

Rattling noises in area of 2-stage turbocharger, OM651

Topic number	LI09.40-P-064267
Version	5
Design group	09.40 Turbocharger
Date	05-10-2017
Validity	Engine OM651 in model 166, 172, 205, 222, 253 Engine OM651 in model 204, 207, 212, 218 (with code B03)
Reason for change	Remedy adjusted; no replacement of plastic valve instead of creating a TIPS case
Reason for block	

Complaint:

Rattling noise from front of engine on right, in area of turbocharger.

The complaint predominantly occurs for a short time after a cold start.

Attachments	
File	Description
Soundfile .MP3	Example noise

Cause:

Various causes are possible:

1. Belt tensioner.
2. Vibrations of the aluminum bypass valve inside the air duct housing.

Remedy:

The following diagnostic steps must be performed in sequence:

1. Remove poly-V belt (see AR 13.20-P-0001)
2. Run the engine at idle for max. 60 seconds after a cold start
3. Reproduce the problem noise

Does the noise remain unchanged?

NO:

- In this instance, the belt tensioner is likely the cause of the noise.
- The air duct housing must NOT be replaced.

YES:

Remove the air duct housing.

- If a silver-colored aluminum valve (Pic 1) is installed, replace the air duct housing.
- If a black plastic valve (Pic 2) is installed, the air duct housing must NOT be replaced.

XENTRY TIPS

Note: The noise behavior of the air duct housing and the bypass valve is altered by removal.

Therefore any noise analysis in the removed state (e.g. by shaking the housing or the valve) is irrelevant.

Note: The part number of the air duct housing was not changed when converting from the aluminum to the plastic valve.

Attachments	
File	Description
Pic 1.jpg	Aluminum valve
Pic 2.jpg	Plastic valve

Symptoms
Power generation / Engine noise / Rattling
Power generation / Engine noise / Clattering

Parts						
Part number	ES1	ES2	Designation	Quantity	Note	EPC
A 651 090 18 07			Turbocharger air duct housing	1	Model series 205 / 253 & model series 172 with code A09	X
A 651 090 17 07			Turbocharger air duct housing	1	Model series 166	X
A 651 090 15 07			Turbocharger air duct housing	1	Model series 212 hybrid / 222 & model series 172 without code A09	X
A 651 090 14 07			Turbocharger air duct housing	1	Model series 204 / 207 / 212 / 218 with code B03	X

Operation numbers/damage codes				
Op. no.	Operation text	Time	Damage code	Note
09-5932	REPLACE TURBOCHARGER AIR DUCT HOUSING IN VEH. WITH TWO-STAGE TURBOCHARGING	15 AW	0910D 36	

Attachments

Pic 1.jpg:



XENTRY TIPS

Pic 2.jpg:

