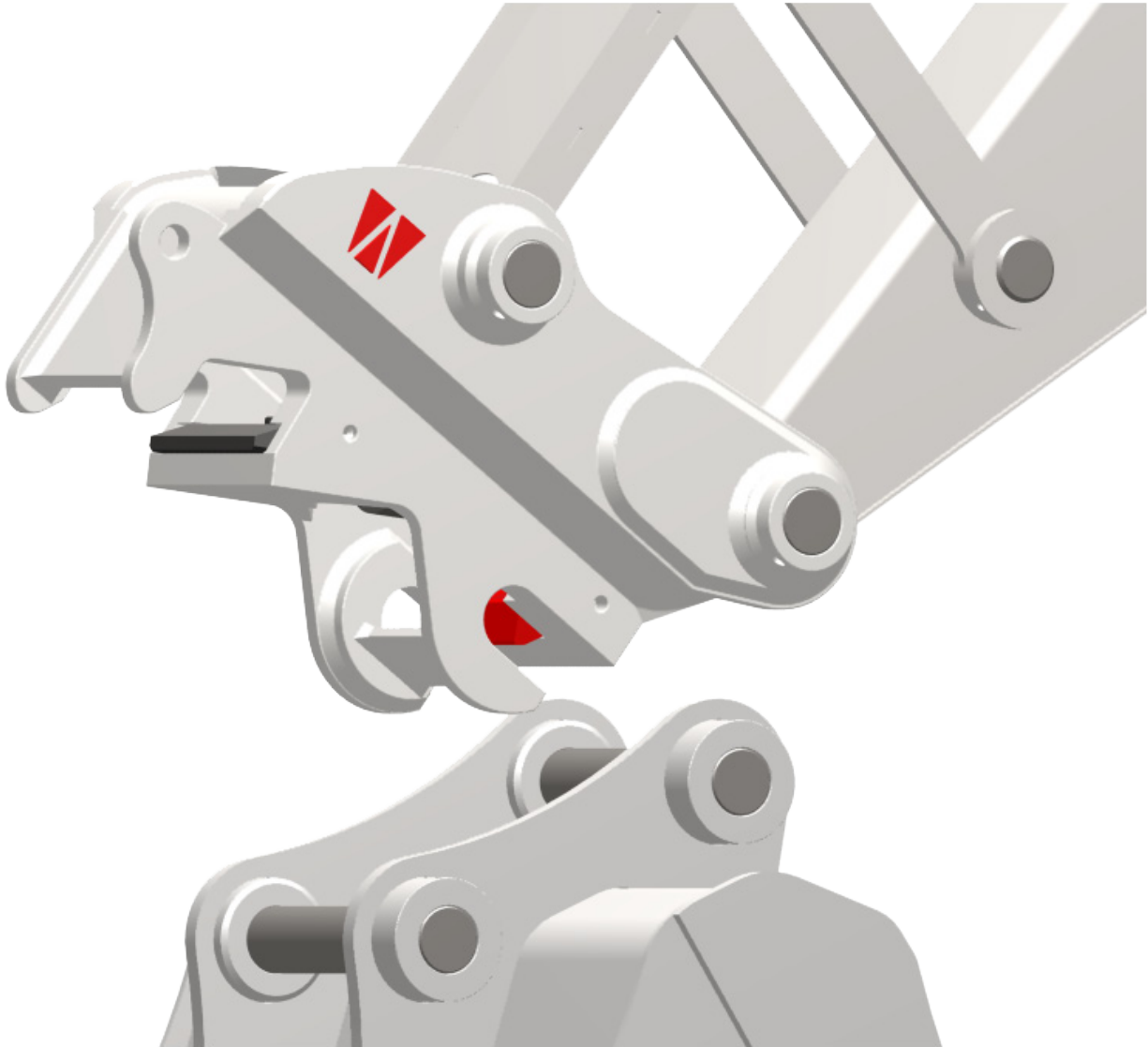


# I-LOCK™ COUPLER

## Operators Manual



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**THIS OPERATORS MANUAL MUST BE KEPT WITH THE CARRIER MACHINE AT ALL TIMES**



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Congratulations on your purchase of the I-LOCK™ coupler. You have just bought the **SAFEST** coupler in the world.

