



ROUTINE MAINTENANCE MANUAL | JANUARY 2020

AGRICULTURAL & CONTRACT TIPPERS
ARABLE & ROOT CROP TRAILERS
BALE & PALLET TRAILERS
LOW LOADERS | DUAL FUEL BOWSER



THE TRAILER IN FRONT

MAINTENANCE & SERVICE SCHEDULES



Correct Installation and regular maintenance will do much to prevent annoying and unnecessary breakdowns.

The service and maintenance schedule must be adhered to ensure the optimum availability and efficiency of the trailer is maintained.

Failure to adhere to these schedules may cause damage to the trailer and possibly endanger the operator and others.

The warranty given for the trailer will become void if the maintenance schedule is not followed.

! WARNING

Ensure tyre pressures are correct. Incorrect tyre pressures can cause stability and handling problems for the trailer and towing vehicle.

Ensure all personnel are outside of the danger area between the towing vehicle and trailer before use.

When working in the danger area between the trailer and the towing vehicle always ensure that the towing vehicle engine is turned off and the key removed.

When working in the danger area between the trailer and the towing vehicle always ensure that the hydraulic and pneumatic controls are in neutral and that the control panel switch is off.

Wear the correct personal protective clothing. The brake linings may contain asbestos, a respirator should be worn whilst handling brake components.

! CAUTION

Release residual pneumatic & hydraulic pressure before connecting or disconnecting air & hydraulic lines.

Ensure that decals are clearly visible. Replace damaged or missing decals immediately.

Carry out all maintenance at the correct intervals and in accordance with the instructions in this manual.

SERVICE SCHEDULE

- Perform task
- Check

	TB Range	Root Special	Beeteaper	Bale & Pallet	Dumper	TAG Range	Dropsides	Tipper	Low Loader
Every 2 years									
Lubricate wheel bearings	■	■	■	■	■	■	■	■	■
Laying up protection									
Protect all electrical connections	■	■	■	■	■	■	■	■	■
Clean down trailer	■	■	■	■	■	■	■	■	■
Repaint any areas where paint has been removed	■	■	■	■	■	■	■	■	■
Replace worn or damaged parts	■	■	■	■	■	■	■	■	■
Replace missing or damaged decals	■	■	■	■	■	■	■	■	■
Grease all bright parts	■	■	■	■	■	■	■	■	■
Cover ends of all quick release connectors	■	■	■	■	■	■	■	■	■

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SERVICE SCHEDULE

- Perform task
- Check

TB Range	Root Special	Beeteaper	Bale & Pallet	Dumper	TAG Range	Dropsides	Tipper	Low Loader
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MAINTENANCE TASKS

Daily

Inspect for damage due to the load or loading trailer	■	■	■	■	■	■	■	■	■
Check brake operation	■	■	■	■	■	■	■	■	■
Check park brake operation	■	■	■	■	■	■	■	■	■
Grease tipping cylinder pivots	Page 44	■	■	■	■	■	■	■	■
Grease body tipping pivots	Page 44	■	■	■	■	■	■	■	■
Grease tail gate cylinders	Page 44	■	■	■	■	■	■	■	■
Grease tailgate pivots	Page 44	■	■	■	■	■	■	■	■
Drain water from air reservoir (if fitted)	Page 47	■	■	■	■	■	■	■	■

Weekly

Check lights	Page 47	■	■	■	■	■	■	■	■
Check wheel nut torque	Page 47	■	■	■	■	■	■	■	■
Check for oil leaks		■	■	■	■	■	■	■	■
Grease rocking beam pivots (if fitted)	Page 44	■	■	■	■	■	■	■	■
Grease sprung drawbar (if fitted)	Page 45	■	■	■	■	■	■	■	■
Check side extension bolt security (if fitted)	Page 47	■	■	■	■	■	■	■	■
Check hydraulic hose condition	Page 46	■	■	■	■	■	■	■	■
Check air line condition	Page 46	■	■	■	■	■	■	■	■
Grease brake linkages	Page 44	■	■	■	■	■	■	■	■
Check connections to towing vehicle	Page 46	■	■	■	■	■	■	■	■
Check towing eye condition	Page 46	■	■	■	■	■	■	■	■
Check tyre pressures	Page 47	■	■	■	■	■	■	■	■
Check tyre condition	Page 47	■	■	■	■	■	■	■	■
Grease all nipples on running gear	Page 44	■	■	■	■	■	■	■	■
Inspect the trailer for loose nuts and bolts		■	■	■	■	■	■	■	■

