

4. OPERATING PROCEDURES

Using the Machine

Before Using The Machine

Before you begin to operate the Moffett Forklift you must have completed the Moffett training program, understand and follow all information in this manual. Each day you operate the machine, complete all of the Daily Inspection Checks as detailed in the MAINTENANCE section of this operator manual.

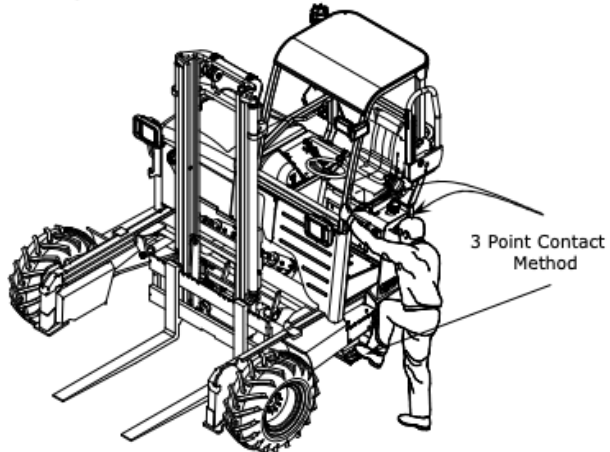
Entering Operator's Compartment

Always climb aboard the vehicle properly. Use "three point contact" method and face the machine when you climb aboard or dismount the Moffett Truck-Mounted Forklift "three point contact" means that 3 out of 4 arms and legs are in contact with the machine at all times during mount and dismount. Clean your shoes and wipe your hands before climbing on. Use the overhead guard, grab-handle and step when climbing on or off. Do not use the side guard as a grab-handle. Make sure the side guard is secured before mounting or dismounting. Never climb aboard or dismount when the engine is running or when the machine is moving. Never use the control levers or the steering wheel as a hand-hold when climbing on or off the Moffett Truck-Mounted Forklift.



WARNING:

Never climb aboard or dismount the machine with engine running.



4. OPERATING PROCEDURES

Rollover



DANGER:

Any machine that is used to lift and move loads may tip over if not operated correctly. No matter how experienced the operator is, accidents can still happen if the operator does not remain vigilant. Always be aware of the potential danger involved when using the Moffett Truck-Mounted Forklift. Be aware of what action you MUST take if the machine starts to tip or roll over.

**DO NOT ATTEMPT TO JUMP OUT – STAY IN THE MACHINE
HOLD TIGHTLY ONTO THE STEERING WHEEL – BRACE YOUR FEET
AND LEAN AWAY FROM IMPACT**



WHEN THE MACHINE HAS COME TO REST – EXIT VIA SAFEST ROUTE

4. OPERATING PROCEDURES

Using the Machine

Adjusting the Seat

The operator's seat can be adjusted for your comfort. A correctly adjusted seat will reduce operator fatigue. Position the seat so that you can comfortably reach the machine controls. Make sure that you can depress the foot controls fully with you back against the seat back.

Fasten the Seat Belt and Close the Side Guard.



WARNING:

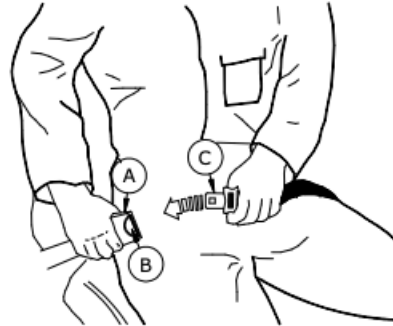
Always wear your seatbelt when driving the Moffett Truck Mounted Forklift. The Forklift may tip over if operated incorrectly. To protect the operator from risk of serious injury or death in the event of a tip over, it is best to be held securely in the seat. The seat and seatbelt will help to keep you safely within the operator's compartment. In the event of a tip over **DO NOT JUMP** grip the steering wheel, brace your feet and lean away from direction of tip over staying within the operator's compartment.



WARNING:

When checking the seat belt, if it does not lock, do not drive the machine. The seat belt assembly must be replaced immediately.

1. Sit correctly in the seat. Make sure the belt is not twisted. Push the male end **C** into the buckle **A** until it latches.
2. Make sure the seat belt is across your hips and not over your stomach.
3. Press button **B** to release the seat belt.



Note: The Forklift will not drive unless the seat belt is connected across the operators hips.

4. OPERATING PROCEDURES

Starting The Engine

Start Safely

Adjust the seat, fasten the seat belt and close the side guard. Ensure all operating controls including the forward/reverse pedal, and hydraulic levers are in the neutral position before starting. Use the engine heater to preheat the engine. Alert people in the area before starting the machine. When starting your equipment in an enclosed space, make sure that there is adequate ventilation.

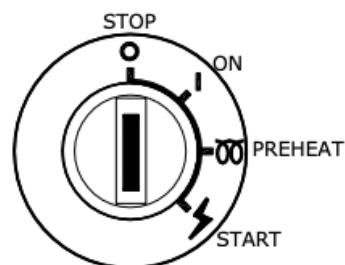


WARNING:

Do not use starting fluid or spray as these are highly flammable, corrosive and cause engine damage.

Insert the key in the ignition. Turn the key clockwise to the "preheat" position and hold for approximately 6 seconds or until the preheat light goes out. Depress the accelerator pedal half way and turn the key until the starter engages and the engine starts. Do not engage the starter for any more than 10 seconds. Release the key and it automatically returns to the "on" position. If the engine fails to start turn off the key for 30 seconds and repeat the starting procedure.

Note: If the engine is cranked excessively a "thermal switch" may cut in to prevent the starter motor from over heating. If this occurs wait 30 seconds push the reset button and retry starting the machine.



After starting, check that all red instrument panel warnings lights have gone out and that all gauges are functioning properly. If all red warning lights have not gone out, stop the engine immediately. Do not attempt to operate the Moffett Truck-Mounted Forklift with a warning light on, as serious damage could occur to the engine.

4. OPERATING PROCEDURES

Driving Techniques

Driving Forward

When driving a loaded machine forward, always accelerate smoothly and slowly. If you accelerate quickly or with jerky movements, the load could fall or the machine may become unstable. Keep the mast retracted and the load as low as possible. Always drive the machine slowly to avoid the risk of having to brake sharply. Always make sure your route is clear of obstructions and take care to avoid endangering pedestrians.

Reversing

When reversing, turn your head to face the direction of travel or get assistance of a reliable person to guide you. Always make sure your route is clear of obstructions and take care to avoid endangering pedestrians. Always ensure the reverse beeper is functioning correctly and can be heard clearly by people around the machine.

Turning

The machine may become unstable if you turn too quickly or too sharply. Always turn slowly and smoothly. If you turn too quickly or too sharply, the load could fall off or the machine could become unstable. Keep the load as low as possible.

The Moffett Truck-Mounted Forklift steers from the rear and can turn on a very tight radius. Tail swing and fork swing must be considered when turning. Always turn slowly and check for clearances at the fork tips and both rear corners of the forklift. When the machine turns, it rotates around either the right front or the left front wheel depending on the direction of the turn. Therefore, the operator must be aware of the unequal turning arcs relative to the offset seating position. When travelling empty with the mast and forks extended, fork swing is greatly increased.

Parking

Always park the Moffett-Truck Mounted Forklift in a designated safe area. Apply the park brake. Lower the forks fully to the ground. Neutralise all controls. Switch off the ignition and remove the key. Chock the wheels if the vehicle is on uneven ground.

If parking on an incline, point the machine uphill, chock the front wheels and turn the rear wheel across the incline.

Note: For machines equipped with a brake on the rear hub, it is recommended that the stabilisers be lowered when parking the machine on incline.

4. OPERATING PROCEDURES

Diff-Lock

Operation of Diff-Lock

Under normal driving conditions the Moffett Truck-Mounted Forklift operates in all-wheel drive. However, in the event of one or more wheels losing grip, the machine may lose traction, stop or skid. By engaging the diff-lock, you will get equal positive drive to all three wheels.

