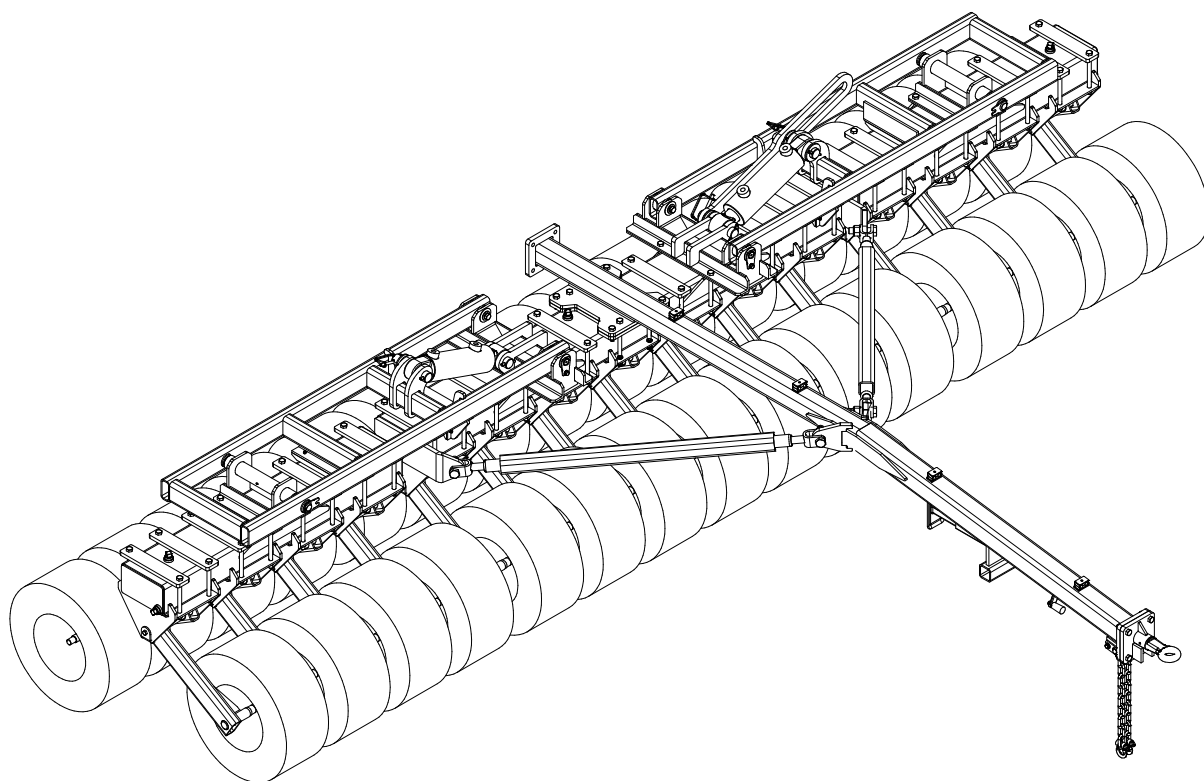


# Owners Manual



## CTR53 CTR60 ORIGINAL INSTRUCTIONS



*Built to work.*

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**Pt. No. 67473  
Issue 0921**



# Mk4 Contouring Tyre Roller Contents

|                                                         | Page      |
|---------------------------------------------------------|-----------|
| <b>Introduction</b> .....                               | <b>2</b>  |
| <b>Acquisition &amp; Warranty</b> .....                 | <b>2</b>  |
| <b>Disclaimer</b> .....                                 | <b>2</b>  |
| <b>Description of Machine</b> Working Principle. ....   | <b>3</b>  |
| <b>Specification</b> Dimensions & Capacities .....      | <b>5</b>  |
| <b>SAFETY - General</b> Safety Symbols on Machine ..... | <b>6</b>  |
| Operator Safety .....                                   | <b>7</b>  |
| Be Prepared for Emergencies .....                       | <b>7</b>  |
| Appropriate Dress .....                                 | <b>8</b>  |
| Transport This Machine Safely .....                     | <b>8</b>  |
| Handle Agricultural Chemicals Safely .....              | <b>9</b>  |
| Avoid High Pressure Fluids .....                        | <b>9</b>  |
| Safe Work Practices .....                               | <b>9</b>  |
| Practice Safe Maintenance .....                         | <b>10</b> |
| <b>SAFETY - Machine Specific</b> Hazard Points .....    | <b>11</b> |
| Safety Decals & Safety Guards .....                     | <b>13</b> |
| <b>Transport</b> .....                                  | <b>15</b> |
| <b>Maintenance &amp; Care</b> General .....             | <b>16</b> |
| Lubrication Instructions .....                          | <b>17</b> |
| <b>Parts List</b> General Assembly .....                | <b>19</b> |
| Drawbar .....                                           | <b>22</b> |
| Centre Frame .....                                      | <b>24</b> |
| Wing Assembly .....                                     | <b>26</b> |
| Rubbing Blocks .....                                    | <b>28</b> |
| Ram Pivots .....                                        | <b>30</b> |
| Hydraulics Flow Divider .....                           | <b>32</b> |
| Hydraulic Rams .....                                    | <b>34</b> |

# 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.**

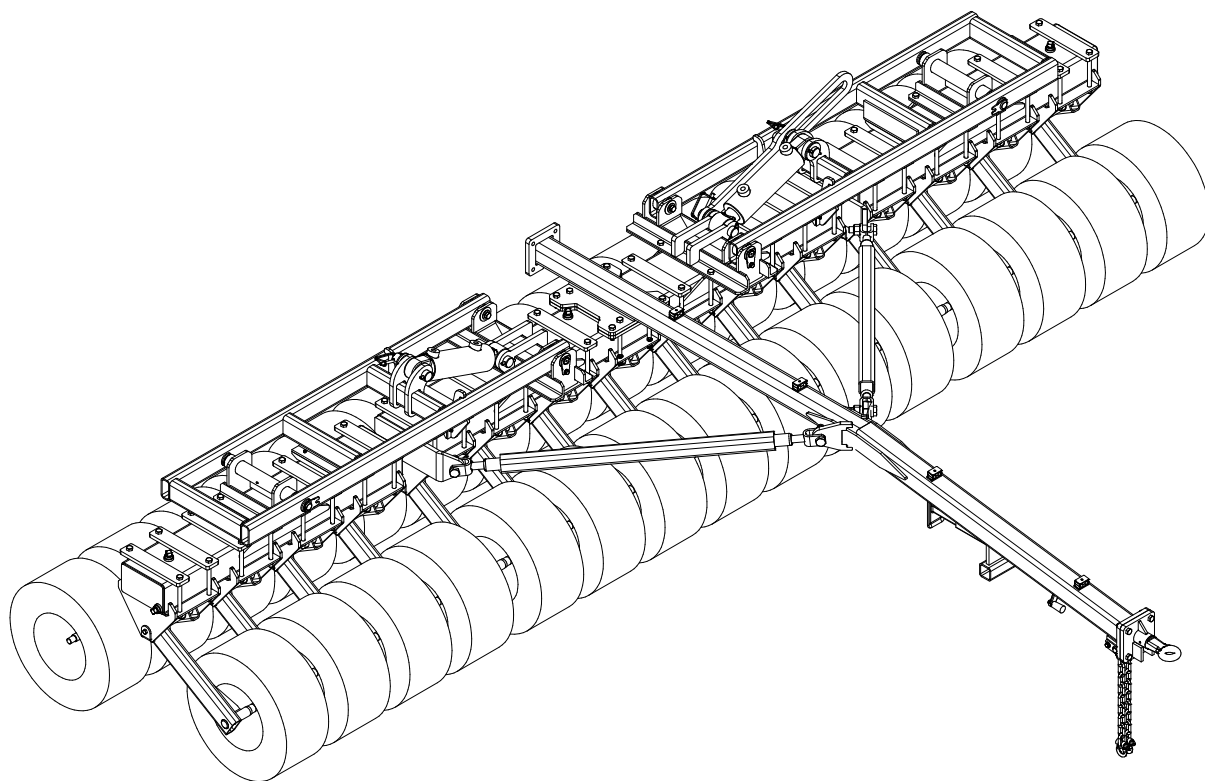


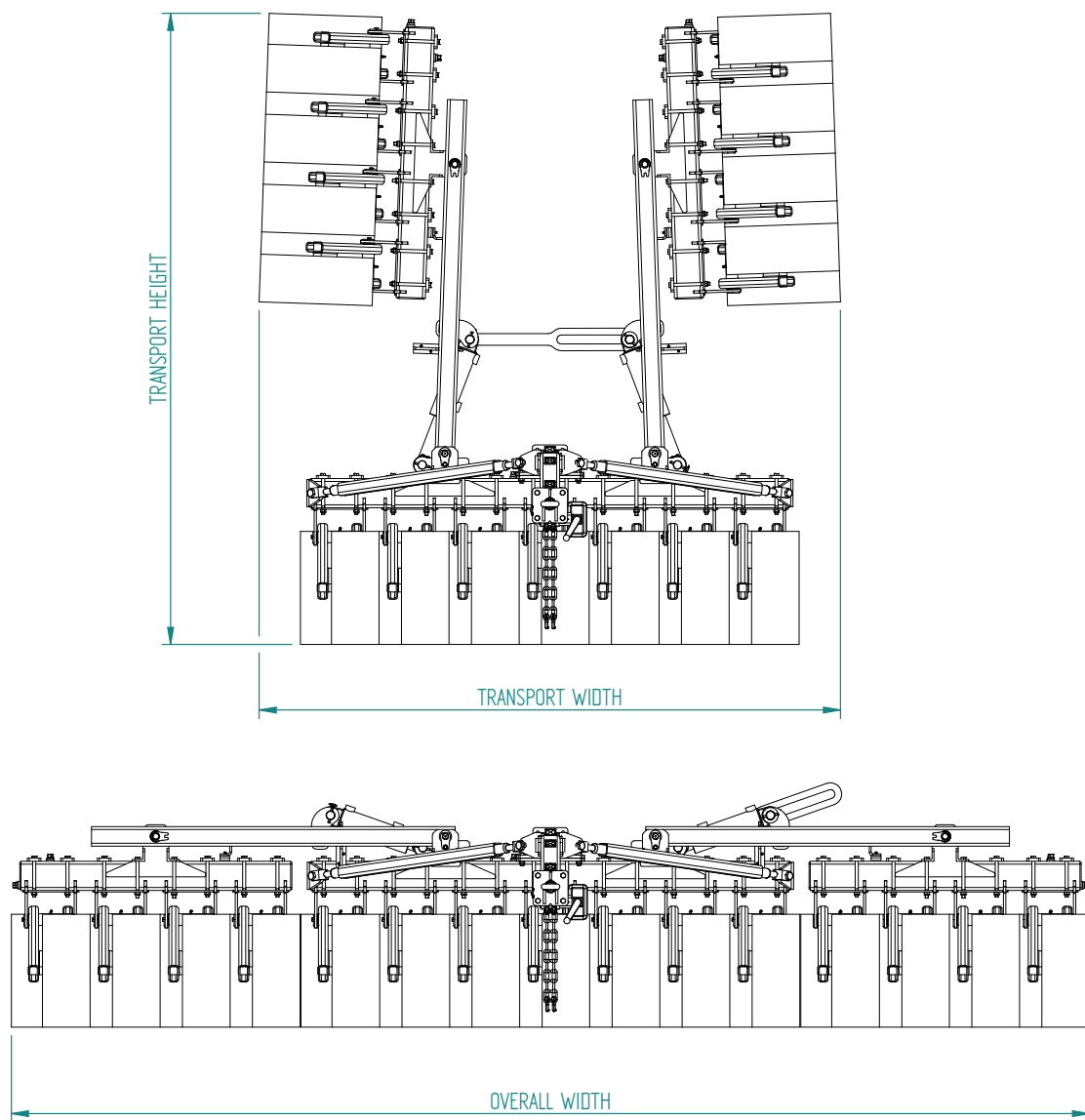
## Description of Machine

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.

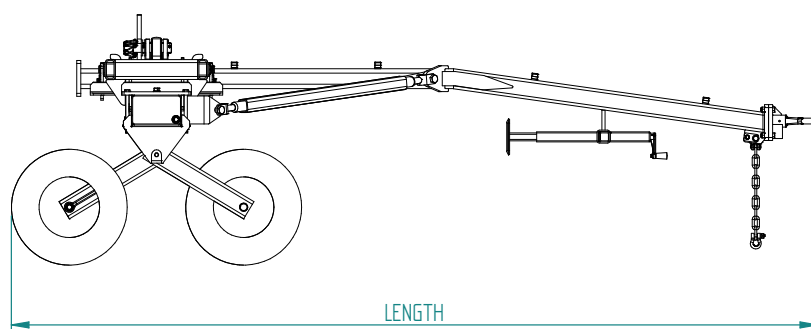
## Working Principle

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.

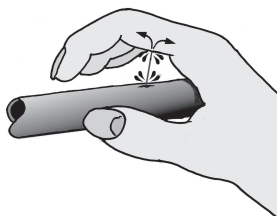
Any symptoms of illness during or after using chemicals should be treated according to the supplier's/manufacturer's recommendations. If severe, **call a physician or get the patient to hospital immediately**. Keep the container and/or label for reference.

### 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)



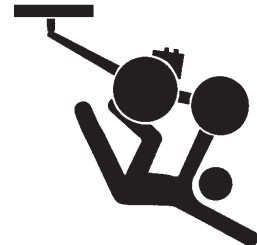
### Practice Safe Maintenance

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.

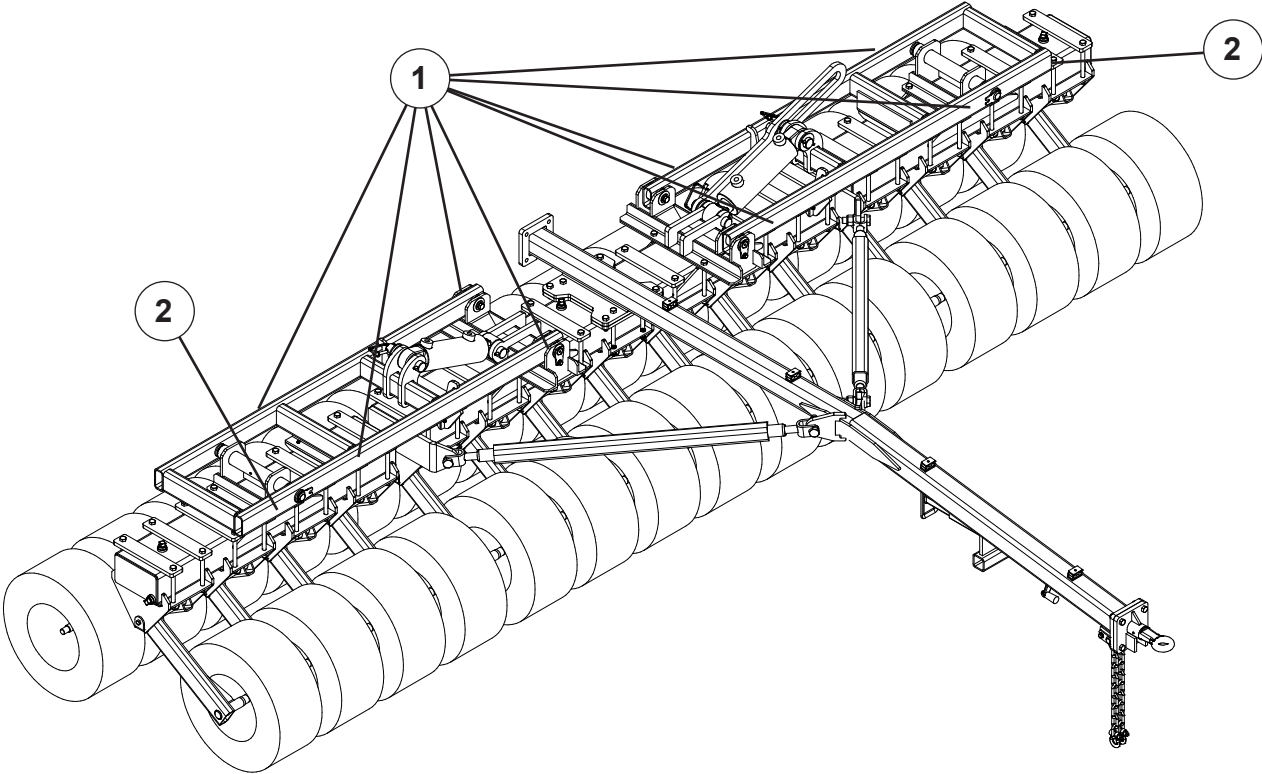
#### **Maintenance**

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

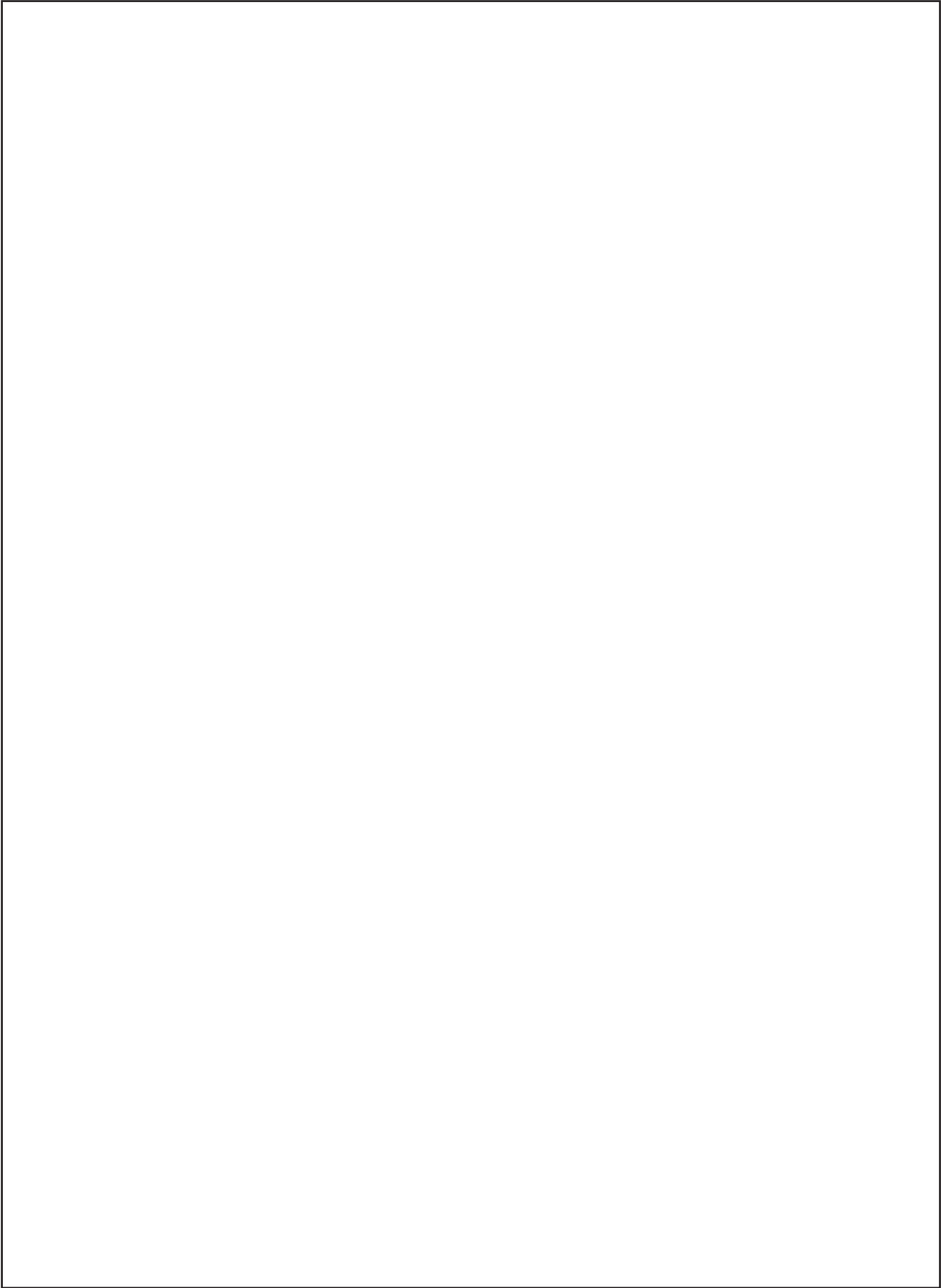
#### **Lubrication**

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.**

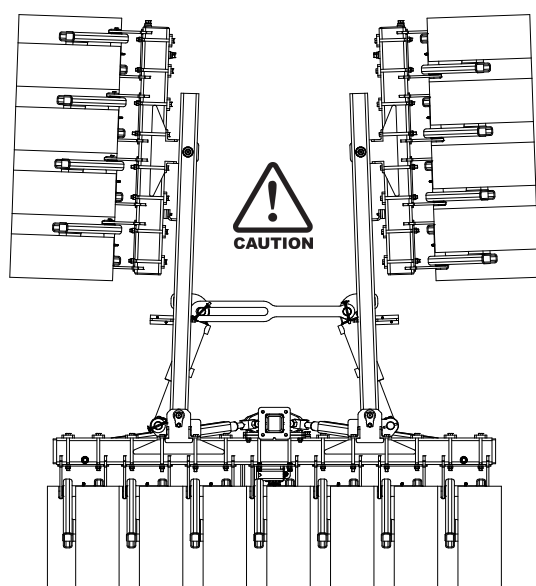
Ensure towing vehicle requirements are adequate for the towed vehicle e.g. mass, brakes. Refer to recommendations published by the local Land Transport Authority or equivalent.

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.

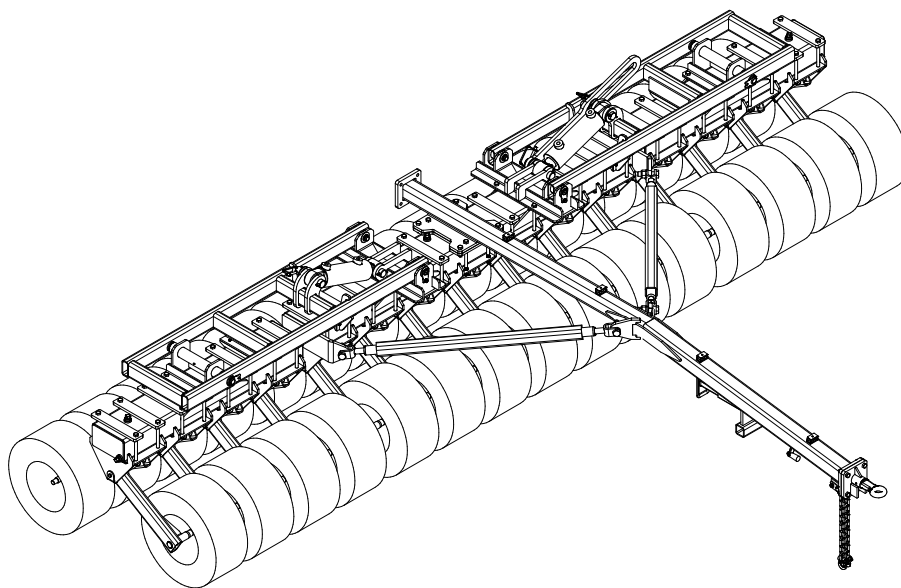
# Maintenance & Care - Lubrication Instructions

## 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.



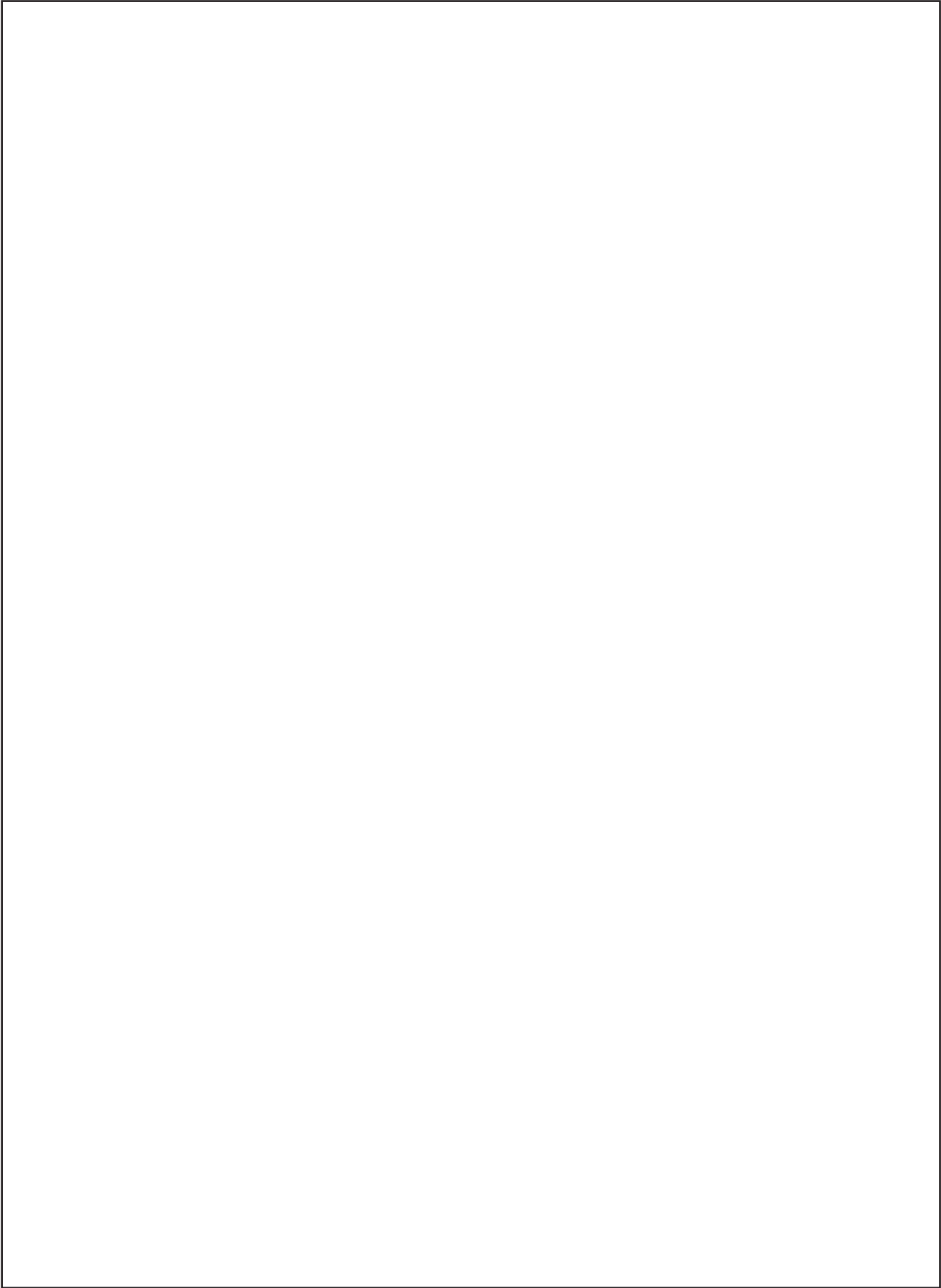
Your new Duncan Contouring Tyre Roller will give long and efficient service if given normal care and maintained properly.



## 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    |

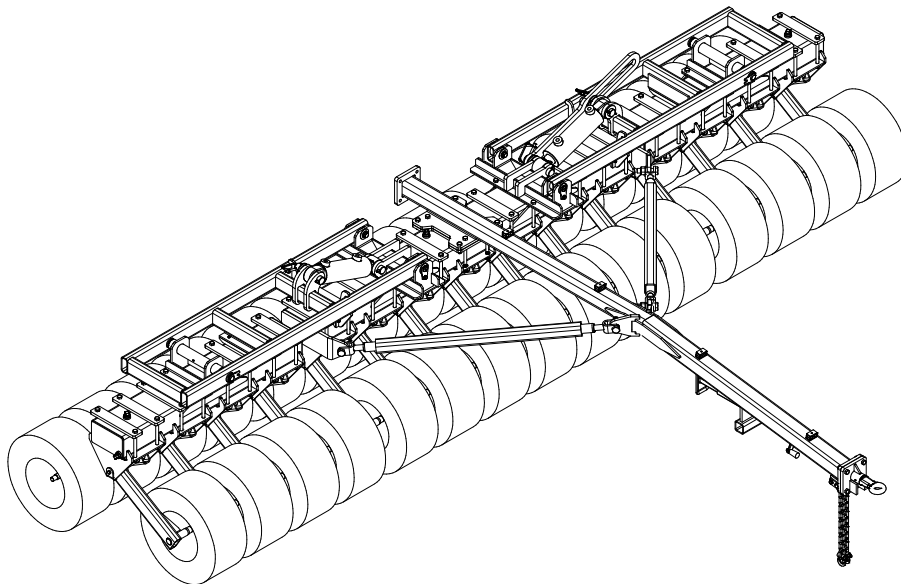
\* The lubrication frequencies are only a guide. Actual frequency will be dependent on extent of use and ground conditions.