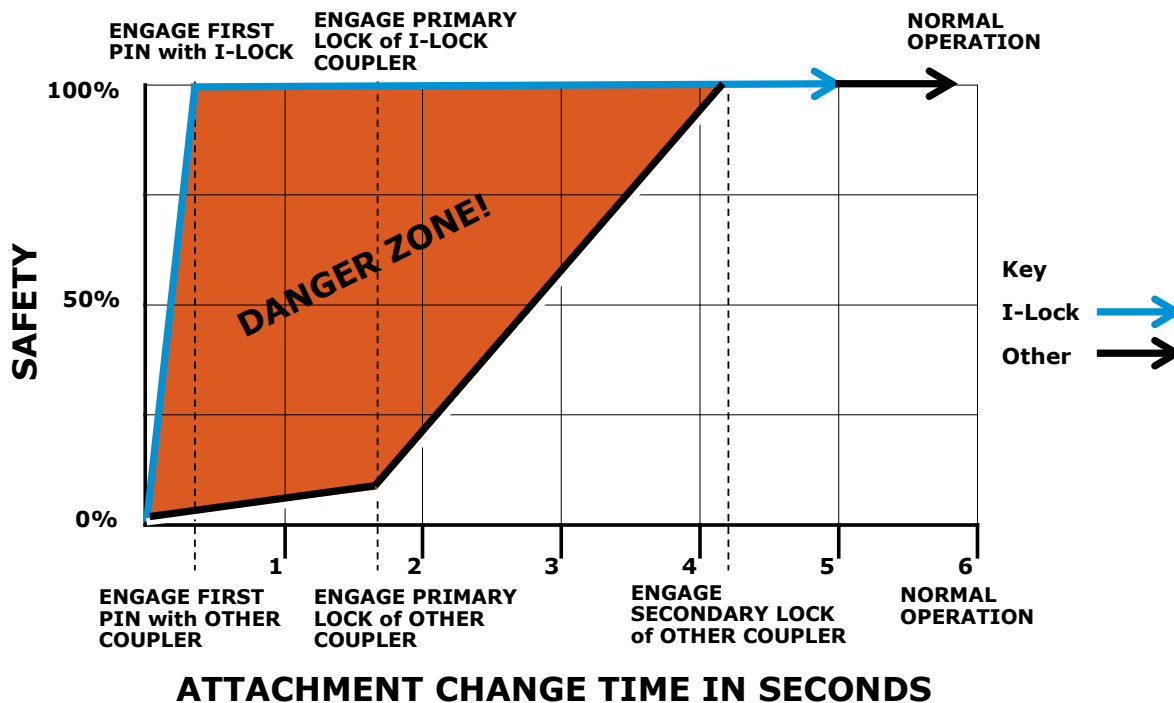
## 1.0 I-LOCK™ SAFETY SYSTEM

The I-LOCK™ Coupler by Wedgeloek must be installed correctly utilizing our 3 hose circuit technology. Correct installation ensures that the I-LOCK™ Coupler's built in safety features operate in accordance with the way in which the coupler has been designed.

### INSTANT SAFETY

Most accidents occur in the first 5 seconds of latching an attachment. Your coupler is fitted with the I-LOCK™ SAFETY SYSTEM which ensures that your attachment is locked the **INSTANT** that it is latched (see figure 1.0.1). This means there is no danger of dropping the attachment if the primary lock is not engaged completely. The I-LOCK™ SAFETY SYSTEM operates independently of the primary lock.

## MOST SERIOUS ACCIDENTS HAPPEN IN THE FIRST 5 SECONDS OF LATCHING THE WEDGELOCK ADVANTAGE



(Fig 1.0.1)

## OPERATOR CONTROLLED SAFETY KNUCKLE

The attachment can only be disconnected completely from the I-LOCK™ Coupler after the intentional activation of the **SAFETY KNUCKLE** by the operator. The release switch has a built in time delay. To retract the safety knuckle the operator manually activates the switch which allows a 10 second timeframe to disengage the attachment. After 10 seconds the safety knuckle in the I-LOCK™ mechanism will automatically reset. If the attachment **has not** been removed completely the automatic reset of the safety knuckle will render the attachment into a safe situation again. If the attachment **has** been removed the automatic reset of the safety knuckle ensures that the coupler is ready to reconnect to the next attachment.

## WEDGE LOCKING PRINCIPLE

Another safety feature of the I-LOCK™ Coupler is the **Wedge Locking Principle**. The locking principle of the primary wedge provides at least 2.5 times the locking force compared with a swinging jaw coupler. This assures that both attachment pins are locked firmly to the coupler body minimizing the wear in the locking area of your coupler.

### 1.1 INTEGRATED DESIGN FEATURES:

Integral with the solenoid operated directional control valve are 2 pressure reducers set to: Locking Pressure - 2100 PSI (145 BAR) and Unlocking Pressure - 3750 PSI (260 BAR). These ensure that the hydraulic circuit is not over pressurized.

The solenoid valve is only energized to release the attachment. This will ensure that in the event of an electrical failure the primary locking mechanism will stay in the locked position.

The electrical circuit is protected by a 10 Amp fuse.

Operation is by a dual rocker switch arrangement complete with warning buzzer. The warning buzzer is present to alert the operator that the electric circuit is still live and the attachment can be released.

The unique one piece hydraulic cylinder body eliminates port welding and potential feeder tube damage. Integrated into the cylinder is a 'Pilot Operated Safety Check Valve' which locks the pressure in the extend side of the cylinder in the event of hose failure anywhere in the coupler circuit. In addition, on the larger models, an internal pressure relief valve is fitted to the cylinders to protect against the potential of mechanically induced pressure spikes.

