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TWOSE

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FRONT-END LOADERS *Electric & Cable Models* *Operator's Instruction Manual*



EC DECLARATION OF CONFORMITY

*Conforming to EEC Directive 98/37/EC**

We,

TWOSE OF TIVERTON LIMITED,
6 Chinon Court, Lower Moor Way,
Tiverton Business Park, Tiverton, Devon, EX16 6SS.

Declare under our sole responsibility that:

The product (type) **Tractor Mounted Front-end Loader**

Product Code **FX01, FX02, FX03, FX04, FX05, FX08, FX10, FX12, FX15, FX45, FX65, FX85**

Serial No. & Date Type

Manufactured by **Faucheux Loaders**

29 Rue J.F. Kennedy, Luce 28111, France

(insert business name and full address if not stated above)*

Complies with the required provisions of the Machinery Directive 98/37/EC*, previously Directive 89/392/EEC as amended by Directives 91/368/EEC, 93/44/EEC and 93/68/EEC.

The machinery directive is supported by;

- BS EN ISO 12100:2003 Safety of Machinery. This standard is made up of two parts; Part 1 Terminology, methodology, Part 2 Technical Specifications.
- BS EN 1050 Safety of machinery - Principles of risk assessment.
- and other national standards associated with its design and construction as listed in the Technical File.

The Machinery Directive is fully implemented into UK law by means of the Supply of Machinery (Safety) Regulations 1992 (SI 1992/3073) as amended by The Supply of Machinery (Safety) (Amendment) Regulations 1994 (SI 1994/2063).

Jean Baptiste GILBERT

Signed
on behalf of TWOSE OF TIVERTON LIMITED *Responsible Person*

Director General of Faucheux Loaders March 2006
Status *Date*

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WARNING!

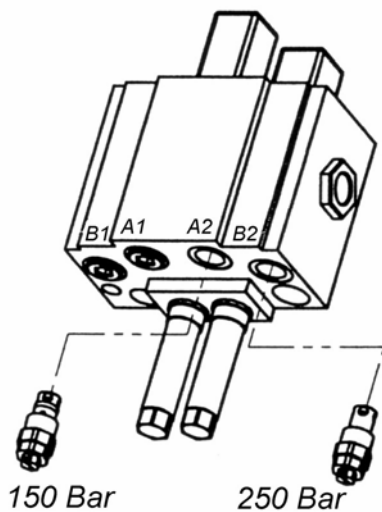
Check Valve Installation for Vario-Star loader range

Vario-Star Loader Operation using an External Bank Valve

In order to ensure the optimum protection of the Vario Star loader, it is imperative that the external bank valve has the appropriate safety check valves fitted to the crowd and dump lines.

To insert the check valves, first remove the plugs at ports A2 (dump line) and B2 (crowd line) on the bank valve.

Then install a 250bar check valve into Port B2 and a 150bar check valve into Port A2 (see diagram below). The loader can now be safely operated.



Nimco Bank Valve:

Use Check Valve kit B8089N

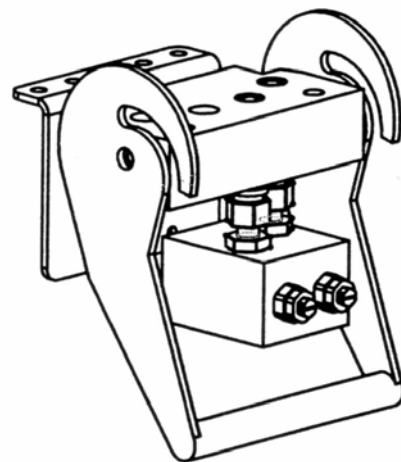
Walvoil Bank Valve:

Use Check Valve kit B8089W

Vario-Star Loader Operation using the Spool Valves of the Tractor

When the tractor spool valves are to be used (i.e. no external bank valve required), then it is necessary to install a **safety check valve block** in the crowd and dump lines of the loader, in order to ensure that the loader has optimum protection (See diagram below). The loader can now be safely operated.

Use Check Valve Block kit B9340



NB. If the appropriate check valve kit is not fitted in conjunction with the Vario loader, then this may affect the safe operation and warranty status of the loader.

Introduction

Thank you for purchasing a Twose Loader.

Over 30 years experience in Handling Equipment Manufacturing has gone into the design, development and building of this machine to ensure you receive many years of reliable service.

Manufactured in a modern factory using high performance production equipment this machine has undergone stringent individual quality checks at the end of the assembly line in order to guarantee you total quality.

Before using your loader, read this Instruction Manual carefully – it has been designed to provide you with all the important information you need to work in a safe and efficient manner to get optimum performance from your machine.

Always Use Genuine Parts

Twose Genuine Parts are designed and tested specifically for use on our machines - the use of non-genuine parts is not advisable as this can affect both the performance and warranty on the machine.

We continually strive to better our products in both performance and value through a continual programme of re-design and testing – where applicable, if an existing part has been superseded by an updated version, the latter will always be supplied.

Features – Non-Parallel Models

Standard Features -

- Available in 3 models – TW45, TW65 & TW85.
- Suitable for tractors from 40hp to 95hp.
- Non-parallel Boom Arm.
- Lift Capacity from 1050kg to 2000kg.
- Lift Heights of 3.2m to 3.85m.
- Joystick Control.
- Adjustable Parking Legs.
- Level Indicator.
- Drive in / Drive out pick up hitch.
- Tractor fitting kit.
- 2 in 1 Fitting Kit.
- Subframe to rear axle.
- Optimum visibility of Implement.
- Easy access to engine.
- Quick attachment hitch.
- High Tensile steel beam.
- Double wired hoses for reliability.
- Quick dump rams, constant speed.

Optional Features -

HYDRAULIC OPTIONS:

- 3rd Service.
- 4th Service.
- 5th Service.

CONTROL OPTIONS:

- Pro-glide.
- Electro-glide.
- Auto-glide.
- Dynafix.

LOADER OPTIONS:

- Hydraulic Shock Absorber.
- Hydro Doc.
- Multicoupler.

Features – Parallel Models

Standard Features -

- Available in 4 models – TW80, TW100, TW120 & TW150.
- Suitable for tractors from 60hp to 170hp.
- Lift Capacity from 1500kg to 2900kg.
- Lift Heights of 3.88m to 4.30m.
- Parallel lift system.
- Joystick Control.
- Pivot post with latch, self-automatic locking system.
- Adjustable Parking Legs.
- Level Indicator.
- Automatic Drive in / Drive out.
- Tractor fitting kit.
- 2 in 1 Fitting Kit.
- Subframe to rear axle.
- Optimum visibility of Implement.
- Easy access to engine.
- High Tensile steel beam.
- Double wired hoses for reliability.
- Quick dump rams, constant speed.

Optional Features -

HYDRAULIC OPTIONS:

- 3rd Service.
- 4th Service.
- 5th Service.

CONTROL OPTIONS:

- Pro-glide.
- Electro-glide.
- Auto-glide.
- Dynafix.

LOADER OPTIONS:

- Hydraulic Shock Absorber.
- Hydro Doc.
- Multicoupler.