# Parts List



## 'Contouring Tyre Roller'



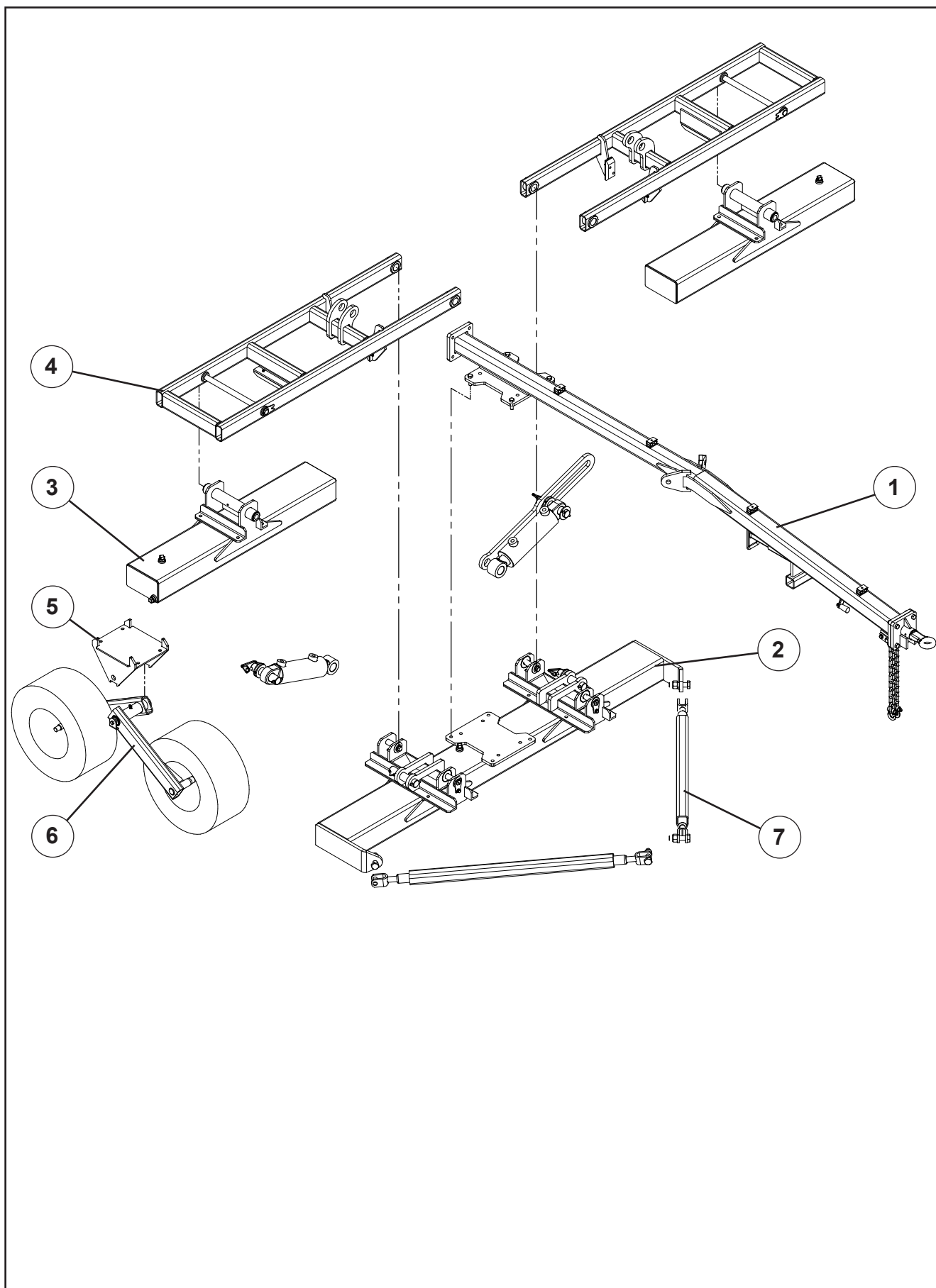
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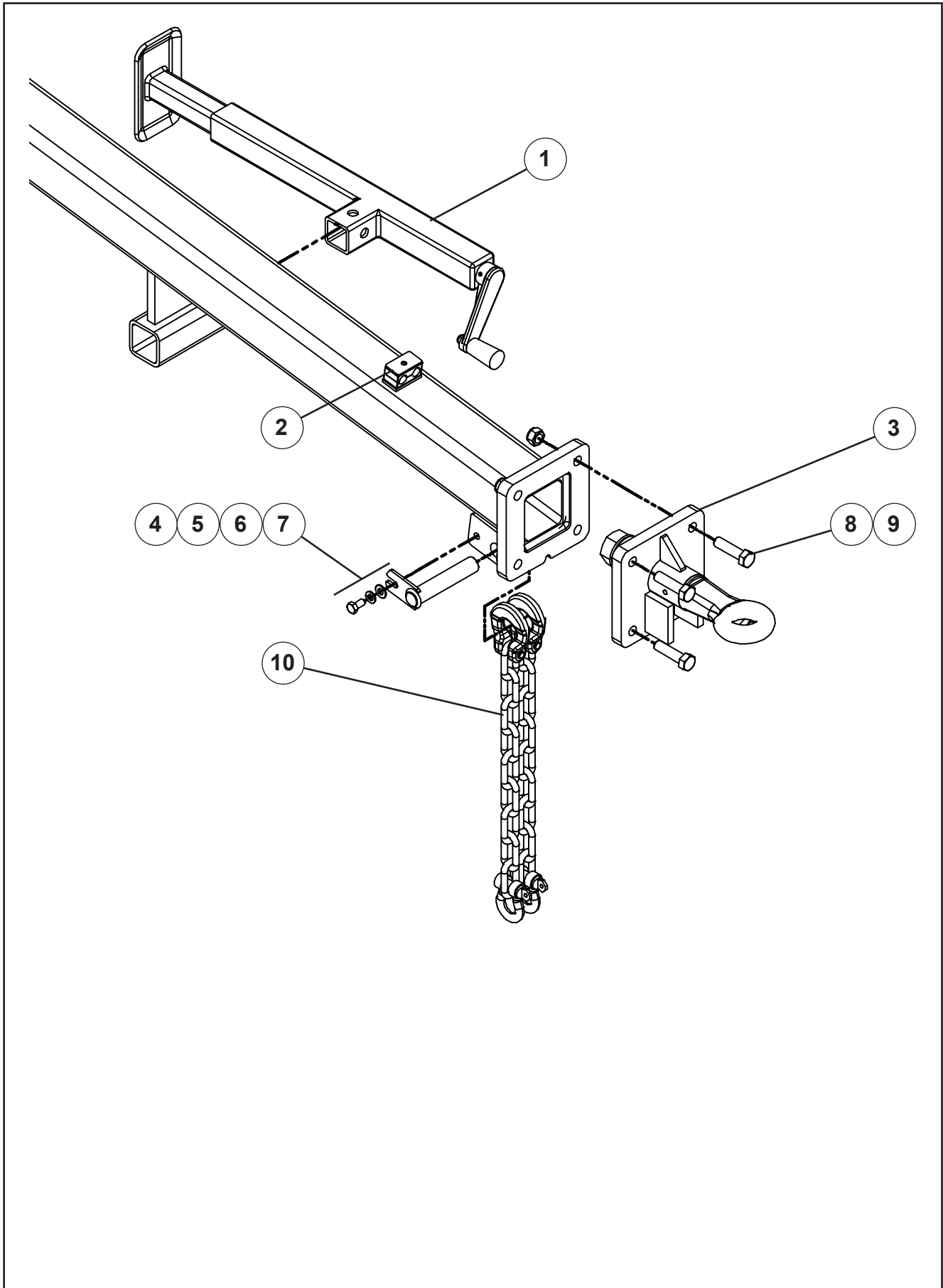
# 'Contouring Tyre Roller' General Assembly



