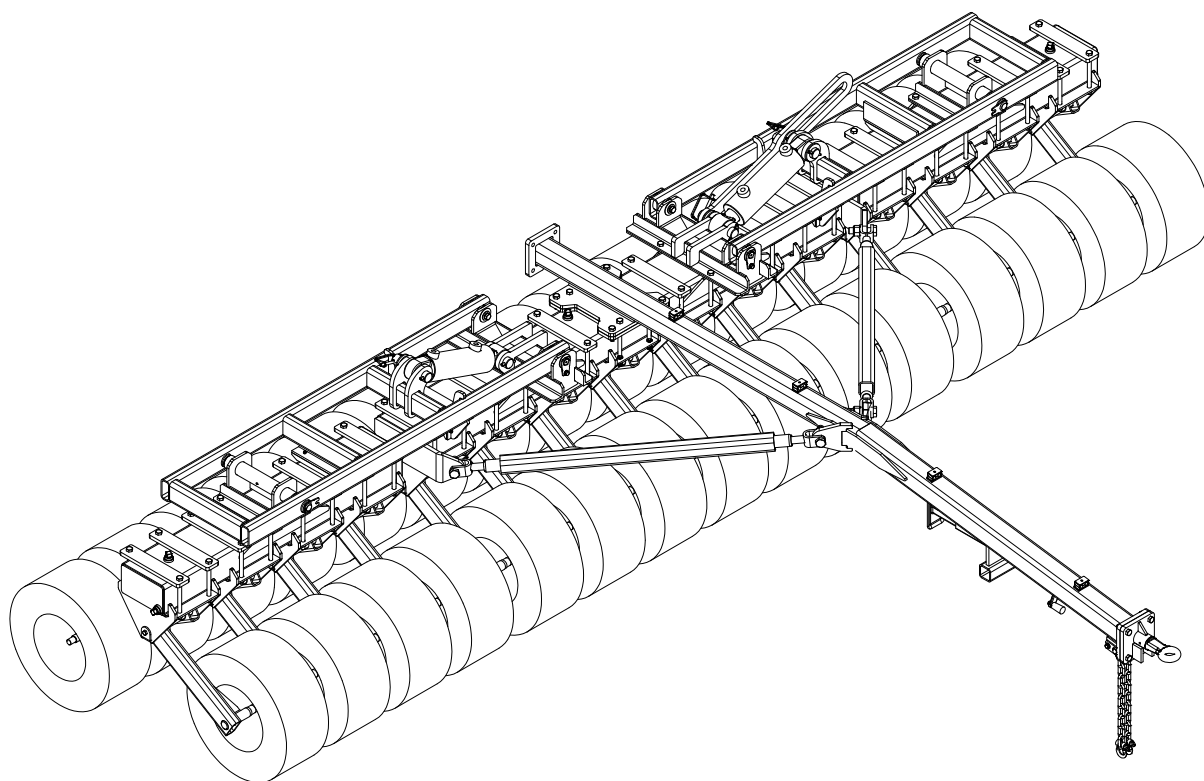


Owners Manual



CTR53 CTR60 ORIGINAL INSTRUCTIONS



Built to work.

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**Pt. No. 67473
Issue 0921**

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Introduction

Acquisition & Warranty

On delivery of your new Duncan Contouring Tyre Roller please check that the machine is not damaged. In cases of shipping damage, please ask your dealer to arrange for the appropriate claim to be lodged immediately. Assemble any parts supplied loose and inspect your machine with the aid of this manual to familiarise yourself with its features. If you have any queries ask your dealer straight away. The machine is covered by our 12 month warranty on faulty parts, subject to normal use.



Record below the serial number of your machine and keep it in a secure place to help trace the machine and assist us when you order parts.

Model:
Serial No:
Owner:
.....
.....
Delivery Date:
Dealer:
.....
.....

This Document contains the Original Operating Instructions for this machine and are verified by the Manufacturer. Signed:..... Product Development Manager
--

The Owner's Manual

Your new Duncan Contouring Tyre Roller will give long and efficient service if given normal care and operated properly.

This owner's manual is provided so that you can become thoroughly familiar with the design of the machine and to furnish information on correct operation, adjustment and maintenance. **Only persons well acquainted with these guidelines should be allowed to use the equipment.**

A separate illustrated parts section has been provided so that if any parts are required your dealer will be able to supply them by reference to part numbers.

The manual is considered as part of your machine and must remain with the machine when it is sold.

Right and left hand references in this manual are determined by standing behind the machine and facing in the direction of travel.

Disclaimer Every effort has been made to ensure that the information in this manual was accurate and up to date at the time of going to press. Clough Agriculture reserves the right to make subsequent changes to the machine, where necessary, without notification. The Company will not be responsible for any damage or consequential loss arising out of misinterpretation or failure to follow recommended procedures. Nor will it be liable for any damage caused by or arising out of modification or misuse of its product. The owner has a responsibility to protect himself and others by observing all safety information and by ensuring all operators are well acquainted with the safety information, trained in the correct use of the machine and applying safe work practices.
--

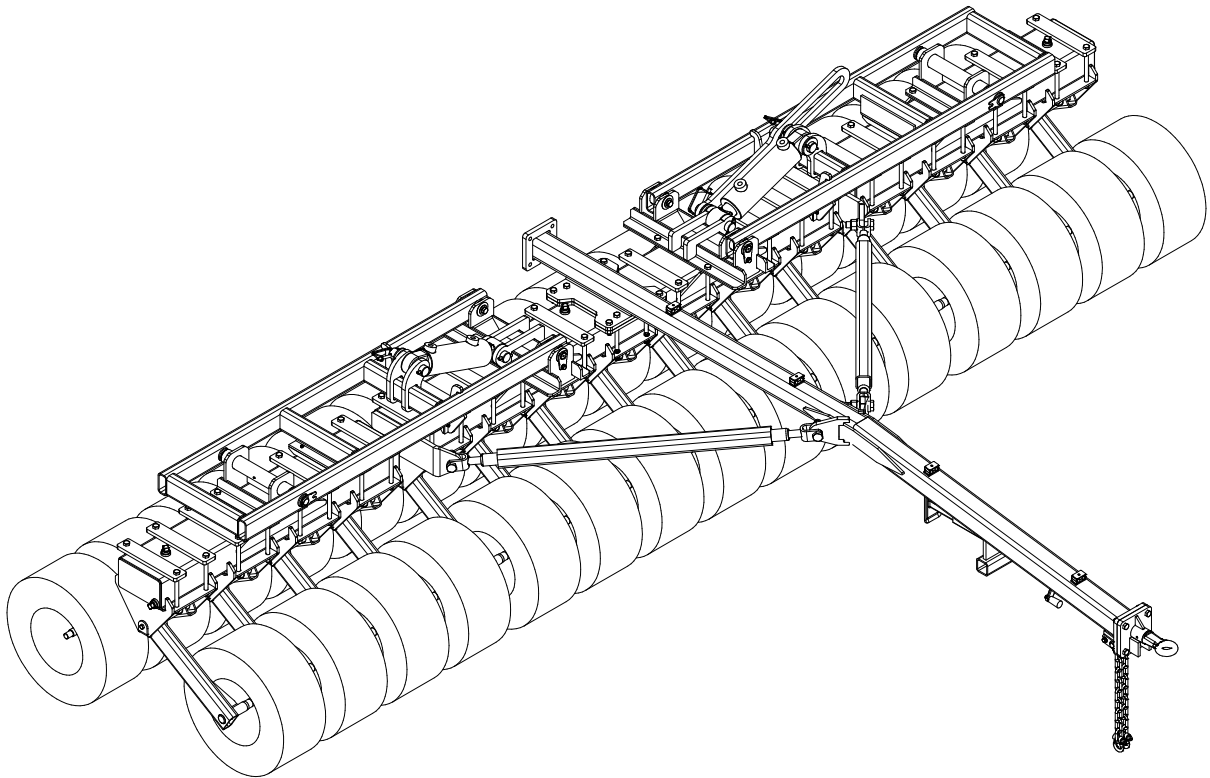


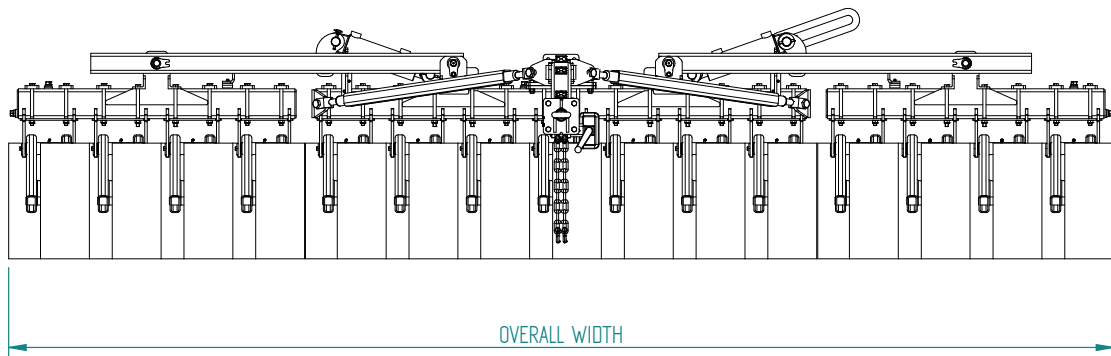
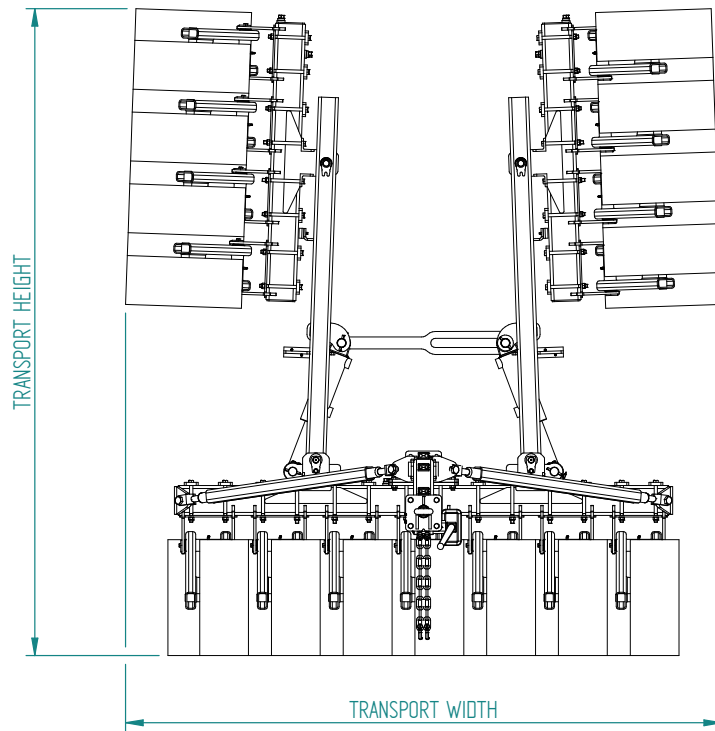
Description of Machine

The Duncan 'Contouring Tyre Roller' is a full width roller made with new tyres. The robust frame is powder coated and may be water filled to add weight.

