

Spare parts and training packages

# Prepare for an an MAN 175D

**MAN PrimeServ** 

Proactivity pays off – securing cost effective engine performance 2

## Dedicated Afersal

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
- Long-term service agreements (LTSA)
- Training of technical personnel
- Service with passion
- Worldwide service



# TailoredServiceIevelsTargeted at<br/>MAN 175D

	Service	spare	parts Standar	Advance	d training	standard	tools Specif	trools froet	lools		
<b>Operational checks</b> (oil level, leakages)	L1								rations	e	
Basic maintenance (oil change, filters)	L2								obei	ntenand	
Advanced checks (endoscopy, injection system)	L3								Standard	ced mai	ance*
Intermediate overhaul (cylinder head, turbocharger)	L4									Advanc	mainter
Major overhaul (cam and main bearings, power unit)	L5										Expert

Maintenance, operational checks and overhaul tasks are seen as five individual service levels (L1 to L5). L1 and L2 e.g. covering the basic tasks – and L5 the most advanced expert tasks.

\*On special request only, please contact MAN ES PrimeServ Academy CPH (PrimeServ.Academy-CPH@man-es.com)

### **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

### **Service level 1**

Basic tasks such as various checks and observations of fluid levels and possible leakages.

### **Service level 2**

Basic tasks such as changing oil and filters - and checking clearances and adjusting valves.

### **Service level 3**

Advanced tasks like replacing injectors, waste gate, and crankcase ventilators.

### **Service level 4**

Tasks related to intermediate overhaul like replacing a turbocharger, changing a cylinder head with valves, and a fuel oil high-pressure pump.

### **Service level 5**

Tasks related to major overhaul like replacing a lube oil pump, gear train, connecting rod, cylinder liner, piston, piston rings, crankshaft connecting rod bearings, camshaft bearings, and main bearings.

### **MAN PrimeServ Assist**

MAN PrimeServ Assist is a 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.



### Powered by MAN CEON

MAN PrimeServ Assist is powered by MAN CEON - a new platform solution that on customer side will enable, for example, the fleet or operations manager to get a fleet efficiency overview, while the chief or maintenance engineer can increase the engines' availability and efficiency based on advice from MAN PrimeServ.

Our expert staff will have access to real-time data analysis tools and make use of CEON's communication features (Chat/ Video Call) with the customer to resolve issues quickly.

# 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. 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, spare urea injectors and the important  $NO_x$  sensors.

### Automation package

The automation package includes a selection of different sensors – speed, pressure, float switch and temperature.





# Recond parts and kits



### 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.

# Long-term service agreements



MAN PrimeServ's long-term service agreements (LTSA) are effective tools in controlling maintenance spending while boosting the profitability of applications in marine propulsion and power generation.

### Take the stress out of overhauls, maintenance, and operations

Long-term service agreements by MAN PrimeServ are peace-of-mind solutions. From securing your supply of parts to meeting uptime targets, they protect the availability, safety, and efficiency of your assets. We tailor service agreements to help you optimize the operational cost and budget reliability of preventive and conditioned-based maintenance. Tap the expertise of world-class engine designers, the latest in operational know-how, and expert insights for root cause analysis.

### How you benefit

- Financial savings and mitigation of business risks
- Easy and effective communication with a single point of contact for all services
- Broad portfolio including initial surveys, quarterly performance analyses, OPEX analysis
- Scopes of any scale and at all levels of complexity
- Flexible payment structures as well as volume and duration discounts

Long-term solutions for even the most unique project needs

As your LTSA partner, we take on an active role in coordinating resources to support the logistics planning and maintenance of of engines, GenSets, propulsion systems, and turbochargers. Service agreements are available for equipment by MAN Energy Solutions and a range of legacy brands.



**Global partner - a single point of contact** Your assigned account manager streamlines costs, processes, and communication.



**Ease of business - smooth processes** We plan and coordinate all maintenance jobs within the global PrimeServ network.



**Technical competence - you are our priority** Enjoy prioritized access to troubleshooting, technical support and updates.

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## MAN PrimeServ Academy Training of technical personnel



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 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 nonavailability at the lowest possible level.

Depending on the level of training preferred by you, we offer high-end standard, advanced and expert training\* at one of our MAN PrimeServ Acadermies.

### **Training packages**

- Standard training covering service level 1-3 tasks
- Advanced training covering service level 4 tasks
- Expert training\* covering service level 5 tasks

See diagram on page 4. These training packages include training of personnel and the necessary documents.

Training type: Four-day training for Standard and Advanced courses, and four weeks training for the Expert course at the MAN PrimeServ Academies in Denmark.

## MAN PrimeServ Service with passion

hours a day

2

days a year

365

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
- 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

# Worldwide Service

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



**MAN PrimeServ** 

## Be prepared and power ahead

The most powerful high-speed engine

The MAN 175D engine is a V type, available with 12, 16 or 20 cylinders, with 175 mm bore for mechanical or electric propulsion and onboard power generation. Running from 1,500 to 2,000 rpm, it features ratings from 1,440 to 4,400 kW.

Visit: www.man-es.com/175d

### An interactive experience

Download our MAN Brochure Store app from the App Store or Google Play Store. Use its exciting interactive features to explore our complete range of products and services. Suitable for iPhone, iPad, and Android.

### **MAN Energy Solutions**

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