

TWOSE

CUTTER GRABS

CG10S / CG20S / CG25S / CG30S
(Machines 05/07 onwards)
Operation & Parts Manual

Publication 612 (Rev.05.02.10)

IMPORTANT VERIFICATION OF WARRANTY REGISTRATION



DEALER WARRANTY INFORMATION & REGISTRATION VERIFICATION

It is imperative that the selling dealer registers this machine with Twose of Tiverton Limited before delivery to the end user – failure to do so may affect the validity of the machine warranty.

To register machines go to the Twose web site at www.twose.com, log onto 'Dealer Inside' and select the 'Machine Registration button' which can be found in the Service Section of the site. Confirm to the customer that the machine has been registered in the section below.

Should you experience any problems registering a machine in this manner please contact the Twose Office on 01884 253691.

Registration Verification

Dealer Name:
Dealer Address:
Customer Name:
Date of Warranty Registration:/...../..... Dealer Signature:

NOTE TO CUSTOMER / OWNER

Please ensure that the above section above has been completed and signed by the selling dealer to verify that your machine has been registered with Twose of Tiverton Limited.

IMPORTANT: During the initial 'bedding in' period of a new machine it is the customer's responsibility to regularly inspect all nuts, bolts and hose connections for tightness and re-tighten if required. New hydraulic connections occasionally weep small amounts of oil as the seals and joints settle in – where this occurs it can be cured by re-tightening the connection – *refer to torque settings chart below*. The tasks stated above should be performed on an hourly basis during the first day of work and at least daily thereafter as part of the machines general maintenance procedure.

TORQUE SETTINGS FOR HYDRAULIC FITTINGS

HYDRAULIC HOSE ENDS		
BSP	Setting	Metric
1/4"	18 Nm	19 mm
3/8"	31 Nm	22 mm
1/2"	49 Nm	27 mm
5/8"	60 Nm	30 mm
3/4"	80 Nm	32 mm
1"	125 Nm	41 mm
1.1/4"	190 Nm	50 mm
1.1/2"	250 Nm	55 mm
2"	420 Nm	70 mm

PORT ADAPTORS WITH BONDED SEALS		
BSP	Setting	Metric
1/4"	34 Nm	19 mm
3/8"	47 Nm	22 mm
1/2"	102 Nm	27 mm
5/8"	122 Nm	30 mm
3/4"	149 Nm	32 mm
1"	203 Nm	41 mm
1.1/4"	305 Nm	50 mm
1.1/2"	305 Nm	55 mm
2"	400 Nm	70 mm

WARRANTY POLICY

WARRANTY REGISTRATION

All machines must be registered, by the selling dealer with Twose of Tiverton Ltd, before delivery to the end user. On receipt of the goods it is the buyer's responsibility to check that the Verification of Warranty Registration in the Operator's Manual has been completed by the selling dealer.

1. LIMITED WARRANTIES

- 1.01. *All machines supplied by Twose of Tiverton Ltd are warranted to be free from defects in material and workmanship from the date of sale to the original purchaser for a period of 12 months, unless a different period is specified.*
- 1.02. *All spare parts supplied by Twose of Tiverton Ltd and purchased by the end user are warranted to be free from defects in material and workmanship from the date of sale to the original purchaser for a period of 6 months. All parts warranty claims must be supported by a copy of the failed part invoice to the end user. We cannot consider claims for which sales invoices are not available.*
- 1.03. *The warranty offered by Twose of Tiverton Ltd is limited to the making good by repair or replacement for the purchaser any part or parts found, upon examination at its factory, to be defective under normal use and service due to defects in material or workmanship. Returned parts must be complete and unexamined. Pack the component(s) carefully so that any transit damage is avoided. All ports on hydraulic items should be drained of oil and securely plugged to prevent seepage and foreign body ingress. Certain other components, electrical items for example, may require particular care when packing to avoid damage in transit.*
- 1.04. *This warranty does not extend to any product from which Twose of Tiverton Ltd's serial number plate has been removed or altered.*
- 1.05. *This warranty does not apply to any part of the goods, which has been subjected to improper or abnormal use, negligence, alteration, modification, fitment of non-genuine parts, accident damage, or damage resulting from contact with overhead power lines, damage caused by foreign objects (e.g. stones, iron, material other than vegetation), failure due to lack of maintenance, use of incorrect oil or lubricants, contamination of the oil, or which has served its normal life. This warranty does not apply to any expendable items such as blades, belts, clutch linings, filter elements, flails, flap kits, skids, soil engaging parts, shields, guards, wear pads, pneumatic tyres or tracks.*
- 1.06. *Temporary repairs and consequential loss - i.e. oil, downtime and associated parts are specifically excluded from the warranty.*
- 1.07. *Warranty on hoses is limited to 12 months and does not include hoses which have suffered external damage. Only complete hoses may be returned under warranty, any which have been cut or repaired will be rejected.*
- 1.08. *Machines must be repaired immediately a problem arises. Continued use of the machine after a problem has occurred can result in further component failures, for which Twose of Tiverton Ltd cannot be held liable, and may have safety implications.*
- 1.09. *If in exceptional circumstances a non Twose of Tiverton Ltd part is used to effect a repair, warranty reimbursement will be at no more than Twose of Tiverton Ltd's standard dealer cost for the genuine part.*
- 1.10. *Except as provided herein, no employee, agent, dealer or other person is authorised to give any warranties of any nature on behalf of Twose of Tiverton Ltd.*
- 1.11. *For machine warranty periods in excess of 12 months the following additional exclusions shall apply:*
 - 1.11.1. *Hoses, exposed pipes and hydraulic tank breathers.*
 - 1.11.2. *Filters.*
 - 1.11.3. *Rubber mountings.*
 - 1.11.4. *External electric wiring.*
 - 1.11.5. *Bearings and seals.*

