GreenMech
The Professionals' Choice

CS 80

OPERATORS MANUAL

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SECTION:

CS Compact Chipper 1. INTRODUCTION AND PURPOSE 1-1

INTRODUCTION

This manual explains the proper operation of your machine. Read these instructions thoroughly before operating and maintaining the machine. Failure to do so could result in personal injury or equipment damage. Consult your GreenMech supplier if you do not understand the instructions in this manual.

CAUTION! This symbol indicates important safety messages in this manual. When you see this symbol, be alert to the possibility of injury to yourself or others, and carefully read the message that follows.

We recommend that you keep this manual with the machine in the box provided. Note here the serial number and quote it in any communications. This is important when ordering spares. Remember to include all numbers and letters.

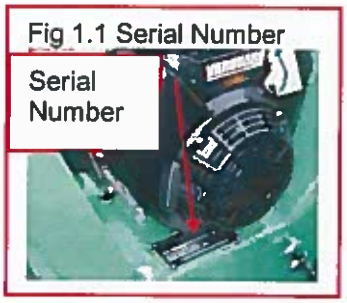


Fig 1.1 Serial Number

VIN Number.....

Serial Number.....

Write in the number!

This manual covers the following models.

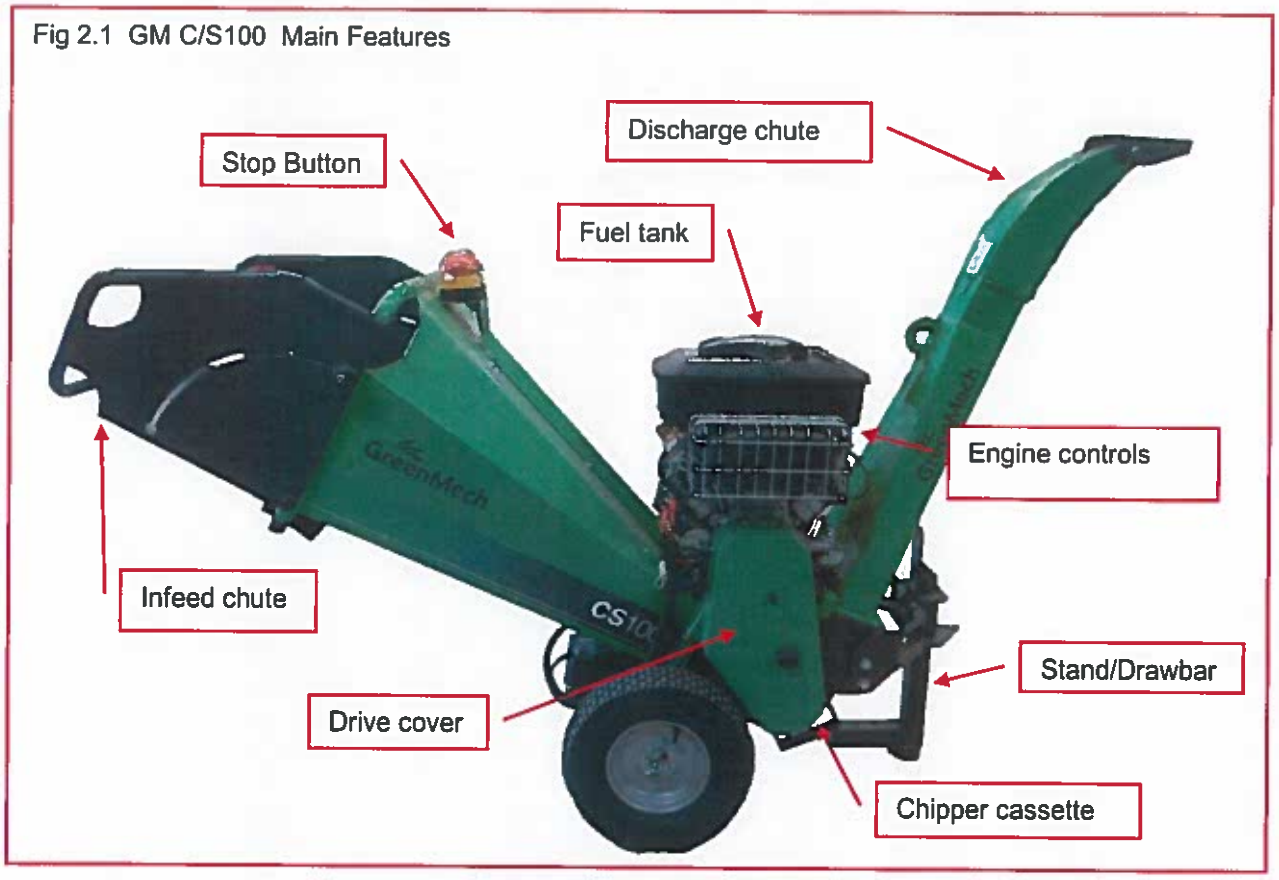
CS80 14HP Compact Chipper/ Shredder with interchangeable cassettes
CS100 18HP Compact Chipper/ Shredder with interchangeable cassettes
CS100TMP tractor mounted version with power take off (pto) shaft and gearbox instead of engine.
CS100 Trailer supplement included.
For Avant loader model, see separate Supplement not included.
Except where otherwise stated, alternative paragraphs and illustrations for engine driven and tractor mount versions are marked (a), (b) and (c) respectively.

The information in this manual is correct at the time of publication. However, in the course of development, changes to the machine specification are inevitable. Should you find any information to vary from the machine in your possession please contact your GreenMech dealer for up to date information.
The manual may contain standard and optional features and is not to be used as a machine specification.

