



Instruction Manual

Hammer Mulchers VMA

**Please read carefully before operating.
Retain for future use.**

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1. INTRODUCTION

Dear Customer,

We are delighted that you have decided to purchase a Longreach Equipment mulcher and thank you for placing your confidence in us.

We should like to justify this confidence by supplying you with an efficient and reliable machine and good service benefits.

These benefits include detailed information on your mulcher, its operation and maintenance, which you will find in this instruction manual.

The instruction manual will also provide you with valuable hints on mulching, preserving the value of your machine, adhering to safety regulations and legislation and avoiding risk to yourself, to others and the machinery you use.

Please read this instruction manual carefully before operating the mulcher and observe all instructions, especially those relating to safety and risks.

Would you please also pass on this information to anybody using this machine or concerned with it before they start work.

This will help you to make a crucial contribution to ensuring that your Longreach Equipment mulcher works satisfactorily and to avoid damage caused by faulty operation or improper use, for which as you know, we can provide no compensation under the guarantee.

Please deal with the following points:

- 1. Conduct a general check and carry out maintenance before operation and tension the drive belts no later than 30 min after first use.**
- 2. Only switch the power take-off shaft and hence the machine on and off at low engine speeds, before raising slowly to full power or switching off.**

Longreach Equipment

2. IMPORTANT OPERATING AND SAFETY INSTRUCTIONS

This part of the manual is not long. Please read it right through.

Your new Longreach Equipment mulcher was expensive. But your life and personal safety are even more valuable. **So always pay proper attention to your own safety and that of other people.** This not only applies to operating the machine but also to care and maintenance. **You will find detailed instructions on safety and risks from page 8 onwards.**

In order to **avoid risks, work safely** and maintain the value of your new Longreach Equipment mulcher for many years to come please pay attention to all the instructions given you by our dealer and always think before you act. Read the complete manual and familiarise yourself with the machine, its proper use, possible risks and safe handling. **It should only be operated by competent people.**

1. **Permissible power range.** It is essential to adhere to the performance specifications for your mulcher type and not to exceed the maximum tractor KW (HP)! The manual covers mulcher types for tractor performance from 75-150 HP.

2. If it is set correctly the outer edge of the mulcher will be about 5-10 cm in front.

If the mulcher is inclined too far forward it will cut too low and may clog and dig in.

If the mulcher is inclined backwards the back-up roller will be overloaded. In both cases there is a risk of debris such as stones etc flying out to the front or the rear when working. If the lower link and the upper link are set correctly as described, the skids on the mulcher housing will be parallel with the ground.

3. **The height of the mulcher** is set via the back-up roller (basic setting by means of the multi holes) and the upper link (fine adjustment). In general, for the back-up roller the central hole on the side plate is used. Don't cut too short! Give the grass a chance to sprout up again. In unfamiliar areas such as fallow ground and field edges it is a good idea to use the lower hole, i.e. cut higher. It is impossible to know whether there is any debris lying about such as stones, rubbish, root stalks or similar obstacles.

4. **Driving.** If you take the mulcher round sharp bends on the roller even the best bearings in the world cannot stand this indefinitely. Lift it off or raise it on bends and when turning!

5. **Speed. The slower the better** - the longer the chaff remains in the housing the more it is broken, meaning that it will rot better and more quickly. Driving slowly at the edges of fields, roads and tracks also makes it easier to stop in time to avoid obstacles.

6. **Offsetting.** With **hydraulic sideshift**, only slide the mulcher when raised, with **fixed offset**, look out for debris.

7. Quality of cut. Keep as close as possible to the stated P.T.O. speed – never exceed it! If the rotor can operate at the rated speed, suction is intense and crushing is good. If the engine speed is too high the rotor, bearings and the power train could be damaged. With mulching you can almost always wait until it is dry and the ground is in reasonable condition. It doesn't have to be done on one particular day.
8. Length of cut. The shorter the better and the quicker it will rot. The length of cut can be influenced by the driving speed and cutting height. The slower you drive, the longer the mulch spends in the housing and the more it is chopped.
9. Conscientious maintenance.
 - Too little grease means that the bearings will not be lubricated, will run hot and may even be destroyed. If you carry on driving the journal bearings will break. Grease often and protect your machine!
 - Too much grease will push the entire bearing apart, and dirt will penetrate and eat into the bearings. Don't use too much grease or too high a pressure when lubricating!
 - Check oil levels before using the machine for the first time and then check them as described in the maintenance schedule.
 - Drive belts are not made of steel. They get longer the first time they are used. It is essential to retension the drive belts after a short time (no longer than 30 minutes)! Then check the tension from time to time and re-tension them if necessary.
 - Screws settle after being used for the first time. Check nuts and bolts conscientiously!

You will find further information in the following maintenance schedule.

10. Cleaning and servicing the machine after it has been used for the first time enables you to carry out a good visual inspection and helps to maintain the value of your Longreach Equipment – mulcher. Use grease to expel any water that has got into the bearings.

Check hammers and mountings! Change worn parts immediately instead of waiting until the next time you use the machine.

11. Damage. If the mulcher is damaged you must stop work immediately. Damage to safety related components endanger your life and limb. Damage to rotating parts will get worse if you carry on driving. Damaged or lost tools (hammers) cause imbalance, which can destroy the entire machine.

3. NECESSARY MAINTENANCE

When	What	Notes
At least every 4 hours of operation	Grease the rotor - and back-up roller bearings on both sides via the grease nipple with normal lithium lubricating grease	The grease must be seen to emerge when you lubricate the back-up roller bearings - Give the rotor bearings 4 to 5 squirts on each side
Daily	Grease rotor	
Daily	Grease or lubricate sideshift mechanism and grease points on support arm	If machine can be side-shifted
Daily	Service and lubricate P.T.O. shaft	Adhere to P.T.O. shaft manufacturer's operating and maintenance instructions
After 30 to 40 operating hours	Carry out first gearbox oil change	Only use SAE 90 EP or SAE 140 transmission oil
Every 200 operating hours, at least once a year	Carry out oil change in gearbox	Only use SAE 90 EP or SAE 140 transmission oil
Regularly	Check gearbox oil level and top up if necessary	Only use SAE 90 EP or SAE 140 oil
Regularly	Check drive belt tension	Re-tighten as necessary
Regularly	Re-tighten nuts and bolts	Replace unusable and worn nuts and bolts
Regularly	Check protection devices and ensure that they function	Replace defective appliances
Regularly	Equipment check	Replace defective nuts and bolts, repair device

Important! Reattach and secure all protection devices after carrying out maintenance or repairs.

