⚠ Connection offline

Field campaign

Topic	RE13/14 Carbon ceramic brakes Continental family
Market area	Worldwide Bentley (1WBE)
Brand	Bentley
Transaction No.	2030329/1
Campaign number	R790
Note	
Type	Recall campaign
US code	

Vehicle data

Continental vehicles equipped with carbon ceramic brakes

Sales types

Type	MY	Brand	Designation	Engine code	Gearbox code	Final drive code
3W2*	2009	E		*	*	*
3W2*	2010	E		*	*	*
3W3*	2007	E		*	*	*
3W3*	2008	E		*	*	*
3W3*	2009	E		*	*	*
3W3*	2010	E		*	*	*
3W3*	2011	E		*	*	*
3W4*	2009	E		*	*	*
3W4*	2010	E		*	*	*
3W7*	2011	E		*	*	*
3W8*	2010	E		*	*	*
3W8*	2011	E		*	*	*

Chassis numbers

Manufacturer	Filler	Type	Filler	MY	Factory	From	To	Prod from	Prod to
SCB	***	**	*	*	*	[redacted]			

Documents

Document name
master.xml
master.doc

⚠ Connection offline

Recall campaign R790 Transaction No.: **2030329/1**

RE13/14 Carbon ceramic brakes Continental family

Notes

Repair instructions

Technical background

On the rear axle of vehicles fitted with carbon ceramic (CSiC) brakes, the stainless steel screws fixing the rotor to the metal bell may fail due to stress corrosion cracking if the vehicle has been used in extreme salt environments.

There are two section to this technical bulletin (A and B) please complete both stages

Remedy

On the affected vehicles, the fasteners securing the ceramic brake discs must be replaced with new fasteners in accordance with the Repair Instructions. The new fasteners utilise a material tolerant in this application.

Please make sure that all the specific Bentley motor cars detailed above fitted with ceramic brakes are brought up to this standard of quality.

Customer notification

The keepers of the affected vehicles will be notified in writing.

Please observe the information of the importer.

Make sure all affected vehicles are checked and repaired as part of the workshop visit.

If the campaign was not performed during a workshop visit, inform the customer straight away about the campaign. Use the sample letter from the campaign description.

Please also inform your new and used car department, so that these vehicles can be checked and if necessary repaired straight away and not only before sale.

Warranty accounting instructions

To **visual check only**

Warranty Type	710 or 790
Labour Operation Code	01 29 00 00
Damage Service Number	R790
Damage Code	00 99
Time	20TU
Criteria ID	01

To check the brake discs **rear and** replace the bolts

Warranty Type	710 or 790
Labour Operation Code	46 53 50 00
Damage Service Number	R790
Damage Code	00 99
Time	150 TU
Criteria ID	01

To check the brake discs **front and** replace the bolts

Warranty Type	710 or 790

Labour Operation Code 46 50 50 00

Damage Service Number E791

Damage Code 00 66

Time 150 TU

Criteria ID 01

Warranty instructions (additional note): As the Recall (R790) requires the checking of the rear discs, the opportunity has arisen to check the vehicles front discs also.

Should the front discs have the old bolts fitted, then raise a new, separate claim with the service number E791.

Genuine parts

Continental Flying Spur Speed

Quantity	Designation	Part No.	Remarks
20	Parts kit, fasteners	4F0 698 998 D	Front axle
4	Bolt with washer M14x38	N 908 768 01	
20	Parts kit, fasteners	4F0 698 998 A	Rear axle
4	Ribbed bolt M12x75	N 909 611 02	

GT Diamond Series

Quantity	Designation	Part No.	Remarks
20	Parts kit, fasteners	4F0 698 998 D	Front axle
4	Hexagon bolt M14x35	N 105 029 01	
20	Parts kit, fasteners	4F0 698 998 A	Rear axle
4	Socket head bolt M12x75	N 909 611 02	

