T/A

ROVIC & LEERS

John Shearer
(S.A) (PTY) LTD.

Parts and Instruction Manual

Disc Plough
(5GP)
no. 72J1

069

JOHN SHEARER
& SONS LIMITED

ESTABLISHED 1877 INCORPORATED IN SOUTH AUSTRALIA

HEAD OFFICE & FACTORY

BOX 42 KILKENNY

SOUTH AUSTRALIA 5009

TELEPHONE — *45 4651* (8 LINES)

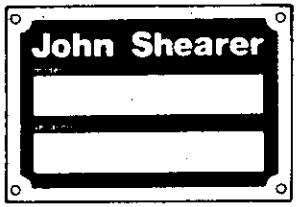
TELEGRAMS & CABLES — *SHEARER ADELAIDE*

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

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

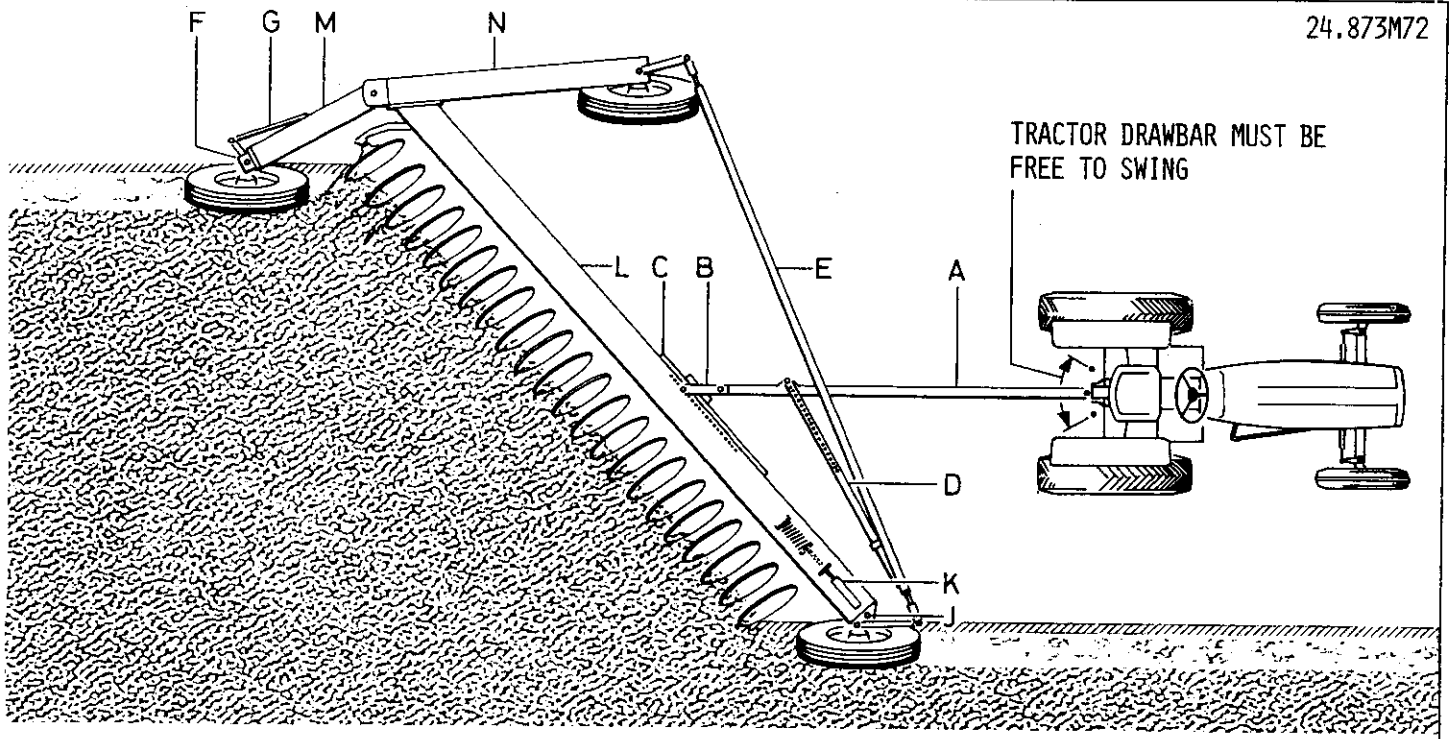
K - ACCUMULATOR, JUMPER

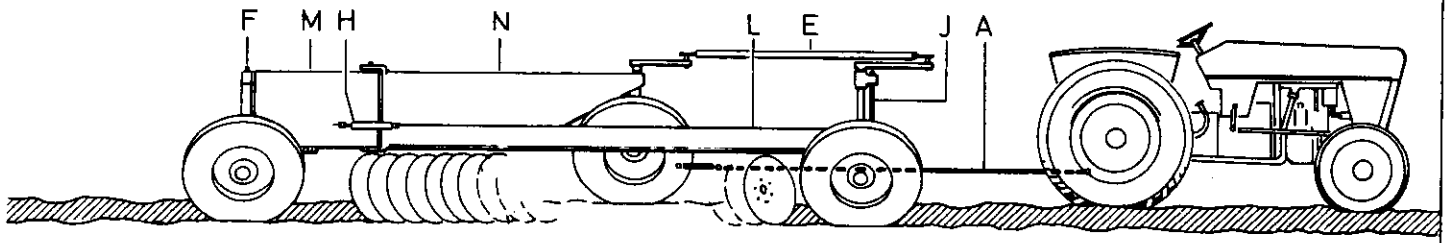
L - BEAM, MAIN

M - BEAM, TAIL

N - BEAM, LAND

24.873M72

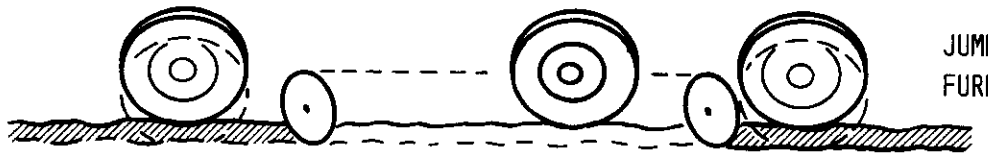




NORMAL PLOUGHING

SETTING UP
INSTRUCTIONS

SEE PAGES 3 & 4



JUMPING OUT AT BOTH
FURROW WHEELS

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

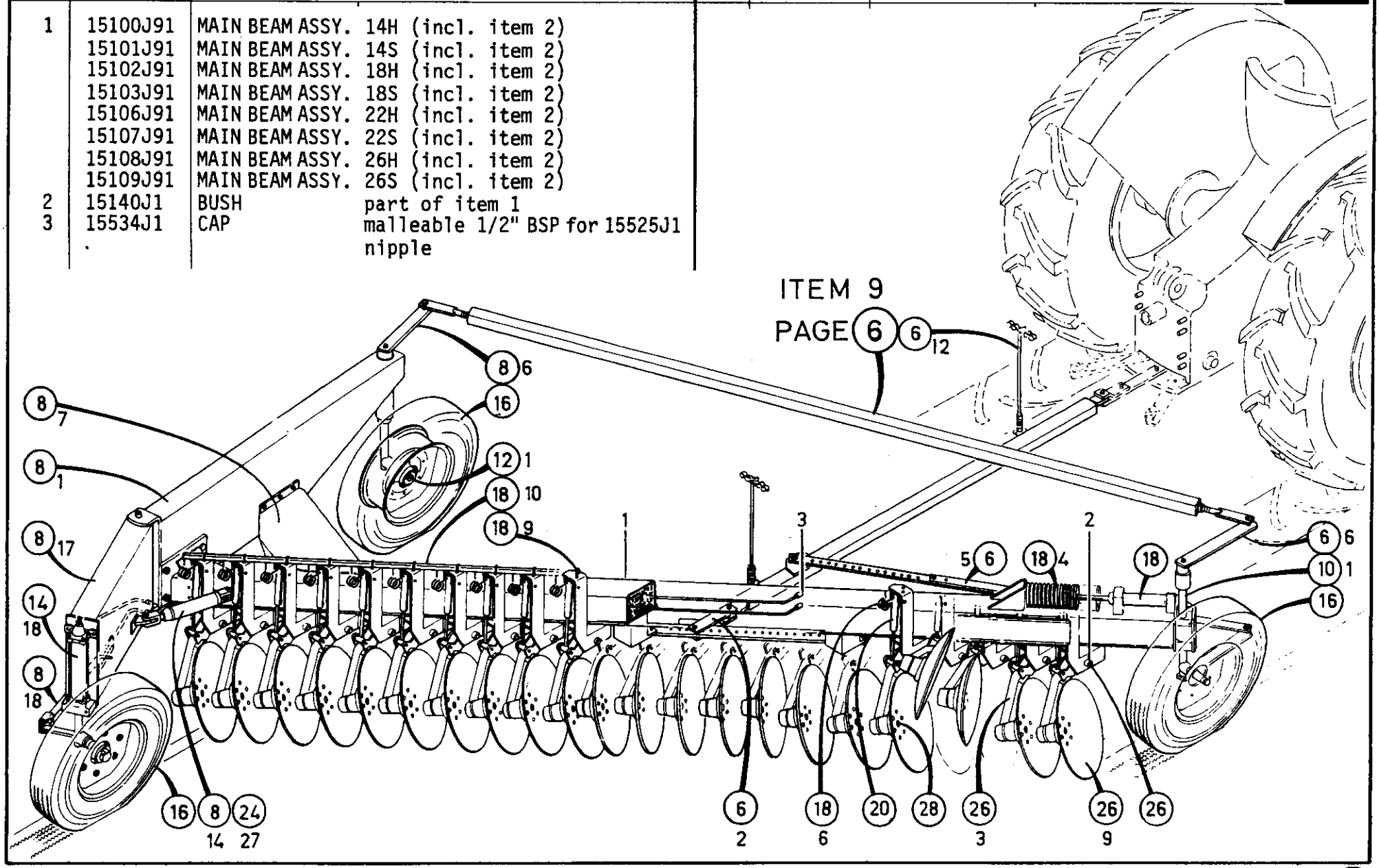
Steering joints	-	daily
Disc hubs	-	monthly
Wheel hubs	-	seasonally