Notes on using and retaining the instruction manual

- This instruction manual and spares list should be regarded as part of the delivery and kept safe. If the machine is sold on the present user should pass it onto the new owner.
- The instruction manual should be kept so that it is always at hand and can also be used during operation.
- **Read the manual carefully and follow the instructions before using the machine for the first time. Each chapter is a complete document in itself and can generally be referred to later for information on specific operations.**
- **The information contained within the instruction manual should also be passed on to anybody who is going to use the mulcher or who will be concerned with it in any way. It is advisable to check that all these people have read the instructions in full or that they have heard and understood them.**
- Apart from general advice and instructions particular attention should also be paid to all safety instructions and danger warnings relating to use of the machine.
- Enter the data for your machine (model, gearbox, working width, basic equipment and any special equipment, serial number and year of manufacture into the appropriate fields and return the original purchase and guarantee declarations to us before using the machine.
- **Before fitting any additional units to a tractor or traction vehicle, you should also take account of any information provided in the instruction manual for these vehicles on the fitting and use of attachments.**
- The instruction manual includes essential information for using the machine correctly and safely. The practical experience that you acquire as a user is equally important.
- As far as information contained in this Instruction Manual is concerned we reserve the right to make any improvements and changes to our product range that we find necessary without notice. We are not however obliged to transfer these improvements and changes to machines already sold or to their instruction manuals.
- **Please remember - especially after a fairly long period of use or when asking questions or ordering spare parts - always to provide the equipment data that has been entered so that we can identify the technical details for your equipment precisely and avoid supplying incorrect information or parts.**

For further information please contact us direct. We shall be pleased to help! You can find our telephone numbers on the first page of this manual.

The term “tractor” will be used throughout for tractors, traction vehicles or other vehicles!

4. SAFETY

The mulcher may only be serviced or repaired by someone who has an in-depth knowledge of its technical characteristics and is familiar with necessary safety precautions.

It is advisable to practise the separate working stages several times, so that you are familiar with the effect that the mulcher has on the tractor, before carefully beginning the first jobs.

Important! All accident prevention, health and safety, traffic and other generally recognised regulations relating to safety and occupational medicine must be complied with at all times to constitute appropriate use.

Your mulcher is a piece of equipment that requires proper handling. The mulcher must never be used by children, teenagers or other people who are not familiar with the Instruction Manual.

Important! Carrying passengers on the mulcher whether you are working or not is prohibited. It is also prohibited for people to stand on or climb on to the machine or position themselves underneath the machine without adequate support and safeguards even when it is stationary.

People are prohibited from loitering in the mulcher danger area when the machine is being started or used. The safe distance for people to stand behind the mulcher is 80m and must be adhered to.

Don't use the mulcher at night or in poor visibility.

Leave the machine in the condition it was built for – to be used as a mulcher. You must not make any additions, alterations or modifications to the mulcher without consulting us and obtaining our written permission beforehand. This also applies to installing or changing the settings of safety devices.

Important! Existing safety devices must not be altered or removed. Do not make any changes or modifications!

Changes and alterations will invalidate the warranty and may give rise to legal action if the user injures a third party or causes damage to property.

Important! Please note the maximum tractor power allowed for the mulcher. The use of a more powerful tractor can damage the mulcher and such damage is not covered by the warranty.

Before using the tractor/vehicle and mulcher familiarise yourself with their characteristics and be sure to read the manuals for the tractor, the mulcher and the P.T.O. drive as well as this Instruction Manual.

Please note! Only fit original Longreach Equipment replacement parts.

These ensure a perfectly fitting, quality component and preserves your warranty.

Improper use

The mulcher may only be used as described above. Any other use than that described above is improper and consequently impermissible. It will invalidate all warranties, guarantees and product liability entitlements!

Improper use includes:

- using the mulcher to break up or loosen the ground or carrying out any other work on the soil or its surface
- cutting up wood thicker than 5-6 cm or other wood-cutting procedures
- using the mulcher on stony ground, for cutting up stones, or for cutting up waste or rubbish on areas about to be mulched without removing debris beforehand
- using it in the elevated position without any direct contact with the ground
- using the mulcher at night or in poor visibility
- working without keeping the necessary safe distances from people and objects
- carrying passengers on the mulcher whether you are working or not
- people standing on or climbing onto the machine
- working under the machine without adequate support and safeguards
- allowing the mulcher to be used by children, teenagers or other persons who are not familiar with the Instruction Manual
- removing or changing safety facilities, or making any other alterations or modifications to the equipment
- Exceeding the maximum permissible tractor/vehicle performance (KW-HP) and/or dropping below the minimum permissible tractor/vehicle weight.

Safety instructions and notes on risks plus accident prevention regulations

For your safety...

This part of the Instruction Manual contains rules of conduct for use of the machine and safety instructions that you **must adhere to for your safety and to avoid possible risks.**

The listing is very extensive and much of the information does not apply to the equipment supplied. The information summary however refers to **safety rules and possible risks** that are often unintentionally ignored when machines and equipment are used on a daily basis.

- Every time that the mulcher and the tractor are used, check beforehand that they can both be used safely for mulching and on the road.
- Adhere to all safety and accident prevention regulations in force!
- Warning and information plates attached to the machine provide important information on avoiding risks. Pay attention to them and work safely!
- Observe the relevant regulations when using public highways!
- Before starting work familiarise yourself with all the facilities and operating devices along with their functions. Once you have started work it is already too late!
- Operators should wear tight-fitting clothing. Avoid loose clothing!
- Keep machines clean to avoid risk of fire!
- **Check the immediate area before starting and operating the equipment!** (Children!) Make sure that you can see sufficiently clearly! Make sure that there is a **minimum safe distance of 80m behind you!**
- Never leave the mulcher running without someone in attendance.
- Carrying passengers on the mulcher whether you are working or not is prohibited.
- Link up the machine as laid down in the manual and only attach it to the prescribed devices!
- Special care must be taken when attaching equipment to or removing it from the tractor.
- Put the machine into an appropriate position before fitting and removing supports! (Stability)
- Please adhere to permissible axle loads, overall weight and transport measurements.
- Check and mount transport equipment – such as lighting, warning notices and any protective devices!

- The central or vertical transporting position should always be used for all mulcher mounting positions, regardless of whether they are front-, side- or rear-mounted. This minimises the danger of tipping over or of the lights being obscured. Always use the transport lock and apply safety catches.
- Never leave the driver's platform while driving!
- Attachments, trailers and ballast will have an influence on the tractor's handling, steering and brakes. So make sure that your steering and brakes can cope!
- When working or transporting the machine always ensure that the mulcher's centre of gravity is so positioned that the stability of the machine is not impaired.
- Bear in mind the wide load and the balance weight when taking bends.
- Don't operate the machine until all safety devices are in place and fully functional! Check that all fastenings are secured by split pins or eyebolts!
- Ensure that the plate guards at the front of the machine are functioning and can move freely.
- In the case of machines with movable protective flaps attached at the side always make sure that they function properly – and clean them if they get soiled!
- Everybody apart from the operator must keep well clear of the machine!
- Keep well outside the machine's turning and swivelling range!
- Do not operate hydraulic folding wings if there is anybody within swivelling range!
- All hydraulic or other power-operated equipment has points that are subject to crushing or sheering
- Always ensure that machines with a manual tilting mechanism are completely stable!
- Machines with power-driven tools risk being lifted by trailing balance weight. Do not approach until they are at an absolute standstill!
- Exercise great caution when working on uneven land.
- Before leaving the tractor, place the mulcher on the ground, turn the tractor engine off, remove the key and ensure that the handbrake is on.
- Nobody should stand between the tractor and the mulcher without first making certain that the tractor cannot roll away by applying the handbrake or ensuring that the tractor wheel is wedged.

