

# Service Manual

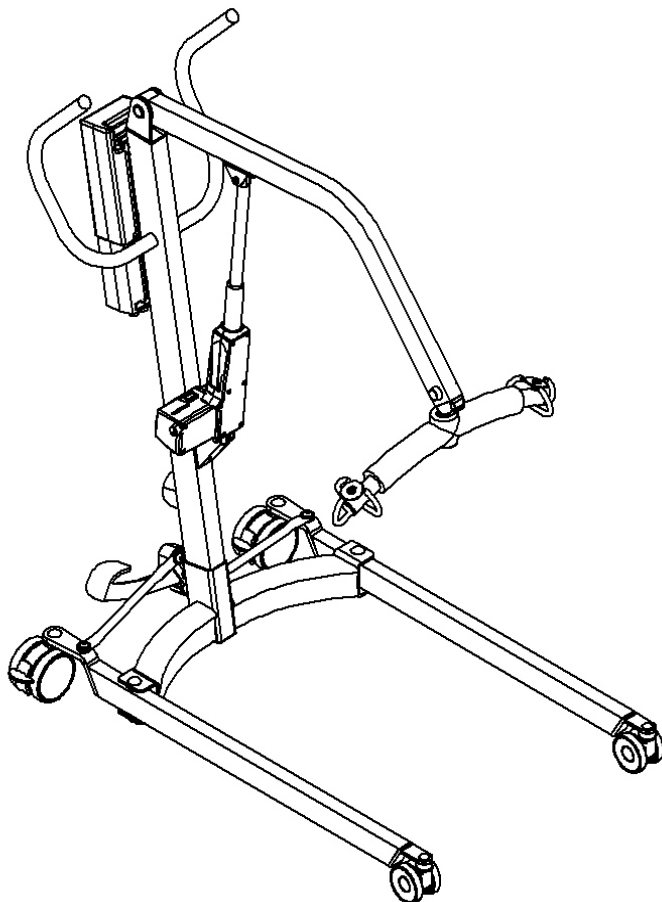
## Classic Mobile Lifts

Mini 140

Midi 180

Major 200

Maxi 180



## Contents

**Pages 3 - 5**

Inspection Criteria for Oxford Classic Mobile Lifts

**Pages 6 - 9**

Testing of Oxford Classic Mobile Lifts

**Pages 10 - 23**

Service and Maintenance Schedule for Oxford Classic Mobile Lifts

**Page 24**

Fault Finding on Oxford Classic Mobile Lifts

**Page 25**

Torque Settings for Oxford Classic Mobile Lifts

**Page 26**

LOLER (UK only): Thorough Examination Report

**Page 27**

Blank Notes Page

## Inspection Criteria

Joerns Healthcare Ltd recommends a thorough inspection and test of Oxford Classic mobile lifts and their lifting accessories, slings etc. are carried out every six months. The examination and test should be conducted according to the recommendations and procedures below. Joerns Healthcare Ltd recommends only authorised service dealers should carry out maintenance, inspection and certified testing.

**NOTE: These recommendations are in compliance with the requirements of 1998 No2307 Health and Safety: The Lifting Operations and Lifting Equipment Regulations 1998. (LOLER) This is a UK regulation. Outside the UK please check your local requirements.**

### Spreader Bar

- 1 Check the spreader bar for freedom of rotation and swing.
- 2 Check for wear on the spreader bar to boom fulcrum pin. Lubricate with a light mineral based grease.
- 3 Check for wear on the central pivot. Lubricate as necessary with a light mineral based grease or food grade spray lubricant.
- 4 Check for secure attachment to the boom.
- 5 Examine sling strap retainers. Check for effective function.
- 6 Check the padded rubber moulding is not damaged (infection control).
- 7 Inspect for excessive wear on the sling hooks and any side suspenders used in conjunction with the spreader bar.

### Boom

- 1 Check for secure attachment of the boom to the mast/boom pivot and ensure the boom/mast pivot is fully tightened.
- 2 Make sure there is only minimal side movement of the mast/boom pivot and that it is free to rotate in the mast. Lubricate with a light mineral based grease or food grade spray lubricant.
- 3 Check the security and for wear on the actuator unit and mounting bracket on the boom. Any excessive movement or play of the actuator must be investigated. Lubricate the fulcrum pin with a light mineral based grease or food grade spray lubricant.
- 4 Ensure the circlips are properly located in the groove and not deformed.

### Mast

- 1 Check the operation of the mast-locking device.
- 2 Make sure the mast fully engages into the base socket.
- 3 Check for wear on the bottom actuator unit and mounting bracket on the mast. Any excessive movement or play of the actuator must be investigated. Lubricate the fulcrum pin with a light mineral based grease or food grade spray lubricant.
- 4 Ensure the circlips are properly located in the groove and not deformed.
- 5 Check for presence of the 'fool proofing' pin in the mast socket.

### Power Pack and Control Box

- 1 Check for secure attachment of the power pack mounting plate to the mast.
- 2 Check the function of the Emergency Stop button.
- 3 Check the hand control for correct functioning in both directions.
- 4 Check the fit of the hand control plug and socket.
- 5 Inspect the actuator plug for correct fitting.
- 6 Check the operation of the emergency raise and lowering function.

## Leg Adjustment

- 1 Operate the foot pedal and check the legs open and close correctly.
- 2 Check the legs lock into place when in both the open and closed positions.
- 3 Check the legs are parallel to each other in the closed position.
- 4 Check for wear and security of the linkages and lubricate as necessary with a light mineral based grease or food grade spray lubricant.
- 5 Check for wear/damage on the leg adjustment mechanism. Lubricate with a light mineral based grease or food grade spray lubricant.
- 6 Check the presence and condition of the acetyl wear washer between the foot pedal mechanism and the boss on the cross-member. Lubricate with a light mineral based grease or food grade spray lubricant.

## Leg Pivots

- 1 Ensure the leg pivots are retained securely and the legs pivot freely. Any stiffness must be investigated.
- 2 Make sure there is no excessive play in the leg pivots. Any excessive play must be investigated.
- 3 Lubricate as necessary with a light mineral based grease or food grade spray lubricant.

## Castors

- 1 Check all castors for firm attachment to the legs.
- 2 Check for free rotation of the castor wheels and that the castors swivel.
- 3 Where possible remove any build up of threads, hair or fluff.
- 4 Lubricate the swivel and axle bearings if necessary with a light mineral based grease or food grade spray lubricant.
- 5 Check all four castors are seated firmly on the ground.
- 6 Check correct operation of the brakes.

## Raise and Lower Actuator (Electric Variants Only)

- 1 The actuator is a sealed unit and should require no maintenance.
- 2 Check for correct operation when raising and lowering.
- 3 Check for correct operation of mechanical emergency lowering device (Midi, Major & Maxi models only).
- 4 Confirm anti-crush precautions are operational.
- 5 Confirm power cut-out at the ends of travel, both upper and lower.
- 6 Listen for unusual noise which may indicate imminent breakdown.
- 7 Check for wear on the mounting boss top and bottom. **Any excessive movement or play of the actuator mountings must be investigated.**

**NOTE: The actuator body lifts by 2mm on the lower central mounting pivot. This is a normal characteristic and should not be interpreted as wear.**

- 8 Lubricate the upper and lower mounting fulcrum pins with a light mineral based grease or food grade spray lubricant.
- 9 Ensure the upper and lower actuator mounting fulcrum pin retaining devices are in position and secure.

## Leg Opening Actuator (Electric Leg Variants Only)

- 1 The actuator is a sealed unit and should require no maintenance.
- 2 Check for correct operation when opening and closing the legs.
- 3 Confirm power cut-out at the ends of travel, both open and closed.
- 4 Listen for unusual noise which may indicate imminent breakdown.