PURPOSE

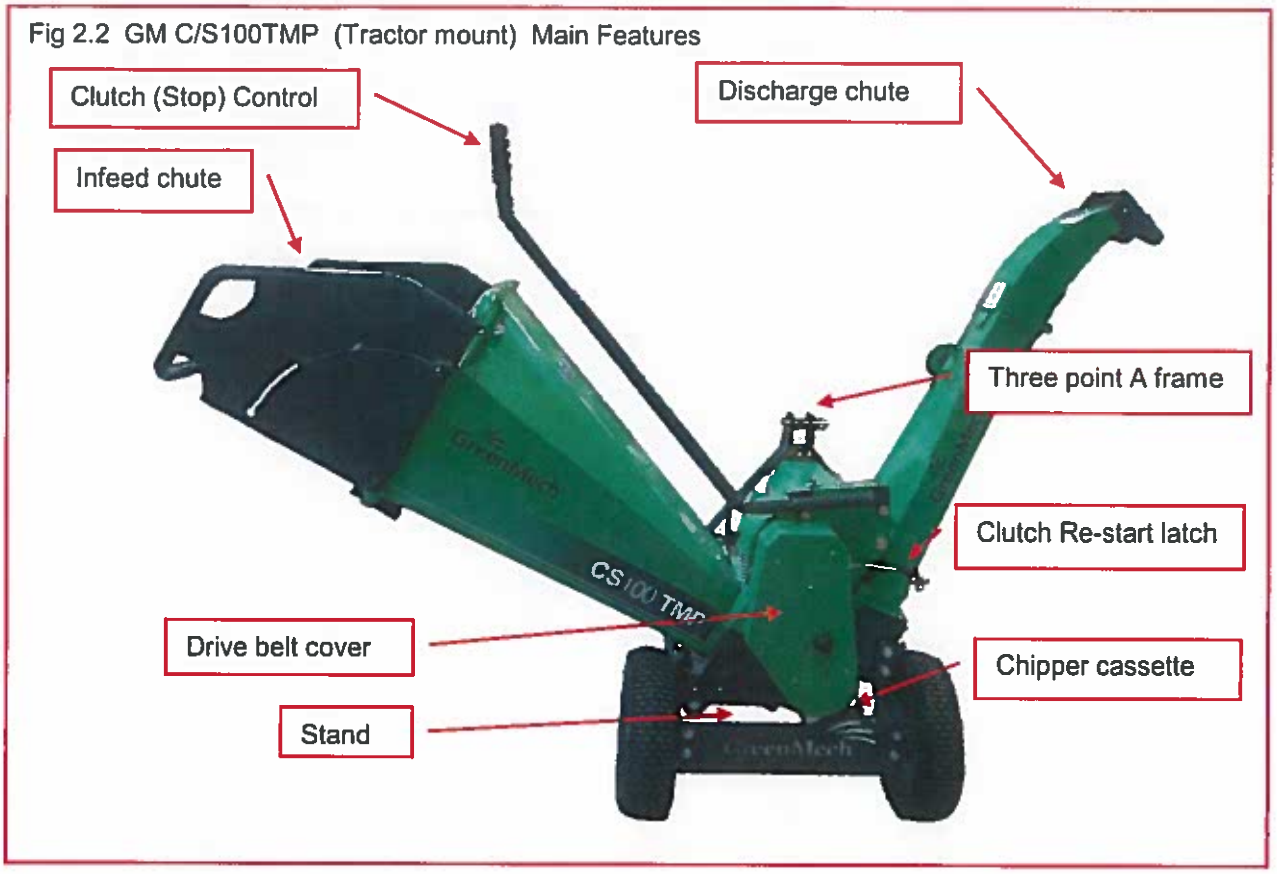
CAUTION! This machine is designed solely to chip wood and must not be used for any other purpose. The machine should only be used by trained operators who are familiar with the content of this instruction manual. It is potentially hazardous to fit or use any parts other than genuine GreenMech parts. The company disclaims all liability for the consequences of such use, which in addition voids the machine warranty.

Fig 2.1 GM C/S100 Main Features



TECHNICAL SPECIFICATION GM C/S100-14 / GM C/S100-18		
	CS80 14HP	CS100 18HP
Chipping Capacity	4 to 6 m^3 cuttings per hr depending on material	
Guaranteed wood diameter	80mm (3")	
Permitted wood diameter	130mm (5")	
Chipping Blades	2 reversible and regrindable blades	
Rotor cutting width	310mm	
Power Unit	Loncin 420 14HP manual recoil start	Vanguard V Twin 18hp electric start
Fuel	Petrol 95 octane (unleaded)	
Fuel Consumption (continuous)	2 8 lt/hour	
Length (Transport)	1725mm	
Length (Work)	2183mm	
Width	760mm	
Height (Transport)	1245mm	
Height (Work)	1468mm	
Feed Height	840mm	
Weight (Empty)	195Kg / 197Kg	

Fig 2.2 GM C/S100TMP (Tractor mount) Main Features



TECHNICAL SPECIFICATION GM C/S100TMP	
Chipping Capacity	4 to 6 m^3 cuttings per hr depending on material
Guaranteed wood diameter	80mm (3")
Permitted wood diameter	130mm (5")
Chipping Blades	2 reversible and regrindable blades
Rotor cutting width	310mm
Power Unit	15 - 30 HP Tractor with 3 pt. linkage and pto drive
Drive Shaft	6 spline 1.3/8" P T O drive from tractor
Support Linkage	3 point linkage Cat. 1 or Cat 2
Length (Transport)	1725mm
Length (Work)	2183mm
Width	760mm
Height (Transport)	1245mm
Height (Work)	1468mm
Feed Height	840mm
Weight (Empty)	195Kg

Noise
Noise levels vary depending on type of material being processed. Also duration of operation is variable. Noise emission tests have been carried out and the guaranteed sound power level is displayed on the CE plate as follows: **Lwa 120dB(A)**
Minimise noise by slowing to idle or stopping the engine whenever chipping is not in progress.

⚠ CAUTION! Operators must wear appropriate ear protection. Bystanders must be kept away from proximity of machine.

Lifting Points
Ensure infeed chute is folded in and secured for transport. Sling from tubular handles of fixed section of infeed chute and lifting point on discharge chute.

Drawbar and hitch or three point linkage
(a) Ring type hitch (b) tractor three point linkage.

⚠ CAUTION! Ensure that the towing vehicle or tractor is correctly suited to the machine weight and (a) drawbar (nose) loading. If necessary check with national vehicle legislation.

3.1

ENSURE! :

All Operators must be fully trained in the use of their machine.
(Certificated Operator training courses are available on request.)
Operators Manual is read and understood.
Enclosed HSE guidance notes are read and understood.
Appropriate Personal Protective Equipment (PPE) is worn, including non-snag clothing, gloves, eye and hearing protection.
Machine is positioned on level ground and machine is level with infeed chute at not less than 600mm (23.62 inches) above ground level (fig 3.4.3).
All guards are fitted and in good condition.
Blades are in good condition and secure.
All blades are sharpened or replaced in "Sets".
All fasteners are checked regularly for tightness.
Only "WOODEN" materials free of nails etc., are fed into machine.
Correct First Aid Kit including large wound dressing is available on site.
Fire extinguisher is available on site.