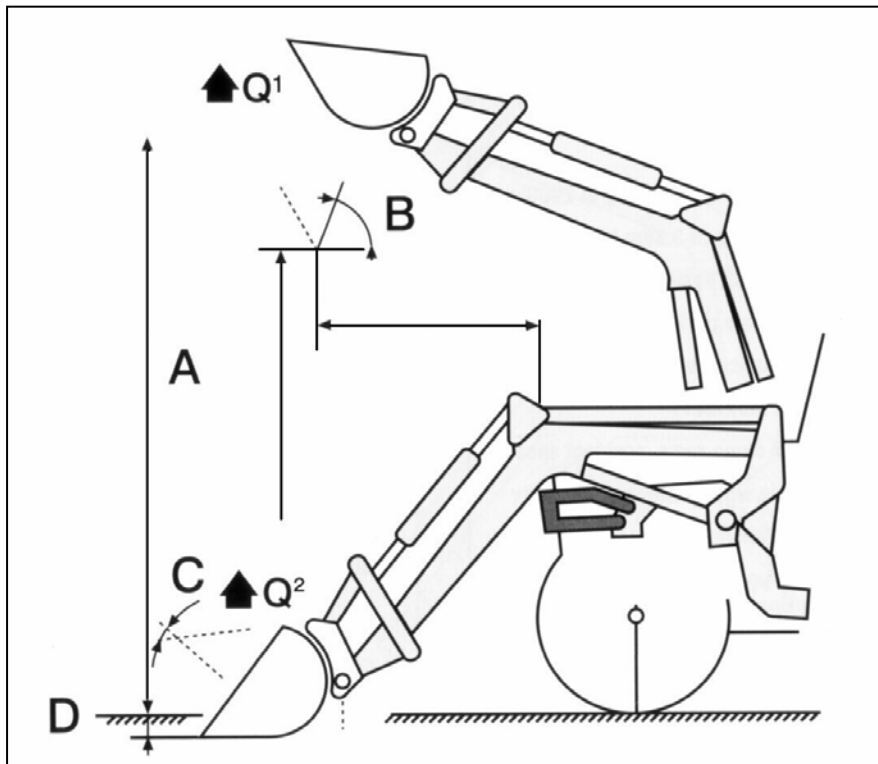
Specifications

Non-Parallel Series Loaders

		TW45	TW65	TW85
Tractor (hp)		40-65	50-85	65-95
Lift Height (m)	A	3.20	3.70	3.85
Dump Angle	B	60°	70°	80°
Crowd Angle	C	45°	40°	45°
Lift capacity (kg)	Q ¹	1050	1500	2000
Tear out Force (kg)	Q ²	1300	2000	2300
Digging Depth (m)	D	0.15	0.15	0.15

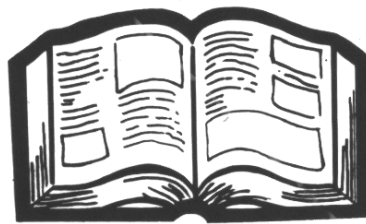
Parallel Series Loaders

		TW80	TW100	TW120	TW150
Tractor (hp)		60-85	80-110	90-130	110-170
Lift Height (m)	A	3.88	3.90	4.10	4.30
Dump Angle	B	55°	50°	55°	54°
Crowd Angle	C	50°	46°	47°	45°
Lift capacity (kg)	Q ¹	1500	2000	2500	2900
Tear out Force (kg)	Q ²	1990	2700	2350	3200
Digging Depth (m)	D	0.15	0.15	0.15	0.15





SAFETY INFORMATION



Safety Advice

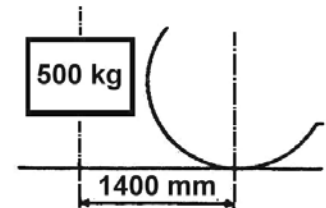
Please ensure you read and fully understand the following information regarding the safe use of this loader, it is your responsibility to ensure not only your own safety but also the safety of others. Failure to observe and adhere to these instructions will discharge Twose of Tiverton Limited from any responsibility in the event of an accident and may result in the cancellation of any guarantee.

Although the information given here covers a wide range of safety subjects, it is impossible to predict every eventuality that can occur under differing circumstances whilst operating this machine. No advice given here can replace 'good common sense' and 'total awareness' at all times, but will go a long way towards the safe use of your Twose machine.

BEFORE USING THIS MACHINE YOU MUST:

- ▲ ALWAYS ensure you have read and fully understood the Operator's Manual before attempting to operate the machine.
- ▲ ALWAYS ensure all operators are suitably qualified in the safe use and operation of this machine and that they have read and fully understood all information contained in this manual.
- ▲ ALWAYS inspect the machine on every occasion prior to use to ensure all attachments, implements and hydraulic fittings are fitted correctly and securely. Visually inspect the hydraulic hoses for signs of wear or damage – replace immediately if damage is found. DANGER; Never check for oil leaks in hydraulic hoses with your hand – use a piece of cardboard.
- ▲ ALWAYS be aware of the height and reach capability of the machine - especially when working near bridges, buildings and power lines etc.
- ▲ ALWAYS adhere to the recommended tyre pressures stated by the manufacturer.

- ▲ To improve the stability of the tractor and the usefulness of the loader, the use of rear ballast of a maximum weight of 500kg is advised. Rear ballast weight on hydraulic lifting or on fixed arms. Inflating the tyres with water, weighting wheels, twin wheels.

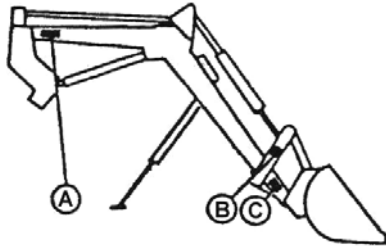


- ▲ ALWAYS ensure a safe working environment:
Inspect the working area carefully before beginning work - take note of any possible hazards in the area such as electric wires, telephone wires, beams, posts, roofs, etc. and ensure the machine is kept at a safe distance from these hazards especially in the case of electric wires and Overhead Power Lines – *it is recommended that you contact the Health & Safety Executive and/or your Local Electricity Company to seek advice on 'Safe Working Distances' before attempting to work in the vicinity of Power Lines.*
- ▲ ALWAYS sit in the driving seat before starting the tractor and working the loader.
- ▲ ALWAYS ensure the loader is empty and in the raised position when transporting the machine on the road or Public Highway and that the tines on the fork are covered with a protective sleeve. DANGER: Operate with extreme caution when transporting under low bridges.
- ▲ ALWAYS ensure that bystanders and passers-bys' are kept at a safe distance. In some cases this may be necessitate stopping work whilst they pass and only recommence once they are at a safe distance.

- ▲ ALWAYS lower the arms and implements of the machine to rest on the ground when the loader is not being used – even for a short period of time.
- ▲ Work with extreme care when handling loose materials such as; rocks, roots, boxes, tins, tree trunks, etc.
- ▲ ALWAYS lower the loader as close as possible to the ground when travelling on rough terrain or steep ground, with or without a load.
- ▲ ALWAYS ensure before you attempt any repairs or maintenance on the tractor that the engine is switched off, the key pocketed, and the hydraulic circuit between the tractor and the loader is disconnected.
- ▲ ALWAYS work on the tractor with the loader lowered and the implement resting on level firm ground without any pressure being exerted on it – if the loader gets in the way, remove it, disconnection and reconnection is a simple rapid procedure.
- ▲ ALWAYS ensure after changing an implement that you ‘crowd’ it fully and double check that the pins of the frame are firmly attached to it.
- ▲ ALWAYS ensure before disconnecting the loader and that the implement is firmly attached, the ground is level and firm, and that the implement is positioned flat and resting against a block to facilitate ease of reconnection.
- ▲ Long-term storage of the loader should be on firm level ground, preferably in a clean dry location. Put all the ram rods back in, remove the loader and lift from behind to put the jacks in and move them to the transport position, the loader can then be put onto the ground taking care not to crush or trap the hoses and electric wires.
- ▲ ALWAYS work with extreme care near ‘Overhead Power Lines’ - some of our machines are capable of reach well in excess of 8 metres (26 feet) this means they have the potential to well exceed, by possibly 3 metres (9’ 9”), the lowest legal minimum height of 5.2 metres from the ground for 11,000 and 33,000 volt power lines. It cannot be stressed enough the dangers that surround this capability, it is therefore vital that the operator is fully aware of the maximum height and reach of the machine, and that they are fully conversant with all aspects regarding the safe minimum distances that apply when working with machines in close proximity to Power Lines. (Further information on this subject can be obtained from the Health & Safety Executive or your Local Power Company).