GT 560. GT Speed. GT Speed Series 51. GTC Speed

Quantity	Designation	Part No.	Remarks
20	Parts kit, fasteners	4F0 698 998 D	Front axle
4	Hexagon bolt M14x38	N 908 768 01	
20	Parts kit, fasteners	4F0 698 998 A	Rear axle
4	Socket head bolt M12x75	N 909 611 02	

GT Supersports and GT Supersports Convertible

Quantity	Designation	Part No.	Remarks
20	Parts kit, fasteners	4F0 698 998 D	Front axle
4	Hexagon bolt M14x38	N 908 768 01	
20	Parts kit, fasteners	4F0 698 998 A	Rear axle

4	Socket head bolt M12x75	N 909 611 03	

Parts supply

The required replacement parts should be ordered from Bentley Motors Limited Crewe or through your regional Bentley parts distribution centre.

Parts despatch control

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Questions and answers

Q1. What exactly is the problem?

On the rear axle of vehicles fitted with carbon ceramic (CSiC) brakes, the stainless steel screws fixing the rotor to the metal bell may fail due to stress corrosion cracking if the vehicle has been used in extreme salt environments.

The customer will experience a noise when a screw fails and the brake continues to be 100% effective. However, if the affected disc was to lose 8 of the 10 screws there would be a loss of braking at the rear wheel. Bentley is not aware of any vehicle losing greater than 3 screws.

Q2. Which vehicles are affected by the fault?

Continental GT / GTC / Flying Spur vehicles fitted with CSiC brakes before June 2010.

Q3. What is the effect of this condition?

The loss of a single screw will not have any adverse impact on the braking performance of the vehicle. The system can continue to operate correctly with up to 8 out of the 10 screws missing. There have been no reports of any vehicles losing more than 3 screws

Q4. How long does it take for the issue to be detected

This is dependent on the level of exposure the vehicle has to road salt (or sea salt). Vehicles exposed to no or low levels of salts will not fail

Q5. What do you intend to do about this?

The affected vehicle will have the existing stainless steel screws replaced with new titanium screws that are not susceptible to stress corrosion cracking

As the design of the front joint is substantially different to the rear no problem with stress corrosion cracking exists. However, Bentley has decided to change the front disc screws to titanium to ensure commonality across the vehicle

Q6. Can I use the vehicle before the recall has been conducted?

If no screws are missing the vehicle can continue to be used. The presence of the screws can easily be checked by looking through the spokes of the wheel to the brake disc. However, an appointment with a Bentley dealer should be made immediately.

Q7. How long will it take to change all the screws?

Approximately 3 hours. Each disc has 10 affected joints, and each individual joint is made up of a large number of parts (including the screw). Each joint must be carefully disassembled and re-assembled

Q8. Have there been any incidents or accidents as a result of this issue

No, there have been no incidents of loss of brake performance

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Repair instructions

Notes

Technical background

On the rear axle of vehicles fitted with carbon ceramic (CSiC) brakes, the stainless steel screws fixing the rotor to the

metal bell may fail due to stress corrosion cracking if the vehicle has been used in extreme salt environments.

There are two section to this technical bulletin (A and B) please complete both stages

