

Turning Earth Around The World



**John  
Shearer**

# JOHN SHEARER DISC PLOUGH

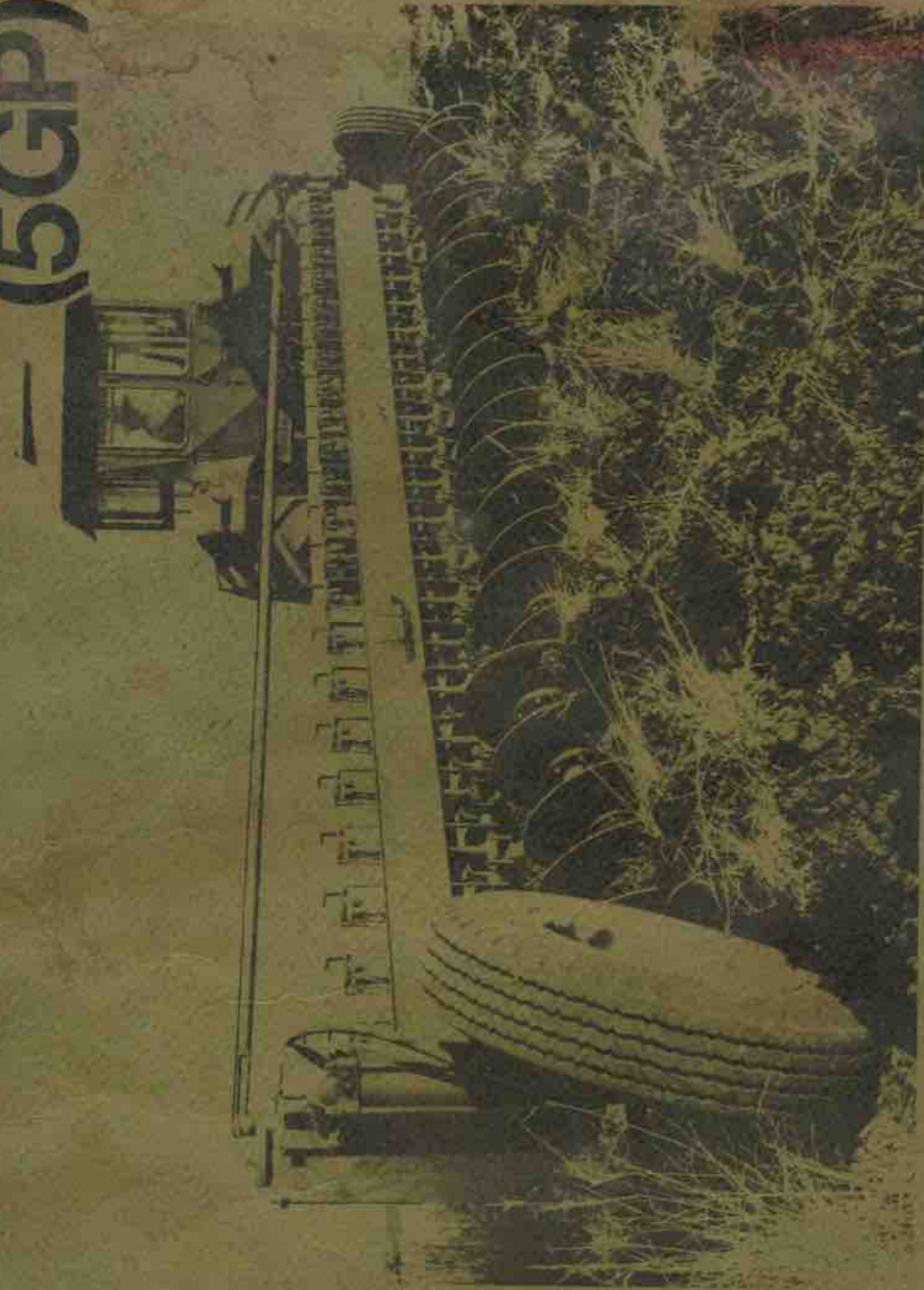
(5GP)

**parts  
and  
instruction  
manual**

**no. 72J1**

Price \$ 1-70

**318** John Shearer  
Manufacturers





# JOHN SHEARER & SONS LIMITED

ESTABLISHED 1877 INCORPORATED IN SOUTH AUSTRALIA

## HEAD OFFICE & FACTORY

BOX 42 KILKENNY  
SOUTH AUSTRALIA 5009

TELEPHONE — 45 4651 (8 LINES)

TELEGRAMS & CABLES — SHEARER ADELAIDE  
TELEX — AA88109

STREET LOCATION — SHARE STREET & KILKENNY ROAD

## WHEN ORDERING SPARE PARTS PLEASE STATE:

1. MODEL & SERIAL NUMBER (OF THE MACHINE / IMPLEMENT).
2. PART NUMBER & DESCRIPTION (OF THE SPARE PART).
3. NUMBER OF PARTS REQUIRED.
4. FORWARDING INSTRUCTIONS.
5. CORRECT NAME & ADDRESS OF DESTINATION.



MODEL & SERIAL NUMBER PLATE  
IS PLACED ON THE LEFT HAND FRONT  
OF THE MAIN FRAME.

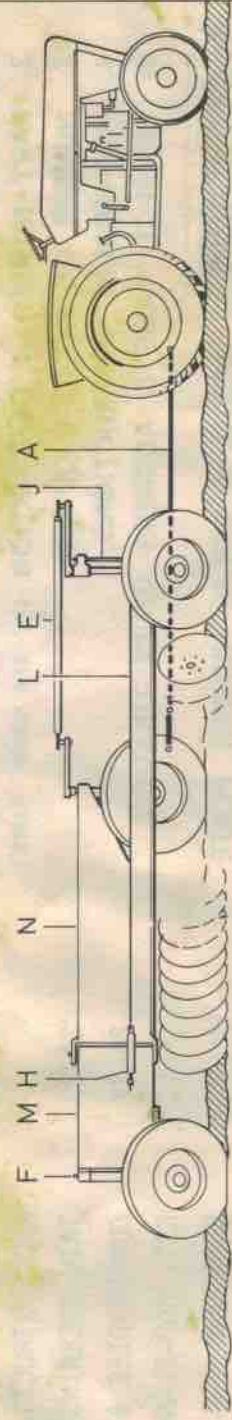
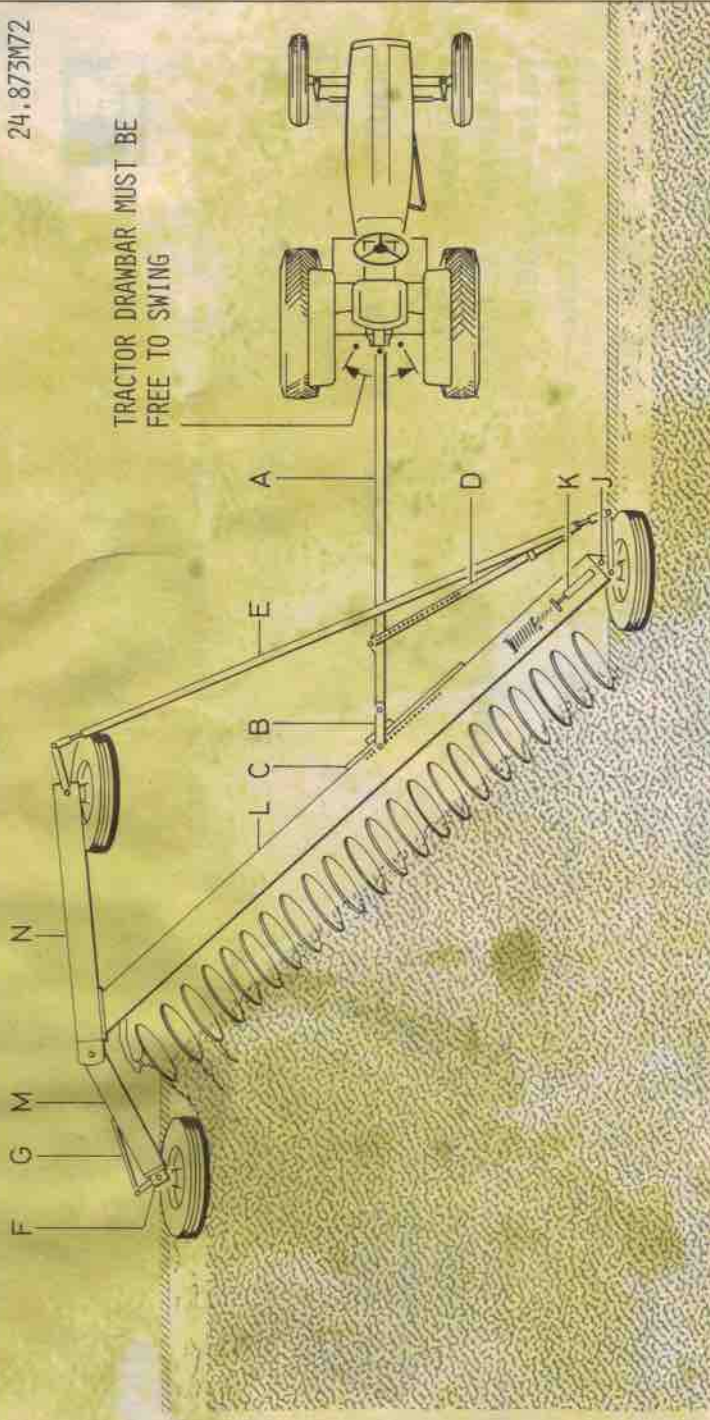
MADE & PRINTED IN AUSTRALIA BY JOHN SHEARER & SONS LIMITED.  
72 AUGUST 1973, 72J1 NOVEMBER 1974

## GENERAL CONTENTS

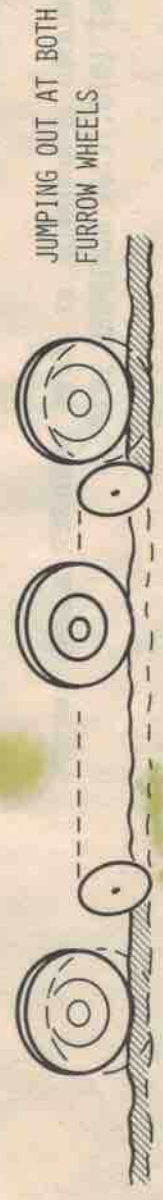
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8-9	LAND & TAIL BEAM & RELATED PARTS
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- A - POLE HITCH
- B - LINK, DRAWBAR
- C - DRAWBAR
- D - STEERING BAR
- E - TRACKBAR
- F - LIFT CYLINDER
- G - ROD, STEERING
- H - RAM OR SCREW  
TAIL STEERING
- J - SCREW, DEPTH CONTROL
- K - ACCUMULATOR, JUMPER
- L - BEAM, MAIN
- M - BEAM, TAIL
- N - BEAM, LAND

TRACTOR DRAWBAR MUST BE  
FREE TO SWING



NORMAL PLOUGHING



JUMPING OUT AT BOTH  
FURROW WHEELS

SETTING UP  
INSTRUCTIONS  
SEE PAGES 3 & 4



Tractor drawbar must be free to swing.

1. Screw down the front of the plough until the leading disc just touches the ground.
2. Set maximum permissible pressure on jump hydraulics as shown on indicator at K.
3. Set width of cut to maximum that gives acceptable ploughing, by extending cylinder (or screw) H.
4. With pole hitch connected to drawbar somewhere near central, adjust the steering bar and trackbar so that front wheels run truly in the direction of ploughing.
5. Set tail wheel steering so that wheel normally runs in the furrow just clear of the furrow wall.
6. Plough a first round at slow speed, adjusting the tail wheel height to achieve the required depth of ploughing. Setting of maximum width of cut, and a slow speed, will minimize soil throw and consequent build-up against fences.
7. On the second round, when the plough has two wheels in a furrow of required depth, and with the plough in the toughest area of the paddock, set:
  - Jumper pressure at maximum allowable as in (2)
  - main beam level and adjusted to give required working depth
  - tractor at desired operating speed
  - tractor position relative to the furrow as desired. (See note below).

NOTE RE TRACTOR POSITIONING

Some farmers prefer to drive with a tractor wheel in the furrow, while others prefer to drive with all wheels on unploughed ground. Driving in the furrow may provide easier maintenance of accurate plough positioning and thus a better join of work.

Driving on the land provides uniform traction conditions on both drive wheels and a straighter pull on the tractor drawbar. This improves tractor performance by providing a true pull on the drive wheels as well as avoiding waste draft used in counteracting front wheel drift and heavy steering loads.

Your 5GP, because of the inbuilt weight and the distribution of it will generally work satisfactorily with a straight pull on a tractor out of the furrow and we recommend you take advantage of this.

8. Increase width of cut until the plough "jumps out of the furrow".
    - If it jumps out at both furrow wheels, the line of draught is correct.
    - If it jumps out at the front only, the line of draught should be moved to the left (towards tail wheel) on the drawbar. Readjust steering bar to suit.
    - If it jumps out at the rear only the hitch is moved towards the right (front furrow wheel).
- If the plough cannot be made to "jump out", the conditions are relatively easy and the line of draught will be unimportant.  
Repeat step 8 until the line of draught is correct.



9. Go ahead ploughing, setting the width of cut to provide the best compromise between:
  - adequate "cut out" between discs
  - maximum acres/hour
  - required soil mixing and inversion desired.
10. Having set all other variables, reduce the hydraulic jumper pressure to that which just maintains the required depth of working. This will:
  - minimize loadings on discs/bearing etc.
  - enable discs to follow upwards ground irregularities at an even ploughing depth
  - minimize any tendency to bulldoze (should this occur due to encountering a heap of straw, fallen tree branch etc. a brief pressure drop will allow the plough to clear).
11. Depth of ploughing is best maintained in varying conditions by adjustment of jumper hydraulic pressure as required.
12. The above instructions suit a hydraulically loaded plough but they also apply to a spring loaded plough except that it is necessary to manually adjust the spring settings to that required to just achieve the ploughing depth required. Also it is necessary to use the tail wheel lift cylinder to maintain the working depth required as soil conditions vary.

- Unless otherwise noted, parts listed apply to all implements.
- 14 18 22 & 26 furrow - hydraulic or spring loaded.
- 14H = (14 furrow - hydraulic loaded jumpers)
- 14S = (14 furrow - spring loaded jumpers)
- 14HS = (14 furrow - hydraulic or spring loaded jumpers)

NOTE ! This manual to be read in conjunction with manual 83J1 (tandem hitch, for single or dual wheel implement) and Product Bulletin No. 107J1 (kit, convert single tail wheel to dual tail wheels).