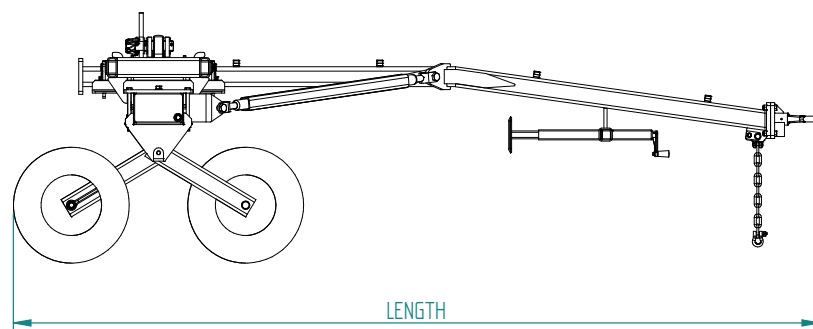
Working Principle

Two wheels per oscillating assembly are designed for better ground following. The wings may be hydraulically folded for transport and the drawbar is fitted with a jack stand.





'CTR' Dimensions & Capacities



Dimensions & Capacities	5.3m	6m
Overall Width (mm)	5560	6280
Transport Width (mm)	3000	
Height -Working/Transport (mm)	1150/3260	1150/3615
Length (mm)	4050	
Qty of Tyres	30	34
Turf Tyre	23 x10.5-12	



ATTENTION

On the machine important safety information is indicated by these symbols. These highlight general safety aspects in regard to the machine rather than specific hazards.



Do not ride or allow passengers on the machine.

Under no circumstances are passengers to be permitted on the machine while it is in operation or being transported. Any footboards and/or footsteps are provided solely for the purpose of preparing the machine for use.



Keep clothing and body extremities well clear of pinch points while the machine is operating (seeding or calibrating). Keep well clear of moving parts at all times.

These signs typically occur wherever trapping points exist. These include drive chains, sprockets, shafts, wheels, discs, pivot points, etc. Guards are provided with the machine for safety reasons (where practical without compromising machine performance). Ensure these are always fitted during operation.



Always exercise extreme caution in the vicinity of sharp edges and points.

Where possible guards are provided with the machine for safety reasons (where practical without compromising machine performance). Ensure these are always fitted during operation.



Footboards, footsteps, drawbars and other machine surfaces may be slippery when wet.

Apply extra caution in wet conditions and in the early morning when surfaces are wet.

KEEP CLEAR

Keep Clear. (It is dangerous to be in this area when the machine is operating.)

SAFETY - General

N.B. Throughout this manual important safety information is indicated by these symbols in the margin:



A prohibition should be observed under all circumstances.



A warning indicates a hazard that could cause death or injury if the warning is ignored.



A caution indicates a hazard that may cause damage to property if the caution is ignored.

This section of the manual offers general guidelines for the safe operation of machinery. It does not replace local safety regulations. These guidelines were current at the time of publication, but may be superseded by later regulations.

Giltrap Engineering Limited has made every effort to highlight all risks to personnel or property. Owners and operators have a responsibility to exercise care and safe work practices at all times in the vicinity of the machine.

Owners are advised to keep up to date on safety issues and to communicate these to all users of the machine.

Contact the Occupational Safety and Health Service (OSH) for further information about general safety aspects. If you have safety concerns specifically related to this machine, contact your dealer immediately.

Operator Safety

Read this manual carefully before operating new equipment. Learn how to use this machine safely. Be thoroughly familiar with the controls and the proper use of the equipment before using it.



Take careful note of all safety instructions both in this manual and on the machine itself. Failure to comply with instructions could result in personal injury and/or damage to the machine.

Replace missing or damaged safety signs on the machine and ensure that these remain clearly visible.

It is the owner's responsibility to ensure that anyone who operates, adjusts, lubricates, maintains, cleans or uses the machine in any way has had suitable instruction and is familiar with the information in this manual (particularly with regard to safety aspects).

Operators and other users of the machine should be aware of potential hazards and operating limitations.



Be Prepared for Emergencies

Keep a first aid kit and fire extinguisher handy.

Keep emergency numbers for doctors, ambulance, hospital and fire department near your telephone.



SAFETY - General (Continued)



WARNING

Appropriate Dress

Wear close fitting clothing and avoid rings or other forms of jewellery which could become caught in the machinery.

People with long hair must have it securely fixed and confined close to the head.

Refer to local safety standards for protective clothing and recommended safety equipment.

Adequate protection, such as a face mask, should be worn if operating this machine in dry and dusty conditions.



WARNING

Transport This Machine Safely

Ensure that all linkage pins and security clips are fitted correctly. With trailing machines tow with the drawbar only, as this is the only safe towing point on the machine.

Always check that bystanders (especially children) are well clear (front and rear) before starting and moving the tractor and the machine.

Plan safe routes of travel, and be aware of power lines and other roadside hazards. Take particular care when towing implements on hillsides.

Do not ride or allow passengers on the machine.

This machine is not designed to carry passengers, and no riders are permitted.



NO RIDE

Road transport

On public roads,

- A speed of 40km/h must not be exceeded.
- Do not operate during the hours of darkness unless standard lights are fitted and clearly visible. (This also applies when visibility is limited, e.g., in foggy conditions.)

See the guidelines in the *Vehicle Dimensions and Mass Rule*, issued by the Land & Transport Safety Authority.

Avoid tip-overs

Avoid holes, ditches and obstructions which may cause the machine to tip over, especially on hillsides. Never drive near the edge of a gully or steep embankment - it might cave in. Slow down for hillsides, rough ground and sharp turns.



SAFETY - General (Continued)

Handle Agricultural Chemicals Safely

All farm chemicals should be stored, used, handled and disposed of safely and in accordance with the supplier's/manufacturer's recommendations.



Read the product label before using, noting any warnings or special cautions, including any protective clothing or equipment that may be required, ie. respirator.

Do not eat or smoke while handling sprays, fertilisers, coated seeds, etc. Afterwards, always wash your hands and face before you eat, drink, smoke, or use the toilet.



Store sprays, fertilisers, coated seeds, etc. out of reach of children and pets, and away from food and animal feeds.

Any symptoms of illness during or after using chemicals should be treated according to the supplier's/manufacturer's recommendations. If severe, **call a physician or get the patient to hospital immediately.** Keep the container and/or label for reference.

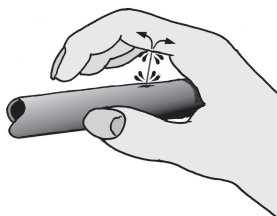
Avoid High Pressure Fluids

Avoid any contact with fluids leaking under pressure, because the fluids can penetrate the skin surface.



Any fluid which penetrates the skin, will need to be **removed immediately by a medical expert.** Seek specialist advice on this type of injury.

Relieve the pressure before disconnecting any hydraulic or other lines. Make all repairs and tighten all fittings before re-connection to pressurised fluid.



Keep your hands and body away from any pinholes or high pressure jets. Search for leaks with a piece of cardboard instead of using your hand directly.

Safe Work Practices

All farm machinery is potentially dangerous and should be treated with caution and respect.

Before starting the machine, ensure that all controls are placed in neutral and that bystanders are well clear. Check that the guards have been securely fitted and that any adjustments have been made correctly.



Where possible, disconnect or isolate the drive mechanism to the implement. Lower the machine onto the ground when not in use.

Do not operate this equipment when severe weather conditions appear imminent.

SAFETY - General (Continued)



Practice Safe Maintenance

Keep the machine in safe working condition. Routine maintenance and regular servicing will help reduce risks and prolong the life of the machine.

General Maintenance

Accidents occur most frequently during servicing and repair. The following general rules must be followed when maintaining or working with machinery:

- All operating and maintenance manuals must be read before and referred to while using or servicing any piece of equipment.
- Turn off all machinery power sources and isolate the machine before making adjustments, doing lubrication, repairs or any other maintenance on the machine.
- Ensure that the machine hydraulics are disconnected from the power source.
- Wear gloves when handling components with cutting edges, such as any ground cutting components.
- Beware of the following hazards when dismantling or maintaining the machine:-
 - > Hydraulics under pressure
 - > Springs under tension or compression
- It is recommended that you clean the machine with a water blaster or similar apparatus before commencing maintenance.



Make Sure the Machine is Well Supported

When machinery is fitted with hydraulics, do not rely on the hydraulics to support the machine. During maintenance or while making adjustments under the machine, always lock the hydraulics and support the machine securely. Place blocks or other stable supports under elevated parts before working on these.

Electrical Maintenance

Disconnect the electrical supply from the tractor before doing any electrical maintenance.



Welding

With electronic equipment in modern tractors it is advisable to disconnect the machine from the tractor, or at least disconnect the alternator and battery before attempting any welding.



Use Only Genuine Spare Parts

Unauthorised modifications or non-genuine spare parts may be hazardous and impair the safe operation and working life of the machine.

Excess lubricants must be disposed of safely so as not to become a hazard.

SAFETY - Machine Specific

This section of the manual gives specific guidelines for the safe operation of the Contouring Tyre Roller.

These guidelines were current at the time of publication, but may be superseded by later circumstances. They do not necessarily cover every possible hazard and must be read in conjunction with the **SAFETY - General** section (Page 7 to 10).

