

Titan Manufacturing

Quick-Hitch Handbook

Operator's Manual for Standard, Tilt
and Slide Quick-Hitches

Congratulations on purchasing your new Titan Quick Hitch. Please take the time to read this manual carefully to ensure you obtain optimum results from your new Quick Hitch. This manual will cover all Standard, Tilting and Slide Quick-Hitches.

CONTENTS

• FOREWORD	3
• 1.0 SAFETY PRECAUTIONS	4
○ 1.1 GENERAL SAFETY INFORMATION	5
○ 1.2 SAFETY PRECAUTIONS	6
• 2.0 MACHINE FAMILIARIZATION AND OPERATION	7
○ 2.1 FAMILIARIZATION	8
○ 2.2 GENERAL QUICK HITCH COMPONENTS	8
○ 2.3 PICKUP AND REMOVAL OF BUCKETS/ATTACHMENTS	9
○ 2.4 LIFTING	9
○ 2.5 TILTING	9
○ 2.6 INSTALLATION, SERVICE AND SPARE PARTS	10
○ 2.7 HYDRUALIC INSTALLATION	10
○ 2.8 HYDRAULIC PLUMBING FOR TILT HITCH	11
• 3.0 MAINTENANCE	12
○ 3.1 GENERAL SAFETY & PRECAUTIONS	13
○ 3.2 DAILY INSPECTIONS	13
○ 3.3 GREASE POINTS	14
• 4.0 TROUBLESHOOTING	15
○ 4.1 GENERAL TROUBLESHOOTING	16
• 5.0 WARRANTY INFORMATION	17
○ 5.1 GENERAL WARRANTY INFORMATION	18

FOREWORD

AVOID INJURY

Read, understand and follow all safety precautions and procedures found in this manual before attempting operation, inspection or maintenance of this equipment. Manufacturer cannot anticipate every possible circumstance that might involve a potential hazard. The warnings in this publication and on the product are therefore not all inclusive. If a tool, procedure, work method or operation technique not specifically recommended by the manufacturer is used, you must satisfy yourself that it is safe for you and others. You should also ensure that the product will not be damaged or made unsafe by the operation, lubrication, maintenance and/or repair procedures you choose.

GENERAL

- This manual contains procedures to aid the operator gain peak performance through effective, economical operation and the maintenance of the equipment.
- Before using the equipment, operators must thoroughly read and understand all Safety, Operation and Maintenance instructions found in this manual. Failure to follow the instructions given in this manual may lead to serious injury to persons or equipment failure.
- Operators and persons working with this equipment should continually study this manual until proper Safety, Operation and Maintenance procedures are completely understood.
- This manual describes the basic operating techniques. Skill is gained as the operator utilizes these techniques and perfects them with the actual equipment
- Some pictures may be different from your equipment, as technical improvement is continuous, manuals are periodically updated to reflect these changes.
- This manual may not contain optional equipment. Please contact an authorized Manufacturer for any optional equipment required.
- The contents of this manual and operation of the equipment are based on the use of genuine manufacturer sourced parts. Use of non-genuine replacement or modified parts is not recommended.
- Materials and specifications are subject to change without notice

NOTICE

- Owing to the policy of continual improvement, changes may be made by the manufacturer to any of its products without any obligation on the part by the manufacturer.
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1. SAFETY PRECAUTIONS

1.1 GENERAL SAFETY INFORMATION

AVOID INJURY OR DEATH

Do not operate or perform any maintenance on this hitch until all instructions found in this manual have been thoroughly read and understood.

Improper operation or maintenance of this equipment may cause accidents and could result in serious injury or death.

Always keep this manual with the hitch for further reference.

If manual is lost or damaged, call manufacturer for replacement or log onto Titan's website to download another copy (www.titanmanufacturing.com.au)

1. Most accidents, which occur during operation, are due to neglect of precautionary measures and safety rules. Sufficient care should be taken to avoid these accidents. Lubrication and maintenance services can be very dangerous and may cause injury. Therefore all precautionary measures, DANGERS, WARNINGS, CAUTIONS and IMPORTANT contained in this manual and on the hitch should be read and understood by all personnel before starting any work with or on the hitch.
 2. Operation, inspection, and maintenance should be carefully carried out, and safety must be given the first priority. Safety messages are indicated using the following safety alert symbols and signal words. The safety information contained in this manual is intended only to supplement safety codes, insurance requirements, local laws, rules and regulations.
 3. *Messages of safety appear in this manual and are identified by the words "DANGER", "WARNING", "CAUTION" and "IMPORTANT".*
 4. While using this equipment, be sure to work with great care to avoid damage to the hitch, and accidents from occurring.
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1.2 SAFETY PRECAUTIONS

AVOID INJURY OR DEATH

The proper and safe lubrication and maintenance for this hitch as recommended by the manufacturer, is outlined in the operator's manual for this hitch.

