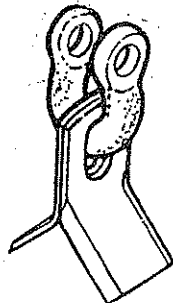


Operation & Spares manual

For

1-0 metre Light duty flailhead



McCONE

IMPORTANT

VERIFICATION OF WARRANTY REGISTRATION



DEALER WARRANTY INFORMATION & REGISTRATION VERIFICATION

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

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

Should you experience any problems registering a machine in this manner please contact the McConnel Service Department on 01584 875848.

Registration Verification

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

NOTE TO CUSTOMER / OWNER

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

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

TORQUE SETTINGS FOR HYDRAULIC FITTINGS

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

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

WARRANTY POLICY

WARRANTY REGISTRATION

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

1. LIMITED WARRANTIES

- 1.01. *All mounted machines supplied by McConnel Ltd are warranted to be free from defects in material and workmanship from the date of sale to the original purchaser for a period of 12 months, unless a different period is specified.
All Self Propelled Machines supplied by McConnel Ltd are warranted to be free from defects in material and workmanship from the date of sale to the original purchaser for a period of 12 months or 1500 hours. Engine warranty will be specific to the Manufacturer of that unit.*
- 1.02. *All spare parts supplied by McConnel Ltd and purchased by the end user are warranted to be free from defects in material and workmanship from the date of sale to the original purchaser for a period of 6 months. All parts warranty claims must be supported by a copy of the failed part invoice to the end user. We cannot consider claims for which sales invoices are not available.*
- 1.03. *The warranty offered by McConnel Ltd is limited to the making good by repair or replacement for the purchaser any part or parts found, upon examination at its factory, to be defective under normal use and service due to defects in material or workmanship. Returned parts must be complete and unexamined. Pack the component(s) carefully so that any transit damage is avoided. All ports on hydraulic items should be drained of oil and securely plugged to prevent seepage and foreign body ingress. Certain other components, electrical items for example, may require particular care when packing to avoid damage in transit.*
- 1.04. *This warranty does not extend to any product from which McConnel Ltd's serial number plate has been removed or altered.*
- 1.05. *The warranty policy is valid for machines registered in line with the terms and conditions detailed and on the basis that the machines do not extend a period of 24 months or greater since their original purchase date, that is the original invoice date from McConnel Limited.
Machines that are held in stock for more than 24 months cannot be registered for warranty.*
- 1.06. *This warranty does not apply to any part of the goods, which has been subjected to improper or abnormal use, negligence, alteration, modification, fitment of non-genuine parts, accident damage, or damage resulting from contact with overhead power lines, damage caused by foreign objects (e.g. stones, iron, material other than vegetation), failure due to lack of maintenance, use of incorrect oil or lubricants, contamination of the oil, or which has served its normal life. This warranty does not apply to any expendable items such as blades, belts, clutch linings, filter elements, flails, flap kits, skids, soil engaging parts, shields, guards, wear pads, pneumatic tyres or tracks.*
- 1.07. *Temporary repairs and consequential loss - i.e. oil, downtime and associated parts are specifically excluded from the warranty.*
- 1.08. *Warranty on hoses is limited to 12 months and does not include hoses which have suffered external damage. Only complete hoses may be returned under warranty, any which have been cut or repaired will be rejected.*
- 1.09. *Machines must be repaired immediately a problem arises. Continued use of the machine after a problem has occurred can result in further component failures, for which McConnel Ltd cannot be held liable, and may have safety implications.*
- 1.10. *If in exceptional circumstances a non McConnel Ltd part is used to effect a repair, warranty reimbursement will be at no more than McConnel Ltd's standard dealer cost for the genuine part.*
- 1.11. *Except as provided herein, no employee, agent, dealer or other person is authorised to give any warranties of any nature on behalf of McConnel Ltd.*

- 1.12. For machine warranty periods in excess of 12 months the following additional exclusions shall apply:
- 1.12.1. Hoses, exposed pipes and hydraulic tank breathers.
 - 1.12.2. Filters.
 - 1.12.3. Rubber mountings.
 - 1.12.4. External electric wiring.
 - 1.12.5. Bearings and seals
 - 1.12.6. External Cables, Linkages
 - 1.12.7. Loose/Corroded Connections, Light Units, LED's
 - 1.12.8. Comfort items such as Operator Seat, Ventilation, Audio Equipment
- 1.13. All service work, particularly filter changes, must be carried out in accordance with the manufacturer's service schedule. Failure to comply will invalidate the warranty. In the event of a claim, proof of the service work being carried out may be required.
- 1.14. Repeat or additional repairs resulting from incorrect diagnosis or poor quality previous repair work are excluded from warranty.

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

2. REMEDIES AND PROCEDURES

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

3. LIMITATION OF LIABILITY

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

4. MISCELLANEOUS

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

McConnel Limited



DECLARATION OF CONFORMITY

Conforming to EU Machinery Directive 2006/42/EC

We,

McCONNEL LIMITED, Temeside Works, Ludlow, Shropshire SY8 1JL, UK

Hereby declare that:

The Product; *Hydraulic Arm Mounted Flailhead*

Product Code; *BD12, BD16, F110, F112, F115, F012, F016*

Serial No. & Date Type

Manufactured in; *United Kingdom*

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

- BS EN ISO 12100 (2010) Safety of machinery – General principles for design – Risk assessment and risk reduction.
- BS EN 349 (1993) + A1 (2008) Safety of machinery - Minimum distances to avoid the entrapment with human body parts.
- BS EN ISO 14120 (2015) Safety of machinery - Guards general requirements for the design and construction of fixed and movable guards.
- BS EN 4413 (2010) Hydraulic fluid power. Safety requirements for systems and their components.

McCONNEL LIMITED operates an ISO 9001:2008 quality management system, certificate number: FM25970.

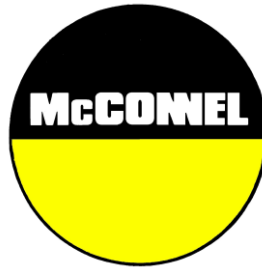
This system is continually assessed by the;

British Standards Institution (BSI), Beech House, Milton Keynes, MK14 6ES, UK
BSI is accredited by UK Accreditation Service, accreditation number: UKAS 003.
The EC declaration only applies if the machine stated above is used in accordance with the operating instructions.

Signed *Responsible Person*
CHRISTIAN DAVIES on behalf of McCONNEL LIMITED

Status: *General Manager*

Date: *January 2018*



For Safety and Performance...

ALWAYS READ THE BOOK FIRST

McCONEL LIMITED

**Temeside Works
Ludlow
Shropshire
England**

**Telephone: +44 (0)1584 873131
www.mcconel.com**

- NOISE STATEMENT -

The equivalent daily personal noise exposure from this machine measured at the operators' ear is within the range 78 – 85 dB, these figures apply to a normal distribution of use where the noise fluctuates between zero and maximum. The figures assume that the machine is fitted to a tractor with a 'quiet' cab with the windows closed in a generally open environment. We recommend that the windows are kept closed. With the cab rear window open the equivalent daily personal noise exposure will increase to a figure within the range 82 – 88 dB. At an equivalent daily noise exposure level of 85 – 90 dB ear protection is recommended and must always be used if any window is left open.



Operating, servicing and maintaining this equipment can expose you to chemicals including gasoline, diesel fuel, lubricants, petroleum products, engine exhaust, carbon monoxide, and phthalates, which are known to the State of California to cause cancer and birth defects or other reproductive harm. To minimize exposure, avoid breathing exhaust, do not idle the engine except as necessary, service your vehicle in a well-ventilated area and wear gloves or wash your hands frequently when servicing your vehicle. Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the state of California to cause cancer, birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov. This website, operated by California's Office of Environmental Health Hazard Assessment, provides information about these chemicals and how individuals may be exposed to them.