When to use Diff-lock

- If one or more wheels lose traction while travelling through soft or slippery ground conditions.
- To maintain traction while travelling on slopes or inclines.
- To improve braking and traction when reversing downhill.

To avoid damage to the hydraulic system:

- Do not engage the diff-lock when the machine is moving.
- Do not use the diff-lock where traction is good.
- Do not use the diff-lock when turning corners.



CAUTION:

Use the diff-lock only while travelling in a straight line.

How to activate the Diff-lock

1. For Foot-Pedal Control

- a) Return the forward/reverse pedal to neutral position to stop the machine.
- b) Check to see that the rear wheel is in the straight-ahead position.
- c) Press and hold in the diff-lock button.
- d) Increase the engine revs to full RPM.
- e) Depress the forward/reverse pedal lightly in the required direction.
- f) Do not overload the engine.
- g) The diff-lock may be released while the machine is in motion.

2. For Automotive Type Control

- a) Release the accelerator pedal to stop the machine.
- b) Check to see that the rear wheel is in the straight-ahead position.
- c) Press and hold in the diff-lock button.
- d) Select forward or reverse.
- e) Increase the engine RPM to move the machine.
- f) Drive the machine slowly while the diff-lock is engaged.
- g) The diff-lock may be released while the machine is in motion.

2. INTRODUCTION

Mast and Carriage Controls

The Moffett Truck-Mounted Forklift is equipped with hydraulic levers to control movement of the mast, forks and stabilisers. **STUDY THE VALVE BANK DECAL FOR YOUR MOFFETT TRUCK-MOUNTED FORKLIFT BEFORE OPERATING THE MACHINE.**

A. Forks – Raise and Lower:

This lever raises and lowers the forks. Forward movement of the lever will lower the forks down. Backward movement of the lever will raise the forks up.

B. Mast – Extend and Retract:

This lever moves the mast forwards and backwards. Forward movement of the lever extends the mast forward, away from the operator (out). Backward movement of the lever retracts the mast backward towards the operator (in). When placing a load, the mast should be extended only when the stabilisers are fully lowered.

C. Tilt Mast – Forward and Back: This lever tilts the mast forwards and backwards. Forward movement of the lever tilts the mast forward (Forks Down). Backward movement of the lever tilts the mast rearward (Forks Up). Loads should normally be transported with the mast tilted back.

D. Side-Shift – Left and Right:

This lever moves the mast to the right or left. Forward movement of the lever shifts the mast to the left. Backward movement of the lever shifts the mast to the right.

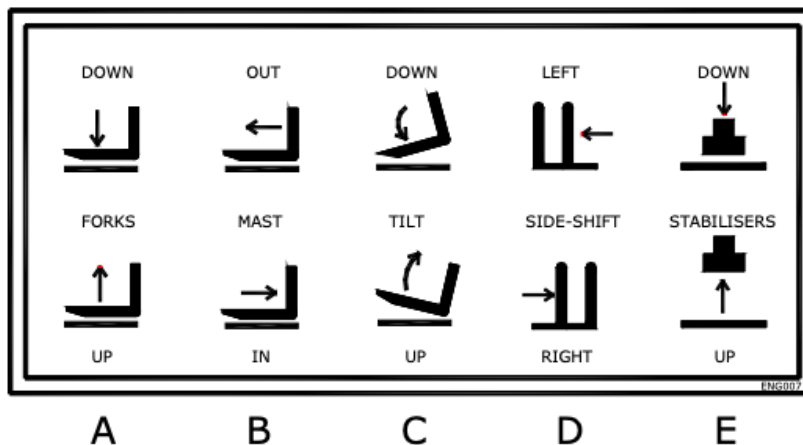
E. Stabilisers – Lower and Raise:

This lever raises and lowers the stabilising legs. When placing a load, the stabilisers must always be fully lowered before moving the mast forward. Forward movement of the lever will lower the stabilisers (down). Backwards movement of the lever raises the stabilisers (up). When lifting a load, never raise the stabilisers until the mast is fully retracted.

Note: When the ground is not firm enough to support the stabilisers extra support plates must be used of sufficient size and strength to ensure they do not sink, bend or buckle during operation. A second person may be required to check the support plates. If at any time the stabilisers or pads show sign of sinking the procedure must be stopped immediately, the mast carriage fully retracted and an alternative location found. If in doubt prior to or during an operation on loose, uneven or soft surfaces, stop. Always consider safety first.

2. INTRODUCTION

Mast and Carriage Controls (continued)



5. MOUNTING PROCEDURES

Rules For Safe Transportation

If the forklift is to be driven on public roads, be certain that all laws and regulations are obeyed. Make sure all operating and directional signal lights are functioning and visible.

When travelling on public roads or streets, obey all local traffic movement regulations.

Approach intersections with caution, observe speed and traffic control signs. Do not speed. Avoid panic stops and sharp turns. When transporting the forklift on a truck or trailer know the overall height to avoid coming in contact with overhead obstructions such as bridges, power lines etc.



DANGER:

Do not attempt to transport the Moffett Truck-Mounted Forklift on a truck or trailer that is not equipped with a mounting kit designed and installed to Moffett Truck-Mounted Forklift specifications.

When carrying a Moffett Truck-Mounted Forklift, make certain that your vehicle complies with the relevant national and local laws and regulations regarding maximum vehicle weight, axle loading, overall vehicle length and overhang.

Note: Before mounting your machine on a truck or trailer ensure all relevant calculations have been carried out by an approved Moffett Truck-Mounted Forklift Distributor.

Ensure an approved Moffett mounting kit is fitted to the truck or trailer and that it is suitable to mount the particular Moffett Truck-Mounted Forklift.

All Moffett mounting kits must only be fitted by approved personnel.

6. MAINTENANCE

DAILY PRE-SHIFT INSPECTION CHECKLIST

Visual Checks

The Moffett Truck Mounted Forklift must be parked on a firm level surface in a SAFE ZONE with the keys removed and the park brake engaged. Starting at the operator station, walk around the forklift and complete the following visual checks.

If defects are identified during the pre-shift visual inspection, notify your supervisor immediately.

- 1 **Decals** - no missing, damaged, or faded decals on the forklift.
- 2 **Seat** - must not be loose; vinyl should not be torn.
- 3 **Seat Belt** - The seat belt should extend smoothly and retract fully. The seat belt must not be frayed or worn. The mechanical latch must be fully functional.
- 4 **Side Guard/Latch/Hinges** - should not have any cracks or bends; must open and close smoothly; must positively latch when closed; **should not be removed.**
- 5 **Overhead Guard** - must not be bent, cracked or modified by drilling or welding.
- 6 **Operator Manual/Manual Box** - *Moffett Operator Manual* must be in the manual box at all times.
- 7 **Hydraulic Level Oil Sight Gauge** - check the hydraulic fluid level with all cylinders in the CLOSED position; top off ONLY with the specified hydraulic fluid; if discoloured, inspect oil system.
- 8 **Fuel Level** - top off if necessary; do not overfill tank; ensure that seal on the inside of fuel cap is not damaged.
- 9 **Valve Levers** - should be clean and clear of debris.
- 10 **Left Carriage Cylinder** - Check for leaks at the fitting and glands (where the cylinder rod extends and retracts). Check for scratches and nicks on the cylinder rod. Check the mounts for cracks on either end of the cylinder. Check for missing or loose bolts on the cylinder retaining pins at either end of the cylinder.
- 11 **Left Tilt Cylinder** See #8 Left carriage cylinder.

