

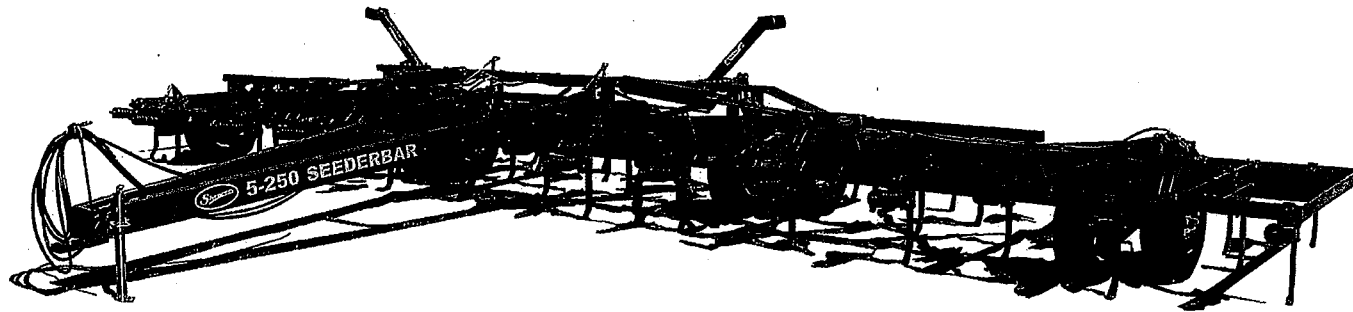


FINEST IN THE FIELD

JOHN SHEARER

5-160 & 5-250

Cultivator



Operator's Manual 129J4



SAFETY



SAFETY FIRST

PRIOR TO WORKING UNDERNEATH THE IMPLEMENT (E.G. CHANGING POINTS, ETC.) ALWAYS CHECK THAT IMPLEMENT IS ADEQUATELY SUPPORTED ON BLOCKS/STANDS.

ENSURE SAFETY PINS ARE FITTED FOR TRANSPORT.

ENSURE AREA IS CLEAR PRIOR TO FOLDING OR UNFOLDING WINGS.

IN THE WING FOLDED POSITION, ENSURE AREA IS CLEAR OF OVERHEAD OBSTRUCTIONS.



CUSTOMER'S WARRANTY REGISTRATION CARD
(Please retain for your records)

JOHN SHEARER LIMITED

IMPLEMENT TYPE: SERIAL No.

SELLING DEALER: DATE PURCHASED:

PLEASE READ OPERATOR'S MANUAL TO ENSURE CORRECT APPLICATION, OPERATION AND MAINTAINANCE FOR THIS MACHINE.

THANK YOU FOR BUYING JOHN SHEARER



WARRANTY REGISTRATION CARD

DEALER COPY

DEALER NAME: DEALER TOWN:

IMPLEMENT MODEL: SIZE:

PRODUCT No. (as per price book) SERIAL No.

DEALER'S PRE DELIVERY IMPLEMENT CHECK WHEN DONE SIGNATURE

PURCHASERS NAME (Full)

ADDRESS (Full)

DATE OF PURCHASE: IMP. RECEIVED IN GOOD ORDER & CONDITION

PURCHASER ACKNOWLEDGES THAT THE PURCHASERS ATTENTION HAS BEEN DRAWN TO THE TERMS AND CONDITIONS OF THE JOHN SHEARER LIMITED WARRANTY POLICY ENDORSED HERE-ON.

PURCHASERS SIGNATURE.....



WARRANTY REGISTRATION CARD

IMPORTANT:- TO ENSURE YOUR CLIENTS ARE COVERED UNDER WARRANTY YOU MUST FILL OUT THIS PORTION OF THE CARD AND RETURN WITHIN 7 DAYS TO JOHN SHEARER LIMITED
P.O. BOX 32, WELLAND, S.A. 5007

JOHN SHEARER LIMITED AREA MANAGER:

DEALER'S NAME: DEALER TOWN:

DEALER A/C No.:

IMPLEMENT MODEL: SIZE:

PRODUCT No. (as per price book) SERIAL No.

DEALER'S PRE DELIVERY IMPLEMENT CHECK WHEN DONE SIGNATURE

PURCHASERS NAME (Full)

ADDRESS (Full)

DATE OF PURCHASE: IMP. RECEIVED IN GOOD ORDER & CONDITION

PURCHASER ACKNOWLEDGES THAT THE PURCHASERS ATTENTION HAS BEEN DRAWN TO THE TERMS AND CONDITIONS OF THE JOHN SHEARER LIMITED WARRANTY POLICY ENDORSED HERE-ON.

PURCHASERS SIGNATURE.....



CUSTOMER'S MACHINERY REGISTER

We ask for your assistance in registering your holdings of equipment. This information can assist us greatly in after sales service, development of new products and customer awareness of Shearer products.

1. Name:.....
Address:.....
State:.....Postcode:.....

2. Type of purchaser (please tick) ☐ Owner / Manager ☐ Share Farmer ☐ Contractor

3. Major activities (please number in order of importance)
☐ Sheep and cereal grain ☐ Vegetables ☐ Sugar
☐ Sheep only ☐ Poultry ☐ Tobacco
☐ Cereal Grain Only ☐ Pigs ☐ Oilseeds
☐ Meat Cattle ☐ Vineyards ☐ Others (please list)
☐ Milk Cattle ☐ Fruit ☐

4. What is the size of your holding (hectares)?
What is the total area of your crop (hectares)?
What is your area under cereal crop (hectares)?

5. In what town is your associated Shearer dealer? (i.e. either the dealer with whom you normally trade or the one who is closest)

6. What John Shearer machines do you currently have on your property?

Serial No.	Implement type	Size	Date Delivered	Comments
...../...../.....				
...../...../.....				
...../...../.....				
...../...../.....				
...../...../.....				
...../...../.....				

Thank you for your assistance; please feel free to use the back of this form to make any comments you wish.



PRE-DELIVERY CHECK

1. On assembly of Cultivator ensure there are no shortages.
2. Check implement equipment, to ensure as ordered.
3. Check for trans-shipping damage.
4. Refer to lubrication section, page 8 for greasing and routine check points.
5. Check and tighten bolts and nuts (including wheel bolts).
6. Connect hydraulic circuit and check for leaks.

NOTE: Ensure that the hydraulic assembly and connections are completely free of all foreign matter and use **ONLY CLEAN OIL**.

7. Check tyre pressures refer page 8.
8. Ensure that implement is fully assembled and operating correctly.
9. Demonstrate and explain operation to client.
10. Explain terms and conditions of warranty to client.



Congratulations on the purchase of your new JOHN SHEARER LIMITED product. You have just joined the growing number of John Shearer customers and we trust that this product will give you many years of satisfaction. The following information contained in this manual is provided with regards to the product's operation, maintenance and warranty; however, should you require further assistance please contact your registered John Shearer Dealer.

WARRANTY POLICY

JOHN SHEARER LIMITED (JSL) warrants to purchaser that in normal use if any part of goods manufactured by JSL is proved to be of defective material such part will be replaced or repaired by JSL if returned to dealer at cost of customer within 12 months of delivery of goods, but such warranty shall to the extent permissible by law cease to apply forthwith if goods are misused or used contrary to recommendations of JSL and/or Dealer or if any unauthorised alterations, modifications or substitution of any part of goods is made or there is any breach by customer of the terms and conditions.

Customer agrees that JSL shall not be liable for any claim for damages due to loss of time in use of goods or loss of profits due to defective goods or for any other consequential damages whatsoever except to the extent that such exclusion of liability is prohibited by law.

All failures must be reported immediately by the purchaser to the Dealer (or in the event of the Dealer ceasing to hold the JSL franchise, then to the Dealer nominated by JSL).

The only parts which would be replaced or repaired under warranty are those which are proven to be of defective materials by persons in authority in the JSL Field Service Department.

It is the policy of JSL to continually strive to improve their products whenever possible. Therefore, JSL reserves the right at all times to modify its products or parts without notification and undertakes no liability to modify products sold, to conform with any such modifications.

Nothing in this warranty policy shall purport to exclude or limit any liability the exclusion or limitation of which is prohibited or rendered void by the Trade Practices Act 1974 as amended or any other Federal or applicable State Legislation.

Travelling and kilometre charges are not accepted by JSL as JSL has no control where equipment is sold.

All pre-delivery checks must be done by the Dealer and signed when completed on the Warranty Registration Card.

FREIGHT: The JSL policy does not extend to cover freight charges.

SERVICE & MAINTENANCE: It is the responsibility of the owner to read the Operator's Manual and to maintain and operate the product in a safe and correct manner within the manufacturer's specified capacity and operating limitations. Using the product for purposes other than those for which it is designed voids all warranty.

Regular service to your implement can save costly repairs and save valuable time lost because of breakdown.

Resultant damage or failures originating from neglect of machine is not covered under warranty. For your spare part requirements contact your John Shearer Dealer.



JOHN SHEARER

ESTABLISHED 1877
INCORPORATED IN SOUTH AUSTRALIA

LIMITED

HEAD OFFICE & FACTORY

BOX 32 WELLAND

SOUTH AUSTRALIA 5007

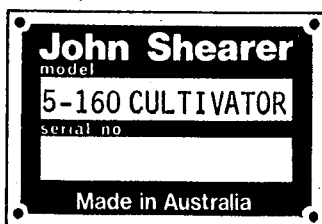
TELEPHONE — 8268 9555

STREET LOCATION — SHARE STREET & KILKENNY ROAD

FAX. No. — (08)8268 1103

WHEN ORDERING SPARE PARTS PLEASE STATE:

1. MODEL, SERIAL NUMBER & SIZE (OF THE MACH. / IMP.).
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.

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MADE & PRINTED IN AUSTRALIA BY JOHN SHEARER LIMITED.

M129J1 January 1989 M129J2 March 1990 M129J3 March 1995

M129J4 Feb 1996

SPECIFICATIONS

MODEL: (No. of tynes)	53	69	85			
FOR AIRSEEDERS: (No. of sowing rows)	60	70	90			
WIDTH OF CUT: m (ft)	8.5 (27'6")	9.6 (31'6")	11.0 (35'10")	11.2 (35'6")	13.6 (44'3")	14.4 (47'2")
TRANSPORT WIDTH:	6.12m (19'10")					
TRANSPORT HEIGHT: (without extensions) m (ft)	2.72 (8'9")					
TRANSPORT CLEARANCE:	250mm (9-3/4") for 580 series tynes – 205mm (8") for 620 series tynes					
APPROX. WEIGHT: kg (lb)	3580 (7870)	4430 (9740)	5280 (11,620)			
FRAME:	76mm (3") square RHS with 130mm x 10mm (5-1/8" x 3/8") section diagonal bracing; all welded; three section frame, greaseable, hardened steel pins and bushes in hinges and wheel arm pivots.					
FRAME LENGTH:	2.6m (8'6") all models.					
HITCH LENGTH:	4.03m (13'1") all models.					
UNDERFRAME CLEARANCE:	580mm (22.8") for 580 series tynes – 620mm (24.4") for 620 series tynes					
TYNE ASSEMBLIES:	620 spring release, clamp-on tyne assembly; edge-on only. 580 spring release, clamp-on tyne assembly; edge-on greaseable, hardened, replaceable pivot pins and bushes.					
TYNE BREAKAWAY FORCE: EOT 620 Edge-On Tynes 580	16mm diameter spring + 11mm inner spring adjustable to < than 1,112N (250 lbs). 16mm diameter spring, adjustable to a maximum 740N (165 lbs).					
No. OF ROWS:	FIVE					



SPECIFICATIONS

TYNE SPACINGS

Between Rows	1 & 2 rows 580mm, 2,3,4 & 5 rows 600mm
Along Rows	640mm
Minimum Diagonal	580mm
Diagonal Trash Flow	680mm
Overall	: 5/160 160mm (6-5/16")
	: Universal Bar from 180mm (7")
	150mm (6")

MAXIMUM WORKING DEPTH:

DEPTH CONTROL:

Self phasing, series connected hydraulic wheel lift circuit incorporating
 108mm x 203mm (4-1/4" x 8") master cylinder,
 102mm x 203mm (4 x 8") cylinder,
 95mm x 203mm (3-3/4" x 8") cylinder,
 89mm x 203mm (3-1/2" x 8") cylinder.

FRAME FOLD:

Two 102mm x 762mm (4" x 30") cylinders - 53 & 69 tyne implements.
 Two 127mm x 762mm (5" x 30") cylinders - 85 tyne implement.

WHEEL EQUIPMENT:

Standard

10.00 x 16 x 6ply.
 Walking wheels (dual) on centre and wings (69 & 85 tyne implements).
 Walking wheels (dual) on centre and single on wings (53 tyne implement).

Optional

7.50 x 20 x 8 ply. 900 x 16 x 6 ply.

OPTIONAL EQUIPMENT:

Tyne extensions 2, 4 or 8.
 Universal Airseeder kits.
 Spring Tooth Harrows

Due to our policy of continuing research, these specifications are subject to alteration without prior notification.

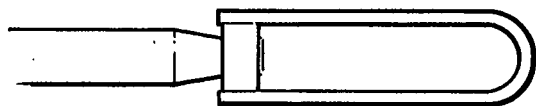
ASSEMBLY

1. Connect hitch assembly to main frame - fit pivot pins, ensuring holes in pins align with holes in hitch and locate with M10x65 bolts. Connect screwjack to hitch for support.
2. Fit hitch levelling screws to the rear - place screw in top toggle block and screw down into frame toggle block. Assemble retaining collar to screw and knock in sellock pins.
3. Attach wings to centre section.
4. Connect hydraulic components as per illustration on page 16. Maintain cleanliness - only remove protective coating and caps on actual connection. Leave all rams free on rod ends for phasing, and priming.
5. Fit wing rests in appropriate position.
6. Connect tractor and prime lift and fold cylinders by fully extending then retracting and then phase wheel lift circuit.

CAUTION:- Check oil level in tractor.

WARNING:- DO NOT CONNECT WING FOLD CYLINDERS TO WINGS UNTIL THEY ARE FULLY PRIMED.

FIT ELBOW/RESTRICTORS TO ROD END OF WING FOLD CYLINDERS AND BASE END OF MASTER WHEEL LIFT CYLINDER.



PHASING WHEEL LIFT CYLINDERS

To charge a rephasing circuit for the first time the following steps are necessary:-

1. Plumb the hydraulics and note carefully the series connected circuit of the four (4) wheel lift cylinders. (see page 16)
2. Leave the rod mountings free to extend without interference, with the cylinders supported approximately horizontally, with the rod end slightly raised and ports upwards (wing cylinders) or more vertically with rods upwards (centre section) to assist air to bleed.
3. Operate the valve to extend the cylinders.

NOTE: They will extend erratically. This is why they must be free - so they may extend without interference.
4. Keep the valve open until all cylinders in the circuit are fully extended. Allow oil to flow through the circuit for 5 - 10 minutes to purge air from the circuit. Run tractor at low speed. Check oil level.
5. Fully retract the cylinders.
6. Repeat the above cycle to be certain that all cylinders extend evenly and in phase with each other.
7. Connect rod end mountings.

THE SYSTEM IS NOW READY TO OPERATE.

NOTE: In operation a cylinder may become slightly out of phase. To rephase, fully extend the cylinders and hold tractor valve open for 2 - 3 seconds before returning to work position.



