 Nyloc Nut S.S. 4 x M10 Plain Washer S.S. 4 x Washer Nylon	023/1002
2	Item 24 Item 35 Item 53	**Cam Bearing Kit** consisting of: 3 x Cam Bearing 6 x M8 Plain Washer S.S. 3 x Cotter Pin (Ø2.5 x 16) Specification RHP: Basic Bearing Unit 608 – 2RS ID 8mm, OD 22mm, Thickness 7mm.	023/1003
3	Item 17 Item 40 Item 46 Item 34 Item 61 Item 48	**Adjuster Pillar Bearing Kit** consisting of: 4 x Adjuster Pillar Bearing 8 x Hex HD Screw S.S. (M10 x 25) 8 x M10 Nyloc Nut S.S. 8 x M10 Plain Washer S.S. 8 x Washer Nylon 3 x Spirol Pin (M6 x 40)	023/1004
4	Item 2a Item 32 Item 39 Item 44 Item 2b Item 38 Item 33 Item 64	**Wheel Kit** (of two) consisting of: Free wheel 1 x Penny Washer SS 1 x Hex Set Screw S.S. (M8 x 20) 1 x M6 Nyloc Nut S.S. Drive wheel (Slotted) 1 x Hex HD Bolt S.S. (M6 x 50) 2 x M6 Washer S.S. 2 x Spacer Nylon (Ø26 x Ø33 x 4.85)	023/1005
5	Item 15 Item 64 Item 23 Item 48	**Timing Kit** (Pair of Pulleys) consisting of: 2 x Toothed Pulley 2 x Spacer for Toothed Pulley 1 x Timing Belt 2 x M6 x 10 Spirol Pin	023/1006
6	Item 03 Item 14 Item 17 Item 34 Item 46 Item 61 Item 40 Item 15 Item 18 Item 51 Item 20 Item 63 Item 31 Item 32 Item 48 Item 49 Item 38 Item 44 Item 33 Item 39 Item 47 Item 21 Item 23 Item 64	**Main Axle Kit** consisting of: 1 x Main Axle 2 x Main Axle Bearing 2 x Adjuster Pillar Bearing 12 x M10 Plain Washer S.S. 8 x M10 Nyloc Nut S.S. 8 x Washer Nylon 4 x Hex HD Screw S.S. (M10 x 25) 1 x Toothed Pulley 1 x V Pulley Ø165 4 x Spirol Spacer (Ø12 x 35) 1 x Polyurethane Belt 1 x Spacer for Toothed Pulley 1 x Freewheel Spacer 1 x Penny Washer 2 x Spirol Pin (M6 x 40) 1 x Spirol Pin (M6 x 50) 1 x Hex HD Bolt (M6 x 50) 1 x M6 Nyloc Nut 2 x M6 Washers S.S. 1 x Hex Set Screw (M8 x 20) 4 x Hex HD Bolt (M10 x 60) 1 x Belt Connector 1 x Timing Belt 2 x Spacer Nylon (Ø26 x Ø33 x 4.85) *Items not available:* *Item 01 Hopper* *Item 04 Adjuster Frame* *Item 05 Main Handle* *Item 09 Trunnion Frame* *Item 11 Adjuster Plate with Item 56 Data Plate (screws are thread-locked in)*	023/1007

