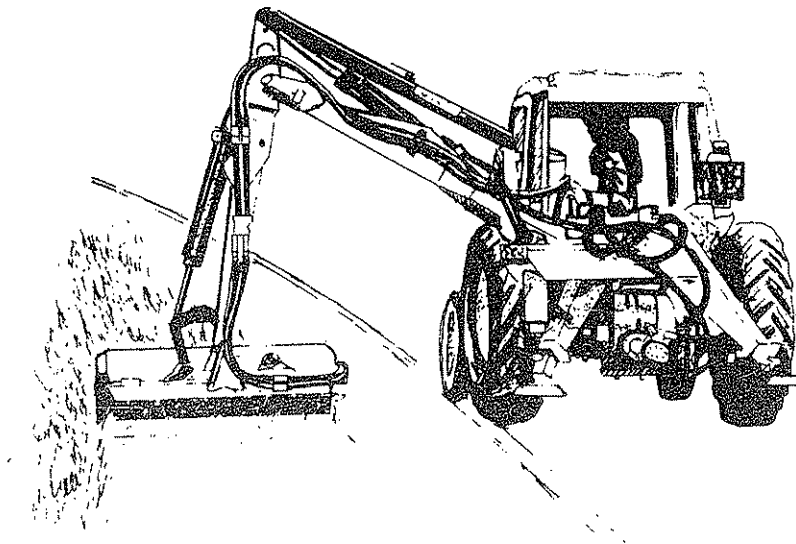


Triplecut and Toughcut

METRIC FLAIL



LIST OF CONTENTS

	Introduction	Page 1
SECTION 1	Safety Precautions	Page 2
SECTION 2	Fitting Instructions	Page 4
SECTION 3	Operation	Page 9
SECTION 4	Maintenance	Page 15
SECTION 5	Spare Parts	Page 16

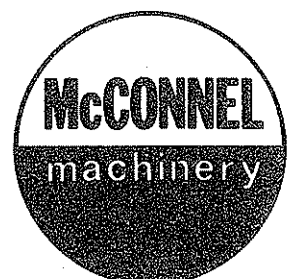
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INTRODUCTION

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. This manual includes an illustrated spare parts breakdown and the interpretation which precedes it should be read before ordering replacement components.

DEFINITIONS

The following definitions apply throughout this manual:

WARNING

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

CAUTION:

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

NOTE:

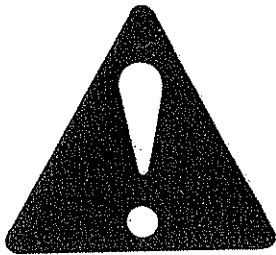
An operating procedure, technique etc., which is considered essential to emphasise.

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		



SAFETY PRECAUTIONS

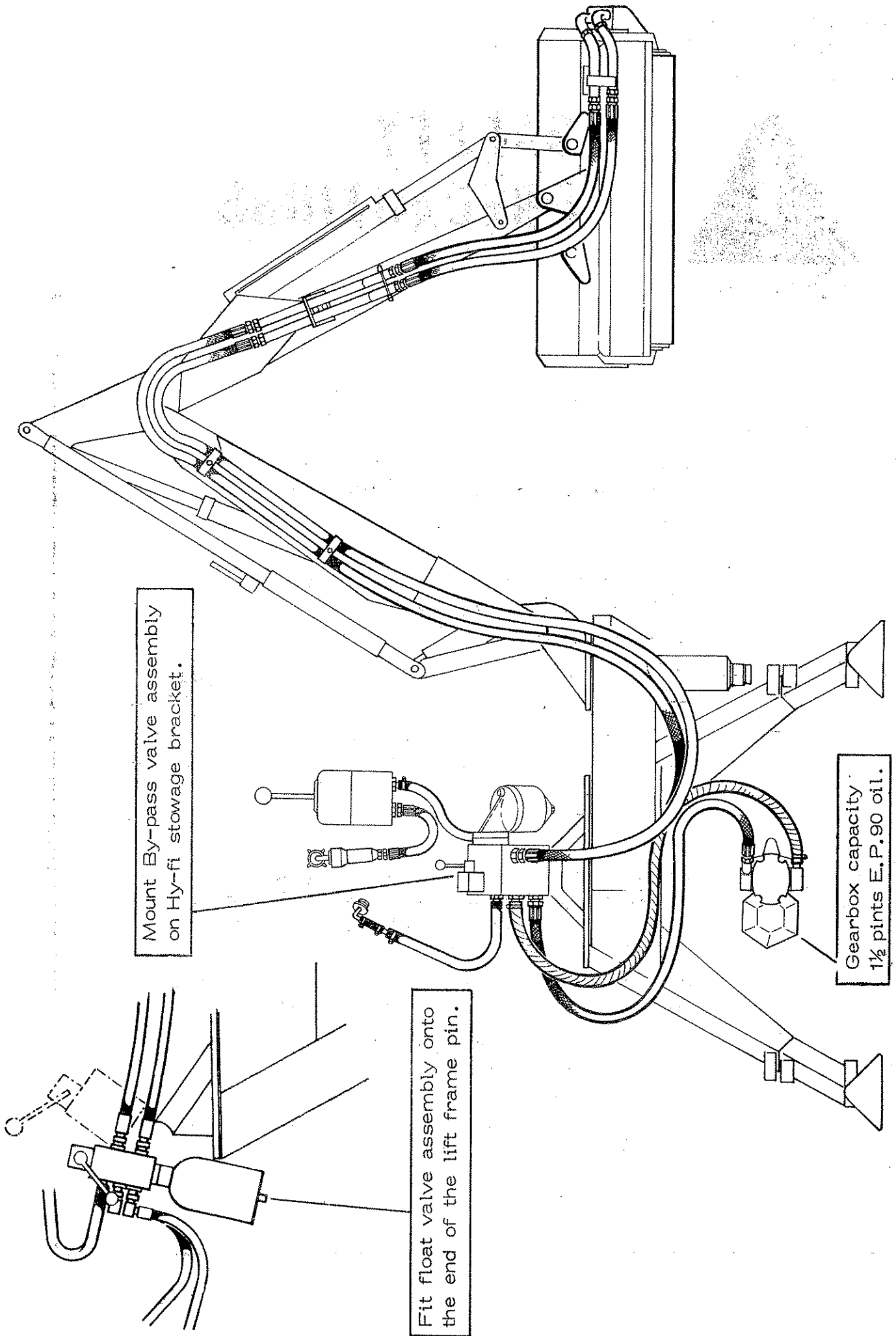
Any machine that is designed to cut must be sharp, therefore it is dangerous if it is operated or handled carelessly.

NEVER

- ...Cut over the far side of a hedge with the flail cutting towards the operator.
- ...Leave the tractor seat with the flail still rotating.
- ...Operate the flail without the correct hood properly fitted in position.
- ...Exceed 540 RPM on the PTO shaft.
- ...Stop the tractor engine with the PTO engaged.
- ...Attempt to operate the 1.2 metre flail fitted to the extra long dipper arm.
- ...Never operate machine without a safety guard.

ALWAYS

- ...Before starting work carefully inspect the work area or hedgerow for wire, steel posts, large stones, bottles and other dangerous materials and remove.
- ...Ensure that bystanders are kept well away from the machine during all flailing operations.
- ...Check frequently nuts and bolts for tightness and also check roll pins, shackles and flails for security.
- ...Replace missing or damaged flails as soon as possible to avoid vibration and damaging machine.



Mount By-pass valve assembly on Hy-fi stowage bracket.

Fit float valve assembly onto the end of the lift frame pin.

Gearbox capacity 1½ pints E.P.90 oil.

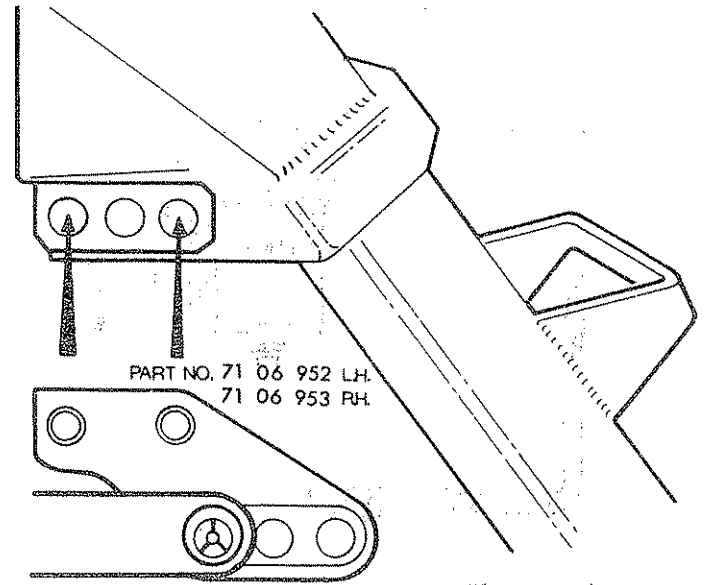
METRIC FLAIL HEAD - General Assembly

SECTION 2

FITTING INSTRUCTIONS

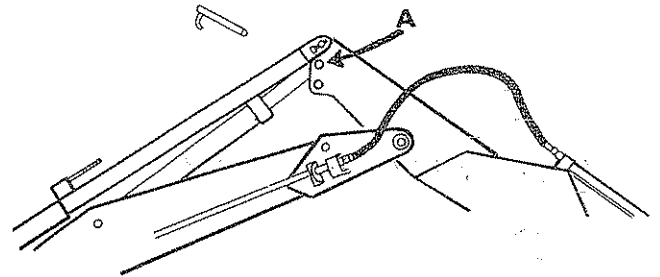
1. Where there is an alternative cross shaft location on the Power Arm 44 tractor mounting plates, select the higher position.

2. Unlike digger and loader operations when the feet are resting on the ground, for flail or sawhead work the machine is carried in a raised position. On some tractors this can result in the main body being at an angle and not parallel to the ground making it difficult to obtain the correct flail pitch adjustment. (Under these conditions it is necessary to fit linkage adaptor brackets as shown in diagram, Part nos, 71.06.952 and 71.06.953.



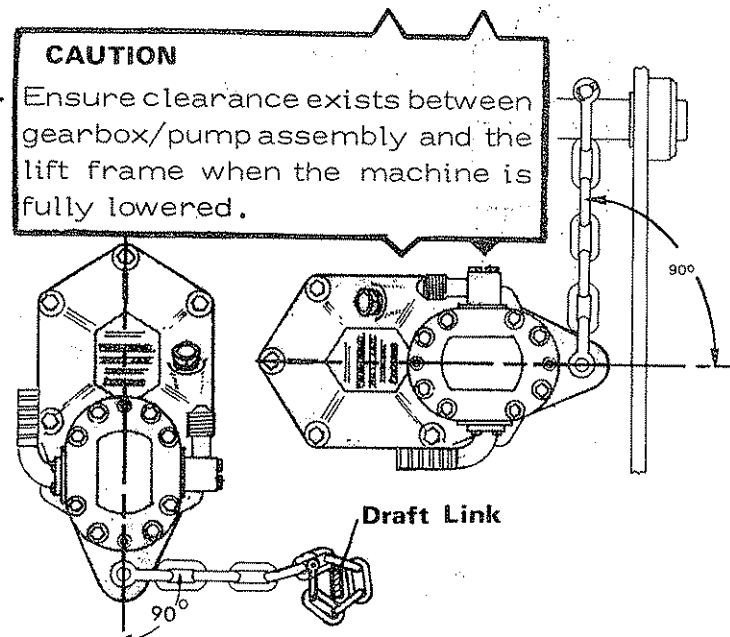
FITTING LINKAGE ADAPTOR BRACKETS

3. Set machine to the loading arm geometry. This is most important as it gives the flail head a parallel action. The reach ram rod must be located in position A.

