

IM1936

TWIN – BLADE

2400

FULLY OFFSET TOPPER

INSTRUCTION BOOK

AND

REPLACEMENT PARTS INFORMATION

ISSUE 1

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IMPORTANT

NOTE HERE THE SERIAL NUMBER OF YOUR MACHINE AND ALWAYS QUOTE IT IN ANY COMMUNICATION WITH US OR YOUR DEALER. THIS IS PARTICULARLY IMPORTANT WHEN ORDERING SPARES. REMEMBER TO INCLUDE ALL NUMBERS AND LETTERS.

MACHINE SERIAL NUMBERS _____

THE INFORMATION GIVEN THROUGHOUT THIS MANUAL IS CORRECT AT THE TIME OF PUBLICATION. HOWEVER, IN THE COURSE OF CONSTANT DEVELOPMENT OF BOMFORD TURNER MACHINES, CHANGES IN SPECIFICATION ARE INEVITABLE. SHOULD YOU FIND THE INFORMATION GIVEN IN THIS BOOK TO BE AT VARIANCE WITH THE MACHINE IN YOUR POSSESSION, YOU ARE ADVISED TO CONTACT THE BOMFORD TURNER SERVICE DEPARTMENT WHERE UP-TO-DATE INFORMATION WILL BE PROVIDED. THE MANUAL CAN CONTAIN STANDARD AND OPTIONAL FEATURES AND IS NOT TO BE USED AS A MACHINE SPECIFICATION.

THE MACHINE HAS BEEN TESTED AND IS CONSIDERED SAFE IF CAREFULLY USED. ENSURE YOUR OPERATOR IS PROPERLY TRAINED IN ITS USE AND MAINTENANCE.

IMPORTANT

NOTEZ ICI LES NUMEROS DE SERIE DE VOTRE MACHINE ET MENTIONNEZ LES DANS TOUTE COMMUNICATION AVEC NOS SERVICES OU VOTRE REVENDEUR. CECI EST IMPORTANT POUR LA COMMANDE DE PIECES DETACHEES. PENSEZ A NOTER TOUS LES NUMEROS ET TOUTES LES LETTERS.

NUMEROS DE SERIE DE LA MACHINE _____.

LES INFORMATIONS DONNEES DANS CE MANUEL SONT CORRECTES CEPENDANT, DU FAIT DE DEVELOPPEMENT CONSTANT DES MACHINES BOMFORD TURNER.

CHANGEMENTS DANS LES CARACTERISTIQUES SONT INEVITABLES.

SI VOUS TROUVEZ QUE LES INFORMATIONS DONNEES NE CORRESPONDENT PAS A VOTRE MACHINE VEUILLEZ CONTACTER LE SERVICE DES REPARATIONS OU DES INFORMATIONS PLUS RECENTES VOUS SERONT DONNEES.

CE MANUEL PEUT MONTRER DES CARACTERISTIQUES OPTIONNELLES ET NE PEUT PAS ETRE CONSIDERE COMME SPECIFICATION DE LA MACHINE.

CETTE MACHINE A ETE TESTEE, ET ELLE EST CONSIDEREE COMME FIABLE A CONDITION D'UNE BONNE UTILISATION. ASSUREZ-VOUS QUE VOTRE OPERATEUR EST QUALIFIE EN CE QUI CONCERNE L'UTILISATION DE LA MACHINE AINSI QUE SON ENTRETIEN.

WICHTIG

TRAGEN SIE HIER DIE SERIENNUMMERN IHRER MASCHINE EIN UND GEBEN SIE DIESE IMMER AN, WENN SIE SICH AN UNS ODER IHREN HÄNDLER WENDEN. DAS IST BESONDERS BEI ERSATZTEILBESTELLUNGEN WICHTIG. VERGESSEN SIE NICHT, ALLE ZAHLEN UND BUCHSTABEN ZU NOTIEREN.

SERIENNUMMERN DER MASCHINE _____

DIE ANGABEN INDIESEM HANDBUCH SIND BEI VERÖFFENTLICHUNG KORREKT. AUFGRUND DER KONSTANTEN WEITERENTWICKLUNG VON BOMFORD TURNER MASCHINEN SIND JEDOCHÄNDERUGDEN IN DER SPEZIFIKATION UNVERMEIDLICH. WENN DIE INFORMATION IN DIESEM HANDBUCH NICHT MIT IHRER MASCHINE ÜBEREINSTIMMEN, NEHMEN SIE BITTE KONTAKT MIT DER BOMFORD TURNER KUNDENDIENSTABTEILUNG AUF, DIE IHNEN GERNE DIE AKTUELLEN INFORMATION ZUKOMMEN LÄSST.

DAS HANDBUCH KANN SOWOHL BESCHREIBUNGEN FÜR DIE STANDARD AUSFÜHRUNG ALS AUCH FÜR ZUBEHÖR ENTHALTEN UND IST NICHT ALS MASCHINENSPEZIFIKATION ZU VERWENDET.

DIE MASCHINE IST GETESTET UND BEI SACHGEMÄSSEM BETRIEB ALS SICHER BEFUNDEN WORDEN. SORGEN SIE DAFÜR, DASS IHR BEDIENPERSONAL IN ANWENDUNG UND WARTUNG RICHTIG GESCHULT WIRD.

E.C MACHINERY DIRECTIVE

98/37/EC

CE DECLARATION OF CONFORMITY

We hereby certify that the machinery stipulated below complies with all the relevant provisions of the EC Machinery Directive and the National Laws and Regulations adopting this Directive.

Machine Description.... Mounted In-Line Toppers
Make/ ModelPT8, PT9

Manufacturer: LSM Engineering LTD
Address: Ballymacken, Portlaoise, Co. Laois. (IRELAND)

Is in conformity with the following other Directives and Standards;

Directive 98/37/EC – Machinery Directive
Directive 93/9 EEC – “ CE Marking Directive”

Harmonized Standards applied;

EN 292 pt1:1991 - Safety of Machinery - Basic concepts, general principles for design
EN 292 pt2:1991 - Safety of Machinery - Technical Principles and specifications
EN 60204-1:1993 - Safety of Machinery - Electrical equipment of machines
EN 1050:1996 - Safety of Machinery - Principle of Risk Assessment

Signed *Noel Graham*
Name Noel Graham
Date February 2004
Position Production Manager

We reserve the right to make changes or improvements at any time without incurring any obligation to make such changes on products sold previously.

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IMPORTANT

This machine is designed for vegetation control and must not be used for any other purpose.

It is potentially hazardous to fit or use any parts other than genuine **Bomford Turner** parts.

The company disclaims all liability for the consequences of such use
which, in addition, voids the machine warranty.

This manual describes Twin Blade 2400 fully offset pasture topper with a 2.4 metre cutting width, designed for attachment to suitable agricultural tractors. The machines are suitable for topping agricultural pastures and may also be used for sports grounds and public amenity areas. These machines should never be used for topping “set-aside” or areas of heavy or dense growth.

The machine is attached to the tractors 3-point linkage system and driven by an agricultural type PTO shaft from the tractors PTO outlet.

The cutting head and link arm pivot on the mainframe and an hydraulic ram pivots the cutting head from the transport to the work position. An isolation valve in the hydraulic line locks the cutting head in the transport position when closed. The hoses for the ram connect to the tractor hydraulics and are fitted with self-sealing couplings.

A break back system incorporated in the hydraulic ram limits machine damage should it make contact with an obstruction.

The blades are designed to “swing back” should they come into contact with foreign objects.