# ‘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     |       |

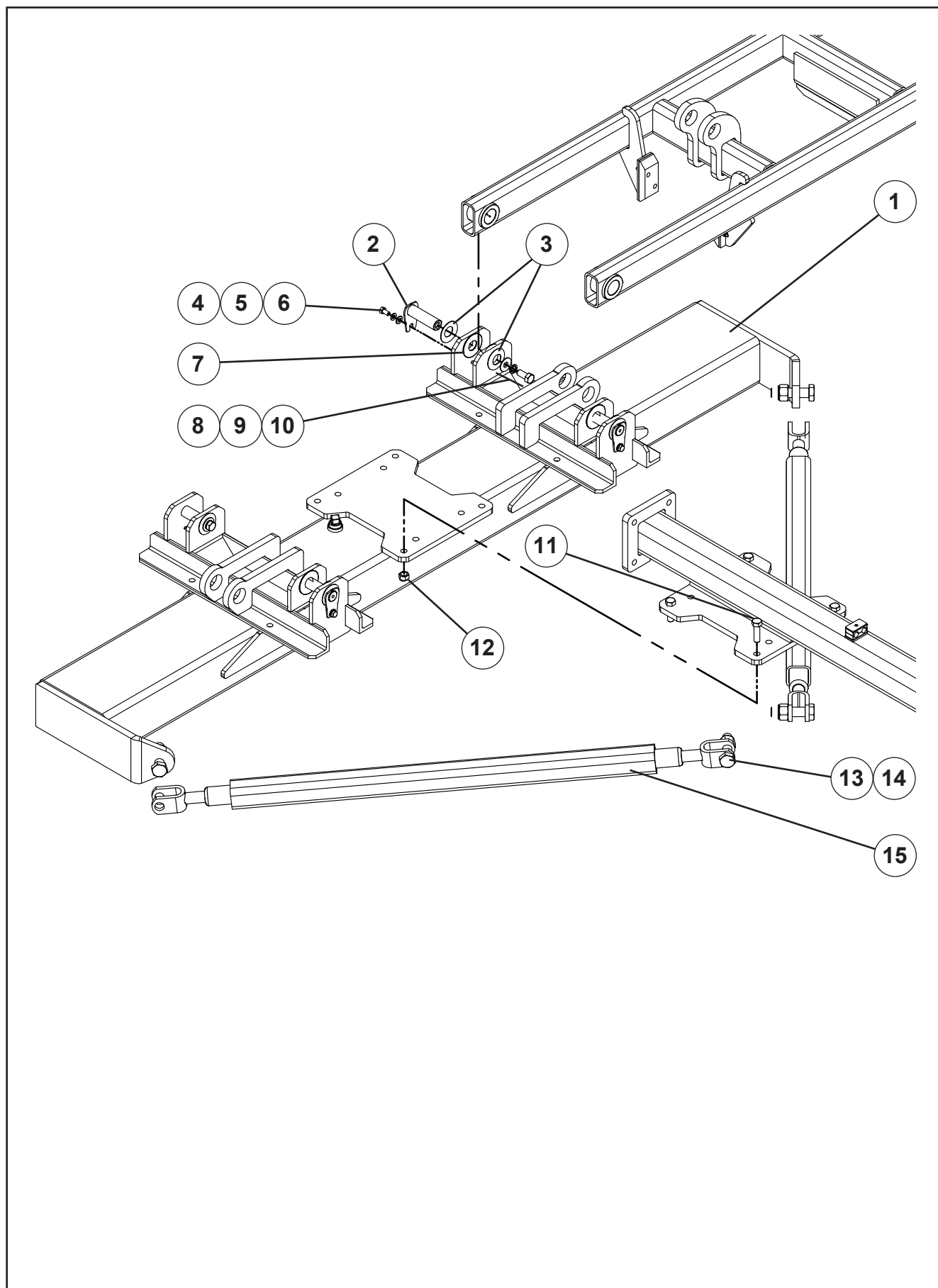
# ‘Contouring Tyre Roller’ Drawbar



# ‘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   |

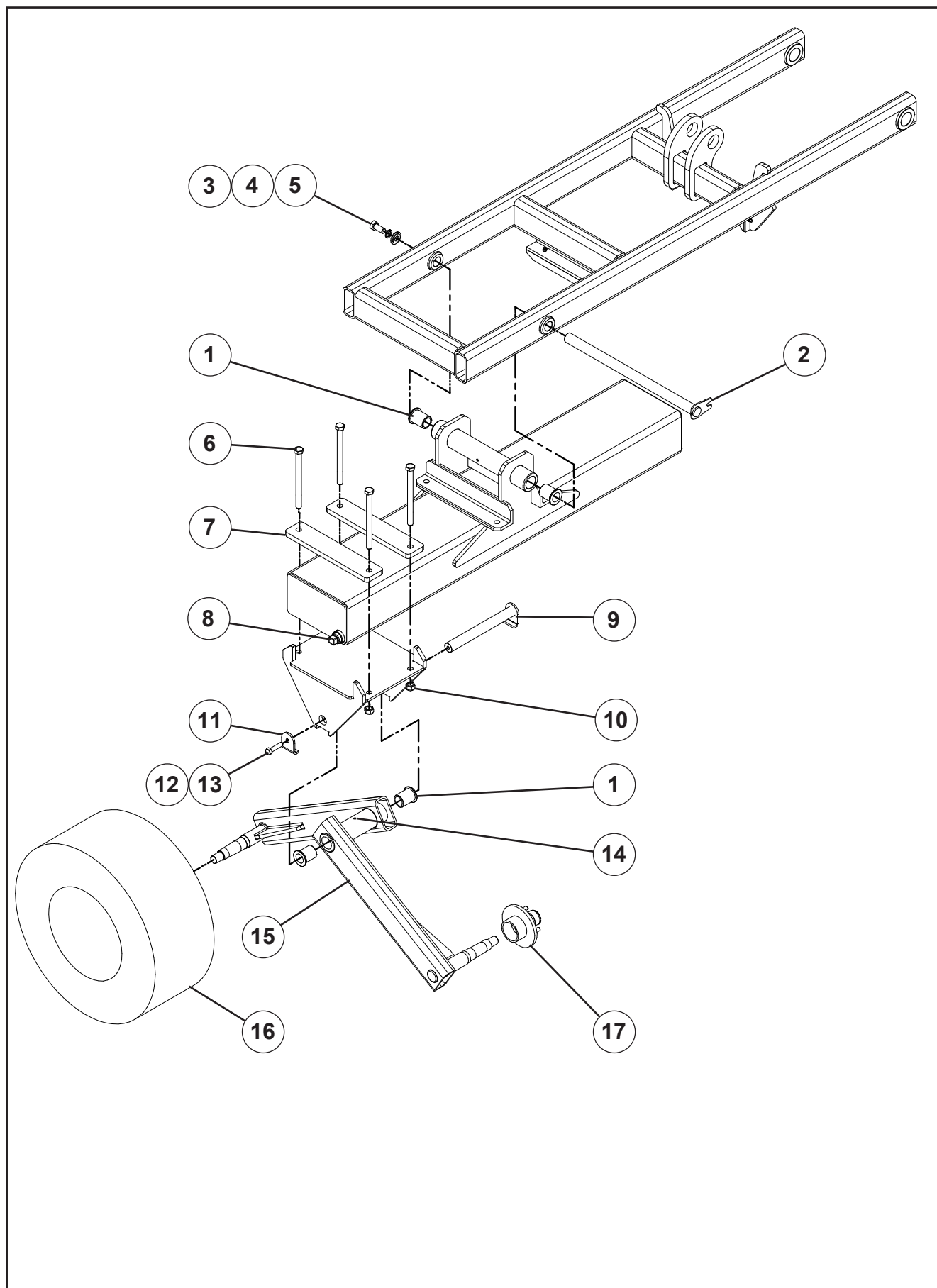