NOTE ! Your 5GP is despatched from our factory primed with MOBILFLUID 423 transmission oil, or an equivalent from an alternative reputable supplier. This oil is compatible with that specified by, and meets the requirements of, all tractor manufacturers, including those with power shift transmissions, common hydraulic systems, wet clutches and wet brakes.

LUBRICATION

- |                 |   |            |
|-----------------|---|------------|
| Steering joints | - | daily      |
| Disc hubs       | - | monthly    |
| Wheel hubs      | - | seasonally |

MAIN BEAM

ILLUSTRATION A 17-1074M72J1



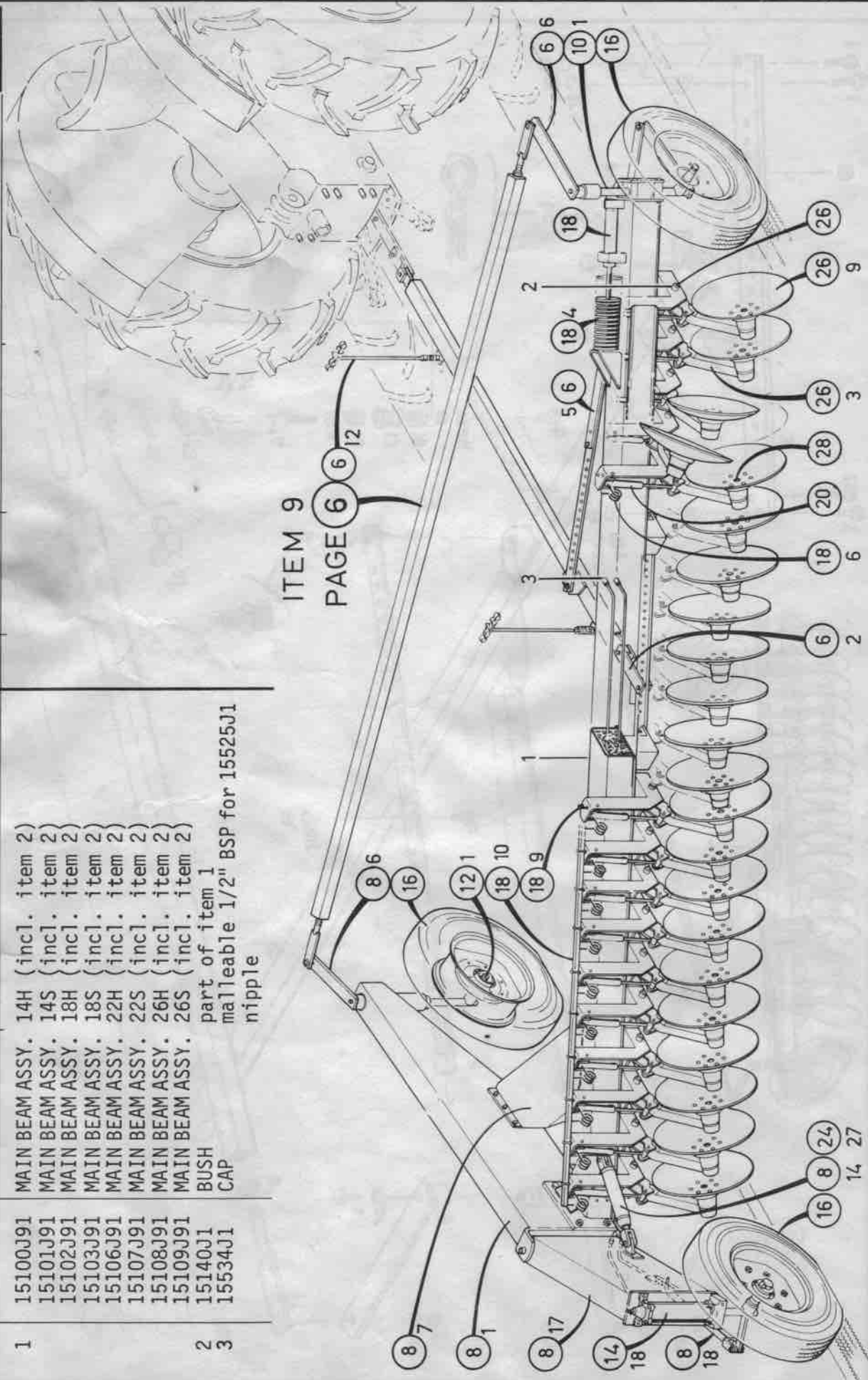
ITEM PART NO DESCRIPTION

ITEM PART NO	DESCRIPTION
1	15100J91 MAIN BEAM ASSY. 14H (incl. item 2)
	15101J91 MAIN BEAM ASSY. 14S (incl. item 2)
	15102J91 MAIN BEAM ASSY. 18H (incl. item 2)
	15103J91 MAIN BEAM ASSY. 18S (incl. item 2)
	15106J91 MAIN BEAM ASSY. 22H (incl. item 2)
	15107J91 MAIN BEAM ASSY. 22S (incl. item 2)
	15108J91 MAIN BEAM ASSY. 26H (incl. item 2)
	15109J91 MAIN BEAM ASSY. 26S (incl. item 2)

2 15140J1 BUSH part of item 1  
 3 15534J1 CAP malleable 1/2" BSP for 15525J1 nipple

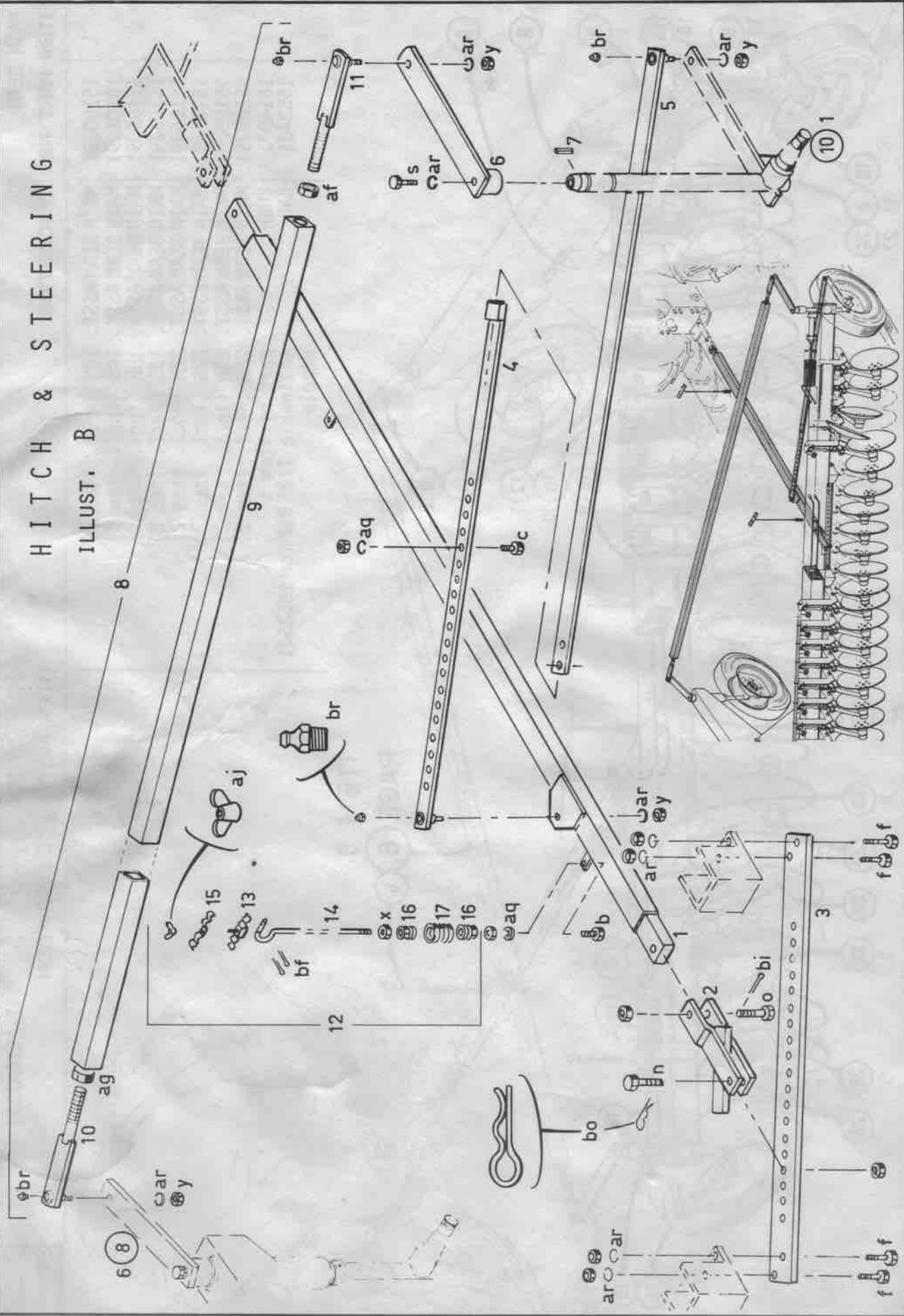
ITEM 9

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# HITCH & STEERING

ILLUST. B





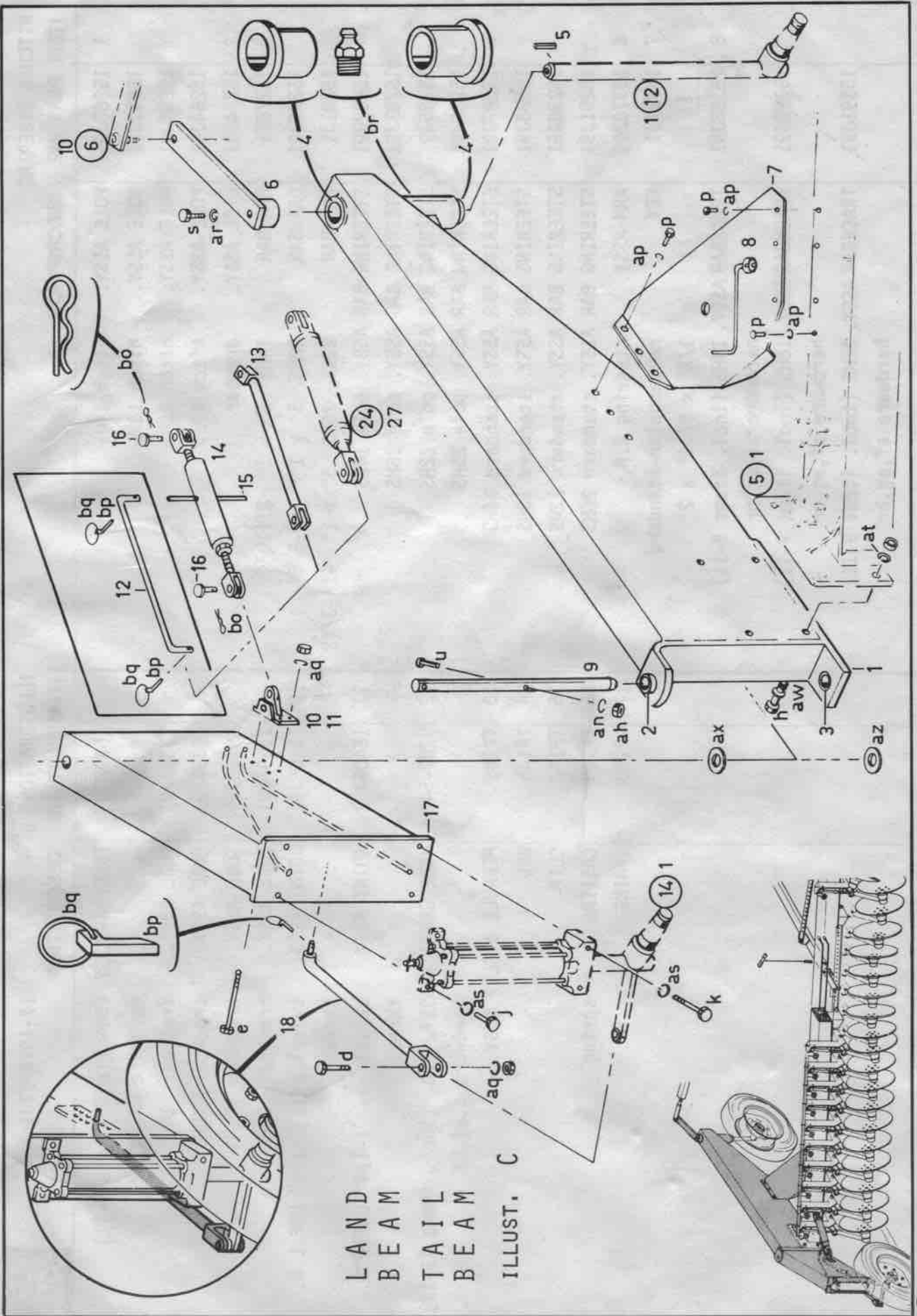
17-1074M72J1

ILLUSTRATION B

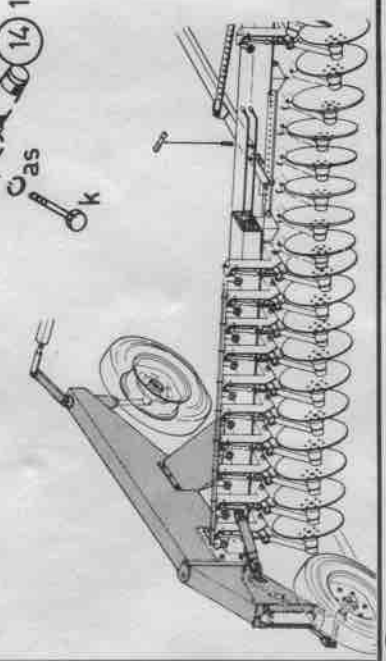
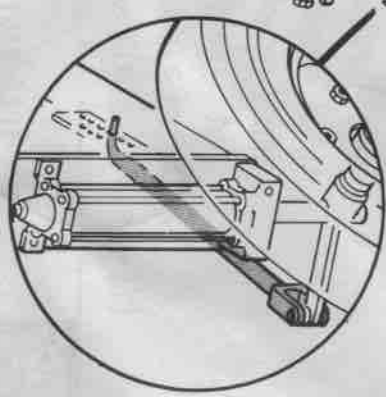
HITCH & STEERING

