

**Publication I62  
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**Serial No.**

**Part No.  
19-90-850**

# **MOUNTED I.C.S.**

**Operation & Spares manual**



EC DECLARATION OF CONFORMITY  
conforming to EEC Directive 89/392/EEC

We,

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

declare under our sole responsibility that

the product (type) . . . . ICS SLITTER . . . . .

Product Code . . . M136, M146, M160 . . . . .

Serial No. & Date

Type

Manufactured by the above Company/\* . . . . .

(\*insert business name and full address if not stated above)

complies with the required provisions of the Directive 89/392/EEC,  
and AMD 91/368/EEC, AMD 93/44/EEC, AMD 93/68/EEC and  
conforms with European Norm. BS EN 292

Part 1:1991 Safety of Machinery - Terminology, methodology  
Part 2:1991 Safety of Machinery - Technical specifications

and other national standards associated with its design and  
construction as listed in the Technical File.

Signed J.A. Davies . . . . .  
on behalf of McCONNEL LIMITED Responsible Person

Status. DIRECTOR OF ENGINEERING Date . . . . . 8.12.94



## **READ THE BOOK FIRST**

It might save hours and pounds later

When ordering spare parts always quote the machine type and serial number as well as the part number.

Factory re-built service exchange units of the major hydraulic components are available from your dealer

# GENERAL INFORMATION

Read this manual before fitting or operating the machine. If in doubt contact your dealer or the McConnell Service Department for assistance.

Use only McConnell spare parts on McConnell equipment and machines. Refer to the parts section before ordering spares.

## DEFINITION

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	

# SAFETY PRECAUTIONS

## WARNING

- |               |     |  |
|---------------|-----|--|
| <b>Never</b>  | ... | allow inexperienced personnel to operate the machine without supervision                   |
|               | ... | work under a machine when raised on the tractors linkage. Always use substantial supports. |
|               | ... | allow anyone to ride on the machine either in transport or work.                           |
|               | ... | operate the machine without the guard in position.   |
| <b>Always</b> | ... | tighten check chains during transport.   |
|               | ... | use lock pins to secure the roller in the raised position during transport.                |
|               | ... | ensure tractor has sufficient front weights to maintain stability under all conditions.    |
|               | ... | park machine as instructed.  |

# INTRODUCTION

The McConnel I.C.S. which is available in the 3 widths of 3' 6", 4' 6" and 6' 0" features quick spool change capability.

Three spools are available, these are.

Green slitter with a maximum penetration of 7 1/2" (190mm)

Outfield slitter with a maximum penetration of 9" (220mm)

Core tine with a maximum penetration of 3 1/2" (90mm)

A ram activated tractor weight transfer system which is linked to a rear roller is standard equipment on all machines.



# FITTING

## TRACTOR SELECTION

Min Hp requirements are:-

3' 6" - 16 Hp

4' 6" - 20 Hp

6' 0" - 25 Hp

The tractor must have Cat 1 linkage

The tractor must be equipped with a double acting auxiliary service.

## TRACTOR PREPARATION

Front weights should be added up to the maximum allowed in the manufactures specifications, to assist the weight transfer mechanism to achieve spool penetration and to ensure stability under all conditions.

## ATTACHMENT TO TRACTOR

Reverse the tractor up to the machine and attach the three point linkage.

Connect the hoses as follows:-

The hoses from the gland connection of the weight transfer ram and the branch connection of the tee are connected to the tractors double acting auxiliary service.

The spare hose from the manifold block is connected to the tractors transmission filler plug.

Raise machine on the tractors linkage.

Remove stand leg and stow in position through the weight transfer arms and secure with pin.

Extract the roller lock pins securing the roller in the lowered position.

Raise the roller by pressurising the base end of the weight transfer ram.

Using the roller lock pins secure the roller in the raised position.

Tighten check chains.

The machine is now ready for transport to the work site.

## TRANSPORT POSITION

The machine is transported raised on the tractors linkage. The guard must be in the lowered position with the roller fully raised and locked securely. Check chains must be tight.

# OPERATION

## WORK

Remove roller lock pins and stow in the tube sockets on the roller arm.

Lower the machine on the tractors linkage until the spool touches the ground.

Pressurise the gland end of the weight transfer ram until the desired penetration is achieved. During this operation the rear roller will automatically be lowered to the working position.

Adjust the top link until the top surface of the I.C.S. is horizontal.

Partially loosen the check chains to allow steering of the tractor.

Drive as straight as possible.

Raise spools clear of the ground to turn the headland by simultaneously raising the tractors draft links and pressurising the base end of the weight transfer ram.

## SPOOL ALTERNATIVES.

Three spools are available:-

**Green slitter** - max penetration 7 1/2" (190mm)

**Outfield slitter** - max penetration 9" (220mm)

The drum of the outfield slitter can be water ballasted to assist penetration of the blades in severely compacted turf areas.