- 5 Check for wear on the upper and lower mounting bosses. **Any excessive movement or play in the actuator mounting must be investigated.**
- 6 Lubricate the upper mounting fulcrum pin and the lower clevis pin with a light mineral based grease or food grade spray lubricant.
- 7 Ensure the upper mounting fulcrum pin is secure. **Confirm the set-pin is tightened to 20Nm.**
- 8 Confirm the lower clevis pin is securely retained by the 'R' clip.

## Batteries

- 1 The batteries are housed in the power pack and should not require maintenance other than regular charging as detailed in the charging instructions.
- 2 Confirm the lift is not sounding low battery during operation.

## Charging Unit

- 1 Confirm the charger unit is charging the battery pack.
- 2 Check mains plug is fitted with the correct rated fuse (5 Amp).
- 3 Check the safety of the input and output lead wiring.

## Hydraulic Pump Unit (Hydraulic Variants Only)

- 1 Check the hydraulic unit for fluid leakage.
- 2 Confirm that the unit operates correctly in both directions.
- 3 Check the ram for trapped air (sponginess).
- 4 Check for firm fitting of the valve release knob.
- 5 Check for damage to the pump handle.
- 6 Check that the unit can rotate correctly on the trunnion and that it can be operated from both the left and right hand sides of the lift.
- 7 Check for wear on the upper and lower mounting bosses.
- 8 Check for wear on the upper and lower mounting fulcrum pins and lubricate as necessary with a light mineral based grease or food grade spray lubricant.
- 9 Ensure the upper and lower hydraulic unit mounting fulcrum pin retaining devices are in position and secure.

## Cleaning

- 1 Clean with ordinary soap and water and/or any hard surface disinfectant. Harsh chemical cleaners or abrasives should be avoided as these may damage the surface finish of the lift. Ensure the lift is thoroughly dried after cleaning.
- 2 Avoid wetting any of the electrical parts.

## Testing

### Load Testing (Electrical Variants Only)

The load test should be carried out in accordance with the manufacturers test procedures and the directive detailed in EN ISO 10535:2006 - Annex B - Periodic Inspection B1 - see excerpt below. It is strongly recommended that an authorised service dealer carry out the test.

EN ISO 10535:2006

#### Annex B

(Informative)

#### Periodic Inspection

**B. 1** Periodic inspection of the hoist should be undertaken at the time intervals stated by the manufacturer, but at least once a year. By periodic inspection is meant a visual examination (particularly of the hoist's load bearing structure and lifting mechanism with attachments, brakes, controls, safety devices and person-support devices) and whatever function tests and maintenance measures may be required, e.g. adjustment of brakes, tightening of fasteners.

Every inspection should include a working load test of one (1) lifting cycle with the maximum load.

Oxford electric lifts have been designed to the requirements of:

#### 1 BS EN ISO 10535 2006 Hoists for the transfer of disabled persons

The hoists are designed to lift the Safe Working Load only. The load lifting capability is set electronically and must not be increased as this causes excessive loading when the actuator reaches the limits of travel. This will affect the actuator's useful life.

#### 2 BS EN ISO 10535 Load Raising Test

This test is a straight forward lift of a load equivalent to the Safe Working Load, from the lowest position to highest position of the hoist. Check that the hoist is not capable of lifting much more than the safe working load. (A small additional lifting capability is allowable but should be no more than 15% of the SWL).

#### 3 BS EN ISO 10535 Operator Effort Test

This test is conducted with the Safe Working Load only.

Using a force gauge (0-500N is a suitable range) push the foot pedals down and note the amount of force necessary to open or close the legs. Maximum permissible force is 300N (30kgf / 67lbf).

## Checking Welds For Fractures

**NOTE:** During the load testing procedure, while the lift is loaded with the safe working load, check **ALL** welded joints on the lift for signs of fracture. If fractures are evident, the lift should be taken out of service and not used until damaged components of the frame are replaced.

## Oxford Classic Mobile Lifts Test and Calibration Loads

### Test Loads

MINI 140:	140 kgs / 308 lbs
MIDI 180:	180 kgs / 396 lbs
MAJOR 200:	200 kgs / 440 lbs
MAXI 180:	180 kgs / 396 lbs

### Calibration Loads

MINI 140:	125 kgs / 275 lbs
MIDI 180:	165 kgs / 364 lbs
MAJOR 200:	185 kgs / 407 lbs
MAXI 180:	165 kgs / 364 lbs

## Certification

An authorised service dealer will issue an examination certificate after satisfactory completion of the thorough examination.

This certificate will be valid for six months.

## Thorough Examination Report

*Lifting Operations and Lifting Equipment Regulations 1998 (LOLER UK ONLY)*

LOLER requires certain information to be included on the report given to a customer after a thorough examination. The information can be found in Schedule 1 (page 59) in the LOLER L113 publication.

Joens Healthcare Ltd has prepared a Thorough Examination Report that includes all the required information and a copy can be found later in this manual.

Please feel free to use this as the basis of your own report.

## Load Testing (Hydraulic Variants Only)

The load test should be carried out in accordance with the manufacturers test procedures and the directive detailed in EN ISO 10535:2006 - Annex B - Periodic Inspection B1 - see excerpt below. It is strongly recommended that an authorised service dealer carry out the test.

EN ISO 10535:2006

### Annex B

(Informative)

### Periodic Inspection

**B. 1** Periodic inspection of the hoist should be undertaken at the time intervals stated by the manufacturer, but at least once a year. By periodic inspection is meant a visual examination (particularly of the hoist's load bearing structure and lifting mechanism with attachments, brakes, controls, safety devices and person-support devices) and whatever function tests and maintenance measures may be required, e.g. adjustment of brakes, tightening of fasteners.

Every inspection should include a working load test of one (1) lifting cycle with the maximum load.

Oxford hydraulic lifts have been designed to the requirements of:

**1 BS EN ISO 10535 2006 Hoists for the transfer of disabled persons**

The hoists are designed to lift the Safe Working Load only.

**2 Load Raising Test**

This test is a straight forward lift of a load the equivalent to 125% of the Safe Working Load from the lowest position to highest position of the hoist.

**3 BS EN ISO 10535 Leak Test**

This test is conducted with a load the equivalent to 125% of the Safe Working Load. With the hoist in the highest working position, the hoist must maintain the lift for 15 mins. The maximum downward movement of the hydraulic pump ram must not exceed 3mm over the 15 mins.

**4 BS EN ISO 10535 Operator Effort**

This test is conducted with the SWL only. Attach a spring balance (0-20 kg is a suitable range) to the end of the crank handle and note the amount of pull necessary to operate the handle stroke. Maximum permissible force is 120N (12.25 kg / 27 lbs).

**5 BS EN ISO 10535 Descent Test**

This test is conducted with the SWL only. Take the test load to the highest operating position and measure the height of the weight from the floor. Open the release valve 1/8th of a turn. With a stopwatch, time the descent until the weight is just clear of the floor. Stop the watch and close the valve at the same time. Measure the distance travelled by the weight. The rate of fall must not exceed 108mm/second. Return the weight to the highest position and check that the speed of descent increases as the valve is progressively opened.

**6 BS EN ISO 10535 Operator Effort Test**

This test is conducted with the SWL only. Using a force gauge (0 - 500N is a suitable range), push the foot pedals down and note the amount of force necessary to open or close the legs. Maximum permissible force is 300N (30 kg / 67 lbs).