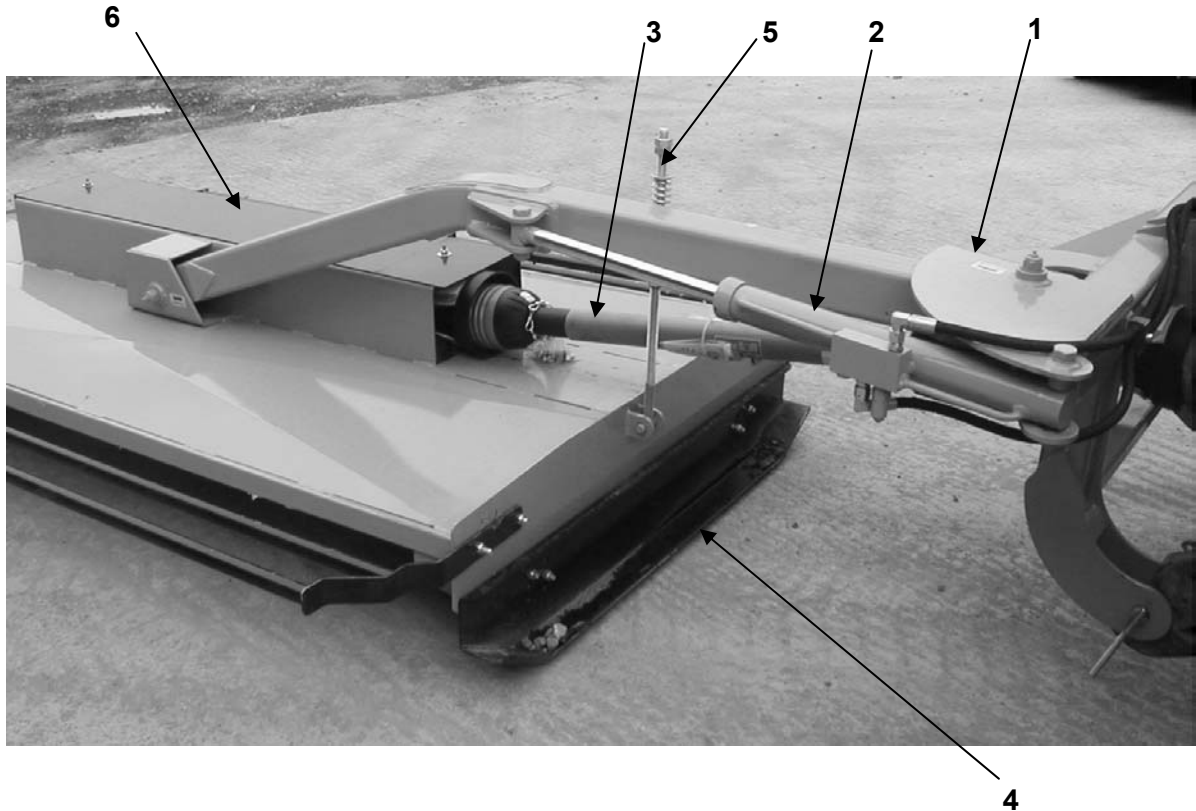
A slip clutch; positioned in the transfer shaft between the angle gearbox and the head protects the gearboxes and a shear-bolt in the drive from the tractors PTO output to the angle gearbox provides additional protection to the drive system.

A pivot point between the cutting head and link arm permits the head to follow ground contours. Movement is restricted to pre-set limits by a spring device.

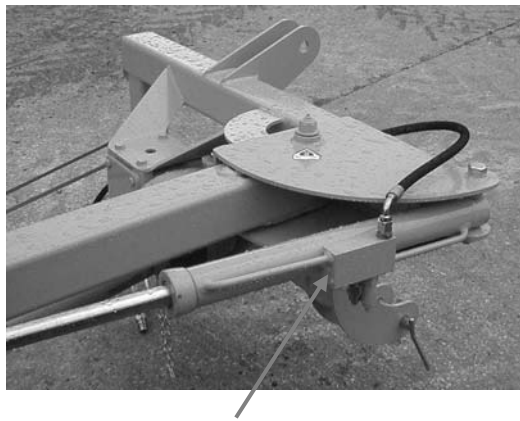
Adjustable side plates permit the cutting height to be varied and also prevent the machine from grounding when working on uneven surfaces.

The machine must be operated in accordance with the practices and procedures described in this manual. Particular attention should be given to the Safety messages. The operator should also read and understand the manuals and safety information supplied by the tractor manufacturer.

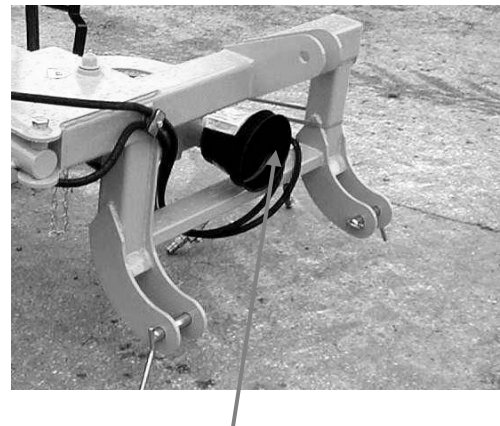
	<u>Twin-Blade 2400</u>
Tractor Requirements	
BHP	65
PTO Type	Live
PTO Speed	540 rev/min
PTO Size	1-3/8" 6 spline
Attachment	Cat II or Cat II "Quick Hitch"
Machine Weight	525kg
Cutting Blades	2 Sets
Cutting Width	2.4m
Cutting Height	35 – 140 mm
Cutting Capacity	12mm
Blade Tip Speed	4140 m/min
Transport Position	To Rear
Overall Width	
Cutting Position	4.18m
Transport Position	1.8m
Overall Length	
Cutting Position	1.8m
Transport Position	3.8m
Drive Line Protection	Slip Clutch & Shear Pin
Break Back Protection	Hydraulic



- | | | | |
|----|----------------|----|-------------|
| 1, | Mainframe | 2. | Offset Ram |
| 3. | Transfer Shaft | 4. | Side Skid |
| 5. | Pivot Limiter | 6. | Drive Guard |



Offset Ram & Break Back Valve



PTO Input & Angle Gearbox

Noise

The equivalent daily personal noise exposure from this machine, measured at the operator's ear, is within the range of 80-85dB when used in conditions where the load fluctuates between zero and maximum. This applies when the machine is attached to a tractor fitted with a quiet cab and used in accordance with the operating instructions in a generally open environment. At daily noise exposure levels of between 85 and 90dB, suitable ear protectors are recommended.

Safety

Read, Understand and Follow the Safety Messages. Serious injury or death may occur unless care is taken to follow the warnings and instructions given in the safety messages,

CAUTION! The lowest level of Safety Message; warns of possible injury.

WARNING! Serious injury or possible death.

DANGER! Imminent death/critical injury.

Never operate the tractor or machinery until you have read and completely understand this manual and the tractor operator's manual and each of the safety messages found in the manuals and those displayed on the tractor and implement.

DANGER! DO NOT attempt any maintenance of or adjustment to the machine while it is running. Before carrying out any work on the machine follow the three safety instructions below:

- a LOWER THE MACHINE ON TO THE GROUND
- b PUT THE PTO OUT OF GEAR
- c STOP THE TRACTOR ENGINE AND APPLY BRAKES

WARNING! The operator and all support personnel must wear the appropriate safety clothing i.e. safety glasses and protective footwear at all times for protection from injury by objects thrown from the machine.

DANGER! Never allow passengers especially children to ride on the tractor or implement. Falling off can kill.

DANGER! At all times ensure that the PTO shaft guard is in position, securely fitted and in good condition and that the tractor PTO shaft shield is fitted.

CAUTION! Replace the PTO shaft guard if any of the following are evident:- guard cracked or damaged any part of the PTO shaft exposed. Ensure the PTO shaft guard is free to rotate and the anti-rotation chains are securely fitted and effective.

WARNING! Ensure that the correct guards are properly fitted to the machine and tractor at all times and check that they are in good condition. Ensure you have the correct guards fitted for the type of operation being performed. Missing or damaged guards must be replaced immediately.