Caution: Add anti freeze to the water ballast if the drum is to be left filled during winter.

**Core tiner** - Max penetration 3 1/2" (90mm)

## CHANGING SPOOLS.

### Removal

With the machine raised on the tractors linkage and the roller in the lowered position raise the guard fully.

Raise the roller fully and locate in position with the lock pins.

Lower the machine until the spool touches the ground.

Remove the tapered pins, raise the machine on tractors linkage until the weight is taken off the spool.

Drive forward.

## **Spool engagement.**

Take the opportunity to grease the spool bearing housing.

Reverse the machine squarely up to the spool until the spool bearings locate firmly into the housings. Apply weight to the spool for final engagement by slightly lowering the tractor's linkage.

Position the tapered pins and secure with lynch pins.

Raise machine to transport height.

Remove the roller lock pins. Pressurise the base end of the weight transfer ram and lower the roller.

Lower the rear guard.

Raise the roller and lock in position for transport to the worksite.

## REMOVAL FROM TRACTOR

Select a firm level site.

Assemble stand leg into the park position.

Remove roller lock pins.

Lower roller to full extent and secure with lock pins.

Lower the machine to the ground.

Disconnect hoses and stow clear of the ground. Protect hose ends to prevent contaminant entering.

## STORAGE

Lightly coat the exposed portions of the ram rods with grease. This grease should be wiped off before the rams are next moved.

Grease all lubrication points.

Remove all soil from the drums blades and tines and coat with old oil.

Drain water ballast from outfield slitter or check that anti freeze is present

# MAINTENANCE

## GREASE DAILY :-

Roller mounting pivots

Weight transfer ram base and rod pivots

## GREASE ANNUALLY :-

Spool bearing housings

## EMPTYING CORE TINNER DRUMS

Raise machine on linkage to transport height.

Raise the guard and roller and lock in position.

Open trap doors and manually rotate spool until the drums have emptied.

### WARNING

Carry out this operation from above the spool.  
Do not work under the spool to open trap doors  
or remove any stubborn cores.

## FASTENERS

Check nuts and bolts for tightness after the first days work and thereafter weekly.

## REPLACING BLADES

Blades must be replaced in the same aspect and position from which they came.

**Note:** It is important that the bolt goes through the mounting lug first and the nut is against the blade. Tighten to 172lbf. ft ( 233 Nm )

**FOR NOTES**

# **SPARE PARTS MANUAL**

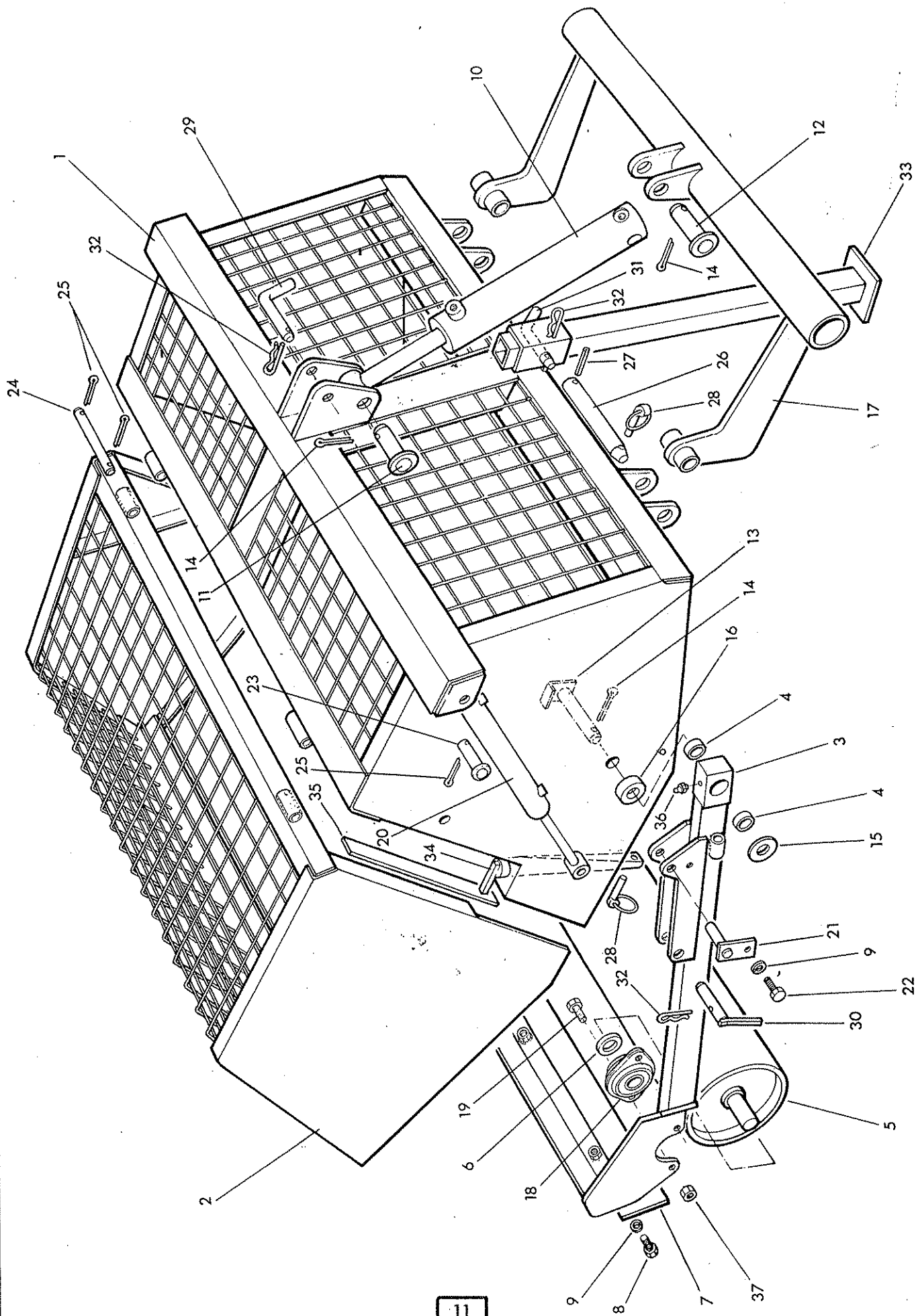
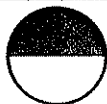
## **FOR BEST PERFORMANCE....**