Hazard Points on the Contouring Tyre Roller



The lists below are not all-inclusive and serve only to highlight the more obvious areas of risk.

The decals attached to the machine are a general reminder that there are hazardous areas on the machine, rather than specifically highlighting all possible hazards.

For decal locations on machine, refer Page 13.



No Ride

Passengers are not permitted anywhere on the machine.



Pinch Points/Moving Parts

Hazardous areas include:

- Hydraulic Rams
- Pivots Points
- Axles/Tyres

Slippery When Wet

Hazardous areas include:

- Footboards and footstep.
- All smooth surfaces on the frame structure.

Keep Clear

Hazardous areas include:

- Between the tractor and Contouring Tyre Roller.
- Immediately adjacent to the Contouring Tyre Roller side.



**Slippery
When
Wet**

KEEP CLEAR

SAFETY - Machine Specific (Continued)



Hazard Points on the Contouring Tyre Roller (Continued)

Transport

The machine folds for transport.

Important - Refer to safety cautions in the **Transport** section, page 15 of the manual. Ensure that all linkage pins and security clips are fitted correctly.

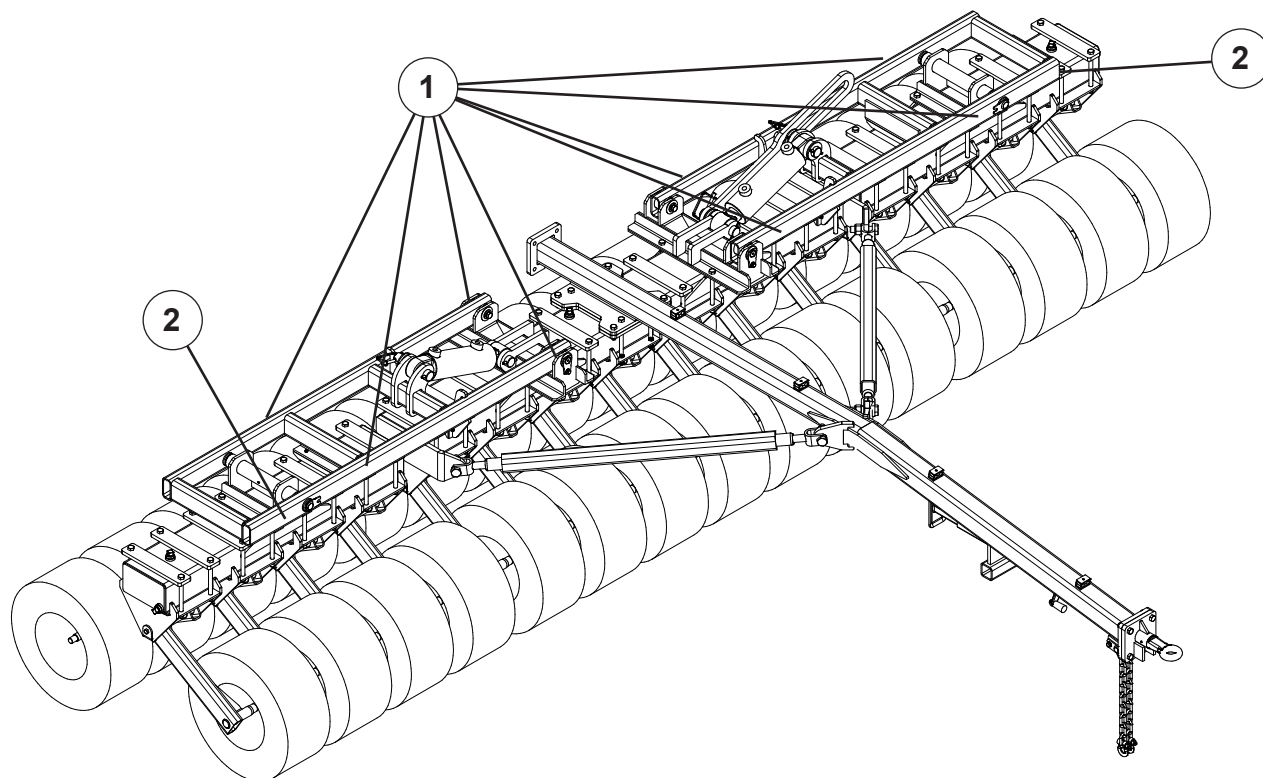
Maintenance

Refer Page 16 for reference to the **Maintenance and Care** section of the manual.

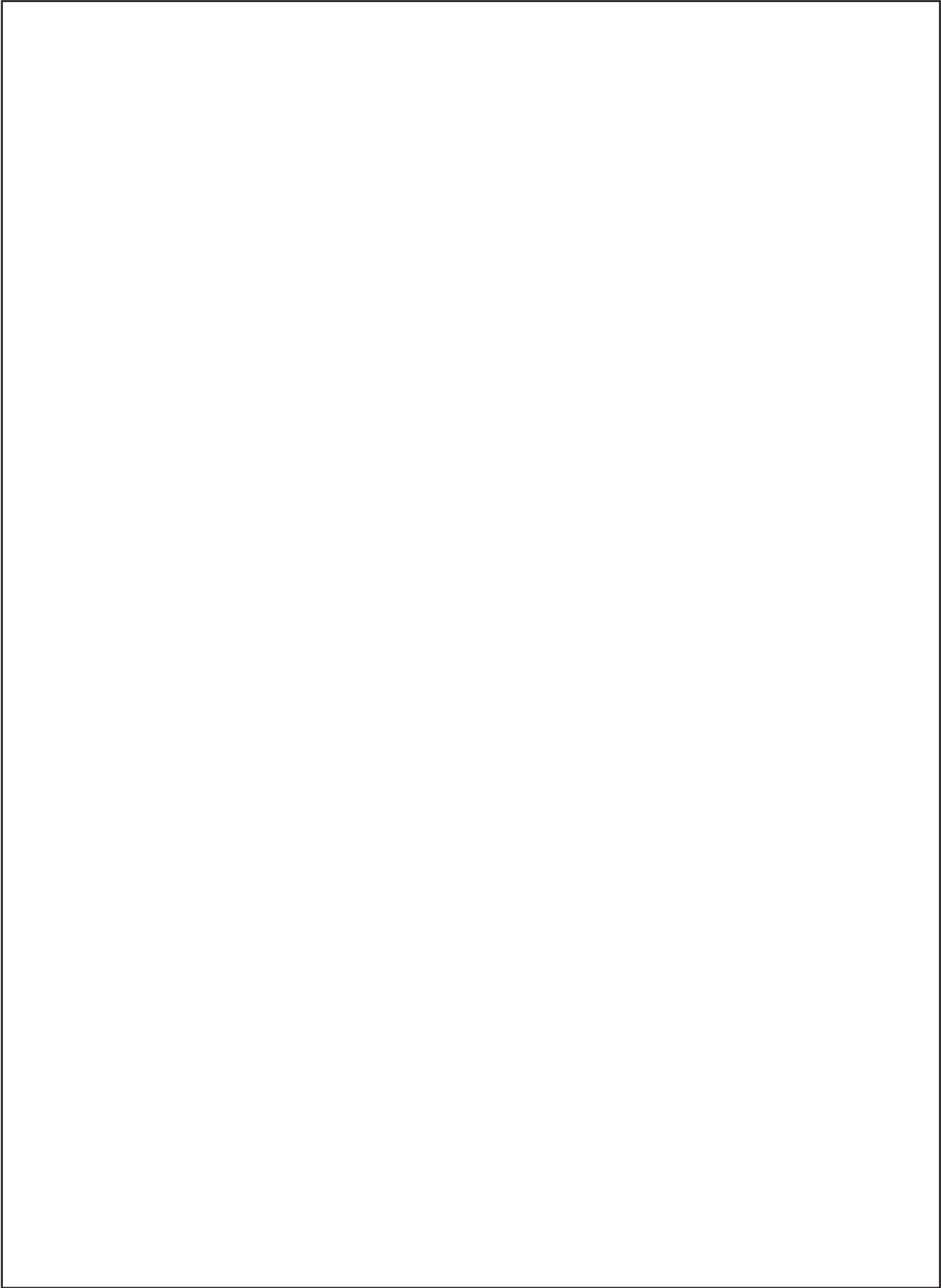
Lubrication

Refer Page 17 for reference to the **Maintenance and Care** section of the manual.

SAFETY - Machine Specific (Continued)



Item	Decal/Guard	Pt. No.	Qty
1	'Pinch Point/Moving Parts'	43901	8
2	'Keep Clear'	43904	2



Transport

1 Attach safety chains.



Safety chains must be crossed over underneath the coupling and attached to the towing drill. The attachment points must be as close as practical to the towing coupling and one each side. The towbar on the towing vehicle must be rated for the towed mass. **Do not remove or replace the safety chains provided with any other than those specified in the parts manual.**

Note: The safety chains are provided with sufficient length to cater for all towing vehicles. Safety chains must be shortened by cutting off excess length so that if the coupling fails the drawbar will not hit the ground.

2 Maximum towing speed 40 km/hr.

For countries other than New Zealand greater speed restrictions may apply, please refer to your local transport authority.

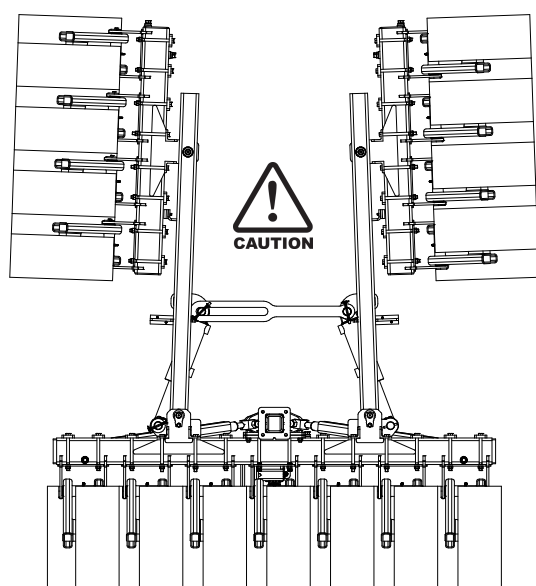
Ensure towing vehicle requirements are adequate for the towed vehicle e.g. mass, brakes. Refer to recommendations published by the local Land Transport Authority or equivalent.

