

Safe Working Practices:

SWP- 52 Workshop Mast Installation, Removal & Storage

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). Some workshops are provided with an overhead crane with a designated work area. The area must be secured against unauthorised access.
- 1.1 Ensure appropriate PPE is worn at all times (refer to SWP-32 PPE). Safety shoes, overalls, hard hats and gloves (minimum standard GL7790 or equivalent) are mandatory.
- 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 If two or more technicians are working together, an established code of signals must be agreed, and one **must** take the lead.

Process

Preparation

- 2.0 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 blanked off.
- 2.1 Match the serial number on the mast with the serial number of the Truck.

Fig 1.

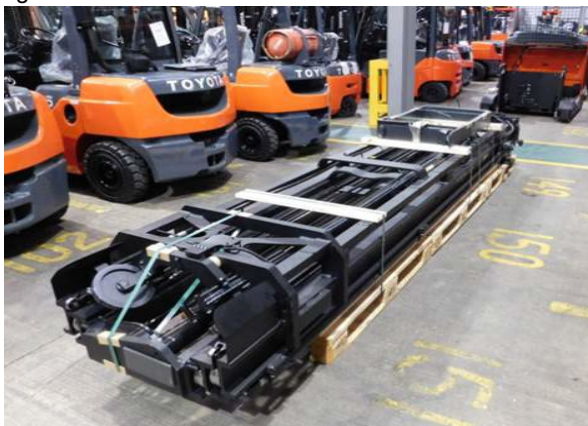


Fig 2.



Safe Working Practices:

SWP- 52 Workshop Mast Installation, Removal & Storage

Lifting and positioning the mast

- 2.2 Attach the Spreader Bar & Lifting Beam to the lifting equipment (crane, FLT) ensuring any safety chain and/or pinch bolts are secured correctly. (Refer to SWP- 06 Use of Lifting Equipment)
- 2.3 Position the lifting equipment above the mast that's being raised.
- 2.4 Attach the lifting equipment to the mast; ensuring fasteners (pins, hooks etc) are securing it in place, see example Fig 3 & 4. See section 6.0 for Bow Shackle guidance.
- 2.5 Remove the securing straps from the mast.
- 2.6 Lift until the chains are taught and the weight of the mast is supported by the lifting beam. Fig 5.

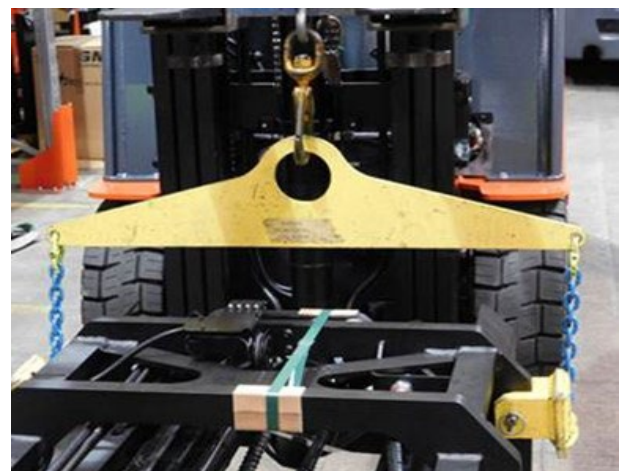
Fig 3.



Fig 4



Fig 5

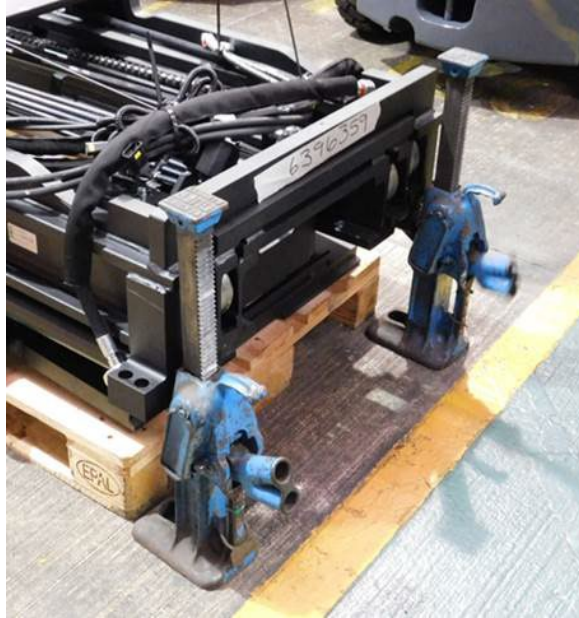


Safe Working Practices:

SWP- 52 Workshop Mast Installation, Removal & Storage

- 2.7 Support or lift the base end of the mast using suitable lifting equipment (FLT, crane or toe jacks) Fig 6

Fig 6.