WHEN USING THIS MACHINE YOU MUST:

- ▲ NEVER remove or cover any of the safety decals - in the event of them being lost or damaged they should be replaced immediately.



Positions of Safety Decals

- A. – Fitting & Disconnecting Loader.
- B. – Using Linkage point for dump rams, with or without parallel linkage.
- C. – Do not stand under load.

- ▲ NEVER modify the track width of the tractor without checking whether or not it has repercussions on the tyres - especially on the front when braking with maximum load on the loader.
- ▲ NEVER use the loader to lift people.
- ▲ NEVER use a machine for something it was not designed for.
- ▲ NEVER permit people to ride on the loader.
- ▲ NEVER walk or stand under the raised loader.
- ▲ NEVER permit persons to stand near to the loader whilst working or lifting.
- ▲ NEVER permit children or inexperienced persons to operate this equipment.
- ▲ NEVER permit children to play on or around this equipment.
- ▲ NEVER park or leave a loader with the arms in the raised position.
- ▲ NEVER exceed the loader's lift capacity – this would be both hazardous to the operator and may cause damage to your machine (see specifications page for details of the lift capacity of specific loaders).
- ▲ NEVER attempt to work the lever on the frame that unhooks the implement when the loader is disconnected. Place electric wire and hoses on their brackets after wiping the valves and putting the protective stoppers on them.

WARNING: The standard 'roll over' protection structure of tractors will only provide partial protection from a load falling onto the driving position – additional protection from this danger can only be achieved by the use of attachments specifically designed to prevent a load from falling onto the driving position of the tractor.

Storage of the Loader

Long-term storage of the loader should be on firm level ground, preferably in a clean dry location. Put all the ram rods back in, remove the loader and lift from behind to put the jacks in and move them to the transport position, the loader can then be put onto the ground taking care not to crush or trap the hoses and electric wires.

Tractor and Loader Stability

Front-end loaders are used in a variety of roles in many industries to handle various types of materials such as feed, manure, soil, and gravel to name just a few. The versatility of this type of machine allows an operator to load, lift, transport and dump materials simply and efficiently.

As with all machinery, safe use of this equipment is primarily down to the operator and his knowledge - not only of the loader's capabilities, but also of its stability as a unit with the tractor. A heavy load that is raised too high will alter the centre of gravity of the tractor, thus reducing the stability of the unit. This will affect both the balance and handling of the tractor and can easily lead to a situation where it will cause the tractor to tip over.

The following rules can help prevent such accidents from occurring:

- Keep the loader implement as low as possible when transporting loads, especially on rough terrain or uneven surfaces.
- Avoid travelling downhill with loads.
- Restrict your speed when travelling with a load – additional weight on the loader adds to the momentum of the tractor.
- Do not overload the equipment and keep the load as even as possible.
- Restrict your speed when making turns with a load and avoid making sharp turns.
- Avoid travelling across a slope.

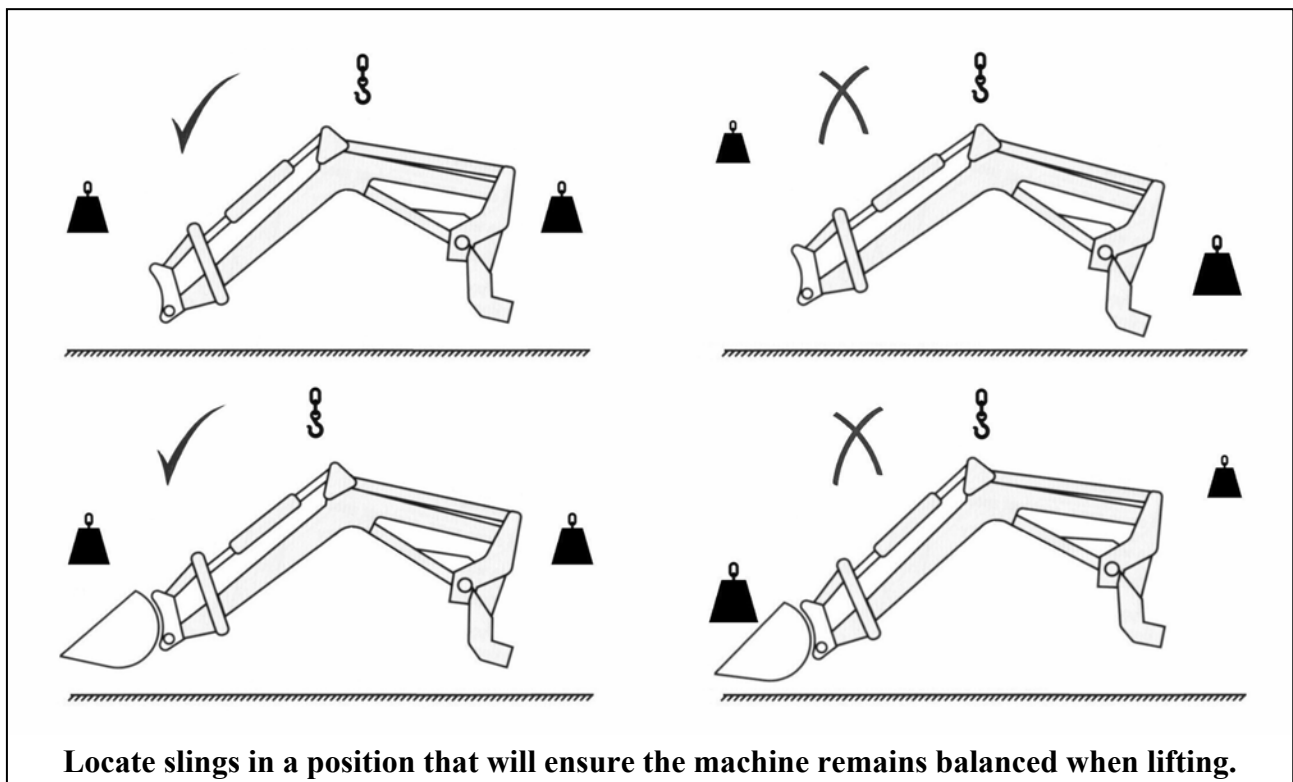
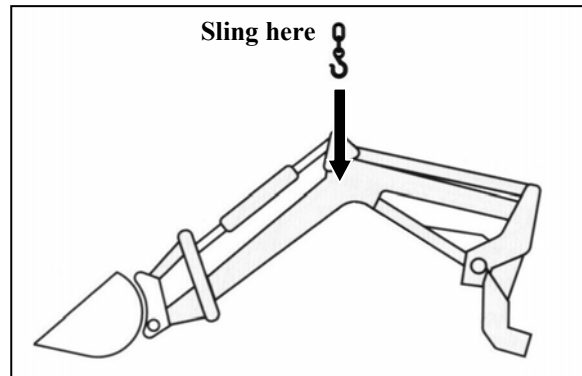
The addition of ballast will increase stability of the unit – extra ballast will help to counter-balance the extra weight of the load being carried and therefore will reduce rollover potential. Other factors that will increase stability include: adjusting the wheel width and employing the use of wider tyres. Refer to your tractors handbook or contact the manufacturer or dealer for additional information on this subject.

Lifting of the Machine

The machine should be lifted using suitable slings and overhead lifting equipment with a minimum safe lifting capacity in excess of the machines weight.