Check

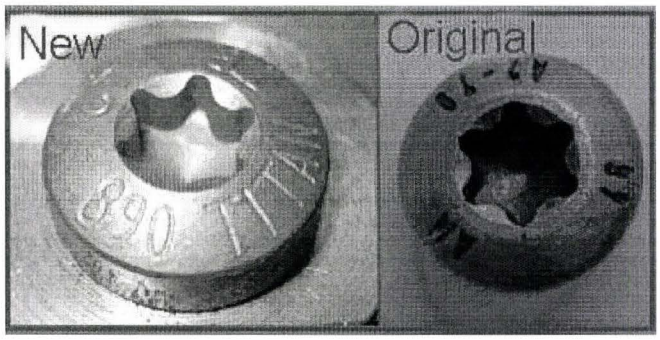
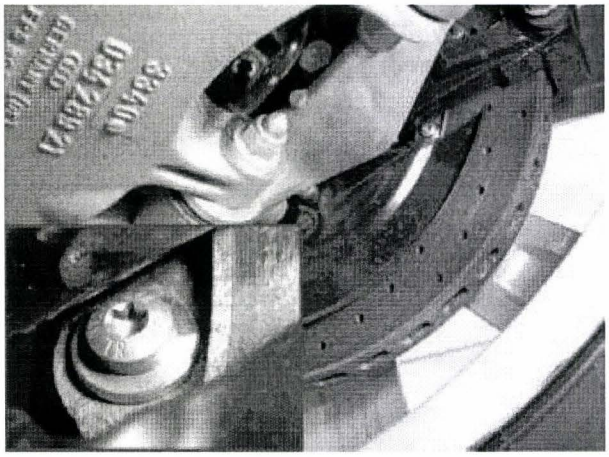
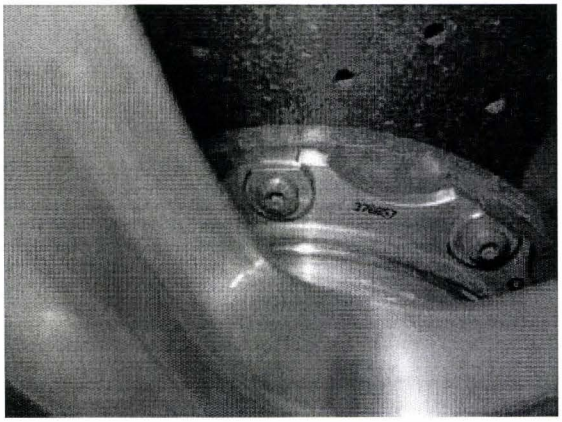


Figure 1

1. If the vehicle is not already listed as repaired in the "Repair history" (in ElsaPro), check the disc retaining bolts on the vehicle. If the brake discs are already secured with bolts identified as "New" in figure 1 then this document is not applicable. If any disc securing bolts are identified as "Original" as shown in figure 1 then carry out the required work in accordance with these instructions. Note: Due to previous service work it is feasible that a car may have one disc secured with "Original" bolts and another disc secured with the "New" bolts in this instance only replace the bolts where the old "Original" bolt is present.



Rear



Front

The rear disc retaining bolt can be viewed from inside the wheel. The front is checked through the wheel spokes

Genuine parts

Continental Flying Spur Speed

Quantity	Designation	Part No.	Remarks
20	Parts kit, fasteners	4F0 698 998 D	Front axle
4	Bolt with washer M14x38	N 908 768 01	
20	Parts kit, fasteners	4F0 698 998 A	Rear axle
4	Ribbed bolt M12x75	N 909 611 02	

GT Diamond Series

Quantity	Designation	Part No.	Remarks
20	Parts kit, fasteners	4F0 698 998 D	Front axle
4	Hexagon bolt M14x35	N 105 029 01	
20	Parts kit, fasteners	4F0 698 998 A	Rear axle
4	Socket head bolt M12x75	N 909 611 02	

GT 560. GT Speed. GT Speed Series 51. GTC Speed

Quantity	Designation	Part No.	Remarks
20	Parts kit, fasteners	4F0 698 998 D	Front axle
4	Hexagon bolt M14x38	N 908 768 01	
20	Parts kit, fasteners	4F0 698 998 A	Rear axle
4	Socket head bolt M12x75	N 909 611 02	

GT Supersports and GT Supersports Convertible

Quantity	Designation	Part No.	Remarks
20	Parts kit, fasteners	4F0 698 998 D	Front axle
4	Hexagon bolt M14x38	N 908 768 01	
20	Parts kit, fasteners	4F0 698 998 A	Rear axle
4	Socket head bolt M12x75	N 909 611 03	

Tools

Special tools

Used in conjunction with a bench vice to support the brake disc whilst replacing the fasteners

Continental family

Special tool description	Part number	Quantity per dealer (larger

		dealers may require additional sets)
Hub and bearing assembly	3W0407613E	1
Bolt M14 x 85	3W0499337	1
Bolt M14 x 35	N10502902	2

Work

Checking ceramic brake disc for damage

Check the ceramic disc brakes by visual inspection (normal service procedure when brake discs are removed).