# 'Contouring Tyre Roller' Centre Frame



# ‘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

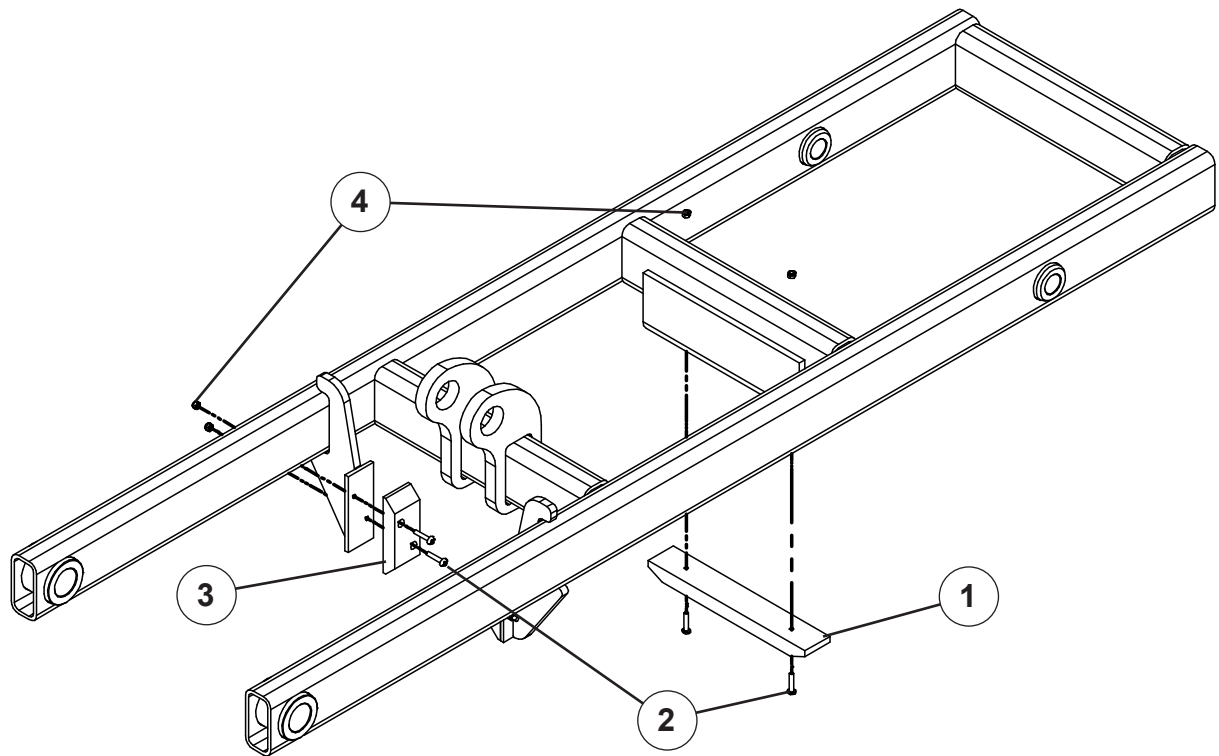


# 'Contouring Tyre Roller' Wing Assembly

| 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*

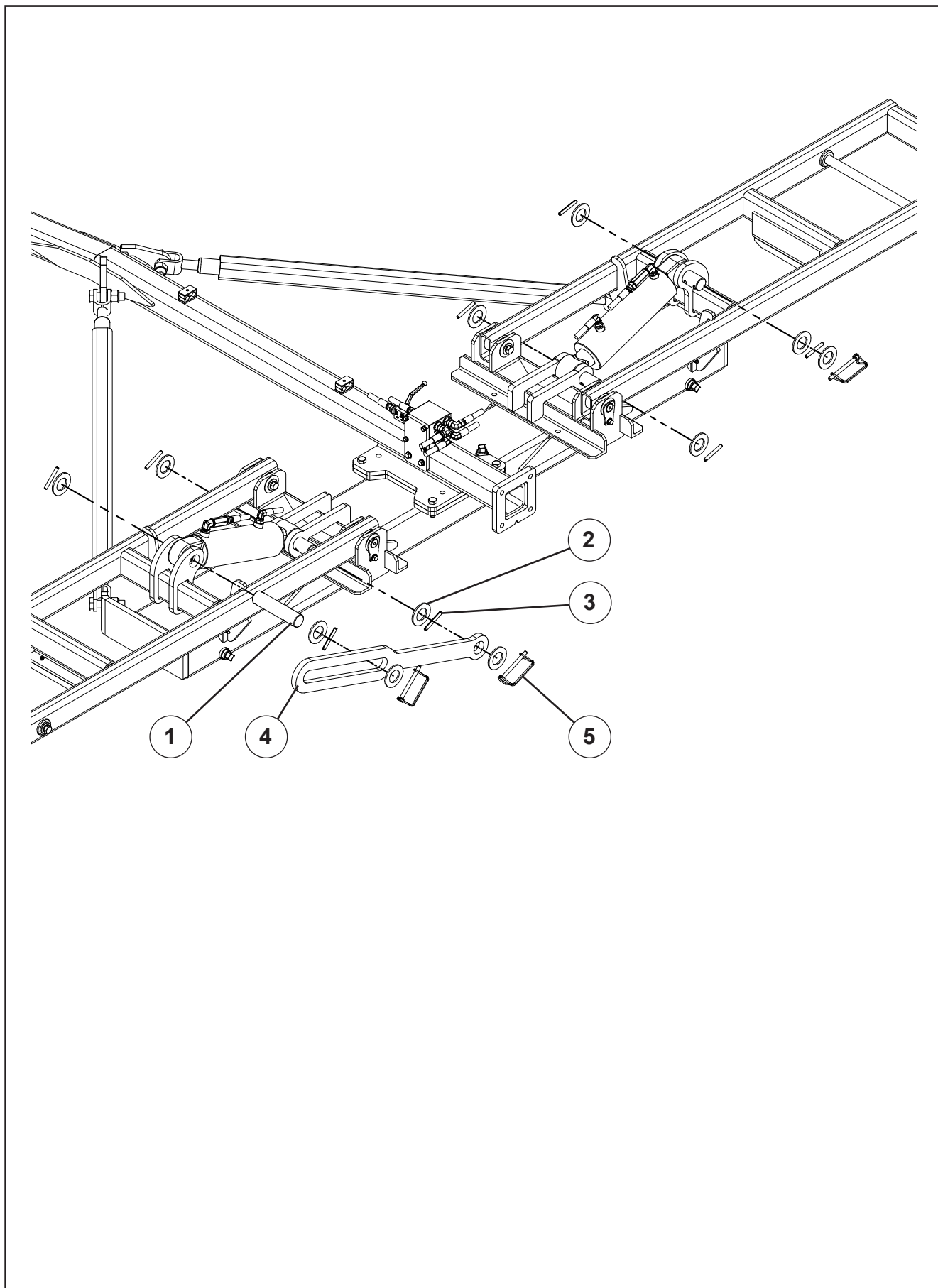
# ‘Contouring Tyre Roller’ Rubbing Blocks