WARNING! While the tractor is running all personnel should keep well clear of the area around the machine as there are numerous crushing, shearing, impact dangers caused by the machine operation.

DANGER! **AVOID WIRE.** It can be extremely dangerous if wire catches in the blades of the machine, and every care must be taken to ensure this will not happen. Inspect the working area before commencing. Remove all loose wire and obstructions and clearly mark those that are fixed so that you can avoid them. Any unusual noise from the cutting unit area indicates that the blades may have been fouled by an obstruction. A visual indication that wire has become entangled may be a sudden movement of the vegetation ahead of the machine. In any such event STOP the tractor engine INSTANTLY. On no account move the machine until blades have completely stopped. When the machine has stopped inspect it and remove any obstruction that may be present. If working under a raised machine ensure that it is safely supported. Before working on the machine always stop the tractor engine and remove the ignition key.

- DANGER!** These machines are capable under adverse conditions of throwing objects great distances at high velocity. CHECK the blades for wear and the attachment bolts for tightness every day during work .A few moments whenever the machine is stopped, e.g. whenever removing obstructions, will help reduce blade wear or loss.
- DANGER!** Keep your forward speed to a level appropriate to the operating conditions. High-speed manoeuvres are very dangerous, particularly on uneven ground where there is risk of overturning.
- DANGER!** Keep a careful watch for passers by who may inadvertently get in the way of cut material being thrown from the machine. These machines are capable under adverse conditions of throwing objects great distances at high velocity. Stop the blades until all people are well clear.
- WARNING!** Extreme care should be taken when operating near loose objects such as gravel, rocks, wire, and other debris. Inspect the area before mowing. Foreign objects should be removed from the site to prevent machine damage and/or bodily injury or even death. Any objects that cannot be removed must be clearly marked and carefully avoided by the operator. Stop mowing immediately if blades strike a foreign object. Repair all damage and make certain the blade and carrier are still balanced before resuming cutting operations.
- WARNING!** Transport the machine only at safe speeds. Serious accidents and injuries can result from operating this equipment at unsafe speeds
- DANGER!** Never transport the machine or attempt maintenance with the blades running. Serious injury or even death can result from contact with rotating blades
- WARNING!** Ensure the blades have stopped rotating after the PTO is disengaged before attempting maintenance or adjustment. Blades will continue to rotate for some time after the tractor PTO has stopped.
- DANGER!** Never leave the machine in the raised transport position. The machine could fall inadvertently and cause injury or death to anyone who might be under the machine.
- DANGER!** Never work under a raised machine unless it has been securely supported and blocked using suitable supports. Sudden or inadvertent falling of the machine could cause injury or even death.

Emergency Stop

To stop the blades in an emergency use the tractor stop control. The use of the tractor stop control must only be done in an emergency. Its use to stop the machine can cause damage. After an emergency stop of the machine; ensure that the PTO is disengaged before restarting the tractor.

Safety Decals

Safety decals are located on various points of the machine. They can be identified by the yellow upper panel depicting the hazard, and the lower white panel indicating means of avoidance or precautions to be taken. These decals have no text. It is essential that all operators and personnel associated with the machine fully understand their meanings, which are shown on the following pages.

Any safety decals which are found missing should be replaced.



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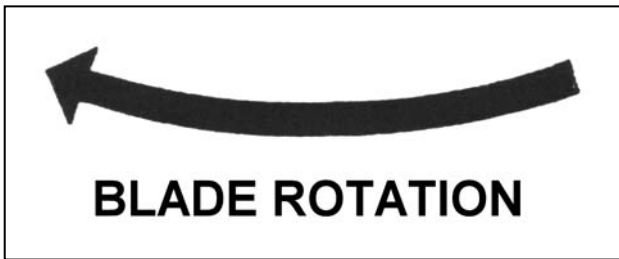
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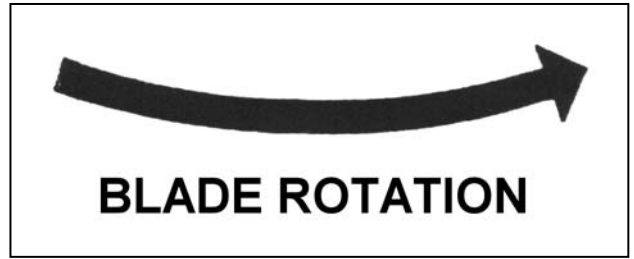
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Part Number 09.821.34



Part Number D138



Part Number D137



Part Number 09.810.02



Part Number 09.811.04

TRACTOR REQUIREMENTS

The machines are suitable for attachment to most tractors with a Cat.II or a Cat.II Quick Hitch linkage. A tractor 540 RPM PTO output is required. Minimum tractor power requirements are 65HP

Adequate front ballast weights may be required. – at least 20% of the tractors weight must be on the front axle when the machine is raised. This will allow adequate traction for safe steering under good conditions. The rear wheel opposite the offset of the topper may also require ballasting.

TRACTOR PREPARATION

Ballast

Ballast tractor if necessary as described above.

Wheel Spacing

Increase the track of the tractor when working on inclines or rough ground to reduce the possibility of overturning.

Stabiliser Bars

Stabiliser bars or sway blocks should be used to limit side movement of the machine

Draft Links

The linkage to the Lower Draft Links should be set to the “float” position. This will permit the machine to follow the grounds contours.

Drawbar

It may be necessary to remove or shorten the tractor’s drawbar to permit up and down movement of the machine

FITTING TO TRACTOR

WARNING: Avoid injury. Ensure there are no bystanders between tractor and machine when coupling machine to the tractor.

- a Reverse tractor slowly up to the machine until lift arms are in alignment with mounting pins on the machine mainframe.
- b Stop tractor engine and apply parking brake
- c Attach tractor lift arms and stabiliser bars to lower lift pins
- d Adjust the length of the top link so it aligns with the top hole of the A frame
- e Secure with pin and linch pin
- f Connect hydraulic hoses from the offset ram to the tractor hydraulics.
- g. Fit PTO shaft (see below).

Fitting PTO Shaft

WARNING: A loose shaft could slip off and result in personal injury or damage to the mower. When attaching PTO yoke to tractor PTO shaft, it is important that the spring-activated locking collar slides freely and locking balls are seated in the groove on the PTO shaft.

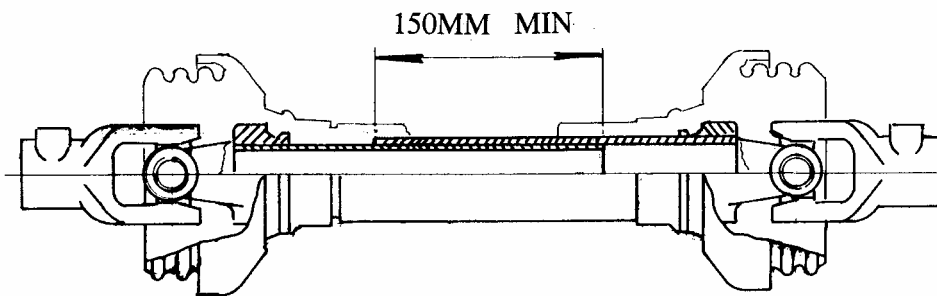
Before operating the machine check to ensure the driveshaft will not “bottom out” or become disengaged. Due to many different makes and sizes of tractor to which machines may be fitted, a nominal length PTO shaft is supplied with the machine.

In some cases it may be found that this PTO shaft is too long and will have to be shortened.

IMPORTANT: MINIMUM ENGAGEMENT OF PTO IS 150MM IN THE WORKING POSITION. THIS MEASUREMENT MUST BE TAKEN INTO ACCOUNT WHEN SHORTENING THE PTO SHAFT.(See illustration below)

Before fitting PTO shaft to tractor, grease the sliding drive shafts and bearing units.

