



MANUFACTURING SURVEY ARRANGEMENT

MSA no.:
MSA0000B8U
Revision no.:
2

Between "Manufacturer"

Ellwood Crankshaft and Machine Co.
Hermitage, USA

and

"DNV"

DNV legal entity
Certification & Inspection Services

Ref. Recognition Certificate: MSARC0000B8U

This Manufacturing Survey Arrangement (MSA) is applicable to
steel material and crankshaft - Forging: Ellwood Crankshaft and Machine Co. at Sharon PA, Machining:
Ellwood Crankshaft and Machine Co. at Hermitage PA
subject to testing and inspection for conformance with the requirements of DNV Rules, as stated herein.

The MSA implies that the manufacturer is authorised to perform the testing and inspection without the attendance of DNV and to prepare the certificates which will be validated by DNV.

The MSA is valid until **2030-07-02**

The MSA will, however, be invalid if the Recognition Certificate is invalid, or if the manufacturer's Quality System Certificate no. 30960 is invalid.

The MSA is governed by DNV's general terms and conditions. These may be provided upon request.

Issued at **Certification & Inspection Services** on **2026-07-01**

for **ELLWOOD CRANKSHAFT AND MACHINE CO.**

Andrew W. Hargest)
Director of Quality

for **DNV LEGAL ENTITY**



Fu, Guoqiang
CMC Regional Production and QHSE Manager



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1. Scope of Work

For the above-mentioned product(s) to be certified for conformance with DNV Rules, the following conditions will come into force:

1.1 Reference Documents

- I. DNV Rule(s) for Classification of Ships Pt.2, Ch.1, Pt.2, Ch.2, Pt.4 Ch.3
- II. Approval of Manufacturer Certificate No(s). AMMM000021S, AMM000009J, AMMM00000FC
- III. Type Approval Certificate No(s). Ref to each order.
- IV. Quality System Certificate (QSC) No. 30960 issued by ABS Quality Evolutions.
- V. The Manufacturer's documented and accepted procedures for inspection and testing

1.2 Approvals

This MSA does not exempt the manufacturer from obtaining approval of new material grades or re-approval when a new manufacturing process or heat treatment process is introduced.

Diesel engine type approval certificate to be provided case by case.

All raw material to be come from DNV approved works and provide with corresponding DNV Material Certificates and or Product Certificates.

1.3 Testing and Inspection

The verification of correct sampling of test specimen, mechanical testing and inspection are entrusted to the manufacturer on the basis of documented and accepted procedures and the use of qualified personnel familiar with the DNV Rules.

1.4 Assessments performed by DNV

Compliance with the conditions agreed in this MSA is subject to control and review by assessing as follows:

- a) Periodical assessments of the MSA function are **to be made at 6 months intervals**, based on a mutually agreed schedule.
- b) Project-specific assessments or unscheduled spot checks may be made to ensure compliance of the products with Rule requirements.

For this purpose, DNV shall at all reasonable times be given access to the manufacturing plant and to the relevant manufacturing documents and records.

1.4.1 Agenda for the MSA assessments

The agenda for the assessments will be proposed by DNV in the notification of the meeting.

The agenda may typically contain:

- a) Organisation, responsibilities and qualifications of relevant personnel.
- b) The efficiency of the implementation of the MSA.
- c) Operational procedures and instructions related to the MSA agreement.
- d) Manufacturing processes, inspection and testing.
- e) Test records.
- f) Forging's materials, properties and applications.
- g) Product marking and traceability and control of non-conforming product.
- h) Claims, question from clients and others.
- i) Review of possible problem areas raised from previous MSA assessments.
- j) Review of reports from Quality System Audits.
- k) Information to be updated.
- l) Statistical results from testing.
- m) Review of the Quality System Audit reports in connection with ISO QSC.
- n) News from DNV.

Any problems found should be handled as non-conformities in the QSC implemented corrective action system. Corrective actions will be re-assessed by DNV.



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2. Reporting by manufacturer

2.1 Manufacturing Records

Manufacturing records to be kept in manufacturer as per documentation retention procedure requirements. All required certificates and report/records to be prepared and upload to DNV CMC Veracity Portal after order had been created.

2.2 Works/DNV certificate

All required certificates and report/records to be prepared and upload to DNV CMC Veracity Portal after order had been created.

- Reference to the applicable DNV Rules.
- Reference the MSA agreement no.
- Fulfill the requirements to a works/DNV certificate as per DNV Rules.
- Contain all relevant information as required by the DNV Rules.
- Under marking of the product state the DNV certificate no.