OPERATION

Connect implement to tractor and level implement frame front to back using the two levelling screws at the rear of the hitch. Be sure to adjust both equally – that is, one turn each at a time and check the depth of work by front and rear tynes following operation at intended depth and speed.

UNFOLDING

Remove transport pins from wing rests, and store in locations provided.

CAUTION:- ENSURE AREA IS CLEAR.

Extend wing fold cylinders to lower wings to working position. Rate of lowering is controlled by restrictors in cylinder ports. Ensure that cylinders are extended to their full travel to allow full frame articulation.

LEVELLING & DEPTH CONTROL

Lower wheel lift to working depth.

A depth indicator is fitted to the outer right hand wheel. For positive depth control, the wheel lift master cylinder (L/H wing) is fitted with an adjustable mechanical depth stop.

Check and adjust wing depth (in relation to centre section) by adjusting the nuts on the adjusting lug assembly. After adjustment tighten both nuts, ensuring that the lug is vertical.

FOLDING IMPLEMENT FOR TRANSPORT

Ensure that area is clear of overhead obstructions. Use hydraulics to fold wings up to full height. It is recommended that transport pins are inserted during road transport.

TYNE SPRING TENSION

Springs are pre-set in the factory for normal cultivating conditions. Use only as much tension as is necessary. Ensure that all tynes on each rank are equally tensioned, with front rank tynes requiring more tension than subsequent ranks.

With increased tyne tension grease tynes more frequently.

LUBRICATION

ITEM	INSTRUCTIONS	REFERENCE
WHEEL BEARINGS	GREASE ONCE PER WORKING MONTH	PAGE 12
WHEEL ARMS	GREASE DAILY, WITH WHEELS RAISED CLEAR OF GROUND (HYDRAULIC CYLINDERS FULLY CLOSED)	PAGE 12
HINGE PINS	GREASE DAILY	PAGE 10
TYNE ASSEMBLIES	GREASE DAILY IN ADVERSE CONDITIONS - LESS FREQUENTLY ACCORDING TO ACTUAL OPERATING CONDITIONS. <i>MINIMUM - SEASONALLY PRIOR TO STORAGE</i>	PAGE 16

ROUTINE CHECKS

- * GENERALLY INSPECT ALL BOLTS/NUTS FOR TIGHTNESS.
- * CHECK TYRE PRESSURES WEEKLY.

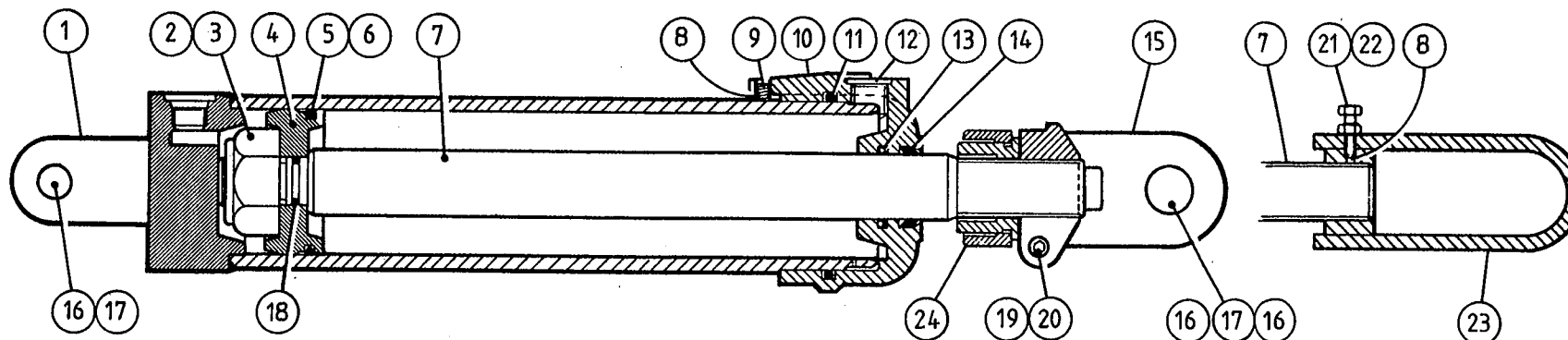
TYRE PRESSURES - are important			
<u>OVER INFLATION</u> will impair flotation - Increasing sowing depth variations as ground conditions vary.			
<u>UNDER INFLATION</u> can result in tyre failures.			
5 - 160 CULTIVATOR		TYRE 10.00 x 16 PRESSURE	TYRE 7.50 x 20 PRESSURE
WORK	CENTRE FRAME	125 kPa (18 psi)	194 kPa (28 psi)
	WING 27	80 kPa (12 psi)	80 kPa (12 psi)
	WING 19	80 kPa (12 psi)	80 kPa (12 psi)
	WING 11	80 kPa (12 psi)	80 kPa (12 psi)
TRANSPORT	85 TYNES	180 kPa (26 psi)	325 kPa (47 psi)
	69 TYNES	165 kPa (24 psi)	290 kPa (42 psi)
	53 TYNES	148 kPa (22 psi)	245 kPa (36 psi)

Centre wheel pressures specified for TRANSPORT (folded) must be used for TRANSPORT other than just "through a gateway". Centre wheels TRANSPORT pressure may be used in WORK when conditions permit. In that case, it is preferable to inflate wing wheels to the same pressure to obtain "uniform sinkage" on all wheels in varying ground conditions.

SPEED LIMIT 15 km/h

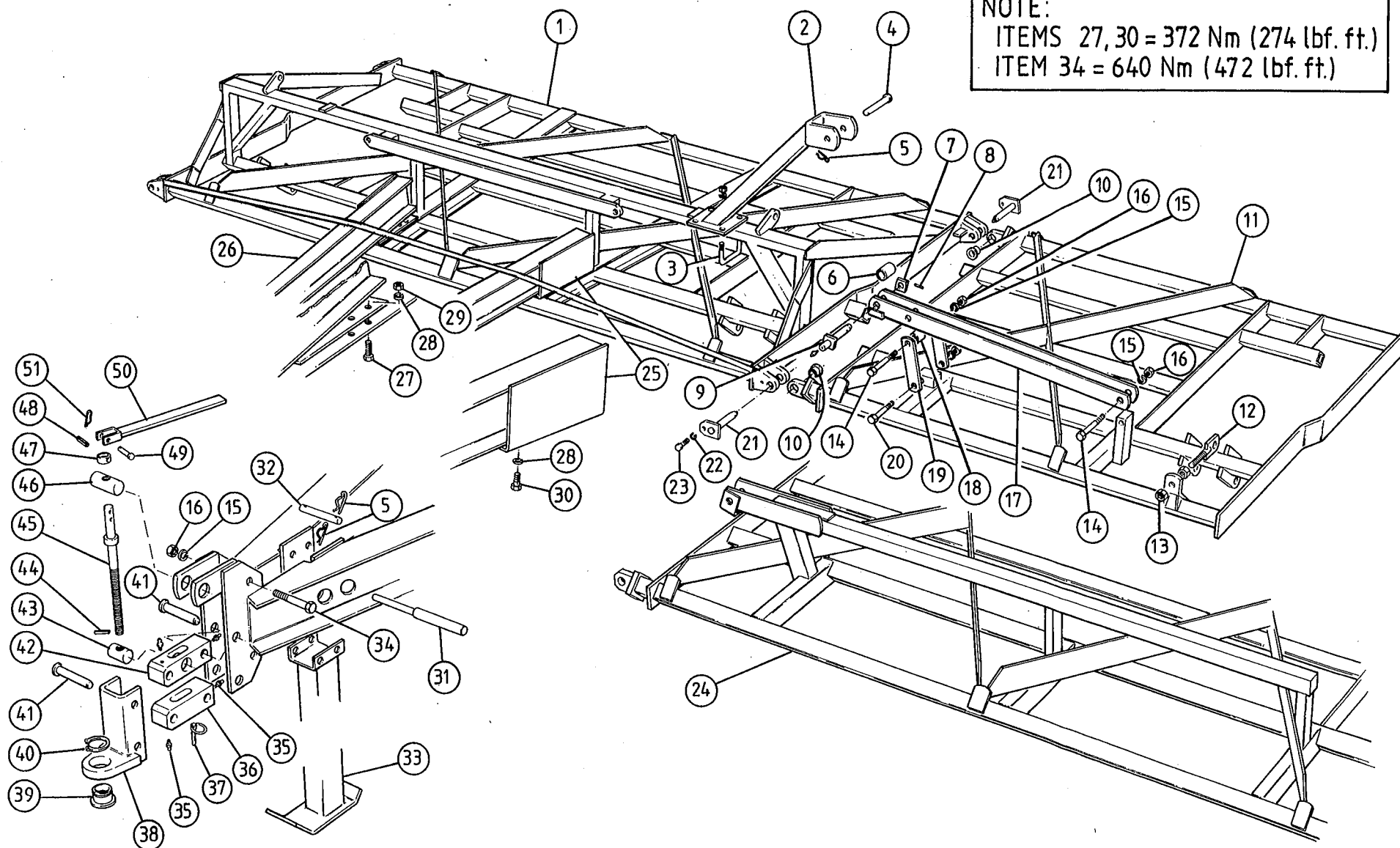


HYDRAULIC CYLINDER INFORMATION							
ITEM	21356 3-1/2" x 8" PHASING	21357 3-3/4" x 8" PHASING	29039 4" x 8" PHASING	31659 4-1/4" x 8" PHASING	19897 4" x 30" NON PHAS.	31310 5" x 30" NON PHAS.	DESCRIPTION
1	27128	27347	27095	31666	27066	31313	BASE/BARREL
2	29065	29065	29065				NUT nyloc 1" UNF
3				15444J1	15444J1	15444J1	NUT nyloc 1-1/4" UNF
5	27006	37351	27097	31660	27069	31314	PISTON
5	*27008	*27352	*27081		*27037	*27105	'O' RING piston
				*31667			SEAL piston
6					*27067	*27106	WASHER back-up
7	27045	27097	27097	31663	27055	27055	ROD
8				15206J1	15206J1	15206J1	INSERT nylon yoke
9	*28665	*28665	*28665		*28665		BOLT hex M8 x 25 nylon
				18789			SET SCREW soc. hd. M6 x 8
						28666	BOLT hex M6 x 15 nylon
10	27103	27354	27085	31661	27071	27109	GLAND
11	*27007	*27353	*27070	*31668	*27070	*27110	'O' RING
12	27083	27083	27083	27083	27083	27083	PLUG plastic 3/4" UN
13	*27015	*27084	*27084	*31669	*27058	*27058	SEAL gland
14	*27014	*16181J1	*16181J1	*27364	*27059	*27059	WIPER
15	27023	27023	27023	27023			CLEVIS
16	27018	27018	27018	27018			PIN
17	22889	22889	22889	22889			LYNCH PIN & CLEVIS
18	*29064	*29064	*29064	*27054	*27054	*27054	'O' RING piston rod
19	17777J1	17777J1	17777J1	17777J1			NUT hex M10
20	26443	26443	26443	26443			SCREW soc. hd cap M10 x 45
21					17495J1	17495J1	SET SCREW hex M8 x 30 (not part of assy.)
22					18464	18464	NUT hex M8 (not part of assy.)
23					34850	34850	YOKE ASSY. ram latch (not part of assy.)
24				27019			DEPTH STOP ASSY.
	27022	27356	27086	31679	27075	27111	SEAL KIT *denotes SEAL KIT parts



HITCH, CENTRE SECTION, WINGS ETC.

NOTE:
ITEMS 27, 30 = 372 Nm (274 lbf. ft.)
ITEM 34 = 640 Nm (472 lbf. ft.)





HITCH, CENTRE SECTION, WINGS ETC.

ITEM PART NO DESCRIPTION

1	45500-1200	FRAME ASSY.	centre (includes hitch truss bar)
2	34244	REST ASSY.	wing
3	17447J1	CLAMP	wing rest
	17606J1	WASHER	spring ϕ 16
	18021	NUT	hex M16
4	18298	PIN ASSY.	safety
5	H160-106	PIN	hair
6	26273	ROLLER	lift bar
7	34236	WASHER	square - shaft
8	18918	PIN	sellock ϕ 6.3 x 36
9	34234	PIN ASSY.	roller
	18596	NIPPLE	grease
10	29181	BUSH	hinge
11	34126	FRAME ASSY.	L/H - wing 11 tyne
	34125	FRAME ASSY.	R/H - wing 11 tyne
	35462	FRAME ASSY.	L/H - wing 19 tyne
	35463	FRAME ASSY.	R/H - wing 19 tyne
12	24900	SCREW ASSY.	ram adjusting
13	17267J1	NUT	hex lock M36
14	18041	BOLT	hex M24 x 130
15	18935	WASHER	spring ϕ 24
16	18042	NUT	hex M24
17	34241	LIFT BAR ASSY.	11 tyne
18	19939	SPACER	link
19	34243	STRUT	lift bar 11 tyne
20	21468	BOLT	hex M24 x 110
21	26177	PIN ASSY.	hinge
	18596	NIPPLE	grease
22	17616J1	WASHER	spring ϕ 12
23	18805	BOLT	hex M12 x 30
24	35935	FRAME ASSY.	L/H - wing 27 tyne
	35934	FRAME ASSY.	R/H - wing 27 tyne
25	35568	BEAM	hitch L/H
26	35567	BEAM	hitch R/H
27	18140	BOLT	hex M20 x 60
28	18023	WASHER	spring ϕ 20
29	18022	NUT	hex M20
30	24879	BOLT	hex M20 x 40

ITEM PART NO DESCRIPTION

31	32097	PIN	locating
32	32098	PIN	pivot jack
33	34220	PROP ASSY.	
34	34872	BOLT	hex M24 x 150 Gr.8.8
35	18596	NIPPLE	grease self tapping
36	34873	LINK	bottom - screw
37	22889	PIN LYNCH & RING	
38	34877	TONGUE ASSY.	
39	24525	BUSH	tongue 2"
40	21657	CIRCLIP	external
41	34874	PIN	swivel
42	34875	LINK	top - screw
43	34876	NUT	screw
44	33788	PIN	sellock ϕ 6 x 30
45	34881	SCREW ASSY.	
46	34880	BLOCK	toggle - screw
47	34884	SLEEVE	drilled - screw
48	33786	PIN	sellock ϕ 10 x 45
49	366-48A	PIN	drilled ϕ 3/8" x 2"
50	17497J91	HANDLE ASSY.	
51	H135-57	PIN	hair ϕ 2.8

