**MAIN ENGINE UNIT OVERHAULS**

**DESCRIPTION**

This specification covers the complete overhaul of Main Engine Units installed onboard the vessel. The overhaul procedure includes dismantling, inspection, cleaning, measurement, reconditioning, reassembly, and testing. This is applicable to units of the following:

Inventory Identification:

MAKE: [ ] , MODEL: [ ] , TYPE: [ ], OUTPUT / RATING: [ ]

QUANTITY / NUMBER OF UNITS: [ ]   
Location: Engine Room

**SCOPE OF WORK / INSTRUCTIONS**

Preparatory Measures:

- Obtain all required work permits and safety clearances.

- Isolate the engine unit and apply LOTO (Lock Out Tag Out) procedures.

- Ensure adequate lighting, access platforms, and ventilation at the work site.

- Conduct safety briefing with all involved personnel.

- Allow engine to cool before commencement.

- Arrange for proper lifting tools and rigging equipment.

Job Breakdown:

1. Dismantling & Removal – Disassemble unit including cylinder head, piston, liner, connecting rod, and fuel equipment. Label and record part positions.

2. Cleaning & Inspection – Clean using approved solvents; inspect for wear, scoring, corrosion, or cracks. Measure and record clearances as per maker's guidelines.

3. Component Reconditioning – Replace seals, gaskets, fasteners, and worn parts. Use precision tools for fit verification.

4. Reassembly & Calibration – Reassemble using calibrated torque tools, perform crankcase inspection and alignment check.

5. Testing & Commissioning – Conduct jack-up load test (if applicable), performance trials, and final functionality check.

Standards & Compliance:

- All work to be performed as per Maker standards and manuals.

- Comply with Class requirements.

**MATERIAL & SUPPORT**

Owner Supply:

- Bearings, gaskets, seals, piston rings, liner, cylinder head spares.

- Assembly lubricants, cleaning fluids.

- Maker’s drawings, manuals.

- Material test certificates.

Yard Supply:

- General tools, lifting tackles, staging, platforms.

- Cleaning solvents, waste disposal arrangements.

- Power and lighting arrangements.

Test Equipment Required:

- Micrometers, dial gauges.

- Torque wrenches (calibrated).

- Jack-up test equipment.

Access & Logistics:

- Engine room gantry or external crane access.

- Temporary storage space for dismantled components.

- Yard arrangements for lifting/transport of major parts.

**SERVICE LINES**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Service Line # | Description | UoM | Qty | Remarks |
| 302.1 | Overhaul of Main Engine Unit including dismantling to reassembly | Unit | [ ] | Complete overhaul per maker's specifications |
| 302.2 | Jack-up load test on Main Engine | Unit | [ ] | Performance validation testing |
| 302.3 | Calibration and measurements of wear parts | Unit | [ ] | Precision measurements, documentation |
| 302.4 | Transport and handling within yard | LS | [ ] | Internal logistics |

**APPROVAL & SUPERVISION**

Work Authorization:

- Supervised by Chief Engineer and Owner's Technical Superintendent.

- Class Surveyor attendance as required.

Documentation:

- Work completion certificates.

- Measurement and inspection reports.

- Photographic logs.

- Copies to be submitted to Owner’s Technical Office.