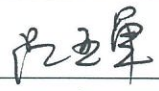

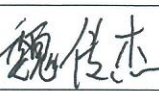



单一来源采购谈判记录表

项目名称：“科学”轮 2#柴油机故障维修及升级改造

记录人：陶传波 

谈判地点：科考船指挥调度大厅

供应商名称	瓦锡兰维修服务（上海）有限公司			
产品名称	瓦锡兰柴油机	数量	一台	
规格型号	W8L26	目标价格	197206.12 元	
质量等级	品牌柴油机中国地区专业维修公司			
技术要求	按照瓦锡兰关于 W26 机中心套升级的技术通函（文件号：T-W26.0018.GB）对柴油机中心套进行升级			
供应商提供的采购标的成本、同类项目合同价格以及相关专利、专有技术等情况说明	瓦锡兰服务队携带瓦锡兰修理专用工具需在船完成以下主要工作： 现场 8 个缸头拆卸，旧中心套拔出，改型后的中心套冷压装配，缸头试压装复，利用专业知识查找排除“科学”轮提出的柴油机淡水系统进气故障			
合同主要条款及价格商定情况	预计需：1 名机械工程师+3 名技工 4 人共四天，并使用原厂备件： 1201006-Sleeve for injector X 8pcs；1201004-Exhaust valve seat X 10pcs 1201016-O-ring X 8pcs。总修理报价：197206.12 元			
谈判争议点	修理时间、备件质量、质保范围			
谈判结果	使用原厂备件 9 月下旬根据航次安排完成			
谈判小组人员	姓名	单位	职称	签字
	吕亚军	中国科学院海洋研究所	高级工程师	签字 
	孔宪才	中科院海洋研究所	高级轮机长	签字 
	魏传杰	中科院海洋研究所	工程技术部副主任	签字 
谈判小组组长	签字： 		时间：2018.09.07	



中国科学院海洋研究所

INSTITUTE OF OCEANOLOGY, CHINESE ACADEMY OF SCIENCES



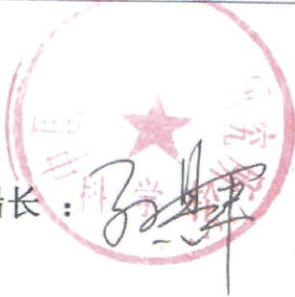
修 理 单

项目	工程说明 (修理部分名称、规格、数量、材料、损坏情况和修理要求)
一	Engine Type: W8L26 Engine Number: PAAE202162 (2号发电机组) Running hours: 8806h(截止2018年8月27日)
	自2018年5月份2#发电柴油机吊缸大修以来,观察发现柴油机在运行过程中导致淡水冷却系统进气,膨胀水箱水位缓慢上涨,在高负荷运行时进气情况更为严重,系统放气后又继续出现上述状况。船上通过相关拆检及柴油机的热力参数分析均无法确定故障原因,经咨询服务工程师,怀疑为喷油器中心套松动且我船中心套为改型前的形式,易出现该故障。1804航次期间更换全部喷油器与气缸间铜垫后,漏气现象并无改善。限于船上条件,无法解决该故障,需联系瓦锡兰服务商上船查找故障原因并检修。
二	Engine Type: W8L26 Engine Number: PAAE202163 (3号发电机组) Running hours: 13138h(截止2018年8月27日)
	8月27日巡视发现3号发电柴油机滑油离心滤器震动严重,离心滤器壳体及曲轴箱道门盖螺栓孔处震裂,内部转子轴磨损严重,现需瓦锡兰厂家提供以下备件,并进行相关检修。

离心滤器检修备件需求表

序号	名称	厂家	备件号	单位	数量
1	Cover 道门盖	Wärtsilä	1070006	个	2
2	O-ring O型圈	Wärtsilä	4712063	个	5
3	Rotor sub-assembly 转子组合件	Wärtsilä	4713112	个	2
4	Body assembly 筒体总成	Wärtsilä	4713115	个	2

船长:



部门长: 孙宗强

填表: 吴尔

报修时间: 2018.8.28

SERVICE OFFER



WÄRTSILÄ

Wärtsilä Services (Shanghai) Co., Ltd.

Pages: 1 (2)

Customer

中国科学院海洋研究所西海岸新区园区
青岛市长江东路八号

传真: 0532-82898658

邮编: 266520

Your contact person

联系人: 刘长杰 /13589232230

电话: 0532-87072012

Date

06.09.2018

Offer number

4S20180906-A

Installation

MV "Ke Xue"

Engine Type

W8L26

Engine Serial Number

PAAE202162

Our contact person

Liu Ming Zhao

Phone

+8618221400561

Your reference

Email

Requested delivery date

09/ 2018

Your enquiry date

09 / 2018

Place

Qing Dao

Terms of payment

30 days net

Terms of Delivery

EXW

Incoterms 2000

Dear Sir,

Thank you for your kind service inquiry, as below engines maintenance items, we would like to offer as below:

Item	Description	pcs	Unit Price (RMB)	Amount (RMB)
1.	2号柴油发电机组; 机型: W8L26; 机号: PAAE202162			
	按照瓦锡兰关于 W26 机中心套升级的技术通函 (文件号: T-W26.0018.GB) 对柴油机中心套进行升级。			120000.00
	估算瓦锡兰服务队在船工作: 1 机械工程师 +3 技工, 4 天			
2.	中心套升级备件 (具体内容请参看附件)			77206.12
	1201006-Sleeve for injector X 8pcs			
	1201004-Exhaust valve seat X 10pcs			
	1201016-O-ring X 8pcs			
	打包价 (含 16% 增值税)			197206.12



Wärtsilä Services (Shanghai) Co., Ltd.