**7 Horizontal Boom Test**

This is not a requirement of BS EN ISO 10535 but is required by users and specified by Joerns Healthcare. With the release valve closed, pump up the unit until the boom is horizontal. Fully open the release valve. Check: The boom must remain in the horizontal position and not descend under its own weight. Confirm the boom will descend when additional pressure is applied by hand to the end of the boom.



## Checking Welds For Fractures

**NOTE:** During the load testing procedure, while the lift is loaded with the safe working load, check **ALL** welded joints on the lift for signs of fracture. If fractures are evident, the lift should be taken out of service and not used until damaged components of the frame are replaced.

## Test Loads - Oxford Classic Mobile Lifts

MINI 140:	140 kgs / 308 lbs
MIDI 180:	180 kgs / 396 lbs
MAJOR 200:	200 kgs / 440 lbs
MAXI 180:	180 kgs / 396 lbs

## Certification

An authorised service dealer will issue an examination certificate after satisfactory completion of the thorough examination.

This certificate will be valid for six months.

## Thorough Examination Report

*Lifting Operations and Lifting Equipment Regulations 1998 (LOLER UK ONLY)*

LOLER requires certain information to be included on the report given to a customer after a thorough examination. The information can be found in Schedule 1 (page 59) in the LOLER L113 publication.

Joerns Healthcare Ltd has prepared a Thorough Examination Report that includes all the required information and a copy can be found later in this manual.

Please feel free to use this as the basis of your own report.

## Service & Maintenance

### Tools Required

- Calibration Handset
- Circlip pliers
- No. 2 pozi drive screwdriver (for the battery mounting bracket securing screws)
- 3mm hex key (for the control box securing screw)
- 4mm hex key (for the foot pedal mechanism)
- 5mm hex key (for the boom to mast pivot, front castors and for leg actuator retainer bolt **Electric leg variant only**)
- 6mm hex key (for the leg linkage tie rods and rear castors)
- 8mm hex key (for the leg to cross member fixing bolt)
- Socket wrench
- 13mm socket (for the front castors)
- 17mm socket (for the rear castors)
- 24mm A/F spanner or 24mm socket (for the M16 binx nut on the leg operating mechanism)
- Small flat blade screwdriver (to aid removal of the spreader bar fulcrum pin protective plastic caps)
- Medium strength threadlock (Blue)
- Calibrated torque wrench (0 - 25 Nm / 25 - 60 Nm)

### Spreader Bar

#### CAUTION

It is not necessary to remove the spreader bar on every 6 monthly LOLER inspection.

The spreader bar should only be removed if wear is suspected on the spreader bar to boom fulcrum pin or if wear is suspected on the main spreader bar central pivot and spreader bar central boss or if it is necessary to replace the padded rubber moulding.

- 1 Check the spreader bar for freedom of rotation and swing.
- 2 Check for wear on the spreader bar to boom fulcrum pin. It is not necessary to dismantle the spreader bar from the boom. To check for wear, whilst holding the upper portion of the central pivot, move the pivot up and down and look for excessive movement between the spreader bar central pivot and the fulcrum pin. If excessive wear is suspected, the spreader bar will need to be removed for further detailed examination - see 'Spreader Bar Removal' later in this manual.
- 3 Lubricate the joint between the spreader bar central pivot and the fulcrum pin with a light mineral based grease or food grade spray lubricant.
- 4 Check for excessive wear between the spreader bar and the spreader bar central pivot. To achieve this, hold the upper portion of the central pivot steady and move the spreader bar up and down and feel for excessive movement between the central pivot and the underside of the spreader bar. If excessive wear is suspected, the spreader bar will need to be removed for further detailed examination - see 'Spreader Bar Removal' later in this manual.
- 5 Lubricate the joint between the spreader bar central pivot and the boss on the underside of the spreader bar with a light mineral based grease or food grade spray lubricant. Take care not to contaminate the padded rubber moulding with excessive lubricant.
- 6 Check the spreader bar for secure attachment to the boom. Carefully examine the underside of the boom/spreader bar assembly to confirm the spreader bar fulcrum pin has been correctly inserted through the holes in the boom, boom end cap and the spreader bar central pivot.

- 7 Examine the sling strap retainers. Check the plastic discs are fitted and move smoothly on the central shafts. Check the plastic discs for damage. Check the screw through the central shafts for tightness. If any discrepancies are identified, the hoist must be taken out of service until remedial action is performed.
- 8 Examine the padded rubber moulding for damage/cuts. If damage is evident, the moulding must be replaced (infection control). See 'Spreader Bar Removal' later in this manual.
- 9 Inspect for damage/excessive wear on the sling hooks, particularly if used in conjunction with side suspenders. The sling hooks are manufactured from 9.5mm diameter material. **Reduction in diameter due to wear should not exceed 1mm. If damage/wear is evident the hoist must be taken out of service until the spreader bar is replaced.**
- 10 Examine all welded joints on the spreader bar for fractures/hairline cracks. **If fractures/hairline cracks are evident the hoist must be taken out of service until the spreader bar is replaced.**
- 11 **IMPORTANT:** Side suspenders are often used in conjunction with the lift spreader bar. These may be stored away from the lift. It is important that the side suspenders are checked for wear. Side suspenders are made from 9.5mm material. **Reduction in diameter by wear at the suspension point or the hooks should not exceed 1mm before replacement.**

## Spreader Bar - Removal

- 1 Remove the white plastic protective covers from the spreader bar fulcrum pin. A small flat blade screwdriver will aid removal.
- 2 Using circlip pliers, remove one of the circlips from the spreader bar fulcrum pin.

**WARNING: The removed circlip must not be re-used. A new circlip must be fitted each time it is removed.**

- 3 Remove the white plastic retaining washer and retain for re-assembly.
- 4 Whilst supporting the spreader bar, withdraw the fulcrum pin.
- 5 Examine the fulcrum pin for signs of wear. The diameter of the fulcrum pin is 10mm. **Reduction in diameter due to wear must not exceed 1mm before replacement.**
- 6 Remove the padded rubber moulding from the spreader bar. The moulding is split along the bottom edge and will pull off the spreader bar quite easily.
- 7 Examine the padded rubber moulding for damage. If damage is evident, the padded moulding must be renewed (infection control).
- 8 Examine all welded joints on the spreader bar for hairline cracks. If any welds are suspect replace the spreader bar.
- 9 Take off and retain the "O" ring that holds the main spreader bar central pivot in the spreader bar central boss.
- 10 Examine the main pivot and the central boss for wear. If any of the components show signs of wear or damage they must be renewed.
- 11 Check the presence and condition of the acetyl wear washer that sits on the central pivot shoulder. The wear washer is there to stop metal to metal contact between the pivot shoulder and the central boss on the spreader bar assembly. **If the washer shows any signs of deformation or wear it must be replaced.**
- 12 Main pivot: Check for wear on the cross-hole for the fulcrum pin. **The hole is 10mm in diameter; wear should not exceed 1mm on diameter or 2mm elongation before replacement.**
- 13 Check for wear on the cross hole in the end of the boom. **The hole is 10mm in diameter; wear should not exceed 1mm on diameter or 2mm elongation. If wear exceeds this, the boom must be replaced.**
- 14 Spreader bar sling hooks: Check for wear, particularly if used in conjunction with side suspenders. The sling hooks are made from 9.5mm diameter material. **Reduction in diameter by wear should not exceed 1mm before replacement.**

- 15 IMPORTANT:** Side suspenders are often used in conjunction with the lift spreader bar. These may be stored away from the lift. It is important that side suspenders are checked for wear. Side suspenders are made from 9.5mm material. **Reduction in diameter by wear at the suspension point or the hooks should not exceed 1mm before replacement.**
- 16** Examine the sling strap retainers. Check that the plastic discs are fitted and move smoothly on the central shafts. Check the plastic discs for damage. Check the screw through the central shafts for tightness.