Every 3 months

Check Brake clearance & wear	Page 52	■	■	■	■	■	■	■	■
Adjust Brakes	Page 52	■	■	■	■	■	■	■	■
Check all screws and locknuts		■	■	■	■	■	■	■	■

Every 6 months

Check the axle hubcaps	Page 49	■	■	■	■	■	■	■	■
Check wheel bearing wear	Page 51	■	■	■	■	■	■	■	■
Tighten all suspension U-Bolts	Page 50	■	■	■	■	■	■	■	■
Tighten all spring drawbar U-Bolts	Page 50	■	■	■	■	■	■	■	■

Every year

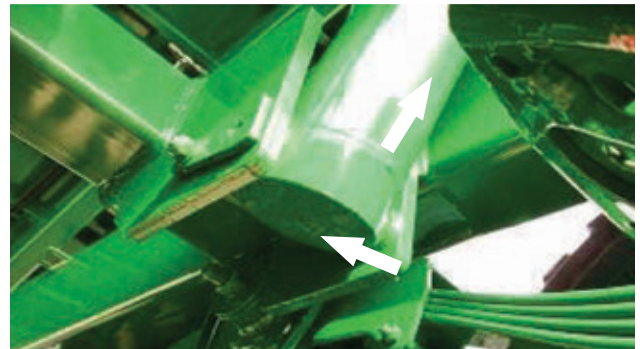
Check suspension		■	■	■	■	■	■	■	■
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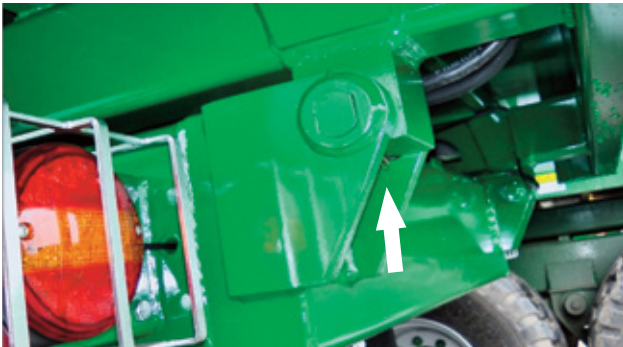
Grease points



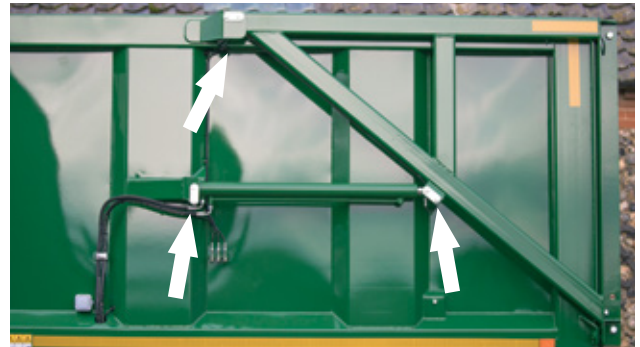
Grease the sprung drawbar pin (where applicable).



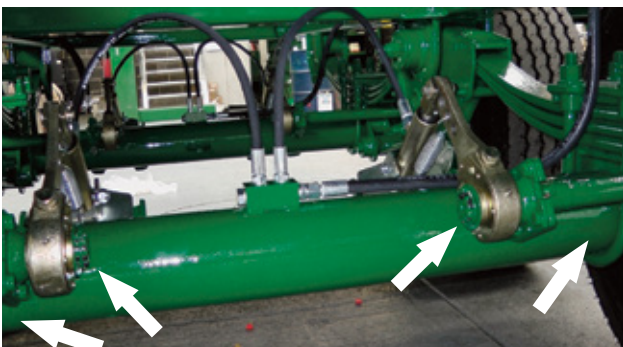
Grease upper and lower tip cylinder pivots.



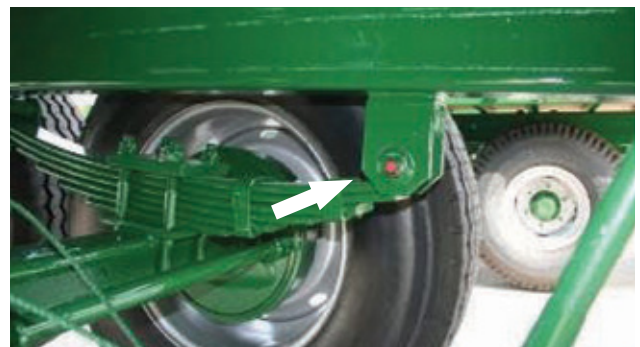
Grease body tipping pivots (2 positions).



