



## **Mobile Cattle Handling Crate**

**Model 310g**

**Hoof Trimming Attachments**

**Model 339g-880**

**Instruction Manual  
& Operating Guide**



# EC Declaration of Conformity

in accordance with BS EN ISO/IEC 17050-1:2004



David Ritchie (Implements) Ltd.,  
Carseview Road, Forfar, Scotland DD8 3BT

declare that:

Equipment: ..... **Mobile Cattle Handling Crate** .....

Model No: ..... **310g** .....

Serial No: .....

in accordance with the following directive:

**2006/42/EC** Conforms with the essential requirements of the Machinery Directive  
and its amending directives

has been designed and manufactured to the following specifications:

**BS EN ISO 12100 -1: 2003 Safety of Machinery** - Basic concepts, general principals for design - Basic terminology, methodology.

**BS EN ISO 12100 -2: 2003 Safety of Machinery** - Basic concepts, general principals for design - technical principals and specifications.

**BS EN 982: 1996**  
Safety of machinery. Safety requirements for fluid power systems and their components - Hydraulics

**BS EN ISO 4254-1:2009**  
Agricultural machinery - Safety - Part 1: General requirements

**BS EN ISO 13857:2008**  
Safety of machinery - Safety distances to prevent hazard zones being reached by upper and lower limbs.

**BS EN ISO 14121-1: 2007**  
Safety of machinery - Risk assessment - Part 1: Principles

Signed:- 

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Robert Ritchie Al agr E  
Agricultural Sales Director

at:- David Ritchie Implements Ltd. Forfar, UK  
on:- 26th April 2010

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Rev 'C'



## Foreword / Intended Use

The Ritchie Mobile Cattle Crate, model 310g has been designed for, and is intended to be used by, the agricultural industry purely for the handling of Cattle. The Crate has been designed to give maximum safety and to minimise stress in both the animal and the operator.

David Ritchie Implements shall not be liable for damage resulting from inappropriate use of the machine, i.e. for purposes other than those indicated in this manual. The user shall bear all responsibility.

Intended use also comprises adherence to the operating, maintenance and servicing instructions contained in this manual.

The machine must only be used in perfect working condition. Any functional disorders, especially those which affect the health and safety of personnel must be rectified immediately.



**The crate should only be used by an experienced stock person, who has been trained in the use of the machine and who has read the operator's instruction manual.**

**The stock person must be capable of maintaining a high standard of animal welfare.**

Following the setting up, operating and maintenance instructions contained in the manual should allow the operator to achieve the best performance from the mobile cattle crate, resulting in increased reliability.

Operators should read carefully all safety notes contained within the manual prior to using the crate in order to help avoid dangerous situations, expensive repairs and prolonged downtime.

In addition operators should also read any relevant legislation regarding health and safety and accident prevention applicable to the country in which the crate is to be used.

The right to alter specifications, equipment and maintenance instructions at any time, without notice is reserved as part of our policy of continuous development and improvement.

No liability can be accepted for inaccuracies or omissions in this manual, although every possible care has been taken to make it as complete and accurate as possible.

Owners who encounter a problem not covered in this manual should contact David Ritchie Implements Ltd at the address given on the rear cover of the manual, or consult their local Ritchie dealership.

**Deviations from the intended use should not take place without the notice and approval of David Ritchie (Implements) Ltd.**



## Warranty

The Mobile Cattle Crate should be checked over at time of delivery for transport damage. Check also that the specification is complete and that the data plate contains the serial number of the machine. All claims must be delivered to the manufacturer in written form within 48 hours.

David Ritchie Implements Ltd. guarantee subject to certain conditions that the goods supplied will be free of defects both in material and workmanship.

The following conditions apply:-

- The equipment should only be used for the purpose indicated in this manual.
- Service and warranty work is carried out only by authorised Ritchie dealers.
- The original specification of the equipment has not been subject to unauthorised modification.

Correct operation of the crate and regular maintenance will help to prevent breakdowns. If however operating trouble is experienced during the warranty period the following actions should be adopted:-

Notify the dealer immediately from whom the machine was purchased, quoting the model and serial number.

Do not operate the crate. Damage resulting from failure to report a fault may not be covered by warranty.

The manufacturer cannot accept liability for damage to equipment or third party through operational negligence.

## Safety Information

**Please read these instructions carefully. Ignoring these instructions could result in personal injury or damage to the equipment.**

These instructions apply to all personnel involved with the operation, maintenance and servicing of the equipment.

### General

The Ritchie Mobile Cattle Crate must only be used by an experienced, competent stock person who has been trained to use the equipment.

The operator should consult the tractor handbook for additional information and instruction on safety issues relating particularly to hitching operations, road transportation, connections to the tractor spool block and road lighting connections.

Never allow personnel to ride on the crate, during transportation either on the road or in the field.

Do not modify any part of the crate unless modifications or additions are approved by the manufacturer. This also applies to welding work.

Do not use the crate if a malfunction occurs as this could result in damage to the equipment.

### Before and During Operation

Ensure that there is sufficient space in the area designated for the crate to allow the operator to work safely and efficiently.



The adjoining Race and Penning to the crate should be of sufficient build for the safety of both animals and operators.

Open one side door at a time.

Always make sure the area in front of the yoke doors is clear when animals are entering and exiting the crate.

Should an animal become distressed whilst in the crate and a fast release is required, increase the yoke width before opening the doors as this will relieve any pressure from the neck and can facilitate easier opening of the yoke doors.

When handling bulls or animals with a neck size larger than it's head, always use a head halter and tie it to our optional bolt on Head Restraint (No 339g-600). Never rely on the neck yoke only.

Take particular care when mounting the implement to the tractor. Always position the machine on flat level ground.

Take care when coupling / uncoupling the hydraulic hoses to the tractor. Hydraulic oil under pressure can damage your skin. Always seek immediate medical advice in such circumstances.

**Warning:** Hydraulic fluid under pressure can penetrate the skin or eyes and cause serious personal injury or blindness. Fluid leaks, under pressure, may not be visible. Use a piece of cardboard or wood to find leaks. DO NOT use your bare hand. Wear safety goggles for eye protection. If any fluid is injected into the skin, it MUST be surgically removed within a few hours by a doctor familiar with this type of injury.

## Servicing and Maintenance

Only use suitably qualified engineers working to the relevant standards and codes of practice when repair work to the hydraulic system is to be undertaken.

Never attempt maintenance or servicing work on the crate when coupled to the tractor with the engine running. Release any residual hydraulic pressure to the system by operating the spool valves in both directions.

**Switch off the tractor engine and remove the ignition key!**

If the Mobile Cattle Crate is to be unhitched from the tractor for any reason, select firm level ground and lower the unit to the working position. (See procedures 1, 2 and 3 on page 12 of this manual).

After cleaning the machine check the hydraulic hoses for leaking or operational damage. Damaged hoses should be replaced immediately.

Adhere to replacement intervals noted in the manual even if signs of wear to component parts is not evident.

After servicing is complete check all nuts and bolts have been tightened satisfactorily.

Dispose of used oils carefully with due consideration to the environment.



## Transportation and Storage

Before travelling on public roads ensure the crate is free of loose material and equipment.

Put the rear lighting bar in the road transport position and connect the 7 pin plug to the tractor socket.

Road speed should not exceed 20 mph (30 km/h).

When turning or at bends take the width and length of the crate into consideration.

Take extra care when reversing.

When stopped, always use the tractor parking brake.

When storing the crate - clean thoroughly. Position the crate on flat level concrete or tarmac where it presents no hazard to people or animals. Lower the unit to the working position as described on page 12, (procedures 1, 2 & 3).

## Road Light System

Check road light clusters regularly especially before travelling on public roads. Replace bulbs as necessary.