- 1.12. All service work, particularly filter changes, must be carried out in accordance with the manufacturer's service schedule. Failure to comply will invalidate the warranty. In the event of a claim, proof of the service work being carried out may be required.
- 1.13. Repeat or additional repairs resulting from incorrect diagnosis or poor quality previous repair work are excluded from warranty.

NB Warranty cover will be invalid if any non-genuine parts have been fitted or used. Use of non-genuine parts may seriously affect the machine's performance and safety. Twose of Tiverton Ltd cannot be held responsible for any failures or safety implications that arise due to the use of non-genuine parts.

2. REMEDIES AND PROCEDURES

- 2.01. The warranty is not effective unless the Selling Dealer registers the machine, via the Twose of Tiverton Ltd web site and confirms the registration to the purchaser by completing the confirmation form in the operator's manual.
- 2.02. Any fault must be reported to an authorised Twose of Tiverton Ltd dealer as soon as it occurs. Continued use of a machine, after a fault has occurred, can result in further component failure for which Twose of Tiverton Ltd cannot be held liable.
- 2.03. Repairs should be undertaken within two days of the failure. Claims submitted for repairs undertaken more than 2 weeks after a failure has occurred, or 2 days after the parts were supplied will be rejected, unless the delay has been authorised by Twose of Tiverton Ltd. Please note that failure by the customer to release the machine for repair will not be accepted as a reason for delay in repair or submitting warranty claims.
- 2.04. All claims must be submitted, by an authorised Twose of Tiverton Ltd Service Dealer, within 30 days of the date of repair.
- 2.05. Following examination of the claim and parts, Twose of Tiverton Ltd will pay, at their discretion, for any valid claim the invoiced cost of any parts supplied by Twose of Tiverton Ltd and appropriate labour and mileage allowances if applicable.
- 2.06. The submission of a claim is not a guarantee of payment.
- 2.07. Any decision reached by Twose of Tiverton Ltd is final.

3. LIMITATION OF LIABILITY

- 3.01. Twose of Tiverton Ltd disclaims any express (except as set forth herein) and implied warranties with respect to the goods including, but not limited to, merchantability and fitness for a particular purpose.
- 3.02. Twose of Tiverton Ltd makes no warranty as to the design, capability, capacity or suitability for use of the goods.
- 3.03. Except as provided herein, Twose of Tiverton Ltd shall have no liability or responsibility to the purchaser or any other person or entity with respect to any liability, loss, or damage caused or alleged to be caused directly or indirectly by the goods including, but not limited to, any indirect, special, consequential, or incidental damages resulting from the use or operation of the goods or any breach of this warranty. Notwithstanding the above limitations and warranties, the manufacturer's liability hereunder for damages incurred by the purchaser or others shall not exceed the price of the goods.
- 3.04. No action arising out of any claimed breach of this warranty or transactions under this warranty may be brought more than one (1) year after the cause of the action has occurred.

4. MISCELLANEOUS

- 4.01. Twose of Tiverton Ltd may waive compliance with any of the terms of this limited warranty, but no waiver of any terms shall be deemed to be a waiver of any other term.
- 4.02. If any provision of this limited warranty shall violate any applicable law and is held to be unenforceable, then the invalidity of such provision shall not invalidate any other provisions herein.
- 4.03. Applicable law may provide rights and benefits to the purchaser in addition to those provided herein.



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DECLARATION OF CONFORMITY

Conforming to EU Machinery Directive 2006/42/EC

We,

TWOSE of TIVERTON LIMITED,
6 Chinon Court, Lower Moor Way,
Tiverton Business Park, Tiverton, Devon, EX16 6SS, UK

Hereby declare that:

The Product; *Cutter Grabs*

Product Code; *CG10S, CG20S, CG25S, CG30S*

Serial No. & Date Type

Manufactured in; *United Kingdom*

Complies with the required provisions of the Machinery Directive 2006/42/EC
The machinery directive is supported by the following harmonized standards;

- BS EN ISO 12100 (2010) Safety of machinery – General principles for design – Risk assessment and risk reduction.
- BS EN 349 (1993) + A1 (2008) Safety of machinery - Minimum distances to avoid the entrapment with human body parts.
- BS EN 953 (1997) + A1 (2009) Safety of machinery - Guards general requirements for the design and construction of fixed and movable guards.
- BS EN 4413 (2010) Hydraulic fluid power. Safety requirements for systems and their components.