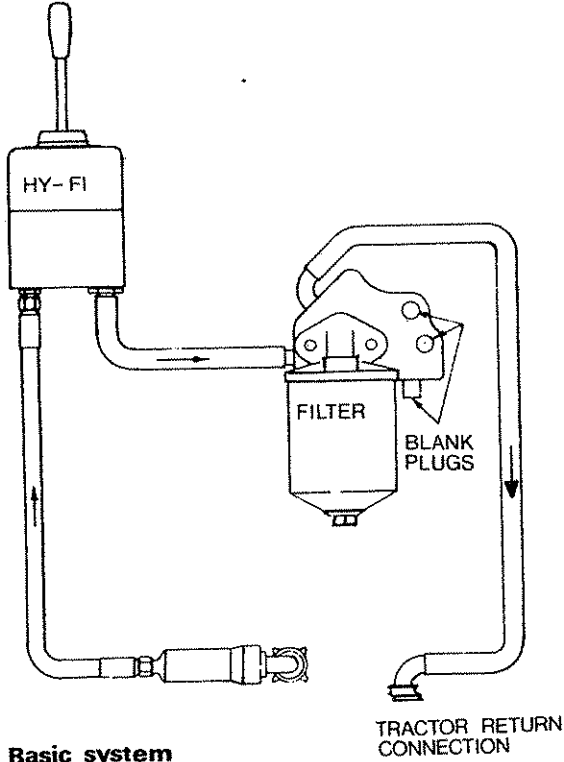


4. Fit flail head assembly to the standard drop arm and secure by driving the retainer roll pin against the pivot pin. Fit slave link in a similar manner.

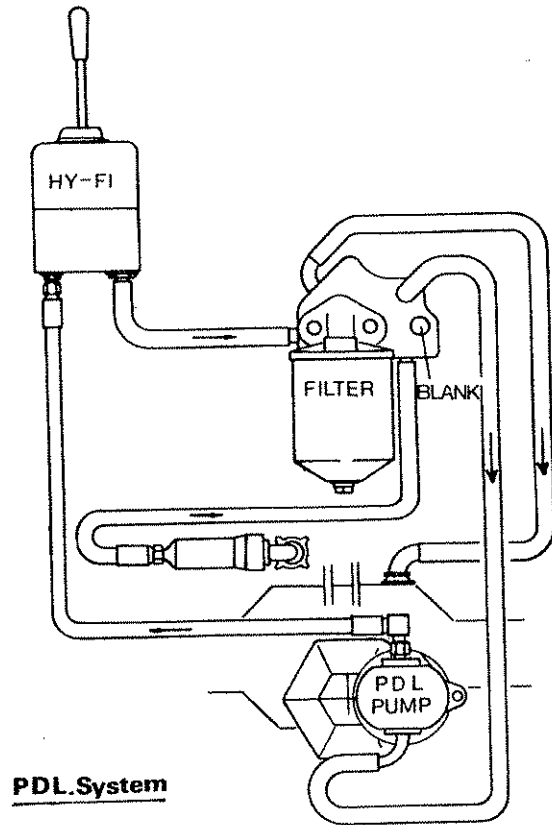
5. Fit PSF pump to the PTO gearbox assembly and adjust length of torque chain to give an approximate 90° angle on a line through the PTO shaft. Note that the pump connections can be unbolted and rotated to suit individual requirements. To avoid damage and possible breakage of the tractor's PTO shaft it is essential that when fully lowered, the lift frame does not contact the pump connections or the gearbox housing. Altering the chain length slightly can sometimes improve clearance.



HYDRAULIC CIRCUITS



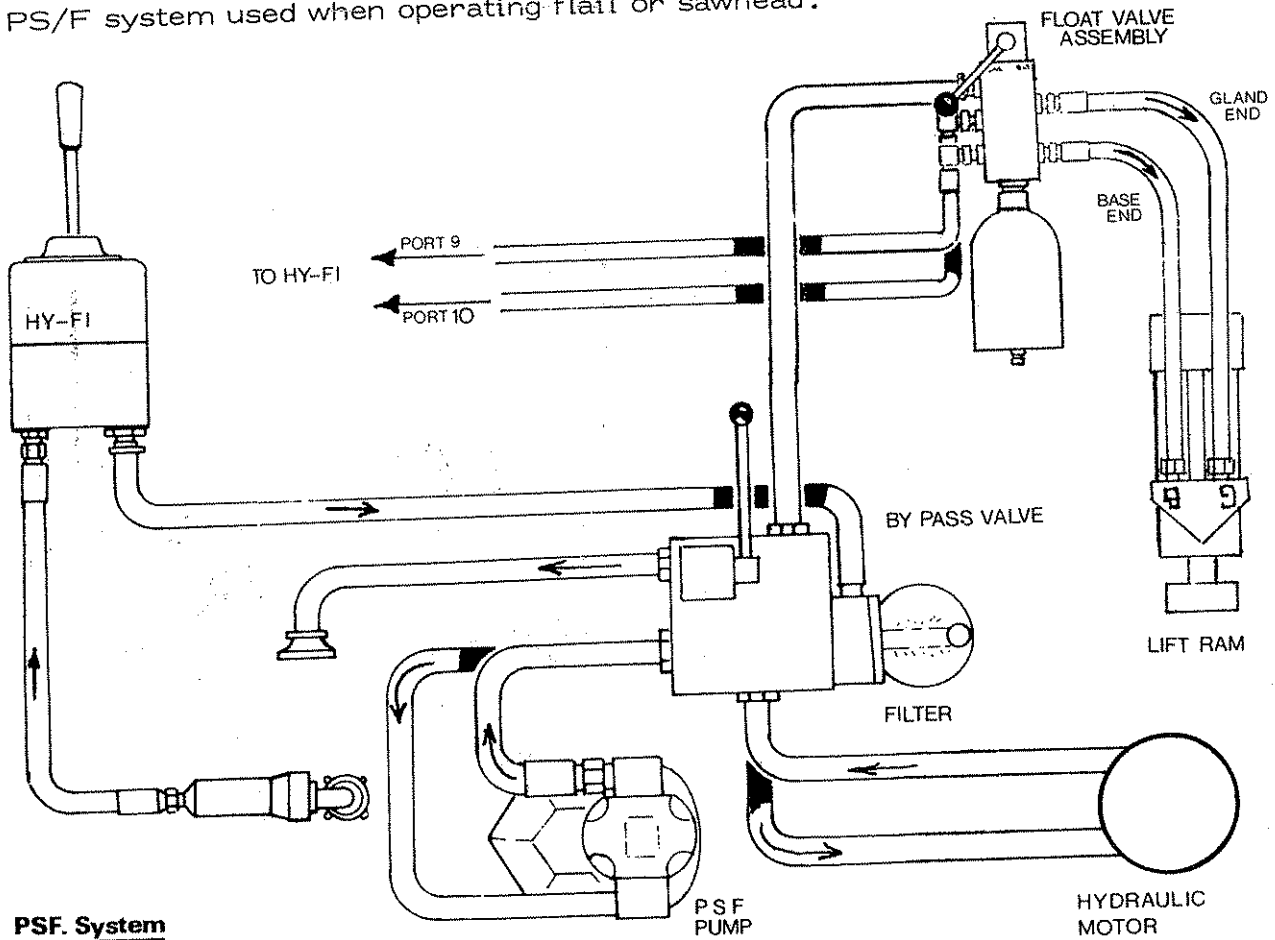
Basic system



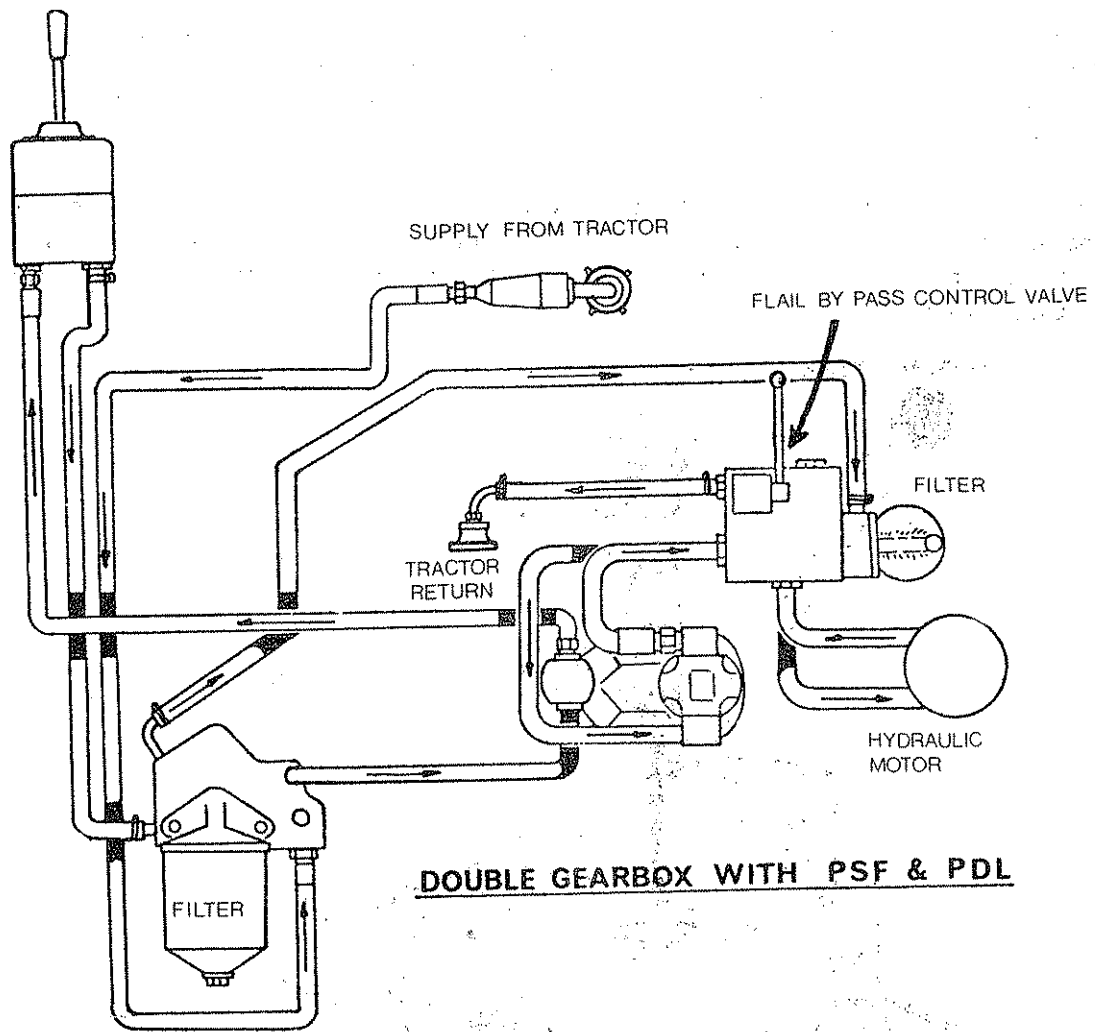
PDL System

Basic and PD/L systems are used for digger or loader operations.