6. MAINTENANCE

Visual Checks (continued)

- 12 **Left Front Tyre and Wheel** - Look for debris, mud, or binding behind and around the wheel. There should be no missing or loose wheel nuts. There should be no chunks, cuts, or excessive wear on tyre. Check for proper inflation, REPLACE if the body ply cords are visible, or show any signs of cuts, bulges, or other signs of damage, or has a loss of traction (regardless of tyre tread height). Look for bent or corroded rims.
- 13 **Left Load Support (M5 4-way)** -should fold up and down smoothly. It should latch/lock positively when folded up.
- 14 **Sideshift Cylinder**- See #10 Left carriage cylinder.
- 15 **Left Sideshift Pin** - Check for missing or loose bolts on either end.
- 16 **Left Stabiliser** - Check for damage and ensure the wear pads are intact and adjust with shims if necessary.
- 17 **Left Fork** - lock pins should be functional and making positive engagement in fork board; check the top and bottom carriage mountings for cracks and wear; check the fork for bends, cracks, and wear horizontally (along the blade), vertically (along the shank), and at the heel; ensure that both forks are in the same level plane.
- 18 **Mast** - Check that mast is not bent or has any debris; check the bolts on the base of the mast cylinder for tightness.
- 19 **Mast Chains** - All 4 mast chains should be lubricated; there should be no seized links or rotated connecting pins over the entire length of all 4 chains, they should all be adjusted correctly with no slack in chains.
- 20 **Load Backrest (if fitted)** -The load backrest should not be bent or loose.
- 21 **Mast Lift Cylinder and Mounts** - See #10 Left carriage cylinder.
- 22 **Hydraulic Hoses and Connections** - Observe any leaks or loose fittings. Look for oil spots on the ground where the forklift has been parked and on the frame of the forklift for the source of a leak.
- 23 **Right Fork** -See #17 Left fork.
- 24 **Right Sideshift Pin** - See #15 Left sideshift pin.
- 25 **Right Stabiliser** - See #16 Left stabiliser pin.

6. MAINTENANCE

Visual Checks (continued)

- 26 **Right Load Support (M5 4-way)** - See #13 Left load support.
- 27 **Right Front Tyre and Wheel** - See #12 Left front tyre and wheel.
- 28 **Right Tilt Cylinder** - See #10 Left carriage cylinder.
- 29 **Right Carriage Cylinder** - See #10 Left carriage cylinder.
- 30 **Top Hood** - no broken latches or hinges.
- 31 **Air Filter Indicator** - Push the spring-loaded button (if fitted) - replace if it does not return.
- 32 **Engine Oil** - mark should be between the minimum and maximum; top off if below minimum.
- 33 **Coolant** - check Min / Max level on the overflow bottle which is connected to the radiator: **Do not attempt to remove the radiator cap if the engine is hot.**
- 34 **Rear Steering Cylinder** - See #10 left carriage cylinder.
- 35 **Rear Tyre and Wheel** - See #12 Left front tyre and wheel.
- 36 **Rear Door** - no broken latches or hinges; air filter rain cap should be in place.

NOTE: IF DEFECTS ARE IDENTIFIED DURING THE PRE-SHIFT VISUAL INSPECTION, NOTIFY YOUR SUPERVISOR IMMEDIATELY.
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8. ATTACHMENTS

Using other Attachments

The Moffett Truck Mounted Forklift is available with a range of attachments fitted from the factory. The general rule is that any attachment used on this forklift must be intended for the function of lifting only. This forklift is not designed to PULL, TOW or DRAG other objects. DO NOT use attachments that perform these functions with this forklift.

All Moffett machines supplied with attachments have special capacity charts taking into account any additional attachment weight and lost load centre and how this affects the stability and capacity of the machine. Third party suppliers may not supply this information with their attachments and so only approved attachments must be fitted to the Moffett Truck Mounted Forklift.

Moffett makes no representations or warranties, express or implied, as to the design, manufacture or fitness for use with this forklift of any third party source attachments.

This forklift is not intended to be used and should not be used with any attachment that would alter the centre of gravity stability of this forklift. Moffett assumes no liability for any third party attachment that would alter the centre of gravity stability.

If in doubt contact your local Moffett dealer for advice.

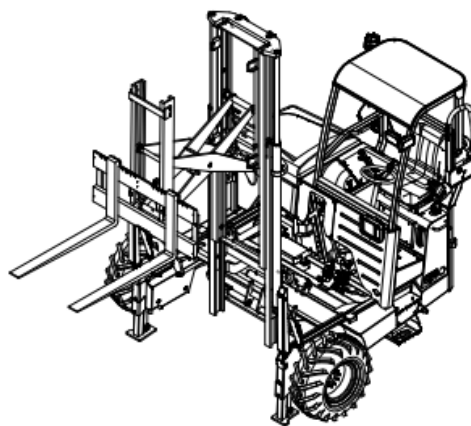


Operator Manual

Moffett Truck Mounted Forklift With Lift Assist and Reach Device

Note:

This section of the manual describes additional operating instructions for the Moffett Truck-Mounted Forklift Lift Assist and Reach Device unit and should only be used as a supplement to the operator manual.



Delivering **Confidence**

B - LIFT ASSIST AND PANTOGRAPH

Overview

"Lift Assist"TM is an attachment which increases the capacity of the machine. When fitted in conjunction with a pantograph reach device allows the machine to lift increased capacity from extended load centres.

It is designed to be used over a truck / trailer bed and **MUST NOT** be used in any other circumstances.

Lift Assist reacts the extra load moment of the extended load centre into the side of the truck / trailer bed and enables an increased capacity to be lifted from extended load centres.

Lift Assist relies on good stabiliser friction to react the extra load moment into the side of the truck / trailer. To ensure this reaction takes place the stabilisers are fitted with friction pads and they **MUST NEVER** be raised while Lift

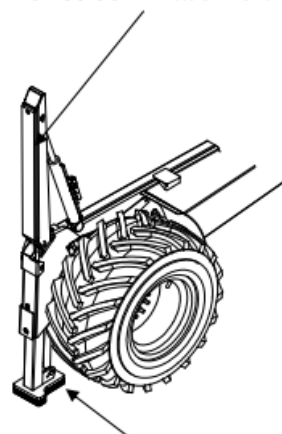
Assist is in use and the stabilisers **MUST ALWAYS** be placed on firm level ground.

If at any time during any lifting operation stabiliser friction is compromised then the load being lifted **MUST** be lowered and a smaller load lifted or alternative ground conditions with improved stabiliser friction must be found.

The "Lift Assist"TM system is fitted with a changeover valve which utilizes the stabiliser hydraulic feed to operate the Lift Assist arms as required. When the hydraulics are used to raise the arms of the Lift Assist the force they can generate is limited to ensure they do not exert any rearward force on the machine during deployment.

When the lift Assist arms are deployed they are prevented from being forced down by check valves in the system.

"Lift Assist"TM Attachment



Stabiliser Friction Pad

B1. SAFETY CHECKLIST – LIFT ASSIST AND PANTOGRAPH

Safety Checklist

Note: The additional Safety Checklist in this section is specific to Lift Assist and Pantograph or other reach device. This should be used in conjunction with the Safety Checklist for the standard machine as outlined at the start of this manual.



WARNING:

Procedure. The "Lift Assist" function must only be used as outlined in the operating procedures of this manual.



WARNING:

Capacity. Do not exceed the capacity shown on the Load Chart for "Lift Assist" in combination with Pantograph or other reach device.



WARNING:

Stabilisers. Make sure the stabilisers are on firm ground or pavement before using Lift Assist.



WARNING:

Stabilisers. Never raise stabilisers while Lift Assist arms are extended. Always retract Pantograph and retract Lift Assist Arms prior to raising stabilisers.



WARNING:

Stabilisers. Make sure the stabiliser friction pads are fitted and are in good condition.