GENERAL INFORMATION

Read this manual before fitting or operating the machine. Whenever any doubt exists contact your dealer or the McConnel Service Department for assistance.

Use only McConnel spare parts on McConnel equipment and machines.

DEFINITIONS

The following definitions apply throughout this manual:

WARNING

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

CAUTION

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

NOTE

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

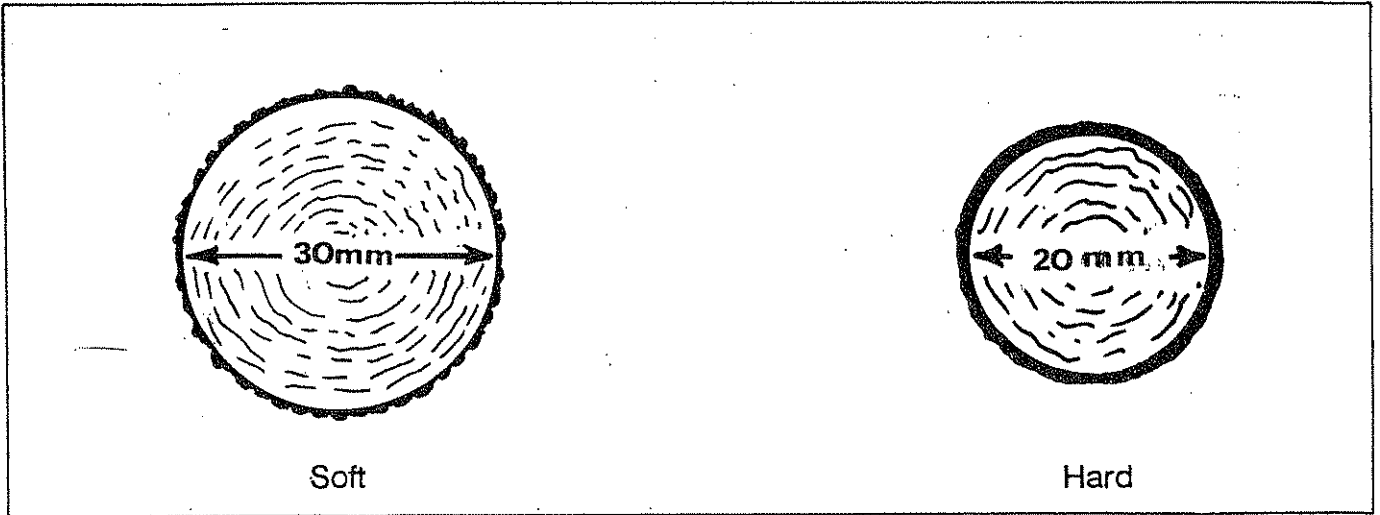
Left and Right-Hand

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

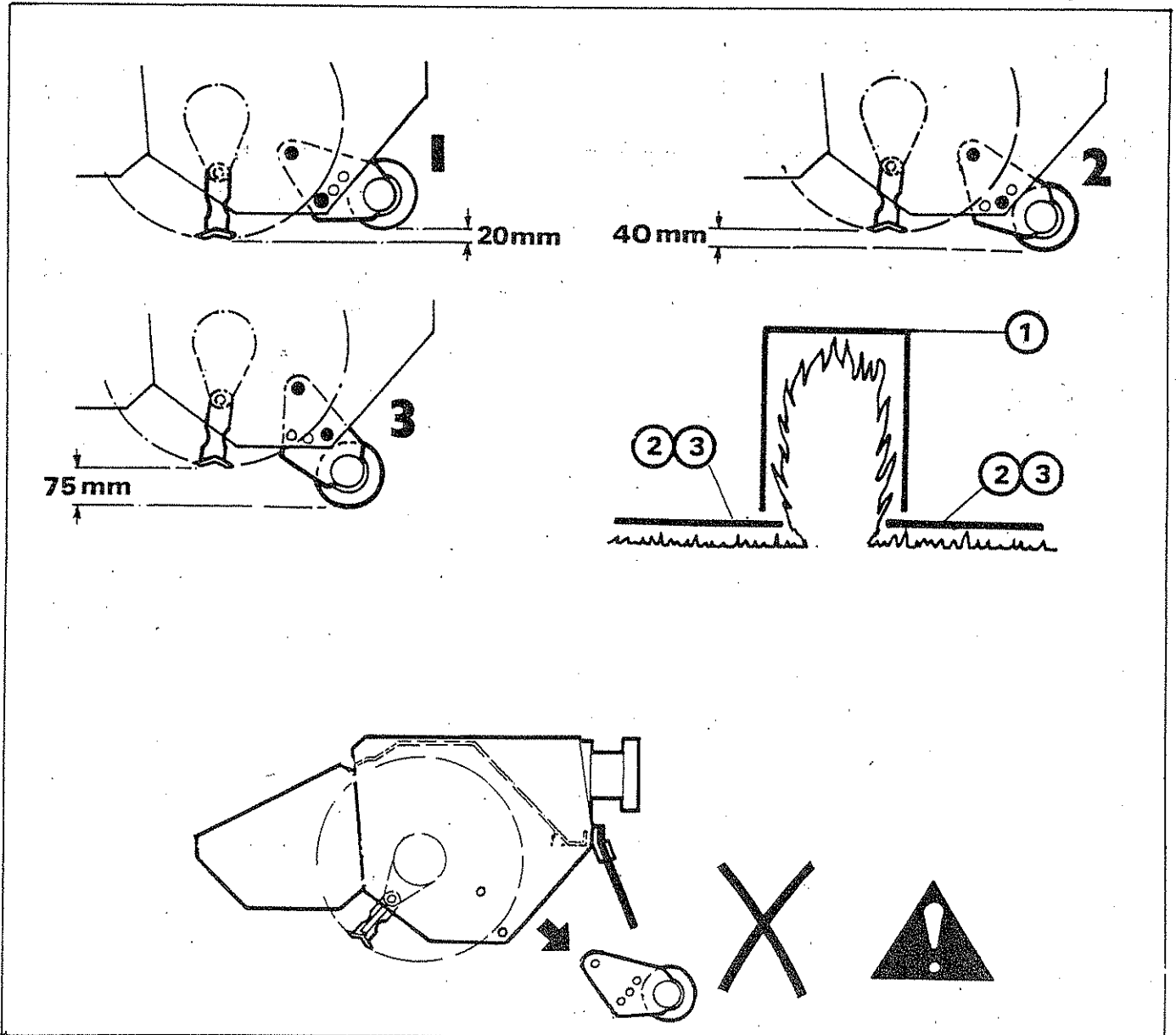
Record the serial number of your machine on this page and always quote this number when ordering spares. Whenever information concerning the machine is requested remember to also state the type of tractor to which it is fitted.	
MACHINE SERIAL NUMBER	INSTALLATION DATE
MODEL DETAILS	
DEALERS NAME	
DEALERS TELEPHONE NUMBER	