A copy of the works/DNV certificate is to be retained by the manufacturer as quality records and the retention period is to be as stated in the Quality System Manual.

By including the reference to this MSA agreement in the works/DNV certificate, the manufacturer is declaring full compliance with this MSA agreement.

2.3 Non-conformances

The manufacturer is to report any deviation from the DNV Rules and this MSA and obtain DNV's written approval prior to dispatch of the product.

2.4 Information to DNV

The manufacturer is to report any purchaser requirement, which may extend the scope defined in the DNV Rules. Any additional requirements outside of the DNV Rules are not covered by this MSA.

All customer complaints to products delivered under this MSA agreement shall be reported to the DNV local office. A procedure for reporting of customer complaints has to be established by the manufacturer and approved by DNV. It is up to DNV to decide if further involvement is necessary or not at that time. However, closing of customer complaints reported to DNV and corrective actions implemented by the manufacturer will be discussed under the MSA assessment.

3. Reporting by DNV

3.1 Issuance of DNV certificates

ECM will create certification request in DNV CMC Veracity Portal and send the request to DNV local station. DNV Certificate Number had been preserved, ECM will use the certificate number for stamping and report tracking and identification. DNV will create a product certificate based on the manufacturer's works certificate. The digitally signed certificate will be sent to ECM.

3.2 Information to manufacturer

DNV will inform the manufacturer of new or amended rules and regulations which would affect the arrangements authorised.

Reserved certificate numbers to be used for certification based on this MSA agreement will be communicated to the manufacturer.

3.3 MSA assessments

After each assessment a report will be prepared by DNV, and distributed to the involved parties.

4. Marking for Identification

4.1 Marking



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Products which have been satisfactorily tested and inspected shall be marked as required by the DNV Rules. The product is further to be marked with the DNV certificate number and a VL-stamp furnished by DNV. Only those products covered by this arrangement are permitted to be marked with this stamp.

4.2 Handling of the VL-stamp(s)

The manufacturer's signer of the MSA agreement is kept responsible for the VL-stamp(s) provided to them as part of this agreement, and the stamp(s) shall only be used by authorised personnel.

The VL-stamp(s) must not be transferred to subsidiary companies belonging to the same group or any other third party.

A worn out or damaged VL-stamp is to be returned to DNV who will supply a new stamp.

The VL-stamp(s) shall be returned to DNV when the MSA agreement is invalid.

5. Monitoring and Administration of the MSA

The DNV HOUCCMC Office is responsible for:

- 1) Follow up of the MSA through the periodical MSA assessments.
- 2) The regular contact with the manufacturer.
- 3) Review of works certificates.
- 4) Issuing DNV certificates.
- 5) Invoicing.

6. Fees and Payment Terms

Certification fees will be charged in accordance with DNV's standard fees for manufacturers holding a certified QSC and having implemented a MSA or in accordance with special written agreements, to be updated annually.

7. Regulation for the Certification Services

Regulations with respect to obligations, publications, suspension, withdrawal/cancellation and appeal are given in DNV CLASS PROGRAMME No. DNVGL-CP-0337 "General description of services for certification of materials and components", Section 2 [7].

8. Validity

Any changes in production process, procedures or other matters that may influence the validity of the Recognition Certificate, the MSA agreement or the conditions stated therein are to be submitted to DNV for evaluation.

The MSA will be invalid if:

- a) The Recognition Certificate is invalid.
- b) The DNV Approval of Manufacturer Certificate(s) / Type Approval Certificate(s) is invalid.
- c) The QSC is invalid.
- d) The possible non-conformities from the MSA assessments are not responded to and/or corrective actions are not implemented within the agreed time.
- e) The manufacturer does not comply with the obligations of the MSA agreement.
- e) The certification fees are not paid in due time.

Either party shall have the right to terminate this MSA subject to three months written notice.

9. Liability and Indemnity

If any person suffers loss or damage which is proven to have been caused by any negligent act or omission of the Society, the Society shall pay compensation to such person for his proven direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question. The maximum compensation shall never exceed USD 2 million.



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In this provision the "Society" shall mean DNV AS as well as its direct and indirect owners, affiliates, subsidiaries, directors, officers, employees, agents and any other person or entity acting on behalf of DNV AS.

10. Law and Jurisdiction

This MSA shall be governed and construed in accordance with the laws of Norway.

Any dispute arising in relation to or as a consequence of this MSA, which cannot be settled amicably through negotiations between the parties, shall be subject to the courts of Oslo, Norway.



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Authorised ECM Personnel related to the MSA

Name

Andrew Hargest
Justin Bardash

Title

Director of Quality
Quality Engineer