

## OPERATING INSTRUCTIONS



CRUISER 80



CRUISER 150



**Glasdon®**

**Glasdon U.K. Limited**

Preston New Road  
BLACKPOOL  
Lancashire  
FY4 4UL

Tel: (01253) 600410  
Fax: (01253) 792558  
e-mail: sales@glasdon-uk.co.uk  
www.glasdon.com

Issue 3 - SEPTEMBER 1995  
Stock No - 000053

# OPERATING INSTRUCTIONS FOR THE GLASDON CRUISER SALT AND GRIT SPREADERS

CONTENTS	PAGE
Photographs.....	Front Cover i
Contents.....	ii
Speed Restraints.....	1
Towing : The Legal Requirements.....	1
Patents.....	1
General Description.....	1
The Spreading Mechanism and Adjustment.....	2
Adjustment of the Cam Shaft and Spread Regulator Shaft. (incl Fig.2).....	2 & 4
How It Works (Fig. 1).....	3
Adjustment of the Flap (incl Fig. 3).....	4
Emptying the Hopper.....	5
Travelling position of the Spreader.....	5
The mounting attachments and hitches.....	5
Support Leg.....	5
Drive.....	5
Exploded View of Cruiser 80 and parts list (Fig. 4).....	6 & 7
Exploded View of Cruiser 150 and parts list (Fig. 5).....	8 & 9
Wheels and Tyres.....	10
Mudguards.....	10
Lights.....	10
Schematic Wiring Diagram (Fig. 6).....	10
Before Use Check List.....	11
Lubrication (Fig. 7).....	11
Maintenance.....	11
Removal & Fitting of Belt.....	12 & 13
Summer Storage Position (Fig. 8).....	13
Ordering Spares.....	13
Wheel Removal.....	14, 15 & 16
Spares for Cruiser.....	17
Spares for Cruiser.....	18
Overall Dimensions.....	19
Specifications.....	20

## SPEED RESTRAINTS

The tyres and machine are designed to operate at speeds up to 32 km/h (20 mph) with full pay load.

## TOWING : THE LEGAL REQUIREMENTS ON THE PUBLIC HIGHWAY

**Towing Vehicle Weight :** No vehicle may tow an unbraked trailer unless the towing vehicle is at least TWICE the weight of the trailer and its load.

CRUISER 80 : LADEN WEIGHT = 325Kg. Minimum weight of tow vehicle = 650Kg

CRUISER 150 :LADEN WEIGHT = 1,000Kg. Minimum weight of tow vehicle = 2,000Kg

**Lights** are not a legal requirement when towing the gritters on non-public highway sites but are recommended for extra safety.

Fully legal light boards are available for both the Cruiser 80 and Cruiser 150 as an optional extra.

The C80 is only required to display two reflective triangles, two rear position and two number plate lights, provided the indicator and stop lights of the towing vehicle remain visible from behind. However, it is recommended that a full set of lights are used, including indicators and brake lights as provided in the Glasdon lighting kit. A fog lamp is required on machines over 1.3m wide and two front position lamps if over 1.6m wide. These will be fitted on the latest mark of Cruiser 150 (C150) but not on the C80. Front reflectors (white) will be supplied with C80 lighting kit.

**Brakes :** Gritting trailers may be unbraked up to a maximum gross weight 2000 kg (see towing vehicle weight above).

A parking brake or efficient restraining device is required if a detached trailer is to be left on the public highway; a pair of chocks will suffice provided they are attached to the machine and have a suitable storage place. When the gritter is attached, the parking brake of the towing vehicle must be capable of holding the fully laden combination on a hill of at least 16%.

**Breakaway or safety cable :** As there are no service brakes, a safety cable has been fitted, so that in the unlikely event of an accidental de-coupling, the tow bar is restrained from hitting the floor.

**Mudguards :** Must be fitted to trailers on the public highway to catch mud and water thrown up by the wheels, unless adequate protection is afforded by the trailer body.

## PATENTS : FOR THE GLASDON MINIMAX™ MECHANISM

Are held in the following countries:- Austria NR 370160; Belgium 871130; Canada 1121839; Czechoslovakia 219869; Denmark 143292 and 141175; East Germany 139612; France 7828993; Hungary PF3601369; Italy 1099357; Norway 152662; Sweden 78099181; Switzerland P6335998; UK GB 2005973B; USA 4387855; West Germany P2843412-0.

## GENERAL DESCRIPTION

The Cruiser towable spreader is available in two sizes the C80 and C150 with different widths of spread and hopper capacities, but which operate in the same way. The rate of spread can be adjusted between 0 and 300 gms/M sq and once set the spread remains virtually constant **IRRESPECTIVE OF THE TOWING SPEED**. A wide range of materials such as sand, gravel, grit, salt, calcium chloride and others, including mixtures can be used. A large variance in particle size and moisture content will be tolerated.

**MINI TRACTOR :** The C80 can be coupled to this using its 3 point hitch.

## THE SPREADING MECHANISM (See Fig. 1)

When towed one wheel (1) drives a shaft (2) with helically mounted cams (3) which act on the pivot springs (4) to produce a ripple motion within the rubber plate (5) forming one wall of the hopper. This causes the salt or grit to fall to the hopper bottom and be lifted into the dispensing trough created by the flap (6) where rotating rubber paddles push the material over the edge of the flap (6) from which it falls by gravity to the ground.

The paddles (8) are mounted on the paddle shaft (7) at 90 deg to one another, resulting in the characteristic diagonal pattern of spreading at speeds of up to 32 km/h (20 mph). The paddle shaft (7) runs in self aligning bearings and is driven by a link belt and pulley wheels from the cam shaft (2). The paddles are flexible to allow stones and hard objects to pass through without jamming.

The spreading rate can be adjusted by moving the spreading adjustment lever (10) through one of 10 positions. The lever (10) rotates the spreading adjustment shaft (9) which raises or lowers the pivot springs (4) underneath the rubber plate (5) thus changing the amount of spring movement and consequently the quantity of material lifted above the flap (6).

## SPREADING ADJUSTMENT

- 1 Stand by the machine at the offside front corner.
- 2 Place one hand on the adjustment handle and move it sideways to ease the tension on the engagement peg. Keep a firm hold.
- 3 Lift the spring loaded engagement peg with your free hand, until the pin is clear of the notch, then turn it through half a revolution. The engagement peg is disengaged and both hands are free to operate the adjustment handle.  
**CAUTION :** The adjustment handle acts on pivot springs, thus the handle can move with force, if unrestrained, when the engagement peg disengaged. The force at the handle when unrestrained is dependent upon the amount of salt/grit in the hopper and its condition eg. moisture level.
- 4 Move the handle to select the appropriate spread rate:-
  - i For maximum spread push the handle towards the rear of the machine (approx 300gms/m dependent on gritting material).
  - ii For travelling from site to site but **NOT** gritting, select the off spread position by pulling the handle towards the front of the towing vehicle (this lifts the springs off the cams and requires a strong pull).
  - iii There are a further 9 positions of spread. At first we suggest selecting a middle position, increasing or decreasing as required.
- 5 Turn the engagement peg so that it re-enters the notch. Press firmly down whilst rotating it from side to side until the peg is securely located in the selected hole.