Improper performance of lubrication or maintenance procedures are dangerous and could result in injury or death. Read and understand this operator's manual before performing any lubrication or maintenance.

The serviceman or mechanic may be unfamiliar with many of the systems on this equipment. This makes it important to use caution when performing service work. Knowledge of the systems and components is important before removal or disassembly of any component.

Because of the size of some components on this equipment, the serviceman or mechanic should use correct lifting procedures and if unsure of their capabilities of lifting, should consider a two person or assisted lift.

The following is a list of basic precautions that must always be observed.

1. Read and understand this manual before operating, maintaining or repairing this equipment.
 2. Always wear protective glasses and protective shoes whenever working on this equipment. In particular, wear protective glasses when using hammers, punches or drifts on any part of this equipment. Use safety gloves, hood/goggles, apron and the protective clothing appropriate to the welding job being performed. Do not wear loose fitting or torn clothing. Remove all rings from fingers, loose jewelry; confine long hair and loose clothing before working on this equipment.
 3. Do not work on any hitch that is only supported by the machine. Always place the hitch on solid ground to reduce the risk of hydraulic failure of the machine.
 4. Relieve all pressures in hydraulic lines before disconnecting. Always make sure raised components are blocked correctly to ensure they cannot fall when lines are disconnected eg: The hook cannot fall and cause a pinch point if hands are in the way.
 5. Avoid back injury. Use a hoist when lifting components that weigh 20kg (45lb) or more. Make sure all chains, hooks, slings, etc. are in good condition and are the correct rated capacity to lift the weight you are lifting. Be sure hooks are positioned correctly. Lifting eyes are not to be side loaded during a lifting operation.
 6. Repairs which require welding should be performed only with the benefit of the appropriate reference information and by personnel adequately trained and knowledgeable in welding procedures. Determine the type of metal being welded and select correct welding procedure to provide a weld metal strength at least equivalent of that of the parent metal.
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2. HITCH FAMILIARIZATION AND OPERATION

2.1 FAMILIARIZATION

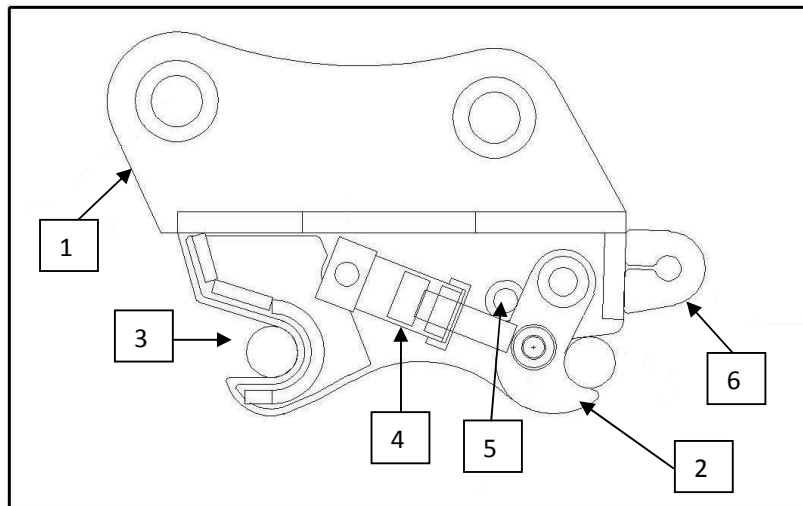
IMPORTANT

Read and fully understand this operator's manual before commencing any work with or to the hitch. Failure to follow this instruction manual could result in serious injury or damage to hitch.