Signed  *Responsible Person*
CHRISTIAN DAVIES on behalf of TWOSE OF TIVERTON LIMITED

Status: *General Manager*

Date: *September 2015*

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GENERAL INFORMATION

Always read this manual before fitting or operating the machine – whenever any doubt exists contact your dealer or the Twose Service Department for advice and assistance.

Use only Twose Genuine Service Parts on Twose Equipment and Machines

DEFINITIONS – The following definitions apply throughout this manual:

WARNING

An operating procedure, technique etc., which –
can result in personal injury or loss of life if not observed carefully.

CAUTION

An operating procedure, technique etc., which –
can result in damage to either machine or equipment if not observed carefully.

NOTE

An operating procedure, technique etc., which –
is considered essential to emphasis.

LEFT AND RIGHT HAND

This term is applicable to the machine when attached to the tractor and is viewed
from the rear – this also applies to tractor references.

MACHINE & DEALER INFORMATION

Record the Serial Number of your machine on this page and always quote this number when ordering parts. Whenever information concerning the machine is requested remember also to state the make and model of tractor to which the machine is fitted.

Machine Serial Number:	Installation Date:
Machine Model details:	
Dealer Name:	
Dealer Address:	
Dealer Telephone No:	
Dealer Email Address:	

MACHINE DESCRIPTION & PURPOSE OF USE

These machines are commonly known throughout the agricultural industry as Cutter Grabs and are intended for use attached to an agricultural vehicle by means of a tractor front end loader or the boom of a purpose built materials handler. The sole purpose of the machine is for safe and economical handling of silage and/or other similar materials. This machine is not suitable for digging and therefore must never be used for that purpose.

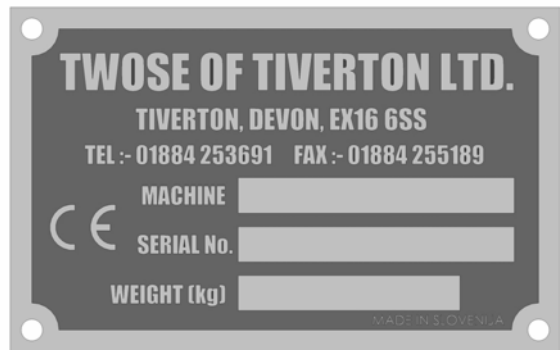
These machines should only be used to perform tasks for which they were designed – use of the machine for any other function may be both dangerous to persons and damaging to components and is therefore not advisable.

MACHINE IDENTIFICATION

Each machine is fitted with an identification plate with the following information:

1. Machine (Part Number)
2. Machine Serial No.
3. Machine Weight

When ordering spares or replacement parts from your local dealer it is important to quote both Part Number and Serial Number as stated on the identification plate so the machine and model can be quickly and correctly identified.



Machine Identification Plate

TECHNICAL SPECIFICATIONS

SPECIFICATION	CG10S	CG20S	CG25S	CG30S
Width	1.29m (50")	1.42m (55")	1.71m (67")	1.96m (76")
Capacity	0.6m ³	0.9m ³	1.05m ³	1.24m ³
Serrated Blade	yes	yes	yes	yes
No. of Hydraulic Rams	2	2	2	3

SAFETY INFORMATION

General safety rules:

- ▲ Always read and follow the instructions for the use and maintenance of the machine before carrying out any work operations or servicing tasks.
- ▲ Improper use of the machine is both highly dangerous to persons and damaging to the machine components – only use the machine for its designated task.
- ▲ Both operators and the maintenance fitters should be familiar with the machine and fully aware of dangers surrounding improper use or incorrect repairs.
- ▲ Before starting, checks to both tractor and machine must be carried out as regards: functionality, road safety, accident prevention rules.
- ▲ When using the machine all bystanders and onlookers should be kept at a safe distance from the tractor and machine. Special attention must be paid when working in or near buildings.
- ▲ Use tractor's fitted with safety cabs.
- ▲ The condition of the machine must be checked before use – do not use the machine if components are missing or damaged.
- ▲ During checks or repairs, make sure nobody could start the machine by mistake.
- ▲ Never wear loose or fluttering clothes when operating machines.
- ▲ Never carry passengers on the tractor.
- ▲ Never carry passengers on the machine.
- ▲ Never connect the power takeoff with the engine running.
- ▲ Never leave the tractor seat whilst the engine or machine is running.
- ▲ Do not enter the working zone of the tractors PTO shaft.
- ▲ Keep the PTO shaft guard in good condition.
- ▲ Before starting, check the surrounding area for the likely presence of children and/or animals.
- ▲ Do not stand near the machine when it is raised or operating.
- ▲ The PTO shaft of a tractor must be assembled and disassembled only with the engine stopped and the starting key removed.
- ▲ Before connecting the power takeoff, check that the speed and the rotational direction correspond to those of the machine.
- ▲ Immediately replace missing or damaged safety decals.
- ▲ Before leaving the tractor with a machine attached, proceed as follows:
 1. Disconnect the power takeoff,
 2. Put the machine steadily on the ground using the tractor's hydraulic lift.
 3. Apply the hand brake and, if the ground is steeply sloping, wedge the tractor.
 4. Remove the starting key.