OPERATION

MATERIAL THICKNESS CUTTING LIMITATIONS



ROLLER POSITION - flail head only

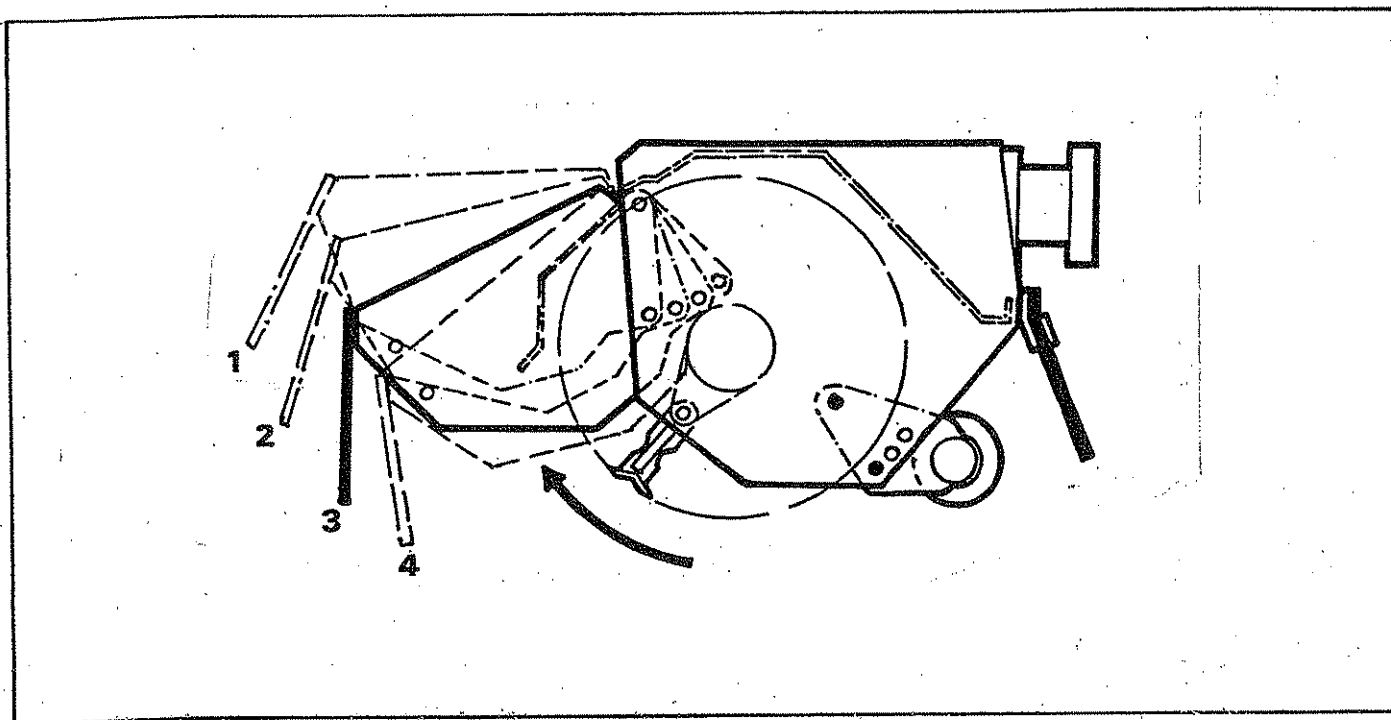


Preliminary Precautions

Inspect the work area, remove hazardous materials and note any immovable obstructions.

FLAILHEAD ARRANGEMENT

MOWING



When mowing the rotor must always cut with an upwards rotation.

When mowing the roller must always be set below the level of the skid or the rotor if skids are not fitted i.e. in positions 2 -

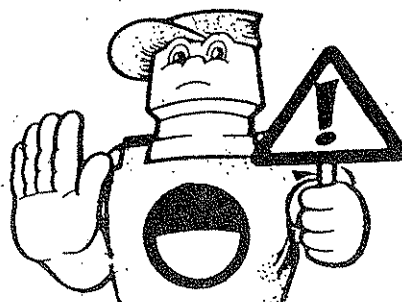
The front hood has four adjustment positions for height. The lowest possible position which allows the material to be cut to enter the head should always be used.

WARNING

Raising the front hood increases the possibility of debris escaping. Never operate the machine with the front hood set any higher than is absolutely necessary.

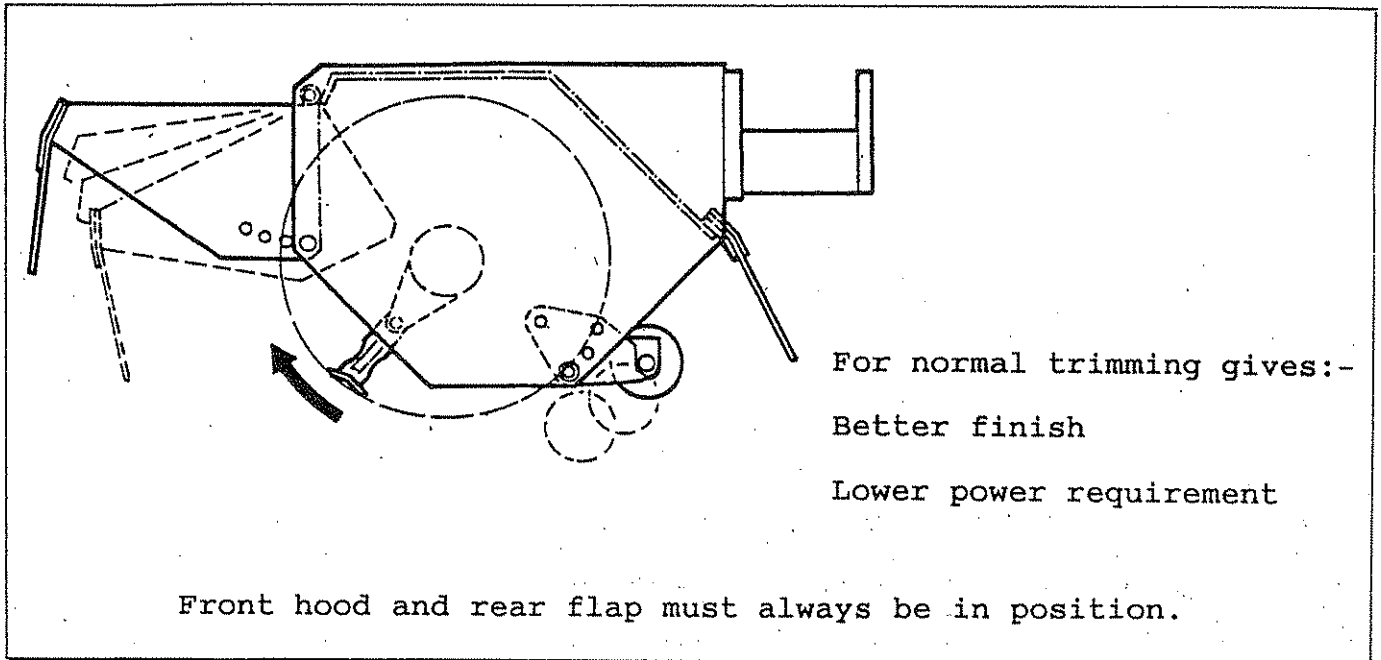
WARNING

Do not remove any guarding under any circumstance during operation.



HEDGE CUTTING

Upward cutting



The roller should be set slightly above the rotor i.e. in position 1.

front rubber flaps:-

may be removed to aid the entry of the material to be cut into the flail head.

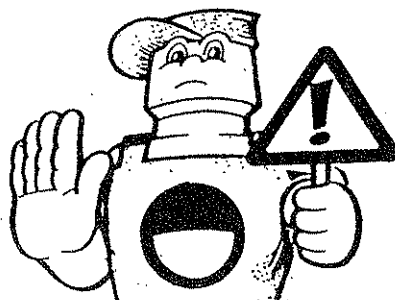
The front hood has four adjustment positions for height. The lowest position which allows the material to be cut to enter the flail head should always be used.