Slings should be placed under the boom at the location indicated (see diagram opposite) and its position and placement adjusted to ensure a 'balanced' lift of the machine.

The exact position of the lifting sling will vary dependant on what implements (if any) are fitted to the machine.



Keep all bystanders at a safe distance and always ensure that the machine is placed down on a firm level site.

Fitting Kits

Each make and model of tractor requires a specific fitting kit that will comprise of the following components:

A. Mechanical Parts

- 1) Rear Brackets – Right & Left Hand.
- 2) Rear Ramps – Right & Left Hand.
- 3) Intermediary Brackets – Right & Left Hand or single part fixed across the bonnet.
- 4) Top Strut.
- 5) Bottom Strut – *dependant on make/model.*
- 6) Front Ramps – Right & Left Hand.
- 7) Front Brackets – Right & Left Hand.
- 8) Radiator Grill Protectors – Right & Left Hand.

B. Hydraulic Parts

Electric Models

- B. 2 Feed Pipes – Flow & Return direct from the loader with double acting spool valve.

Cable Models

- 9) 3 Feed Pipes – direct from loader – 1 single acting for lifting & 2 double acting for bucket with 1 single acting & 1 double acting spool valve from the tractor.

or

- 9) 4 Feed Pipes – direct from the loader – 2 double acting for lifting & 2 double acting for bucket.

C. Electrical Parts

Electric Models

- 10) 1 Electric Control Lever with 9 functions.
- 11) 1 Electric Plug with 5 female pins for complete control of loader and implement.

Cable Models

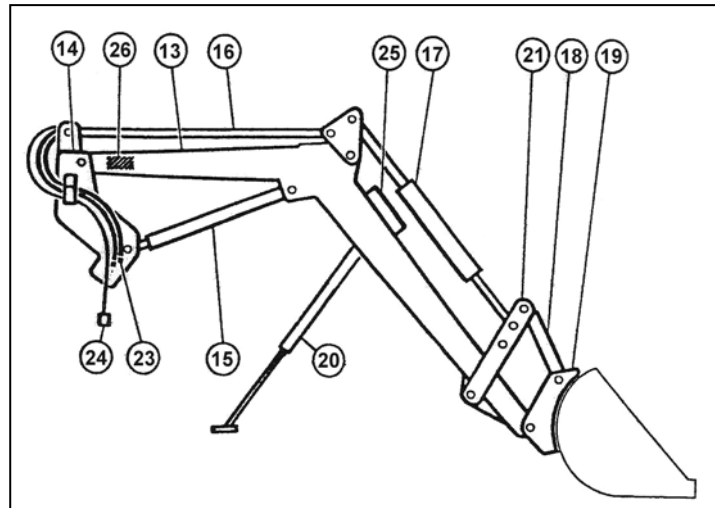
- 12) 1 Electric Control Lever with 6 functions.
- 13) 1 Electric Plug with 5 female pins.

NOTE

Items 10 & 11 are standard equipment whilst items 12 & 13 are optional equipment for controlling implement.

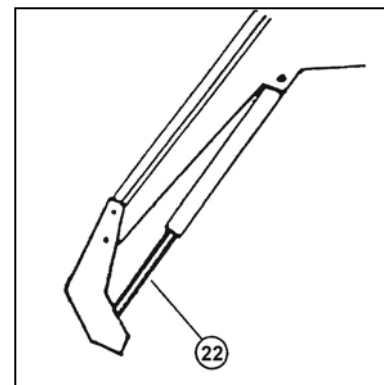
Loader Parts

Each loader delivered consists of:



A. Mechanical Parts

- 13) Boom.
- 14) Vertical Mounts.
- 15) Lift Rams.
- 16) Rods and moving parts of Parallel Linkage.
- 17) Bucket Ram (double acting).
- 18) Implement Tipping Arms.
- 19) Frame with automatic coupling.
- 20) Jacks.
- 21) Intermediary Arms.
- 22) Locking Security System on Lift Ram.



B. Hydraulic Parts

Electric Models

- 23) 2 Feed Pipes direct from spool valve.

Cable Models

- 23) 3 Feed Pipes direct from loader & single acting lever (lifting) & 2 double acting for bucket.

or

- 23) 4 Feed Pipes direct – 2 double acting – lifting (double acting lift rams optional) & 2 double acting for bucket.

C. Electrical Parts

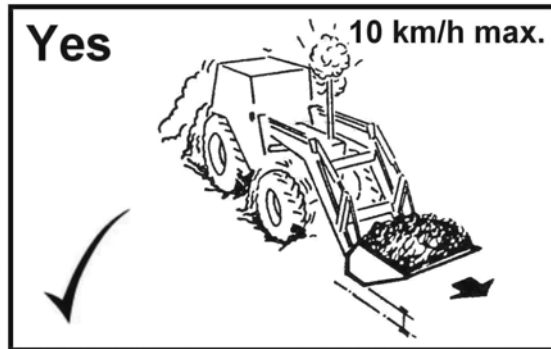
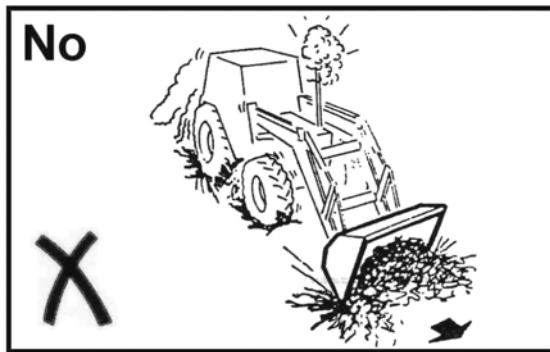
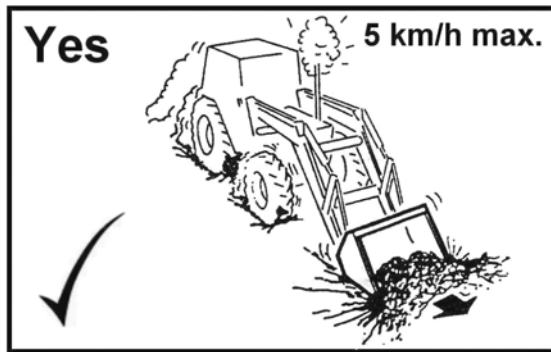
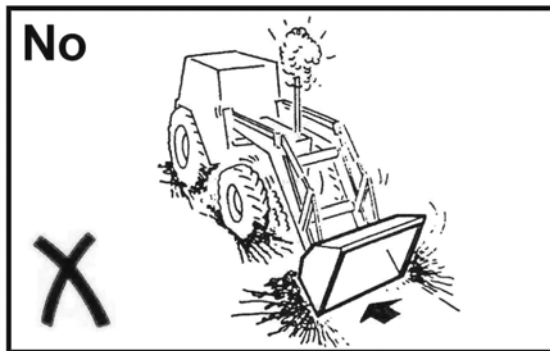
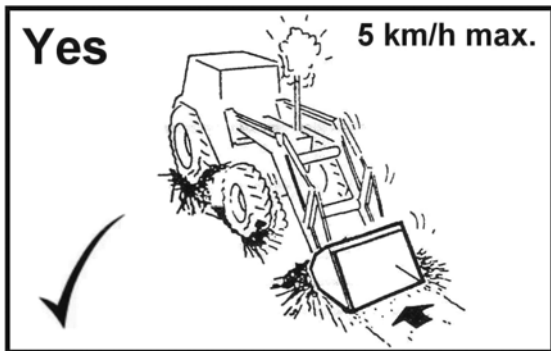
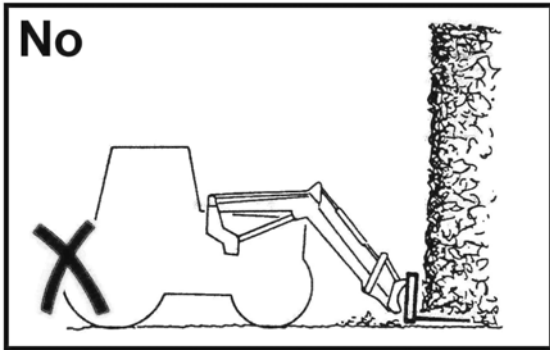
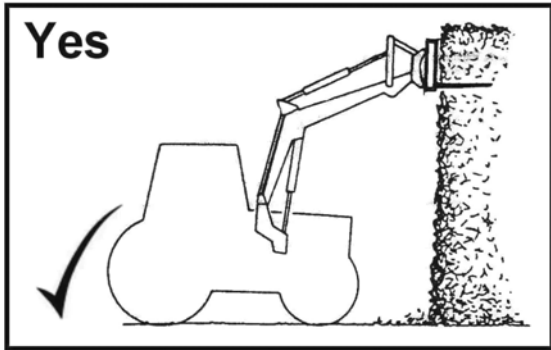
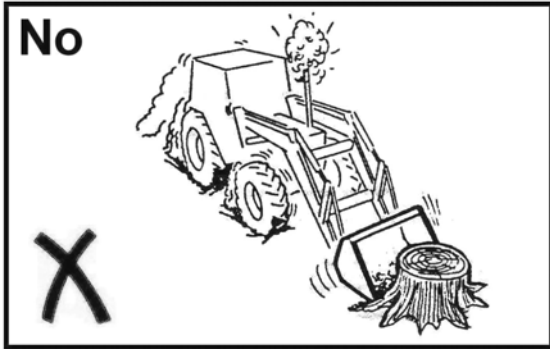
Electric Models