- a Fit PTO to tractor ensuring locking peg on the splined coupling is fully engaged.
- b Attach PTO guard check chains to tractor and machine.



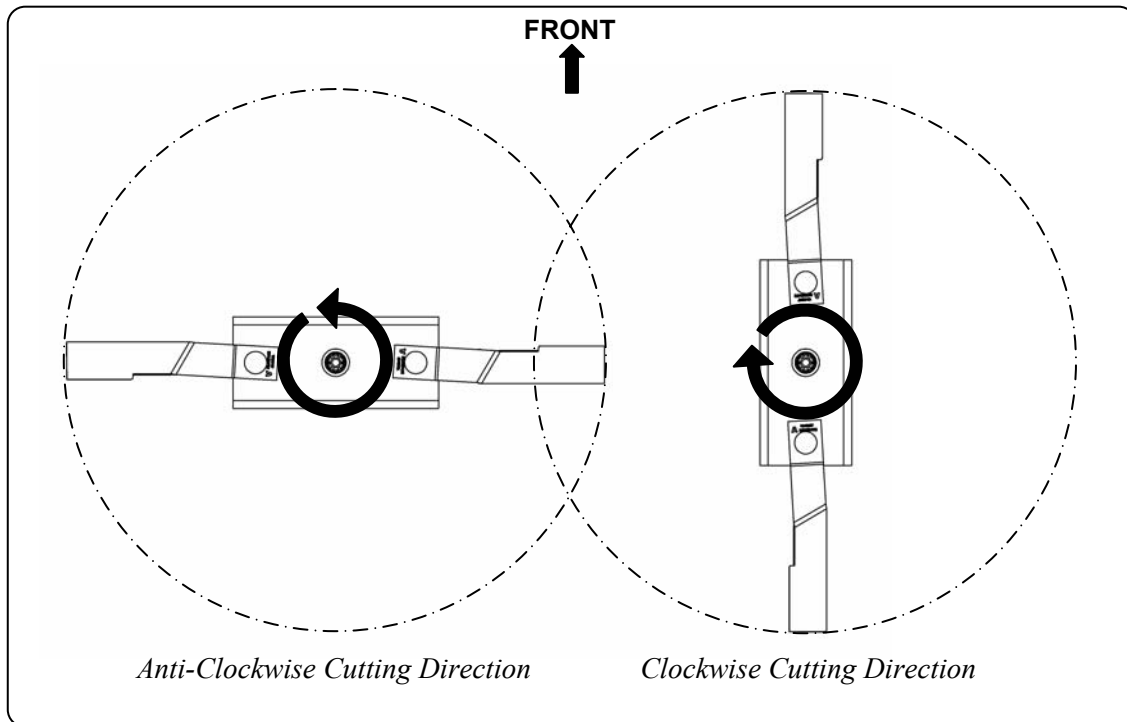
WARNING: Do not run the blades with the machine in the transport position. There may be a possibility of serious injury or damage to the machine.

In the interests of safety it is suggested that the PTO shaft is not fitted until the machine is placed in the working position. This will help prevent possible injury to people or damage to the machine.

Before operating the machine the user should be familiar with the operating procedures for this machine and the tractor. They should be familiar and have understood all safety messages associated with this machine and the tractor before operating.

Before use the machine should be checked and thoroughly lubricated.

The machine is designed primarily for medium duty grassland topping and is equipped with two sets of updraft blades mounted on blade carriers rotating in opposing directions – the blade carriers are timed at 90° to each other – *see diagram below*.



Cutting Blades - Rotation & Timing Diagram (viewed from below).

CUTTING SPEED

The correct forward speed for cutting will depend upon the height, type and density of the material to be cut but normally will be in the range of 2–5 mph (3-8 km/h). Tall dense material should be cut at a low speed while thin medium height material can be cut at a faster ground speed – with practice the operator will be able to judge the conditions and materials to be cut and select the optimum forward speed to achieve efficient mowing.

Always operate the PTO at the recommended RPM when cutting – this is necessary to maintain the correct blade speed to produce a clean cut.

Under certain conditions tractor tyres may roll some grasses down and prevent them from being cut at the same height as the surrounding area. When this occurs, reduce the tractor ground speed, but maintain PTO rpm. The lower speed will permit grasses to, at least, partially rebound and be cut. Taking a partial cut and/or reversing the direction of travel may also produce a cleaner cut.

Always stop mowing when people are passing by and keep bystanders at a safe distance away from risk of danger.

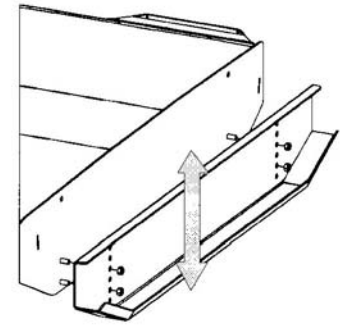
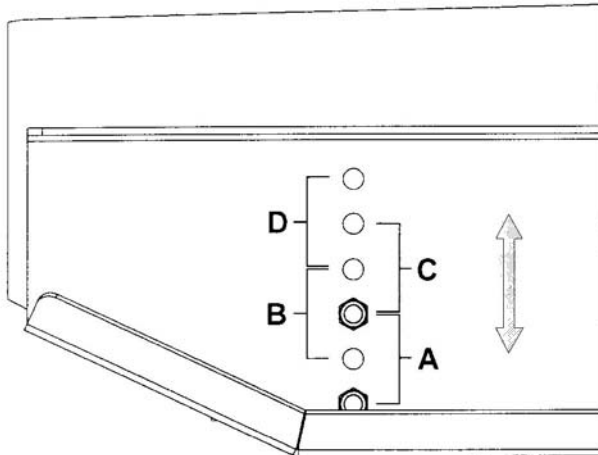
HEIGHT OF CUT

The height of the cut is determined by the position at which the side skids are mounted on the machine – height adjustment is made by selecting higher or lower pairs of holes in the skids through which to attach the mounting bolts.

It is advisable to increase topping height by an extra 25mm (1") to avoid 'grounding' of the machine when cutting on uneven terrain.

Each side skid is fixed into position with 4 nuts and bolts (2 front & 2 rear) and may be mounted to give four different cutting heights from 35mm to 140mm.

The diagram below shows the skid height adjustment positions where 'A' is the minimum cutting height and 'D' is the maximum.



Cutting Heights

- A = 35 mm
- B = 70 mm
- C = 105 mm
- D = 140 mm

WARNING: Avoid injury. Stop the tractor engine, remove ignition key and allow blades to stop rotating before making adjustments.

IMPORTANT Avoid very low cutting heights; striking the ground with the blades can cause damaging shock loads to the gearboxes and drive system and also cause premature blade wear.

To Set Cutting Height

- a. Place the tractor and machine on a level surface.
- b. Raise the machine to the approximate height using the tractor hydraulics.
- c. Stop the engine and support machine using suitable blocks
- d. Adjust the height by repositioning the side skids
- e. Refit nuts and bolts, remove supports and lower machine to ground

NOTE: When refitting the skids check that matching sets of holes front and back and side to side are selected so that the mower remains parallel to the ground.

IMPORTANT: When raising machine to transport height ensure that there is clearance between the machine and PTO shaft. Damage will result if the PTO shaft hits the machine deck.

CHANGING FROM TRANSPORT TO WORK POSITION

On arrival at the work site it will be necessary to place the machine in the work position.

- a With the machine supported on the tractor hydraulics open the transport lock valve and power the ram to swing the head into the work position.
- b Lower machine onto skids and set tractor linkage hydraulics in float position

IMPORTANT: To avoid damage to the machine re-torque all bolts after the first 10 hours of initial operation – thereafter all bolts should be checked at regular intervals and re-tightened if required. The required torque setting for the blade carrier retaining nut on the gearbox lower shaft is 450 ft. lbs (610 Nm).