WARNING

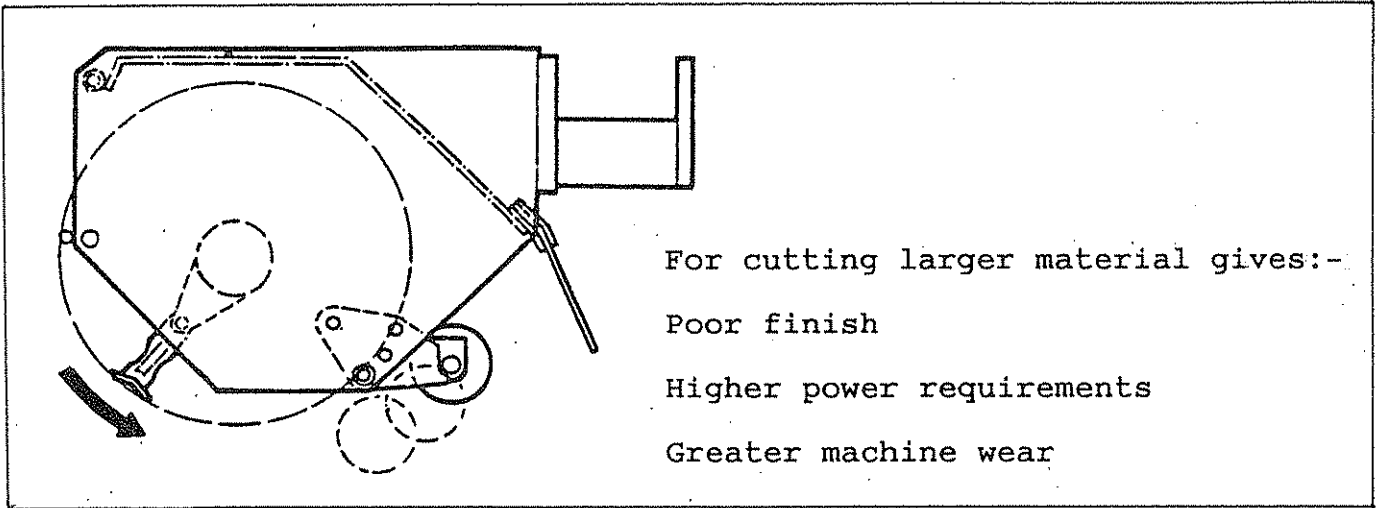
Raising the front hood increases the possibility of debris escaping. Never operate the machine with the front hood set any higher than is absolutely necessary.

WARNING

Do not remove any guarding under any circumstance during operation.



Downward cutting



Where the size of the material to be cut makes it necessary for the front hood and carrier plates to be removed to allow the rotor to cut, the rotor must always cut with a downwards rotation.

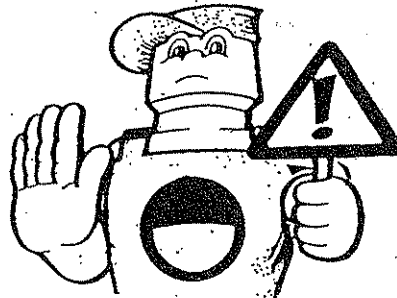
This will result in a poorer finish and require more power than when cutting upwards.

The roller should be set slightly above the rotor i.e. in position 1.

The rear flap must always remain in position to deflect the cut material downwards into the hedge. Because of the tendency to throw material out of the rear of the hood when downward cutting it is especially important that the rear flap is kept in good condition.

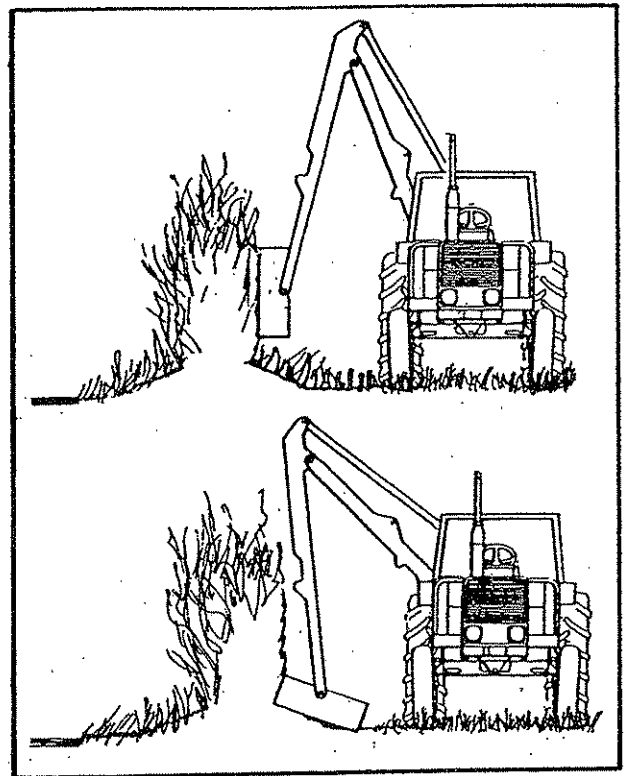
WARNING

Do not remove any guarding under any circumstance during operation.

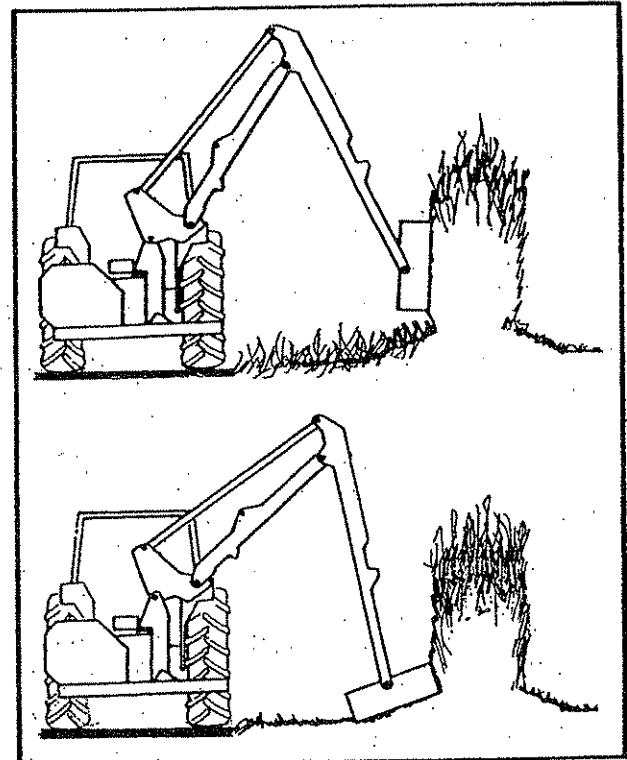


HEDGE CUTTING PROCEDURE

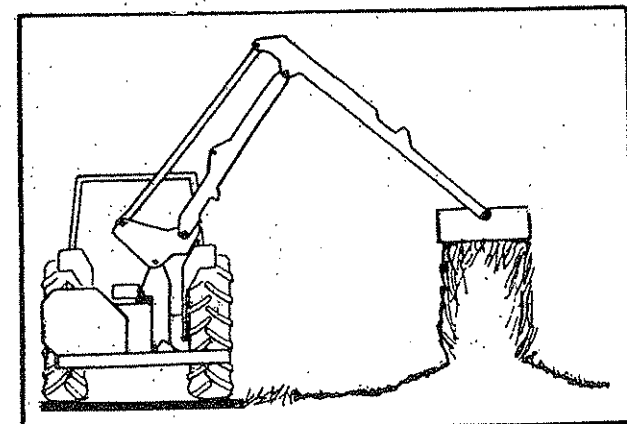
1. Cut the side and bottom of the field side first. This leaves the maximum thickness of hedge on the road side to prevent the possibility of any debris being thrown through the hedge into the path of oncoming vehicles.



