BRIGGS IRRIGATION

operating and parts manual

for

R58 & R64 Boom Irrigators

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CONTENTS

EC DECLARATION OF CONFORMITY

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HOSE REEL BOOM

MODEL : R64
TYPE : OFFSET
SERIAL NUMBER : 10650206

This machine complies to: BS EN292
Part 2: 1991

: (89/392/EEC)

CE

Signed: pp. [signature] Warren Briggs
Director

This manual covers all variations of the Briggs R58 & R64 Hose Reel Boom range.

Models are as follows:

R58 / R64	Straight Pull	☐
R58 / R64	Offset Hose Feed	☑
R58 / R64	Straight Pull High Crop	☐
R58 / R64	Offset Hose Feed High Crop	☐

INTRODUCTION

The Briggs R58 &R64 Booms have been well designed for long life and trouble free operation. It is essential to read this manual before operating the Boom and follow the operation and maintenance schedules carefully.

SPECIFICATION

Wheel Track: 72"

Regulated Pressure:

0.66 bar 10psi	☐
1.40 bar 20psi	☐
2.00 bar 30psi	☐

ballvalves only.	Nozzle Size	No of Nozzles	Flow per Nozzle	Total Flow
Nelson 3000 series 360° Sprayjets				
Nelson 3000 series 180° Sprayjets centre				
Nelson 3000 series 180° Sprayjets end				
End Sprinkler (R58 only)				

Total Flow - (imp gpm) .....

(m^3/hr) .....

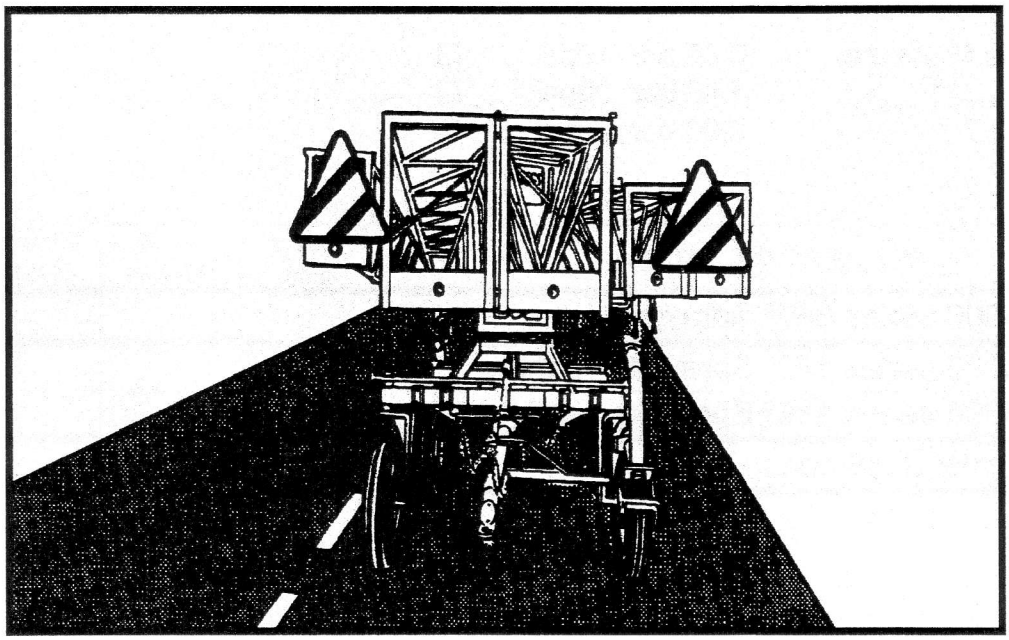
TRANSPORT

It is the responsibility of all boom operators to check the regulations applicable in the country and area the machine is being used regarding width, height, and lights.

When transporting on public roads without a width exemption and escort, the R64 Boom end sections, third sections and one of the second sections must be removed and carried separately, by trailer or other means. (The end sections and third sections can be carried under the second sections of the boom which reduces the width to 3.2m.

Removal of 5 sections brings the width down from 4.15m to 2.7m. **Wide load safety triangles must be fitted** and the remaining Boom sections must be **roped together** for added safety.

Care must be taken to allow for the Boom overhang when turning. The 4 wheel steer system ensures the wheels of the irrigator will follow the wheels of the towing vehicle or tractor. When reversing, you must ensure the drawbar check chains do not become strained whilst on a tight lock.



IMPORTANT

Do not exceed 12 mph (20 kph) when towing. Excessive speed causes instability due to the sensitive steering and rigid chassis design.

The Boom is delivered with the drawbar and outer booms removed.

ASSEMBLY - BOOM

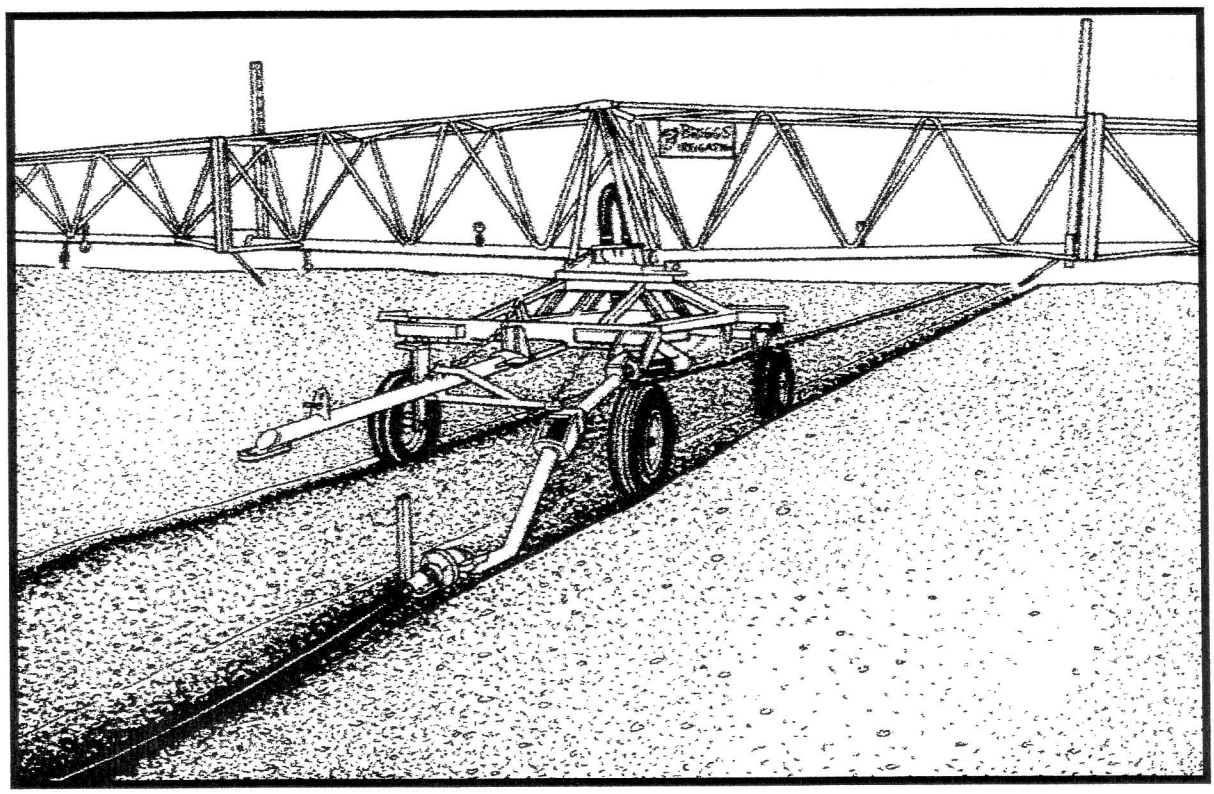
For practical reasons several Boom sections are removed for transportation, these must be replaced together with the carrying brackets. This should be done by an experienced fitter. On offset hose feed Boom, fit drawbar to steering yoke and bolt water feed pipe to cross link. For straight pull Booms the drawbar is also the water feed pipe. Secure check chains (page 17 fig 19). The Boom is now ready for operation.

ASSEMBLY - HOSE REEL

Before commissioning ensure Hose Reel stop system will work at the end of the run and fit the flanged layflat hose connector. (page 8 fig 6)

COMMISSIONING

The Boom is flushed and pressure tested at Briggs Irrigation prior to despatch. Once assembled, position Boom for operation as described in this manual.



POSITIONING BOOM

The Boom can be positioned and moved as a one or two tractor operation. We recommend you start off exactly as you would move a Hose Reel gun. The 4 wheel steering allows a 7.2m inside turning circle and no extra width is necessary for a headland compared with the gun system.

For the first run, position the Hose Reel with the drum centre in the centre of the row (straight pull) or wheeling (offset hose feed). (fig 1) Disconnect Hose Reel and return to tow the boom along the headland.

Connect tractor to Boom drawbar and tow towards the Hose Reel. Turn into the row or bed wheelings noting the maximum lock on the Boom when the check chains are tight. Do not turn tighter than this or parts of the steering system may be bent. The Boom has ample steering lock to ensure minimal crop damage and the tractor should be turned in a smooth arc noting the boom clearance in relation to the Hose Reel.

The only difference with the two tractor operation is that the Hose Reel would be moved just beyond the irrigation run in order for the Boom to be positioned first. The Hose Reel is then reversed into position.

When in the wheelings, tow forward the minimal distance in order for the wheels to be perfectly straight. Any angle makes reversing unnecessarily difficult. Look only at the drawbar when reversing to keep straight as the wheels are at half the true angle due to the 4 wheel steering.

Reverse sufficient distance - normally approximately 3m in order for the coupling on the water inlet to be within range of the layflat connector.

Hose Reel Position For Offset Hose Feed

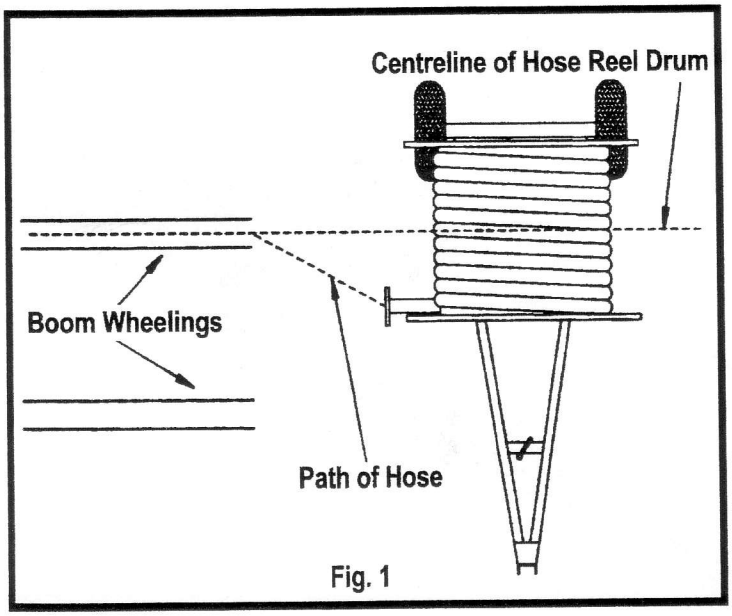


Fig. 1

POSITIONING BOOM cont...

Remove the offset water feed blanking plate from the trailed offset as shown (fig 2) and fit to the opposite end. The straight pull Boom has an end cap instead of a plate which is also refitted to the opposite end.

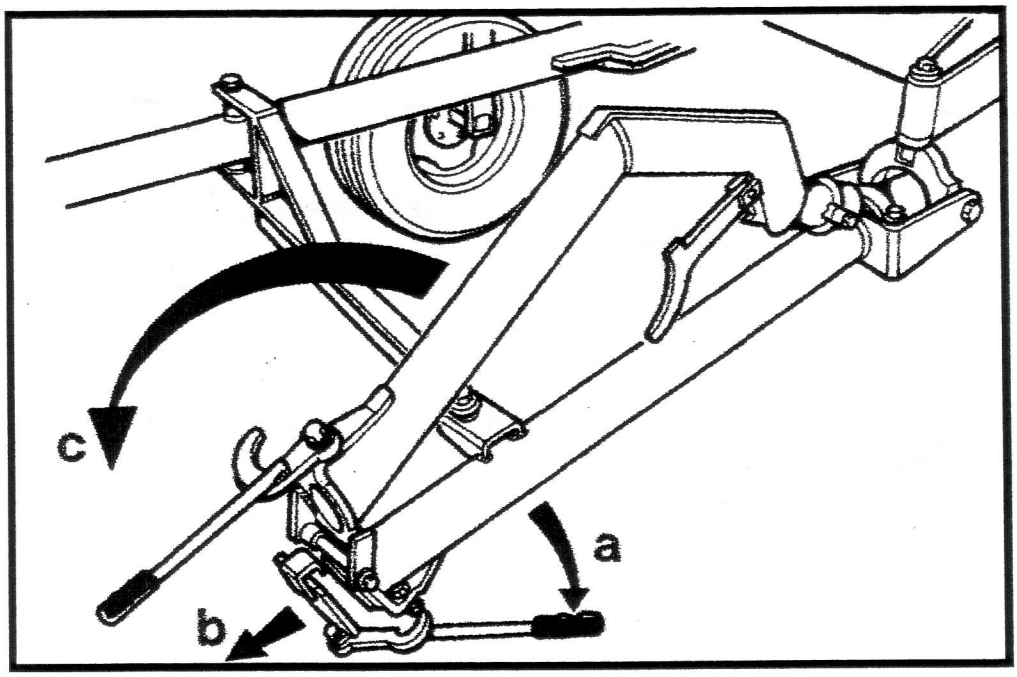


Fig 2

To improve visibility of the Hose Reel drum, the Boom sections can be turned through 90°. Ensure the 180° sprayjets (page 9 fig 8) are facing away from the hose reel.

Lower offset - action c (fig 2) and lock in place. (fig 3)

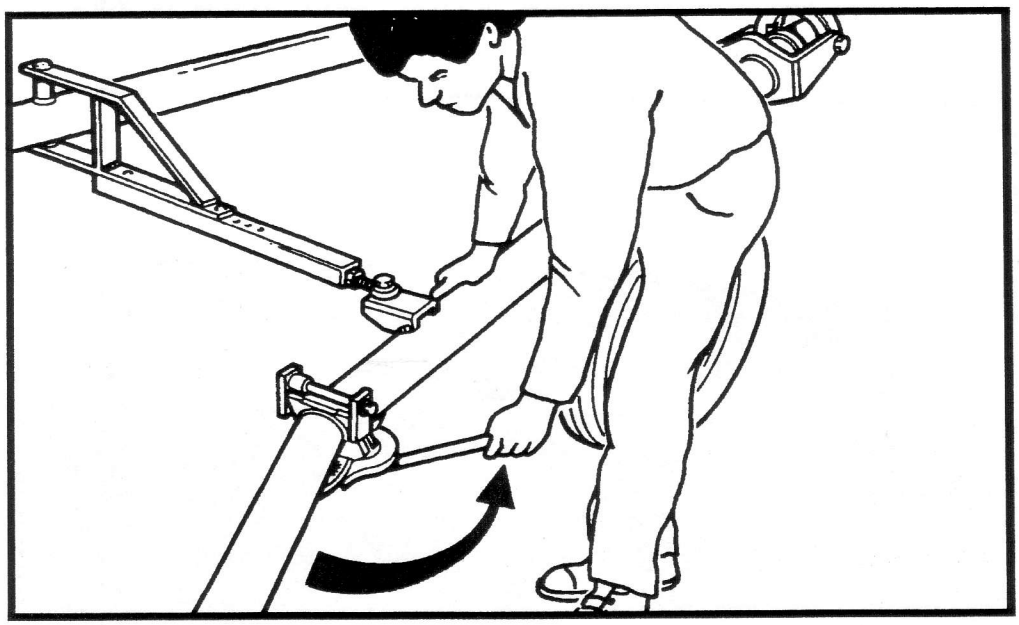


Fig 3

Release chain tension on the drawbar facing the Hose Reel so the full weight of the skid is on the ground. This is important for steering accuracy.