3.2

NEVER! :

Work on machine until chipper flywheel is stationary and engine or PTO has stopped.
Operate machine without protective clothing (Eye protection, Earmuffs, and Gloves), or high visibility clothing when working on roadside.
Operate with loose articles of clothing, including loose cuffs on gloves.
Work under a raised component without adequate safety support.
Operate machine with untrained personnel or with individuals present who are not involved in chipping work operation.
Leave machine unattended with engine running at full operating speed. (See section 4)
Put any part of your body into infeed chute while machine is running.
Operate machine whilst under the influence of alcohol or drugs.
Operate machine inside a building or confined space.
Climb on infeed chute.
Impede or obstruct Stop control.

3.3

ALWAYS! :

Check machine before starting (see Section 4 Preparation and Section 5.1 Operation: Pre-work checks).
Be aware of potential hazards in work area, i.e. uneven ground, tree roots, trip/slip hazards, obstructions and type of materials being fed into machine.
Feed from a side.
Keep clear of discharge area.
Have a second trained operator within easy reach of machine.
Maintain strict discipline at all times.
Service machine at specified periods. (see Section 6: Routine Maintenance).
Note direction of discharge chute and if necessary note wind direction to prevent debris from being blown into highway or where it could affect members of the public.
Keep machine level.
Check route to worksite for gradients, undulations and obstructions.
Remove key before doing any maintenance.

3.4 Safety Controls and Switches

3.4.1 Emergency Stop (fig 3.4.1a)
In event of emergency, push STOP button. This will lock in position to stop engine and machine.
Emergency Stop engine (fig 3.4.1b)
Identify engine Stop controls. In event of an emergency, stop engine. This will stop the machine.
Tractor mounted: Pull machine STOP lever (Fig 3.4.1b). This will lock in position to stop the rotor.

Once emergency has been rectified the following sequence should be carried out:
1) Check over machine for any blockages.
To reverse cutter, remove drive guard and, using a bar through hole in cutter spindle, manually turn cutter to free obstruction.
2) When clear, pull stop button out and restart engine.
Tractor mounted: When clear, release reset lever latch to re-engage.

Fig 3.4.1a Stop Button

Fig 3.4.1b Stop and reset levers

3.4.2 Engine stop switch

To stop Vanguard engine (CS100), turn key switch anticlockwise. (fig 3.4.2a)
To stop Loncin engine (CS80), turn button anticlockwise. (fig 3.4.2b)

⚠ CAUTION! Do not restart engine until hazard has been removed.

Fig 3.4.2a Engine Stop - Vanguard

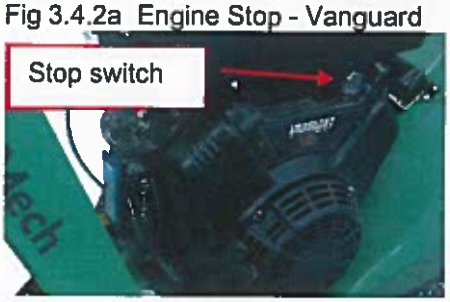
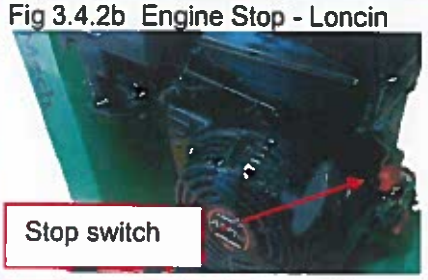


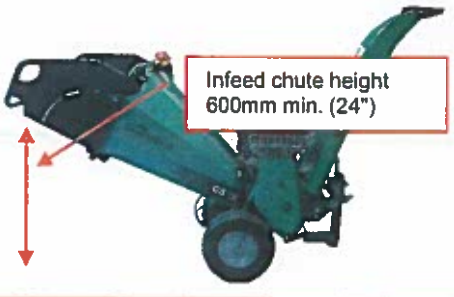
Fig 3.4.2b Engine Stop - Loncin



3.5 Control cut-outs (engine drive only)

Engine cut-out is installed under drive guard to stop and prevent restarting. due to specific events. Drive guard has to be removed first to access cutter or dismantle chutes

Fig 3.4.3 Infeed chute height



3.6 SYMBOLS on the MACHINE

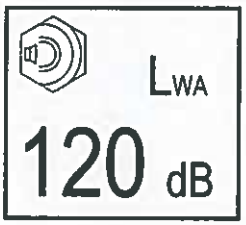
These relate to operator safety, correct use and maintenance of machine. Check that all personnel understand and are familiar with meanings before using the machine.

Important Safety symbols

Take the correct action shown on the display.

General Safety

Read Manual **Wear protection for Eyes / Hands / Ears**



Caution! – Sharp edges. **Sound level – ear protection must be worn!**

Maintenance information

4.1 Initial Fuelling and Parking

Position machine on level ground and ensure stand is secure (fig 4.1a).
Fill engine fuel tank with petrol.

⚠ CAUTION! Take extra care if engine is warm.

Check engine oil level.
Check that stop button is released.

Fig 4.1a Stand and Infeed Chute

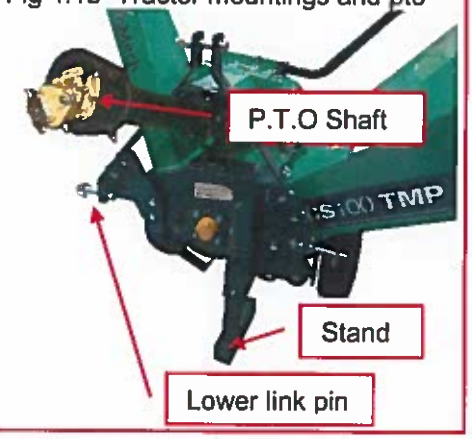
4.1a Tractor Mount - Fitting to tractor

Remove top, and lower linkage pins on chipper (fig 4.1b)

1) Lower three-point linkage on tractor and reverse up to chipper.
2) Locate each tractor lower lift arm into corresponding clevis on frame and insert each lower linkage pin. Secure pins with clips provided.
3) Adjust top link to correct length and locate linkage pin through frame, secure with clips provided.
4) Switch off tractor engine.
5) Check that PTO shaft is correct length for tractor make and model. See Section 4.4b below

⚠ CAUTION! The PTO shaft is equipped with shear bolt protection and this end of shaft MUST be fitted to tractor PTO shaft. (Pictograms stamped on PTO shaft cover may be incorrect.)