SERVICE OFFER

Pages: 2 (2)

Validity:

This offer is valid for one month.

Conditions:

16% VAT will be added to the invoice according to the Chinese government regulation.

Any additional job shall be charged separately.

Any waiting time not caused by Wartsila shall be charged additionally according to service tariff.

All spare parts and engine tools during maintenance work shall be supplied by the owner.

The customer shall assist to Wärtsilä service personnel to obtain the boarding pass and safety training if necessary.

Transport, visa, and insurance costs and, where applicable, customs duty for personal belongings and tools will be charged as travelling expenses.

The port charge and/or yard management fee, if any, will be re-invoiced at cost + 10% administration fee.

We are looking forward to receiving your order confirmation soon.

Yours Sincerely,

Wärtsilä Services (Shanghai) Co., Ltd

Accepted and
Confirmed by: _____

Company Stamp: _____

P.O. / Order no.: _____

Dated: _____

For Parts: If not otherwise stated General Terms and Conditions for Sale of Spare Parts issued by Wärtsilä Corporation, Service are valid.

For Service: If not otherwise stated General Terms and Conditions for provision of Technical Personnel for Service and other Work issued by Wärtsilä Corporation, Service are valid.
ot otherwise stated General Terms and Conditions for provision of Technical Personnel for Service and other Work issued by Wärtsilä Corporation, Service are valid.



Quotation

Wärtsilä Services (Shanghai) Co., Ltd

Sold-to address

Institute of Oceanology
 Chinese Academy of Sciences
 7 Nan-hai Road
 266071 Qingdao

Shipping address

Institute of Oceanology
 Chinese Academy of Sciences
 7 Nan-hai Road
 266071 Qingdao

Notify address

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Date 2018-09-05
 Quotation number 2789884
 Installation
 KE XUE
 IMO no. 9643788
 Engine IMO certified

Our contact person Phone
 VIVIAN QIN +86 2158585295
 VIVIAN.QIN@WARTSILA.COM
Your contact person

Your reference
 KE XUE
Your order date
 2018-09-05
End customer reference

Mode of delivery
 COURIER
Terms of delivery
 DDP Qingdao Incoterms 2010
Customer number
 50995
VAT Number

Terms of payment
 Pre-Payment
Quotation valid to 2018-10-05

Pre-Payment order; please note that contract will be valid upon payment receipt.

Item PO. Item	Part no. Product no.	Description Product type Availability	Qty	Unit	Price/unit	Total
000100	1201006 PAAE202161	Sleeve for injector				
		W8L26	8	PC	2.040,24 CNY	16.321,92
		IN STOCK	8	PC		
000200	1201004 PAAE202161	Exhaust valve seat				
		W8L26	10	PC	3.882,78 CNY	38.827,80
		IN STOCK	10	PC		
000300	1201016 PAAE202161	O-RING				
		W8L26	8	PC	158,16 CNY	1.265,28
		IN STOCK	8	PC		
Goods total						56.415,00

Subject to prior sales. Estimated availability shown is current and is given on ExW basis for the date of the quotation. The price is for the given quantity.

Continued on page 2

Wärtsilä Services (Shanghai) Co., Ltd
 3F, Building 11, 55 Shang Feng Xi Lu
 Pudong New District
 201201 Shanghai
 China

Tel. +86 21 5858 5500
 +86 21 5877 8800
 Fax +86 21 5858 9331
 +86 21 5877 1629
 Tax Reg. No.:
 www.wartsila.com

VAT Reg. no.:
 Business ID. no.:
 Registered office: Shanghai

Bank account no.: 449461716145
 IBAN:
 SWIFT: BKCHCNBJXXX

Date 2018-09-05
Quotation number 2789884

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Freight cost		2.500,00
Other expenses		7.642,00
Total excl. VAT/Tax	16,00%	66.557,00
VAT/Tax	16,00%	10.649,12
Total amount		CNY 77.206,12

Yours faithfully,

Wärtsilä Services (Shanghai) Co., Ltd

*Did you know that in the Wärtsilä Online Services customer portal you **can** request quotations, place orders, view your order and quotation history as well as track and trace deliveries?*

Please find more information about Wärtsilä Online Services and how to request access at www.wartsila.com/online-services

Wärtsilä can offer you a wide range of logistics solutions, please contact reference contact person on this document for further assistance by providing the destination, ETA and a preferred mode of transport.

For Parts and Services: If not otherwise stated, Wärtsilä General Terms and Conditions (GTC) - Parts (2016) or Service Work (2016) are applied.

Wärtsilä General Terms and Conditions are available on the web <http://www.wartsila.com/general-terms-conditions>.

Interest will accrue from the invoice due date at the rate stated in Wärtsilä GTC, unless otherwise defined in the Contract between the Customer and Wärtsilä Company.

A surcharge shall be added in case an order value is lower than the minimum order value of 200 EUR or equivalent currency value excluding freight.

Possible claims regarding Invoices must be made within 14 days after the date of Invoice.