### **USE ONLY McCONNEL SPARE PARTS**

To be assured of the latest design improvements purchase your genuine replacements from the original equipment manufacturer F.W. McConnel 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.





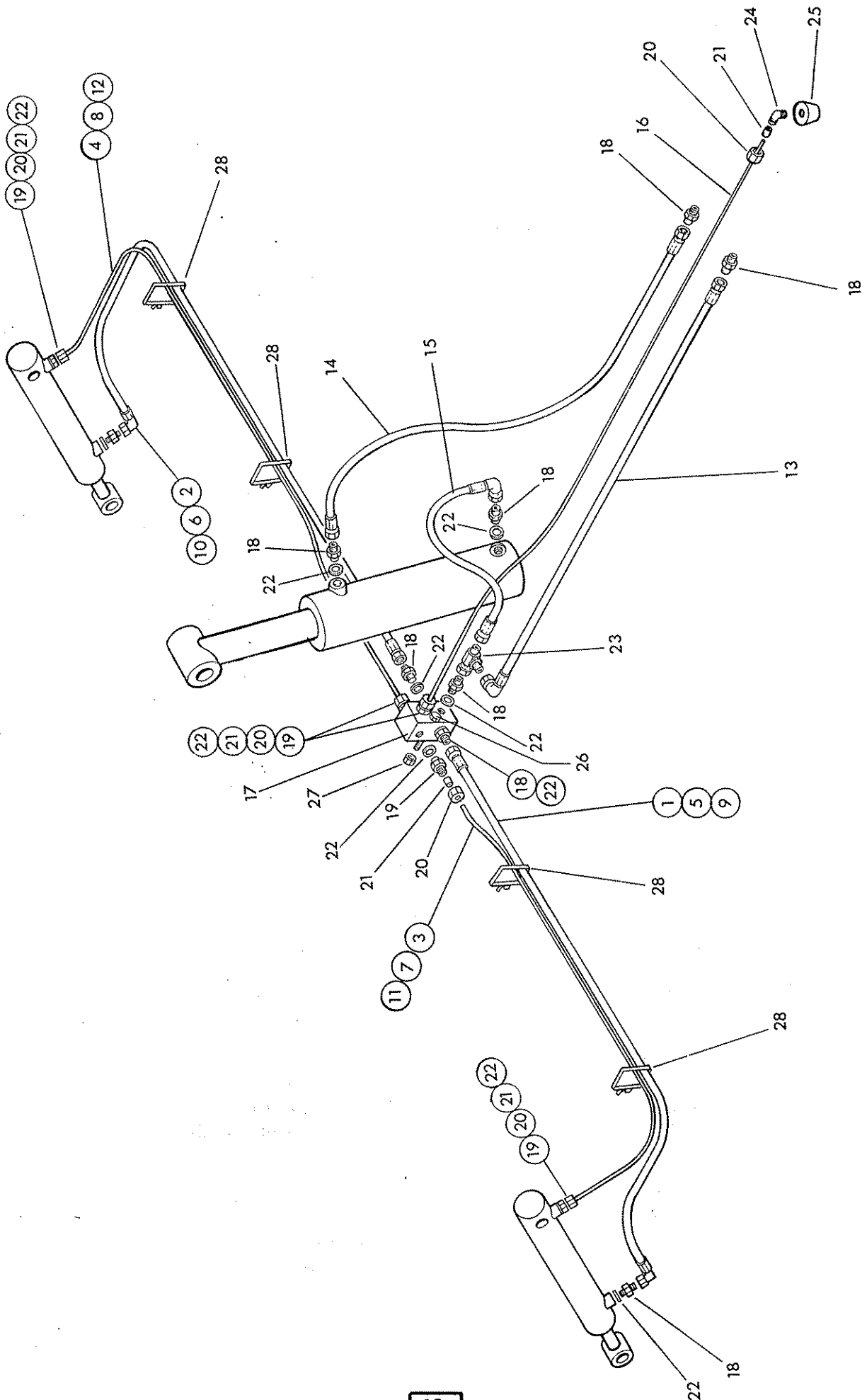


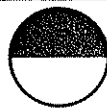
Ref.	Part No.	Qty.	Description
<b>FRAMES</b>			
1	19 90 511	1	Main frame 3' 6" - as illus
	19 90 512	1	Main frame 4' 6"
	19 90 513	1	Main frame 6' 0"
2	19 90 517	1	Guard 3' 6"
	19 90 518	1	Guard 4' 6"
	19 90 519	1	Guard 6' 0"
3	19 90 522	1	Roller arm 3' 6"
	19 90 523	1	Roller arm 4' 6"
	19 90 524	1	Roller arm 6' 0"
4	70 12 037	4	Bush
5	19 90 530	1	Rear roller 3' 6"
	19 90 531	1	Rear roller 4' 6"
	19 90 532	1	Rear roller 6' 0"
6	19 90 091	2	Spacer
7	19 90 065	1	Roller scraper 3' 6"
	19 90 073	1	Roller scraper 4' 6"
	19 90 074	1	Roller scraper 6' 0"
8	93 13 034	as reqd	Setscrew M8 x 16
9	91 00 204	as reqd	Spring washer dia 8
10	71 95 307	1	Weight transfer ram assembly see page 18
11	19 90 031	1	Pin - rod end
12	19 90 030	1	Pin - base end
13	19 90 061	2	Roller arm pivot pin
14	95 01 406	4	Split pin dia 5 x 40
15	01 00 109	2	Plain washer 1" dia
16	19 90 034	2	Spacer
17	19 90 527	1	Weight transfer arm
18	06 00 090	2	Roller bearings
19	93 13 054	4	Setscrew M8 x 25
20	19 90 510	2	Roller lift ram
21	19 90 027	2	Pin - rod end
22	93 13 024	2	Setscrew M8 x 12
23	19 90 026	2	Pin - base end
24	19 90 028	1	Guard pivot pin
25	95 01 203	6	Split pin dia 2.5 x 20 long
26	19 90 029	2	Lower linkage pin
27	04 25 525	2	Spring dowel dia 5 x 25
28	04 31 217	2	Linch pin
29	71 92 026	1	Upper linkage pin
30	19 90 033	2	Roller lock pin
31	10 90 051	1	Parking leg pin
32	04 31 105	4	Spring cotter
33	19 90 529	1	Parking leg
34	19 90 032	2	Spool retaining pin
35	19 90 064	2	Guard strip
36	09 01 121	2	Greaser 1/8 BSP straight

# HYDRAULIC INSTALLATION



# HYDRAULIC





Ref.	Part No.	Qty.	Description
<b>HYDRAULIC INSTALLATIONS</b>			
<b>3' 6" MACHINE</b>			
1	85 35 082	1	Hose 1/4" BSP SF-90 deg F x 34" long.
			Manifold -roller ram gland R. Hand
2	85 35 042	1	Hose 1/4" BSP SF-90 deg F x 40" long.
			Manifold roller ram gland - L Hand
3	85 01 202	1	Nylon tube 800mm long 5.5mm dia. Manifold roller ram base. R.Hand.
4	8501 204	1	Nylon tube 970mm long 5.5mm dia. Manifold- roller ram base - L. Hand
<b>4' 6" MACHINE</b>			
5	85 35 042	1	Hose 1/4" BSP SF-90 deg F x 40" long.
			Manifold-roller ram gland R. Hand
6	85 35 022	1	Hose 1/4" BSP SF-90 deg F x 48" long.
			Manifold -roller ram gland - L. Hand
7	85 01 204	1	Nylon tube 970mm long 5.5mm dia. Manifold- roller ram base- R. Hand
8	85 01 208	1	Nylon tube 1110 mm long 5.5mm dia Manifold-roller ram base - L. Hand
<b>6' 0" MACHINE</b>			
9	85 35 182	1	Hose 1/4" BSP-SF-90 deg F x 54" long
			Manifold-roller ram gland R. Hand
10	85 35 072	1	Hose 1/4" BSP SF-90 deg F x 60" long.
			Manifold - roller ram gland - L. Hand
11	85 01 203	1	Nylon tube 1300mm long 5.5mm dia. Manifold- roller ram base - R. Hand
12	85 01 209	1	Nylon tube 1450 mm long 5.5mm dia Manifold- roller ram base L. Hand