CONNECTING BOOM TO HOSE REEL

A short length of layflat hose is used to aid alignment between the Boom and Hose Reel. Connect Briggs coupling to Boom as shown. (fig 4)

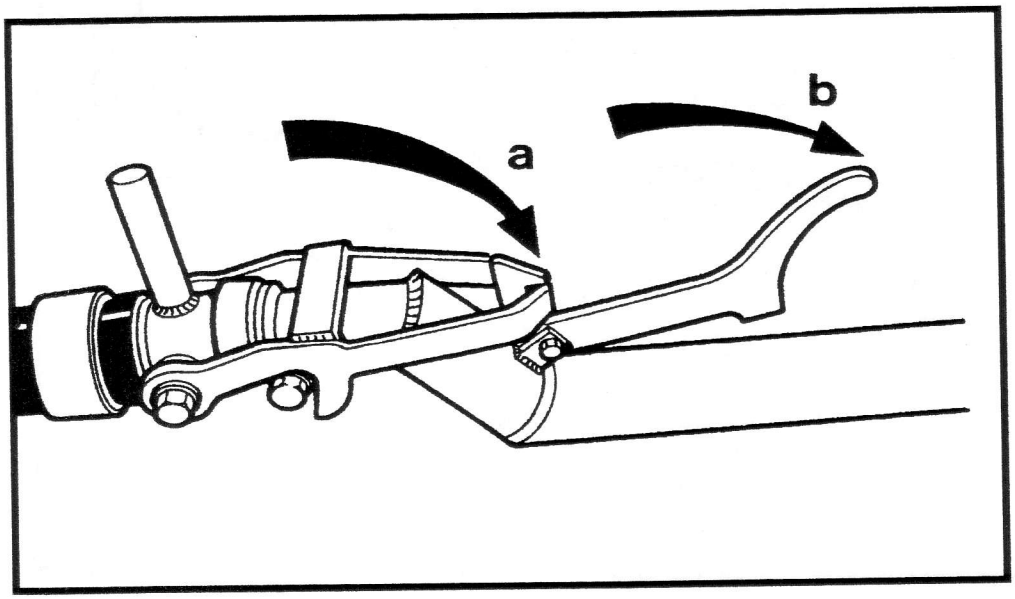
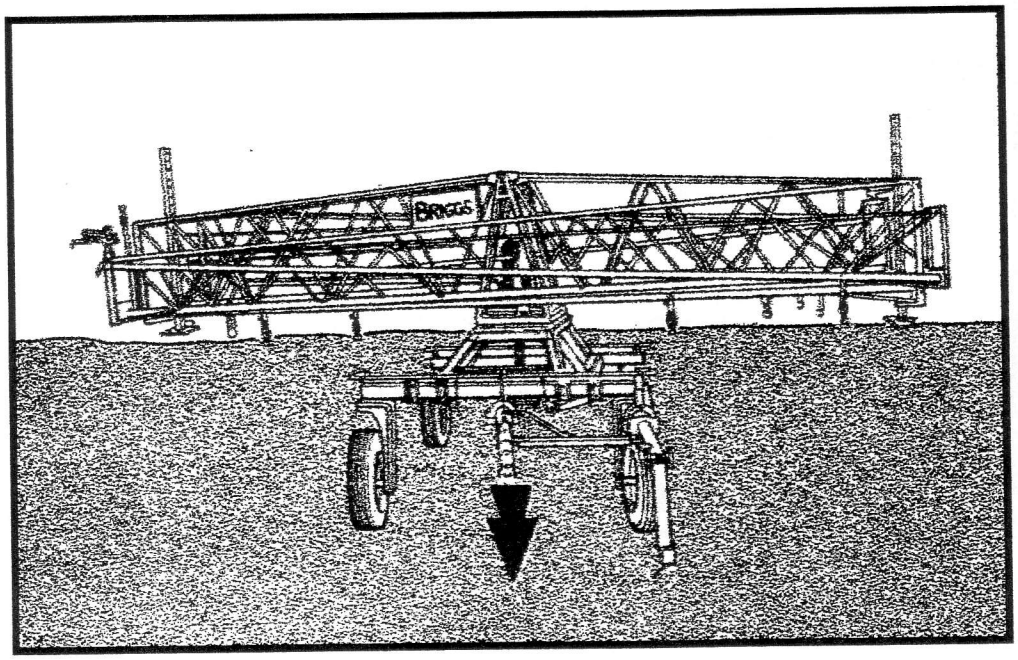


Fig 4

Ensure Hose Reel is set for pulling out and tow Boom to end of run. Do not apply any steering lock on the Boom before disconnecting the drawbar. The wheels must be left straight. This is important for steering accuracy.

Disconnect and raise trailed drawbar clear of crop. Move tractor forward at least 10m to clear Boom unfolding.



LAYFLAT LINK BAR

The layflat hose (whilst allowing flexibility to connect) can allow the Hose Reel pipe to twist, angling the stop fin over, causing crop damage. It can also cause the stopfin to miss the stop mechanism on the hosereel which will result in damage to both the hosereel and boom.

To eliminate this problem, the link bar, carried on the chassis (fig 5) is placed over two vertical pins at each end of the layflat connector. The layflat hose needs to be pulled in a straight line before the link can be fitted. This is normally done at the end of the run, but if the stop fin angles over on pulling out, then the link bar must be fitted.

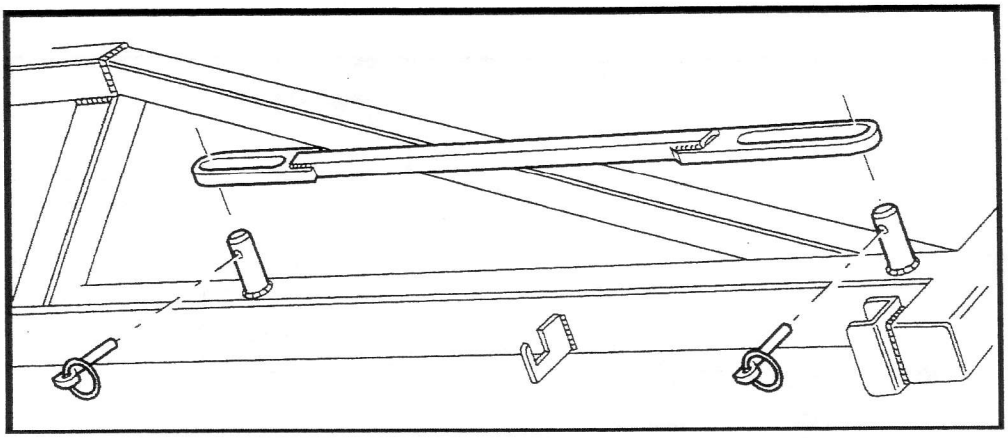


Fig 5

The stop fin can be twisted to allow the link bar to drop in place. (fig 6) The link bar also stops the layflat kinking if the Boom moves forward on a downhill slope.

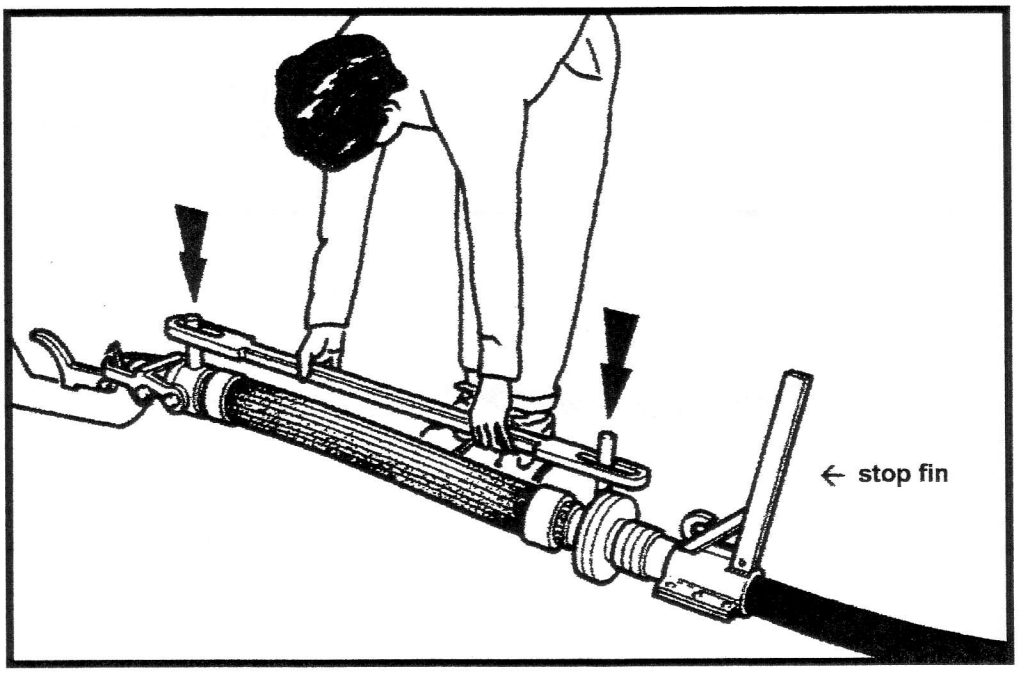


Fig 6

UNFOLDING AND FOLDING THE BOOM

The R64 Booms are self supporting and require no lifting during the unfolding and folding procedure. The details below are the recommended methods for carrying out this operation. This is a one man operation, taking approx 6 minutes.

TO UNFOLD THE BOOM - Also refer to page 20

1: Remove the rotation locking pin at the centre tower, and rotate the complete Boom through 90° and re-lock. (fig 7) This may have been done prior to pulling out. Note the quadrant locking system allows the Boom to be set at any angle in relation to the direction of the run to suit angled headlands.

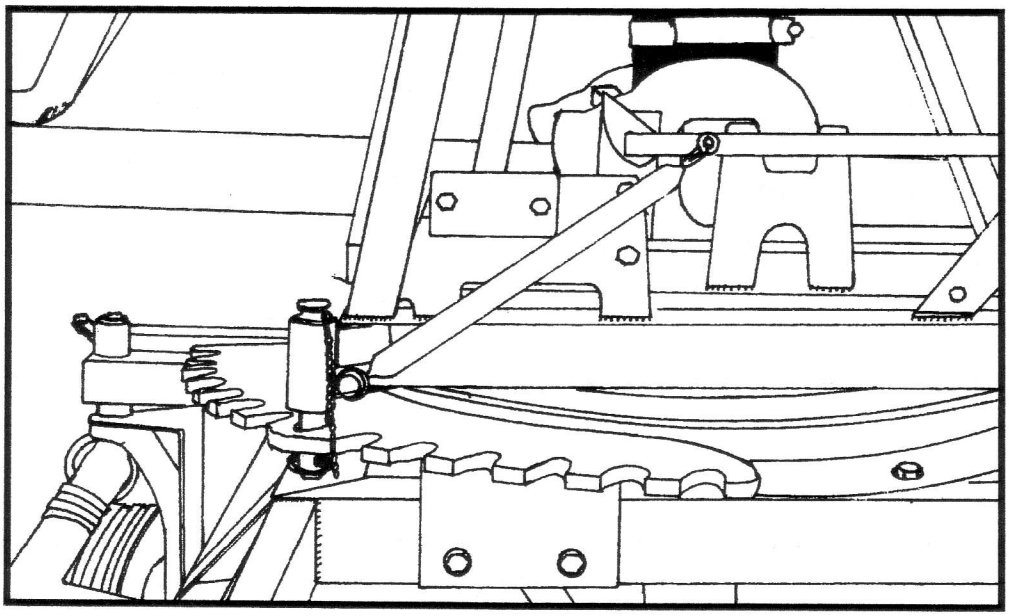


Fig 7

Note position of the 180° sprayjets on the centre section (fig 8) which must face away from the Hose Reel to avoid as much watering in front of the boom wheels.

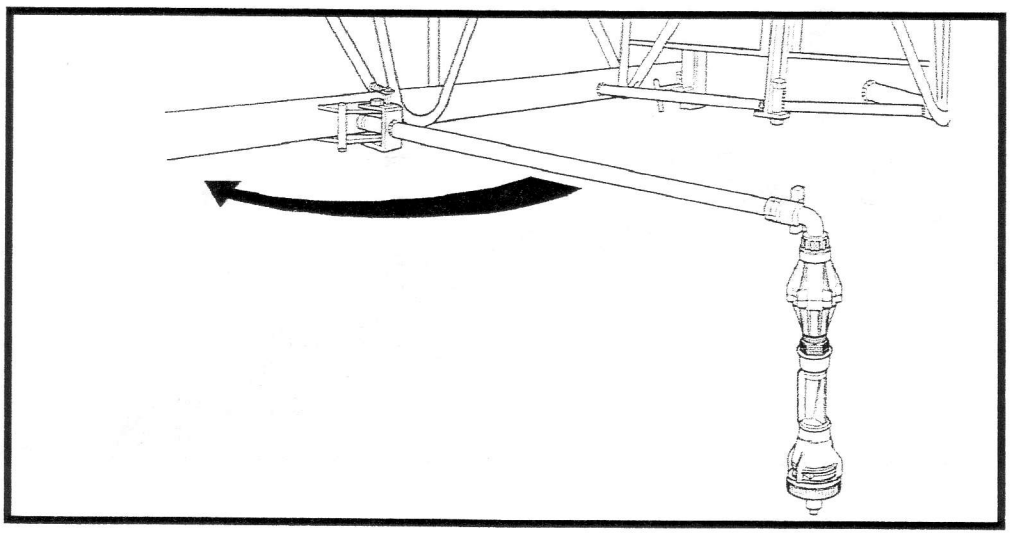


Fig 8

Ensure Boom pivot is locked where applicable. (fig 9)

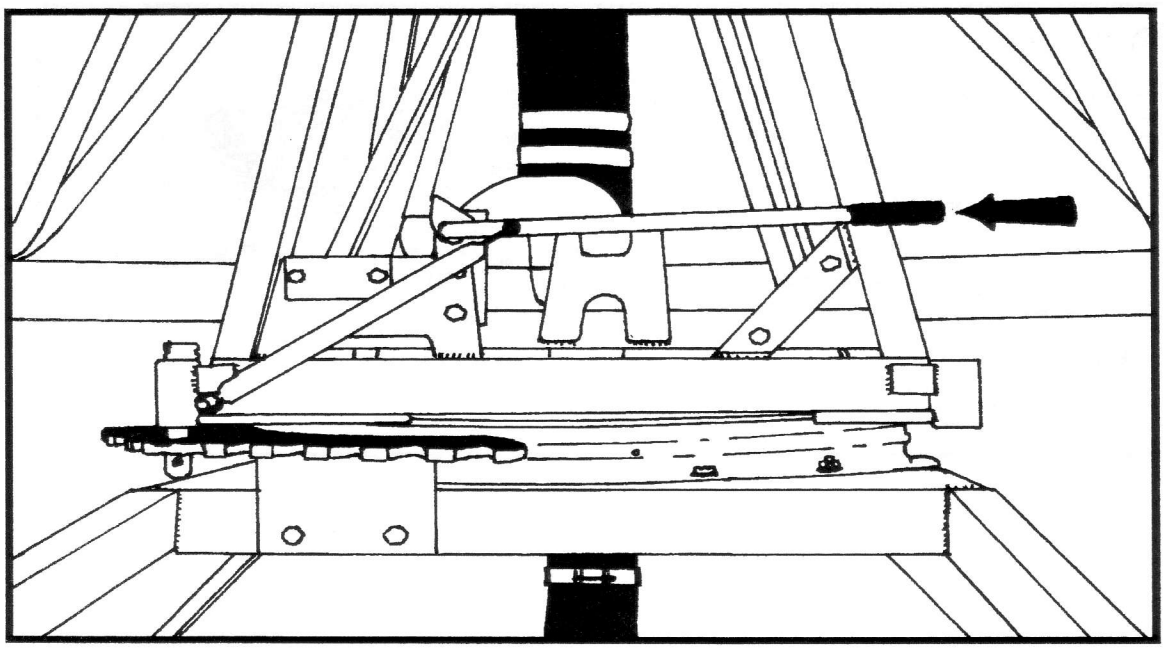
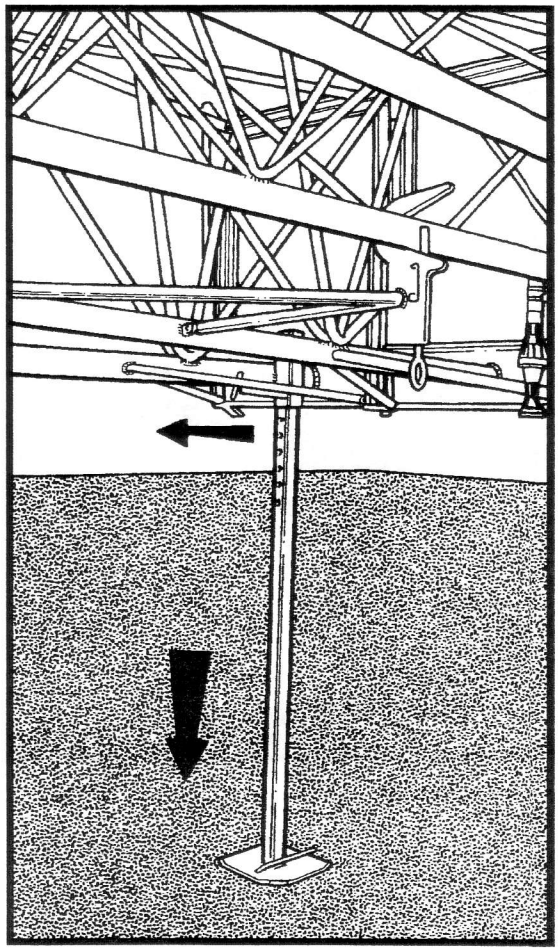


Fig 9

2: Move to the end of the tower centre section and pull out the locking pin to release drop leg. Lower to the ground and then lift leg to locate locking pin in the nearest hole. Repeat this for the dropleg on the opposite End of the centre section
Ensure locking pin is closed (position 2 fig 10).



BOOM PIN LOCKS AND DROP LEGS

1: Roll pin in this position.
The Boom locking pin is open.

2: Roll pin in this position.
The Boom locking pin is closed.

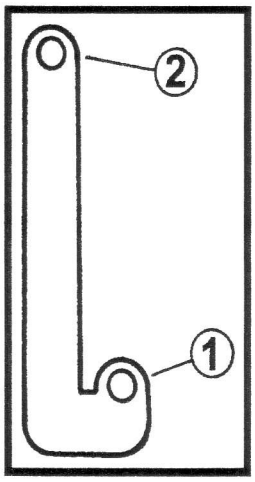


Fig 10

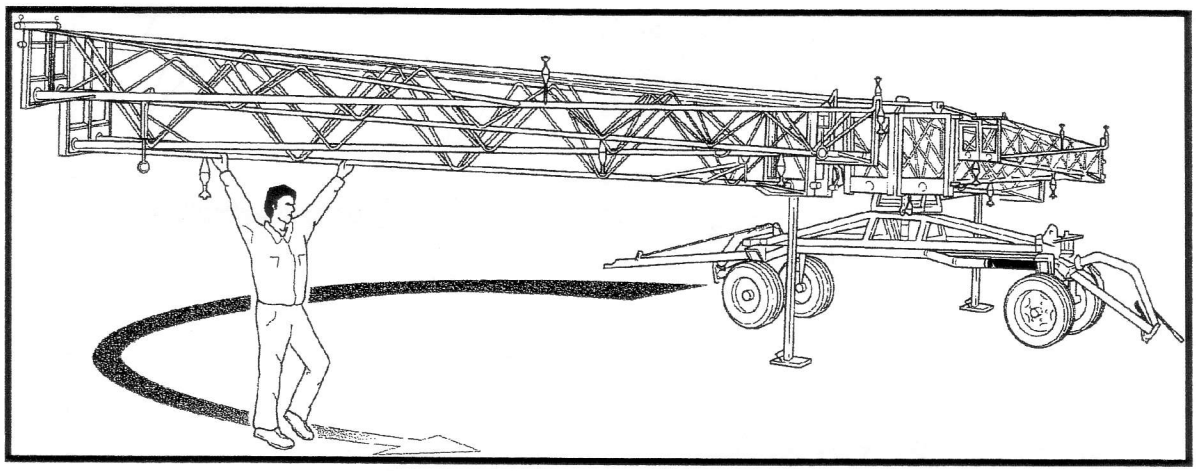


Fig 11

3: The first section on this side of the Boom can now be opened (fig 11) and locked into position. (fig 13 page 12)

4: The first section on the opposite side of the boom can now be opened and locked into position.