Wärtsilä Services (Shanghai) Co., Ltd

3F, Building 11, 55 Shang Feng Xi Lu
Pudong New District
201201 Shanghai
China

Tel. +86 21 5858 5500

+86 21 5877 8800

Fax +86 21 5858 9331

+86 21 5877 1629

Tax Reg. No.:

www.wartsila.com

VAT Reg. no.:

Business ID. no.:

Registered office: Shanghai

Bank account no.:449461716145

IBAN:

SWIFT: BKCHCNBJXXX

WÄRTSILÄ GENERAL TERMS AND CONDITIONS PARTS (2016)

1. INTRODUCTION

These General Terms and Conditions – Parts (2016) (the "Conditions") shall, unless otherwise agreed in writing, apply to all sales of parts (the "Parts") by any authorized member, agent or representative of the Wärtsilä Group (the "Supplier") to a purchaser (the "Buyer"). The Supplier's offers are non-binding until accepted and confirmed by a purchase order issued by the Buyer in compliance with these Conditions which is acknowledged by the Supplier (any such acknowledged purchase order, a "Contract"). These Conditions shall form an integral part of the Contract. The Buyer may not change or cancel any purchase order after it has been received by the Supplier unless the Supplier has agreed in writing to such change or cancellation.

2. CONFIDENTIALITY AND INTELLECTUAL PROPERTY

2.1 Neither party shall copy or disclose to a third party any document or data provided by the other party without the prior written consent of the other party or use them for purposes other than those for which they were provided. Intellectual property rights associated with the Parts or any document or data provided by the Supplier in connection therewith shall remain the Supplier's property. The Buyer shall defend, indemnify and hold harmless the Supplier against all claims, losses and damages, including reasonable attorneys' fees, arising out of or resulting from any reuse, modification, reproduction or publication of the Supplier's intellectual property documents or data. To the extent there is a conflict between the foregoing provisions regarding confidentiality and intellectual property and any terms or conditions of any software license agreement, the terms and conditions of such software license agreement shall prevail.

2.2 Notwithstanding the foregoing, the Buyer consents to the collection and use of information and to the ownership of the derived or incorporating works as set forth herein. The Buyer shall be responsible for providing equipment technical data through any reasonable means requested by the Supplier, including internet-connected devices. The term "Equipment Technical Data" refers to all data relating to the technical operating parameters of any equipment delivered, including without limitation, all information that the Supplier shall gather from sensors, instruments, monitors, or other industrial control or SCADA devices located at the Buyer's sites or on the equipment delivered. Equipment Technical Data shall be transmitted to the Supplier for purposes including, but not limited to, developing its products, solutions and services. The Supplier, the Supplier's parent, subsidiaries and/or affiliates shall own all works, products, reports and improvements each may develop based upon, derived from, or incorporating Equipment Technical Data. Equipment Technical Data may be transferred; (a) to the Supplier's parent, subsidiaries and/or affiliates and (b) to third parties who act for or on the Supplier's behalf for processing in accordance with the non-exclusive purpose(s) listed above or as may otherwise be lawfully processed. Equipment Technical Data may also be disclosed to a third party if the Supplier is required to do so due to an applicable law, court order or governmental regulation, or if such disclosure is otherwise necessary in support of any criminal or other legal investigation. The Supplier's rights to use Equipment Technical Data shall survive the termination or expiration of the governing agreement, the terms and conditions and/or any understanding between the parties hereto with respect to Supplier's rights to use Equipment Technical Data and any applicable warranty period and any other commercial contract between the Supplier and the Buyer.

3. CYBERSECURITY PROTECTION

3.1 The Supplier shall deliver equipment, if any, together with its logic-bearing system components (e.g., hardware, firmware, and software hereafter referred to collectively as the "Critical Components") free of any software virus and malware detectable by current standard industry best practices. Unless otherwise agreed, upon delivery of any equipment provided by the Supplier, the Buyer shall be solely responsible for system integrations and/or system security engineering for any equipment not provided by the Supplier. It is the Buyer's sole responsibility to protect Critical Components from any External Cybersecurity Threat or Internal Cybersecurity Threat, including against hardware and software vulnerabilities. In recognition of the foregoing, the Buyer agrees and covenants that it shall use the degree of care appropriate to prevent unauthorized access, use, or hacking of the Critical Components provided in connection with any equipment provided by the Supplier and shall do so in a manner that is no less rigorous than any recommendations provided by the Supplier and accepted industry practices.

3.2 "External Cybersecurity Threat" is any threat, act, attack or other incident which negatively affects the reliable workings of any equipment provided by the Supplier, which originated outside of the physical site housing such equipment.

3.3 "Internal Cybersecurity Threat" is any threat, act, attack or other incident which negatively affects the reliable workings of any equipment provided by the Supplier, which originated inside of the physical site housing such equipment.

4. DELIVERY, ACCEPTANCE AND RETURNS

4.1 All references to trade terms shall be interpreted in accordance with Incoterms® 2010. Unless otherwise agreed in writing, the Parts shall be deemed to be sold "FCA". Any date or period for delivery stipulated or quoted shall be deemed to be an estimate only. Packing materials shall not be returned to the Supplier. The Buyer shall be deemed to have accepted the quantity and quality of the Parts delivered by the Supplier as being in accordance with the Contract unless the Buyer has notified the Supplier of any shortages or damage within three (3) days following delivery of the Parts. No returns of Parts will be permitted or allowed by the Supplier.

4.2 If the Buyer anticipates that it will be unable to accept the delivery of Parts at the time set forth in the Contract, the Buyer shall notify The Supplier in writing stating the reason and the time when the Buyer anticipates being able to accept the delivery. The Buyer shall pay the part of the Contract price that becomes due at the delivery as if the delivery had taken place. The Supplier may by notice require the Buyer to accept the delivery within a final reasonable time. Any additional costs related to such delay shall be borne by the Buyer.

4.3 The Supplier has the right to suspend the performance of its obligations under the Contract if it is reasonably clear from the circumstances that the Buyer will not be able to perform its obligations as stated in the Contract.