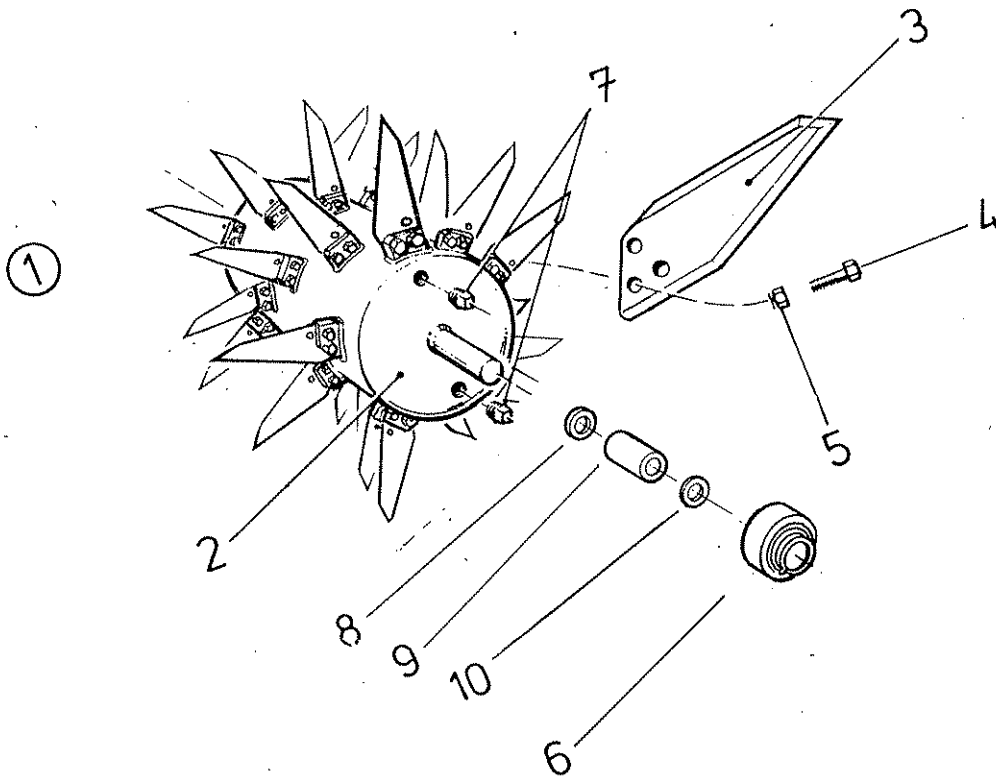
**The following items are common to all hydraulic installations**

13	85 35 022	1	Hose 1/4" BSP SF-90 deg F x 48" long Tee - tractor
14	85 15 052	1	Hose 1/4" BSP SF-SF x 40" long W.T. Ram gland
15	85 35 062	1	Hose 1/4" BSP SF-90 deg F x 15" long W.T.Ram base - Manifold Tee
16	85 01 203	1	Nylon tube 1300mm long 5.5mm dia. Manifold- tractor transmission
17	19 90 063	1	Manifold block
18	85 81 169	9	Union 1/4" BSP M-M
19	85 81 201	5	Union
20	86 81 200	6	Tube nut
21	85 81 199	6	Olive
22	86 50 102	12	Bonded seal 1/4" BSP
23	85 81 254	1	Tee 1/4" BSP M-M-F
24	85 81 198	1	Elbow 90 deg 1/4 BSP MM
25	10 90 093	1	Drain line plug
26	92 13 144	2	Bolt M8 x 70
27	91 43 004	2	Self locking nut M8
28	71 35 084	4	Hose tie

