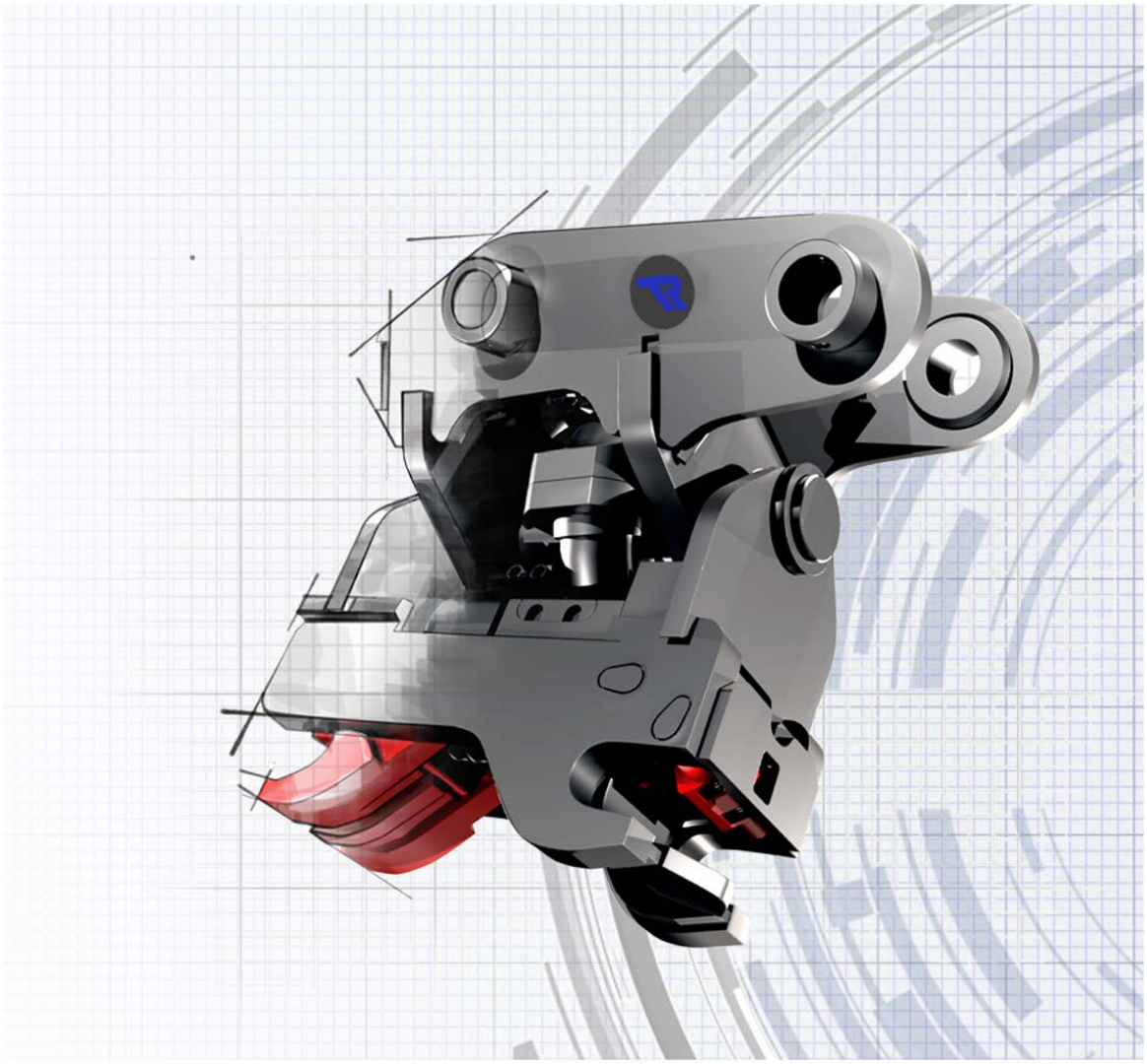


TR-TILT HITCH COUPLER

Imagery does not reflect actual product size

OPERATION & MAINTENANCE MANUAL

CONTENTS

OWNER INFORMATION

Thank you for choosing to purchase your new TR Tilt-Hitch Coupler from TR TIlts Limited. This manual contains important information about the installation, maintenance and safe operation of your TR Tilt-Hitch.

You can assist in this proactive safety approach by ensuring that all persons involved with the fitting and operation of the TR Tilt-Hitch, read and understand these basic safety features and instructions.

TR Tilts Ltd reserves the right of modification as a result of further technical developments with regard to the information and illustrations cited in this manual:

- TR Tilts and its suppliers have sole copyright of this manual
- The manual is intended solely for the use of the TR Tilt-Hitch
- No part of this manual may be reprinted, translated or reproduced by any means with out prior written permission from TR Tilts
- Utilisation for the purposes of competition is forbidden
- The TR Tilt-Hitch is designed for safe and dependable service if installed, maintained and operated correctly

We request that time be devoted to the study of installation and maintenance requirements. Users are also expected to familiarise themselves with the correct operation and use of the TR Tilt-Hitch and its advised safety procedures.

IMPORTANT NOTE

To comply with Occupational Safety and Health requirements, a record must be made of all repairs, adjustments and regular maintenance events involving your TR Tilt-Hitch.

A Maintenance & Repair Log has been placed at the back of this manual for this purpose, please refer to page 36.

WARRANTY REGISTRATION

Upon purchasing your TR Tilt-Hitch please complete and return this form immediately to your local TR Tilt Dealer or TR Tilts directly (sales@trtilts.com).

DATE OF DELIVERY: _____

SERIAL NUMBER: _____

I confirm that the operator(s) of the relevant excavator has read and understands the Operating Instructions and Warranty Terms, which relate to the TR TIlt-Hitch. The Operator accepts that he/she is responsible for understanding safety and operation features of the TR TIlt-Hitch.

NAME: _____

POSITION: _____

COMPANY: _____

SIGNATURE: _____

THE PURCHASER SHALL:

- Follow the recommended installation, testing and maintenance and operating proce dures
- Comply with safety and training guidelines for use of equipment (not totally exclusive)
- Keep an accurate maintenance, operation, malfunction and repair log of equipment
- Ensure that the equipment is used for the purpose it was intended for

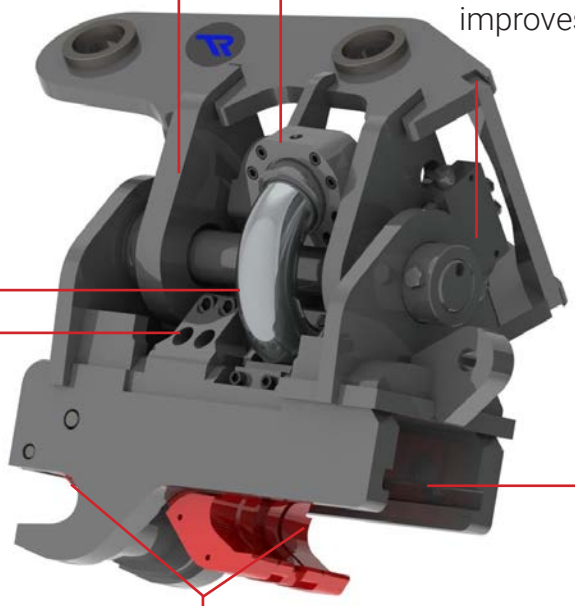
KEY FEATURES

Patented Torlite actuator. First in the world of its kind

Constant Torque Output At any tilt angle

Smart Valve protects the TR Tilt-Hitch from high pressure spikes, allowing for precise control and improves holding force

The Torlite Actuator uses twin toroidal shaped displacement-cylinders. The same simple and robust design as traditional displacement cylinders



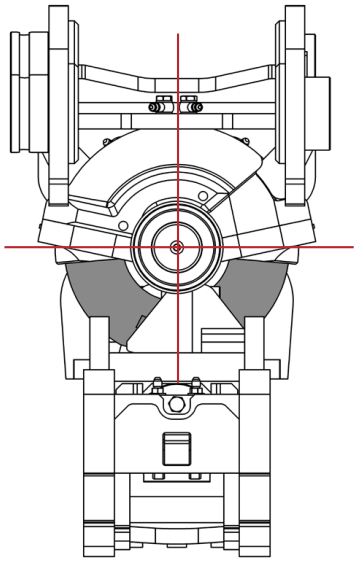
Easy maintenance allows servicing of the actuator even whilst on the machine

Compliant
Front & Rear Locking slide to AS4772:2008 & ISO 13031: 2016

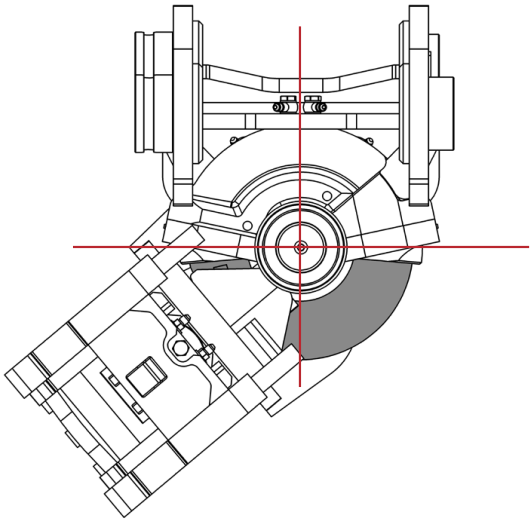
100 Degree Tilt
Allows tilting of attach-ments 50 degrees each way, adding versatility to your attachments and your work environment

OPERATING PRINCIPLE

The world's first, patented Torlite actuator design incorporates 'Smart Valve' technology, which locks the position of the tilt coupler once it is at the required angle. Hydraulic oil is trapped in both cylinders and is only released should the external load on the coupler be greater than the safe operating pressure of the cylinder. The Torlite actuator utilises two single acting and opposing toroidal shaped rods that operate in principle similar to a traditional displacement cylinder, but with a constant torque output at any angle.