5. PAYMENT AND OWNERSHIP

Unless otherwise agreed, payment shall be made by bank remittance in the currency and to the bank account set forth in the Supplier's invoice within twenty (20) days following the date of the invoice. Payment shall be made in full without any set off, counterclaim or deduction. The Buyer shall pay interest on overdue payments from the maturity date until the actual date of payment at the rate of one and one quarter percent (1.25%) per month, compounded monthly. The Buyer shall pay the Supplier all costs related to the collection of overdue amounts, including reasonable attorneys' fees. In the event any payment is more than thirty (30) days late, the Supplier shall be entitled to suspend or terminate the Contract by written notice to the Buyer, and such remedies shall not be exclusive of the Supplier's additional rights under contract or law. Title to the Parts shall pass to the Buyer only when payment in full has been received by the Supplier. The Supplier may as a precondition for delivery of Parts, request: (i) advance payment; and/or (ii) that the Buyer pays or provides security covering any unpaid amount already owed to the Supplier or one of its affiliates.

6. WARRANTY

6.1 The Supplier shall repair or replace, at its sole discretion, any defect in the Parts which appears during the warranty period as a result of defective material or manufacturing, provided that any replaced Part shall upon the Supplier's request be returned to the Supplier at the Supplier's cost. The Buyer shall immediately take appropriate steps to prevent any defect from becoming more serious, and all warranty claims with respect to this warranty shall be made in writing without delay and not later than fourteen (14) days following discovery of such defect during the warranty period. The Buyer shall have the responsibility to establish that its claim is covered by this warranty. Replaced Parts shall become the Supplier's property. Delivery of replaced or repaired Parts will be made in accordance with the original Contract delivery terms.

6.2 The warranty period for the Parts begins on the date of delivery and ends eighteen (18) months from the date of delivery. If the Parts are inspected and installed within the above mentioned eighteen (18) months by authorized Wärtsilä personnel, the warranty period will be twelve (12) months from the date when the Parts were placed in Service or eighteen (18) months from the date of delivery, whichever occurs later. The warranty period in respect of Parts which have been repaired or replaced under the warranty shall expire six (6) months following the date when: (i) the repaired or replacement Part is placed in service; or (ii) upon the expiration of the warranty period applicable to the originally supplied Part as set forth above in this Clause 6.2, whichever occurs later. The warranty for repaired or replacement Parts shall be subject to the same terms, conditions and limitations of liability as those applicable to the originally-supplied Part. Under no circumstances shall the warranty period of any Part (whether as originally supplied or as repaired or replaced) extend beyond the date that is thirty-six (36) months following the date of commencement of the original warranty period as stipulated above in this Clause 6.2.

In case the Parts are ready for delivery but the Supplier is not able to deliver the Parts due to reason attributable to the Buyer, the warranty period as stated above in this Clause 6.2 shall commence from date the delivery should have taken place according to the Contract.

6.3 The Supplier shall not be liable for any defect due to or arising in connection with: (1) any materials, components, tools, designs or software provided by the Buyer; (2) negligence or willful misconduct of the Buyer; (3) parts, accessories or attachments other than those supplied as Parts by the Supplier; (4) improper service work, installation or alterations carried out by the Buyer; (5) normal wear and tear; (6) use of unsuitable material or

consumables by the Buyer; (7) fluctuation in the grid; or (8) any use, service or operation of the Parts which is not in conformity with manuals, instructions or specifications provided by the Supplier or which is otherwise not in accordance with normal industry practice. The Supplier's warranty obligation does not include any craneage, electricity, scaffolding, docking, diving, sub-sea work, towage costs, demounting or mounting costs, expenses of the Supplier's personnel or representatives, taxes and duties, and all such costs and expenses shall be reimbursed by the Buyer to the Supplier when applicable. If after the Supplier's warranty investigation it is found that the Buyer does not have a warranty claim within the scope of these Conditions, then the Buyer shall be responsible for all applicable costs and expenses for such inspection, repaired or replaced components or other service work.

6.4 THIS CLAUSE 6 SETS FORTH THE ONLY WARRANTY APPLICABLE TO THE PARTS AND IS IN LIEU OF ANY OTHER WARRANTIES, GUARANTEES, OBLIGATIONS AND LIABILITIES EXPRESS OR IMPLIED INCLUDING WARRANTIES, GUARANTEES, OBLIGATIONS OR LIABILITIES AGAINST NON-CONFORMITY OR DEFECTS. THE BUYER HEREBY WAIVES ALL OTHER REMEDIES, WARRANTIES, GUARANTEES AND LIABILITIES, EXPRESS OR IMPLIED, ARISING BY LAW OR OTHERWISE (INCLUDING WITHOUT LIMITATION FITNESS FOR PURPOSE, MERCHANTABILITY OR SATISFACTORY QUALITY).

