CRANE INSPECTION CONTRACTS
PROVIDED BY ALATAS CRANE SERVICES WORLDWIDE

SAVINGS AND ADVANTAGES
FOR SHIP-OWNERS WORLDWIDE

Alatas CI Worldwide 2015 ©
ALATAS was founded in the UK in 1988 by ex Liebherr Engineers. Every station is run by a crane professional, who was former crane engineer and former manager at one of the main crane manufacturer.

Strategically placed service stations for:
- Inspections
- Field Service
- Load testing
- Parts Stock
- Workshop
- 24/7 Tech. advice
- Engineering & Crane upgrades

Houston, Mexico, UK, Germany, Norway, UAE, Singapore, Hong Kong
Together We...

✓ We are committed to providing a safe working environment for all our employees, and enjoy working with companies that share our passion for safety.

✓ We strive for constant improvement, we aim to provide high caliber field Engineers, reliable workshop repairs, spare parts, dedicated office support and technical management, globally.

✓ We are committed to providing thorough, comprehensive documentation and reporting, with an emphasis on detail, recordable and traceability.

THE ALATAS ADVANTAGE
QUALITY HEALTH SAFETY ENVIRONMENT

CERTIFICATE OF APPROVAL

This is to certify that the Occupational Health & Safety Management System of:

Alatas Singapore Pte Ltd
1 International Business Park
#03-01E The Synergy
Singapore 609917
Republic of Singapore

has been approved by Lloyd’s Register Quality Assurance to the following Occupational Health & Safety Management System Standard:

OHSAS 18001:2007

The Occupational Health & Safety Management System is applicable to:

Provision of Crane Inspection Services.

Approval Certificate No: SNG 603825/OHSAS

Original Approval: 21 January 2016
Certificate Expiry: 20 January 2019

Issued by: Lloyd’s Register Quality Assurance Limited Singapore
For and on behalf of Lloyd’s Register Quality Assurance Limited

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THE ALATAS ADVANTAGE
ALATAS AUTHORIZATIONS

Fully compliant with
- Norwegian Maritime Authority B-1
- API 2D
- ILO 152
- ISO 9001, ISO 14001, OHSAS 18001
- BizSafe Star
- LOLER

In progress:
- LEEA
- IACS UR Z17
- IMO’s SOLAS III/20
ALATAS, as an Enterprise of Competence with flag approved Competent Persons, employs multi-disciplined, factory trained Crane Engineers, highly experienced in all kind of repairs, investigations, troubleshooting of all system faults, be it of electric-, electronic-, hydraulic- or mechanical nature.

Our Sr. Engineers & Crane Inspectors are certified to API 2D and have category B-1 competent person approval from the Norwegian Maritime Authority, permitting us to carry out annual and 5 yearly crane & lifting gear inspections & load tests as per ILO 152. IACS approved Service Supplier status is in progress.

Annual and 5-yearly lifting gear inspections, load testing, supply of water bags, and cargo gear endorsements, all out of one hand.

Cost savings for owners, no need to engage separate contractors for crane inspection, load test and certification.
Our crane inspection services include:

- Review of certification & maintenance records.
- Inspection of steel structure & loose gears etc. according to our crane check-up list.
- Inspection and function testing of all main drive components.
- Checking and adjustment of all electric and electronic settings.
- Checking and adjustment all hydraulic settings.
- Full crane function test, ramping time & speed adjustments.
- Measuring the leak-oil amount of all axial piston pumps and motors in order to determine their internal grade of wear.
- Measuring axial clearance of slewing bearing ring.
- Taking slewing bearing grease samples for ferrography analysis.
- Taking hydraulic oil samples for analysis.
- Carry out miscellaneous repair as necessary and possible with board means & time available during the inspection.
We inspect & repair:

- The Deck-Cranes
- The Engine Room Cranes
- The Provision Cranes and Life-boat Davits
- The Grabs (we are authorized SMAG-Peiner Agent)
- Winches, Windlasses and Hatch Cover Hydraulics

Concurrent with the inspection, Alatas Service Engineers can inspect and load test all cranes on board.

Alatas Service Engineers are flag state approved competent persons to endorse cargo gear books (ILO Form 1), issue ILO Form 2 (Certificate of Test and Thorough Examination of Lifting Appliances) and ILO Form 3 (Certificate of Test and Thorough Examination of loose gear).

Depending on notation, a class surveyor is no longer needed.