HITCH & STEERING		ILLUSTRATION B	
ITEM PART NO	DESCRIPTION	ITEM PART NO	DESCRIPTION
1	15260J91 POLE ASSY. 15261J91 POLE ASSY. 15263J91 POLE ASSY. 15264J91 POLE ASSY.	15392J91	TRACKBAR ASSY. 26HS (incl. items 9-11) hardware af, ag, br
2	15274J91 LINK ASSY. 15278J1 DRAWBAR 15279J91 DRAWBAR 15281J1 DRAWBAR	9	15393J91 TUBE ASSY. 15394J91 TUBE ASSY. 15396J91 TUBE ASSY. 15397J91 TUBE ASSY.
3	15282J91 STEERING BAR ASSY. pole 14HS 15283J91 STEERING BAR ASSY. pole 18HS 15285J91 STEERING BAR ASSY. pole 22HS 15286J91 STEERING BAR ASSY. pole 26HS	10	15405J91 JOINT ASSY. swivel adj. 1-1/4" UNF L.H. thread
4	15287J91 STEERING BAR ASSY. standard 14HS 15288J91 STEERING BAR ASSY. standard 18HS 15290J91 STEERING BAR ASSY. standard 22HS 15291J91 STEERING BAR ASSY. standard 26HS	11	15406J91 JOINT ASSY. swivel adj. 1-1/4" UNF R.H. thread
5	15378J91 ARM ASSY. steering R.H. 15377J1 KEY rectangular-standard 1/2" x 5/16" x 2"	12	H207-54 HOSE CARRIER ASSY. hyd. (incl. items 13-17) hardware x, aj, bf
6	15388J91 TRACKBAR ASSY. 14HS (incl. items 9-11) hardware af, ag, br	13	TP146 FERRULE & CLIP ASSY.
7	15389J91 TRACKBAR ASSY. 18HS (incl. items 9-11) hardware af, ag, br	14	TP145 ROD
8	15391J91 TRACKBAR ASSY. 22HS (incl. items 9-11) hardware af, ag, br	15	TP147 CLIP
		16	TP149 CASTING spring
		17	TP150 SPRING





LAND  
BEAM  
TAIL  
BEAM  
ILLUST. C



LAND & TAIL BEAM & RELATED PARTS

18-1074M72J1

ILLUSTRATION C

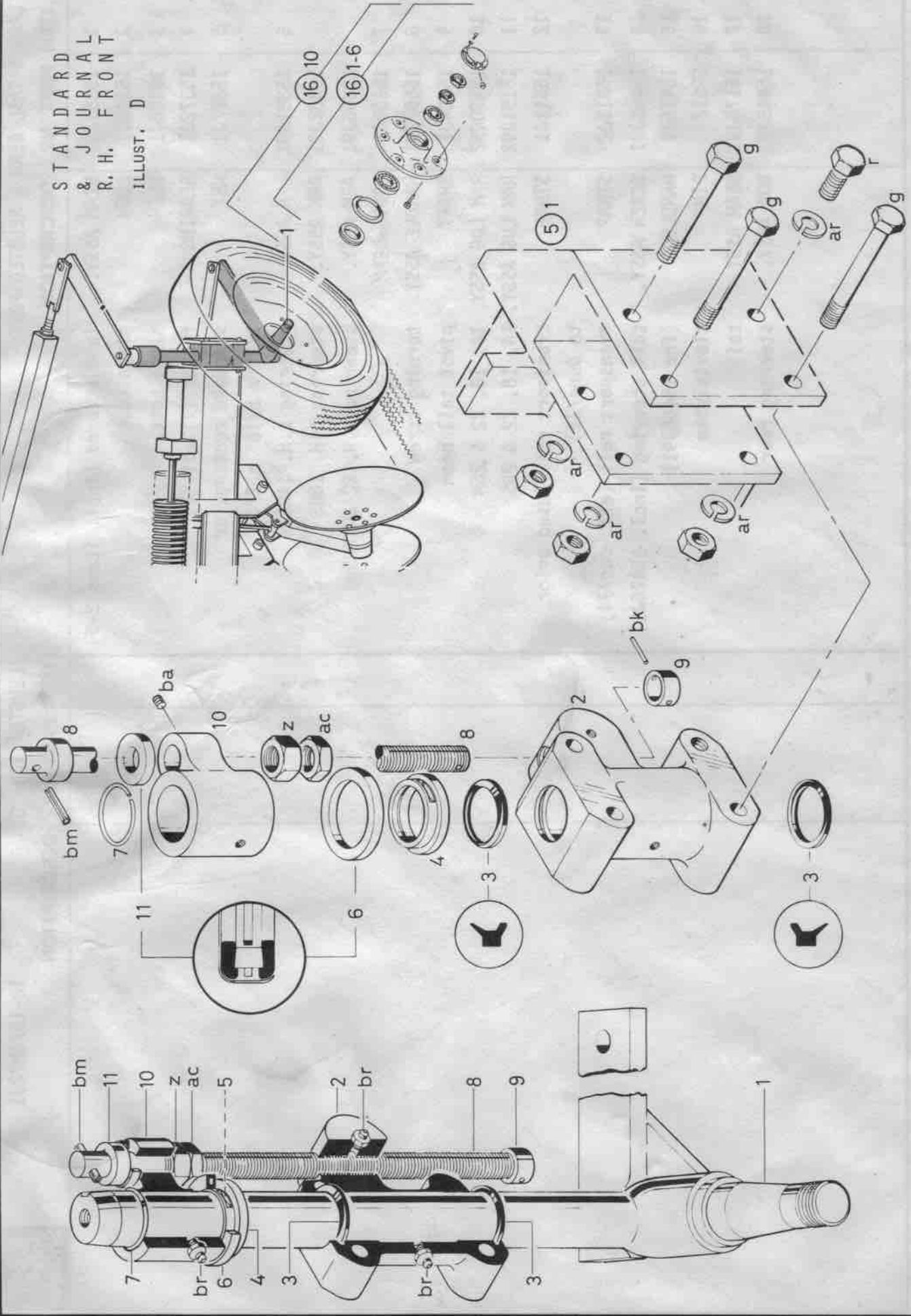


ITEM PART NO DESCRIPTION

ITEM PART NO DESCRIPTION

1	15351J91	BEAM ASSY.	land steered (incl. items 2-5)
2	15140J1	BUSH	hinge top
3	15368J1	BUSH	hinge bottom
4	15372J1	BEARING	flange (illust. E)
5	15377J1	KEY	standard rectangular 1/2" x 5/16" x 2"
6	15381J91	ARM ASSY.	steering L.H. 14HS
	15382J91	ARM ASSY.	steering L.H. 18HS
	15386J91	ARM ASSY.	steering L.H. 22 & 26HS
7	15505J1	CROSS-BEAM	
8	15507J91	HANDLE ASSY.	turning screw
9	15504J1	SHAFT	pivot tail beam
10	15190J92	RAM LUG ASSY.	14, 18, 22 & 26H
11	15191J92	RAM LUG ASSY.	14, 18, 22 & 26S
12	15511J1	STRAP	transport rail (used prior to June/74)
13	15511J2	STRAP	transport rail (eff. Jan/74)
14	15466J91	SCREW ASSY.	tail steering (incl. 15476J1)
15	15476J1	HANDLE	(for 15466J91)
16	SR617	PIN	clevis yoke
17	15175J91	BEAM ASSY.	tail
18	15448J92	ROD ASSY.	steering rear

STANDARD  
& JOURNAL  
R. H. FRONT  
ILLUST. D



## STANDARD &amp; JOURNAL, R.H. FRONT

ILLUSTRATION D

18-1074M72J1



## ITEM PART NO DESCRIPTION

## ITEM PART NO DESCRIPTION

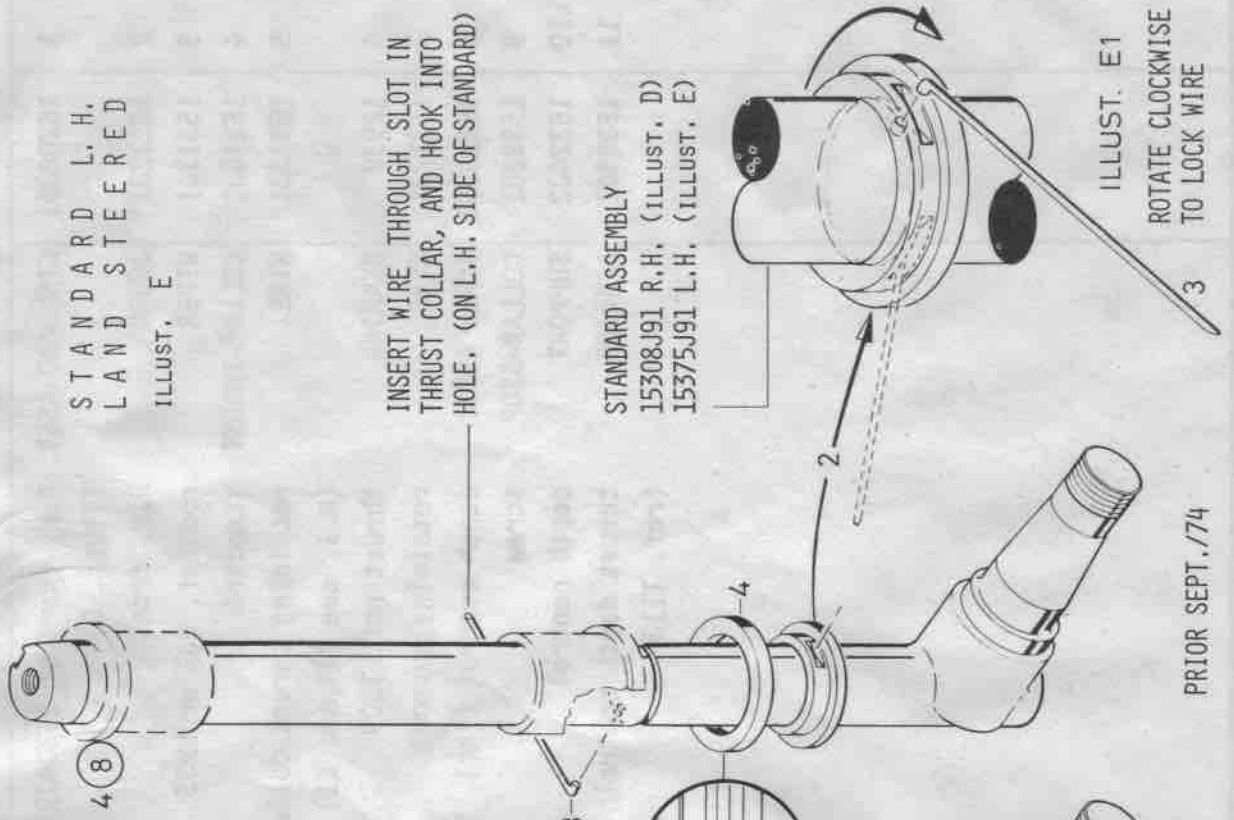
1	15308J91	STANDARD ASSY. R.H. (part of 15304J91 illust. G)
2	15312J1	JOURNAL R.H. front
3	15313J1	WIPER rod ref. W35 or LW35
4	15314J1	COLLAR-THRUST standard
5	15315J1	WIRE retaining thrust collar, (N.I. see illust. E1)
6	12939	BEARING thrust ref. T309
7	15317J1	RING retaining support
8	15320J91	SCREW ASSY. depth control (incl. SKP177)
9	15323J1	COLLAR-STOP screw
10	15324J2	SUPPORT depth control
11	15325J1	BEARING thrust depth control (ref. T113)

STANDARD L. H.  
LAND STEERED  
ILLUST. E

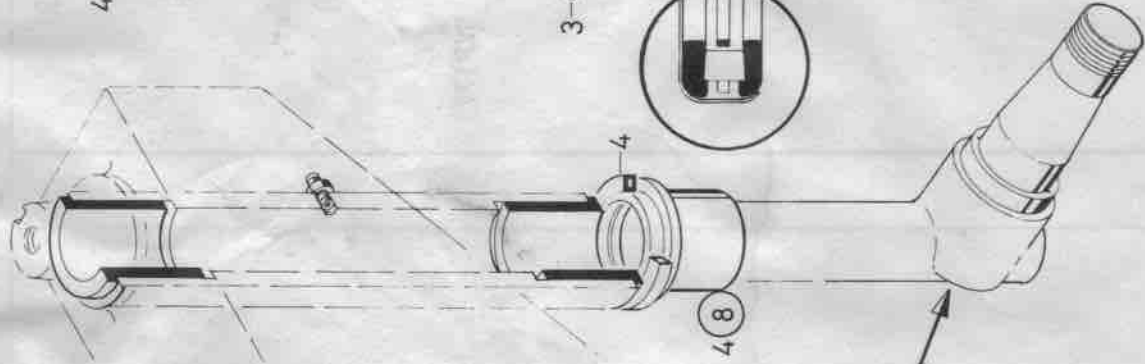
INSERT WIRE THROUGH SLOT IN  
THRUST COLLAR, AND HOOK INTO  
HOLE. (ON L.H. SIDE OF STANDARD)

STANDARD ASSEMBLY  
15308J91 R.H. (ILLUST. D)  
15375J91 L.H. (ILLUST. E)

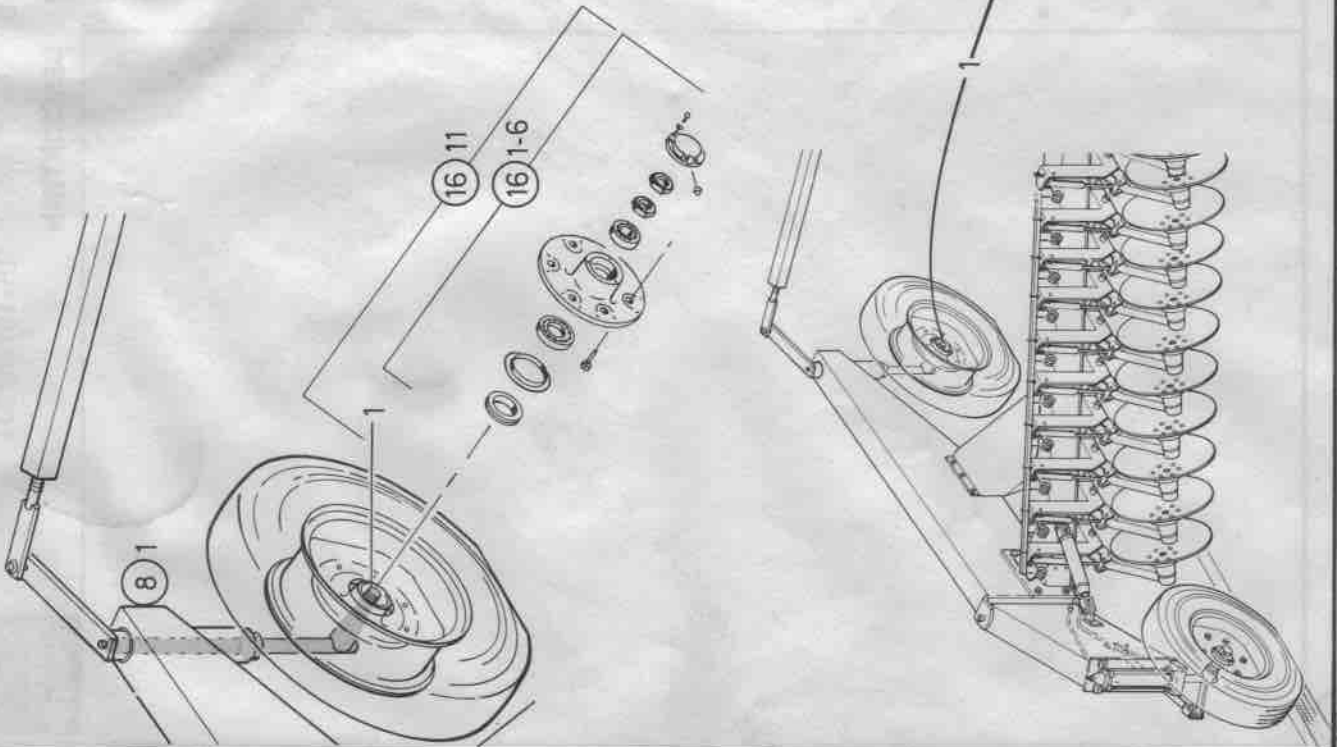
ILLUST. E1  
ROTATE CLOCKWISE  
TO LOCK WIRE