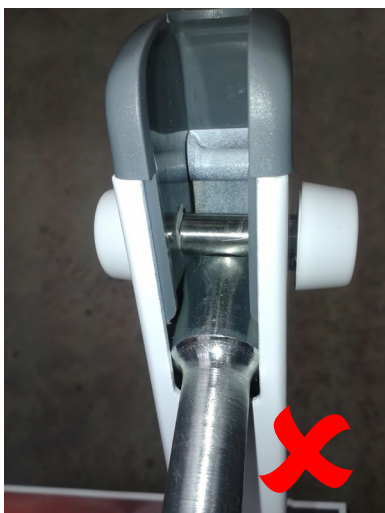
**WARNING: If the retainers are missing they must be replaced.**

## Re-Assembly of the Spreader Bar

After performing the actions and checks in 'Spreader Bar - Removal', re-assemble the spreader bar as follows:

- 1 Lubricate the main central pivot and fulcrum pin with any light mineral based grease or food grade spray lubricant, paying particular attention to the pivot shoulder, wear washer and the fulcrum pin cross-hole.
- 2 Fit the main central pivot to the spreader bar central boss. Ensure the wear washer is present prior to assembly. Refit the retaining "O" ring. Check rotation of the pivot in the boss.
- 3 Replace the padded rubber moulding.
- 4 Position the boom end cap over the spreader bar central pivot ensuring the holes align with the holes in the central pivot.
- 5 Insert the boom end cap/spreader bar assembly into the boom end ensuring the holes in the boom, boom end cap and spreader bar central pivot point are aligned. **NOTE:** It is suggested a drift or 6mm hex key are inserted through the holes in the boom, boom end cap and spreader bar central pivot to ensure all holes are aligned.
- 6 Ensure the one circlip and plastic retaining washer are fitted to the one end of the fulcrum pin.
- 7 Insert the spreader bar fulcrum pin through the holes in the boom, boom end cap and spreader bar central pivot, pushing the drift out in the process.
- 8 Re-fit the plastic retaining washer to the fulcrum pin.
- 9 Fit a new retaining circlip to the fulcrum pin and refit the plastic protective cap. **WARNING: Once the circlip is fitted in position, ensure it has not become deformed or over-expanded during the fitting process. If it has, it must be replaced.**

**WARNING: Following re-assembly of the spreader bar to the boom, it is critical that the underside of the boom/spreader bar is carefully examined to confirm the spreader bar fulcrum pin has been correctly inserted through the holes in the boom, boom end cap and spreader bar central pivot. Failure to do so could result in serious injury or death.**



## Boom

- 1 Ensure there is no excessive side movement of the boom and that it is centred and free to rotate.

**NOTE: Due to the characteristics of the mast/boom pivot joint, up to 25mm total side movement measured at the spreader bar end of the boom can be expected (under light sideways pressure). Movement exceeding this figure should be investigated.**

- 2 Check for wear and security of the actuator mounting.
- 3 Lubricate the mast/boom pivot and actuator fulcrum pin with a light mineral based grease or food grade spray lubricant.
- 4 Check the mast/boom pivot is fully tightened using a 5mm hex key.
- 5 If the mast/boom pivot is not fully tightened, remove the grey decorative inserts and dismantle the mast to boom fulcrum pin using a 5mm hex key. Examine the fulcrum pin for signs of wear. The fulcrum pin is 12mm in diameter. **Reduction in diameter due to wear should not exceed 1mm before replacement.**
- 6 If the mast/boom pivot does not display signs of wear, apply medium strength thread lock (blue) to the fulcrum pin securing screws prior to assembly. Re-assemble and tighten to 25Nm.
- 7 Examine the actuator mounting point. Without taking the mounting apart check for signs of wear on the fulcrum pin. Check for excessive vertical and horizontal movement in the mounting. This will give a good indication of wear but if there is any doubt the assembly should be stripped down as follows:
- 8 Remove one of the circlips that secures the actuator fulcrum pin to the bracket and extract the fulcrum pin.
- 9 Examine the fulcrum pin for signs of wear and for firm attachment of the remaining circlip. The diameter of the fulcrum pin is 10mm. **Reduction in diameter due to wear must not exceed 1mm before replacement.**
- 10 Examine the actuator mounting on the boom for wear on the bore of the bracket. **Wear should not exceed 2mm.**
- 11 Examine the actuator top mounting boss for wear/security. **Wear should not exceed 1mm.**
- 12 Lubricate the fulcrum pin using a light mineral based grease or food grade spray lubricant.
- 13 Replace the fulcrum pin through the actuator and boom bracket.
- 14 Fit a new circlip to the fulcrum pin.

**NOTE: Joerns Healthcare recommends the following:**

- **NEVER** reuse circlips.
- **ALWAYS** use circlip pliers for fitting.
- **ENSURE** the circlip is properly located in the groove and not deformed.

## Mast/Boom Pivot

- 1 Check the pivot for lateral, vertical and horizontal play that would indicate excessive wear. Signs of excessive wear must be investigated and the pivot stripped down. **Lateral play at the pivot point must not exceed 1mm before replacement.**
- 2 Construction of the mast/boom pivot comprises of 11 components: 2 off self adhesive screw covers, 2 off M8 x 20mm counter sunk head screws, 2 off 25mm counter sunk steel caps, 1 off 12mm inner fulcrum pin and 1 off 19mm outer sleeve, 2 off plastic pivot bearing washers and 1 off pivot casting.

## Removal of the Mast/Boom Pivot

- 1 Remove the 2 off self-adhesive screw covers.
- 2 The mast/boom pivot fulcrum pin is held in place with two M8 x 20mm counter sunk head screws. Remove one of the screws from the fulcrum pin and leaving the other in place, withdraw the fulcrum pin.
- 3 Examine the fulcrum pin for signs of wear and for firm attachment of the remaining screw. The diameter of the fulcrum pin is 12mm. **Reduction in diameter due to wear must not exceed 1mm before replacement.**
- 4 Withdraw the outer sleeve bush from the boom end (hold the boom while doing this as it may fall forwards). Inspect the sleeve for wear as per the fulcrum pin.
- 5 Remove the plastic bearing washers (2 off) from the pivot and examine for any wear or damage. Lateral movement at the pivot is most likely to be caused by wear on these washers.
- 6 Examine the through holes in the mast and the boom end for wear or damage. The bore and holes are 19mm in diameter. **Wear should not exceed 1mm on diameter or 2mm elongation before replacement.**

## Re-Assembling the Mast/Boom Pivot

After performing all the actions and checks in the previous section, reassemble the Mast/Boom pivot as follows:

- 1 Lubricate the fulcrum pin and sleeve with any light mineral based grease or food grade spray lubricant, paying particular attention to the bearing washers and the mast/boom pivot internal bore.
- 2 Insert the 19mm outer sleeve into the through hole in the boom end.
- 3 Position the boom between the mast pivot brackets.
- 4 Position one of the plastic pivot bearing washers between the boom and the mast pivot bracket, ensuring the holes in the mast pivot bracket, the plastic bearing washer and the boom outer sleeve are aligned.
- 5 Insert the fulcrum pin with the 1 off counter sunk steel cap and the 1 off M8 x 20mm counter sunk head screw still assembled, through the mast pivot bracket, a plastic bearing washer and boom outer sleeve until it is inside the boom outer sleeve but does not protrude.
- 6 Whilst supporting the boom in the mast pivot bracket, position the second plastic bearing washer between the boom and the mast pivot bracket, ensuring the hole in the washer aligns with the holes in the boom outer sleeve and mast pivot bracket.
- 7 Further insert the fulcrum pin so that it passes through the plastic bearing washer and the mast pivot bracket.
- 8 Assemble the remaining 25mm diameter counter sunk steel cap to the remaining M8 x 20mm counter sunk screw.
- 9 Apply medium strength thread lock (blue) to the thread of the M8 x 20mm counter sunk screw.
- 10 Assemble the M8 x 20mm counter sunk screw to the fulcrum pin and tighten using a 5mm hex key to 25Nm.
- 11 Fit replacement self adhesive screw cover to the heads of the M8 x 20mm counter sunk screws.