PRE START CHECKS

Before operating the machine it is advisable to carry out the following Checks.

- a Check that the blades are free of obstructions especially pieces of wire.
- b Check that the blades are in good condition and securely attached
- c Ensure all guards are in position and in a serviceable condition.
- d Examine the work area and remove or identify hidden obstructions, posts and wire etc.

STARTING

With a new machine it is recommended that the machine is restricted to light work for the first day for “running in” purposes.

Do not start the machine while it is under load.

- a Start the tractor and engage the PTO at low engine speed. Refer to tractor instruction manual if necessary.
- b Increase engine speed to give full PTO speed
- c Increase or decrease forward speed to suit prevailing conditions.

WARNING: Never increase or decrease PTO speed rapidly as this can lead to gearbox or drive line damage.

TO STOP THE MACHINE

- a Reduce engine speed to idle
- b Disengage PTO

WARNING: Do not disengage PTO when engine is at full PTO speed.

WARNING: Wait for blades to stop revolving before leaving tractor seat.

TRANSPORT

Ensure all traffic laws and local authority regulations are complied with when transporting this machine on the public highway.

CHANGING FROM WORK TO TRANSPORT POSITION

The machine will need to be placed in the transport position before moving.

- a Reduce engine speed and disengage PTO.
- b Stop tractor engine and apply parking brake
- c Disconnect and remove PTO shaft.
- d Using the hydraulic ram swing the head into the transport position.
- e Lock the hydraulic ram in the transport position with the isolation valve

PARKING AND REMOVAL

In the parked position the machine rests on the side skids. Choose a flat level site or hard-standing.

- a Lower the machine on the tractor hydraulics until it rests on the side skids
- b Stop tractor engine and apply parking brake.
- c Disconnect PTO (if not already removed).
- d Slacken lower lift arm check chains
- e Remove top link
- f Remove linch pins securing lower lift arms to mounting pins
- g Remove lift arms from mounting pins
- h Replace linch pins in mounting pins
- i Disconnect hydraulic hoses
- j. Replace tractor PTO shield
- k. Start tractor engine and drive carefully forward
- l. Fully grease PTO shaft and store in a safe dry place.

STORAGE

It is preferable to store the machine in dry conditions under cover when not in use. Before removing the machine from the tractor a thorough check of the machine should be made as follows.

- a Thoroughly clean all moving parts, particularly the blades and blade carriers
- b Check that all the blades are in place and that they are in good condition
- c Smear all unpainted metal parts with grease and lubricate all grease nipples.
- d Make a note of any item that needs replacing so that parts can be ordered

Regular maintenance is essential for operator safety and to prolong the life of the machine.

DANGER: Always disengage the PTO before raising the Mower for transporting or making adjustments. Death or serious injury can occur from contact with rotating blades.

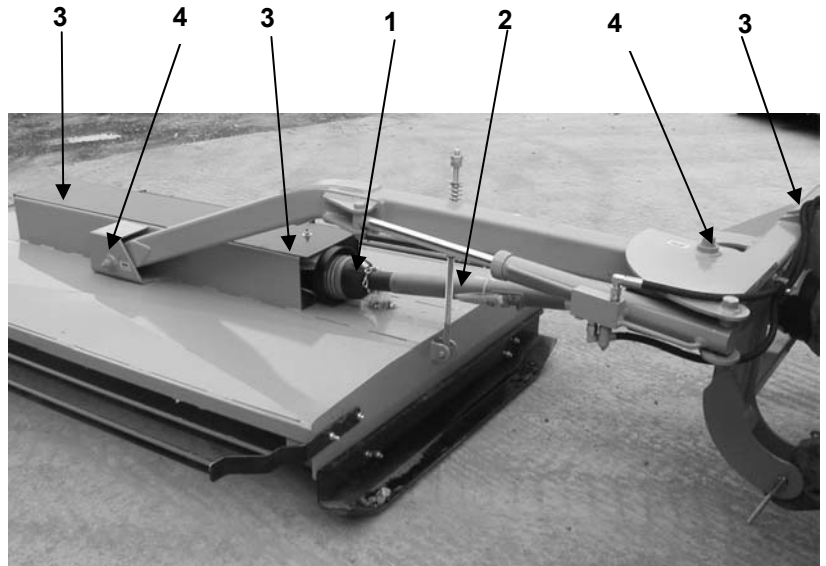
IMPORTANT: Do not allow excess grease to collect on or around the machines parts - particularly when operating in sandy areas.

LUBRICATION POINTS

The illustration below shows the location of the machines lubrication points and the frequency at which these points should be lubricated under normal working conditions – severe or unusual conditions may require more frequent lubrication. Use SAE multi-purpose, lithium type grease for all greasing locations indicated - ensure the fitting is thoroughly cleaned before applying lubricant to avoid contamination by dirt or grit.

Lubrication Points

1. **U-Joints**
Every 8 hours of work
See *driveline lubrication*.
2. **Telescoping**
Every 16 hours of work
See *driveline lubrication*.
3. **Gearbox**
Check level daily
See *gearbox lubrication*.
4. **Pivots**
Every 8 hours of work
Use *good quality lithium Based grease*.



NOTE:- PTO SHAFT OMITTED - SEE PAGE 14

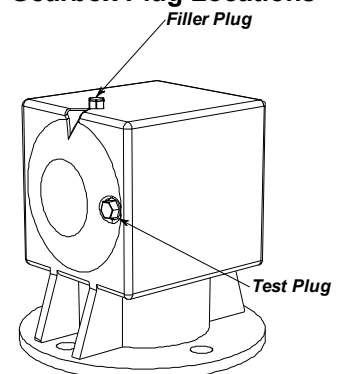
GEARBOX LUBRICATION

The gearbox will be filled with lubricant to the test plug level prior to shipment, however, as a precaution you should check the oil level at the test plug before operating the machine and frequently thereafter - *daily during normal use*.

The gearbox should not require additional lubricant unless the box is cracked or a seal is leaking; however it is recommended that the oil level plug be removed every 8 to 10 hours of normal operation and if necessary oil added until it runs out of the Test Plug hole.

The test plug is located on the rear of the gearbox and the filler plug is located on the top of the gearbox.

Gearbox Plug Locations



Make sure the machine is on level ground when checking oil level.

Recommended lubricant for the Gearboxes is EP90 Gear Oil

NOTE: Overfilling the Gearbox will result in pressure build up and cause Oil Seals to leak.

ATTENTION: If Gearbox suddenly starts making an unusual noise, stop immediately, check for leaks, and refill Gearbox as required.