All operators, service mechanics and personnel responsible for operation, inspection and maintenance of the Quick-Hitch should become thoroughly familiar with the controls and components and their functions before working with or on this equipment. Study the information in this section to become familiar with the controls and components of this equipment and how to use them.

2.2 GENERAL QUICK-HITCH COMPONENTS

The diagram below illustrates the major components of the *Hydraulic Quick Hitch*.



Item Number	Description
1	Ears
2	Hook
3	Pickup Jaws
4	Activating Ram
5	Safety Pin
6	Lifting Lug

2.3 PICKUP AND REMOVAL OF BUCKETS/ATTACHEMENTS

CAUTION

The pickup and removal of buckets/attachments can be a dangerous exercise if not carried out carefully.

Before picking up a bucket/attachment follow these steps to ensure maximum safety.

- Ensure safety pin is removed from quick hitch.
- Check that hitch is in 'open' position with the hook retracted inside the hitch.
- Position front pin on bucket/attachment inside the front jaws on the bottom of the hitch.
- Rotate the hitch until it picks bucket up off ground and the back pin of bucket/attachment sits firmly on the rear of the hitch.
- Activate the hydraulic ram to the 'closed' position from the machine switch.
- Rotate bucket in opposite direction to that of picking up to ensure it cannot fall off.
- Insert safety pin.

Before removing the bucket/attachment follow these steps to ensure maximum safety.

- Remove safety pin from quick hitch.
 - Rotate bucket fully as you would to pick up the bucket.
 - Activate the hydraulic ram to the 'open' position from the machine.
 - Keep bucket/attachment low to ground.
 - Slowly rotate the bucket until it is free of the rear hook the gently place on ground and remove the front jaws from the front pin.
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2.4 LIFTING

IMPORTANT

Before attempting to lift anything with your hitch, read and fully understand this operator's manual.

Whenever lifting with the Quick Hitch ensure that great care is taken. Always use a RATED Bow Shackle through the eye on the rear of the Quick Hitch. Never wrap a chain, rope, strap or other lifting device around the front pickup of the hitch. Never lift items with the Quick Hitch if a bucket is still attached and never attempt to lift with a chain, strap or lifting device attached to a bucket. Do not attempt to cantilever when lifting by using both the bucket crowd and the boom lifting together.

2.5 TILTING (TILT HITCHES ONLY)

The Tilting Quick Hitch was designed to assist operators in cutting batters and drains. It was not designed to be used for tilting rippers or hydraulic rock breakers. Attempting to use a rock breaker while tilted or without 'tilt-locks' in place will lead to premature failure of the Hitch and will void any warranty.

2.6 INSTALLATION, SERVICE AND SPARE PARTS

CAUTION

Installation should be carried out by a qualified mechanic. Installation can be dangerous if not carried out correctly.

There are grease nipples located for the lubrication of all bearing surfaces and pivot points.

These should be greased with the same frequency as other service points on the machine as recommended by the manufacturer.

The hydraulic ram body, shaft and shaft components are manufactured by Titan Manufacturing. Spare parts are available by quoting the serial number of the Quick Hitch.

Care should be taken when installing the Quick Hitch. Always use hardened, drilled and grooved pins in the top of the hitch. Hardened pins are NOT supplied with the Quick Hitch. When installing the hydraulic lines and hoses to the hitch, they should be checked on full rotation from crowd to dump of bucket for fretting or pinching of the hoses.

Please note that all hydraulic lines and hoses connected into the quick hitch and hydraulic circuit must be thoroughly cleaned and flushed prior to installation to prevent damage to the quick hitch check valve and the hydraulic system.

2.7 HYDRUALIC INSTALLATION

We recommend that the unit is hydraulically fed from the main pump supply through the bucket circuit. This will allow the unit, whilst operating, to be constantly clamped by machine main pressure.

The check valve on the hydraulic cylinder comes into operations only when the machine is turned off or in the event of a broken hydraulic hose line.

The Quick Hitch safety pin must be installed at all times to insure that in the event of a hydraulic failure, the hook cannot disengage.