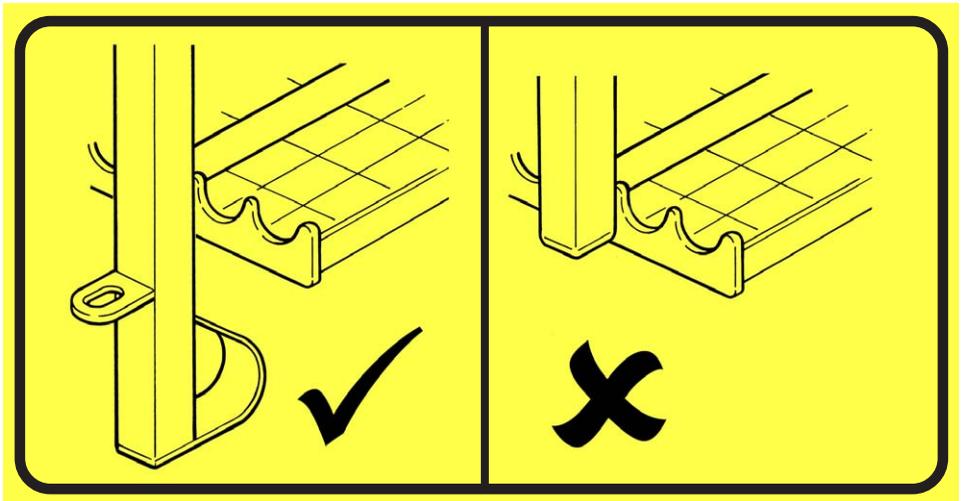
Clean lens covers and reflectors periodically.



**Important:**

**Never use the Mobile Cattle Handling Crate for the transport of livestock!**

## Pictogramme



**Important:**

When Stacking hurdles on platforms always ensure they are fitted the correct way up with the hurdle skid plates to the underside of the platforms, as illustrated above. This is important! Failure to do so may result in hurdles falling forward when straps are released.

## Features and Specifications

- Easily transportable - all in one cattle handling system
- Fully automatic yoke with auto reset facility.
- Easy adjustable neck yoke widths, which allows easy handling of calves to bulls.
- Complete access to both sides of the animal.
- Ratchet type rump bar operation.
- Aluminium 5 bar tread-plate floor.
- Middle and Rear sliding gates.
- Comes complete with 12 part hurdle system.

## Specifications

External Length (incl. Drawbar) .....	7.74m
External width .....	1.86m
Internal width .....	0.76m
External height .....	2.30m
Internal height .....	1.71m
Gross Weight .....	2750kgs
Unladen Weight .....	2050kgs
Maximum Drawbar Weight .....	700kgs
Wheels .....	10/80 x 12
Tyre Pressure .....	4 bar
Wheel Nut Torque Setting .....	125 lbs/ft
Minimum Hydraulic Oil Flow .....	30 Ltrs/min
Maximum Oil Pressure .....	172 bar (2500 psi)
Oil Fill Capacity .....	7 Ltrs
Hydraulic Hose Rating .....	¼" SAE 100 R2 AT
Tractor Coupling .....	Hydraulic Pick up hitch
Tractor Hydraulic Requirements .....	One Single Acting Spool Valve



## Handling of Unit by Forklift or Loader

If the crate is to be moved by loader or forklift - attach slings to the lifting points either side of the crate as shown, Fig 1 (circled). Take care when travelling over rough terrain to ensure the crate does not slide.

Select a level site where operations are to be carried out. Position the crate on firm and level ground and ensure that there is sufficient area all around to operate the crate safely and efficiently.



Fig 1



# Preparing for Road Transportation

## Attaching to Tractor

The Mobile Cattle Crate is fitted with a drawbar eye for quick and easy attachment to the tractor hydraulic pick up hitch.

Consult the Tractor Operator's manual for instructions on mounting implements and for pick up hitch adjustments.



**During hitching operations do not allow persons to stand in the area between tractor and implement.**

Carefully reverse the tractor toward the drawbar until the hydraulic pick up hitch is in position below the drawbar eye.

The crate is fitted with a single hydraulic hose which is stored in the toolbox during transit and when handling cattle. Connection of the hose to the tractor spool block allows the crate to be raised into the road transport position or lowered to the working position.

Before fitting the hose - check the quick release couplings at each end are clean. Connect the hose to the connector at the base of the crate, Fig 2:A, and to the hydraulic outlet on the tractor spool block.

Operate the spool lever to raise the unit sufficiently to allow the transit locks to be fitted to the rams, Fig 3. Secure the locks using the pins provided.

Lower the rams slightly allowing them to rest on the locks.

The road light cable is also stored in the toolbox. Before travelling on public roads attach the road light plug to the socket provided at the base of the crate, Fig 2:B and to the tractor auxiliary socket.

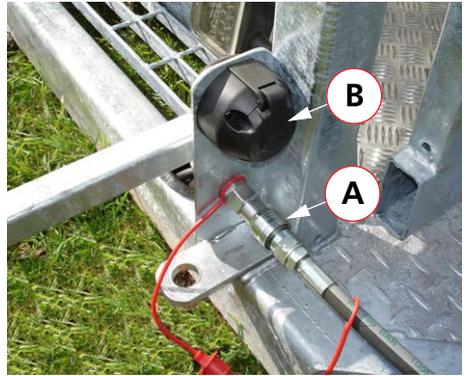


Fig 2



Fig 3



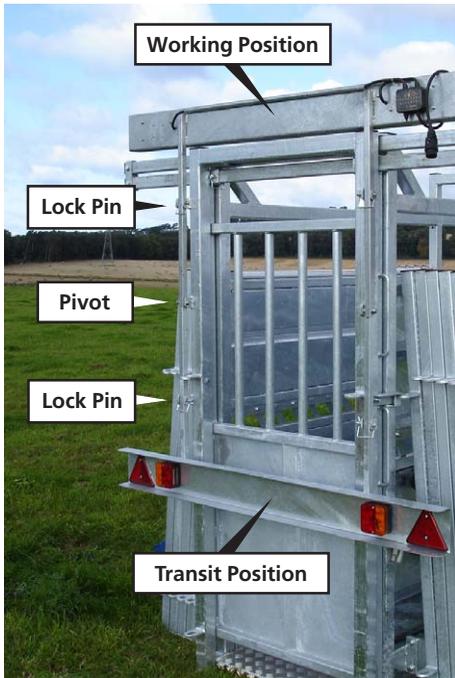


Fig 4

Pivot the rear lighting bar into the transit position, Fig 4, and secure with the pins provided.

Attach the cable from the rear lighting bar to the socket at the rear of the crate, Fig 5:A.

Fold out the front marker lights at both sides.

Both sliding gates should be locked to prevent movement during transit. Return the door slides to the centre position and lock with the pins provided, Fig 6, circled.

Ensure all hurdles are correctly seated on the platforms either side of the unit and secured by means of the web straps and ratchets provided.

**Note:** Hurdle skid plates should **always** be to the underside of the platforms.

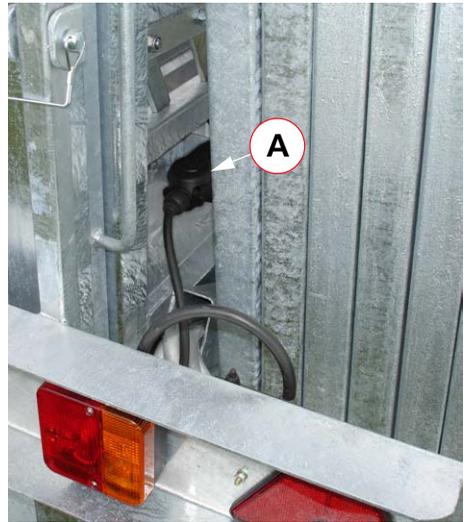


Fig 5



Fig 6

Use tractor lift controls to raise the drawbar clear of the ground.

The Mobile Cattle Crate is now ready for transportation.

## Setting Up

On arrival in the field choose an even level site, with firm ground and sufficient all round access to enable the unit to be operated safely.

Procedures for setting up the crate are more or less the opposite of those previously noted on pages 10 and 11.

