**MAIN ENGINE FUEL PUMP OVERHAULS**

**DESCRIPTION**

This specification covers the overhaul, inspection, calibration, and reinstallation of Main Engine Fuel Injection Pumps, including integrated shock absorbers for the engine. The work shall include all pumps fitted onboard as part of the Main Engine fuel system.

Inventory Identification:

MAKE: [ ] , MODEL: [ ] , TYPE: [ ], OUTPUT / RATING: [ ]   
QUANTITY / NUMBER OF UNITS: [ ]   
- Location: Engine Room

**SCOPE OF WORK / INSTRUCTIONS**

Preparatory Measures:

- Obtain safety work permits and class permissions

- Isolate the fuel system and implement Lock-Out/Tag-Out (LOTO)

- Arrange staging, ventilation, lighting, and safe access

- Brief crew and technicians on hazard controls and task steps

- Engage authorized maker’s representative or certified engineer

- Drain and safely disconnect fuel lines

Job Breakdown:

- Removal: Detach [ ] pumps along with shock absorbers, tag units, and document positions

- Transport: Shift units to the workshop using proper handling gear

- Dismantling: Strip down each unit, clean, inspect all internal parts, and measure leads and shim thickness

- Overhaul: Renew seals, O-rings, springs, and worn parts (as per spares supplied)

- Calibration: Reassemble per maker specs, calibrate pump delivery and timing

- Testing: Test pumps and shock absorbers on test bench if available, perform fuel leakage and pressure checks

- Installation: Return and reinstall units in original locations, torque tighten, reconnect all lines

- Timing Adjustment: Verify and set fuel injection timing using dial gauge/electronic tools

- Operational Check: Conduct function tests during quay or sea trial

- Reporting: Record before/after values and timing data; obtain Chief Engineer’s sign-off

- Class Presentation: Present units for Class survey for CSM credit

Standards & Compliance:

- Manufacturer’s technical manual

- Class regulations

- MARPOL Annex I compliance for fuel waste

**MATERIAL & SUPPORT**

Owner Supply:

- OEM spares including: seals, O-rings, springs, bearings

- Shock absorber kits

- Technical manuals, calibration charts

- Special calibration tools as required

Yard Supply:

- Cleaning solutions, mechanical cleaning tools

- Workshop space, test bench, lifting and handling tools

- General tools and consumables

- Waste oil handling bins and MARPOL compliant disposal

- Temporary lighting, ventilation, and rigging/staging

- Local transportation and logistics support

Test Equipment Required:

- Fuel pump test bench

- Pressure testing equipment

- Dial gauges or electronic timing devices

Access & Logistics:

- Crane capacity.

- Dedicated storage and isolation for removed components

- Access clearance and safe working platform

- Attendance of authorized maker’s technician

**SERVICE LINES**

Service Line #: 304.1

Description: Dismantle, workshop transport, overhaul, function test, report, reinstallation, disposal

UoM: Piece

Qty: [ ]

Service Line #: 304.2

Description: Fuel pump timing adjustment and documentation

UoM: Lumpsum

Qty: 1

Service Line #: 304.3

Description: Class survey preparation and attendance coordination

UoM: Lumpsum

Qty: 1

**APPROVALS & SUPERVISION**

Work Authorization:

- Work authorized and signed by Chief Engineer

- Supervision by Owner’s Technical Superintendent

- Maker’s certified engineer to oversee overhaul

- Class Surveyor to inspect and endorse.

Documentation:

- Overhaul and calibration certificate per pump

- Class endorsement and CSM entry

- Photographic evidence of work performed

- Updated PMS or maintenance logs

- Reports to be filed with Owner’s Technical Office