Braking when towing can cause the load to jack knife. Use extra care when towing in adverse conditions such as mud, inclines and sharp bends.

Lower towing speeds are recommended on farm roads/tracks and where one wheel is on or over a road verge.

3 Fold the wings up using the tractor hydraulics.

Remove the safety locking bar and refit as shown.



Maintenance & Care

General Safety and Accident Prevention Advice

- 1 During maintenance the roller should be supported in such a manner that if hydraulic failure was to occur the wings would still be adequately supported.
- 3 Wear gloves when handling components.
- 4 Disconnect the electrical supply from the tractor before doing any electrical maintenance.
- 5 Refer to safety sections for more safety information.



General Cautionary Maintenance Advice

- 1 **Electric Welding** - With the electronic equipment in modern tractors it is advisable to completely disconnect the implement from the tractor, or at the very least disconnect the alternator before attempting any welding.



- 2 **Hydraulics** - Ensure hydraulic couplings (male & female) are clean before connecting. Dirty couplings will result in hydraulic oil contamination and hydraulic cylinder seal/poppet valve damage and bore scores. This in turn will result in oil leakage past the piston seals.

No filter is fitted to the hydraulic system. If hydraulic fittings and oil supply are not going to be kept clean it is recommended that a filter be fitted to prevent hydraulic cylinder damage.

- 3 **Water Blasting** - Water blasting, steam cleaning or other pressurised cleaning processes can force dirt etc. into undesirable places that may cause damage or rapid part wear to items such as bearings, seals, chains, bushes etc. Caution must be exercised.

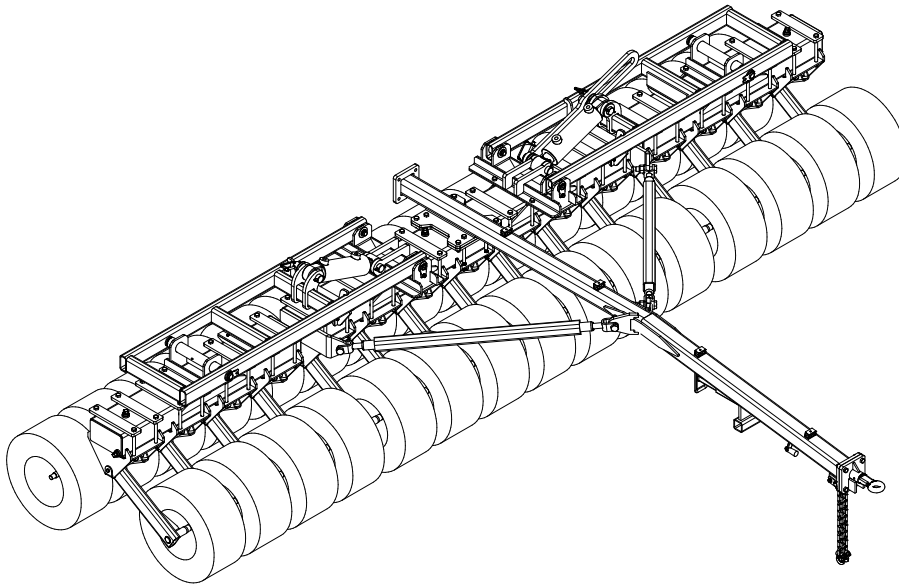
Maintenance & Care - Lubrication Instructions

Precautions with Grease

Greases should not be mixed as the structure may be weakened by the mixes of different types of thickener, which may cause softening and loss of grease from the bearings by running out.



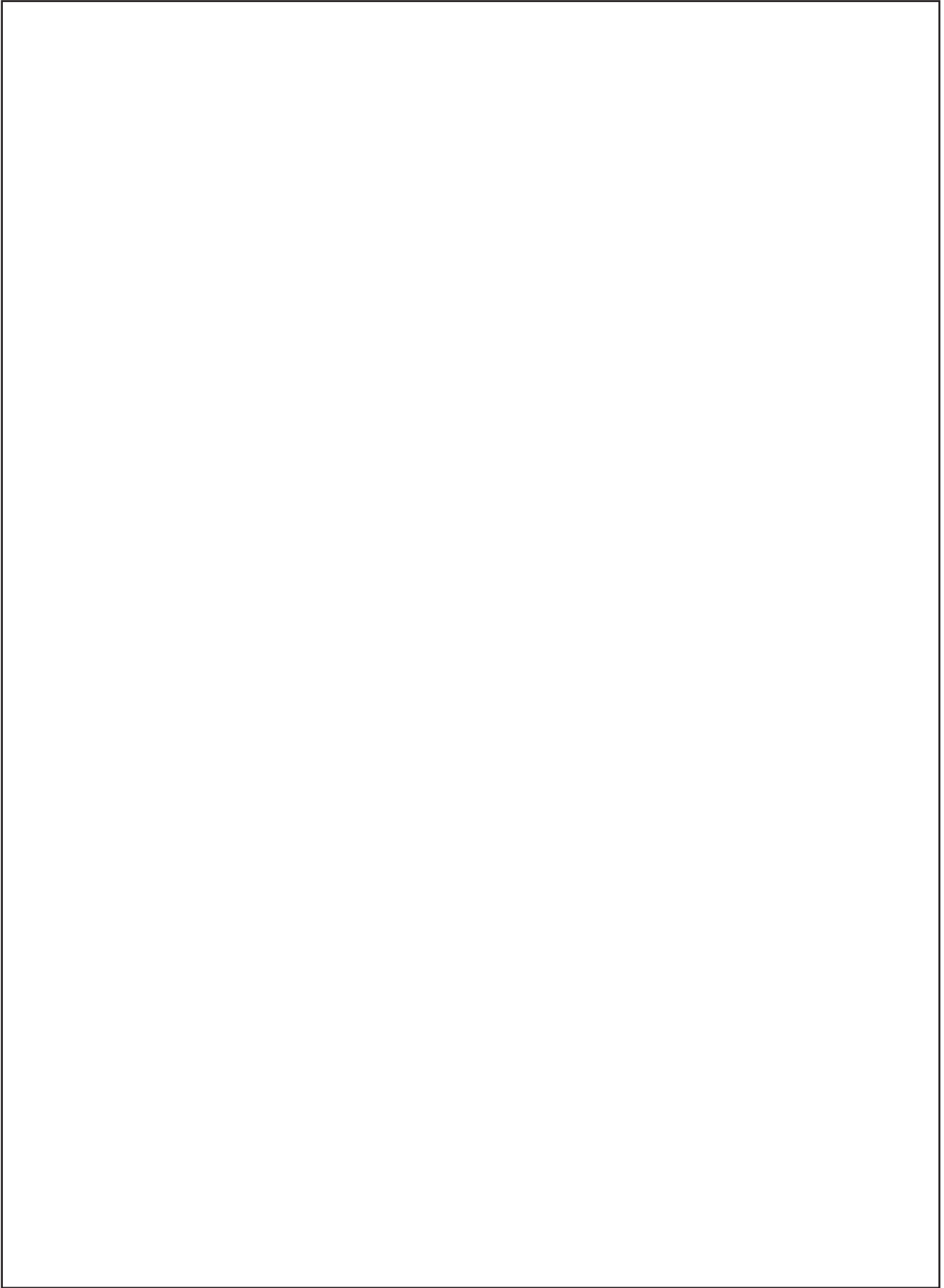
Your new Duncan Contouring Tyre Roller will give long and efficient service if given normal care and maintained properly.



Lubrication Chart

Item	Components	Lubricant	Frequency
1	Wheel Bearings	Castrol LMX Grease	Annually
2	Wheel Leg Pivots	Castrol LMX Grease	Monthly
3	Coupling	Castrol LMX Grease	Weekly

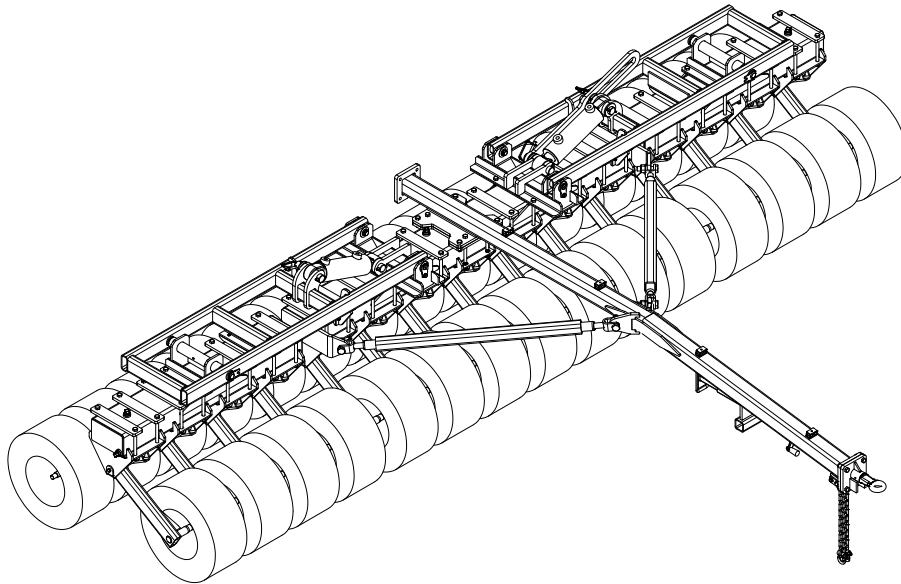
* The lubrication frequencies are only a guide. Actual frequency will be dependent on extent of use and ground conditions.