PRIOR SEPT. '74



EFF, SEPT. '74



STANDARD L.H. LAND STEERED

18-1074M72J1

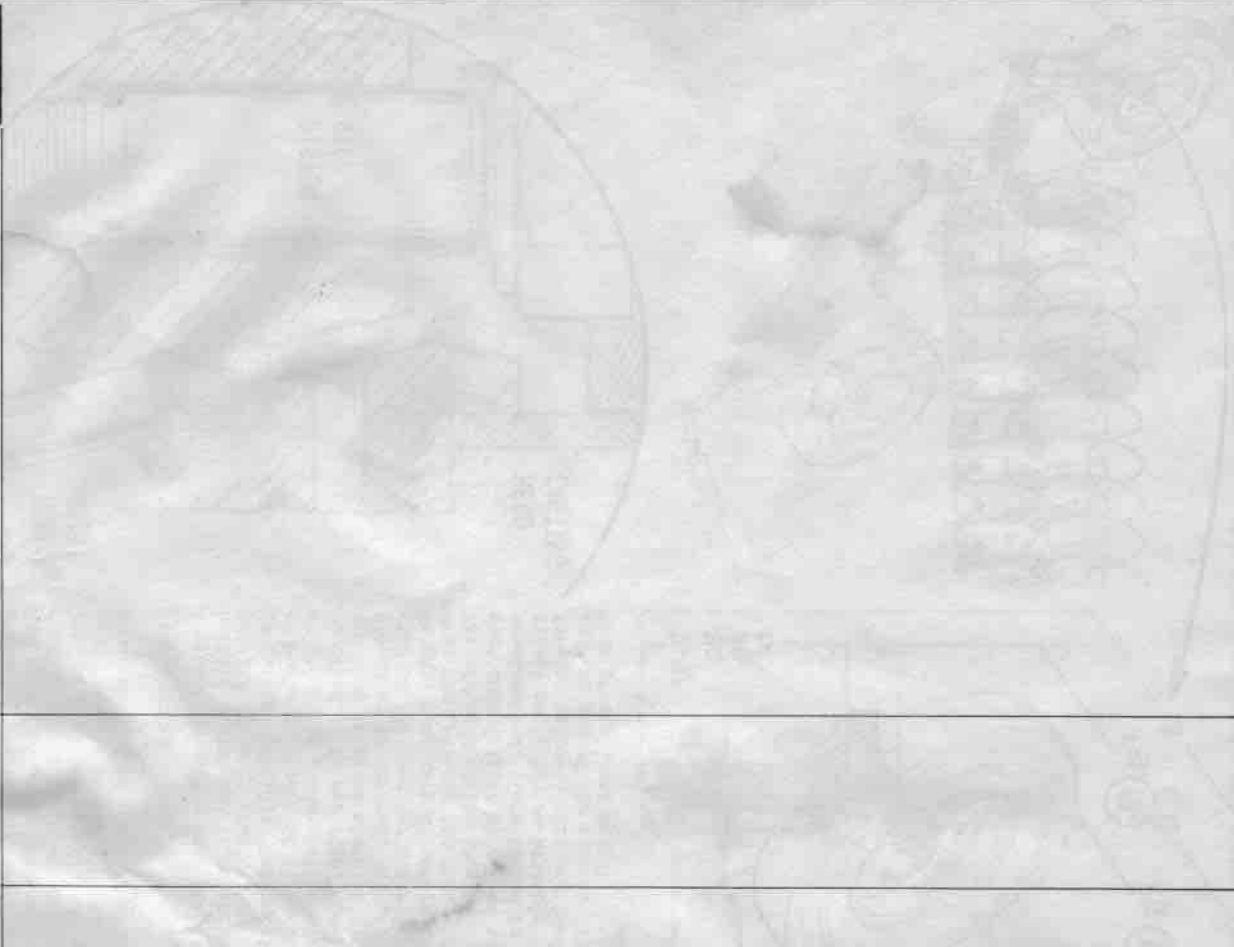
ILLUSTRATION E

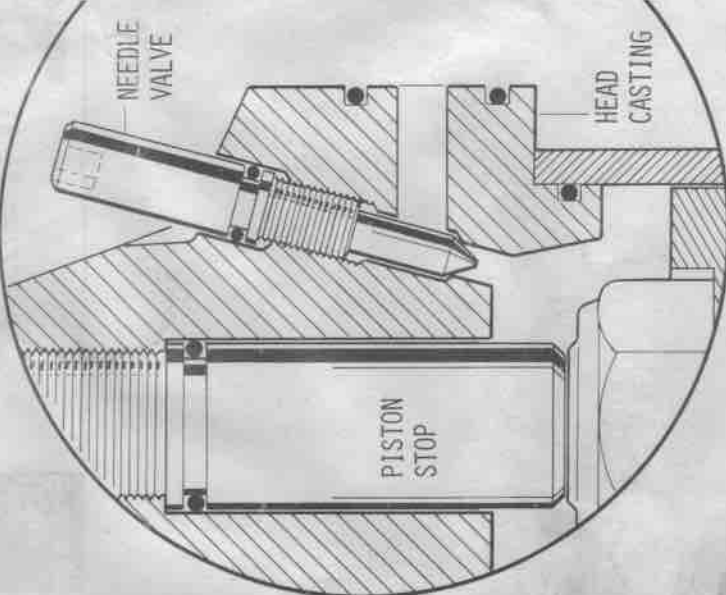


ITEM PART NO DESCRIPTION

ITEM PART NO DESCRIPTION

- |   |          |   |
|---|----------|---|
| 1 | 15375J92 | STANDARD ASSY. L.H. land steered (part of 15374J91 illust. G) |
| 2 | 15314J1  | COLLAR thrust, standard (used prior to Sept./74)              |
| 3 | 15315J1  | WIRE retaining thrust collar (used prior to Sept./74)         |
| 4 | 12939    | BEARING thrust ref. T309 (Timken)                             |



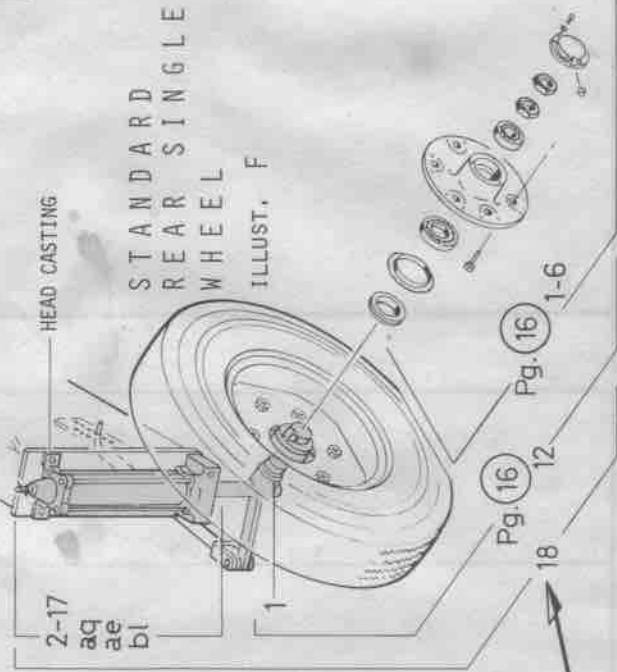
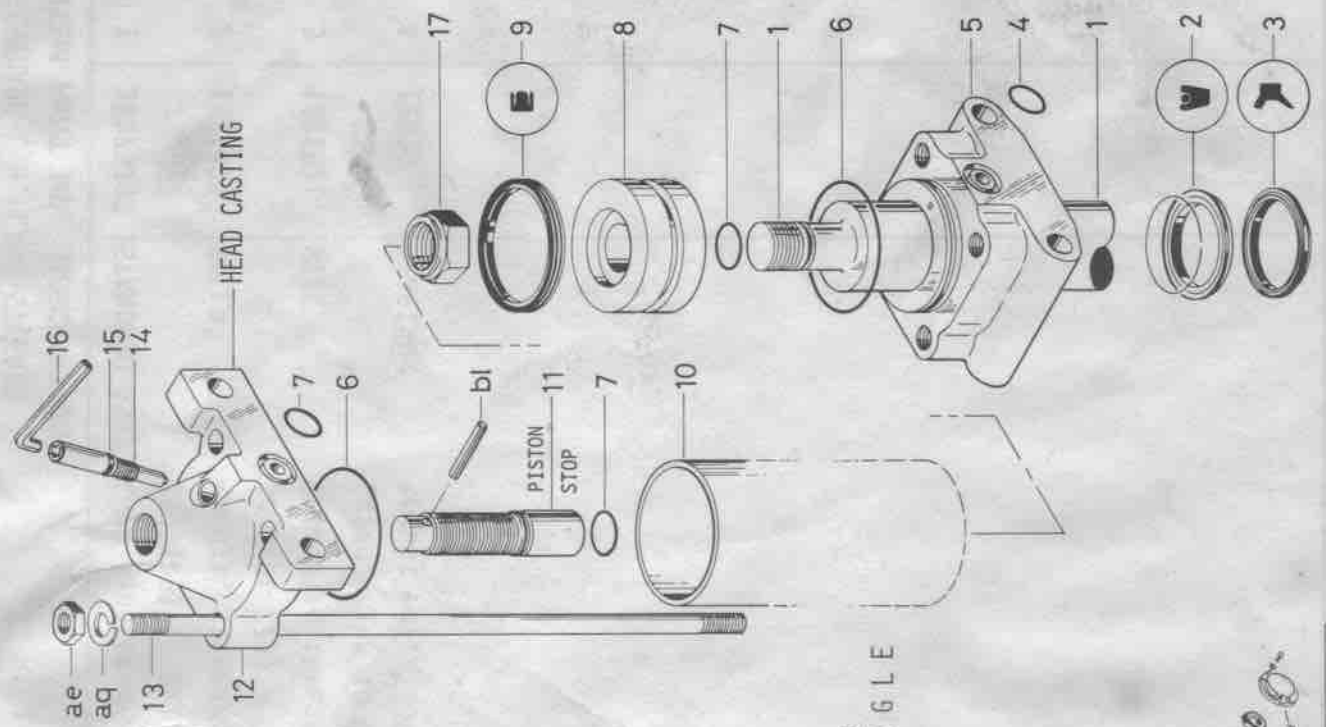


**NEEDLE VALVE**

The needle valve requires to be "backed off" a half turn only to allow free oil flow. Continuing to unscrew the needle valve finally allows 'O' ring to leave the sealing bore, and allows leakage. More importantly, each re-entry of the 'O' ring across the shoulder incurs the risk of damage to it.

**PISTON STOP**

Piston stop part number 16464J1 was 6-3/8" overall length and is now replaced by 15443J2 which is 10-3/8" long (since serial No. 121842). The original piston stop was too short to allow control of depth of ploughing where shallow working was required. The new stop, conversely, may be too long in cases where relatively deep ploughing is desired. Should this piston stop be too long for a particular client it is only necessary to remove the head casting from the cylinder and remove piston stop. The piston stop can then be shortened by what ever amount is required and the cylinder re-assembled. Care should be taken on dis-assembly and re-assembly to ensure that foreign matter is not admitted to the cylinder, and the end of the stop is filed smooth and free of any loose metal.