### NOTE 1: Joerns Healthcare recommends the following:

- **NEVER fit a new fulcrum pin or sleeve to a worn or damaged boom.**
- **ALWAYS tighten the fulcrum pin to the correct torque setting.**
- **ALWAYS assemble the M8 screws with thread lock.**
- **CHECK the assembled Mast/Boom pivot for unacceptable movement.**

**NOTE 2: Before applying thread lock to any screw or bolt, check it can be screwed into the component without hindrance from old remaining thread lock as this could affect the proper torque setting.**

## Mast

- 1 Make sure the mast is fully engaged into the mast socket.
- 2 Check for presence of the mast 'fool proofing' pin.
- 3 Check the operation of the mast locking device.
- 4 Check the security of the actuator unit mounting and lubricate with a light mineral based grease or food grade spray lubricant.
- 5 Examine all the welded joints on the mast fabrication for hair-line cracks, paying particular attention to the joints between the positioning handles and the mast and the mast pivot brackets to the mast.
- 6 Examine the actuator mounting point for damage or wear. Without taking the mounting apart check for signs of wear on the fulcrum pin. Check for excessive vertical and horizontal movement in the mounting. This will give a good indication of wear but if there is any doubt the assembly should be stripped down as follows:
- 7 Remove one of the circlips that secures the actuator fulcrum pin to the bracket and whilst supporting the boom/actuator, extract the fulcrum pin.
- 8 Examine the fulcrum pin for signs of wear and for firm attachment of the remaining circlip. The diameter of the fulcrum pin is 8mm. Reduction in diameter due to **wear must not exceed 1mm before replacement.**
- 9 Examine the actuator mounting bracket on the mast for wear on the bore of the bracket. **Wear should not exceed 2mm.**
- 10 Examine the actuator bottom mounting boss for wear. **This should not exceed 1mm.**
- 11 Lubricate the fulcrum pin using a light mineral based grease or food grade spray lubricant.
- 12 Replace the fulcrum pin through the mast bracket and actuator.
- 13 Fit a new circlip to the fulcrum pin.

**NOTE 1: It is most important that fulcrum pins are re-assembled carefully. Check to ensure complete security.**

**NOTE 2: Joerns Healthcare recommends:**

- **NEVER reuse circlips.**
  - **ALWAYS use circlip pliers for fitting.**
  - **ENSURE the circlip is properly located in the groove and not deformed.**
- 14 Confirm the presence and proper location of the mast engagement label.
  - 15 Check the correct operation of the mast-locking knob. Confirm the mast will lift from the mast socket when the locking knob is unscrewed.
  - 16 Check the presence and condition of the positioning handle end caps and replace if necessary.

## Battery Pack & Control Unit (Electric Variants)

- 1 Confirm the mounting bracket is firmly attached to the mast. Three no. 2 pozi drive head screws secure the mounting bracket. **Confirm the screws are fully tightened to 5Nm.**
- 2 Check the engagement of the battery pack with the mounting. The battery pack should snap into place and be retained by a latch at the top of the pack. Make sure the latch is functioning correctly and holds the battery pack firmly in place.
- 3 Check that the actuator and hand control plugs are inserted fully into the appropriate socket on the base of the control unit. The plugs, particularly the hand control plug, are a tight fit in the sockets and must be pushed fully home. The hand control plug is indexed and can only be fitted in one position. The 'raise/lower' actuator plug is not indexed and can be fitted with a straight push. The 'raise/lower' actuator jack plug connects to the socket marked '1' in the base of the control box.
- 4 Inspect the hand control and coiled lead for any obvious signs of damage. Damage to the hand control and particularly to the lead can cause intermittent faults. The hand control should be replaced if damage is evident.
- 5 Check the operation of the hand control. Press the raise and lower buttons and confirm the boom moves in the correct direction.
- 6 Check the operation of the Emergency stop switch. Push in the red button; this will latch and remain depressed and cut off all power to the lift. Confirm by looking at the LED panel that should now be blank. Confirm the boom does not operate when depressing the raise and lower buttons on the hand control. Return power to the lift by twisting the red button clockwise and releasing. The LED panel should no longer be blank and battery power should now be displayed instead.
- 7 Check the operation of the redundant control raise and lower buttons. These are two raised 'soft push' buttons on the front of the control unit under the Emergency stop switch identified by up and down arrows.

## Smart Monitor

Please refer to the following document for service and maintenance guidance:

### Oxford Smart Monitor

Engineer's Service & Installation Manual

(Document no.294000.10380)

Contact Joerns Healthcare on **+44 (0)344 811 1158** should you require a copy.



## Cross-Member

To perform a service inspection of the cross-member, it is recommended the mast and boom assembly is first removed. Unscrew the mast locking knob completely from the cross-member. The mast and boom assembly can then be lifted out of the mast socket on the cross-member.

- 1 Inspect the mast locking knob for damage and/or wear, paying particular attention to the threads which engage with the mast. If wear or damage are evident, the mast locking knob should be replaced.
- 2 Inspect the mast fool proofing post, positioned inside the mast socket for presence and for wear and/or damage. If wear or damage are evident, the mast fool proofing post should be replaced. If the mast fool proofing post is not present, the lift should be taken out of service and not returned to service until it has been replaced.
- 3 Inspect the mast socket on the cross-member for damage, wear or splits/cracks in the metal, paying particular attention to the front corners. If damage, wear or splits are evident the lift should be taken out of service and not used until the cross-member has been replaced.
- 4 Maintenance: Lubricate the 'W' profile and the corresponding pin with a light mineral based grease or food grade spray lubricant.
- 5 Confirm presence and condition of the acetyl wear washer between the foot pedal mechanism and the boss on the cross-member.

## Foot Pedal (Non-Electric Leg Variants)

- 1 Inspect the foot pedal rubber grip pads for presence, wear and/or damage. If wear or damage are evident or either pad is missing, the pads should be renewed.
- 2 Check the leg adjustment mechanism locates/locks correctly in the open and closed positions.
- 3 Examine the foot pedal mechanism for excessive play, wear or damage. If excessive play, wear or damage is evident, the foot pedal mechanism should be replaced. To replace the foot pedal mechanism, follow the procedure outlined below:
- 4 Dismantle the leg ends of the tie rods from the legs using a 6mm hex key. Take care not to lose the 2 off white acetyl washers on each leg.
- 5 Examine the white acetyl washers for damage or wear. **If damage or wear is evident, the washers should be replaced.**
- 6 Unscrew and completely remove the mast locking knob.
- 7 Remove the plastic moulding which shrouds the foot pedal/leg opening mechanism. The moulding is a push fit, however, to aid removal, position a wide flat blade screw driver or similar between the moulding and one of the foot pedal levers and gently prise off the moulding.
- 8 Unscrew the M16 binx nut using a 24mm A/F ring spanner or socket.