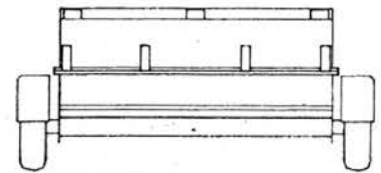
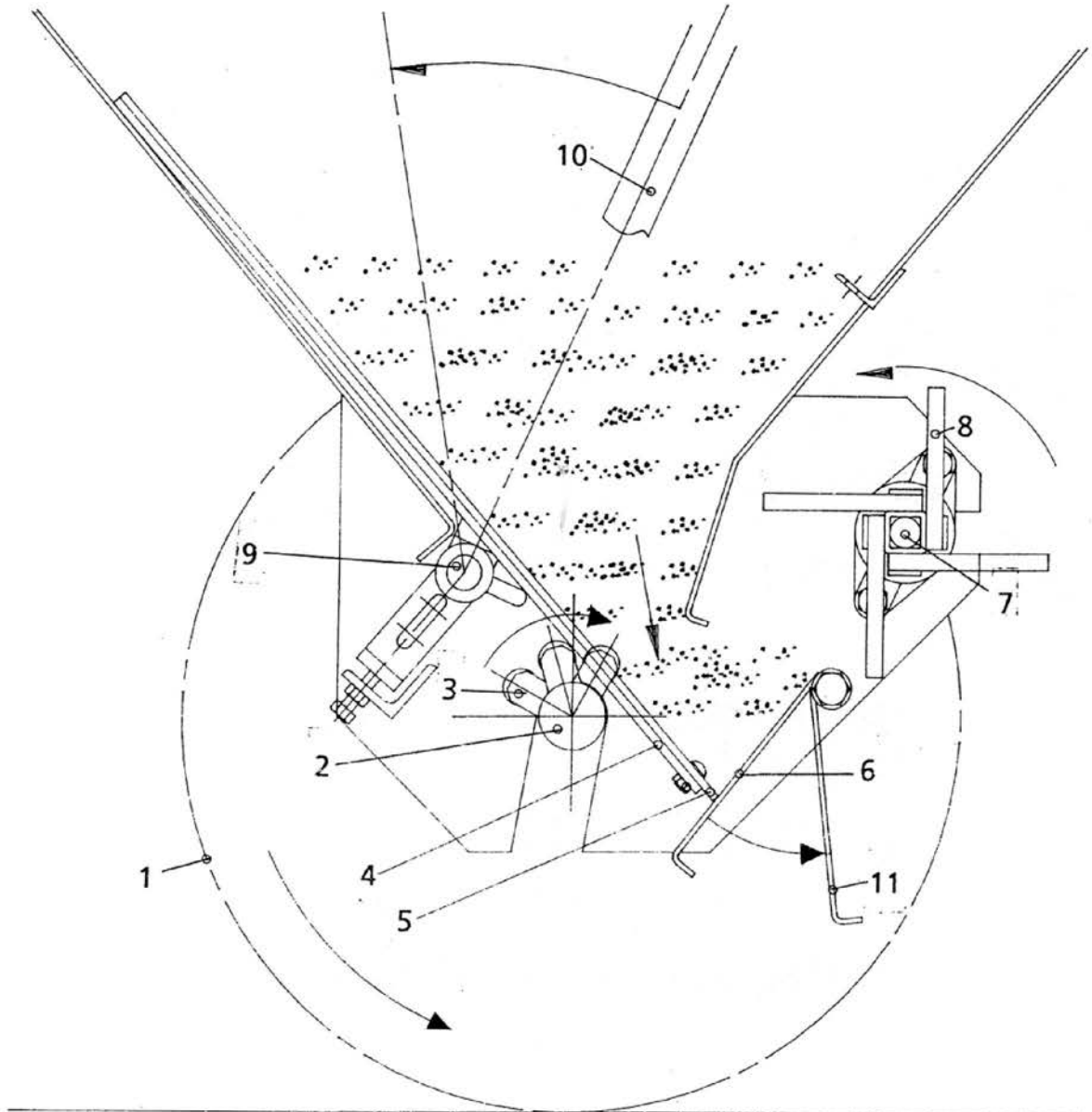
## ADJUSTMENT OF THE CAM SHAFT AXLE AND SPREADING REGULATOR SHAFT

Check at seasonal maintenance, or if spread becomes uneven.

It is of great importance that the cam shaft and the spread regulator shaft are parallel otherwise the amount of material spread will vary from side to side. The cam shaft (1) cannot be adjusted, consequently if adjustment is required this has to be done on the spread regulator shaft (2) by means of the adjuster bracket (3) (refer to Fig. 2). The C80 has one adjuster bracket, the C150 has two (see item 3, Fig 2)

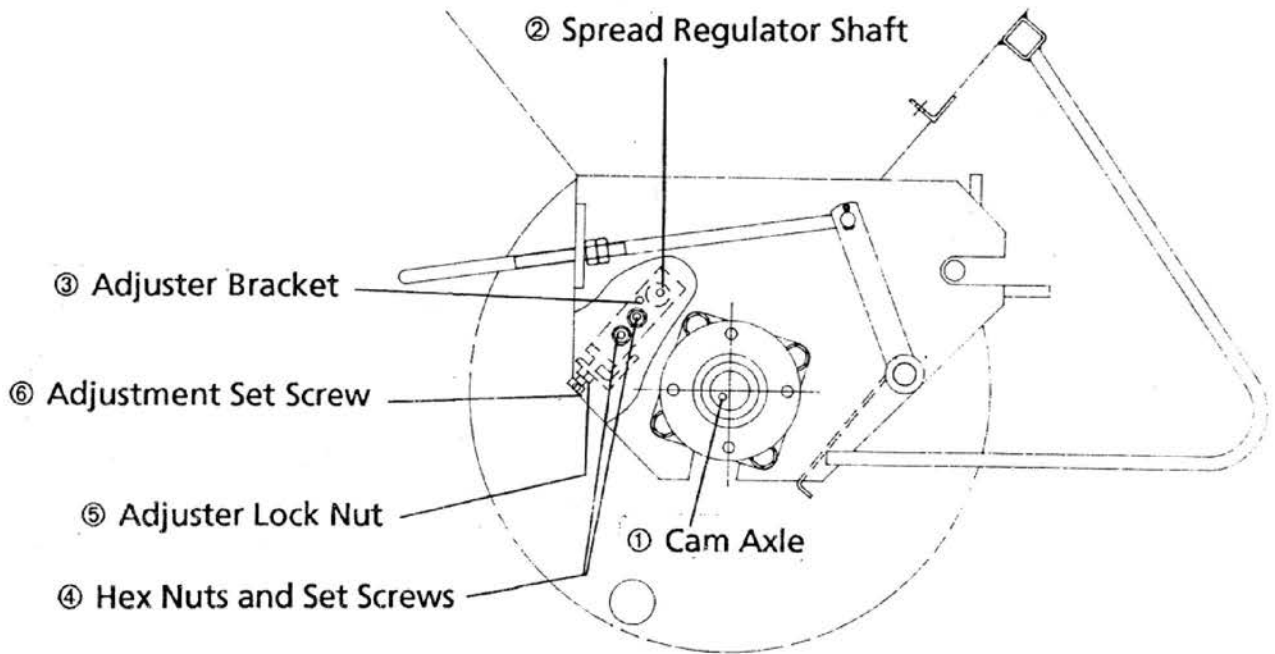
**NOTE. :** It is easier to stand the whole machine on its rear end before commencing adjustment. Slacken the four hexagonal nuts (4) and (5) just enough to allow the Regulator Shaft (2) to be moved by the adjustment bolt (6) when the Shafts are parallel re-tighten the hex nuts (4) and (5) and re-check alignment.

FIG. 1. SPREADING MECHANISM - HOW IT WORKS



- 1 Drive Wheel
- 2 Cam Shaft Axle
- 3 Cam
- 4 Pivot Springs
- 5 Rubber Plate
- 6 Flap (Close)
- 7 Paddle Shaft
- 8 Rubber Paddles
- 9 Spread Regulator Shaft
- 10 Spread Regulator Lever
- 11 Flap 6 open : For ease of emptying the cleaning hopper

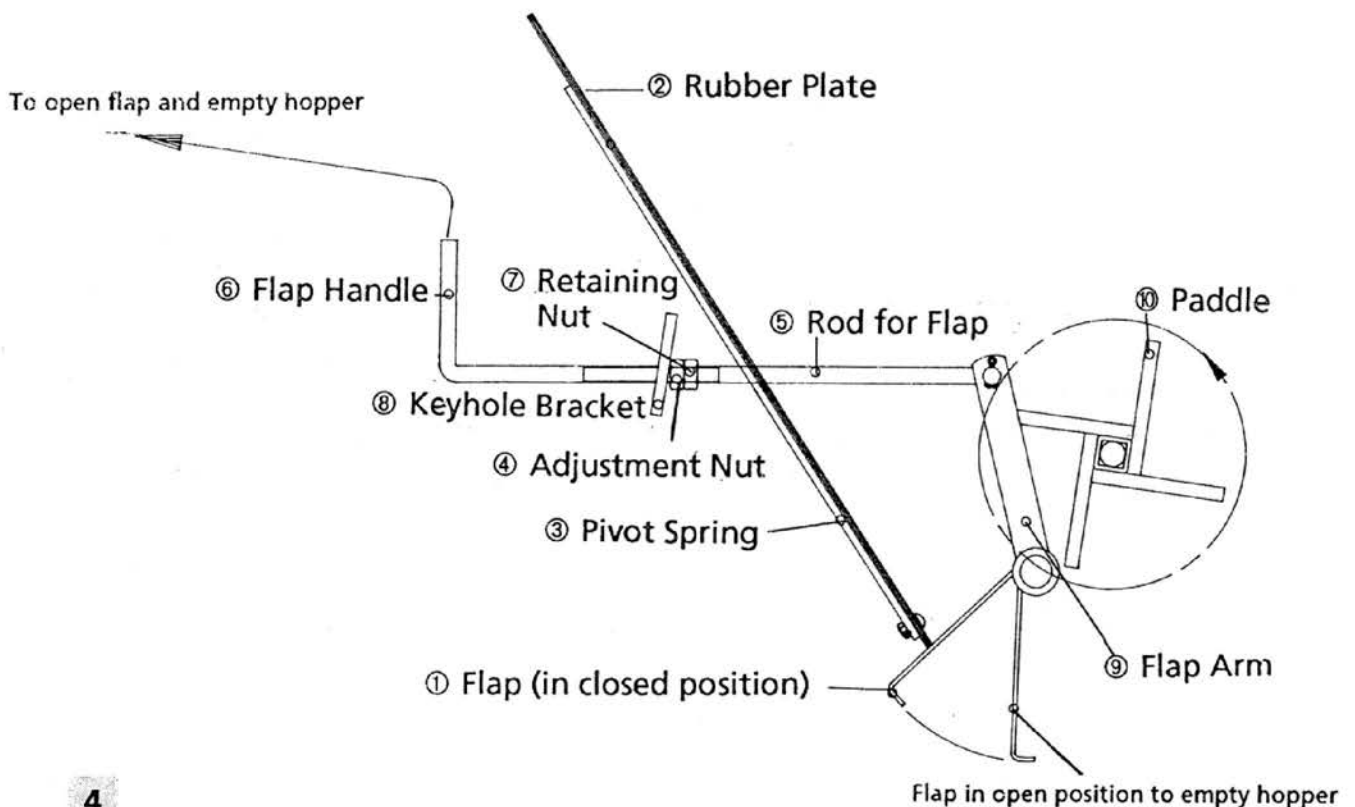
FIG. 2. ALIGNMENT OF THE SPREAD REGULATOR SHAFT AND CAM AXLE



### ADJUSTMENT OF THE FLAP

In order to avoid unnecessary waste of material the flap (1) must be pressed sufficiently up against the rubber plate (2) which is longer than the pivot springs (3). This should be checked every time before use as a stone or foreign object could become wedged causing material loss. Adjustment is made by turning the adjustment nut (4) on the locking rod (5) towards the keyhole bracket (6). The lock nuts (7) can be tightened by hand against the keyhole bracket to improve security whilst towing.