- 2.8 Reach truck masts – alternative method – sling/attach to the eccentric cams and lift the mast Fig 7 & 8

Fig 7



Fig 8



Safe Working Practices:

SWP- 52 Workshop Mast Installation, Removal & Storage

- 2.9 Use slings to remove the pallet. Fig 9 & 10

Fig 9



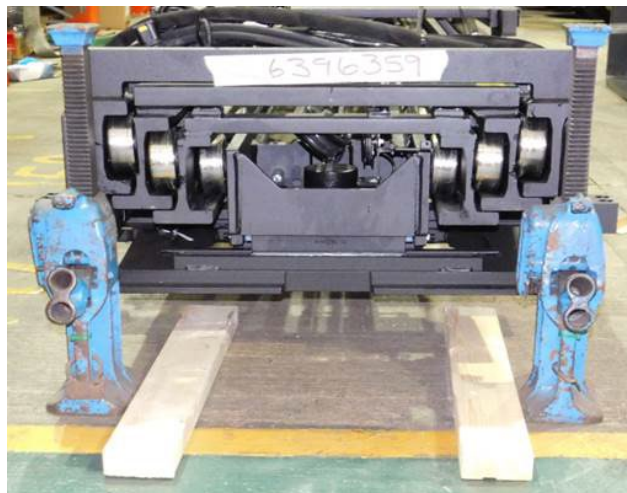
Fig 10



The mast is supported by the lifting equipment for a minimum time whilst the blocks are put in place.

- 2.10 Position the wooden blocks and lower the base end of the mast onto them. Fig 10.

Fig 10



- 2.11 Ensure the chains are always kept vertical until the mast is fully supported by the lifting equipment (truck or crane). Fig 11, 12, 13 & 14

Safe Working Practices:

SWP- 52 Workshop Mast Installation, Removal & Storage

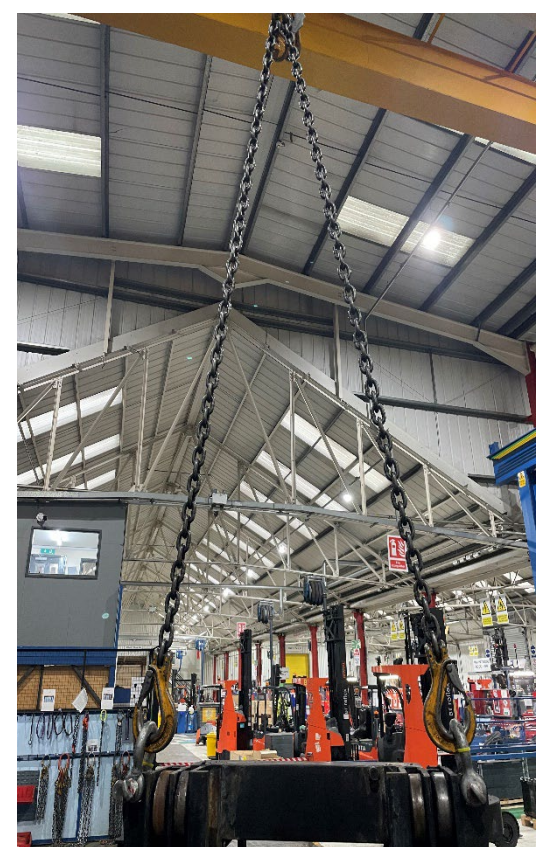
Fig 11



Fig 12



Fig 13



Safe Working Practices:

SWP- 52 Workshop Mast Installation, Removal & Storage

Under no circumstance should anybody (includes technicians and lifting equipment operatives) place themselves under an elevated load for any reason.

Always make a trial lift by raising the load a little to ensure it is balanced, stable and secure.

For installing the mast into the truck, refer to the truck specific Master Service Manual

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

Once all the mast fixings are secure

- 3.0 Lower the lifting equipment to slacken the tension on the chain.
- 3.1 Detach the fasteners (pins, hooks etc) from the mast, ensuring SWP04 – Working at Height is followed.
 - Equipment to be used in order of preference
 - Order Picker
 - Airport Ladders
 - Harness & Lanyard
- 3.2 The lifting equipment is lowered and removed from the work area.

Following installation, a full function test is carried out and a Thorough Examination (TE) is completed, all sections of the checklist to be completed.

Mast Removal

For removal of the mast from the truck, refer to the truck specific Master Service Manual

- 4.0 The removal procedure is a reverse process of installation detailed above adhering to the following key points:
 - Ensure lifting equipment is positioned directly above the mast
 - All lifting fasteners are correctly and securely positioned
 - All disconnected hoses are capped off to prevent leakage
 - Safe working area is secured
 - Mast and carriage sections are secured to prevent unplanned movement

Storage & Transport

- 5.0 All masts stored and transported horizontally must be securely banded with all hydraulics lines blanked. They should be labelled with the truck serial number clearly identified. See example Fig 13 & 14

Safe Working Practices:

SWP- 52 Workshop Mast Installation, Removal & Storage

Fig 13 Mast securely banded to pallets



Fig 14 Showing the bearers supporting the mast, holding the weight of the cylinders.



Safe Working Practices:

SWP- 52 Workshop Mast Installation, Removal & Storage

Fig 15 shows the pallet configuration which stops the carriage from moving forward



Bow Shackle Guidance

6.0