Transportation Safety

- ▲ In transport, reduce speed, especially on bumpy roads, the weight of the machine may render driving difficult and damage the machine itself.
- ▲ Ensure the levers that operate the hydraulic lift are locked, to avoid the lowering of the machine during transport.
- ▲ When driving on public roads, respect all road rules in force.
- ▲ Be aware of the height of a machine during use and transportation especially when operating in close proximity to low obstacles such as power lines and bridges.

Operating Safety

- ▲ Pay special attention when working with the machine not to touch fixed objects such as drains, walls, kerbs, guard rails, tracks etc.
- ▲ It cannot be stressed enough the dangers involved when working in the vicinity of overhead power cables. Keep the machine clear of power lines at all times. Remember electrocution can occur without actually coming into contact with a power line as electricity can 'flash over' when machinery gets close to it.
- ▲ Always lower the machine to rest on the ground when not in use.
- ▲ Always ensure the machine is safely supported before attempting to carry out repairs or maintenance. Never work on a machine that is raised or unsupported.

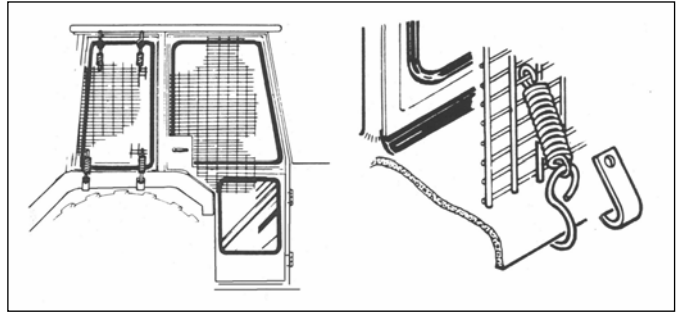
Although the information given here covers a wide range of safety subjects, it is impossible to predict every eventuality that can occur under differing circumstances whilst operating this machine. No advice given here can replace 'good common sense' and 'total awareness' at all times, but will go a long way towards the safe use of your Twose machine.

VEHICLE / TRACTOR PREPARATION

We recommend vehicles are fitted with cabs using 'safety glass' windows and protective guarding when used with our machines.

Fit Operator Guard (part no. 7313324) using the hooks provided. Shape the mesh to cover all vulnerable areas.

Remember the driver must be looking through mesh and/or polycarbonate



glazing when viewing the machine in all positions - unless the vehicle/ cab manufacturer can demonstrate that the penetration resistance is equivalent to, or higher than, that provided by mesh/polycarbonate glazing. If the tractor has a roll bar only, a frame must be made to carry both mesh and polycarbonate glazing. The operator should also use personal protective equipment to reduce the risk of serious injury such as; eye protection (mesh visor to EN1731 or safety glasses to EN166), hearing protection to EN352, safety helmet to EN297, gloves, filter mask and high visibility clothing.

Vehicle Ballast

It is imperative when attaching 'third-party' equipment to a vehicle that the maximum possible stability of the machine and vehicle combination is achieved – this can be accomplished by the utilisation of 'ballast' in order to counter-balance the additional equipment added.

Front weights may be required for rear mounted machines to place 15% of total outfit weight on the front axle for stable transport on the road and to reduce 'crabbing' due to the drag of the cutting unit when working on the ground.

Where a machine works to the side of the tractor rear weights may be required to maintain a reasonable amount of rear axle load on the opposing wheel.

All factors must be addressed in order to match the type and nature of the equipment added to the circumstances under which it will be used - factors that effect stability are:

- Centre of gravity of the tractor/machine combination.
- Geometric conditions, e.g. position of the cutting head and ballast.
- Weight, track width and wheelbase of the tractor.
- Acceleration, braking, turning and the relative position of the cutting unit during these operations.
- Ground conditions, e.g. slope, grip, load capability of the soil/surface.
- Rigidity of implement mounting.

Suggestions to increase stability:

- Increasing rear wheel track - *a vehicle with a wider wheel track is more stable.*
- Ballasting the wheel; it is preferable to use external weights but liquid can be added to around 75% of the tyre volume – water with anti-freeze or the heavier Calcium Chloride alternative can be used.
- Addition of weights – care should be taken in selecting the location of the weights to ensure they are added to a position that offers the greatest advantage.
- Front axle locking, check with tractor manufacturer.