MAIN BEAM

ILLUSTRATION A

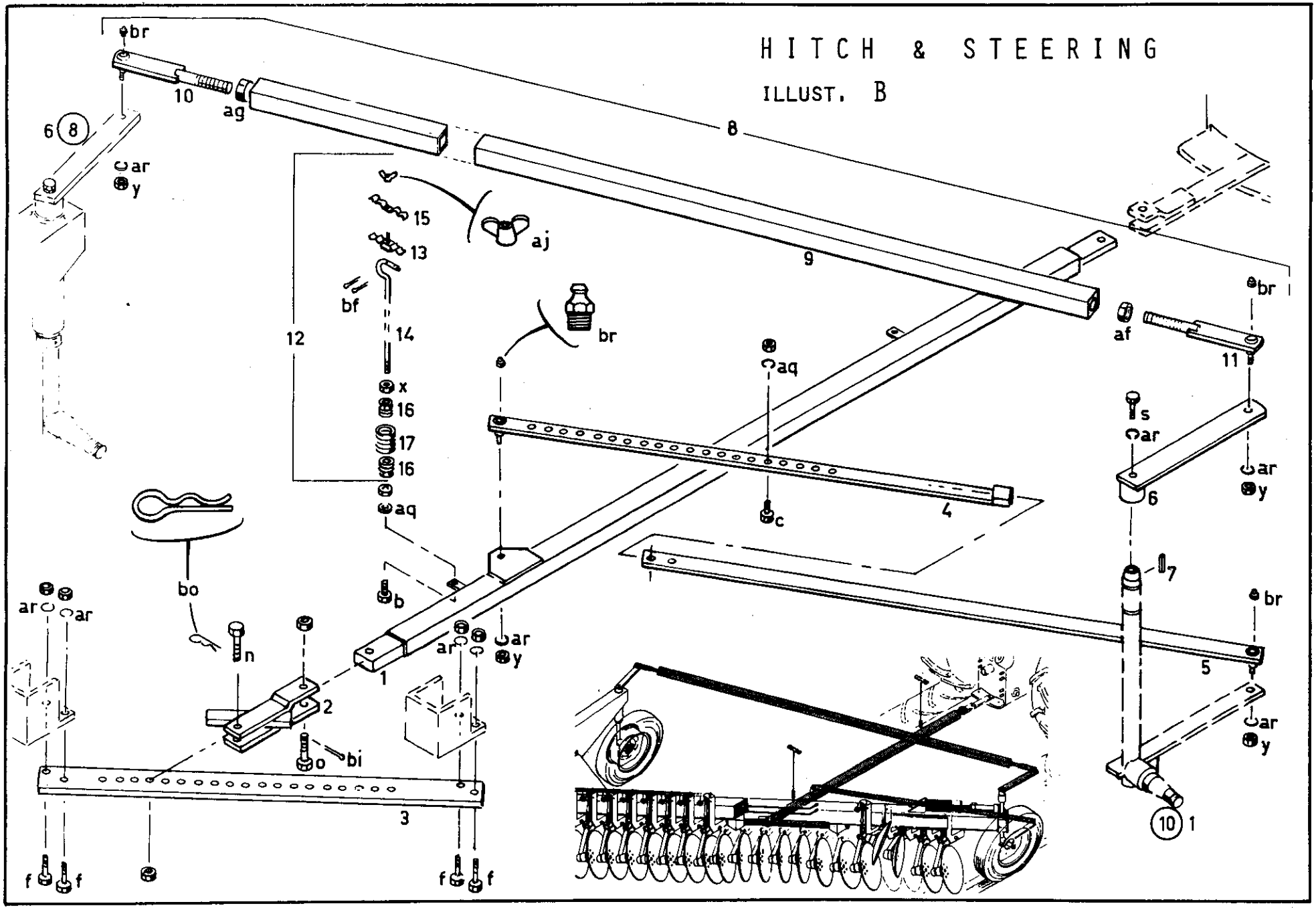
17-1074M72J1

ITEM	PART Nº	DESCRIPTION
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



HITCH & STEERING

ILLUST. B

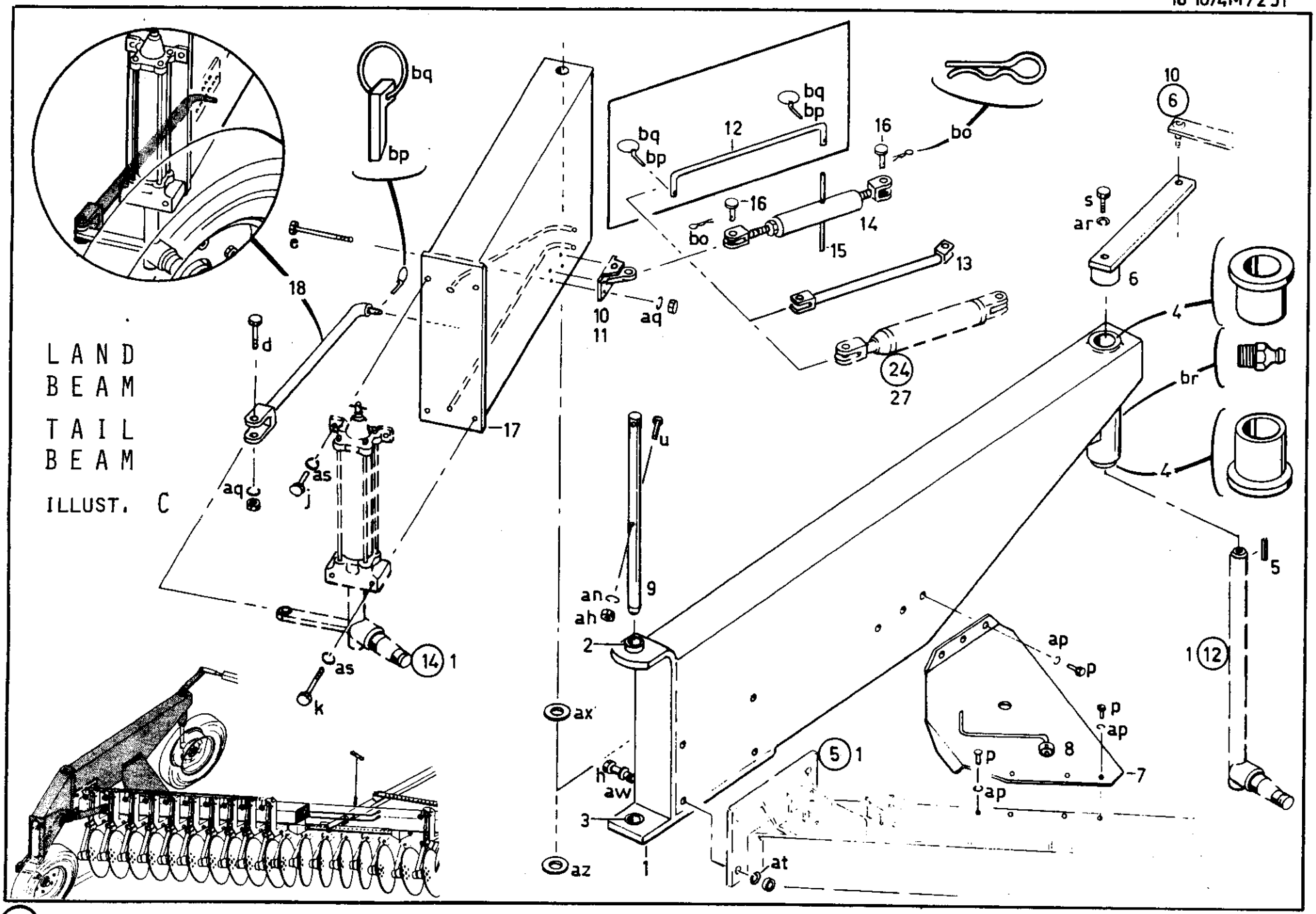


HITCH & STEERING

ILLUSTRATION B

17-1074M72J1

ITEM	PART Nº	DESCRIPTION
1	15260J91	POLE ASSY. hitch 14HS
	15261J91	POLE ASSY. hitch 18HS
	15263J91	POLE ASSY. hitch 22HS
	15264J91	POLE ASSY. hitch 26HS
2	15274J91	LINK ASSY. drawbar
3	15278J1	DRAWBAR 14HS 5" x 1" 2'11½"
	15279J91	DRAWBAR 18HS 5" x 1" 3'9-5/8"
	15281J1	DRAWBAR 22HS, 26HS 5" x 1" 4'7-3/4"
4	15282J91	STEERING BAR ASSY. pole 14HS
	15283J91	STEERING BAR ASSY. pole 18HS
	15285J91	STEERING BAR ASSY. pole 22HS
	15286J91	STEERING BAR ASSY. pole 26HS
5	15287J91	STEERING BAR ASSY. standard 14HS
	15288J91	STEERING BAR ASSY. standard 18HS
	15290J91	STEERING BAR ASSY. standard 22HS
	15291J91	STEERING BAR ASSY. standard 26HS
6	15378J91	ARM ASSY. steering R.H.
7	15377J1	KEY rectangular-standard 1/2" x 5/16" x 2"
8	15388J91	TRACKBAR ASSY. 14HS (incl. items 9-11) hardware af,ag,br
	15389J91	TRACKBAR ASSY. 18HS (incl. items 9-11) hardware af,ag,br
	15391J91	TRACKBAR ASSY. 22HS (incl. items 9-11) hardware af,ag,br
	15392J91	TRACKBAR ASSY. 26HS (incl. items 9-11) hardware af,ag,br
9	15393J91	TUBE ASSY. trackbar 14HS
	15394J91	TUBE ASSY. trackbar 18HS
	15396J91	TUBE ASSY. trackbar 22HS
	15397J91	TUBE ASSY. trackbar 26HS
10	15405J91	JOINT ASSY. swivel adj. 1-1/4" UNF L.H. thread
11	15406J91	JOINT ASSY. swivel adj. 1-1/4" UNF R.H. thread
12	H207-54	HOSE CARRIER ASSY. hyd. (incl. items 13-17) hardware x,aj,bf
13	TP146	FERRULE & CLIP ASSY.
14	TP145	ROD
15	TP147	CLIP
16	TP149	CASTING spring
17	TP150	SPRING


