

Technical product information

Topic	Brake noise identification
Market area	Bentley: worldwide (2WBE),Hongkong-Macau (5HK)
Brand	Bentley
Transaction No.	2052785/6
Level	EH
Status	Approval
Release date	

New customer code

Object of complaint	Complaint type	Position
running gear -> brakes, brake control -> service brake	noise, vibration -> noise	

Vehicle data

Continental Series,Mulsanne,Bentayga,Flying Spur Series

Sales types

Type	MY	Brand	Designation	Engine code	Gearbox code	Final drive code
393*	2012	E		*	*	*
393*	2013	E		*	*	*
393*	2014	E		*	*	*
393*	2015	E		*	*	*
393*	2016	E		*	*	*
393*	2017	E		*	*	*
394*	2012	E		*	*	*
394*	2013	E		*	*	*
394*	2014	E		*	*	*
394*	2015	E		*	*	*
394*	2016	E		*	*	*
394*	2017	E		*	*	*
394*	2018	E		*	*	*
3S3*	2018	E		*	*	*
3S3*	2019	E		*	*	*
3S3*	2020	E		*	*	*
3S3*	2021	E		*	*	*
3S3*	2022	E		*	*	*
3S4*	2019	E		*	*	*
3S4*	2020	E		*	*	*
3S4*	2021	E		*	*	*
3S4*	2022	E		*	*	*
3W*	2004	E		*	*	*
3W*	2005	E		*	*	*
3W*	2006	E		*	*	*
3W*	2007	E		*	*	*
3W*	2008	E		*	*	*
3W*	2009	E		*	*	*
3W*	2010	E		*	*	*
3Y*	2011	E		*	*	*
3Y*	2012	E		*	*	*
3Y*	2013	E		*	*	*
3Y*	2014	E		*	*	*
3Y*	2015	E		*	*	*
3Y*	2016	E		*	*	*
3Y*	2017	E		*	*	*
3Y*	2018	E		*	*	*
3Y*	2019	E		*	*	*

3Y*	2020	E		*	*	*
4V1*	2017	E		*	*	*
4V1*	2018	E		*	*	*
4V1*	2019	E		*	*	*
4V1*	2020	E		*	*	*
4V1*	2021	E		*	*	*
4V1*	2022	E		*	*	*
4W2*	2014	E		*	*	*
4W2*	2015	E		*	*	*
4W2*	2016	E		*	*	*
4W2*	2017	E		*	*	*
4W2*	2018	E		*	*	*
ZG2*	2020	E		*	*	*
ZG2*	2021	E		*	*	*
ZG2*	2022	E		*	*	*

Documents

Document name
master.xml
brakenoisequestionnaire.xlsx
flowchart.docx

Customer statement / workshop findings

Customer statement:

Noise complaint from the braking system.

Workshop findings:

The noise can be reproduced and clearly assigned to the braking system.

Technical background

Brake noises can be attributed to many causes. Eight of the most common causes are:

1. Brake discs or pads are close to their wear limit.
2. New brake pads and/or discs have not been properly bedded in after installation.
3. Aftermarket pads or discs are installed.
4. There is debris such as small stones, grit, road salt or sand between the brake disc and pad.
5. Discs are covered in rust. Rust can form when the vehicle has been stationary for long periods of time (Figure 1).



Figure 1

6. Discs have a groove in them (Figure 2)



Figure 2

7. There is chemical contamination on the braking surface of the disc due to a wheel or tyre cleaner being sprayed directly onto the disc (Figure 3).



Figure 3

8. There are 'pad marks' on the brake disc as a result of the brake pad material transferring to the discs. This can occur when a vehicle has been stood for long periods of time in a wet or snowy environment (Figure 4).