The advice above is offered as a guide for stability only and is not a guide to vehicle strength. It is therefore recommended that you consult your vehicle manufacturer or local dealer to obtain specific advice on this subject, additionally advice should be sought from a tyre specialist with regard to tyre pressures and ratings suitable for the type and nature of the machine you intend to fit.

GENERAL INSTRUCTIONS

1. Before attaching any machine to a tractor or loader make sure that implement is still standing firmly on a firm level site. Check that any wheels are chocked correctly and that supports/props are in position where necessary to prevent booms, etc. from dropping.
2. Before and during the maneuvering of the tractor or vehicle to attach machinery or implements, make sure that no other persons are in the vicinity. Keep other persons well clear and make known your intentions, all the while keeping a sharp lookout whilst reversing and aligning machines for coupling up.
3. Always ensure that brakes are applied correctly to secure the tractor into the selected position. This will prevent the vehicle from moving off on its own to cause injury and damage.
4. Make sure that the loader lift arms are properly fitted to the machine or implement using the correct adapter sleeves where necessary. Secure pins with relevant pin and ring assemblies.
5. Should it become necessary to make any adjustments or service the machine while raised on the tractor linkage or front end loader, trestles or suitable supports must be positioned to support machine to prevent accidental dropping of lift arms, loader arms or mechanical failure.

MACHINES MUST ALWAYS BE PROPPED AND CHOCKED.

6. Never attempt to work on, adjust, service or repair machinery of any kind whilst it is still running or working. Always stop the machine and STOP THE TRACTOR ENGINE before making adjustments or repairs.

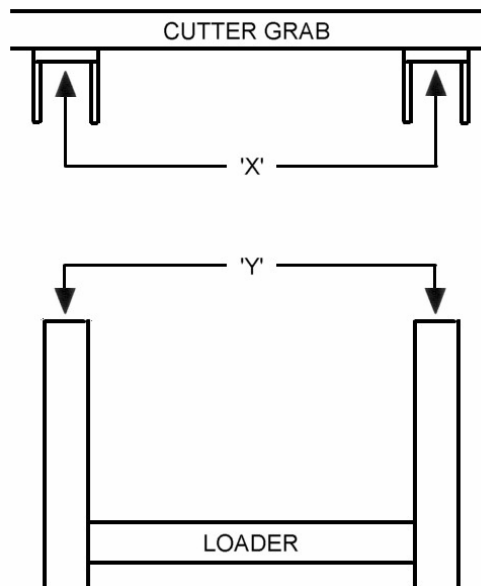
SWITCH OFF THE TRACTOR ENGINE BEFORE LEAVING THE TRACTOR SEAT

7. In transit always use transport stays or locking devices where provided. If, as in the case of some larger machines make sure that the rear of the tractor or loader is suitably ballasted to maintain stability. A method of achieving this is to add suitable weights to a correctly specified and fitted rear weight frame.
8. Always use machines in a sensible and reasonable manner and do not attempt to use them for work for which they are not intended. Avoid overloading and abusing them as this can cause damage to machine and tractor and can be very dangerous.
9. When unhitching/detaching a machine from a front end loader ensure that any stands or legs are securely positioned. The machine must be parked where it will not be a safety hazard or cause annoyance to others. Make sure that chosen parking site is firm and level.
10. Carry out regular periodic maintenance, always with safety in mind.
11. Ensure regular maintenance procedures are maintained for the lifetime of the machine.

HEALTH AND SAFETY RULES AND REGULATIONS MUST BE ADHERED TO IN ALL AGRICULTURAL RESPECTS.

ATTACHING LOADER BRACKETS TO CUTTER GRAB

1. Before attempting to attach the brackets to any of the machines, ensure that the grab is on a flat level site with sufficient room to maneuver the tractor/loader.
2. Loader brackets vary from one make of loader/materials handler to another. To overcome this Twoose can provide a universal Multi-Hole bracket which can be used with the majority of standard pin attach type loaders (*please confirm brackets will fit before ordering*). Where 'Quick Hitch' type loaders are used the correct type of weld on brackets will have to be purchased through the supplier or dealer. Some of the cutter grabs main frames are based on a box section design, only on these machines can the loader brackets be attached either by welding or by using correctly sized U-Bolts around the box section.



- a) Measure the centre distance of the loader arms and crowd rams or linkage (*distance 'X' in diagram above*).
- b) Position the weld or bolt on brackets on the rear of the cutter grab on the welded on strips or box section so that their centre width (*distance 'Y'*) matches that of the loader arms and crowd rams or linkage (*distance 'X'*). The height of the brackets should be set so that the loader can easily be attached and removed when parked on level ground and provide a large contact area for welding
- c) Ensure the distance from the centre of the cutter grab to each bracket is equal and that they are at the same height and are parallel.
- d) If you are in any way unsure of the measured distance contact the loader manufacturer or dealer to confirm the correct bracket width (*distance 'Y'*) before welding.
- e) With the brackets in the correct position they should be either welded **100%** to the cutter grab body by a **QUALIFIED WELDER** or the **U-Bolts tightened sufficiently**.