LAND BEAM
TAIL BEAM
ILLUST. C
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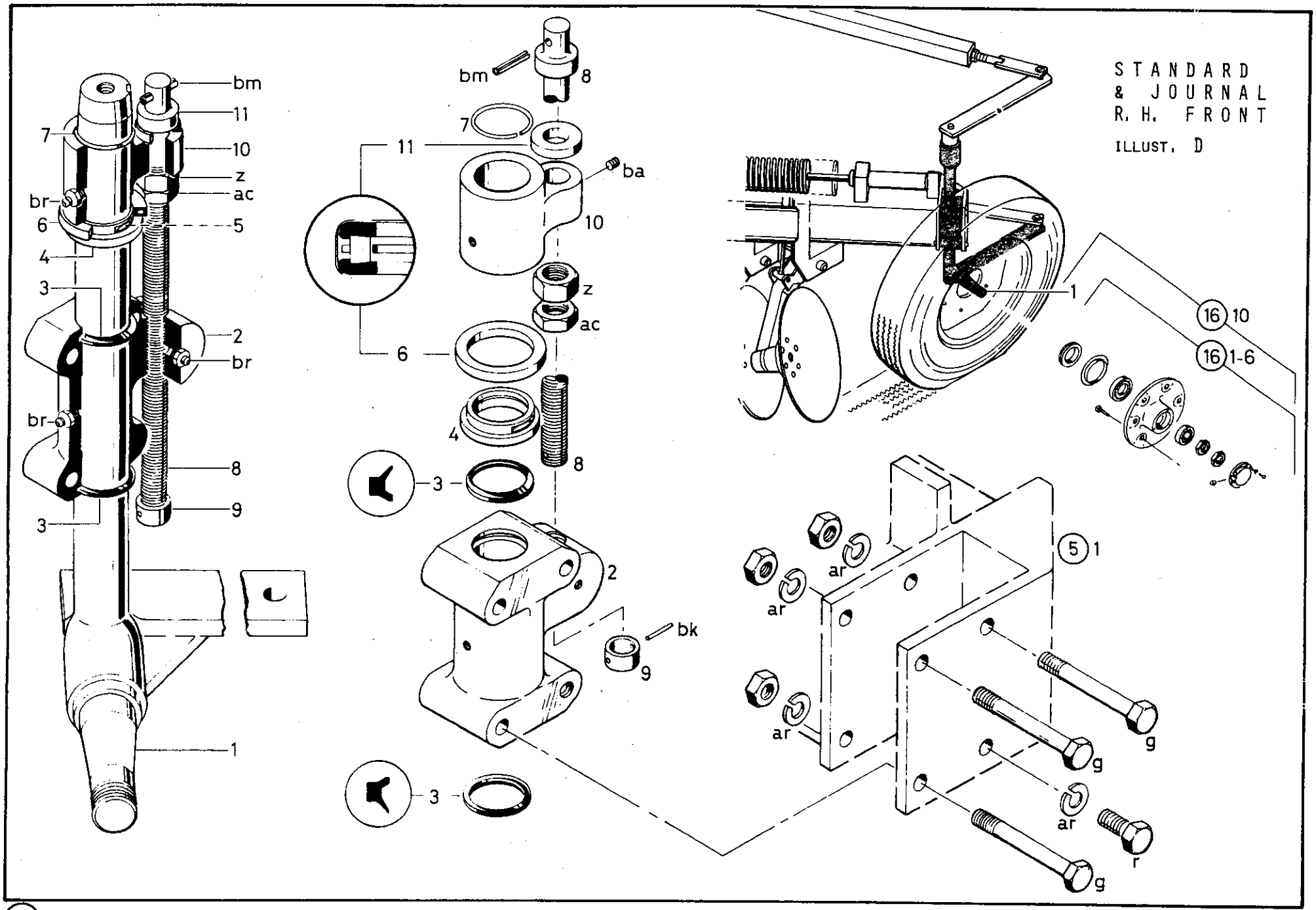
LAND & TAIL BEAM & RELATED PARTS

ILLUSTRATION C

18-1074M72J1

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

ITEM	PART Nº	DESCRIPTION


STANDARD
& JOURNAL
R. H. FRONT
ILLUST. D
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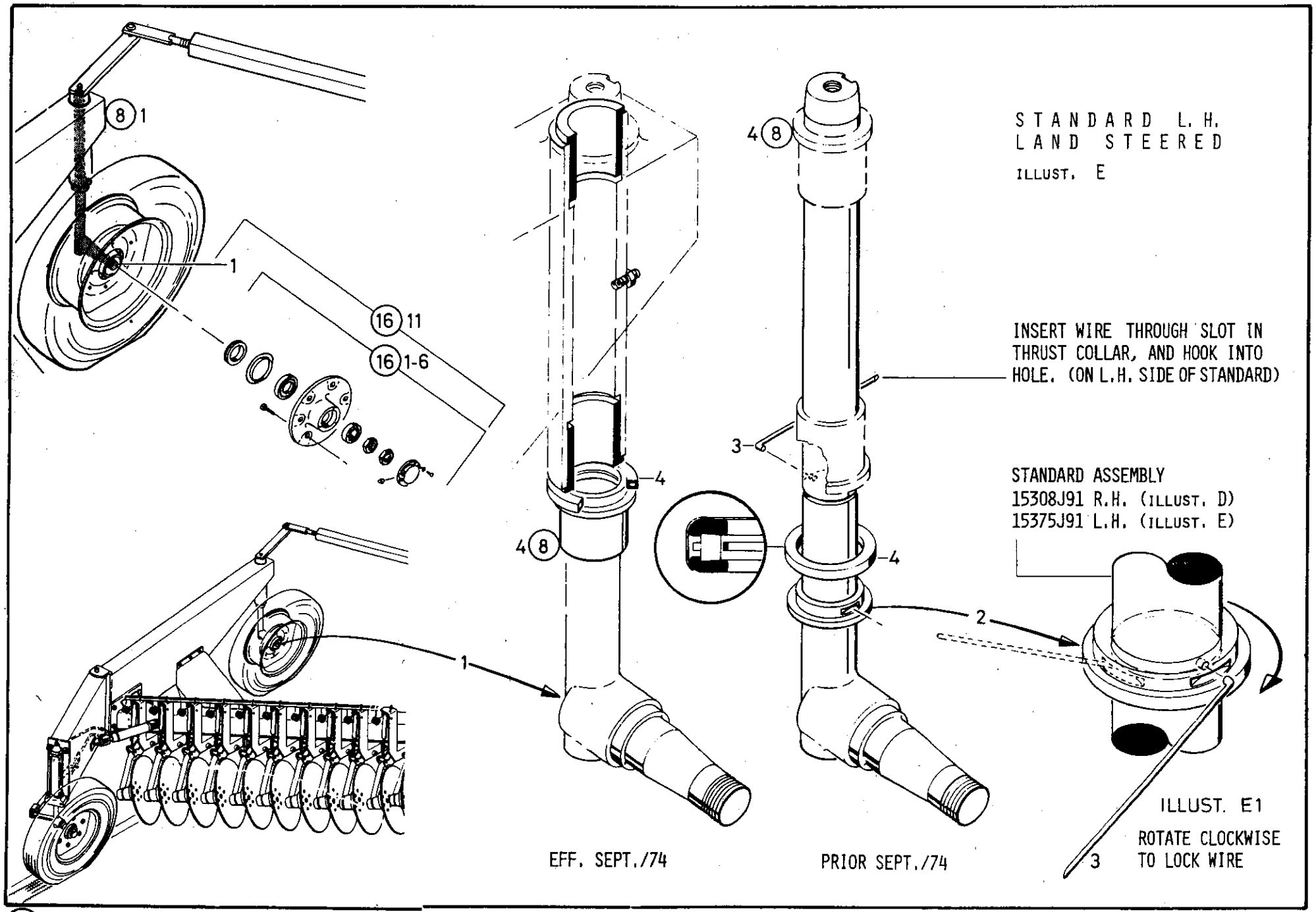
STANDARD & JOURNAL, R.H. FRONT

ILLUSTRATION D

18-1074M72J1

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)


8 1
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16 1-6
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4 8
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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
3
EFF. SEPT./74
PRIOR SEPT./74

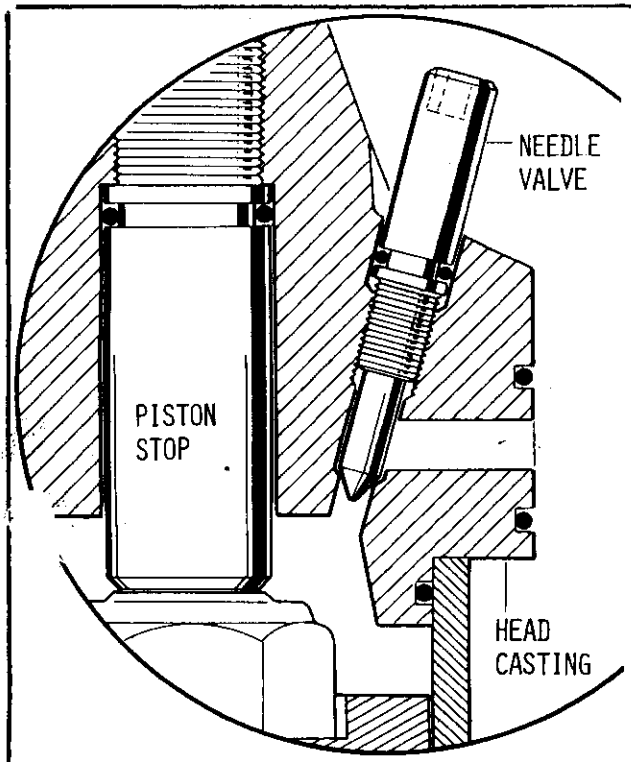
STANDARD L.H. LAND STEERED

ILLUSTRATION E

18-1074M72J1

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)

ITEM	PART Nº	DESCRIPTION

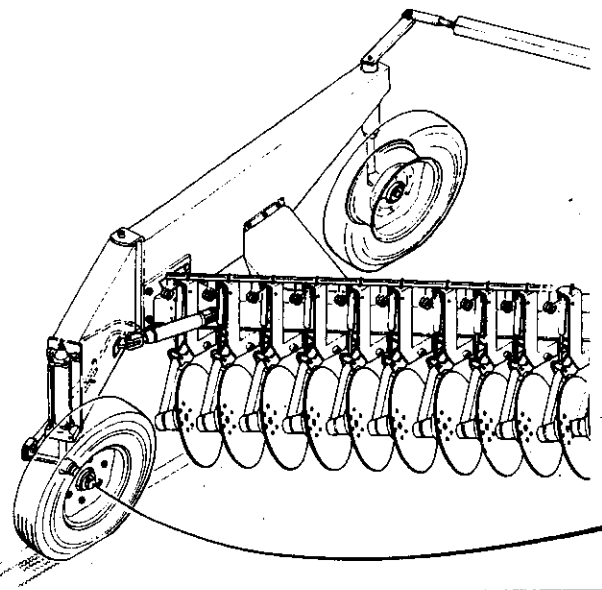


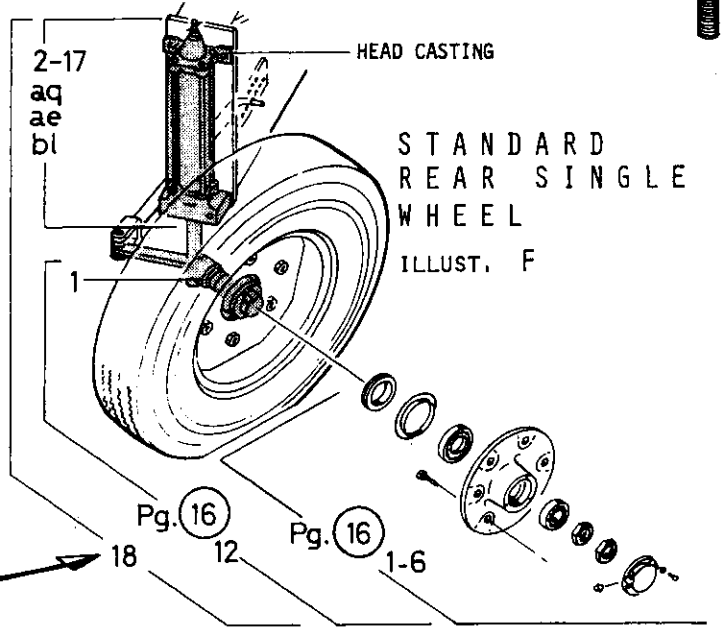
NEEDLE VALVE

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 '0' ring to leave the sealing bore, and allows leakage. More importantly, each re-entry of the '0' ring across the shoulder incurrs the risk of damage to it.