Grease tail gate cylinder pivots (2 positions).



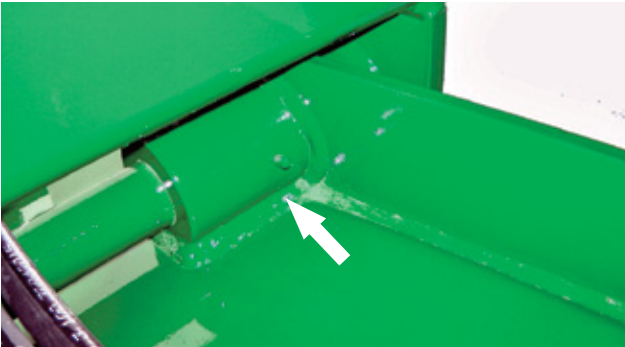
Grease brake actuators (6 positions each axle).



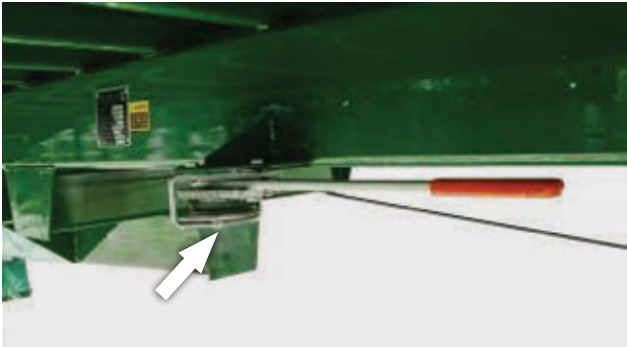
Grease all suspension mounts. Where tandem springs are fitted there are 3 greasers on each side, one on each pin. Where a rocking beam tandem is fitted there are four nipples on the rear of the tandem shaft.



Grease points



Grease sprung drawbar pivots (where applicable).



Grease parking brake ratchet (where applicable).



Service checks



Check the condition of the towing eye for signs of wear or damage.



Check the condition of the air and hydraulic connections and hoses.



Check tyre pressure & tyre condition.



Check wheel nut torque.



Check lights & reflectors for correct operation & damage.



Check side extension bolt security.



Drain water from air reservoir (where applicable).



Axles & brakes

This section contains information that must be followed to ensure the correct functioning of the axles and wheel brakes.

If in doubt contact the manufacturer or the manufacturers agent for further information or advice.

CAUTION

Failure to adhere to these instructions may affect the performance of the brakes and axles and could therefore lead to injury.

NOTE

For additional information refer to the manufacturers documentation.



CAUTION

Do not use impact tools to tighten the wheel nuts.

Tightening wheel nuts

Before use
After refitting
Every 6 months

On wheels that have been replaced or refitted, the nuts can loosen after short periods of operation.

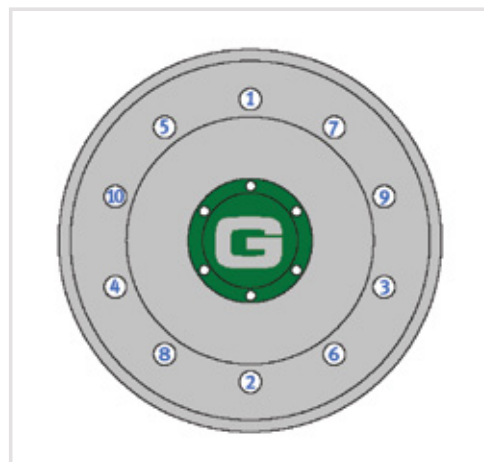
It is therefore necessary to check the tightness of the nuts after the first loaded run, after refitting and again after approx 1000 km (620 miles).

To tighten the nuts, to use a suitable wheel brace, and tighten the progressively and diagonally.