Mounted equipment

- Before fitting or removing the mulcher ensure that the three point linkage is secured to prevent unintentional lifting or lowering of the linkage.
- When connecting to a three-point mount all three points must match or be adjusted until they match.
- Check carefully after fitting the mulcher that the tractor's lower linkage is properly secured.
- Points subject to crushing and shearing in the area of the three-point linkage are capable of causing injury.
- Do not position yourself between the tractor and the machine when actuating the external control for the three-point linkage!
- When the machine is in the transporting position always ensure that the tractor three-point linkage has sufficient side-locking!
- When travelling on the road with the machine raised ensure that the operating lever is locked to prevent it being lowered unintentionally!
- If there is a blockage never try to remove mulch or debris before the mulcher has been shut down and disengaged, the tractor turned off, the key removed and all turning parts have come to a complete standstill.

Hydraulic system

- The hydraulic system is under high pressure!
- When connecting hydraulic cylinders and engines ensure that the hydraulic hoses have the proper connections!
- When connecting the hydraulic hoses to the tractor hydraulics, ensure that there is no pressure at either the tractor- or the machine-end.
- If there are hydraulic connections between the tractor and the machine, coupling sleeves and plugs should be labelled to rule out faulty operation! You risk causing an accident if connections and functions are reversed (e.g. raising instead of lowering)!
- Check hydraulic hose connections regularly and change them if they become damaged or worn! The replacement hoses must match the machine manufacturer's specifications!
- Use suitable aids when looking for leakages so as to avoid injury!
- Fluids, such as hydraulic oil, ejected at high pressure can penetrate the skin and cause serious injury! If you are injured seek medical help immediately! (Risk of infection!)
- Before working on the hydraulics, disengage any equipment, depressurise the system and turn off the engine!

Maintenance

- The mulcher should be inspected regularly for outward signs of damage and defects. This applies especially to cutting hammers and their mountings, and drive belts which should be checked for signs of breaks, cracks, or excessive wear and tear.
- Replace immediately all cutting hammers and mountings that show any signs of damage or are cracked or heavily worn! If a cutting tool or mounting breaks during use, parts could fly out and cause injury. When replacing parts use original Longreach Equipment spares!
- When maintaining, servicing and cleaning the machine, or correcting faults it is essential to have the drive switched off and the engine stationary! Remove the ignition key and ensure the handbrake is on!
- Check nuts and bolts regularly to ensure that they fit properly and retighten them as necessary!
- If you are carrying out maintenance work on a mulcher in the raised position always make sure that you use suitable supports and that the rotor is stationary! Never work under unsupported loads!
- When changing implements with cutting edges always use suitable tools and gloves!
- Oil, grease and filters should be properly disposed of.
- Disconnect generator and battery cables before doing electrical welding work on the tractor and mulcher!

P.T.O. drive

- Only use P.T.O. shafts that we have approved.
- Shaft guards and bell guards for the P.T.O. shaft must be fitted at both the tractor and mulcher ends and be in good condition!
- Ensure that P.T.O. shafts have the proper pipe covers in transport and operating positions!
- Do not fit or remove the P.T.O. without first turning off the engine and removing the keys!!
- Always make sure that the P.T.O. shaft has been correctly mounted and secured!
- Secure the P.T.O. shaft covers by locking the chains to prevent it rotating.
- Before engaging the P.T.O. always make sure that the selected output drive speed matches the gearbox speed set on the mulcher.
- Make sure that there is nobody in the danger area before you switch on the P.T.O. drive!
- Never engage the P.T.O. drive with the engine switched off!
- When working on the P.T.O. shaft never let anybody stand anywhere near the rotating P.T.O. or the P.T.O. shaft!

Important! Danger from flying parts and debris! Before engaging the mulcher P.T.O. shaft, make sure that you clear everybody from the 80m danger area and check that the plate guards at the front are fitted and intact.

- Take care when disengaging the P.T.O. shaft. It is dangerous if the rotor is still turning.
- Don't get too close to the machine at this point. Don't start work on it until it is completely still.
- Don't clean, grease or adjust the P.T.O.driven device or the coupling shafts until the P.T.O. has been disengaged, the engine turned off and the ignition keys removed!
- Fit the disengaged couplings to the mounting provided.
- Repair all damage to the P.T.O. shaft before starting work on the machine.

Warnings and other symbols

Please note all warning signs for operating the mulcher without risk.

Information signs help you to service and maintain the machine by pointing out grease points, and oil level and drive belt tension indicators.

Replace warning and indicator symbols if they go missing or become illegible. You can obtain missing symbols through our spare parts service.

Please remove all dirt, oil, dust and grease, and ensure that the surface is clean and dry, before sticking replacement signs onto the mulcher.

When fitting new components as part of a repair please fit the necessary signs to the replacement part.

Warning and information signs on the mulcher

You will find warning or information signs on certain points on the mulcher to indicate danger, maintenance work required, or information on using the mulcher.

1. Keep a distance of 80m.

Danger area!



2. Rotating parts

Risk of injury to hands and feet
Do not touch !



3. Before operation read the Instruction Manual.

Park the tractor and remove key.



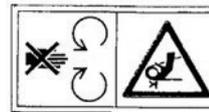
4. Stop - Do not touch!

Aggressive tools - risk of injury



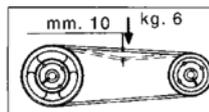
5. Rotating parts/drive belt. Do not touch!

Danger !

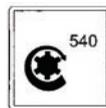


6. Ensure all drive belt tensions are set!

Correct tension 10 mm travel at 6 kg pressure.



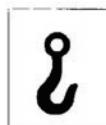
7. Gearbox speed 540 rpm.



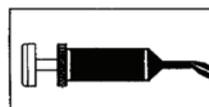
8. Use SAE 90 EP oil



9. Lifting points.



10. Grease point



5. USING THE MULCHER FOR THE FIRST TIME

Your Longreach Equipment mulcher will have been delivered to you by our authorised dealer fully assembled and ready for use and you will have also been instructed on how to use it and given details of possible risks and safety measures that need to be taken.

Below you will find the information essential for the handover, the checks to be carried out, the necessary settings and on working with the mulcher.

Taking delivery of the mulcher

Please check that all of the following components have been supplied.

The delivery includes:

- the mulcher in its standard version.
- support rollers or wheels
- three-point headstock
- P.T.O. shaft

Please report any damage that may have occurred during transit or any missing components to the haulage company straight away. Ensure that the driver confirms any damage. If in doubt please contact our authorised dealer or us direct.

Important! Please check that all screws, nuts, bolts are firmly seated and tight, and that the drive-belt is correctly tensioned. Retension as necessary. Please repeat this check no later than 30 minutes after using the machine for the first time.

Check the gearbox oil level and that of the extension shaft, if fitted. Check all grease points, topping up the oil and re-greasing as necessary.

Important! It is essential to check that the drive on the mulcher and the drive on the tractor are precisely set to 540 rpm. (See plate mounted on gearbox). If the two do not match please arrange for our authorised dealer to change it for you.

Failure to match drive speeds could cause serious damage to the mulcher's rotor and gearbox.

Attaching equipment to a tractor or other vehicle

Select a suitable tractor of sufficient weight for the mulcher and ensure that the maximum power allowed is not exceeded. The use of a more powerful tractor can damage the mulcher and such damage is not covered by the warranty. A tractor that is too light can become unstable or tip over!