PISTON STOP

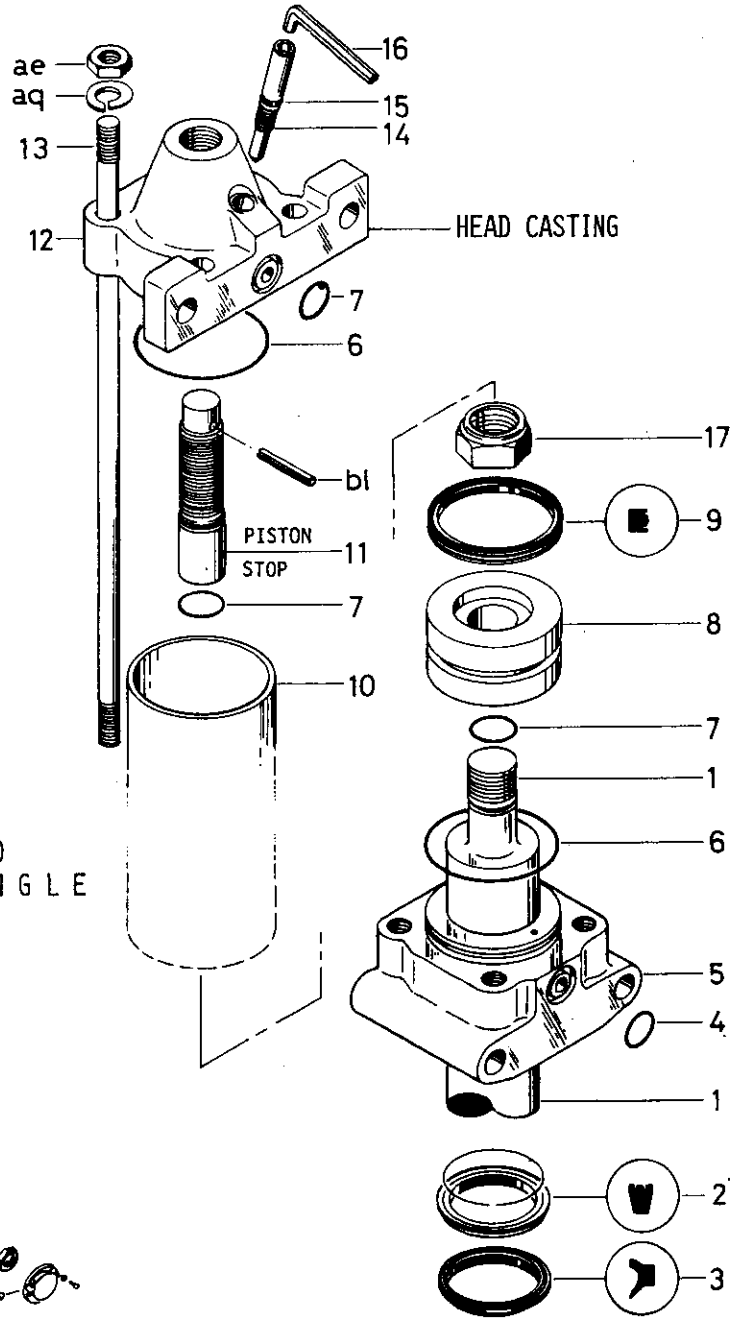
Piston stop part number 16464J1 was 6-3/8" overall length and is now replaced by 15443J2 which is 10-3/8" long (since serial No. 121842). The original piston stop was too short to allow control of depth of ploughing where shallow working was required. The new stop, conversly, may be too long in cases 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

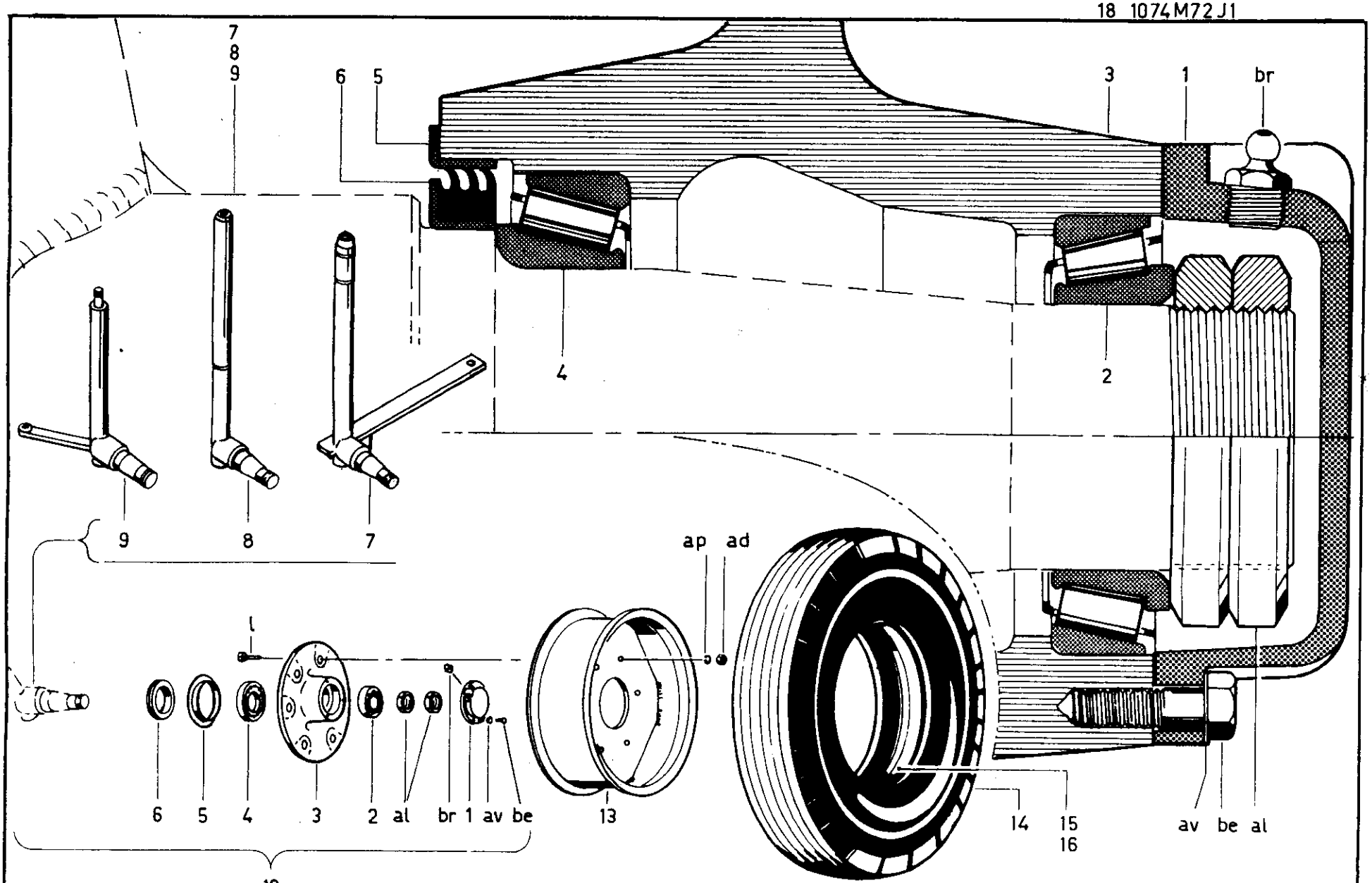
ILLUST. F



STANDARD, REAR SINGLE WHEEL — ILLUSTRATION F — 18-1074M72J1

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	'O' RING	7/8" ID cyl. to tail beam
5	15437J1	CAP-END	rod (bottom)
6	15441J1	'O' RING	cap ref. US stand. AN6230-14
7	15445J1	'O' 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 'O' ring when replacing needle valve)
15	15459J1	'O' 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
		ASSEMBLY
18	15430J91	REAR STANDARD ASSY. single wheel (incl. items 1-17, aq, ae & bl and hub assy. items 1-6, al, av, be & br)



HUBS, STANDARDS, WHEELS, TYRES & TUBES ILLUST. G

ITEM	PART Nº	DESCRIPTION	
1	15305J1	CAP	hub
2	15203J1	BEARING	cup JLM104910 cone JLM104948
3	15307J1	HUB	wheel
4	15306J1	BEARING	60 mm wheel, ref. Cup JLM508710 cone JLM508748
5	TC462	WEAR-RING	ref. 16994
6	TC461	SEAL	triple lipped ref. 16946
		HUB ASSY.	items 1-6 part of 15304J91, 15374J91 & 15431J91
		STANDARD ASSEMBLIES	
7	15308J91	FRONT	R.H. (part of 15304J91) illust. D
8	15375J91	LAND STEERED	L.H. (part of 15374J91) illust. E
9	15432J91	REAR	L.H. (part of 15431J91) illust. F
		STANDARD/HUB ASSEMBLY	
10	15304J91	STANDARD-HUB ASSY.	R.H. front (incl. items 1-6 & 7)
11	15374J91	STANDARD-HUB ASSY.	L.H. land steered (incl. items 1-6 & 8)
12	15431J91	STANDARD-HUB ASSY.	rear (incl. items 1-6 & 9)

ITEM	PART Nº	DESCRIPTION	
		WHEELS	
13	15318J91	RIM ASSY.	20"
		TYRES & TUBES	
14	11280	TYRE	8.25 x 20 x 10 ply (truck)
15	11281	TUBE	8.25 x 20
16	14682J1	FLAP	8.25 x 20 (included with tyre & tube)