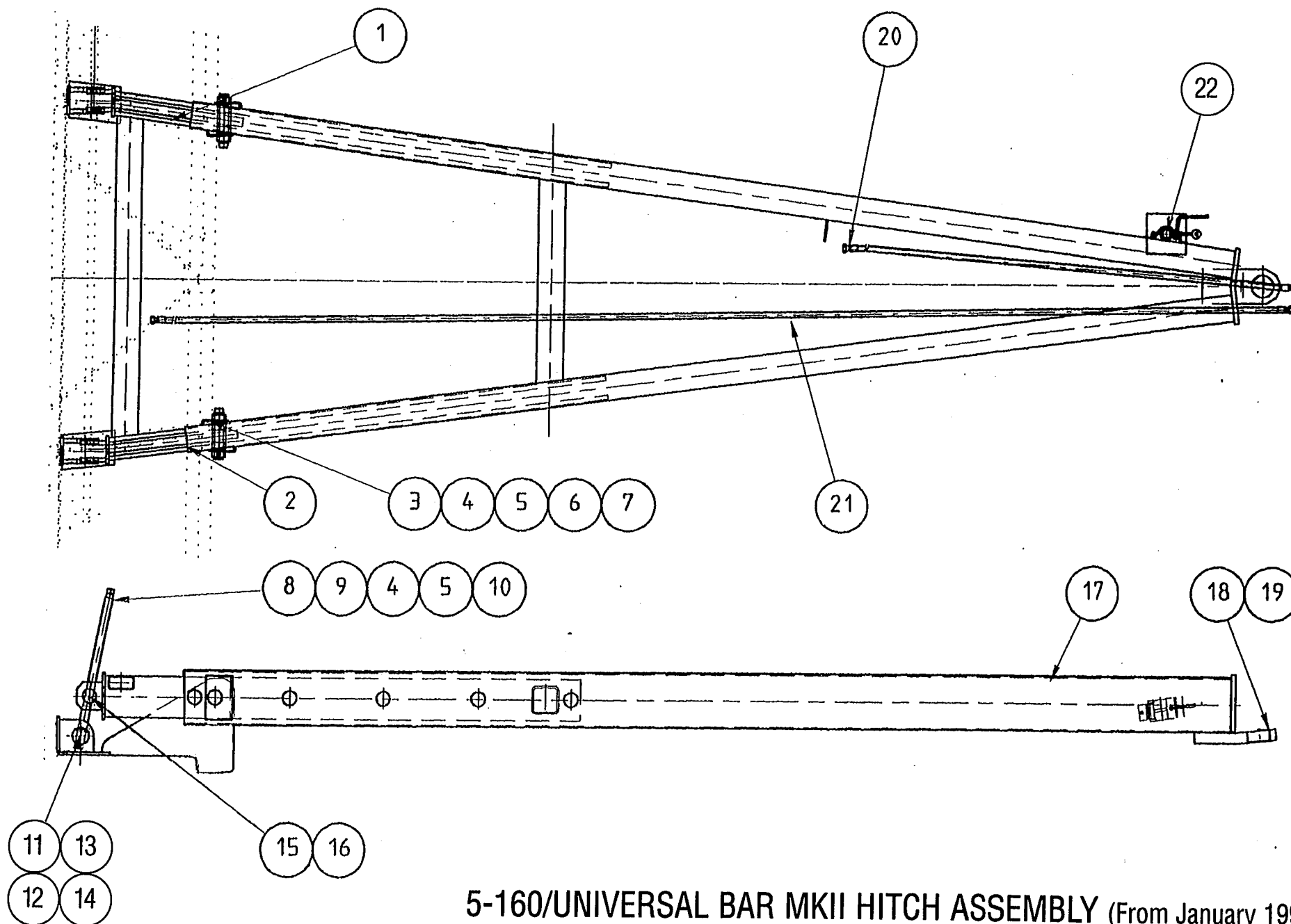
ASSEMBLIES

35571

HITCH ASSEMBLY (Prior to December 1995)
items 15, 16, 25, 26 & 34

36908

HITCH ASSEMBLY (From January 1996)
refer following page



5-160/UNIVERSAL BAR MKII HITCH ASSEMBLY (From January 1996)

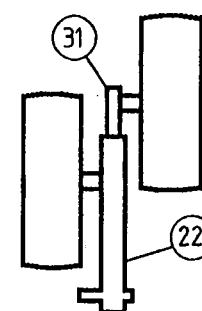
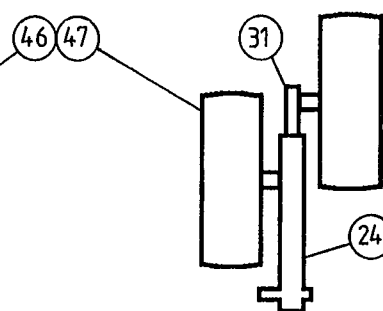
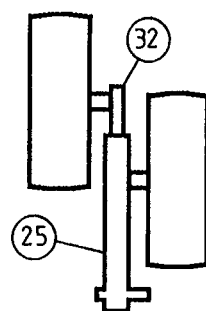
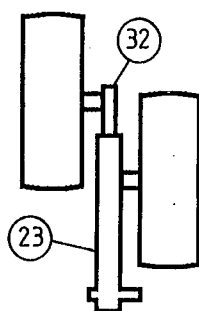
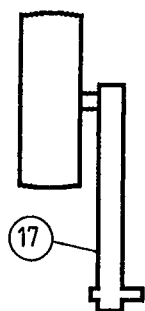
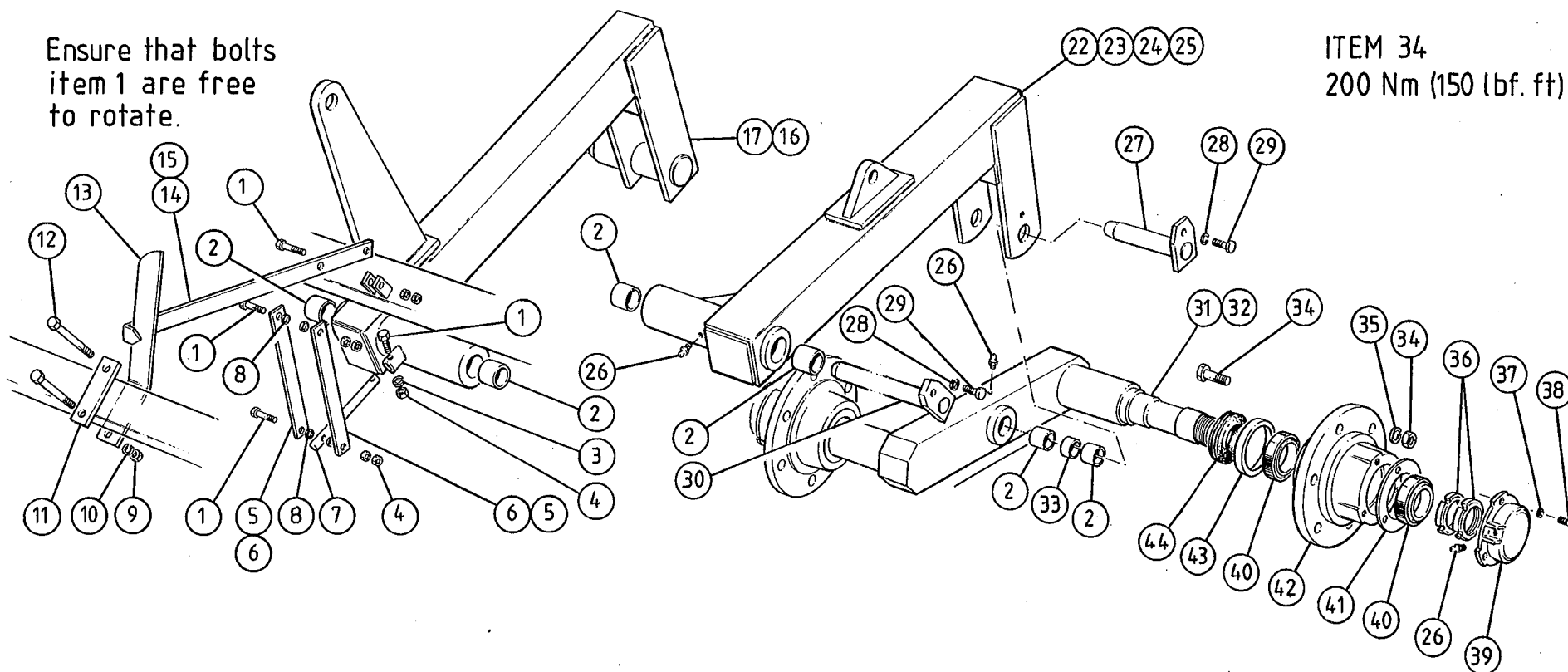
5-160/UNIVERSAL BAR MK11 HITCH ASSEMBLY (From January 1996)

ITEM	PART NO	DESCRIPTION	ITEM	PART NO	DESCRIPTION
1	36897	CRADLE, LH	21	23228	HOSE ASSEMBLY, 3/4 JIC (F)
2	36898	CRADLE, RH	22	36556	JACK/CLAMP ASSEMBLY
3	36905	SHAFT, PIVOT			
4	17777J1	NUT, HEX M10			
5	17776J1	WASHER, SPRING 10mm			
6	19046	BOLT, HEX M10 x 65mm			
7	15176J1	WASHER			
8	17497J91	HANDLE ASSEMBLY, ADJUSTING SCREW			
9	18927	BOLT, HEX M10 x 50			
10	36906	SCREW ASSEMBLY, LEVELLING			
11	31409	BLOCK, TOGGLE			
12	15770J91	COLLAR, SCREW RETAINING			
13	SKP179	PIN, SELLOCK 3/8" x 2-1/4"			
14	SKP123	PIN, SELLOCK 7/32" x 2-1/4"			
15	15771J1	BLOCK, PIVOT			
16	16944J1	PIN, COTTER 6.3 x 6.3mm			
17	36908	HITCH ASSEMBLY			
18	24525	BUSH TONGUE - 2" PIN			
19	21657	CIRCLIP, EXTERNAL 82mm			
20	24642	HOSE ASSEMBLY, 3/4 JIC (F)			

AXLE ARM, WHEEL EQUIPMENT, DEPTH INDICATOR ETC.

Ensure that bolts
item 1 are free
to rotate.

ITEM 34
200 Nm (150 lbf. ft)





AXLE ARM, WHEEL EQUIPMENT, DEPTH INDICATOR ETC.

ITEM PART NO DESCRIPTION

1	18437	BOLT	hex M8 x 35
2	20269	BUSH	jumper arm
3	18465	WASHER	spring ø8
4	18464	NUT	hex M8
5	35512	LINK	pointer 53T
6	35965	LINK	pointer 69T & 85T
7	34941	BAR	extension 53T
8	FBW3	WASHER	flat ø5/16"
9	17777J1	NUT	hex M10
10	17776J1	WASHER	spring ø10
11	34937	PLATE	clamp 53T
12	18878	BOLT	hex M10 x 110
13	34939	PLATE	indicator 53T
	35958	BRACKET	indicator 69T & 85T MKII
14	35511	POINTER	indicator 53T
15	35962	POINTER	indicator 69T & 85T
16	34889	ARM ASSY.	L/H single
17	34888	ARM ASSY.	R/H single
22	35989	ARM ASSY.	L/H wing
23	35988	ARM ASSY.	R/H wing
24	34921	ARM ASSY.	L/H centre
25	34920	ARM ASSY.	R/H centre
26	18596	NIPPLE	grease
27	34911	SHAFT ASSY.	wheel
28	17616J1	WASHER	spring ø12
29	18805	BOLT	hex M12 x 30
30	34909	SHAFT ASSY.	wheel arm
31	34916	BEAM AXLE ASSY.	L/H tandem
32	34915	BEAM AXLE ASSY.	R/H tandem
33	24723	SPACER	bush
34	16199J1	BOLT/NUT	5/8"UNF x 2-1/4"
35	17606J1	WASHER	spring ø16
36	15205J1	NUT	spindle 50 x 1.5
37	SPW2	WASHER	spring ø5/16"
38	SD2097	SET SCREW	5/16" x 7/8"UNC
39	15305J1	CAP	hub
40	15203J1	BEARING	

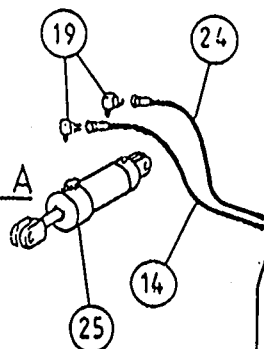
ITEM PART NO DESCRIPTION

41	30195	GASKET	dust cap large
42	18325	HUB	
43	12396	WEAR RING	
44	12395	SEAL	triple lipped
46	34897	TYRE	10.00 x 16 x 6ply
	13499	TUBE	16"
	12624	WHEEL ASSY.	rim 16"
47	18328	TYRE	7.50 x 20 x 8ply (optional)
	18929	TUBE	20" (optional)
	34899	RIM ASSY.	5.50 x 20 (optional)
ASSEMBLIES			
	36028	ARM WHEEL ASSY.L/H wing	items 2, 22 & 26
	36027	ARM WHEEL ASSY.R/H wing	items 2, 23 & 26
	34919	ARM WHEEL ASSY.L/H centre	items 2, 24 & 26
	34918	ARM WHEEL ASSY.R/H centre	items 2, 25 & 26
	34935	ARM WHEEL ASSY.L/H single	items 2, 16 & 26
	34934	ARM WHEEL ASSY.R/H single	items 2, 17 & 26
	34914	BEAM HUB ASSY.L/H complete	items 2, 26, 31, 33, 36 - 44
	34913	BEAM HUB ASSY.R/H complete	items 2, 26, 32, 33, 36 - 44
	34895	HUB/ARM ASSY.L/H single	items 34935, 36 - 44
	34894	HUB/ARM ASSY.R/H single	items 34934, 36 - 44
	34896	WHEEL ASSY.	10.00 x 16 x 6ply item 46 complete
	34898	WHEEL ASSY.	7.50 x 20 x 8ply (optional) item 47 complete
	35970	KIT INDICATOR	69T & 85T MKII (not illustrated)
	34938	PLATE INDICATOR ASSY.	includes item 13 & P/No. 17626J1 TRANSFER scale (not illustrated) 53T