TR Tilt-Hitch at horizontal position



TR Tilt-Hitch at 50 degrees position

TO THE OWNER

As the new owner and/or operator of the TR Tilt-Hitch we recommend that you take the time to read this Operation Manual carefully before commencing work.

FOLLOW THE SAFETY INSTRUCTIONS:

- Carefully read all the safety information contained in this manual
- Make sure all warning signs are securely fitted
- Immediately replace any signs which are missing or damaged
- Before starting work make sure you are familiar with the equipment, and where neces sary with the machine and its control devices

INFORMATION FOR THE USER:

The user of the TR TIlt-Hitch is obliged to ensure that the equipment is always in safe working order in accordance with accident prevention regulations, Occupational Safety and Health Regulations or any other official instructions.

WARRANTY REGULATION:

TR Tilts provides guarantees according to its sales and delivery conditions, extended to twelve months from delivery.
The extended guarantee assumes proper operation and use as intended but will be nullified as a result of:

- Repairs or other intervention undertaken by persons not authorised by TR Tilts Ltd
- With use of accessories or replacement parts not approved by TR Tilts Ltd or which are not original replacement parts supplied by TR Tilts or their licensed distributor

After the warranty period has expired, we strongly recommend the use of original replacement parts and manufacturer's replacement parts approved by TR Tilts.

SAFETY INSTRUCTIONS

This safety alert symbol indicates important safety messages in this manual.

When you see this symbol carefully read the message that follows and be alerted to the possibility of personal injury or death.

WARNING:

Incorrect operation of this machine can cause injury or death.

Before using this machine make sure that every operator:

- **Is instructed in safe and proper use of the TR Tilt-Hitch**
- **Reads and understands the manual pertaining to the TR Tilt-Hitch**
- **Reads and understands all safety decals and tags on the machine**
- **Clears the area of all other persons**
- **Learns and practices safely using attachment controls in a safe, clear area before operating this machine on a job site**

It is your responsibility to observe pertinent laws and regulations and follow TR Tilt instructions for operation and maintenance.

TR Tilt supplies a standard TR Tilt-Hitch for a given machine weight range. However, when fitting a non-standard working attachment check the operation fitting guide for that working attachment's pin range and width to ensure it suits the TR Tilt-Hitch.

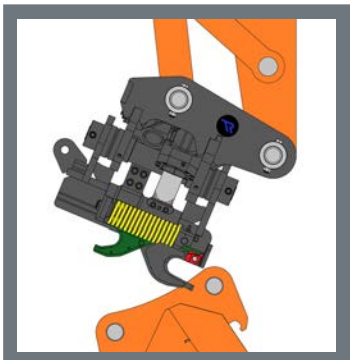
NOTE:

The TR TIlt-Hitch coupler base has a maximum and minimum pin centre travel range. Please refer to the attached badge on the TR Tilt-Hitch for this information.

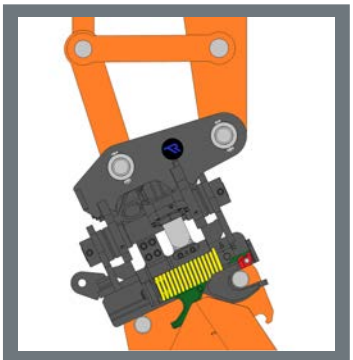
SAFETY DECALS

The TR Tilt-Hitch coupler base operation instructions are to be fitted inside the cab in clear view of the operator to identify correct operation of our attachments..

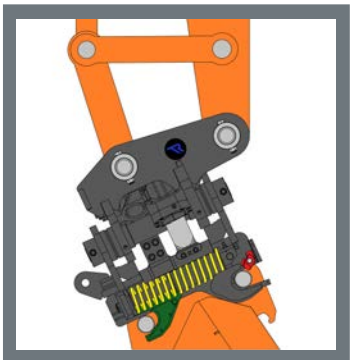
ATTACHMENT PICKUP



STEP 1
With slide retracted engage coupler on to front pin.



STEP 2
Crowd on to rear pin.



STEP 3
Extend slide on to rear pin which engages front safety latch

SAFETY CHECK

1. Visually check front latch is down.
2. Crowd bucket to visually see rear slide is wedged on to rear pin.
3. Physically push attachment against ground and away from machine to confirm engagement is complete and safe.

ATTACHMENT RELEASE

For attachment release follow above steps in reverse i.e. Step 3 to Step 1.

DANGER! SAFETY WARNING!

- Use in a safe and proper manner at all times
- Report damage or malfunction immediately
- Read operation and maintenance manual for the TR Tilt-Hitch coupler before use
- Do not use TR Tilt-Hitch coupler if damaged or malfunction has occurred
- This label must be attached in the cab and be clearly visible

SAFETY IDENTIFICATION LABELS

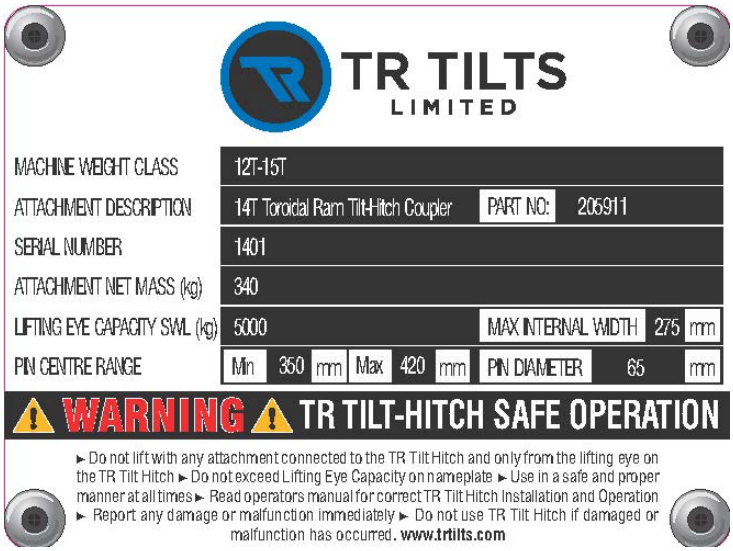
The pin centre range displays the minimum and maximum travel distance for each slide hook on the TR TIlt-Hitch.

All attachments must be within the parameters of these measurements identified on the label.
The label also identifies the slide hook type.
The badge also displays the Working Load Limit (W.L.L) and data.

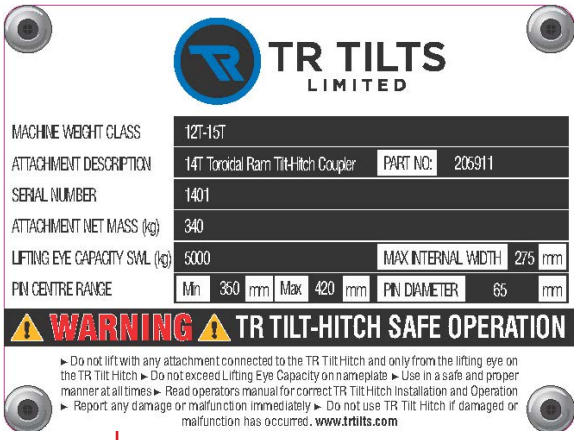
Note:

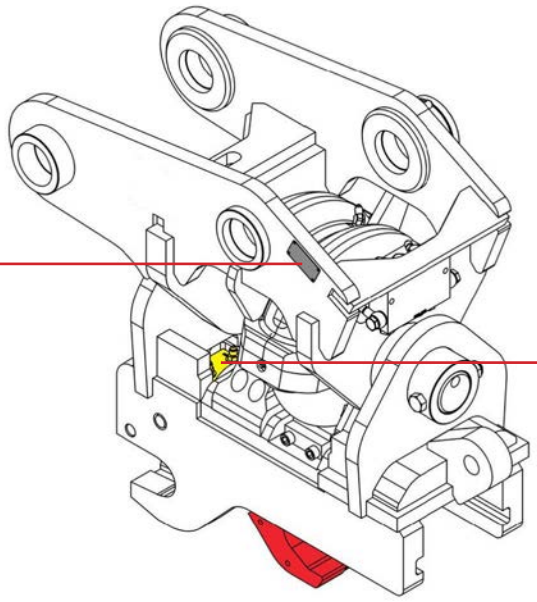
The W.L.L is also stamped on the Lifting Eye.

The Toroidal-Tilt has an identification label with the machine and model recorded.