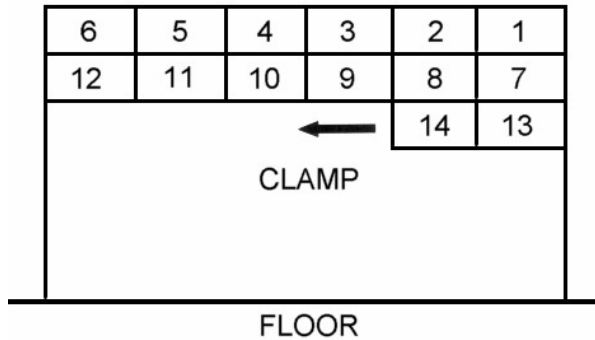
ATTACHING CUTTER GRAB TO LOADER

- a) Before and during the maneuvering of the tractor or vehicle to attach the cutter grab, make sure that no other persons are in the vicinity. Keep all other persons clear of the machinery and make known your intentions, all the while keeping a sharp lookout whilst maneuvering machines for coupling up.
- b) Position tractor/loader 'square' to the cutter grab with the loader arm or quick hitch inline with the brackets.
- c) Move loader slowly forward between the brackets until bracket pin holes correspond with loader pin holes, fit the correct pins and secure correctly.
- d) Operate crowd on loader to align crowd rams or linkage with the holes in the brackets, fit the correct pins and secure correctly.
- e) In the case of a quick hitch attachment the method of connecting the cutter grab to the loader correctly should be as described in the owners' manual for that machine.
- f) The cutter grab is now mechanically connected to the loader, the pressure and return hoses for the rams on the cutter grab now need to be connected from the tractor/loader to the 'TEE' ports at the rear of the cutter grab.
- g) Carefully lift the cutter grab off the ground and test the crowd and grab rams work correctly, check the machine to ensure there are no oil leaks. The machine is now ready for use.
- h) Removal of the cutter grab from the loader is a reversal of the above procedure.

CUTTER GRAB OPERATION

The cutting blades are fitted with protective sheaths for delivery and must be removed before the Cutter Grab is used. To ensure the machine works efficiently as a cutter grab you must make sure that the cutting blades are kept extremely sharp at all times.

The cutting procedure should start at the top and at one side of the clamp working towards the opposite side. This procedure can be repeated until the base of the clamp is reached ensuring a clean wall face with wastage kept to a minimum.



◀ Diagram shows the suggested method of unloading the clamp to keep wastage to a minimum and maximise the loading capacity of the cutter grab.

It is important that the cutter grab is loaded correctly to ensure that no unnecessary stress is placed on the grab and that the face of the clamp is cleanly cut.

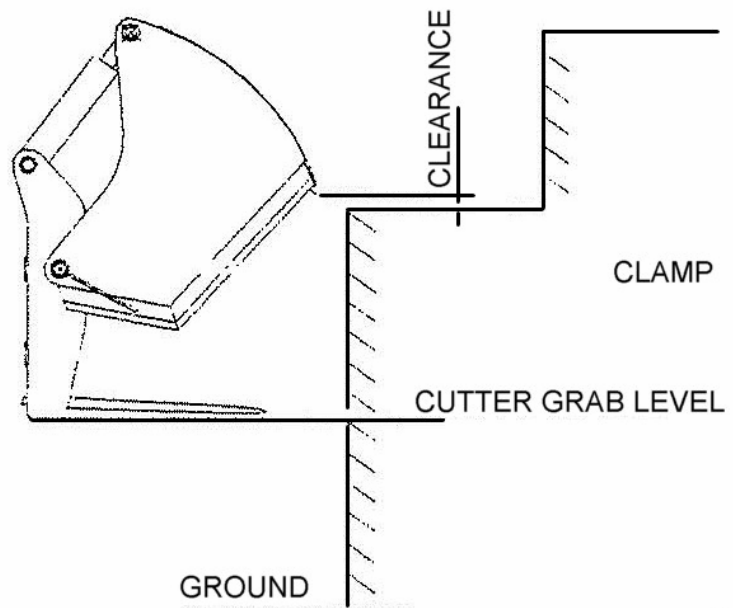
First fully open the grab and position it squared to the clamp face in the position as illustrated in the diagram opposite. The cutter grab should be level with the ground and there should be a small clearance (*up to 75mm*) between the under side of the raised blade and the clamped silage.

With the grab set in this position it should be forcefully driven in to the clamp until the tines are fully embedded in the silage.