1. Pressurise the hydraulic system to extend the rams and release pressure on the locks. Remove the pins and place locks in the released position, Fig 7.

2. Operate the spool lever to lower the unit until it rests on the ground.

3. Lower the drawbar by operation of the tractor lower link controls.

4. Switch off tractor engine and release any residual pressure in the system by operating the spool lever in both directions.

5. Detach the hydraulic hose - quick release couplings from both tractor and unit and fit the plastic plug to prevent oil spillage from the connector fitted to the unit.

6. Disconnect the 7 pin road light plugs both from tractor and unit.

7. Place hose and cable in toolbox provided.



Fig 7

8. Disconnect the 7 pin plug for the rear lighting bar and wrap cable around bar.

9. Swivel the rear lighting bar upwards into the working position and hold in place with the locking pins.

10. Fold away front marker lights.

11. Remove the locking pins from the rear and middle sliding gates.

12. Move the tractor away and detach the drawbar from the unit by removing the retaining pin, Fig 8, and sliding the eye section clear of the socket.

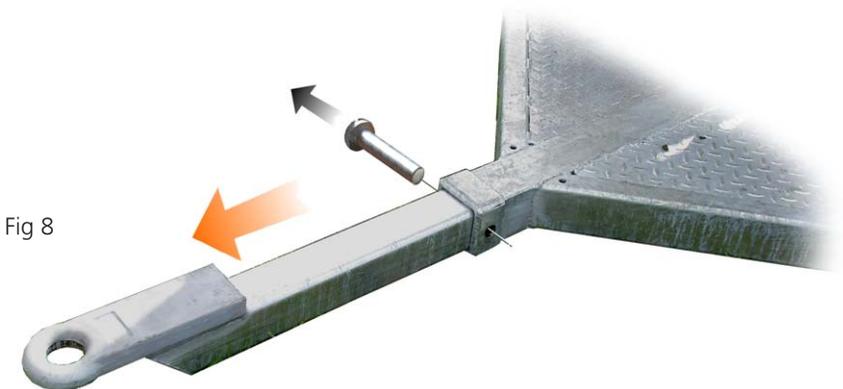


Fig 8

The unit comes complete with 12 hurdles strapped in position either side of the crate.

If a static handling system is to be operated the hurdles need not be removed from their transit position, although it will be necessary to remove the banding holding them to the crate sides, Fig 9.

The hurdles have a rounded footing allowing them to be dragged into position, rather than lifted. They are attached to the lugs at the rear of the crate, and to each other using the pins provided, Figures 9 & 10, to suit any number of requirements.

13 pins are provided to allow a complete circle to be formed if required, Fig 11.

Hurdle lugs are also provided at the front of the crate to either side of the yoke doors.

If further hurdles are required they may be added to the unit although when transporting they should be placed inside the crate in a position forward of the axle.



Fig 9



Fig 10



Fig 11



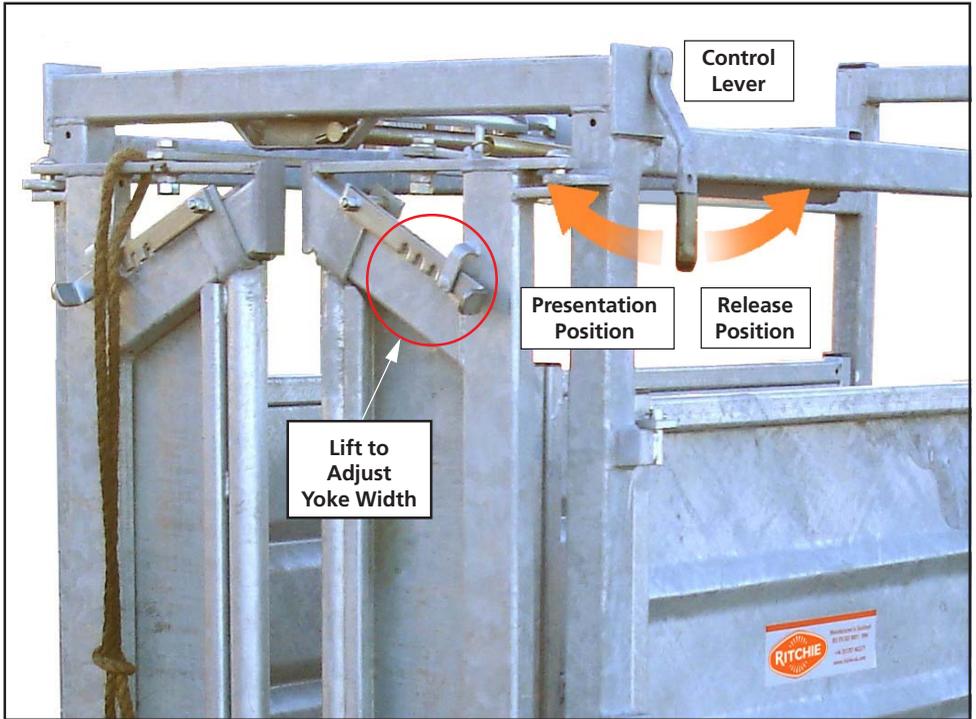


Fig 12

Before handling cattle, operate the yoke doors through the operating sequence a few times to familiarise yourself with it, Fig 12) and also to ensure that the system is running free, if not oil the mechanism, (pages 20 - 21).

Also operate the yoke width adjustment mechanism to familiarise operating, Fig 12 and also to ensure the doors are running freely.

Adjust the width of the yoke doors whilst in the locked position to suit the size of cattle to be handled. Ensure that the yoke will not be too tight on the neck of the animal as this may reduce the blood supply to the head and result in animal collapse.

To prepare the yoke doors for holding an animal, push forward the control lever and allow the yoke doors to return to the presentation position, Fig 12.

Turn the adjuster screw if required (see Fig. 13) to vary the presentation width of the yoke. This will not alter the width of the yoke in the locked position.

Open the sliding gates and herd the animal into the crate ensuring the animal pushes far enough forward to secure the self-locking catch.



## Operating Instructions

Locate the rump bar or use the gate to close off the front section (whichever preferred). The rump bar can be used to help force a reluctant animal forward in the crate.

A neck rope is provided which can be used to go over the top of the neck to help restrict vertical head movement. A simple rope retainer is fitted to allow easy gripping of the rope, Fig. 14.

A halter may be used if required to restrain the animal's head.

A side door may now be opened to offer access to the side of the animal for treatment.