Fig 4.1b Tractor mountings and pto



6) Depress two spring buttons and slide onto tractor shaft until buttons spring out into correct locations.
7) Depress single spring button on ratchet clutch end and slide onto chipper gearbox shaft until button springs out into the correct location.
Ensure that machine is secure and stable on tractor linkage.
Ensure that p.t.o.shaft guard is secure and restrained from rotation.

4.2 Infeed Chute

1) Loosen hand nuts (fig 4.1a) and swing infeed chute extension into work position.
2) Tighten hand nuts ensuring that nylon spacers pass through holes at ends of slot.

⚠ CAUTION! Infeed chute must not be used at less than 600mm from ground. (fig 3.4.3).

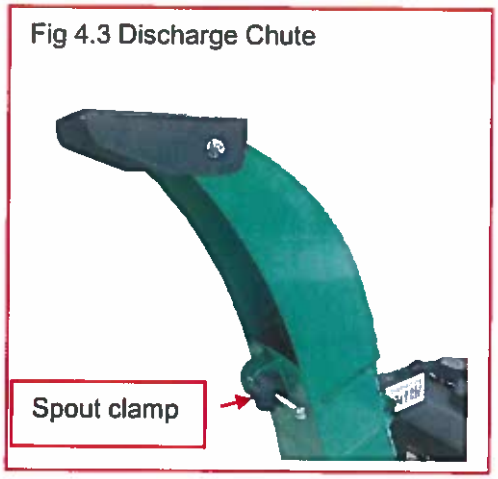
⚠ CAUTION! Before transporting, always fold up and secure infeed chute.

4.3 Discharge Chute (Fig 4.3)

Spout may be positioned facing directly away from operator or at 90deg either side.
Release spout clamp, remove and reset spout in desired direction and tighten clamp.
Set flap at desired height.

⚠ CAUTION! Observe wind direction - avoid danger of discharge blowing towards operator.

Fig 4.3 Discharge Chute



4.4 PTO shaft length (Tractor mounted only)

The PTO shaft must overlap by 150mm in longest situation and not bottom out in shortest situation. Always follow instructions supplied with shaft if available.

1) To shorten PTO, separate each section and refit to machine.
2) Raise machine on linkage until shortest length is achieved.
3) Supporting the sections side by side, mark a point 25mm - 50mm back from where guard tube meets joint guard onto other section. Repeat for opposite end.
4) Adjust tractor linkage to set at longest shaft length.
5) Check that 150mm minimum overlap of sections is achieved between marks.
6) Saw off surplus guard and shaft at each mark and remove cuttings and burrs.
7) Grease shaft, reassemble to machine, and test before use.

ROUTINE MAINTENANCE SCHEDULE

Note: (a) or (b) refer to specific engine driven type, (c) refers to Tractor Mounted.

⚠ CAUTION! Always press stop button, switch engine to stop (0) and check for rotation before carrying out any maintenance.

Action	Section	Page
DAILY		
Check engine oil level (ref: engine manual)	6.2 – 6.3	6-3
Check fuel level	6.2	6-3
Clean air cleaner (Engine driven only)	6.4	6-3
Check drive belt(s)	6.5	6-4
Check p.t.o. shaft and guard (ref: suppliers instructions)		
Check condition of infeed chute rubber flaps	6.6	6-4
Check condition of cutter blades and retaining bolts	6.7	6-5
First 50 hours		
Check drive belt tension	6.5	6-4
Check wheel and tyre condition and pressures	6.9	6-6
Check all mountings	6.11	6-6
Check battery levels (CS 100)	6.12	6-6
Service engine (engine driven only)	Refer to engine manual	
Change gearbox oil (tractor mounted only)	6.13	6-6
Weekly in addition to Daily actions		
Check drive belt tension	6.5	6-4
Steam clean machine	6.8	6-6
Clean air cleaner	6.4	6-3
Check wheel and tyre condition and pressures	6.9	6-6
Grease all bearings and pivots	6.10, 6.1	6-6
Check all mountings	6.11	6-6
Check battery levels (CS 100)	6.12	6-6
250 hours in addition to Daily and Weekly actions		
Check condition of bearings and pivots	6.10	6-6
Service engine (engine driven only)	Refer to engine manual	
Check axle mounting bolts for tightness	6.11	6-6
Check and grease wheel spindles	6.10	6-6
500 hours in addition to Daily and Weekly actions		
Change gearbox oil (tractor mounted only)	6.13	6.6

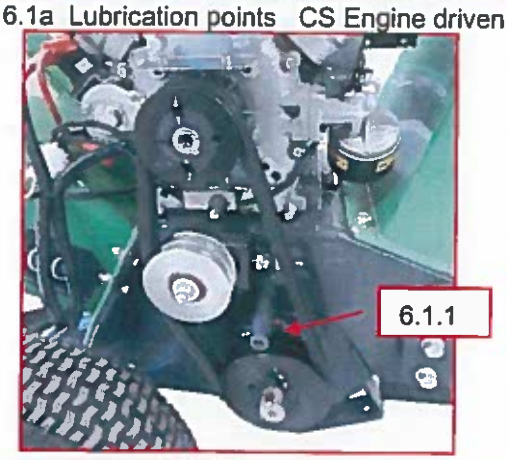
ENGINE MAINTENANCE REFER TO ENGINE MANUAL

Tyre Pressure 1.4 bar (20 lb/in²)

Recommended lubricants	Specification
Grease	Complex grease EP2 (high temperature)
Engine	SAE 15W-40 APICD
Gearbox (tractor mounted)	SAE 90 Capacity .5 litres