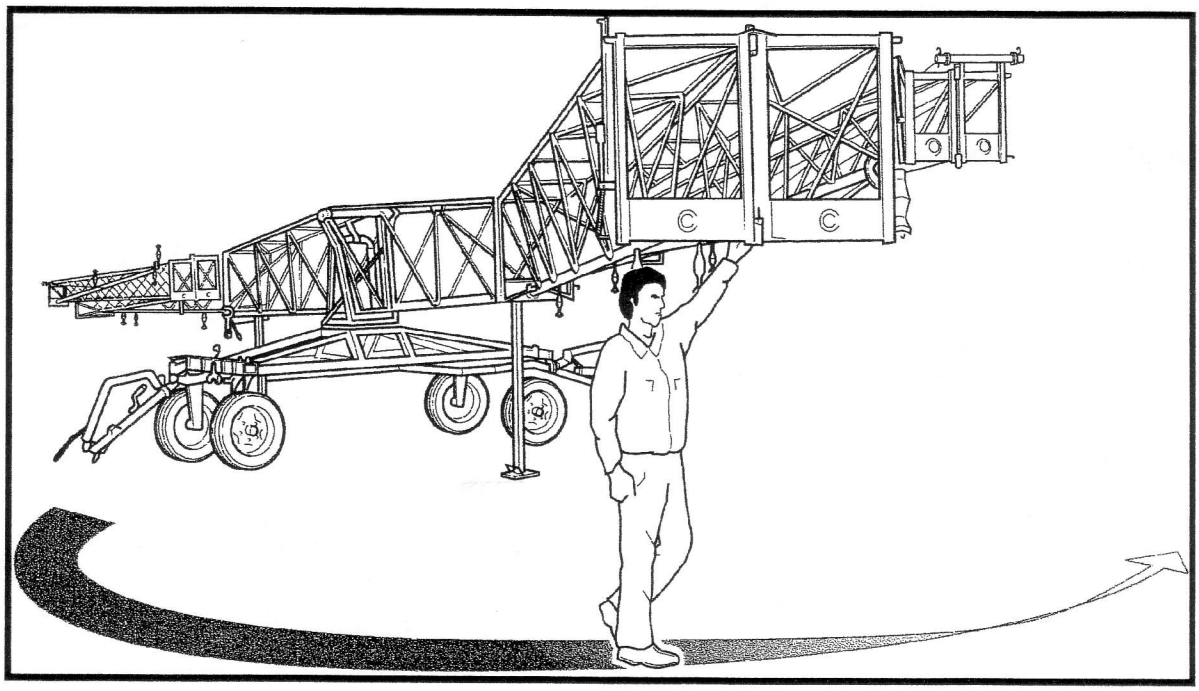
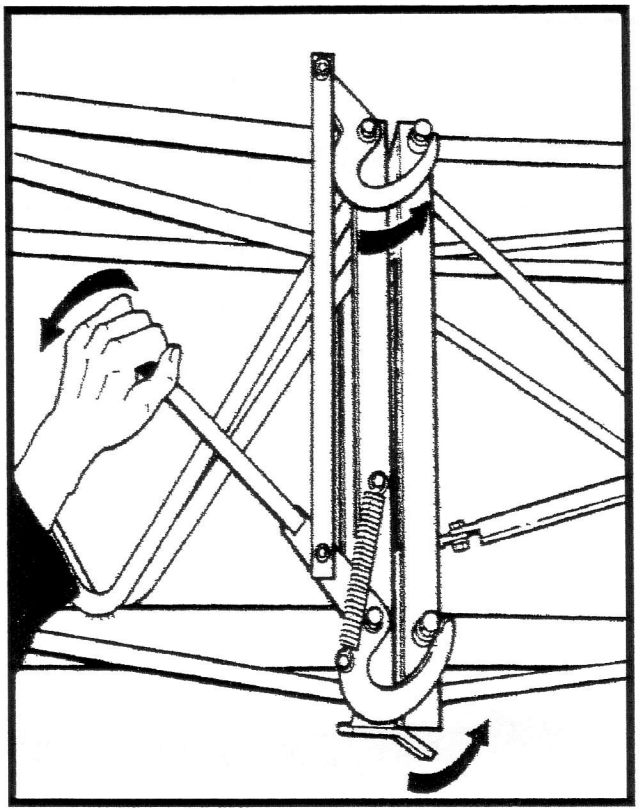


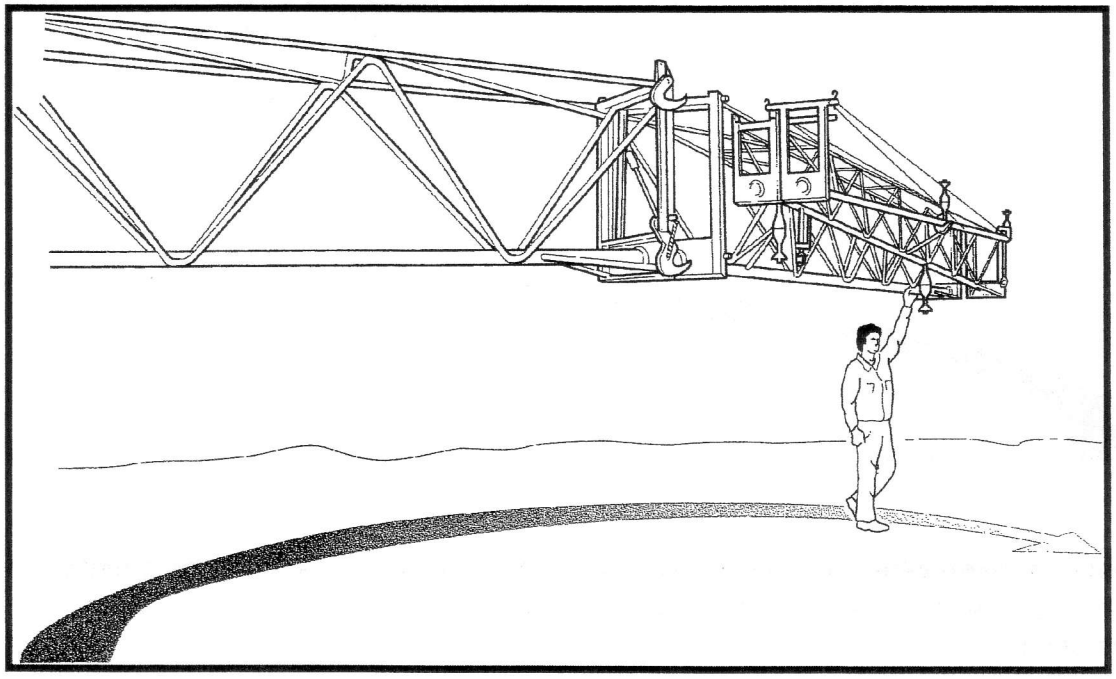
Fig 12

Lock in place by pulling down the locking handle, ensure it is fully locked and tight.

Fig 13



5: Release the second section from it's support bracket and rotate through 180° lock in position (fig 14)



6: Repeat this operation on the third and end sections. (page 13 fig 15)

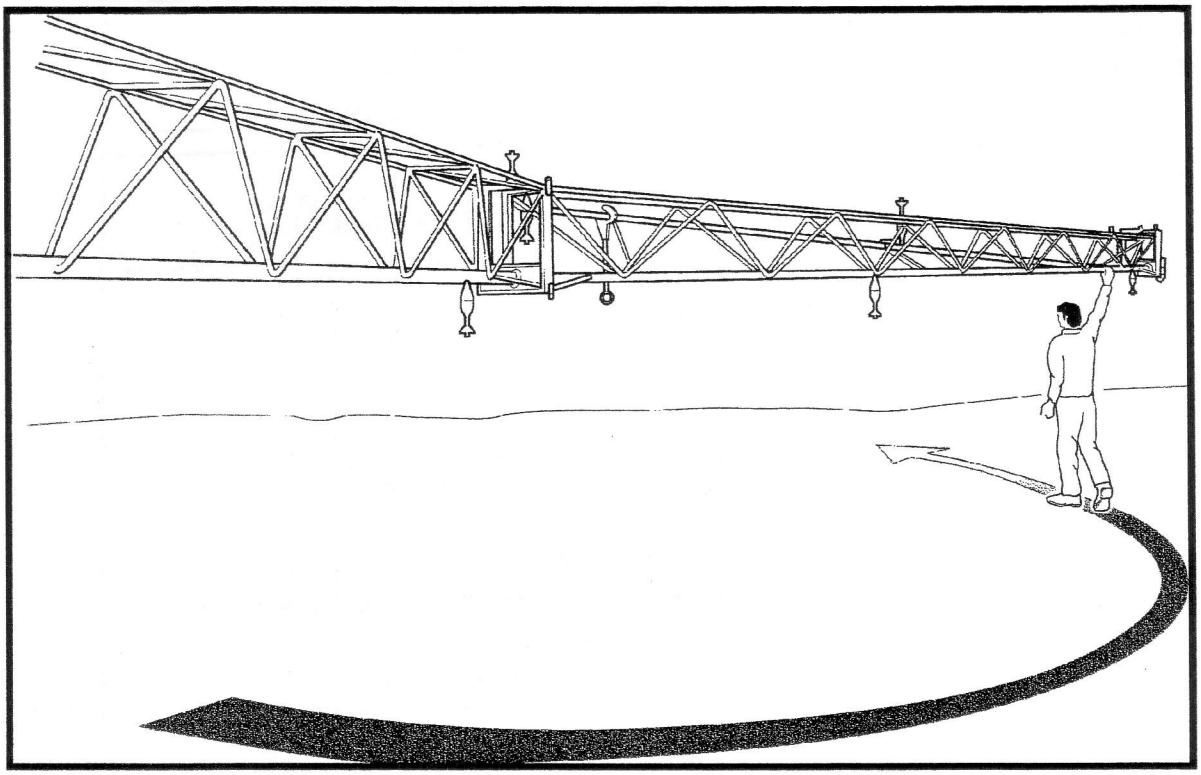
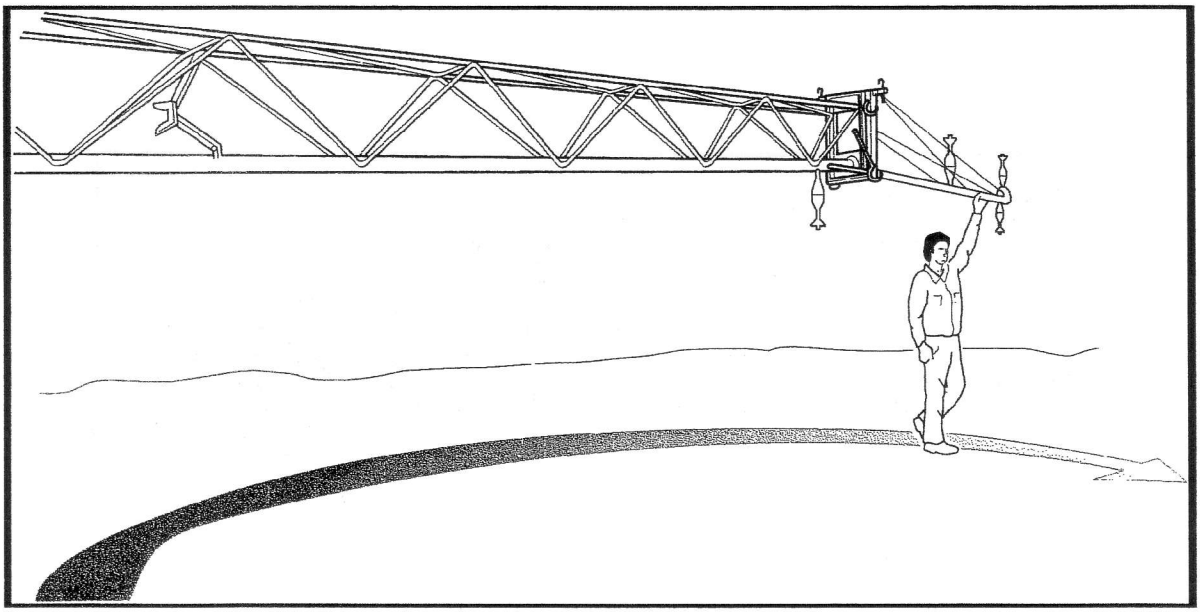


Fig 15



NOTE
Care must be taken when opening all sections. The operator must walk the section around to stop the boom swinging freely and crashing into the hinge frame of the previous section.

If a section is released by mistake severe damage to the top rails and other parts of the Boom will occur.

7: The second half of the Boom may now be opened in the same manner.

8: When the Boom is fully open, lift the drop legs and ensure the locking pins are closed (page 10 fig 10 – position 2)

9: On pivoting Boom – release centre Boom pivot lock (page 10 fig 9). **This is only used on flat fields where the wheeling is not even.** Lead ballast (supplied wrapped on the chassis water feed pipe) may be required to balance the Boom and this is wrapped around the water pipe on the end of the second section. Note: if the field is on a gradual slope at 90° to the direction of the run then the Boom should stay locked in order to remain parallel to the slope.

The Boom is now ready for operation. Slowly open hydrant, Hose Reel valves and start pump. Engage Hose Reel drive and set wind in speed.

When opening the Boom on a slope or into a strong wind, it is difficult to open a Boom section and lock the handle at the same time. In these instances, use the Boom prop (carried on the side of the chassis) to hold the section you are opening while you pull down the locking handle. (fig 16) If the locking handle is out of reach use the extension handle mounted on the boom chassis. Ensure locking catch is always fully engaged.

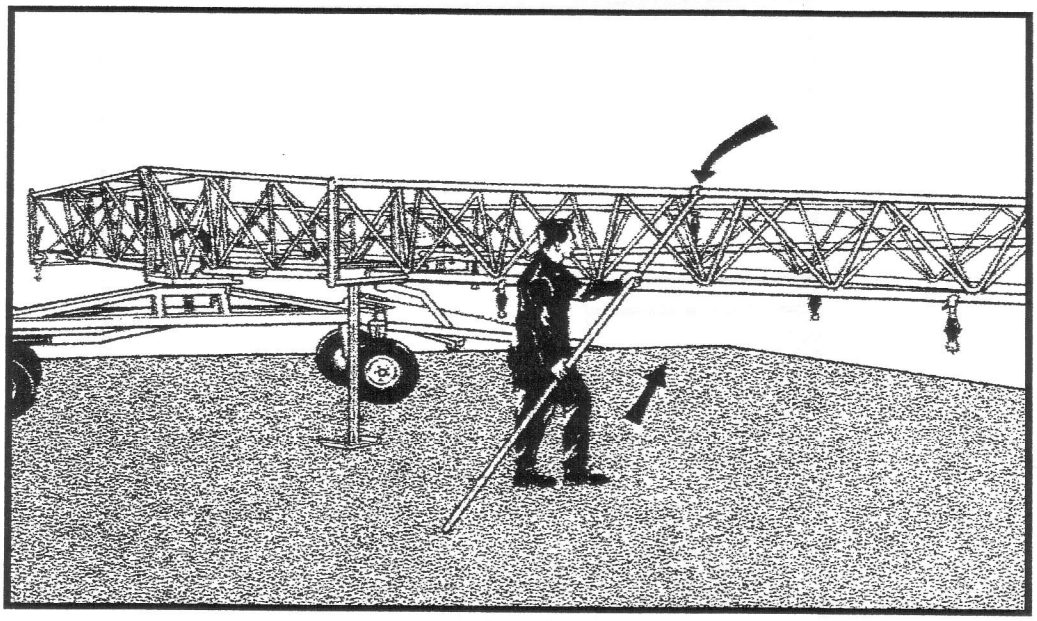


Fig 16

Pressure Settings

15 psi for 10 psi regulated spray Boom
25 psi for 20 psi regulated spray Boom
35 psi for 30 psi regulated spray Boom

Refer to page 2 for the flow rate and size of pressure regulators used on this Boom and to spray jet charts on pages 22 and 23 if changing nozzle sizes.

At the completion of the irrigation run, remove link bar and disconnect Briggs coupling which is designed to release even if under tension. Lift drawbar and take the weight on the chain. Unlock waterfeed on offset models and fold into transport position. (page 6 fig 2) Reposition Hose Reel to next setting and fold the Boom as follows:

TO FOLD THE BOOM See sketch on page 20

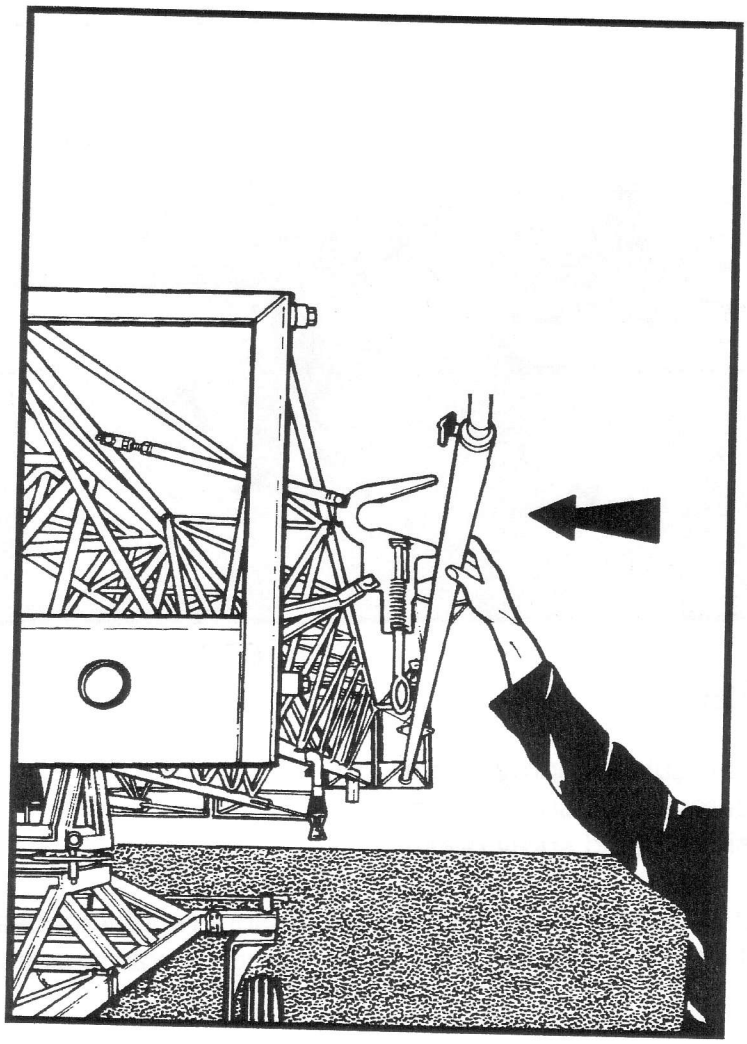
1: If the pivot is unlocked, lock the pivot on central tower (page 10 fig 9). If the lock does not locate, either pull down on the high side of the boom until it locks or leave extra clearance under the dropleg in section 2.