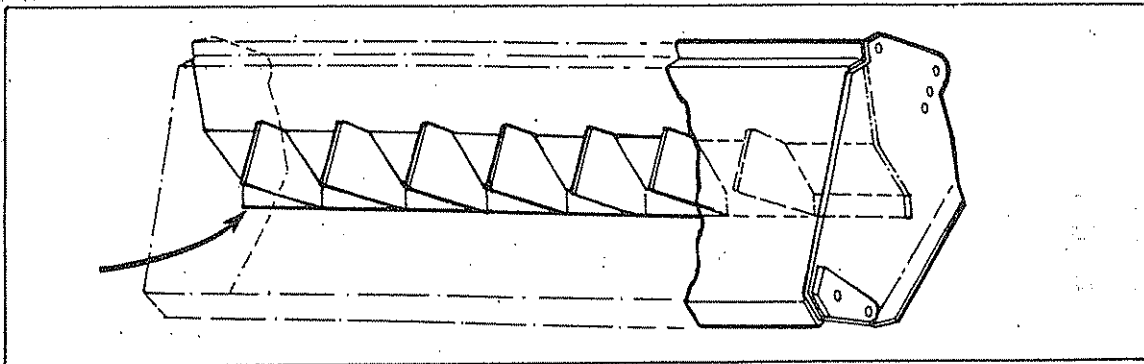
2. Cut the side and bottom of the road side.



3. Top cut the hedge to the height required.



WIRE TRAP -



The flail head is equipped with a wire cutting edge welded into the underside. This plate should not be interfered with in any way.

Any wire caught in the rotor must be immediately removed.

REMOVING WIRE

Select rotor 'OFF' and wait until it has stopped rotating.

STOP the tractor and only then remove wire.

Do not reverse the rotor in an attempt to unwind any wire.

FLAILHEAD

Frequently inspect the rotor assembly for damaged or missing flails. Bolts and nuts securing the flails to the rotor should be regularly checked and kept tight. The correct torque setting for these locknuts is 165 Nm (121 lbf/ft). Use only the correct flail bolt and locking nut. Check the flail pivot bushes for possible damage or wear. They do not require oil.

Do not attempt to run the rotor with flails missing. Imbalance will cause severe vibration and can rapidly damage the rotor shaft bearings. As an emergency measure if a flail is broken off or lost, remove another on the opposite side of the rotor to retain balance. Always replace flails in opposite pairs and never match up a new flail with a re-sharpened one which will of course be lighter.

Blunt flails absorb a lot of power and leave an untidy finish to the work. They should be sharpened on a grindstone or with a portable grinder periodically.

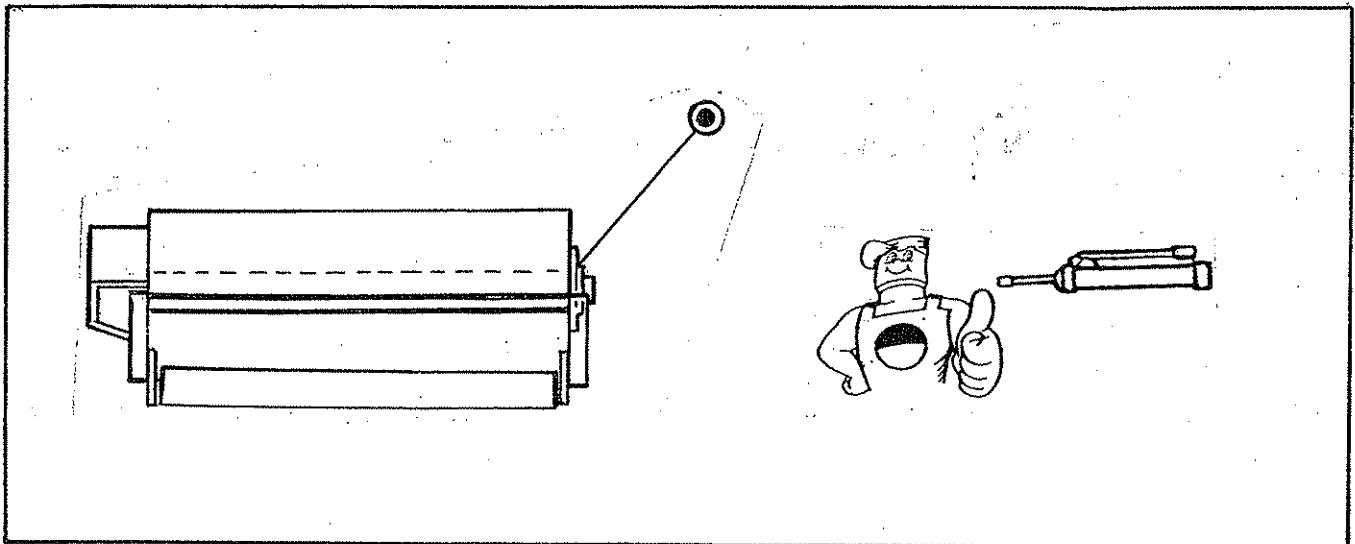
Wear protective gear when sharpening flails.

Ensure that the bearing housings and hydraulic mounting nuts and bolts are kept tight. They should be checked during servicing.

LUBRICATION

General

Grease daily all points shown.