## STANDARD, REAR SINGLE WHEEL

18-1074M72J1

ILLUSTRATION F



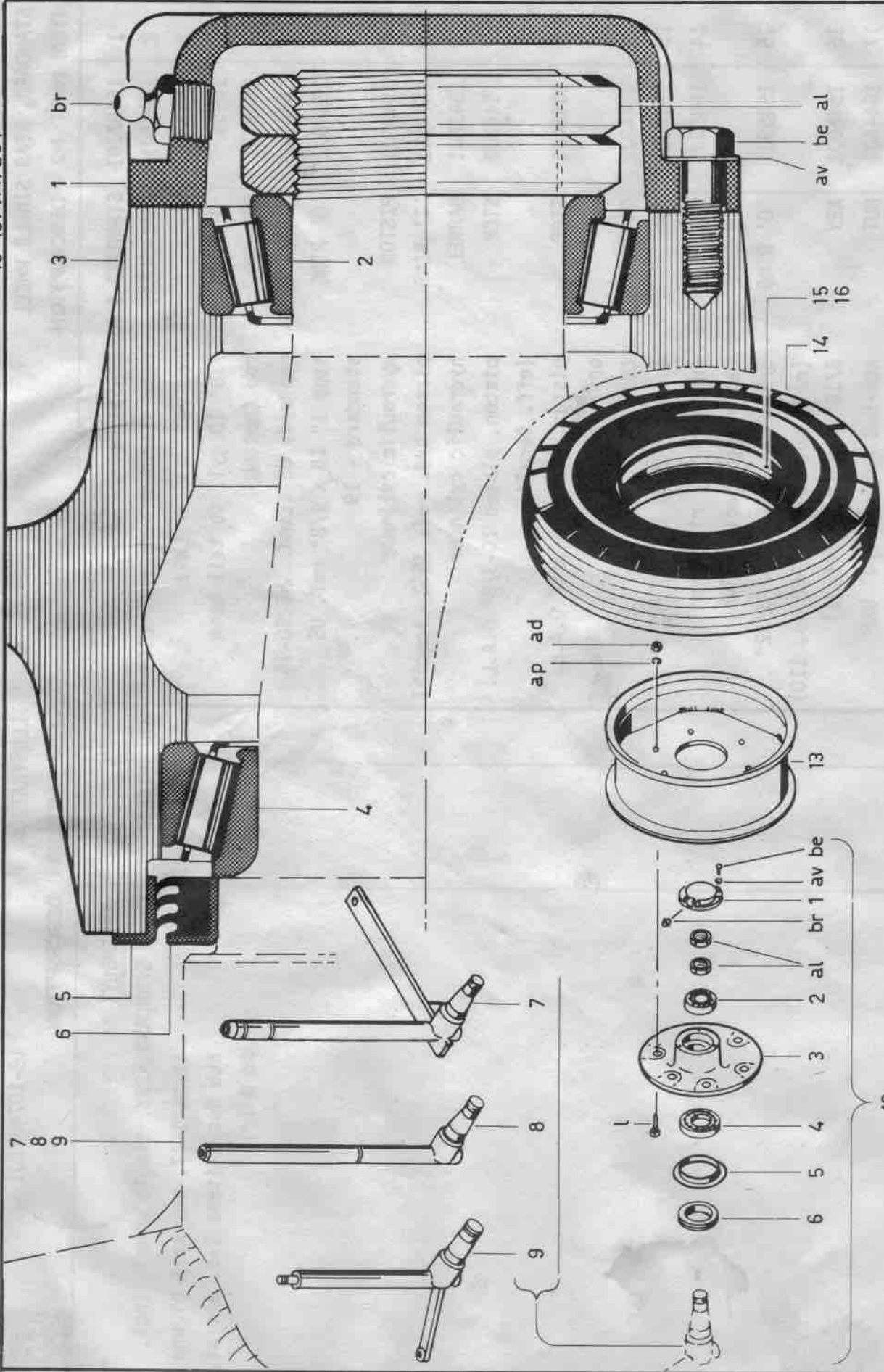
## ITEM PART NO DESCRIPTION

1	15432J91	STANDARD & AXLE ASSY, rear
2	15436J1	SEAL-GLAND rear standard hyd. ref. L359
3	15313J1	WIPER rod ref. W35 or LW35
4	10959	'0' RING 7/8" ID cyl. to tail beam
5	15437J1	CAP-END rod (bottom)
6	15441J1	'0' RING cap ref. US stand. AN6230-14
7	15445J1	'0' RING stop 1" ID x 1/8" ref. US standard - 19
8	15439J1	PISTON hydraulic cylinder
9	15440J1	'T' RING piston hyd. ref. 3563 - special
10	15438J1	BARREL hydraulic cylinder
11	15443J2	STOP piston, plated 10-3/8" O.A.L. (eff. Dec/74)
	16464J1	STOP piston, plated 6-3/8" O.A.L. optional
12	15442J2	CAP-END top
13	15446J1	ROD tie 5/8" dia. UNF
14	15458J1	NEEDLE VALVE (use new '0' ring when replacing needle valve)
15	15459J1	'0' RING 3/8" ID x 9/16" OD x 3/32" (ref. No. BS1806 1962 No. 110)
16	15460J1	KEY 5/16" hex (for 15458J1)
17	15444J1	NUT hex-hed nyloc 1-1/4" UNF 12 TPI ref. NT/D406

## ITEM PART NO DESCRIPTION

18	15430J91	ASSEMBLY REAR STANDARD ASSY. single wheel (incl. items 1-17, aq, ae & b) and hub assy. items 1-6, al, av, be & br)
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HUBS, STANDARDS, WHEELS, TYRES & TUBES ILLUSTR. G



18-1074M72J1

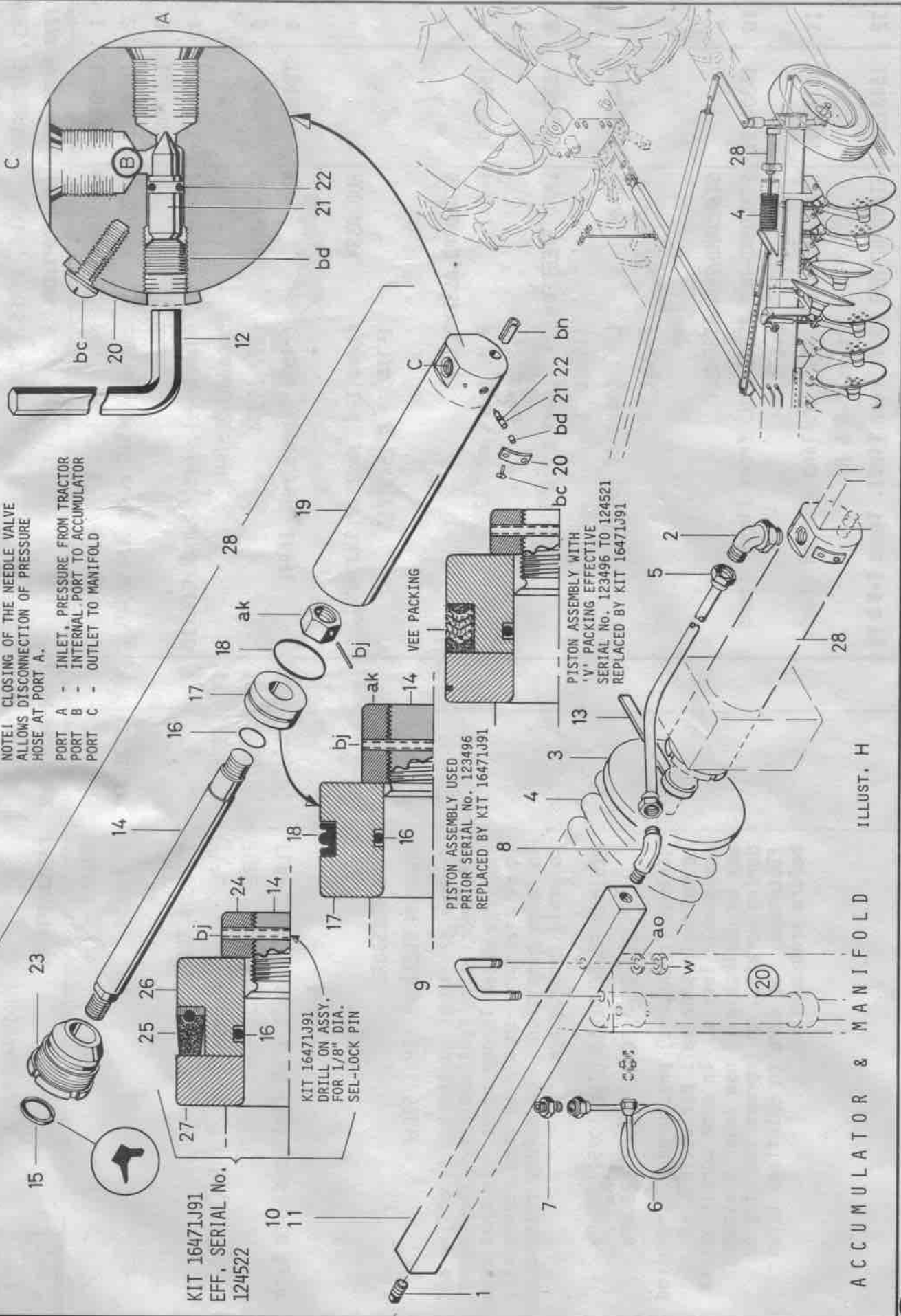
ILLUSTRATION G

HUBS, STANDARDS, WHEELS, TYRES & TUBES

ITEM PART NO	DESCRIPTION	ITEM PART NO	DESCRIPTION
1	15305J1 CAP hub	13	15318J91 WHEELS
2	15203J1 BEARING cup JLM104910 cone JLM104948		RIM ASSY. 20"
3	15307J1 HUB wheel		TYRES & TUBES
4	15306J1 BEARING 60 mm wheel, ref. Cup JLM508710	14	11280 TYRE 8.25 x 20 x 10 ply (truck)
5	TC462 WEAR-RING ref. 16994	15	11281 TUBE 8.25 x 20
6	TC461 SEAL triple lipped ref. 16946	16	14682J1 FLAP 8.25 x 20 (included with tyre & tube)
	HUB ASSY. items 1-6 part of 15304J91, 15374J91 & 15431J91		TYRE PRESSURE
	STANDARD ASSEMBLIES		MAXIMUM PRESSURE 85PSI/586kPa
7	15308J91 FRONT R.H. (part of 15304J91) illust. D		Maximum pressures quoted are from Tyre and Rim Association Publications. They do not apply to water loaded tyres. In that case lower pressures should be used, especially in rough conditions, for safety reasons and to avoid tyre damage.
8	15375J91 LAND STEERED L.H. (part of 15374J91) illust. E		MINIMUM PRESSURE 14 DISC 50PSI/345kPa 18, 22 & 26 DISC 55PSI/380kPa
9	15432J91 REAR L.H. (part of 15431J91) illust. F		Minimum (transport) pressures are required to maintain side wall deflections at acceptable levels. In some conditions it may be desirable to use lower pressures during working, to improve tracking or flotation. Be sure to reinflate tyres before transporting.
10	15304J91 STANDARD/HUB ASSEMBLY		
11	15374J91 STANDARD-HUB ASSY. R.H. front (incl. items 1-6 & 7)		
12	15431J91 STANDARD-HUB ASSY. L.H. land steered (incl. items 1-6 & 8)		
	STANDARD-HUB ASSY. rear (incl. items 1-6 & 9)		

NOTE! CLOSING OF THE NEEDLE VALVE  
 ALLOWS DISCONNECTION OF PRESSURE  
 HOSE AT PORT A.

PORT A - INLET, PRESSURE FROM TRACTOR  
 PORT B - INTERNAL PORT TO ACCUMULATOR  
 PORT C - OUTLET TO MANIFOLD

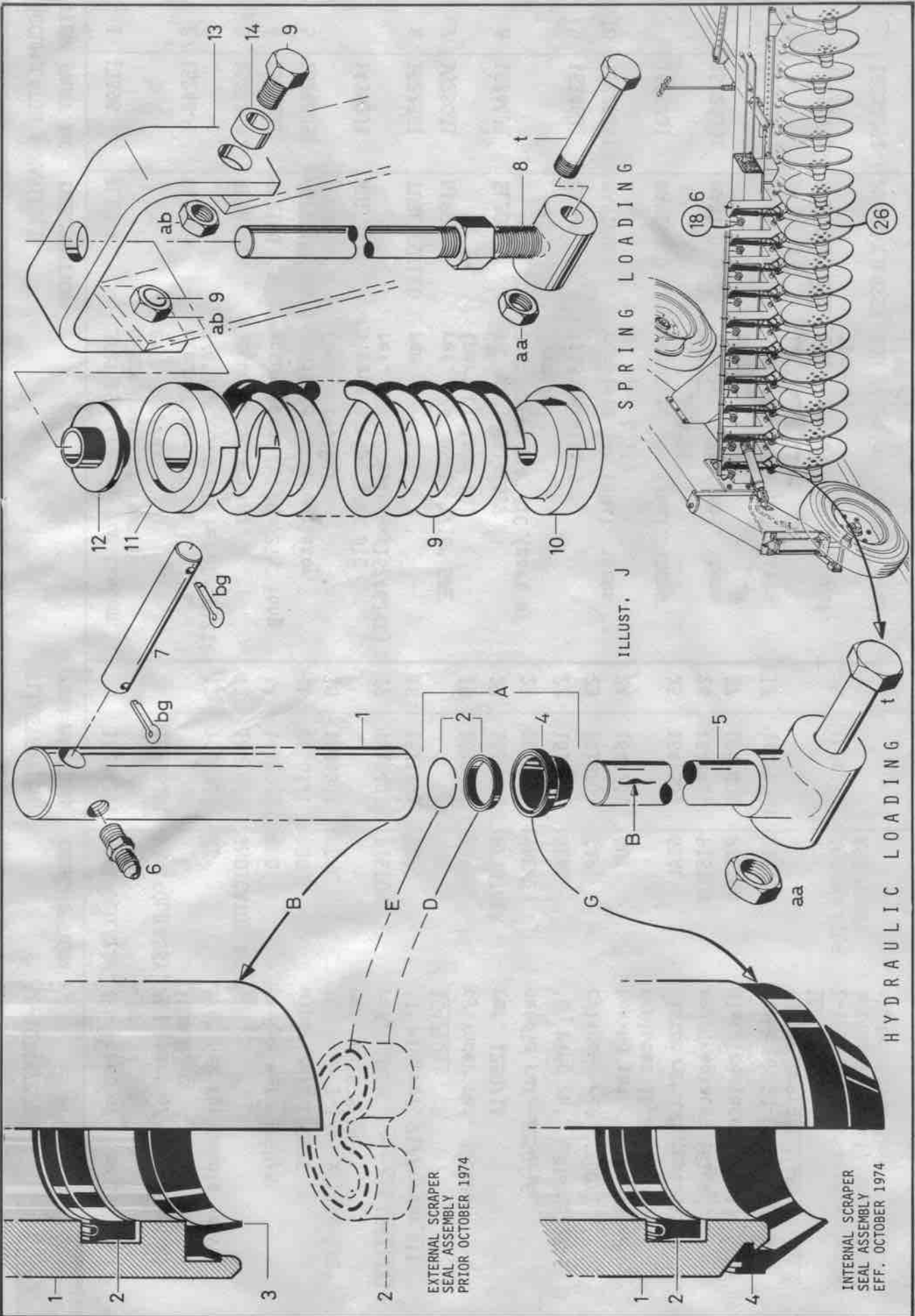


ACCUMULATOR & MANIFOLD ILLUSTR. H

## ACCUMULATOR &amp; MANIFOLD

## ITEM PART NO DESCRIPTION

ITEM PART NO	DESCRIPTION	ITEM PART NO	DESCRIPTION
1 13396	PLUG	15234J91	MANIFOLD ASSY. 22H (part of item 10, incl. item 8)
2 15248J1	ELBOW	15235J91	MANIFOLD ASSY. 26H (part of item 10, incl. item 8)
3 15252J92	RETAINER	15523J1	KEY
4 15253J1	SPRING	15519J91	INDICATOR ASSY.
5 15246J91	PIPE WITH NUTS	16180J1	ROD
14359J1	NUT	16181J1	ROD
6 15225J1	TUBE COILED	15445J1	SEAL
7 15280J1	NIPPLE	16184J1	PISTON
8 15244J1	ELBOW	15711J1	SEAL
9 15245J1	CLAMP	16183J1	BARREL
10 15226J91	MANIFOLD	16187J1	RETAINER
15227J1	MANIFOLD	16191J1	VALVE
15229J91	MANIFOLD	16190J1	SEAL
15230J91	MANIFOLD	16182J1	CAP
15231J91	MANIFOLD ASSY. 14H (part of item 10, incl. item 8)	16472J1	NUT
15232J91	MANIFOLD ASSY. 18H (part of item 10, incl. item 8)	16473J1	SEAL
		16474J1	PISTON
		16476J1	PISTON
		16471J91	PISTON
		15247J91	ACCUMULATOR ASSEMBLY
		12	1/4" hex for needle valve
		13	piston ref. 1250/5
		14	wiper ref. LUDW26
		15	'O' ring 1-1/4" x 1" x 1/8" ref. BS1806/19
		16	ref. 1250/6 order kit 16471J91
		17	'T' ring ref. 2177 order kit 16471J91
		18	cylinder ref. 1250/4
		19	ref. 1250/15
		20	needle ref. 1250/16
		21	'O' ring ref. LUD/AN6227-5
		22	cylinder ref. 1250/1
		23	hex-hd thin lock drilled replaces 16186J1 (ak)
		24	piston ref. L25 replaces 15711J1
		25	rear replaces 16184J1
		26	plate replaces 16184J1
		27	items 16, 24-27 & bj (SKP64) (do not reorder items 17, 18 & thick nut ak)
		28	2-1/2" bore x 8" stroke single acting (Hydrooil) items 14-23, ak, bc, bd, bn & bj