- 24) 1 Electric Plug with 5 male terminals for complete control of the loader and the implement.
- 25) Box of spool valves for lifting and for bucket.
 - optional 3rd & 4th Function – ‘quick dump’ & ‘float’.

Cable Models

- 24) 1 Electric Plug with 5 male terminals solely for controlling implements with their own rams.
- 25) Optional spool valves box for the sole control of an implement with its own rams: 3rd & 4th function – float.
- 26) Manufacturer’s plate mounted on inside of the left arm – indicates serial number.

Operating – Do's and Don'ts



High Voltage Cables

It cannot be stressed enough the dangers involved when working near high voltage electricity cables - before attempting to work in these areas ensure you have read and fully understood the safety section at the beginning of this manual which includes information on this subject.

**ALWAYS MAINTAIN A MINIMUM CLEARANCE DISTANCE OF 1.5 M
WHEN OPERATING NEAR HIGH VOLTAGE CABLES**

We recommend that you consult either the Health & Safety Executive or your Local Power Company to obtain detailed information regarding the safe procedure for working in this type of environment.

Overhead Obstructions

Always be aware of the height of the loader especially when raised, take care when maneuvering near or under bridges, buildings, power cables or any other obstacles you may encounter when moving your machine.

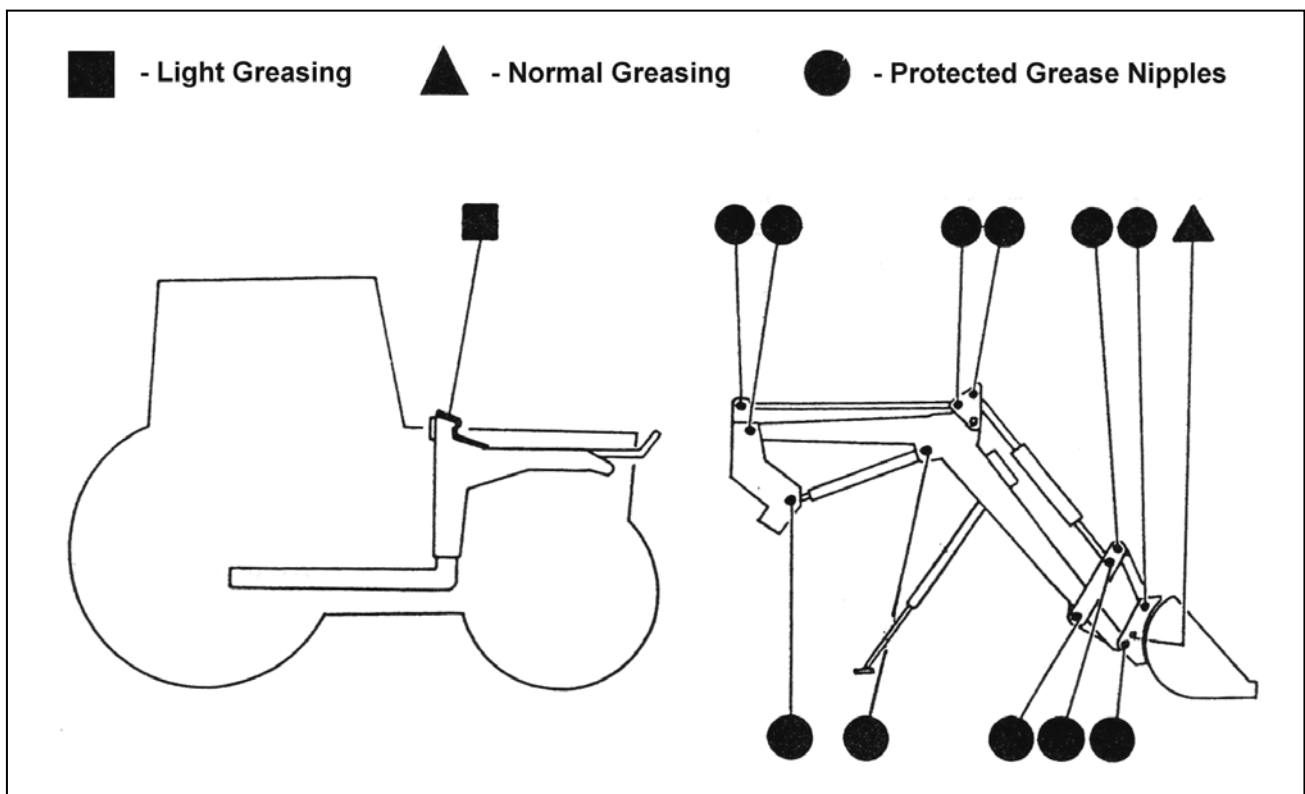
Working On Public Highways

When working on the public highway it is the operators responsibility to familiarise themselves with any national and local regulations concerning this type of activity, and ensure that they are abided at all times..

In inhabited areas, work should only proceed with extreme caution and care, all bystanders must be kept away from the potential danger area - *it is your responsibility to protect the safety of others in the vicinity.*

Maintenance

1. After the first 10 hours of operation, and after that at regular intervals, the loader should be inspected and checked to ensure all bolts, hydraulic couplings and implement tines remain tight.
2. Clean and grease the loader regularly, especially the linkage points where implements are attached – *refer to diagram below for greasing point locations.*
3. If cleaning with a high-pressure washer never aim the jet of water under the protective cover of the spool valves to avoid causing damage.
4. Always clean and grease the loader prior to storage of the machine.
5. The location of greasing points are indicated in the diagram below:



Operation

A tractor equipped with a loader will be visually the same within the operator's cab environment with the exception of the control lever for the loader, which will be mounted to the right-hand side of the driver's position.

1. Loaders – Electric Models

Uses one 'double acting' spool valve from the tractor. The lever has been equipped with a knob with a range of electric switches – the 'Control Lever'.