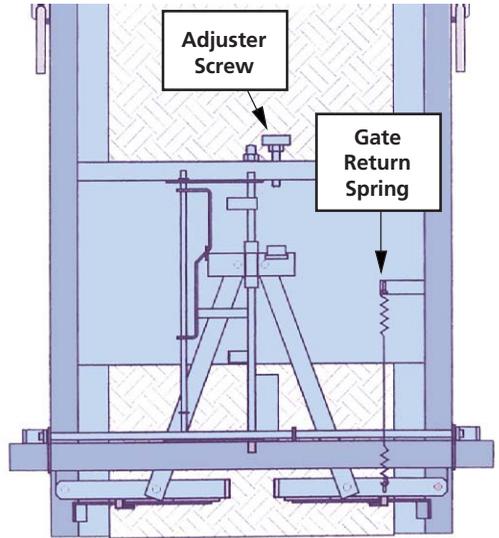


Fig 13

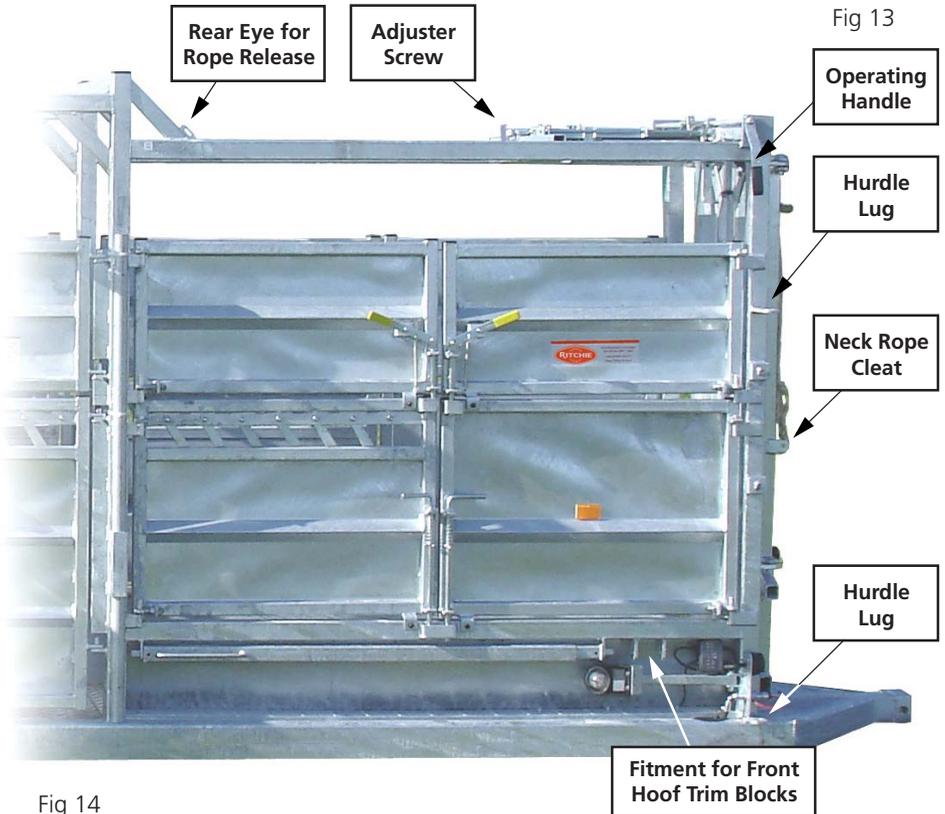


Fig 14

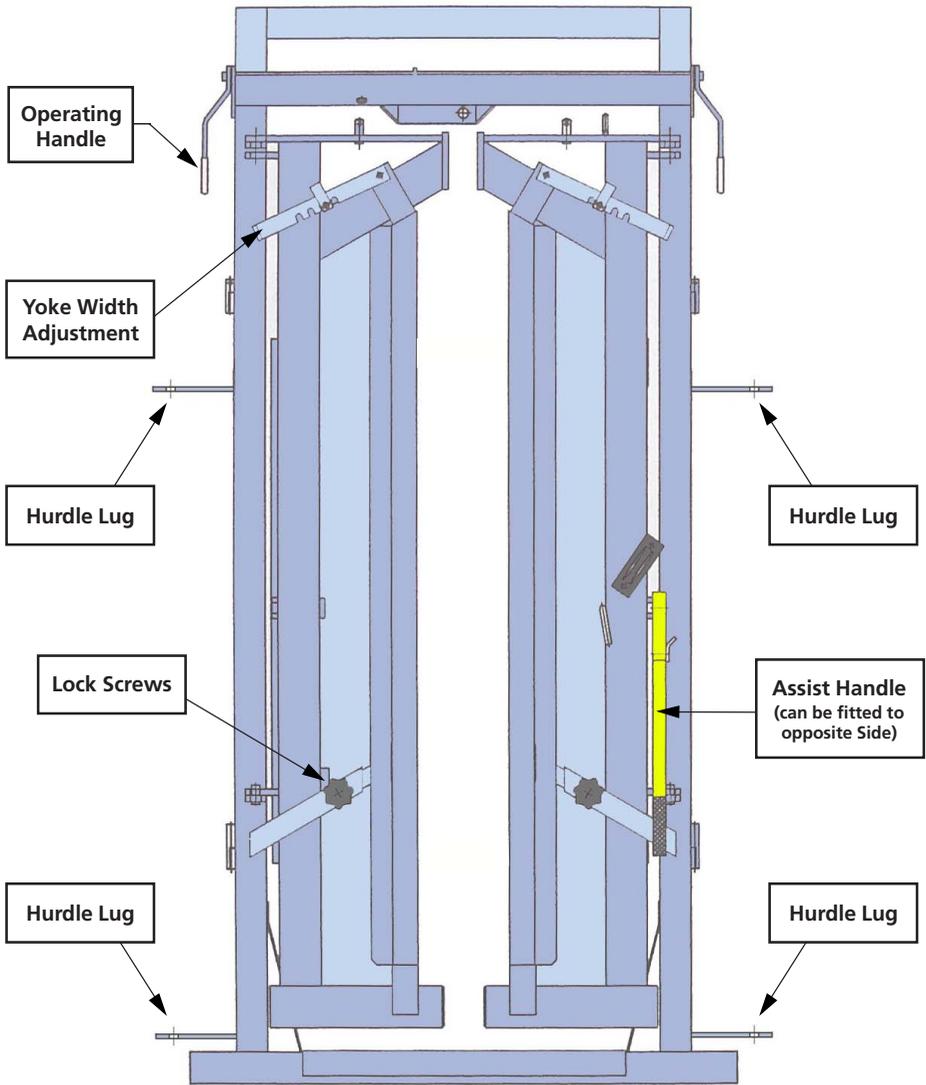


Fig 15

To release the animal pull the control lever rearwards, Fig 15, or alternatively use a rope. The animal can only travel forward and cannot reverse. If you require to reverse the animal through the crate push the control lever forward.

Should an animal be reluctant to leave the crate when the catch is released, the assist handle can be used to force open the yoke doors, Fig 15.



## Access to the animal



Fig 16



Fig 17

The Ritchie Mobile Cattle Handling Crate offers complete access to both sides and the rear of the animal.

With the animal in yoked position, a side door can be opened for access to the rear of the animal, Fig 16.

Note that the side door opens two ways and can be used to close off the front part of the crate, as shown in Fig 17.

All side doors are split which allows the upper section only to be opened or both halves together as required, Figures 19 & 20.



Fig 19

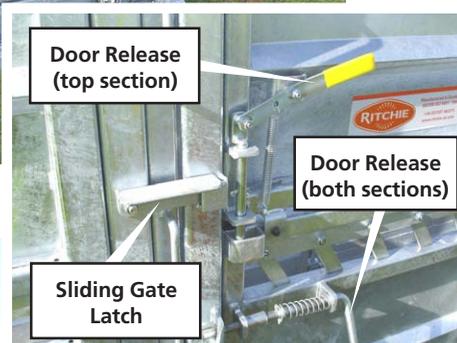


Fig 18



Fig 20



Fig 21

### Spring Loaded Bar

If a second door is to be opened the spring loaded bar can be used to provide a simple barrier between animal and operator. The spring loaded bar can be fitted in either of three positions as shown, Fig 21, (arrowed) and can be placed in the storage position when not in use, Fig 22.