Parts List



'Contouring Tyre Roller'



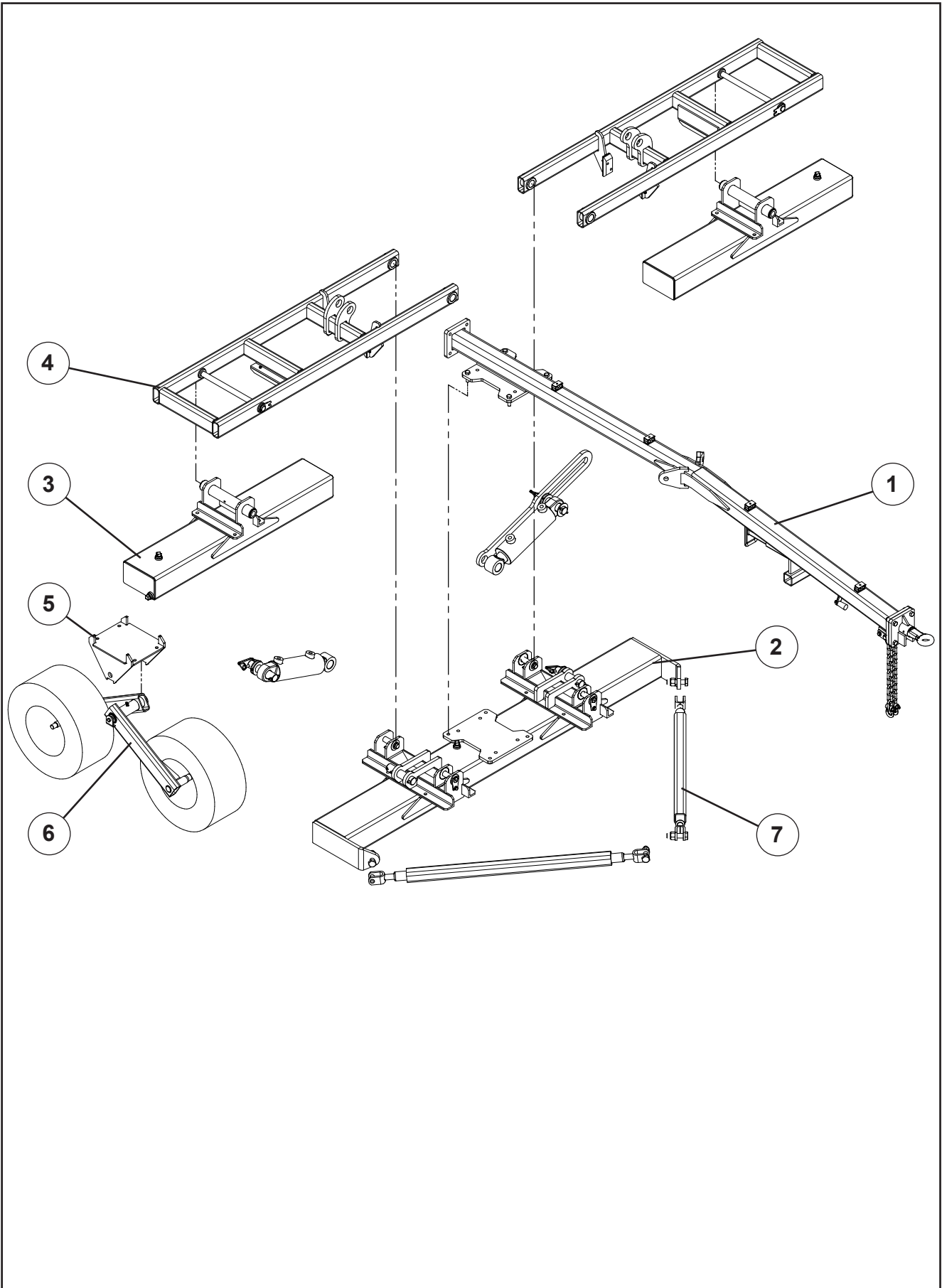
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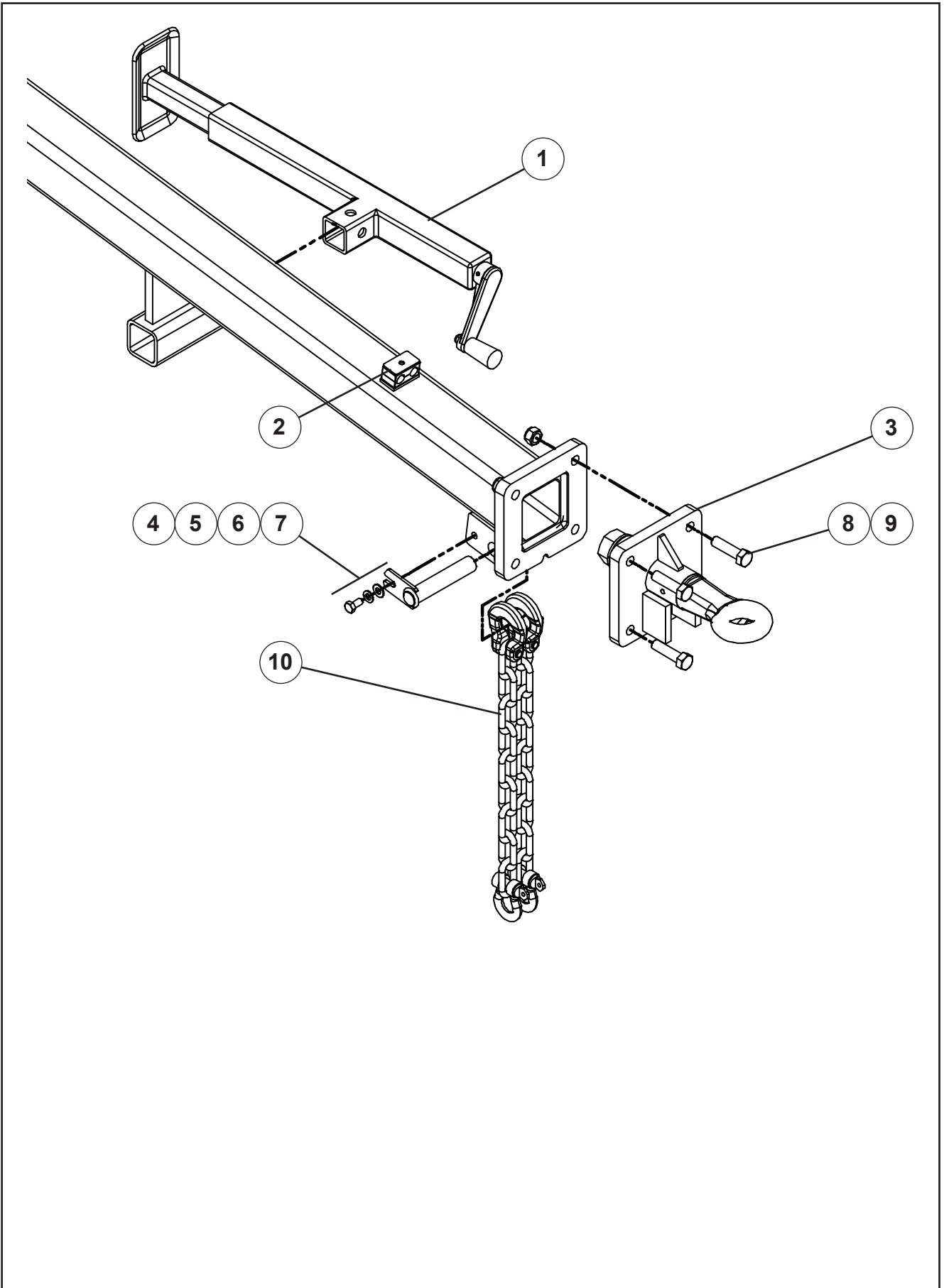
'Contouring Tyre Roller' General Assembly



‘Contouring Tyre Roller’ General Assembly

ITEM	PART No.	DESCRIPTION	QTY	
			CTR53	CTR60
1	74110	Drawbar Welded Assembly	1	
2	74100	Centre Frame	1	
3	74118	CTR53 Roller Wing	1	-
3	74168	CTR60 Roller Wing	-	1
4	74122	Wing CTR53/CTR60	1	
5	74132	Bogie Cassette	15	17
6	74136	CTR Axle Bogie	15	17
7	74144	Tension Beam	2	

