

## Technical product information

<b>Topic</b>	Poor Engine Running Complaints (Misfires) Petrol Engines Only
<b>Market area</b>	Bentley: worldwide (2WBE),Hongkong-Macau (5HK)
<b>Brand</b>	Bentley
<b>Transaction No.</b>	20511877
<b>Level</b>	EH
<b>Status</b>	Approval
<b>Release date</b>	

### New customer code

Object of complaint	Complaint type	Position
engine -> engine operation -> power development -> throttle response	functionality -> misfire	

### New workshop code

Object of complaint	Complaint type	Position
engine -> operation, engine control -> engine control unit	functionality -> misfire	

## Vehicle data

### All Petrol Engine Variants

#### Sales types

Type	MY	Brand	Designation	Engine code	Gearbox code	Final drive code
****	2000	E		*	*	*
****	2001	E		*	*	*
****	2002	E		*	*	*
****	2003	E		*	*	*
****	2004	E		*	*	*
****	2005	E		*	*	*
****	2006	E		*	*	*
****	2007	E		*	*	*
****	2008	E		*	*	*
****	2009	E		*	*	*
****	2010	E		*	*	*
****	2011	E		*	*	*
****	2012	E		*	*	*
****	2013	E		*	*	*
****	2014	E		*	*	*
****	2015	E		*	*	*
****	2016	E		*	*	*
****	2017	E		*	*	*
****	2018	E		*	*	*
****	2019	E		*	*	*
****	2020	E		*	*	*
****	2021	E		*	*	*
****	2022	E		*	*	*
****	2023	E		*	*	*

## Documents

<b>Document name</b>
master.xml

## Customer statement / workshop findings

Poor engine running, reduced power, engine warning lamp illuminated.

## Technical background

Technical Product Information (TPI) to assist Retailers when diagnosing poor engine running or misfires.

VERY IMPORTANT: In the event the misfires are multiple random misfires which are found during PDI with the following symptoms:

Multiple random cylinder misfire DTC's evident found during PDI with DTC P030000: Random/Multiple Cylinder Misfire Detected (misfires on multiple cylinders) within the following control units

- V8 - ECM 1 V8 (Address 01) ECM control unit
- W12 - ECM 1 (Address 01) and/or ECM 2 (Address 11)

The operative must first refer to TPI 2068273/- before conducting any other diagnosis or repair work

## Production change

Not Applicable.

## Measure

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The following instructions should be carried out sequentially to ensure the root cause and analysis of the concern are identified without unnecessary work or repetitive actions taking place.

## Section 1 – Vehicle History and Current Status

If possible ask the customer for a precise description of the concern, noting when the concern occurs and if any particular conditions have a direct influence on the engine running or misfire, for example, "*The concern only occurs with a low fuel level within the fuel tank*" or, "*Occurs only under hard acceleration*". Ask the customer if the vehicle has been modified in any way.

Ensure the customer is using the correct minimum fuel octane rating (refer to fuel filler flap label for minimum grade in your region). Check the customer is using the correct engine lubrication oil type if and when topping up, and if advised on the service schedule is using G17 fuel additive.

Check the vehicle service history, pay particular attention to recent work that may potentially cause poor engine running or a misfire.

Conduct a vehicle diagnostic check, note all Diagnostic Trouble Codes (DTC) present.

Check if the vehicle is currently exhibiting the reported concern, a road test may be required to confirm. If a misfire or poor engine running is evident DO NOT test drive the vehicle.

Please record as much information as possible including the driving style and environmental conditions up to and at the time of the failure, this may be required if a DISS query is raised.

If no relevant fault codes are stored and poor engine running or a misfire is not present ask the Customer to demonstrate the concern, if the concern cannot be replicated do not continue with this TPI, explain to the customer that since the concern is not present and fault codes are not stored it is not possible to carry out any diagnosis or repair.

If fault codes are stored but poor engine running or misfire is not present continue to section 2 only, ask the Customer to demonstrate the concern. If the concern cannot be recreated and no issue is detected during the visual check or road test do not continue with this TPI, explain to the customer that since the concern is not present it is not possible to carry out any diagnosis or repair, explain what analysis has actually been carried out.