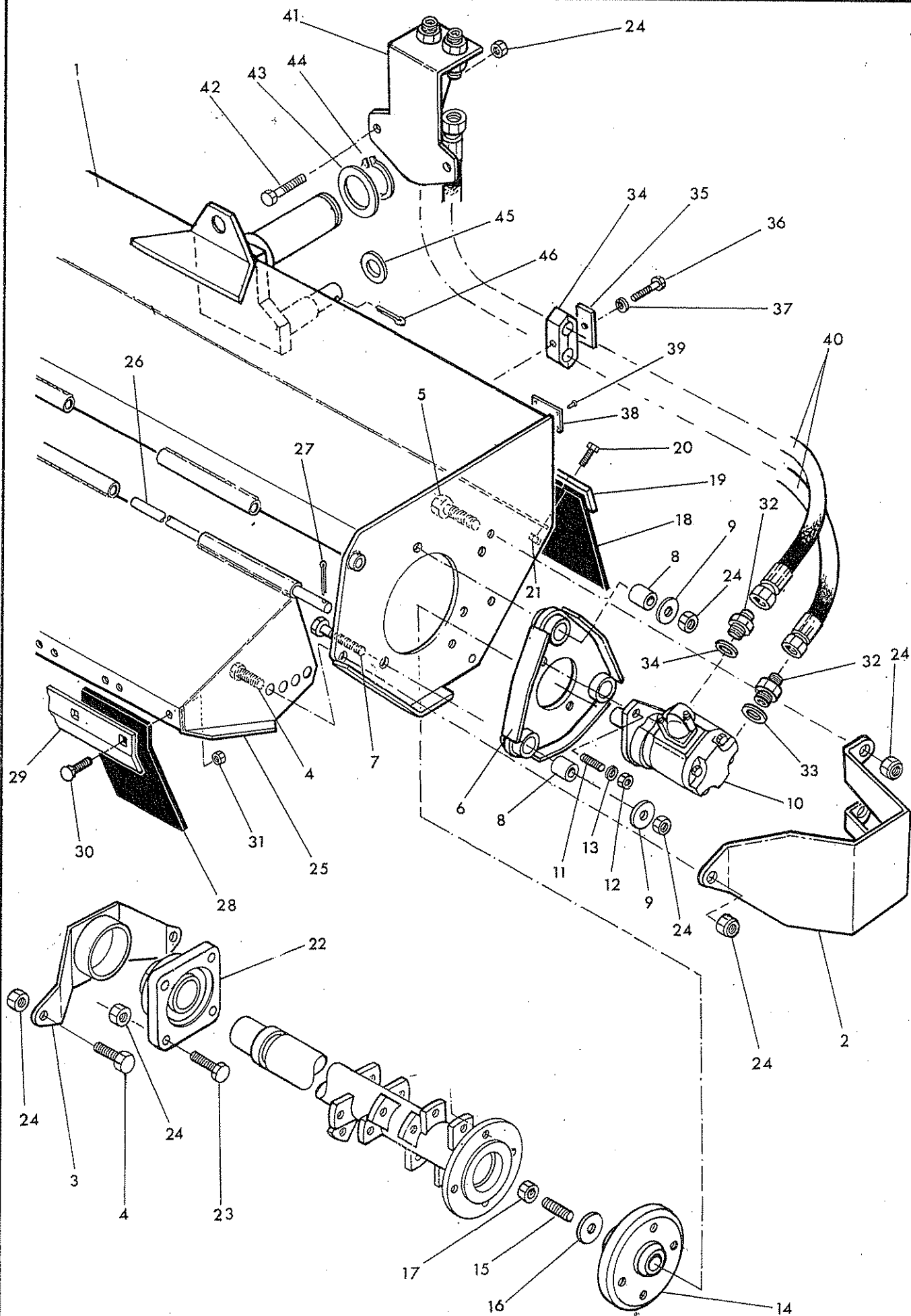
McConnel Generic Parts Manual

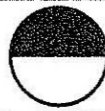
Generic parts manuals should be used as a general guide to the components used on the machine; to ensure accurate parts information for a specific machine please refer to the 'Interactive Parts Database' on our website which identifies the exact components used on the machine when it was manufactured based on the machine's unique serial number.

Direct access can be gained using the web address or QR code below.
<http://www.mcconnel.com/support/product-support/interactive-parts-database/>

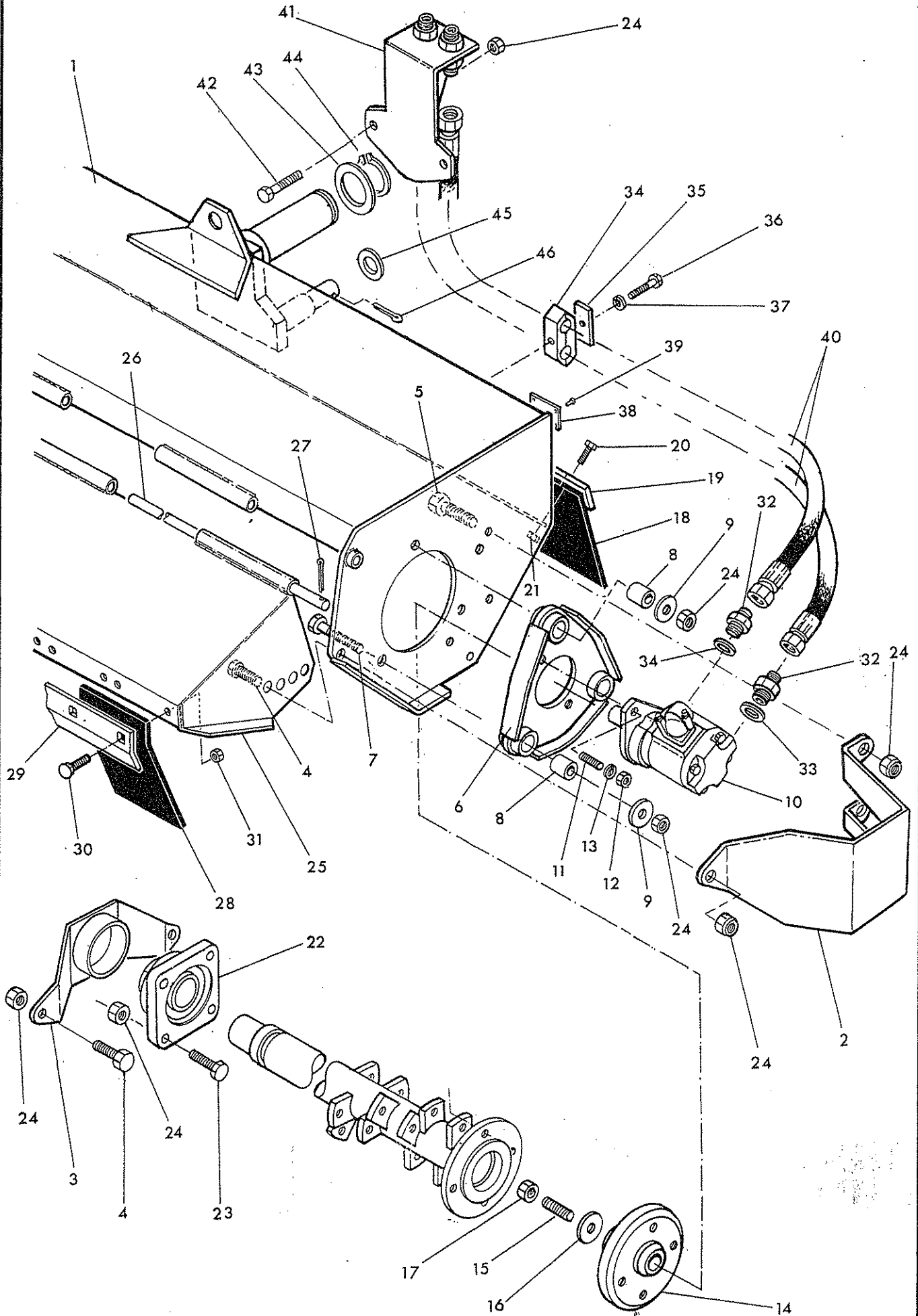


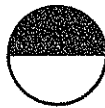
Design improvements may have altered some of the parts listed in this manual; latest parts will always be supplied if they are interchangeable with earlier ones.





Ref.	Part No.	Qty.	Description
FLAIL HEAD CASING			
1	41282.08	1	Casing – R.Hand outboard motor
	41282.06	1	Casing – R.Hand inboard motor
	41282.07	1	Casing – L.Hand outboard motor
	41282.09	1	Casing – L.Hand inboard motor
2	42495.01	1	Motor cover
3	42496.01	1	Bearing cover free end
4	93 13 066	2	Setscrew M12 x 30
5	93 13 056	3	Setscrew M12 x 25
6	09.132.02	1	Motor mounting plate
7	92 13 126	3	Bolt M12 x 60
8	03.871.01	3	Rubber bush
9	02.824.01	3	Washer dia 13
10	08.785.05	1	Hydraulic motor
11	04.282.56	2	Stud M10 x 37
12	91 13 005	2	Plain nut M10
13	91 00 205	2	Spring washer dia 10
14	03.833.01	1	Drive plate
15	03.960.02	1	Stud 3/8" UNF x 1 1/8" long
16	03.959.02	1	Special plain washer 3/8" dia
17	01 41 003	1	Self locking nut 3/8" UNF
18	41289.02	1	Rear flap
19	41290.02	1	Clamp strip
20	93 13 034	9	Setscrew M8 x 16
21	91 43 004	9	Self locking nut M8
22	03.008.01	1	Flanged bearing
23	93 13 076	4	Setscrew M12 x 35
24	91 43 006	14	Self locking nut M12