HYDRAULICS

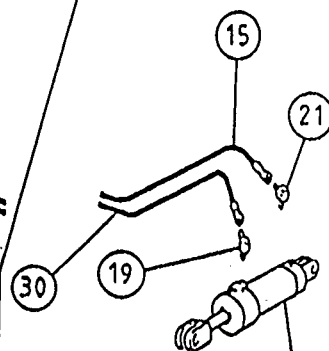
DETAIL A

FOR 69 & 85
TYNE MK. II
VERSION ONLY



DETAIL B

FOR 69 & 85 TYNE
MK. II VERSION ONLY



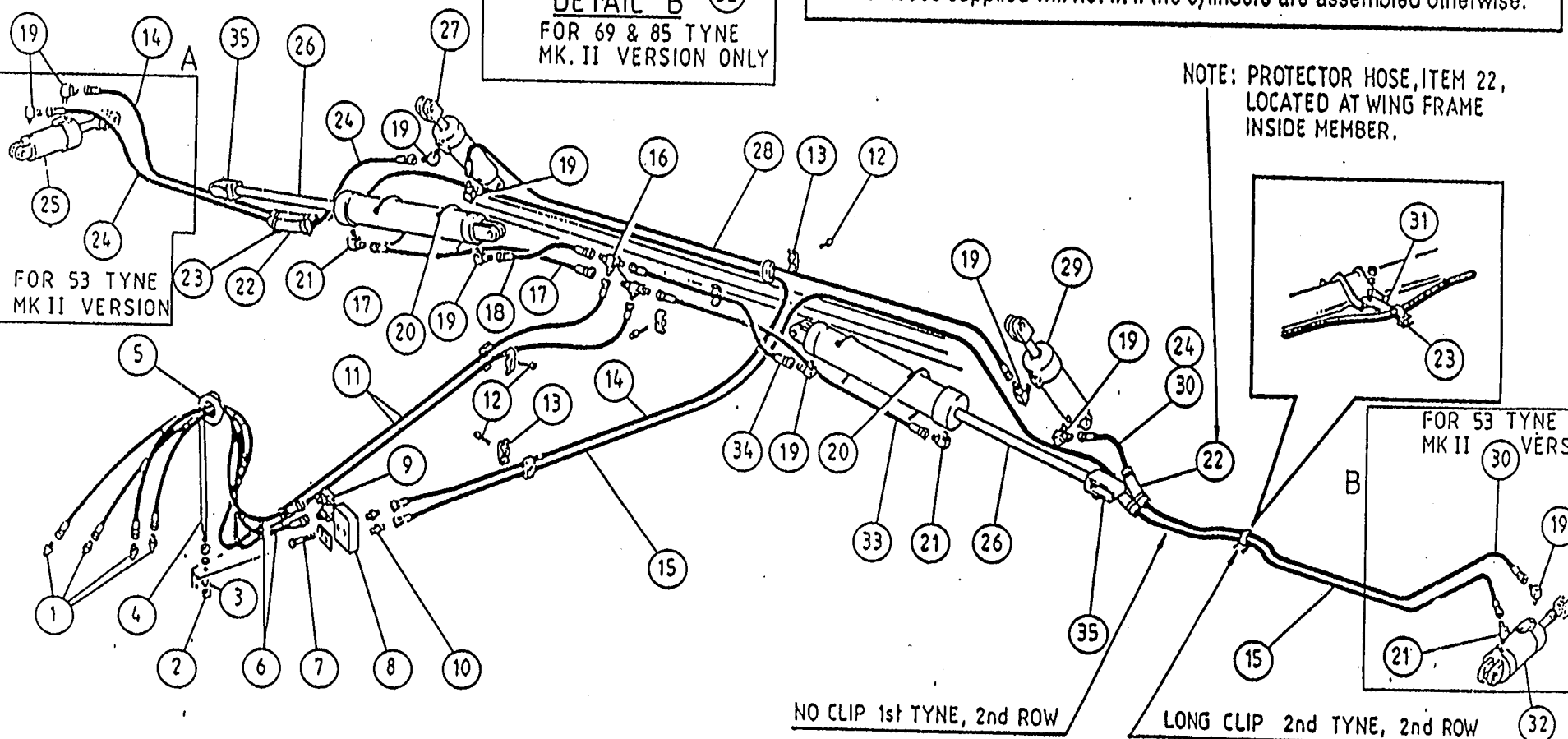
The two wheel lift cylinders,
on the centre section of the Implement,
items 27 and 29 are assembled with the
"ROD END UPWARDS".

The reason for this being:

- a) to ensure that the air is purged from the cylinders during the phasing operation, and
- b) to make the hydraulic plumbing tidier than it would otherwise be.

The hoses supplied will not fit if the cylinders are assembled otherwise.

NOTE: PROTECTOR HOSE, ITEM 22,
LOCATED AT WING FRAME
INSIDE MEMBER.



FOR 53 TYNE
MK II VERSION

FOR 53 TYNE
MK II VERSION

NO CLIP 1st TYNE, 2nd ROW

LONG CLIP 2nd TYNE, 2nd ROW

HYDRAULICS

ITEM PART NO DESCRIPTION

1	14598J1	NIPPLE	1/2"BSPT x 3/4"JIC
2	18021	NUT	hex M16 Gr.8.8 pl
3	17606J1	WASHER	spring ø16
4	23331	CARRIER	hose
5	22008	HOSE	ø19mm I.D.PVC (1 metre unit)
6	22946	HOSE ASSY.	ST/ST 3260
7	22997	BOLT	hex M8 x 60
	18465	WASHER	spring ø8
	18464	NUT	hex M8
8	17427J1	LOCK VALVE	
	13396	PLUG	3/8"BSPT
9	15244J1	ELBOW	3/8"BSPT x 3/4"JIC
10	17257J1	NIPPLE	3/8"BSPT x 3/4"JIC
11	23204	HOSE ASSY.	ST/ST 6400 11T, 19T & 27T
12	32367	SCREW	tek No.14
13	32366	CLAMP	hose plastic
14	34885	HOSE ASSY.	ST/ST 7900 (11T)
	23302	HOSE ASSY.	ST/ST 9200 (19T)
	29458	HOSE ASSY.	ST/ST 10520 (27T)
15	23228	HOSE ASSY.	ST/ST 6800 (11T)
	23262	HOSE ASSY.	ST/ST 8100 (19T)
	23264	HOSE ASSY.	ST/ST 9500 (27T)
16	18291	TEE	MMM 3/4"JIC
17	35367	HOSE ASSY.	ST/ST 1250
18	35361	HOSE ASSY.	ST/ST 500
19	15248J1	ELBOW	3/4"UN x 3/4"JIC
20	18959	RETAINER	hoses
21	27371	ELBOW/RESTRICTOR	
22	31195	PROTECTOR	hose
23	22151	CLIP	bonding
24	26305	HOSE ASSY.	ST/ST 2400 (11T)
	21269	HOSE ASSY.	ST/ST 3600 (19T)
	24640	HOSE ASSY.	ST/ST 5050 (27T) R.H.
25	21356	RAM ASSY.	ø3-1/2" x 8" phasing
26	19897	RAM ASSY.	ø4" x 30" (11T & 19T)
	31310	RAM ASSY.	ø5" x 30" (27T)
27	21357	RAM ASSY.	ø3-3/4" x 8" phasing
28	28740	HOSE ASSY.	ST/ST 4330
29	29039	RAM ASSY.	ø4" x 8" phasing

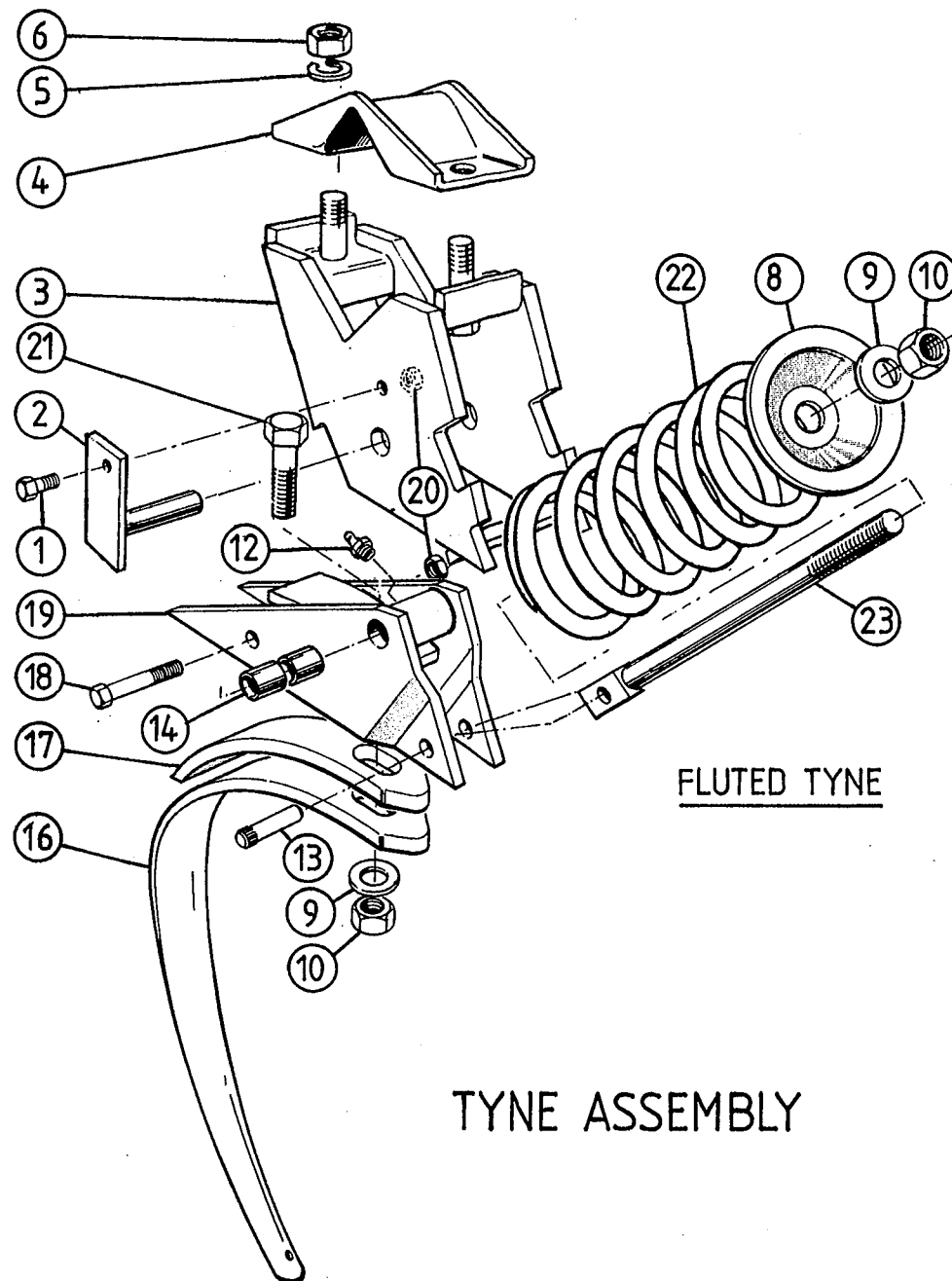
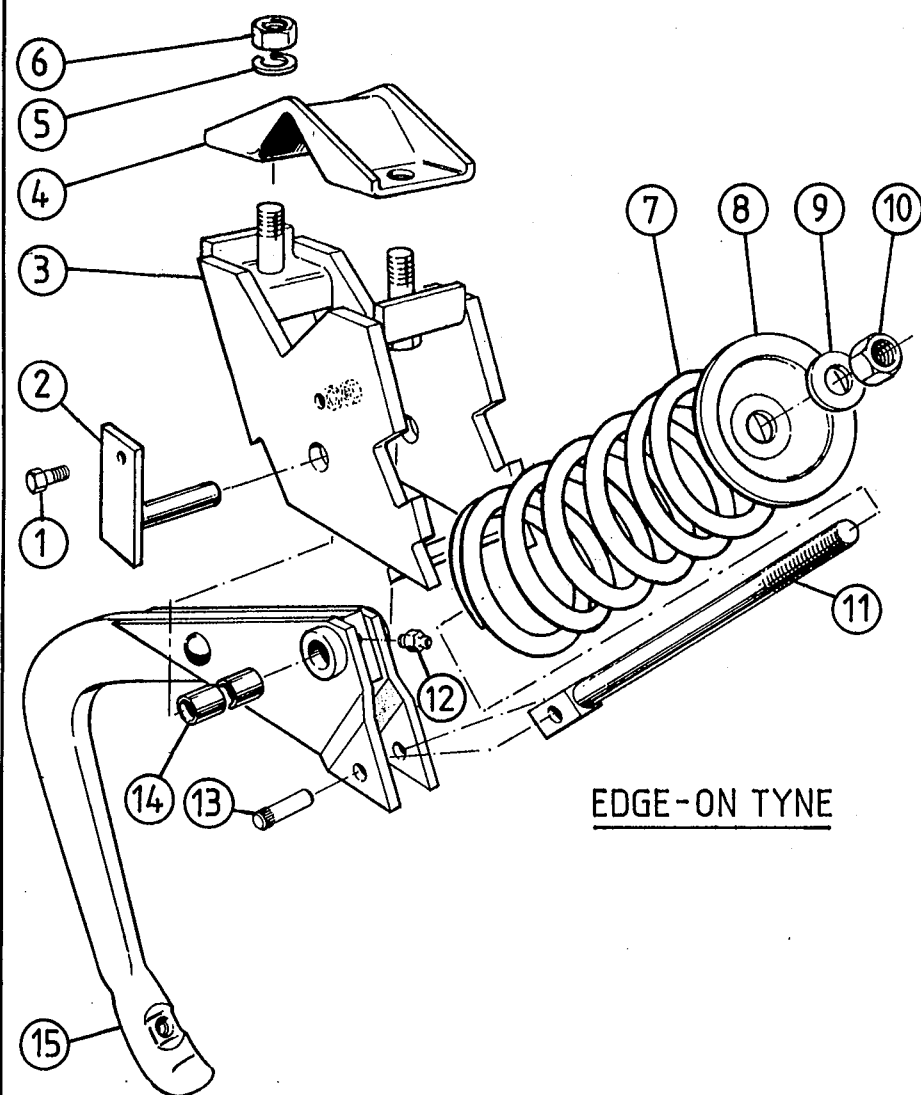
ITEM PART NO DESCRIPTION

30	26305	HOSE ASSY.	ST/ST 2400 (11T)
	21269	HOSE ASSY.	ST/ST 3600 (19T)
	24641	HOSE ASSY.	ST/ST 4700 (27T) R.H.
31	21474	CLIP	hose retaining
	35293	CLIP	hose retaining - long
32	31659	RAM ASSY.	ø4-1/4" x 8" phasing depth stop
33	24638	HOSE ASSY.	ST/ST 2360
34	23388	HOSE ASSY.	ST/ST 1400
35	34240	YOKE ASSY.	ram - latch

ASSEMBLIES

23330	CARRIER ASSY.	hose items 2 - 5
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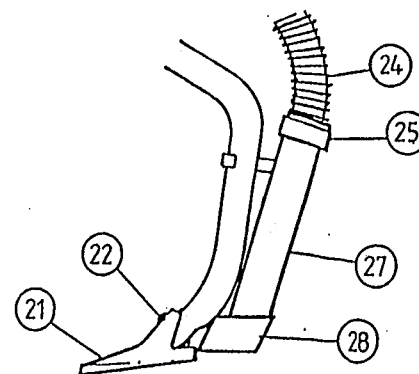
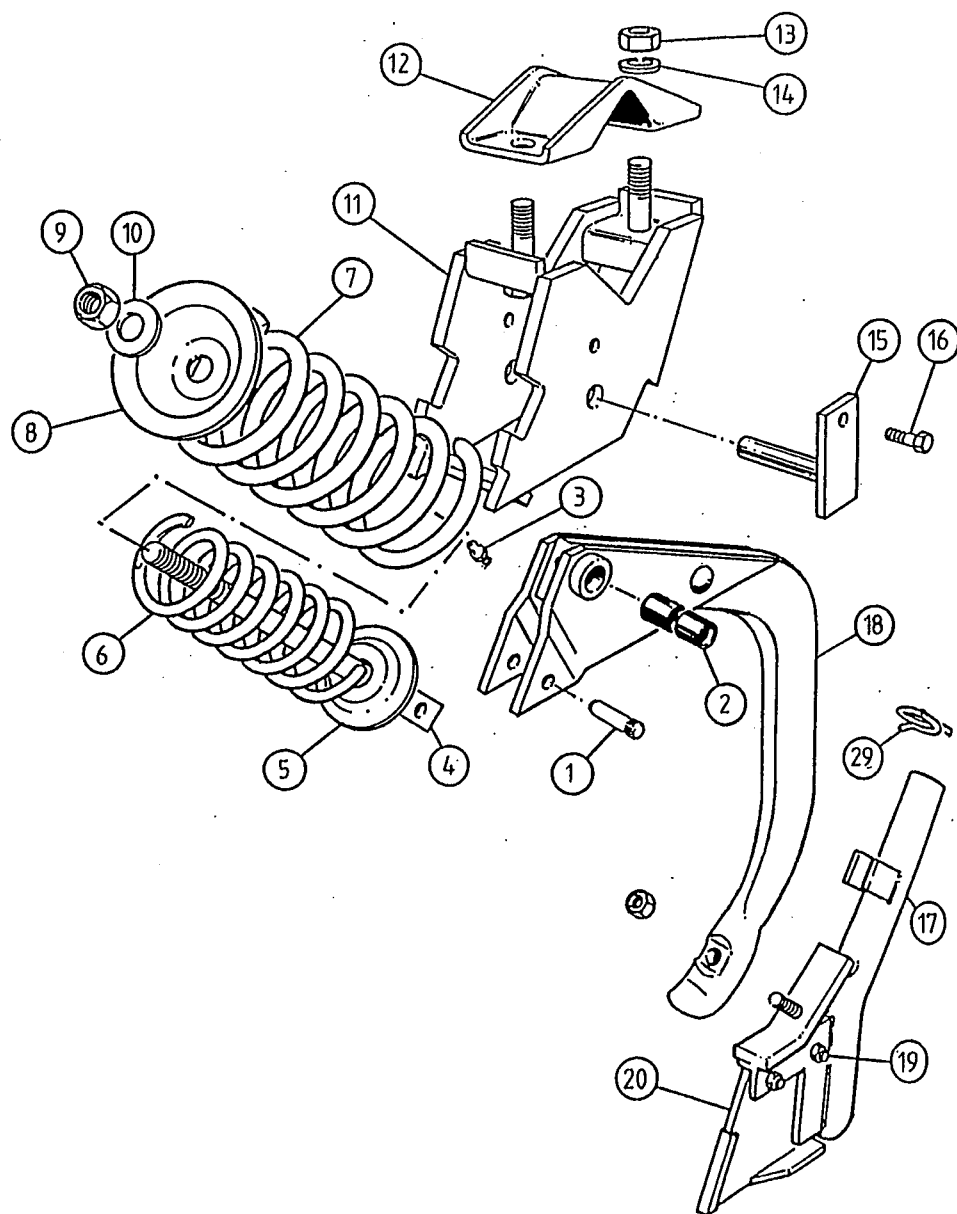
TYNE ASSEMBLY