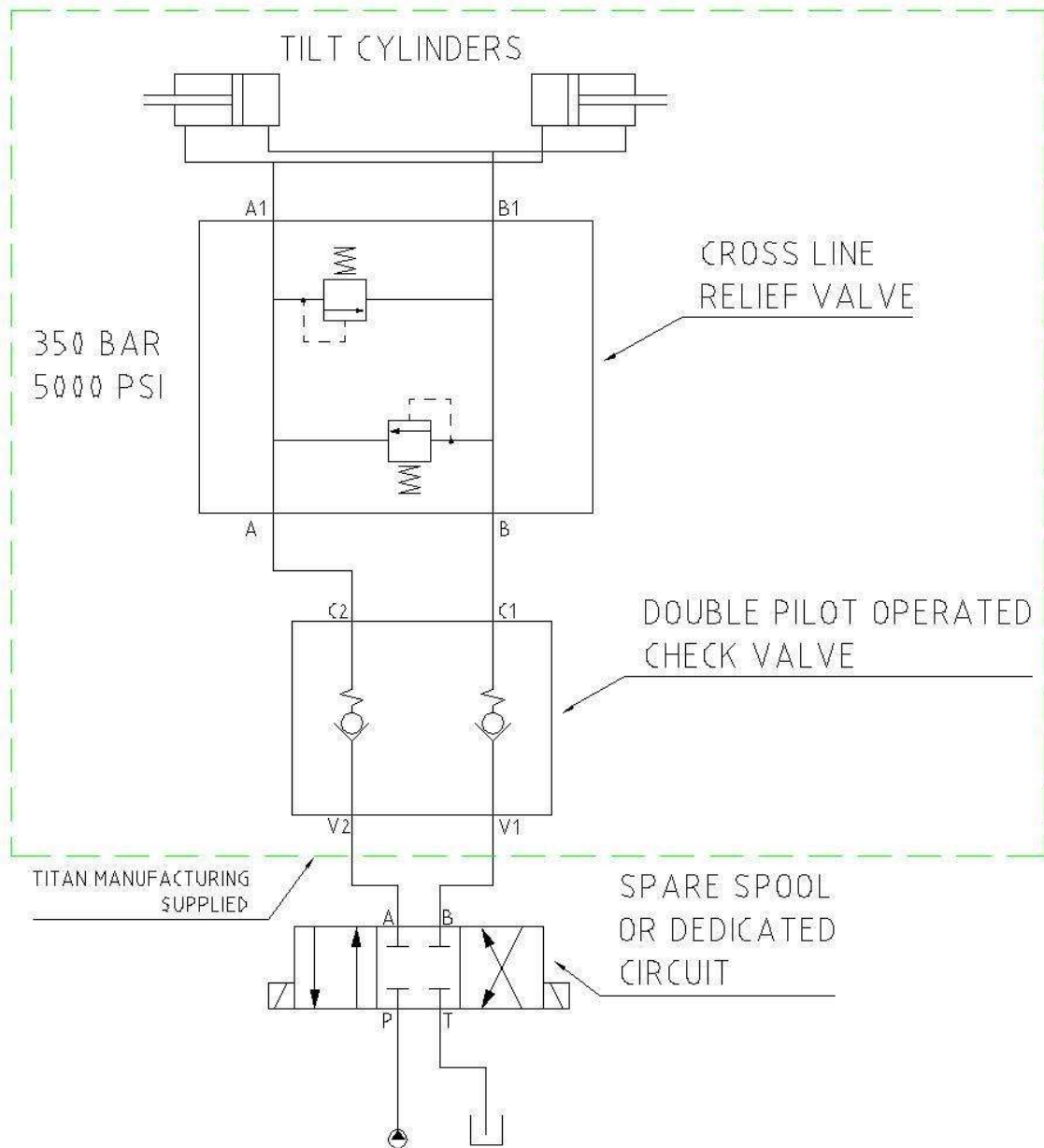
Further information:

Buckets and attachments pin centre's must be to the machine manufacturer's specifications, which act as the limit stops on the quick hitch.

When the unit is used as a lifting device through the attached lifting lug, with no attachment fitted, the clamping hook should be in the 'open'/retracted position. This is to reduce the stress on the gland nut of the hydraulic cylinder.

2.8 HYDRAULIC PLUMBING FOR TILT HITCH

The Hydraulic schematic below is the correct installation of the Internal Ram Hydraulic Tilt Hitch.



3.0 MAINTENANCE

3.1 GENERAL SAFETY & PRECAUTIONS

WARNING

Do not attempt other inspection or maintenance procedures other than those specified in the manual.