Note: Any consideration for warranty reimbursement in respect to brake discs or brake pads changed during this procedures must be discussed with your TSC. In each instance a DISS BAID entry will be required to support your request, photographs should be attached to support the decision

- Remove and inspect the ceramic brake discs.

=> Workshop Manual, Brake system; Rep. Gr. 46

Caution!

The Carbon ceramic discs are more susceptible to damage than conventional cast iron discs. They can be easily chipped and cracked. Always use the wheel removal/refit pins-WT10149- to prevent the wheel dropping onto the edge of the disc during wheel removal.

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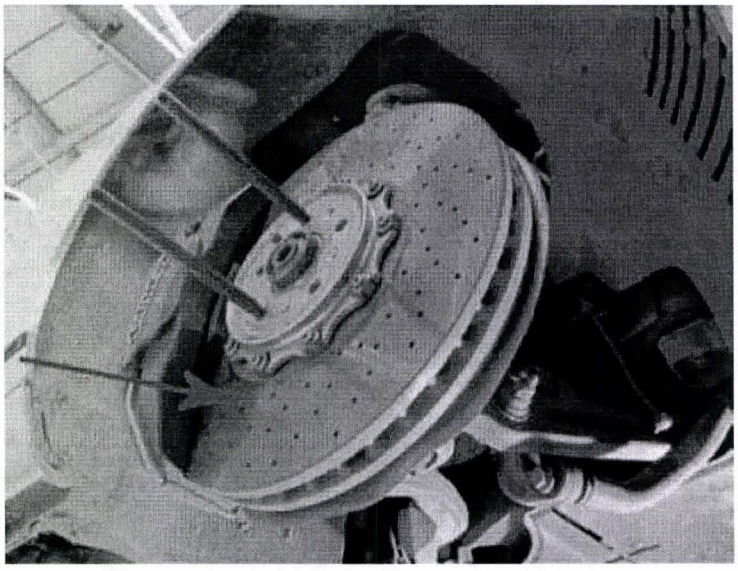
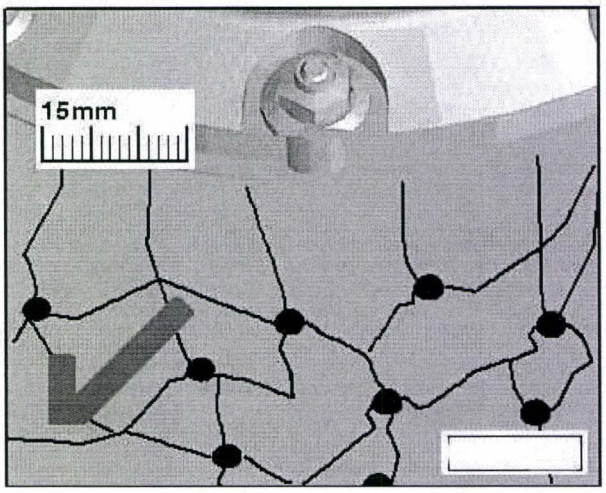
Due to the production process, relaxation cracks already exist on the friction surface of the brake disc when it is new. These cracks can vary in size and can occur on both sides of the disc.

Relaxation cracks on a ceramic brake disc do not constitute a technical problem.

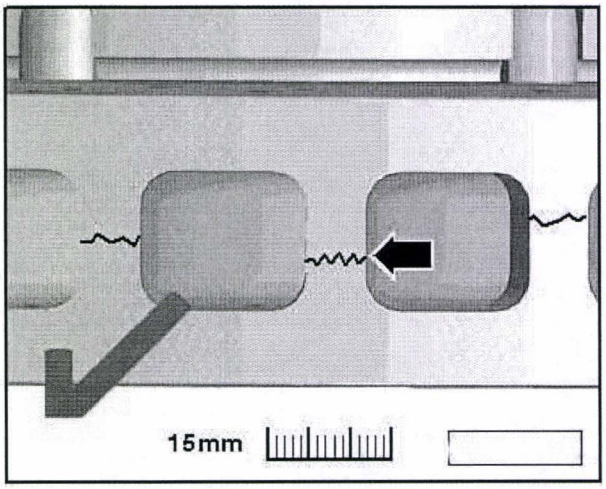
Outside surface of brake disc:





Example on outside:

Cracks in the cooling channel lands -arrow- are caused during manufacture.



