

# HZDS

Hitachi B & W / Sulzer  
Information of  
Engine Parts

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## Refreshing Your Marine Engine?

### THEN CONSULT US HOW TO!!

We are the sole supplier of genuine engine parts for MAN-B & W and SULZER type engines built by Hitachi Zosen Corporation. But we can do for you more.

Backed up by the expert engineers and engineering staff of Hitachi Zosen Corporation and its subsidiaries, we provide you with professional advices and undertake **REFRESHING WORKS** on main and auxiliary machineries of your ships for their longer life time and better performance.

You will see examples of our undertaking overleaf.

Please contact to our offices mentioned below for further inquirer.

### Hitachi Zosen Diesel Service Corporation

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## For Example

### 1. Refreshing of Exhaust Valve System

Longer Overhauling Interval	Change to Rotating Exhaust Valve with Air Spring	GF~GA
Burning on Exhaust Valve	Adoption of Recess Chamber Type Valve	GF~MC
	Change of Material to Most Advanced One	GF~MC
	Adoption of Cooled Type Valve Seat	45GF, 35MC
Hot Corrosion on Exhaust Valve	Coating with Special Heat Resistant Material	Every Model
Cost Down of Exhaust Valve	Change of Material to Most Advanced One	RTA
Corrosion upon Exhaust Valve Housing	Coating with Ni-based Material	MC/RTA

### 2. Refreshing of Combustion Chamber

Cylinder Liner Crack	Change of Atomizer Specification	60,70,80MC
	Chamfering on Inner Surface of Cylinder Liner	GF~MC
Gas Blow-by	Change of Piston Ring Material	MC/RTA
	Change of Piston Ring Clearance	MC/RTA
Piston Skirt Scuffing	Adoption of Long Piston Skirt	MC
Oval Wear of Cylinder Liner	Change of Atomizer Specification	GF~MC/RTA
	Adoption of Cylinder Liner with Balanced Port	RND,RND-M,RL
Hot Corrosion on Piston Crown	Coating with Special Heat Resistant Material	Every Model
	Change of Atomizer Specification	GFC~GA
Leakage of Cooling Oil from Piston	Adoption of "X" Type O-ring	GB~MC
Gas Leakage between Cylinder Liner and Cover	Machining of Contact Surface	Every Model

### 3. Refreshing of Fuel Oil System

Fuel Oil Saving	Adoption of VIT-plunger on Fuel Pump	EF~GA
Lesser Maintenance Cost	Adoption of Two-piece Type Nozzle for Fuel Valve	RTA
	Change of Fuel Nozzle to Two-valve Arrangement	RTA

### 4. Other Refreshing Works for Better Performance

System Oil Saving	Hardening on Piston Rod Running Surface	GF~GFCA
	Improvement of Stuffing Box Ring	GF~GFCA/RTA
Protection from Explosion in Cylinder	Replace with Improved Type of Starting Valve	60,70,80MC
Checking Method of Bearing Life Time	Bearing for Camshaft Driving Chain Wheel	GF~GFCA
	Al Shell Metal for Crosshead Pin	GB
Fuel Oil Saving	Replace with High Efficiency Turbocharger	Every Model
	Conversion to Constant Pressure Type of Turbocharging System	GF
	Modernization by Refreshing of Engine Main Parts	EF~GF
Power-up/Speed-up	Changing of Necessary Parts	Every Model

### 5. Auxiliary Machining

Replacement of Auxiliary Diesel Engine and/or Generator
Fresh-up for Exhaust Gas Economizer
Replacement Works of Pumps and/or Heat Exchangers