6.1 Lubrication Points (see 6.14)

Fig 6.1a Lubrication points CS Engine driven models



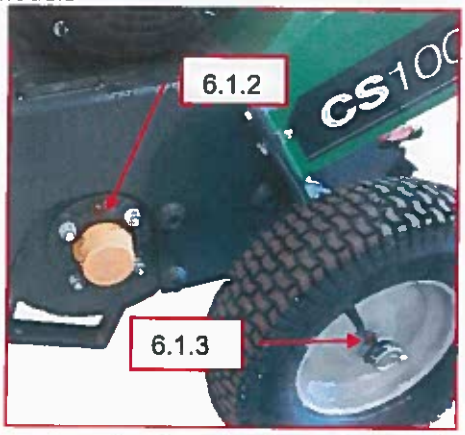
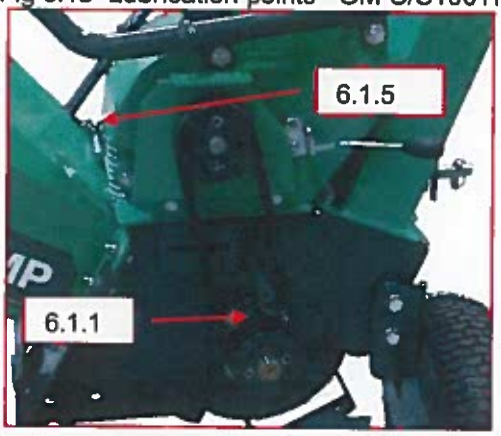
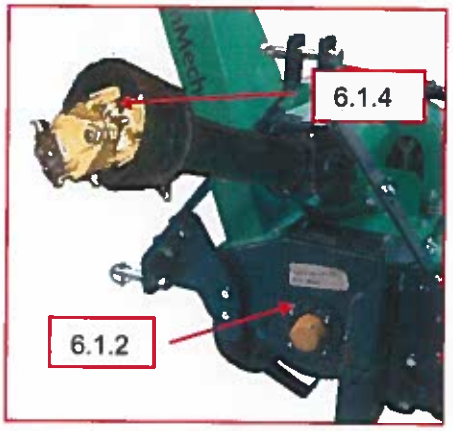


Fig 6.1b Lubrication points GM C/S100TM Tractor Mounted





Grease except where stated

6.1.1	Cutter bearing (remove guard)	1 nipple under guard
6.1.2	Cutter bearing (non-drive end)	1 nipple
6.1.3	Wheel spindles	Remove wheel - smear with grease
6.1.4	p.t.o. shaft - both ends	2 nipples
6.1.5	Gearbox	Check oil level and top-up as required

Note. Do not overgrease bearings as damage to seals may occur.

6.2 Engine Oil - Refer to Fig 6.2a or Fig 6.2b according to engine type.
Check daily. Refer to engine manual to refill.
Engine Oil Filter
Refer to engine manual for replacement.

Fig 6.2a Engine - Oil, Fuel, Air cleaner – CS 100 Vanguard – view each side

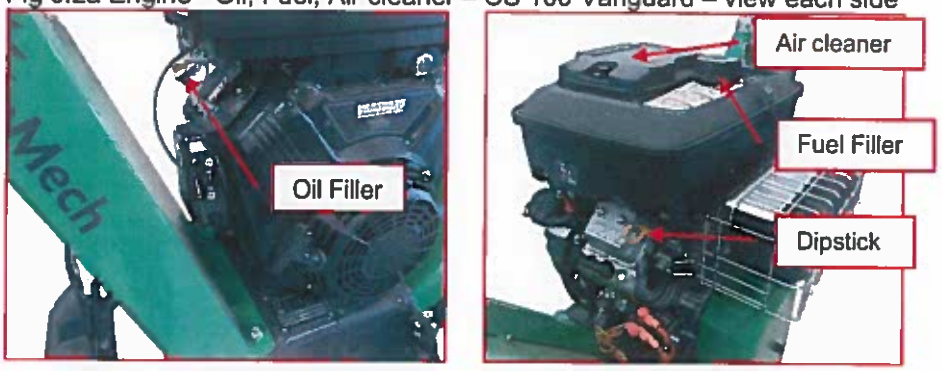


Fig 6.2b Engine Oil, Fuel, Air cleaner – CS 80 Loncin– view each side

6.3 Fuel Level Refer to Fig 6.2a or Fig 6.2b depending on engine type.
Check daily before work and fill as required (fig 6.2).

⚠ CAUTION! Use clean 4-stroke petrol fuel only. Take extra care if engine is warm. If in doubt, use a funnel with a filter.

6.4 Air Cleaner - Weekly

Fig. 6.4 Engine Air Cleaner (cover removed)

Fig 6.4a Vanguard - CS100 Fig 6.4b Loncin – CS80

1) Remove cover by unscrewing hand nuts (fig 6.4).
2) Unscrew hand nut, to remove element and carefully clean to release debris.
3) Replace element and cover.
4) Replace hand nuts securely.

6.5 Drive Belts - engine driven (Fig 6.5)

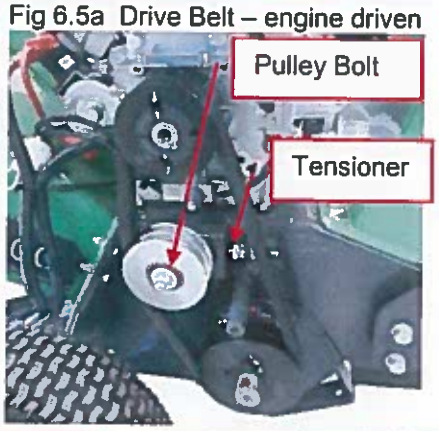
Check daily, before work.
Remove guard and inspect.
Desired belt tension is 400N. Check with tension meter (available as an option.)
To adjust tension
1) Release pulley bolt and adjust locknuts on tensioning screw to set tension.
2) Tighten pulley bolt.

Belt Replacement

1) Release pulley bolt and slacken tensioning screw to allow belts to be removed.
2) Fit new belts, ensuring they lie snugly in pulley grooves.
3) Tension belts, tighten pulley bolts and replace guard securely.

Note: Re-tension new belts after 5 working hours (engine driven only).

Fig 6.5a Drive Belt – engine driven



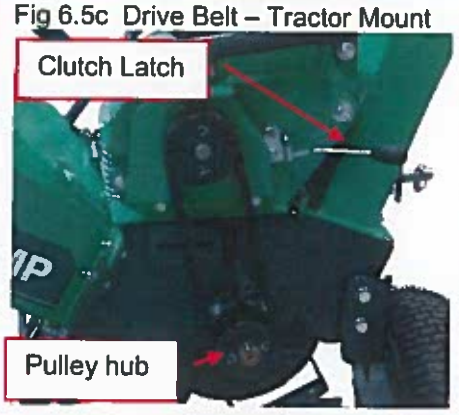
6.5c Tractor mounted only

Tensioning is not required.

Belt Replacement (Fig 6.5c)

1c) Pull stop lever to latch, to loosen belts.
2c) Remove both pulleys at hubs.
3c) Fit new belts, ensuring they lie snugly in pulley grooves.

Fig 6.5c Drive Belt – Tractor Mount

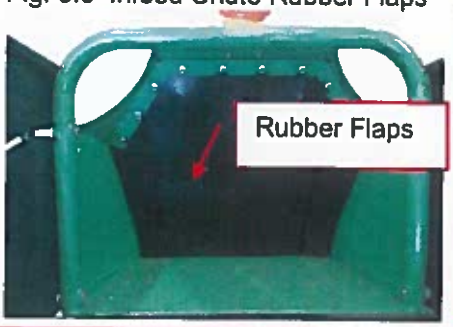


6.6 Infeed Chute Flaps (Fig 6.6)

Two slitted flaps protect operator from material thrown back up infeed chute.
Replace flaps if damaged.

⚠ CAUTION! Do not operate with missing or damaged flaps.

Fig. 6.6 Infeed Chute Rubber Flaps



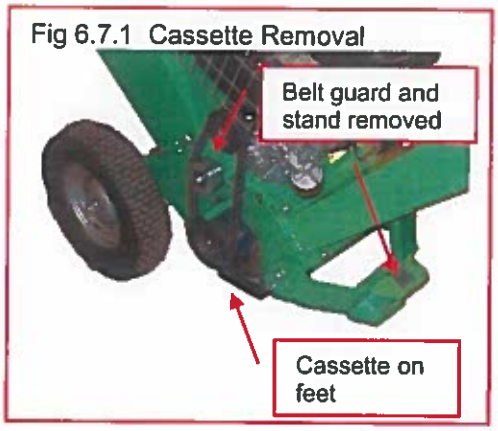
6.7 Cutter Blade Servicing

Cutter cassette is removed as a unit to service cutter blades.

Cassette removal

1) Check engine is switched off.
2) Remove drive belts as 6.5 above
3) Fold infeed chute in for transport and secure.
4) Tilt machine back to rest infeed chute on ground and remove stand.
5) Tilt machine forward to rest on feet of cassette(fig 6.7.1).
6) Remove 2 front bolts and 2 rear bolts.
7) Carefully tilt machine back to release cassette and rest machine on infeed chute.

Fig 6.7.1 Cassette Removal



Cassette removal Tractor Mount

1c) Disconnect pto shaft.
2c) Remove drive belts as 6.5c above
3c) Raise machine using tractor linkage.
4c) Place stand under cassette.
5c) Lower machine onto cassette stand.
6c) Remove 2 front bolts and 2 rear bolts.
7c) Carefully raise machine to release cassette.

Blade servicing (Fig 6.7.2)

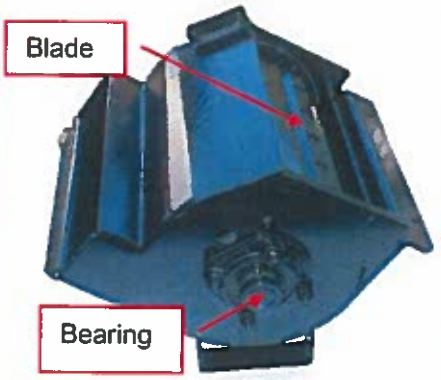
⚠ CAUTION! Take care. Blades are extremely sharp.

1) Slacken blades bolts with Torx tool supplied and remove.
2) Turn blades round and refit to use opposite edge.
3) Tighten blade bolts to 35Nm.
4) Check clearance to anvil is 0.5mm.

Note: If blades have been reground the anvil will need readjusting to 0.5mm.

5) Reassemble cassette and refit to machine by reversing procedure above.
6) Refit belts as 6.5 above.
7) Replace and secure drive guard.

Fig 6.7.2 Blade removal



Blade regrinding

Both edges of each blade must be ground on front at 27° angle and on back 10° angle over 4mm to ensure correct clearances.

When less than 48mm minimum width blades may be raised by a suitable shim.

⚠ CAUTION! Blades must only be sharpened by grinding on a bench grinder. Do not sharpen with hand held equipment.
Always sharpen in sets to maintain balance of cutter assembly.

6.8 Steam Cleaning

weekly and every 250 hours

1) Check all covers are fitted and closed
2) Steam clean machine surfaces.
3) Clean electrical components with a damp rag, spray with WD40 and then wipe with dry rag.

⚠ CAUTION! Do not steam clean directly on to electrical components.

6.9 Tyres and Wheels

50 hours and 250 hours

Check condition of tyres.
Check pressures and inflate to 1.4bar (20lb/in^2) pressure as required.
Check wheel nuts are tight.

6.10 Bearings and Pivots

weekly

See paragraph 6.1 for routine lubrication.

250 hours

Check rotating components for excessive movement and noise in operation.
Replace as required.

6.11 Mountings

250 hours

Check that all mounting bolts are tight.

6.12a Battery – CS 100 (Fig 6.12)

First 50 hours and weekly

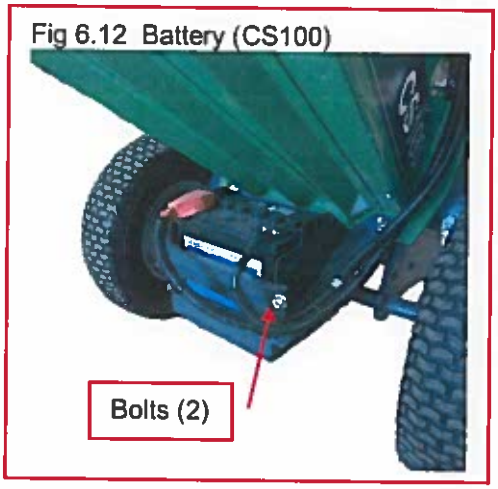
Check electrolyte level and top up if required.

⚠ CAUTION! Gases are explosive. Electrolyte is corrosive. Avoid sparks and spillage.

Removal of battery

1a) First disconnect negative (-) cable (black cap).
2a) Disconnect positive (+) cable (red cap).
3a) Remove bolts to allow tray to drop and lift out battery.
4a) Replace by connecting positive cable before negative.