IMPORTANT

For major repairs, modifications and replacement parts please contact the manufacturer to ensure manufacturer's warranty is not void.

It is recommended that an inspection and maintenance schedule be developed and maintained with written records, on a regular basis to aid with any warranty claims. An example maintenance schedule is demonstrated below.

DATE	MAINTENANCE/WORK CARRIED OUT
4/9/2008	Greased all points specified, checked for cracks or damages, checked condition on hydraulic ram – all ok.
5/9/2008	Greased all points specified, checked for cracks or damages, checked condition of ram – all ok
6/9/2008	Greased all points specified, checked for cracks or damages, checked condition on hydraulic ram – all ok.

3.2 DAILY INSPECTION

WARNING

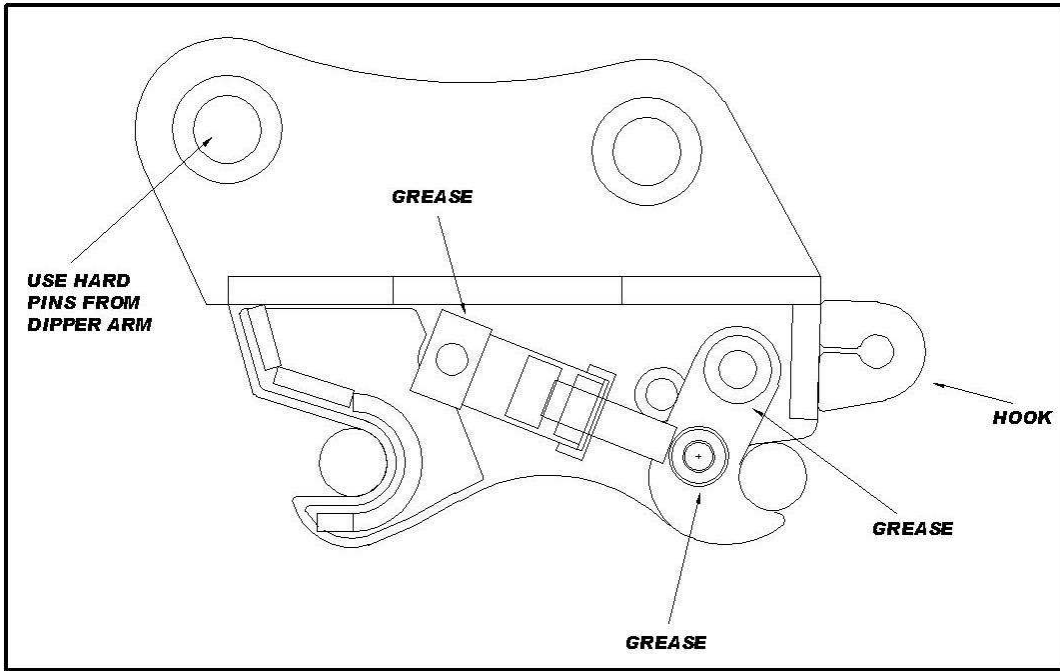
Some maintenance procedures can be dangerous and cause injury. Take great care whenever working on this quick hitch. Read and fully understand the safety precautions in manual before completing any work on the hitch.

Before starting daily operation, check over hitch for cracks, damage, or oil leaks.

1. Check that safety pin is with hitch.
2. Check that safety pin slides in hitch easily.
3. Grease all points specified in diagram in section 3.3.
4. Check for any cracks in welds.
5. Check for any deformation of front jaw.
6. Check for any deformation of hook.
7. Check condition of lifting lug.
8. Check for any oil leaks.
9. Check there is no score marks on hydraulic ram.

If all of the above items are in good order then it is safe to proceed with operation.

3.3 GREASE POINTS



4.0 TROUBLESHOOTING

4.1 GENERAL TROUBLESHOOTING

This troubleshooting information covers the components and systems as described in this manual. For more in-depth troubleshooting, repair or replacement of components or adjustment of valves, contact Titan Manufacturing or your machinery dealer for assistance.