Figure 4

Production change

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Measure

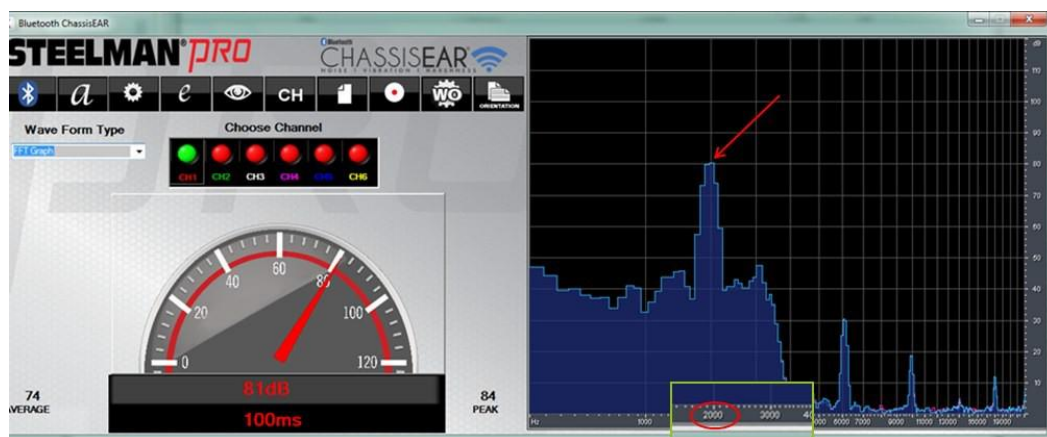
Note: For correct diagnosis and repair the attached Flowchart must be followed.

1. Check the overall condition of the brakes to determine if the brake noise can be attributed to one of the causes listed in the *Technical Background* section of this TPI. If the noise is not a result of one these causes, proceed with point 2.
2. Record the noise and frequency

For the frequency analysis and the noise recording we recommend using the Chassis Ear Tool WT 10437 .

To record the noise and measure the frequency using WT 10437 Chassis Ear Tool follow these instructions;

Refer to 'File recording' in the WT 10437 user instructions.



Using the microphone provided in the kit, record the noise from outside of the vehicle.

If the noise is only replicable during a road test, the microphone still needs to be positioned outside of the cabin for the best results. The assistance of a second technician is required.



WARNING

Do NOT attempt to carry out the road test alone. The driver's concentration MUST be focused on the road at ALL times.



WARNING

Observe usual road safety procedures and speed limits.

Select 'FFT Graph' as Wave Form Type and read the peak achieved during the recording as highlighted in the example above (in this case brake squeal peak frequency is 2000Hz).

Save the file to your device.

The sound recording/video can also be taken from a mobile telephone as long as the noise is clearly identifiable.

If the noise cannot be reproduced a customer recording of the noise is also acceptable.

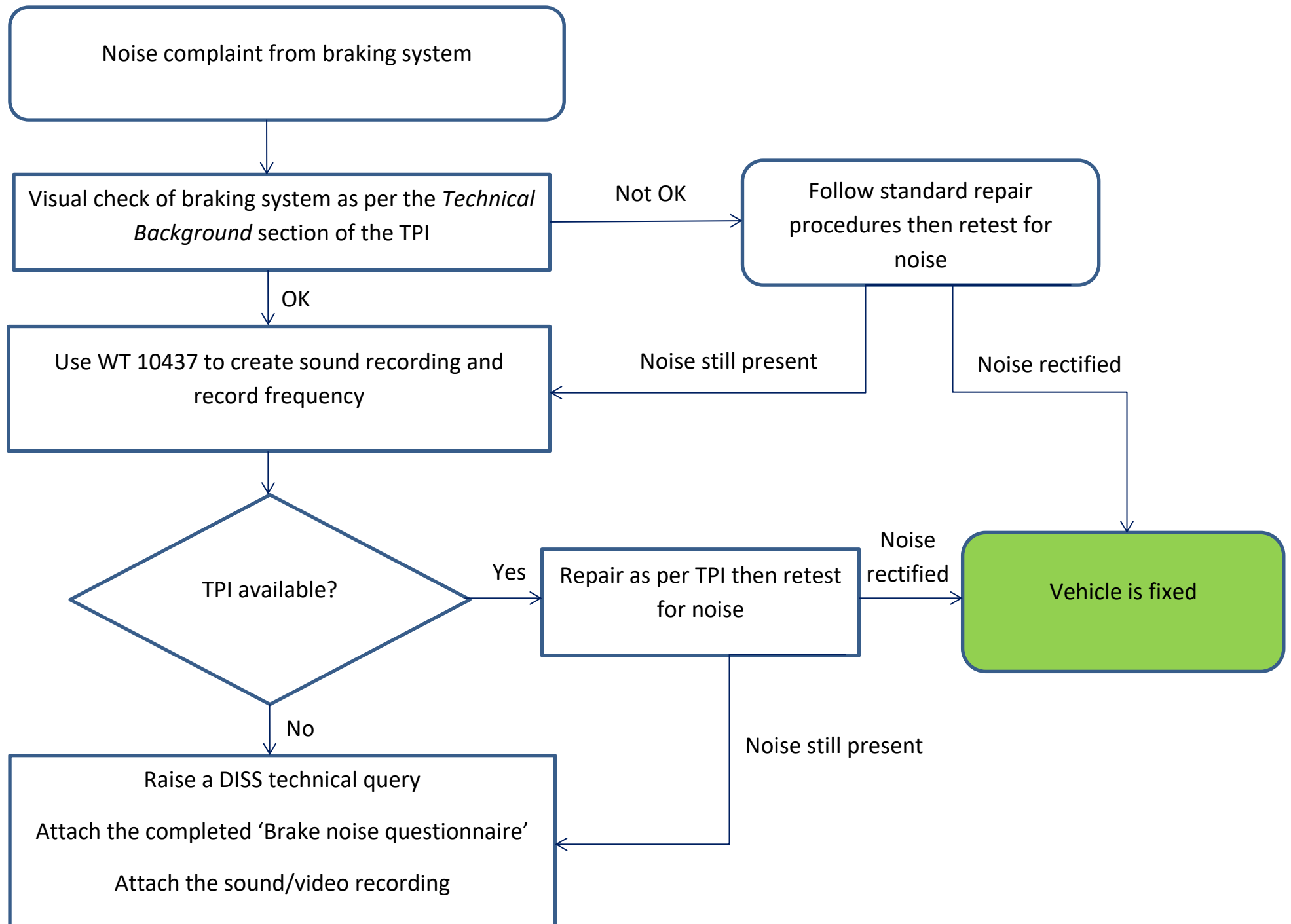
3. Check to see if a TPI is available that matches the customer complaint and recorded frequency. If there is an applicable TPI available, apply it and complete a DISS complaint to include 'Workshop findings' only (No repair query required).

