

### Safe Working Practices:

#### SWP- 34 Mast Installation/Removal

Before doing any type of work you must carry out an assessment of the task to be undertaken. This will include the equipment to be worked on, the task itself, Personal Protective Equipment requirements, the work area and environment, plus the tools and equipment required to carry out the job safely. Consult your team leader if you are not satisfied the job can be carried out in a safe manner.

**In addition to service/repair manual guidelines, the following must always be applied:**

#### GENERAL

- 1.0 Select a safe working area (refer to SWP-01 Work Area).
- 1.1 Ensure appropriate PPE is worn at all times (refer to SWP-32 PPE). Safety shoes and hard hats are mandatory. Protective gloves are available if required.
- 1.2 Because of the difficulty in specifying maximum loads that an individual may be expected to handle, the company has decided to provide general instructions on Manual Handling of Loads. (refer to SWP-13 Manual Handling).
- 1.3 Below process outlines the installation of the mast. For removal same process in reverse to be followed.

#### 2.0 Process

##### Preparation

- 2.1 The mast/s will be delivered to site securely strapped to pallets, (as shown below Fig 1 & 2.) ensuring all sections cannot move during transportation and with hydraulics blocked off.
- 2.2 Match the serial number on the mast with the serial number of the Reach Truck.

Fig 1.



Fig 2.



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#### Lifting and positioning the mast

- 2.3 Attach the Spreader Bar & Lifting Beam to the forks of the C/B or RT, ensuring the safety chain and pinch bolts are secured correctly. (SWP- 06 Use of Lifting Equipment)
- 2.4 Position the C/B or RT lifting beam above the new mast that's being installed.
- 2.5 Attach the lifting beam to the new mast; ensuring pins are securing it in place. Fig 3 & 4
- 2.6 Remove the securing straps from the new mast.
- 2.7 Lift the CB or RT until the chains are taught and the weight of the mast is supported by the lifting beam. Fig 5.

Fig 3.



Fig 4 & 5.



- 2.8 Jack the base end of the new mast, using the toe jacks, to maximum height. Fig 6.
  - If a secondary truck is available – sling the eccentric cams and lift the mast
- 2.9 Use slings to remove the pallet. Fig 7 & 8.



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Fig 6.



Fig 7 & 8.



- The mast is supported by the lifting beam and the toe jacks for a minimum time whilst the blocks are put in place.

2.10 Position the wooden blocks that come with the new mast and lower the mast onto them. Fig 9.

- If the mast is not new, for example an STR or customer move, then select suitable blocks which enable the mast to pivot on when being uprighted.

Fig 9.



2.11 Using an established code of signals, **Technician 1** will operate the C/B or RT to lift the RRE mast to a vertical position whilst driving forward and under instruction from **Technician 2** who will ensure the chains are kept vertical at all times, until the mast is fully supported by the C/B or RT. Fig 10, 11, and 12.

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Fig 10.



Fig 11.



Fig 12



Under no circumstance should anybody (includes technicians and lifting equipment operatives) be permitted to place themselves under an elevated load for any reason. Make a trial lift by raising the load a little to ensure it is balanced, stable and secure.

#### Securing the mast into the truck mountings

- 2.12 **Technician 2** retrieves the selected reach truck (chassis only) and positions the reach truck in front of the vertical mast, driving forwards to locate it in its mounting position. Take care not to trap hoses or wiring. (Fig 13, 14 and 15.)
- 2.13 **Technician 1** will then manoeuvre the RRE mast into the home position. Secure the mast as per Master Service Manual (Mast/Lift system - 7000)

Fig 13.



Fig 14.



Fig 15.





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#### **Removal of the lifting beam brackets from the new installed mast.**

Once all the mast fixings are secure

- 2.14 Lower the forks of the C/B RT to slacken the tension on the chain.
- 2.15 Detach the chains, ensuring SWP04 – Working at Height is followed.
  - Equipment to be used in order of preference
    - OM
    - Working Platform-Personnel Cage
    - Airport Ladders
    - Harness & Lanyard
- 2.16 The C/B RT is lowered and removed from the work area.
- 2.17 The mast fixings on the RRE are then tightened to the correct torque.
- 2.18 Hydraulic pipes are then fitted as per Master Service Manual.

**Full function test is carried out and a thorough examination (TE) is completed, all sections of the checklist completed correctly. All worksheets must be signed by both technician and customer.**