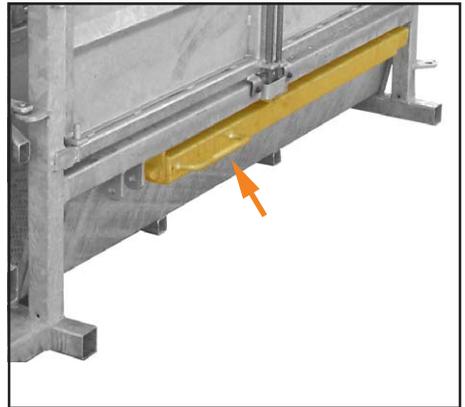
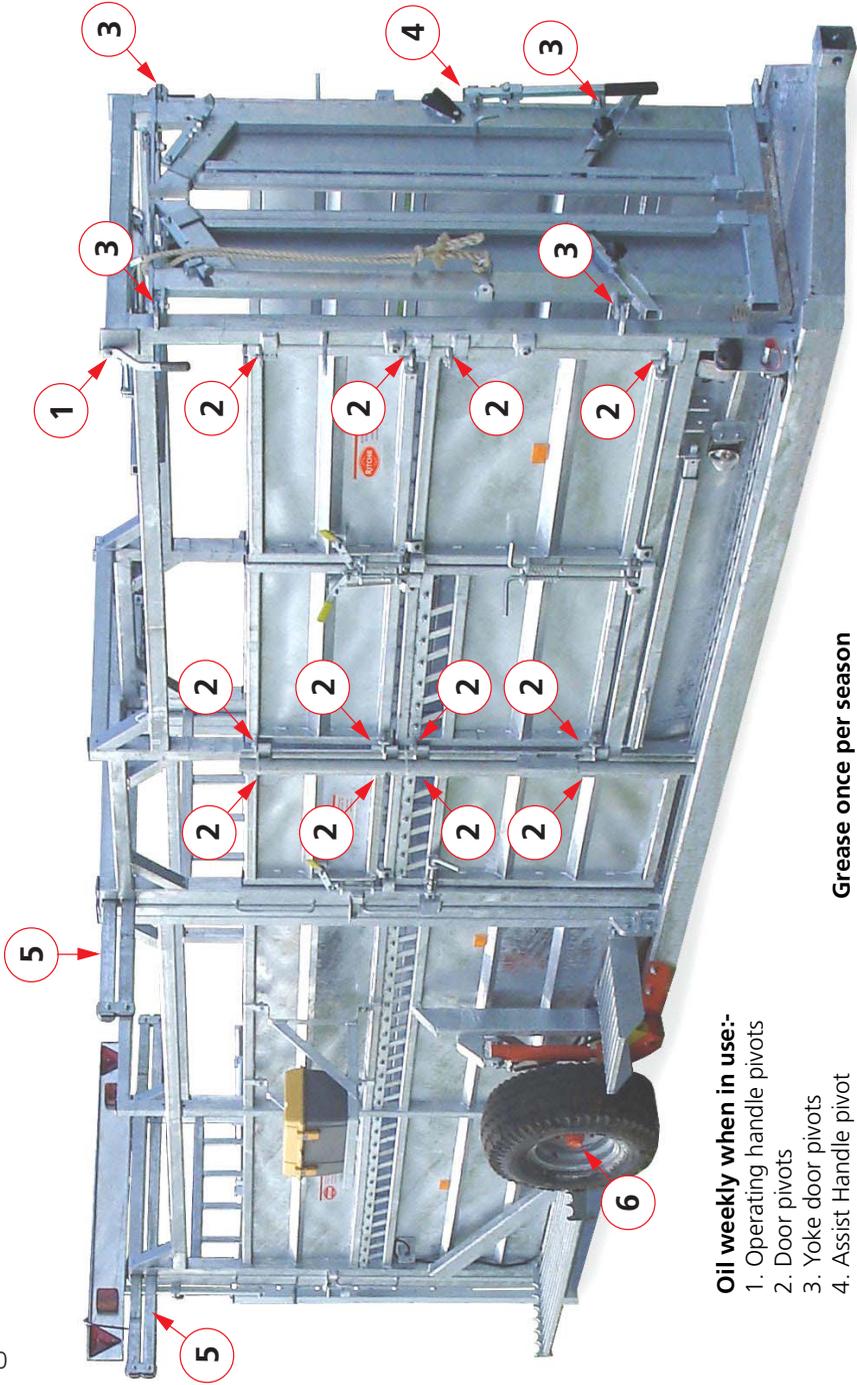


Fig 22



# Maintenance



### Oil weekly when in use:-

- 1. Operating handle pivots
- 2. Door pivots
- 3. Yoke door pivots
- 4. Assist Handle pivot

### Grease weekly when in use:-

- 5. Door slides

### Grease once per season

- 6. Wheel Bearings  
(Remove hub caps and pack with grease)

Fig 23

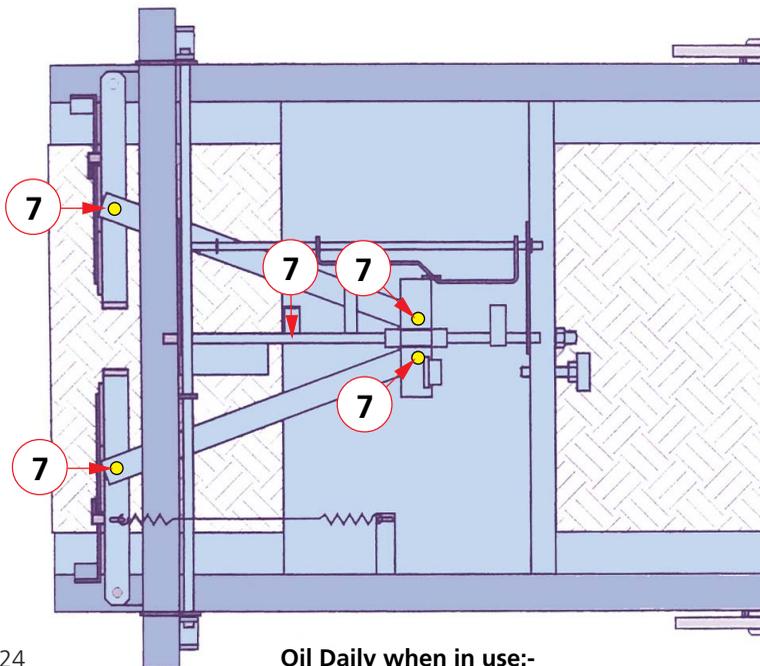


Fig 24

**Oil Daily when in use:-**  
7. Yoke Door mechanisms

## Hydraulic System

The hydraulic system should be checked for leaks or damage prior to each use of the machine.

**Read safety instructions on (page 6 and 7).**

The hoses on the machine must be replaced every 5 years even if signs of wear or damage is not apparent. Always use suitable replacements available from Ritchie dealerships according to the rating below:-

### Hose Rating -

**¼" SAE 100 R2 AT • DIN EN 853 2SN**

Working Pressure - 330 bar (4800 psi)

Min. Burst Pressure - 1320 bar (19150 psi)

## Hose Replacement

It is advisable to wear eye protection when replacing hoses or when working on the hydraulic system.

Before replacing hoses - release any residual pressure in the hydraulic system by operating the tractor spool valves in both directions.

Place a suitable container below the hose to allow the hydraulic oil to be drained.

Detach and drain the first hose end followed by the opposite end to ensure any remaining oil is drained completely.

Repeat procedure for all hoses to be replaced.

With hose ends reconnected, charge the system with oil via the tractor spool valves putting the service through a few cycles to allow the tractor hydraulic system to bleed out any trapped air.

Always dispose of oil responsibly with due consideration to the environment.