7 Spares Kits

Kit No.	Item No.	Quantity and Description (See exploded drawing on pages 10-11 for item number reference)	Stock No.
7	Item 14 Item 47 Item 46 Item 34 Item 61 Item 51	**Main Axle Bearing Kit** (of 2) consisting of: 2 x Main Axle Bearing 4 x Hex HD Bolt S.S. (M10 x 60) 4 x M10 Nyloc Nut S.S. 4 x M10 Plain Washer 4 x Washer Nylon 4 x Spirol Spacer (Ø12 x 35)	023/1008
8	Item 20 Item 23 Item 21	**Drive Belt Kit** consisting of: 3 x Polyurethane Belt 1 x Timing Belt x Belt Connector	023/1009
9	Item 06 Item 28 Item 33 Item 27 Item 37 Item 36	**Spinner Plate (and Guard) Kit** consisting of: 1 x Spinner Plate 1 x Tooth Belt Cover 1 x M6 Washers S.S. 1 x V Pulley Guard 8 x Self Tap Screw No. 8 1 x Socket Set Screw (M6 x 16)	023/1010
10	Item 19a Item 19b Item 30 Item 33 Item 42 Item 36 Item 20 Item 21 Item 37	**Spinner Pulley Drive Kit** consisting of: 1 x Spinner Pulley Ø45 with holes 1 x Spinner Pulley Ø45 4 x Pulley Bearing 2 x M6 Washer S.S. 4 x M12 Washer S.S. 2 x Socket Set Screw (M6 x 16) 1 x Polyurethane Belt 1 x Belt Connector 2 x Self Tap Screw No. 8	023/1011
11	Item 25 Item 26 Item 52 Item 50 Item 35 Item 22	**Selector Mechanism Kit** consisting of: 1 x Adjuster Bar 1 x Adjuster Knob 1 x Compression Spring 1 x Spirol Pin (Ø3 x 20) 2 x M8 Plain Washer S.S. 2 x Rubber Handle Grip	023/1012
13	Item 08 Item 43 Item 36 Item 32 Item 33 Item 44	**Rubber Agitator Sheet Kit** consisting of: Rubber Agitator Sheet 4 x Socket Set Screw S.S. (M8 x 25) 3 x Socket Set Screw S.S. (M6 x 16) 3 x Penny Washer S.S. 3 x M6 Washer S.S. 3 x M6 Nyloc Nut S.S.	023/1014
14	Item 07 Item 10 Item 12 Item 08 Item 43 Item 36 Item 32 Item 33 Item 44	**Agitator Kit** consisting of: 3 x Agitator Bar 1 x Pivot Plate 1 x Clamp Plate S.S. 1 x Rubber Agitator Sheet 7 x Socket Set Screw S.S. (M6 x 25) 3 x Socket Set Screw S.S. (M6 x 16) 3 x Penny Washer S.S. 3 x M6 Washers S.S. 3 x M6 Nyloc Nut S.S.	023/1015
15	Item 54 Item 55 Item 57 Item 58 Item 59 Item 22	**Label Kit** consisting of: 1 x Selector Plate label 1 x Front label 2 x Reflective Sticker 4 x Plastic Buffer 4 x Rivets for Plastic Buffer 2 x Rubber Handle Grips	023/1016
16	Item 45 Item 36 Item 33 Item 44 Item 00	**Scraper Kit** consisting of: 1 x Scraper unit 1 x M6 x 16 Socket Set Screw 1 x M6 Washers S.S. 1 x M6 Nyloc Nut S.S. 1 x 4mm Hex Allen Key (71 x 29mm)	023/1019

8 Technical Specifications

Capacity & Weights

Capacity	52 litres (1.8 cubic ft)	
Unladen Weight	43 kg (94.6 lbs)	
Payload of		
Damp Brown Rock Salt	66 kg (145 lbs)	@ Specific Gravity of 1.272
(Holds approximately 2.5 x 25kg bags of rock salt)		
Laden Weight	109 kg (240 lbs)	Will vary with different materials.

Safety Note

Ensure that at least two people are available to lift a Turbocast 300 in or out of a vehicle.