7. SUPPLIER'S LIABILITY

7.1 IN NO EVENT, WHETHER AS A RESULT OF BREACH OF CONTRACT, BREACH OF WARRANTY, TORT LIABILITY (INCLUDING NEGLIGENCE OR STRICT LIABILITY), OR OTHERWISE, SHALL THE SUPPLIER BE LIABLE FOR ANY INDIRECT, CONTINGENT, SPECIAL, CONSEQUENTIAL OR INCIDENTAL DAMAGES, HOWEVER CAUSED OR ARISING (WHETHER ACTUAL OR ANTICIPATED) NOR FOR LOSSES OR DAMAGES (WHETHER ACTUAL OR ANTICIPATED) CAUSED BY REASON OF UNAVAILABILITY OF THE EQUIPMENT OR THE FACILITY, SHUTDOWNS OR SERVICE INTERRUPTIONS, LOSS OF USE, LOSS OF PROFITS OR REVENUE, LOSS OF SAVINGS, LOSS OF REPUTATION, INVENTORY OR USE CHARGES, COST OF PURCHASED OR REPLACEMENT POWER, INTEREST CHARGES OR COST OF CAPITAL ANY CLAIMS OF THE BUYER'S CUSTOMERS, PUNITIVE OR EXEMPLARY DAMAGES, THE COST OF SUBSTITUTED EQUIPMENT, SPARE PARTS OR SERVICES OR REPLACEMENT, REMOVAL OR REINSTALLATION SERVICE WORK NOT ARISING FROM THE WARRANTY PROVIDED HEREIN, TOWAGE CHARGES, POLLUTION REMEDIATION COSTS, COSTS OF DOCKING, DIVING OR SUB-SEA WORK, DAMAGE TO ANY VESSEL, ENGINE ROOM OR POWER PLANT SITE, YARD OR OTHER PROPERTY (INCLUDING DAMAGE TO GOODS OWNED BY THE BUYER), DAMAGE TO ANY EQUIPMENT OR PROPERTY OTHER THAN THE EQUIPMENT, COMPONENTS AND PARTS DELIVERED HEREUNDER, COSTS FOR ANY ADDITIONAL TESTS, SEA TRIALS, DEBRIS REMOVAL OR FOR LOSS OF TIME OR USE OF ANY EQUIPMENT, INSTALLATION SYSTEM, OPERATION OR SERVICE.

7.2 NOTWITHSTANDING ANY OTHER PROVISION OF THE CONTRACT, IN NO EVENT SHALL THE SUPPLIER'S AGGREGATE LIABILITY TO THE BUYER UNDER THIS CONTRACT, WHETHER IN CONTRACT, TORT (INCLUDING NEGLIGENCE OR STRICT LIABILITY) OR ANY OTHER LEGAL OR EQUITTABLE THEORY, EXCEED THIRTY PERCENT (30%) OF THE CONTRACT PRICE.

7.3 Each party shall obtain a waiver of all rights of recourse and subrogation against the other party from its insurers as well as indemnify and hold the other party harmless for all claims of or by either of the parties' insurers.

7.4 The Supplier shall not be liable for any harm, injury or damages due to or arising in connection with: (1) software provided by the Buyer; (2) monitoring, digital and/or cybersecurity-related systems other than those provided by the Supplier; or (3) improper service work, installation or alterations carried out by the Buyer on any monitoring, digital and/or cybersecurity-related systems. "Improper Service Work" is any act or failure to act which contradicts the OEM recommended maintenance, configuration and advisable operations resulting in detrimental reliability or increased possibility of failure.

7.5 The Buyer shall defend, indemnify and hold harmless the Supplier and the Supplier's parent and subsidiaries, affiliates, and their respective officers, directors, employees, agents, successors and permitted assigns (each, a "Supplier Indemnitee") from and against all losses, damages, liabilities, deficiencies, actions, judgments, interest, awards, penalties, fines, costs or expenses of whatever kind, including reasonable attorneys' fees, the cost of enforcing any right to indemnification hereunder and the cost of pursuing any insurance providers, arising out of or resulting from any cybersecurity breach arising out of or resulting from the Buyer's failure to comply with any of its obligations under Clauses 2.2, 3.1, 7.4 and/or 7.5.

8. EXPORT CONTROLS AND TRADE SANCTIONS

8.1 The parties agree that the Parts shall be delivered subject to all applicable export controls, sanctions or restrictions imposed on technology and products by any country or organization or nation which are enforceable in the jurisdiction of the Supplier, its affiliates or parent company, including the Supplier's country, the United Nations, the European Union and the United States of America. The Buyer acknowledges that the Parts and all related technical information, documents and materials may not be imported or exported, re-exported, transhipped, traded, diverted or transferred, directly or indirectly, contrary to such controls, sanctions or restrictions.

8.2 The Buyer confirms that the Parts supplied will be used solely for peaceful purposes. The Buyer further confirms that the Parts will not be used in connection with, or for purposes associated with any chemical, biological or nuclear weapons, missiles or any other vehicles or vessels capable of delivering such weapons, or in support of any terrorist activity, or in connection with any other military end use. Nor will the Parts be re-sold if it is known or suspected by the Buyer that it is intended to be used for such purposes. Upon request by the Supplier, the Buyer shall furnish the Supplier with all the relevant certificates relating to export control laws, regulations, sanctions and restrictions, such as, but not limited to, end-user certificates, in form and substance specified by the Supplier.

8.3 The Supplier has no liability resulting from delay, cancellation or amendment of this sale resulting from export controls, sanctions or other applicable restrictive measures.

9. FORCE MAJEURE

Neither the Supplier nor the Buyer shall be liable for any failure or delay in performing its obligations hereunder, or for any loss or damage resulting therefrom, caused by or arising from an event of force majeure ("Force Majeure"), which includes without limitation, acts of God, wars whether declared or not, any events involving armaments of war, civil wars and riots, hostilities, public disorder, acts of terrorism and severe threat of terrorism, any measures taken by public authorities in connection with threat of terrorism, embargos, acts of civil or military authorities, fire, flood, accidents, strikes, failure of a subcontractor or sub-supplier to provide manpower, materials or goods caused by an event that qualifies under this Clause 9, epidemics, unusually severe weather affecting either party, or causes beyond their control.

10. SECURITY AGREEMENT

The Buyer hereby grants to the Supplier a continuing security interest, and when applicable a maritime lien for necessities, in and to the Parts, together with all goods into which the Parts are attached at any time, and all products and proceeds derived from the sale or lease thereof as security for the payment in full of such Parts.