CAUTION:

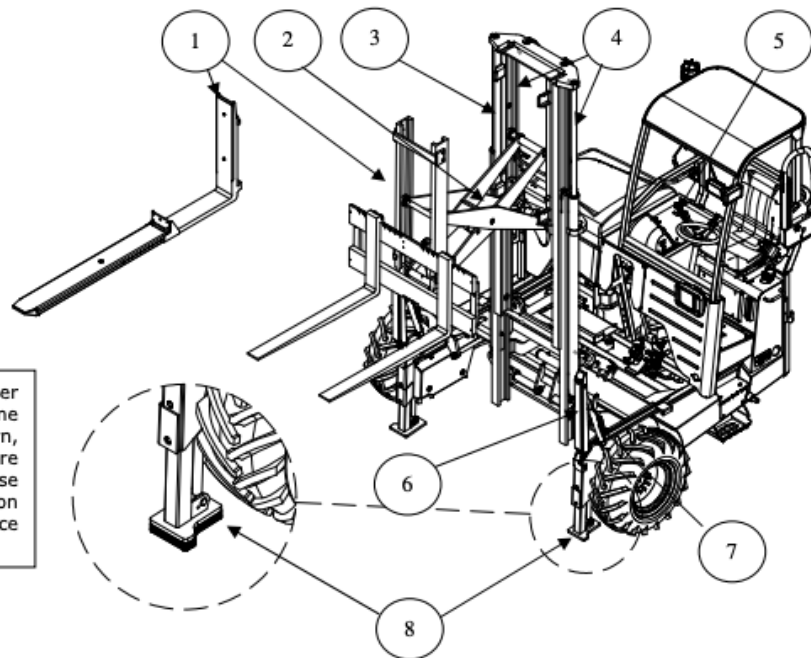
Truck Mounting. Never truck mount with the Pantograph or reach device extended. Always truck mount with the Pantograph retracted as outlined in the normal mounting procedure.

Note: If an operator attempts to truck mount the machine with the pantograph extended then the Pantograph system will lock. The operator **MUST** lower the machine and remove the pressure from the Rod side of the Lift Cylinder before the Pantograph Unlocks.

B2. INTRODUCTION - LIFT ASSIST AND PANTOGRAPH

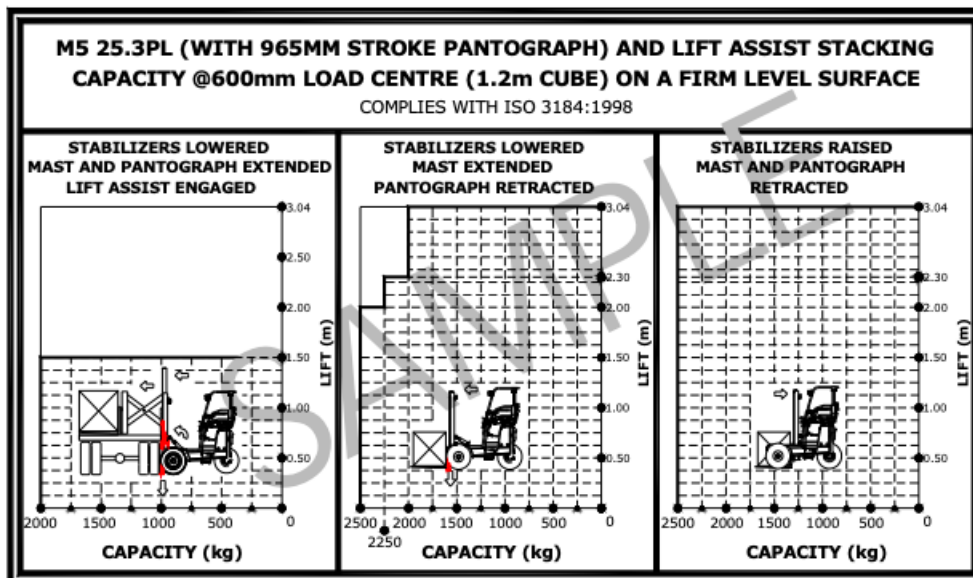
Major Compone

1. Pantograph Device
2. Telescopic forks.
3. Scissor Cylinder.
4. Pantograph Mast.
5. Lift Rams x2.
6. Hydraulic Controls
7. Nylon Wear Strip.
8. Stabiliser Friction



B2. INTRODUCTION - LIFT ASSIST AND PANTOGRAPH

Safety Decals (continued)

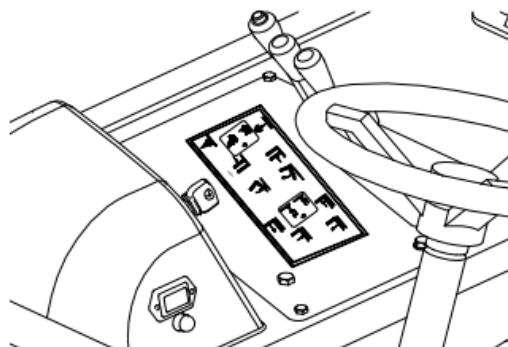
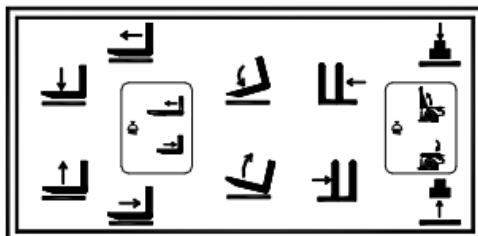


B2. INTRODUCTION - LIFT ASSIST AND PANTOGRAPH

Safety Decals (continued)

Note: The additional Safety Decals listed in this section are specific to Lift Assist and Pantograph and should be used in conjunction with the Safety decals on the standard machine.

Part No. 517.999.0113



Note: The valve bank and load chart decals in this section are only examples and may differ from those found on your machine.

B2. INTRODUCTION - LIFT ASSIST AND PANTOGRAPH

Instruments And Controls Hydraulic Levers

The Lift Assist and Pantograph machine is fitted with two (x2) dual function levers. The function of these levers is outlined below and on the Valve Bank Decal.

UNDERSTAND THE FUNCTION OF BOTH LEVERS FULLY BEFORE OPERATING THE MACHINE!

A. Forks – Raise and Lower:

This lever raises and lowers the forks. Forward movement of the lever will lower the forks (down). Backward movement of the lever will raise the forks (up).

B. Mast or Pantograph or Telescopic Forks:

This lever is fitted with a button which gives the lever two functions **B1** and **B2**.

B1. Mast – Extend and Retract

Without the red button pressed (**off**) this lever moves the mast forwards and backwards. Forward movement of the lever extends the mast forward, away from the operator (out). Backward movement of the lever retracts the mast backward towards the operator (in). When placing a load, the mast should be extended only when the stabilisers are fully lowered.

B2. Pantograph or Telescopic Forks – Extend and Retract

With the red button Pressed (**on**) pushing the lever forward will extend the pantograph or telescopic fork section (out). Pressing the button (**on**) and pulling the lever backwards will retract the pantograph or telescopic fork section (in).

C. Tilt Mast – Forward and Back:

This lever tilts the mast forwards and backwards. Forward movement of the lever tilts the mast forward (Forks Down). Backward movement of the lever tilts the mast rearward (Forks Up). Loads should normally be transported with the mast tilted back.

D. Side-Shift: This lever moves the mast to the right or left. Forward movement of the lever shifts the mast to the left. Backward movement of the lever shifts the mast to the right.

B2. INTRODUCTION - LIFT ASSIST AND PANTOGRAPH

Hydraulic Levers (continued)

E. Stabilizers or Lift Assist:

This lever is fitted with a button which gives the lever two functions **E1** and **E2**.

E1. Stabilizers – Lower and Raise:

Without the red button pressed (off) this lever raises and lowers the stabilizing legs. When placing a load, the stabilizers must always be fully lowered before moving the mast forward. Moving the lever forward will lower the stabilizers (down). Moving the lever backwards raises the stabilizers (up). When lifting a load, never raise the stabilisers until the mast is fully retracted.

E2. Lift Assist – Raise and Lower

With the red button pressed (**on**) this lever raises and lowers the lift assist arms. Pressing the button (**on**) and moving the lever forward raises the lift assist arms (up). Pressing the button and moving the lever backwards lowers the lift assist arms (down).