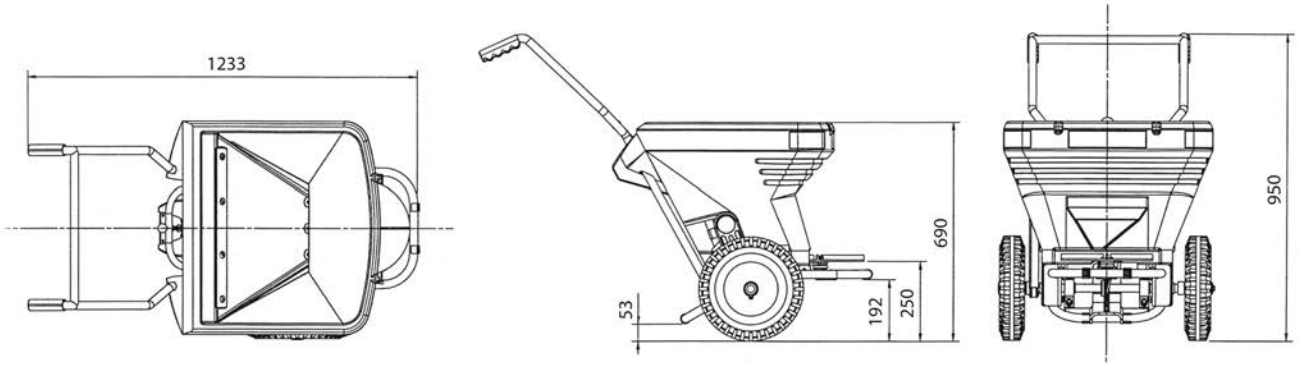
Wheels

IMPORTANT: The tyres and machine have been designed to function at walking pace (Maximum 6.5 kph (4mph) with a maximum load of 300 kg per wheel/rim.

Materials

Hopper	Durapol, (Medium Density Polyethylene), Yellow only.
Frame	Mild Steel, Interzinc 72 – polyester powder coated, Grey.
Spinner plate and Guards	Polypropylene, Black.
Tyres	Cushion rubber, diameter 330mm (13"), Black.
Wheel Rims	Steel, coated Black.
Wheel Hubs	Nominal 25mm bore with Sintered Iron Bearing.

Overall Dimensions



Approximate Spread Rates

Figures are based on an average spread width of 5m (medium walking pace) with the machine filled level to the top of the hopper. Figures are for guidance only and will vary due to the hygroscopic nature of gritting materials.

DENSITY	MATERIAL & APPLICATION	RATE	DISTANCE		AREA	NO. OF SOCCER PITCHES	TIME
(kg/ltr) Payload		gms/m^2	Metres	Yards	m^2		Minutes
	Damp Brown Rock Salt						
1.272	1	-	-	-	-	-	-
66 kg	2	13	1,015	1,110	5,077	0.7	14
	3	25	528	577	2,640	0.36	7
	4	48	275	302	1,375	0.19	4
	Damp White Rock Salt						
1.208	1	3	4,200	4,593	21,000	2.88	56
63 kg	2	10	1,260	1,378	6,300	0.86	17
	3	27	467	510	2,333	0.32	9
	4	44	286	313	1,432	0.2	4
	Guidelines*						
1.272	1. Precautionary (Frost)	10	1,320	1,443	6,600	0.9	18
66 kg	2. Remedial (Snow)	20	660	722	3,300	0.45	9
	3. Remedial (Ice)	40	330	361	1,650	0.23	5

* The Trunk Road Maintenance Manual, Volume 2, Chapter 3 (using damp brown rock salt).
Any snow or ice more than 30mm thick must be cleared before gritting can have any effect.

9 Handle Assembly

Step 1
Undo the screws and washers from the bottom of the handles.

Slide the handle ends through the holes in the hopper (Fig. 9) and push firmly down until they hit the fixing lugs at the bottom of the hopper (Fig. 10).

Step 2
Gently tilt the hopper on to its front so you can access the underside of the handles (Fig. 11).

Step 3
Pull the handles inline with the holes on the fixing lugs and insert the screw and washer into the handles and tighten until finger tight (Fig. 12).

To finish, using a 13mm spanner, firmly tighten the screw into the handle until secure. Return the hopper to the upright position to check they are properly tightened.