11. DUTIES, TAXES, FEES AND COMPLIANCE WITH LAWS

The Buyer shall pay, where applicable, all duties, withholding and other taxes, customs fees and charges and all charges and fees by a classification or inspection society. All such documentation or approvals which are required by applicable laws, and any applicable modifications of such laws, shall be the responsibility of and paid by the Buyer. Supply out of the European Union (EU) is exempted from Value Added Tax (VAT) on the condition that the Parts are exported out of the EU within one hundred and fifty (150) days from the supply. In accordance with the EU Customs and VAT laws, the Buyer must provide the Supplier with valid proof of exportation. If the Buyer does not provide the Supplier with such proof within one hundred and fifty (150) days, the Supplier has the right to charge VAT according to national laws which shall be immediately remitted by the Buyer.

12. GOVERNING LAW AND ARBITRATION

12.1 Unless the parties agree otherwise in writing, the Contract shall be governed by and interpreted in accordance with the laws in force in principal place of business of the Supplier, excluding the conflict of law rules applicable in such jurisdiction. Any controversy, claim or dispute between the parties hereto arising out of or related to this Contract shall be submitted to the International Court of Arbitration of the International Chamber of Commerce for final and binding arbitration in accordance with the Rules of Arbitration of the International Chamber of Commerce by three (3) arbitrators appointed in accordance with the said Rules. The arbitration proceedings shall be in the English language and shall take place in Paris, France.

12.2 Nothing contained in this Clause shall preclude the Supplier from bringing legal action or proceeding against the Buyer for purposes of enforcement, injunctive relief or interim or remedial measures in the courts of any jurisdiction where the Buyer or any of its property or assets may be found or located, and the Buyer hereby irrevocably submits to the jurisdiction of any such court.

13. ENTIRE AGREEMENT

These Conditions, plus the additional agreed upon terms of the Contract (relating only to price, time and location for delivery, technical specifications and quantity of Parts to be delivered) and the terms and conditions of any software license agreement executed in writing by the Supplier and the Buyer and pertaining to software or other data provided in connection herewith ("License Agreement") contain the entire agreement and understanding between the parties hereto with respect to the subject matter hereof and supersede all prior agreements and understandings relating to such subject matter. Any service work to be provided by the Supplier to the Buyer shall be in accordance with the Supplier's General Terms and Conditions – Service Work (latest version then in effect). If a provision of these Conditions is at variance with necessary requirements of applicable law, then these Conditions shall be deemed to be amended to the minimum extent necessary to comply with such applicable law. No terms, conditions, representations, warranties or covenants contained in any correspondence, catalogue, or in any other form shall be applicable unless incorporated herein by express written agreement of the parties hereto.

Subject	Engine type	Ref.	Date	Document No.	DLC	Issue	Page
New Injector Sleeve	W26	WIT-S	12.12.12	T-W26.0018.GB	161	01	1/4

New Injector Sleeve

1 Background

Some cases have been reported where the sealing between the lower part of the injector sleeve and the cylinder head has been lost, causing water leakages from the leak fuel oil line of the cylinder head. In order to improve the sealing, Wärtsilä has introduced a new design of the cylinder head injector sleeve.

2 Application

Since a number of unfavourable conditions must be present at the same time for the loss of sealing to occur, cylinder heads are affected randomly.

Modification is recommended whenever a leak is observed. In case, remove the affected cylinder head at the earliest opportunity and perform this modification.

Improved injector sleeve becomes the new standard on all W26 engines.

Warning: Cooling water leak can be observed by monitoring the level of the water expansion tank. It is strongly recommend to monitor the expansion tank especially during commissioning of the engine, when the engine is tested at 100% of load.

3 Description

The new solution consists in a modification of the shrink fit on the lower diameter of the injector sleeve and the introduction of an o-ring for assuring the seal between water and fuel oil circuit.



Figure 1: detail of the new solution for the injector sleeve

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New Injector Sleeve	W26	WIT-S	12.12.12	T-W26.0018.GB	161	01	2/4

4 Parts Needed Per Cylinder Head

Table 1: parts needed

Spare Part Number	EPN	Description	Quantity
1201006	0004	Injector sleeve with o-ring groove	1
1201016	0001	o-ring	1

5 Instructions

- 1) Dismount leaking cylinder heads from the engine following the instruction manual, Ch. 2.7.1, make sure to prevent dirt from entering the engine by covering all the parts of the engine that remain open.
- 2) Dismantle cylinder head valves using tool 9612ZT919 in combination with jack 9612ZT913, following instructions on the instruction manual, Ch. 2.7.3.
- 3) Remove injector sleeve using tool 9612ZT932, following instructions on the instruction manual, Ch.2.7.5.
- 4) Machine the chamfer on the injector sleeve pocket according to drawing below, see Figure 2.
- 5) Clean the lower sealing surface of the injector sleeve pocket from rust deposits by means of 320 emery cloth.
- 6) Clean cylinder head by means of a washing machine.
- 7) Heat uniformly cylinder head to 100 ± 10 °C.
- 8) Cool the new injector sleeve uniformly to -30 ± 5 °C.
- 9) Apply Loctite 638/648 on the upper sealing surface of the injector sleeve pocket, see Figure 3.
- 10) Apply silicone grease on the injector sleeve o-ring and place it on the injector sleeve seat.
- 11) Place sleeve on tool 9612ZT946 and Insert sleeve immediately into cylinder head.
- 12) Tighten nut (item 1, Figure 4) and keep sleeve compressed in cylinder head for 5 min at least.
- 13) After mounting of the injector sleeve and cooling down of cylinder head, perform a water pressure test with water at 7.5 bar for 1 hour and make sure that no leakage is present.
- 14) Mark the top surface of the cylinder head with the letters NS in order to trace the modification.
- 15) Assemble valves back on the engine according to instruction manual, Ch. 2.7.3.
- 16) Mount cylinder heads on engine according to instruction manual, Ch. 2.7.1.
- 17) Adjust valve clearance according to instruction manual, Ch. 2.7.2.
- 18) Add the enclosure to the instruction manual.