FIG.3. SCHEMATIC DRAWING SHOWING FLAP CONTROLS AND ADJUSTMENT



## EMPTYING THE HOPPER

Standing at the tow bar of the unit, lift the flap handle (round bar located between the hopper and wheel on the right hand side) free of the keyhole and pull towards you. The Flap is now opened, ie., it is pointing downwards. See Fig. 3.

**NOTE:** Always close the flap when towing by pushing the handle forwards and engaging the nuts in the keyhole. An open flap could cause excessive wear to the paddles.

When the spreader is empty the spread regulator lever should always be set in the off position (push flat lever forwards) to avoid excessive wear of the pivot springs, cams and flap.

Do not forget to empty the hopper each time after use as any material left in the hopper may freeze also it will accelerate corrosion on any damaged parts of the machine.

## TRAVELLING POSITION OF THE SPREADER

The upper edge of the hopper must always be **horizontal** except in the case of especially dry materials when the spreader should lean a little forward. In order to obtain the correct position, the draw-bar can be moved up or down, by removing the six retaining hexagonal set screws and replacing them once the new position has been found. For dry materials raise the setting one hole higher.

## THE MOUNTING ATTACHMENTS AND HITCHES

The draw-bar is adjustable to achieve the correct travelling position using the recommended 6 set screws. Height of draw-bar centre above ground:-

C80: Nominal 570mm.	Range 490mm to 660mm.
C150: Nominal 645mm.	Range 525mm to 765mm.

The C80 is supplied with a pin hitch and 3 point linkage for mounting to a mini-tractor as standard and a 50mm ball hitch is optional. The C150 has a 50mm ball hitch and a pin hitch as standard.

Hitch Pin Diameter :	25mm
Link Pin Diameter :	TOP - 16/20
	BOTTOM - 16/22

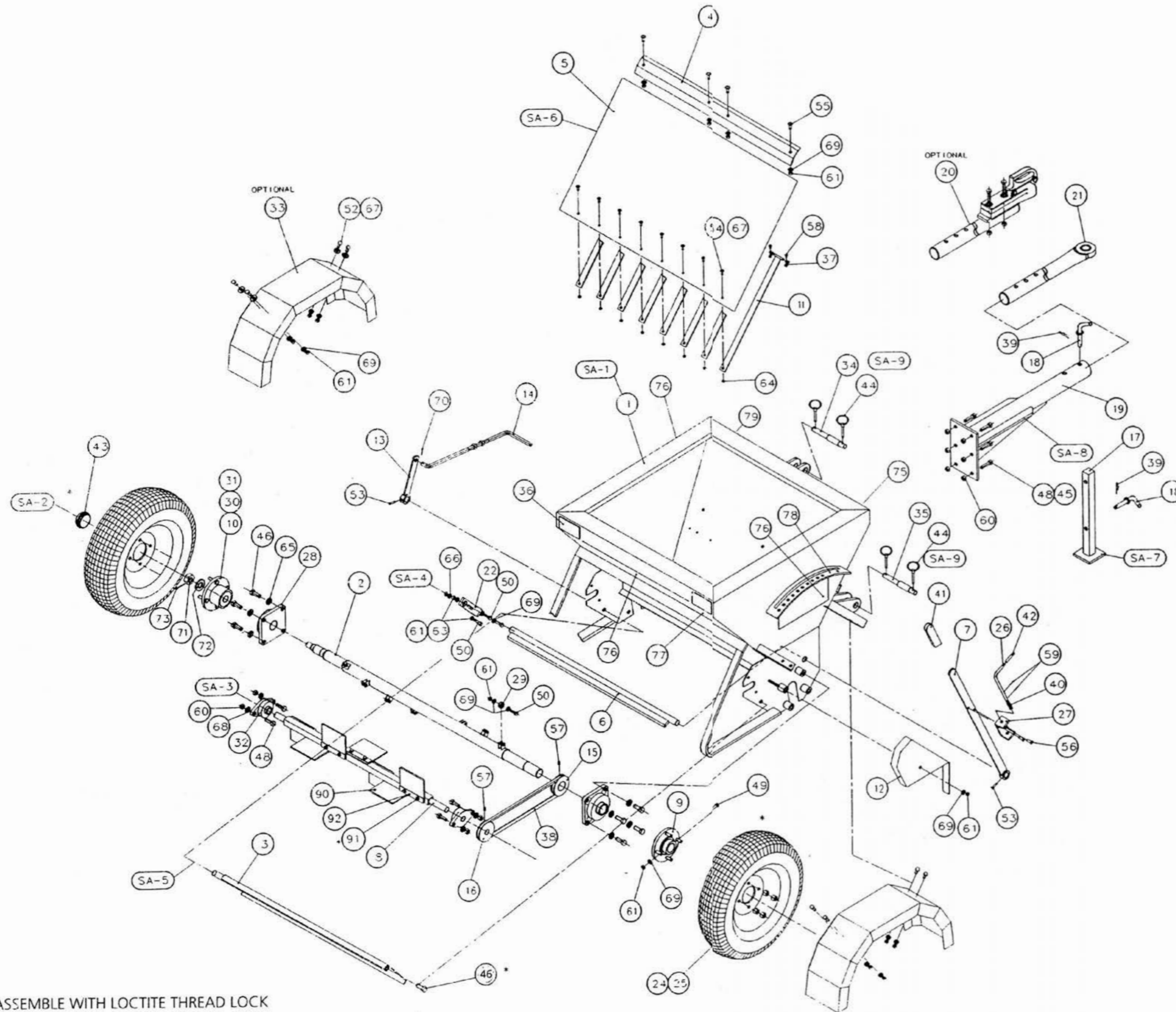
## SUPPORT LEG

C80 and C150 are equipped with an adjustable support leg enabling the machine to free stand with the hopper and hitch horizontal. This facilitates hitching to the vehicle by a single person. To adjust remove R clip and peg, re-position leg, replace peg and clip.

## DRIVE

C150 and C80 : The cam axle shaft is directly driven by the "fixed" wheel. A pulley is mounted on the cam shaft which drives the paddle shaft with rubber paddles through a link belt. The belt does not require readjustment, (see Removal and Fitting of Belt).

FIG. 4. CRUISER 80 (Grit/Salt Spreader)