The Alatas Advantage

Reduced Costs of Inspections
THE ALATAS ADVANTAGE
REDUCED COSTS FOR LOAD TESTS

Alatas Service Engineers can inspect and load test all cranes on-board, from all makers in one attendance:

We supply

- Certified Water bags, 12.5 T, 35 T, 50T & 100T for load tests of up to 220 T and more
- Load cells for pull load tests on ER & Provision cranes
- Man-bags for Gangway testing
- Man-bags for Life Boat load testing
- Test Loads for Grabs
### SLEWBEARING BOLTS/STUD CHECK

<table>
<thead>
<tr>
<th>Item</th>
<th>Requirement</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABS Annual inspections (1-5 years)</td>
<td>require inspection for slack bolts</td>
<td></td>
</tr>
<tr>
<td>ABS 5-10 Year inspections</td>
<td>require 10% removal and NDT of slew bolts/studs</td>
<td></td>
</tr>
<tr>
<td>ABS 10-15 Year inspections</td>
<td>require 15% removal and NDT of slew bolts/studs</td>
<td></td>
</tr>
<tr>
<td>DNV Annual inspections</td>
<td>require inspection for slack bolts/tightness</td>
<td></td>
</tr>
<tr>
<td>DNV 5 Yearly inspections</td>
<td>require 50% removal and NDT of slew bolts/studs</td>
<td></td>
</tr>
</tbody>
</table>

**Perform the above checked scope of work:** N/A

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### MAIN SHEAVES

**The sheave is to be measured at 4 points with 90° spacing along the flange/rim. The customer must mark these positions with a punch mark (on rim) for future measuring. The measurement between A and B is allowed increase to 0.15x(d) (wire rope nominal diameter), however, it is never to increase more than 4 mm from A-B now.**

**Check Groove for Wear Using Sheave Gauge**

- Remove all excess buildup of grease on rope sheaves. Record measurements.

<table>
<thead>
<tr>
<th>Sheave 1</th>
<th>X</th>
<th>M</th>
<th>DK</th>
<th>N/A</th>
<th>Description / Photo / Documents</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Groove: A&gt;B:</td>
</tr>
</tbody>
</table>

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### CRANE CHECK LIST

**Electrical System**

- Check heating of electric switch cabinet
- Check function of electric switch cabinet
- Check for loose cable connections on terminals and relays
- Check for bypass links
- Check adjustments of time relays in switch cabinet
- Inspect lead wires, junction boxes, terminals and control devices for overheating, corrosion, condensation, cracked insulation and loose terminals
- Check for water ingress into the cabinet
THE ALATAS ADVANTAGE
ALATAS REPORTING SYSTEM

No inspection, repair or load test is complete without a conscientiously prepared report and feedback. Reports are prepared by our Sr. Engineers and edited & commented by our Service Managers. Our years of experience as crane specialists go into that.

- Summary picture report stating:
  - General condition of the crane
  - Defects found
  - Outstanding items to follow-up
- Completed check list, red-green-yellow
- Slewing bearing clearance measurements
- Oil & grease analysis reports
- General observations / recommendations
- Offer of parts / labour to clear open items

- Discussions of findings & recommendations
- Tailored formats for specific crane types
- Crane certificates & load test certificates
<table>
<thead>
<tr>
<th>Country</th>
<th>Ratification Status</th>
<th>Comment</th>
<th>Is ALATAS Qualified?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bahamas</td>
<td>Not ratified</td>
<td>Ship manager decide who is competent</td>
<td>YES</td>
</tr>
<tr>
<td>Cayman Isl.</td>
<td>Not ratified</td>
<td>Employer decide who is competent</td>
<td>YES</td>
</tr>
<tr>
<td>Cyprus</td>
<td>Ratified</td>
<td>Only the Authority(*) and RO(#) competent</td>
<td>NO</td>
</tr>
<tr>
<td>Denmark</td>
<td>Ratified</td>
<td>Flag approved competent person</td>
<td>YES (B-1)</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>Not ratified</td>
<td>Competent examiner (TBC…)</td>
<td>YES (*)</td>
</tr>
<tr>
<td>Isle of Man</td>
<td>Not ratified</td>
<td>Over age 18</td>
<td>YES</td>
</tr>
<tr>
<td>Liberia</td>
<td>Ratified</td>
<td>1yrs: Crew. 5yrs: IACS Approved surveyor</td>
<td>YES / in progress</td>
</tr>
<tr>
<td>Malta</td>
<td>Not ratified</td>
<td>IACS Approved service supplier</td>
<td>In progress</td>
</tr>
<tr>
<td>Marshall Isl.</td>
<td>Not ratified</td>
<td>Only the Authority and RO is competent</td>
<td>NO</td>
</tr>
<tr>
<td>Netherlands</td>
<td>Ratified</td>
<td>Ship manager decide who is competent</td>
<td>YES</td>
</tr>
<tr>
<td>Norway</td>
<td>Ratified</td>
<td>Flag approved competent person</td>
<td>YES (B-1)</td>
</tr>
<tr>
<td>Panama</td>
<td>Not ratified</td>
<td>IACS Approved service supplier</td>
<td>In progress</td>
</tr>
<tr>
<td>Singapore</td>
<td>Not ratified</td>
<td>Ship manager decide who is competent</td>
<td>YES</td>
</tr>
<tr>
<td>U.K.</td>
<td>Not ratified</td>
<td>Employer decide who is competent</td>
<td>YES</td>
</tr>
</tbody>
</table>