TYNE ASSEMBLY

ITEM	PART NO	DESCRIPTION	ITEM	PART NO	DESCRIPTION
1	18824	BOLT hex M10 x 30 Gr.4.6	25	18098	BOLT/NUT 1-15/16" x 7/16"BSW (not illus.)
	17776J1	WASHER spring ø10	26	17616J1	WASHER spring ø12 (not illustrated)
	17777J1	NUT hex M10			
2	22931	PIN ASSY.			ASSEMBLIES
3	22921	CARRIER ASSY.	22900		TYNE ASSY. COMPLETE '580' EDGE-ON
4	22925	CLAMP top tyne			items 1 - 10, 14, & 22902
5	17606J1	WASHER spring ø16	22902		TYNE & SPRING ROD ASSY. EDGE-ON
6	18021	NUT hex M16 Gr.8.8			items 11 - 15
7	22927	SPRING ø16	22901		TYNE ASSY. COMPLETE '580' FLUTED
8	22926	CUP spring			items 1 - 6, 8, 20, 22
9	18312	WASHER flat ø20 structural			& 22903
10	22026	NUT hex M20 nyloc	22903		TYNE & SPRING ROD ASSY. FLUTED
11	22913	ROD ASSY. spring E.O.T.			items 9, 10, 12 - 14, 16, 17,
12	18596	NIPPLE grease self tapping			19 - 21, 28
13	18813	PIN spring rod			
14	21612	BUSH tyne split			
15	22904	TYNE ASSY. edge-on '580'			
16	22906	TYNE fluted '580'			
17	22907	HELPER tyne '580'			
18	18897	BOLT hex M10 x 75 Gr.8.8 pl.			
19	22908	ROCKER ASSY.			
20	21424	NUT hex M10 conelok			
21	18140	BOLT hex M20 x 60 Gr.8.8 pl.			
22	27394	SPRING tyne ø13			
23	27029	ROD ASSY. spring fluted '580'			
24	28979	POINT 8" dart (not illustrated)			

620 TYNE ASSEMBLY

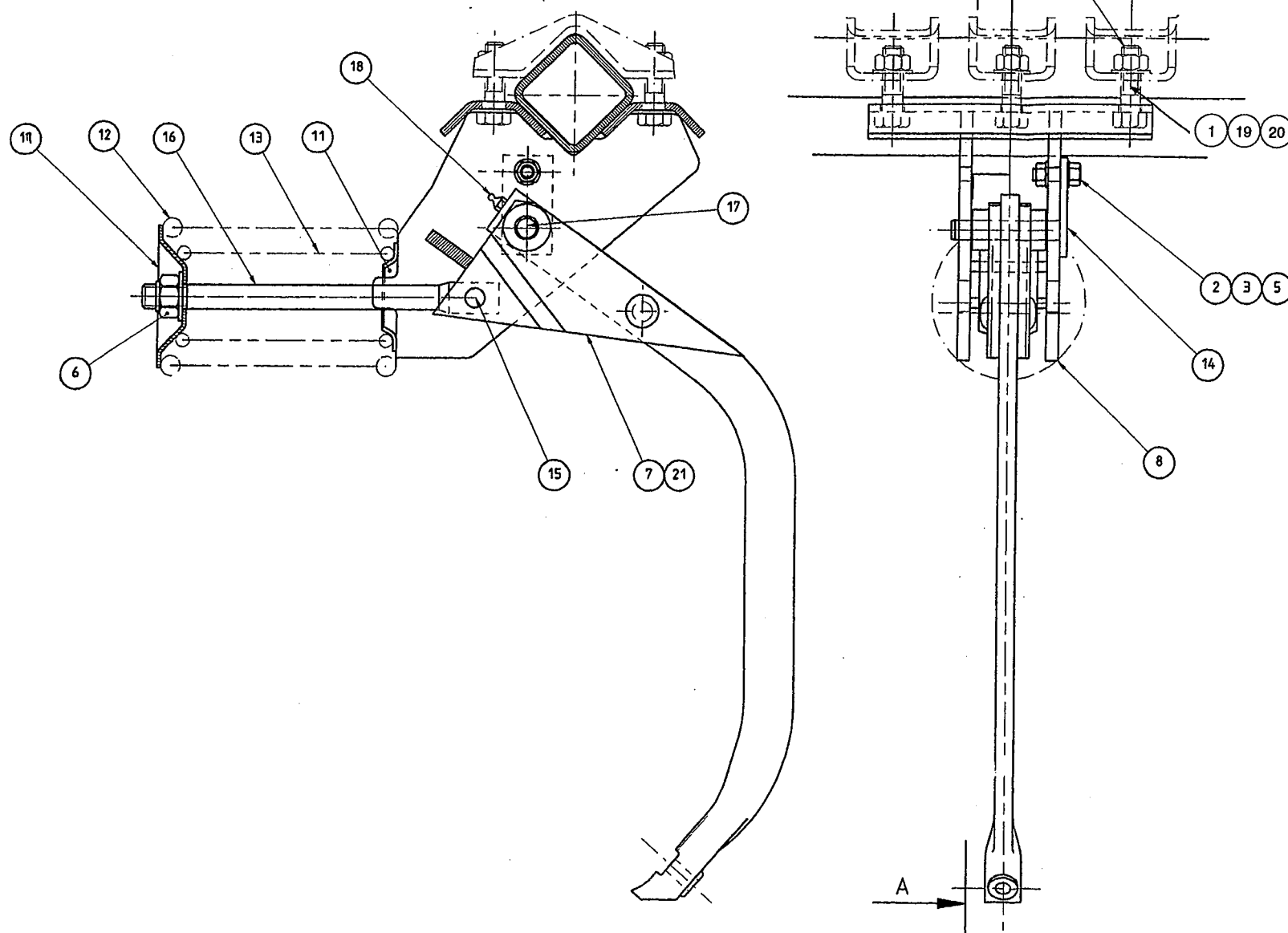




TYNE ASSEMBLY AND POINTS 620 V MOUNTED

ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1	18813	PIN spring rod	24	21863	HOSE Barvac ø35 x 1100
2	21612	BUSH split		21839	HOSE Barvac ø35 x 800
3	18596	NIPPLE grease self tap	25	22244	COLLAR locking hose (not required with Direct Drill Boot)
4	22913	ROD spring E.O.T.			
5	35236	CUP spring small	26	22169	BOLT cup hd. sq. neck M8 x 45
6	35237	SPRING ø11" x 60ID		18465	WASHER spring ø8
7	22927	SPRING ø16		18464	NUT hex M8
8	22926	CUP spring	27	36710	SOWING BOOT Direct Drill
9	22026	NUT hex M20 nyloc	28	27796	ATTACHMENT firm seed bed E.O.T.
10	18312	WASHER flat ø20	29	35341	CLIP hose 'T' boot
11	22921	CARRIER ASSY.			
12	22925	CLAMP top tyne		33256	'T' BOOT items 17,19,20
13	18021	NUT hex M16		36102	TYNE AND SPRING ROD ASSY. 620 items 1-4, 18
14	17606J1	WASHER spring ø16			
15	22931	PIN ASSY. tyne		36100	TYNE ASSY. COMPLETE '620' EDGE-ON items 5-16 and 36102
16	18824	BOLT hex M10			
	17776J1	WASHER spring ø10			
	17777J1	NUT hex M10			
17	33257	BOOT ASSY.			
18	36100	TYNE ASSY. edge on 620			
19	33259	BOLT hex M8			
	18464	NUT hex M8			
20	33258	POINT blade			
21	28979	POINT 8"			
22	18098	BOLT/NUT 1-15/16" x 7/16"BSW			
	17616J1	WASHER spring ø12 pl.			
23	22168	CLIP tyne			

TI/620 TYNE ASSEMBLY

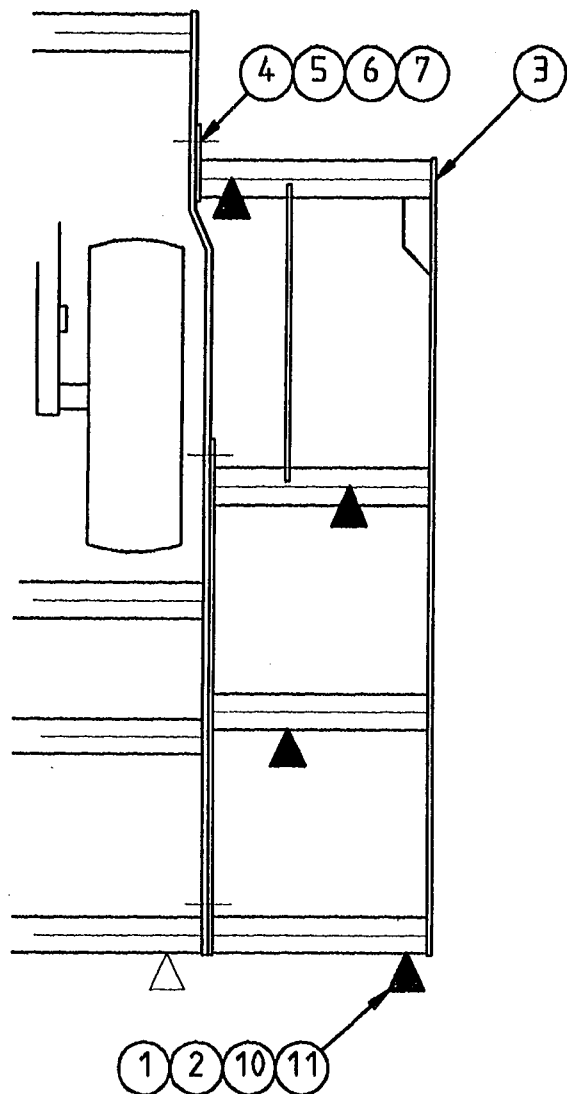


TI/620 TYNE ASSEMBLY

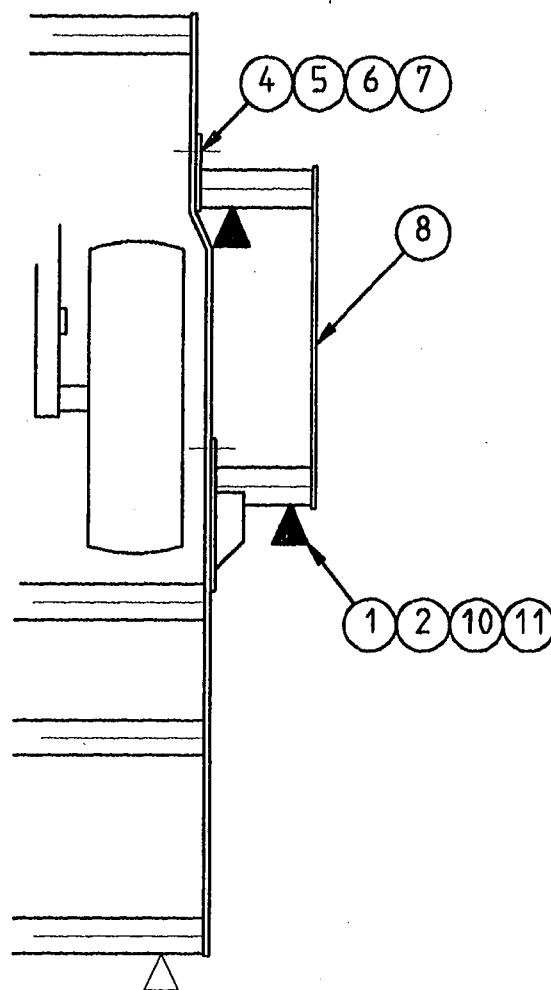
ITEM	PART NO	DESCRIPTION	ITEM	PART NO	DESCRIPTION
1	17606J1	WASHER, SPRING Ø16mm		36937	TYNE ASSEMBLY COMPLETE - items 1-20
2	17776J1	WASHER, SPRING Ø10mm			
3	17777J1	NUT, HEX M10			
4	18312	WASHER, FLAT BLACK Ø20mm			
5	18824	BOLT, HEX M10 x 30mm			
6	22026	NUT, NYLOCK M20			
7	36104	TYNE ASSY. - 620			
8	36946	CARRIER ASSY.			
9	22925	CLAMP, TOP			
10	22926	CUP, SPRING			
11	35236	CUP, SPRING SMALL			
12	22927	SPRING Ø16mm			
13	35237	SPRING Ø11mm			
14	22931	PIN ASSY.			
15	18813	PIN, SPRING ROD			
16	22913	ROD ASSY, SPRING			
17	21612	BUSH, TYNE			
18	18596	NIPPLE GREASE			
19	18021	NUT, M16			
20	17888J1	BOLT, M16 x 65mm			