## 1.2 SAFE COUPLER USE



Your I-LOCK™ Coupler will extend the overall length of the dipper arm.  
**ATTACHMENTS MAY HIT THE CABIN AND OR BOOM**



Your I-LOCK™ Coupler may enable the operator to use buckets and attachments for which it is not designed, i.e. oversized buckets or attachments.  
**ONLY USE ATTACHMENTS THAT ARE DESIGNED SPECIFICALLY FOR THE HOST MACHINE.**



Never place your hands inside the coupler or anywhere near the linkage mechanism while the hydraulic system is pressurized or the carrier machine is turned on.



Never use the Primary Locking Wedge or I-LOCK™ Safety Knuckle as a lifting device.  
**FOR INFORMATION RELATING TO “SAFE LIFTING PROCEDURES” REFER TO SECTION 5 OF THIS MANUAL.**



Always fully engage the coupler to the bucket or attachment even if you just want to lift or move the attachment to a different position on your work site.



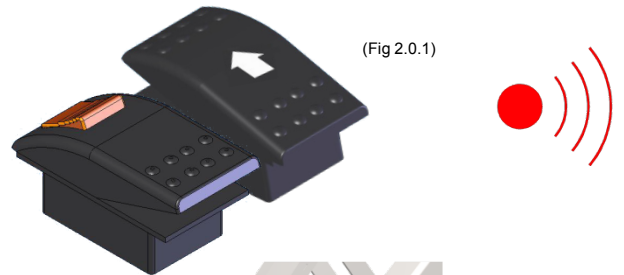
Any damage deemed by Wedgeloock to have been caused by operator misuse will invalidate the manufacturers warranty set out in section 6.0 of this manual.

## CONNECTION AN ATTACHMENT

### 2.0 CONNECTING TO THE FIRST PIN (Front Pin)

#### Switch Mode

The Lock-Out Switch is ON  
 The Momentary Switch is OFF  
 (Fig 2.0.1)

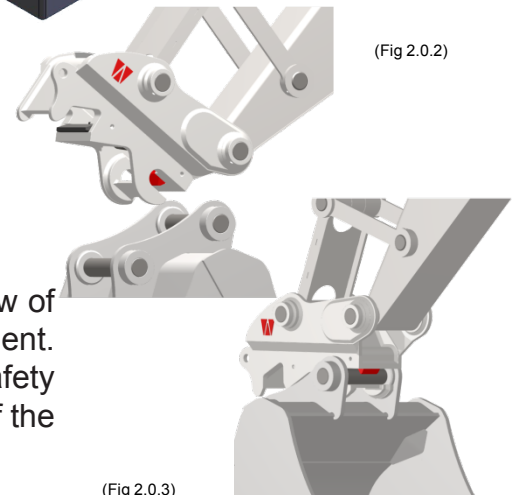


#### Buzzer Mode

The Audible Buzzer is sounding  
 (once every second)

#### I-Lock™ Coupler Mode

The Primary Wedge is retracted  
 The Safety Knuckle is in the safe position  
 (Fig 2.0.2)



#### Operator Action

Using the excavator arm control levers move front jaw of the coupler over the first pin (front pin) of the attachment. Seat the first pin into the front jaw. The I-LOCK™ Safety Knuckle will instantly lock the coupler to the first pin of the attachment.  
 (Fig 2.0.3)

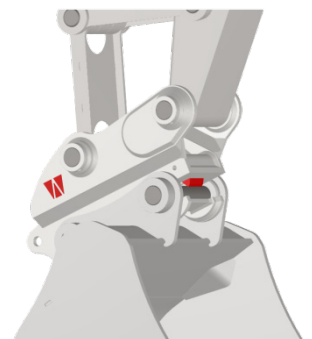
(Fig 2.0.3)

### 2.1 CONNECTING TO THE SECOND PIN (Rear Pin)

#### Operator Action

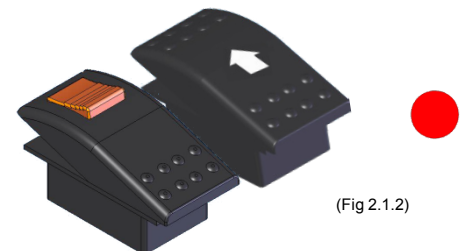
Using the excavator arm control levers simultaneously lift and crowd the attachment until the second pin (rear pin) is seated in the rear jaw section. Deactivate the Lock-Out Switch – continue to activate the crowd lever, extending the crowd cylinder - this will extend the Primary Wedge, locking the second pin.  
 (Fig 2.1.1) **RATTLE TEST TO CONFIRM CONNECTION**

(Fig 2.1.1)