Each TR Tilt-Hitch will have identification labels fitted as shown below:

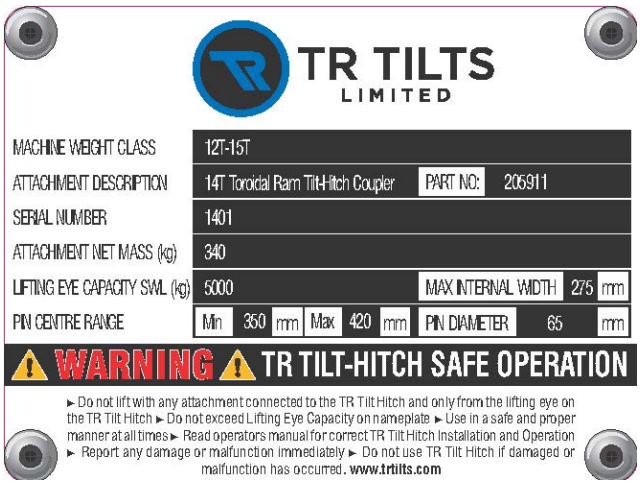


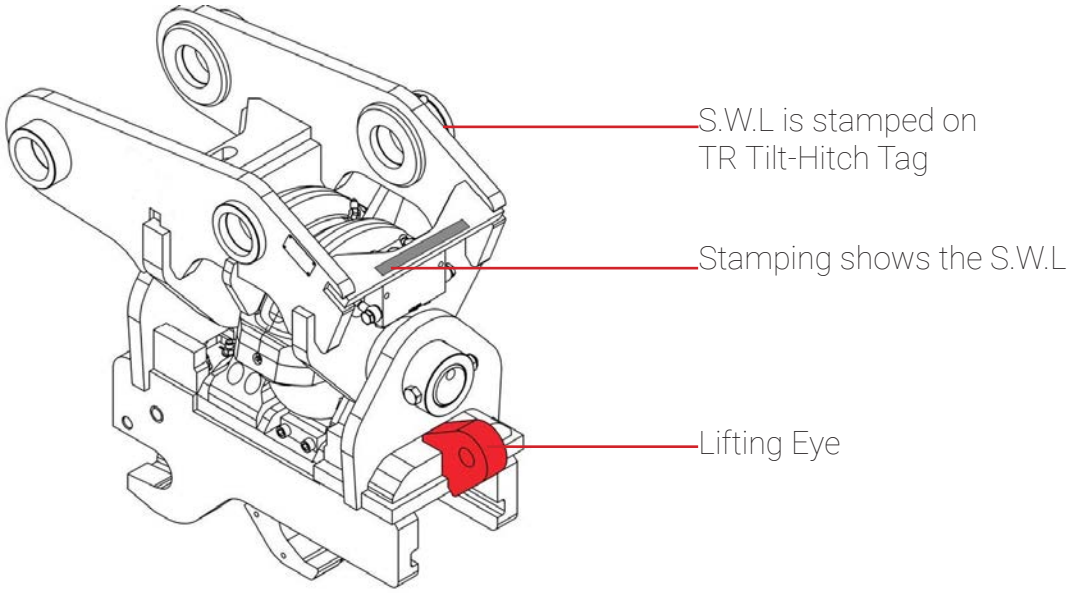


The hydraulic cylinder has a serial number stamped to identify its model for servicing

SAFE WORKING LOAD LIMIT (S.W.L.)

Your TR Tilt-Hitch comes with an integrally designed Lifting Eye where the design has been certified to meet and exceed current standards.

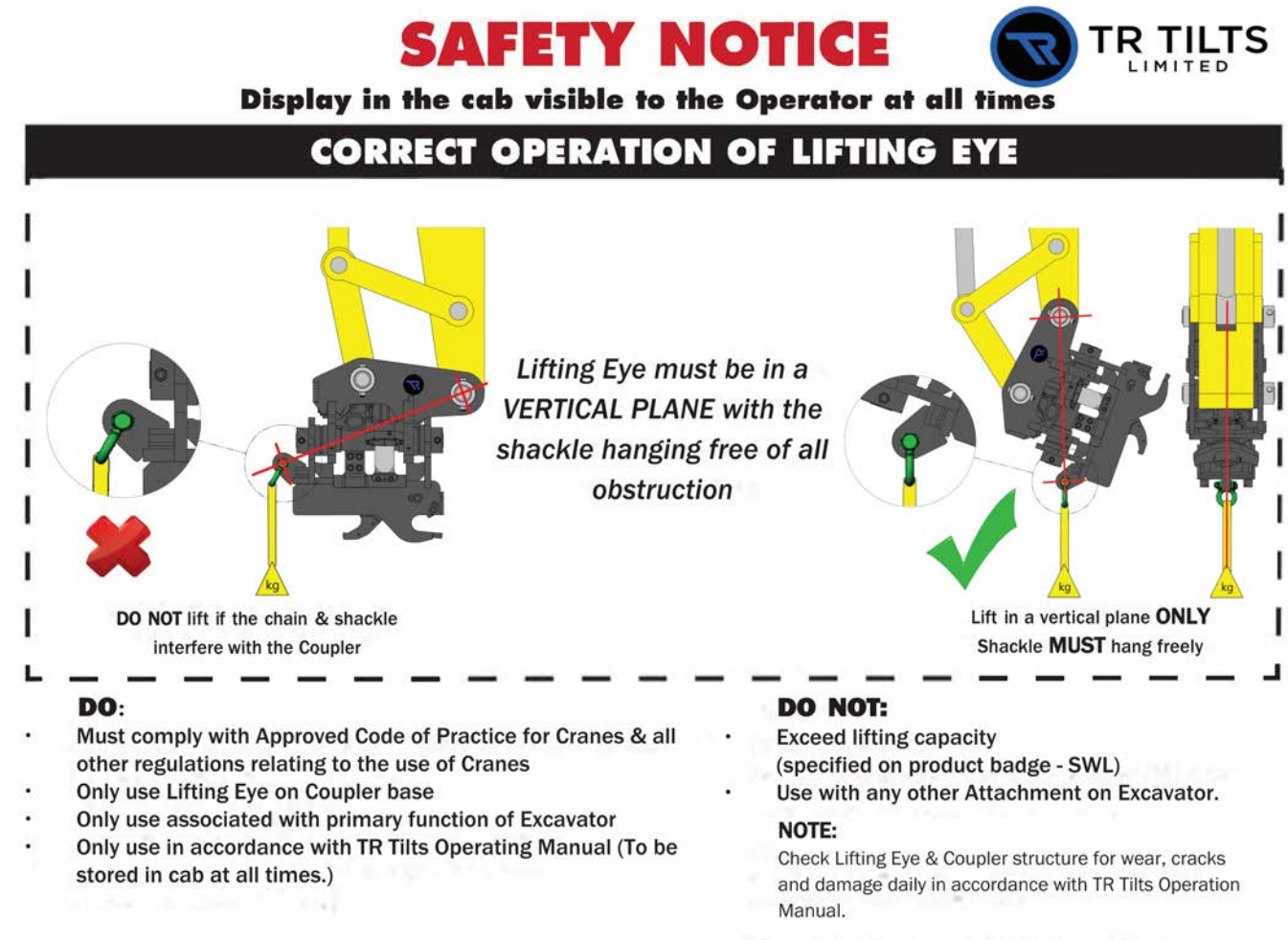




The Lifting Eye must be used accordingly to the following guidelines:

- Only use the Lifting Eye at the rear of the TR Tilt-Hitch for lifting
- Do not lift with bucket or any other attachment fitted to the TR Tilt-Hitch
- Ensure that the load to be lifted does not exceed the rated S.W.L of the TR Tilt-Hitch and Lifting Eye
- The Lifting Eye is to be used with certified Lifting Shackle (or similar) with the same or greater safe working load
- Lifting must be carried out with the TR Tilt-Hitch in a vertical plane so that the load can hang freely without interfering with the TR Tilt-Hitch body
- Lifting Eye must be visually inspected daily for defects and wear

The below sticker MUST be permanently fixed to the operator's cab in a clearly visible location



SAFETY STANDARDS

The standards and Occupational Safety and Health Guidelines for the TR Tilt-Hitch are as follows:

- AS4772:2008 Standards Australia. Australian standard for - Earthmoving Machinery Multi-Couplers (couplers) for excavators and backhoe loaders - AS4772:2008 section C12.1.4
- AS 1418 5 1995 Cranes (Including hoists and winches) Part 5: Mobile vehicle loading cranes
- European Standard EN474-5; Section 4.1.9.1/2 and 3
- ISO 13031: 2016 Earthmoving Machinery
- Standard Operating Guidelines for Plant and Machinery

We request that time be devoted to the study of installation and maintenance requirements. Users are also expected to familiarise themselves with the correct operation and use of the TR Tilt-Hitch and its advised safety procedures.

ASSOCIATED STANDARDS

- AS 2954 Earthmoving Equipment - Rated Loads and Volumetric ratings
- AS 2954 Earthmoving Equipment - Tests and Measurements
- AS 2954 Earthmoving Equipment - Instrumentation and Control
- AS 2954 Earthmoving Equipment - Operation and Maintenance
- AS 2954 Earthmoving Equipment - Safety

Only the following competent persons may work independently with the TR TIlt-Hitch

Operators must possess the following:

- Over 18 years of age
- Be highly competent
- Have been instructed in the general regulations concerning operational safety and particularly accident prevention
- Have been instructed in assembly, operation and maintenance of earthmoving ma chinery and using the TR Tilt-Hitch system. They must understand these operating instructions and have proven to the contractor that they are capable of operating such machinery
- Ensure that only authorised personnel work with the TR Tilt-Hitch
- Only give instructions to competent and skilled personnel

NOTE:

For TR Tilt-Hitch products supplied to or manufactured in countries other than New Zealand and Australia, the rules for prevention of accidents and safety regulations for the respective country must be strictly adhered to.

PRE-START CHECKLIST

Location:	Date:	Ref No.

- Work equipment
- Lifting devices
- Ergonomics
- Entanglement
- Crushing
- Access / exit
- Slip, trip and fall

- Plant movement
- Warning devices on equipment
- Noise
- Vibration
- Fumes
- Environmental

People Affected	YES	NO	N/A
Involved in Activity			
Close to Activity			
Everyone on Site			
Members of the Public			

Expected Precautions	YES	NO	N/A
Has the operator been adequately trained on the use of the TR Tilt Hitch in general?			
Is the operator competent in using the specific attachment on the machine?			
Is there a system for checking that the attachment pins are in place on the TR Tilt-Hitch prior to work starting every time a different attachment is fitted?			
Is the operator aware that they must not operate the machine unless they are satisfied that the TR Tilt-Hitch is secured in place?			
Does the view of the operator from inside the cab allow them to visually see that the TR Tilt-Hitch is secured in place?			
Does the TR Tilt-Hitch have the approved labels stating and referring to attachment specifications?			
Is there a risk assessment for the TR Tilt-Hitch detachment?			
Is there a checklist of daily and weekly inspections?			