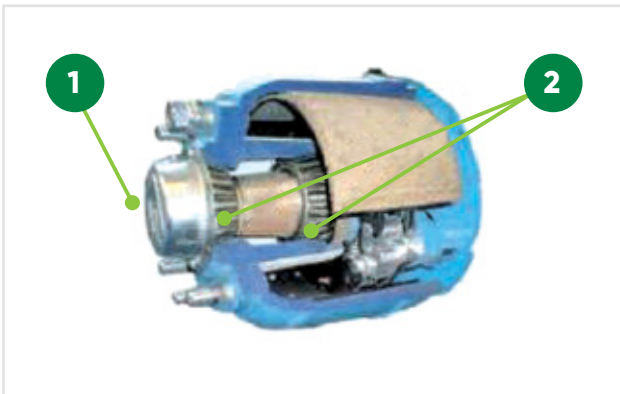
Check the torque using a torque wrench, or if not available use a suitable spring balance and refer to the table below.

DO NOT OVERTIGHTEN

Wheel nuts	Torque Nm
M14 x 1.5	130
M18 x 1.5	270
M20 x 1.5	350
M22 x 1.5	450
M22 x 1.5 Commercial	750



Wheel nut torque sequence.



Greasing hub bearings

**Every 6 months
Check hub caps**

Missing or damaged hubcaps must be replaced immediately to avoid dirt penetrating into the hub which might result in damage to the bearings.

Check that the hub caps **(1)** are in place and in perfect condition.

For press fit hubcaps, check visually that they are fully home.

For hubcaps attached using screws, fit a new gasket if necessary when the hubcap is removed and retighten the screws regularly.

Every 2 years

Lubricate hub bearings

Apply grease to the bearings in these areas **(2)**.

It is important not to overfill the hub with grease.

I.E.

Hub:- 400 grams

Hub Cap:- 200 grams

! CAUTION

It is advisable to check hub caps and wheel bearing play after the first 1000 km (620 miles).





Axle U Bolts	
70 mm sq. axle	265
80 mm sq. axle	260
90 mm sq. axle	370
100 mm sq. axle	370
120 mm sq. axle	540
127 mm sq. axle	540
Air suspension U bolts	850
Sprung drawbar U bolts	
27 mm U bolt dia	550
30 mm U bolt dia	550
Torque arm	200
Centre rocker pivot pin 200	200



Checking hub bearings

Every 3 months

Check bearing movement

Raise the axle clear of the ground and support on suitable stands or blocks.

Release the parking brake (and main brakes if applied).

Place a suitable long metal bar between the tyre and the ground and apply upwards pressure to raise the wheel.

Observe the movement of the axle hub.

Repeat the procedure by placing the bar between the trailer chassis and the tyre to apply side pressure

Observe the movement of the axle hub.

Excessive bearing movement will be noticeable and should be corrected by following the following procedure.

Checking suspension springs & sprung drawbar

Initially & every 3 months

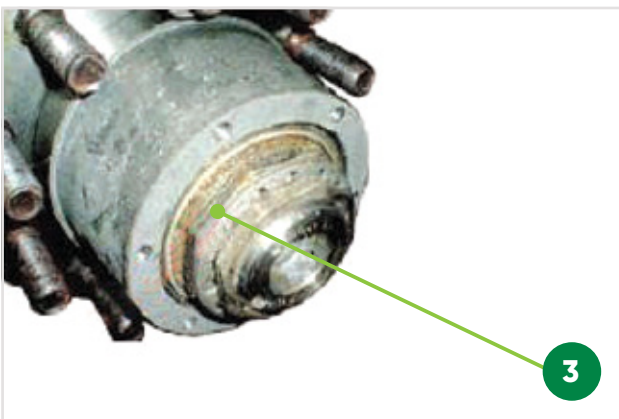
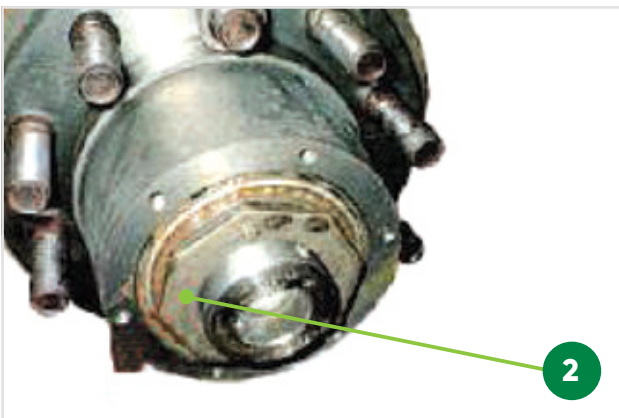
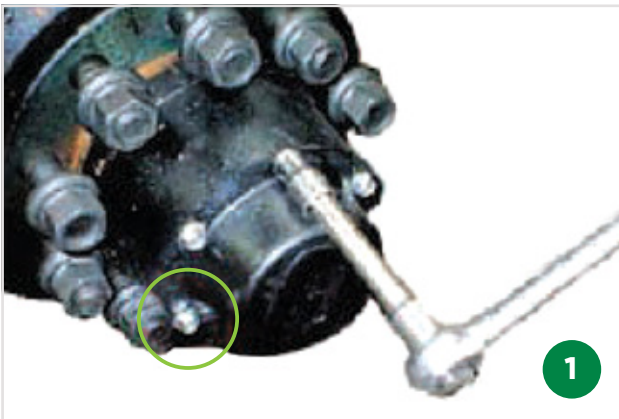
Suspension and drawbar springs are of a laminated construction and as such have a tendency for 'settlement' or 'bedding in' especially during the period of initial use or when in intensive operation.