TYNE EXTENSIONS

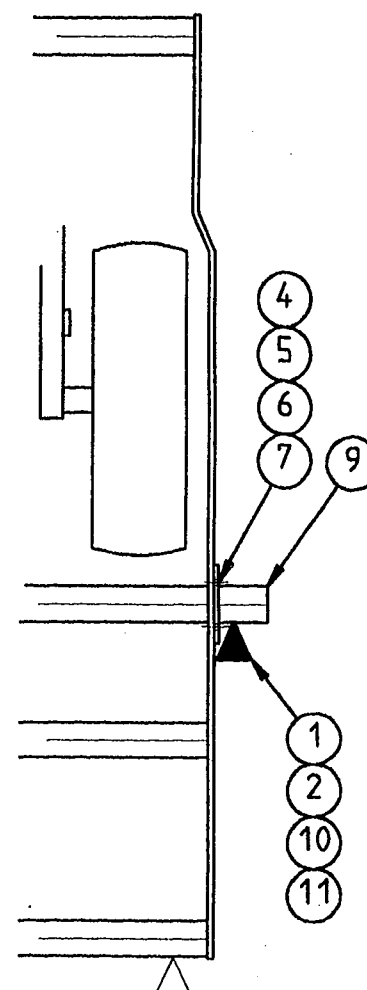
8 TYNE EXTENSION



4 TYNE EXTENSION



2 TYNE EXTENSION

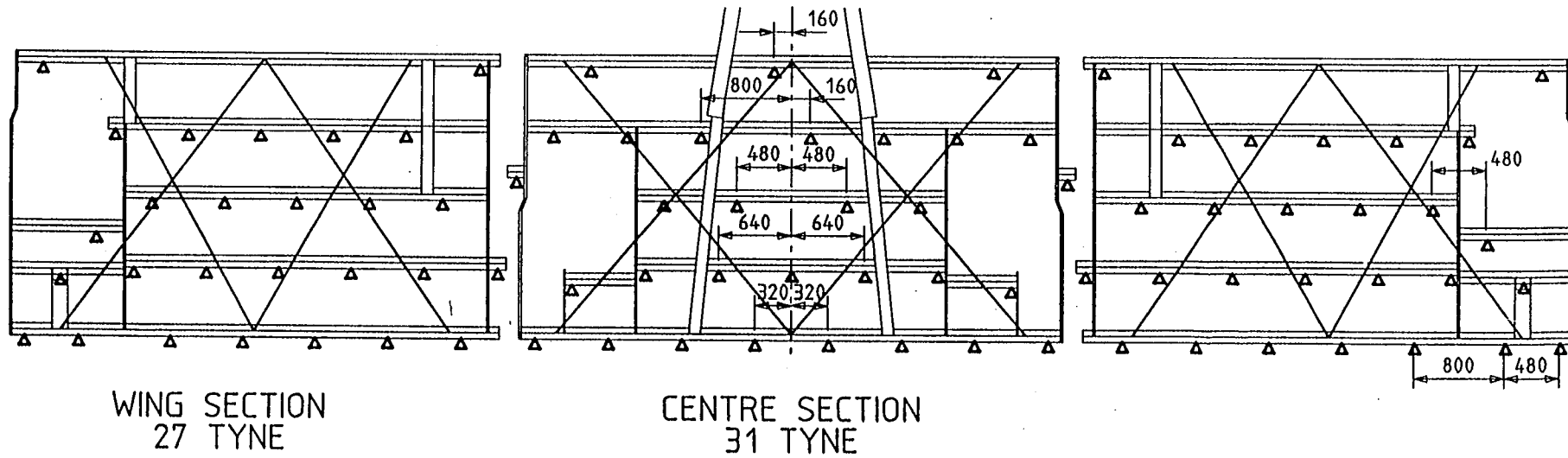
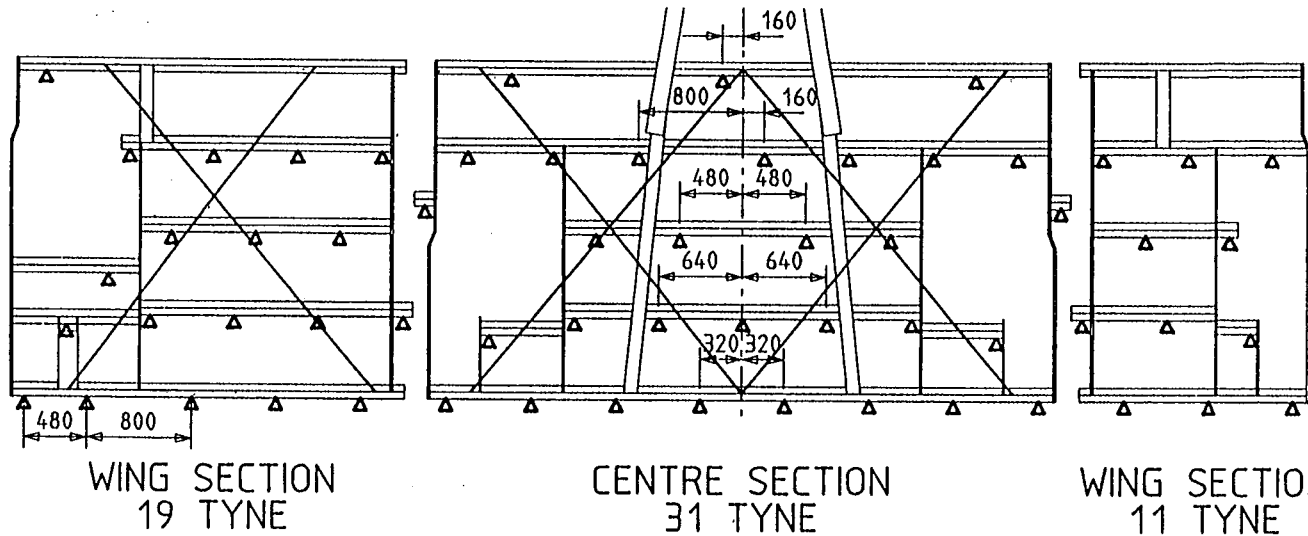




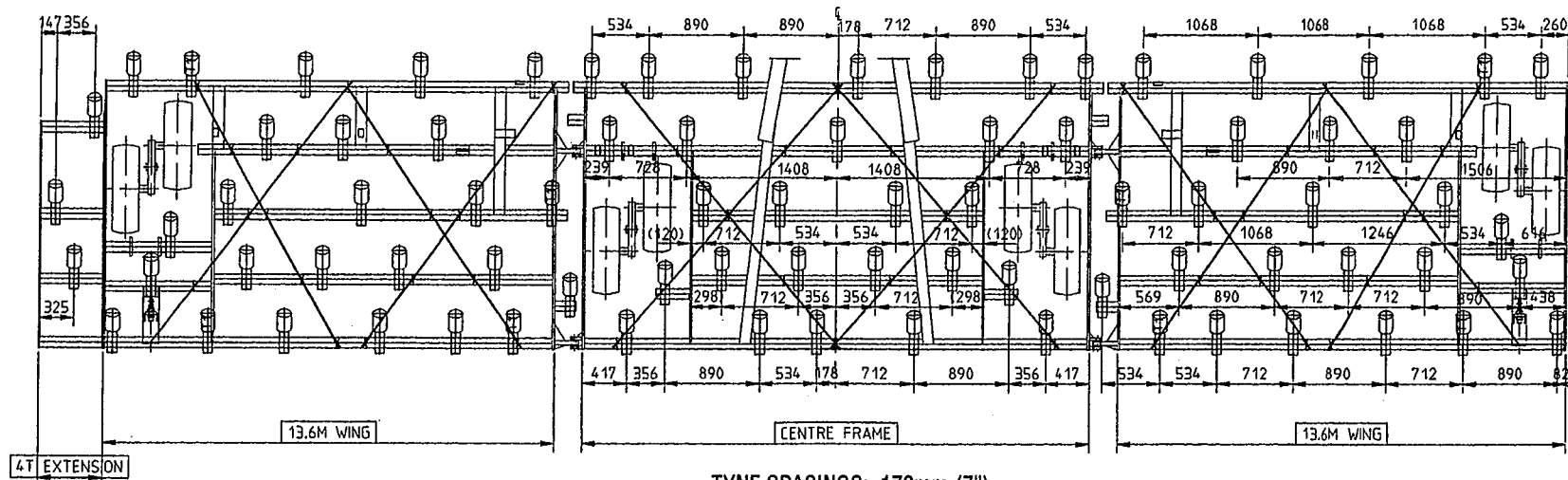
TYNE EXTENSIONS

ITEM	PART NO	DESCRIPTION	ITEM	PART NO	DESCRIPTION
1	22900	TYNE ASSY. COMPLETE '580' edge-on			
	36100	TYNE ASSY. COMPLETE '620' edge-on			
2	22901	TYNE ASSY. COMPLETE '580' fluted			
3	35946	FRAME ASSY. ext. 4 tyne			
4	22799	CLAMP M16 extension			
5	14272J1	PLATE extension clamp			
6	17606J1	WASHER spring ø16			
7	18021	NUT hex M16			
8	34201	FRAME ASSY. extension 2 tyne			
9	21294	EXTENSION ASSY. single tyne			
10	28979	POINT 8" dart			
11	18098	BOLT/NUT 1-15/16" x 7/16"BSW			
	17616J1	WASHER spring ø12			
		ASSEMBLIES			
	34191A	KIT - EXTENSION ASSY. 8 TYNE EDGE-ON items 1, 3 - 7, 10, 11			
	34765A	KIT - EXTENSION ASSY. 8 TYNE FLUTED items 2 - 7, 10, 11			
	34192	KIT - EXTENSION ASSY. 4 TYNE EDGE-ON items 1, 4 - 8, 10, 11			
	34764	KIT - EXTENSION ASSY. 4 TYNE FLUTED items 2, 4 - 8, 10, 11			
	35291	KIT - EXTENSION ASSY. 2 TYNE EDGE-ON items 1, 4 - 7, 9 - 11			
	35292	KIT - EXTENSION ASSY. 2 TYNE FLUTED items 2, 4 - 7, 9 - 11			

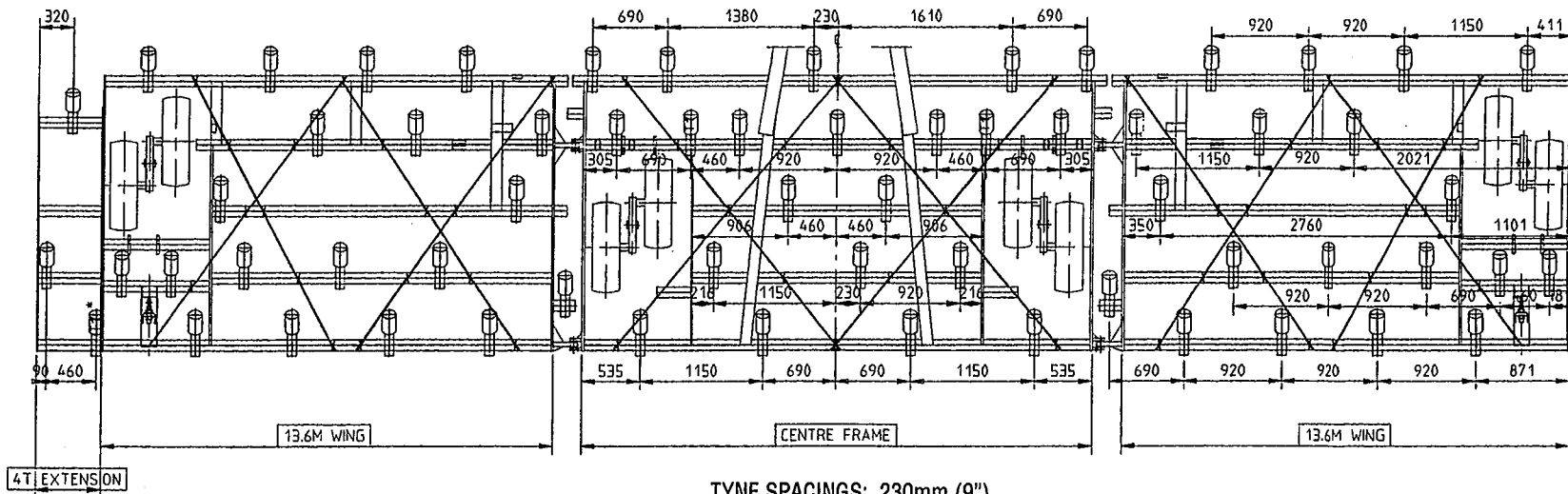
TYNE SPACING - 5/160



TYNE SPACING - UNIVERSAL BAR, 13.6m (44'3") MODEL



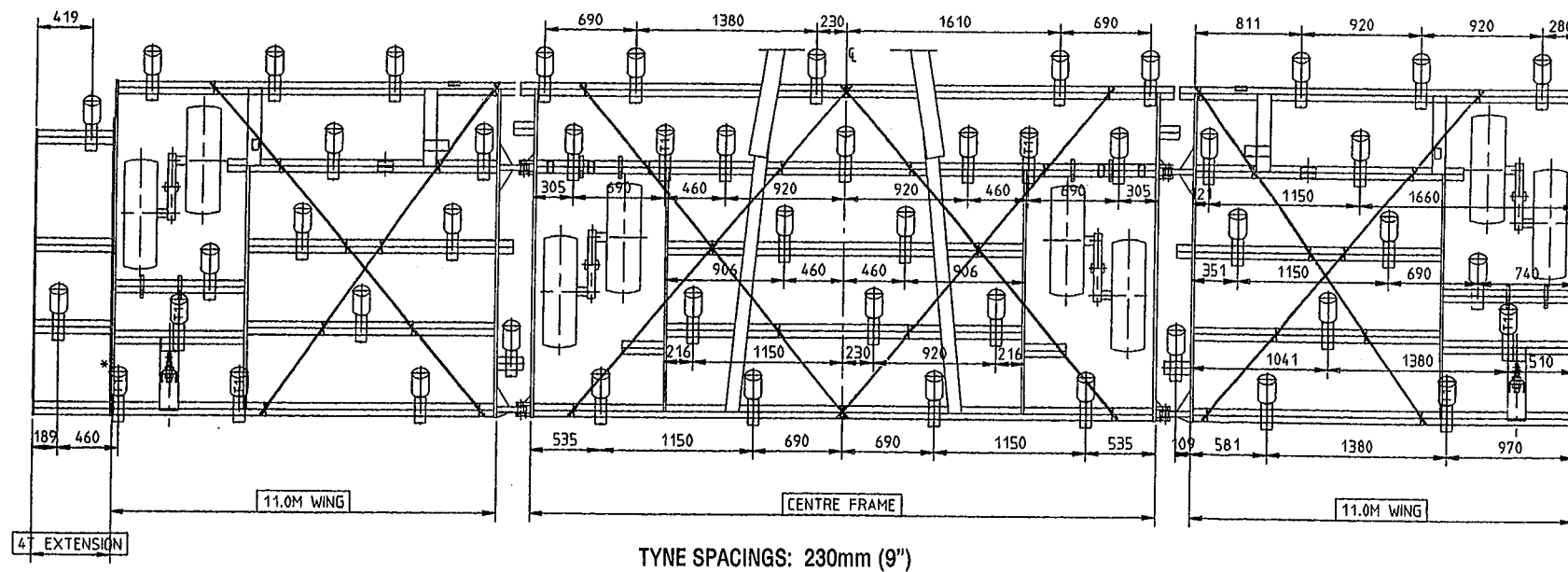
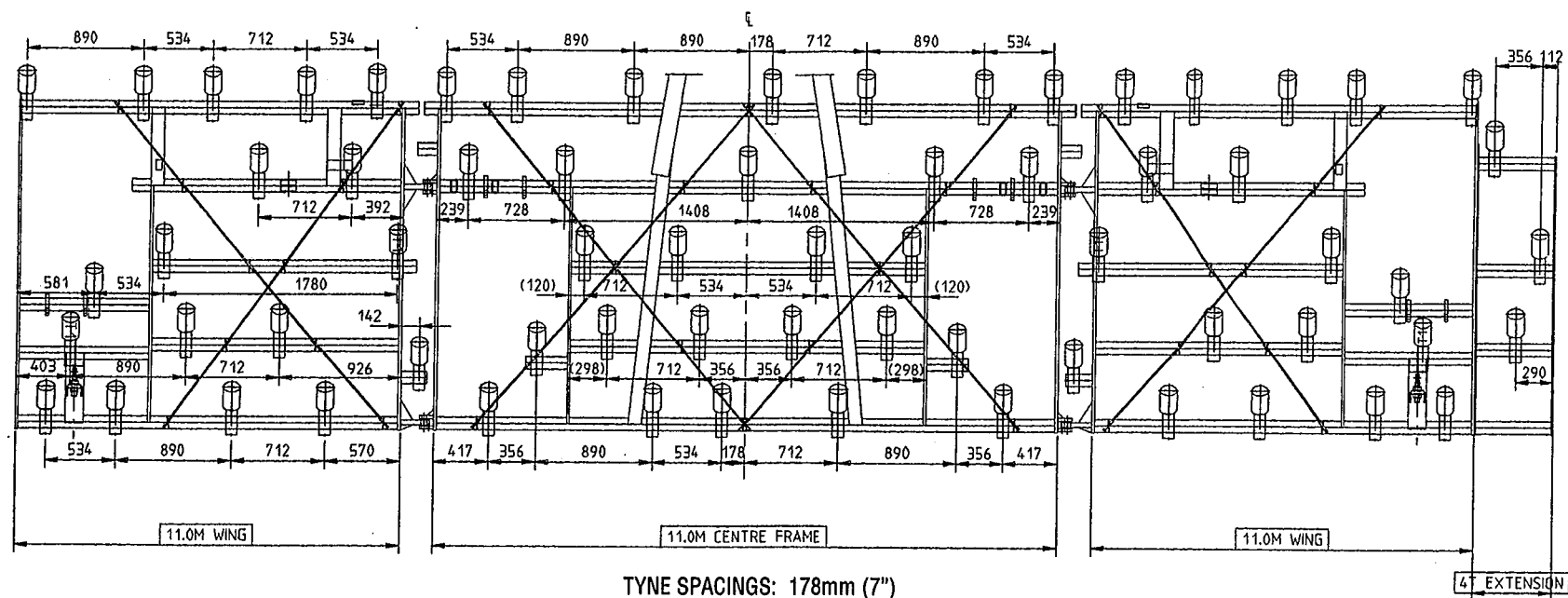
TYNE SPACINGS: 178mm (7")