Personal Protective Equipment (PPE)

Hard Hat	High Visibility Vest	Safety Boots	Gloves
Ear Protection	Saftey Glasses	Other	

Management

Assessed by:	Reported to:
Name: Date:	Name: Date:

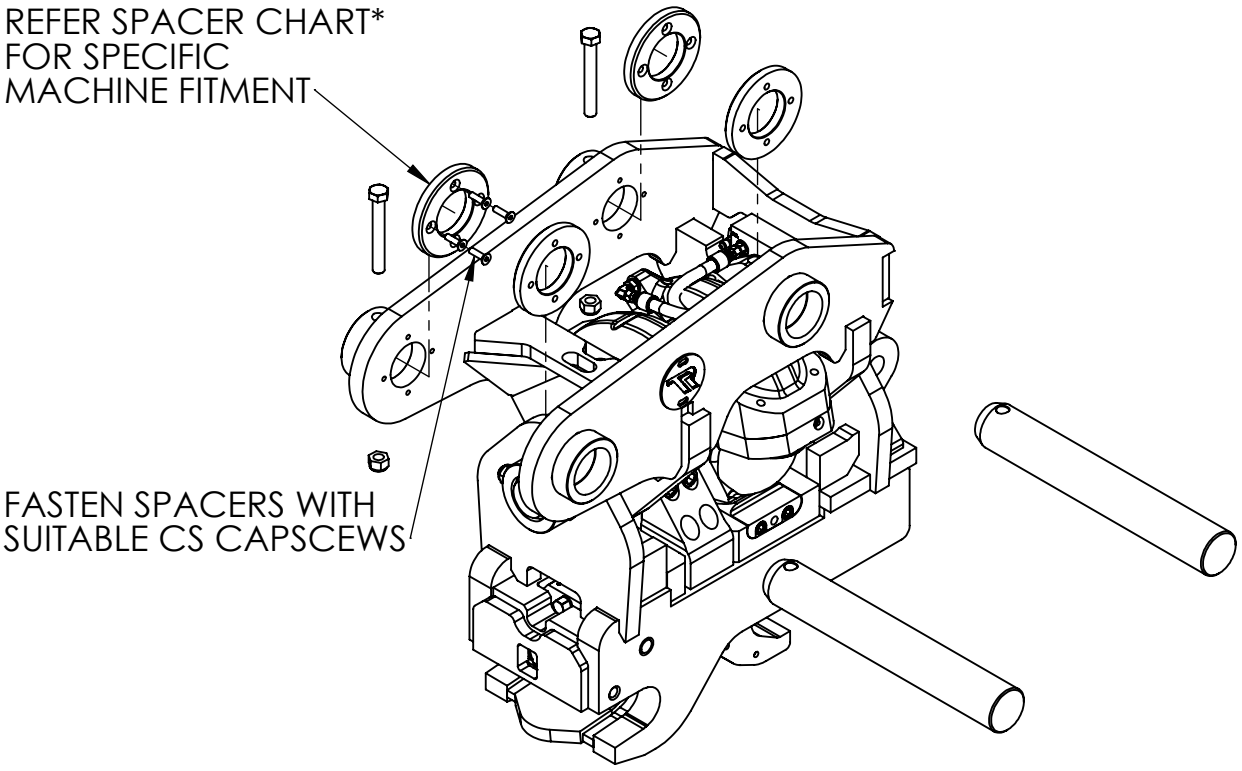
Operator's Name:	TR Tilt-Hitch Model:
TR Tilt Serial No.:	Date:

	MON	TUE	WED	THU	FRI	SAT	SUN
In Cab							
TR Tilt-Hitch Operating Controls							
Operating Instructions (Labels)							
Operating & Maintenance Manual							
Hydraulic System							
Wear or damage to hoses or fittings							
Security of hoses							
Hydraulic oil leaks							
TR Tilt-Hitch Coupler Base							
Wear and damage to bucket / attachment pins and retainers							
Security of mounting pins, locking bolts and nuts							
Is the attachment safe to use? YES or NO							
Lubrication							
Greasing in accordance with TR Tilt instructions							

Operator Signature:	Manager Signature:

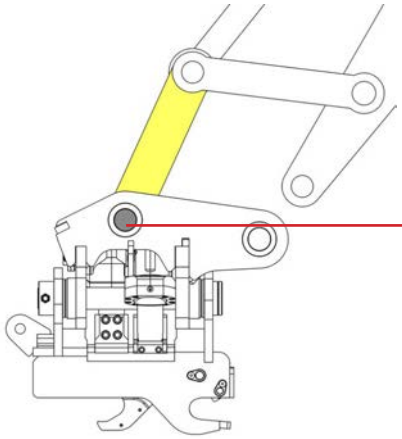
MACHINE FITMENT

Add appropriate spacers to your TR Tilt-Hitch depending on the excavator model you are fitting your unit to.
Refer to TR Tilts Ltd. website www.trtilts.com for correct spacers to be used on your excavator machine: **https://trtilts.com/spacers/**



NOTE: IN ADDITION TO SPACERS, USE APPROPRIATE SIE SHIMS SUPPLIED, AS REQUIRED.

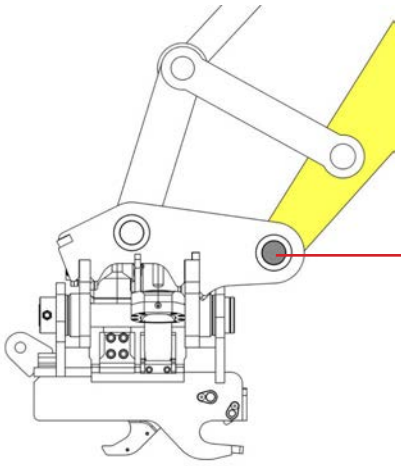
INSTALLATION



Align TR Tilt-Hitch to the rear link and insert the original hard pin

Fit shims and O-ring seals as required

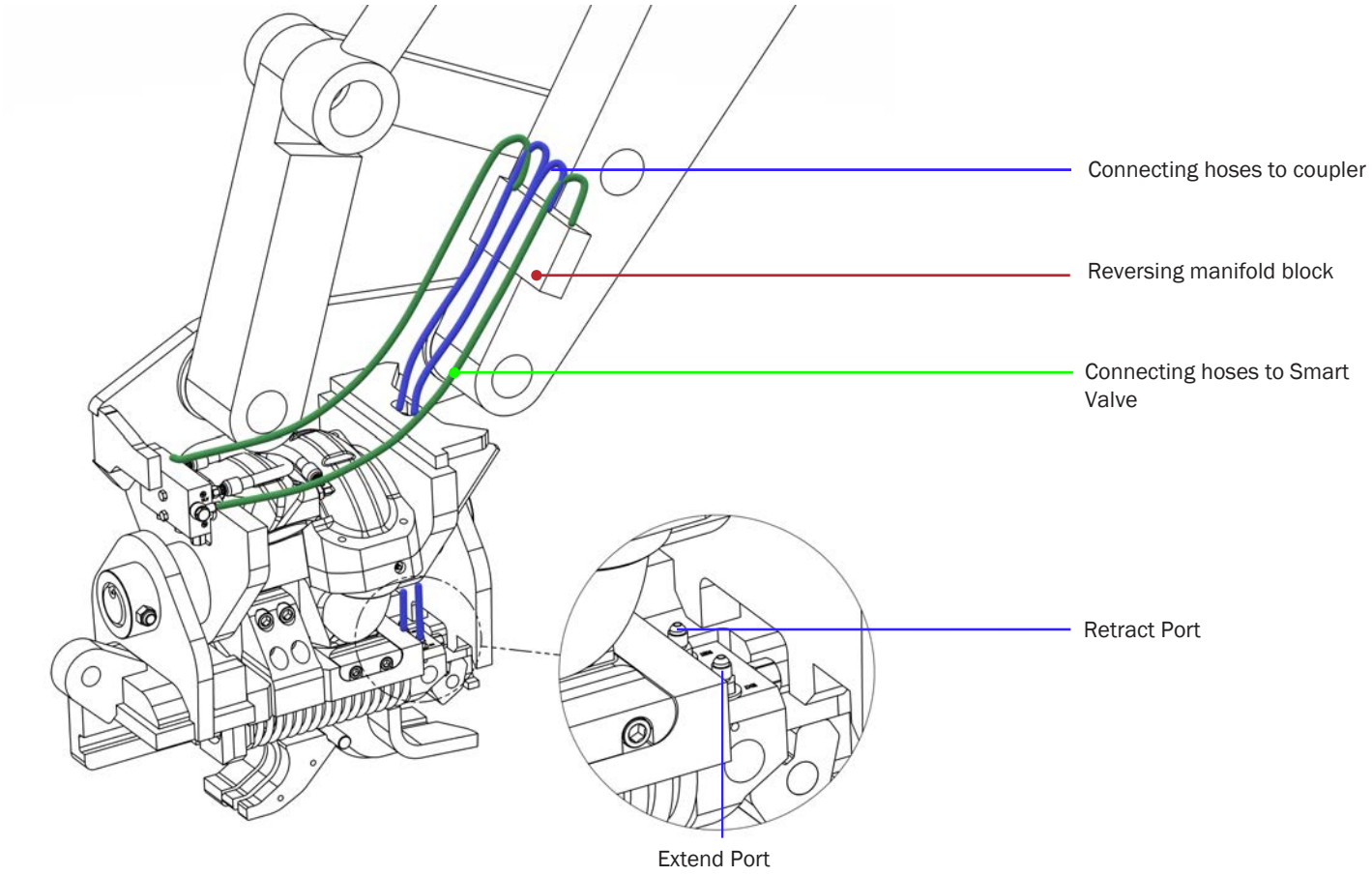
CHECK PINS ARE ORIGINAL EQUIPMENT MANUFACTURERS PINS