Please attach the mulcher as described, fix it to the proper mounting points on the lower links and the upper link and then secure it with the locking pin.

Important! When using quick-coupling devices for attaching to the lower links always use ball joints without guides! Guides or other mounting aids can cause damage to the P.T.O.

Please note! When connecting to a three-point mount all three points must match or be adjusted until they match.

If the mulcher is inclined too far forward it will cut too low and may clog and dig in. If the mulcher is inclined backward the back-up roller will be overloaded. In both cases there is a risk of debris such as stones etc flying out to the front or the rear when you are working, endangering other people as well as yourself.

If the lower link and the upper link are set correctly as described, the skid shoes on the mulcher housing will be parallel with the ground. The top linkage must also be set so that the P.T.O. shaft moves parallel to the ground, the mulcher is supported by the support rollers or wheels, and the machine sits level. The bottom edge of the side or skid plates must be parallel with the ground.

Installing the P.T.O. drive

A P.T.O. shaft is normally included with the sale of a Longreach Equipment mulcher. If you already own a P.T.O. shaft and wish to use it, or you wish to use a P.T.O. supplied at a later date, please note that you may only use P.T.O. shafts of the sizes and dimensions that we have recommended. If you have any questions on whether your existing P.T.O. is suitable please contact us.

The P.T.O. shaft must frequently be adapted to the tractor when first connected. If the P.T.O. is too long it could cause damage to the P.T.O. or to the mulcher. Always have this work carried out by a specialised workshop.

Then slide the P.T.O. shaft onto the mulcher's gearbox shaft and the P.T.O. shaft on the tractor and secure it as described by the P.T.O. drive manufacturer.

Do not fit and remove the P.T.O. unless the motor has been turned off and the keys removed.

Always read the P.T.O. manufacturer's Instruction Manual to ensure that the P.T.O. is fitted properly and safely. It is essential for the P.T.O. to be fitted with a joint guard and an integrated securing chains to prevent the guard from turning with the shaft.

Bell guards at both the tractor and mulcher ends along with a shaft guard must be fitted to comply with safety regulations.

Before engaging the P.T.O. always make sure that the selected output drive speed matches the gearbox speed set on the mulcher.

As a rule the P.T.O. should remain on the machine after work. So remove the shaft from the P.T.O. shaft on the tractor and store the disengaged P.T.O. shaft on the mount or chain provided on the headstock.

Longreach Equipment mulchers are equipped with a freewheel in the gearbox as standard so they do not require any freewheel P.T.O. shaft.

Transporting the mulcher

Before transporting the mulcher check that it has been correctly fitted along with all safety and protection devices, make sure that the transport lock attached to the lower linkage is fitted and that the machine is in the middle position, centred between the tractor wheels so that the tractor's centre of gravity has not been shifted and the mulcher does not protrude from the sides.

Please take special care that the position that you have selected for the mulcher does not obscure the tractor lights, which will not be the case if the machine is transported upright in the central position.

Please bear in mind that as soon as the mulcher enters a public road it must comply with the relevant national road regulations.

This also means adhering to the maximum transport width and distances to be maintained in front of or behind the tractor.

Where necessary fit a warning plate or additional lights.

Always ensure that the mulcher has been secured (refer to the tractor's Instruction Manual) with the proper transport safety locks.

Check whether the front axle is underloaded when mounting. If the mulcher is mounted on the front, the rear axle might be under-loaded and require an additional rear weight to be fitted. Even tractors with a fitted mulcher, which do not enter a public road, are still subject to regulations regarding weights and axle loads.

Please bear in mind that the mulcher and counterweights will have a major influence on the handling, stability, steering and braking performance of the tractor, and adjust your driving behaviour accordingly. Be careful when taking corners and bends and reversing.

Once transportation is complete, release the transport lock, then slowly and carefully lower the mulcher to the ground and put it in the working position or park it .

Engaging and disengaging the mulcher

Before engaging the P.T.O. or the mulcher please check that the mulcher is securely mounted, that all the safety devices are fitted and that you are certain that nobody is in the danger area (80m behind mulcher).

Please remember to keep at a sufficient distance from all rotating parts and to maintain this safe distance until you are sure that all of the components have come to a complete standstill.

The rotor and the cutting hammers between them constitute a considerable gyrating mass. This mass has a high power requirement when the machine is switched on and switching it off releases substantial residual forces.

To cope with this all Longreach Equipment mulchers are fitted with drive belts to absorb and to compensate for these forces.

Nevertheless starting the mulcher at maximum load may be sufficient to damage and even destroy the tractor's P.T.O., the P.T.O. shaft, the gearbox or the drive belts on the mulcher.

The same applies to turning the mulcher or P.T.O. off too quickly, when the gearbox, the P.T.O. shaft, the built-in free wheel or the tractor's P.T.O. can be damaged.

To avoid operating errors or causing possible damage please observe the following instructions and recommendations.

Always place the mulcher in the lowered position and have the tractor running at a low engine speed before engaging the drive. Then you can increase engine revs to their full operating speed and start work.

Before stopping work or at the end of a row first reduce the tractor's engine speed and wait for the mulcher's rotational speed to drop before disengaging the mulcher drive.

Shutting down the machine

Before putting the mulcher away at the end of work, be sure to give the mulcher a good wash down in a suitable place and then spray it with a suitable preservative or preserving oil.

Always grease the bearings and the other grease points as recommended in the lubrication schedule and check that grease extrudes from the appropriate grease points. This cleans the bearings and prevents dirt and moisture from entering. Also check the oil levels in the gearboxes and extensions.

Please ensure that all rotary parts are at a complete standstill when you do this work!

Finally park the mulcher on level ground at the intended spot.

Carefully lower the mulcher to the ground, turn the tractor off, remove the key and put on the handbrake.

Then withdraw the P.T.O. shaft from the tractor P.T.O as described in the manufacturer's instruction manual and place the P.T.O. in the holder provided or the holder on the three-point linkage.

If there are hydraulic connections release the hydraulic pressure and decouple the connections on the hydraulic pipes from the tractor. Seal the connectors with the protective caps and place the ends in the holders provided.

Remove the lower and top linkages from the three-point linkage on the tractor.

At the end of the season or before long periods without use we recommend that the machine should be thoroughly cleaned and sprayed with a commercially available preservative. Check that all parts and fastenings are firmly seated, replace any damaged parts and grease the machine carefully. Carry out an oil-change if necessary and park the machine safely in a dry place. Where possible also cover the machine with a plastic tarpaulin, open underneath, to protect it from dust.

By doing this you will ensure that the mulcher is ready for work whenever you require it.

Settings

Before you start mulching adjust your mulcher to the relevant operating conditions and check that the machine's gearbox speed matches the tractor's P.T.O. speed.

The height of the mulcher is set via the back-up roller (basic setting by means of the three holes) and the upper link (fine adjustment). The central hole on the side plate is generally used for the roller.

The best cutting height is 6-8 cm, which matches up with the middle hole on the side plate for securing the support roller. If you are cutting dense material or driving at higher speeds the cut can be raised by using the lower hole; to achieve an extremely close cut the back-up roller or the wheels can be moved to the upper hole with the machine being driven at low speed.

Don't cut too short! Don't cut the grass too short – give it a chance to grow!