Use of the Control Lever with 9 Functions

To control movements without using the electric switches:

1. Pulling lever raises the loader.
2. Pushing lever lowers the loader.



Controlling movements with Electric Switches

A/1 - Pull lever to 'crowd' implement.

A/2 - Push lever to empty implement.

B/1 - No function associated to pulling lever in position B/1

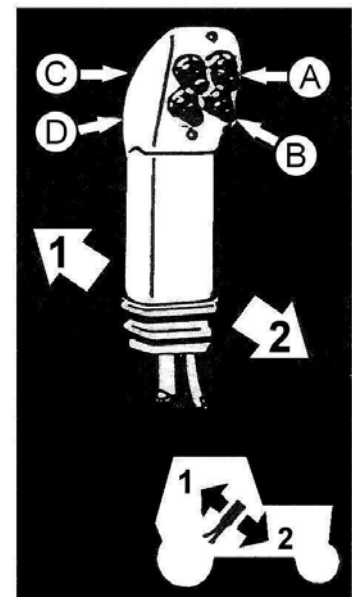
B/2 - Push lever for rapid emptying.

C/1 - Pull lever to open Crocodile or raise Canyon.

C/2 - Push lever to close Crocodile or lower Canyon.

D/1 - Pull lever to open Canyon jaws.

D/2 - Push lever to close Canyon jaws.



Important

To change movement, press the appropriate switch.

To release the hydraulic pressure, lower to the ground, stop the engine and move the lever to positions 1 and 2, then repeat the operation pressing each of the switches.

2 Loaders – Cable Models

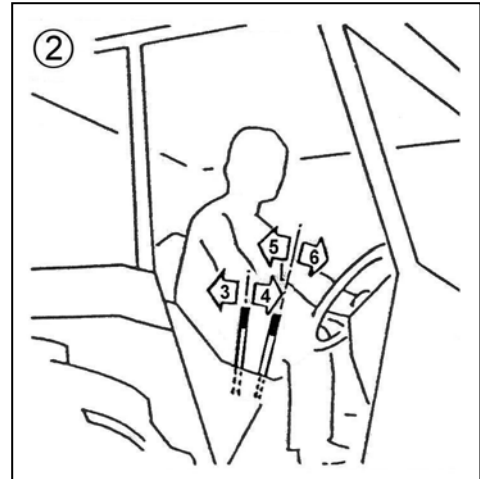
Using 2 existing tractor control valves

- 1 single acting:

3. Pull lever to raise loader.
4. Push lever to lower loader.

- 1 double acting:

5. Pull lever to 'crowd' implement.
6. Push lever to empty implement.

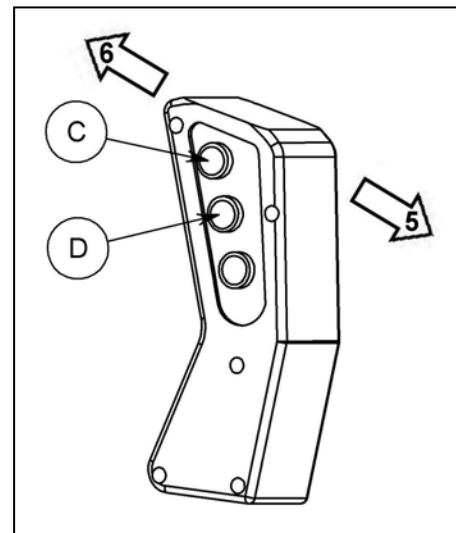


Important

Additional functions are obtained by making the lever double acting by adding a control knob with electric switches, the 'Control Lever'.

Use of the control lever with 6 functions:

- C/5 - Pull lever to open Crocodile or raise Canyonal.
- C/6 - Push lever to close Crocodile or lower Canyonal.
- D/5 - Pull lever to open Canyonal jaws.
- D/6 - Push lever to close Canyonal jaws.

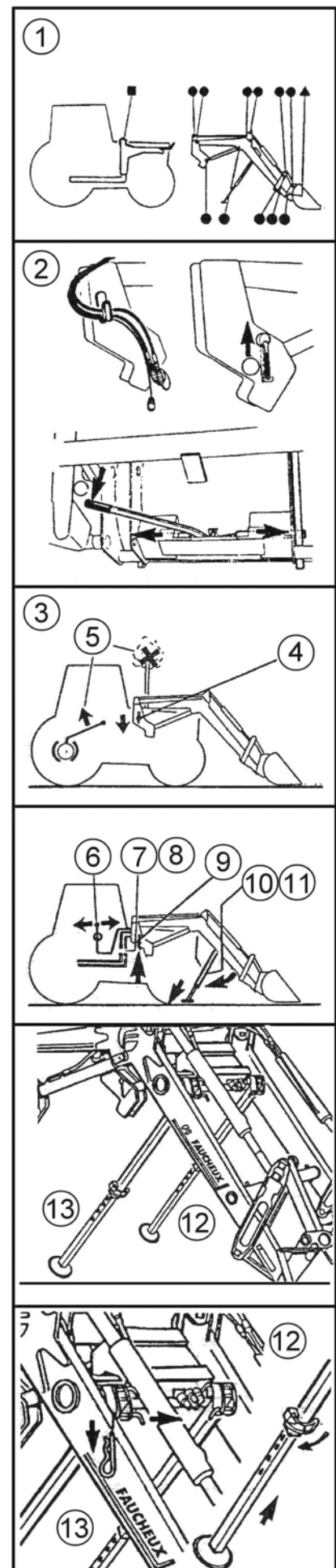


Fitting the Loader to the Tractor

The procedure for fitting the loader to the tractor is as follows:

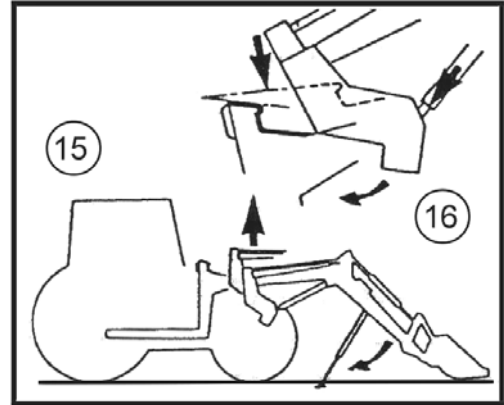
1. Clean and lightly grease the attachment point on the vertical posts.
2. Check the position on the loader of the:
 - hoses and electric wires should be in their bracket forming a loop above the loader's arm.
 - jacks at the same height, not any lower (soft ground).
 - lever on quick-attach frame must be horizontal with the implement well attached.
 - cam levers in the top position.
3. Drive the tractor slowly forward ensuring it is evenly centred between the loader's arms.
4. Just before the point of connection, let the clutch up sharply: the cam levers will automatically fall into position – *Refer to note 14 on following page.*
5. Stop the engine and apply the handbrake.
6. Release the hydraulic pressure.
7. Connect up the hydraulic valves by the coloured stoppers.
8. Connect the electric plug.
9. Check that the cam levers are locked in the down position.
10. Start the tractor.
11. Raise the loader slightly to lift the jacks off the ground.
12. Remove retaining clip and raise the extending tube.
13. Remove locking pin and swing the stand to the working position and replace retaining clip.

Important: Never grease the jacks



Important – Fitting Problems

14. If the cam levers fail to come down fully, as referred to in paragraphs 4 & 9 of this section, **do not** use a hammer or any other tool to force them. The paint on the machine can cause them to stick the first few times the loader is attached. Move forward into the loader a little further whilst turning the wheels first to the right and then to the left, the cams will eventually fit into their proper place after raising and lowering the empty loader a few times.