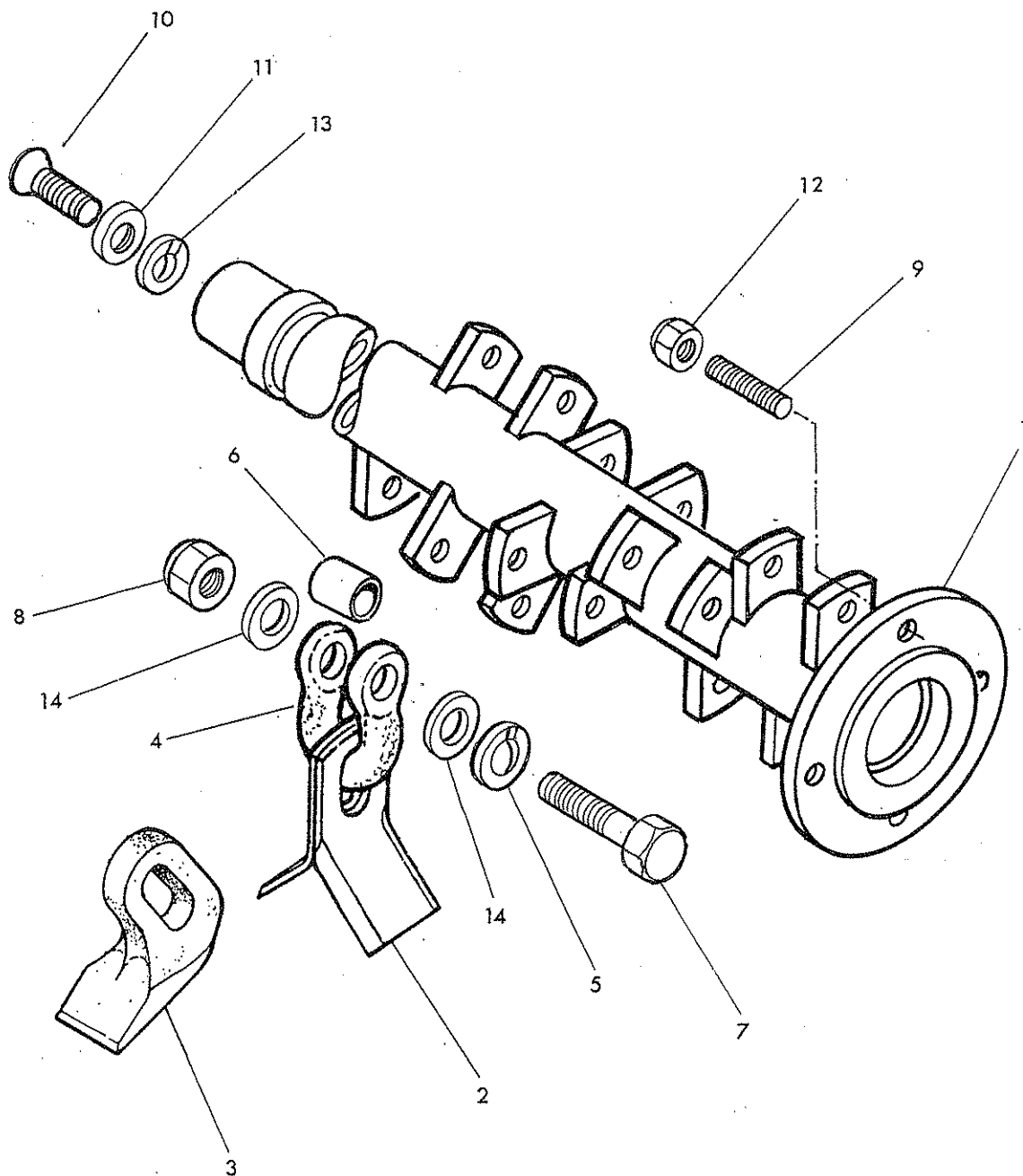
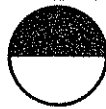


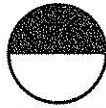


Ref.	Part No.	Qty.	Description
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FLAIL HEAD CASING - continued

25	41283.02	1	Front hood
26	41293.02	1	Hood pivot bar
27	95 01 325	2	Split pin dia 4 x 32
28	41296.02	7	Front flap
29	41291.02	1	Clamp strip
30	92 93 054	14	Bolt - cup square M8 x 25
31	91 43 004	14	Self locking nut M8
32	85 81 362	2	Union 3/4"BSP - M26 MM
33	86 50 106	2	Bonded seal 3/4"BSP
34	06.430.09	1	Hose clamp
35	06.418.03	1	Clamp plate
36	92 13 094	1	Bolt M8 x 45
37	91 00 204	1	Spring washer dia 8
38	13 35 246	1	Serial No. plate
39	71 03 230	4	Pop rivet 1/8" dia
40	85 01 279	2	Hose M26 x 1150 long
41	41297.03	1	Hose bracket
42	93 13 086	2	Setscrew M12 x 40
43	10 90 037	1	Retaining washer
44	04 06 247	1	External circlip dia 4.7
45	01 00 109	1	Plain washer 1" dia
46	95 01 406	1	Split pin dia 5 x 40
	08.875.02		SEAL KIT for hydraulic motor



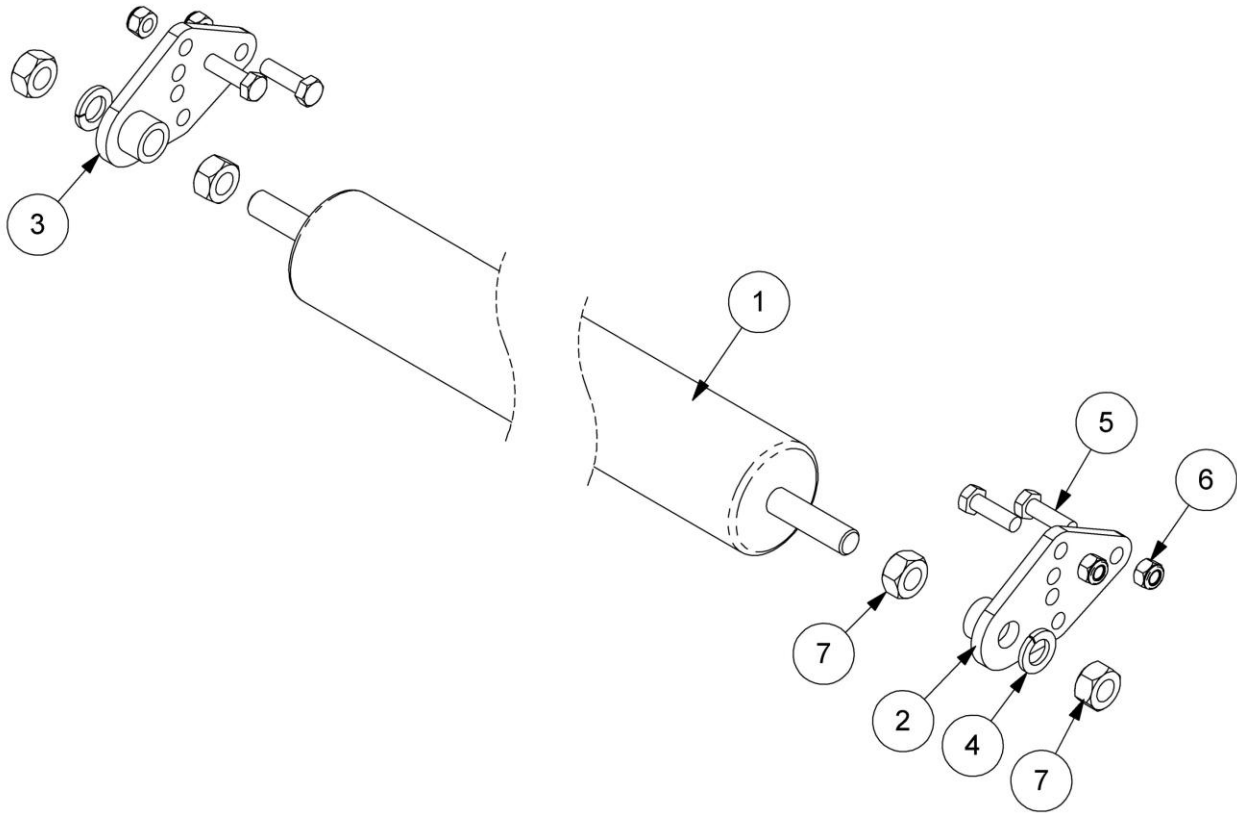


Ref.	Part No.	Qty.	Description
ROTOR ASSEMBLY			
1	41284.02	1	Rotor
2	71 90 166	56	Flail – grass
3	71 90 463	28	Flail – universal
4	05.895.01	28	Shackle
5	91 00 207	28	Spring washer dia 16
6	02.807.01	28	Spacer
7	05.775.10	28	Bolt – Special M14 fine x 94 long
8	05.968.06	28	Self locking nut M14 fine
9	03.917.01	4	Stud M10 fine x 36 long
10	93 53 076	1	Setscrew countersunk M12 x 35
11	42503.01	1	Washer – special countersunk dia 12
12	05.968.02	4	Self locking nut M10 fine
13	91 00 206	1	Spring washer dia 12
14	05.281.04	56	Plain washer dia 16