PS/F system used when operating flail or sawhead.



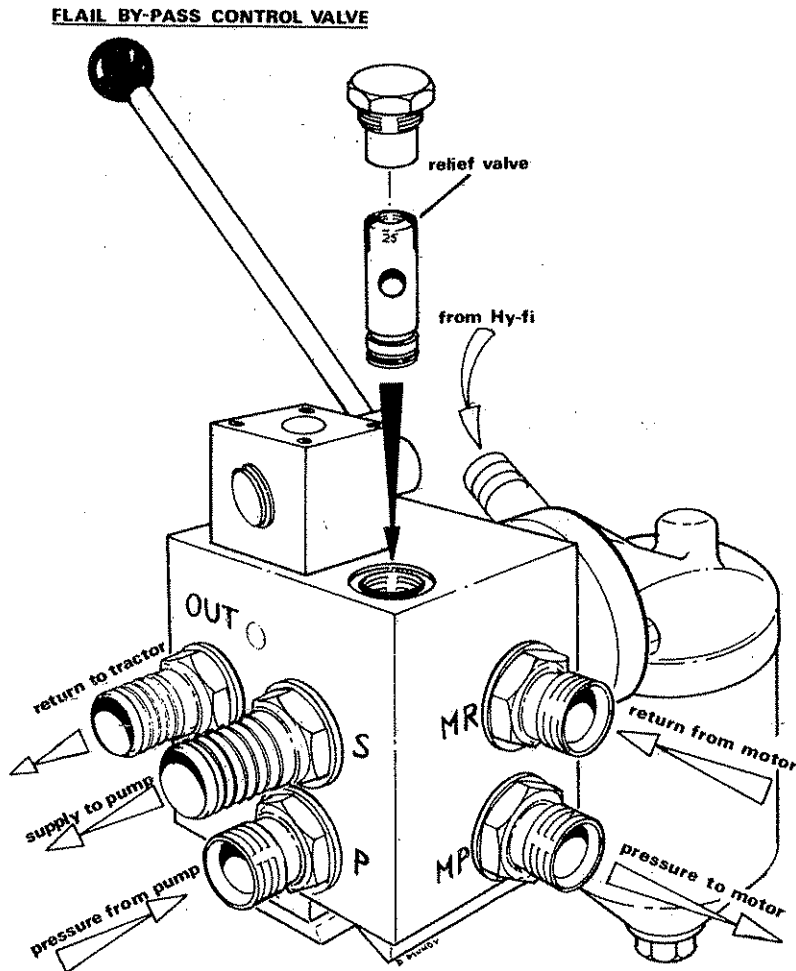
PSF System



Recommended circuit for use when tractor hydraulic systems lack power to raise the armhead at maximum reach.

When this circuit is used it is necessary in addition to the filter mounted on the control valve to use the manifold mounted filter.

6. Referring to the hydraulic circuit diagram connect up hoses as illustrated. The existing PA44 low pressure filter and manifold assembly are not required and can be removed completely and stored suitably protected in a plastic bag.
7. Install flail control valve to the stowage bracket on the main frame and connect hoses to and from flail head. Do not twist the hoses when tightening connections and do not tighten hose mounting clamps at this stage.



8. Conversion of Digger Circuit Operating off Tractor Hydraulics
(i.e. Basic system without the PTO pump)
 - (a) Disconnect the Hy-fi return hose at the filter manifold block and reconnect to the by-pass valve filter block.
 - (b) Connect up the return hose from the by-pass valve into the tractor return connection.
9. Conversion of Digger Circuit (PDL) for Flail Operation
 - (a) Remove PDL pump assembly complete with pressure hose, suction hose and low pressure filter and manifold assembly.
 - (b) Fit the PSF pump assembly and install the by-pass control valve assembly onto the Hy-fi storage point on the main frame.
 - (c) Connect tractor pressure supply hose to Hy-fi inlet connection.
 - (d) Connect Hy-fi return hose to connection on by-pass valve filter block.

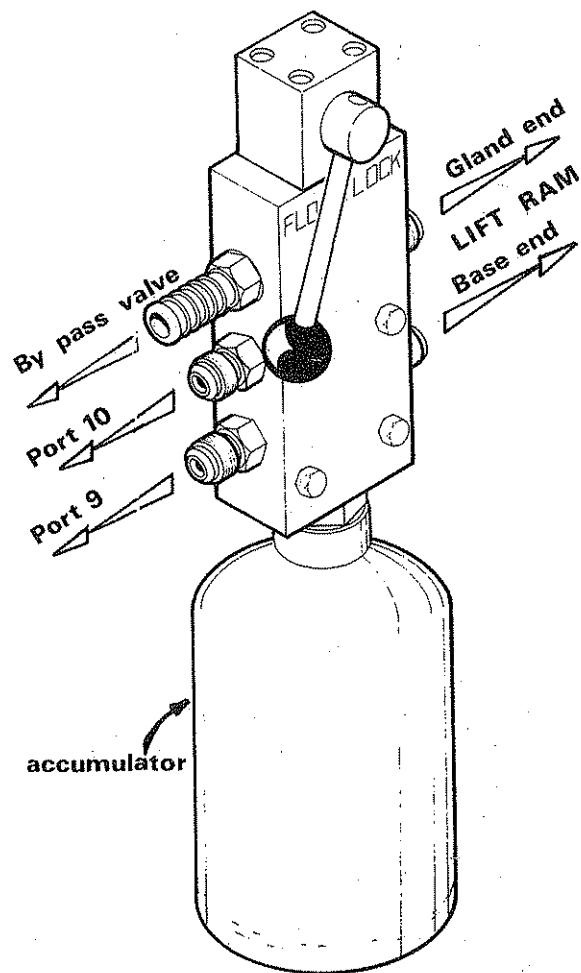
10. Flail Circuit Float Valve

The hydraulic float valve assembly is supplied for use with the grass flail head only. For float operation the operating lever should be engaged in the 'FLAIL' or 'FLOAT' position.

The float valve assembly can remain in place when converting to a hedger flail, but the operating lever must be engaged in the 'LOCK' position to isolate the float action.

A blanking plug is screwed into the by-pass valve when no float valve is fitted.

The float valve should be removed completely if the machine is to be used for digging or loading.



11. Hy-fi Mounting

For forward control operation the Hy-fi is mounted on the side clip of the tip-over seat. On certain tractors when the flail head is required to be used in the short reach position a 3ft hose extension set is available (see parts list).

Alternatively it is sometimes practicable to bolt the Hy-fi mounting bracket directly to the mudwing of the tractor.

12. Functional Check

- (a) To avoid the hoses being tightly looped and twisted when in the working position – fold the flail head into transport position before tightening the hose clamping nuts. It may be necessary to loosen the hose ends to relieve any twist in the hose.
- (b) Care must be taken to see that hoses do not rub and chafe through against any part of the machine. Hoses should be strapped up or supported where contact is made against the cradle and main body. Where the hoses are liable to come in contact with the flail head pivot pin, the connections should be loosened and hoses twisted away from the pin and retightened.
- (c) Because of the possibility of the introduction of dirt during assembly, it is most advisable to run up the machine for at least 15 minutes before applying any load. This gives the filter an opportunity to trap any loose grit or material floating round in the system.
- (d) Although the circuit is self-priming, do not forget to 'top up' the tractor's hydraulic reservoir to the full mark before starting work.

SECTION 3 OPERATION

1. Operating Speed

It is not necessary to operate the flail at a speed of 540 RPM on the PTO shaft. As a guide the machine should be run at a speed no higher than is needed to make a clean cut with no fall off in rotor speed. For the average tractor this will mean running the engine at about two thirds of the rated PTO speed,

i.e. where 2100 engine RPM = 540 PTO then run engine at 1400 RPM.
1900 " " = 540 " " " " " " 1270 "

Excessive speed especially when cutting downwards in heavy growth will result in excessive shattering and splitting of stems giving an untidy finish. The rotor and flails also are subject to unnecessary rough treatment. The high ratio gearbox 80 13 290 is particularly suitable for tractors that have a high forward speed in low gear as with a smaller throttle opening a lower forward speed can be maintained.

The toughcut flail is designed to be run at a higher speed than the triplecut and therefore should only be run by a high ratio gearbox.

Under no circumstances should a PTO speed of 540 RPM ever be exceeded.

2. Flail Offset

The flail head can be operated in any of the five working positions of the main body in conjunction with the cab guard kit. If the early type operator guard 73 13 266 is used, which pins onto the main body, the flail can only be operated on the right hand side of the tractor and in the full offset position. The early guard is still required if a sawhead is used.

3. Float Valve Assembly

Supplied as standard equipment with the grass flail, the float valve allows the flail head to ride over undulating ground without trying to lift the back of the tractor. An accumulator attached to the valve absorbs any shock loads. The valve is located onto the outer section of the lift frame pivot pin and secured with a linch pin.

The control lever of the float valve should always be rotated to 'float' position when flailing banks, ditches and grass cutting generally, and rotated to the 'lock' position when hedging.

WARNING

Do not attempt to operate float valve lever without placing the flail head on the ground.

4. Operator Guard (see page 24)

An operator's guard is supplied as standard equipment for all flails and attaches to the tractor cab with spacer and clip fittings. The guard can be fitted to either side of the cab. Where the machine is frequently being used on either side of the tractor it is recommended that a guard is fitted on both sides of the cab.

Tractors that are not fitted with cabs or that have canvas-type weather cabs must have a frame built-up from the mudwing on which to attach the operator's guard.

Owners are reminded that it is illegal to use a flail without an operator guard.

5. Long Drop Arm

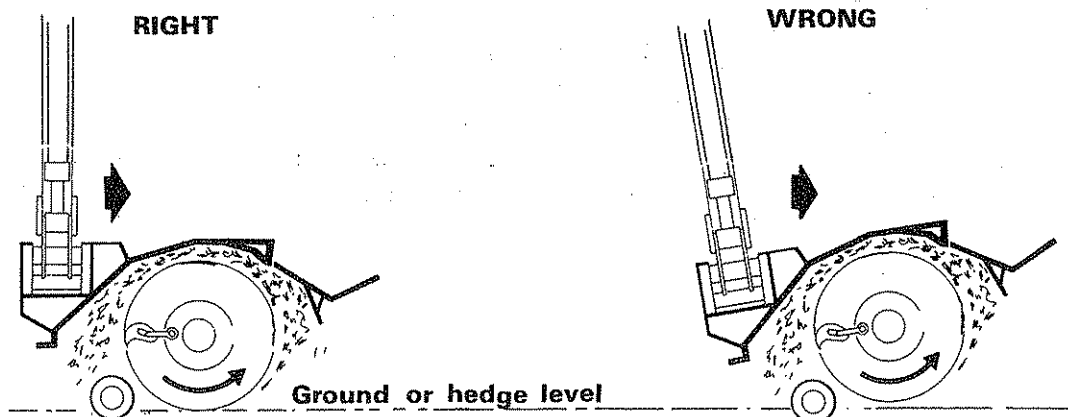
The 1 metre (39") flail head can be used with the long drop arm which will give an additional 61 cms. (2 ft.) of reach. Additional wheel ballasting should be added on the opposite side to which the flail is being used, and extreme caution exercised when operating on sloping ground.