Fig 6.12 Battery (CS100)

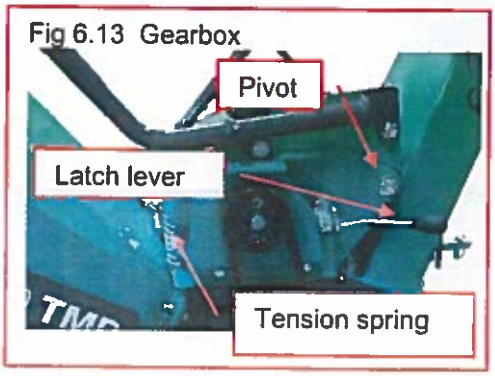


6.13c Gearbox removal to change oil (tractor mount only Fig 6.13)

1c) Remove belts as 6.5c above.
2c) Unlatch and release clutch.
3c) Remove tension spring.
4c) Remove pto input cover.
5c) Remove latch lever.
6c) Release 2 pivot bolts.
7c) Lift away gearbox in cradle.

Change oil and re-assemble in reverse order.

Fig 6.13 Gearbox



6.14 Fault finding

Fault	Check	Action	Page
Engine will not start	Stop button	Pull out to release	
	Engine stop switch	push to I - start position	6-3
	Fuel	Fill tank - check tap on	6-3
	Oil pressure	Check Oil level	6-3
	Drive guard	Fit to engage cut-out switch	6-4
Engine not at correct speed	Engine throttle	Check operation	5-1
Cutter not rotating	Blockage	Clear	5-1
	Drive belt tension	Re-tension or replace	6-4
Discharge does not flow	Discharge chute	Check for blockage	5-1
	Cutter unit	Check for blockage	5-1
Unusual noise(s)	Bearings	Check and replace	6-6

7.1 Storage

Thoroughly clean machine and note any replacement parts required.
Carry out 250 hour service if not already done. Refer to Section 6
Fit replacement parts when available.
Drain fuel (engine driven only)
If machine is to be stored for more than 3 months, place on axle stands to remove weight from wheels.

7.2 Removal from Storage

Check tyre pressures	Refer to 6.9
Carry out machine preparation as necessary	Refer to Section 4

8 Disposal

When the machine is finally scrapped, the following items should be disposed of only at authorised waste disposal facilities.

Engine or gearbox oil. Tyres. Rubber components

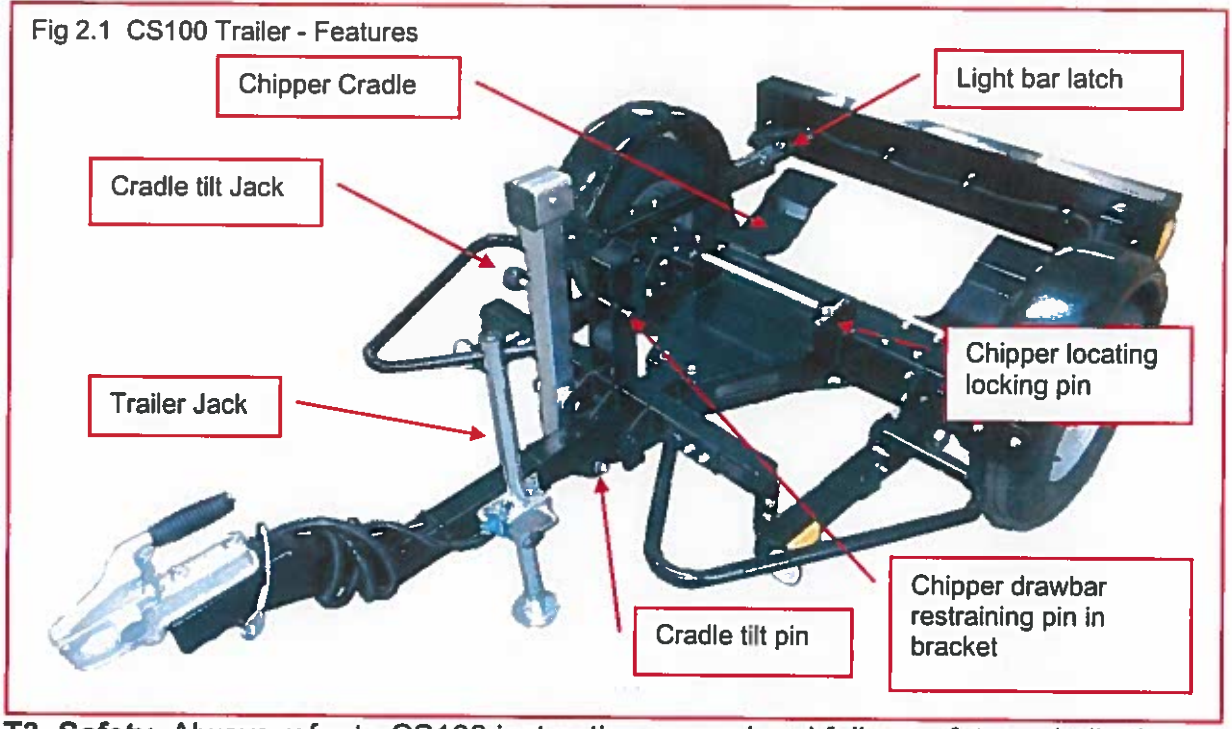
If in doubt, consult the Local Authority environmental department.

T1 Description The CS100 Trailer is an unbraked trailer incorporating a pivoting cradle designed specifically for transporting the CS100 behind a vehicle.

⚠ CAUTION! The trailer must not be used for any other purpose.
The machine may be operated whilst on the trailer. The cradle tilt jack can be fitted either side of the trailer to enable operator to stand clear from traffic direction.

T2 Specifications

Fig 2.1 CS100 Trailer - Features



T3 Safety Always refer to CS100 instruction manual and follow safety and all other instructions.

⚠ CAUTION! When used on trailer ensure that all location pins are in place and that vehicle brakes are applied.

T4 Preparation

1 With trailer attached to vehicle, unlatch and swing out rear light bar
2 Remove cradle tilt pin and lower cradle to ground using cradle tilt jack (Fig 4.1).
3 Rest machine on folded infeed chute and engage front stand into drawbar position (Fig 4.2).