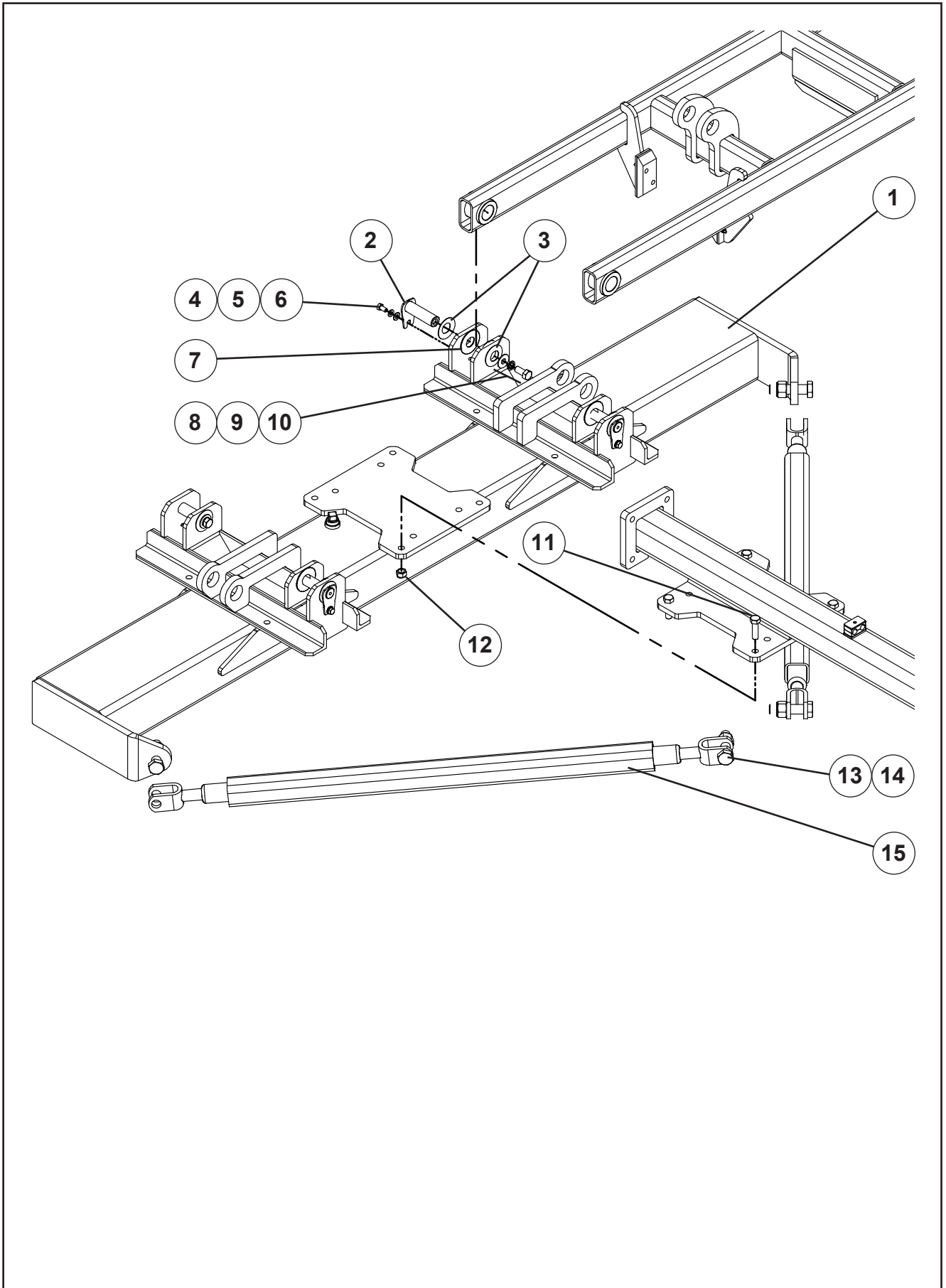
'Contouring Tyre Roller' Drawbar



'Contouring Tyre Roller' Drawbar

ITEM	PART No.	DESCRIPTION	QTY
1	31478	2500Kg Jack & Stub Assembly	1
2	48014	Hose Clamp 17.2dia 3/8Hyd Hose	4
3	60405	Tow Eye Assembly Mk4 Renovator	1
4	22262	Clevis Pin (Tabbed) Assy 1"	1
5	45152	M10 Light Flat Washer Z/P	1
6	45166	M10 Spring Washer	1
7	45001s	M10 X 20 Grade 8.8 Z/P S/Screw	1
8	45042	M16 X 60 Grade 8.8 Z/P Bolt	4
9	45140	M16 Nylock Nut	4
10	43832	Coupling Safety Chain No3	2

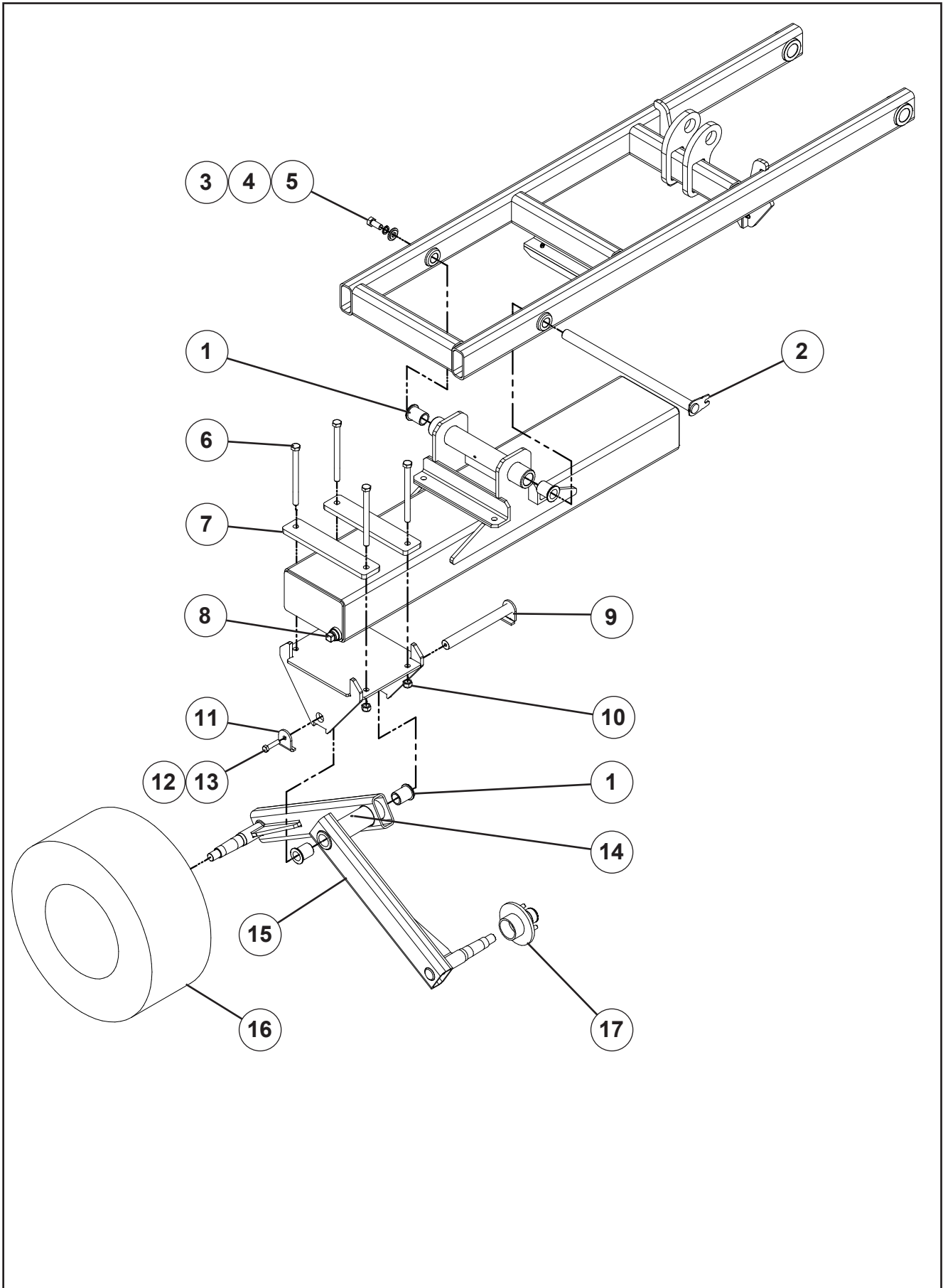
'Contouring Tyre Roller' Centre Frame



‘Contouring Tyre Roller’ Centre Frame

ITEM	PART No.	DESCRIPTION	QTY
1	74100	CTR53 Centre Frame	1
2	61018	Parallel Arm Pivot Pin Assy	4
3	43899	Disc Spring 63X31x1.8	8
4	45152	M10 Light Flat Washer Z/P	5
5	45166	M10 Spring Washer Z/P	5
6	45001s	M10 X 20 Grade 8.8 Z/P S/Screw	5
7	43953	Nylon Washer 30X70x2	6
8	29219	Pivot Pin Cap	6
9	45168	M16 Spring Washer Z/P	6
10	45037	M16 X 35 Grade 8.8 Z/P Bolt	6
11	45041	M16 X 55 Grade 8.8 Z/P Bolt	4
12	45140	M16 Nylock Nut	4
13	47252	1.0" UNF x 4.0" Ht Bolt Z/P	2
14	47552	1.0" UNF Nyloc Nut 14Tpi	2
15	74144	Tension Beam	2