Check the suspension hangers and all axle and drawbar 'U' bolts for tightness each day of operation for the first week and then every 3 months thereafter.



WARNING

Never work beneath the raised trailer body unless it is securely propped and supported.



Adjusting hub bearings

Every 6 months
Check end float

Axles are fitted with 2 rows of tapered roller bearings.

To protect normal bearing life, these bearings must not be subjected to pre-load during service.

End float of between 0.05 and 0.15 mm is therefore required.

The correct method for setting end float is as follows:

1. Support the axle on a suitable stand and remove the road wheel. Remove the six screws **(1)** and remove the hub cap.
2. Spin the hub assembly by hand, and torque the adjusting nut **(2)** to 375 Nm.
3. Spin the hub a further 4 revolutions and torque the adjusting nut **(2)** to 375 Nm.
4. Loosen the adjusting nut **(2)** by at least one full revolution.
5. Torque the adjusting nut **(2)** to 25 Nm.
6. Back off the adjusting nut **(2)** 2 to 2.5 flats.
7. Fit the lock washer **(3)** so the dowel pin of the adjusting nut slides into one of the holes of the lock washer. If necessary flip the washer to achieve this alignment.
8. Fit the lock nut and torque it to 375 Nm.
9. The end float must be confirmed to be between 0.05 and 0.15 mm using the dial gauge method described below.
10. Pack the grease cap with grease, replace the gasket and refit the grease cap.

Using a dial gauge to measure bearing end float is described below:

1. Using a magnetic block mounted dial gauge, mount the indicator base on the hub as close to the centre of the spindle as possible.
2. Place the indicator tip against the end of the spindle. It is important that the direction of travel of the indicator tip is perpendicular to the end of the spindle.
3. Grasp the wheel hub at 3 o'clock and 9 o'clock. Pull the hub out while oscillating it to seat the bearings.
4. Set the indicator at zero.
5. Push the wheel hub in while oscillating.
6. Read the bearing end float as the total indicator movement.

NOTE

For further Information and detailed servicing instructions refer to the manufacturers documentation or to your dealer.



Cam operated brakes (two versions).



WARNING

Never work beneath the raised trailer body unless it is securely propped and supported.

Brake maintenance & adjustment

Initial checks

The brakes should be tested before using for the first time and after the first laden journey:

- Check the actuator and return spring mountings, check the actuator stroke and return travel and check that the road and parking brakes operate and release correctly.
- Tighten the screws and nuts (covers, fulcrum, etc), check the cotter pins, pins, circlips, etc.
- Check for hydraulic fluid and air leaks.

Adjusting the brakes

Every 3 months

Check and test the brakes before intensive use and every 3 months:

- Check the brake wear and the clearance between the brake linings and the drum visually.
- It is probable that the linings are worn when the actuator travel has increased significantly.
- Check the thickness of the brake linings.

The brake shoes should be replaced as soon as the minimum lining thickness is reached.

Check that the brakes are clean and clean them if necessary.

Brake adjustment for lining wear is made by releasing the lock nut on the screw directly behind each brake actuating arm.

Turn the screw clockwise until the brake is applied, then turn anti-clockwise Two full turns and re-tighten the locknut.

The point at which the brake just applies can be felt by rotating the wheel by hand.

When the brake adjustment is at its full extent the lever can be moved onto the next spline, the screw returned to the start position and the procedure above repeated.



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