**SPOOL ASSY  
OUTFIELD SLITTER**



**McDONNELL**

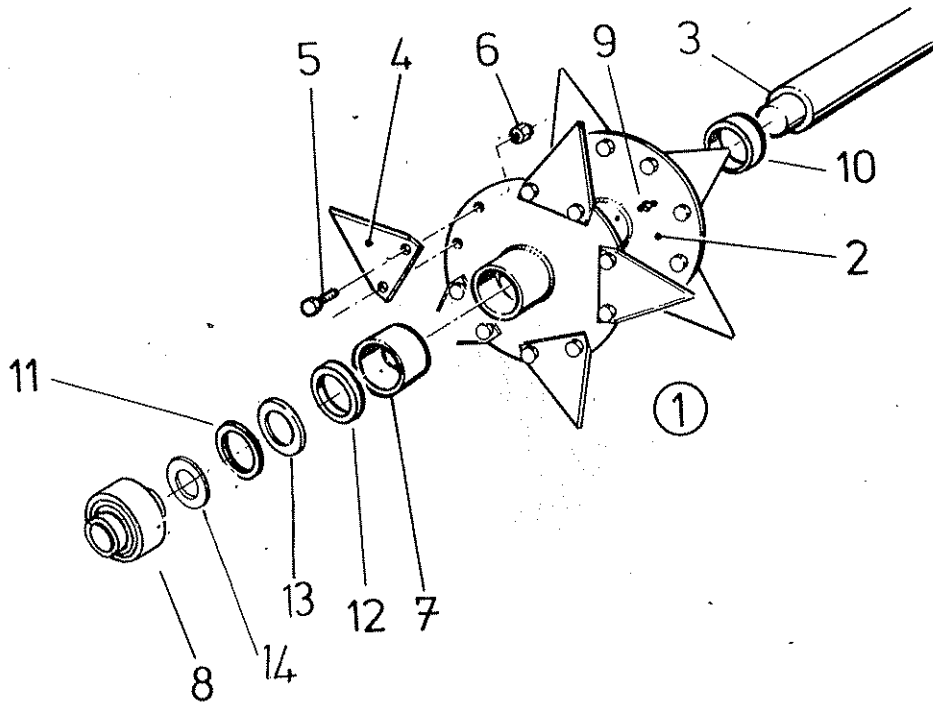


Key	Part No.	Description	Qty. per Machine		
			3' 6"	4' 6"	6' 0"
1	19 01 270	3' 6" SPOOL ASSY COMPLETE	1	-	-
1	19 01 271	4' 6" SPOOL ASSY COMPLETE	-	1	-
1	19 01 272	6' 0" 6' 0" ASSY COMPLETE	-	-	1
2	19 01 260	3' 6" Drum W.A.	1	-	-
2	19 01 261	4' 6" Drum W.A.	-	1	-
2	19 01 262	6' 0" Drum W.A.	-	-	1
3	19 00 100	Blade	30	40	55
4	92 13 087	Bolt M16 x 40	60	80	110
5	91 63 007	Nyloc Nut M16	60	80	110
6	19 90 011	Bearing	2	2	2
7	85 81 203	Screwed Plug	2	2	2
8	19 01 013	Weld Spacer	2	2	2
9	19 01 012	Spacer Tube	2	-	-
9	19 01 011	Spacer Tube	-	2	2
10	19 00 085	Shim		as reqd	