2: Release the drop leg on the high side of the Boom leaving clearance for the Boom to lower to a manageable height and secure the locking pin. (page 10 fig 10)

3: The Boom to be folded is the opposite side to the lowered drop leg.

4: Release the end section by pushing the handle up and rotate through180°. Secure the Boom in its support bracket and ensure locking pin is fully engaged. (fig 17)

Fig 17



5: Repeat this operation on the remaining Boom sections (except the first section) ensuring they are all locked in place.

6: Drop the second Boom support leg allowing room for the Boom to become level.

7: The other side can now be folded all the way including the first section.

8: Now fold the opposite first section in and secure.

9: The drop legs now be lifted and locked into position.

10: Remove the rotation locking pin, turn the Boom through 90° and lock in place. The Boom is now ready for transport (fig 18).

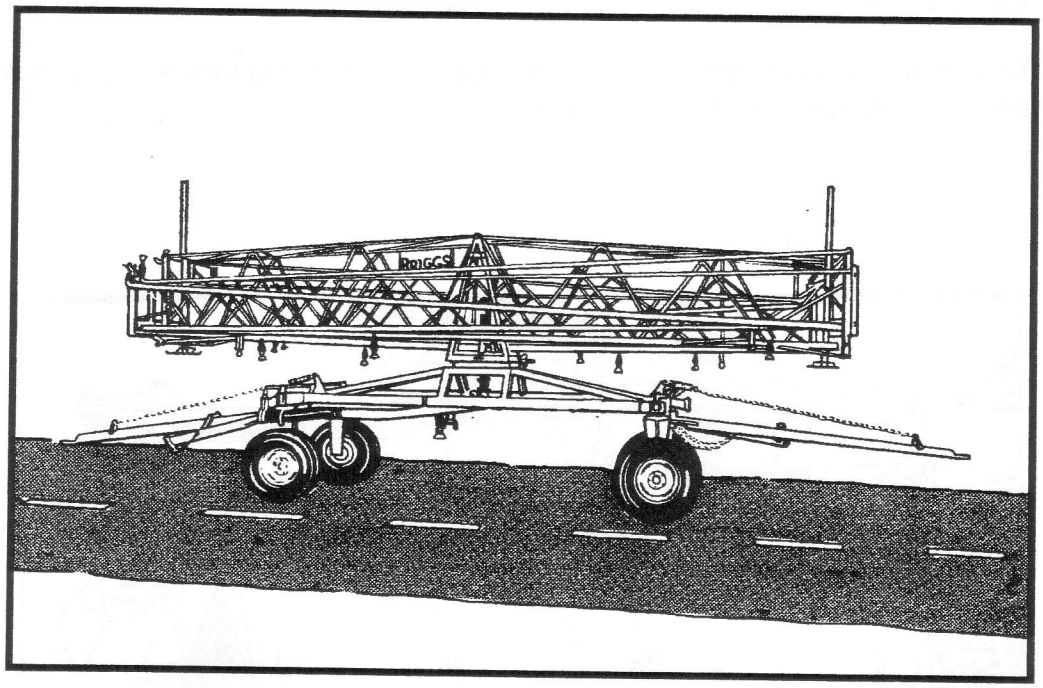


Fig 18

NB Without exception at all times ensure that the pins, when required to be locked, are in the No. 2 position (page 10 fig 10)

11: Connect tractor to the drawbar and tow forward slightly before applying steering lock. Do not connect to the drawbar on a tight angle because when it is pulled sideways the wheels will not be able to follow the angle and the 4 wheel steering bar may be bent.

Travel along the headland and turn into irrigation run as detailed on page 5.

MAINTENANCE

1: Grease turntable weekly

2: Grease steering joints weekly

3: Wheel bearings - Repack and adjust annually

4: Ensure Boom support brackets are holding the Boom centrally. Adjust if necessary. (page 15 fig 17)

5: Boom locking joint tension must be checked annually and is adjusted by the offset clasping lobe. (page 12 fig 13). Grease weekly for ease of operation.

6: Ensure check chains (fig 19) are correctly adjusted to take equal tension on both drawbars.

7: Boom section seals, offset waterfeed seal and spinning joint seal. Check for leakage/damage and replace if necessary.

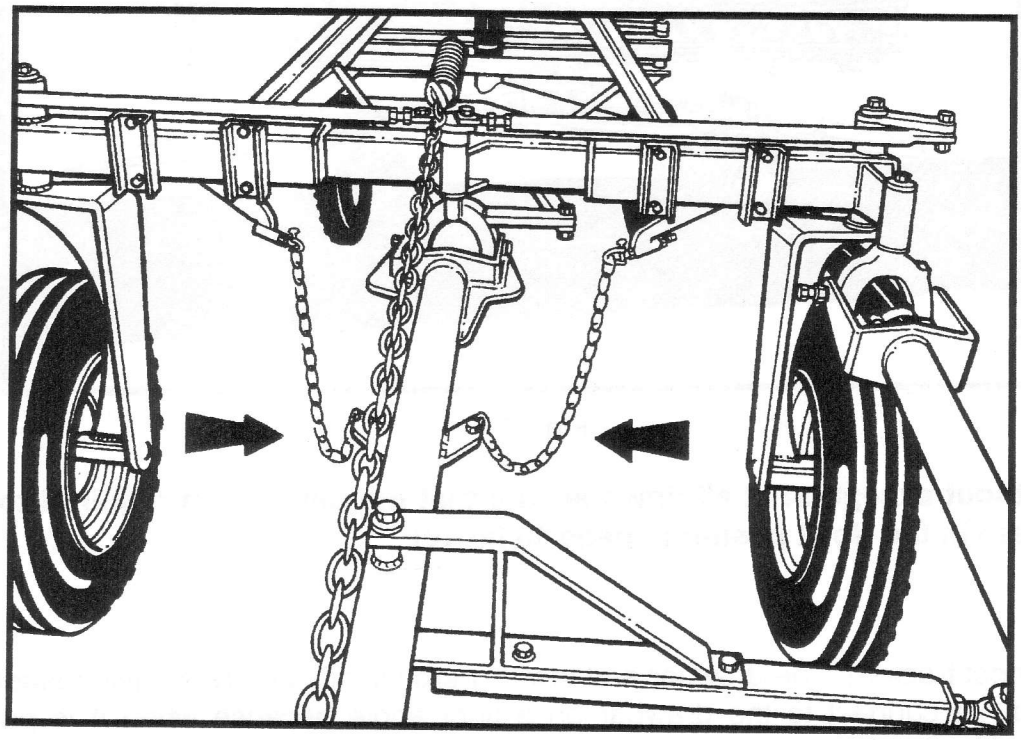


Fig 19

DIMENSIONS	R58	R64	R64 High Crop
TOTAL FOLDED LENGTH	7.2 metres (23'6")	7.2 metres (23'6")	7.2 metres (23'6")
FOLDED WIDTH	4.15 metres (13'7")	4.15 metres (13'7")	4.65 metres (18'4")
WHEELBASE	3.8 metres (12'6")	3.8 metres (12'6")	3.8 metres (12'6")
TRACK WIDTH	1.52 - 2.2 m (60" to 86")	1.52 - 2.2 m (60" to 86")	1.52 – 2.2 m (60" to 86")
WEIGHT	1450 KG	1470KG	1620 KG
TURNING CIRCLE (INSIDE)	7.2 metres (23'6")	7.2 metres (23'6")	7.2 metres (23'6")

RISKS AND PRECAUTIONS

Ensure all locking pins are fully closed. Refer to page 10 (fig 10).

Do not exceed 12 mph (20kph) when towing. Refer to page 4.

Always secure Booms together with ropes or straps as well as the turntable pin when moving on public roads. Refer to page 3.

Watch out for turning clearance of the Boom sections when manoeuvring around vehicles or any other objects.

When operating with obstacles in the field (poles etc) ensure the operator is present to "rotate" the Boom around the obstacle.

If starting a run with the Boom angled to suit a headland, ensure it is set to the finishing headland angle in good time so an end section does not protrude over a road or track. Refer to page 9 (fig 7).

Never remove couplings whilst the machine is pressurised as this can result in serious injury.

Ensure the pump system, pipeline and hosereel are to the correct specification and the necessary safety shut down systems are in place. This is essential particularly for effluent disposal.

THE ELECTRICITY COUNCIL

IRRIGATORS AND OVERHEAD POWER LINES - OPERATORS' SAFETY GUIDE

Irrigators being used near overhead power lines can be a hazard to the operator and other persons. There is a risk of damage to the power line either by direct mechanical contact or by a solid jet of water striking the electrical apparatus. To avoid these hazards, operators should be aware of the following safety precautions:

TREAT all overhead power lines as **LIVE** and remember they are NOT normally insulated.

PLAN any operation - automatic or manual - to prevent the irrigator passing under overhead lines.

CONSULT your local electricity board first if you wish to work closer to an overhead conductor than 30m (100ft) - measured horizontally at ground level. 'Safe' distances are sometimes less than this but vary with nozzles size, water pressure etc.

DO NOT direct the solid part of a jet directly at the line.

ALWAYS use an interrupter and any jet dispersal devices provided. Preferably use ring nozzles.

KEEP the equipment in good repair. Accidents have happened due to support structures breaking because of corrosion or valves sticking causing long Boom irrigators to tip.

ALWAYS erect, dismantle or repair long Boom irrigators AWAY from an overhead line. If it breaks down close to an overhead line, turn off the water and move the machine so that it is at least 15m (50ft) away from the line. DO NOT climb onto the machine until it has been moved away.

TAKE great care while transporting long Boom irrigators in the vicinity of overhead power lines, particularly when crossing cambered roads. Control the Boom ends with ropes, preferably made of nylon or polypropylene.

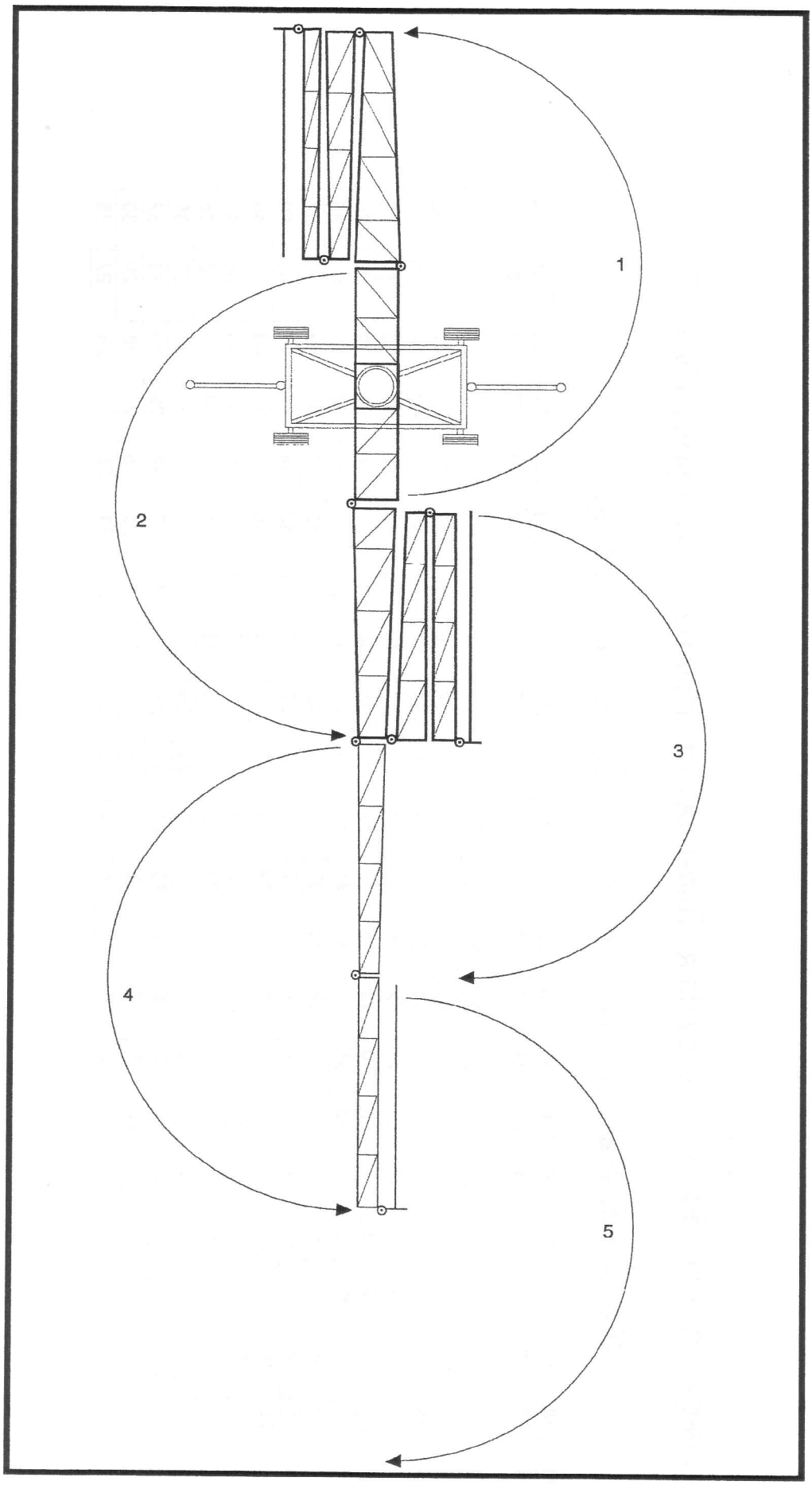
HANDLE long metal pipes carefully, keeping them horizontal and below head height.

DO NOT leave them where the public or children may gain access.

If, in the event of a mishap, any part of the machine or pipes touches or is close to a power line, **KEEP AWAY** from the machine and pipes until the ELECTRICITY BOARD have confirmed that it is safe to approach.

REMEMBER - IF IN DOUBT ASK.

The addresses and telephone number of the local offices or the Electricity Board may be found in the telephone directory under "Electricity."



Sketch layout of folding and unfolding procedure.

Hose Reel wind in speed chart for application rate range.

(See page 2 for the flow rate this Boom is set at)

CHART SHOWING REEL WIND IN SPEEDS FOR REQUIRED DEPTH OF WATER APPLICATION (m/Hour)

R64 Boom Water Flow gpm+m³/hr 72m Lane Spacing

DEPTH OF APPLICATION																							
	Imp	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300
	gpm	25	27	30	33	36	38	41	44	47	49	52	55	57	60	63	65	68	71	74	77	80	82
	m³/hr																						
	5 mm	68	76	84	91	99	106	114	121	129	137	144											
	7.5 mm	45	50	55	61	66	71	76	81	86	91	96	101	106	111	116	121	127	132	137	142	147	152
	10 mm	34	38	42	46	49	53	57	61	64	68	72	76	80	83	87	91	95	99	102	106	110	114
	12.5 mm	27	30	33	36	39	42	45	48	52	55	58	61	64	67	70	73	76	80	83	86	89	92
	15 mm	23	25	27	30	33	35	38	40	43	46	48	51	53	56	58	60	63	66	68	71	73	76
	17.5 mm	19	21	24	26	28	30	32	35	37	39	41	43	45	48	50	52	54	56	58	61	63	65
	20 mm	17	19	21	23	25	27	28	30	32	34	36	38	40	42	44	46	48	50	51	53	55	57
	22.5 mm	15	17	18	20	22	24	25	27	29	30	32	34	35	37	39	41	42	44	45	47	49	50
	25 mm		15	16	18	20	21	23	24	26	27	29	30	32	33	35	36	38	40	41	43	44	46
	27.5 mm			15	16	18	19	21	22	23	25	26	28	29	30	32	33	34	36	37	38	40	41
	30 mm				15	16	18	19	20	22	23	24	25	27	28	29	30	31	33	34	35	36	38
	32.5 mm					15	16	17	19	20	21	22	23	24	25	26	27	29	30	31	32	33	35
	35 mm						15	16	17	18	19	20	21	23	24	25	26	27	28	29	30	31	32
	37.5 mm							15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
	40 mm								15	16	17	18	19	20	21	22	23	24	25	25	26	27	28

20 PSi Spray Head Performance Chart IMP GPM/ *m³/hr*

3TN Nozzle Sizes (Revised 29/04/99)

Base PSi	**#24**	**#25**	**#26**	**#27**	**#28**	**#29**	**#30**	**#31**	**#32**	**#33**	**#34**
Colour	red	red	white	white	blue	blue	dark brown	dark brown	orange	orange	dark green
20	3.7 *1.01*	4.0 *1.1*	4.4 *1.19*	4.7 *1.28*	5.1 *1.39*	5.4 *1.48*	5.8 *1.59*	6.2 *1.83*	6.6 *1.81*	7.1 *1.93*	7.5 *2.05*
Base PSi	**#35**	**#36**	**#37**	**#38**	**#40**	**#42**	**#44**	**#46**	**#48**	**#50**	
Colour	dark green	purple	purple	black	dark turquoise	mustard	maroon	cream	dark blue	copper	
20	7.9 *2.16*	8.3 *2.27*	8.9 *2.42*	9.4 *2.56*	10.4 *2.84*	11.6 *3.15*	12.7 *3.45*	13.9 *3.78*	15.2 *4.13*	16.4 *4.74*	

30 PSi Spray Head Performance Chart IMP GPM/ *m³/hr*

3TN Nozzle Sizes (Revised 29/04/99)

Base PSi	**#24**	**#25**	**#26**	**#27**	**#28**	**#29**	**#30**	**#31**	**#32**	**#33**	**#34**
Colour	red	red	white	white	blue	blue	dark brown	dark brown	orange	orange	dark green
30	4.6 *1.24*	4.9 *1.34*	5.3 *1.46*	5.7 *1.56*	6.2 *1.7*	6.7 *1.82*	7.1 *1.94*	7.6 *2.06*	8.1 *2.22*	8.7 *2.36*	9.2 *2.51*
Base PSi	**#35**	**#36**	**#37**	**#38**	**#40**	**#42**	**#44**	**#46**	**#48**	**#50**	
Colour	dark green	purple	purple	black	dark turquoise	mustard	maroon	cream	dark blue	copper	
30	9.7 *2.65*	10.2 *2.78*	10.9 *2.97*	11.5 *3.14*	12.8 *3.49*	14.2 *3.86*	15.5 *4.23*	17.0 *4.63*	18.6 *5.06*	20.1 *5.47*	

NELSON BLUE TOP PRESSURE REGULATORS

Precision Accuracy in tough field environments

FEATURES

- **PATENTED DAMPENING SYSTEM**

The patented O-Ring Dampening System of all Nelson Pressure Regulators handles severe pressure surges, without creating flow restrictions under working pressures.