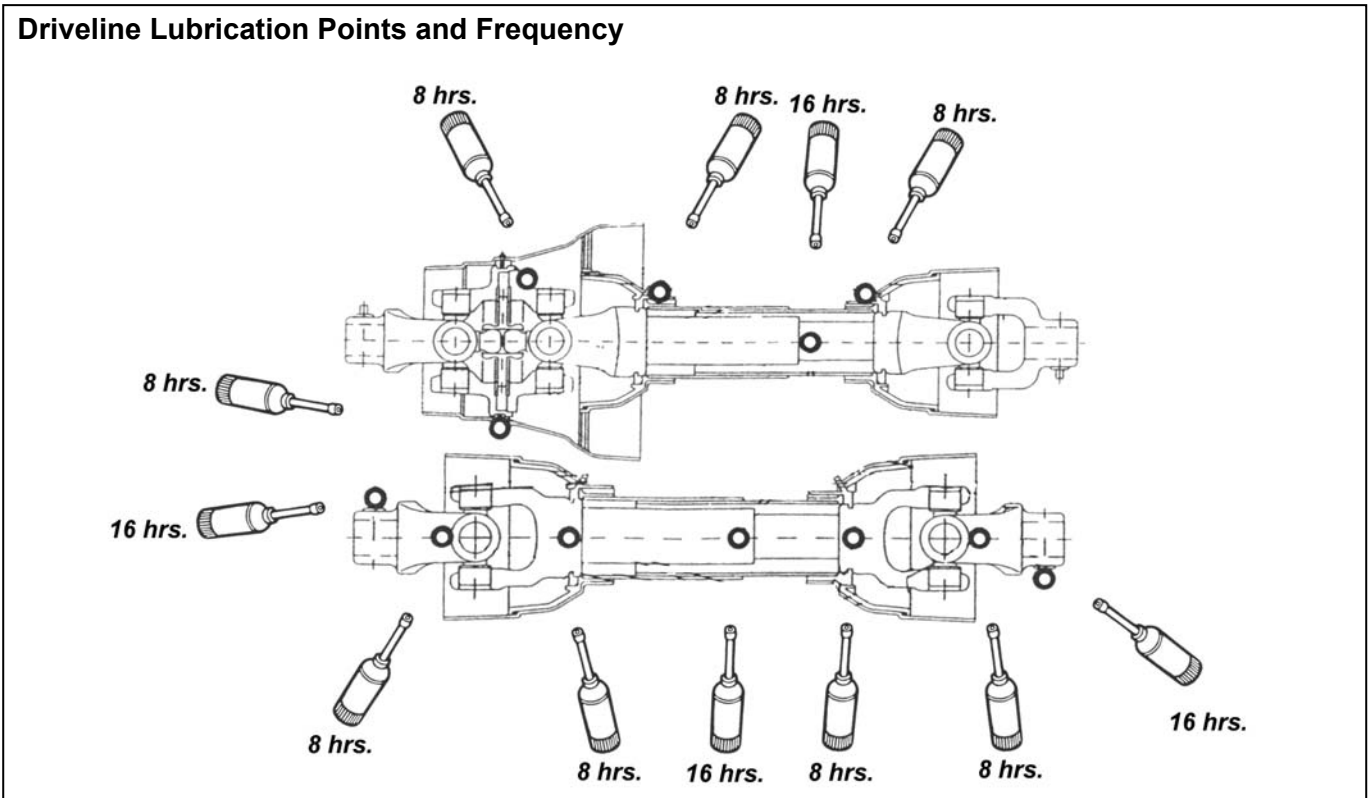
DRIVELINE LUBRICATION

Grease Fittings are located on the cross assembly of each U-Joint and on the telescoping tubes.

Grease the U-Joint after every 8 hours of use - *do not force grease through the needle cup assemblies.*

Grease the telescoping tubes after every 16 hours of use.

On some PTO to hitch connections, it may be necessary to cut a hole in the shields to facilitate alignment of the grease fittings for lubrication. Lubricate the shield bearings every 8 hours - *see diagram below.* Refer also to Information sheet that was shipped attached to PTO shaft.



DRIVELINE GUARDS

The driveline integral shields should not become dented or otherwise damaged. The integral shield assembly has a nylon bearing at each end, which should turn freely, and will require lubricating after every 8 hours of use. To remove the integral shields for replacement or repair, turn the three nylon bolts through a $\frac{1}{4}$ turn in the shield slots of the cone and tube and remove them. Slip the shield cone assembly off the inner section of the driveline and install the new or repaired shield on the driveline. Place the split nylon bearing over the driveline housing against the yoke and in the bearing groove. Install shield over the housing so the nylon bearing fits into the shield bearing retainer. Align a slot in the shield cone with one of the slots in the shield. Put one of the nylon bolts back in through the aligned slot and turn until it is perpendicular to the slots. Replace the other two nylon bolts.

CAUTION Ensure that the driveline integral shields are free to telescope and rotate around the driveline without binding.

WARNING: When attaching PTO yoke to tractor PTO shaft, it is important that the spring-activated locking collar slides freely and that the locking balls are seated in the groove on the PTO shaft. A loose shaft could slip off and result in personal injury or damage to your machine.

BLADE SERVICING

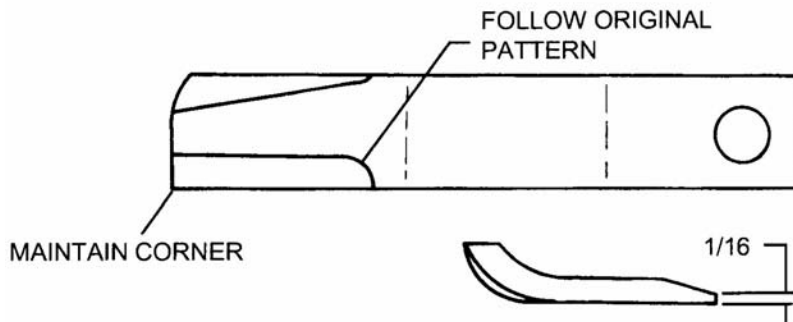
Inspect blades before each use to determine that they are properly installed and in good condition. Replace any blade that is bent, excessively nicked, worn or has any other damage. Small nicks can be ground out when sharpening.

WARNING: Use only original equipment blades on this mower. They are made of special heat-treated alloy steel. Substitute blades may not meet the manufacturer's specification and may be dangerous.

Blade Sharpening

Always sharpen both blades at same time to maintain balance. Follow original sharpening pattern as shown above. Always sharpen blades by grinding. DO NOT heat and pound out edge. Do not sharpen blade to a razor edge, but leave a 2mm (1/16") blunt edge. Do not sharpen back side of blade.

IMPORTANT: When sharpening blades, grind each blade the same amount to maintain balance. The difference in blade weights should not exceed 25g (1 ounce). Unbalanced blades will cause excessive vibration, which can damage gearbox bearings. Vibration may also cause structural cracks in mower housing.



WARNING: Avoid personal injury. Always block and support the machine to prevent it from falling when the blades and carrier are being serviced.

Blade Removal

To remove blades for sharpening or replacement, remove the locknut and blade bolt securing the blade to the carrier. Remove the blade and bushes.

NOTE: Inspect the locknut after removal and replace if the threads are damaged.

Always replace the nut when replacing a blade bolt. When installing blades, check the bushes and the blade bolt pivot diameter for wear. Replace the bolt and bushes if worn. Tighten locknut to 250ft.lbs.(340 Nm)

WARNING: Avoid personal injury. Blade and/or blade carrier removal should be done only with the tractor engine stopped, the ignition key removed, parking brake on, PTO disengaged and the machine blocked in the raised position.

Blade Carrier Removal

Remove the split pin and loosen the slotted nut on the gearbox shaft. Loosen but do not remove the nut until the blade carrier is loosened. Use a suitable two-jaw gear puller to pull the carrier off the tapered gearbox shaft. When the carrier is free remove the nut and washer.

Blade Carrier Installation

Clean the splines on both the blade carrier and the output shaft. Position carrier on the gearbox output shaft and install flat washer and castellated nut. Tighten nut holding blade carrier to minimum 450ft. lbs (610Nm), strike the carrier on the hub several times with a heavy hammer to seat the hub. Use a suitable spacer over the nut to prevent damage to the nuts and threads. Re-tighten the nut to 450ft lbs (610Nm). Install and spread split pin.

NOTE: After a few hours of operation always re-check the blade carrier retaining nut torque.

WARNING: Avoid personal injury. Do not work under machine without support blocks to prevent the machine from falling.

Replacement Parts Section

For best performance...