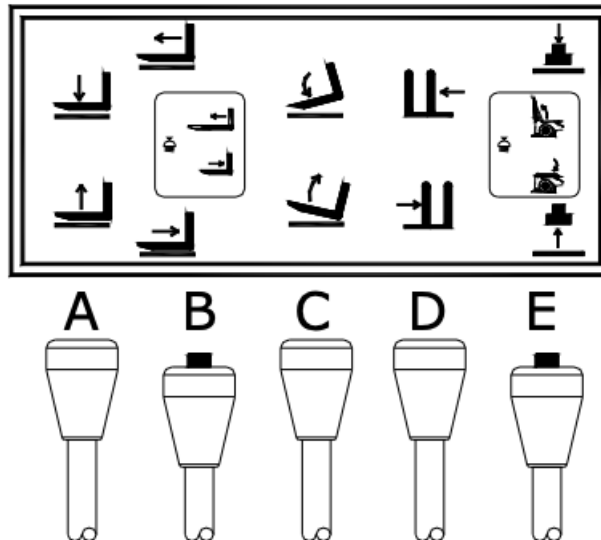
Note: When the ground is not firm enough to support the stabilisers extra support plates must be used of sufficient size and strength to ensure they do not sink, bend or buckle during operation. A second person may be required to check the support plates. If at any time the stabilisers or pads show sign of sinking the procedure must be stopped immediately, the mast carriage fully retracted and an alternative location found. If in doubt prior to or during an operation on loose, uneven or soft surfaces, stop. Always consider safety first.

Note: If during the lifting operation the stabilisers start to slip the load must be lowered immediately and a smaller load – load centre lifted or improved ground conditions found.

B2. INTRODUCTION - LIFT ASSIST AND PANTOGRAPH

Hydraulic Levers (continued)

VALVEBANK DECAL - FUNCTIONS

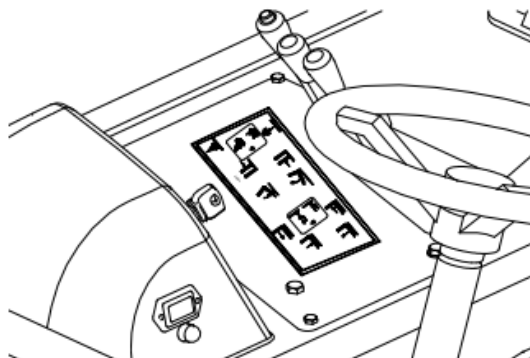
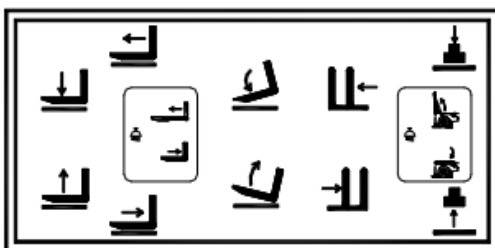


B2. INTRODUCTION - LIFT ASSIST AND PANTOGRAPH

Safety Decals (continued)

Note: The additional Safety Decals listed in this section are specific to Lift Assist and Pantograph and should be used in conjunction with the Safety decals on the standard machine.

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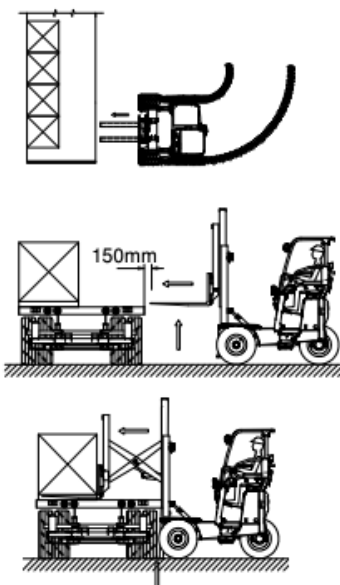


Note: The valve bank and load chart decals in this section are only examples and may differ from those found on your machine.

B4. OPERATING PROCEDURE - LIFT ASSIST AND PANTOGRAPH

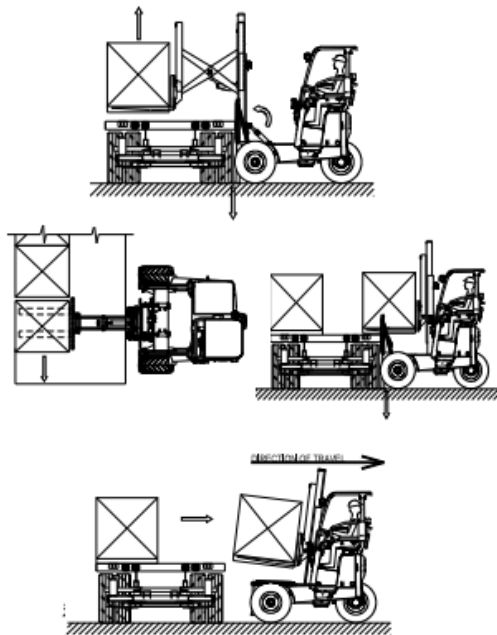
Operating The Lift Assist And Pantograph

Note: These procedures are in addition to the operating procedures outlined for the standard machine in Section 4 of this manual.



1. Align the forklift and the forks with the centre of the load.
2. Approach at 90 degrees to the truck/trailer bed with the mast fully forward and the forks as low as possible.
3. Drive forward slowly until the front of the forks are approximately 150mm from the truck or trailer bed.
4. Tilt the mast forward to the vertical position and raise the forks to bed height.
5. Drive forward as far as possible without the mast making contact with the bed.
6. Do not contact the tires or any part of the truck or trailer with the stabilisers.
7. Extend the pantograph to fully to engage the pallet.
8. Ensure the surface is firm and level and then LOWER the stabilisers fully.
9. Never lower the stabilisers near the edge of a curb because they may slip off the edge or the edge may break away. Double fork the load if necessary.

B4. OPERATING PROCEDURE - LIFT ASSIST AND PANTOGRAPH



10. Raise the "Lift Assist" arms until fully extended.



WARNING:

Do not use the "Lift Assist" unless both arms are in full contact with the truck or trailer bed. This is dependent on load position at the front and rear of the truck/trailer. If there is insufficient space to use the "Lift Assist", the operator must drive to the other side of the truck or trailer to finish unloading.



WARNING:

Do Not Use the "Lift Assist" if unloading from unpaved or uneven surfaces.

11. Raise the load slowly just enough to clear the bed.

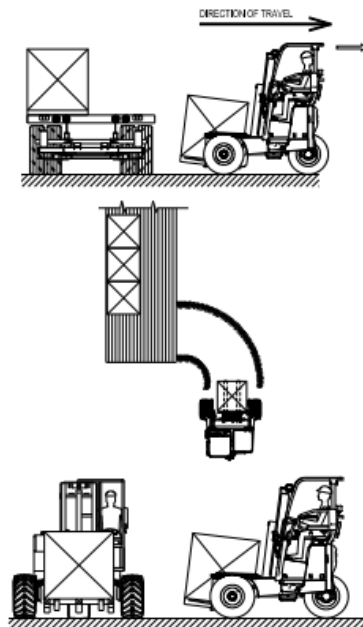


WARNING:

Do not lift the load more than 100mm clear of the bed while the pantograph is extended.

12. Sideshift enough to clear the adjacent pallet or headboard.
13. Retract the pantograph fully.
14. Double fork if necessary to ensure load is in contact with fork face.
15. Tilt the mast rearward enough to stabilise the load.
16. Lower "Lift Assist" arms fully.
17. Retract the mast fully.
18. Raise the stabilisers fully.

B4. OPERATING PROCEDURE - LIFT ASSIST AND PANTOGRAPH



19. Ensure the rear wheel is pointing straight ahead.
20. Reverse straight back to clear the truck or trailer bed (looking in the direction of travel).

21. Lower the load to a level just above the frame.
22. Sideshift the mast to the centre position.
23. Lower the load as low as possible within the frame.