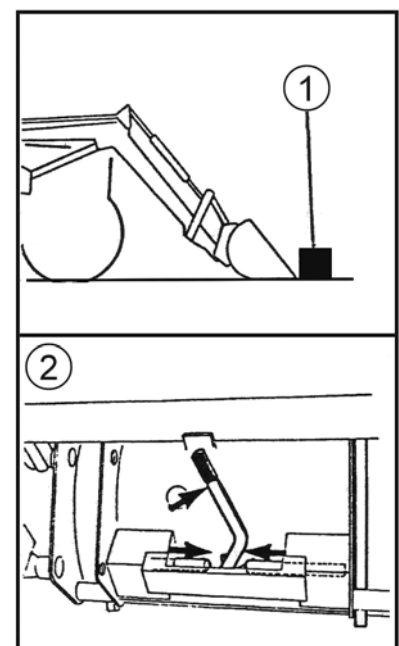
15. If the loader has been left disconnected for a long period of time, and the jacks have sunk into the ground, it will need to be lifted from the rear and either 'blocked' under the jacks using suitable strong blocks or the jacks extended further to reposition the loader at the correct height for reconnecting to the tractor. **Warning: Always use safe recommended lifting equipment when lifting machinery of any kind and ensure you keep yourself and bystanders at a safe distance to avoid accidents.**

16. If the connecting arms on the vertical mounts of the loader and the front arms on the tractor are not parallel their position will have to be rectified in order to fit the loader.

- Move the tractor forward as far as possible between the loader's arms.
- Stop the engine and apply the handbrake.
- Release the hydraulic pressure.
- Connect the hydraulic valves and the electric plug.
- Start the tractor.
- At the same time as moving the tractor forward reposition the vertical mounts of the loader by moving the lifting rams.

Changing Implements - Disconnection

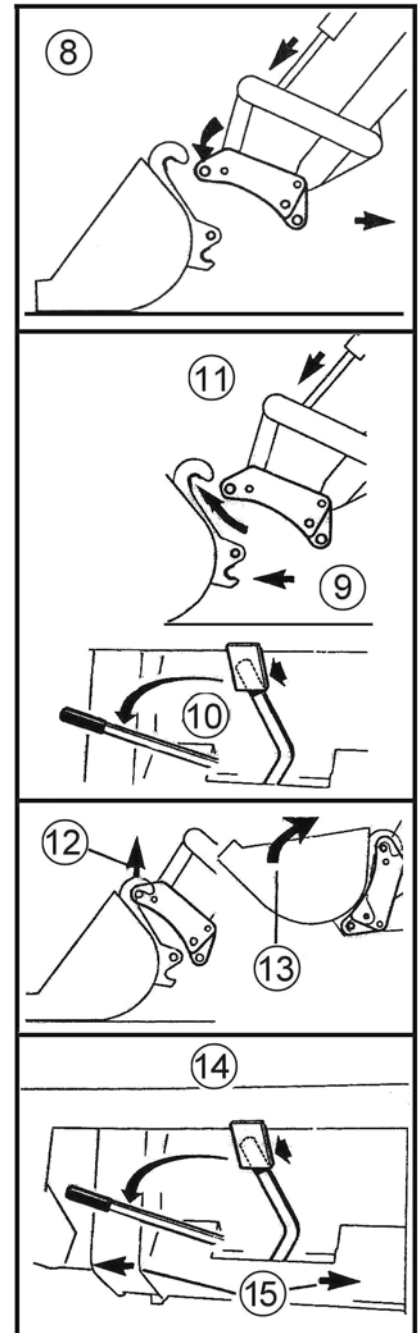
1. Lower the loader down flat to the ground, without exerting pressure, resting it against a suitable block to facilitate re-attachment.
2. Move the lever of the quick-attach frame from the horizontal position to the vertical position to disengage the tipping mechanism. The lever remains in position automatically.
If the implement/tool has its own rams such as: Crocodile, Pelican, Canary, Rotocanary, etc. –
3. Stop the tractor engine and apply the handbrake.
4. Release the hydraulic pressure.



5. Disconnect the valves and remove the hoses from their brackets on the front beam of the loader.
6. Wipe the valves and put on their protective stoppers.
7. Roll up the hoses neatly and stow them on the implement in a position where they are unlikely to get damaged.
8. Start up the tractor and slowly reverse back (straight), lowering the front of the quick-attach frame to disengage the hooks on the top of the implement.

Changing Implements - Connection

9. Drive the tractor and loader forward to the connection point on the implement.
10. Check that the lever on the quick-attach frame is in the vertical position.
11. Move the quick-attach frame forwards so that the hooks on the top of the implement are higher than the round bar of the quick-attach frame onto which they fit.
12. Raise the loader beam so that the round bar on the quick-attach frame fits into the hooks on the implement/tool.
13. Crowd the implement as much as possible.
14. The lever on the quick-attach frame comes to rest on the front beam of the loader and is released automatically.
15. With the lever on the quick-attach frame in a horizontal position, check that the loader is properly attached to the lower holes in the bracket on the implement.



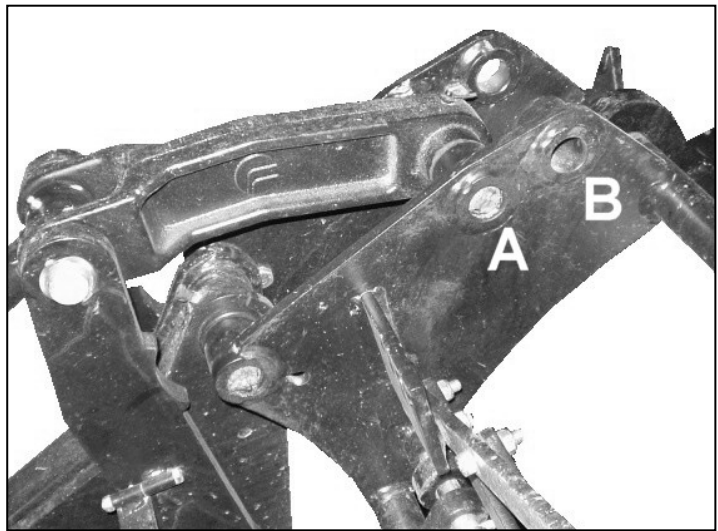
If the implement has its own rams, such as: Crocodile, Pelican, Canyon, Rotocanyon, etc. –

16. Stop the tractor engine and apply the handbrake.
17. Release the hydraulic pressure.
18. Place the hoses in their brackets.
19. Remove the protective stoppers from the valves.
20. Connect up the hydraulic valves by their coloured stoppers.

Carriage Linkage

IMPORTANT NOTE FOR PARALLEL MODELS ONLY

On parallel models the loader's linkage bracket pivots must only be attached to the carriage at position 'A' shown in the picture opposite - **NEVER** use position 'B' as this may lead to failure or damage to the machine.



The fitting of 'third party' carriages is not recommended.

If 'third party' carriages are fitted to the loader these should be checked (without load) to ensure that the loader's 'lift' and 'crowd' operations function correctly, and that the operation of the machine is not restricted or overloaded in any way. A suitably qualified person should carry out these checks as damage may occur when fitting such equipment incorrectly.

Twose of Tiverton Limited accepts no responsibility for machines that have been fitted with 'third party' carriages or for the resultant damage that may occur to the tractor, loader or user.

Implement Usage – Bale Handling

Using the Canybal for round bale handling:

- Never empty the implement abruptly or rapidly when loaded and raised.
- Never exert pressure on the implement or on the tines of the implement to relieve pressure on the front of the tractor.