#### Switch Mode

The Lock-Out Switch is OFF  
 The Momentary Switch is OFF  
 (Fig 2.1.2)



(Fig 2.1.2)

#### Buzzer Mode

The Audible Buzzer is OFF

#### I-Lock™ Coupler Mode

The Primary Wedge is extended  
 The Safety Knuckle is in the safe position

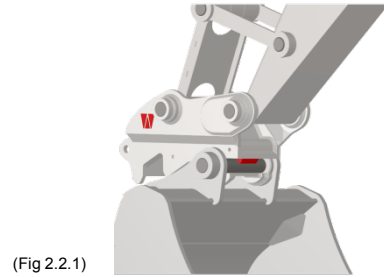
## DISCONNECTING AN ATTACHMENT

### 2.2 TO DISENGAGE THE SECOND PIN (Rear Pin)

**Operator Action**

Using the excavator arm control levers position the attachment slightly above the ground so the second pin (rear pin) is lower than the first pin (front pin). Activate the Lock-Out Switch, this will retract the Primary Wedge, unlocking the second pin.

(Fig 2.2.1)



(Fig 2.2.1)

**Switch Mode**

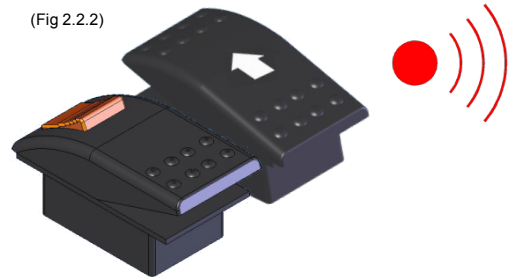
The Lock-Out Switch is ON  
The Momentary Switch is OFF  
(Fig 2.2.2)

**Buzzer Mode**

The Audible Buzzer is sounding  
(once every second)

**I-Lock™ Coupler Mode**

The primary wedge is now retracted  
The safety knuckle is in the safe position  
The second pin is disengaged from the rear jaw



(Fig 2.2.2)

### 2.3 TO DISENGAGE THE FIRST PIN (Front Pin)

**Operator Action**

\*Depress the Momentary Switch for more than one second to activate the release of the Safety Knuckle. Using the excavator arm control levers crowd the I-Lock™ Coupler away from the first attachment pin.

(Fig 2.3.1)

**Switch Mode**

The Lock-Out Switch is ON  
The Momentary Switch is ON  
(Fig 2.3.2)

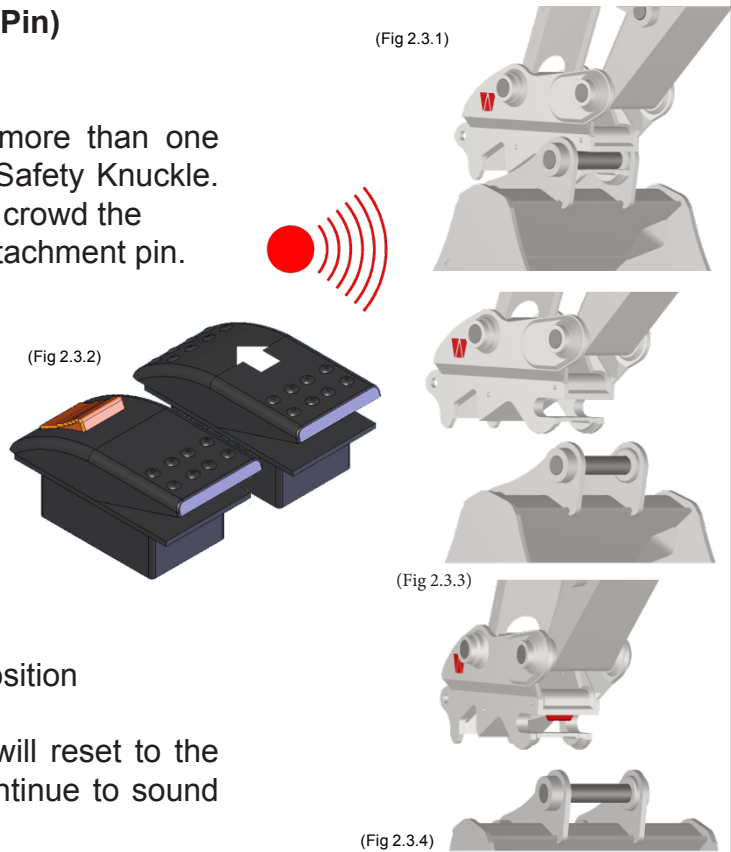
**Buzzer Mode**

The Audible Buzzer is sounding  
(twice every second)

**I-Lock™ Coupler Mode**

The Primary Wedge remains retracted  
The Safety Knuckle is in the release position  
(Fig 2.3.3)

After 5 to 10 seconds\*\* the safety knuckle will reset to the safe position and the Audible Buzzer will continue to sound once every second (Fig 2.3.4)