- **EXTENDED FLOW RANGE**

The Nelson Lo-Flo Pressure Regulator extends to 10 gpm, providing economical precision.

- **EXTENDED ACCURACY**

Precision components coupled with an internally lubricated o-ring minimize frictional drag and hysteresis.

- **PLUG RESISTANT DESIGN**

An open seat design prevents hair-pinning, debris hangup and plugging of the pressure regulator.

- **PRECISION MANUFACTURED**

Made of the toughest chemically resistant materials. 100% water tested for accuracy.

BLUE TOP
Colour-Coded Identification

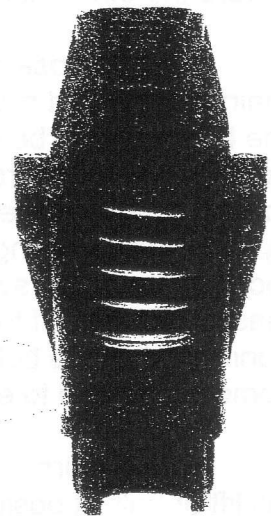
Patented Internal Dampening System
- Retards Vibration
- Withstands Water Hammer

Vented for Below Ground Use

Chemically Resistant Materials

Internally Lubricated O-Ring for Precision Accuracy

Plug Resistant Seat Design



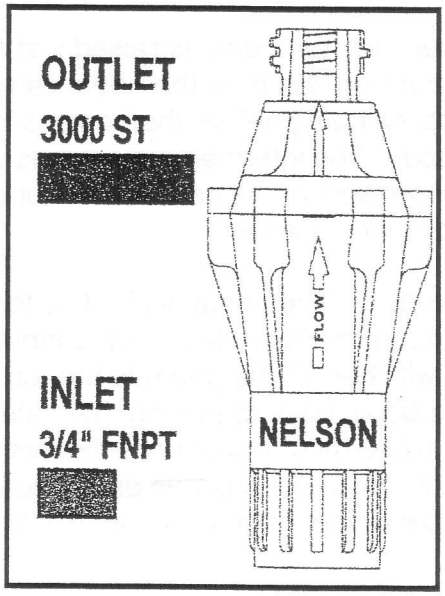
Application Notes

Performance Tables.
Contact the Nelson factory for detailed performance information.

Statement of Expected Performance.
Nelson Pressure Regulators are accurate to 6% variance of coefficient manufacturing.

Design Considerations
Maintain a 3 psi threshold above the nominal spring rated pressure.

CAUTION !
Pressure regulators should be installed downstream from all shut off valves



HI FLO			
PSI	BAR	GPM	M³/HR
6	.41	4-16	.91-3.63
10	.70	4-16	.91-3.63
15	1.0	2-20	.45-4.54
20	1.4	2-20	.45-4.54
25	1.7	2-20	.45-4.54
30	2.0	2-20	.45-4.54
40	2.8	2-20	.45-4.54
50	3.4	2-20	.45-4.54

OPTIONAL 3 PAGE SECTION FOR R64 HIGH CROP BOOM

Instructions for normal operation

1: Fully unfold the boom following the procedure in the Boom Manual.

2: Connect the 6m lengths of hydraulic hose between the tractor and the female coupling on the boom. Operate the spool valve on the tractor to pressurise the system and the boom will lift. If the boom lifts unevenly i.e. one cylinder starts to lift before the other then follow the procedure below otherwise go to step 4.

3: The purpose of the valve is to equalise the slave part of the system with the main pressurised system. If the slave cylinder lags behind the main cylinder then the boom should be lowered to its bottom position and the valve opened. When the spool valve on the tractor is now operated the slave cylinder will lift first because the master cylinder is being pressurised from above and below its piston. When the 2 cylinders are working simultaneously the valve should then be closed. This then locks off the slave system so that it is operated only by the action of the piston in the master cylinder. If the slave cylinder gets "in front" of the master cylinder then the connection to the bottom of the slave cylinder should be loosened slightly to allow some oil out and to equalise the heights of the 2 cylinders.

4: The 3 pairs of swinging catches allow the boom to be operated at either its full lift or half lift position. These work automatically; to engage the catches raise the boom until the catches are rotated, keep on lifting the boom slowly until both catches are seen to have engaged. Then lower the boom so that it sits in the catches. The weight of the boom is now being held by the catches and the hydraulic hose can be removed from the tractor and boom and stowed on the bracket on the boom chassis.

5: To release the boom from the catches, the boom is raised just enough for the catches to swing back to their normal position and then the boom can be lowered. It is important to allow the catches to stop swinging before the boom is lowered because fouling of the catches may occur. The intermediate catches work in exactly the same way as the top catches. If either sets of the catches do not engage at the same time it will be necessary to perform step 3 again.

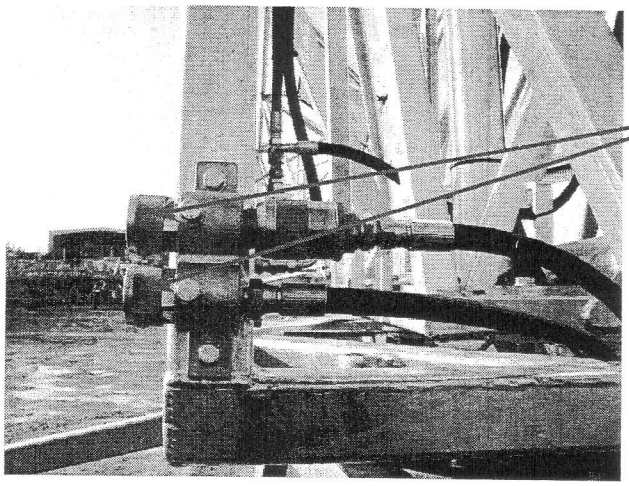
6. To lift the boom to its highest position. The boom is lifted up to the intermediate position and then the cylinders are retracted. The bottom catches will then engage. Extending the cylinders will then lift the boom to the top position and the top catches engaged. To lower the boom back to the intermediate position extend the cylinders to clear the top catches then retract the cylinders to lower the boom. Keep retracting the cylinders until the lower catches disengage then extend the cylinders until the intermediate catches disengage and then finally lower the boom completely.

Maintenance

As well as the instructions in this manual the following should be adhered to: -

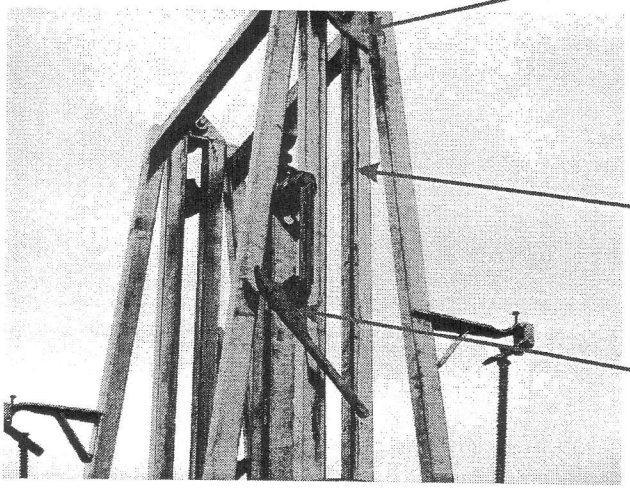
- Grease all of the main vertical sliding surfaces once a week.

- Grease the swinging catches once every 3 months – both the grease nipple and also around the outer edge of the catches where they touch the bush. Failure to do so will prevent the catches from working correctly.



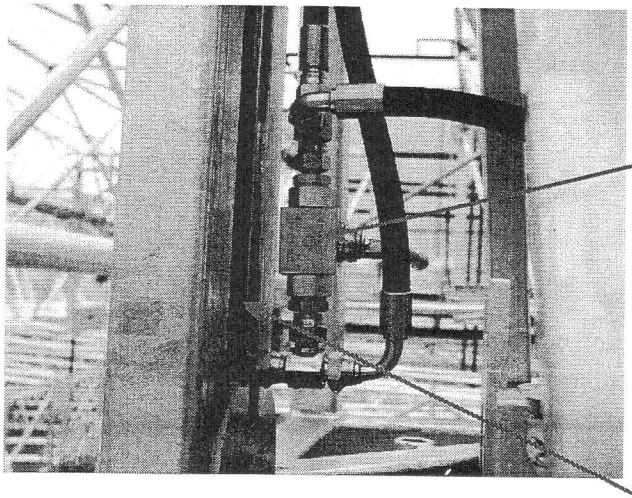
Female Hydraulic couplings

Full Lift swinging catch



Grease weekly

Half Lift swinging catch



Equalising Valve shown in Closed Position (Normal Working)

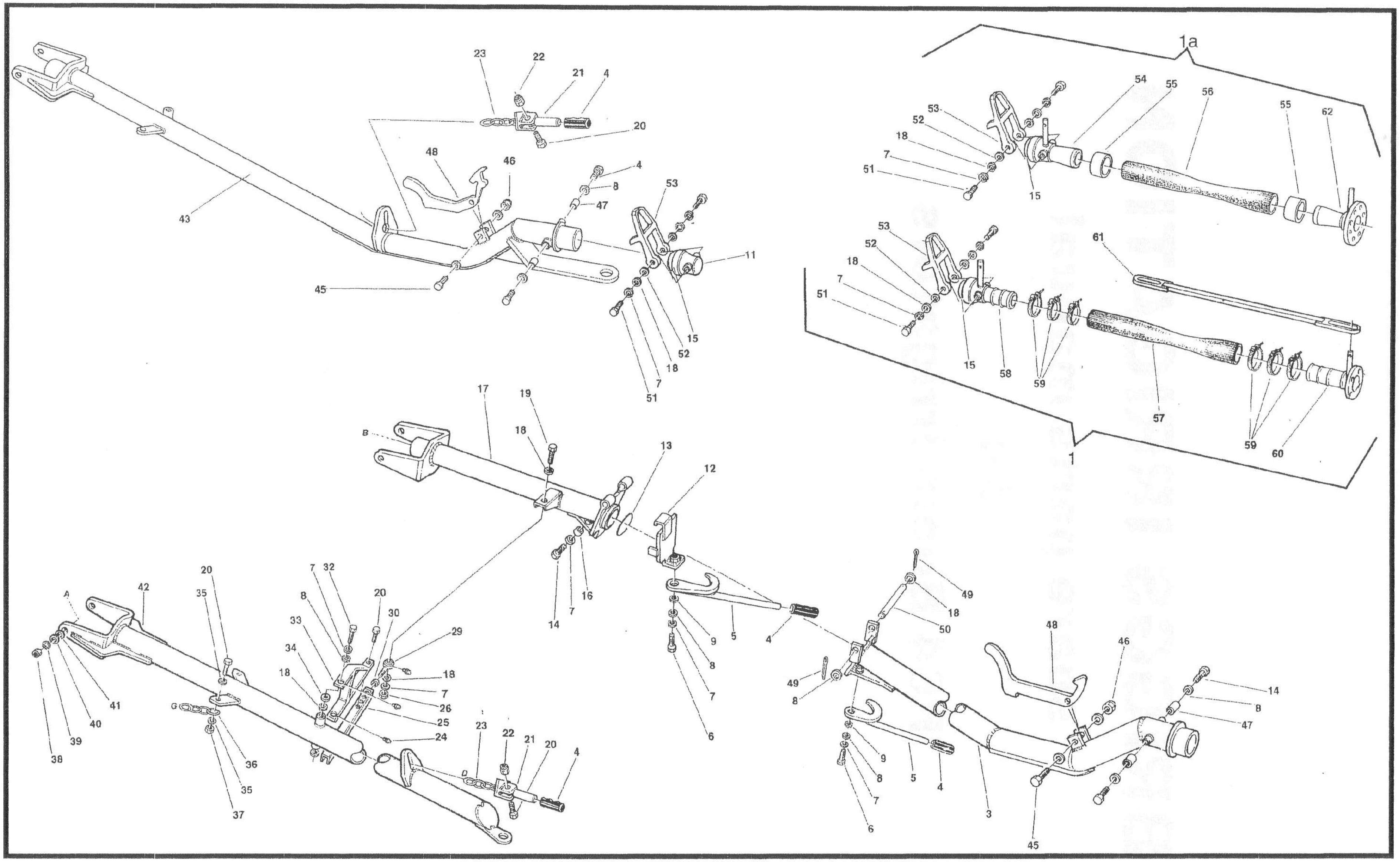
Master Cylinder

BRIGGS IRRIGATION

spare parts manual

for

R64 Boom Irrigators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R64 Figure One

DRAWBARS/ WATERFEEDS

Item	Description	Part No.	Qty
1	Layflat connector assembly ribbed	64/1001/1	4
1a	Layflat connector assembly tapered	64/1000/1	1
3	Offset feed pipe – outer	64/1002/1	1
4	Handle grip	64/001/1	1
5	Offset feed pipe locking catch	64/1003/1	1
6	M16 x 50 bolt	64/154/1	1
7	M16 x spring washer	64/117/1	4
8	M16 special washer	64/1004/1	1
9	Offset feed pipe hex cam bush	64/1036/1	1
10	Catch assembly		
11	End cap – centre feed	64/1006/1	1
12	Offset blanking plate	64/1034/1	1
13	76 O ring seal	64/1007/1	1
14	M16 x 40 bolt	64/152/1	1
15	Pull coupling lip seal	64/021/1	1
16	Feed pipe handle bush	64/1008/1	1
17	Offset feed pipe – inner RH (shown)	64/1009/1	2
17a	Offset feed pipe – inner LH	64/1035/1	2
18	M16 plain washer	64/176/1	4
19	M16 x 60 bolt	64/156/1	1
20	M12 x 35 bolt	64/143/1	5
21	Chain handle	64/1010/1	1
22	M12 nylock	64/188/1	1
23	Drawbar chain	64/1011/1	1
24	M6 grease nipple	64/040/1	3
25	Cross link channel (specify wheeltrack)	64/1012/1	1
26	M16 nut	64/189/1	1
27			
28			
29	22 mm rose joint	64/1040/1	1
30	22 mm nut	64/192/1	1

Item	Description	Part No.	Qty
31			
32	M16 x 45 bolt	64/153/1	2
33	Cross link	64/1014/1	1
34	Cross link bush	64/1015/1	1
35	M12 plain washer	64/174/1	6
36	Check chain	64/1016/1	2
37	M12 nut	64/186/1	4
38	M20 nut	64/192/1	2
39	M20 spring washer	64/179/1	2
40	M20 plain washer	64/178/1	2
41	UJ hardened bush	64/1017/1	2
42	Offset drawbar	64/1018/1	1
43	Centre feed drawbar	64/1019/1	1
44			
45	M10 x M40 Bolt	64/134/1	1
46	M10 Nylock nut	64/185/1	1
47	Feed pipe bush	64/1021/1	2
48	Safety catch	64/1022/1	1
49	Roll pin	64/030/1	2
50	Offset waterfeed hinge pin	64/1023/1	1
51	M16 x 35 bolt	64/151/1	1
52	Pull coupler bush	64/1024/1	1
53	Pull coupler locking catch	64/1025/1	1
54	Briggs Taper female connector	64/1026/1	2
55	Taper lock collar	64/1027/1	2
56	3.5" layflat draghose:taperlock 950mm	64/1028/1	1
57	3.5" layflat draghose: ribbed hosetail 1000mm	64/1029/1	1
58	Briggs ribbed female connector	64/1030/1	1
59	91-97mm Hose clamps	64/052/1	3
60	Flange fitting assembly (to suit reel)	64/1031/1	1
61	Linkbar – Bauer longer length	64/1032/1	1
62	Briggs taper lock: flange/Bauer	64/1033/1	1