EXTERNAL SCRAPER SEAL ASSEMBLY PRIOR OCTOBER 1974

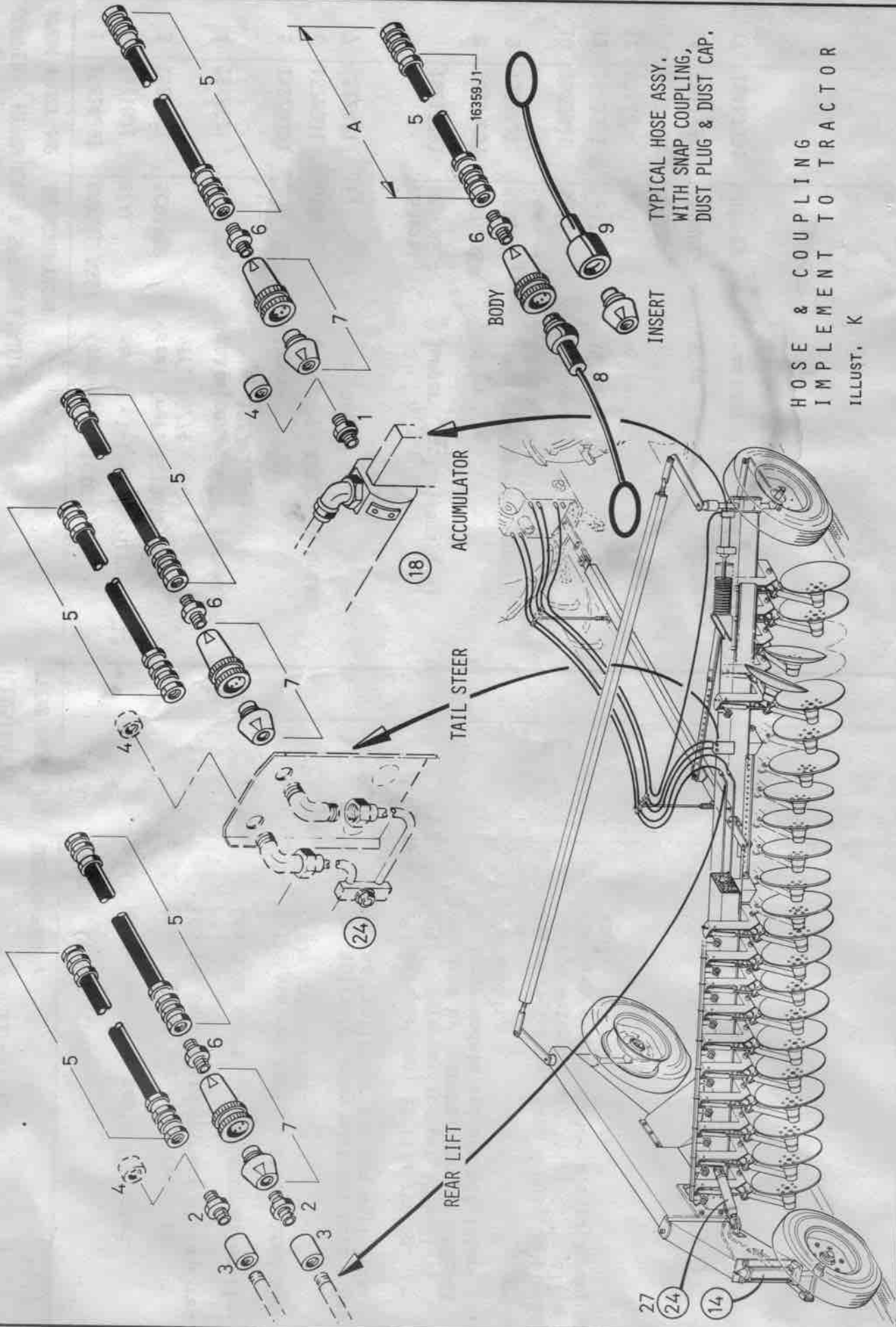
INTERNAL SCRAPER SEAL ASSEMBLY EFF. OCTOBER 1974

JUMPER - HYDRAULIC & SPRING LOADING

ILLUSTRATION J 6.1174M72J1



ITEM PART NO	DESCRIPTION	ITEM PART NO	DESCRIPTION
1	15214J91 BARREL ASSY. (order kit 16467J91)		FITTING INSTRUCTIONS A - Remove existing seals if fitted. B - Clean barrel and rod. Check for scoring on rod and replace if required. C - Coat seals with grease when assembling. D - Collapse ram seal as illustrated and slide into barrel. E - The split 'O' ring must not have a gap at the "split" or the ram will leak. F - Fit scraper seal as illustrated. NOTE! External scraper 16466J1 is replaced by internal scraper 15219J1 on later models and are not interchangeable. G - External scraper item 4 must be placed in hot water before fitting, to allow for required expansion without damaging seal.
2	15218J1 SEAL ram 1" x 1-1/4" x .270 ref. L313		
3	15219J1 SCRAPER seal (ref. 62100 Wyclip) eff. 10/74		
4	16466J1 SCRAPER seal (ref. S01000 Eureka) prior 10/74		
5	15220J91 ROD ASSY. jumper		
6	15280J1 NIPPLE 1/4" BSPT x 7/16" SAE brass		
7	15224J1 PIN ram yoke		
8	15213J91 ASSEMBLY RAM ASSY. jumper (incl. items 1-6)		
9	15254J91 ROD ASSY. spring		
	15257J1 SPRING jumper 16 mm 18" long 13 active coils		
10	15258J1 SEAT bottom spring		
11	15259J1 SEAT top spring		
12	SR518 BUSH nylon		
13	SD1784A YOKE spring		
14	SD1792 FERRULE yoke		
KIT	16467J91 JUMPER ram barrel & seals items 1, 2 & 3		



TYPICAL HOSE ASSY.  
WITH SNAP COUPLING,  
DUST PLUG & DUST CAP.

INSERT

HOSE & COUPLING  
IMPLEMENT TO TRACTOR  
ILLUSTR. K

HOSE & COUPLING IMPLEMENT TO TRACTOR

ILLUSTRATION K 1.1174M72J1



ITEM PART NO DESCRIPTION

ITEM PART NO DESCRIPTION

ITEMS 1 - 4 SUPPLIED WITH IMPLEMENT

1	15562J1	NIPPLE	3/4" UNF 'O' ring x 1/2" BSPT ref. D95-128
2	15525J1	NIPPLE	3/8" BSPT x 1/2" BSPT ref. D04-86
3	15527J1	SOCKET	3/8" BSPT x 3/8" BSPT ref. DB67-6
4	15534J1	CAP	malleable 1/2" BSPT

ITEMS 5 - 8 NOT SUPPLIED WITH IMPLEMENT

5	16455J91	HOSE ASSY.	14H dim. 'A' = 13'0"
	15528J91	HOSE ASSY.	18H dim. 'A' = 14'6"
	15529J91	HOSE ASSY.	22H dim. 'A' = 16'0"
	16456J91	HOSE ASSY.	26H dim. 'A' = 18'0"
6	16359J1	HOSE END	1/2" BSP female ref. D801-86
	15531J1	NIPPLE	1/2" BSP x 1/2" BSP ref. D04-88
7	16348J91	SNAP-COUPLING	1/2" BSP x 1/2" BSP ref. D92503-0809 (was part No. 15530J1 - prior Sept./74)
	16349J1	BODY	snap coupling ref. 2503-0008
	16350J1	INSERT	snap coupling ref. 2503-0800
8	16351J1	DUST PLUG	(used w/16349J1) ref. DG2509-08
9	—	DUST CAP	(used w/16350J1) ref. DG2508-08

All hydraulic circuits on the JOHN SHEARER 5GP DISC PLOUGH terminate with a plugged end.

The most logical hose and coupling arrangement, where a plough has more hydraulic functions than the operating tractor has remote outlets, is to have snap couplings on the plough.

Of course, if the tractor has more outlets than the particular plough requires, there will be no particular need (for plough setting up) to have snap couplings on the plough. In this case it may be more convenient to leave hoses permanently on the plough, with tractor "half couplings" at their front end.

NOTE!

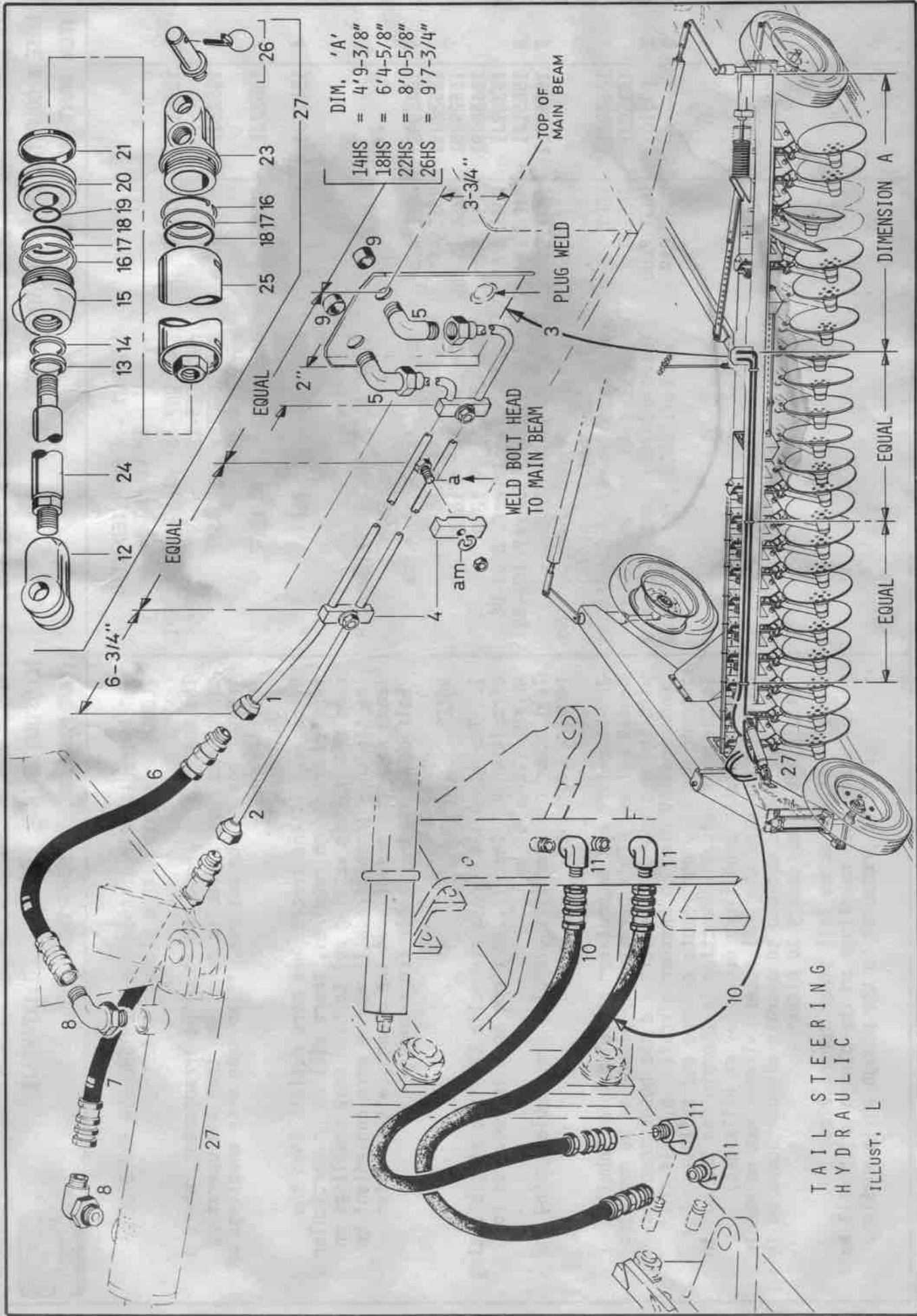
1. The accumulator on a hydraulic 5GP is a single acting circuit only. That is, only one hose is required to operate it.

Tail steer and rear lift circuits are double acting and require two hoses.

2. Rear lift and accumulator circuits have inbuilt needle valves. This permits the plough to be operated with these circuits "pre-set" and the hoses then disconnected and used on another circuit. e.g. if the tractor has only one remote service and tail steering is the most valuable function to operate "on the go" in the particular conditions e.g. (say on hillsides). On the other hand the tail steer cylinder has no needle valve. If it is decided to operate without hoses on this circuit, it is necessary to either -

- a) Fit the screw tail steer turnbuckle;
- b) Have snap couplings on the plough which will hold circuit pressures in the plough while working.