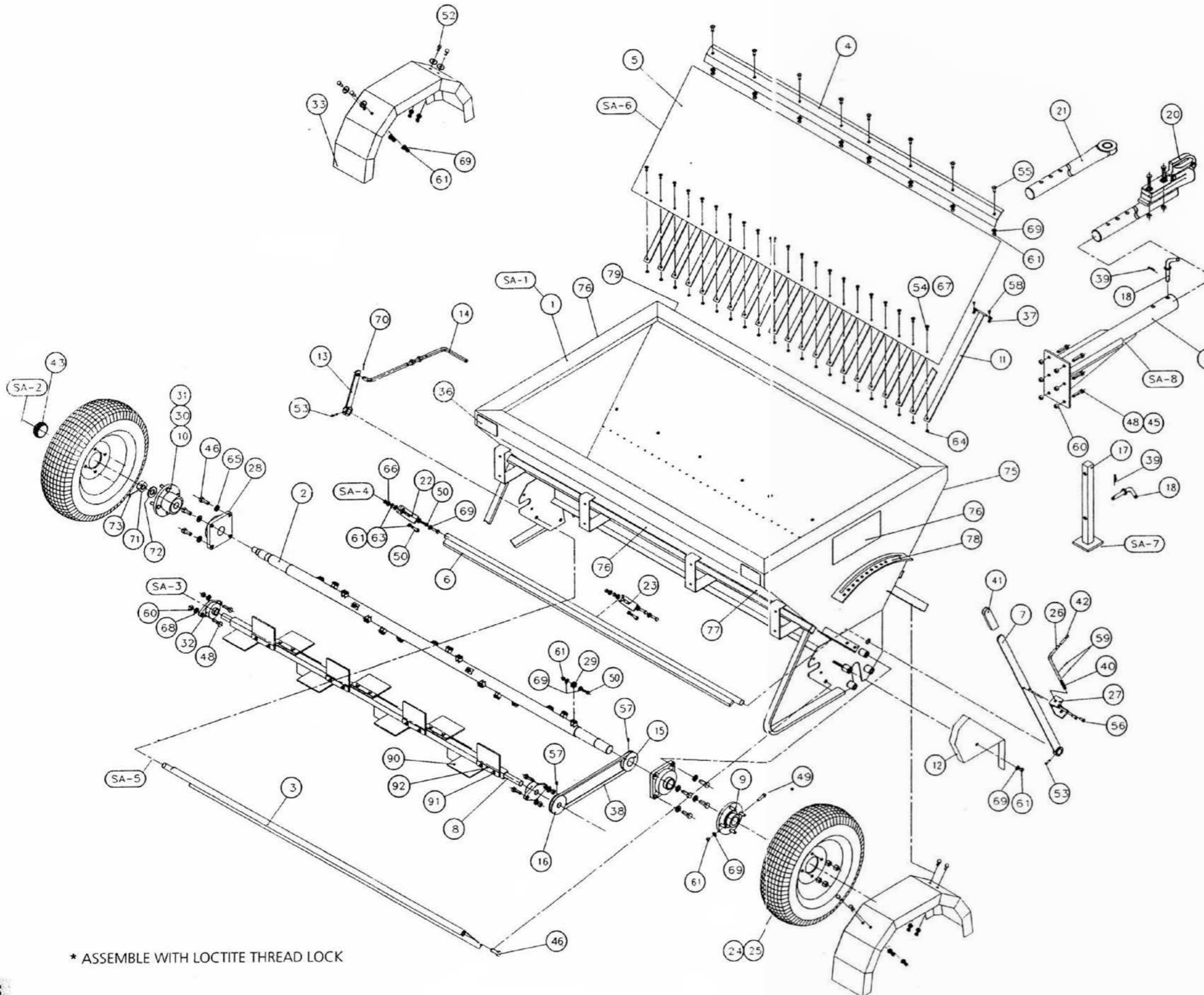


\* ASSEMBLE WITH LOCTITE THREAD LOCK

Item No	Description	No. off C80	Common
1	Hopper	1	NO
2	Axle Shaft	1	NO
3	Flap	1	NO
4	Clamp Plate - Rubber SHT.	1	NO
5	Rubber Sheet	1	NO
6	Spread Adjustment Bar	1	NO
7	Spread Adjustment Handle	1	NO
8	Paddle Shaft Assy	1	NO
9	Hub - Drive Side	1	YES
10	Hub - Free Wheel Side	1	YES
11	Spring Plate - Rubber SHT	8	YES
12	Belt Guard	1	YES
13	Flap Arm	1	YES
14	Flap Handle	1	YES
15	Cam Axle Pulley	1	YES
16	Paddle Shaft Pulley	1	YES
17	Stand	1	YES
18	Adjustment Peg	2	YES
19	Tow Bar	1	YES
20	Tow Bar Hitch - Assy (optional)	1	YES
21	Tow Bar Ext'n-eye	1	YES
22	Adjusting Arm	1	YES
23			
24	Tyre	2	YES
25	Rim	2	YES
26	Engagement Pin-Spd. Adj.	1	YES
27	Engagement Pin Channel S.A.	1	YES
28	Axle Bearing	2	YES
29	Axle Cam Bearing	8	YES
30	Hub Brg. 25 N/B	1	YES
31	Hub Brg. 30 N/B	1	YES
32	Paddle Shaft Brg.	2	YES
33	Mudguard (optional)	2	YES
34	Upper Hitch Pin	1	NO
35	Lower Hitch Pin	2	NO
36	Bumper Stop	2	YES
37	Cable Clamp	16	YES
38	Drive Belt	1	YES
39	R-Clip	2	YES
40	Spring - Eng. Pin	1	YES
41	Rubber Handle	1	YES
42	Rubber Cap	1	YES
43	Hub Cap	1	YES
44	Lynch Pin	6	NO
45			YES
46	M12 x 30LG Hex Set Screw	9	YES
47	M12 x 40LG Hex Set Screw	0	YES
48	M12 x 35LG Bolt	10	YES
49	M8 x 60LG Bolt	1	YES
50	M8 x 30LG Hex Set Screw	11	YES
51	M8 x 25LG Hex Set Screw	0	YES
52	M8 x 20LG Hex Set Screw	8	YES
53	M6 x 50LG Hex Set Screw	2	YES
54	M6 x 35LG Roofing Bolt	8	YES
55	M8 x 30LG Mushroom HD Screw	4	YES
56	M6 x 20LG C Sunk Skt Screw	2	YES
57	Spiral Pin Ø6 x 50LG HBK	2	YES
58	Rivet Ø4 x 10LG M.S. BZP	16	YES
59	Spring Pin Dia 3 x 14LG	2	YES
60	M10 Nyloc Nut	10	YES
61	M8 Nyloc Nut	22	YES
62	M10 Hex Nut	0	YES
63	M8 Hex Nut	3	YES
64	M6 Nyloc Nut	10	YES
65	M12 Spring Washer	8	YES
66	M8 Spring Washer	2	YES
67	1/4" Repair Washer	15	YES
68	M10 Plain Washer	4	YES
69	M8 Plain Washer	16	YES
70	Split Pin Dia 2 x 30LG	1	YES
71	M20 Castleated Nut	1	YES
72	M20 Plain Washer	1	YES
73	Split Pin Dia 3 x 30LG	1	YES
74			
75	Serial Number Plate	1	NO
76	Cruiser Label	1	YES
77	Speed Limit Label	1	YES
78	Spread Rate Label	1	YES
79	Flap Control Label	1	YES
80			
81			
82			
83			
84			
85			
86			
87			
88			
89			
90	Paddle (Flat)	7	YES
91	M6 x 35 Hex Head Screw	14	YES
92	Paddle Strap	7	YES



FIG. 5. CRUISER 150 (Grit/Salt Spreader)



\* ASSEMBLE WITH LOCTITE THREAD LOCK

Item No	Description	No. off C150	Common
1	Hopper	1	NO
2	Axle Shaft	1	NO
3	Flap	1	NO
4	Clamp Plate - Rubber SHT.	1	NO
5	Rubber Sheet	1	NO
6	Spread Adjustment Bar	1	NO
7	Spread Adjustment Handle	1	NO
8	Paddle Shaft Assy	1	NO
9	Hub - Drive Side	1	YES
10	Hub - Free Wheel Side	1	YES
11	Spring Plate - Rubber SHT	21	YES
12	Belt Guard	1	YES
13	Flap Arm	1	YES
14	Flap Handle	1	YES
15	Cam Axle Pulley	1	YES
16	Paddle Shaft Pulley	1	YES
17	Stand	1	YES
18	Adjustment Peg	2	YES
19	Tow Bar	1	YES
20	Tow Bar Hitch - Assy	1	YES
21	Tow Bar Ext'n-eye	1	YES
22	Adjusting Arm	1	YES
23	Intermediate Adj. Arm	1	YES
24	Tyre	2	YES
25	Rim	2	YES
26	Engagement Pin-Spd. Adj	1	YES
27	Engagement Pin Channel S.A.	1	YES
28	Axle Bearing	2	YES
29	Axle Cam Bearing	21	YES
30	Hub Brg. 25 N/B	1	YES
31	Hub Brg. 30 N/B	1	YES
32	Paddle Shaft Brg.	2	YES
33	Mudguard	2	YES
34			
35			
36	Bumper Stop	3	YES
37	Cable Clamp	42	YES
38	Drive Belt	1	YES
39	R-Clip	2	YES
40	Spring - Eng. Pin	1	YES
41	Rubber Handle	1	YES
42	Rubber Cap	1	YES
43	Hub Cap	1	YES
44			
45	M12 Washer	6	YES
46	M12 x 30LG Hex Set Screw	9	YES
47	M12 x 40LG Hex Set Screw	0	YES
48	M10 x 3LG Hex HD Bolt	10	YES
49	M8 x 60LG Hex HD Bolt	1	YES
50	M8 x 30LG Hex Set Screw	27	YES
51	M8 x 25LG Hex Set Screw	0	YES
52	M8 x 20LG Hex Set Screw	8	YES
53	M6 x 35LG Hex Set Screw	2	YES
54	M6 x 35JG Roofing Bolt	21	YES
55	M8 x 30LG Mushroom HD Screw	8	YES
56	M8 x 25LG C'Sunk Skt Screw	2	YES
57	Ø6 x 50LG Spirol Pin HBK	2	YES
58	Ø4 x 10LG M.S. Rivet BZP	42	YES
59	Ø3 x 14LG Spring Pin	2	YES
60	M10 Nyloc Nut	10	YES
61	M8 Nyloc Nut	39	YES
62	M10 Hex Nut	0	YES
63	M8 Hex Nut	3	YES
64	M6 Nyloc Nut	23	YES
65	M12 Spring Washer	8	YES
66	M8 Spring Washer	4	YES
67	1/4" Repair Washer	29	YES
68	M10 Plain Washer	4	YES
69	M8 Plain Washer	35	YES
70	Ø2 x 30LG Split Pin	1	YES
71	M20 Castleated Nut	1	YES
72	M20 Plain Washer	1	YES
73	Ø3 x 30LG Split Pin	1	YES
74			
75	Serial Number Plate	1	NO
76	Cruiser Label	1	YES
77	Speed Limit Label	1	YES
78	Spread Rate Label	1	YES
79	Flap Control Label	1	YES
80			
81			
82			
83			
84			
85			
86			
87			
88			
89			
90	Paddle (Flat)	14	YES
91	M6 x 20 Hex Head Screw	28	YES
92	Paddle Strap	14	YES

## WHEELS AND TYRES

**IMPORTANT :** With reference to the Road Vehicles (Construction & Use) Regulations 1986, Amendment 1990, these machines are restricted to a maximum of 20 mph on public highways. The tyres and machine have been designed to function at speeds under 30 mph.