Subject	Engine type	Ref.	Date	Document No.	DLC	Issue	Page
New Injector Sleeve	W26	WIT-S	12.12.12	T-W26.0018.GB	161	01	3/4

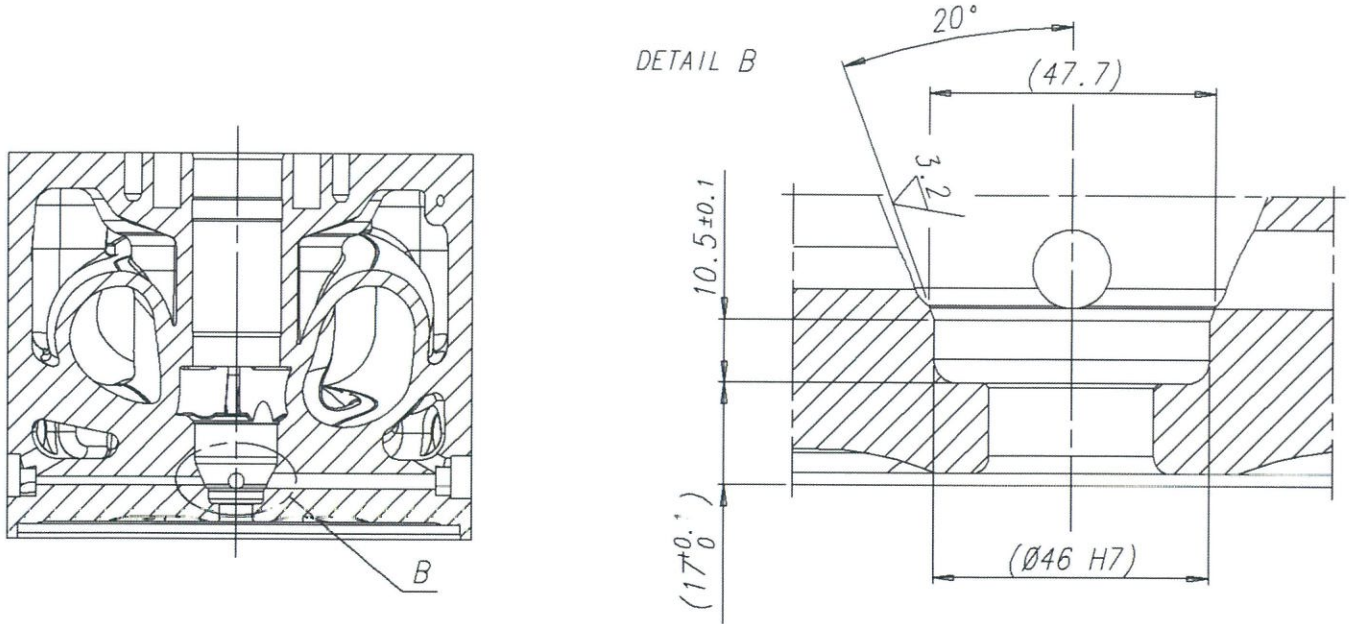


Figure 2: chamfer drawing

A Use O-Ring Grease
(MOLYCOTE N°111)

B Loctite N° 638/648

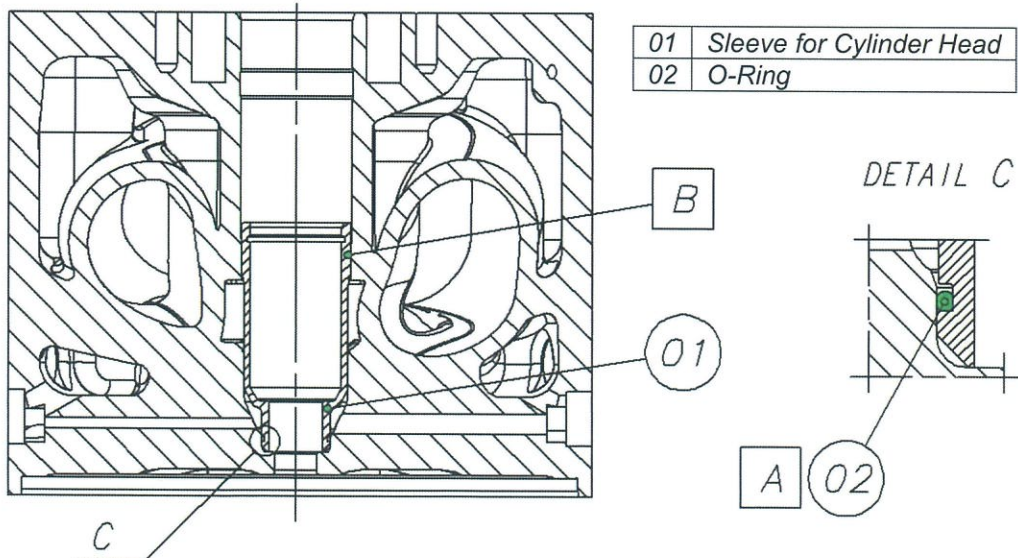


Figure 3: chamfer drawing

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New Injector Sleeve	W26	WIT-S	12.12.12	T-W26.0018.GB	161	01	4/4