TYNE SPACINGS: 230mm (9")

N.B. - ALTERNATIVE SPACINGS ARE AVAILABLE ON REQUEST.

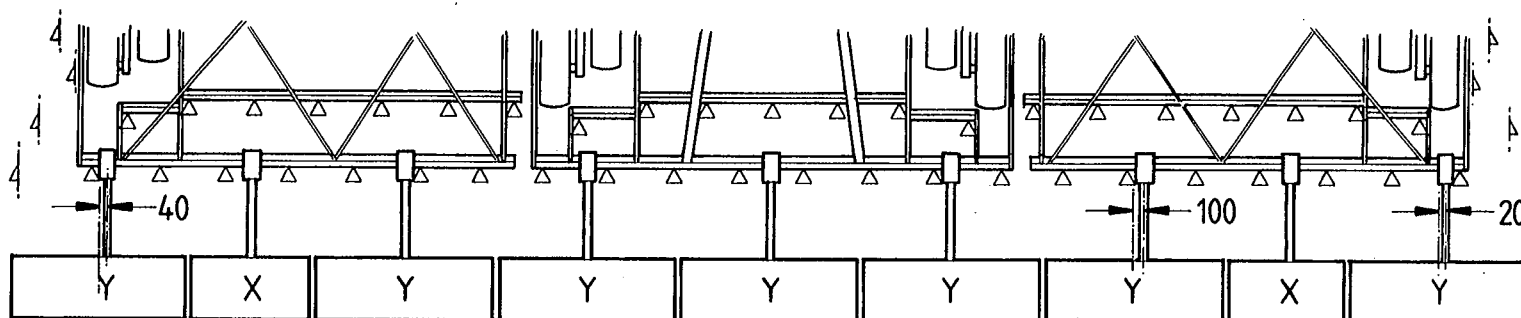
TYNE SPACING - UNIVERSAL BAR, 11.0m (35'10") MODEL



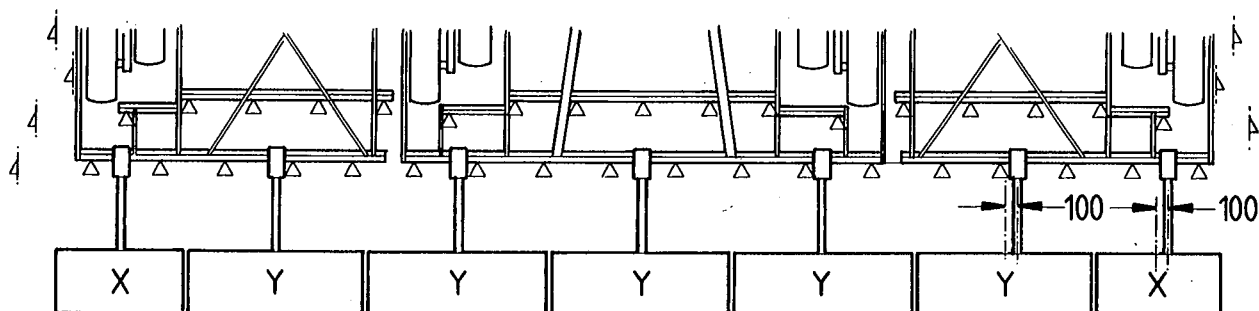




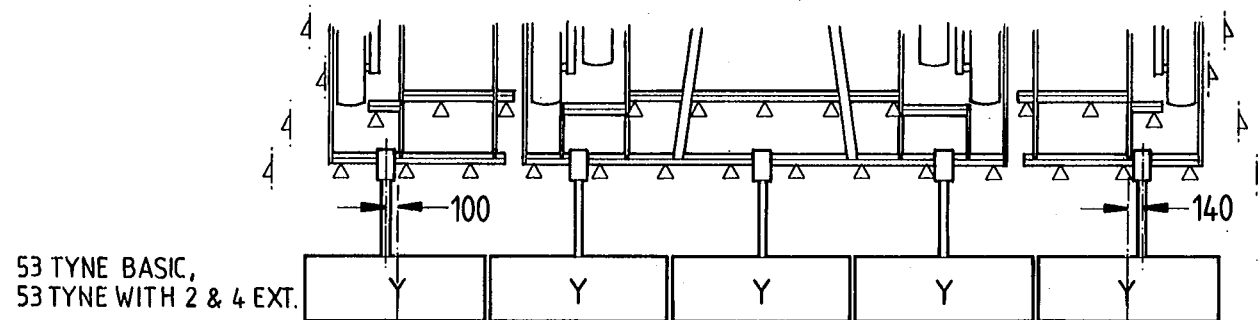
SPRING TOOTH HARROWS



85 TYNE WITH 8 TYNE EXTENSIONS



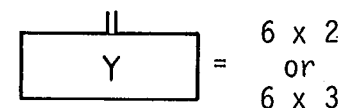
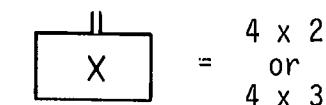
69TYNE BASIC & 69TYNE WITH 2 TYNE EXTENSIONS

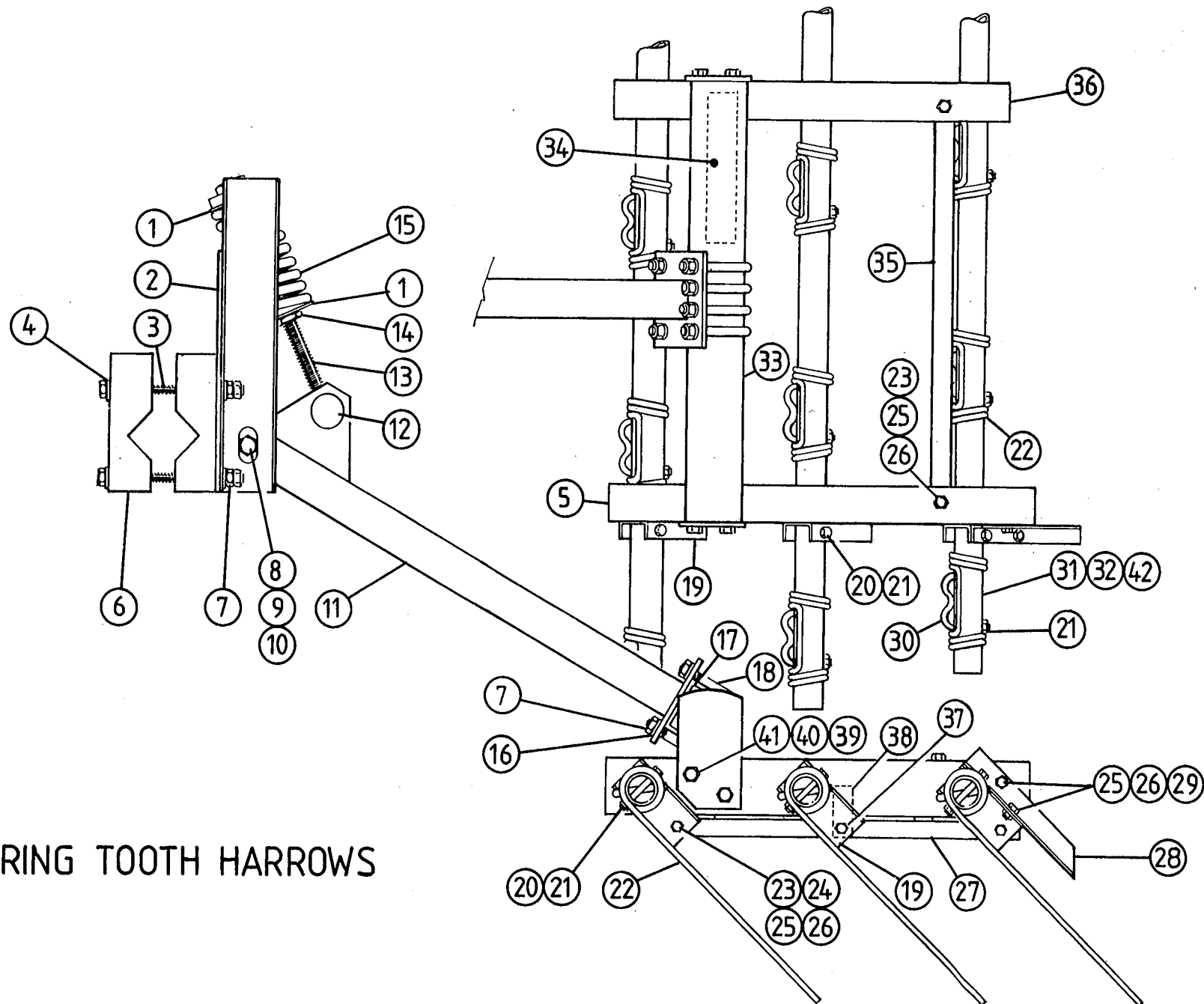
53 TYNE BASIC,
53 TYNE WITH 2 & 4 EXT.53 TYNE WITH 8 TYNE
EXTENSIONS

85 TYNE WITH 8 TYNE EXT.

85 TYNE WITH 4 TYNE EXT.
(Same as 85 tyne with 8
tyne ext. but replace
L/H 'Y' with 'X')85 TYNE BASIC &
85 TYNE WITH 2 TYNE EXT.
(Same as 85 tyne with 8
tyne ext. but replace
L/H & R/H 'Y's with 'X's)69 TYNE BASIC & 69 TYNE
WITH 2 TYNE EXT.69 TYNE WITH 4 TYNE EXT.
(Same as 69 tyne basic
but replace L/H 'X'
with 'Y')69 TYNE WITH 8 TYNE EXT.
(Same as 69 tyne basic
but replace L/H & R/H
'X's for 'Y's)53 TYNE BASIC & 53 TYNE
WITH 2 TYNE EXT. &
53 TYNE WITH 4 TYNE EXT.

53 TYNE WITH 8 TYNE EXT.





SPRING TOOTH HARROWS



SPRING TOOTH HARROWS

ITEM PART NO DESCRIPTION

1	18407	CUP	spring
2	31115	CARRIER ASSY.	
3	31113	ROD ASSY.	clamp
4	22689	WASHER	flat $\phi 12$
5	22825	TIE BAR	harrow L/H
6	22805	CLAMP	carrier
7	18414	NUT	hex M12
8	18879	BOLT	hex M16
9	FBW8	WASHER	flat $\phi 5/8$ "
10	18814	NUT	conelok M16
11	31116	ARM ASSY.	
	18596	NIPPLE	grease self tapping
12	22818	TOGGLE	
13	31120	ROD ASSY.	spring
14	18022	NUT	hex M20 Gr.8.8
15	18800	SPRING	$\phi 11.2$
16	17616J1	WASHER	spring $\phi 12$
17	22820	CHANNEL	grip
18	22819	CLAMP	'U' M12
19	22821	LOCATOR	tyne bar
20	18897	BOLT	hex M10 x 75
21	21424	NUT	hex M10 conelok
22	21874	TOOTH	coiled 16"
23	18520	BOLT	hex M10 x 25
24	FBW4	WASHER	flat $\phi 3/8$ "
25	17776J1	WASHER	spring $\phi 10$
26	17777J1	NUT	hex M10 Gr.8.8
27	24185	ROD ASSY.	linkage
28	22827	LEVER	actuating
29	18429	SET SCREW	hex M10 x 16
30	22828	RETAINER	tooth
31	24188	BAR ASSY.	harrow 4 tyne
32	24189	BAR	harrow 6 tyne
33	31122	BAR ASSY.	tie
34	15871J3	TRANSFER	John Shearer
35	30307	STRAP	tie
36	22826	TIE-BAR	harrow R/H
37	22434	BOLT	hex M10 x 30
38	27438	GUIDE	rod bolted
39	20704	SET SCREW	M16 x 30