**NOTE: If the foot pedal leg opening mechanism is being renewed, the binx nut can be discarded as a replacement is included with the foot pedal mechanism kit.**

- 9 Withdraw the complete foot pedal leg opening mechanism from the mounting spigot and examine for damage and/or wear. If damage or wear is evident the mechanism should be replaced.
- 10 Remove the acetyl wear washer which sits between the foot pedal mechanism and the boss on the cross-member.
- 11 Examine the washer for wear and/or damage. **If wear and/or damage are evident, the washer should be replaced.**
- 12 Dismantle the left and right hand tie rods from the foot pedal mechanism using a 6mm hex key, taking care not to lose the white acetyl washers - 2 off on each tie rod.
- 13 Examine the washers for wear and/or damage. If wear and/or damage are evident, the washers should be replaced.

**NOTE: If the cross-member is damaged and/or worn and requires replacement, the legs should be dismantled from the cross-member as detailed in the leg/leg pivot section of this manual.**

## Re-Assembly of the Leg Opening Mechanism to the Cross-Member (Non-Electric Leg Variants)

- 1 Lubricate all acetyl wear washers, the leg opening mechanism and both ends of the left and right tie rods with a light mineral based grease or food grade spray lubricant.
- 2 Position the acetyl wear washer on the cross-member mounting spigot.
- 3 Assemble the left and right hand tie rods to the leg opening mechanism, ensuring the 2 off white acetyl wear washers are fitted at the ends of each tie rod. Use a 6mm hex key to tighten the fixing bolts to 30Nm.

**NOTE: The tie rods are identified on the leg end with the following markings:**

**Mini & Midi:**

Right hand = 1 / Left hand = 2

**Major & Maxi:**

Right hand = 3 / Left hand = 4

- 4 Fit the leg opening mechanism to the cross-member mounting spigot, ensuring it is assembled in the correct orientation.
- 5 Assemble the M16 binx nut to the cross-member mounting spigot using a 24mm A/F ring spanner or socket and tighten to 55 - 60Nm.
- 6 Re-fit the leg opening mechanism plastic shroud, ensuring it snaps securely onto the leg opening mechanism.
- 7 Re-assemble the leg ends of the left and right tie rods to the legs, ensuring the 2 off white acetyl washers are fitted at the ends of each tie rod. Use a 6mm hex key to tighten the fixing bolts to 35Nm.
- 8 Re-fit the boom and mast assembly into the mast socket on the cross-member, ensuring the mast is fully inserted into the socket. This is confirmed by the datum line sitting immediately above the mast socket.
- 9 Re-assemble the mast locking knob to the thread in the cross-member and tighten securely by hand.

## Leg Opening (Electric Leg Variants)

- 1 Operate the leg opening and closing from the handset and confirm the legs operate correctly in both directions.
- 2 Confirm the legs lock correctly when the open/close button is released.
- 3 Confirm the leg actuator mounting bracket is firmly attached to the mast (2 off 4mm Hex drive screws).  
**Confirm the screws are tightened to 10Nm.**
- 4 Confirm the leg actuator is firmly attached to the mounting bracket. (1 off 5mm Hex drive set-pin).  
**Confirm the set pin is tightened to 20Nm.**
- 5 Confirm the leg actuator and hand control plugs are inserted fully into the appropriate sockets on the base of the control unit. The plugs, particularly the hand control plug, are a tight fit and must be pushed fully home.
- 6 The hand control plug is indexed and can only be fitted in one position. The leg actuator jack plug is not indexed and can be fitted with a straight push. The leg actuator jack plug connects to the socket marked '2' in the base of the control box.
- 7 Inspect the hand control and coiled lead for any obvious signs of damage. Damage to the hand control and particularly to the lead can cause intermittent faults. The hand control should be replaced if damage is evident.
- 8 Check the operation of the emergency stop switch. Push in the red button; this will latch and remain depressed and cut off all power to the lift. Confirm by looking at the LED panel, this should now be blank. Confirm the legs do not operate when depressing the open and close buttons on the hand control. Return power to the lift by twisting the red button clockwise and releasing. The LED panel should no longer be blank and battery power should now be displayed instead.
- 9 Check the operation of the redundant control open and close buttons. These are two raised 'soft push' buttons on the front of the control unit under the emergency stop switch identified by open and closed leg symbols.
- 10 Examine the leg opening mechanism for excessive play, wear or damage. If excessive play, wear or damage is evident, the leg opening mechanism should be replaced.

### **To replace the leg opening mechanism follow the procedure outlined below:**

- 11 Remove the leg actuator clevis pin retaining 'R' clip and withdraw the clevis pin.
- 12 Lightly tap the bottom of the leg actuator towards the left hand rear castor to release it from the leg mechanism.
- 13 Dismantle the leg ends of the tie rods from the legs using a 6mm Hex key. Take care not to lose the 2 off white acetyl washers on each leg.
- 14 Examine the white acetyl washers for damage or wear. If damage or wear is evident, the washers should be replaced.
- 15 Unscrew and completely remove the mast locking knob.
- 16 Remove the plastic moulding which shrouds the leg opening mechanism. The moulding is a 'push fit' however, to aid removal, position a wide flat blade screwdriver or similar between the moulding and the rear leg opening mechanism plate and gently prise off the moulding.
- 17 Unscrew the M16 Binx nut using a 24mm A/F ring spanner or socket.

**NOTE: If the leg opening mechanism is being renewed, the Binx nut can be discarded as a replacement is included with the replacement leg mechanism kit.**

- 18 Withdraw the complete leg opening mechanism from the mounting spigot and examine for damage/wear. **If damage or wear is evident the mechanism should be replaced.**
- 19 Remove the acetyl wear washer which sits between the leg opening mechanism and the boss on the cross-member.
- 20 Examine the washer for wear and/or damage. **If wear and/or damage are evident, the washer should be replaced.**

- 21 Dismantle the left and right hand tie rods from the leg opening mechanism using a 6mm Hex key, taking care not to lose the white Acetyl washers (2 off on each tie rod end).
- 22 Examine the washers for wear and/or damage. **If wear and/or damage are evident the washers should be replaced.**

**NOTE: If the cross-member is damaged and/or worn and requires replacement, the legs should be dismantled from the cross-member as detailed in the leg/leg pivot section of this manual.**

## Re-Assembly of the Leg Opening Mechanism to the Cross-Member (Electric Leg Variants)

- 1 Lubricate all acetyl wear washers, the leg opening mechanism and both ends of the left and right tie rods with a light mineral based grease or food grade spray lubricant.
- 2 Position the acetyl wear washer on the cross-member mounting spigot.
- 3 Assemble the left and right hand tie rods to the leg opening mechanism ensuring the 2 off white acetyl wear washers are fitted at the ends of each tie rod. Use a 6mm Hex key to tighten the fixing bolts to **30Nm**.

**NOTE: The tie rods are identified on the leg end with the following markings:**

### Mini & Midi:

Right hand = 1 / Left hand = 2

### Major & Maxi:

Right hand = 3 / Left hand = 4

- 4 Fit the leg opening mechanism to the cross-member mounting spigot, ensuring it is assembled in the correct orientation.
- 5 Assemble the M16 binx nut to the cross-member mounting spigot using a 24mm A/F ring spanner or socket and tighten to **55 - 60Nm**.
- 6 Re-fit the leg opening mechanism plastic shroud, ensuring it snaps securely onto the leg opening mechanism.
- 7 Re-assemble the leg ends of the left and right tie rods to the legs, ensuring the 2 off white acetyl washers are fitted at the ends of each tie rod. Use a 6mm hex key to tighten the fixing bolts to **35Nm**.
- 8 Re-fit the boom and mast assembly into the mast socket on the cross-member, ensuring the mast is fully inserted into the socket. This is confirmed by the datum line sitting immediately above the mast socket.
- 9 Re-assemble the mast locking knob to the thread in the cross-member and tighten securely by hand.
- 10 Re-locate the lower end of the leg opening actuator over the leg opening mechanism lever, ensuring the holes in both components align.