In unfamiliar areas such as fallow ground and field edges it is a good idea to use the lower hole, i.e. cut higher. There is no way of telling what debris and root stalks are lurking there.

The cutting height should never be below 2.5 cm (preferably 6 -8 cm) and the mulcher must not come into contact with the ground or you will risk damaging it.

To adjust the cut raise the machine 3-4 cm above the ground, turn off the engine and the machine, align the machine and once all rotating parts are at a complete standstill release the side mounting bolts for the support roller in the side plates. Then place the support roller in the desired position and refasten the screws in this position. Retighten nuts and bolts well.

Important! Before you start work raise the mulcher slightly and support it to minimise any risk of injury! Never work under unsupported loads!

If the mulcher is inclined too far forward it will cut too low and may clog and dig in. If the mulcher is inclined backward the back-up roller will be overloaded. In both cases there is a risk of debris such as stones etc flying out to the front or the rear when you are working, endangering other people as well as yourself.

The top linkage must also be set so that the P.T.O. shaft moves parallel to the ground, the mulcher is supported by the support roller and the machine sits level. The bottom edge of the side or skid plates must be parallel with the ground.

Then centre the lower links so that the machine cannot move to and fro in the three-point linkage.

Then set the tractor P.T.O speed to that of the mulcher as indicated on the gearbox (540 rpm).

Working with the machine

Never start work with the mulcher unless all protective devices are fitted and fully functional on both the mulcher and the P.T.O. Check that all movable fastenings are secured by split pins or eyebolts.

Make sure that all front plate guards are complete and fully functional.

Before starting work slowly lower the mulcher from the transport position, carefully place it on the ground and move it into the working position.

Then check that the machine has the correct settings. (Roller/wheels secured in the middle setting, three-point linkage completely vertical, machine aligned parallel to the ground, P.T.O speed setting matching that on mulcher's gearbox.

Always ensure that the job you intend to carry out with the mulcher is an appropriate one, and that you comply with all the safety and accident prevention regulations.

Always engage the drive to the mulcher at low engine speeds, wait for the rotor to turn and slowly increase speed to operating level. Now you can start the tractor and begin mulching!

Maintain the P.T.O. speed to enable the machine to work properly and provide a good cut.

When using the offset hydraulic cylinder always perform this operation slowly and carefully and avoid damaging the mulcher, plant roots or the ground, and protect the tractor against strong and unintended surges or movements.

Please ensure that the tractor's handling is not affected during this operation and that the mulcher works flat against the ground and not up in the air.

Before disengaging the P.T.O., first reduce the motor speed to prevent damage to either the mulcher or the P.T.O. itself.

Important! The mulcher may only be used in open land where there is sufficient distance between the mulcher and people, animals, houses, roads etc. The danger area behind the mulcher is at least 80m.

The machine should only be used for flailing and mulching light organic material and harvest residues.

Be cautious of any debris in the work area that could become entangled in the mulcher such as glass, metal, wood, stones and other objects.

These objects could cause personal injury or damage the mulcher if they are driven over, crushed or shattered.

Take special care of objects such as large stones, kerbstones, tree stumps, plastic sacks and debris which could lie on the ground and cause an obstruction.

These objects could block the rotor, damage the mulcher or create a dangerous situation.

Please take special care when working on slopes or on uneven ground as this will increase the risk. Always work slowly and carefully with the mulcher, and always keep it uphill of or centrally behind the tractor to reduce the risk of the tractor tipping over.

On steep hills never work across the slope but always up and down. Don't work on extreme slopes – you risk having a serious accident.

The mulcher's safety devices will not function at extreme angles or on very uneven land – the chances of injury or damage are increased, so that use of the mulcher is prohibited in such circumstances.

Please note that using the mulcher at its lowest setting increases energy requirements and also increases wear on the cutting hammers and drive belt as well as on the mulcher as a whole. Please use the settings recommended below:

Important! Always ensure that the cutting height is greater than 2.5 cm (6-8 cm is best) and that the mulcher will not cut into the soil.

To keep the machine in good order, please adhere to all lubrication schedules and inspect the drive belts and oil levels regularly (see Maintenance – Lubrication Schedule).

Using the mulcher can cause very high temperatures because of the intense power transmission and the high demands placed on machine, gearbox and extension shaft.

This rise in temperature is normal and should not induce any sense of alarm, provided that the tractor performance matches the type of machine and you never exceed the maximum permissible tractor power.

If there are any faults or problems associated with the mulcher please refer to Chapter 10 of this Instruction Manual.

At the end of a working session, return the mulcher to the transport position and ensure that the transport locks are actuated or fitted before returning or putting the mulcher back into storage.

Hydraulic equipment

When connecting the hydraulic hoses, remove from the holders provided, remove the protective caps and fit correctly to the tractor's hydraulic couplings.

Make sure that the connection has properly engaged. Incorrectly fitted couplings can cause oil leaks and pollute the environment.

When removing from the tractor, refit the protective caps and re-secure the hydraulic pipes in the holders provided.

Always ensure that the pressure has been released from the tractor's or the mulcher's hydraulic system as appropriate before attaching or removing hydraulic connections or cylinders from the tractor or mulcher.

Make sure that you always use good-quality hydraulic pipes and approved matching connections, which comply with the relevant industrial standards. These pipes and connections must also bear the approved markings. You can either obtain these hydraulic pipes from us or from specialised companies, which will also be pleased to answer any further questions.

Check all hydraulic pipes regularly (at least once a year) by examining the surface for damage such as cuts, chafing, kinks and squashing, and investigate the condition of the material for cracks, leakages etc. Damaged pipes must be changed immediately. A hydraulic pipe should never be kept in use for longer than 5 years.

6. VALUABLE AIDS FOR MULCHING WORK

Guidelines for taking care of both your mulcher and your soil

A mulcher is a removable tractor utility tool, which is supported by roller or wheels mounted at the rear which bear the main weight of the machine.

It is therefore important to adjust the height of the mulcher so that it sits parallel to the ground without tilting forward or backward. The effectiveness of the work will suffer if it is incorrectly positioned in either direction; if the side plates operate incorrectly or cut into the soil this could damage roots and jam the mulcher, and debris such as stones could be thrown forward or to the rear.

The roller control the mulcher's cutting height and should normally be set in a central position to give a cut of 6-8cm. The minimum gap between the ground and the cutting hammers is 2.5 cm (= 1 inch).

Anything greater than this protects the ground, roots and the mulcher, and generally requires the least power. So don't cut too short! Give the grass a chance to grow again.

When working on uneven ground or in very heavy vegetation it is advisable to lower the roller/wheels to the lowest hole and then increase the cutting height.

In this position and cutting height you can drive at about 5-10 kph (4-6 mph) depending on ground conditions.

In unfamiliar areas such as fallow ground, the edges of fields and road verges it is a good idea to use the lower hole, i.e. cut higher and drive very slowly. It is impossible to know whether there is any debris lying about such as stones, rubbish, root stalks or similar obstacles.

When taking bends a great deal of the mulcher's weight shifts onto the roller on the inside of the bend and on the bearings. As these bearings have no differential this subjects them to a very heavy load.

If you take the mulcher round sharp bends on the roller even the best bearings in the world cannot stand this indefinitely. So don't drive the mulcher on the roller when taking bends! Raise it on bends and when turning!