WARNING

The 1.2 metre (48") flail must not be used on the long drop arm.

6. Flail Pitch

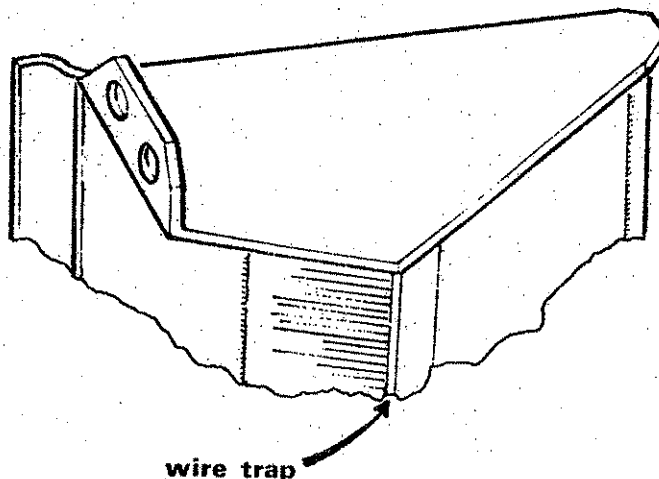
The pitch of the flail head should be adjusted on the central Hy-fi lever so that the head is parallel with the ground. As far as possible this entails maintaining the main body in a horizontal position. Although it is not essential for lubrication purposes as the slewing mechanism is rarely used for flailwork it is important that the main and reach arms are used in a vertical plane so that no undue strain is placed on the pivots.



7. Wire Trap

A steel plate is positioned on edge across the underside of the hedging cowl to sever any loose ends of wire that may have become accidentally picked up on the rotor. The severed end then drops harmlessly to the ground. The plate should not be interfered with or modified in any way.

The presence of a wire trap does not relieve the operator from the liability of stopping and clearing the flail when it is suspected that wire has wrapped up on the rotor.



8. Engaging Drive

Select external services which allows the oil to flow around the priming circuit. Bring tractor engine to idling speed and engage p.t.o. SLOWLY raise the flail control valve lever to start the rotor. When in the fully raised position and the rotor running smoothly increase tractor engine revs to the working speed required before moving flailhead into work.

9. Machine Limitations

It should be borne in mind that the hedger flail is a maintenance tool designed to deal with one or two years growth. Badly neglected and overgrown hedges should be tackled with a sawhead, and really heavy timber should be felled with a chainsaw.

However, if reasonable care is taken, remarkably good results can be achieved on hedges that have been mildly neglected provided that the limitations of the machine are appreciated and more passes are made along the hedge.

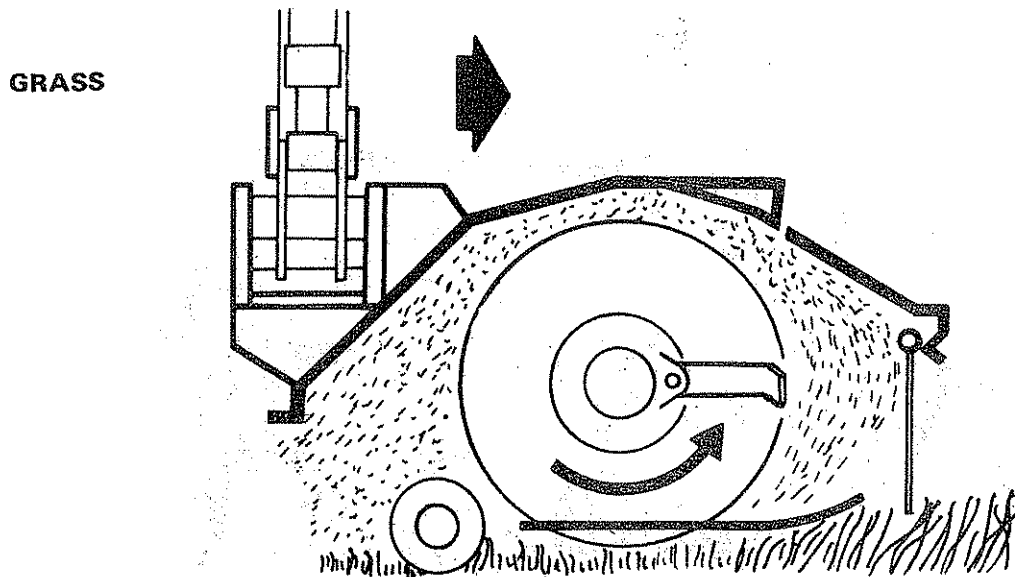
10. Flail Rotation

The flail head is normally set up at the factory for the flails to cut upwards. This is the normal rotation for grass cutting and average hedge cutting. For heavy hedge cutting the direction of rotation should be changed to cut downwards in a chopping action. Rotation can be reversed by interchanging the hoses that operate the hydraulic motor at the by-pass control valve connections. It will also be necessary to reverse the F8H flail on the rotor.

Flail Rotation

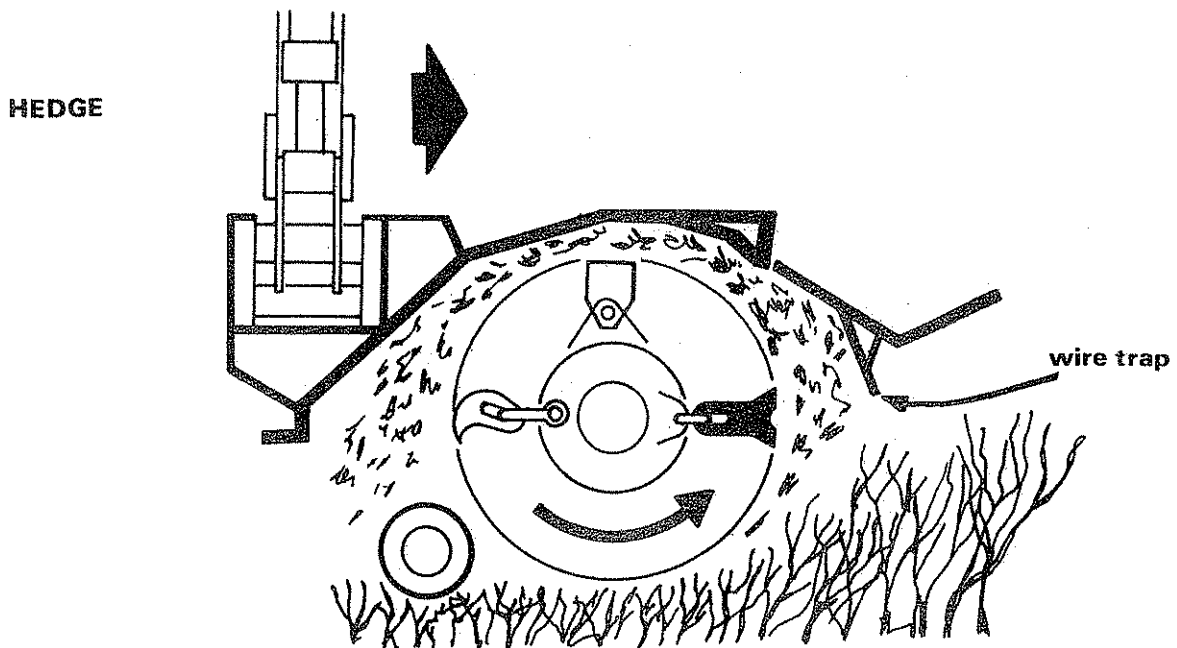
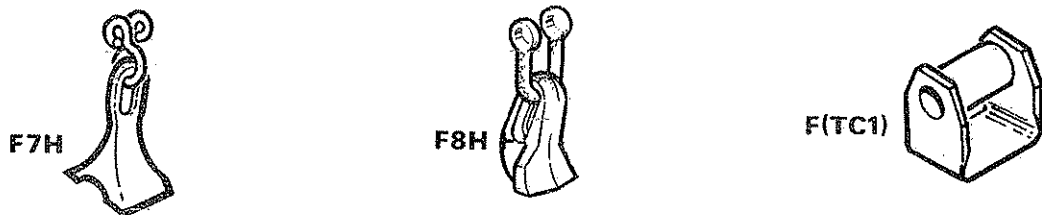
Grass

A clean close finish, and safety for pedestrians are vital. For grass F7/G flails are used. The flails move upwards, sucking-up the grass to provide a level finish. A grass-cutting cowl at the front completely shields the rotor.



Hedge

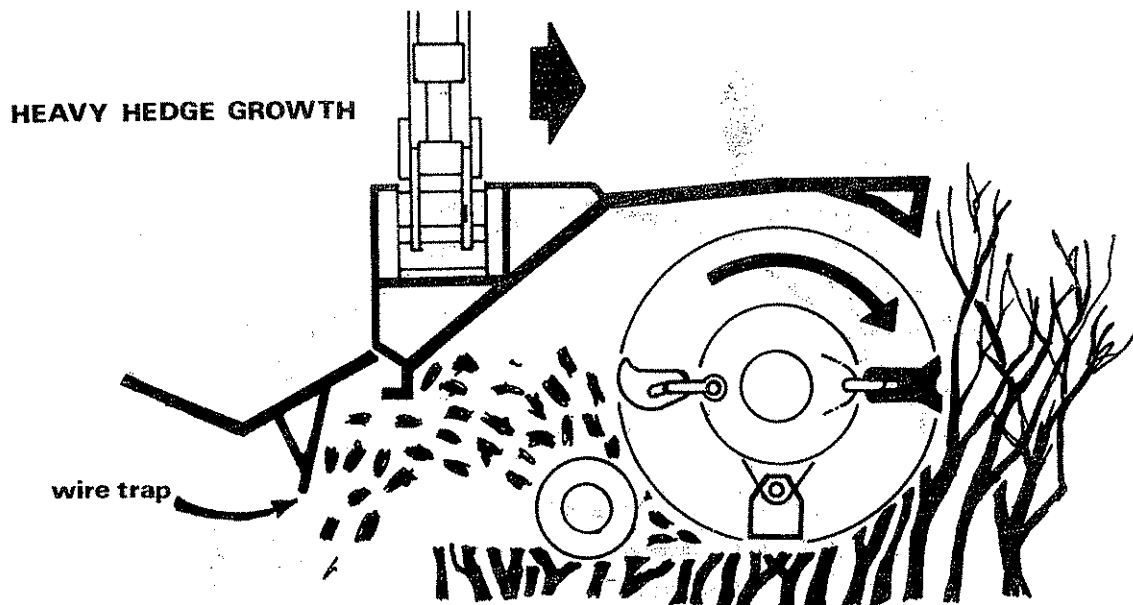
Three flails are available for cutting hedges. The F7/H and F8/H flails on the triple-cut rotor and the F(TC1) on the toughcut rotor.