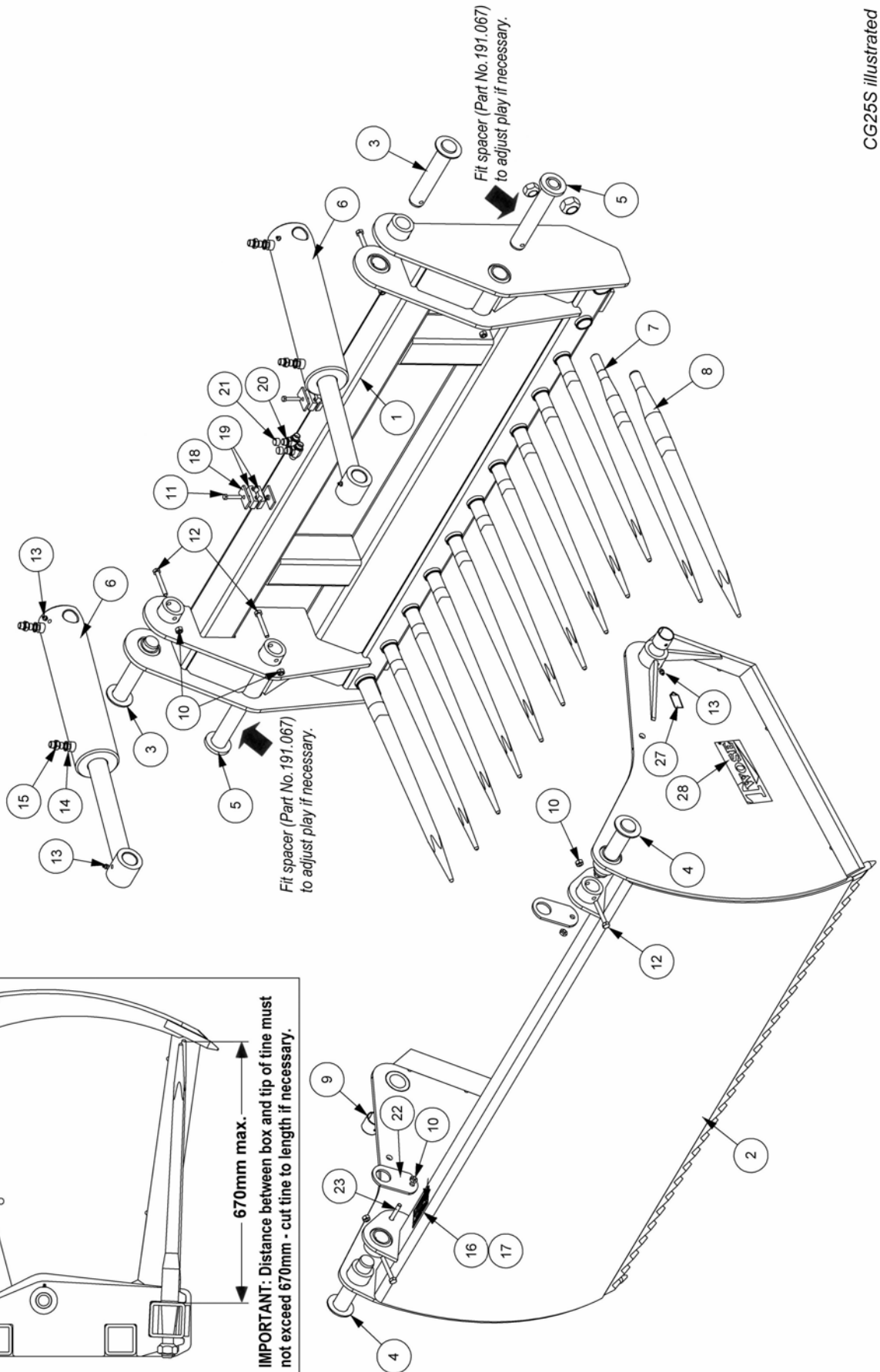
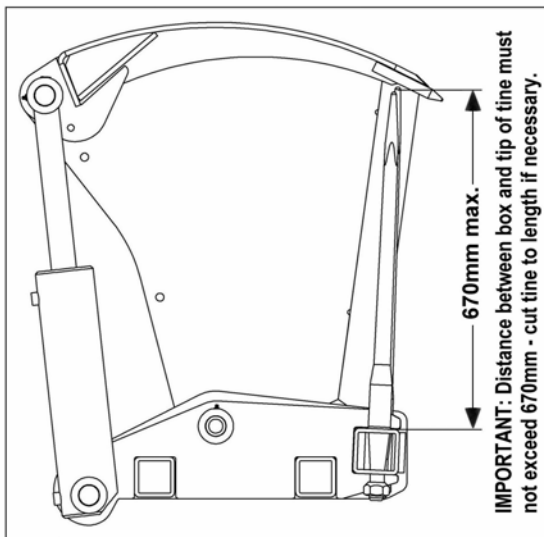
The top section of the cutter grab can now be closed by operating the rams on the grab. While the top section is cutting through the silage it may help to transfer some of the loaders weight on to the grab to help keep the tines level and in position. An extensive lifting of the tines during the cutting procedure will cause the silage to be torn out of the clamp causing a rough clamp face. The cutting action helps seal the face of the clamp and therefore reduces losses.