Align TR Tilt-Hitch to the dipper arm and insert the original hard pin

Fit shims and O-Ring seals as re-quired. Fit locking bolts and nuts to each pin to secure pins

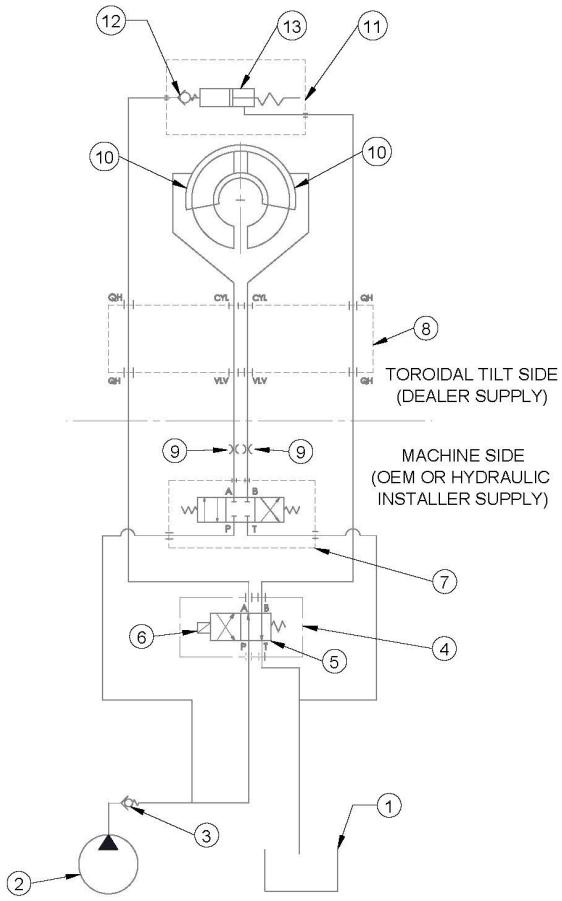
PLUMBING OVERVIEW



When Plumbing TR Tilt-Hitch to Machine

- Disconnect battery prior to any welding - failure to do so can result in dam age to the machines electronics
- Protect hydraulic cylinder rods from weld spatter
- Check for tolerance between latch and machine
- Ensure that the connecting hoses will not be pinched or damaged through the entire crowd linkage movement

PLUMBING CIRCUIT DIAGRAM



ITEM	DESCRIPTION	COMMENTS
1	OIL RESERVOIR	
2	PUMP	***MUST BE MINIMUM 2800 PSI*** ***MAXIMUM 5100 PSI***
3	CHECK VALVE	
4	COUPLER CYLINDER CONTROL VALVE	CAN BE OEM SUPPLY OR HYDRAULICS INSTALLER SUPPLY
5	SINGLE ACTING SOLENOID CONTROL VALVE	CAN BE OEM SUPPLY OR HYDRAULICS INSTALLER SUPPLY
6	CONNECT SOLENOID TO COUPLER BUZZER/ ALARM	
7	TILT CYLINDER CONTROL VALVE	CAN BE OEM SUPPLY OR HYDRAULICS INSTALLER SUPPLY
8	SMART VALVE	DEALER SUPPLIED
9	OPTIONAL FLOW CONTROL ORIFICE	
10	TOROIDAL CYLINDER	
11	COUPLER CYLINDER MANIFOLD	
12	PILOT OPERATED CHECK VALVE	SUN CKBD-XCN
13	COUPLER CYLINDER	

Note: Connect Solenoid to Buzzer/alarm - if alarm is inoperable the disconnect function cannot be performed.

HYDRAULIC REQUIREMENTS & PLUMBING

COUPLER CIRCUIT REQUIREMENTS	
Operating Pressure	2800-5100PSI
Hose/ Tube Size	1/4" Maximum up to and including 20T
	3/8" Maximum 35T and over
Port Connecting (Calibre supplied)	7/16" JIC Male up to and including 20T
	9/16" JIC Male 35T and over

The TR Tilt-Hitch Coupler base is fully compliant with ISO13031:2016 in all design and operational aspects.

The onus falls on the installer regarding the engagement/disengagement function to ensure:

- The control shall be protected against inadvertent activation.
- The acoustic signal shall be in continuous operation when the disengaging function is activated.
- Neither unlocking or disengagement shall be possible if the electrical signal for the acoustic signal device fails e.g. by cable failure/disconnection.
- The acoustic signal operation shall be activated automatically at every engine start to allow verification of signal to the operator.

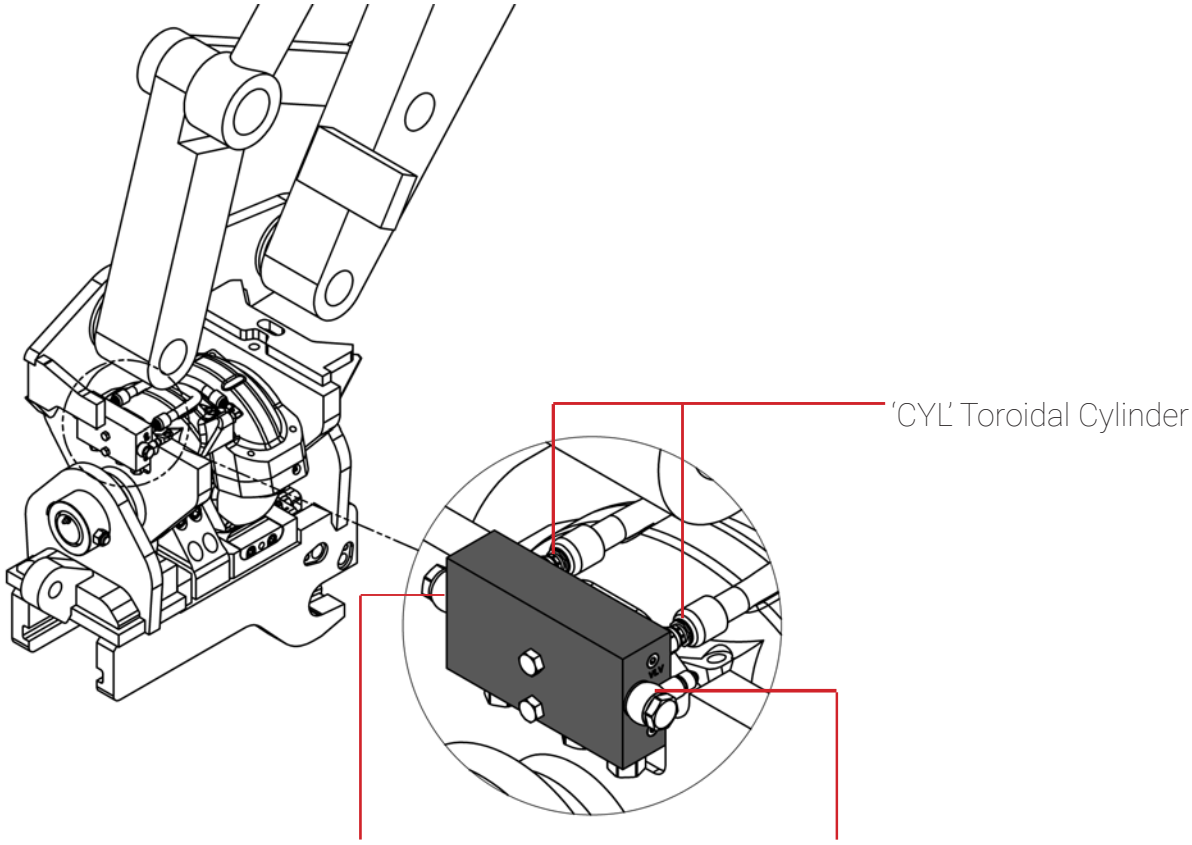
TILT CIRCUIT REQUIREMENTS

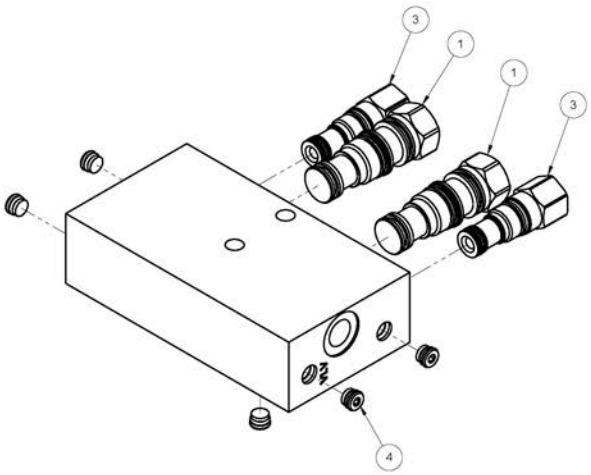
Machine Tonnage	Unit	6T	8T	14T	20T	35T	45T
Rod Size	mm	57.15	-	76.2	95.25	101.6	-
Stroke Angle	Deg	100	100	100	100	100	100
Displacement	L	0.37	-	0.86	1.69	2.05	-
Rotation Time *	S	6	6	6	6	6	6
Suggested Oil Flow	L/min	3.7	-	8.6	16.9	20	-
Operating Pressure	PSI	3200-3500	3200-3500	3200-3500	3200-3500	3200-3500	3200-3500
Port Connections		7/16” JIC Male	7/16” JIC Male	7/16” JIC Male	7/16” JIC Male	7/16” JIC Male	7/16” JIC Male
Hose/Tube Size (Minimum)	Inch	1/4”	1/4”	1/4”	1/4”	1/4”	1/4”

* Full 100 degree rotation i.e. stop to stop

SMART VALVE INSTALLATION

The connection hoses connect to the Smart Valve located on the TR Tilt-Hitch as shown below:





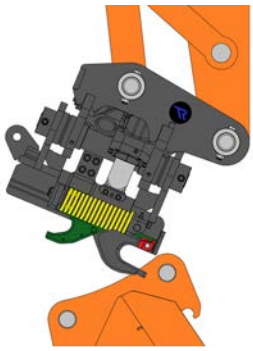
SMART VALVE PARTS:

1 - CHECK VALVE SUN CBCA-XNN
3 - RELIEF VALVE RDBX XWN 3500 PSI
4 - PLUG ZERO LEAK 5/16 - 24 UN 2A SHORT

OPERATING & ATTACHING

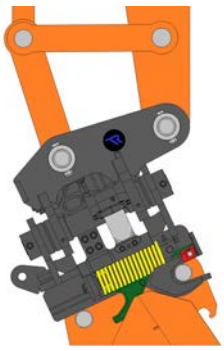
Following the installation of the TR Tilt-Hitch attachment/coupler/system onto the machine, consult with the hydraulic installer to determine the correct control of the TR Tilt-Hitch. This is dependent on the installer and the method used. Controls can vary and it is important that the operator clearly understands how each circuit is operated.