**NOTE: Manoeuvring the left leg of the hoist may aid alignment.**

- 11 Lubricate the clevis pin with a light mineral based grease or food grade spray lubricant.
- 12 Insert the clevis pin through holes in the leg opening actuator and leg opening mechanism lever.
- 13 Insert the clevis pin securing 'R' clip through the hole in the clevis pin.
- 14 Operate the legs by depressing the open and close buttons on the handset and ensure the legs open and close satisfactorily.

## Leg Opening Actuator (Electric Leg Variants Only)

- 1 The actuator is a sealed unit and should require no maintenance.
- 2 Check for correct operation when opening and closing the legs.
- 3 Confirm power cut-out at the ends of travel, both open and closed.
- 4 Listen for unusual noise which may indicate imminent breakdown.
- 5 Check for wear on the upper and lower mounting bosses. **Any excessive movement or play in the actuator mounting must be investigated.**
- 6 Lubricate the upper mounting fulcrum pin and the lower clevis with a light mineral based grease or food grade spray lubricant.
- 7 Ensure the upper mounting fulcrum pin is secure. **Confirm the set-pin is tightened to 20Nm.**
- 8 Confirm the lower clevis pin is securely retained by the 'R' clip.

## Leg Opening Actuator Removal and Replacement (Electric Leg Variants Only)

### Removal

Should the leg opening actuator require replacement, the following procedures should be followed:

- 1 Remove the white plastic cap from the head of the upper actuator mounting set-pin.
- 2 Unplug the actuator jack plug from position '2' on the underside of the control box.
- 3 Remove the lower actuator clevis pin securing 'R' clip.
- 4 Withdraw the lower actuator clevis pin.
- 5 Lightly tap the actuator towards the left rear castor to release it from the leg opening mechanism lever.
- 6 Using a 5mm Hex key, unscrew the upper actuator securing set-pin. **Take care not to lose the white nylon bush and the spring washer.**

### Replacement

**NOTE: If re-using the upper actuator mounting set-pin, ensure any old 'threadlock' is removed from the thread as this may affect the tightening torque of the set-pin on re-assembly.**

- 1 Apply a small amount of medium strength blue 'threadlock' to the thread of the set-pin prior to assembly.
- 2 Lubricate the plain portion of the set-pin using a light mineral based grease or food grade spray lubricant prior to assembly.
- 3 Ensure the spring washer is positioned immediately under the head of the set-pin.
- 4 Position the upper mounting of the leg opening actuator inside the mounting bracket and commence inserting the set-pin firstly through the hole in the mounting bracket then through the actuator mounting bosses. **Do not exceed the second boss with the thread of the set-pin.**
- 5 Position the white nylon bush between the second actuator mounting boss and the welded steel boss on the actuator mounting bracket.
- 6 Now continue inserting the actuator mounting set-pin through the white nylon boss.
- 7 Using a 5mm Hex key, **tighten the actuator mounting set-pin to 20Nm.**
- 8 Re-fit the white plastic cap to the head of the set-pin.
- 9 Lubricate the lower actuator mounting clevis pin with a light mineral based grease or food grade spray lubricant prior to assembly.
- 10 Align the hole in the lower actuator mounting with the hole in the leg opening mechanism lever and insert the clevis pin through both components.

**NOTE: Manoeuvring the left leg of the hoist may aid alignment.**

- 11 Insert the clevis pin securing 'R' clip through the clevis pin.

## Legs / Leg Pivot Pins

- 1 Check the leg pivots are retained securely and that the legs pivot freely. Any stiffness must be investigated. Also check that there is no excessive play in the leg pivots. Any excessive play must be investigated.
- 2 To inspect the leg pivot pins, the legs must be removed from the cross-member as follows:
- 3 Remove the mast and boom assembly from the cross-member by unscrewing and removing the mast locking knob. The mast and boom assembly can then be lifted out of the locating socket on the cross-member.
- 4 Find a suitable surface to enable the base assembly to be supported.
- 5 Dismantle the leg ends of the tie rods using a 6mm hex key, taking care not to lose the acetyl washers.
- 6 Unscrew the legs from the cross-member, taking care not to lose the upper and lower brass washers.
- 7 Withdraw the leg compression sleeve from the leg and examine for damage and/or wear. The diameter of the bush is 16mm. A reduction in diameter not exceeding 1mm is acceptable due to wear. If necessary the bushes should be replaced.
- 8 Examine the welded bushes in the legs for damage and/or wear. A maximum of 1mm wear/ovality is acceptable. **If the bushes show signs of damage or wear which exceeds this tolerance level, the leg fabrication should be replaced.**
- 9 Examine the upper and lower brass washers for wear. If necessary, the washers should be replaced.
- 10 Examine the leg fixing bolts for damage and/or wear and replace as necessary.
- 11 Lubricate the bush in the leg fabrication, the leg compression sleeve, the upper and lower brass washers and the leg fixing bolt with a light mineral based grease or food grade spray lubricant.

## Re-Assembly of the Leg Pivot Pins

**NOTE: It will ease re-assembly if the legs are adjusted to the 'open' position.**

- 1 Insert the leg compression sleeve through the bush in the leg fabrication.
- 2 Re-assemble the upper and lower brass washers to the top and bottom of the leg compression sleeve.
- 3 Position the leg sub-assembly between the pivot brackets of the cross-member, ensuring the upper and lower brass washers remain in position.
- 4 Apply a small amount of medium strength thread lock (blue) to the first 6 threads of the leg fixing bolt.
- 5 Insert the leg fixing bolt through the upper hole in the cross-member, through the leg compression sleeve ensuring it locates into the female thread in the lower cross-member bracket.
- 6 Tighten the leg fixing bolt to 70Nm using an 8mm hex key.
- 7 Lubricate the acetyl washers using a light mineral based grease or food grade spray lubricant.
- 8 Re-assemble the leg ends of the tie rods using a 6mm hex key, ensuring the acetyl washer is fitted under the head of the securing screw. Tighten to 35Nm.
- 9 Re-fit the mast/boom assembly and tighten the mast locking knob securely.
- 10 Operate the leg operating foot pedal to ensure the legs open and close correctly and lock in both the open and closed positions.

**NOTE: Prior to applying fresh thread lock to any screw or bolt, check it can be screwed into the component without hindrance from old remaining thread lock as this could affect the proper torque settings.**

## Rear Castors

- 1 Check the rear castors are firmly fixed to the legs. Remove any loose castors using a 6mm hex key and a 17mm socket attached to a socket wrench.
- 2 Make sure the castors swivel and the wheels rotate freely. If the free rotation of any castor is affected by thread, hairs or fibres the castor should be replaced as these are non-serviceable components. Lubricate if necessary with a light mineral based grease or food grade spray lubricant.
- 3 Check all four castors are seated firmly on the ground.
- 4 Check the operation of the brakes on the rear castors. A foot-operated pedal activates the brake. Check the brake pedal locks in place and that the castors do not rotate when the brakes are engaged.
- 5 Before re-assembly of the rear castors, apply a small amount of medium strength thread lock (blue) to the castor fixing screw before tightening to 35Nm.