# ‘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  |

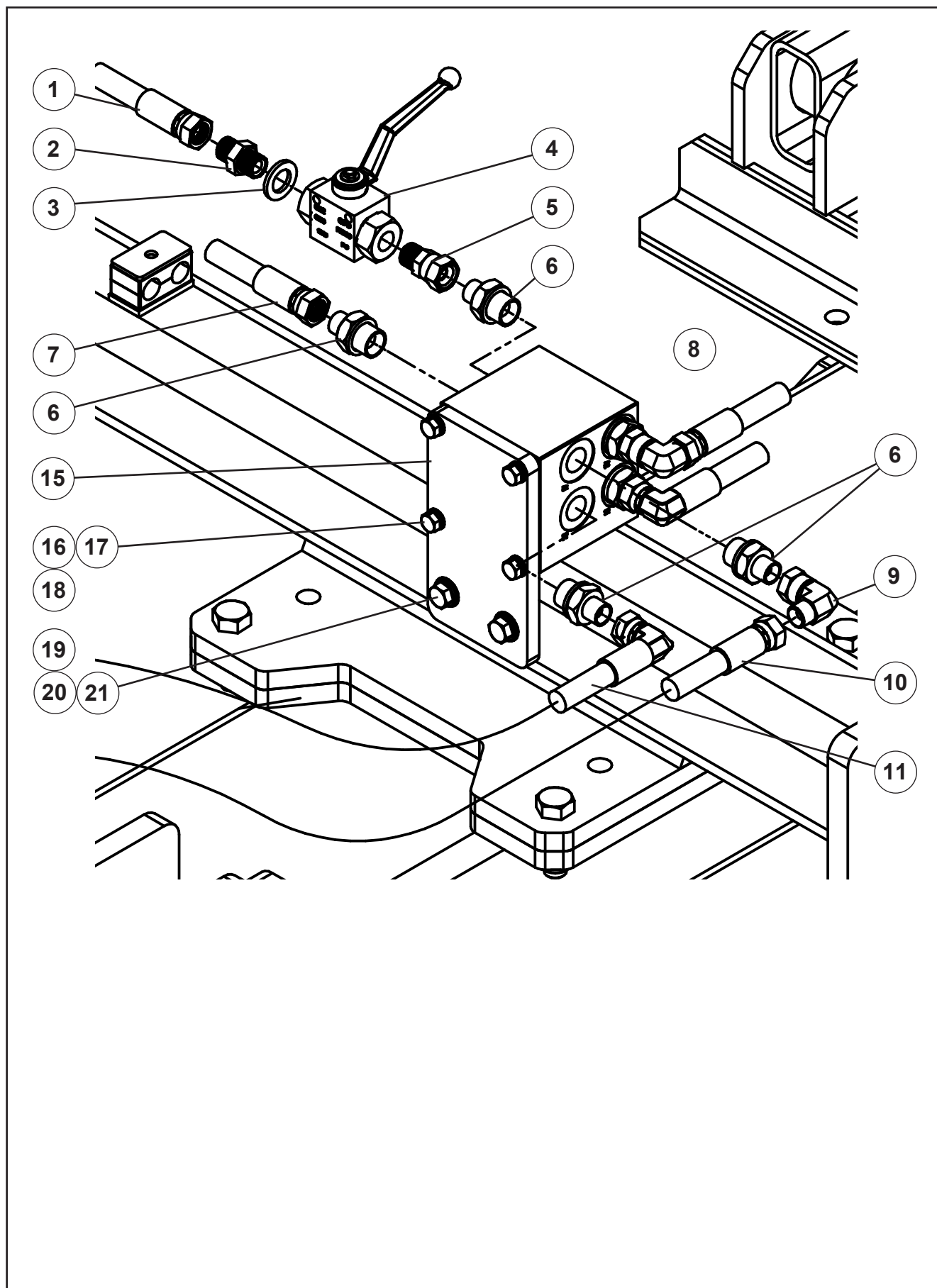
## 'Contouring Tyre Roller' Ram Pivots



## '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

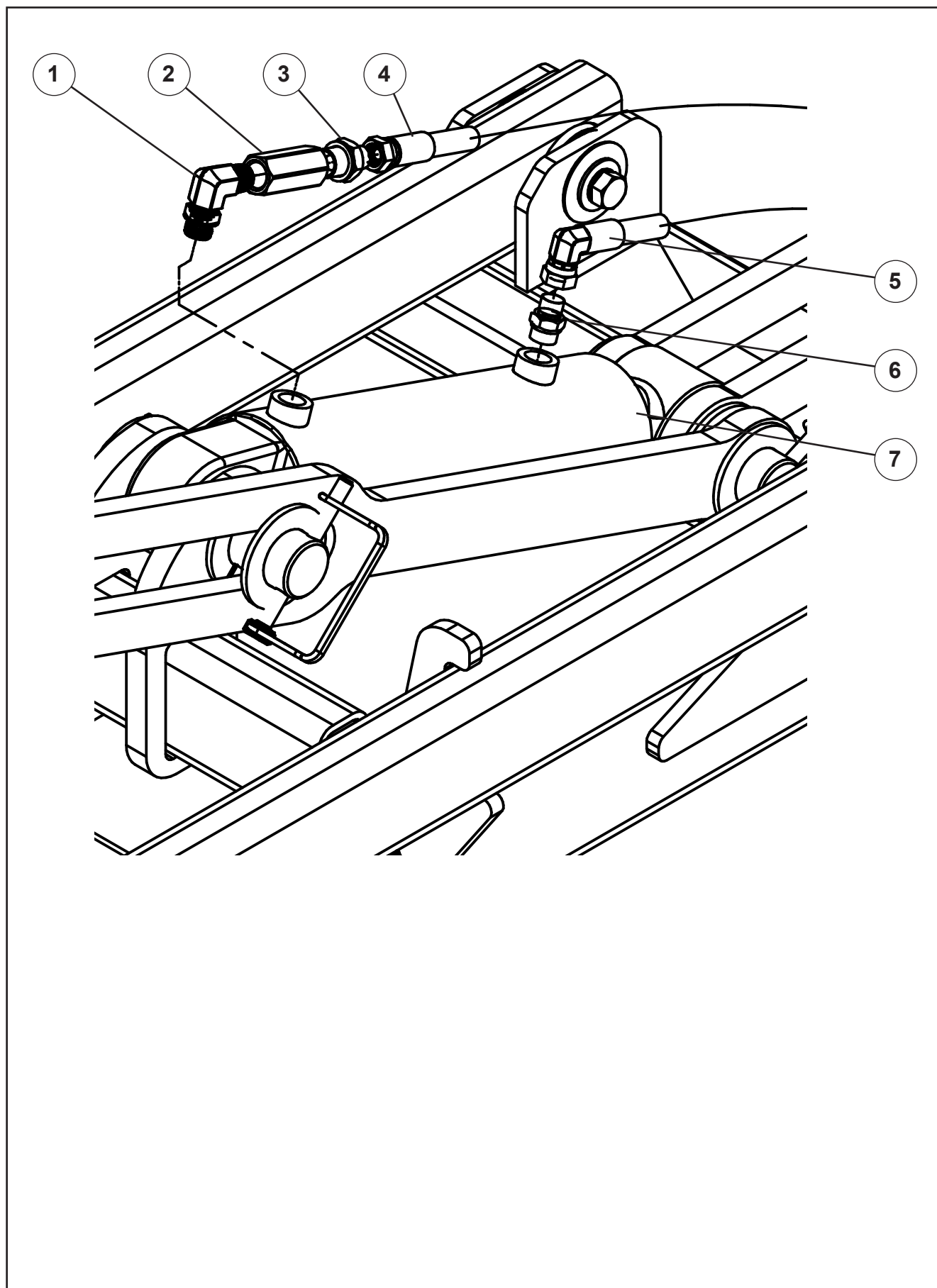


# ‘Contouring Tyre Roller’ Hydraulics Flow Divider

| 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   |