SHIPPING, LIFTING AND PRESERVATION PROCEDURE

REVISION HISTORY

Rev	Date (dd.mm. yyyy)	Reason for issue	Prepared	Checked	Approved

CHANGE DESCRIPTION

Revision Change description
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1 INTRODUCTION

1.1 Purpose

The purpose of this procedure is to establish an information base applicable for the delivery and storage phases of the equipment Manufactured by CPC. These phases involve handling, storage and preservation of the equipment.

1.2 General

A copy of this procedure shall be attached to the equipment during transport ensuring availability at receipt of the equipment.
Initial preservation shall be performed shortly after FAT and before transport. Preservation records shall be maintained at start of the preservation period. The updated log file shall be kept by the preservation responsible.
A preservation label (see behind) shall follow the equipment. This label shall be updated to reflect last time preservation work

1.3 Safety

This procedure describes handling of the equipment and minimum tonnage required for safe lifting of equipment. Only certified lifting gear shall be used. To avoid damage to personnel and equipment, the lifting procedure described shall be followed.

Personnel trained for handling of heavy equipment only shall be allowed to perform lifting operation. All other personnel shall be kept in a safe distance. Incase verbal warnings are not sufficient, then the surrounding area should be cordoned.

Initial preservation, re-preservation and de-preservation may involve usage of preservation fluid oceanic EPF that may be harmful to human. These fluids are only harmful if personnel are exposed to the fluid for extended periods. Personnel performing this type of work should be wearing personnel protection equipment and should follow instructions as contained in material safety data details of the fluids.

2 Handling

2.1 Necessary Lifting Gear-

Capacity of the Lifting Gear and allied equipment used for lifting should be at least 25% more than the dry weight of the equipment.

None of these equipment are supplied by CPC.

2.2 Weights

S.No.	Description	Customer No.	GA No.	Dry Wt. (kg.)	Lifting Hooks/ Unit	Safe Load Hoo (kg.)

2.3 Handling Description.

Drawings - Refer GA's for CG of the items description in 2.2.
All Units of the subject equipment are single-skid mounted on a solid bottom frame. The bottom frame of HPU has four lifting lugs as per the details in Table under section 2.2 for hookup. The HPU includes a hydraulic reservoir which should be empty during lifting/handling. The lifting weight is thus a dry weight.

The lifting eyes on the HPU are designed for safe working load on as per Table under section 2.2.

During lifting it must be ensured that the web slings do not squeeze the skid equipment and damage the valves / fittings. When lowering the skid to the ground, ensure that wooden planks are put under the bottom frame. The HPU shall not be stored in direct contact with steel.

3 STORAGE

3.1 General

Upon receipt at consignee end check the equipment for transport damage. If transport damage is discovered, the consignee organization shall write a report back to the shipping agency under intimation to CPC, within 7 working days detailing the extent of the damage. The consignee organization shall be solely responsible for the care and treatment of the equipment during off-loading, handling and storage period. The consignee organization shall furthermore ensure a standard of care for the equipment, which shall be no less than detailed in this procedure.

3.2 Storage of HPU and Bottle Racks and Test Unit.

The HPU & Bottle Racks shall be stored indoors and in such a way that it is protected against mechanical damage. Unauthorized personnel shall not have access to the storage area.

If suitable, protect the equipment with a tarpaulin against salt spray & dust.

Before departure from the supplier the equipment is prepared as follows:

- All pipes, reservoir, HPUs, Bottle Racks are flushed, cleaned and circulated with Oceanic EPF
- Dessicant pouches are placed inside the Junction Box.
- All Pump, Plunger are greased.
- Oil level in the Triplex Pump is maintenanced

Upon receipt, specially check the equipment interface nozzles for tight plugs and plugged hydraulic hose ends. The equipment shall be checked for the need of a re-preservation as described above.

3.3 Storage of Electrical and Instrument Equipment

Sensitive electrical equipment, such as control cabinets, is completely wrapped up in plastic with desiccant inside at time of delivery from CPC. These cabinets must be stored indoors in humidity-controlled areas. If the cabinets' plastic wrap up is undamaged with the desiccant still intact when received, the cabinets should not need any further attention until installed.

The electrical equipment has desiccant inside at time of delivery and will need; \attention during storage. All housings made of stainless steel must be protected from ' spatter of welding and grinding. Glass shall be protected. Desiccant shall not be in direct contact with stainless steel.

PLC - Driller, Tool-Pusher & Company Man Panels shipped as loose items should not be stored outdoors, the door gaskets should be intact and latches are tight. The desiccant inside must be replaced regularly if stored in humidity environment. The PLC

enclosures and other Items are made of stainless steel and must be protected from weld spatter and grinding spatter with suitable cloth.

3.4 Installation period.

The care keeping of the equipment shall continue during installation and after installation onboard. All the above outlined rules for the storage period shall be governing for the installation period.