DIM. 'A'	
14HS	= 4'9-3/8"
18HS	= 6'4-5/8"
22HS	= 8'0-5/8"
26HS	= 9'7-3/4"

TAIL STEERING  
HYDRAULIC  
ILLUST. L

TAIL STEERING, HYDRAULIC

ILLUSTRATION L

1.1174M72J1



ITEM PART NO DESCRIPTION

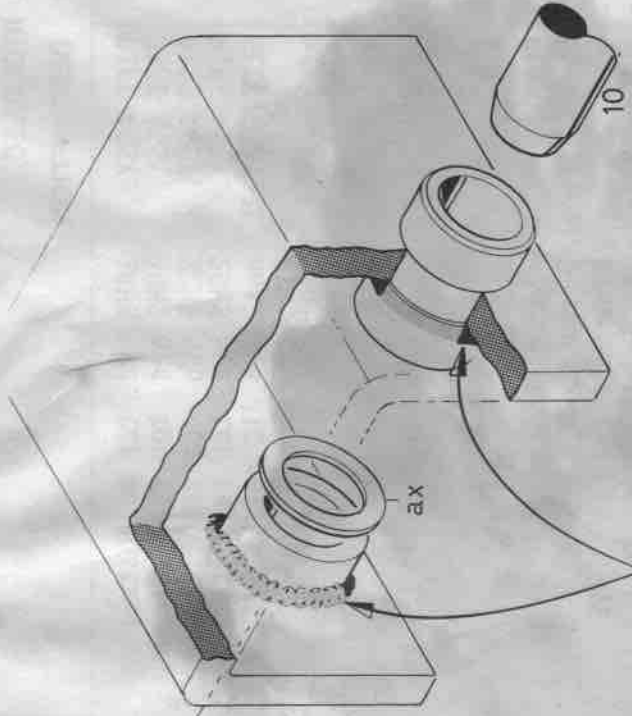
DESCRIPTION

ITEM PART NO

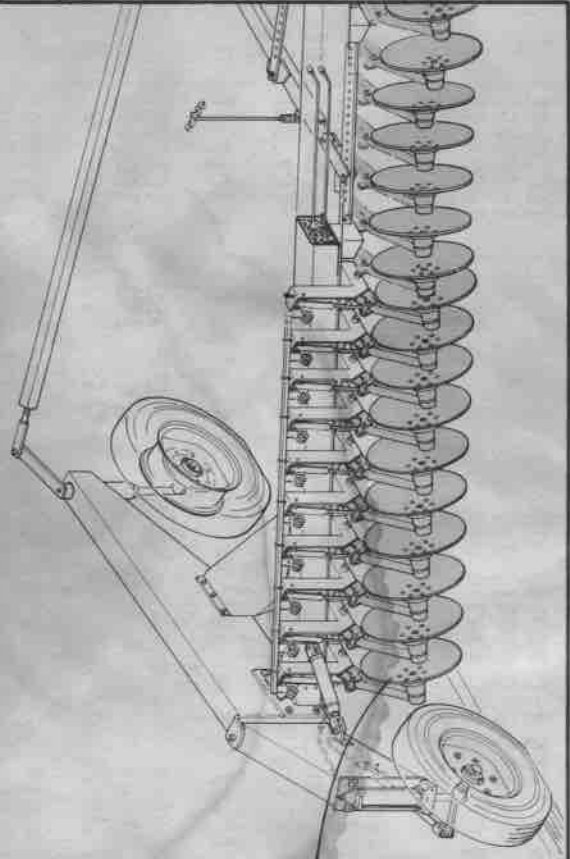
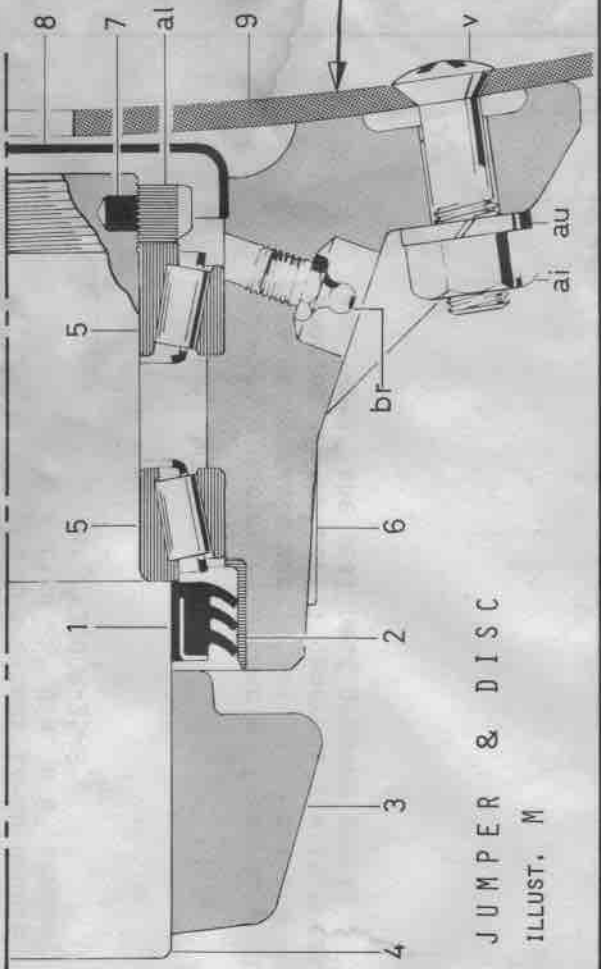
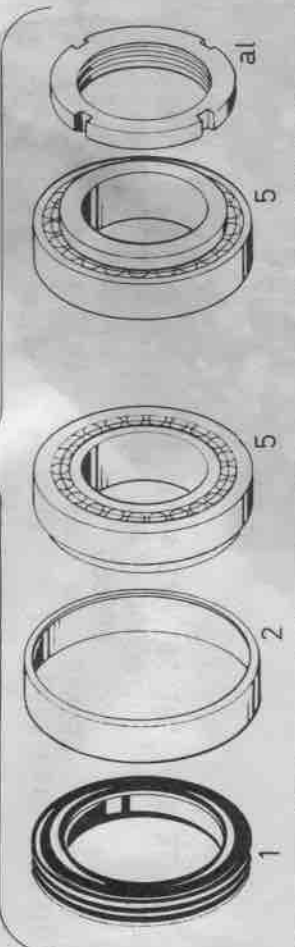
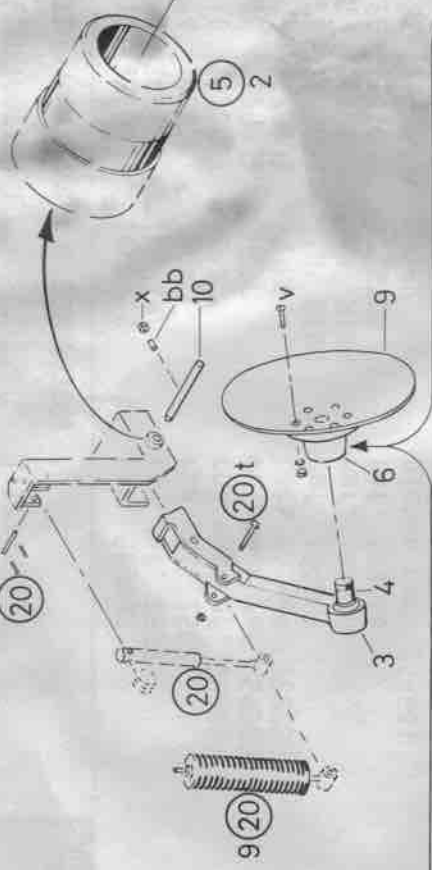
1	15482J91 15483J91 15485J91 15487J91 14359J91	PIPE ASSY. PIPE ASSY. PIPE ASSY. PIPE ASSY. SLEEVE & TUBE	14HS hyd. top tail steering 18HS hyd. top tail steering 22HS hyd. top tail steering 26HS hyd. top tail steering nut 3/4" JIC ref. D14/12 (incl. w/pipe assy.)	15704J1 14562J1 14563J1 15705J1 15706J1 15707J1	CLEVIS WIPER SEAL CAP WIRE RING	ref. 599653 rod ref. 252531 rod ref. 258211 rod end ref. 599654 retainer ref. 599655 back up ref. 122238
2	15487J91 15488J91 15490J91 15491J91 14359J91	PIPE ASSY. PIPE ASSY. PIPE ASSY. PIPE ASSY. SLEEVE & TUBE	14HS hyd. bottom tail steering 18HS hyd. bottom tail steering 22HS hyd. bottom tail steering 26HS hyd. bottom tail steering nut 3/4" JIC ref. D14/12 (incl. w/pipe assy.)	15708J1 15709J1 15710J1 15711J1 15712J1	'O' RING 'O' RING PISTON SEAL NUT	ref. 154082 ref. 154016 ref. 599656 piston ref. 259541 ref. 599670
3	15492J1	PLATE	support - hydraulic pipes	15714J1	CAP	head end 'A; port ref. 599657A
4	15493J1	CLAMP	hydraulic pipes	15715J1	ROD	piston ref. 599659
5	15494J1	ELBOW	90 mm 1/2" BSPT x 3/4" JIC	15716J1	BARREL	ref. 599658
6	15495J2	HOSE ASSY.	hyd. pipe ref. DB17/812	14577J91	CLEVIS PIN ASSY.	ref. M3000P
	15333J91	HOSE ASSY.	14-26H hyd. anchor end ram 17 1/4" overall length	15947J91	SEALS	items 13, 14, 18, 19 & 21
7	16450J1 16451J1	HOSE END HOSE END	3/4" JIC male straight D809-126 3/4" JIC female straight ref. D805-126		ASSEMBLY	VICKERS HYDRAULIC RAM (items 12-26 double acting 2 1/2" dia. x 8" stroke) ref. M3000A-25-8
8	15496J93 16450J1 16451J1	HOSE ASSY. HOSE END HOSE END	hyd. rod end ram 2' 5 1/2" O.A.L. 3/4" JIC male straight D809-126 3/4" JIC female straight ref. D805-126			
9	14541J1	ELBOW	90 mm 7/8" UN x 3/4" JIC ref. D53/1412			
10	15534J1 15500J92	CAP HOSE	malleable 1/2" B.S.P. hyd. rear lift 2'10"	27		
11	16342J1 15501J1	HOSE END ELBOW	3/8" BSPP female ref. D801-66 90 M&F 3/8" BSPT x 3/8" BSPT ref. D30/66			
KIT	15477J91 15478J91 15480J91 15481J91	TAIL STEERING TAIL STEERING TAIL STEERING TAIL STEERING	14HS (items 1-8 & 27, a & am) 18HS (items 1-8 & 27, a & am) 22HS (items 1-8 & 27, a & am) 26HS (items 1-8 & 27, a & am)			

ASSEMBLY NOTE!

Take care during re-assembly of ram to avoid damage to seals and 'O' rings. Coat the grooves in the barrel generously with grease and "work" the seal past grooves gently.



NOTE! IF, IN VERY SEVERE WORKING CONDITIONS, THESE BUSHES SHOW SIGNS OF LOOSENING IN THEIR HOUSING, THEY MAY SAFELY HAVE ADDITIONAL WELD ADDED (ON INSIDE FACES OF HOUSING).



JUMPER & DISC  
ILLUST. M

JUMPER & DISC

25-1074M72J1

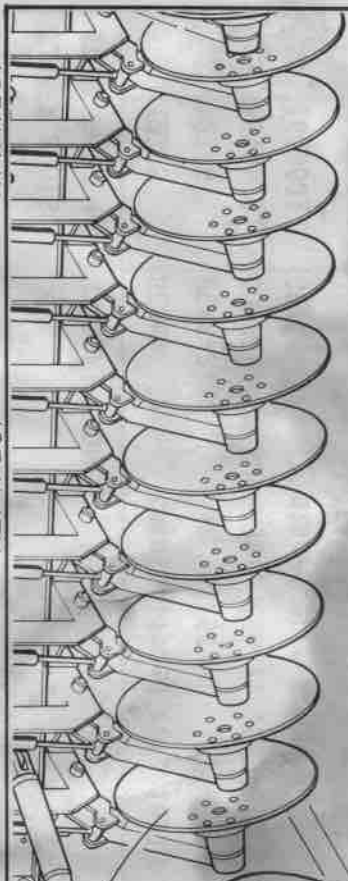
ILLUSTRATION M



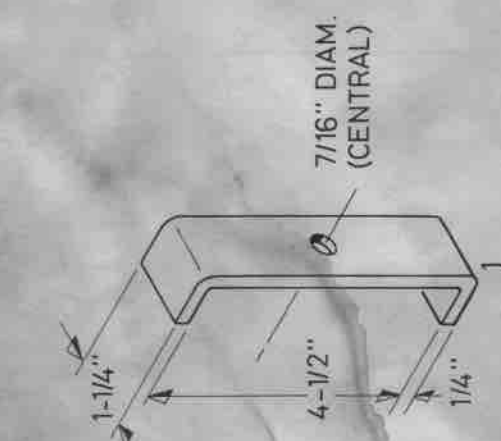
ITEM PART NO DESCRIPTION

ITEM PART NO DESCRIPTION

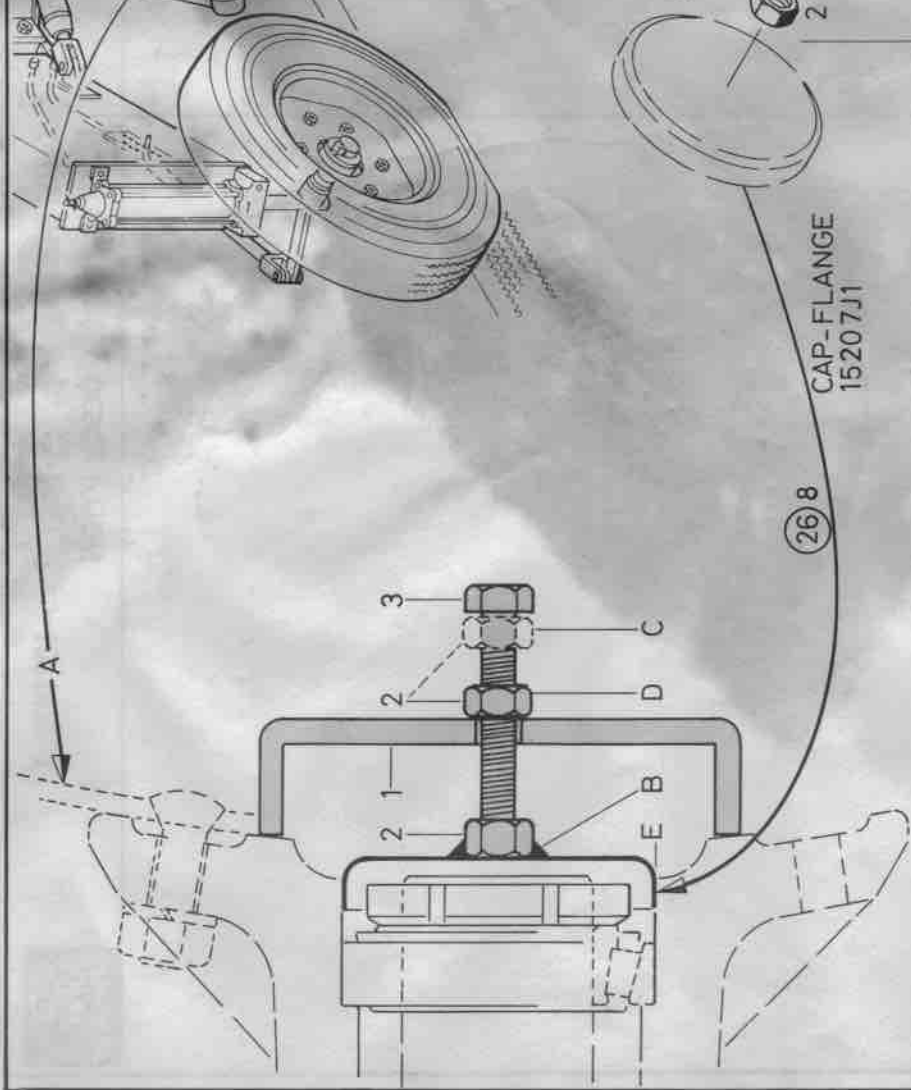
1	12395	SEAL	triple lipped ref. 16913
2	12396	WEAR-RING	ref. 17254
3	15195J91	JUMPER-ARM SUB ASSY.	(incl. 15196J1)
4	15196J1	SPINDLE	disc-jumper arm (part of 15195J91)
5	15203J1	BEARING	50 mm ref. cup JLM104910 cone JLM104948
6	15204J1	FLANGE	disc
7	15206J1	INSERT-NYLON	nut
8	15207J1	CAP	flange
9	15208J1	DISC	plain 24" x 3/16" x 1" rd. hole 6 radial holes 3-1/4" dish (supplied)
	15524J1	DISC	plain 24" x 8G (5/32") x 1" rd. hole 5 radial holes (alternative)
10	15212J3	SHAFT	jumper arm
		ASSEMBLY	
	15194J91	JUMPER ASSY.	(incl. items 1-8 hardware al & br)