(Fig 2.3.1)

(Fig 2.3.2)

(Fig 2.3.3)

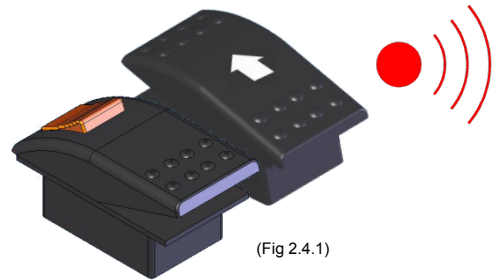
(Fig 2.3.4)



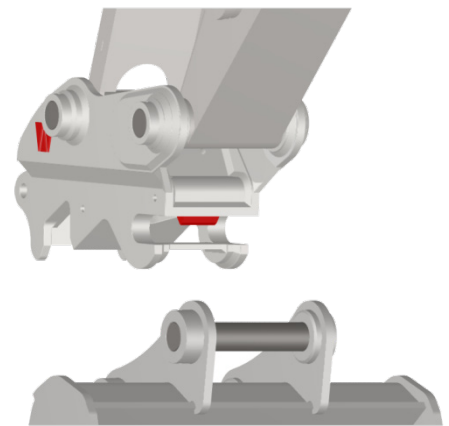
## 2.4 READY TO RE-CONNECT

### NOTE – Please read carefully

As soon as the Safety Knuckle automatically resets to the safe position the Audible Buzzer will return to sounding once every second. (Fig 2.4.1)



The I-Lock™ Coupler is ready to be re-connected to the next attachment. (Fig 2.4.2)



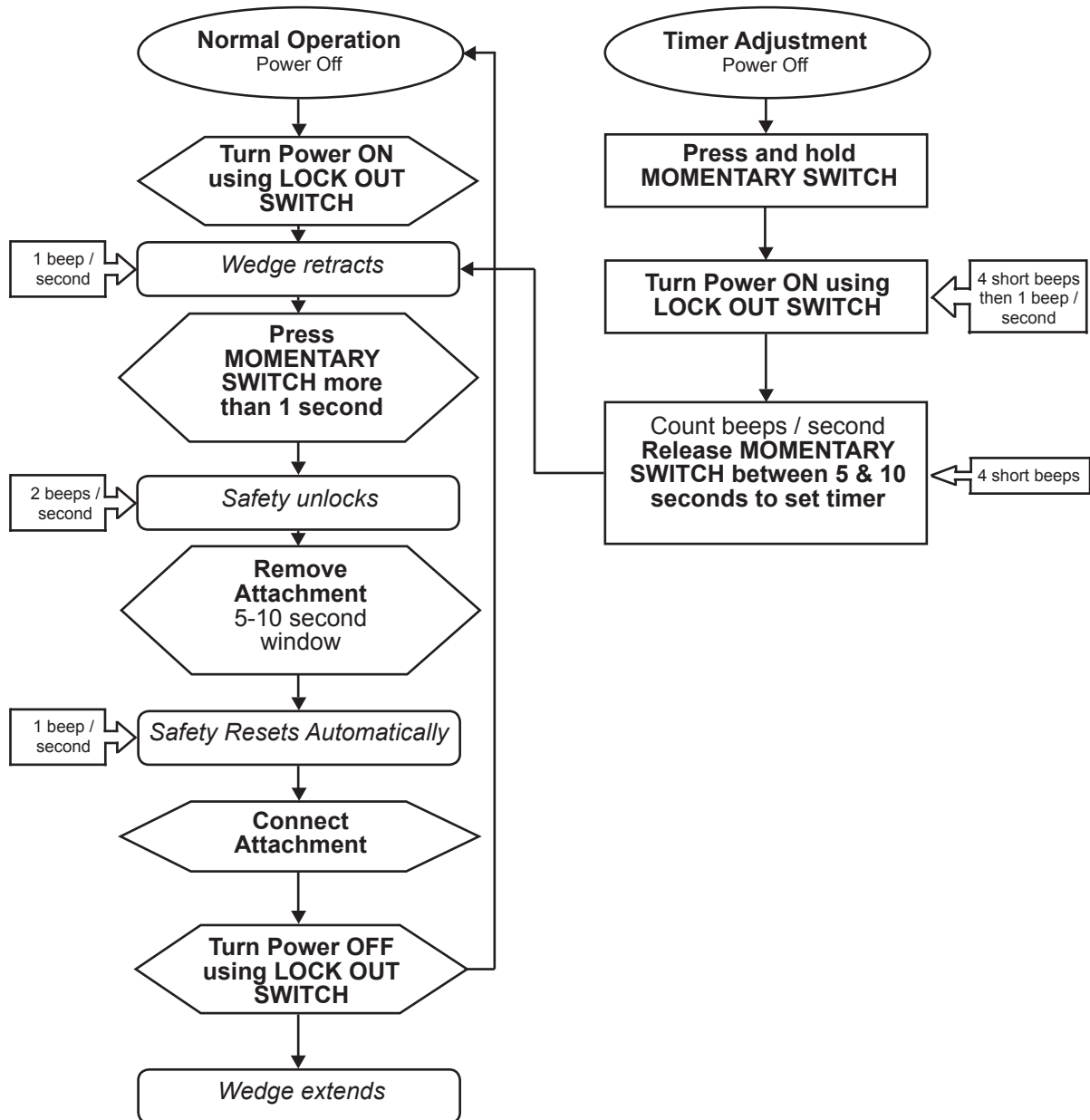
To re-connect to your next attachment refer to:  
**SECTION 2.0 CONNECTING TO THE FIRST PIN**