For light hedge a clean cut is important as frost can enter split stems and cause die-back. The flails cut upwards and growth is sheared-off cleanly. A hedgecutting cowl fitted at the front leaves an opening allowing the hedgings to enter.

When cutting upwards in heavy growth, the depth of cut is controlled by the amount of material which can pass under the front of the hedging cowl.

Cutting upwards generally gives a cleaner finish to the hedge and used in this way the rotor and flails will have a longer working life.



Where it is considered necessary to cut down heavy growth with a minimum number of passes, then the rotation is reversed, and the front of the flail head left open. The hedge-cutting cowl is fitted at the rear and deflects debris downwards. This downward rotation gives a chopping action and the cut material is thrown over a small area of ground.

Where a considerable amount of heavy work is involved it is recommended that the Toughcut Flail is used.

WARNING

Grass or hedging cowls must be used at all times and fitted in the correct position for their respective flail rotation.

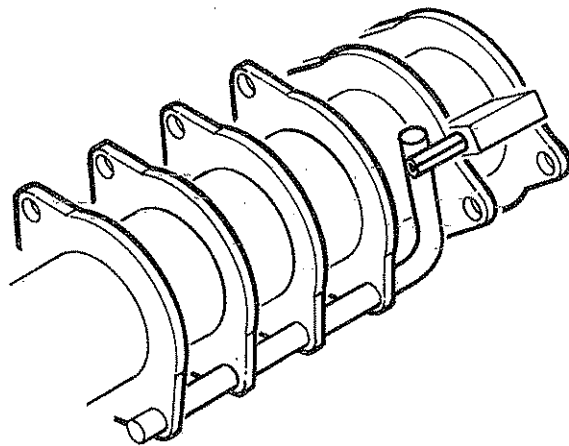
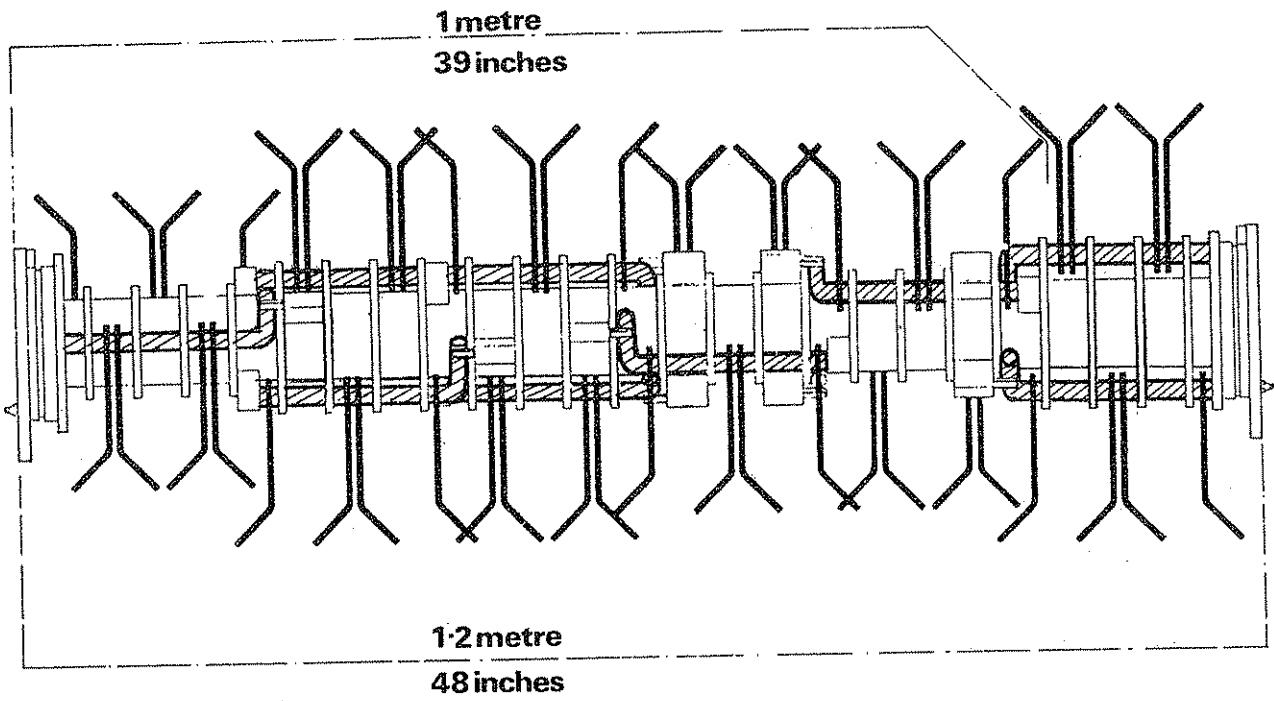
11. Roller Adjustment

The roller can be adjusted to suit both hedge and grass flailing. When hedging the roller is set higher than the flails. This steadies the flail and prevents it bouncing and sinking into the hedge.

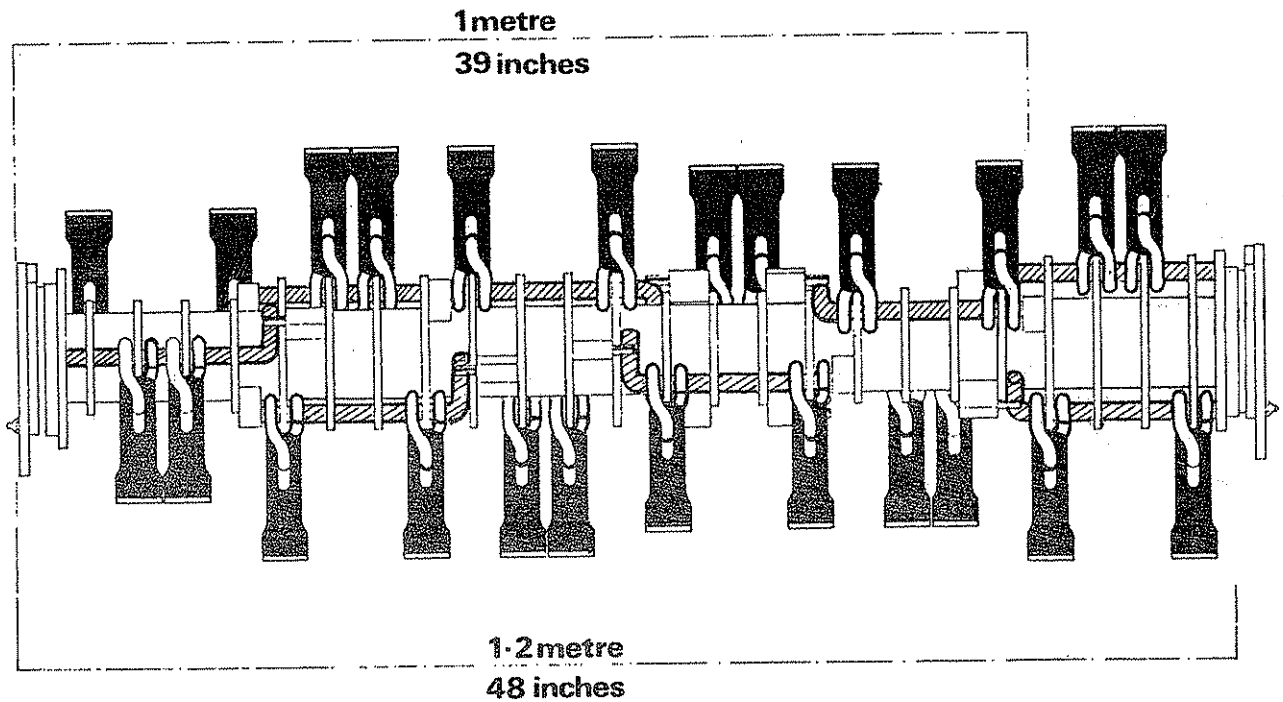
For grass the roller is set lower than the flails to give a level finish and to prevent the flails from scalping the ground.

A variation of roller position can also be achieved by raising or lowering the machine on the lift frame.

FLAIL ARRANGEMENT OF ROTOR



Detail of flail pin fitting



SECTION 4

MAINTENANCE

Carry out the instructions detailed in the Power Arm 44 Manual and additionally observe the following items:-

1. Grease the rotor bearings daily when in use and prior to storage.
2. Ensure that the bearing housing and motor bolts and nuts are tight, and check frequently especially after long operating periods.
3. Periodically inspect the rotor assembly and check that all locking pins are securely in position.
4. If any iron or large stone has been encountered the machine should be stopped and the rotor examined for damage.
5. Blunt flails absorb a lot of power and leave an untidy finish to the work. They should be removed and periodically sharpened on a grindstone.
6. Do not run the rotor with flails missing. Inbalance will cause severe vibration and rapidly damage the rotor bearings and splined coupling. As an emergency measure if a flail is lost, remove another on the opposite side of the rotor to retain balance. To avoid mutilation of the securing roll pins they should always be driven with the aid of a heavy punch.

CAUTION: Replace flails in pairs and do not match a new replacement flail with one that has been worked for a long period or has been resharpener. Ensure opposite fitted flails are balanced for weight.

7. Hydraulic Maintenance

The condition of hydraulic hoses should be carefully checked during routine service of the machine. Hoses that have been chafed or damaged on their outer casing should be securely wrapped with waterproof adhesive tape to stop the metal braid from rusting. Hoses that have suffered damage to the metal braid should be changed at the earliest opportunity.

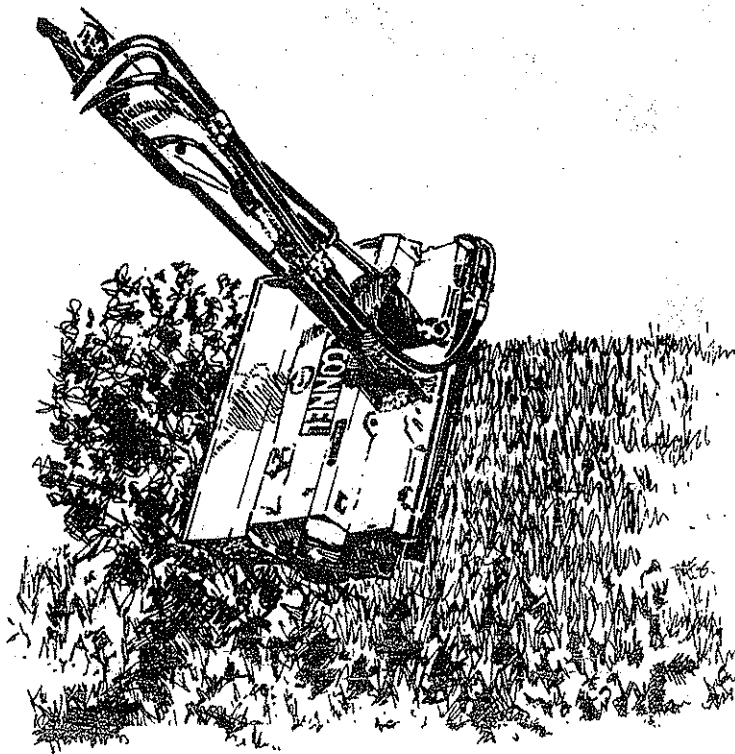
8. Regular attention should be paid to the filters. Consult instruction manual Publication 44 supplied with the Power Arm for details.