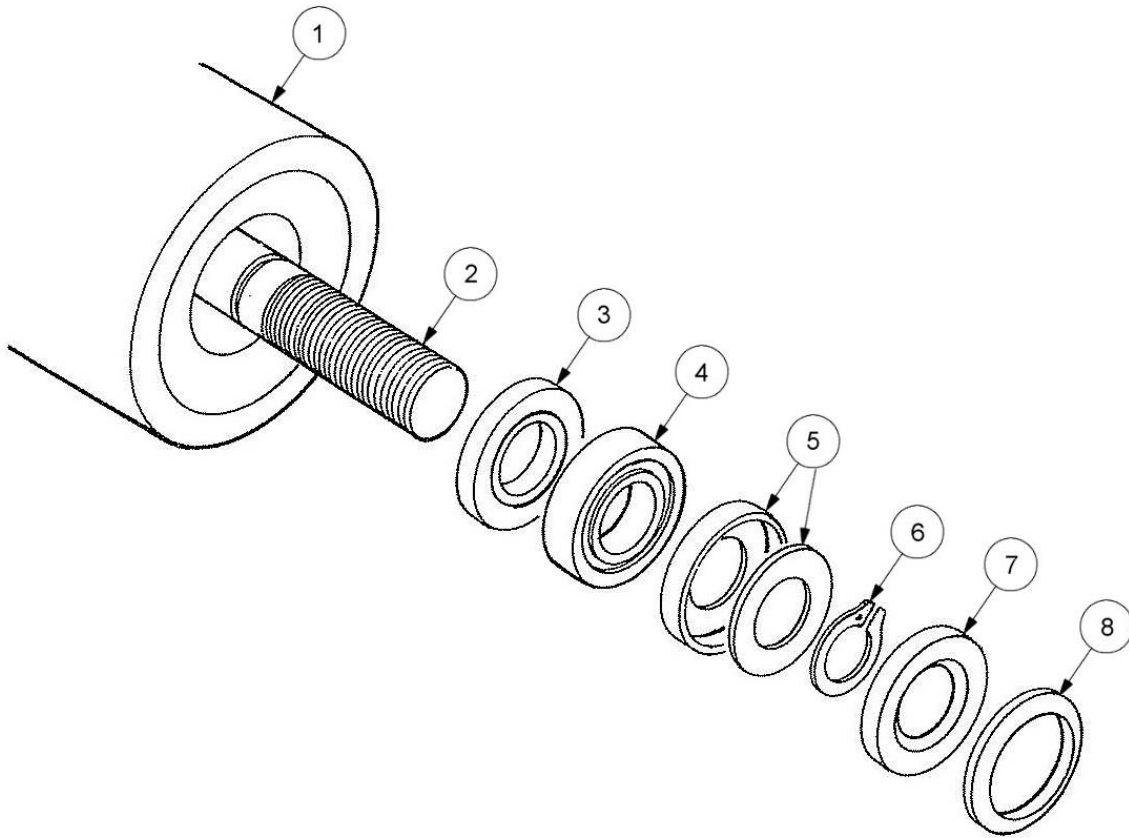
1.0M ROLLER ASSEMBLY

McCONNEL

Module(s): 21961.04



REF.	QTY.	PART No.	DESCRIPTION
		21961.04	1.0M ROLLER ASSEMBLY
1	1	41301.02	1.0M ROLLER
2	1	41285.03	ROLLER BRACKET LH
3	1	41285.04	ROLLER BRACKET RH
4	2	9100208	SPRING WASHER
5	4	9313086	SETSCREW
6	4	9163006	NYLOC NUT
7	4	9113008	NUT



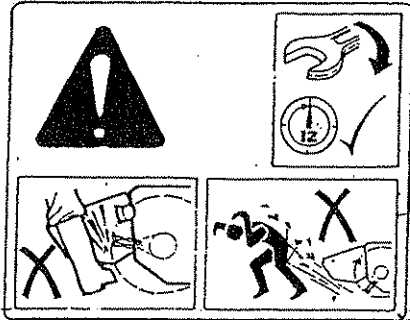
REF.	QTY.	PART No.	DESCRIPTION
		41301.02	1.0M ROLLER
1	1	41301.33	ROLLER
2	1	41301.34	ROLLER SHAFT
3	2	04.456.07	SEAL
4	2	04.456.11	BEARING
5	2	04.456.06	LABYRINTH SEAL
6	2	04.456.04	EXTERNAL CIRCLIP
7	2	04.456.08	V SEAL
8	2	04.456.05	BEARING RETAINER



FLAIL PARTS INFORMATION

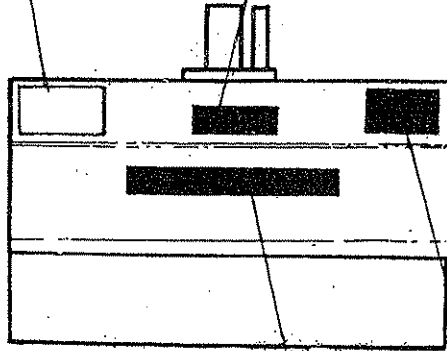
McCormel Flail Mowers use dynamically balanced and mated system components for Cutter Shafts (Rotors), Knives (Flails), Knife Hangers (Shackles), Bolts, Bushes, Rollers, Drivetrain Components, Bearings Belts and Belt Pulleys. McCormel parts are made and tested to meet close-tolerance specifications of balance, quality and consistency that assure long, trouble-free service. "Will-Fit" parts do not ordinarily meet McCormel Standards and could reduce Mower performance, void warranties, and present an increase in the safety hazard potential.

DON'T GAMBLE!
 USE GENUINE McCORMEL SERVICE PARTS
 See your McCormel dealer.



2

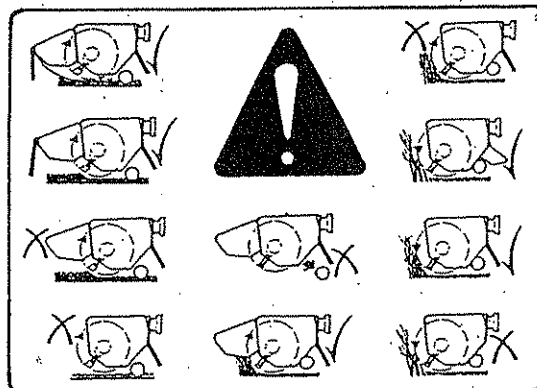
4

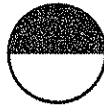


1

3

McCORMEL





Ref.	Part No.	Qty.	Description
STICKERS			
1	12 90 255	1	McConnel
2	12 90 462	1	Flail head instructions
3	12 90 341	1	Flail head guarding
4	12 90 523	1	Use McConnel spares



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