There is a similar risk when taking bends to that which results from the machine being incorrectly mounted or set too low (roller/wheels in the uppermost hole) in that the mulcher's side plates can cut into the ground and damage the soil, roots and the mulcher itself.

As far as speed is concerned: the slower the better! The longer the chaff remains in the housing the more it is cut and crushed, which means that it will rot better and more quickly.

Driving slowly at the edges of fields, roads and tracks also makes it easier to stop in time to avoid obstacles.

When using the offset hydraulic cylinder always perform this operation slowly and carefully and avoid damaging the mulcher, plant roots or the ground, and protect the tractor against strong and unintended surges or movements.

To achieve a uniformly good cut, keep as close as possible to the stated P.T.O. speed – never exceed it! If the rotor can operate at the rated speed, suction is intense and crushing is good. If the engine speed is too high the rotor, bearings and the power train could be damaged

Longreach Equipment mulchers are capable of cutting and mulching long grasses and large quantities of vegetation reliably. And so as a rule very few cuts are required, just one per season may provide adequate care with maybe one follow-up. In bad weather mulching can generally be postponed to no great disadvantage and so avoid slipping and wasting power.

The basic principles are as follows: The shorter the better and the quicker it will rot. The length of cut can be influenced by the driving speed. The slower you drive, the longer the mulch spends in the housing and the more it is chopped.

With mulching you can almost always wait until it is dry and the ground is in reasonable condition. It doesn't have to be done on one particular day.

This saves time, energy and expense compared with alternative cultivation methods.

7. CLEANING AND MAINTENANCE

Regular cleaning, servicing and maintenance can extend the life of your Longreach Equipment mulcher considerably and improve the reliability and quality of the cut.

The responsibility for carrying out thorough and regular servicing lies in your hands.

- Take care to clean the mulcher in a suitable place and spray it with a preservative when you finish work.
- Ensure that all main components are serviced regularly.
- Inspect the mulcher regularly for wear and faults.
- Replace worn parts and carry out necessary repairs

Please note that damage caused by failing to comply with the maintenance and servicing procedure will not be covered by the warranty!

The following information on checking for wear and tear, servicing and maintenance should be considered as general information.

Owing to the wide range of situations in which this machine operates, especially very intensive use or difficult working conditions, we ask you to draw up a specific maintenance and inspection schedule after the first session of work, to inspect and service the machine and take account of the experience that you have gained.

For the inspection and servicing of the tractor and the P.T.O. drive shaft, which should be undertaken at the same time, we ask that you refer to the manufacturer's servicing manual for each item of equipment.

Servicing does not as a rule require any particular expertise or specialised workshop. It should nevertheless only be conducted by proficient and suitable people at suitable and appropriate locations. Ensure that no pollution (soil, water, air) occurs!

Make use of any reduction in your workload over the winter months to give the mulcher a thorough check and a full service. Your mulcher will thank you for many years to come.

General checks and service information

Check your machine on delivery and at regular intervals thereafter.

The most important checks are listed systematically below:

- Mulcher supplied complete and undamaged?
If not, please contact us immediately.
- Any missing warning signs must be reported.
If not, please reorder any that are missing.
- Check all nuts and bolts are properly seated and secure!
If not, please re-tighten.
- Are all drive belts tight?
If not, please re-tension.
- All grease points sufficiently greased – grease visible?
especially on the rotor bearings and idle roller bearings.
If not, re-grease where required (please refer to greasing plan – page 6)
- Is there sufficient oil in the gearbox?
If not – please top up or drain (see: Checking oil levels and changing oil).
- Check that the drive speed of the gearbox is the same as the tractor's P.T.O speed!
If not – have it converted in a specialised workshop!
- Check that all safety devices are fitted to the mulcher and are fully functional!
If not, please contact us immediately or have them refitted or cleaned.
- Check approved P.T.O. shaft's protective guards are fitted and functional!
If not, please contact us immediately or change P.T.O.
- Check if all necessary hydraulic connections are present, fitted and functional!
If not, please contact us immediately or arrange for them to be brought up to specification
in a specialised workshop.
- Machine properly mounted or capable of being so?
If not, please contact specialised workshop.

If any components are missing or fail to function correctly please contact your authorised dealer or the Longreach Equipment company direct.

Please do not start using the mulcher until it has passed all the checks and been fully serviced as listed above.

After mounting the mulcher start with a **test run, taking account of all necessary safety precautions, make sure that the tractor's HP does not exceed the permissible maximum** and check all functions and noise levels. All components should run smoothly without any clattering, with minimum vibration, and produce a single tone with no other disturbing noises.

Important! If any abnormal sounds or movements are heard during the test run, such as vibration, clattering etc., turn off the mulcher immediately, contact a specialised workshop and inform us direct.

Important! Please remember to re-tension the drive belts no later than thirty minutes after they have been used for the first time (drive belts usually stretch the first time they are used) and after the machine has been running for one hour ensure that all nuts and bolts are secure (retighten as necessary).

Tasks forming part of general maintenance work and which should be carried out regularly include:

- Checking and greasing bearings, rollers, rotor and all other moving components at the grease points indicated . (See Lubrication Schedule)
- Checking for damage from foreign bodies or other obstructions as well as removing cable or strips of plastic which have wrapped themselves around the rotor or support wheels/ roller.
- Removing all debris and repairing any damage.
- Checking oil levels and changing the oil in the gearbox.
- Checking the drive belt tension and re-tensioning as required.
- Checking and tightening up all nuts and bolts on the machine.
- Checking, working in and cleaning or replacing all protective devices such as P.T.O. guard, front plate guard, rear rubber guard, if fitted locking bolts and split pins, protective flaps etc.
- Checking that the cutting hammers are not worn and are firmly seated and replace worn or broken hammers.
- Cleaning the cutting hammer holders and checking for sufficient movement.

Always carry out this servicing carefully. The greasing points are all marked with adhesive signs, and their positions are shown in the section entitled “Warning and Information signs”.

Important! If there are recurring problems, unfamiliar noises, sudden surges in energy requirements, vibration, smoke, overheating of drives or gearboxes or any unaccountable changes in the mulcher’s behaviour, stop work immediately, check the mulcher for faults and rectify them.

If there is any vibration it is essential to check that hammers are in good condition and complete, and that they can move freely.

If necessary, stop work and service the mulcher – remember that an unbalanced rotor can destroy the bearings and cause other damage.

When	What	Notes
At least every 4 hours of operation	Grease the rotor - and back-up roller bearings on both sides via the grease nipple with normal lithium lubricating grease	The grease must be seen to emerge when you lubricate the back-up roller bearings - Give the rotor bearings 4 to 5 squirts on each side
Daily	Grease rotor	
Daily	Grease or lubricate sideshift mechanism and grease points on support arm	If machine can be side-shifted
Daily	Service and lubricate P.T.O. shaft	Adhere to P.T.O. shaft manufacturer's operating and maintenance instructions
After 30 to 40 operating hours	Carry out first gearbox oil change	Only use SAE 90 EP or SAE 140 transmission oil
Every 200 operating hours, at least once a year	Carry out oil change in gearbox	Only use SAE 90 EP or SAE 140 transmission oil
Regularly	Check gearbox oil level and top up if necessary	Only use SAE 90 EP or SAE 140 oil
Regularly	Check drive belt tension	Re-tighten as necessary
Regularly	Re-tighten nuts and bolts	Replace unusable and worn nuts and bolts
Regularly	Check protection devices and ensure that they function	Replace defective appliances

Important! Reattach and secure all protection devices after carrying out maintenance or repairs.