Storage

If the flailhead is to be removed in order that the Power Arm 44 can be operated as a digger or a loader, ensure that all hose connections are protected.

Carry out a detailed inspection of the flailhead and order replacements and spares as required.

METRIC FLAIL



USE ONLY McCONNEL SPARE PARTS

To be assured of the latest design improvements, purchase your genuine replacements from the original equipment manufacturer F.W. McConnell Ltd. through your local dealer or stockist.

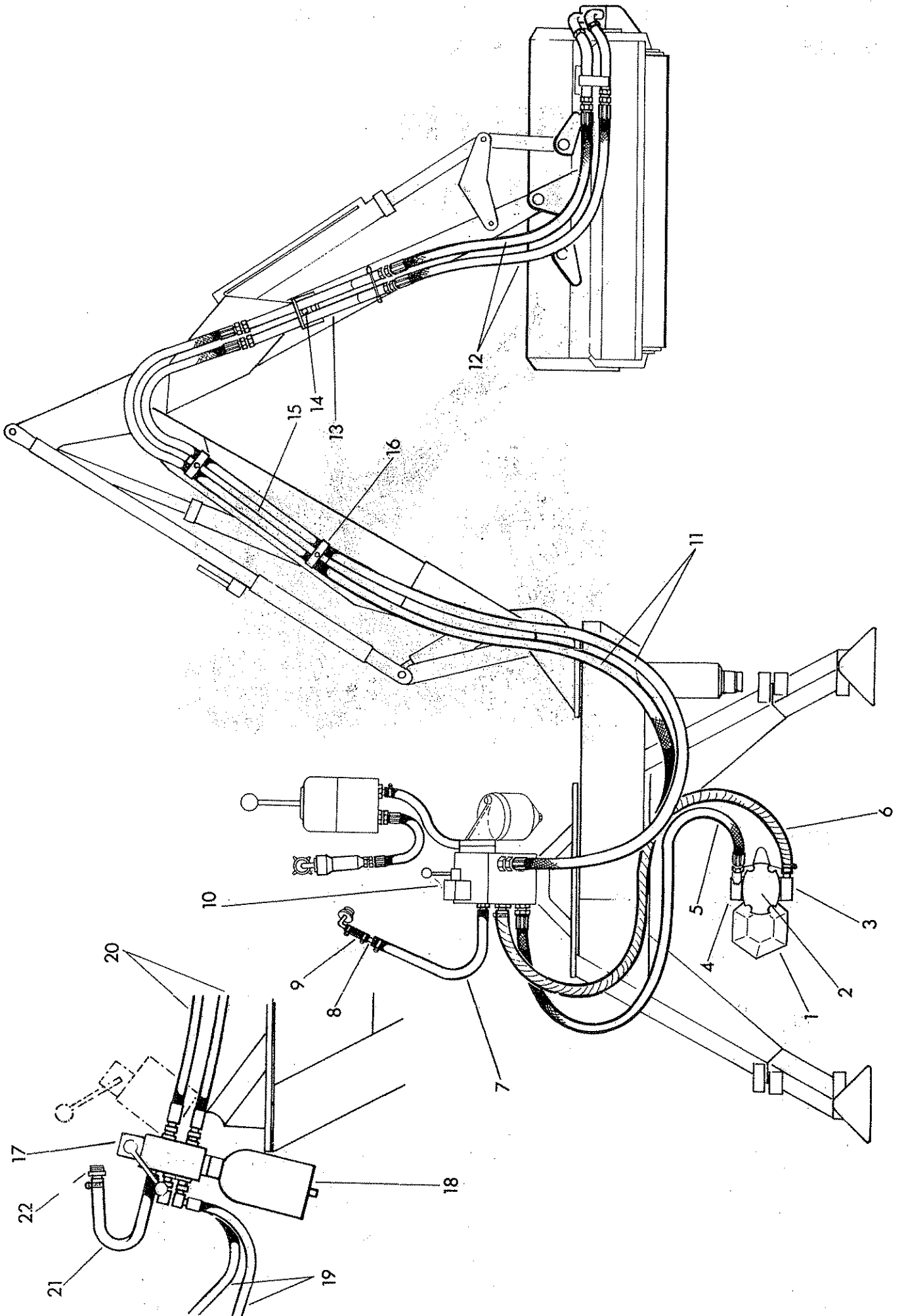
Always quote machine type and serial number as well as the part number.

Design improvement 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.

THE DOT SYSTEM

Many spares are supplied as Assemblies or as Sub-assemblies and to help the customer determine the composition of an Assembly the Dot System is used. The Main Assembly will not show a dot preceding its description and is printed in BLOCK CAPITALS. Subsequent listed parts are preceded by one or more dots until the next major assembly is reached. An increase in the number of preceding dots indicates that the item is an associated part of the preceding item. Whenever the number of dots are decreased by one this indicates the termination of an assembly.

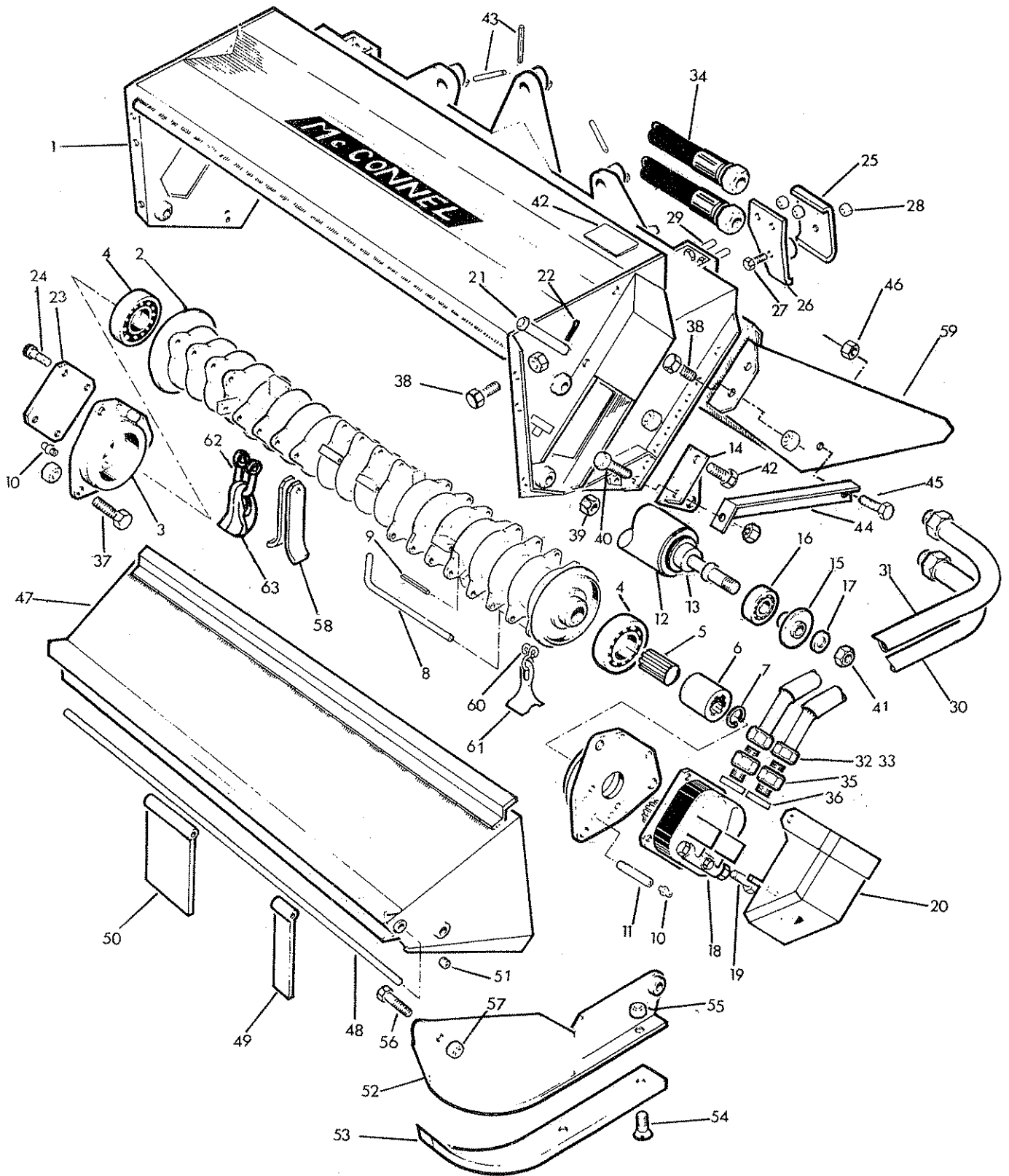
FLAIL ASSEMBLY



Ref.	Part No.	Qty.	Description.
	73 14 333		1 metre GRASS FLAIL ASSEMBLY
	73 14 332		1 metre HEDGE FLAIL ASSEMBLY
	73 14 330		1.2 metre GRASS FLAIL ASSEMBLY
	73 14 329		1.2 metre HEDGE FLAIL ASSEMBLY
	The following parts are common to all the above flail assemblies:-		
	80 13 295	1	.Gearbox and PSF pump assembly
1	80 13 290	1	..Gearbox (B2100)
	82 01 490	1	..Conversion set (from PDL)
	80 13 025	1	...Adaptor flange c/w bolts & nuts
	80 13 028	1	...Splined adaptor 11m 13F
	86 00 436	1	... 'O' Ring 4" I.D.
	82 01 478	1	...Dowty pump c/w 1" BSP connections
2	82 01 475	1Dowty pump 7505/3146
3	80 13 038	1Inlet connection c/w screws
	02 42 202	2Skt capscrew 2½" x 5/16" UNC
	80 13 023	1Gasket, inlet
4	80 13 038	1Pressure connection c/w screws & 'O' Ring
	02 42 162	4Skt Capscrew 2" x 5/16" UNC
	86 00 121	1'O' Ring
5	85 01 059	1	.Hydraulic hose 1" BSP 78" long
6	85 01 039	1	.Suction hose 1¼" bore 78" long
7	85 00 859	1	.Return hose 1" bore 59" long
8	81 21 063	1	.Return adaptor
9	85 95 006	1	.Rubber hose 5/8" bore 6" long
	09 04 204	4	.Hose clip 5/8" bore
	09 04 106	2	.Hose clip 1" bore
	09 04 108	4	.Hose clip 1¼" bore
10	81 25 300	1	.Flail by-pass control valve complete
11	85 01 058	2	.Hydraulic hose 1" BSP 132" long
12	85 01 060	2	.Hydraulic hose 1" BSP 43" long
13	73 14 327	1	.Twin rigid pipe assy. c/w extra long joint pin
14	73 14 164	1	..Extra long joint pin
15	73 13 316	1	.Hose bracket
16	73 13 130	2	..Hose clamp
	01 41 003	2	..3/8" UNF Aeronut
	04 31 105	1	..Spring cotter
	The following parts are common to grass flail assemblies only:-		
17	81 26 250	1	.Float valve assembly
18	81 26 251	1	.Hydraulic accumulator
19	85 31 458	2	.Hydraulic hose ¾" JIC 45" long
20	85 11 678	2	.Hydraulic hose ¾" JIC 67" long
21	85 95 024	1	.Rubber hose 5/8" bore 24" long
22	81 25 008	1	.Return connection
	<u>HY-FI HOSE EXTENSION SET 73 14 187</u>		
	85 11 328	6	Hydraulic hose ¾" JIC 32" long
	72 13 004	6	Adaptor union ¾" x ¾" JIC M/M
	85 14 336	4	Hydraulic hose 7/16" JIC 33" long
	71 06 041	4	Adaptor union 7/16" x 7/16" JIC M/M
	85 01 063	2	Extension hose 24" long when fitting 1 metre flail head to long dipper arm. (Optional extra).