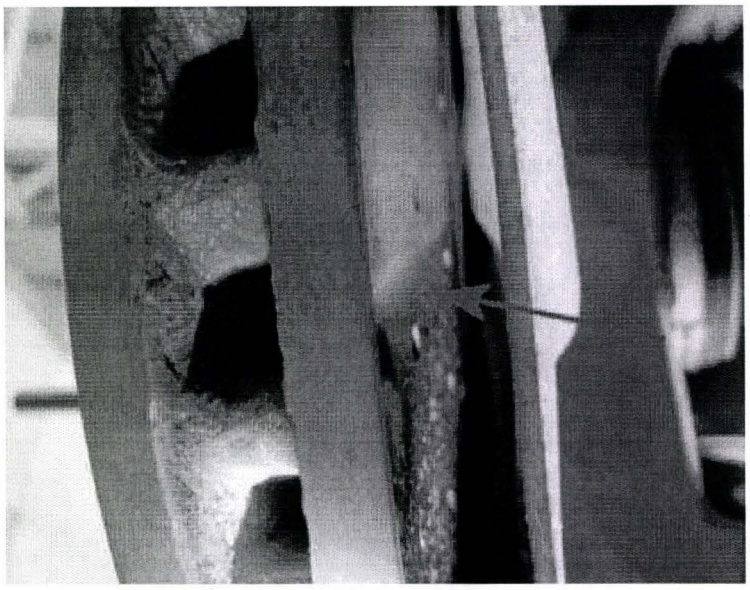
Cracks in the cooling channel lands do not constitute a technical problem.

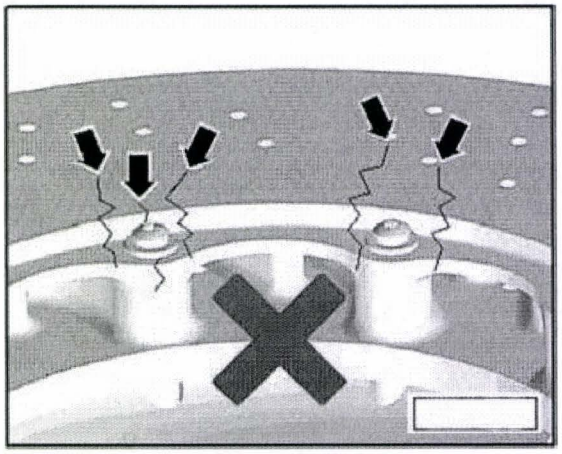
If you find any of the following conditions during the inspection, please observe the mandatory reporting requirement before repairing.

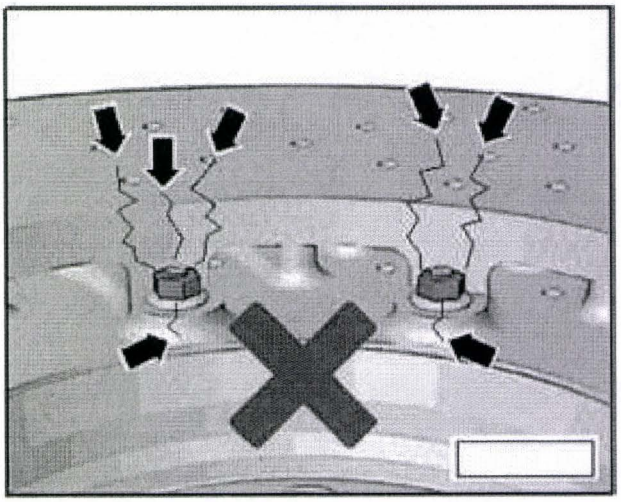
Ceramic brake discs must be replaced if there are cracks in the vicinity of the bolted connection on the **inside** of the brake disc hub extending into the friction surface of the disc - arrows-.