**SPOOL ASSEMBLY  
GREEN SLITTER**



**McCOMEL**

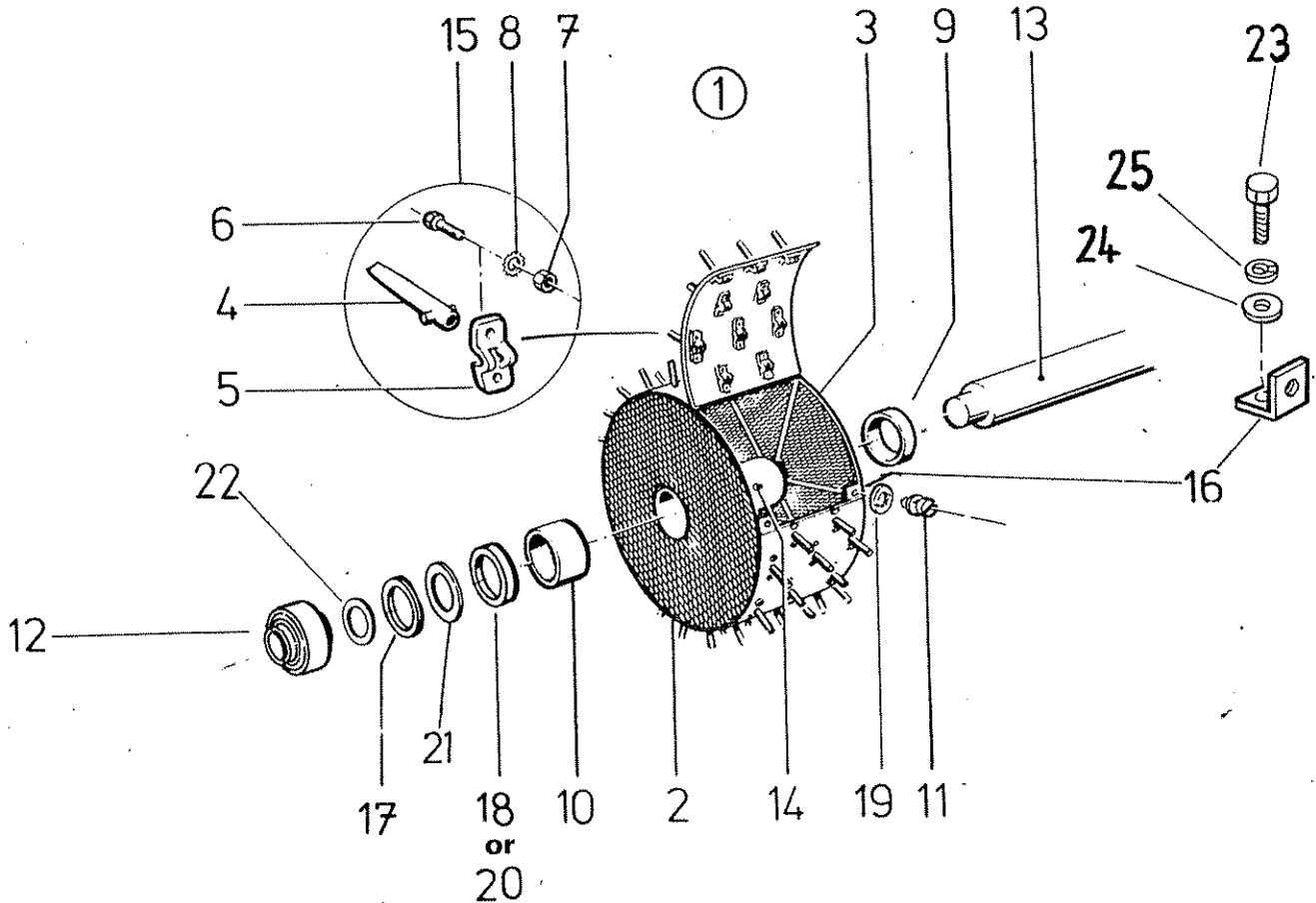


Key	Part No.	Description	Qty. per Machine		
			3' 6"	4' 6"	6' 0"
1	19 11 260	3' 6" Spool Assy Complete	1	-	-
1	19 11 261	4' 6" Spool Assy Complete	-	1	-
1	19 11 262	6' 0" Spool Assy Complete	-	-	1
2	19 11 004	Disc Assy with Bearings	3	4	6
3	19 00 333	3' 6" Shaft	1	-	-
3	19 00 334	4' 6" Shaft	-	1	-
3	19 00 335	6' 0" Shaft	-	-	1
4	19 00 150	Blade	30	40	60