ITEM	PART No.	DESCRIPTION
1	15327J1	PULLER, CAP-FLANGE 1 1/4" X 1/4" X 6 1/2" LONG FLAT BAR (OR CHANNEL MATERIAL MAY BE USED)
2	WHN4	NUT, HEX-HD 3/8" B.S.W.
3	WHS80	SCREW, HEX-HD SET, 2 1/2" X 3/8" B.S.W.
KIT	15328J91	CAP-FLANGE PULLER, ITEMS 1, 2 & 3



KIT, CAP-FLANGE  
PULLER, JUMPER  
BEARINGS  
ILLUST. N



- INSTRUCTIONS -
- A - REMOVE DISC
  - B - TACK WELD NUT TO CENTRE OF CAP-FLANGE
  - C - WITH NUT UNDER HEAD INSERT SCREW THROUGH 7/16" HOLE IN CHANNEL AND TIGHTEN SCREW TO WELDED NUT.
  - D - TURN NUT AGAINST CHANNEL WHICH WILL LIFT SCREW AND CAP-FLANGE.
  - E - WHEN RE-ASSEMBLING APPLY PLIABOND (OR EQUIVALENT) TO MATING SURFACES.

**JOHN SHEARER DISC PLOUGH (5GP)**

**TRANSFERS**

ITEM No.	PART No.	QTY.	DESCRIPTION
1	15869J1	1	TOTAL ONE MAN POWER
2	15873J1	1	JOHN SHEARER & TRADE MARK
3	15874J1	5*	JOHN SHEARER TRADE MARK
4	15875J1	3*	JOHN SHEARER GOOD DESIGN (ENGLISH)
5	15956J1	1	GOOD DESIGN (GERMAN)
6	15957J1	1	GOOD DESIGN (JAPANESE)
7	15958J1	1	GOOD DESIGN (SPANISH)
8	15959J1	1	PATENTS APPLIED FOR
9	15870J1	1	PATENTS APPLIED FOR
10	15876J1	1	WARNING - RAM
11	15540J1	1*	MAXIMUM ALLOWABLE SLING HERE
12	15854J1	3	SERIAL No. PLATE (use drive screws 16161J1)
13	15955J1	1	

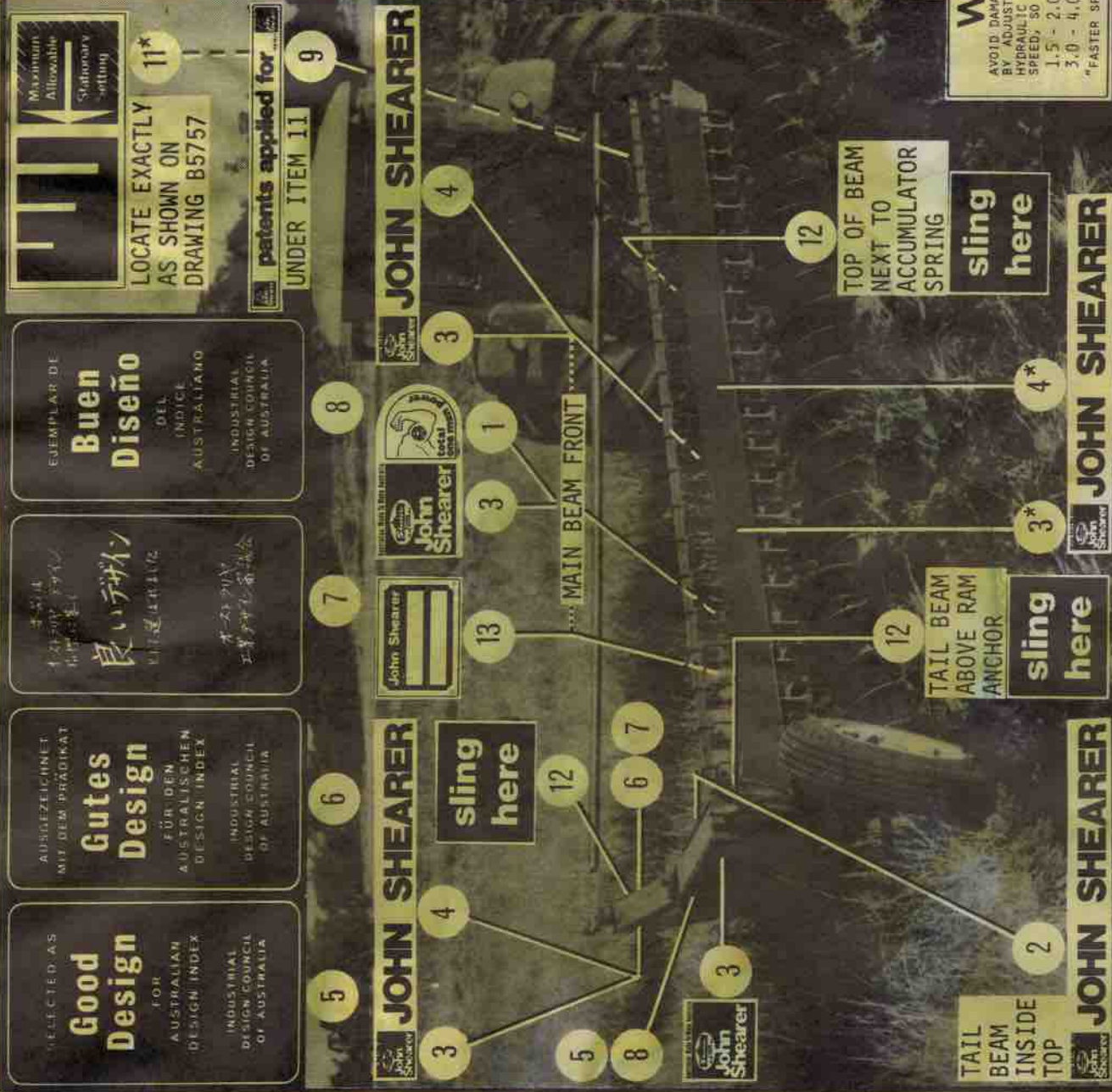
\* DELETE ONE EACH FOR SPRING LOADED DISC PLOUGH

**WARNING**

AVOID DAMAGE TO THE LIFT MECHANISM BY ADJUSTING STROKE SPEED OF THE HYDRAULIC RAM, AT FULL LOAD, ENGINE SPEED, SO THAT IT IS NOT LESS THAN 1.5 - 2.0 SECONDS FOR 8" STROKE  
3.0 - 4.0 SECONDS FOR 16" STROKE  
"FASTER SPEEDS MAY CAUSE DAMAGE"

MAIN BEAM NEXT TO TRACTOR HOSE CONNECTIONS

—10—



**Maximum Allowable Slinging**  
LOCATE EXACTLY AS SHOWN ON DRAWING B5757

**patents applied for**  
UNDER ITEM 11

EJEMPLAR DE **Buen Diseño** DEL ÍNDICE AUSTRALIANO INDUSTRIAL DESIGN COUNCIL OF AUSTRALIA

良設計 (Ryō Seikaku) 工業設計 (Kōgyō Seikaku) 工業設計 (Kōgyō Seikaku) 工業設計 (Kōgyō Seikaku)

AUSGEZEICHNET MIT DEM PRÄDIKAT **Gutes Design** FÜR DEN AUSTRALISCHEN DESIGN INDEX INDUSTRIAL DESIGN COUNCIL OF AUSTRALIA

SELECTED AS **Good Design** FOR AUSTRALIAN DESIGN INDEX INDUSTRIAL DESIGN COUNCIL OF AUSTRALIA

**JOHN SHEARER**

**JOHN SHEARER**

**JOHN SHEARER**

**JOHN SHEARER**

sling here

TOP OF BEAM NEXT TO ACCUMULATOR SPRING sling here

TAIL BEAM ABOVE RAM ANCHOR sling here

TAIL BEAM INSIDE TOP

**JOHN SHEARER**

**JOHN SHEARER**



ITEM PART NO DESCRIPTION

ITEM PART NO DESCRIPTION

a	HRH19	BOLT
b	HRH112	BOLT
c	HRH114	BOLT
d	HRH121	BOLT
e	HRH129	BOLT
f	HRH145	BOLT
g	HRH154	BOLT
h	HRH212	BOLT
i	15334J1	BOLT
j	10043	BOLT
k	15447J1	BOLT
l	15249J1	BOLT
m	13131	BOLT
n	KD104	BOLT
o	OS185	BOLT
p	HR81	BOLT
q	HR140	BOLT
r	HR141	BOLT
s	HR143	BOLT
t	HR150	BOLT
u	15532J1	BOLT
v	15209J1	BOLT
w	WHN5	NUT
x	WHN8	NUT
y	WHN9	NUT
z	WHN12	NUT
aa	WHL9	NUT
ab	16369J1	NUT
ac	WHL12	NUT
ad	NFN6	NUT
ae	11220	NUT
af	15517J1	NUT
ag	16192J1	NUT
ah	15336J1	NUT
ai	15210J1	NUT
aj	TP148	NUT
ak	16186J1	NUT
al	15205J1	NUT

HRH 1" x 5/16" BSW	HRH 1-1/2" x 5/8" BSW	HRH 2" x 5/8" BSW	HRH 3-3/4" x 5/8" BSW	HRH 7-1/2" x 5/8" BSW	HRH 2-3/4" x 3/4" BSW	HRH 6" x 3/4" BSW	HRH 8-1/2" x 1" BSW	HRH 2-1/4" x 3/4" UNC h.s.s.	HRH 2" x 3/4" UNC h.t.	HRH 6" x 3/4" UNC high tensile	HRH 2" x 1-1/2" UNF h.t.	HRH 4" x 5/8" BSW drilled	HRH 4" x 1" BSW drilled	HRH 4-1/2" x 1" BSW drilled	HR 1" x 1/2" BSW	HR 1-1/2" x 3/4" BSW	HR 1-3/4" x 3/4" BSW	HR 2-1/4" x 3/4" BSW	HR 4" x 3/4" BSW	HR 2-1/2" x 3/8" UNC h.t.	Phillip's-hd. 1-3/4" x 1/2" UNC	hex-hd 7/8" BSW	hex-hd 5/8" BSW	hex-hd 3/4" BSW	hex-hd 1-1/8" BSW	hex-hd 3/4" BSW lock	hex-hd lock 3/4" BSW 5/16" thick	hex-hd 1-1/8" BSW	hex-hd wheel 1/2" UNF	hex-hd 5/8" UNF	hex-hd 1-1/4" UNF R.H. thread	hex-hd 1-1/4" UNF L.H. thread	hex-hd 3/8" UNC lock (ref.nyTex)	hex-hd 1/2" UNC plated	wing 5/16" BSW	hex-hd lock drilled ref.1250/9	spindle 50 mm
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am	SPW2	WASHER
an	SPW3	WASHER
ao	SPW13	WASHER
ap	SPW4	WASHER
aq	SPW6	WASHER
ar	SPW8	WASHER
as	SPW9	WASHER
at	SPW11	WASHER
au	15211J1	WASHER
av	STW3	WASHER
aw	FBW11	WASHER
ax	15176J1	WASHER
ay	15332J1	WASHER
az	15316J1	WASHER
ba	10638	SCREW
bb	15513J1	SCREW
bc	16188J1	SCREW
bd	16189J1	SCREW
be	SD2097	SCREW
bf	CTP2	PIN
bg	CTP5	PIN
bh	CTP6	PIN
bi	CTP13	PIN
bj	SKP64	PIN
bk	SKP99	PIN
bl	SKP164	PIN
bm	SKP177	PIN
bn	SKP200	PIN
bo	H160-106	PIN
bp	CR160-99	PIN
bq	CR160-100	PIN
br	D999	NIPPLE

spring 5/16"	spring 3/8"	spring 7/16"	spring 1/2"	spring 5/8"	spring 3/4" x 1/8" x 1/4"	spring 3/4" x 5/16" x 1/4"	spring 1"	spring 1/2" plated	int-star 5/16"	flat black 1"	flat 2 1/4" x 1-7/16" x 1/8" ht.t.	flat 2 1/4" x 1-7/16" x 3/16" ht.t.	flat 2 1/4" x 1-7/16" x 1/4" ht.t.	soc-set 1/2" x 1/2" BSW	soc-set 1-1/4" x 5/8" BSW	round-hd 5/16" UNF ref. 1250/14	soc-set 1/2" UNF oval pt. 1250/13	hex-hd-set 7/8" x 5/16" UNC	cotter 3/4" x 1/8"	cotter 7/8" x 3/16"	cotter 1-1/8" x 3/16"	cotter 1-1/2" x 1/4"	sel-lock 1-1/2" x 1/8"	sel-lock 1-1/4" x 3/16"	sel-lock 2" x 5/16"	sel-lock 1-3/4" x 3/8"	sel-lock 1-1/4" x 1/2"	hair pin 3/16"	lynch	clip, locking	grease 1/8" gas thd. straight
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