24. Turn the forklift in the intended direction of travel.
25. Slowly drive away – looking in the direction of travel.

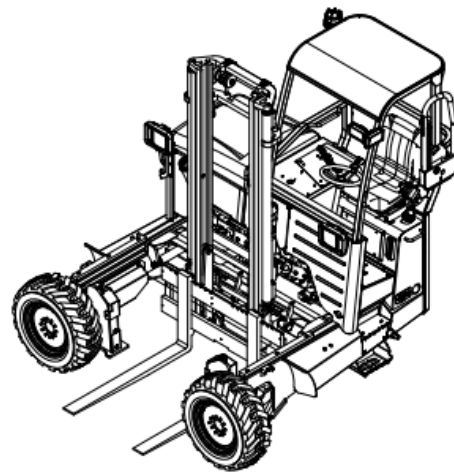


Operator Manual

Moffett Truck Mounted Forklift 4-Way Machines

Note:

This section of the manual describes additional operating instructions for the Moffett Truck-Mounted Forklift 4-Way unit and should only be used as a supplement to the operator manual.



Delivering **Confidence**

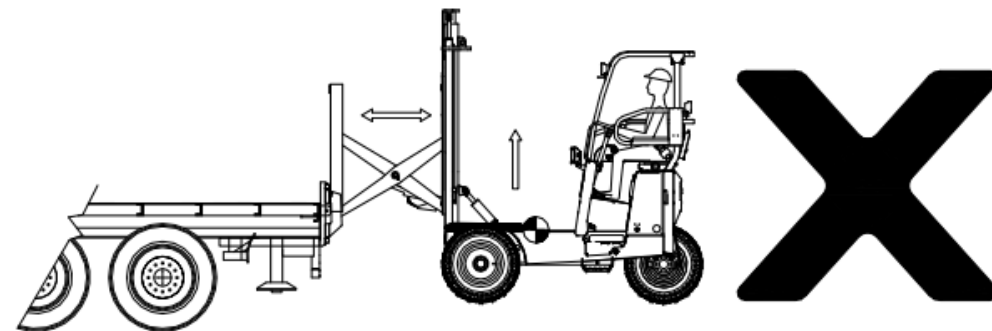
B5. MOUNTING PROCEDURE - LIFT ASSIST AND PANTOGRAPH

Mounting Machine

When mounting this machine standard Mounting Procedure applies however the Lift Assist and Pantograph machine is fitted with a pressure sensor in the rod side of the lift cylinder. This sensor detects when the machine is lifted off the ground during truck mounting. When the sensor detects pressure e.g. the machine is lifted off the ground the pantograph is disabled. This stops the pantograph being used to mount or dismount the machine on the mounting kit.

If the machine is mounted with the pantograph extended the machine will lift however the pantograph function will be disabled. To continue mounting the machine you must first lower the machine to the ground and then fully retract the pantograph. Continue to mount the machine with the pantograph retracted.

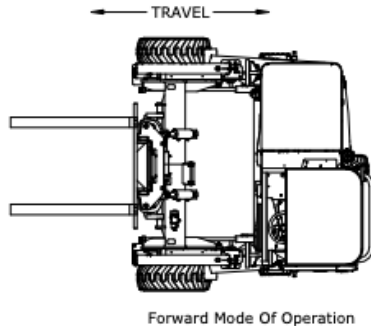
NEVER mount the machine using the pantograph always ensure the pantograph is **FULLY** retracted.



C. INTRODUCTION – 4-WAY STEERING

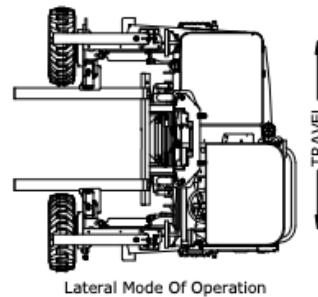
Overview of 4-Way Steering System

In addition to conventional direction travel Forward and Backward (**2-Way Mode** - front wheels locked straight ahead and rear wheel steering) this machine is also fitted with two front steering cylinders.



2-WAY MODE

These front steering cylinders enable the machine to travel sideways (**4-Way Mode** - rear wheel locked to 90° front wheels steering). When the machine is in 4-Way Mode the front steering cylinders are connected in Series. The larger RH cylinder full bore side feeds into the LH cylinder rod side when steering to straight ahead and vice versa when turning to 90°.



4-WAY MODE

C1. SAFETY CHECKLIST – 4-WAY STEERING

Safety Checklist



WARNING:

Using This Manual

This section of the manual describes additional operating instructions for the Moffett Truck-Mounted Forklift 4-Way unit and should only be used as a supplement to the operator manual.



WARNING:

Travelling.

NEVER Travel in 4-Way mode without a load.
NEVER Change modes when machine is moving.
Without a load, travel in normal mode with the mast fully extended.



WARNING:

Using 4-Way.

Change into and out of 4-Way mode on a firm level surface. Never change modes while the machine is moving. Always apply Park Brake before changing steering modes.



WARNING:

Travelling On Inclines.

When on an incline, the combined centre of gravity moves downhill. In 4-Way mode the combined centre of gravity will be closer to the edge of the stability triangle and the stability is reduced.

Reference Page 137. Operating on Inclines and Unusual Ground Surfaces.



CAUTION:

Operating the Machine.

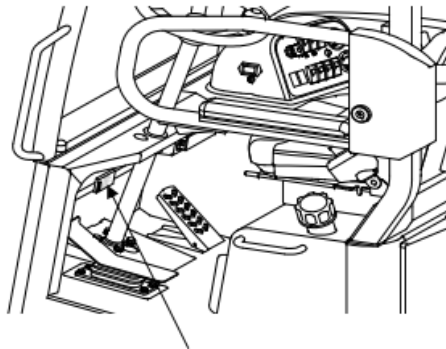
Do not extend the mast carriage when travelling in 4-Way mode.

Do not select the 4-Way mode when the mast carriage is extended.

Always ensure forks are central and either fully down or above the frame prior to changing into 4-Way.

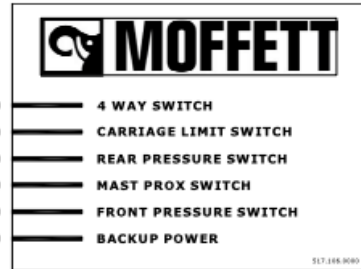
C2. INTRODUCTION – 4-WAY STEERING

Safety Decals (continued)



Location of 517.106.0000

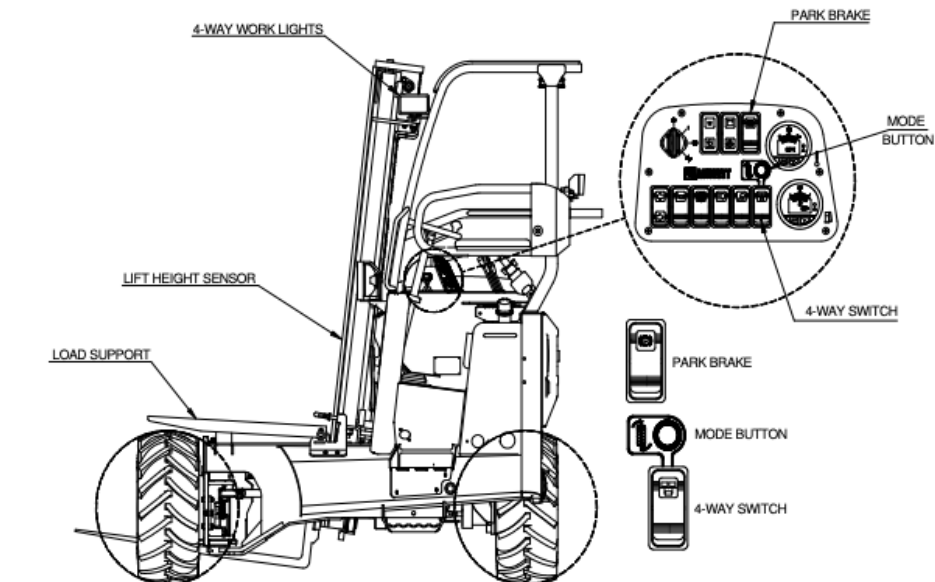
Part No. 517.106.0000



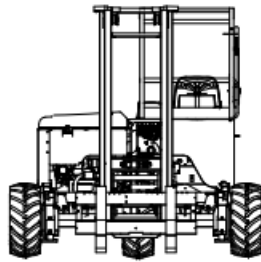
Note: The status of the 4-Way system as well as simple fault finding can be seen by the colour of the LED's on the control module.