Fig 4.1 Trailer Cradle lowered

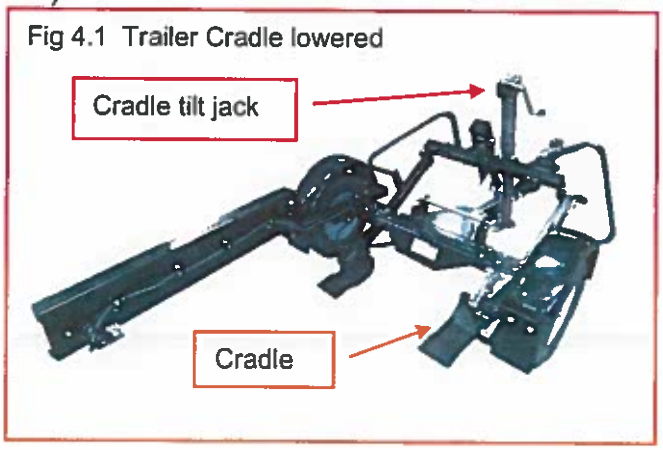
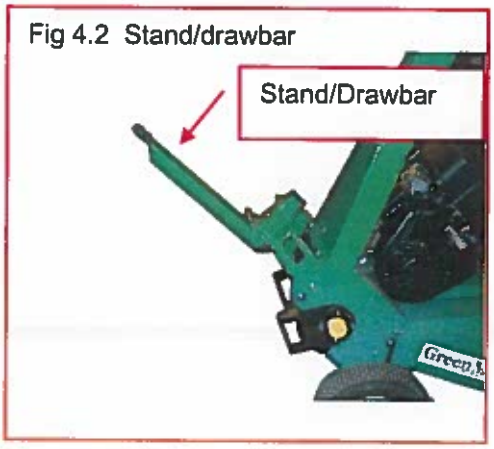


Fig 4.2 Stand/drawbar



T5 Operation to load machine onto trailer

1 Carefully wheel machine onto cradle, tipping forward to allow machine drawbar to slide under restraining bracket on trailer (Fig 5.1).

⚠ CAUTION! Ensure machine is squarely sitting in cradle

Fig 5.1 Machine in cradle

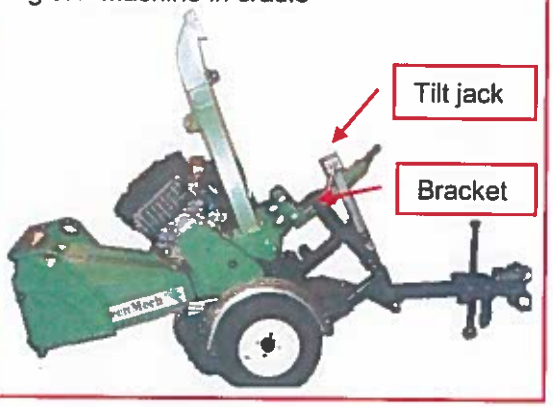
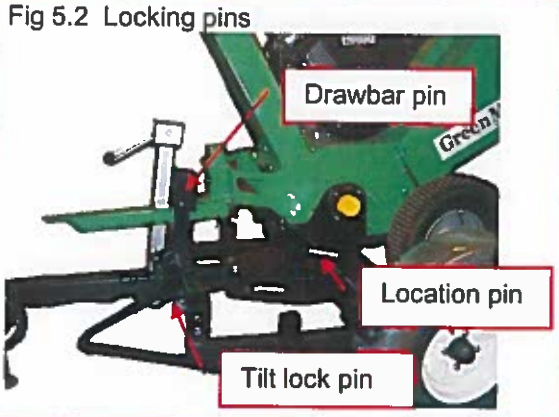


Fig 5.2 Locking pins



2 Wind up jack to lift cradle and machine from ground.

⚠ CAUTION! Machine will gently tip forward as its balance changes.

3 Continue winding until cradle tilt lock pin can be engaged under trailer drawbar.

4 Fit tilt lock pin, and secure machine with drawbar restraining pin and chassis location pin with key lock (Fig 5.2).

5 Swing rear light bar into position and fasten latch (Fig 5.3).

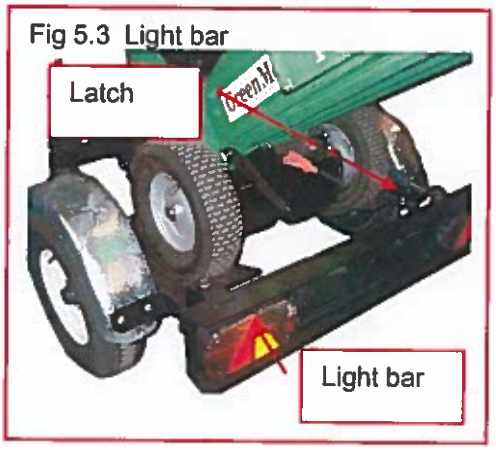
6 Ensure lighting cable is correctly connected to vehicle and check functions.

7 Ensure trailer jack (Fig 2.1) is fully raised in transport position before driving away.

To dismount machine from trailer, reverse this procedure.

⚠ CAUTION! Ensure trailer remains securely attached to vehicle to prevent trailer from tipping backwards when machine tips backwards as cradle is lowered.

Fig 5.3 Light bar



6 Maintenance

Lubricate pivots and check wheels and tyres regularly

7 Storage and disposal

Follow advice in machine instruction manual.

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The Professionals' Choice

WARRANTY POLICY

PERIOD OF WARRANTY

All new machinery is supplied with a 3 year parts and labour warranty from original date of purchase.

LIMITATIONS

This warranty applies only to manufacturing defect and **does not** cover repairs or costs due to:

1. Normal wear and tear.
2. Routine maintenance or adjustment.
3. Damage caused by improper handling/abuse/misuse or neglect.
4. Lack of or over lubrication
5. Overheating due to lack of maintenance.
6. Damage due to fittings/fasteners becoming loose/detached through lack of maintenance.
7. Damage caused by cleaning with water.
8. Machines serviced or repaired by non-authorised GreenMech dealers.
9. Machines incorrectly assembled or adjusted.
10. Damage caused by improper use of the machine.
11. Items/parts that are not normally covered by the warranty, including but not limited to: Blade and Blade Assemblies - Belts - Filters - Clutch Assemblies - Lubricants - Wheels & Tyres –Axles- Batteries – Bearings -Dampers - Paint
12. Consequential loss, damages or costs.

MAINTENANCE

Maintenance carried out during the warranty period should be carried out as per section 6 of the machine owner's manual and by an authorised GreenMech dealer.

ENGINES

This is covered by the manufacturer of the engine. Please refer to the separate warranty conditions as supplied with the owner's manual.

All warranty repairs must be carried out by an authorised GreenMech dealer, except for engines, please refer to separate warranty terms supplied with the engine owner's manual.

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