## PLEASE READ CAREFULLY

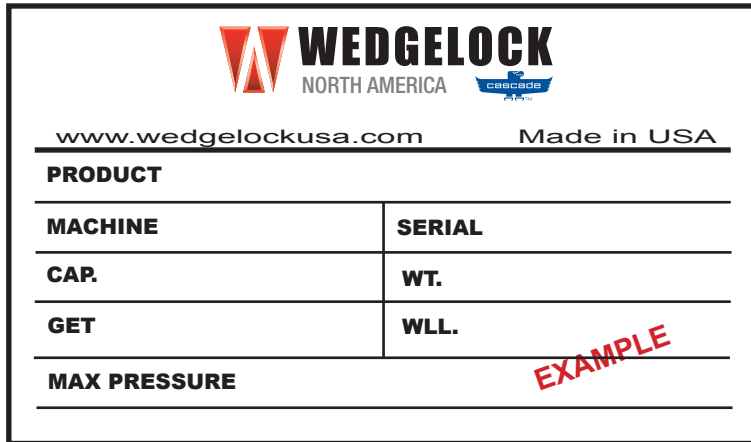
\*Depressing of the Momentary Switch to activate the release of the Safety Knuckle requires the operator to press down the rocker for at least ONE second. After ONE second remove your finger from the rocker to allow the Momentary Switch to reset. (the rocker will automatically return to the rest position)

\*\*The resetting of the Safety Knuckle is controlled by a timer, factory set at 10 seconds. To adjust the timer refer to 2.5 Normal Operating Procedure - (Flow Diagram)

2.5 NORMAL OPERATING PROCEDURE - (FLOW DIAGRAM)



### 3.0 COUPLER IDENTIFICATION



All Wedgelock Couplers are fitted with an Aluminum Data Plate (FIG 3.0.1). Information pertains to the product code, the carrier machine, product serial number, working load limit (for lifting purposes) and the maximum operating pressure. If any of the cells are left blank it means that the information is non-applicable to this attachment

(Fig 3.0.1)



**WARNING:** Wedgelock Quick Couplers that incorporate a factory fitted lifting eye will be labeled and marked with a Working Load Limit (WLL). The lifting eyes are designed in accordance with BS-2573:Part1. It is highly recommended that a Bow Type Shackle be used to connect to the lifting eye. See page 13.

### 3.0 SERVICING SCHEDULE

Maintenance Required	Daily	Weekly
Check all pin retainers, bolts & nuts for tightness on the quick coupler and the attachments.	✓	
Lubricate all greasing points – the attachment will have to be removed to access all grease points.	✓	
Check hydraulic hoses and fittings for any leaks or wear – replace immediately if required.	✓	
Check the quick coupler switch audible warning buzzer and lights are operating properly.	✓	
Check the full operation of all the moving parts within the quick coupler – repair or replace immediately if required.	✓	
Check the hydraulic cylinder mounting bolts for tightness – remedy if required.		✓
Thoroughly clean the quick coupler and ensure there is no material build up around locking cylinder, wedge or I-Lock™ safety system.		✓
Thoroughly clean the quick coupler and ensure there is no material build up around locking cylinder, wedge or I-Lock™ safety system.		✓