C2. INTRODUCTION – 4-WAY STEERING

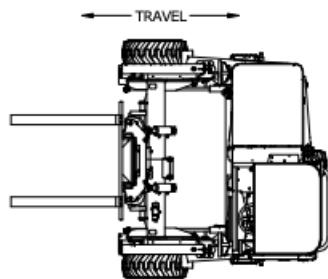
Instruments and Controls



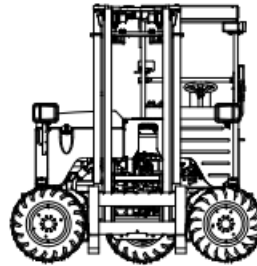
C4. OPERATING PROCEDURES – 4-WAY STEERING



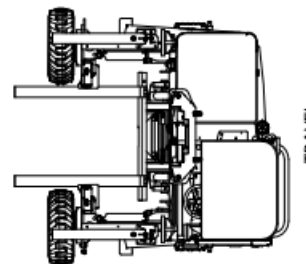
NORMAL MODE 2-WAY



Forward Mode Of Operation



4-WAY MODE



Lateral Mode Of Operation

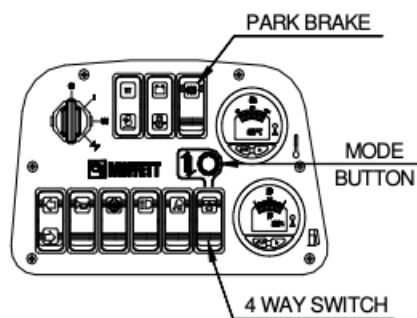
C4. OPERATING PROCEDURE – 4-WAY STEERING

Instruments And Controls

Changing Steering Modes

All machines can be changed from 2-Way to 4-Way steering mode by following the sequence below. The machine can be changed semi automatically using the Mode button or manually using the steering wheel.

A. Mode Button Operation



Note: The Mode button will only work if the machine is stationary and the electric park brake is applied as the park brake interlocks the function of the Mode button.

A1. Changing from 2-Way to 4-Way

1. Ensure machine is stationary on level ground
2. Apply the electric PARK BRAKE.
3. Change 4-Way switch to 4-Way position.
4. Push red MODE button until rear wheel moves to 90° position then release.
5. System will automatically change oil to front wheels.
6. Continue to press red MODE button until front wheels are at 90° then release.
7. Release park brake ready to drive.
8. Machine is now in 4-Way Mode.

A2. Changing from 4-Way to 2-Way

1. Ensure machine is stationary on level ground
2. Apply the electric PARK BRAKE.
3. Change mode switch to 2-Way position.
4. Push red MODE button until front wheels come to straight ahead position then release.
5. System will automatically change oil to rear wheel.
6. Continue to push red MODE button until rear wheel is in the straight ahead position then release.
7. Release the park brake ready to drive.
8. The machine is now in 2-Way Mode.

C4. OPERATING PROCEDURE – 4-WAY STEERING

Instruments And Controls (continued)

Changing Steering Modes (continued)

B. Manual Operation

B1. Changing from 2-Way to 4-Way

1. Ensure machine is stationary on level ground.
2. Apply electric PARK BRAKE.
3. Steer rear wheel to 90° position using the steering wheel.
4. Change the 4-Way switch to 4-Way position.
5. Steer front wheels to 90° using the steering wheel.
6. Release park brake ready to drive.
7. Machine is now in 4-Way Mode.

B2. Changing from 4-Way to 2-Way

1. Ensure machine is stationary on level ground.
2. Apply electric PARK BRAKE.
3. Steer front wheels to straight ahead using the steering wheel.
4. Change the 4-Way switch to 2-Way position.
5. Steer rear wheel to straight ahead position using the steering wheel.
6. Release the park brake ready to drive.
7. The machine is now in 2-Way Mode.

Note: Always change steering modes using minimum engine revs, this ensures the pressures raised in the rear steering ram are kept to a minimum.

If changing steering modes in extremely deep mud or severe ground conditions then higher than normal steering pressures could be generated in the steering lines. These higher pressures may trigger the pressure switches in the automatic system before the steering wheels have fully reached their stops. If this occurs then change back to the previous steering mode and manually steer the wheels fully to the stops before switching to desired steering mode. If the rear arm will not steer manually then the ground conditions are too severe to change steering modes the operator needs to find improved ground conditions before changing steering modes.

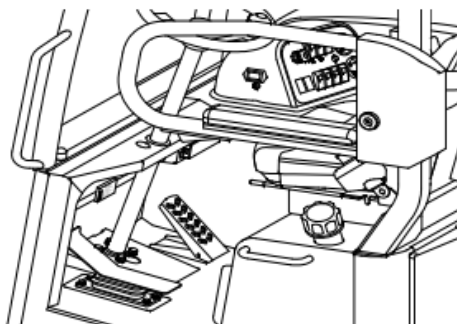
Also if the machine is used in very cold conditions always ensure that the machine is warmed up fully before attempting to change steering modes as the cold oil will also create higher than normal steering pressures.

C4. OPERATING PROCEDURE – 4-WAY STEERING

Instruments And Controls (continued)

The relays which control the functions of the 4-Way steering system are also linked to 6 LED's which can be seen on the control module located under the front lip of the pedal enclosure.

The function and colour of these LED's is outlined below and they can be used to check the status of the 4-Way system as well as simple fault finding.



Control Module LED Decal



LED Function and Colour

- A – Green if 4-Way switch is in the 4-Way mode.
- B – Green if Carriage is back ready for mode change.
- C – Green if Rear Pressure switch is activated.
- D – Green if Mast height is below limit.
- E – Green if Front Pressure switch is activated.
- F – Green if Power is ON to Control Module.

If any of the LED's do not light up green as outlined above then refer to Section C7. Special Procedures.

C4. OPERATING PROCEDURES – 4-WAY STEERING

Lifting A Wide Load

- | | | |
|---|--|---|
| <ul style="list-style-type: none">• Approach the trailer in 2-Way mode with the mast fully extended.• Make sure the load to be lifted is stable and secure.• Check the weight and load centre of the load to be lifted. If the weight is not marked or shown on the load, check the weight with your supervisor or have it weighed. If it is too heavy, split the load and restack it.• Centre the forks as wide as possible to suit the load.• Extend the mast carriage fully.• Fold down the load supports.• (While pushing the load support back, open the anti loose fastener and | <ul style="list-style-type: none">lower the load rest to the machine frame).• Align the forks with the centre of the load, approach it squarely and drive into the load until the forks are fully engaged.• Check that the ground surface is strong enough to support the stabilisers.• Lower the stabilisers fully.• Raise the load to clear the truck / trailer bed.• Tilt the mast rearward to secure the load.• Sideshift the mast to the centre position.• Retract the mast fully to bring the load above the front wheels.• Raise the stabilisers fully• Back away slowly to ensure the load clears the truck / trailer bed.• Apply the parking brake. | <ul style="list-style-type: none">• Lower the load onto the load rests, keeping the forks in contact with the bottom of the load.• Ensure the machine is on a firm level surface.• Change to 4-Way mode.• Disengage the parking brake. The machine can now be driven in 4-Way mode.• Depress the pedal (toe) forward to move the machine to the right, depress the pedal (heel) back to move the machine to the left. |
|---|--|---|

C4. OPERATING PROCEDURES –PLACING A WIDE LOAD

Placing A Wide Load

- | | |
|---|--|
| <ul style="list-style-type: none">• When travelling in 4-Way mode with wide load that needs to be placed.• First ensure the placement area is a firm level surface.• Check that the area is clear of debris.• Approach the final position squarely.• Apply the parking brake.• Raise the load until it clears the load rests.• Change to 2-Way Mode.• Check that the ground surface is strong enough to support the stabilisers.• Lower the stabilisers fully.• Extend the mast fully to clear the frame, wheels and load rests.• Lower the forks to the ground to deposit the load• Tilt the mast forward slightly to deposit the load.• Raise the stabilisers fully.• Disengage the parking brake. | <ul style="list-style-type: none">• Check that the rear wheel is in the straight ahead position.• Back up carefully.• Drive slowly facing the direction of travel keeping the mast fully extended. |
|---|--|



WARNING:

No Load. Never travel in 4-Way mode without a load on the forks. Always change to Normal 2-Way mode when travelling with No Load and ensure the mast is fully extended.