Using the Rotocanybal for square bale handling:

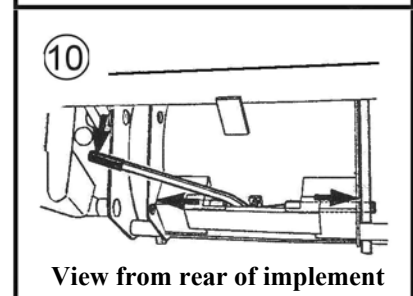
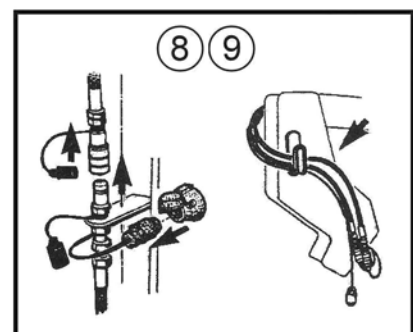
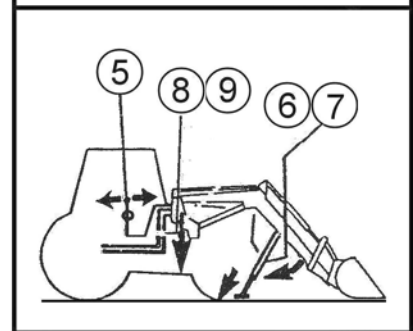
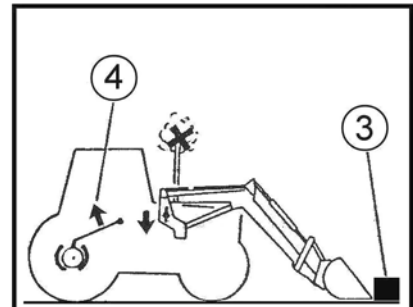
- Never empty the implement abruptly or rapidly when loaded and raised.
- Never exert pressure on the implement or on the tines of the implement to relieve pressure on the front of the tractor.



Disconnecting the Loader from the Tractor

The procedure for disconnection the loader from the tractor is as follows:

1. Select a suitable safe location on which to leave the loader - this should be on firm level ground. If long-term storage is anticipated it is preferable that this is in a clean, dry environment in order to protect the machine from the elements.
2. Drive the tractor and loader forward into position.
3. Lower the loader and implement down flat to the ground without exerting any pressure, resting it against a block to facilitate the release of the cam levers and the refitting of the loader.
4. Engage the handbrake and stop the engine.
5. Release the hydraulic pressure.
6. Release retaining clip and locking pin, swing stand to the 'park' position and secure in place with the locking pin.
7. Extend the stand fully to the ground and lock retaining clip in an appropriate hole in the extending tube. (Refit procedure is the reverse of above).
8. Disconnect the hydraulic valves, wipe them clean and put on their protective stoppers. Place them in the bracket on the pivot post.
9. Disconnect the electric plug and place in the bracket with the hoses.
10. Check that the implement is well attached to the frame with the pins firmly fixed into the brackets of the implement and the lever horizontal.



Problems – Causes and Solutions

1. The Loader will not lift:

- Check oil level and condition of filters – pump pressure (possibly requires cleaning).
- Check that all valves are well connected and clean.
- Check electric plug connection and condition of the fuse; look at the electrical junction of the plug, spool valves and control lever.
- Consult your Dealer.

2. The Loader rises in ‘jerks’:

- See above
- Check that the flow of oil being fed from the tractor hydraulic pump is not blocked or has an ‘air lock’.

3. The Loader rises slowly:

- See above
- Check the quality of the oil (viscosity), in cold weather allow the tractor engine to run for several minutes to warm the oil before operating the loader.

4. The Loader will not go down:

- See above
- Consult your tractor manual on use of loaders (possibly in the slow position).

5. The Loader goes down on its own accord or fails to repeat a movement:

- Check the condition of the ram seals.
- Check the parts of the spool valves: valves, seals, etc.
- Consult your Dealer.

6. Movements are opposite to what they should be:

- Check valve connections.
- Check wires and cables leading off from the spool valves and control levers.
- Consult your Dealer.

7. Only ‘Upward’ & ‘Downward’ movement – no Implement movement:

- Check and clean the contacts of the electrical switches on the control lever.
- Check protective covers are properly seated over the switches.
- Consult your Dealer.

8. Uncontrollable movements – Raising & Lowering causes Implement to move:

- Check the spool valve of the implement - may be contaminated with dirt.
 - Stop the tractor engine and apply handbrake.
 - Release the hydraulic pressure.
 - Undo the screw at base of part.
 - Clean Electro Shuttle Valve.
 - Refit Valve.
 - Consult your Dealer.

9. Oil leaking from Rams:

- Check the Seals and the condition of the Ram Rod - inspect for scratches.
- New loaders may experience a slight seepage of oil but this should disappear after several hours of use.

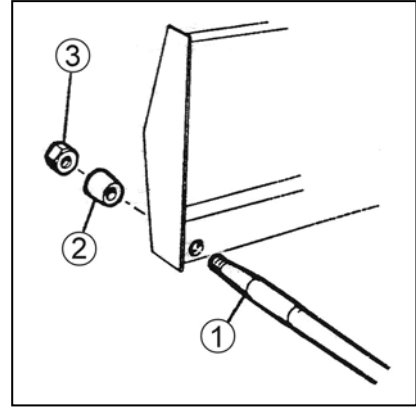
WARNING

Never disconnect the valves before having stopped the tractor engine and releasing the hydraulic pressure, residual pressure in the loader circuits must be eliminated before attempting to disconnect any valves.

Fitting of Accessories and Options

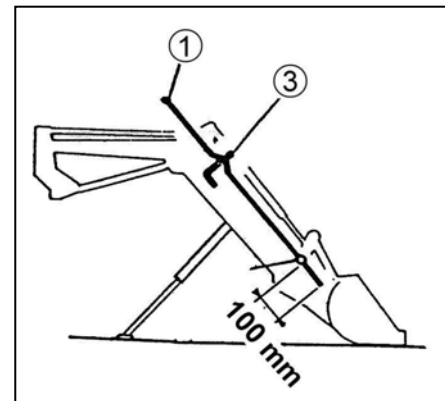
Fitting Fork Tines

1. Place tine in the hole on tine-frame.
2. Place the centering bush with the smallest diameter of the cone on the other side of the tine-frame
3. Attach the nut, with the conical end in the centering bush, do not fully tighten at this stage.
4. Attach all tines in the same manner.
5. Place the first tine at right angles to the tine-frame, by turning the centering bush, and fully tighten the nut.
6. Align and tighten the other tines in the same manner.
7. Check the tightness of the tines frequently.



Fitting of Implement Position Guide On F1-F2-F3 (Option)

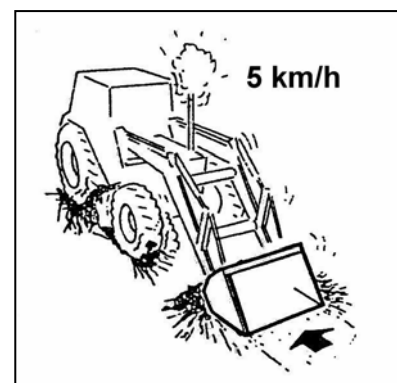
1. Place Implement flat on the ground.
2. Centre the top of the Rod (1), on the Guide (3), which is attached to the bracket for the hydraulic hoses.
3. Extend the Rod a further 100 mm down from the Rod Support point (2) and cut it off at that point.



Fitting the Floating Position

A device acting on the lifting rams of the loader that allows the 'double-acting' circuit to be converted to 'single-acting'. This system makes it possible to carry out levelling work.

Installation is very simple on the Spool Valve Control Box.



Fitting the Circuit Selector

A handle with one electric switch, which can be fitted onto any single or double acting spool valve lever to double the number of hydraulic circuits of the tractor.