**NOTE: The Oxford Major and Maxi lift variants are fitted with a straight line steering device which is retained under the right hand rear castor. Ensure the straight line steering device locates over the rear castor when manually applied. If it does not locate or has become damaged, the rear castor should be removed as instructed above and the straight line steering device examined and replaced if necessary. It should then be re-assembled between the right rear castor and the castor bracket on the rear of the right hand leg as detailed above.**

## Front Castors

- 1 Check the front castors are firmly fixed to the legs.
- 2 Make sure the castors swivel and that the wheels rotate freely.
- 3 Remove any loose or damaged castors using a 5mm hex key and a 13mm socket attached to a socket wrench.
- 4 If the free rotation of any castor is affected by thread, hairs or fibres the castor should be replaced as these are non-serviceable components. Lubricate if necessary with a light mineral based grease or food grade spray lubricant.
- 5 Check all four castors are seated firmly on the ground.
- 6 Before re-assembly of the front castors, apply a small amount of medium strength thread lock (blue) to the castor securing screw.
- 7 Tighten the castor fixing screw to 25Nm.

**NOTE: Prior to applying fresh thread lock to any screw or bolt, check it can be screwed into the component without hindrance from old remaining thread lock as this could affect the proper torque settings.**

## Fault Finding: Electric Variants

### • Problem - Hoist not working

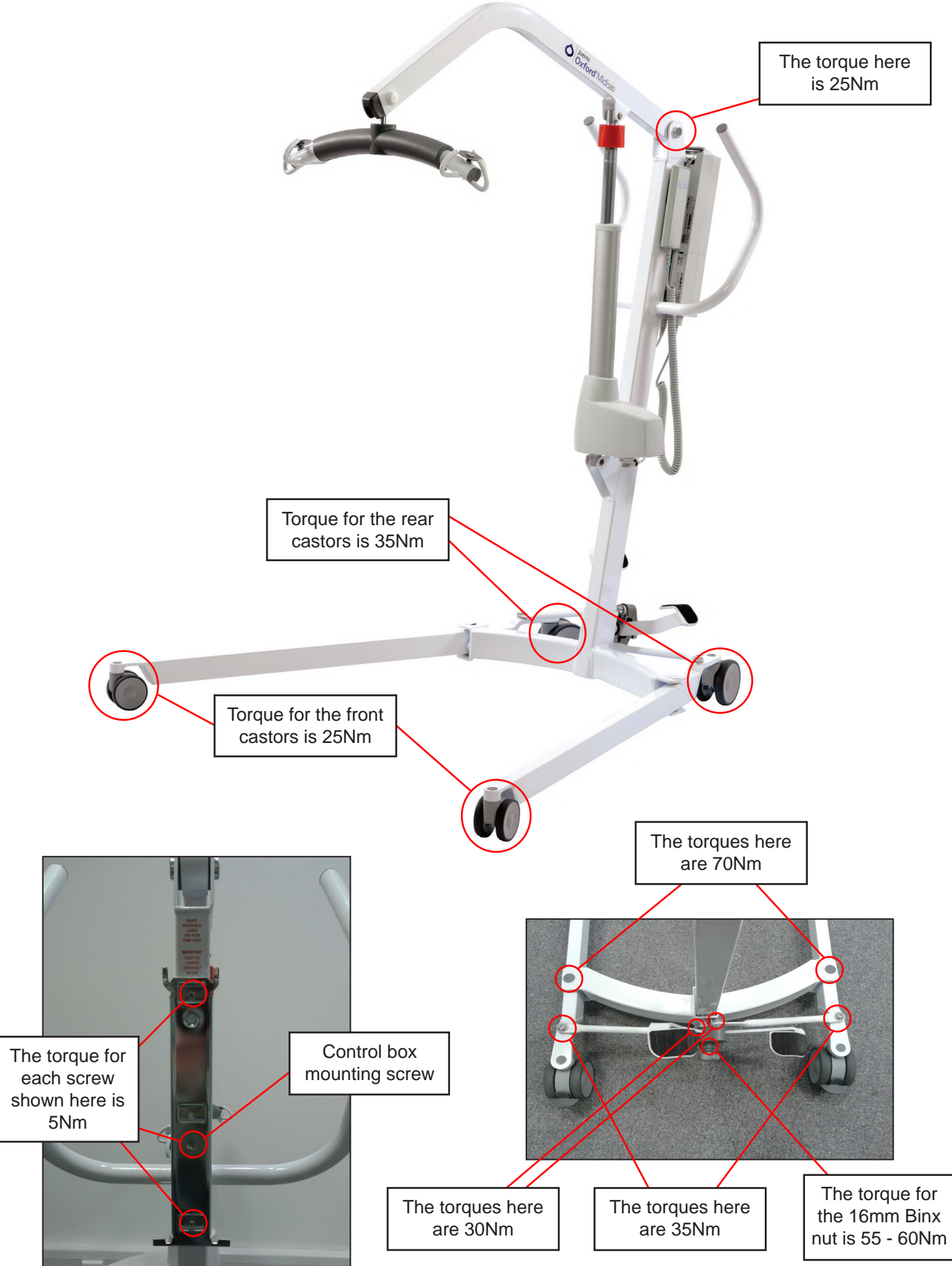
Possible Fault	Remedy
Emergency stop switch activated.	Can be identified by an LED panel that will have a blank display. Turn the red emergency stop switch clockwise and release.
Flat batteries.	Can be identified by an LED panel that will have none of the three segments illuminated (audible beep should have been heard prior to this).
Power supply disconnected (detachable battery packs).	Push battery into place until a 'CLICK' can be heard and ensure the LED display illuminates.
Completely flat batteries (discharged beyond recovery).	Replace batteries.

### • Problem - Hoist won't go up or won't go down

Possible Fault	Remedy
Hand control plug not fully engaged.	Push plug firmly into socket (in an emergency use of the Emergency raise and lower function on the control box will suffice).
Wiring in hand control plug detached.	Replace hand control + as above.
Hand control switches not working.	Replace hand control + as above.
Wires detached inside handset.	Replace hand control + as above.
Hand control socket damaged.	Replace control box.
Relay on control board inoperative.	Replace control box.
Defective actuator.	Replace actuator.
Anti-crush micro switch activated (Safety Device).	Check for correct function of micro switch, or remove any obstacle that may have come between the boom as it was lowering.
Actuator jack plug disconnected.	Check condition of plug and re-connect.
Actuator socket damaged.	Replace control box.



# Torque Settings



# LOLER: Thorough Examination Report

Client Name & Address: \_\_\_\_\_

Tel: \_\_\_\_\_

Address of Examination: \_\_\_\_\_

Model: \_\_\_\_\_ Serial No. \_\_\_\_\_ Date of Manu. \_\_\_\_\_

Date of Last Examination: \_\_\_\_\_ Safe Working Load: \_\_\_\_\_

Commissioning Examination  Yes  No Safe to Operate?  Yes  No  N/A

Periodic Examination  Yes  No

Interval of Examination  6 Months  12 Months  Examination Scheme  Exceptional

Number of Lift Cycles \_\_\_\_\_ Number of Lift Overloads \_\_\_\_\_

Safe to Operate?  Yes  No  N/A

## Defective Parts (Immediate Attention)

Part Number	Description	Defect	Action taken

## Defects requiring rectification at a later date

Part Number	Description	Defect	Action taken	Latest Date

Next Examination due date: .....

Load Test conducted according to  BS EN ISO 10535  Other (state)

Thorough Examination carried out ..... Date

Name of Examiner ..... Job Title .....

On Behalf of ..... (Company/Organisation)

Address .....

.....

.....

Signed..... Signed on behalf .....

Name & Address .....

.....

Date of Report.....

**Notes:**



Joerns  
Oxford<sup>®</sup>

---



Joerns Healthcare Limited  
Drakes Broughton Business Park, Worcester Road, Drakes Broughton  
Pershore, Worcestershire, WR10 2AG United Kingdom  
(T) 0344 811 1158  
[www.joerns.co.uk](http://www.joerns.co.uk) • email: [info@joerns.co.uk](mailto:info@joerns.co.uk)