'Contouring Tyre Roller' Wing Assembly

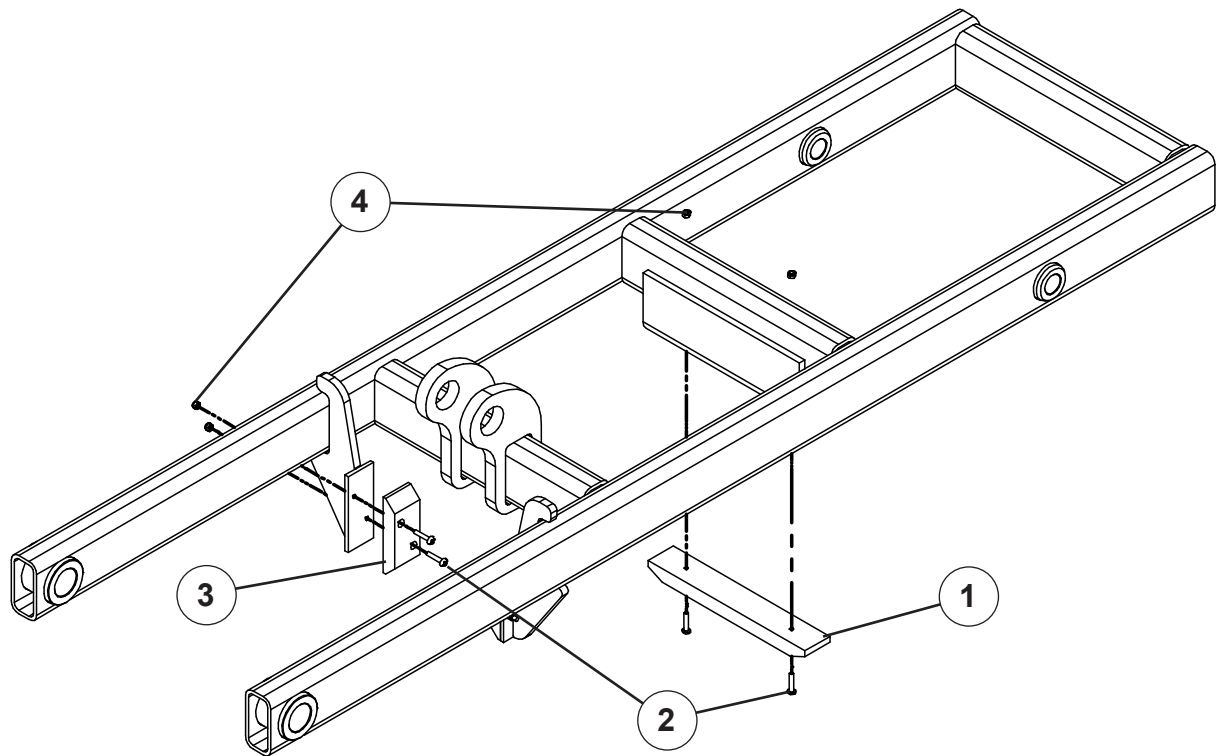


‘Contouring Tyre Roller’ Wing Assembly

ITEM	PART No.	DESCRIPTION	*QTY	
			CTR53	CTR60
1	19064	Plastic Bush	34	38
2	74158	Wing Pivot Pin W/Assy	2	
3	29219	Pivot Pin Cap	6	
4	45168	M16 Spring Washer Z/P	6	
5	45037	M16 x 35 Grade 8.8 Z/P Bolt	6	
6	45055	M16 x 200 Grade 8.8 Z/P Bolt	56	64
7	74150	Cassette Clamp	20	24
8	43271	1" BSP Plug Sq Male	7	
9	74140	Pivot Pin	15	17
10	45140	M16 Nyloc Nut	68	76
11	45167	M12 Spring Washer Z/P	15	17
12	74143	End Cap	15	17
13	45023s	M12 x 50 Grade 8.8 Z/P S/Screw	15	17
14	43119	M8x1.25P 45 Deg Grease Nipple	15	17
15	74136	CTR Axle Bogie	15	17
16	74161	Tyre & Rim 23x10.5-12 with 12"x7" Rim	30	34
17	74160	Hub 4 X 4" 1500Kg	30	34
18	43412	Bearing Klm67048/Klm67010	30	34
19	30348	Bearing Ek1m11910/Ek1m11949	30	34
20	43802	Rtc Seal (Pr6641)	30	34
21	45303	3.5 X 40 Cotter Pin	30	34
22	47506	3/4" Unf Castle Nut***	30	34
23	43041	Pressed Steel Hub Cap (Galv)	30	34
24	43807	7/16" Unf Wheel Nut	120	136

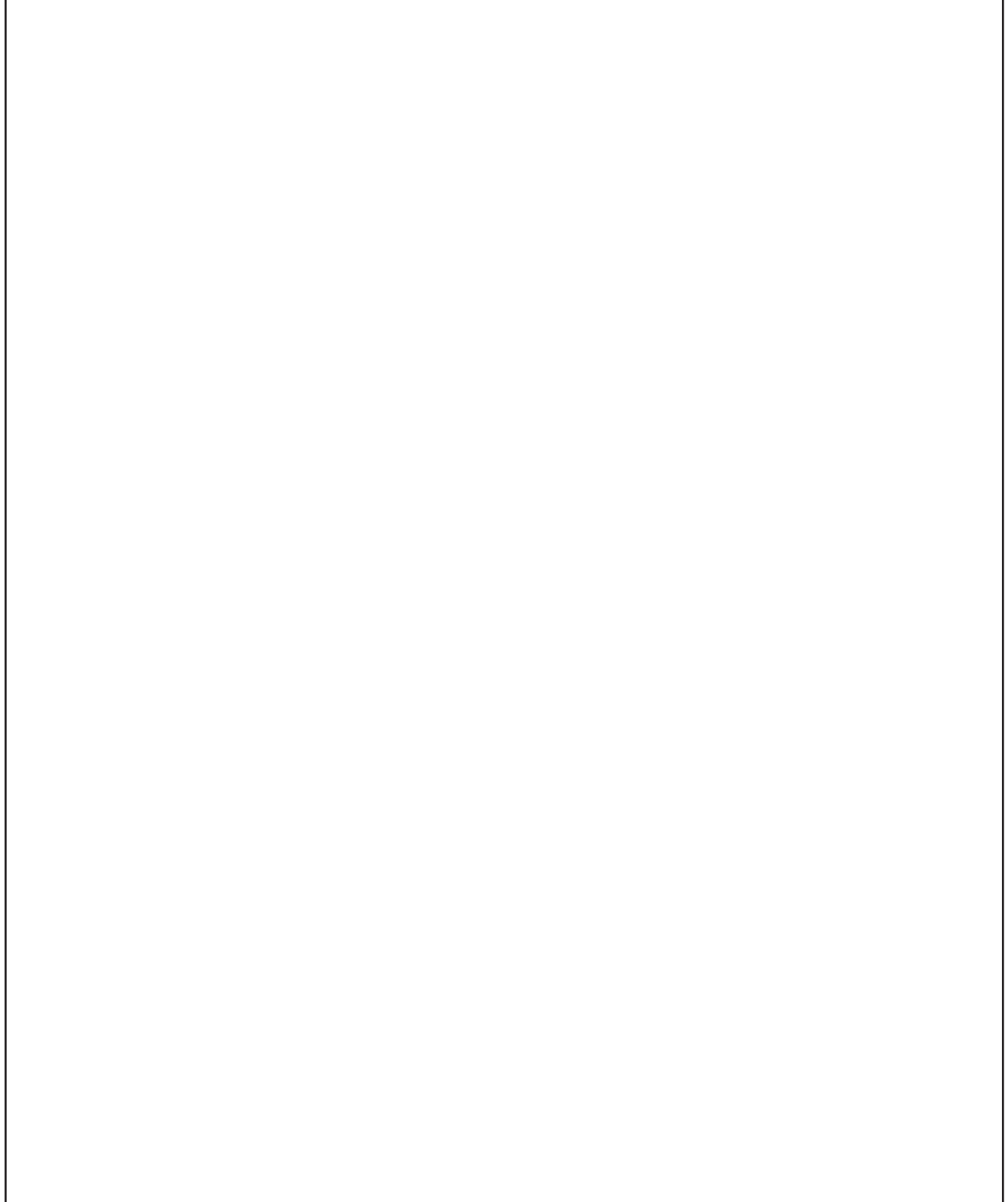
**Quantities shown are for the complete Contouring Tyre Roller*

'Contouring Tyre Roller' Rubbing Blocks

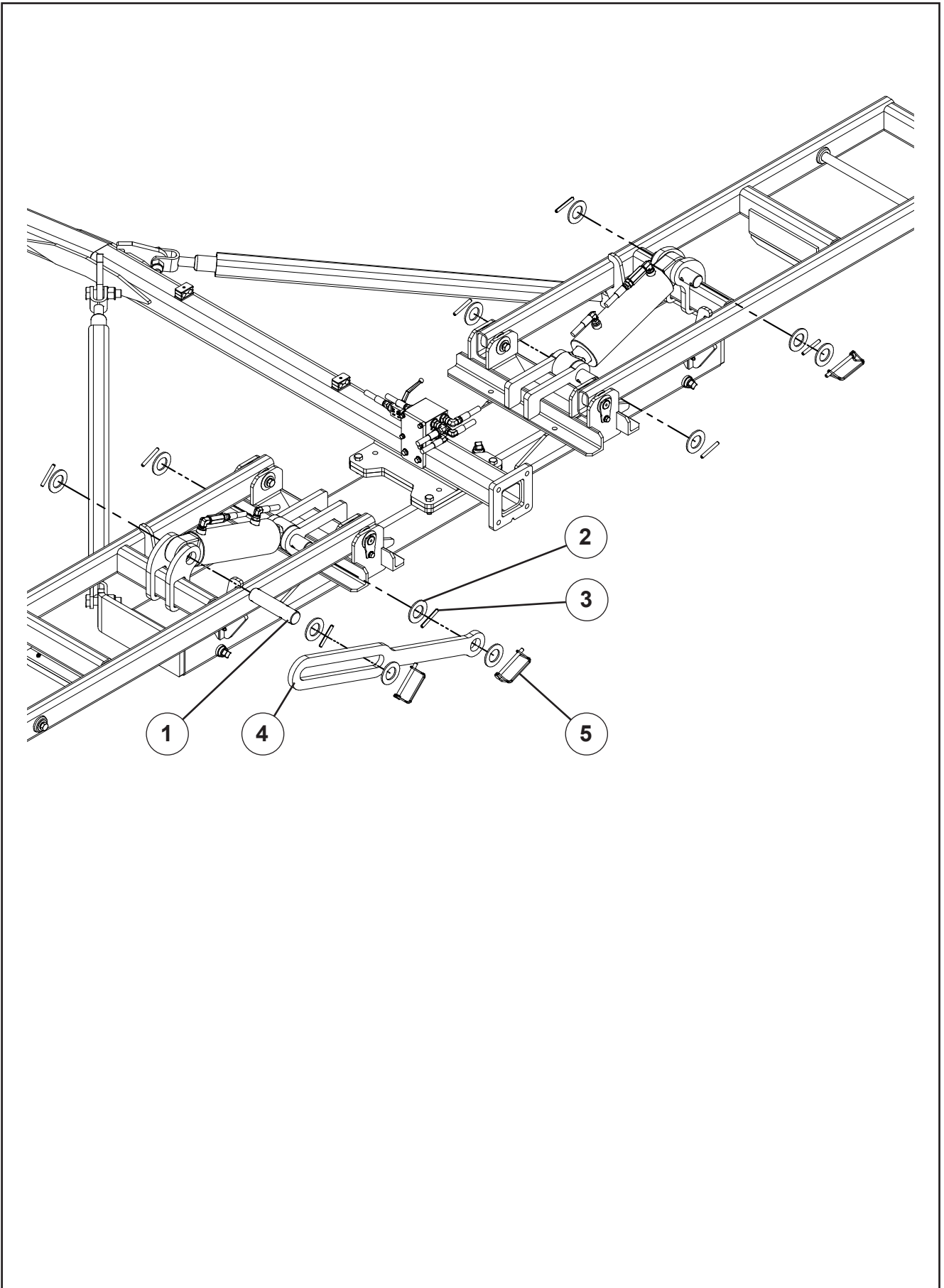


'Contouring Tyre Roller' Rubbing Blocks

ITEM	PART No.	DESCRIPTION	QTY
1	22067	Rubbing Block 135mm Crs.	2
2	45911	M6x30 Pan Pozi Z/P M/C Screw	12
3	74130	Rubbing Block	4
4	45136	M6 Nyloc Nut	12