Changing cutting hammers

If the cutting hammers are to be changed, the mulcher must be placed on the ground, detached from the tractor, raised using suitable lifting devices and properly supported and secured.

If suitable equipment is not available, please have the work carried out by a fully equipped specialised workshop.

Important! Never work under unsupported loads.

To replace the cutting hammers please proceed as follows:

- After ensuring that the mulcher is properly supported and secured at a suitable location, turn the rotor slowly by hand to each hammer in turn in order to reach a suitable position and ensure that all cutting hammers can be easily accessed.
- VMA Series mulchers have an opening rear door. This door is adjustable in three positions – fully closed, half open and fully open. This is a useful feature which allows for the ejection of grass in heavy crop loads as the material is cut once then ejected. Extreme care must be taken with the door in the fully open position as wood, stone and other material may be ejected at high velocity. Ensure people and structures are at least 100 metres away when using the mulcher with the rear door fully open.

The rear door also provides good access to the hammers for maintenance and replacement (see Fig. 2 D). Remove bolts either side at rear of the mulcher to open door. Adjustment holes are visible when door is opened.

- Before unscrewing the nut please clean the nut and any protruding thread with a wire brush. Apply a little oil, penetrating oil or grease to make it easier to turn.
- Remove the self-locking nuts on the lugs with the correct fitting spanner and with one hand holding the cutting tool to prevent it falling, pull out the securing bolt from the other side of the tool mounting.
- Exchange the worn or damaged cutting tool for a new **Original Longreach Equipment hammer** of the same type in the same operating direction.
- Insert a new bolt correctly into the mounting so that the screwhead fits properly, and cannot turn any further, pull the bolt through the cutting tool and mounting on the other side as far as it will go.
- Fit a new self-locking nut to the bolt and secure it tightly.
- Repeat this process until all worn or damaged cutting hammers have been replaced.
- Check that all the nuts and bolts are sitting correctly and are secure.
- Lower the mulcher carefully to the ground, following the appropriate safety and accident prevention procedures.
- After a short period of use (max 2-3 hours) recheck that all the nuts and bolts are correctly seated and secure.

Important! Replace immediately any cutting hammers that show any signs of damage, or are cracked or are heavily worn! Failure to do so can cause parts to be thrown out, unbalance the rotor, damage the bearings or other problems.

Important! Any imbalance can destroy the mulcher! So, either repair it immediately or contact a suitable specialised workshop!

Important! When replacing cutting hammers always try to replace complete sets or at least opposing pairs in order to balance out the weight on both sides of the rotor uniformly at the same time.

(Uneven weight distribution on the rotor or failure to balance out the new hammers will unbalance the rotor)

Always fit new nuts and bolts when changing the cutting hammers. Nuts and bolts are also subject to wear and tear. They can fracture.

Please note! Only fit Original Longreach Equipment Cutting Hammers and attachment nuts and bolts. Failure to use original Longreach Equipment spares and attachments will invalidate the warranty.

To prevent being cut by the sharp edges of cutting tools always wear thick gloves and use the proper tools when replacing the cutting hammers.

If the rotor needs to be changed please have this done in a specialised workshop.

Tensioning and replacing drive belts

Longreach Equipment mulchers generally use drive belts for power transmission as their elasticity alleviates and smooths out sudden peak loads. Peaks can occur when starting, or encountering debris or large volumes of dense material.

A drive belt is also a low cost sacrificial item which protects both the machine and tractor from damage if the mulcher is forced to a halt by an obstruction.

The drive belt must be set to the correct tension so that it can work efficiently without excessive wear. **The drive belt tension is correct when a force of about 6 kg can move the drive belt 10 mm inwards at its central position between the two pulleys.** This force is equal to the force that can be applied by fairly strong arm pressure.

Further signs that the drive belt is too slack are reduced performance, excessive heat, smoke or the smell of burning rubber coming from the drive belt.

Important! If smoke comes from the drive belt casing, turn off the mulcher and search for the cause! There is a risk of it catching fire, which could cause serious damage to the mulcher.

Retension drive belts manually as follows with the mulcher switched off and disconnected: (Wait for the machine and all rotating parts to come to a complete standstill!)

- Unscrew the bolts holding the drive belt casing and remove the casing (Fig. 1 A).
- Undo the gearbox fixing bolts on the mounting to move the gearbox (Fig. 2 A & 3 B).
- Turn the clamping screw or the tensioning screw evenly with a suitable spanner to adjust the position of the gearbox, increasing (or, if necessary, reducing) the tension of the drive belt (Fig. 3 C).
- **The correct drive belt tension is obtained when the drive belt gives 10 mm under a pressure of 6 kg centrally between the two pulleys (strong arm pressure).**
- Then gently retighten the gearbox fixing bolts on the gearbox mounting.
- **Ensure that the drive pulleys run absolutely parallel to the side plate and are completely flush with one another! To check this, hold a spirit level against both pulleys and ensure that they contact simultaneously at all four points. If not, realign the pulleys.**
- (Misalignment of the pulleys can cause excessive wear to the drive belts).
- Finally, tighten all bolts and refit the drive belt casing, checking that all the attachment screws are sitting correctly and are secure.
- After approximately 30 minutes work recheck the drive belt tension. After working for 1 - 2 hours check again that all screws and bolts are secure and, if necessary, retension or retighten.

New drive belts have a tendency to stretch on first use depending on quality. It is therefore essential to inspect drive belts and drive belt tension shortly after replacing them and starting work to avoid damaging the belts. Inspections can subsequently be extended to longer intervals.

Please note! If drive belts are worn, always change the entire set and re-tighten all drive belts. This is the only way to achieve optimum power transmission!

To **replace the drive belts** please proceed as follows: (Switch off, shut down the engine and wait for the machine and all rotating parts to come to a complete standstill!)

- Unscrew the bolts holding the drive belt casing and remove the casing.
- Reduce the drive belt tension by undoing the fastening bolts attaching the gearbox to the mounting (Fig. 2 A, 2 B & 2 C).
- Using a rod or a large screwdriver (Don't use anything sharp, it could damage the belts!) turn the pulley at the same time to make it easier to remove the belts.
- Remove the drive belts.
- Fit the new drive belts - using a rod or a large screwdriver and while turning the pulley as indicated above - tension the belts as described in the previous section.
- **The correct drive belt tension is obtained when the drive belt gives 10mm under a pressure of 6 kg centrally between the two pulleys (strong arm pressure).**
- **Ensure that the drive pulleys run absolutely parallel to the side plate and are completely flush with one another To check this, hold a spirit level against both pulleys and ensure that they contact simultaneously at all four points. If not, realign the pulleys.**
- (Misalignment of the pulleys can cause excessive wear to the drive belts).
- Finally, tighten all bolts and refit the drive belt casing checking that all the attachment screws are sitting correctly and are secure.
- After approximately 30 minutes work recheck the drive belt tension, and after 1-2 hours work check that all screws and bolts are secure and re-tension or retighten as necessary.