With the top section fully closed the grab should be crowded forward and lifted a little while reversing away from the clamp.

The silage can now be transported to where it is needed and unloaded from the grab.



CUTTER GRABS
CG10S / CG20S / CG25S / CG30S
Parts Manual



MAIN ASSEMBLY – CG10S / CG20S/ CG25S/ CG30S

REF.	QTY.				PART No.	DESCRIPTION
	(10)	(20)	(25)	(30)		
					TECG10S	CUTTER GRAB - MODEL CG10S
					TECG20S	CUTTER GRAB - MODEL CG20S
					TECG25S	CUTTER GRAB - MODEL CG25S
					TECG30S	CUTTER GRAB - MODEL CG30S
1	1	-	-	-	177.064	BASE SECTION - MODEL CG10S
	-	1	-	-	177.066	BASE SECTION - MODEL CG20S
	-	-	1	-	177.070	BASE SECTION - MODEL CG25S
	-	-	-	1	177.063	BASE SECTION - MODEL CG30S
2	1	-	-	-	177.065	TOP SECTION - MODEL CG10S
	-	1	-	-	177.067	TOP SECTION - MODEL CG20S
	-	-	1	-	177.071	TOP SECTION - MODEL CG25S
	-	-	-	1	177.062	TOP SECTION - MODEL CG30S
3	2	2	2	3	177.010	RAM ANCHOR PIN
4	2	2	2	2	177.011	RAM ROD PIN
5	2	2	2	2	177.014	MAIN PIVOT PIN
6	2	2	2	3	T1770035	RAM ASSEMBLY
					T7480	SEAL KIT FOR RAM T1770035
7	7	8	10	10	T6910	TINE c/w NUT
					T6910.1	TINE NUT (<i>not shown</i>)
8	2	2	2	4	T6911	TINE c/w NUT
					T6911.1	TINE NUT (<i>not shown</i>)
9	2	2	2	2	6257G	BUSH
10	8	8	8	10	05.287.02	SELF-LOCKING NUT
11	2	2	2	2	05.291.04	BOLT
12	6	6	6	6	05.291.20	BOLT
13	6	6	6	9	05.953.03	GREASE NIPPLE
14	8	8	8	8	05.290.04	BONDED SEAL
15	4	4	4	12	05.124.01	ADAPTOR
16	1	1	1	1	45429.01	SERIAL No. PLATE
17	4	4	4	4	05.227.01	HAMMER SCREW
18	2	2	2	2	3758.2	TOP PLATE
19	4	4	4	4	06.430.04	HOSE CLAMP
20	2	2	2	-	04.056.05	ADAPTOR TEE
	-	-	-	2	05.123.01	ADAPTOR (NOT SHOWN)
21	2	2	2	2	05.300.02	DUST CAP
22	2	2	2	2	04.326.01	LIFTING EYE
23	2	2	2	2	05.291.18	BOLT
24	4	4	4	4	191.067	SPACER RING (NOT SHOWN)
25	6	6	6	7	06.023.01	HOSE TIE (NOT SHOWN)
26	1	-	-	-	HKCG10	HOSE KIT - MODEL CG10S
	-	1	-	-	HKCG20	HOSE KIT - MODEL CG20S
	-	-	1	-	HKCG25	HOSE KIT - MODEL CG25S
	-	-	-	1	HKCG30	HOSE KIT - MODEL CG30S
27	2	2	2	2	T410201	DECAL - GREASE GUN
28	2	2	2	2	200.007	DECAL - TWOSE

HOSE KITS – CG10S / CG20S/ CG25S/ CG30S

REF.	QTY.				PART No.	DESCRIPTION
	(10)	(20)	(25)	(30)		
					HKCG10	HOSE KIT - MODEL CG10S
					HKCG20	HOSE KIT - MODEL CG20S
					HKCG25	HOSE KIT - MODEL CG25S
					HKCG30	HOSE KIT - MODEL CG30S
1	2	2	-	1	10.004.15	HOSE - 3/8" BSP ST/90 x 750mm
	-	-	2	-	10.004.18	HOSE - 3/8" BSP ST/90 x 900mm
2	2	-	-	-	10.004.21	HOSE - 3/8" BSP ST/90 x 1100mm
	-	2	-	2	10.004.22	HOSE - 3/8" BSP ST/90 x 1200mm
	-	-	2	-	10.004.23	HOSE - 3/8" BSP ST/90 x 1300mm
3	-	-	-	1	10.004.26	HOSE - 3/8" BSP ST/90 x 1600mm
4	-	-	-	1	10.018.01	HOSE - 3/8" BSP 90/90 x 525mm
5	-	-	-	1	10.018.02	HOSE - 3/8" BSP 90/90 x 685mm