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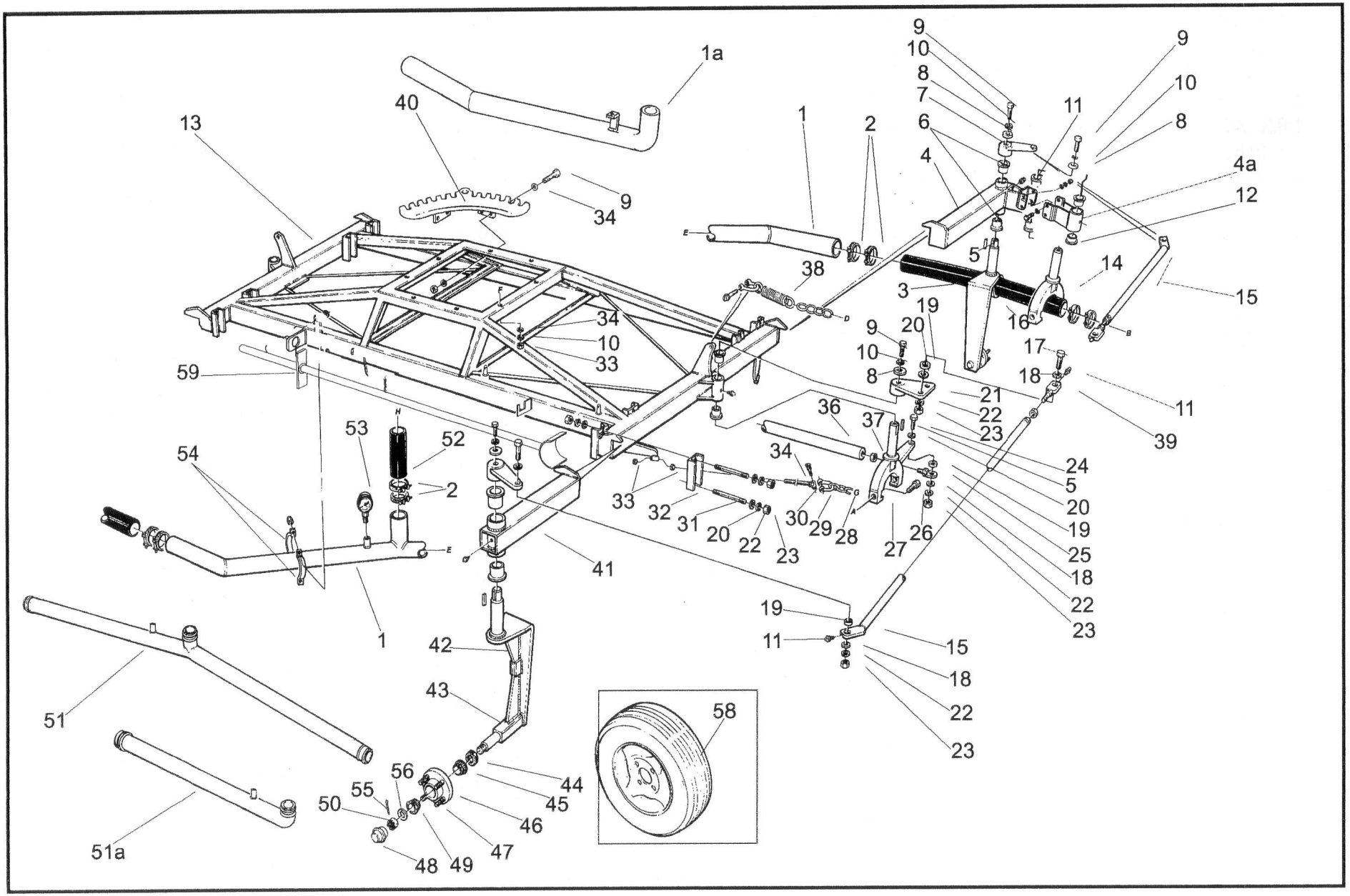
CHASSIS COMPONENTS ASSEMBLY

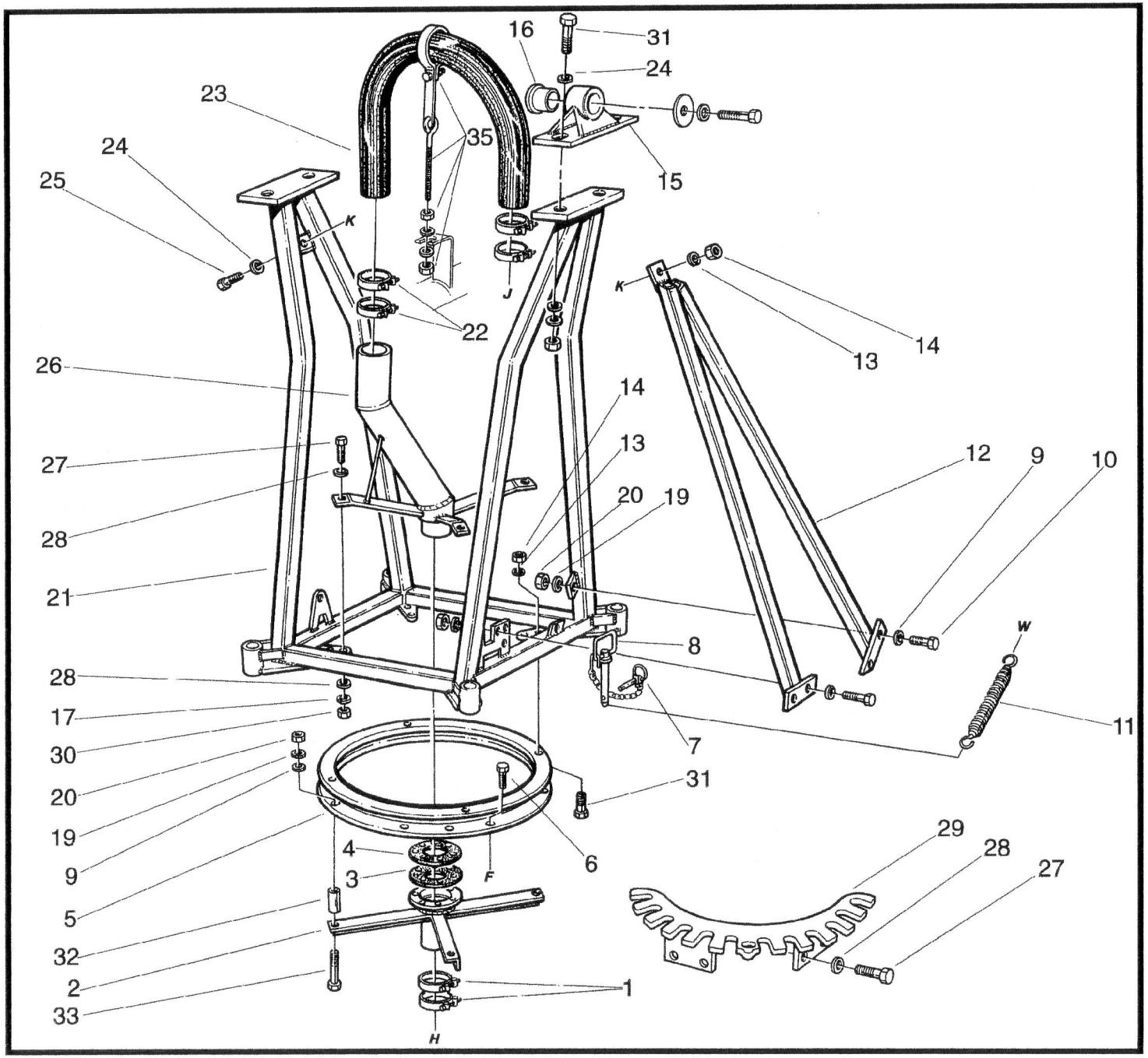


R64 Figure Two **CHASSIS COMPONENTS**

Item	Description	Part No.	Qty
1	Chassis offset feed pipe R/H both ends	64/1101/2	1
1a	Chassis offset feed pipe R/H one end	64/1137/2	1
1b	Chassis offset feed pipe L/H both ends	64/1139/2	1
1c	Chassis offset feed pipe L/H one end	64/1138/2	1
2	91 – 97 mm hose clamp	64/052/2	12
4	Universal offset dropleg mount (specify track setting)	64/1140/2	2
4a	Offset waterfeed mounting bracket	64/1142/2	2
5	3/8" Keysteel	64/1104/2	6
6	2" I.D nylon bushes	64/060/2	8
7	Steering arm	64/1130/2	4
8	M12 special washer	64/1106/2	8
9	M12 x 30 bolt	64/142/2	8
10	M12 Spring washer	64/175/2	16
11	M6 grease nipple	64/040/2	16
12	1 ½" I.D nylon bush	64/061/2	8
13	Chassis	64/1107/2	1
14	Offset UJ	64/1108/2	2
15	Track rod: specify track setting	64/1109/2	4
16	Drop leg with ring	64/1130/2	2
17	M16 x 50 Bolt	64/154/2	4
18	M16 special washer	64/1004/2	10
19	Trackrod bush	64/1015/2	10
20	M16 plain washer	64/176/2	42
21	Centre track rod mount	64/1131/2	2
22	M16 spring washer	64/177/2	42
23	M16 nut	64/189/2	42
24	M16 x 60 bolt	64/156/2	2
25	4 wheel steering link adjuster	64/1112/2	1
26	M20 x 60 bolt	64/161/2	8
27	Centre UJ	64/1113/2	2
28	Check chain	64/1016/2	4

Item	Description	Part no.	Qty
29	3/8" shackle	64/070/2	6
30	Check chain adjuster	64/1115/2	4
31	Dropleg mount bolt	64/1126/2	16
32	Clamping channel	64/1116/2	8
33	M12 nut	64/186/2	16
34	M12 plain washer	64/174/2	16
35			
36	4 wheel steering link	64/1117/12	1
37	M20 half nut	64/193/2	1
38	Drawbar spring	64/080/2	2
39	Track rod adjuster	64/1127/2	4
40	Quadrant plate	64/1211/2	1
41	Universal plain dropleg mount (specify track setting)	64/1141/2	2
43	Stub axle	64/090/2	4
44	Seal	64/091/2	4
45	Inner bearing	64/092/2	4
46	Hub	64/093/2	4
47	Stud	64/099/2	20
48	Hub cap	64/095/2	4
49	Outer bearing	64/096/2	4
50	Castle nut	64/097/2	4
51	Centre chassis feed pipe both ends	64/1120/2	1
51a	Centre chassis feed pipe one end	64/11362	1
52	3½" layflat hose	64/1121/2	1
53	0-10 Bar pressure gauge	64/200/2	1
54	Pipe clamp	64/1122/2	2
55	Castle nut retaining pin	64/ 100/2	4
56	Castle nut washer	64/ 101/2	4
58	Wheel 7-50 x 16	64/1134/2	4
59	Boom prop	64/1317/4	1

OUTER TOWER COMPONENTS



R64 Figure Three

OUTER TOWER COMPONENTS

Item	Description	Part No.	Qty
1	91 – 97 mm hose clamp	64/052/3	2
2	Spinning joint	64/1201/3	1
3	Spinning joint seal	64/022/3	1
4	Seal clamping flange	64/1203/3	1
5	Turntable	64/1204//3	1
6	M12 x 35 bolt	64/143/3	4
7	Linch pin	64/014/3	1
8	Turntable pin	64/011/3	1
9	M10 flat washer	64/172/3	4
10	M10 x 35 bolt	64/133/3	4
11	Tilt lock spring	64/084/3	1
12	Tower brace	64/1205/3	1
13	M16 spring washer	64/177/3	4
14	M16 nut	64/189/3	4
15	Boom pivot mount	64/1212/3	1
16	Pivot bush	64/061/3	2
17	M12 spring washer	64/175/4	1
18	M12 x 30 bolt	64/142/3	2
19	M10 spring washer	64/173/3	8
20	M10 nut	64/184/3	8
21	Outer tower	64/1213/3	1
22	86 – 91 mm hose clamps	64/051/3	4
23	3" steel braided hose	64/1208/3	1
24	M16 flat washer	64/176/3	1
25	M16 x 40 bolt	64/152/3	1
26	Spider joint	64/1209/3	1
27	M12 x 40 bolt	64/144/3	4
28	M12 plain washer	64/174/3	4
29	Quadrant plate	64/1211/3	1
30	M12 nut	64/186/3	4
31	M16 x 45 bolt	64/153/3	4
32	Spinning joint spacer	64/1210/3	4
33	M10 x 80 bolt	64/135/3	4

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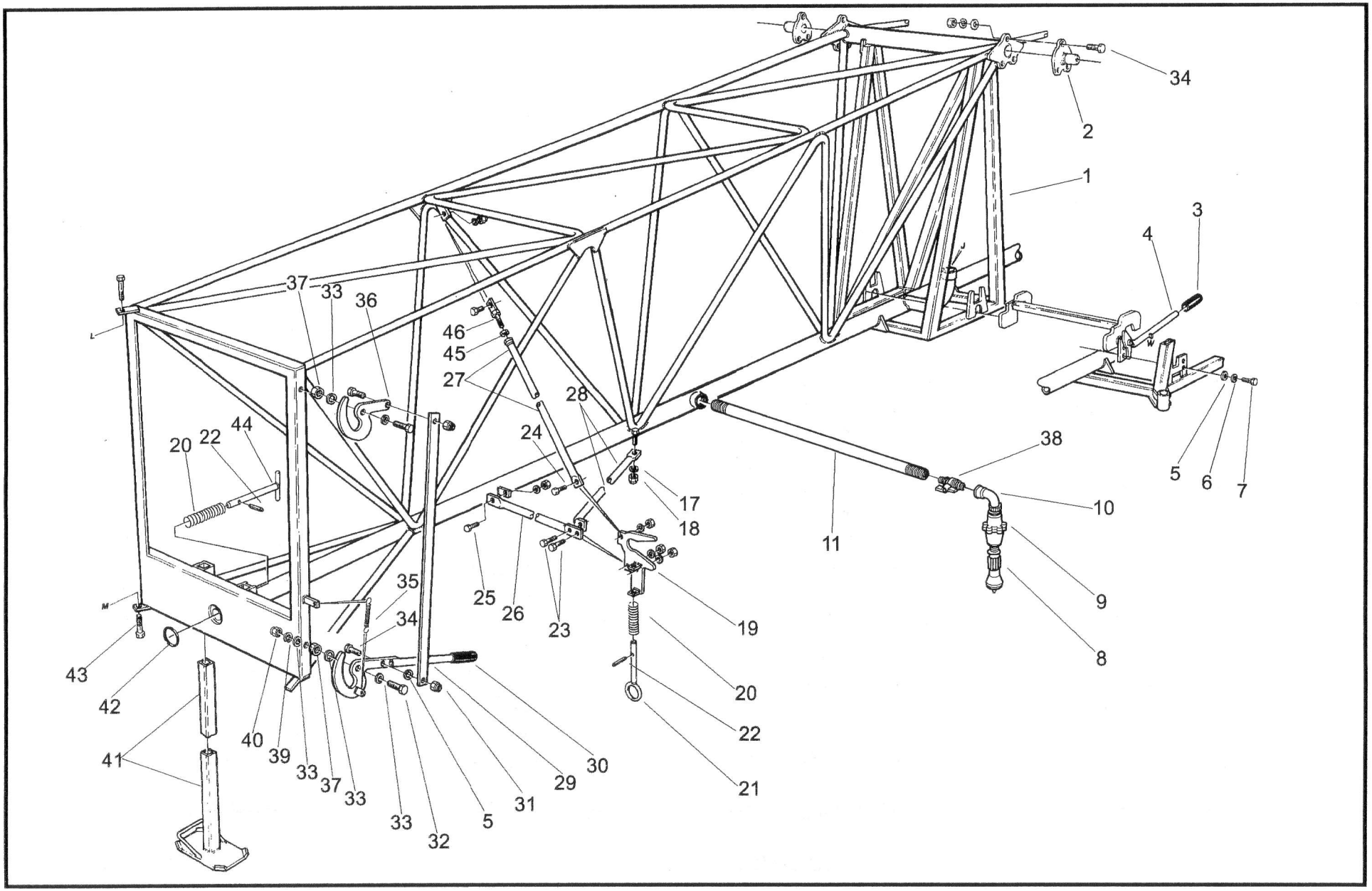
CENTRE SECTION ASSEMBLY

R64 Fig.4

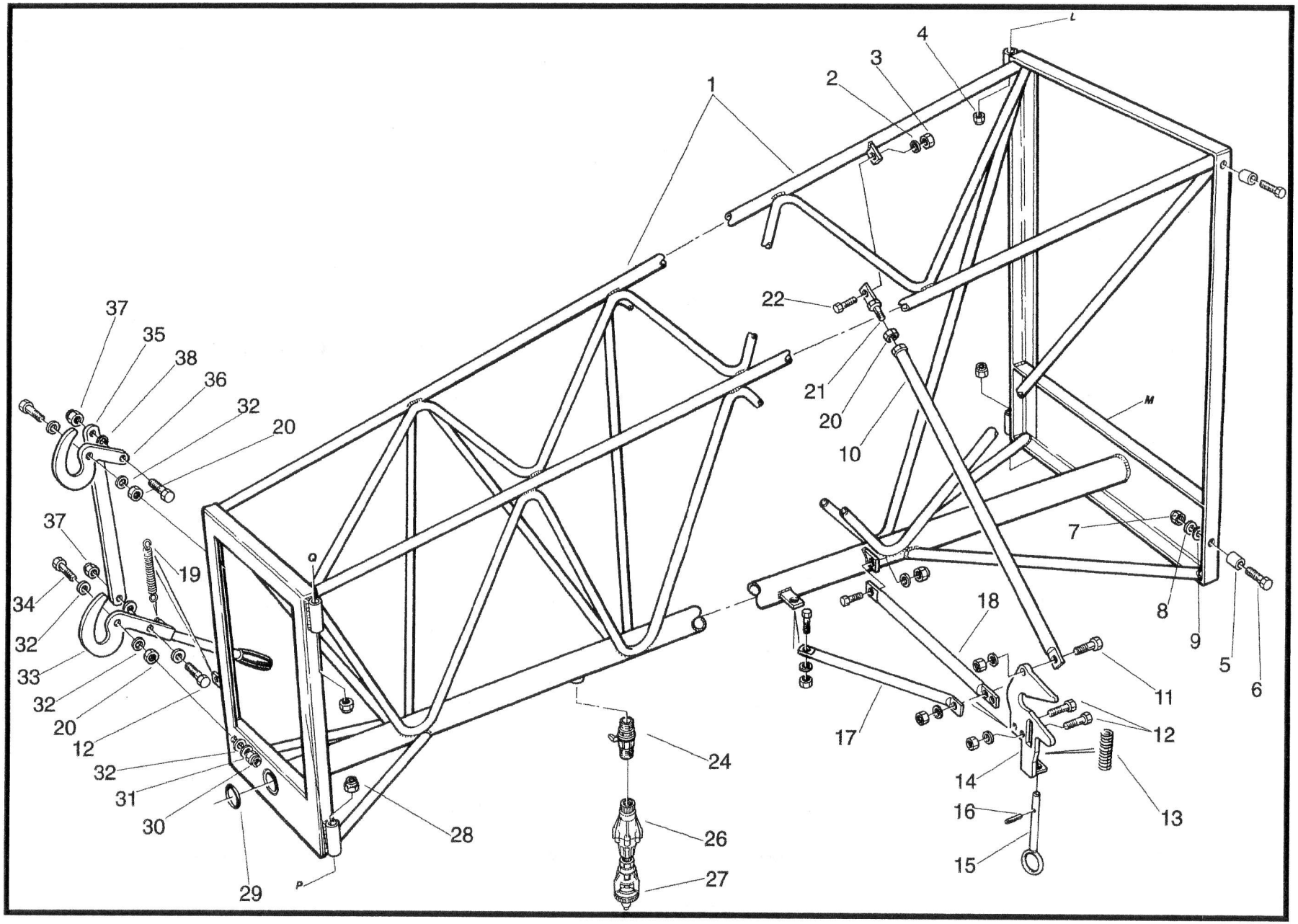


R64 Figure Four

CENTRE SECTION

Item	Description	Part No.	Qty
1	Centre section	64/1330/4	1
2	Centre section pivot pin	64/1318/4	2
3	Handle grip	64/001/4	3
4	Tilt lock 2000 type	64/1319/4	1
5	M12 Plain washer	64/174/4	6
6	M12 spring washer	64/175/4	2
7	M12 x 25 bolt	64/141/4	2
8	PCS3000 sprayjet	see fig 10	2
9	Pressure regulator	see fig 10	2
10	90° male/female elbow	64/201/4	2
11	¾" x 770 mm pipe nipple	64/222/4	2
12			
13			
14			
15			
16			
17	M10 spring washer	64/173/4	10
18	M10 nut	64/184/4	10
19	Boom support bracket – centre	64/1305/4	2
20	Spring	64/082/4	4
21	Support bracket locking pin	64/1306/4	2
22	Roll pin	64/031/4	4
23	M10 x 35 bolt	64/133/4	4