USE ONLY GENUINE BOMFORD TURNER SERVICE PARTS

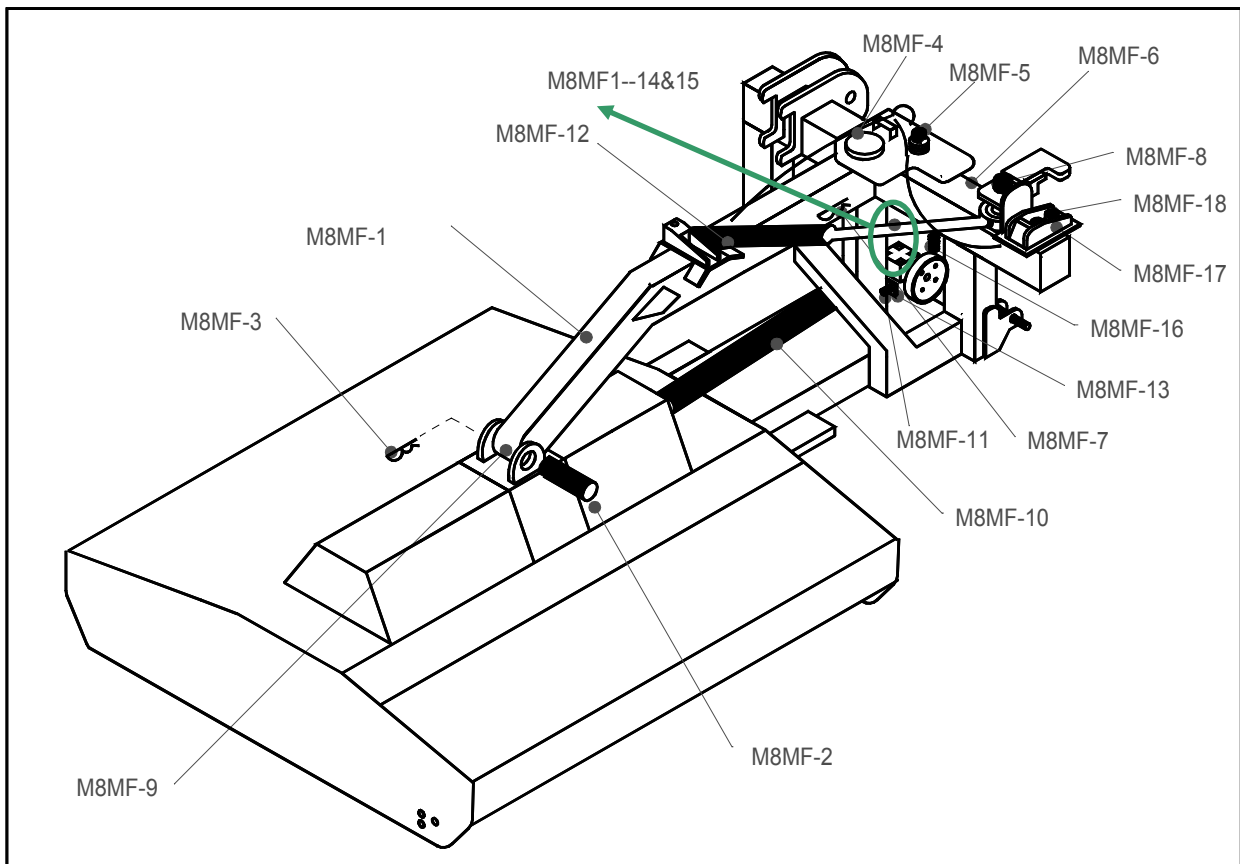
To be assured of the latest design improvements purchase your 'Genuine Replacements' from the Original Equipment Manufacturer through your local Dealer or Stockist.

Always quote:

- ***Machine Type***
- ***Serial Number***
- ***Part Number***

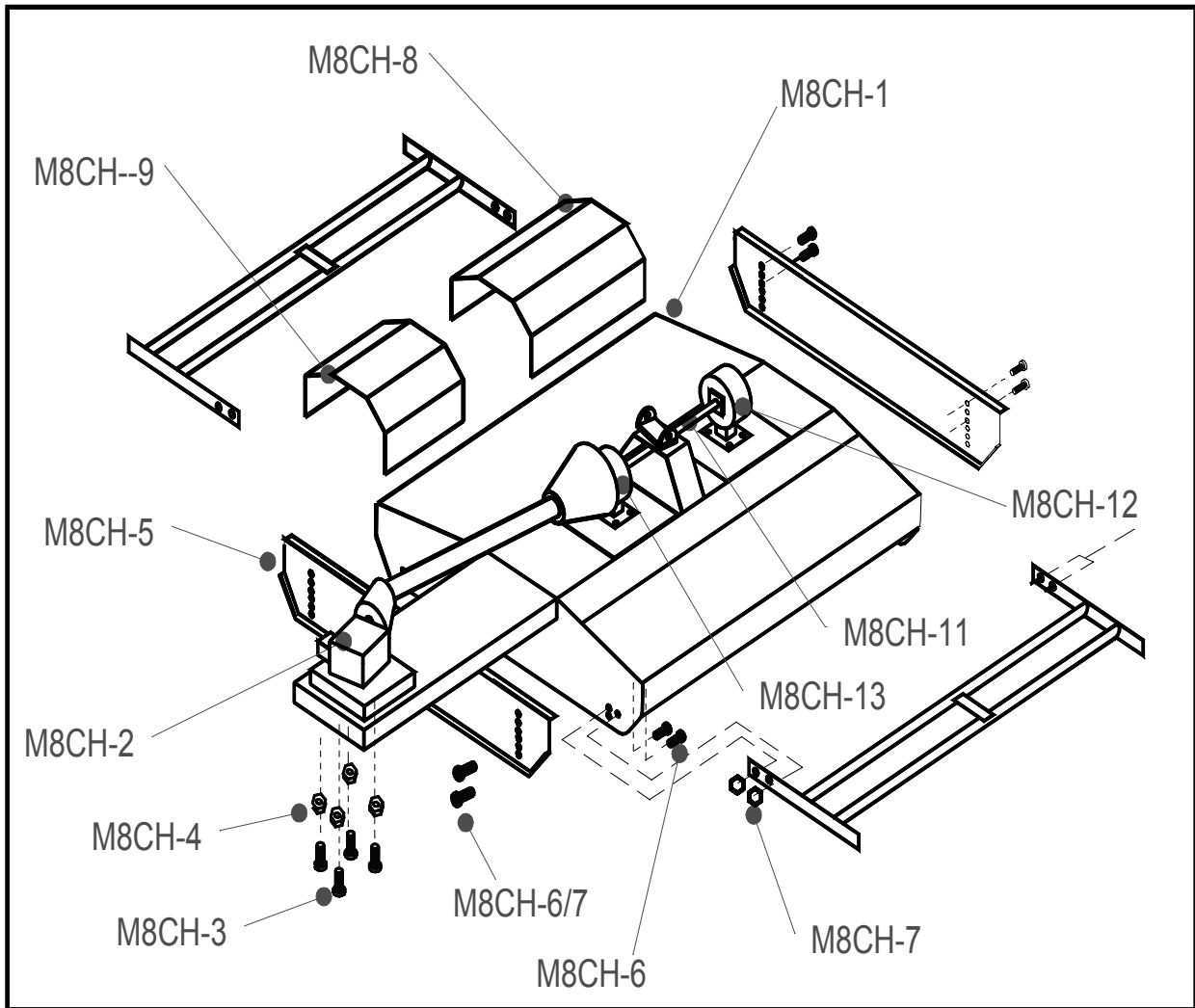
Design Improvements may have altered some of the parts listed in this manual – The latest part will always be supplied when it is interchangeable with an earlier one.