## Optional Head Scoop

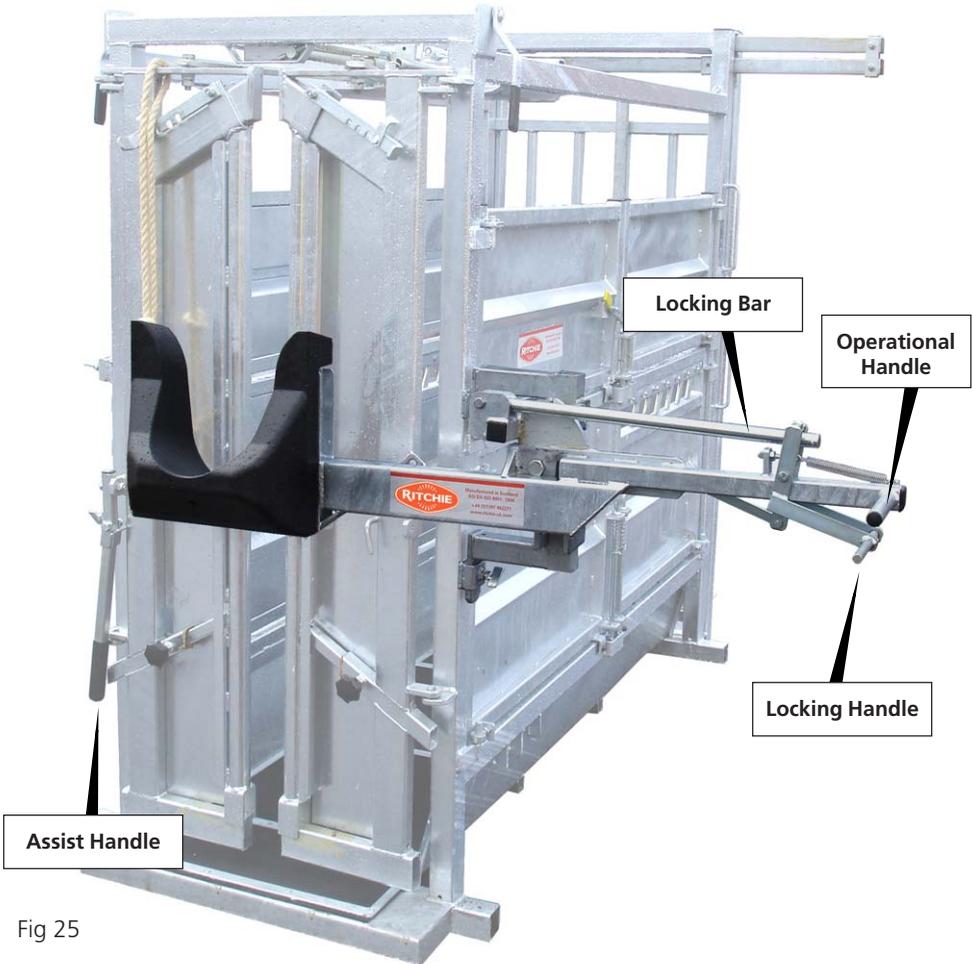


Fig 25

The Head Scoop is available in left hand (323gl) and right hand (323gr) versions. This should be stated at time of ordering.

### Main Features

- The Head Scoop has been designed to control the head of cattle making routine tasks easier and safer.
- The unit prevents an animal from 'going down' in the cattle crate, and increases the efficiency of the handling process.
- The unit is easily removed when not required.
- Weight - 28 kgs.



## Setting Up

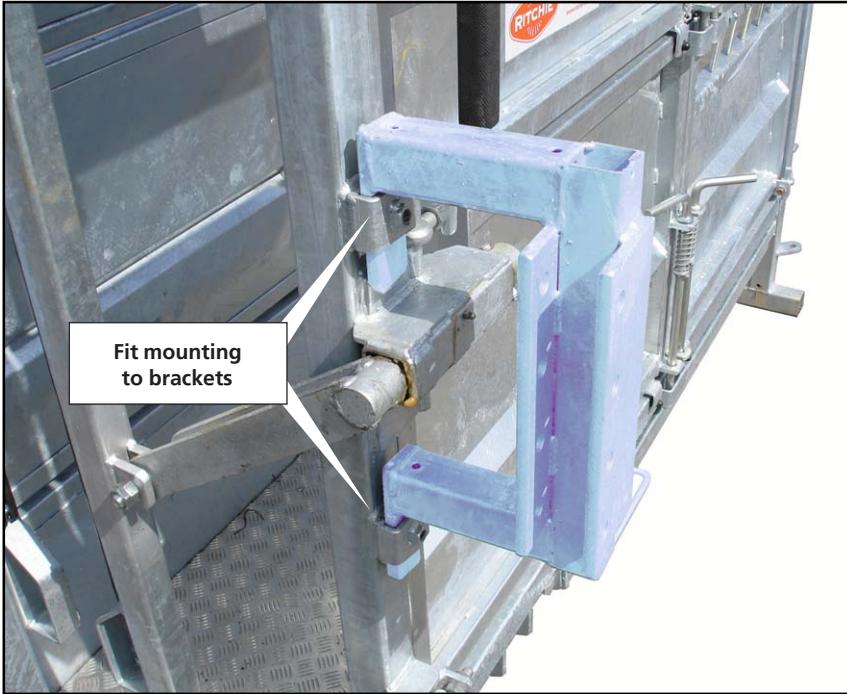


Fig 26

Fit the Head Scoop mounting to the brackets provided on the crate upright, Fig 26.

The Head Scoop can now be attached to the crate.

The bracket offers 3 height positions for the Scoop, Fig 27. Fit the head scoop to the mounting using two of the holes provided.

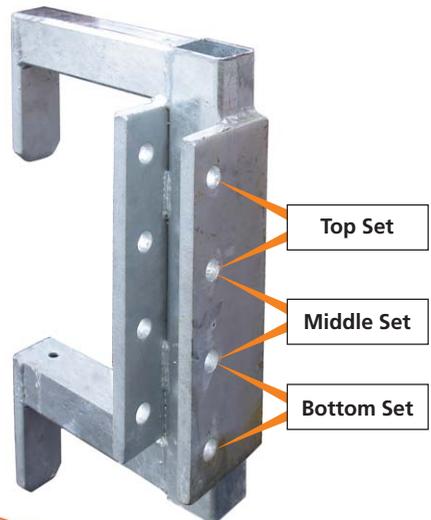


Fig 27



## Operating the Head Scoop

The scoop is designed to pivot from the vertical to the horizontal working position.



Fig 28

**To engage** - With the equipment in the vertical position - squeeze the locking handle and pull the Scoop down slightly (about 10°), Fig 28. Release the locking handle and continue to rotate the scoop on its pivot until the desired working height is achieved. The apparatus will lock in this position until released.

**To release** - push the operational handle slightly in a downward direction before

squeezing the locking handle and rotating the scoop back to the vertical position.

**Note:** A slight downward push of the operational handle as noted above will facilitate easy release of the mechanism.

Operator's should familiarise themselves with the locking and release sequence by practicing a few times before admitting an animal.

## Adjustments and Maintenance

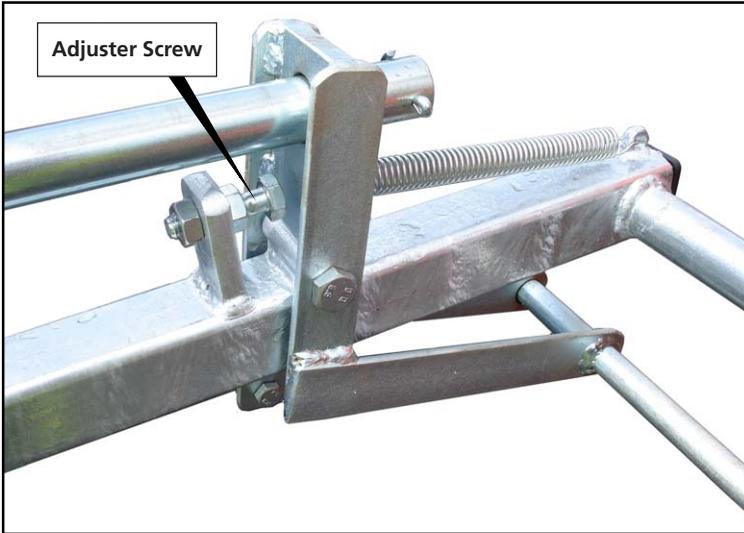


Fig 29

An adjuster screw, Fig 29, is provided to prevent finger entrapment between the operational handle and the locking handle. Lengthening the bolt provides additional finger space.

- Pivot plates should be greased weekly during operation, Fig 30.



