

Technical Service Bulletin

Topic	Engine difficult to start - Turbocharger damaged - V8 4.0TFSI
Market area	Bentley: worldwide (2WBE),Hongkong-Macau (5HK)
Brand	Bentley
Transaction No.	2052085/2
Level	EH
Status	Released for publishing
Release date	May 13, 2019

New customer code

Object of complaint	Complaint type	Position
engine -> engine operation -> engine start	functionality -> operation sequence incorrect	
engine -> intake system, compressor systems, vacuum system -> turbocharger	noises, vibrations -> noise	
entire vehicle -> driving performance, consumption -> engine oil consumption	dimensional accuracy -> too high	
entire vehicle -> driving performance, consumption -> acceleration	functionality -> too slow	
entire vehicle -> driving performance, consumption -> maximum speed	dimensional accuracy -> too low	
entire vehicle -> vehicle areas -> engine compartment	noises, vibrations -> noise	
engine -> engine operation -> engine running	functionality -> irregular	
engine -> power output control	functionality	
engine -> engine operation -> engine output characteristic	functionality -> faulty	
entire vehicle -> driving performance, consumption	functionality	
engine -> engine operation -> engine running	functionality -> stopped	

Vehicle data

Continental Series and Flying Spur equipped with V8T engine

Sales types

Type	MY	Brand	Designation	Engine code	Gearbox code	Final drive code
39*2**	2012	E		*	*	*
39*2**	2013	E		*	*	*
39*2**	2014	E		*	*	*
39*2**	2015	E		*	*	*
39*2**	2016	E		*	*	*
39*2**	2017	E		*	*	*
39*2**	2018	E		*	*	*
4W22**	2014	E		*	*	*
4W22**	2015	E		*	*	*
4W22**	2016	E		*	*	*
4W22**	2017	E		*	*	*
4W22**	2018	E		*	*	*

Documents

Document name
master.xml



Condition

Customer statement:

- Engine cannot be started or with difficulty.
- Engine makes unusual noises when accelerating.
- Engine has reduced performance.

Workshop findings:

- Damage on turbocharger impeller fins, increased free play on impeller shaft of turbocharger or broken impeller shaft.

Technical Background

Damage to the turbocharger is rarely directly the result of turbocharger failure. Therefore, it is important to perform further checks to find the root cause and to avoid repeat repairs.

Known causes for turbocharger damage:

- Performance increases by tuned Engine control module
- Non-compliance with service intervals
- Incorrectly fitted oil filter element
- Leaks in intake tract allowing outside unfiltered air and debris into the turbocharger
- Poor oil supply of turbocharger

Production Solution

Referring to Figure 1 - Optimized oil strainer (16) for oil supply lines to turbochargers in the cover in the inner valley of engine and the oil strainer and Non-return valve (3) must always be replaced to ensure suitable oil flow to the turbochargers, Over time carbon and soot can build up in the strainer causing reduced oil flow into the turbos. The strainer has now been updated to a larger filter profile to prevent this from occurring.