Tyres:-

Size	Ply Rating	Tread Pattern	Max Load	Max Speed	Pressure
5.00.8	6	V47	580 kg	32 km/h	4.89 bar
..	8	AVON EUROPE	..		65 P.S.I.

Rims:-

Size	No of Studs	Pitch Circle	Max Load
5.00.8	4	101.6mm (4")	700 kg (per rim)

Inner Tube: TR13

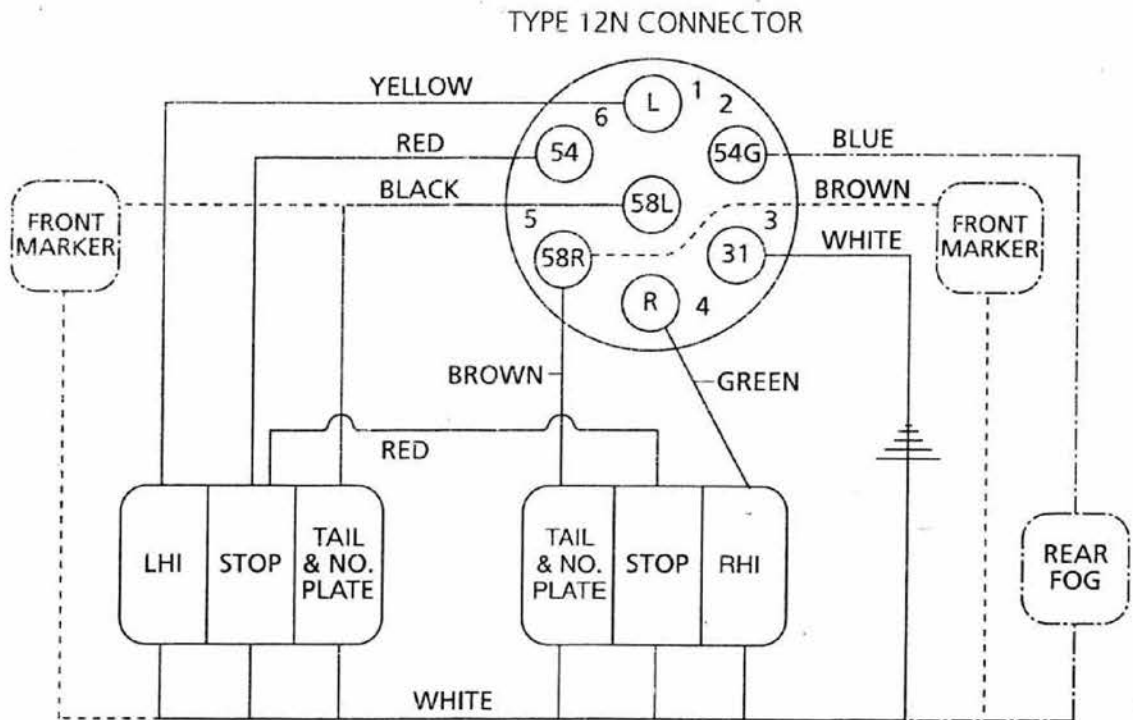
## MUDGUARDS

Fitted as standard on the C150 and can be supplied as extra equipment on the C80.

## LIGHTS

Fully legal lights supplied on a specially built lightsboard are available as an optional extra.

FIG. 6. SCHEMATIC WIRING DIAGRAM



## BEFORE USE CHECK LIST

### Attaching spreader to towing vehicle:-

1. Set tow bar at correct height (to create the appropriate angle of hopper).
2. Draw bar adjusted to suitable length with peg and R clip re-inserted.
3. Hitch and safety cable securely engaged.
4. Support leg raised with peg and R clip re-inserted.
5. Tyres/lights legal and working (trailer and towing vehicle).
6. Flap fully closed.

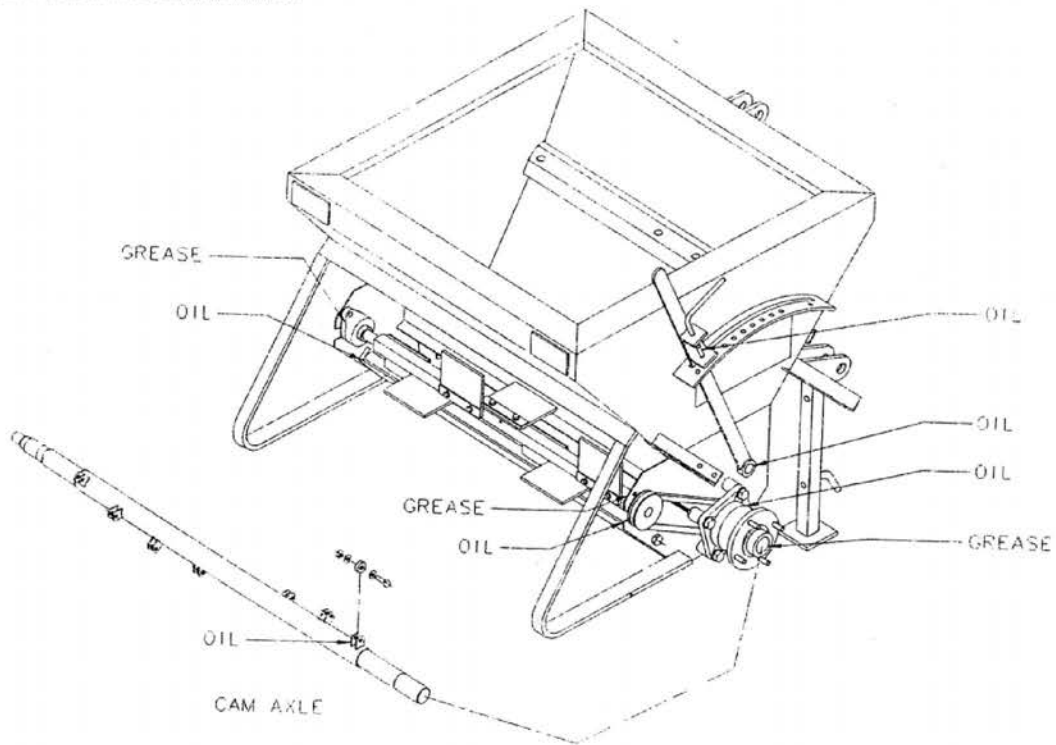
### Spreading

1. Flap fully closed.
2. Hopper full of salt/grit.
3. Spreading adjustment lever in set positions with engagement peg employed.

## LUBRICATION

All moving joints must be lubricated after every 16 hours of operation. Grease nipples are located on the paddle shaft bearings and main axle bearings. Particular attention should be paid to the lubrication of the cam bearings. Grease the inner and outer bearings of the free wheel hub.

FIG. 7. LUBRICATION



## MAINTENANCE

**After use :** (It is recommended that the unit be emptied after use as any compacted salt/grit will require breaking up if left for a period).

1. The spreader should be thoroughly cleaned and any salt removed from the hopper.
2. General lubrication of all lubrication points.
3. Scratches, if any, in the paint should be treated.
4. The spreader should be covered if it is to be kept outdoors.
5. When not in use for some time protect by applying a rust inhibitor such as Shell Ensis Fluid 256.

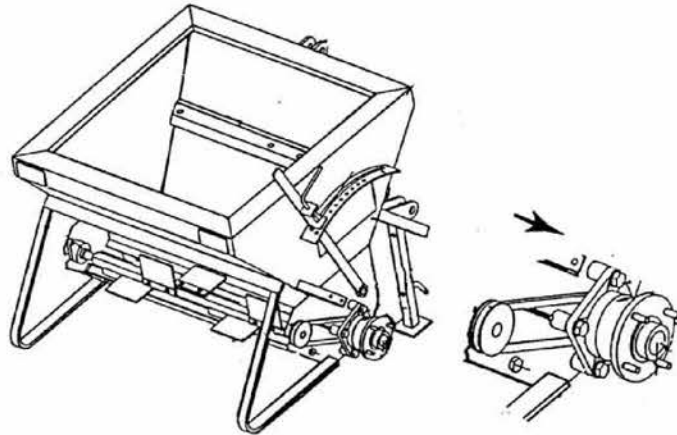
Never use oil or grease on rubber parts (tyres, rubber plate, rubber paddles, etc).