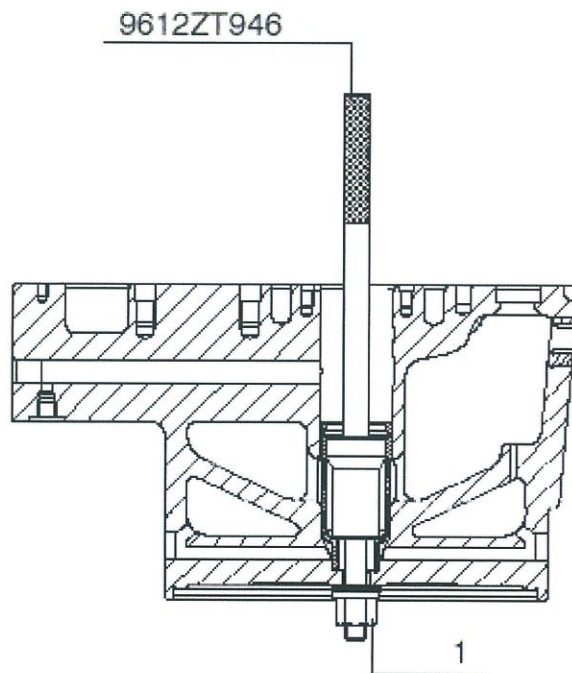


Figure 4: step 12 of the instructions

6 Documentation

In order to update your engine specific parts catalogue, the improved components have to be reported to your Wärtsilä Network Company.

7 Distribution

Wärtsilä Services Network

Owners of engines concerned

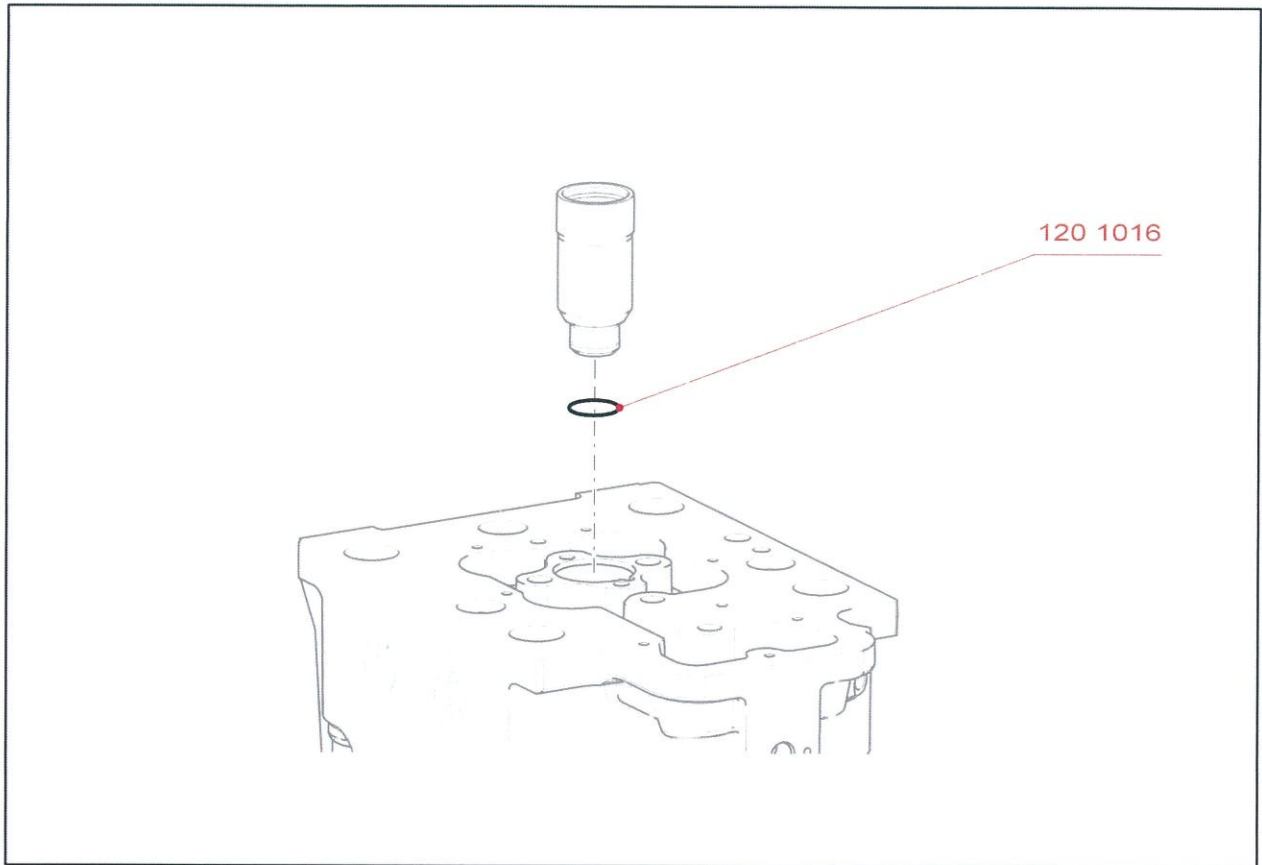
8 Liability

NO LIABILITY WHETHER DIRECT, INDIRECT, SPECIAL INCIDENTAL OR CONSEQUENTIAL, IS ASSUMED WITH RESPECT TO THE INFORMATION CONTAINED HEREIN. THIS PUBLICATION IS CONFIDENTIAL AND INTENDED FOR INFORMATION PURPOSES ONLY.

9 Validity

This general instruction is valid until further notice.

Cylinder head assembly



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
120 1016	O-ring	1	-				

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