TYRE PRESSURE

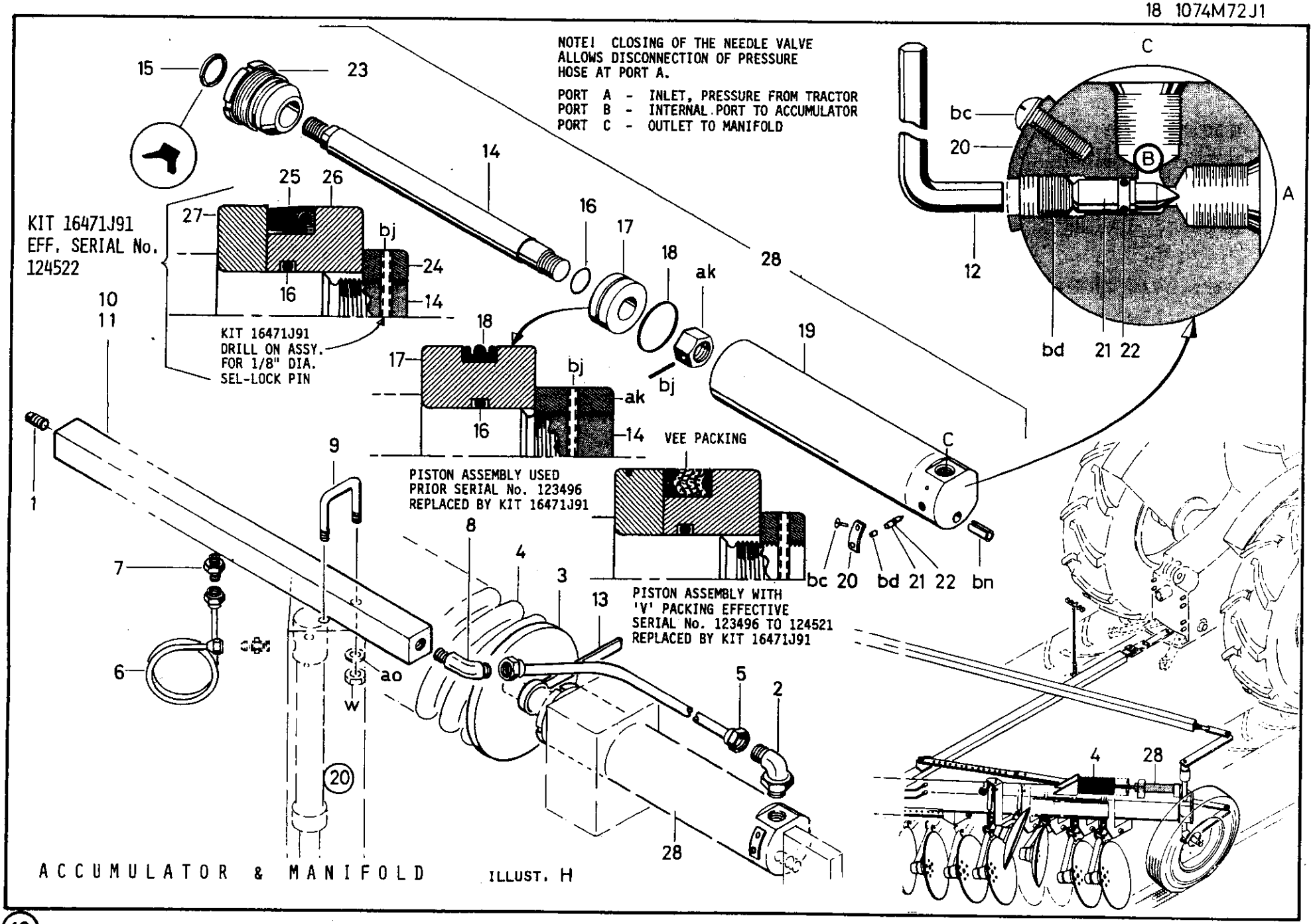
MAXIMUM PRESSURE 85PSI/586kPa

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.

MINIMUM PRESSURE 14 DISC 50PSI/345kPa

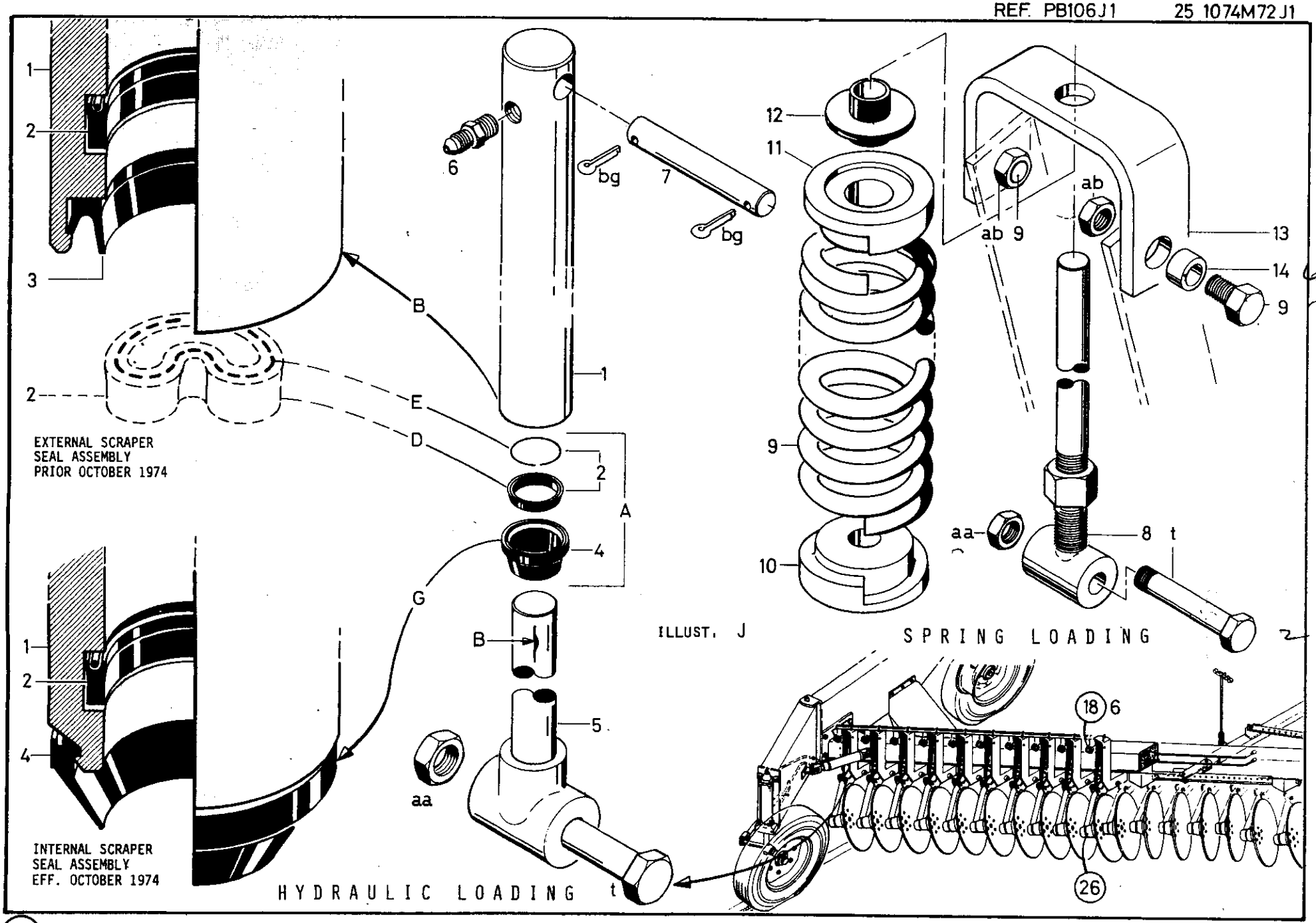
18, 22 & 26 DISC 55PSI/380kPa

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.


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
KIT 16471J91 EFF. SERIAL No. 124522
KIT 16471J91 DRILL ON ASSY. FOR 1/8" DIA. SEL-LOCK PIN
PISTON ASSEMBLY USED PRIOR SERIAL No. 123496 REPLACED BY KIT 16471J91
VEE PACKING
PISTON ASSEMBLY WITH 'V' PACKING EFFECTIVE SERIAL No. 123496 TO 124521 REPLACED BY KIT 16471J91
ACCUMULATOR & MANIFOLD
ILLUST. H

ACCUMULATOR & MANIFOLD — ILLUSTRATION H — 18-1074M72J1

ITEM	PART NO	DESCRIPTION	
1	13396	PLUG	3/8" BSP (remove for tandem hitch, part of item 10 eff. Oct/73)
2	15248J1	ELBOW	accumulator 90° mm 3/4" UNF x 3/4" JIC ref. D53/1212
3	15252J92	RETAINER	accumulator spring
4	15253J1	SPRING	accumulator 4½" ID x 21½" long
5	15246J91	PIPE WITH NUTS	manifold to accumulator (incl. 14359J1)
	14359J1	NUT	sleeve & tube 3/4" JIC ref. D14/12 (used w/15246J91)
6	15225J1	TUBE COILED	ram
7	15280J1	NIPPLE	ref. 1/4" BSPT x 7/16" SAE (part of item 10)
8	15244J1	ELBOW	90° ref. DB17/612 3/8" BSPT x 3/4" JIC (part of item 11)
9	15245J1	CLAMP	7/16" manifold
10	15226J91	MANIFOLD	complete 14H (incl. items 1, 7, 8 & 11)
	15227J1	MANIFOLD	complete 18H (incl. items 1, 7, 8 & 11)
	15229J91	MANIFOLD	complete 22H (incl. items 1, 7, 8 & 11)
	15230J91	MANIFOLD	complete 26H (incl. items 1, 7, 8 & 11)
11	15231J91	MANIFOLD ASSY.	14H (part of item 10, incl. item 8)
	15232J91	MANIFOLD ASSY.	18H (part of item 10, incl. item 8)
	15234J91	MANIFOLD ASSY.	22H (part of item 10, incl. item 8)
	15235J91	MANIFOLD ASSY.	26H (part of item 10, incl. item 8)
12	15523J1	KEY	1/4" hex for needle valve
13	15519J91	INDICATOR ASSY.	
14	16180J1	ROD	piston ref. 1250/5
15	16181J1	ROD	wiper ref. LUDW26
16	15445J1	SEAL	'O' ring 1-1/4" x 1" x 1/8" ref. BS1806/19
17	16184J1	PISTON	ref. 1250/6 order kit 16471J91
18	15711J1	SEAL	'T' ring ref. 2177 order kit 16471J91
19	16183J1	BARREL	cylinder ref. 1250/4
20	16187J1	RETAINER	ref. 1250/15
21	16191J1	VALVE	needle ref. 1250/16
22	16190J1	SEAL	'O' ring ref. LUD/AN6227-5
23	16182J1	CAP	cylinder ref. 1250/1
24	16472J1	NUT	hex-hd thin lock drilled replaces 16186J1 (ak)
25	16473J1	SEAL	piston ref.L25 replaces 15711J1
26	16474J1	PISTON	rear replaces 16184J1
27	16476J1	PISTON	plate replaces 16184J1
KIT	16471J91	PISTON	items 16, 24-27 & bj (SKP64) (do not reorder items 17, 18 & thick nut ak)
28	15247J91	ACCUMULATOR ASSEMBLY	2-1/2" bore x 8" stroke single acting (Hydroil) items 14-23, ak, bc. bd, bn & bj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EXTERNAL SCRAPER
SEAL ASSEMBLY
PRIOR OCTOBER 1974
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HYDRAULIC LOADING
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SPRING LOADING
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INTERNAL SCRAPER
SEAL ASSEMBLY
EFF. OCTOBER 1974

JUMPER - HYDRAULIC & SPRING LOADING

ILLUSTRATION J

6.1174M72J1

ITEM	PART Nº	DESCRIPTION	
1	15214J91	BARREL ASSY.	(order kit 16467J91)
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. SO1000 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
	15213J91	ASSEMBLY RAM ASSY.	jumper (incl. items 1-6)
8	15254J91	ROD ASSY.	spring
9	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

ITEM	PART Nº	DESCRIPTION

FITTING INSTRUCTIONS

A - Remove existing seals if fitted.