## FITTING A BRAEMAR SPLIT BELT TO GLASDON CRUISER GRIT/SALT SPREADERS

The unique linkage system enables NU-T-Link to be uncoupled in seconds by simply rotating the 'T' shaped studs through 90 degrees and separating the links using ordinary hand tools such as pliers and a screwdriver. Links may be added or removed to obtain correct belt length (or to replace damaged sections) and coupling is a straightforward reversal of the same procedures. Ref. Belt Type: NU-T-Z x 40.

FIG. 7a. ILLUSTRATION SHOWING CRUISER 80

(horizontal with both wheels removed). Arrow points toward the direction of pulley rotation.



### PREPARING THE MACHINE

1. Slacken the four nuts securing the drive wheel.
2. Holding the hitch, lift to place the machine on end.
3. Remove the four slackened wheel nuts and remove the drive wheel.
4. Remove the BELT GUARD by undoing the single nut.
5. Remove the existing belt.

### BELT LENGTH

1. Normally a belt will have 37 links.

**NOTE :** Although 35 links may be easier to assemble initially the belt would need adjusting to 37 links after probably less than one hours use.

**NOTE :** The size may be checked by using the following procedure:

- a) Take a length of belting, pull tight around the pulleys and remove links if necessary until the ends of the belt may join.
- b) The belt must now be pre-tensioned by removing one link for every eleven in the belt.

### FITTING THE BELT

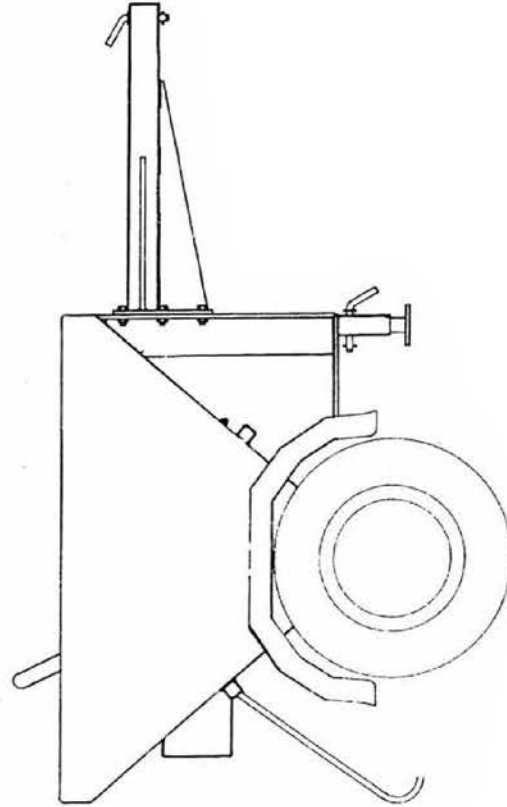
1. Thread the belt around the main axle pulley (behind the bearing). The link with a stud, pointing in the direction of the rotation. See Fig. 7a.
2. Make endless. Join the ends of the belt.
3. Pull the free loop of the belt to make the links bed in. This slightly increases the belt length, thus making a 39 link belt easier to fit.
4. Spring on to paddle shaft pulley.
5. Check that pulleys/mechanism can freely rotate.

## REASSEMBLY

**NOTE :** This is an ideal time to lubricate the machine and perform routine maintenance whilst it is on its end.

1. Re-assemble belt guard.
2. Re-assemble wheel.
3. Using the Hitch, return the machine to horizontal. Please take care.
4. Final tighten of wheel nuts.

**FIG. 8. SUMMER STORAGE POSITION**



## ORDERING SPARES

Please quote the following.-

1. THE MODEL
2. DATE OF PURCHASE FROM GLASDON
3. THE SERIAL NUMBER
4. THE COMPONENT NAME/S  
AND ITEM NUMBER/S
5. THE QUANTITY

ie. Cruiser 80 or Cruiser 150

To be found on the serial number plate which is located on the front nearside of the hopper.

See Fig. 4 Pages 6 and 7, Fig. 5 Pages 8 and 9. Also check availability.

As shown on pages 17 to 18.

Eg., Cruiser 80 Serial No. 0001 1988/89

One x Cam bearing kit No. 23

Two x Tail light units No. L2

**NOTE:**

Some items, particularly small parts are only available in kits.

## WHEEL REPLACEMENT

### WHEN THE HOPPER IS EMPTY

Using the correct size of wheel brace (M10-18mm A/F) loosen off the four wheel nuts.

Place the machine in the summer storage position (see diagram Fig. 8, page 13). Take care to prevent damage to lights (if fitted) and paint work.

Once in the summer storage position unscrew the wheel nuts fully and remove wheel.

On replacing the wheel, hand-tighten the wheel nuts, pull machine back over to normal position (it is recommended that this procedure will require two or more persons).

Secure the machine on its front stand and then tighten up the wheel nut approximately 1/4 of a turn.

### WHEN THE HOPPER IS LOADED

With reference to diagram (Fig. 9) chock up the good wheel as indicated. Lower the front stand and peg it in position.

Loosen off the wheel nuts of the defective wheel.

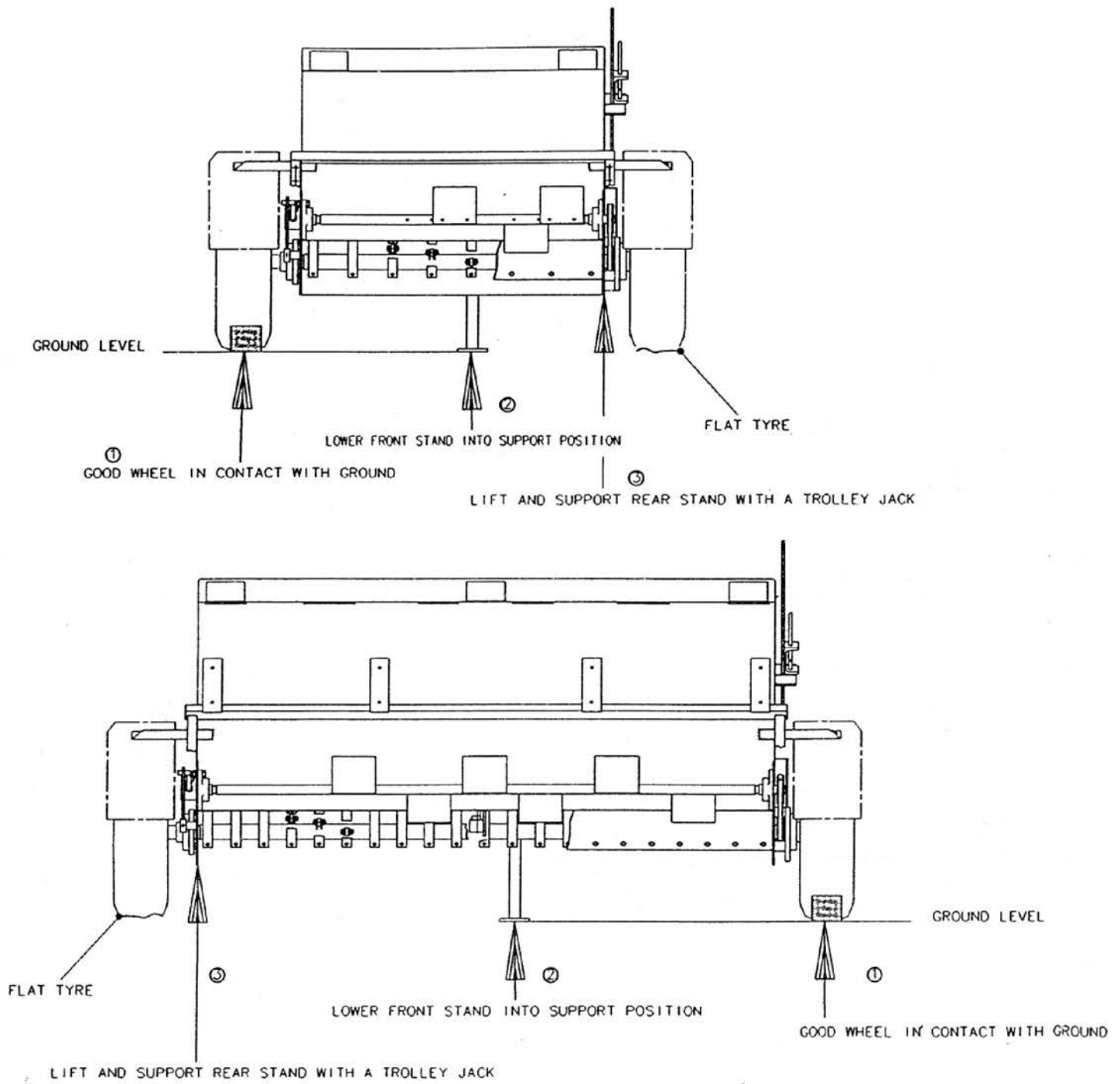
Place a 2 tonne (minimum) trolley jack in position to lift at the contact point ③ indicated, lift slowly until the wheel is clear of the ground. It is advised that the machine is secured at this height using blocks, etc.

