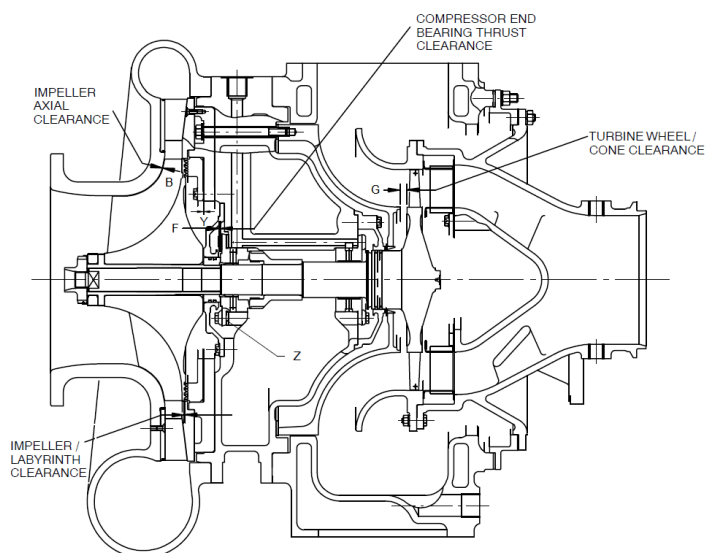


Service report

Turbo charger

Client	Machinefabriek Bolier B.V.	Job number	119724
Ships' name	Use if vessel is unknown.	Component No.	C204202
Engineno.	ALG	Date Workshop In	2024-02-13
Engine type		Print Date	2024-04-23
Engine rHrs(calc)		Quality control by	Bolier iPad Turbo
Turbo charger serial No.	702134	Type	NA297
		Specification	4GS87B/M

1. Drawing and condition at arrival



2. Maintenance overview

A. Standard overhaul has been executed, including:

- Disassembly
- Cleaning
- Inspection & measurement
- Assembly with new gaskets and seals

Service report

Turbo charger cont.

Ships' name	Use if vessel is unknown.	Job number	119724
Engineno.	ALG	Component No.	C204202
Turbo charger serial No.	702134	Type	NA297
		Specification	4GS87B/M

3. Measurements & wear limits

Item	Min. value	Min. limit	Max. value	Max. limit	Measured value	Remark
Turbine Blisc/Cone clearance	2,815	2,815	2,185	2,185	2,65	
Impeller axial clearance	0,85	0,85	0,95	0,95	0,90	
Compressor end bearing trust clearance	0,095	0,095	0,335	0,335	0,18	

4. Findings

Item	Serial No./IMO No.	Condition	Recommendation	Decision	Remark
Turbine inlet casing		N/A	-		
Turbine outlet casing		N/A	-		
Shroud		N/A	-		
Nozzle ring		N/A	-		
Compressor inlet casing		OK	Reuse		
Volute insert		OK	Reuse		
Rotor with blisc and vanes		OK	Reuse		
Lacing wire		OK	Reuse		
Compressor wheel		OK	Reuse		
Diffuser		OK	Reuse		
Bearing casing		OK	Reuse		
Bearing turbine side		OK	Reuse		
Bearing housing turbine end		OK	Reuse		
Bearing compressor side		OK	Reuse		
Bearing housing compressor end		OK	Reuse		
Seal Plate		OK	Reuse		
Thrust collar		OK	Reuse		
RPM pickup		OK	Reuse		
Packing ring		OK	Reuse		

A more comprehensive overview of the components that were not found in "OK" condition, can be seen on the next pages.

Service report

Turbo charger cont.

Ships' name	Use if vessel is unknown.	Job number	119724
Engineno.	ALG	Component No.	C204202
Turbo charger serial No.	702134	Type	NA297
		Specification	4GS87B/M

Dynamic balancing results



Balancing report

User	Machinefabriek Bolier B.V.
Order number	119724

Type data

Rotor type	NA 297 MakMed
Last change	2/22/2024 3:26 PM
Set speed	1200 rpm

ABC geometry

Position of correction planes	
Distance a	104 mm
Distance b	347 mm
Distance c	80 mm
Radius 1	150 mm
Radius 2	93 mm

Tolerance

Tolerance	User defined
Selected planes	Correction planes
Dynamic Tolerance of Unbalance	
Correction Plane 1	4,0 g·in
Correction Plane 2	2,0 g·in

Measuring Results, Run: 1

Rotor ID	NA 297 ,spec.4GS87B/M,reg.702134
Measuring speed	1205 rpm
Unbalance	
Correction Plane 1	8,13 g·cm 136 ° in Tol
Correction Plane 2	2,93 g·cm 297 ° in Tol
Correction	
Correction Plane 1 - Mass (Remove)	542 mg 136 ° in Tol
Correction Plane 2 - Mass (Remove)	315 mg 297 ° in Tol
Rotor in tolerance	

Measuring Results, Run: 2

Rotor ID	NA 297 ,spec.4GS87B/M,reg.702134
Measuring speed	1205 rpm
Unbalance	
Correction Plane 1	4,55 g·cm 120 ° in Tol
Correction Plane 2	2,89 g·cm 296 ° in Tol
Correction	
Correction Plane 1 - Mass (Remove)	303 mg 120 ° in Tol
Correction Plane 2 - Mass (Remove)	311 mg 296 ° in Tol
Rotor in tolerance	