5	93 13 065	Bolt M10 x 30	60	80	120
6	91 63 005	Nyloc Nut M10	60	80	120
7	19 00 054	Bearing	6	8	12
8	19 90 011	Bearing	2	2	2
9	09 01 161	Grease nipple	3	4	6
10	19 00 055	Spacer Intermediate	2	3	5
11	19 00 057	Washer	2	2	2
12	19 00 056	Spacer - End	2	2	2
13	19 01 014	Shim		as reqd.	
14	19 00 085	Shim		as reqd.	

**SPOOL ASSY  
CORE TINE**



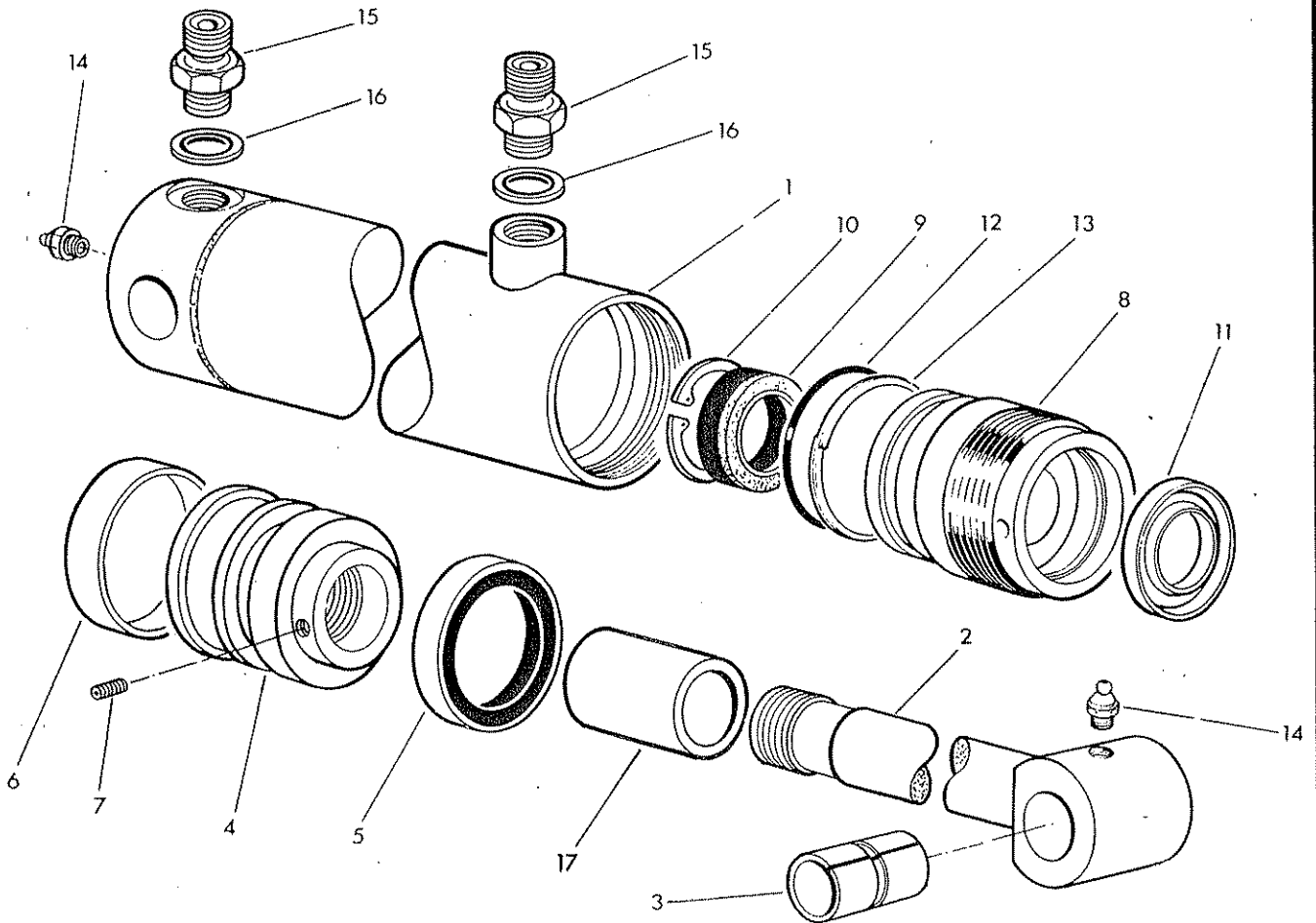
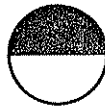
**McCOMEL**