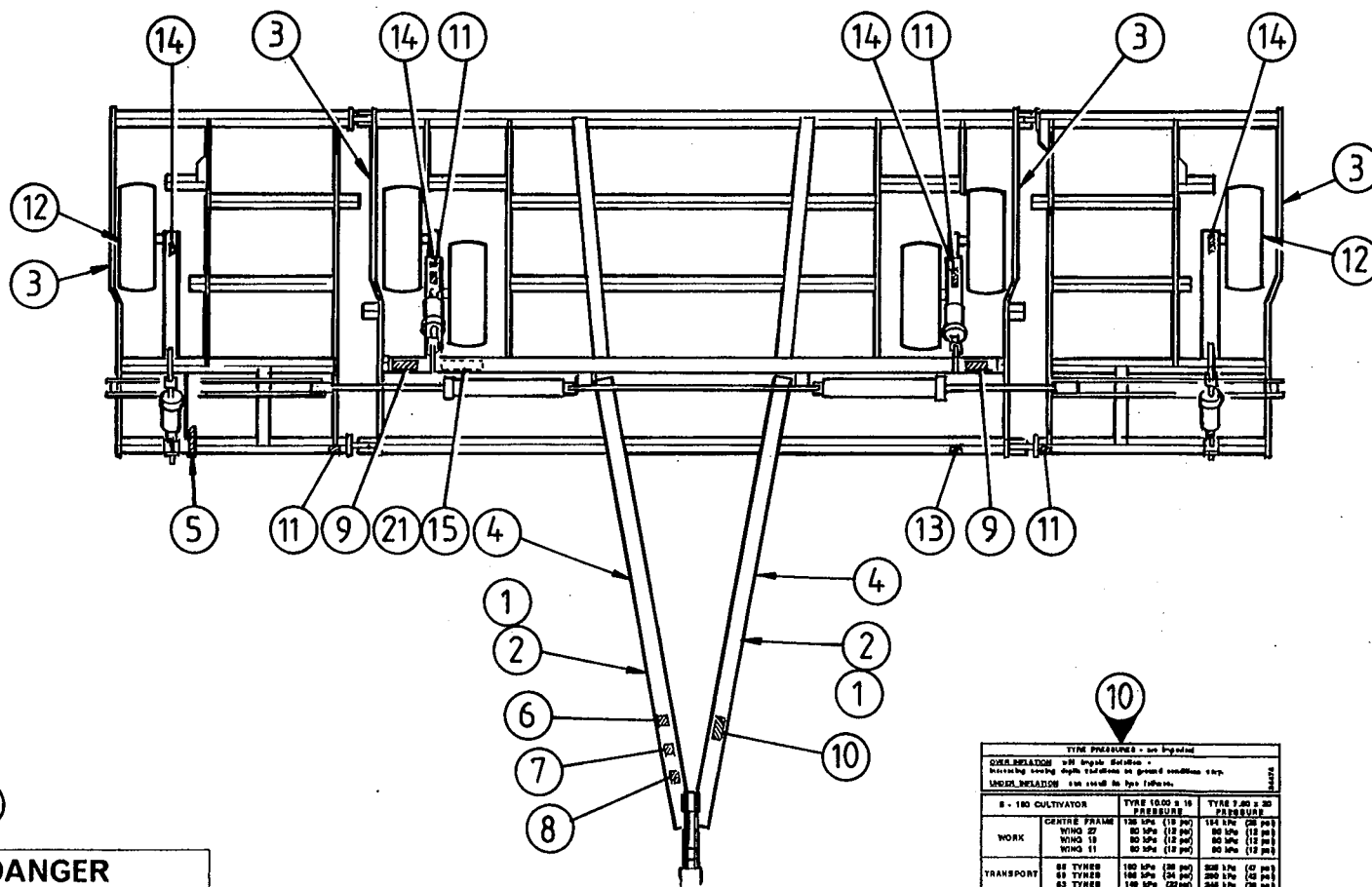
ITEM PART NO DESCRIPTION

40	18021	NUT	hex M16
41	17606J1	WASHER	spring $\phi 16$
		KITS	
	30805	KIT	clamping hardware items 3, 4, 6, 7, 16 - 18
	31186	KIT	2nd arm items 1 - 18
	31106	KIT ARM COMPLETE	items 1, 2, 8 - 15
	31109	KIT - 2 x 6 UNIT	items 5, 19 - 30, 32 - 41
	31110	KIT - 3 x 6 UNIT	items 5, 19 - 30, 32, 34 - 36 39 - 41
	31107	KIT - 2 x 4 UNIT	items 5, 19 - 31, 33 - 41
	31108	KIT - 3 x 4 UNIT	items 5, 19 - 31, 33 - 36 39 - 41
			4/6 is width in tooth pairs (item 22)
			2/3 is No. of Bars (items 31 & 32)

1  **JOHN SHEARER**

3  **JOHN SHEARER**

4 5-160 Cultivator



This tube contains a:—
PARTS & INSTRUCTION MANUAL
—Read it prior to using implement.

**GREASE ROCKSHAFT BEARINGS
WITH WHEELS RAISED
CLEAR OF THE GROUND**



John Shearer
model
serial no.
Made in Australia

HYDRAULIC FLUID
WE USE AND RECOMMEND SHELL BELL FLUID 13
FOR ALL SYSTEMS. IT IS A PRODUCT OF
The Shell Co. of Aust. Ltd.
SHELL BELL FLUID IS COMPARED WITH
FLUIDS SPECIFIED BY FACTORY DRAWING
TITERS AND IS SUITABLE FOR USE
AS A MULTI-PURPOSE TRANSMISSION OR
PRESSURE FLUID IN STEERING AND
BRAKE TRANSMISSIONS. IT IS POWER
AND FRICTION REDUCING. ECONOMY
DRINK MIXTURES WITH GREASES AND
OILS.

WARNING
MAXIMUM TOWING
SPEED
25 km/h

WARNING
HYDRAULIC SYSTEMS THRIVE ON
CLEAN OIL
ENSURE THAT YOUR TRACTOR HAS

- CLEAN OIL AND
- AN EFFECTIVE OIL FILTER

PRIOR TO COUPLING THIS IMPLEMENT

DANGER
KEEP AREA BELOW WINGS CLEAR AT ALL TIMES!
FIT LOCKING PIN TO FOLDED WINGS.

TYPE PRECISION - no legend			
<p><u>OVERLAP</u> will begin <u>PRELIM</u> -</p> <p>Increasing speed depth traditions as ground conditions vary.</p> <p><u>UNDER LAPPING</u> can result in type failures.</p>			
S - 100 CULTIVATOR		TYPE 10.00 x 16 PRESSURE	TYPE 3.60 x 16 PRESSURE
WORK	CENTRE FRAME	120 kPa (18 psi)	114 kPa (16 psi)
	WING 27	80 kPa (12 psi)	80 kPa (12 psi)
	WING 11	80 kPa (12 psi)	80 kPa (12 psi)
	WING 18	80 kPa (12 psi)	80 kPa (12 psi)
TRANSPORT	88 TYRES	100 kPa (14 psi)	828 kPa (120 psi)
	83 TYRES	140 kPa (20 psi)	828 kPa (120 psi)
	83 TYRES	140 kPa (20 psi)	840 kPa (120 psi)

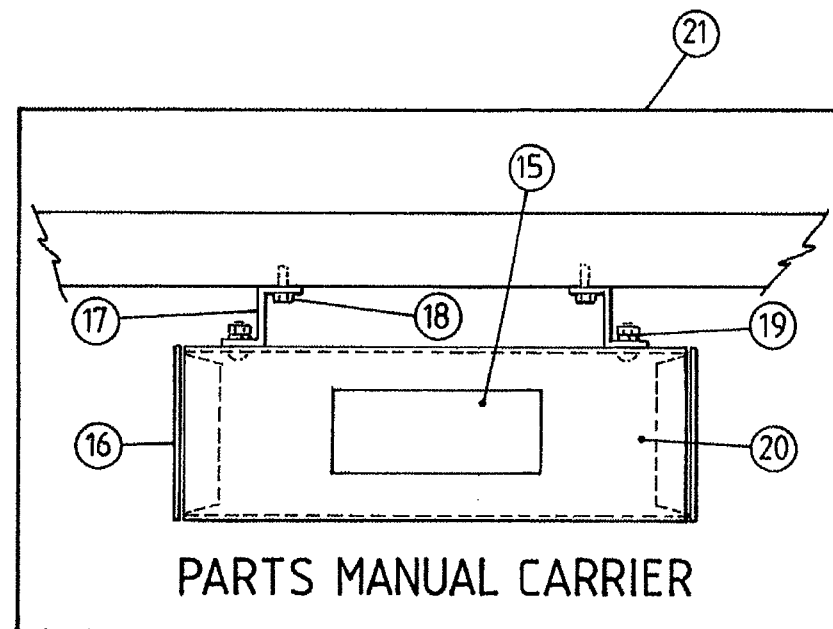
Centre wheel speed is specified for TR 40000 (50000 max) for use for TRANSPORT
 at speeds of 40 through 60 km/h. The maximum speed for the TR 40000 is 60 km/h.
 IN WORK when conditions permit. The speed is 1.5 g per second to 1.5 g per second to the
 end of the track to obtain the maximum speed. The speed is 1.5 g per second to the end of the track.

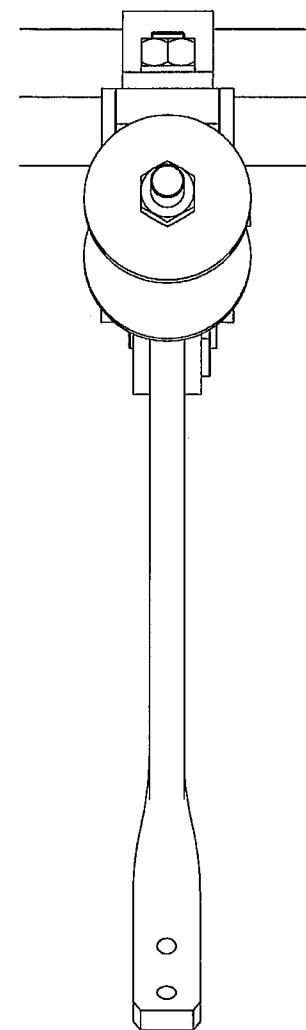
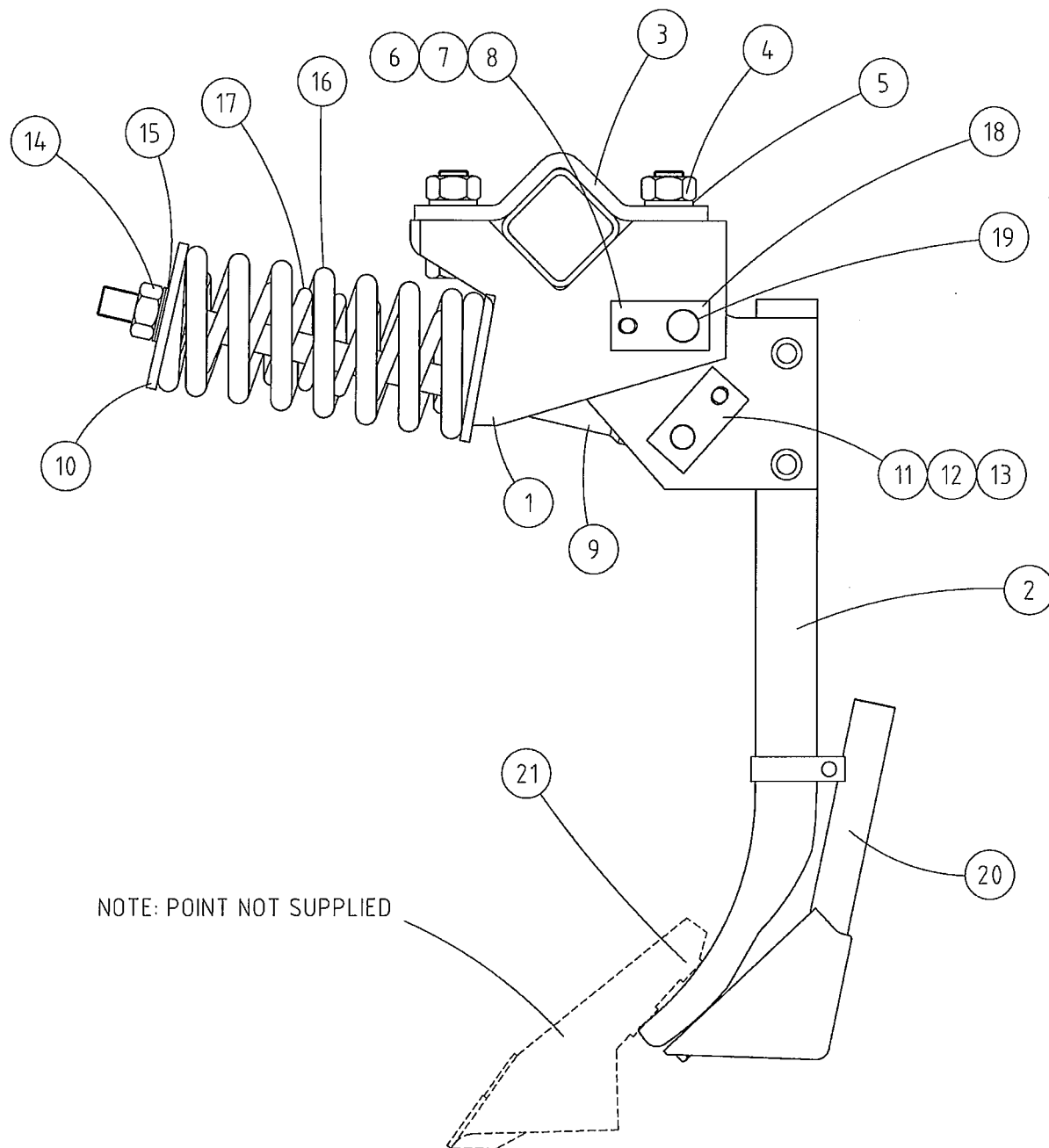
SPEED LIMIT 16 km/h



TRANSFERS

ITEM	PART NO	DESCRIPTION
1	36242	TRANSFER John Shearer trademark large
2	15875J2	TRANSFER John Shearer
3	15873J3	TRANSFER John Shearer name & trademark
4	34473	TRANSFER 5-160 Cultivator
	36894	TRANSFER Universal Bar (not illustrated)
5	17626J1	TRANSFER scale - depth indicator
6	19618	TRANSFER 'Hydraulic fluid'
7	18949	TRANSFER 'warning max tow speed'
8	15982J2	TRANSFER 'warning clean oil'
9	18970	TRANSFER 'danger - keep area clear'
10	34474	TRANSFER tyre pressures
11	27463	TRANSFER grease 10hr
12	27409	TRANSFER grease 200hr
13	15968	PLATE model & serial
	16161J1	SCREW 5/16"x 4U
14	30473	TRANSFER grease rockshaft
15	20809	TRANSFER parts manual
16	20813	PLUG tube
17	20810	SUPPORT tube
18	18658	SCREW 1/4" x 20 x 3/4" self drilling
19	GB4	BOLT/NUT 1/2" x 1/4" BSW
	FBW2	WASHER flat Ø1/4"
20	20814	TUBE parts manual carrier
21	21531	KIT carrier parts manual items 15 - 20





630 TYNE ASSEMBLY

ITEM	PART No	DESCRIPTION	ITEM	PART No	DESCRIPTION
1	42927	CARRIER ASSEMBLY			
2	42928	TYNE ASSEMBLY			
3	42925	CLAMP, TYNE			
4	18042	NUT, HEX – M24			
5	18935	WASHER, SPRING - M24			
6	42936	PIN, PIVOT – ASSY			
7	20799	BOLT, HEX – M10 x 35			
8	31993	NUT, NYLOC – M10			
9	42932	ROD, SPRING			
10	42924	CUP, SPRING – TOP			
11	42939	PIN, ROD – ASSY			ASSEMBLIES
12	19046	BOLT, HEX – M10 x 65			
13	31993	NUT, NYLOC – M10		42930	TYNE ASSY. COMPLETE '630'
14	21467	NUT, NYLOC – M24			Items 1-19
15	FBW11	WASHER, FLAT – 24mm			
16	37385	SPRING, OUTER			
17	37384	SPRING, INNER			
18	42952	NIPPLE, GREASE			
19	42933	BUSH			
20	42940	BOOT ASSEMBLY COMPLETE (OPTIONAL)			
21	37012	FLOW BOLT/NUT CSK 1 $\frac{3}{4}$ " x $\frac{1}{2}$ "			