B - Clean barrel and rod. Check for scoring on rod and replace if required.

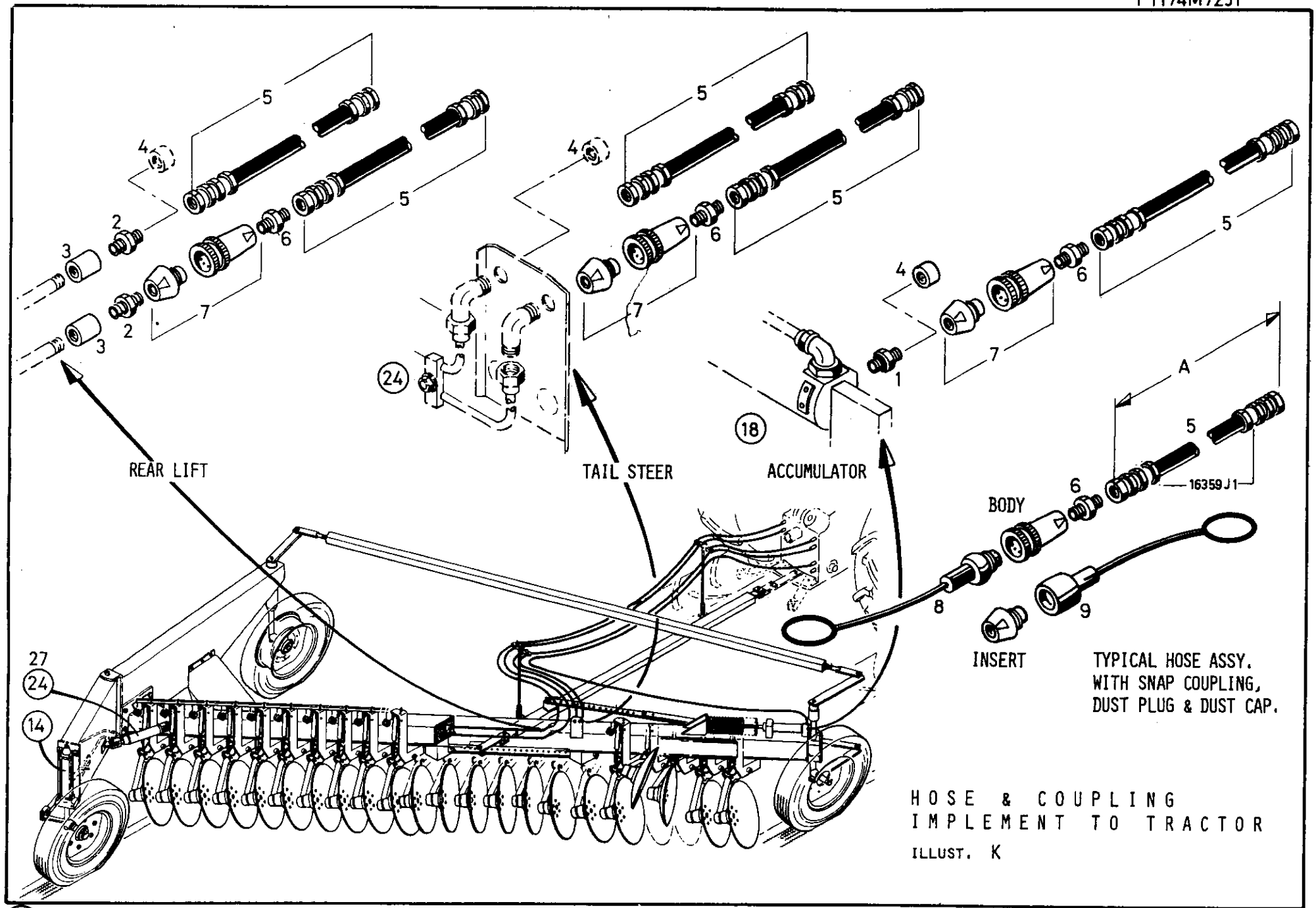
C - Coat seals with grease when assembling.

D - Collaspse 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 inter-changeable.

G - External scraper item 4 must be placed in hot water before fitting, to allow for required expansion without damaging seal.


REAR LIFT
TAIL STEER
ACCUMULATOR
BODY
INSERT
16359J1
TYPICAL HOSE ASSY.
WITH SNAP COUPLING,
DUST PLUG & DUST CAP.
HOSE & COUPLING
IMPLEMENT TO TRACTOR
ILLUST. K

HOSE & COUPLING IMPLEMENT TO TRACTOR

ILLUSTRATION K 1.1174M72J1

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"
	16359J1	HOSE END	1/2" BSP female ref. D801-86
6	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.

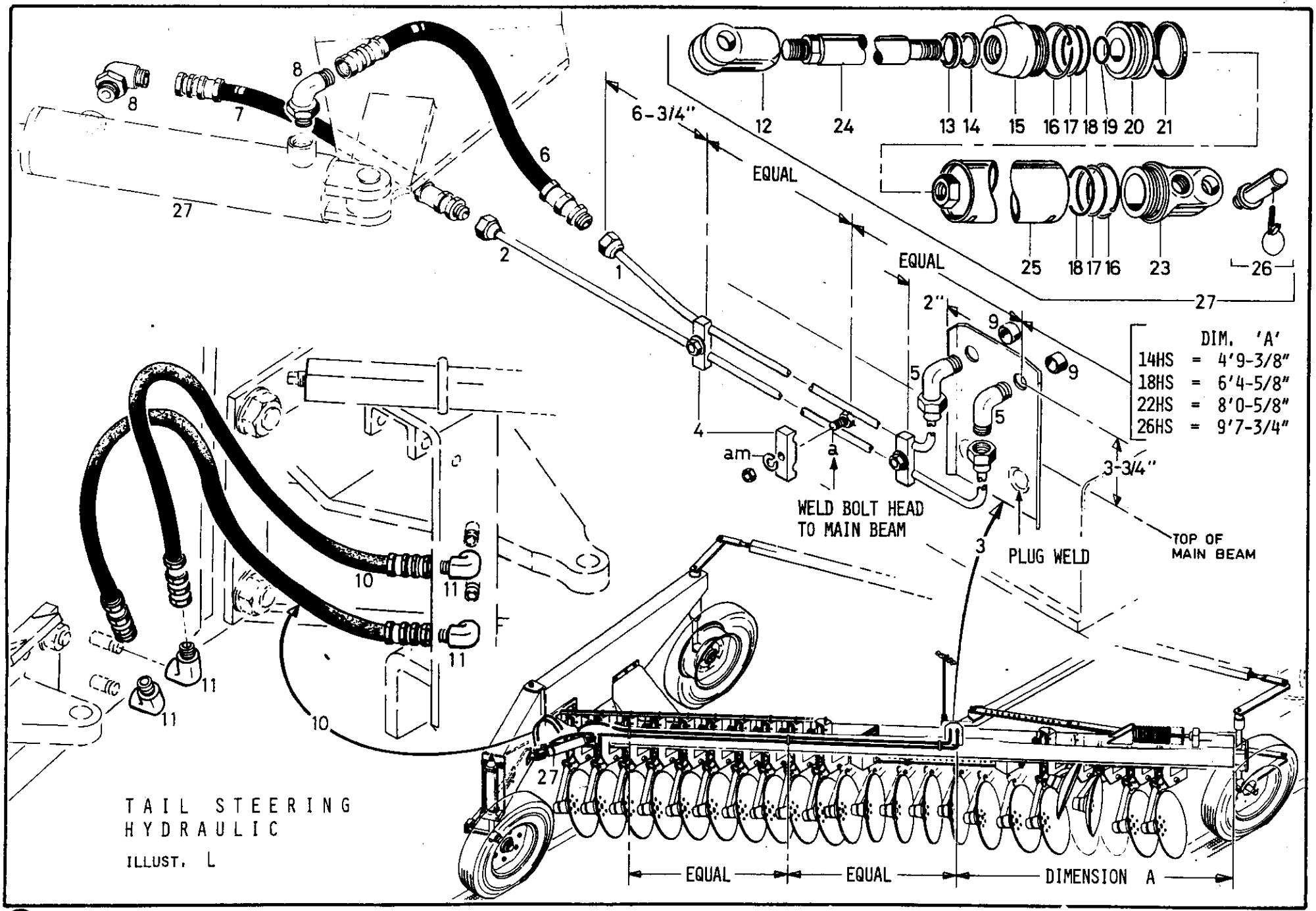
Of course, if the tractor has more outlets than the particular plough requires, there will be no particular need (for plough setting up) to have snap couplings on the plough. In this case it may be more convenient to leave hoses permanently on the plough, with tractor "half couplings" at their front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



