Technical product information

Topic	Running gear - Noise identification
Market area	Bentley: worldwide (2WBE),China 796 VW Import Comp. Ltd (Vico), Beijing (6796)
Brand	Bentley
Transaction No.	2074954/2
Level	EH
Status	Approval
Release date	

New customer code

Object of complaint	Complaint type	Position
running gear -> adaptive suspension, pitch and roll compensation	noise, vibration	
running gear -> steering system	noise, vibration	
running gear -> steering, power-assisted steering	noise, vibration	
running gear -> shock absorber/suspension control	noise, vibration	

Vehicle data

New Continental GT / C and New Flying Spur

Sales types

Type	MY	Brand	Designation	Engine code	Gearbox code	Final drive code
Z23*	2025	E		*	*	*
Z24*	2025	E		*	*	*
Z32*	2025	E		*	*	*

Documents

Document name
master.xml
runninggear1.docx
suspension.xlsx

Customer statement / workshop findings

Customer statement:

Noise complaint from the suspension and/or steering

Workshop findings:

The noise can be reproduced and clearly assigned to the suspension system from either of the axles

And/or

The noise can be reproduced and clearly assigned to the steering system

Prior to starting the instructions within this TPI, the Retailer must check and confirm the vehicle is in standard factory condition and has not had any non-approved aftermarket modifications conducted including the modification of the engine control modules (chip tuning) Check the history of the vehicle to confirm

Should any aftermarket modifications be found, the Retailer must make Product Support aware by raising a DISS query to report the details of the modification, you must then await feedback from Product Support before conducting any further work

Technical background

It is the retailers responsibility to check and confirm if any TPI's are applicable to the customers complaint/issue, should an applicable TPI be available, apply it and complete a DISS complaint to include 'Workshop findings' only (No repair query required)

For correct diagnosis and repair, the attached Flowchart must be followed in conjunction with the Measure section of this TPI

Production change

Not applicable

Measure

1) Carry out a visual inspection of the suspension and/or steering components to confirm if the noise can be attributed to a faulty component for example:

- Damage to the underside of the vehicle
- Accident damage
- Damaged or incorrect specification road wheels
- Worn/leaking suspension components and/or steering components
- Loose and/or damaged components

If the noise is **NOT** a result of one of the afore mentioned issues, carry out the remaining instructions from Step 2

2) In the event an impact noise is present for example clonking, clicking, ticking, and the operative CAN NOT locate the issue by conducting a visual inspection you must capture/record the noise.

- Should the noise be frequency related for example a constant drone or humming noise a frequency recording will be required
- Refer to the onward instructions depending on which type of noise is evident (Impact or frequency related)

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

Record the noise and measure the frequency using WT 10437 Chassis Ear Tool - Follow the instructions within this TPI in conjunction with the WT 10437 user instructions

3) Referring to Figure 1 - Using the sensor clamp/s (Point A) and Bluetooth module/s (Point B) provided in the kit - Record the noise

Figure 1

TIP: In order to locate the noise it could be necessary to use multiple clamp and module assemblies, the operative must refer to the appropriate user instructions

NOTE: If the noise is only evident during a road test, the clamp and module assembly must be positioned outside of the cabin for the best results, please be aware that recordings from outside of the vehicle may not help identify the issue at higher speeds or noisy geographical locations, therefore a recording from inside the cabin will also be required

WARNING

IMPORTANT: The driver's concentration MUST be focused on the road at ALL times the assistance of a second technician is required

WARNING

Observe all road safety procedures and speed limits.

TIP: To capture the frequency - Select 'FFT Graph' as Wave Form Type (Figure 2) and read the peak achieved during the recording as highlighted in Figure 2 (in this EXAMPLE the frequency is 2000Hz)