1



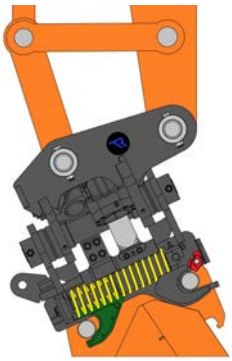
Buzzer ON. Fully retract slide so that the front safety latch is open. Line up attachment and engage front pin is operated.

2



Buzzer OFF. Crowd the coupler onto the attachment so that the rear pin makes contact. Begin extending slide and check that front safety latch closes.

3



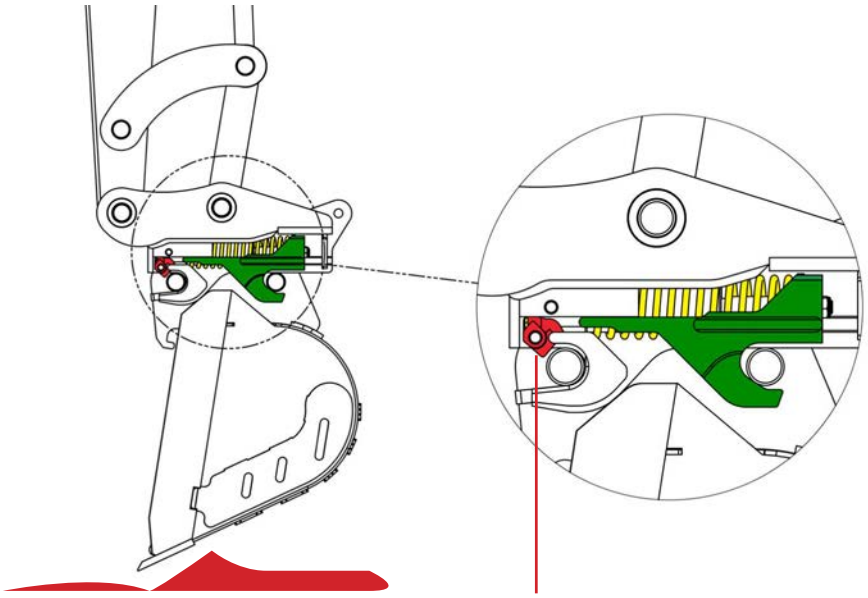
Buzzer OFF. Crowd the coupler onto the attachment so that the rear pin makes con-tact. Begin extending slide and check that front safety latch closes.

TO RELEASE ATTACHMENTS:

1. Place attachment on flat ground
2. Retract slide and crowd out of rear pin
3. Lift TR Tilt- Hitch away from attachment

CONNECTION TEST

Check all attachments are fitted correctly. The safety latch is designed to work in a closed position on the front pin. If the safety latch is not closed when attached to any attachment, check the rear jaw of the TR Tilt-Hitch is engaged with the rear pin.
If uncertain DO NOT USE THIS ATTACHMENT. Call your local dealer for assistance. Advise manufacturer of which attachment is not fitting and arrange modification before it is used.



SAFETY LATCH IN CLOSED POSITION

To ensure the TR Tilt-Hitch has engaged securely to pins on attachment:

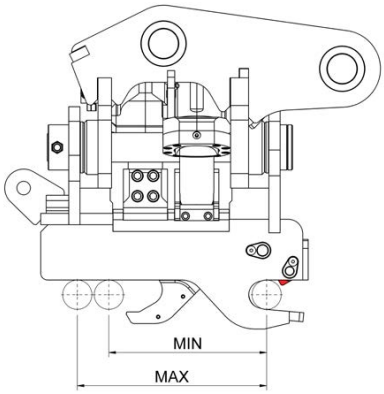
- Visually check the safety latch is engaged on the pin
- Test before operating by applying pressure to the attachment by rotating against the ground and away from machine
- Do not proceed with work unless the safety latch is in closed position on the front pin

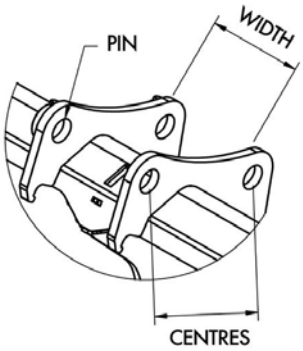
If the safety latch on the front pin is open **DO NOT OPERATE MACHINE**

CHECKING ATTACHMENTS

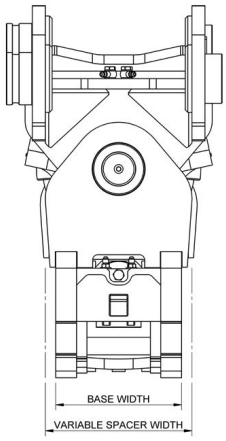
WARNING:
Check pin centre of TR Tilt-Hitch for all attachments.

Label will indicate pin centre range (minimum - maximum)





1. Check that each individual attachment's pin-centre fits the TR Tilt-Hitch to confirm the range on the label.
2. Check the inner width of the TR Tilt-Hitch width must be wider than the TR Tilt-Hitch base.
3. Check pin diameter spacers can be fitted to either the base of the TR Tilt-Hitch or between the inner side of the ears and the bosses of attachment.



It is highly recommended to fit spacers in the case of heavier applications, particularly on machines that are 14 tonne and above.

DANGER:
DO NOT USE ANY ATTACHMENT WITH THE SAFETY LATCH UP

GENERAL MAINTENANCE

DAILY CHECKS

1) Complete TR Tilt-Hitch. Pre-start Checklist - refer to page 18
2) Grease TR Tilt-Hitch regularly. It is important that all parts are greased (refer to pages 29-30).
3) Check Lifting Eye for damage. If in doubt do not continue to use - refer to page 34
4) Check dirt build up in rear safety latch.

WARNING - Maintenance Work
Maintenance work must be completed by competent personnel or assistance from TR Tilts Ltd.

WARNING - TR Tilt-Hitch Condition
A defective TR Tilt-Hitch could injure you or others.
Do not operate a TR Tilt-Hitch if it is defective, please contact TR Tilts or your purchase outlet immediately.

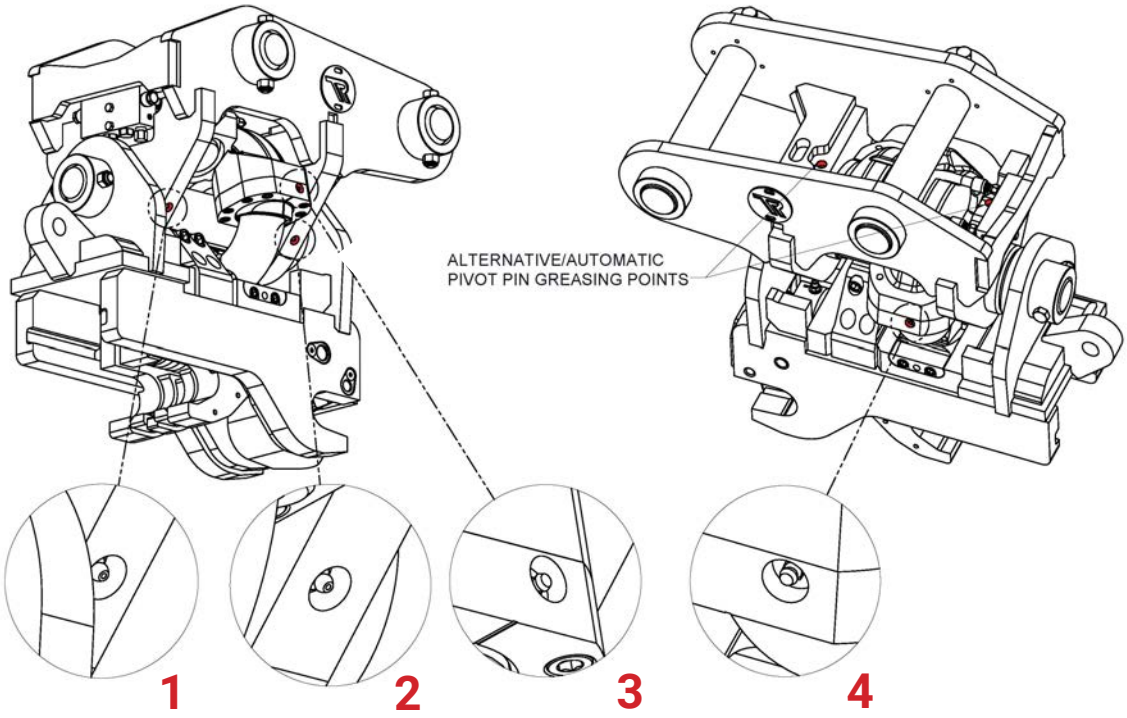
Replacement Parts
We recommend that you fit genuine replacement parts.
You will need to quote the TR Tilt-Hitch serial number stamped on the TR Tilt-Hitch data plate when ordering replacement parts.