**GREEN:** Owner does not need to engage a class surveyor.

(*) "Authority" would be flag state appointed organization, i.e. “MPA Marine Port Authority” as an example.

(#) RO (RO Recognized Organization) would be the class society which is normally the IACS members - accepted by the Authority.

Note: Above does not apply in case there is a CLASS notation like CRANE, CRANEN, CRANE VESSEL (rare but may be on large AHC cranes). If so, then class must also attend but this the customer will know.

This also can be checked for each vessel as the info is open on DNV exchange.
THE ALATAS ADVANTAGE

SETTING UP INSPECTION PROGRAM

- Identify crane makes, model, serial Nr.
- Collect crane documentation (parts manuals, GA Drawings, Hydr./electrical drawings, load charts etc.)
- Confirm Applicable Rules & Regulations: Flag States, IACS, Local Compliance
- Confirm any special customer requirements for CCE
- Propose Inspection method overview SOW for different crane types including labour/equipment/estimated duration
- Compile Checklists, Reporting Structure, Deliverables, KPIs
- Carry out initial crane assessments
- Tailor as needed
THE ALATAS ADVANTAGE

YOUR PARTNER FOR A FULL SERVICE CONTRACT

- Our worldwide service network allows us to keep attendance costs low
- Alatas has been established since 1988. We have unique know how in Marine Cranes. Alatas has vast experience with major makers, and even the “Exotic Brands”
- Utilizing our worldwide purchasing know-how we can offer significant cost and time savings when it comes to spare parts supply
- Obsolete Parts can be re-engineered and re-manufactured in-house
- Our worldwide network of workshops allows us to offer repair and service exchange options for gearboxes, hydraulics and electronics
- We apply Total Quality Management (TQM) as an intrinsic principle of our operations
- All regular inspections will be carried out according to method statements to ensure repeatability and effectiveness.

“2500 service attendances per year on over 60 crane brands”
THE ALATAS ADVANTAGE

REDUCED COST FOR MAINTENANCE

Through implementation of Condition Based Maintenance **CBM:**

- Failing components can be identified early. Removing urgency and allows cost-efficient sourcing and logistics of parts
- Catastrophic failure can be prevented allowing a repair and re-use of the component. Saving costs and down time.
- Timely adjustment of the maintenance procedures in co-operation with the ship-manager and the crew. Prevent progression of wear and damage
- Planning stocks are possible Allowing for further savings
THE ALATAS ADVANTAGE

REDUCED DOWNTIME OR OFF-HIRE

- Regular Inspections allow early diagnosis
- Condition Based Maintenance allows timely ordering of spare parts and scheduling of repairs
- Schedule planning

This enables:

- Reduction of costly downtime and off-hire periods
- Reduction of “Emergency-Recovery” costs
Established since 1988, Alatas has built an outstanding reputation within the marine industry, providing ship managers with an extensive range of bespoke crane services, engineering and parts solutions.

Our engineers can travel with your vessel, completing work between ports, keeping you on the move.

Alatas provides the marine crane industry with an alternative and independent crane service provider to the OEM.