ONE METRE FLAIL HEAD

amd. July 1976



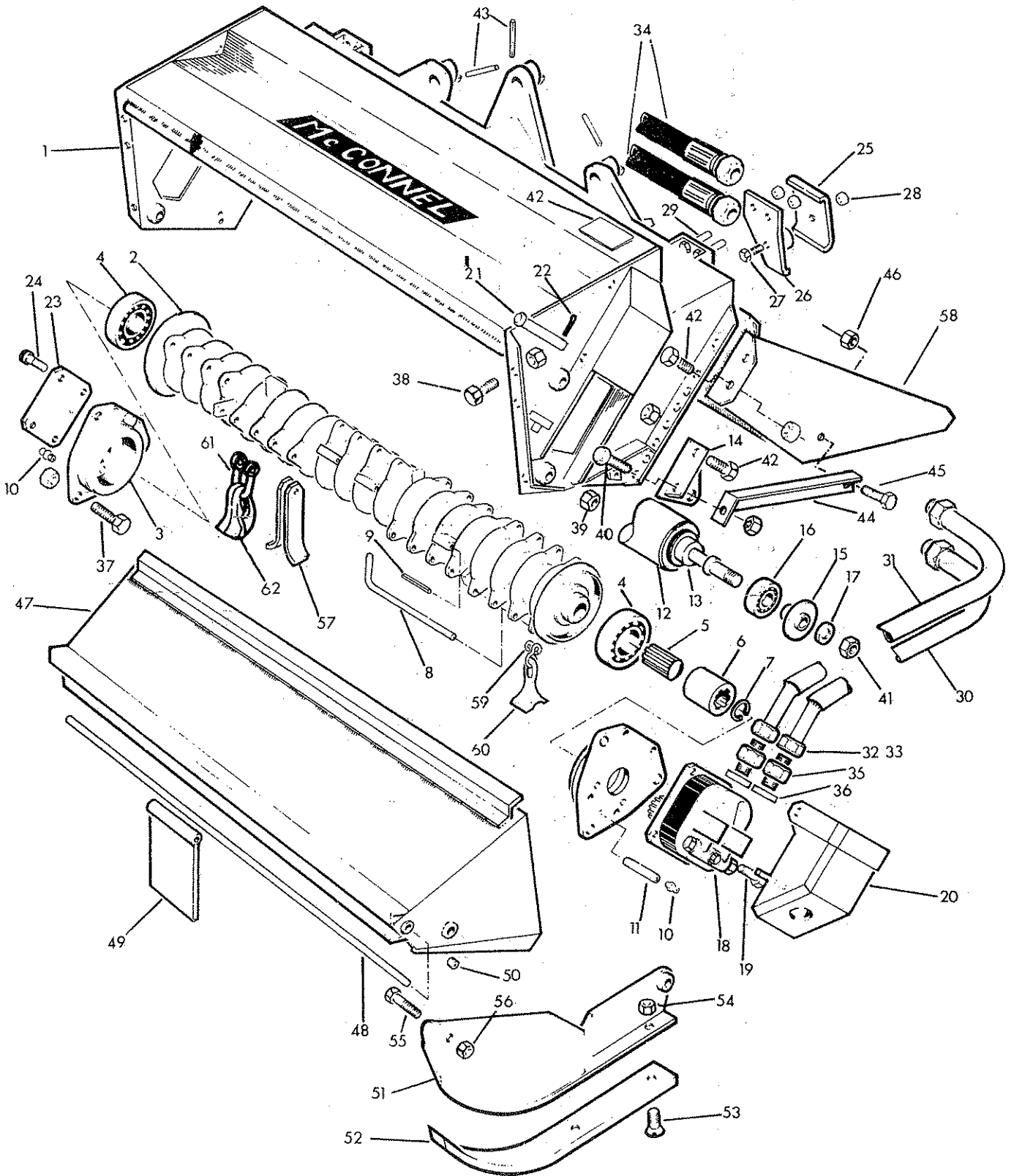
Ref	Part No	Qty	Description
	73 14 335	1	1 METRE (39") HEDGE FLAIL
	73 14 336	1	1 METRE (39") GRASS FLAIL
	The following items are common to both Flails:-		
1	73 14 338	1	.Main casing welded assembly
	73 14 348	1	.Rotor shaft bare
2	73 14 345	1	.Rotor assembly c/w bearings & adaptor
3	73 14 313	2	..Bearing housing
4	06 00 018	2	..Ball bearing assembly
5	80 13 048	1	..Male spline shaft
6	80 13 049	1	..Female spline coupling c/w circlip
7	04 12 112	1	...Internal circlip
8	73 14 134	10	..Flail pin
9	04 22 640	10	..Roll pin 3/8" x 2 1/2" long
10	09 01 121	2	.Greaser 1/8" BSP
11	73 14 177	1	.Greaser extension
12	73 14 165	1	.Roller
13	73 14 190	1	.Roller tie rod
14	73 14 195	1	.Roller bracket left hand } c/w spring dowel
	73 14 196	1	.Roller bracket righthand } Part No. 04 21 810.
15	73 14 192	2	.Bearing spigot
16	06 00 002	2	.Ball bearing assembly
17	73 14 194	2	.Special washer
18	83 01 014	1	.Hydraulic motor (splined shaft)
19	93 00 100	4	Cap screw M8 x 40 socket head 'Wedgelock'
20	73 14 308	1	.Motor cover
21	73 14 145	1	.Motor cover pin c/w split pin
22	05 03 104	1	..Split pin
23	73 14 126	1	.Bearing plate
24	93 13 054	4	.Setscrew M8 x 25
25	73 14 158	1	.Pipe clamp upper
26	73 14 159	1	.Pipe clamp lower
27	92 13 105	1	.Bolt M10 x 50
28	91 00 002	3	.Locknut M10
29	93 13 055	2	.Setscrew M10
30	73 14 359	1	.Motor pipe lower } For motor assembly left hand
31	73 14 360	1	.Motor pipe upper } For motor assembly left hand
	73 14 355	1	.Motor pipe lower } For motor assembly right hand
	73 14 356	1	.Motor pipe upper } For motor assembly right hand
32	85 81 113	2	.Ermeto nut
33	85 81 114	2	.Ermeto ring
35	85 81 112	2	.Ermeto union
36	86 50 106	2	.3/4" Bonded seal
37	73 14 146	6	.Special bolt M16 x 50
38	92 13 067	6	.Bolt M16 x 30
39	91 00 001	14	.Locknut M16
40	93 13 087	2	.Setscrew M16 x 40 hexagon coarse
41	91 00 005	2	.Locknut M20 'Conelok'
42	73 14 088	1	.Flail speed warning sticker
43	04 22 648	3	.Spring dowel 3/8" x 3" long
	73 14 361	1	.Right hand strut c/w nut and bolt
44	73 14 362	1	.Left hand strut c/w nut and bolt
45	93 13 067	1	..Setscrew M16 x 30
46	91 00 001	1	..M16 'Conelok' nut
47	73 14 341	1	.Grass hood
48	73 14 166	1	.Flap bar
49	73 14 167	2	.Narrow flap
50	73 14 125	5	.Flap
51	85 82 041	2	.Socket plug 1/8" BSP
52	73 14 319	1	.Skid left hand
	73 14 320	1	.Skid right hand
53	73 14 323	2	.Replaceable runner
54	93 33 065	6	.Screw M10 x 30 Countersunk
55	91 00 002	6	.Locknut M10
56	92 13 107	4	.Bolt M16 x 50
57	91 00 001	4	.Locknut M16
58	73 14 054	40	.F7G grass flail
59	73 14 326	1	.Hedge hood
60	73 14 056	20	.Shackle
61	73 14 055	20	.F7H hedge flail
62	73 14 183	20	.Shackle
63	73 14 184	20	.F8H hedge flail
34	85 01 060	2	Hydraulic hose 1" BSP 43" long

Required for use with grass flail only.

Required for use with hedge flail only.
Note: Do not mix F7 & F8.