If the Customer complains for a second separate instance of poor engine running or misfire and a relevant fault code is present but the vehicle does not have poor engine running or misfire continue to work through this document, during *Section 3 - Analysis / Component Substitution* it is only possible to conduct a visual inspection of any removed component, it would not be advisable to exchange components unless poor running or a misfire is actually present.

## Section 2 – Initial Visual Checks

Complete a “*Battery Condition Check*” Refer to Rep.Gr 27

Conduct a visual check within the engine bay, engine covers should be removed to allow a thorough inspection. If visible, pay particular attention to the condition of Ignition Coils, Fuel Injectors, Electrical Connectors and Wiring loom condition, do not remove any additional parts at this stage unless an issue is observed and further analysis is required.

Check vehicle fluid levels, including - fuel, engine lubricating oil, engine coolant, look for signs of contamination or leaks.

Any observations that may be the cause of poor engine running / misfire should be investigated and corrected at this point.

## Section 3 – Analysis / Component Substitution

Considering the information gathered within sections 1 and 2, carry out a controlled component substitution for any specific cylinders that exhibit a concern, for example - if there is a fault code for cylinder five misfire exchange cylinder five Ignition coil with an ignition coil from another cylinder, check to see if the fault moves with the ignition coil. It is recommended to move only one component at any one time usually starting with the easiest component to change, for example move ignition coil first, then sparking plug and finally fuel injectors.

If components are removed and show signs of significant carbon deposit or oil contamination please continue to section 4 – figure 1.



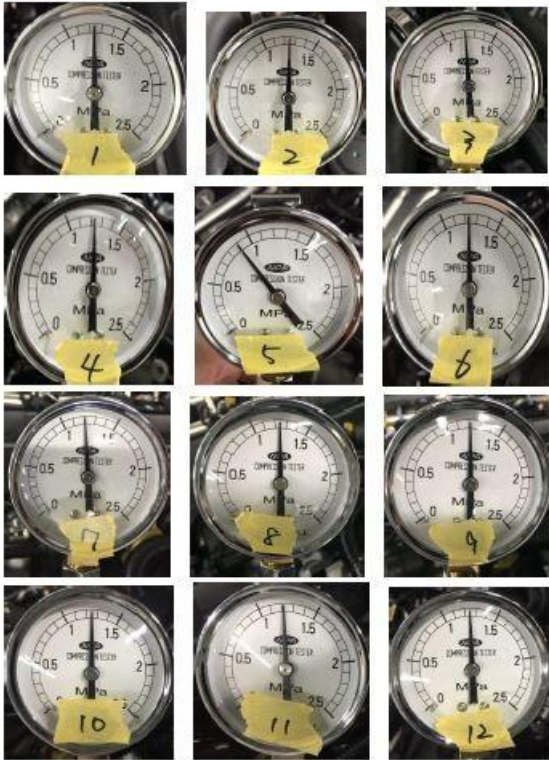
Figure 1

## Section 4 – Raise a DISS Query

After completing sections 1, 2 and 3 if the root cause of the poor engine running / misfire has not been identified continue to raise a DISS query.

Images accompanying a DISS query must be of a quality shown in the following examples





## Warranty accounting instructions

Warranty type - 110 or 910

Damage service numbers

- Injectors: 2440
- Ignition Coils: 2820
- Spark Plugs: 28

70 Damage code

00 55

Labour Operation times

Section 1 – Vehicle history and current status

06 89 00 00 – Review History (Vehicle preparation) – 20 TU

01 29 00 03 – Self-diagnosis – 30 TU

01 21 00 00 – Test Drive – 50 TU

Section 2 – Initial visual checks

27 06 01 00 – Battery Health Check – 10 TU

Section 3 – Analysis / component substitution

W12 Engine Derivative

12 off fuel injectors removed and refit

Low pressure:

24 41 19 00: Fuel rail remove + reinstall - 170 TU

24 40 20 50: Injectors remove + reinstall 12 off - 50 TU

High pressure:

24 41 19 03: Fuel rail remove + reinstall - 340 TU

24 40 20 53: Injectors remove + reinstall 12 off - 60 TU

Fuel injectors removed and refit

Low pressure:

24 41 19 00: Fuel rail remove + reinstall 170 TU

24 40 19 50: Injector remove + reinstall 1 off - 10 TU (low pressure)

High pressure:

24 41 19 03: Fuel rail remove + reinstall 340 TU (high pressure)

24 40 19 53: Injector remove + reinstall 1 off - 10 TU (high pressure)

Sparking plugs removed and refit

28 70 20 00: Sparking plugs remove + reinstall 12 off - 180 TU (Bank 1+2)

28 70 19 00: Sparking plug remove + reinstall 1 off - 70 TU (Bank 1)

28 70 19 01: Sparking plug remove + reinstall 1 off - 50 TU (Bank 2)

Ignition coils removed and refit

28 20 20 00: Ignition coils remove + reinstall 12 off - 130 TU (Bank 1+2)

28 20 19 00: Ignition coil remove + reinstall 1 off - 60 TU (Bank 1)

28 20 19 01: Ignition coil remove + reinstall 1 off - 40 TU (Bank 2)

## V8 Engine Derivative

### 4.0 Litre V8

Fuel injectors removed and refit – 8 off

24 40 20 70: Injectors remove + reinstall 8 off - 120 TU (Bank 1+2)

24 41 19 21: Fuel rail remove + reinstall 180 TU (Bank 2)

24 41 19 22: Fuel rail remove + reinstall 1170 TU (Bank 1)

Fuel injectors removed and refit – 4 off

24 41 19 22: Fuel rail remove + reinstall 1170 TU (Bank 1)

24 40 20 72: Injectors remove + reinstall 4 off - 60 TU (Bank 1)

Or

24 41 19 21: Fuel rail remove + reinstall 180 TU (Bank 2)

24 40 20 71: Injectors remove + reinstall 4 off - 60 TU (Bank 2)

Sparking plugs removed and refit

28 70 20 20: Sparking plugs remove + reinstall 8 off - 230 TU (Bank 1+2)

28 70 20 22: Sparking plugs remove + reinstall 4 off - 120 TU (Bank 1)

28 70 20 21: Sparking plugs remove + reinstall 4 off - 140 TU (Bank 2)

Ignition coils removed and refit

28 20 20 20: Ignition coils remove + reinstall 8 off - 200 TU (Bank 1+2)

28 20 20 22: Ignition coils remove + reinstall 4 off - 110 TU (Bank 1)

28 20 20 21: Ignition coils remove + reinstall 4 off - 130 TU (Bank 2)

## 6.75 Litre V8

Fuel injectors removed and refit – 8 off

24402000: Injectors remove + reinstall 8 off - 410 TU (Bank 1+2)

Fuel injectors removed and refitted - 4 off

24 40 20 01: 4 Injectors remove + reinstall 270 TU (Bank 2)

24 40 20 02: 4 Injectors remove + reinstall 230 TU (Bank 1)

Sparking plugs removed and refitted - 8 off

28 70 20 00: 8 Sparking plugs remove + reinstall 160 TU (Bank 1+2)

Ignition coils removed and refitted – 8 off

28 20 20 20: 8 Ignition coils - remove + reinstall 150 TU (Bank 1+2)

## V6 Engine Derivative

Fuel injectors removed and refit – 6 off

24 41 20 30: Fuel rail remove + reinstall 250 TU (Bank 1+2)

24 40 20 80: Injectors remove + reinstall 6 off - 50 TU (Bank 1+2)

Fuel injectors removed and refit – 3 off

24 41 19 32: Fuel rail remove + reinstall 140 TU (Bank 1)

24402082: Injectors remove + reinstall 3 off - 30 TU (Bank 1)

Or

24 41 19 31: Fuel rail remove + reinstall 140 TU (Bank 2)

24402081: Injectors remove + reinstall 3 off - 30 TU (Bank 2)

Sparking plugs removed and refit

28 70 20 30: Sparking plugs remove + reinstall 6 off - 170 TU (Bank 1+2)

28 70 20 32: Sparking plugs remove + reinstall 3 off - 100 TU (Bank 1)

28 70 20 31: Sparking plugs remove + reinstall 3 off - 110 TU (Bank 2)

Ignition coils removed and refit

28 20 20 30: Ignition coils remove + reinstall 6 off - 150 TU (Bank 1+2)

28 20 20 32: Ignition coils remove + reinstall 3 off - 90 TU (Bank 1)

28 20 20 31: Ignition coils remove + reinstall 3 off - 110 TU (Bank 2)