C4. OPERATING PROCEDURE – 4-WAY STEERING

Operating On Inclines And Unusual Ground Surfaces.

- | | | |
|---|--|--|
| <ul style="list-style-type: none">• Do not travel in 4-Way mode without a load.• Do not travel across an incline in 4-Way mode.• Always approach an incline to the left and travel up and down the incline. Drive up an incline to the left. Drive down an incline to the right.• Keep the operators compartment facing uphill.• Do not turn on an incline• Never stop or start suddenly.• Operate all controls smoothly.• Watch out for potholes or other obstacles that could affect the stability of the machine. | <ul style="list-style-type: none">• Drive slowly over rough terrain.• Where necessary, engage the diff-lock and travel slowly for additional traction.• Always take great care when transporting wide loads on any incline. Carry the load on the load rests keeping the forks in contact with the bottom of the load.• Make allowances for the reduction in both stability and lift capacity when operating on inclines.• Remember that a machine in 4-Way mode is less stable than in normal mode. | <ul style="list-style-type: none">• Do not attempt to drive up or down an incline in 4-Way mode just because you have driven up or reversed down in normal mode.• Only use 4-Way mode when it is not otherwise possible to carry a wide load. |
|---|--|--|

C4. OPERATING PROCEDURES - OPERATING ON INCLINES



WARNING:

On 4-Way Models:

- Change into and out of 4-Way mode on a firm level surface only.
- Never travel in 4-Way mode without a load.



WARNING:

When on an incline, the combined centre of gravity moves downhill. In 4-Way mode the combined centre of gravity will be closer to the edge of the stability triangle and stability is reduced.

DRIVE UP TO THE LEFT



DRIVE DOWN TO THE RIGHT



C. 4-Way Mode - Mast Fully Retracted - With Load

C4. OPERATING INSTRUCTIONS – 4-WAY STEERING

Load Supports

The 4-Way machine is fitted with Load Supports, these are used in conjunction with wide loads to minimize load deflection and increase load stability.

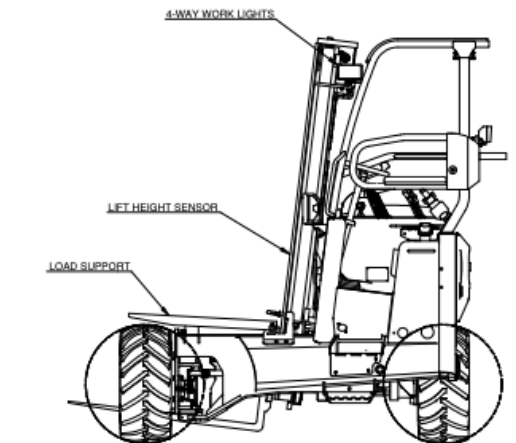


WARNING:

Never travel in the lateral (4-Way) mode with an elevated load. Always keep the load as low as possible.

Never travel in Lateral (4-Way) mode with no load on the forklift.

Note: Always fold up the Load Supports before transporting the machine.



C4. OPERATING THE 4-WAY MACHINE – POINTS TO REMEMBER

Points To Remember:

Ensure you are on a firm and level surface before engaging the lateral (4-Way) mode.

Only use lateral (4-Way) mode where it is not possible to otherwise carry a wide load.

Never travel in 4-Way mode without a load.

Always carry the load on the forks AND the load supports.

Never start or stop suddenly. Operate all controls smoothly.

Watch out for potholes or other obstacles which could affect the stability of the forklift.

Drive slowly over rough terrain.

Where necessary, engage the difflock and travel slowly for additional traction.

Never travel in 4-Way mode with an elevated load, always keep load as low as possible.

Never turn on an incline.

Always keep the operators compartment facing uphill when travelling on inclines.

Do not attempt to drive up or down an incline in 4-Way mode just because you have driven up or reversed down previously in normal mode.

Always return to the normal mode (2-Way) before placing a load.

Before Selecting 4-Way (Lateral) Mode

1. Ensure machine is stationary.
2. Ensure mast carriage is fully retracted.
3. Ensure the stabilisers are fully raised.
4. Ensure the load is above the height of the wheels.

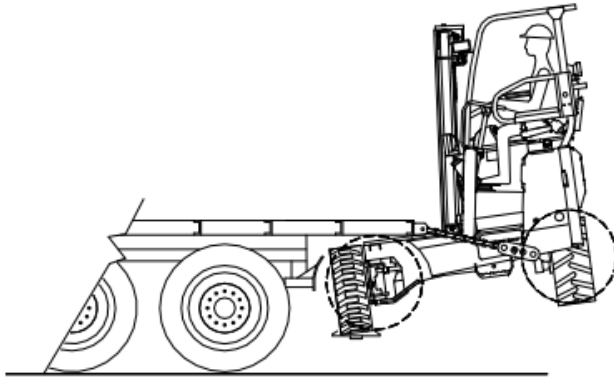
While In 4-Way (Lateral) Mode

1. Do not extend mast carriage.
2. Do not use stabilising legs.
3. Transport the load as low as possible above the wheels.
4. Operate the forward / reverse pedal as smoothly as possible.
5. **The light on the 4-Way switch signifies that you are in 4-Way mode, as well as the 4-Way work lights and beeper being activated.**

C5. MOUNTING PROCEDURE – 4-WAY STEERING

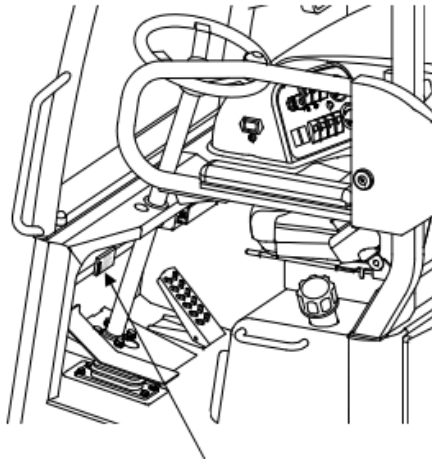
Mount as per standard machine (See section 5)

Note: During the truck mounting/dismounting sequence never engage 4-Way mode as serious damage will occur to the mounting kit and the machine.



C7. SPECIAL PROCEDURES

4-Way Override Procedure



Location of 4-Way controller

In the event of a 4-Way system failure, a back up procedure is available on your machine to allow you to continue to operate the 4-way function manually until the machine can be serviced.

First check that all the 4-Way LED's on the Control Module are working as they should. If they are all OK then check the 4-Way fuse has not blown and if this is intact then the following procedure can be carried out.

1. Remove the 4-Way controller from the inside of the pedal enclosure as shown above.
2. Take the 4-Way override connector, this is tie wrapped to the wiring loom behind the steering column.
3. Plug the 4-Way override connector into the wiring loom at the same location the 4-Way controller has been removed from. The override connector is colour coded (black) to connect into branch eight of the wiring loom.
4. The 4-Way function can now be operated manually as described in the operation procedures.