Refer to page 38 - 39 for Parts Diagram information.

DAILY GREASING

It is recommended that the TR Tilt-Hitch is thoroughly greased ONCE DAILY for all **4** grease points OR every 2 hours if operating under water. This will help prolong the service life of and help maintain smooth operation of the attachment. All greasing can be preformed without removing the TR Tilt from your machine.

Grease points shown are below:



- It is essential that the Maintenance and Repair Log (page 36) is filled in at the time of carrying out maintenance or repairs on the TR Tilt-Hitch
- In the unfortunate event of an accident, this log may be vital evidence as to show compliance with Occupational Safety and Health requirements
- Work carried out on this TR Tilt-Hitch must only be by an authorised service agent.

SUGGESTED GREASING

SUGGESTED REQUIREMENTS:

- NLGI Grade 2
- Lithium Complex Base
- Preferred ones contain 3-5% Moly (MoS2/ Molybdenum Disulfide) additive
- Base Oil Viscosity @ 40 degrees C exceeds 300 cSt
- Exceeds 28kg on Timken OK Load Test
- Contains high tack / adhesive qualities / resists water washout

SUGGESTED PRODUCTS:

- Moreys BigFoot EP2
- Moreys Moly Complex EP2
- Moreys Super Red Premium Waterproof
- Cat Ultra 3Moly Grease NGI2
- Trans Diesel Super Red Lith Tac EP2
- Shell Gadus S3 V460D
- Mobil Grease XHP 462 Moly
- Any Mobil XHP 460 Grease
- Gulf Western Red Lith Tac

GENERAL NOTE:

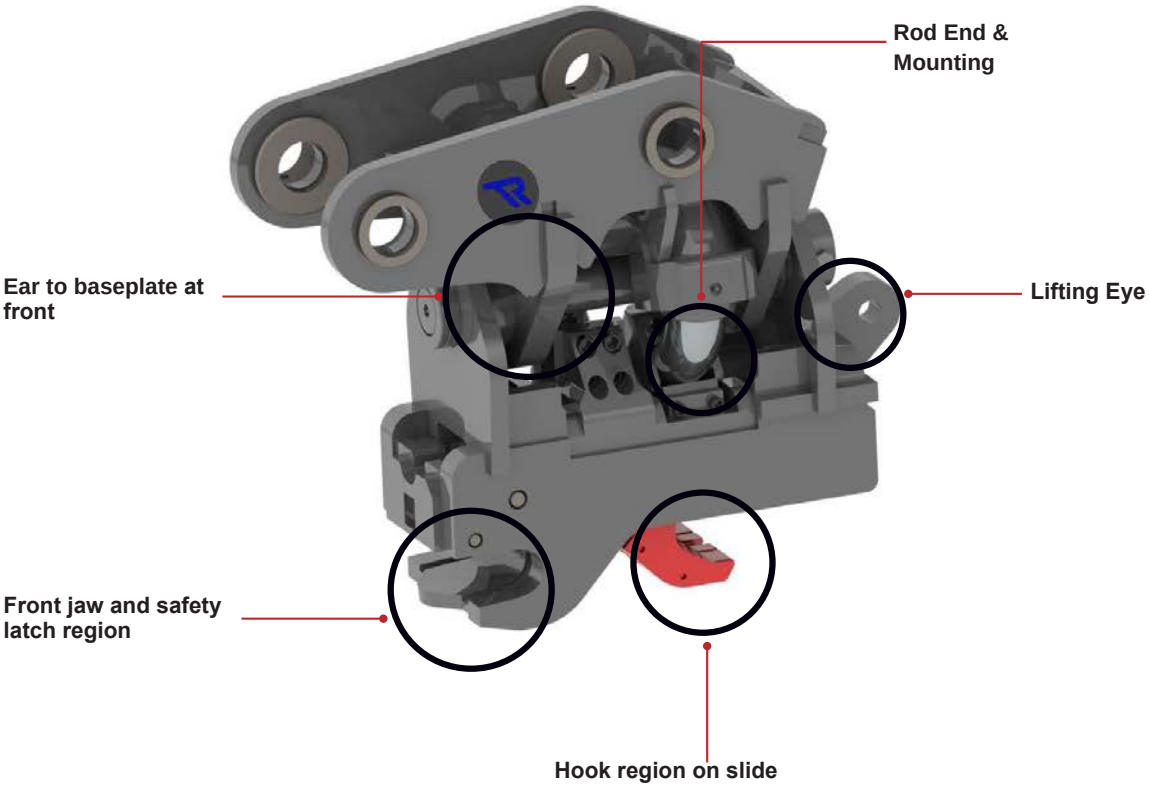
Recommended greases are generally hard to pump because of their high viscosity. A quality 10000psi gun will give guaranteed results.

500 HOUR PREVENTATIVE

VISUAL STRESS POINTS CHECK:
Visually check the entire TR Tilt-Hitch for any cracks, damage and excessive wear.

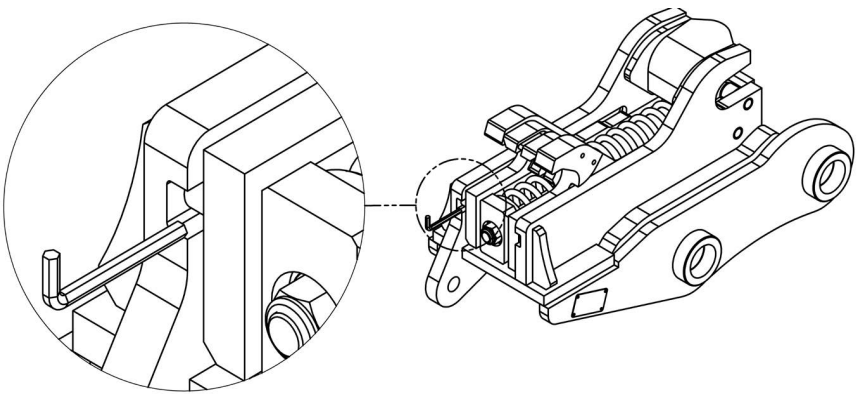
The image below highlights major stress areas where particular attention should be given during checks.

Should you find any cracks, damage or excessive wear, contact TR Tilts or your dealer immediately.



The slide hook will have free movement when new. To gauge the wear of the body and slide hook, place an allen key as shown below to test the space between the slide hook and body.
Please see the table below to verify the maximum wear of the body.

GUIDELINE FOR MAXIMUM WEAR	
6, 8, 14T	5mm
20, 35, 45T	7mm



If the Coupler body (base of TR-Tilt-Hitch) becomes worn or damaged in this area contact TR Tilts Ltd or authorised service centre immediately.

LATCH INSPECTIONS

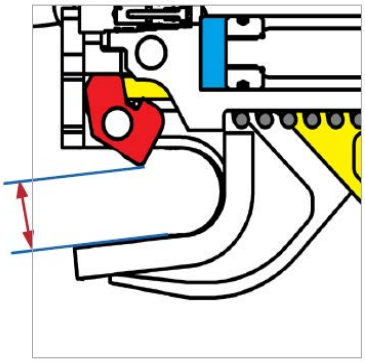
Manual Inspection of the front safety latch must to be carried out to ensure the safety latch movement is within acceptable safety tolerances as specified below. This is in addition to a daily visual check of the safety latch and usual wear and tear assessments. The Maximum Opening Distance should be measured and compared to the Safe Allowable Variation Table. If the Maximum Opening Distance is LESS than the Maximum Allowable Opening Distance for the TR Tilt-Hitch model it is safe to use.

FRONT LATCH SLIDE MEASUREMENT

- Slide must be extended to lock safety latch
- Measure gap as shown

Maximum Opening Distance

MAX OPENING



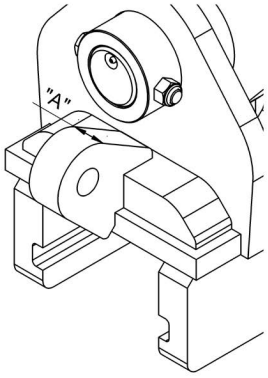
Safe Allowable Variation Table

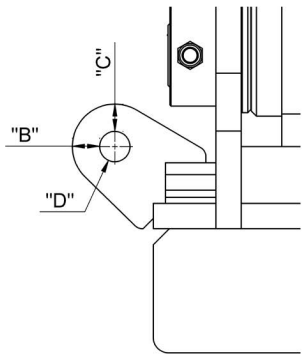
PIN	MAX OPENING
30	27
35	32
40	36
45	41
50	45
55	50
60	54
65	59
70	63
80	72
90	81
100	90

If the Maximum Opening Distance is greater than the Maximum Allowable Opening value for that coupler base, do not use the TR Tilt-Hitch. Please contact TR Tilts Ltd or your approved service agent for advice.