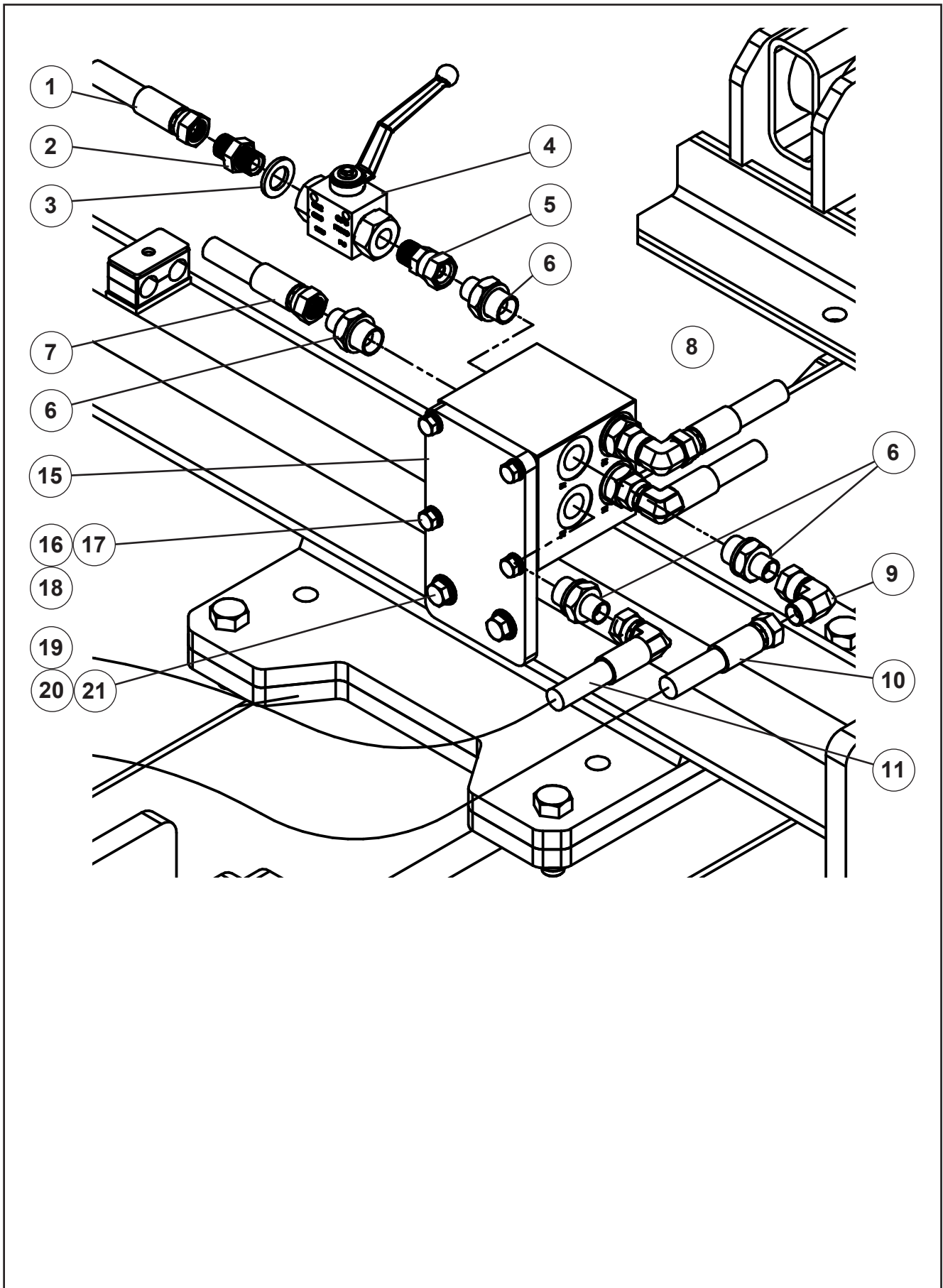
'Contouring Tyre Roller' Ram Pivots



'Contouring Tyre Roller' Ram Pivots

ITEM	PART No.	DESCRIPTION	QTY
1	74147	Wing Pin	4
2	74149	Wing Washer	11
3	45286	10 Dia X 80 Roll Pin	8
4	74151	Ctr53 Wing Lock	1
5	19199	Shaft Locking Pin	3

'Contouring Tyre Roller' Hydraulics Flow Divider

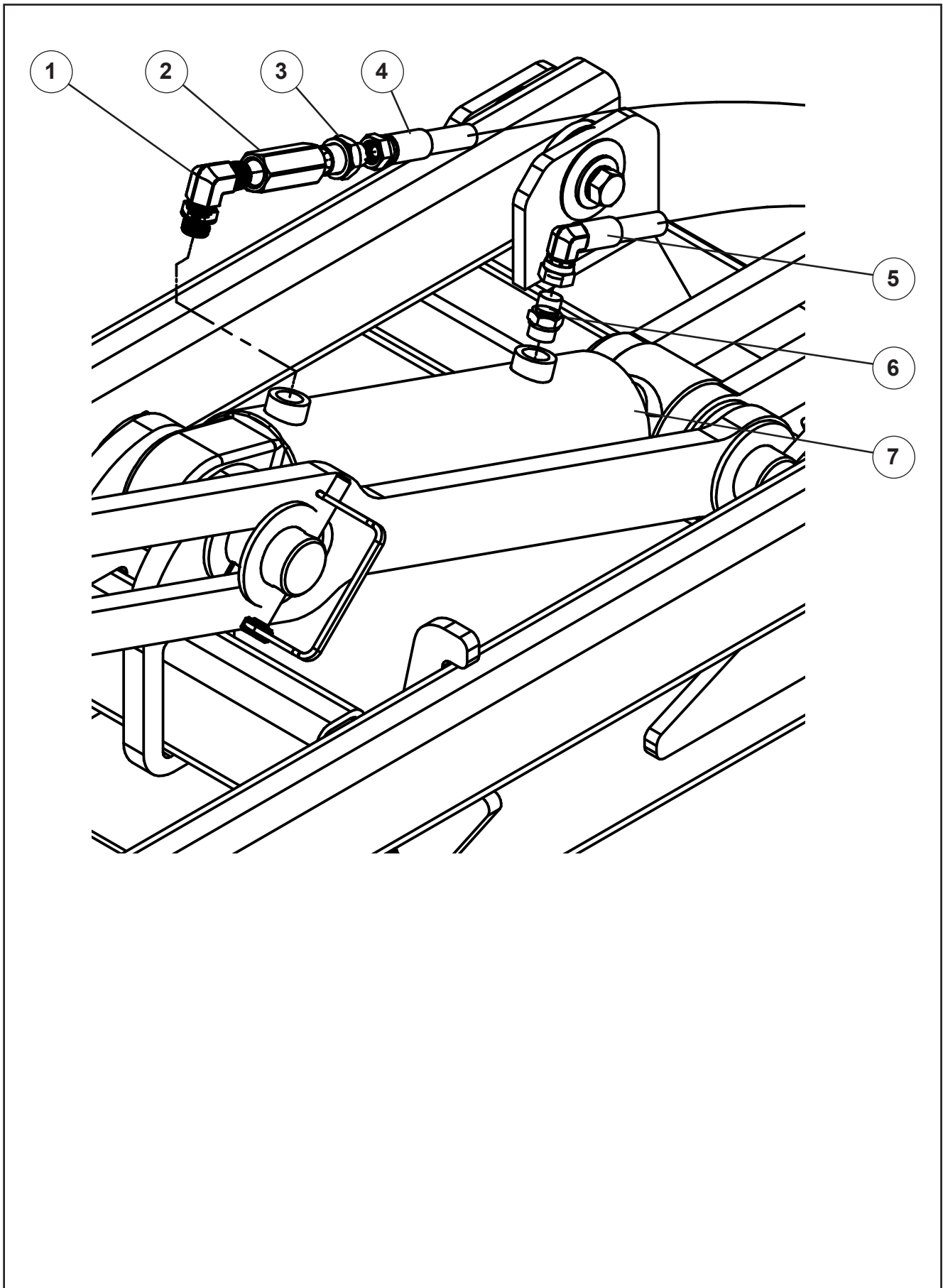


'Contouring Tyre Roller' Hydraulics Flow Divider

ITEM	PART No.	DESCRIPTION	QTY
1	74164	Hydraulic Hose 4.4m (Lift QRC to tap on port B)	1
2	43392	3/8" Nipple BSPP Both Ends	1
3	43391	3/8" Dowty Washer/Seal	1
4	43393	Ball Valve-3/8" BSP	1
5	43399	3/8" BSPTm 3/8"BSPf Swivel Nipple	1
6	43463	1/2"BSPPm To 3/8"BSPPm Nipple	8
7	74163	Hydraulic Hose 4.5m (Return QRC to flow divider port A)	1
8	47982	Flow Divider Tee Block	1
9	43338	3/8"BSPTm 3/8"BSPf Swivel Elbow	2
10	74165	Hydraulic Hose 0.8m (Flow Divider Port A1 or A2 to ram - rod end)	2
11	74166	Hydraulic Hose 1.0m (Flow Divider Port B1 or B2 to ram - base end)	2
12	43445	Nipple 1/2"BSPT To 3/8"BSPP (not shown)	1
13	43147	1/2"Bsp Male Q.R.Coupling (not shown)	2
14	43617	Dust Cover (not shown)	2
15	74873	Mount Plate Flow Diverter	1
16	45151	M8 Light Flat Washer Z/P	4
17	45165	M8 Spring Washer Z/P	4
18	44993s	M8 X 25 Grade 8.8 Z/P S/Screw	4
19	45152	M10 Light Flat Washer Z/P	2
20	45166	M10 Spring Washer Z/P	2
21	45002s	M10 X 25 Grade 8.8 Z/P S/Screw	2

Rams and fittings on next page

'Contouring Tyre Roller' Hydraulic Rams



‘Contouring Tyre Roller’ Hydraulic Rams

ITEM	PART No.	DESCRIPTION	QTY
1	44512	3/4"Un'o'-1/2"BSP 90 Degree Elbow	2
2	44511	Velocity Fuse Valve	2
3	43463	1/2"BSPPm To 3/8"BSPPm Nipple	2
4	74166	Hydraulic Hose 1.0m (Flow Divider Port B1 or B2 to ram - base end)	2
5	74165	Hydraulic Hose 0.8m (Flow Divider Port A1 or A2 to ram - rod end)	2
6	45634	Flow Red 3/4" Uno X 3/8" BSPP	2
7	74162	Double Acting Ram 4"x2.5"x217mm - 3/4"	2