Prepare for MAN 175D

Proactivity pays off – securing cost effective engine performance
Dedicated after sales service

MAN Energy Solutions are proud to have the new MAN 175D high-speed generation well introduced. New future-orientated digital operation and service technologies are set. Engines are running and we are prepared and ready with our MAN PrimeServ organization trimmed and fine-tuned for tailored after sales support. We have our staff ready. Our original spare parts and the global supply from main stock and warehouse facilities in Denmark are ready. Local stocks of consumable parts can be provided upon request. For you to be prepared we take pleasure in presenting our offerings related to:

- Tailored service levels
- Spare parts packages
- Recond parts and kits
- Training of technical personnel
- Service with passion
- Worldwide service
Tailored service levels

Targeted at MAN 175D

Service levels:
For a detailed overview outlining the tasks and to which service level they belong, parts, training and tools needed – please be referred to the actual maintenance schedule of your specific MAN 175D engine variant and its application.

Examples of levels and tasks

<table>
<thead>
<tr>
<th>Service level</th>
<th>Description</th>
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<tbody>
<tr>
<td>L1</td>
<td>Basic tasks such as various checks and observations fluid levels and possible leakages.</td>
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<tr>
<td>L2</td>
<td>Basic tasks such as changing oil and filters - and checking clearances and adjusting valves.</td>
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<tr>
<td>L3</td>
<td>More advanced tasks like replacing injectors, waste gate and crankcase ventilators.</td>
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<tr>
<td>L4</td>
<td>Tasks related to overhaul like replacing a turbocharger or a power unit consisting of cylinder head, cylinder liner, piston and connecting rod.</td>
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<tr>
<td>L5</td>
<td>Overhauls like replacing gear train, camshaft bearings and main bearings.</td>
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MAN PrimeServ Assist

MAN PrimeServ Assist is an optional service solution enabling you to monitor your MAN 175D engine remotely. This attractive solution is part of our new MAN CEON platform.

With an onboard data logger, we are able to transmit operating data to be displayed and processed in an online app accessed through a browser giving you the best possibilities to keep an eye on actual performance and possible optimization of the operational efficiency.

MAN PrimeServ Assist can also be included in a service agreement. Our experts can analyze your engine data and can provide technical support and maintenance advice.

For more information or a discussion of what benefits can be offered for your GenSet or propulsion engine application, please contact your local MAN PrimeServ representative.
Spare parts packages

Original spare parts recommended at hand aboard your vessel: For the MAN 175D you can select four standardized spare parts packages, which will ease and safeguard your operation.

Post-commissioning package
This package includes various relevant filters for a complete replacement after the commissioning. The engine will start service with a fresh set of filters, which will ensure the best possible start.

Mechanical package
This package is based upon filters for lubrication oil, fuel and air for approx. 10,000 running hours. Furthermore, it includes relevant gaskets for replacement when adjusting valve clearance – plus a spare fuel injector.

After-treatment package
The exhaust gas after treatment package includes urea filters for approx. 10,000 running hours, spare urea injectors and the important NOx sensors.

Automation package
The automation package includes a selection of different sensors – speed, pressure, float switch and temperature including a complete wiring loom repair kit containing a selection of relevant plugs, pins and crimp tools.
Benefits of reconditioned parts

Reduce costs and maintain warranty
Selected components are available as factory reconditioned units with same warranty terms and quality as new units – but at a lower cost.

Exchange at high-speed
Components offered as reconditioned units on exchange basis are cylinder heads, turbochargers, fuel injectors and cooling water pumps.

Highest production quality
All reconditioned components are re-manufactured at our MAN 175D production center in Frederikshavn, Denmark.

Benefits of Service Packages and Maintenance Kits

Swift, simple and safe
To complement re-manufactured components at major maintenance jobs, we offer complete Service Packages and Maintenance Kits to simplify and speed up the job.

Quality of execution
Each Service Package or Maintenance Kit is tailored to the specific task, safeguarding correct parts ready for installation, and the correct amount at hand.

What is in a Maintenance Kit?
A Maintenance Kit from MAN PrimeServ is an all-in-one maintenance solution for the exchange of components for engines, GenSets and propulsion systems. Each Maintenance Kit contains all the necessary genuine replacement parts along with installation guidance for the specific component. The installation guide is based on easy-to-follow visual diagrams – enabling your engineers to carry out any required maintenance or exchange operation correctly and quickly.
We strongly believe that the highest satisfaction and long-term top performance of our products are achieved through continuous training of operators and technical personnel.

**MAN PrimeServ Academy**

**Training of technical personnel**

**MAN 175D - best possible start**

We have created a set of specialized MAN 175D high-speed training sessions, which will give you several benefits. For instance, it strengthens the safety and assures high quality, speedy performance of technical services keeping downtime and non-availability at the lowest possible level.

Depending on the level of training preferred by you, we offer e-learning, on-site courses and factory training. Training service levels 1 and 2 are taught through e-learning, which means that the training can be conducted from wherever suits you best. Level 3 and hands-on training is performed at a course at one of our designated high-speed MAN PrimeServ Academies.

**Training service levels 1 & 2**

This training package includes training of personnel and the documents necessary for service levels 1 & 2.

- **Training type:** Online training sessions
- **Tools:** Can be purchased separately for service levels 1 & 2.

**Training service level 3**

This training package includes training of personnel and the necessary documents.

- **Training type:** Four-day training at the MAN PrimeServ Academy in Frederikshavn, Denmark.
- **Tools:** Special tools are necessary for service level 3 and have to be purchased separately.
Via a network of over 100 service centers worldwide, MAN PrimeServ provides 24/7 service across the globe. Our range of services includes technical support, consulting and OEM spares, as well as maintenance, repair and comprehensive individualized service plans. Outside normal office hours, a team of experienced superintendents is ready for you at our hotline service: +45 2040 6059

MAN PrimeServ’s aim is to provide
- Prompt delivery of high-demand OEM spare parts within 24 hours
- Fast, reliable and competent customer support
- Individually tailored O&M contracts
- Ongoing training and qualification of operators and maintenance staff
- Global service, 24 hours a day, 365 days a year
- Diagnosis and troubleshooting with our MAN PrimeServ Assist
Due to the continuous development of our product portfolio, we will later in the lifecycle of MAN 175D be able to offer retrofit and upgrade solutions for engines already in service to keep up with the very latest standards of performance and efficiency.

Our service does not vary according to location. We know that a vessel may be built in Asia, operated in Europe for ten years and then move to Africa for the next ten years. That does not alter our focus on support, dedicated training, fast delivery of strategic spare parts, or availability of our tailored maintenance contracts.

For more information please visit www.man-es.com/primeserv