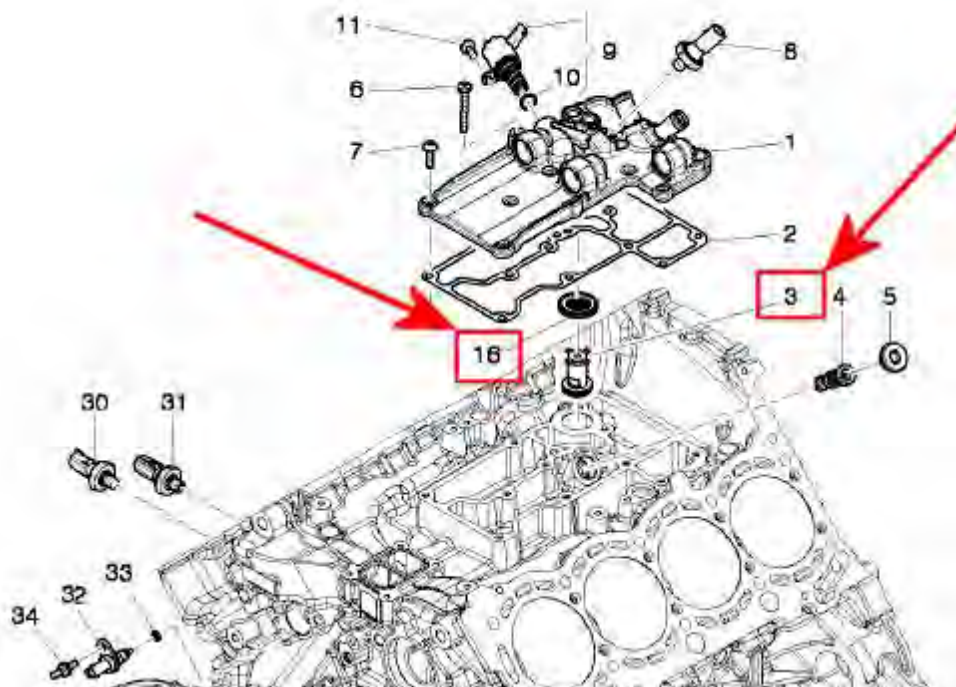


Figure 1

Service

Ensure all onward checks are conducted, attach all requested results from procedures 1 through to 4 within the open DISS query, attach photographs of any suspected components

1. Check the intake tract for leaks. Review the repair history for possible previous repairs on the intake tract.
2. Measure the oil pressure as per Elsa Pro Rep.Gr 17 - Engine lubrication - Engine oil pressure - To check

Note:

- TPI 2051187/1 Must also be followed to ensure any other engine running related issues are diagnosed in conjunction with this TPI
 - Attach a current diagnostic log to the open DISS query
3. Visually assess the condition of the damaged turbocharger from both sides. No oil marks (charge air and exhaust side) could be another indication for a poor oil supply to the turbocharger.
4. Check the oil filter for correct installation and correct filter part number is as per ETKA parts catalogue, If the oil filter is not centrally fitted, the engine oil may not be filtered, entering the oil supply of the turbocharger due to the crooked position of the oil filter element.
- Check the installation of the oil filter bypass valve according to Service campaign 2038185/3
 - Check the oil supply line for through flow and oil deposits.
 - Check the oil drain hoses for through flow and oil deposits.
 - Check the turbochargers oil supply and return lines
 - Feedback any other irregularities found during checks

Note:

This TPI is not replacing any Repair Manual instructions, this TPI is meant to supplement the Repair Manual – Refer to Elsa pro Rep.Gr 21

IMPORTANT: Observe all instructions from Elsa Pro in relation to replacing the turbochargers

5. Replace both of the turbochargers as well as the **oil strainer** and **Non-return valve** in the inner valley of engine according to Elsa Pro and observe all instructions
6. Change the engine oil including oil filter.
7. Follow the installation instructions in Elsa Pro for the turbochargers exactly including:
 - Filling the turbocharger at the supply line connections with engine oil.
 - To ensure the turbocharger is supplied with enough oil, let the engine run at idle for approximately one minute after starting, do not increase rpm.

Note:

Failure to follow the TPI and Elsa Pro instructions may lead to premature turbocharger failure which may be reviewed by Warranty.

Warranty

All warranty claims submitted for payment must be in accordance with the Bentley *Warranty Policies and Procedures Manual*. Claims are subject to review or audit by Bentley Warranty.

Warranty type	110 or 910
Labour operation code	21 30 20 20
Damage Service Number	21 30
Damage Code	00 20
Time	1650 Time units

Required Parts and Tools

Always check with your Parts Department and/or ETKA for the latest information and parts communications. Please check the Repair Manual for all related parts required for this procedure including seals, fasteners, bolts, nuts, and screws that require replacement during the repair.