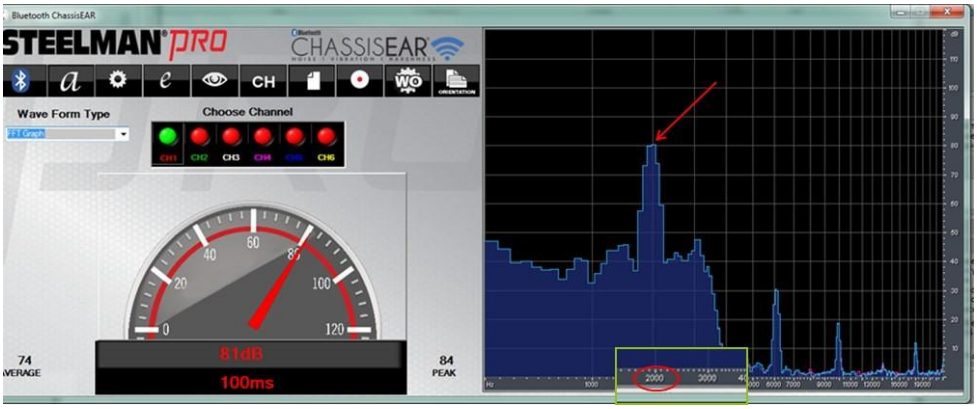


Figure 2

4) Once recorded - Save the file to your device

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

Additional 'contextual' video/audio recordings from a customer perspective should also be used

Should there be no applicable TPI's, and you are not able to identify the source of the noise by using WT 10437, proceed to Step 5

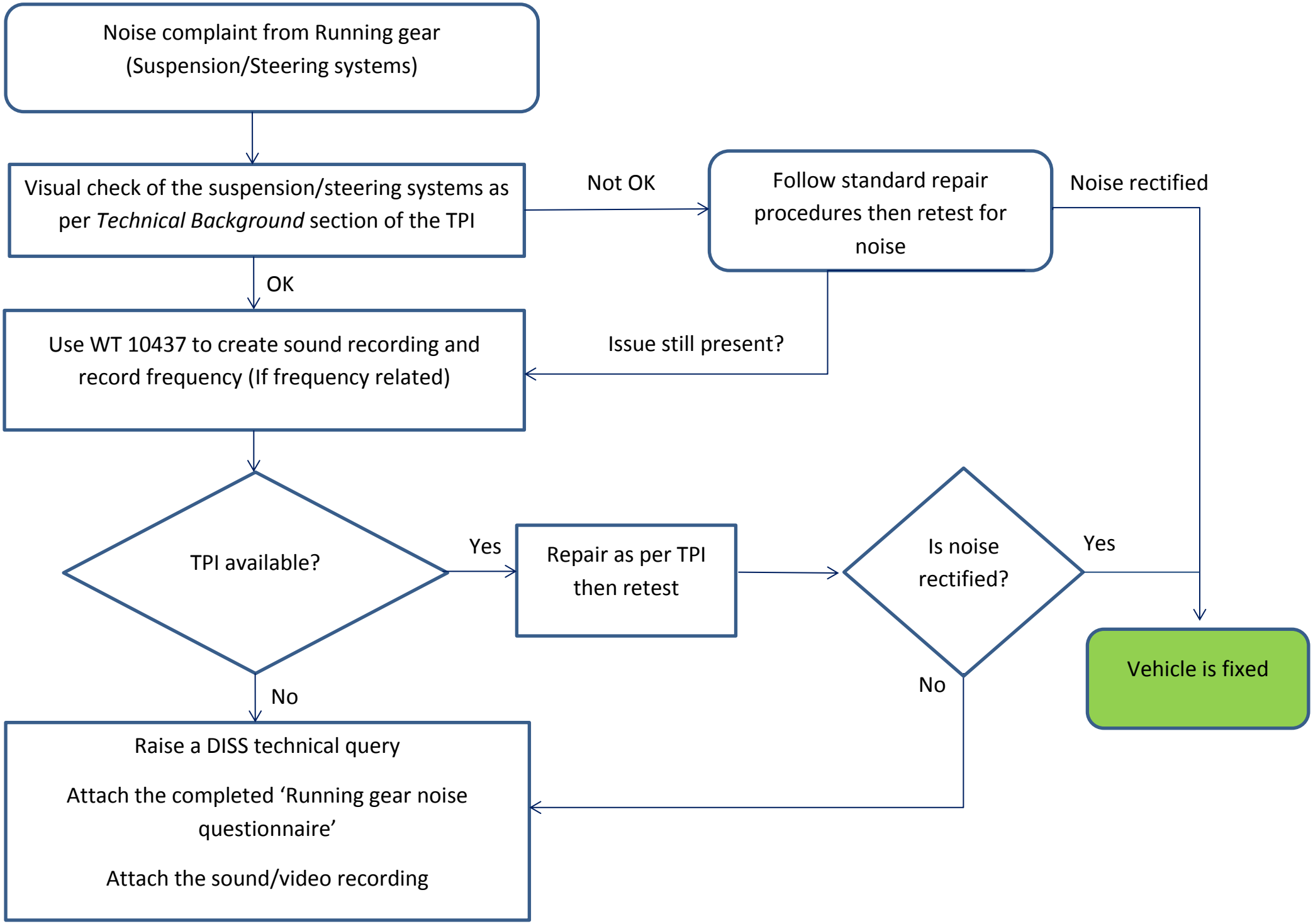
5) Raise a DISS technical query - The running gear questionnaire (attached Excel spreadsheet) and the sound/video recording must be attached to the open DISS query IMPORTANT: The following detail MUST also be included:

- Vehicle speed
- With or without steering lock applied (please confirm)
- Ambient conditions
- Engine coolant temperature when issue is evident
- What does the driver/customer do to induce the problem?
- Any reported disassembly and/or issues of the rear axle area

VERY IMPORTANT: NOISE RELATED DISS QUERIES SHOULD NOT BE SUBMITTED WITHOUT AT LEAST TWO ATTACHMENTS (QUESTIONAIRE AND SOUND RECORDING), SHOULD THE REQUIRED INFORMATION NOT BE INCLUDED, THE QUERY WILL BE RETURNED TO THE RETAILER

Warranty accounting instructions

Warranty claims about noise complaints suspension and/or steering system are only possible with a completed running gear questionnaire, an audio/video recording and an eligible DISS query


Noise complaint from Running gear (Suspension/Steering systems)
Visual check of the suspension/steering systems as per *Technical Background* section of the TPI
Not OK
Follow standard repair procedures then retest for noise
Noise rectified
OK
Use WT 10437 to create sound recording and record frequency (If frequency related)
Issue still present?
TPI available?
Yes
Repair as per TPI then retest
Is noise rectified?
Yes
Vehicle is fixed
No
No
Raise a DISS technical query
Attach the completed 'Running gear noise questionnaire'
Attach the sound/video recording

Questionaire Suspension system - NVH complaint

Vehicle information:

VIN:

Road test:

carried out: ☐ yes

Complaint understandable: ☐ yes ☐ no

Noise type:

☐ grinding ☐ judder ☐ chattering ☐ hissing
☐ squealing ☐ moaning ☐ chirping ☐ knocking
☐ creaking ☐ clonk ☐ clicking ☐ popping
☐ rattle ☐ humming ☐ crunching ☐ roaring
☐ banging ☐ dronning ☐ groaning ☐ ticking
☐ buzzing ☐ whirring ☐ gurgling ☐ whistling

When does the noise occur:

☐ forward
☐ with steering input ☐ without steering input ☐ brake applied
☐ backwards
☐ with steering input ☐ without steering input ☐ brake applied
☐ static with steering input ☐ straight line ☐ curve
☐ Right
☐ Left

☐ always ☐ often ☐ rare
☐ uneven road ☐ pot holes ☐ speed bump ☐ Highway
☐ 0-30 mph ☐ 30-60 mph ☐ over 60 mph ☐ speed not dependent

Where does the noise occur:

Front axle ☐ Rear axle ☐ RH ☐ LH ☐

Description:

Frequency:

☐ kHz

Noise occurs only once on the same direction (repeatable moving back and forth):

yes ☐ no ☐

☐ ☐

State of suspension components: bush/ball joints/mounts:

Okay ☐ damaged ☐ leaking ☐ wear ☐ ree play ☐ Cracks ☐

Vehicle Temperature

☐ cold ☐ warm

Outside temperature:

15 C° to 20 C°

Weather: wet ☐ dry ☐ snow ☐

Humidity ☐ High ☐ Low

Customer Driving profile:

☐ Long haul ☐ short haul ☐ sporty ☐ normal

Further information:
(if necessary)

Previous Attempted Repairs (DISS if available):

Comparable Vehicle tested on same conditions:

VIN:

yes ☐ no ☐

Comments

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