**Note: Do not apply oil or grease to the Locking Bar, Fig 30. The bar must be dry in order to function correctly!**

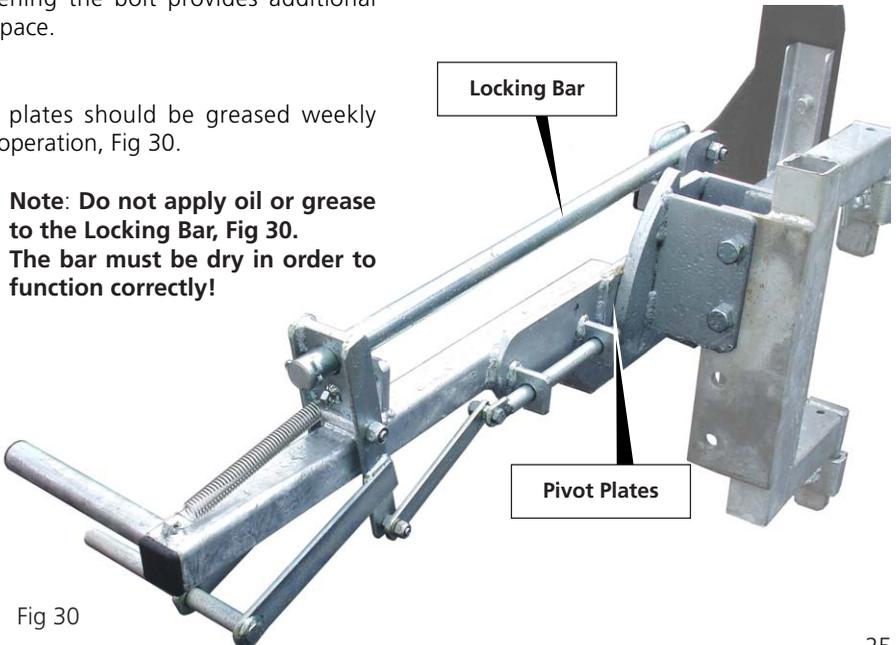


Fig 30



**Head Scoop**

*Part no. 323gl (Left hand)*

*Part no. 323gr (Right hand)*



**Mounting bracket  
(Right Hand)**

*Part no. 8764g*

**Mounting bracket  
(Left Hand)**

*Part no. 8765g*



## Optional Weigh Platform



Fig 31

The optional Weigh Platform with Tru-Test multipurpose loadbars has been specially designed for use with the Mobile Cattle Crate.

### **Fitting Instructions:-**

Position the platform centrally on the crate floor as shown - Fig 31, with clearance at either end.

Route the cables to either the right or left hand side of the crate to suit the operator, and thread through gap in the crate floor (under the forward platform), Fig 33.

Drill holes through the crate side panel to suit the indicator bracket to be used.

**Note:** Various Tru-test indicators are available for use with the weigh platform and full instructions on setting up and operation are given in the indicator instruction book which accompanies the equipment.

Finally, use ties to secure the cables to the side of the crate, as illustrated, Fig 32.



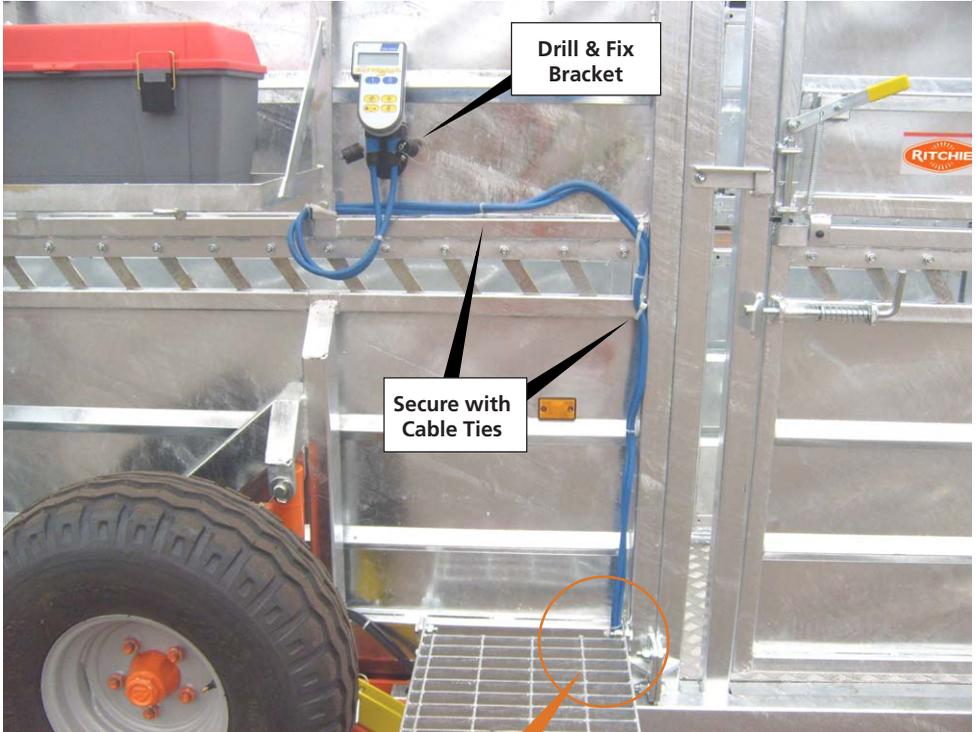


Fig 32

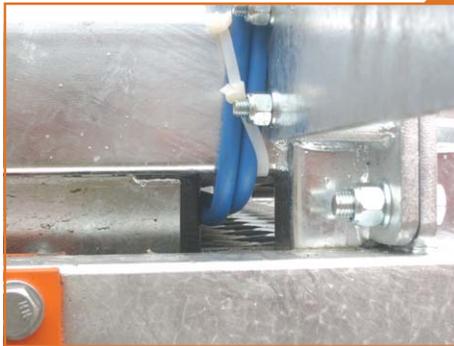


Fig 33



Fig 34

**Weigh Platform**  
Part no. 310g/200



# Hoof Trimming Attachments No. 339g-880

## Fitting of Rear Winch

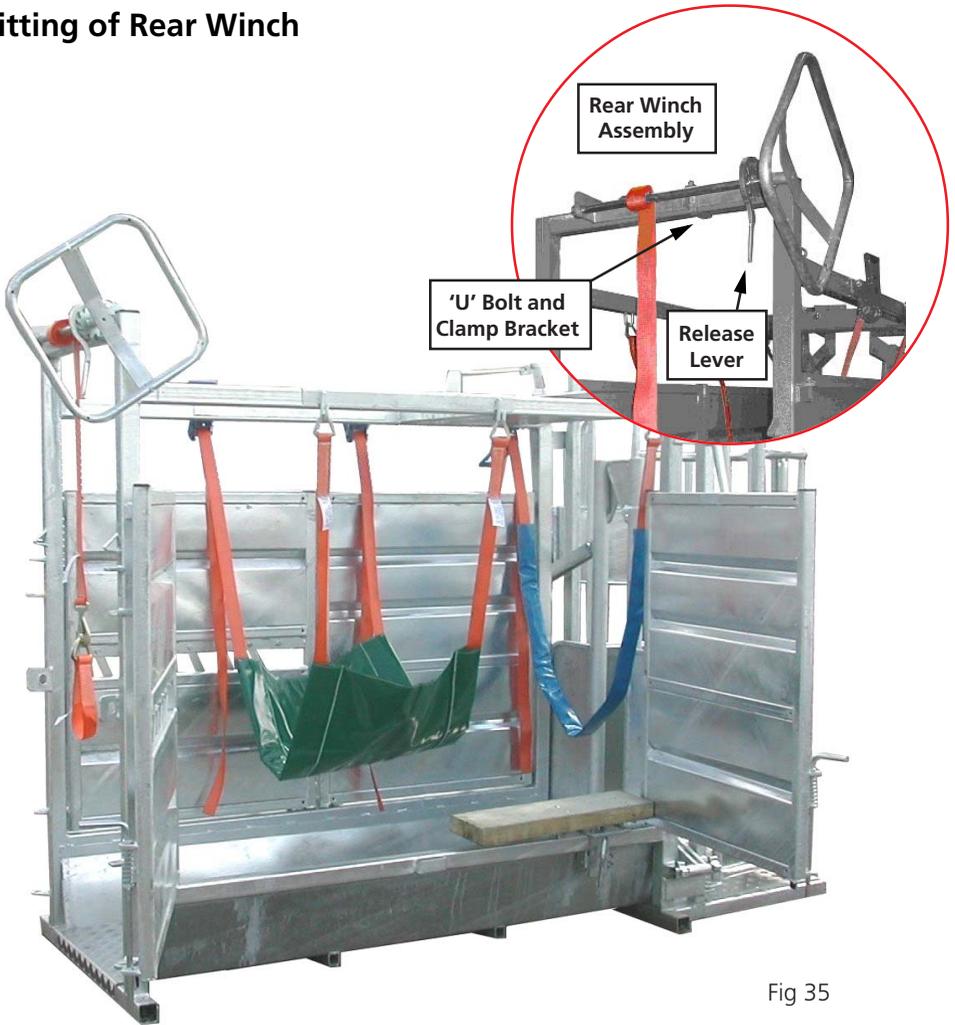


Fig 35

Position the rear winch assembly on top of the rear cross member of the Cattle Crate as shown, Fig 35, and secure in place using the 'U bolt' and clamp bracket provided.