Key	Part No.	Description	Qty. per Machine		
			3'6"	4'6"	6'0"
1	19 21 270	3'6" Spool Assy complete	1	-	-
1	19 21 271	4'6" Spool Assy complete	-	1	-
1	19 21 272	6'0" Spool Assy complete	-	-	1
2	19 21 253	Drum/Tine Assembly	3	4	5
3	19 21 254	Drum Assembly	3	4	5
4	19 00 201	Tine	180	240	300
5	19 00 202	Tine Pivot Block	180	240	300
6	93 13 043	Bolt M6 x 20	360	480	600
7	91 11 003	Nut M6	360	480	600
8	91 00 303	Washer-Serrated 6 Dia	360	480	600
9	19 00 055	Spacer-Intermediate	2	3	4
10	19 00 054	Bearing	6	8	10
11	19 21 003	Fastener	6	8	10
12	19 90 011	Bearing	2	2	2
13	19 00 333	3'6" Shaft	1	-	-
13	19 00 334	4'6" Shaft	-	1	-
13	19 00 335	6'0" SHAFT	-	-	1
14	09 01 161	Grease nipple M6	3	4	5
15	19 00 200	Core tine kit	180	240	300
16	19 21 001	Bracket flap	6	8	10
17	19 00 057	Washer	2	2	2
18	19 00 056	Spacer End	2	2	0
19	19 21 004	Retaining Washer	6	8	10
20	19 21 260	End spacer	-	-	2
21	19 01 014	Shim		as reqd.	
22	19 00 085	Shim		as reqd.	
23	93 13 043	Setscrew M6 x 20	6	8	10
24	91 00 103	Plain washer ø6	6	8	10
25	91 00 203	Spring washer ø6	6	8	10

A complete Core Tine Kit is available under Part No 19 00 200

**WEIGHT TRANSFER RAM**



Ref.	Part No.	Qty.	Description
	<b>19-90-311</b>		<b>WEIGHT TRANSFER RAM ASSEMBLY</b>
1	71-95-305	1	Cylinder
2	71-95-010	1	Rod
3	71-05-050	1	Bush
4	75-60-095	1	Piston
5	86-29-187	1	Piston seal
6	86-29-188	1	Bearing ring
7	93-63-023	1	Grubscrew socket head M6 x 12
8	71-35-291	1	Gland housing
9	86-29-148	1	Gland seal
10	04-16-240	1	Internal circlip
11	86-29-149	1	Wiper seal
12	86-00-302	1	'O' ring
13	86-09-302	1	Anti extrusion ring
14	09-01-121	2	Greaser
15	85-81-169	2	Union 1/4 BSP MM
16	86-50-102	2	Bonded seal 1/4" BSP
17	19-90-093	1	Spacer

**86-99-188**

**SEAL KIT**

**\* Assembly note**

Tighten fully and centre punch edge of hole to secure.



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