TAIL STEERING HYDRAULIC

ILLUST. L

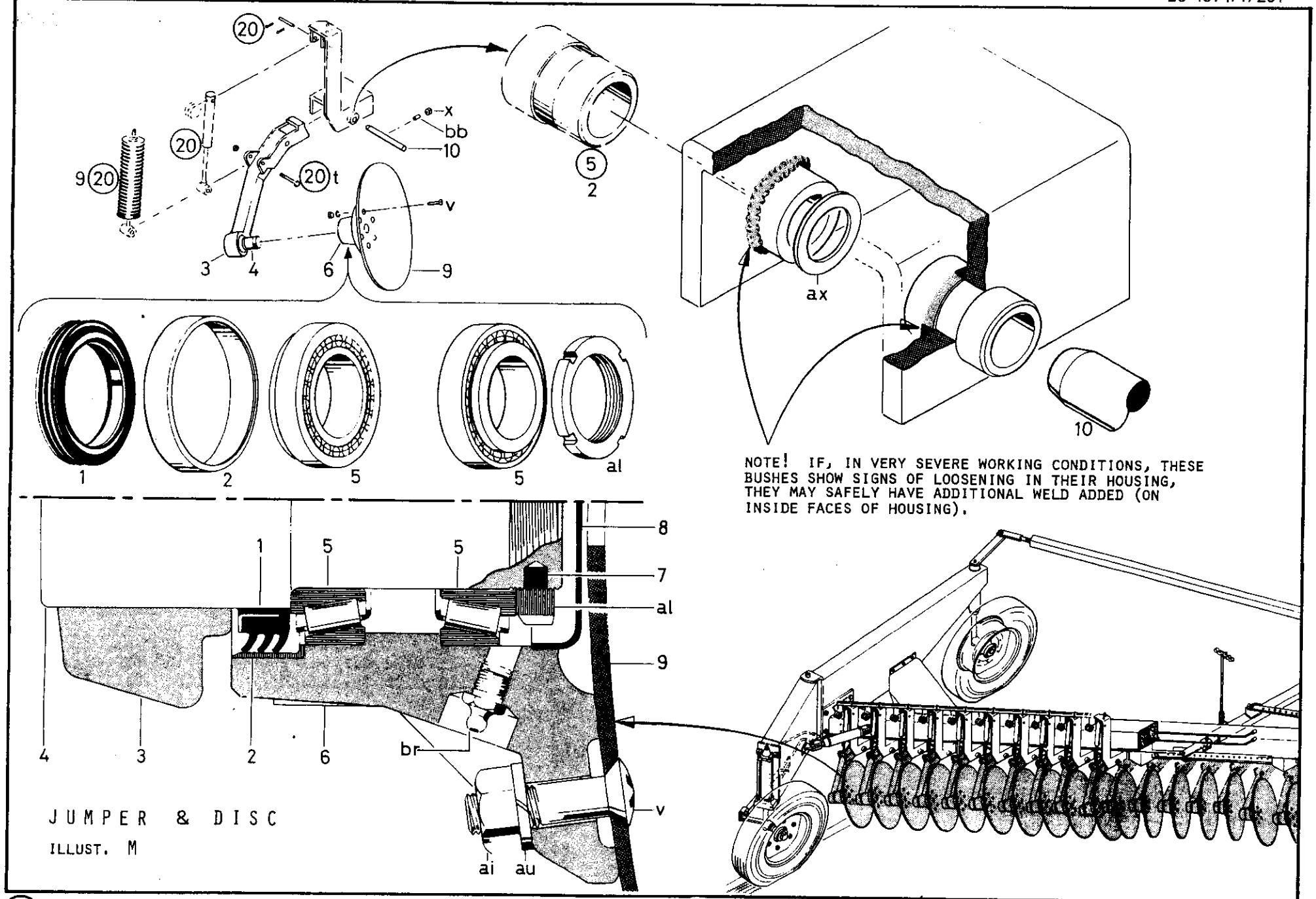
TAIL STEERING, HYDRAULIC — ILLUSTRATION L — 1.1174M72J1

ITEM	PART Nº	DESCRIPTION	
1	15482J91	PIPE ASSY.	14HS hyd. top tail steering
	15483J91	PIPE ASSY.	18HS hyd. top tail steering
	15485J91	PIPE ASSY.	22HS hyd. top tail steering
	15487J91	PIPE ASSY.	26HS hyd. top tail steering
	14359J91	SLEEVE & TUBE	nut 3/4" JIC ref. D14/12 (incl. w/pipe assy.)
2	15487J91	PIPE ASSY.	14HS hyd. bottom tail steering
	15488J91	PIPE ASSY.	18HS hyd. bottom tail steering
	15490J91	PIPE ASSY.	22HS hyd. bottom tail steering
	15491J91	PIPE ASSY.	26HS hyd. bottom tail steering
	14359J91	SLEEVE & TUBE	nut 3/4" JIC ref. D14/12 (incl. w/pipe assy.)
3	15492J1	PLATE	support - hydraulic pipes
4	15493J1	CLAMP	hydraulic pipes
5	15494J1	ELBOW	90 mm 1/2" BSPT x 3/4" JIC hyd. pipe ref. DB17/812
6	15495J2	HOSE ASSY.	14-26H hyd. anchor end ram 17¼" overall length
	15333J91	HOSE ASSY.	14-26S hyd. anchor end ram 22¼" overall length
	16450J1	HOSE END	3/4" JIC male straight D809-126
	16451J1	HOSE END	3/4" JIC female straight ref. D805-126
7	15496J93	HOSE ASSY.	hyd. rod end ram 2'5½" O.A.L.
	16450J1	HOSE END	3/4" JIC male straight D809-126
	16451J1	HOSE END	3/4" JIC female straight ref. D805-126
8	14541J1	ELBOW	90 mm 7/8" UN x 3/4" JIC ref. D53/1412
9	15534J1	CAP	malleable 1/2" B.S.P.
10	15500J92	HOSE	hyd. rear lift 2'10"
	16342J1	HOSE END	3/8" BSPP female ref.D801-66
11	15501J1	ELBOW	90 M & F 3/8" BSPT x 3/8" BSPT ref. D30/66
KIT	15477J91	TAIL STEERING	14HS (items 1-8 & 27, a & am)
	15478J91	TAIL STEERING	18HS (items 1-8 & 27, a & am)
	15480J91	TAIL STEERING	22HS (items 1-8 & 27, a & am)
	15481J91	TAIL STEERING	26HS (items 1-8 & 27, a & am)

ITEM	PART Nº	DESCRIPTION	
12	15704J1	CLEVIS	ref. 599653
13	14562J1	WIPER	rod ref. 252531
14	14563J1	SEAL	rod ref. 258211
15	15705J1	CAP	rod end ref. 599654
16	15706J1	WIRE	retainer ref. 599655
17	15707J1	RING	back up ref. 122238
18	15708J1	'O' RING	ref. 154082
19	15709J1	'O' RING	ref. 154016
20	15710J1	PISTON	ref. 599656
21	15711J1	SEAL	piston ref. 259541
22	15712J1	NUT	ref. 599670
23	15714J1	CAP	head end 'A; port ref. 599657A
24	15715J1	ROD	piston ref. 599659
25	15716J1	BARREL	ref. 599658
26	14577J91	CLEVIS PIN ASSY.	ref. M3000P
KIT	15947J91	SEALS	items 13, 14, 18, 19 & 21
		ASSEMBLY	
27	12343	VICKERS HYDRAULIC RAM (items 12-26 double acting 2½" dia. x 8" stroke) ref. M3000A-25-8	

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.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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).
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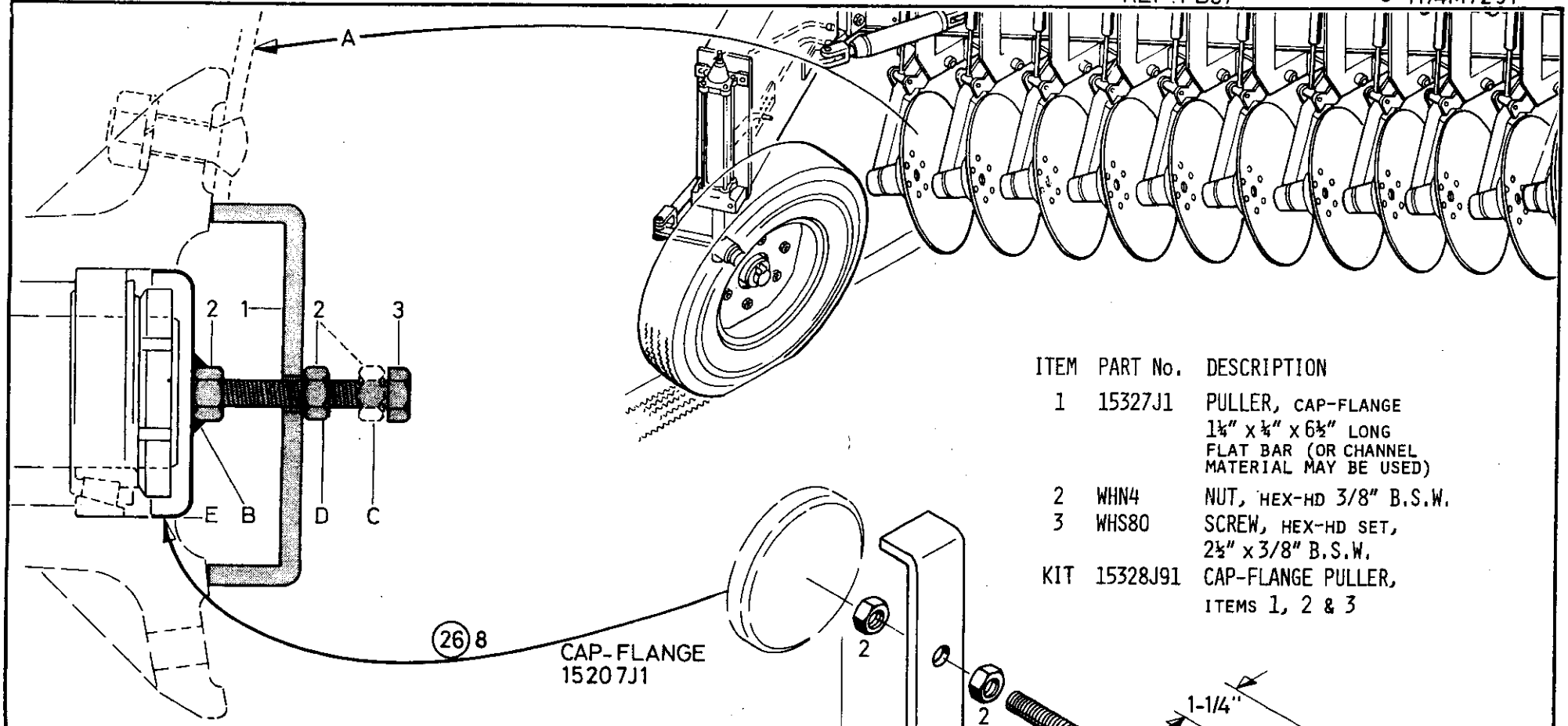
JUMPER & DISC
ILLUST. M