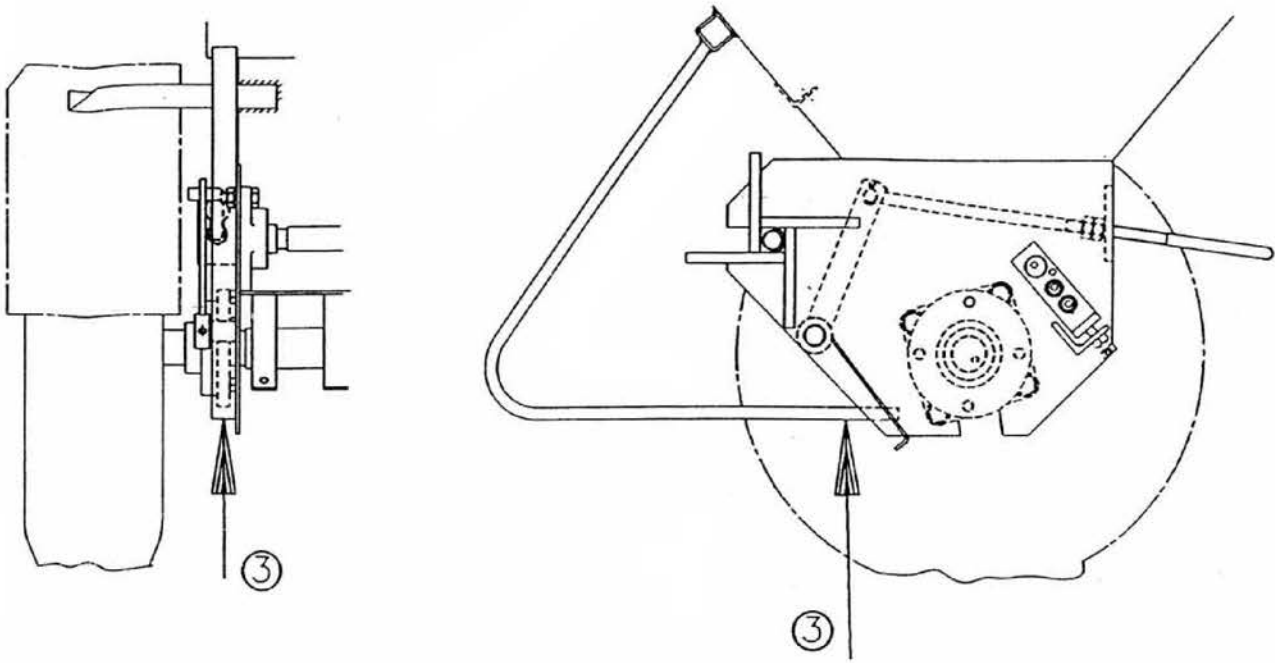
Unscrew the wheel nuts fully and remove the wheel.

Replace the wheel and hand tighten the wheel nuts.

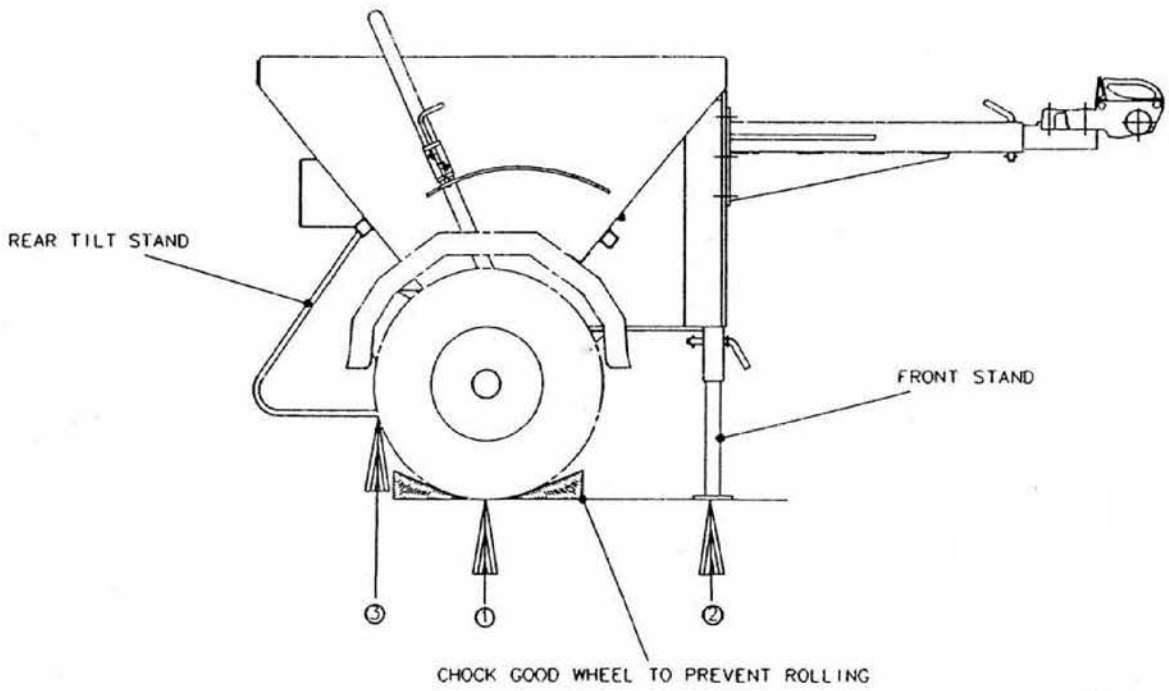
Lower the machine onto the replacement wheel and tighten up the wheel nuts approximately 1/4 of a turn.

FIG.9. DIAGRAM SHOWS THE THREE PLACES IN WHICH THE MACHINE MUST BE SUPPORTED WHEN REPLACING A DEFECTIVE WHEEL ON A LOADED MACHINE





CONTACT POSITION OF TROLLEY JACK ON DEFECTIVE WHEEL SIDE





## COMMON SPARES FOR THE CRUISER C80 & C150 SALT AND GRIT SPREADER

(NOTE: See exploded drawing - pages 6-9 for item number reference.)

KIT NO.	ITEM NO.	DESCRIPTION	GLASDON STOCK CODE
1	28	Axle Bearing (2 Per Machine, Kit of 1 Off Bearing) Complete with Item 46 - M12 x 30 Hex HD Screws (4) Item 65 - M12 Spring Washer (4)	.....023/4033
2	29	Axle Cam Bearing (Kits of 11 Bearings) Complete with Item 51 - M8 Hex HD Set Screw (11) Item 61 - M8 Nyloc Nut (11) Item 69 - M8 Plain Washers (22)	.....023/4034
3	25	Wheel Rim Complete with Item 24 - Tyre	.....023/4030
4	33	Mudguard (Kit of 2 Mudguards) Complete with Item 52 - M8 x 20 Hex HD Screw (8) Item 69 - M8 Plain Washer (8) Item 61 - M8 Nyloc Nut (8)	.....023/4038
5	9	Hub - Drive Side Complete with Item 49 - M8 x 65 Hex HD Screw Item 61 - M8 Nyloc Nut Item 69 - M8 Plain Washer	.....023/4015
6	10	Hub - Free Wheel Side Complete with Item 30 - 0/25 Bearing Item 31 - 0/30 Bearing	.....023/4016
6	71	M20 Castle Nut Complete with Item 72 - M20 Plain Washer Item 73 Split Pin 0/3 x 30	.....023/4075
6	43	Hub Cap	.....023/4048
7	15	Cam Axle Pulley Complete with Item 57 - M6 x 10 Socket Grub Screw	.....023/4021
8	32	Paddle Shaft Bearing (2 Per Machine, Kit of 1 Off Bearing) Complete with Item 48 - M10 x 30 Hex HD Screw (2) Item 60 - M10 Hex HD Nut (2) Item 68 - M10 Plain Washer (2)	.....023/4037
9	90	Paddle (Flat) (Kit of 7 Paddles) Complete with Item 91 - M6 x 25 Hex HD Screw (14) Item 92 - Paddle Strap (7)	.....023/4087
10	16	Paddle Shaft Pulley Complete with Item 57 - M6 x 10 Socket Grub Screw	.....023/4022
11	38	Drive Belt	.....023/4043
12	12	Belt Guard Complete with Item 61 - M8 Nyloc Nut Item 69 - M8 Plain Washer	.....023/4018
14	11	Spring Plate (Kit of 8 Spring Plates) Complete with Item 37 - Cable Clamp (16) Item 58 - Rivet (16) Item 67 - 1/4" Repair Washer (8) Item 54 - M6 x 20 Roofing Bolt (8) Item 64 - M6 Nyloc Nut (8)	.....023/4017
15	17	Stand Complete with Item 18 - Adjustable Peg Item 39 - R-Clip	.....023/4023
16	18	Adjustable Peg (Kit of 2 Pegs) Complete with Item 39 - R-Clip (2)	.....023/4024
17	19	Tow Bar Complete with Item 48 - M10 x 30 Hex HD Screw Item 60 - M10 Nyloc Nut Item 18 - Adjustment Peg Item 39 - R-Clip	.....023/4025