**4.0 TROUBLE SHOOTING GUIDE**

<b>PROBLEM</b>	<b>CHECK</b>	<b>REMEDY</b>
1. I-Lock™ Safety Knuckle will not retract when activated	Check hydraulic line to I-Lock™ Safety Knuckle	If damaged or leaking repair or replace
	Check operating pressure of hydraulic line to I-Lock™ Safety Knuckle	Adjust operating pressure on solenoid pressure reducer if required
	Check electrical circuit between solenoid and I-Lock™ Controller	Repair connections or replace loom if required
	Check function of solenoid spool valve for I-Lock™ Safety Knuckle circuit	Remove spool valve, clean and clear any debris. Replace spool if necessary
	Check mechanical function of solenoid coil for I-Lock™ Safety Knuckle circuit	Replace solenoid coil if required
	Check in-cab I-Lock™ Momentary Switch is functioning	See instructions below
2. I-Lock™ Safety Knuckle remains in retracted (up) position	Check Safety Knuckle & housing for damage	Repair or replace parts if necessary
	Check Safety Knuckle and housing for lodged debris	Remove debris
	Check hydraulic lines	Repair or replace if required
	Check I-Lock™ spring assembly for damage	Replace if required
	Check I-Lock™ shaft assembly for damage	Replace if required
3. The I-Lock™ Safety Knuckle is slow to or partially activates.	Check the system pressure being supplied to the I-Lock™ piston during operation	Crowd the bucket cylinder while activating the Momentary Switch to overcome low idle pressure
	Check un-lock pressure of I-Lock™ Safety Knuckle circuit	Adjust the pressure reducing valve if required
	Check condition of wiring loom between the in-cab I-Lock Controller and the solenoid	Replace or repair as necessary
	NOTE: Should this problem occur it must be investigated and remedied immediately	

**4.0 TROUBLE SHOOTING GUIDE – cont'd**

PROBLEM	CHECK	REMEDY
3. The I-Lock™ Safety Knuckle is slow to or partially activates. (cont'd)	Check for damage to Knuckle blade or Knuckle damage	Replace parts if required
	Check grease around I-Lock piston	Grease liberally
	Check I-Lock™ spring assembly for damage	Replace if required
4. There is oil leaking around the I-Lock™ piston assembly	Check the hose connection on the I-Lock™ piston	Tighten as necessary
	Check seals, rod and bore of piston assembly for damage	Remove the I-Lock™ piston assembly and dismantle. Replace parts where necessary and re-assemble.
5. The primary wedge is operating slower than normal	Check that the operator is crowding the cylinder to create machine pressure	Crowd the bucket cylinder to overcome low idle pressure
	Check the operating pressure that extends the Primary Wedge	Adjust the pressure reducing valve if required
	Check the inlet port on coupler directional control valve	Clean and clear any debris that is present from the orifice
6. There is oil leaking around the main cylinder in the coupler	Check hoses and connections to the main cylinder	Tighten and replace as necessary
	Check cylinder for damage	Remove main cylinder and dismantle. Replace any damaged parts
7. Primary Wedge will not retract	Check coupler any debris that maybe lodged behind the Wedge plate	Clear the debris
	Check the retract Wedge pressure at the cylinder	Adjust the pressure reducing valve if required
	Inspect Pilot Operated Safety Check valve in main cylinder	Remove, clean and replace if necessary
	Check in-cab I-Lock™ Lock-Out switch is functioning	See previous instructions
	Check mechanical function of solenoid spool valve for the Primary Wedge circuit	Remove spool valve, clean and clear any debris. Replace spool if necessary

### 5.0 SAFE LIFTING PROCEDURE



Your Wedgelock Quick Coupler may have been manufactured with an incorporated lifting eye as part of the side plate of the coupler or it may have a welded lifting eye fitted to the rear plate of the coupler. Either of these two options offers the operator a safe lifting point that can be used to lift loads suspended from the coupler body.

Before suspending any loads from the lifting eye you must first do the following:

1. Remove any attachment or bucket that is currently fitted to the coupler.
2. Understand and verify the maximum suspended load that the carrier machine can lift taking into account the mass weight of the coupler.
3. Understand and verify the safe working load of the coupler lifting eye by referring to the coupler aluminum data plate affixed to the coupler body.
4. Ensure that you use the correct lifting rigs and lifting procedures for the loads that are to be suspended.
5. Ensure that co-workers KEEP WELL CLEAR at all times during the lifting procedure.

The following diagram indicates the safe working loads of the certified lifting eyes that are either part of the side plate or welded to the rear plate of your Wedgelock Coupler. If you can't identify the working load limit from either the aluminum data plate that is stamped on the coupler or the chart below please contact Cascade Corproation immediately for further assistance.

WEDGELOCK COUPLER LIFTING EYE AND SHACKLE COMPATABILITY							
	COUPLER LIFTING EYE				SHACKLE (RR-C-271)		
	A (mm)	B (mm)	WLL (kg)	WEDGELOCK CODE	C (mm)	D (mm)	PART#
WELD ON EYE	20	16	2000	T9000-X11016	16	22	02325016
	24	25	4000	T9003-X11025	22	31	02325022
	32	32	8000	T9004-X11032	28	43	02325028
	38	40	10 000	T9005-X11040	35	51	02325035
	40	40	12 000	T9006-X11040	38	57	02325038
	44	50	15 000	T9007-X11050	42	60	02325042
SIDE PLATE EYE	32	25/ 32	7	C-7 SWL	28	43	02325028
	40	32/ 40	13	C-13 SWL	38	57	02325038
	44	40/ 50	15	C-15 SWL	42	60	02325042

Part Numbers quoted are from Bridon Cookes Catalogue

**6.0 WARRANTY****Standard Limited Warranty Policy****WARRANTY INCLUSIONS**

Cascade Corporation warrants all Wedgeloock Quick Couplers to be free from defect in material and workmanship for a period of 12 months (365 days) or 2000 machine hours, whichever occurs first, from the date of delivery to the End User or Dealer (“the Customer”).