M8 Main Frame Assembly



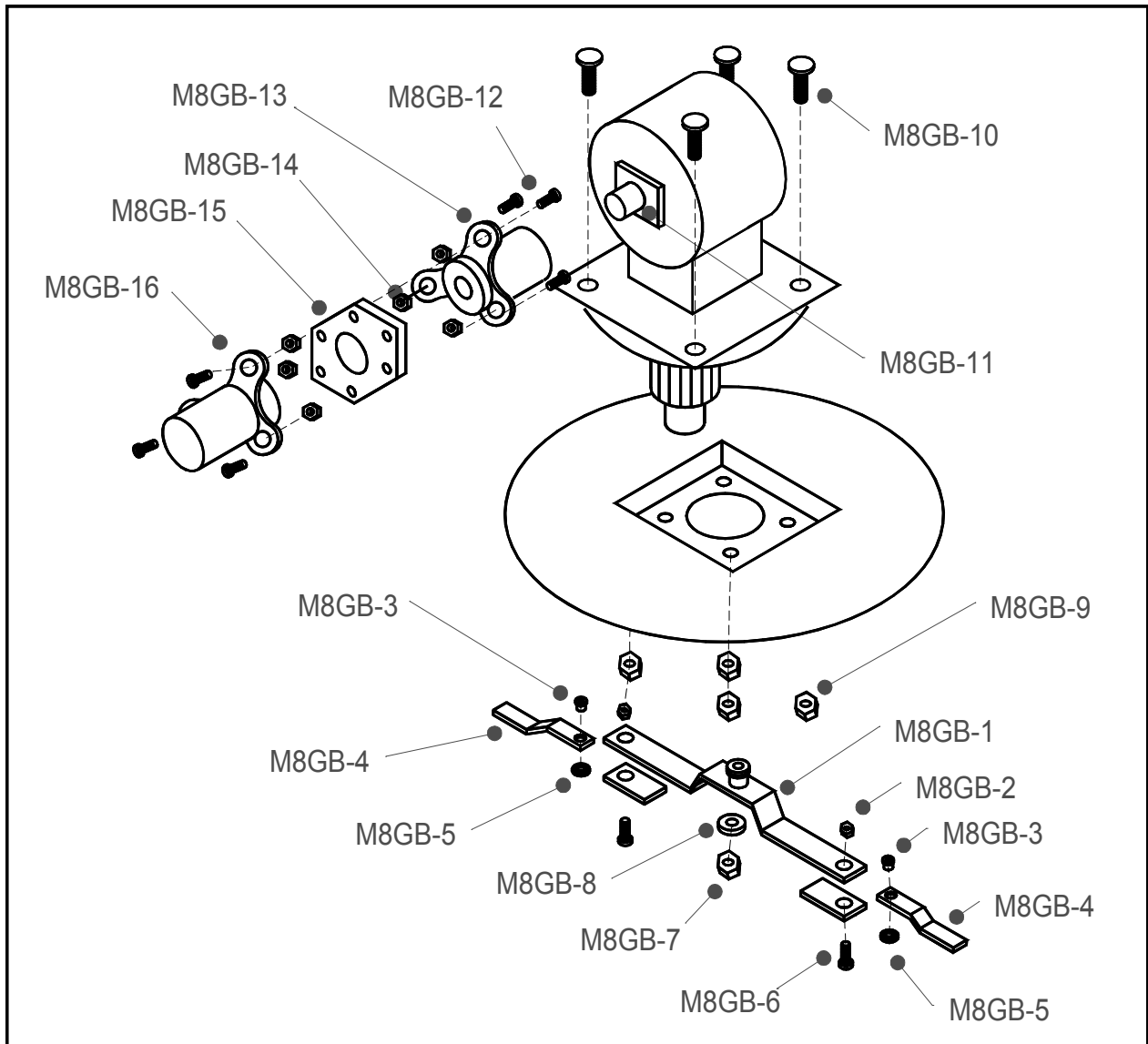
Part No.	Qty	Part Description
M8MF- 1	1	CARRIER ARMS
M8MF- 2	1	CARRIER PIN
M8MF- 3	4	SPLIT PIN
M8MF- 4	4	LINK FRAME PIN
M8MF- 5	2	SAFETY LOCK PIN
M8MF- 6	16	LINKAGE FRAME
M8MF- 7	16	R CLIP
M8MF- 8	1	M20 NYLOC NUT
M8MF- 9	1	GREASING POINT
M8MF- 10	1	PTO SHAFT
M8MF- 11	1	LOWER FRAME PIN
M8MF- 12	1	HYDRAULIC CYLINDER
M8MF- 13	1	GREASING POINT
M8MF- 14	2	ROLLER BOLT
M8MF- 15	2	ROLLER
M8MF- 16	1	SPRING
M8MF- 17	1	M16 X 50 BOLT
M8MF- 18	1	M16 FLAT WASHER

M8 Chassis Parts List



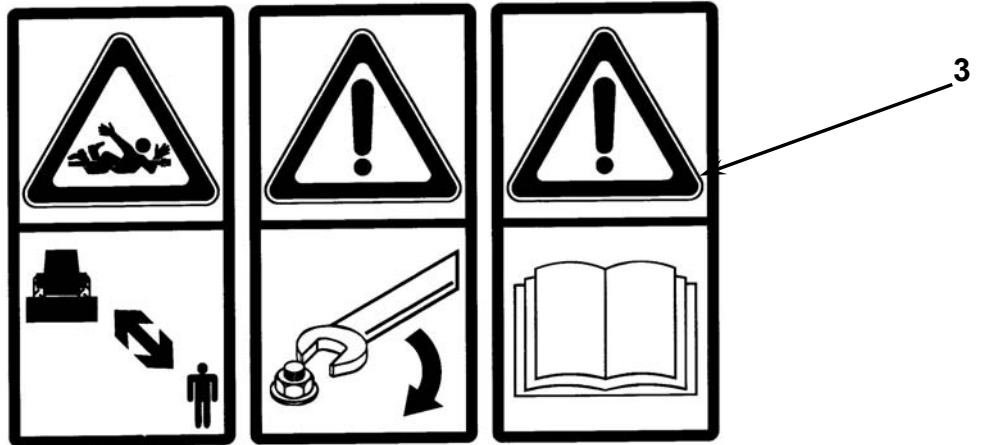
Part No.	Qty	Part Description
M8CH- 1	1	MAIN FRAME
M8CH- 2	1	T27A G BOX
M8CH- 3	4	M12 X 25
M8CH- 4	4	M12 FLAT WASHERS
M8CH- 5	2	ADJUCTABLE SLIDES
M8CH- 6	16	M12 X 30 BOLT
M8CH- 7	16	M12 NYLOC NUTS
M8CH- 8	1	REAR GUARD
M8CH- 9	1	FRONT GUARD
M8CH- 10	1	T40 PTO SHAFT
M8CH- 11	1	TRANSFER SHAFT
M8CH- 12	1	135-005 GBOX
M8CH- 13	1	135-009 T BOX

Gearbox Mounting Assembly



Part No.	Qty	Part Description
M8GB- 1	2	BLADE CARRIER
M8GB- 2	4	M20 LOCK NUT
M8GB- 3	4	UPPPER BLADE BUSHING
M8GB- 4	4	DOUBLE EDGE BLADE BUSHING
M8GB- 5	4	LOWER BLADE BUSHING
M8GB- 6	4	M20 X 100 BOLT
M8GB- 7	2	NYLOC NUT
M8GB- 8	2	WASHER
M8GB- 9	4	M16 NYLOC NUT
M8GB- 10	4	M16 X 40 BOLTS
M8GB- 11	1	LF 135A BOX
M8GB- 12	6	M12 X 75 BOLTS
M8GB- 13	1	DRIVING FLANGE
M8GB- 14	6	M12 NUTS
M8GB- 15	1	RUBBER BUFFER
M8GB- 16	1	TRANSFER SHAFT

DECALS



<u>ITEM NO</u>	<u>PART NO</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	09.821.29	DECAL - EURO	1
2	09.821.30	DECAL - EURO	1
3	09.821.34	DECAL - EURO	1
4	09.811.04	DECAL - MAX PTO SPEED 540	1
7	D132	DECAL - BLADE TIMING	1
8	D137	DECAL - BLADE CCW ROTATION	2
9	D138	DECAL - BLADE CW ROTATION	1