Should there be no applicable TPI, proceed with point 4.

4. Raise a DISS technical query. Both the completed 'Brake noise questionnaire' and the sound/video recording must be attached.

Warranty accounting instructions

Warranty claims about noise complaints caused by the brake system are only possible with a completed 'Brake noise questionnaire' and an audio/video recording.



Brake noise questionnaire

Vehicle information:

VIN:	
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Road test:

carried out:	☐ yes	complaint confirmed:	☐ yes	☐ no
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Noise type: ☐ grinding ☐ squealing ☐ creaking ☐ rattle ☐ judder ☐ moaning ☐ clonk	When does the noise occur: ☐ forward ☐ always ☐ often ☐ rare ☐ very rare ☐ backwards ☐ slow down gently ☐ slow down hard ☐ emergency stop ☐ without brakes ☐ Hold (e.g. at traffic lights) ☐ Curve ☐ 0-30 k.p.h. ☐ 30-60 k.p.h. ☐ more than 60 k.p.h.
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Where does the noise occur: Front axle ☐ Rear axle ☐	Free Text: 	Brake temperature: ☐ cold ☐ hot
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Frequency: kHz	Noise recording or video must be attached to the DISS or sent to Product Support Inbox
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How long has the noise been occurring:	
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Noise occurs only once in the same direction (repeatable moving back and forth): yes ☐ no ☐

Does the noise only occur after the vehicle has been stood: yes ☐ no ☐	If answered yes, how long was the vehicle stood for?
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Does the noise still occur after the brakes are applied several times: yes ☐ no ☐

Road conditions when the noise occurs: Smooth surface ☐ Rough surface ☐ Cobblestone ☐
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Condition of the brake discs: Okay ☐ rusty ☐ hotspot ☐	Groove outside ☐ Cracks ☐	Groove inside ☐ tinged ☐	Sediments on the pad ☐
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Brake pad wear (visual check): Front % Rear %

Outside temperature: of 15 C° to 20 C°
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Weather: wet ☐ dry ☐ Snow ☐
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Customer Driving profile: ☐ short haul ☐ Long haul ☐ sporty ☐ normal ☐ driven daily ☐ not driven daily ☐ parked outside ☐ parked inside ☐ other: Further information: (if necessary)

Repeat repair: ☐ yes ☐ no

Previous repair information:
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