Delivering total support across all marine crane applications, all brands

ACTA  
AKER  
AMC LYDE  
AMERICAN AERO  
APPLETON  
BAILEY  
BAKER (BM C)  
BLM  
BRADEN  
BRATVAAAG  
BREVINI  
BUCYRUS ERIE  
DONG NAM  
DREGGEN  
EFFER  
FUC HS  
FUKUSHIMA  
HAEAN  
HAGG LUND  
HAGG LUND MTT  
HARBOUR MOBILE CRANES  
HATLAPA  
HEILA  
HYDRA LIFT  
HYDRA MARINE  
IHI  
IHI-WUHAN  
KG W  
KRUPP  
LA TOURNEAU  
LIEBHERR  
MAC GREGOR  
MANABE ZOKI  
MAPE  
MASADA-MHI  
MELCAL  
MITSUBISHI  
NM F  
NORLIFT  
NORWINC H  
NOV  
O & K (KRUPP, LMG, TTS-LMG)  
ORIENTAL  
ORTS G. RAB'S  
PALFINGER  
SA SEBO SSK  
SC M  
SEA KING  
SEATRA X  
SEIK A HARA  
SEKWANG  
SMAG PEINER  
TECHFLOWER  
TOWGRABS  
TD WIM OR  
TSUJI  
TTS MARINE  
WM MP  
WUXI  
ZOLLERN

Past Assignments
EXPERTS
Armed with a huge support network and extensive range of supply solutions, our team will ensure that you have the correct parts for your crane at a competitive price and lead time.

SERVICE
Alatas branches worldwide hold stock of critical parts for instant despatch and provide a fast response to all enquiries. We have engineers available to install your crane parts anywhere in the world. Certification and warranties are issued with all parts when required.

PRICE
From a crane joystick to a complete crane boom, Alatas can supply all marine crane parts at a competitive price.

INDUSTRY TRUSTED OEM PARTS SUPPLIERS

ALATAS CAN SUPPLY ALL CRANE PARTS
- Electrical crane parts
- Mechanical crane parts
- Hydraulic crane parts
- Obsolete alternatives
Features of Alatas Parts System:

- ALATAS parts number system
- Parts cross referencing, also between makers.
- Support for obsolete OEM brands.
- Optimized parts sourcing.
- Optimized global stock management.
- Vessel management system.
- Parts tied to assets on board.
- Efficient parts quotations.
- Service records management.
- Knowledge Database.
THE ALATAS ADVANTAGE

MARINE CRANE PARTS DATABASE (APS)

Features of Alatas Parts System:

- ALATAS parts number system
- Parts cross referencing, also between makers.
- Support for obsolete OEM brands.
- Optimized parts sourcing.
- Optimized global stock management.
- Vessel management system.
- Parts tied to assets on board.
- Efficient parts quotations.
- Service records management.
- Knowledge Database.
THE ALATAS ADVANTAGE

HYDRAULIC WORKSHOPS

• Hydraulic repairs & refurbishment
• Hydraulic engineering solutions
• All units tested on our in-house designed, state of the art, computerized test stand
• Units supplied with warranty
• Service exchange program

Alatas operates in-house hydraulic workshops in the UK, Singapore, Hong Kong and America where we carry out professional repairs to hydraulic pumps, motors and valves.

All repairs are carried out with original spare parts and all repairs are tested on our fully automated test benches to the manufacturers’ standards.

Workshop Video
THE ALATAS ADVANTAGE

MECHANICAL WORKSHOPS

- Mechanical repairs & refurbishments
- All units tested to working conditions
- Units supplied with warranty
- Full hardening of obsolete bearings
- Gear wheel manufacturing
- Hydr. Valve repairs

Alatas carries out refurbishments of many different crane gearboxes and winches. Refurbishment can cut delivery times of these units significantly.

Parts can be manufactured against samples.

Special bearings, obsolete bearings and parts can all be manufactured and a full hardening service is provided.

ALTAS Engineering
THE ALATAS ADVANTAGE

ELECTRICAL WORKSHOPS

- Electrical repairs & refurbishments
- All units tested to working conditions
- Units supplied with warranty
- Calibration of PCBs

Alatas operates an electrical workshop where components and PCBs of the crane control systems can be repaired quickly, reliably and economically.

It is equipped with state of the art equipment including PCB shot blasting, ultrasonic washing, advanced diagnosis equipment and simulators for most control systems.

This allows testing, repair and calibration of PCBs to the manufacturers’ standards.
THANK YOU!

We look forward to being a partner in your success!

Presented to you by
ALATAS Singapore - 2016

Division of the Alatas Worldwide Support Network