

STATUS

Available

REF. NUMBER

TC 87

MANUFACTURE

BBC

TYPE

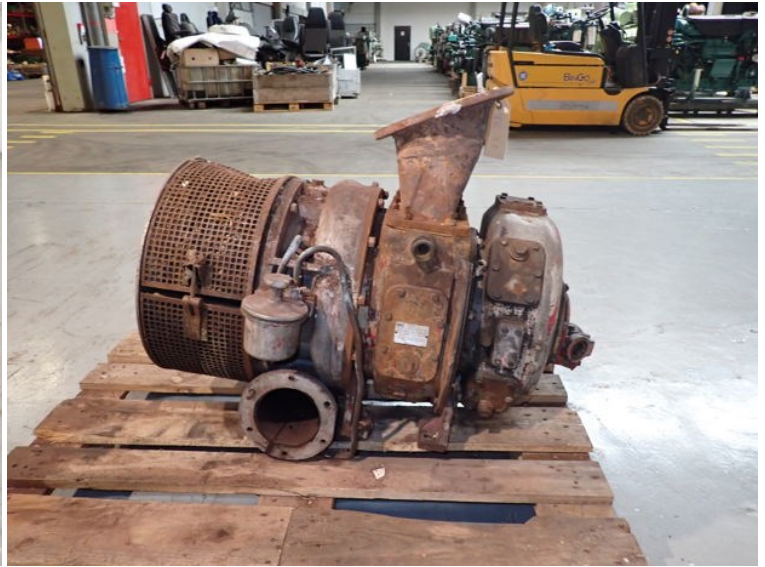
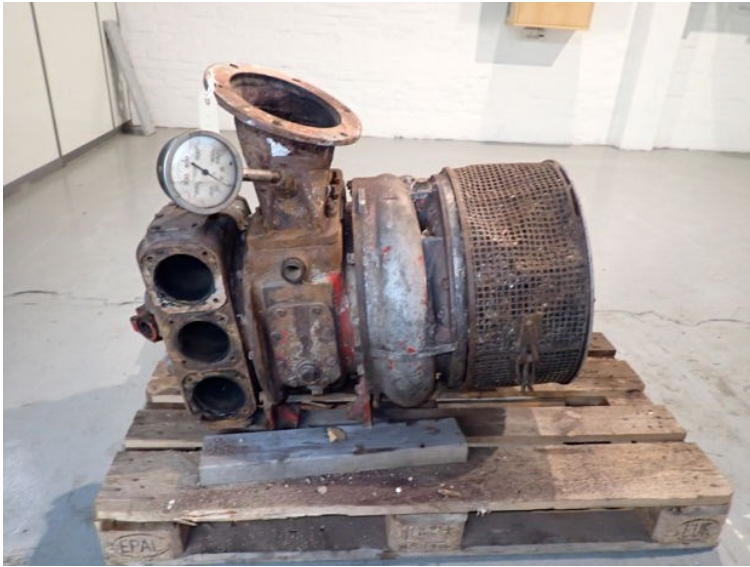
VTR 200 N

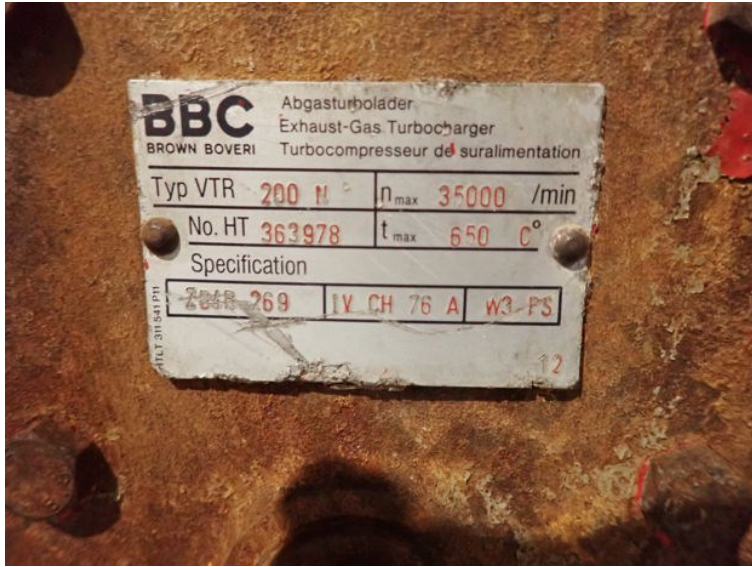
FROM ENGINE:

Turbo

REMARK

HT 363978 350000 rpm , 650 C





**MAK Diesel Engine Acceptance Test Record** Sheet of 2

Engine Type: **4 M 332** Order No: **332803** Engine Serial No: **33589**

Atmospheric conditions during test run:  
 Atmospheric pressure: **1013** mbar Relative humidity: **53** % Altitude: **10** m  
 Ambient temperature: **16** °C

We used for the test run:  
 Fuel density: **0.824** kg/cm<sup>3</sup> Heavy fuel: **30** °C at 10°C Test bed: **50/13**  
 Lubricant type: **SHELL** Heavy fuel: **22** °C before injection pump Hydraulic brake: **1102455**

Engine Data:  
 Four-cylinder, direct injection, port engine, rotation: **clockwise** r/min rotation (viewed from the drive end)  
 Rated power: **1600** kW Rated speed: **900** r/min  
 Bore: **240** mm Stroke: **330** mm Firing order: **1-2-4-3**

Turbocharger type: **VTR 200 N<sup>2</sup>** Serial No: **HT 363978** Specification: **PKMXTJCH86WPS**  
 Max. speed: **3500** r/min Max. turbine inlet temperature: **650** °C Test: **ZH88-0756**

Fuel injection pump: **BechPFIHGGV91** Plunger diameter: **18.0** mm Inlet stroke "A": **48.0** mm  
 Fuel injection: **400mg LT-868-E** Opening pressure: **3.00** bar Specification: **N-855-21118\***

Oil cooler: **Beht-A-28** Cooling surface area: **6.4** m<sup>2</sup> Crankshaft drawing No: **1346-2810.01-53**  
 Fresh water cooler: Cooling surface area: **2** m<sup>2</sup> Crankshaft No: **604**

Timing Data	°	Cylinders												
		1	2	3	4	5	6	7	8	9				
Inlet opens before T.D.C.	<b>7.5</b>	<b>9.5</b>												
Inlet closes after B.D.C.	<b>50</b>													
Exhaust opens before B.D.C.	<b>50</b>	<b>159</b>												
Exhaust closes after T.D.C.	<b>50</b>													
Cylinder diameter:	<b>240</b> mm	<b>9.2</b> mm	Flywheel weight: <b>428</b> kg											

Settings

Distance from their top edge to piston top edge in T.D.C. (mm)	°	Cylinders								
		1	2	3	4	5	6	7	8	9
Injection commencement of injection pump	Ahead	<b>18.0</b>	<b>18.0</b>	<b>18.0</b>	<b>18.0</b>	<b>18.5</b>	<b>18.0</b>	<b>18.0</b>	<b>18.5</b>	<b>18.5</b>
Injection commencement of delivery indicated in timing window at pump, degrees	Astern									
Fuel injection pump rack position when control handle on "stop" (mm)	A	<b>3.0</b>	<b>3.0</b>	<b>3.0</b>	<b>3.0</b>	<b>2.5</b>	<b>2.5</b>	<b>3.0</b>	<b>3.0</b>	<b>3.0</b>
Fuel injection pump rack position (mm)	A	<b>35.5</b>	<b>35.5</b>	<b>35.5</b>	<b>34.5</b>	<b>35.0</b>	<b>35.5</b>	<b>34.5</b>	<b>34.5</b>	<b>35</b>
Fuel limited at 300 mm	A	<b>10.5</b>	<b>10.5</b>	<b>10.5</b>	<b>9.5</b>	<b>10.0</b>	<b>10.5</b>	<b>9.5</b>	<b>9.5</b>	<b>10</b>

Governor speed setting: **900** r/min  
 Maximum speed no load: **927** r/min  
 Minimum speed no load: **874** r/min  
 Minimum speed with load: **820** r/min

Air consumption for starting and reversing  
 Bottle capacity: **0.5** m<sup>3</sup>  
 Initial pressure: **1** bar  
 Remaining pressure in bottle at starting: **0.25** bar  
 Remaining pressure in bottle: **0.5** bar

MAK Test Report on Signature and at engine:  
 Done at test: **16.11.85** (Date)  
 Done by: **Norake Veritas** (Name)  
 Checked by: **HMM 85-850-10** (Signature)

Approved: **OS II** (Signature)  
 Date: **16.11.85** (Date)  
 Signature: **Barbe** (Name)

539.97 (a) (10.82) (08)