Locate the wheel onto the end of the winch assembly shaft and secure with the bolt & nut provided. Rotate and check for freedom of movement.

Slide the plain end of the leg strap through the loop provided on the winch and turn the wheel allowing the web to wrap around itself and 'lift'. To release, turn the wheel to take pressure off the ratchet and pull the release lever on the winch assembly to lower. Use the short strap with rings at each end to position around the 'hock' to lift the leg.

## Positioning of the Belly Harness & Front Strap

Drop channels with open hooks on preferred side of the Crate as shown, Fig 36, and attach the straps using the open rings.

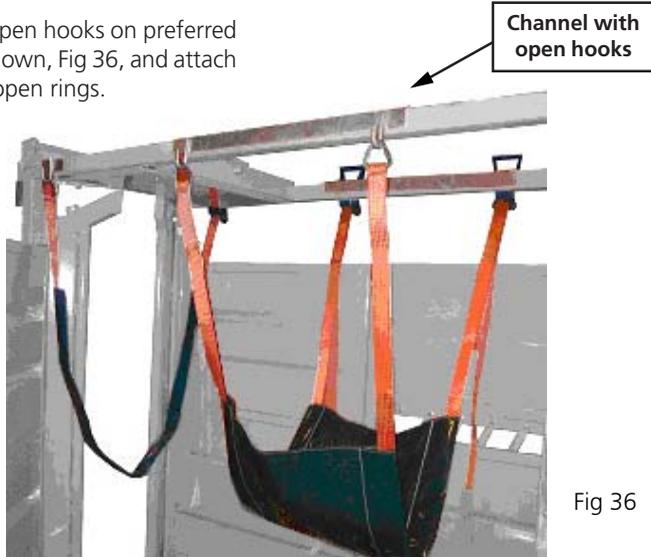


Fig 36

Channel with ratchet assemblies



Fig 37

Position the channels carrying the ratchets on the opposite side as shown, Fig 37, feed the belly support onto the two straps and feed the ends through the ratchet buckles.

For the front strap, ensure the sleeve is fitted before feeding the end through the front ratchet buckle.

When entering an animal into the crate, remove the harness and front strap by lifting off the open rings and pulling the harness and front strap through to the opposite side of the crate.

The rear channels carrying the Belly harness can be moved 'front and rearwards' to suit each individual animal.

## Fitting the Front Hoof Blocks

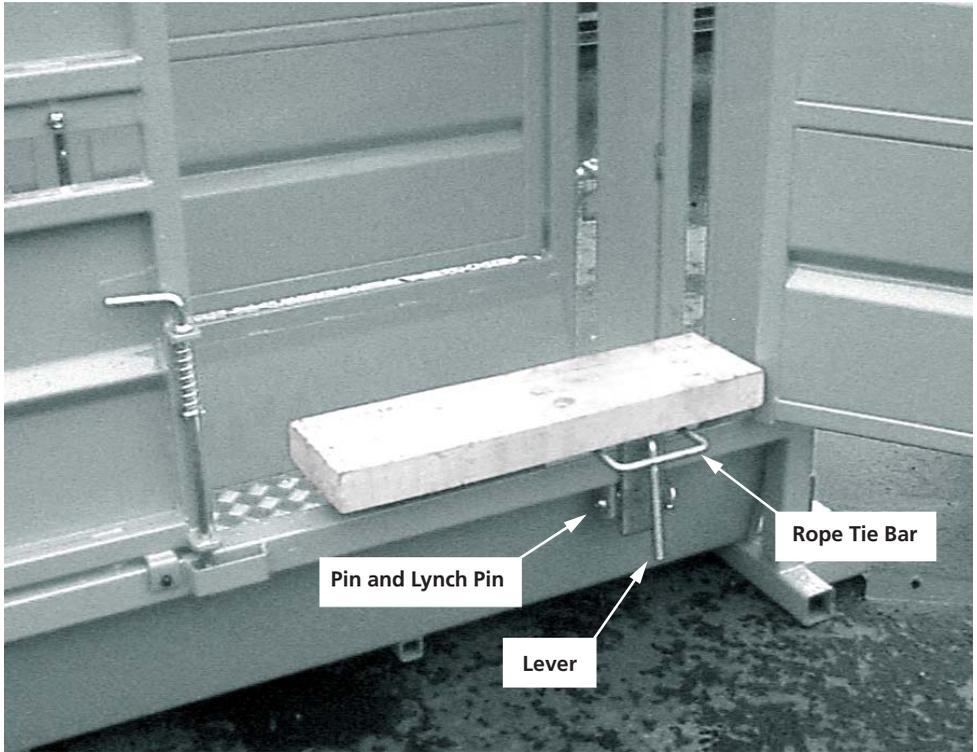


Fig 38

Attach the left and right hoof block assemblies using the pin and lynch pin provided, Fig 38.

To operate the hoof block, the side door of the crate must be opened to allow access, and the block can then be pivoted upwards and locked into position using the lever incorporated.

A rope tie bar is provided to assist tying the leg securely.

When the hoof blocks are not being used, the block assembly can be pivoted through 90 degrees, which allows the side doors of the crate to be opened.



# Component Parts



**Bracket**  
Part No. 338G/16



**Bracket**  
Part No. 338G/33



**Handle Assembly**  
Part No. 339G/515

**Clamp Plate**  
Part No. 339G/513



**Clamp**  
Part No. 339G/518



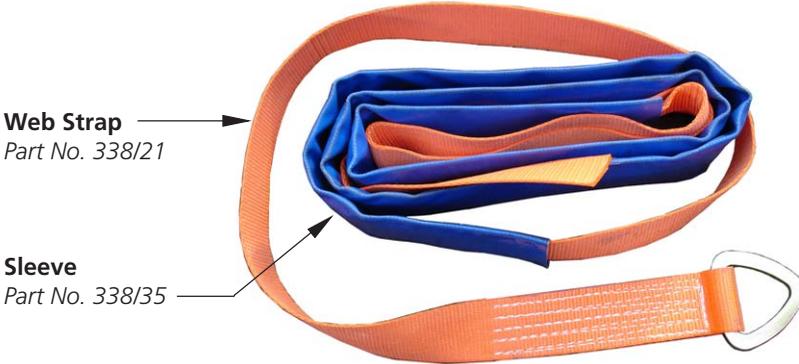
**Winch Assembly**  
Part No. 339G/516





**Bracket / Ratchet Assembly**  
*Part No. 338G/26*

**Bracket / Ratchet Assembly**  
*Part No. 338G/34*



**Belt Looped**  
*Part No. 339G/519*

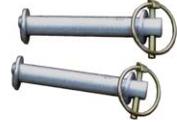


**Belt Hooked**  
*Part No. 339G/520*





**Wood Block Support**  
Part No. 338G/24



**Attachment Pins**  
Part No. 338G/18 (x2)



**Wood Block Support**  
Part No. 338G/25

**Web Strap**  
Part No. 338G/21 (x2)



**Belly Canvas**  
Part No. 338G/22







*the perfect partner*

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