LIFTING EYE INSPECTION

Model (Tonnage)	Minimum Lifting Eye Width (mm)	Minimum Lifting Eye Width (mm)	Minimum Distance to Edge (mm)	Minimum Lifting Eye Hole (mm)
06	18	19	19	23.5
08	23	20.5	20.5	26.5
14	38	24.5	24.5	32.5
20	48	28.5	28.5	40.5
35	56	35.5	35.7	46.5
45	58	37.5	37.5	54.6



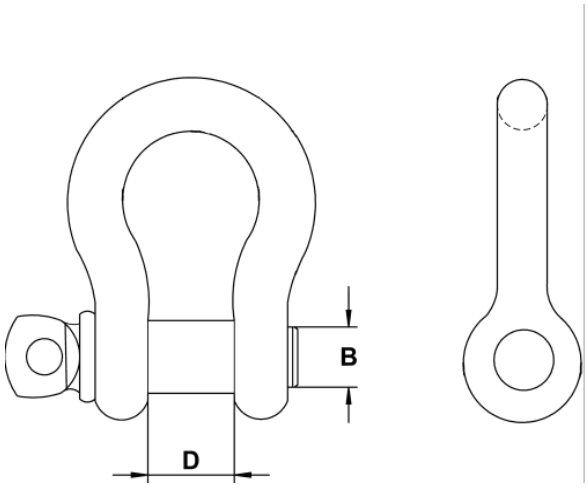


1. Visual check for cracking or deformation
2. Check for wear on the above chart
3. Damage to outer surface (A, B, C, D) must be with in the tolerances in above chart
4. If the Lifting Eye has exceeded recommended ratings - immediately stop using attachment

Should you find any deformation and cracks anywhere on the Lifting Eye, please get in touch with TR Tilts Ltd immediately.

SHACKLE TABLE

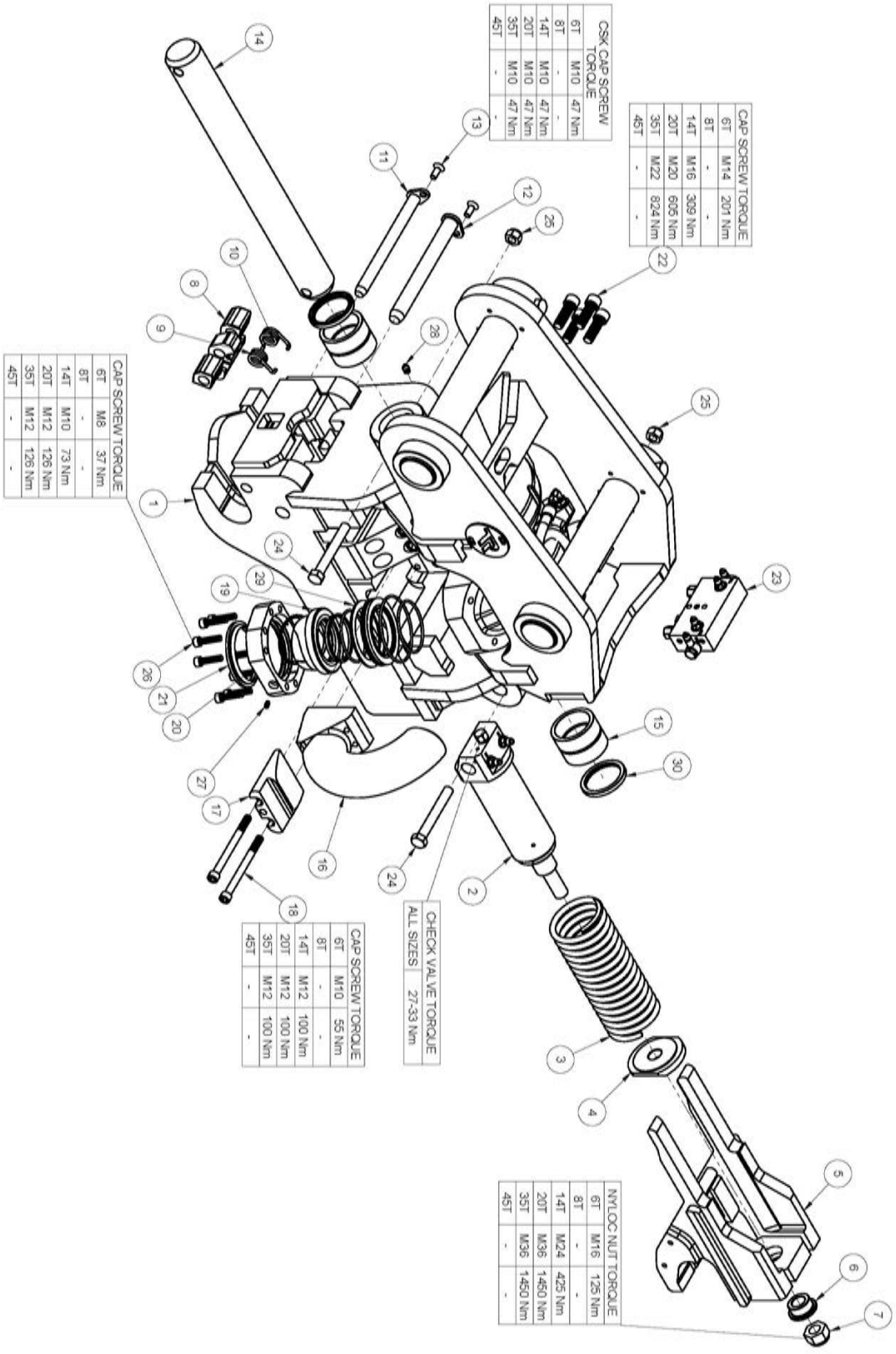
MODEL #	W.L.L.	Pin Diameter	Width	Standard
C02	1.00	11	17	AS2741
C03	2.00	16	20	AS2741
	2.00	16	22	RR-C-271
C04	2.00	16	20	AS2741
	2.00	16	22	RR-C-271
C06	3.25	19	27	AS2741
	3.25	19	27	RR-C-271
C08	4.25	22	32	AS2741
	4.75	22	31	RR-C-271
C14	8.50	28	43	AS2741
	8.50	28	43	RR-C-271
C20	12.00	35	51	AS2741
	12.00	35	51	RR-C-271
C35	17.00	41	60	AS2741
	17.00	42	60	RR-C-271
C45	22.00	50	74	RR-C-271



MAINTENANCE & REPAIR LOG

DATE	FAULT	REPAIR	BY WHOM

PARTS DIAGRAM



CSK CAP SCREW TORQUE	
6T	M10 47 Nm
8T	- -
14T	M10 47 Nm
20T	M10 47 Nm
35T	M10 47 Nm
45T	- -

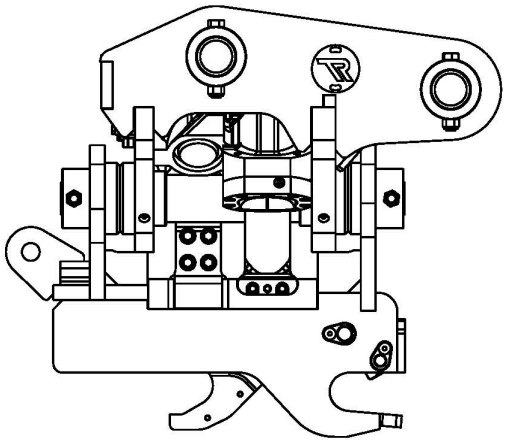
CAP SCREW TORQUE	
6T	M14 201 Nm
8T	- -
14T	M16 309 Nm
20T	M20 606 Nm
35T	M22 824 Nm
45T	- -

CAP SCREW TORQUE	
6T	M8 37 Nm
8T	- -
14T	M10 73 Nm
20T	M12 126 Nm
35T	M12 126 Nm
45T	- -

CAP SCREW TORQUE	
6T	M10 55 Nm
8T	- -
14T	M12 100 Nm
20T	M12 100 Nm
35T	M12 100 Nm
45T	- -

CHECK VALVE TORQUE	
ALL SIZES	27-33 Nm

NYLOC NUT TORQUE	
6T	M16 125 Nm
8T	- -
14T	M24 425 Nm
20T	M36 1450 Nm
35T	M36 1450 Nm
45T	- -



ITEM	DESCRIPTION	6T PART NUMBERS	8T PART NUMBERS	14T PART NUMBERS	20T PART NUMBERS	35T PART NUMBERS
1	TOROIDAL TILT WLDMNT					
2	CYLINDER	303207	-	303821	303521	304212
3	SPRING COIL	303212	-	303827	303527	304217
4	SPRING RETAINER	303213	-	303828	303528	304218
5	SLIDE ASSY SG	303092	-	303813	303513	304227
6	BOSS	203115	-	303826	303226	303226
7	NUT NYLOC	820268	-	820271	303541	303541
8	LATCH SAFETY	303217	-	303838	303538	304236
9	SPRING TORSION RH	303205	-	303840	303539	304224
10	SPRING TORSION LH	303206	-	303839	303540	304225
11	PIN LATCH WLDMT	303214	-	303170	303542	304237
12	PIN CYL WLDMT	303214	-	303837	303547	304220
13	CAPSCREW	303220	-	820189	820189	820189
14	PIN PIVOT	205565	-	205554	205947	206004
15	BUSH HARD	830320	-	200161	200216	205986
16	CYL ROD	204554	-	204518	204555	205966
17	WEDGE	204854	-	205021	204928	206002
18	CAPSCREW	204327	-	302883	205205	205205
19	GLAND	201091	-	302747	201203	205959
20	GLAND CAP	204269	-	203092	204007	205960
21	SEAL KIT	830427	-	830419	830428	830429
22	CAPSCREW	204855	-	200947	204938	206003
23	SMART VALVE	203118	-	203118	203118	203118
24	BOLT HEX HEAD	204326	-	820122	820125	820141
25	NUT NYLOC	820266	-	820268	820268	820270
26	CAPSCREW	820108	-	200946	201251	201251
27	GREASE NIPPLE	820445	-	820445	820445-	820445
28	GREASE NIPPLE	820253	-	820253	820253	820253
29	GLAND SEAT	201094	-	302749	201206	205959
30	SEAL OIL	205077	-	830314	830321	830327

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