KIT NO.	ITEM NO.	DESCRIPTION	GLASDON STOCK CODE
18	20	Tow Bar Hitch ..... Complete with Item 18 - Adjustment Peg Item 39 - R-Clip (2)	023/4026
19	21	Tow Bar Extension Eye .....	023/4027
20	13	Flap Arm .....	023/4019
20	14	Flap Handle .....	023/4020
30	80	Wheel Stud (metric) ..... Complete with 81 Wheel Nut (metric)	023/4094
31	31	Free Wheel Bearing 30 normal bore ..... Complete with Item 30 Bearing 25 normal bore	023/4035

### SPARES - C150

KIT NO.	ITEM NO.	DESCRIPTION	GLASDON STOCK CODE
21	2	Axle Shaft (Complete).....	023/4002
22	8	Paddle Shaft Assembly ..... Complete with Item 90 - Paddle Flat (14) Item 91 - M6 x 20 Hex HD Screw (28) Item 92 - Paddle Strap (14)	023/4014
23	3	Flap ..... Complete with Item 47 - M12 x 40 Hex HD Set Screw	023/4004
24	5	Rubber Sheet .....	023/4008
24	4	Clamp Plate ..... Complete with Item 55 - M8 x 25 Mush. HD Screw (8) Item 69 - M8 Plain Washer (8) Item 61 - M8 Nyloc Nut (8)	023/4006
13b	7	Spread Adjustment Handle ..... Complete with Item 41 - Rubber Handle Item 53 - M6 x 35 Hex HD Screw Item 64 - M6 Nyloc Nut	023/4012
	27	Engagement Pin Channel..... Complete with Item 40 - Spring Item 56 - M6 x 20 C'sunk Soc Screw (2) Item 26 - Engagement Pin Item 42 - Rubber Cap	023/4032

### SPARES - C80

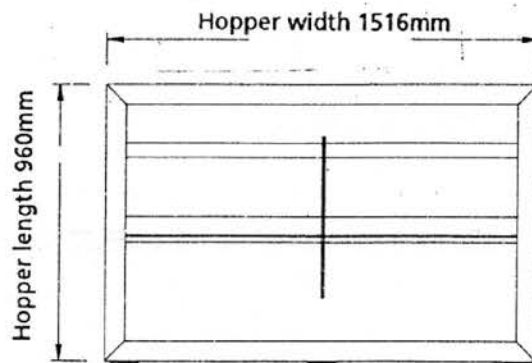
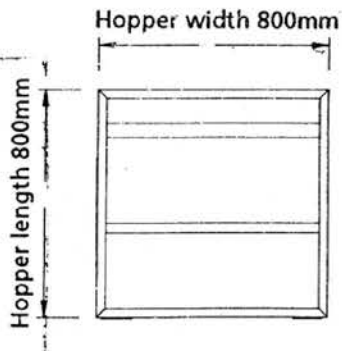
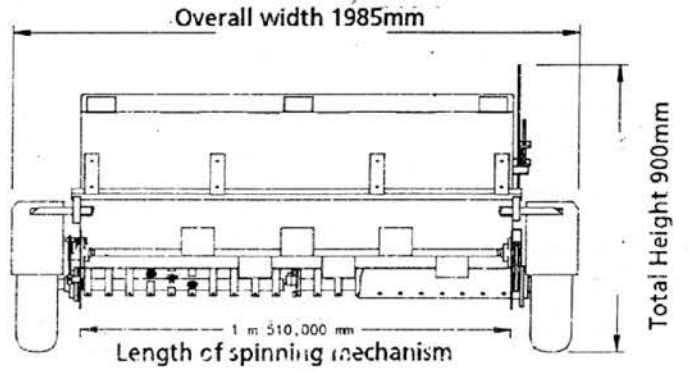
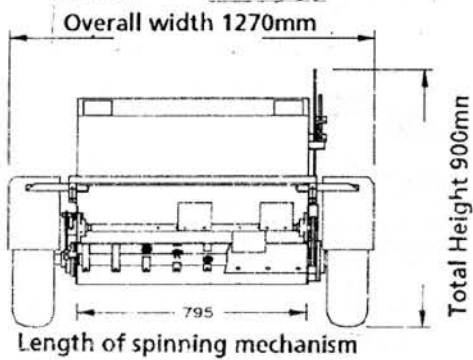
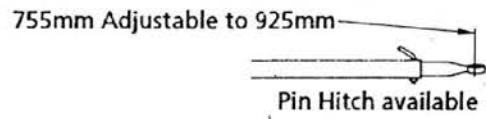
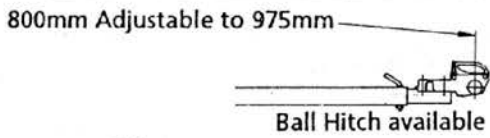
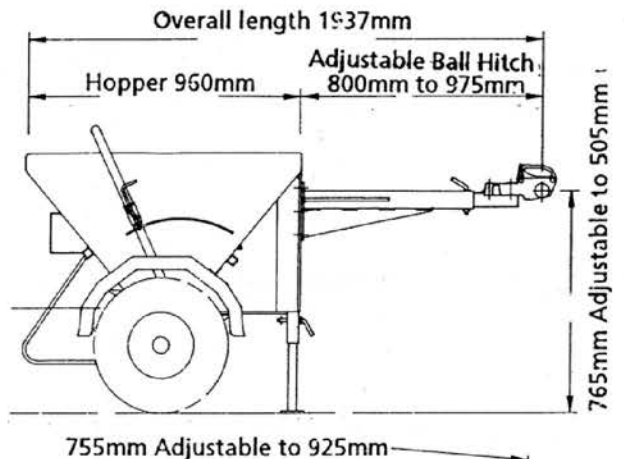
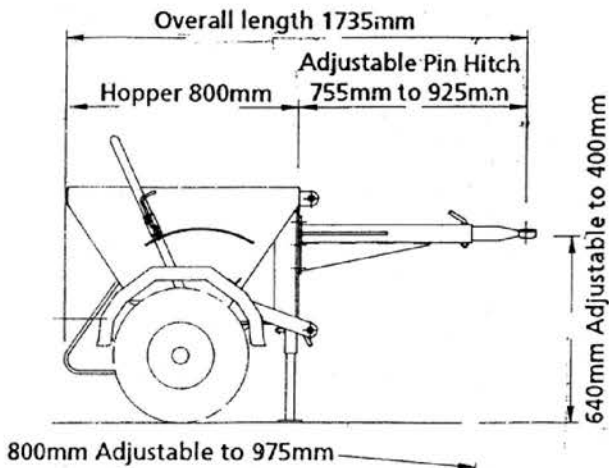
KIT NO.	ITEM NO.	DESCRIPTION	GLASDON STOCK CODE
25	2	Axle Shaft (Complete).....	023/4001
26	8	Paddle Shaft Assembly ..... Complete with Item 90 - Paddle Flat (7) Item 91 - M6 x 20 Hex HD Screw (14) Item 92 - Paddle Strap (7)	023/4013
27	3	Flap ..... Complete with Item 47 - M12 x 40 Hex HD Set Screw	023/4003
28	5	Rubber Sheet .....	023/4007
28	4	Clamp Plate ..... Complete with Item 55 - M8 x 25 Mush. HD Screw (4) Item 69 - M8 Plain Washer (4) Item 61M8 Nyloc Nut (4)	023/4005
29	34	Upper Hitch Pin (2 Off)..... Complete with Item 44 - Lynch Pin (2)	023/4039
29	35	Lower Hitch Pin ..... Complete with Item 44 - Lynch Pin	023/4040
13a	7	Spread Adjustment Handle ..... Complete with Item 41 - Rubber Handle Item 53 - M6 x 35 Hex HD Screw Item 64 - M6 Nyloc Nut	023/4011
	27	Engagement Pin Channel..... Complete with Item 40 - Spring Item 56 - M6 x 20 C'sunk Soc Screw (2) Item 26 - Engagement Pin Item 42 - Rubber Cap	023/4032

**OVERALL DIMENSIONS**

C80

CRUISER

C150



## SPECIFICATIONS

	CRUISER 80	CRUISER 150
Weight (Unladen) Kg/lbs.....	85/187.....	220/507
Weight (Gross) Kg/lbs.....	360/793.....	1000/2205
Capacity (Litres).....	160.....	550
No. of 50Kg Bags of Rock <i>Salt Required</i> .....	5 Approximately .....	15 Approximately
Spreading Width (mm) .....	800.....	1515
Towing Arrangement.....	For use with 2 & 4 wheel drive tractors, passenger cars (option), etc.	For use with tractors, van and trucks, etc.
Towbar	Towbar is available with either a ball or pin hitch. Both can be extended. The Cruiser 80 can also be mounted on a mini tractor using its 3 point hitch.	
Drive	The rotating cams are located on the main axle assembly thus are directly driven by the road wheels. The rubber paddles are located on a steel shaft running in self alignment bearings driven by a link belt and pulley wheel from the main axle.	
Wheels	200 x 6 Ply	

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Tel: (01253) 600410  
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e-mail: [sales@glasdon-uk.co.uk](mailto:sales@glasdon-uk.co.uk)  
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