1-2 METRE FLAIL HEAD

amd. July 1976



Ref	Part No	Qty	Description
	73 14 302	1	1.2 METRE (48") HEDGE FLAIL
	73 14 303	1	1.2 METRE (48") GRASS FLAIL
The following items are common to both Flails:-			
1	73 14 305	1	.Main casing welded assembly
	73 14 352	1	.Rotor shaft bare
2	73 14 346	1	.Rotor assembly c/w bearings & adaptor
3	73 14 313	2	..Bearing housing
4	06 00 018	2	..Ball bearing assembly
5	80 13 048	1	..Male spline shaft
6	80 13 049	1	..Female spline coupling c/w circlip
7	04 12 112	1	...Internal circlip
8	73 14 134	12	..Flail pin
9	04 22 640	12	..Roll pin 3/8" x 2 1/2" long
10	09 01 121	2	.Greaser 1/8" BSP
11	73 14 177	1	.Greaser extension
12	73 14 114	1	.Roller
13	73 14 191	1	.Roller tie rod
14	73 14 195	1	.Roller bracket left hand
	73 14 196	1	.Roller bracket right hand
			Part No. 04 21 810.
15	73 14 192	2	.Bearing spigot
16	06 00 002	2	.Ball bearing
17	73 14 194	2	.Special washer
18	83 01 014	1	.Hydraulic motor (splined shaft)
19	93 00 100	4	.Capscrew M8 x 40 socket head "wedgelok"
20	73 14 308	1	.Motor cover
21	73 14 145	1	.Motor cover pin c/w split pin
22	05 03 104	1	..Split pin
23	73 14 126	1	.Bearing plate
24	93 13 054	4	.Setscrew M8 x 25
25	73 14 158	1	.Pipe clamp upper
26	73 14 159	1	.Pipe clamp lower
27	92 13 105	1	.Bolt M10 x 50
28	91 00 002	3	.Locknut M10
29	93 13 055	2	.Setscrew M10
30	73 14 359	1	.Motor pipe lower
31	73 14 360	1	.Motor pipe upper
			For motor assembly left hand
	73 14 355	1	.Motor pipe lower
	73 14 356	1	.Motor pipe upper
			For motor assembly right hand
32	85 81 113	2	.Ermeto nut
33	85 81 114	2	.Ermeto ring
35	85 81 112	2	.Ermeto union
36	86 50 106	2	.3/4" Bonded seal
37	73 14 146	6	.Special bolt M16 x 50
38	92 13 067	6	.Bolt M16 x 30
39	91 00 001	14	.Locknut M16
40	93 13 087	2	.Setscrew M16 x 40 Hexagon coarse
41	91 00 005	2	.Locknut M20 "conelok"
42	73 14 088	1	.Flail speed warning sticker
43	04 22 648	3	.Spring dowel 3/8" x 3" long
	73 14 361	1	.Right hand strut c/w nut and bolt
44	73 14 362	1	.Left hand strut c/w nut and bolt
45	93 13 067	1	..Setscrew M16 x 30
46	91 00 001	1	..M16 'conelok' nut
47	73 14 315	1	.Grass hood;
48	73 14 143	1	.Flap bar
49	73 14 125	7	.Flap
50	85 82 041	2	.Socket plug 1/8" BSP
51	73 14 319	1	.Skid left hand
	73 14 320	1	.Skid right hand
52	73 14 323	2	.Replaceable runner
53	93 33 065	6	.Screw M10 x 30 countersunk
54	91 00 002	6	.Locknut M10
55	92 13 107	4	.Bolt M16 x 50
56	91 00 001	4	.Locknut M16
57	73 14 054	48	.F7G grass flail
58	73 14 325	1	.Hedge hood
59	73 14 056	24	.Shackle
60	73 14 055	24	.F7H Hedge flail
61	73 14 183	24	.Shackle
62	73 14 184	24	.F8H Hedge flail
34	85 01 060	2	Hydraulic hose 1" BSP 43" long

Required for use with grass flail only.

Required for use with hedge flail only.
Note: Do not mix F7 & F8 Flails.

Interchangeability of Rotors and Splined Adaptors.

A 13 splined rotor and a 13 splined male-female adaptor was introduced for the toughcut flail and also incorporated into the triplecut flail, commencing from serial numbers 02 FM 88 (1.2 metre) and 02 FR 63 (1 metre).

When ordering spare parts for machines previous to these numbers study the following:-

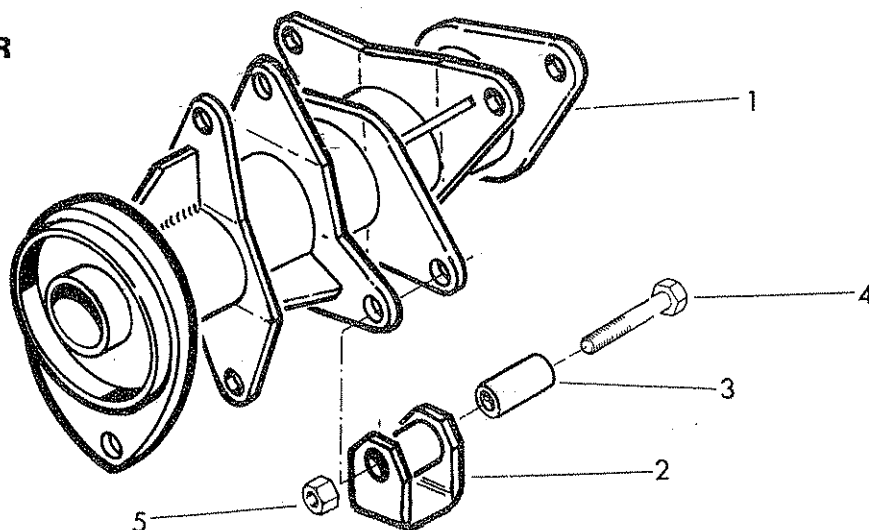
All rotors will be supplied with the thirteen tooth splines.

Description	11 tooth Rotorshaft Assy c/w bearings & quillshaft Part No.	Replaced by Assy Part No.	'Bare Rotor-shaft 13 tooth Part No.
1 metre	73 14 340	73 14 345	73 14 348
1.2 metre	73 14 314	73 14 346	73 14 352
Adaptor quillshaft	80 13 002 (11 male/13 female spline)	80 13 028 (13 male/13 female spline)	

Where a 'bare' rotor shaft is ordered to replace an existing 11 tooth spline shaft then a quillshaft 80 13 028 is also required.

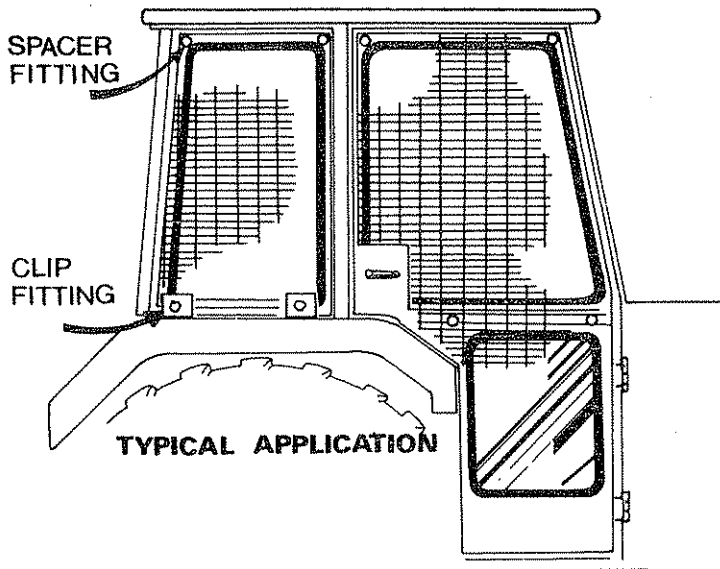
The spare parts list for the 1 metre and 1.2 metre toughcut flails is identical to its triplecut counterpart with the exception of the following:-

TOUGH CUT ROTOR



	73 14 337	1	TOUGH CUT FLAIL ASSEMBLY - 1 METRE
	73 14 339	1	. Toughcut rotor c/w bearing & bearing housing.
1	73 14 349	1	.. Rotorshaft bare
2	73 14 119	12	. Toughcut flail
3	73 14 120	12	. Flail bush
4	73 14 147	12	. Special bolt
5	91 00 001	12	. M16 'Conelok' locknut
	73 14 304		TOUGH CUT FLAIL ASSEMBLY - 1.2 METRE
	73 14 309	1	. Toughcut rotor c/w bearings & bearing housing.
1	73 14 353	1	.. Rotorshaft bare
2	73 14 119	16	. Toughcut flail
3	73 14 120	16	. Flail bush
4	73 14 147	16	. Special bolt
5	91 00 001	16	. M16 'Conelok' locknut

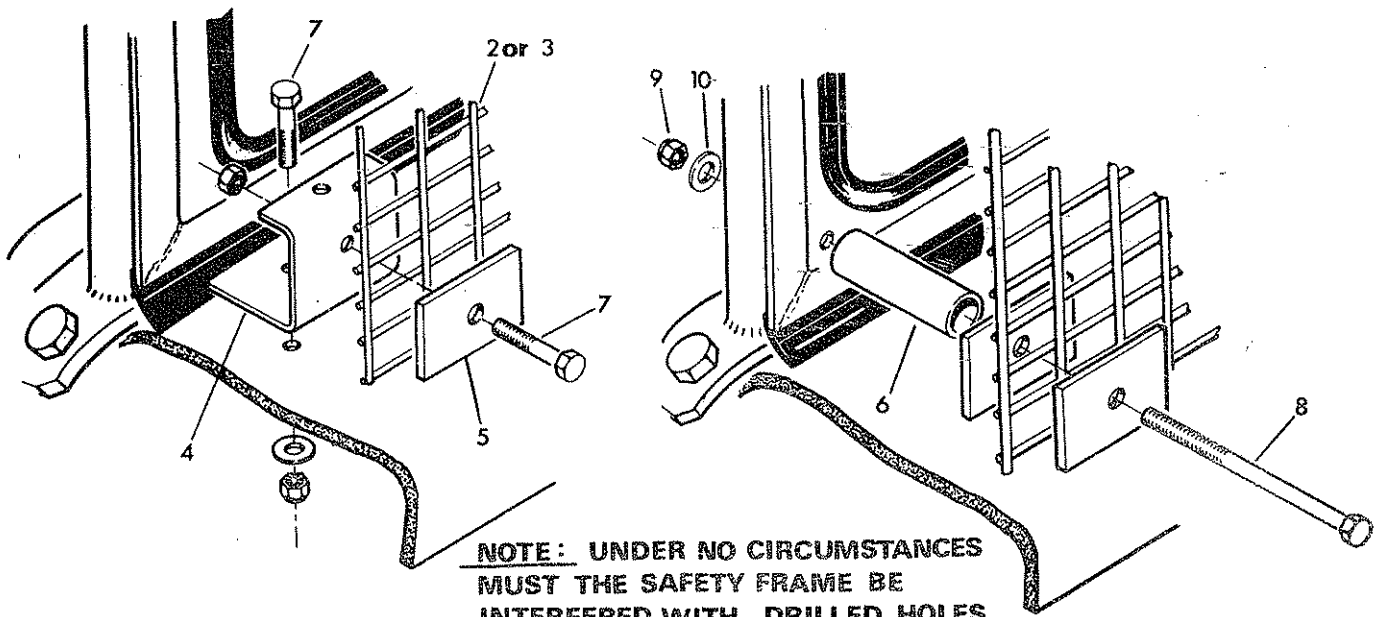
CAB GUARD



CUT THE MESH TO SHAPE AS REQUIRED TO CLEAR THE DOOR HANDLE AND ALLOW FULL OPENING OF THE DOOR.

FITTINGS SUPPLIED CAN BE USED IN ANY COMBINATION TO SUIT INDIVIDUAL TRACTORS.

A MINIMUM OF FOUR FITTINGS PER MESH IS REQUIRED.



NOTE: UNDER NO CIRCUMSTANCES MUST THE SAFETY FRAME BE INTERFERED WITH. DRILLED HOLES MUST BE THROUGH CLADDING

Ref.	Part No.	Qty	Description	Ref.	Part No.	Qty	Description
1	73 13 320	1	GUARD KIT ASSEMBLY	6	73 13 137	8	.Tube Spacer
2	73 13 133	1	.Guard Panel Large	7	03 11 082	8	.5/16" UNF Hex S/Screw 1" lg
3	73 13 134	1	.Guard Panel Small	8	02 11 242	8	.5/16" UNF Hex Bolt 3" lg
4	73 13 135	4	.Guard Clip	9	01 41 002	8	.5/16" UNF Hex 'Aero' nut
5	73 13 136	16	.Clamp Plate	10	01 00 102	8	.5/16" Dia Plain Washer



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