If, during the warranty period, any quick coupler, attachment or part manufactured by Cascade Corporation upon receipt of supporting evidence and inspection by Cascade Corporation, is proven to be defective in material and/or workmanship, Cascade Corporation shall repair or arrange for the repair and/or full or partial replacement of such attachment or part, providing said attachment or part was installed and operated in accordance with Cascade Corporation’s currently published instructions.

Any attachment or part repaired or replaced under the terms of the warranty policy shall retain the warranty period pertaining to the product’s original date of purchase.

**WARRANTY EXCLUSIONS**

This policy does not cover machinery, parts or accessories that are warranted directly to the end user by third party manufacturers, for example hydraulic cylinders, hoses, valves, or any other portions of hydraulic kits used in Cascade Corporation products but not manufactured directly by it. Failure to follow Cascade Corporation's or the third party manufacturer's recommendations for oil pressure and flow ratings on hydraulic components will invalidate all warranty claims relating to both the attachment and the hydraulic components of the attachment.

Cascade Corporation shall not be responsible for any problems associated with hose fittings, damage or malfunction after installation regardless of cause.

This policy does not extend to those attachments or parts that have been altered or repaired by others without the express written authorization of Cascade Corporation. Nor does it apply to any Cascade Corporation products or parts, which in Cascade Corporation's opinion, have been subjected to or adversely affected by operator misuse, accident, negligence, improper installation, maintenance, or storage.

Cascade Corporation accepts no responsibility whatsoever for the suitability or otherwise of the carrier machine or other equipment to which a Cascade Corporation attachment may be mounted upon or fitted to.

Cascade Corporation shall not be held liable for injury or damage caused to any persons, place or machine by reason of the installation, use or mechanical failure of any Cascade Corporation attachment.

General product wear and tear or pins and bushings wear and tear are not eligible for warranty claims.



## WEDGELOCK OBLIGATIONS

At its option, Cascade Corporation may repair or arrange for the repair and/or full or partial replacement of a defective part or attachment. Any repair work may be carried out at Cascade Corporation's own premises, at the location of an authorized Service Agent/Dealer Workshop, on the site at which the part or attachment is being used, or at any other location that Cascade Corporation considers appropriate under the circumstances.

Under the terms of this warranty, Cascade Corporation's obligations are limited to the repair or full or partial replacement of the defective item(s) and do not include any costs, direct or indirect, associated with the removal or reinstallation of the attachment or part on the carry machine. This is the responsibility of the Customer.

Cascade Corporation warrants that any repair work carried out by it directly shall be conducted in a timely and professional manner. Where a third party is engaged to carry out repair work in connection with a Cascade Corporation warranty claim, Cascade Corporation's obligation and liability shall be limited to a refund of the authorized reimbursable costs charged in connection with the provision of such work.

## CUSTOMER OBLIGATION

The Customer is responsible for the proper and normal installation, operation and maintenance of a Cascade Corporation-supplied attachment or part, including any hydraulic components or fittings. The Customer is also responsible for notifying Cascade Corporation as soon as it identifies a defect or problem that may potentially be subject to a claim under this policy and for following Cascade Corporation's published warranty claim procedure.

## PLEASE COMPLETE AND REFER TO THE INFORMATION BELOW WHEN MAKING ENQUIRIES FOR PARTS AND SERVICE:

Purchased From: \_\_\_\_\_

Make & Model: \_\_\_\_\_

Product Serial Number: \_\_\_\_\_

Date of Manufacture: \_\_\_\_\_

Date of Purchase: \_\_\_\_\_



## 7.0 WARRANTY REGISTRATION FORM

Once you have read and understood both the **INSTALLATION** and **OPERATORS** manuals please complete and return this form by email to Cascade Corporation to ensure that your product purchase is registered and covered under our standard warranty terms.

Send to: CascadeWedgeLock@cascorp.com

### INSTALLER TO COMPLETE

I acknowledge that I have read and understood the Installation & Operator Manuals	
MAKE AND MODEL OF CARRIER MACHINE	
DATE OF INSTALLATION (DD/MM/YY)	
PRODUCT SERIAL NUMBER	
NAME OF INSTALLER	
INSTALLER'S SIGNATURE	
INSTALLER'S / CUSTOMER NAME AND ADDRESS	

### OWNER / OPERATOR TO COMPLETE

I acknowledge that I have read and understood the Installation & Operator Manuals	
NAME OF OWNER / OPERATOR	
OWNER / OPERATOR'S SIGNATURE	
CUSTOMER NAME AND ADDRESS (if different from above)	



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