PROBLEM	PROBABLE CAUSE	POSSIBLE REMEDY
1. Hook won't release	a. Safety Pin is still in place	Remove safety pin
	b. No oil pressure	Check oil level
	c. Damaged hydraulic hose	Replace hose
2. Hook will not stay clamped	a. Cylinder seal is damaged	Rebuild hydraulic ram. Replace seals.
	b. Hydraulic pressure weak	Adjust, repair or replace as necessary
	c. Air in hydraulic lines	Remove air from hydraulic system
	d. Damaged hydraulic hose	Check for leaks, replace as necessary
	e. Electrical Fault	Faulty Toggle Switch/broken wires Repair or replace as necessary
3. Front jaw will not fit around attachment pin	a. Attachment wrong size	Use correct size attachment
4. Safety pin won't fit	a. Wrong size pin centre on attachment	Use correct size attachment
	b. Safety pin bent	Contact manufacturer for a new safety pin
	c. Excess surface rust around safety pin	Sand rust off safety pin and clean safety pin bosses out. Re-grease all components.

5.0 WARRANTY INFORMATION

5.1 GENERAL WARRANTY INFORMATION

A. **LIMITED WARRANTY.** If you follow all instructions and use the equipment in the appropriate manner, the equipment will perform substantially.

B. **TERM OF WARRANTY.** Goods are hereby sold and warranted against any defect in workmanship appearing under proper usage within six (6) months from date of delivery.

C. **EXCLUSIONS FROM WARRANTY.** This warranty does not cover problems caused by your acts (or failures to act), the acts of others, or events beyond the reasonable control of the manufacturer or installer. The manufacturer reserves the right to make null and void the warranty should the equipment be modified, altered, damaged or put to any undue stress other than in the way the equipment was designed to perform (including but not limited to the Customer's failure to engage the safety pin during quick coupler operation).

D. **WORK AND/OR SERVICE CARRIED OUT ON EQUIPMENT BY ANYONE OTHER THAN MANUFACTURER.** Any work and/or service carried out on the equipment by anyone other than Titan Manufacturing shall make the warranty null and void unless the Customer obtains prior written consent before any remedial work is carried out.

E. **WARRANTY PROCEDURES.** In respect of all claims the supplier shall not be liable to compensate the Customer for any delay in either replacing or repairing the equipment or in properly assessing the Customers claims.

F. **NO OTHER WARRANTIES.** The limited warranty is the only direct warranty from the manufacturer (Titan Manufacturing). No express warranty is given as to fitness or suitability of the equipment for any specific application or use unless expressly endorsed by the supplier.

G. **RETURN OR GOODS.** Return of equipment from the Customer to the supplier/manufacturer can only be made with the prior written approval of the Supplier.

H. **DESIGN UPDATES.** The manufacturer reserves the right to make changes and improvements to its Goods and Equipment without incurring any obligations whatsoever to install or make any changes and improvements to Goods and/or Equipment already supplied.

I. **TRAINING ON USE OF EQUIPMENT.** The Customer shall insure that its operator is licensed to operate the Equipment which the Supplier's Goods and/or Equipment form part thereof and is trained in the correct use of the Goods and/or Equipment.

J. **The Warranty does not extend to components or accessory equipment** which is not manufactured by the Supplier. The Supplier agrees to assign to the Customer on request any manufacturer's warranty under contract or by implication or operation of law to the extent possible.

K. **The Supplier warrants that the Work will be carried out in accordance with all relevant laws** in an appropriate and skilful way, in accordance with the plans and specifications supplied by the Customer using materials that are good and suitable for the purpose for which they are intended to be used.

L. **The Customer shall inspect the Goods on delivery** and shall within seven (7) days of delivery notify the Supplier of any alleged shortage in quantity, damage or failure to comply with the description. The Customer shall afford the Supplier an opportunity to inspect the Goods within a reasonable time following delivery if the Customer believes the Goods are defective in any way. If the Customer shall fail to comply with these provisions the Goods shall be conclusively presumed to be in accordance with the terms and conditions and free from any damage.

M. **All labour costs** in replacing defective parts and all costs of transportation of such parts are the responsibility of the Customer.

N. **The Customer agrees** that it will not make any claim against the Supplier and further indemnifies the Supplier against all loss or damage to person or property that may be occasioned due to the Customer's failure to carry out operator training in the correct use of the Goods. For the avoidance of doubt this includes any and all loss or damage due to negligence on the part of the Customer, its officers, employees or agents.