Fig. 9

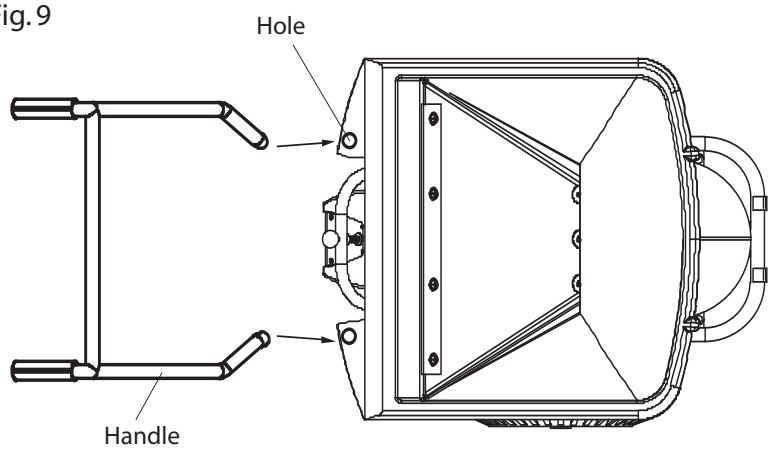


Fig. 10

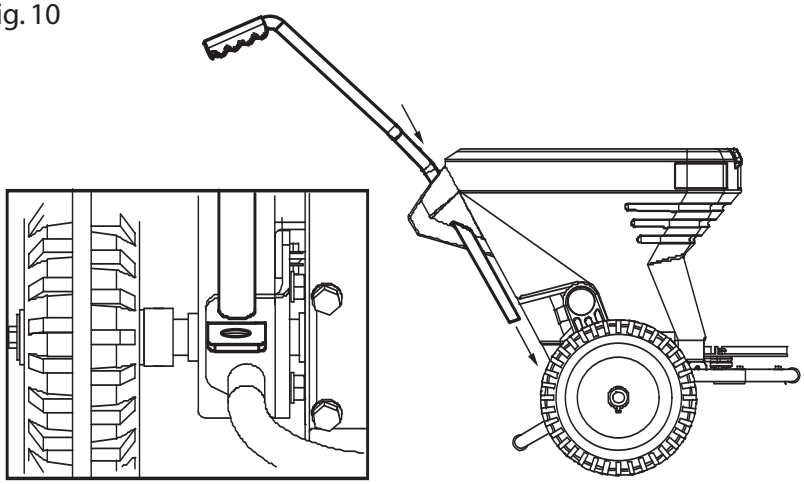


Fig. 11

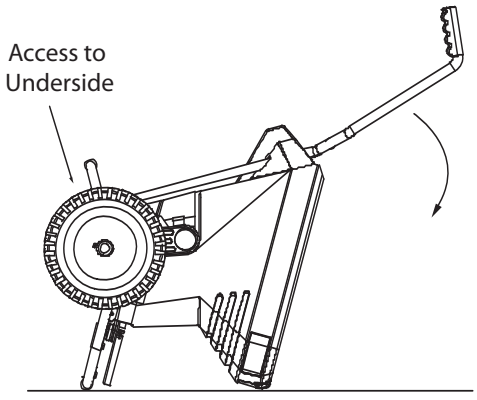
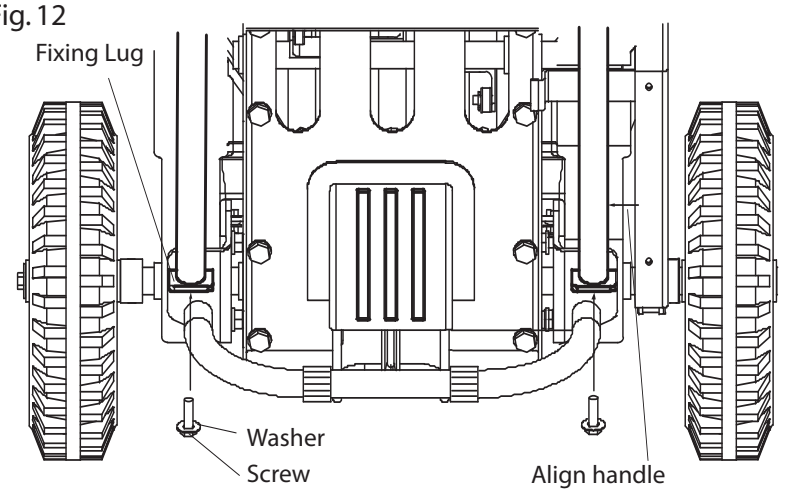


Fig. 12



- 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.

Patents for the Glasdon Minimax™ Mechanism

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In accordance with our policy of continuous development and improvement, we reserve the right to make changes in design and specification without notice.

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