Item	Description	Part no.	Qty
24	M10 x 30 bolt	64/132/4	2
25	M10 x 20 bolt	64/131/4	6
26	Rear strut (centre section)	64/1307/2	
27	Top strut (centre section)	64/1308/4	2
28	Side strut (centre section)	64/1309/4	2
29	Connecting link (centre section)	64/1310/4	2
30	Locking catch – centre bottom	64/1311/4	2
31	M12 nylock	64/188/4	4
32	M16 x 55 bolt	64/155/4	4
33	M16 plain washer	64/176/4	8
34	M12 x 40 bolt	64/144/4	4
35	Spring	64/083/4	4
36	Locking catch – centre top	64/1312/4	2
37	M16 plain nut	64/189/4	4
38	¾" Male/female ball valve	64/ 202/4	2
39	M16 spring washer	64/177/4	2
40	M16 nut	64/189/4	2
41	Boom support leg	64/1313/4	2
42	2" "O"ring seal	64/1314/4	2
43	M20 x 120 bolt	64/162/4	4
44	Support leg locking pin	64/1315/4	2
45	M12 half nut	64/187/4	2
46	Support bracket adjuster	64/1316/4	2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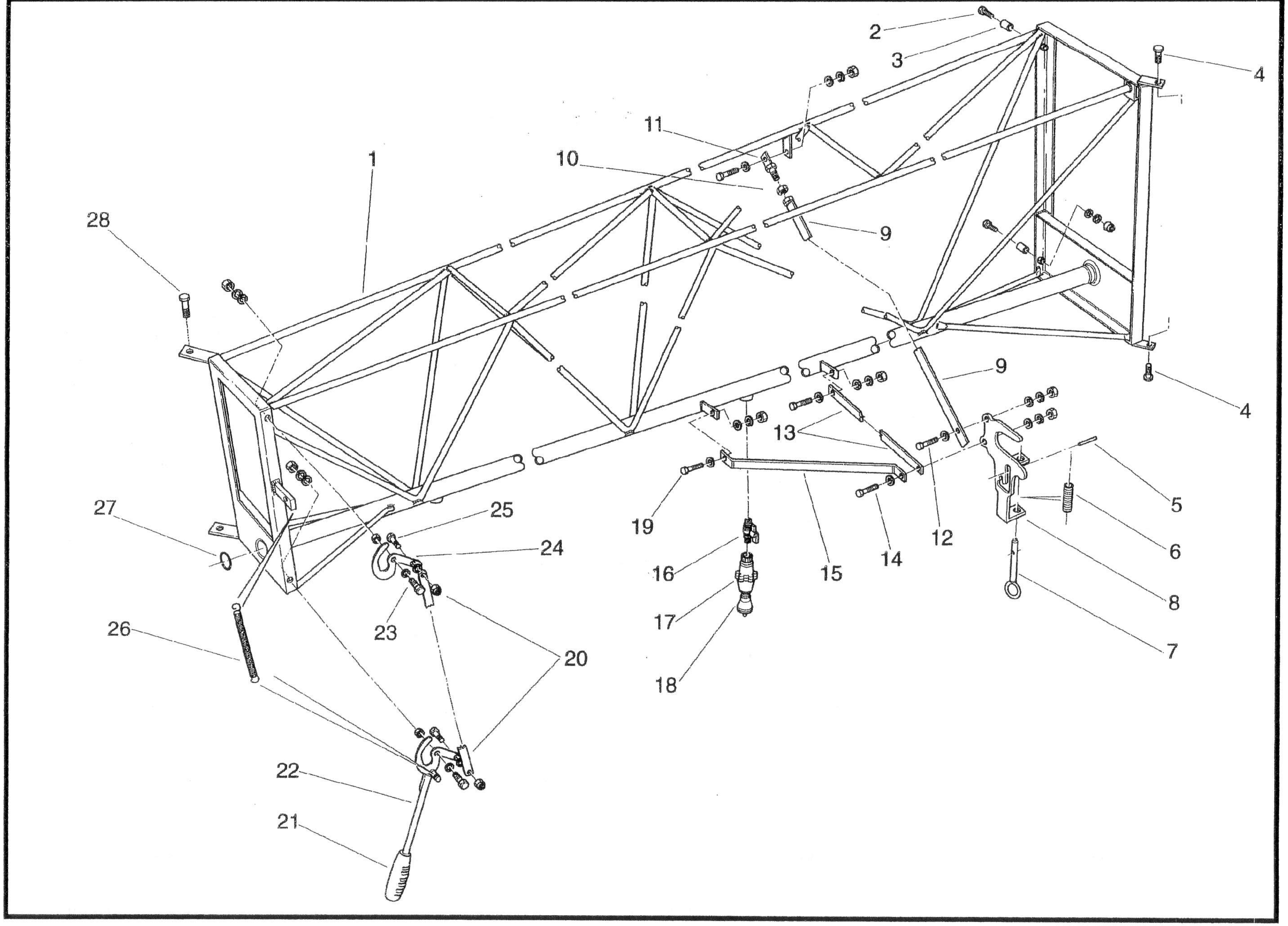
R64 Figure Five

FIRST SECTION

Item	Description	Part No.	Qty
1	First section	64/1380/5	2
2	M10 spring washer	64/173/5	6
3	M10 nut	64/184/5	6
4	M 20 nylock nut	64/194/5	2
5	Boom catch cam (first section)	64/1321/5	2
6	M16 x 60 bolt	64/156/5	2
7	M16 nut	64/189/5	1
8	M16 spring washer	64/177/5	1
9	M16 plain washer	64/176/5	1
10	Top strut (first section)	64/1381/5	1
11	M10 x 30 bolt	64/132/5	1
12	M10 x 35 bolt	64/133/5	2
13	Spring	64/082/5	1
14	Boom support bracket	64/1323/5	1
15	Support bracket locking pin	64/1306/5	1
16	Roll pin	64/031/5	1
17	Side strut (first section)	64/1325/5	1
18	Rear strut (first section)	64/1326/5	1
19	Locking catch spring	64/083/51	1
20	M12 half nut	64/187/5	3
21	Support bracket adjuster	64/1316/5	1

Item	Description	Part no.	Qty
22	M10 x 20 bolt	64/131/5	3
23			
24	¾" Male/male ball valve	64/246/5	2
25			
26	Pressure regulator	see fig 10	2
27	S3000 assembly	see fig 10	2
28	M16 nylock nut	64/191/5	2
29	2" "O"ring seal	64/1314/5	1
30	M12 nut	64/186/5	1
31	M12 spring washer	64/175/5	1
32	M12 plain washer	64/174/5	5
33	Locking catch – first bottom	64/1582/5	1
34	M12 x 45 bolt	64/145/5	2
35	Connecting link (first section)	64/1383/5	1
36	Locking catch – first top	64/1328/5	1
37	M10 nylock nut	64/185/5	2
38	M10 plain washer	64/172/5	4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R64 Figure Six

SECOND SECTION

Item	Description	Part No.	Qty
1.	Second Section	64/1340/6	2
2.	M12 x 50 bolt	64/146/6	3
3.	Catch cam (second section)	64/1345/6	2
4.	M16 x 100 bolt	64/157/6	2
5.	Roll pin	64/031/6	1
6.	Spring	64/082/6	1
7.	Support bracket locking pin	64/1306/6	1
8.	Support bracket	64/1394/6	1
9.	Top strut (second section)	64/1391/6	1
10.	M12 half nut	64/187/6	3
11.	Support bracket adjuster	64/1316/1	1
12.	M10 x 20 bolt	64/131/6	2
13.	Bottom strut (second section)	64/1392/6	1
14.	M10 x 30 bolt	64/132/6	1
15.	Side strut 2nd section	64/1393/6	1
16.	¾" Male/male ball valve	64/246/6	2
17.	Pressure regulator	see fig 10	2
18.	S3000 assembly	see fig 10	2
19.	M10 x 20 bolt	64/131/6	1
20.	Connecting link (second section)	64/1395/6	1
21.	Handle grip	64/001/6	1
22.	Locking catch (second bottom)	64/1350/6	1
23.	M 12 x 35 bolt	64/143/6	1
24.	Locking catch second top	64/1348/6	1
25.	M10 x 30 Bolt	64/132/6	1
26.	Catch spring	64/083/6	1
27.	'O' ring seal	64/1314/6	1
28.	M12 x 70 Bolt	64/147/6	1

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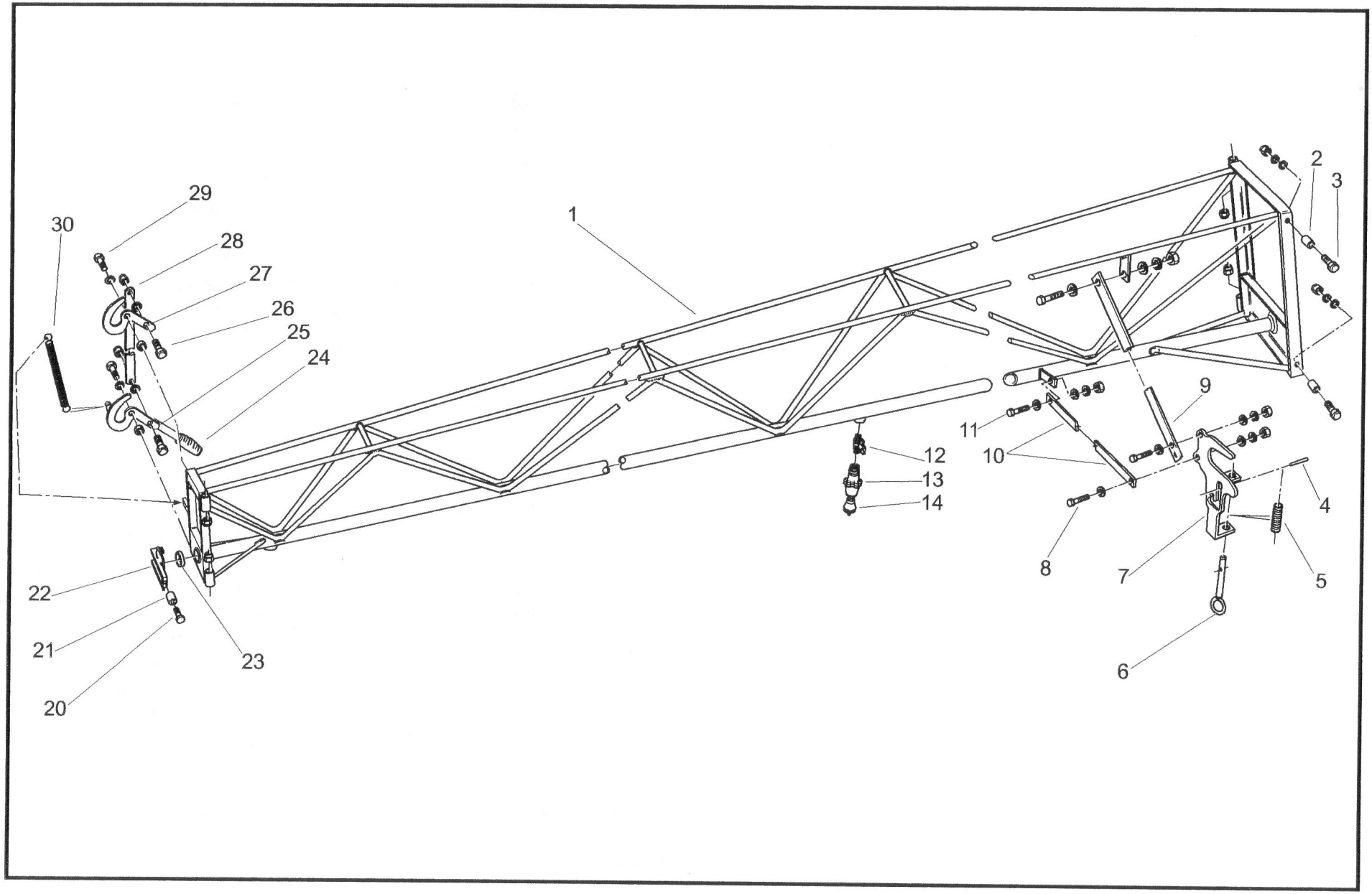
THIRD SECTION ASSEMBLY

R64 Fig.7



R64 Figure Seven

3rd SECTION

Item	Description	Part No.	Qty
1.	3rd section	64/1400/7	1
2.	Catch cam (third section)	64/1345/7	2
3.	M12 x 50 bolt	64/146/7	2
4.	Roll pin	64/031/7	1
5.	Spring	64/082/7	1
6.	Support bracket locking pin	64/1403/7	1
7.	Support bracket	64/1505/7	1
8.	M8 x 20 bolt	64/121/7	1
9.	Top strut 3rd section	64/1401/7	1
10.	Bottom strut 3rd section	64/1402/7	1
11.	M8 x 25 bolt	64/202/7	1
12.	¾" Male/male ball valve	64/246/7	2
13.	Pressure regulator	see fig 10	2
14.	S3000 assembly	see fig 10	2
15.			
16.			
17.			
18.			
19.	M8 x 20 bolt	64/121/7	1
20.	M10 x 40 bolt	64/134/7	1
21.	Catch cam (third section)	64/1507/7	1
22.	Boom blanking plate (optional)	64/1409/7	1
23.	O ring seal	64/1314/7	1

Item	Description	Part No.	Qty
24.	Handle grip	64/001/7	1
25.	Locking catch bottom	64/1407/7	1
26.	M8 x 25 bolt	64/122/7	1
27.	Locking catch top	64/1754/7	1
28.	Connecting link (third section)	64/1408/7	1
29.	M10 x 30 bolt	64/132/7	1
30.	Catch spring	64/083/7	1

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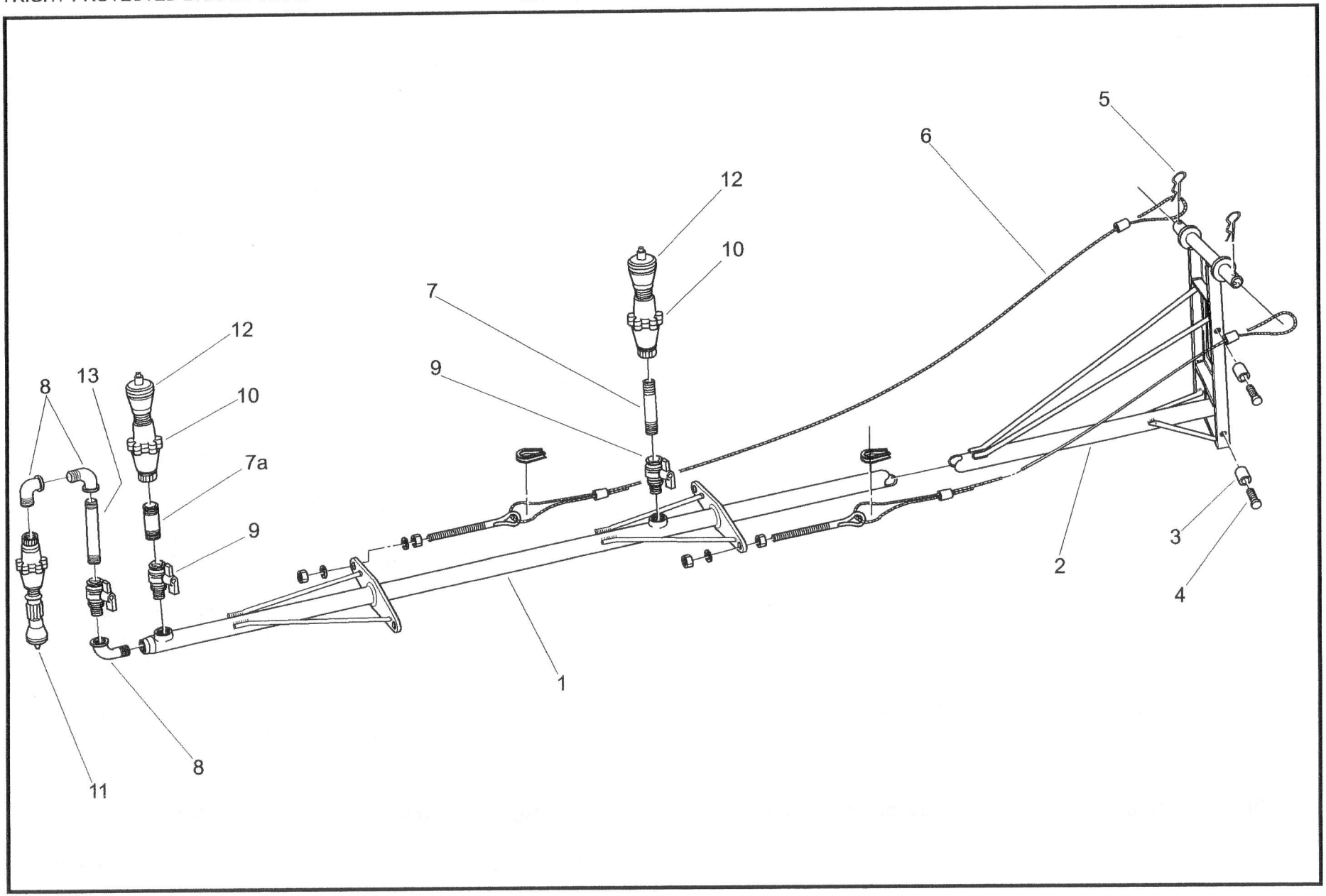
END SECTION ASSEMBLY