Stainless steel piping, - cable trays, - junction boxes and - control cabinets shall be protected from weld- and grinding spatter with suitable cloth.

Any black steel spatter on stainless steel material shall be removed with suitable method to avoid pitting corrosion and to re-establish initial surface quality.

4 PRESERVATION

4.1 Inspection of Equipment on Receipt

All equipment is initially preserved from supplier. Upon receipt and before storage in the next phase the condition of the preservation shall be checked. If found necessary, a re-preservation of badly preserved areas shall be done. About 4-6” layer of oceanic fluid left in the reservoir during shipping be decanted and replaced with fresh oceanic fluid. Circulation the oceanic fluid in the system (HPU & Bottle rack) and leave 4-6” layer in the reservoir of HPU.

4.1.1 Oceanic fluid must be decanted before filling the reservoir with control fluid.

4.2 Preservation

1. All pipes and reservoir of HPU are flushed, cleaned and circulated with Mcdermid oceanic fluid.
2. All pipes & accumulators of Bottle Racks are flushed and circulated with Mcdermid oceanic fluid.
3. All Plungers of Triplex pump are cleaned and greased.
4. Oil level in the triplex pump in maintained (USE SAE30 or equivalent grade Oil).
5. Pistons of selector valves are cleaned & greased.
6. All filters and strainer are cleaned.
7. Condition indicator of HPU filters is verified for level of cleanliness.
8. Oil level in all lubricators is verified & maintained.
9. Desiccant pouches are placed inside the electrical Junction Boxes.
10. Desiccant (Slicagel) pouches are place inside the PLC.

Panels 11. All Suction line valve are closed & open.

12. All Bleeder valves are in open position.
13. All selector valves are in Bluid (Centre) Position.
14. All unused holes are plugged.
15. All glass faces are secured with the pads.
16. Cartridge of breather are clean.

4.3 Preservation Check Record Mechanical / Hydraulic and Electrical / Instrument

4.4 Depreservation

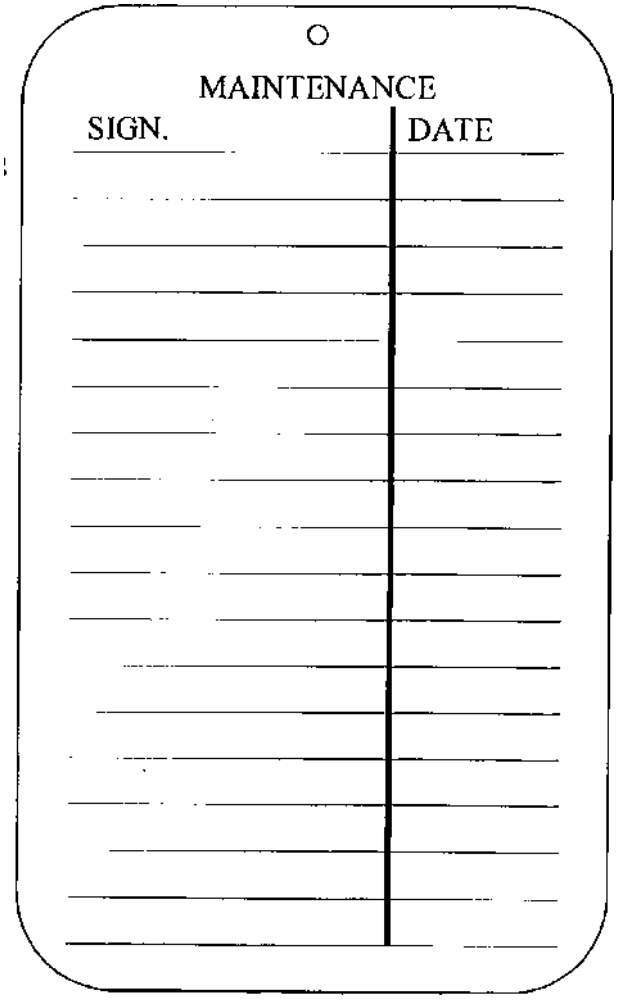
De-preservation must be done prior to commissioning start-up. The commissioning activities comprise preparation checking, functional activities and operational activities. The preoperational checking and functional activities must be performed in the same phase, but the operational activities may be performed in a later phase than the functional activities depending on installation completion. If commissioning is performed during multiple phases, the equipment shall be preserved when functional activities are completed. Subsequently, de-preservation must be performed prior to commissioning operational activities.
Normally, handover to operation or client is accomplished short after commissioning completion. Preservation is normally not repeated in this phase.

Following activities shall be performed to achieve de-preservation: (equipment specific):

- Remove all protection structure and protective cloths.
- Remove preservative from all unpainted steel surfaces and flange:
- Remove densotape on all valve spindles necessary.
- Connect PLC and CPU batteries.

4.5 Preservation Label

REAR OF LABEL



FRONT OF LABEL