JUMPER & DISC

ILLUSTRATION M 25-1074M72J1

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 ASSEMBLY	jumper arm
	15194J91	JUMPER ASSY.	(incl. items 1-8 hardware al & br)



ITEM	PART No.	DESCRIPTION
1	15327J1	PULLER, CAP-FLANGE 1¼" x ¼" x 6½" 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, 2½" x 3/8" B.S.W.
KIT	15328J91	CAP-FLANGE PULLER, ITEMS 1, 2 & 3

INSTRUCTIONS -

A - REMOVE DISC

B - TACK WELD NUT TO CENTRE OF CAP-FLANGE

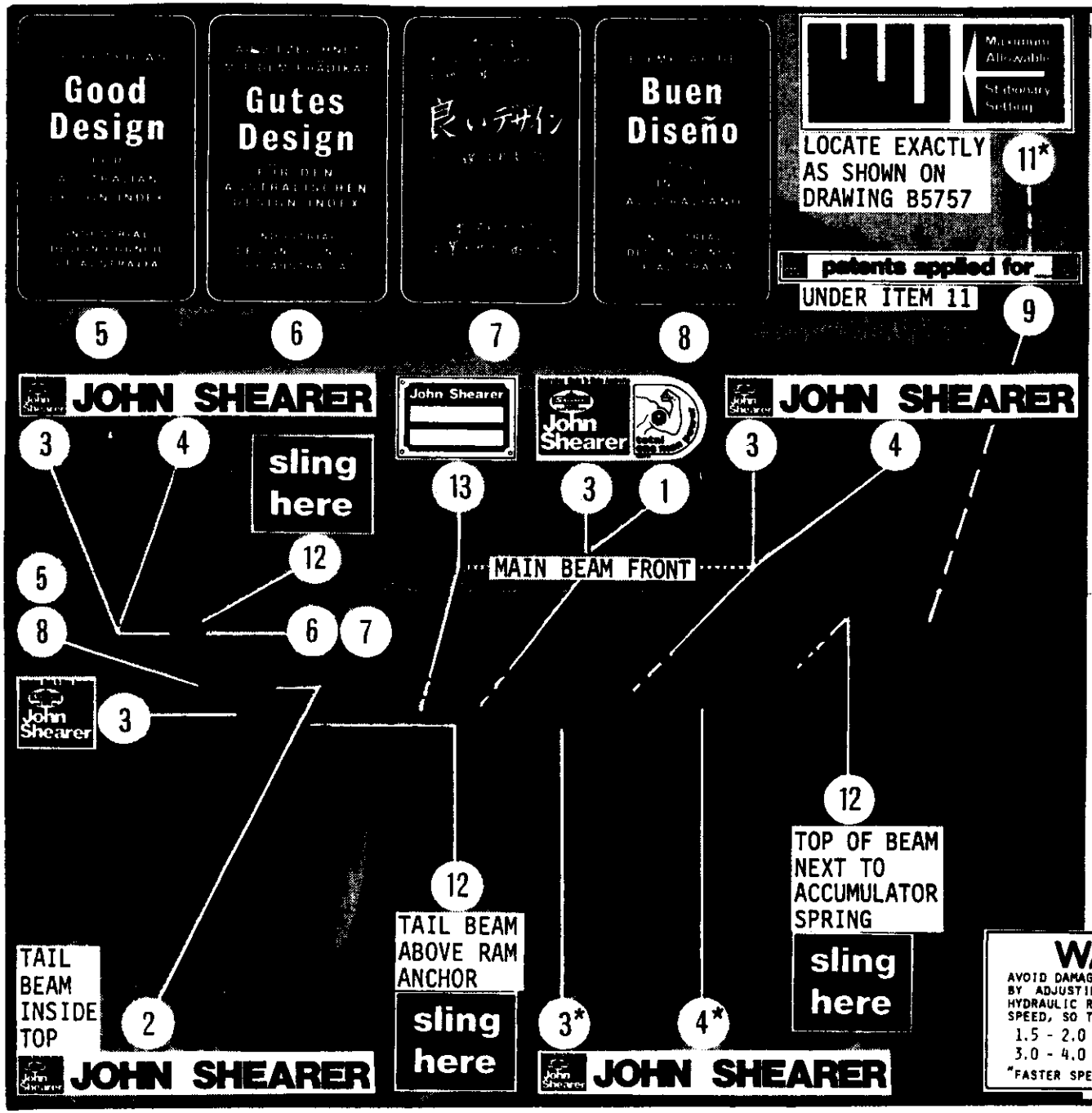
C - WITH NUT UNDER HEAD INSERT SCREW THROUGH 7/16" HOLE IN CHANNEL AND TIGHTEN SCREW TO WELDED NUT.

D - TURN NUT AGAINST CHANNEL WHICH WILL LIFT SCREW AND CAP-FLANGE.

E - WHEN RE-ASSEMBLING APPLY PLIABOND (OR EQUIVALENT) TO MATING SURFACES.

KIT, CAP-FLANGE PULLER, JUMPER BEARINGS

ILLUST. N



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
5	15956J1	1	GOOD DESIGN (ENGLISH)
6	15957J1	1	GOOD DESIGN (GERMAN)
7	15958J1	1	GOOD DESIGN (JAPANESE)
8	15959J1	1	GOOD DESIGN (SPANISH)
9	15870J1	1	PATENTS APPLIED FOR
10	15876J1	1	WARNING - RAM
11	15540J1	1*	MAXIMUM ALLOWABLE
12	15854J1	3	SLING HERE
13	15955J1	1	SERIAL No. PLATE (use drive screws 16161J1)

* DELETE ONE EACH FOR SPRING LOADED DISC PLOUGH

HARDWARE

11-1074M72J1

John Shearer

ITEM	PART Nº	DESCRIPTION	
a	HRH19	BOLT	HRH 1" x 5/16" BSW
b	HRH112	BOLT	HRH 1-1/2" x 5/8" BSW
c	HRH114	BOLT	HRH 2" x 5/8" BSW
d	HRH121	BOLT	HRH 3-3/4" x 5/8" BSW
e	HRH129	BOLT	HRH 7-1/2" x 5/8" BSW
f	HRH145	BOLT	HRH 2-3/4" x 3/4" BSW
g	HRH154	BOLT	HRH 6" x 3/4" BSW
h	HRH212	BOLT	HRH 8-1/2" x 1" BSW
i	15334J1	BOLT	HRH 2-1/4" x 3/4" UNC h.s.s.
j	10043	BOLT	HRH 2" x 3/4" UNC h.t.
k	15447J1	BOLT	HRH 6" x 3/4" UNC high tensile
l	15249J1	BOLT	HRH 2" x 1-1/2" UNF h.t.
m	13131	BOLT	HRH 4" x 5/8" BSW drilled
n	KD104	BOLT	HRH 4" x 1" BSW drilled
o	OS185	BOLT	HRH 4-1/2" x 1" BSW drilled
p	HR81	BOLT	HR 1" x 1/2" BSW
q	HR140	BOLT	HR 1-1/2" x 3/4" BSW
r	HR141	BOLT	HR 1-3/4" x 3/4" BSW
s	HR143	BOLT	HR 2-1/4" x 3/4" BSW
t	HR150	BOLT	HR 4" x 3/4" BSW
u	15532J1	BOLT	HR 2-1/2" x 3/8" UNC h.t.
v	15209J1	BOLT	Phillip's-hd. 1-3/4" x 1/2" UNC
w	WHN5	NUT	hex-hd 7/8" BSW
x	WHN8	NUT	hex-hd 5/8" BSW
y	WHN9	NUT	hex-hd 3/4" BSW
z	WHN12	NUT	hex-hd 1-1/8" BSW
aa	WHL9	NUT	hex-hd 3/4" BSW lock
ab	16369J1	NUT	hex-hd lock 3/4" BSW 5/16" thick
ac	WHL12	NUT	hex-hd 1-1/8" BSW
ad	NFN6	NUT	hex-hd wheel 1/2" UNF
ae	11220	NUT	hex-hd 5/8" UNF
af	15517J1	NUT	hex-hd 1-1/4" UNF R.H. thread
ag	16192J1	NUT	hex-hd 1-1/4" UNF L.H. thread
ah	15336J1	NUT	hex-hd 3/8" UNC lock (ref.nylex)
ai	15210J1	NUT	hex-hd 1/2" UNC plated
aj	TP148	NUT	wing 5/16" BSW
ak	16186J1	NUT	hex-hd lock drilled ref.1250/9
al	15205J1	NUT	spindle 50 mm

ITEM	PART Nº	DESCRIPTION	
am	SPW2	WASHER	spring 5/16"
an	SPW3	WASHER	spring 3/8"
ao	SPW13	WASHER	spring 7/16"
ap	SPW4	WASHER	spring 1/2"
aq	SPW6	WASHER	spring 5/8"
ar	SPW8	WASHER	spring 3/4" x 1/8" x 1/4"
as	SPW9	WASHER	spring 3/4" x 5/16" x 1/4"
at	SPW11	WASHER	spring 1"
au	15211J1	WASHER	spring 1/2" plated
av	STW3	WASHER	int-star 5/16"
aw	FBW11	WASHER	flat black 1"
ax	15176J1	WASHER	flat 2¼" x 1-7/16" x 1/8" ht.t.
ay	15332J1	WASHER	flat 2¼" x 1-7/16" x 3/16" ht.t.
az	15316J1	WASHER	flat 2¼" x 1-7/16" x 1/4" ht.t.
ba	10638	SCREW	soc-set 1/2" x 1/2" BSW
bb	15513J1	SCREW	soc-set 1-1/4" x 5/8" BSW
bc	16188J1	SCREW	round-hd 5/16" UNF ref. 1250/14
bd	16189J1	SCREW	soc-set 1/2" UNF oval pt. 1250/13
be	SD2097	SCREW	hex-hd-set 7/8" x 5/16" UNC
bf	CTP2	PIN	cotter 3/4" x 1/8"
bg	CTP5	PIN	cotter 7/8" x 3/16"
bh	CTP6	PIN	cotter 1-1/8" x 3/16"
bi	CTP13	PIN	cotter 1-1/2" x 1/4"
bj	SKP64	PIN	sel-lock 1-1/2" x 1/8"
bk	SKP99	PIN	sel-lock 1-1/4" x 3/16"
bl	SKP164	PIN	sel-lock 2" x 5/16"
bm	SKP177	PIN	sel-lock 1-3/4" x 3/8"
bn	SKP200	PIN	sel-lock 1-1/4" x 1/2"
bo	H160-106	PIN	hair pin 3/16"
bp	CR160-99	PIN	lynch
bq	CR160-100	PIN	clip, locking
br	D999	NIPPLE	grease 1/8" gas thd. straight