R64 Fig.8

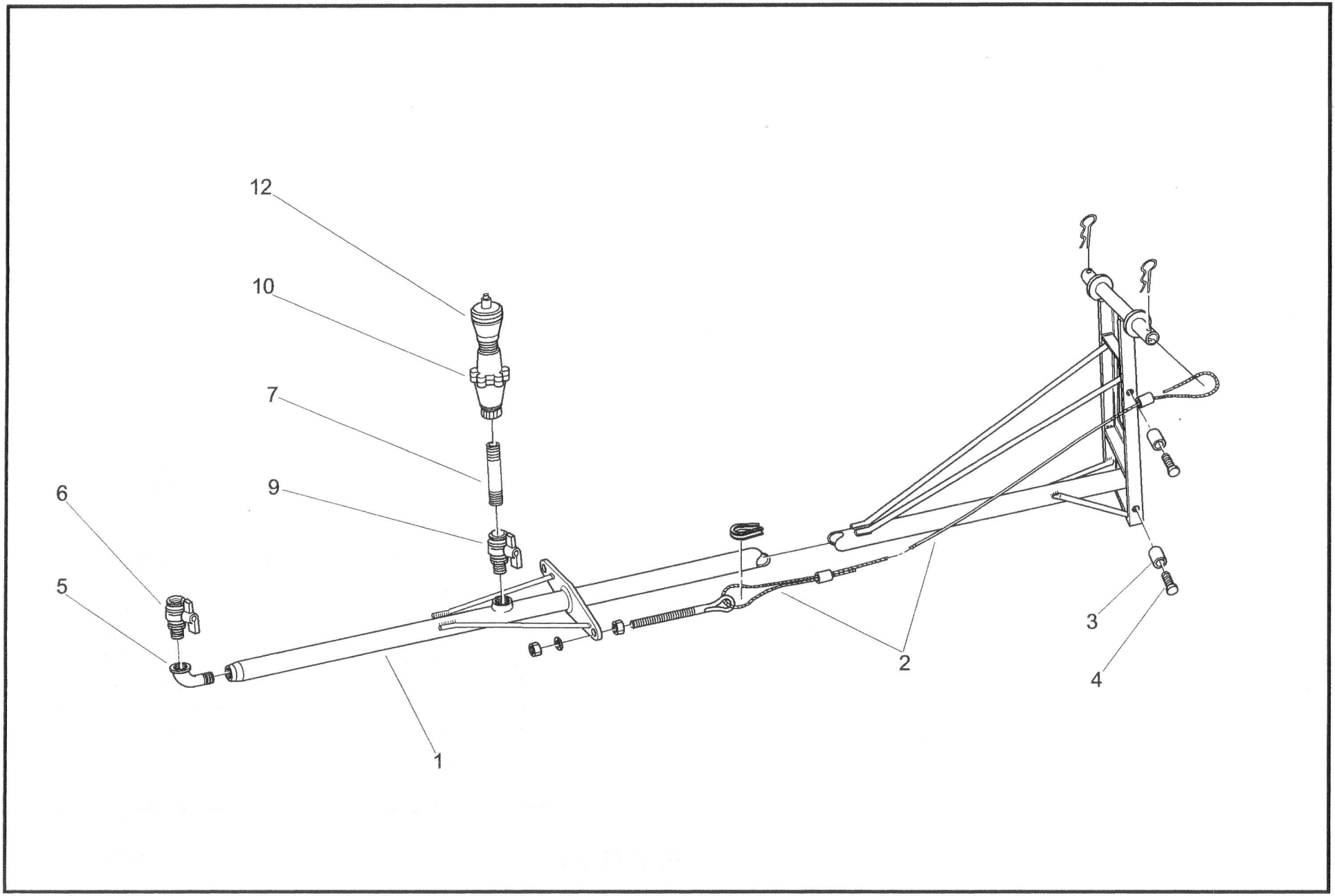


R64 Figure Eight

END SECTION

Item	Description	Part No.	Qty
1.	End section	64/1415/8	2
2.	Wire rope short	64/1416/8	2
3.	Catch cam (end section)	64/1507/8	2
4.	M10 x 40 bolt	64/134/8	2
5.	R clip	64/013/8	2
6.	Wire rope – long	64/1417/8	2
7.	¾" x 100mm Nipple	64/204/8	1
8.	¾" 90 ° Elbow male/female	64/201/8	3
9.	¾" Male/female ball valve	64/202/8	3
10.	Pressure regulator	see fig 10	3
11.	PCS3000 assembly complete	see fig 10	1
12.	S3000 assembly complete	see fig 10	2
13.	¾" x 180mm pipe nipple	64/205/8	1

END SECTION ASSEMBLY



R58 Figure Nine **END SECTION**

Item	Description	Part No.	Qty
1.	End section	58//9	2
2.	Wire rope short	58/1416/9	2
3.	Catch cam (end section)	58/1507/9	2
4.	M10 x 40 bolt	58/134/9	2
5.	R clip	58/013/9	2
6.	¾" male/male ball valve	58/246/9	1
7.	¾" x 100mm Nipple	58/204/9	1
8.	¾" 90 º Elbow male/female	58/201/9	1
9.	¾" Male/female ball valve	58/202/9	1
10.	Pressure regulator	see fig 10	1
11.			
12.	S3000 sprayjet	see fig 10	1

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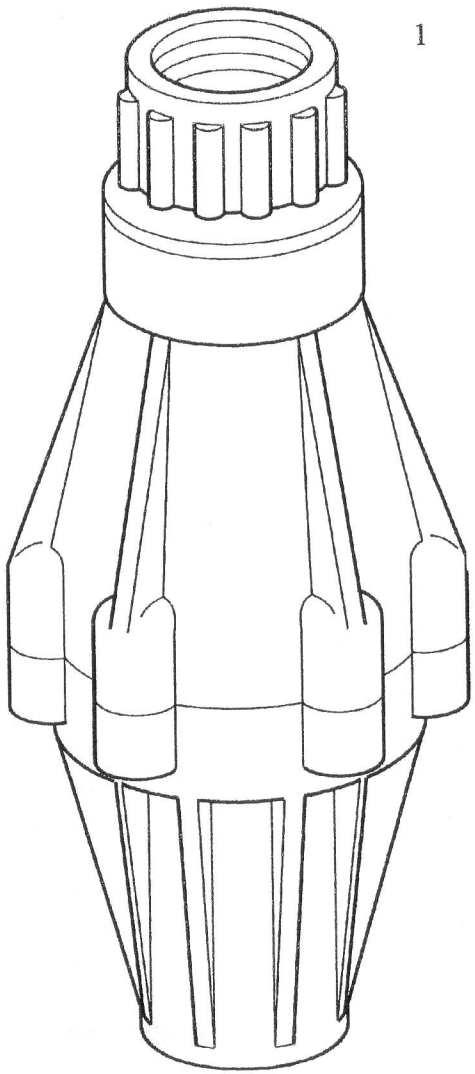
NELSON PRESSURE REGULATOR SPRAY JET SERIES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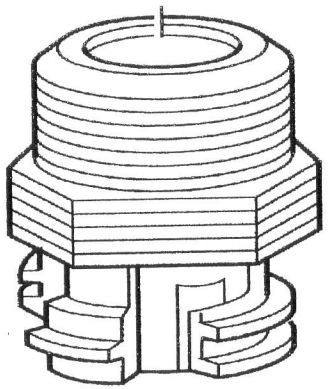
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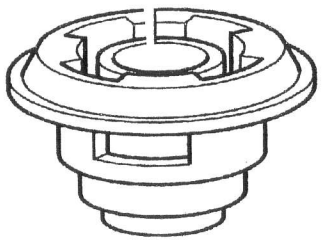
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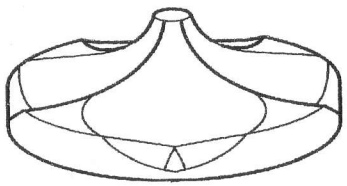
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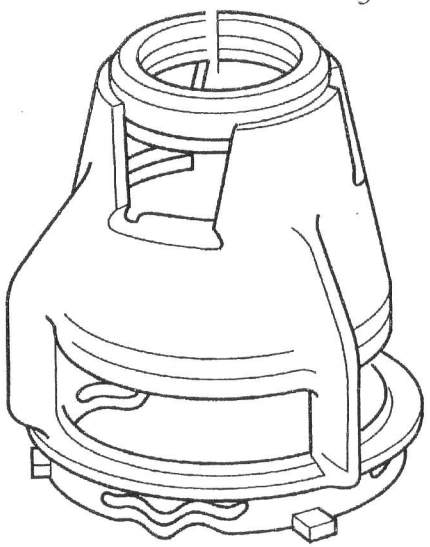
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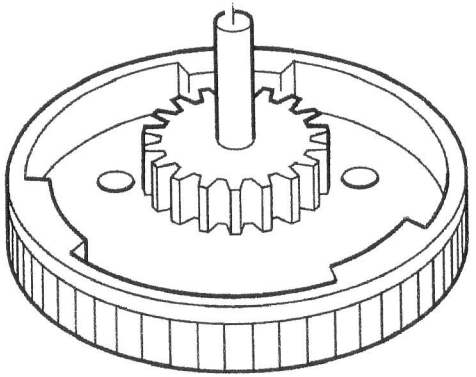
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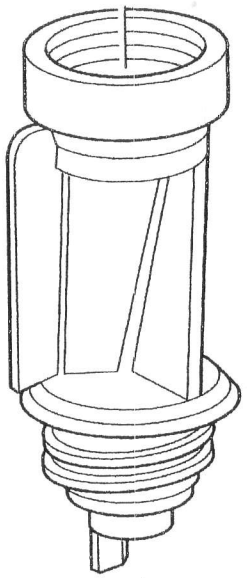
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R64 Figure Ten **NELSON PRESSURE REGULATOR AND SPRAY JET SERIES**

Item	Description	Part No.	Qty
1	Nelson pressure regulator (specify 10, 20 or 30psi)	64/215/10	16
2	Nelson pressure regulator adapter	64/210/10	16
3	Nelson S3000 nozzle (specify number)	64/211/10	16
4	Nelson Rotating disc (specify colour)	64/213/10	16
5	Nelson S3000 body	64/212/10	16
6a	Nelson S3000 spinner motor cap assembly	64/214/10	16
6b	Nelson R3000 rotator motor cap assembly	64/218/10	16
7	Nelson PC3000 part circle deflector	64/245/10	4
8	Complete PCS3000 (specify nozzle size)	64/221/10	4
9	Complete S3000 (specify nozzle size + disc colour)	64/217/10	16

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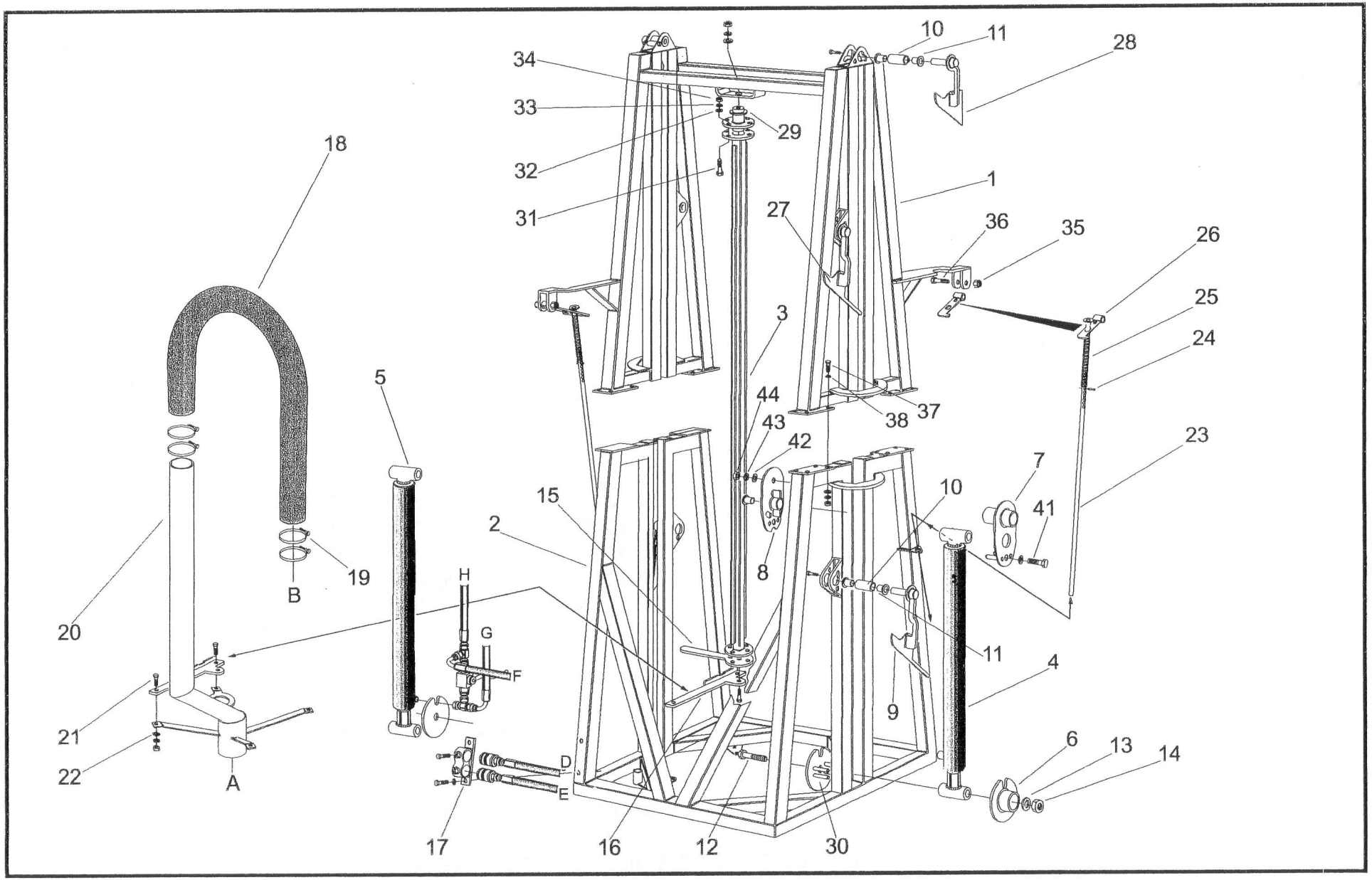
HIGH CROP TOWER

Fig.11



R64 Figure Eleven

High Crop Tower

Item	Description	Part No.	Qty
1	Upper tower frame	64/1900/11	1
2	Lower tower frame	64/1901/11	1
3	Tilt lock main strut	64/1902/11	1
4	Slave cylinder	64/1903/11	1
5	Master cylinder	64/1904/11	1
6	Outer lower hook locator	64/1905/11	2
7	Upper outer hook locator	64/1906/11	2
8	Upper inner hook locator	64/1907/11	2
9	Lower swinging catch	64/1908/11	2
10	Hook mounting tube	64/1909/11	6
11	1.5" Nylon bush	64/061/11	14
12	M16 x 90 Hex head bolt	64/157/11	4
13	M16 Spring washer	64/177/11	4
14	M16 plain nut	64/189/11	4
15	Tilt lock locking handle	64/1910/11	1
16	Tilt lock slider plate	64/1911/11	1
17	Hydraulic pipe mounting plate	64/1912/11	1
18	3" wire ribbed hose	64/1913/11	1
19	86 – 91 mm hose clamp	64/051/11	4
20	High crop spider joint	64/1914/11	1
21	M12 x 40 hex head bolt	64/144/11	4
22	M12 plain washer	64/174/11	8
23	Middle hook link bar	64/1915/11	2

Item	Description	Part no.	Qty
24	6mm Roll pin	64/031/11	2
25	Spring	64/082/11	4
26	Link bar swivel joint	64/1916/11	2
27	Middle swinging catch	64/1917/11	2
28	Top swinging catch	64/1918/11	2
29	Tilt lock top mount	64/1919/11	1
30	Inner lower hook locator	64/1920/11	2
31	M10 x 35 hex head bolt	64/133/11	8
32	M10 flat washer	64/172/11	8
33	M10 spring washer	64/173/11	8
34	M10 plain nut	64/184/11	8
35	M12 Nyloc nut	64/188/11	2
36	M12 x 70 hex head bolt	64/147/11	2
37	M10 x 35 hex head bolt	64/133/11	16
38	M10 flat washer	64/172/11	32
39			
40			
41	M16 x 50 hex head bolt	64/154/11	4
42	M16 plain washer	64/176/11	4
43	M16 spring washer	64/177/11	4
44	M16 plain nut	64/189/11	4