Please note! When changing drive belts always change complete sets to ensure maximum power transmission.

Oil level checks and oil changes

The gearbox fitted to your Longreach Equipment mulcher runs in an oil bath.

The oil level in the gearbox is correct when it is half-way up the gearbox.

If the gearbox is underfull it can overheat and/or run dry and cause damage, while too much oil can also cause damage, in extreme cases destroying the gearbox.

The gearbox has an oil-level check plug, which is mounted half-way up the gearbox housing behind the P.T.O. bell cover.

The gearbox also has an **oil and ventilation screw** and underneath a **drain plug**.

Oil level check on gearbox:

- Lower the mulcher, remove it from the tractor, bring it into a horizontal position.
- Remove the oil level check plug from the side of the gearbox, placing a container under the gearbox to catch any leakage.
- If the level is too high allow the excess oil to run out.
- If the level is low, top up the oil level until oil starts to run out (see next page).
- Replace the oil level check plug and screw it tight.
- Dispose of any leaked oil properly.

Topping up oil in the gearbox:

- Lower the mulcher, remove it from the tractor, bring it into a horizontal position.
- Remove the oil level check plug from the side of the gearbox, placing a container under the gearbox to catch any leaks.
- Remove the filling plug and, using a suitable funnel, top up with SAE 90 EP or SAE 140 gearbox oil, taking care not to overfill.
- If it has been overfilled, allow the excess oil to run out until it reaches the level of the check plug.
- Replace the oil level check plug and the filling plug and fasten them tightly.
- Dispose of any leaked oil properly.

Gearbox oil change

- Lower the mulcher, remove it from the tractor, bring it into a horizontal position.
- Remove the oil level check plug from the side of the gearbox, placing a container under the gearbox to catch any leaks.)
- Remove the drain plug at the bottom of the gearbox and allow the oil to drain out until the gearbox is completely empty.
- Replace the drain plug and screw tight.
- Remove the filling plug and, using a suitable funnel, top up with SAE 90 EP or SAE 140 gearbox oil, taking care not to overfill.
- If it has been overfilled, allow the excess oil to run out until it reaches the level of the check plug.
- Replace the oil level check plug and the filling/breather plug and fasten them tightly.
- Dispose of any leaked oil properly.

Maintenance

As well as carrying out the maintenance tasks listed above, it is also essential to check the front plate guards regularly to make sure that they are intact, undamaged and fully functional.

The plate guards mounted at the front of the mulcher prevent objects from flying forward in the direction of the driver.

Remove all dirt or debris from in front of, behind, or between the top plate guard mountings.

Changing the plate guards

- Lower the mulcher, remove it from the tractor, bring it into a horizontal position.
- Remove the split pin from the mounting rod securing the plate guards.
- Standing beside the machine remove the mounting rod completely from the side of the mulcher, ensuring that the plates cause no injury when they fall.)
- **Replace damaged guards with Original Longreach Equipment protective guards, push the rod back into the machine from one side and thread in the guards.**
- Push the mounting rod at the other end through the appropriate hole in the side plate and secure it with a new split pin.

Extensive overhaul work and other work that has not been included in this maintenance manual should generally only be carried out by trained mechanics in a specialised workshop.

Should it be necessary to carry out **welding work** on the mulcher or the tractor, please remember to remove the alternator and battery first to prevent possible damage from voltage overload.

Use the correct tools for all work, along with safety shoes, fitting overalls and, if appropriate, gloves.

Disposal of the mulcher at the end of its life

After many years of use even a good high quality mulcher will reach the end of its life. If this is the case please dispose of the mulcher correctly to prevent damage to the environment.

Almost all the materials found on the mulcher are recyclable.

8. MALFUNCTIONS, CAUSES AND REMEDIES

The table below contains a list of faults that we have collected in the course of our experience with mulchers, the possible causes of these faults and the action that you should normally take to resolve the problem.

If our recommended action fails to cure the fault or further problems arise please contact your supplier. This will help us to get to the root of the problem and find a suitable solution. We shall use the experience gained from this information to make further improvements to the mulcher.

Fault	Cause	Solution
The mulcher emits excessive vibration and noise	Cutting hammers damaged or excessively worn	Change the worn cutting hammers including mounting nut and bolt in pairs or as a complete set.
	Jammed cutting tool on the rotor	Clean cutting tool mounting.
	One or more cutting hammers broken or missing	Replace cutting hammers.
	Wire or other material wrapped round the rotor	Remove debris.
	Unbalanced rotor	Check the weighting and rebalance as necessary.
	Rotor bearing or rotor shaft damaged or worn	Replace the bearing or shaft.
Mulcher operation and/or cut unsatisfactory	The mulcher is not parallel with the ground	Adjust the toplinkage until the mulcher is sitting correctly.
	Cutting hammers worn	Change the worn cutting hammers including mounting nut and bolt.
	Rotor speed too low	Increase rotor speed.
	Driving speed too high	Drive more slowly.
	Drive belt too slack	Check drive belt tension and if necessary retighten.
	Drive belts worn	Replace complete set of drive belts.
	Cutting height too low	Lower the support roller/wheels and /or adjust the toplinkage.
	Cutting height too high	Raise the support roller/wheels and /or adjust the toplinkage.

Fault	Cause	Solution
Rotor fails to turn	Rotor blocked by an obstruction	Carefully remove obstruction.
	Freewheel incorrectly mounted in the P.T.O. shaft or gearbox – freewheel disengages	Change freewheel in the P.T.O. shaft or gearbox or remount it.
Drive shaft turns but not rotor	Drive belts damaged	Replace complete set of drive belts.
Support roller is stiff or stuck	Support roller bearing dirty or damaged	Replace bearing and grease new bearing well until grease starts to exude.
	Running dry, no grease	Re-grease bearing until grease starts to exude.
Drive belt problems (too much belt wear, belts overheat, start to smoke, reduction in power transmission)	Drive belt too slack	Check drive belt tension and retighten as necessary.
	Drive belt pulleys out of alignment	Check alignment and adjust as necessary.
	Cutting height too low	Lower the support roller and /or adjust the toplinkage.
Gearbox runs hot	Oil level too low	Top up oil.
	Oil too old	Carry out oil change.
	Rotor / mulcher struggles to cope	Drive more slowly and/or set backup roller lower.
Oil loss from gearbox or extension shaft	Sealing rings damaged or worn	Replace sealing ring.
Excessive cutting tool wear	Cutting height too low	Lower the support roller/wheels and /or adjust the toplinkage.
	Cutting hammer not original	Use original Longreach Equipment cutting hammers.
Drive elements fractured	Mulcher started too quickly or damaged by foreign body	Replace the damaged item and take more care with the mulcher in future.

If you have any other technical or practical questions about your mulcher please contact us or our authorised dealer, who will be more than happy to help.

9. GUARANTEE

Longreach Equipment Mulchers are manufactured with great care, using modern production methods and are subject to numerous checks.

Consequently Longreach Equipment issues a guarantee as part of its General Terms and Conditions in line with the following statement (extract from General Terms and Conditions):

- Guaranteed for a period of 2 years from date of purchase.

FIGURE 1



FIGURE 2



FIGURE 3