Ceramic brake discs must be replaced if there are radial cracks in the area of the bolted connection on the brake disc hub.

Inside surface of brake disc:







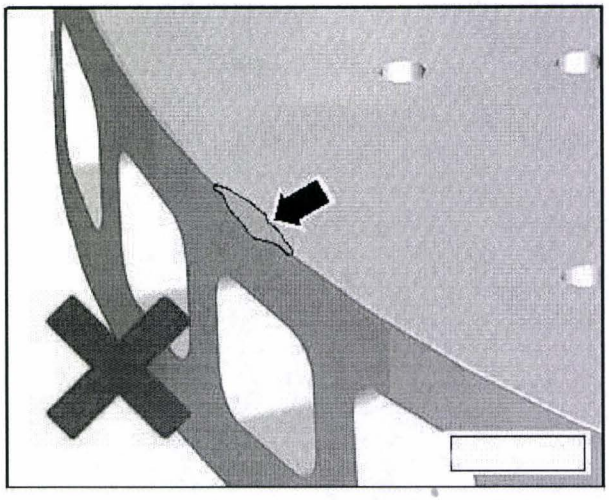
Edge fractures - arrow- are caused by mechanical

damage to the edges of the disc.

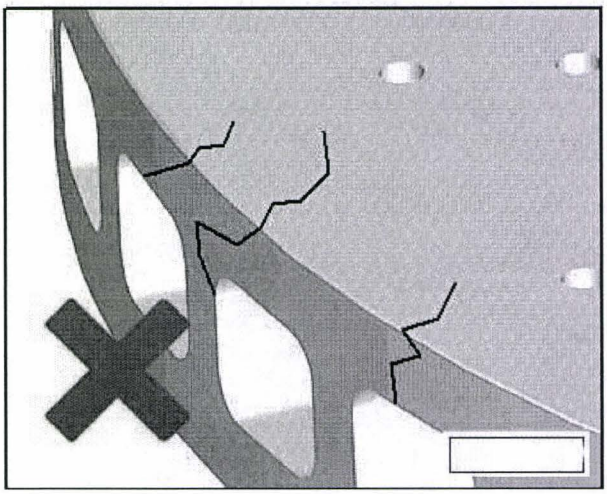
Permissible damage:

- Max. width / depth = 2 mm
- Max. length = 10 mm
- Max. 3 edge fractures per brake disc

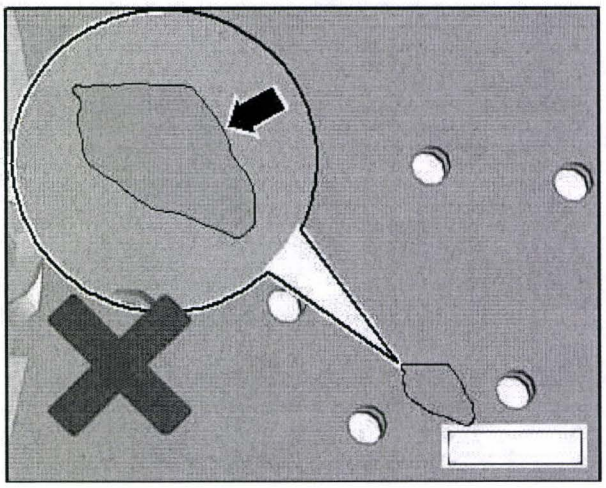
If any of the criteria listed above are exceeded, the brake disc must be replaced.



Ceramic brake discs with cracking extending from the friction surface of the disc to the cooling channel or through the cooling channel must be replaced.



Ceramic brake discs with chipping larger than 1 cm^2 at any one point -arrow- on the friction surface must be replaced.

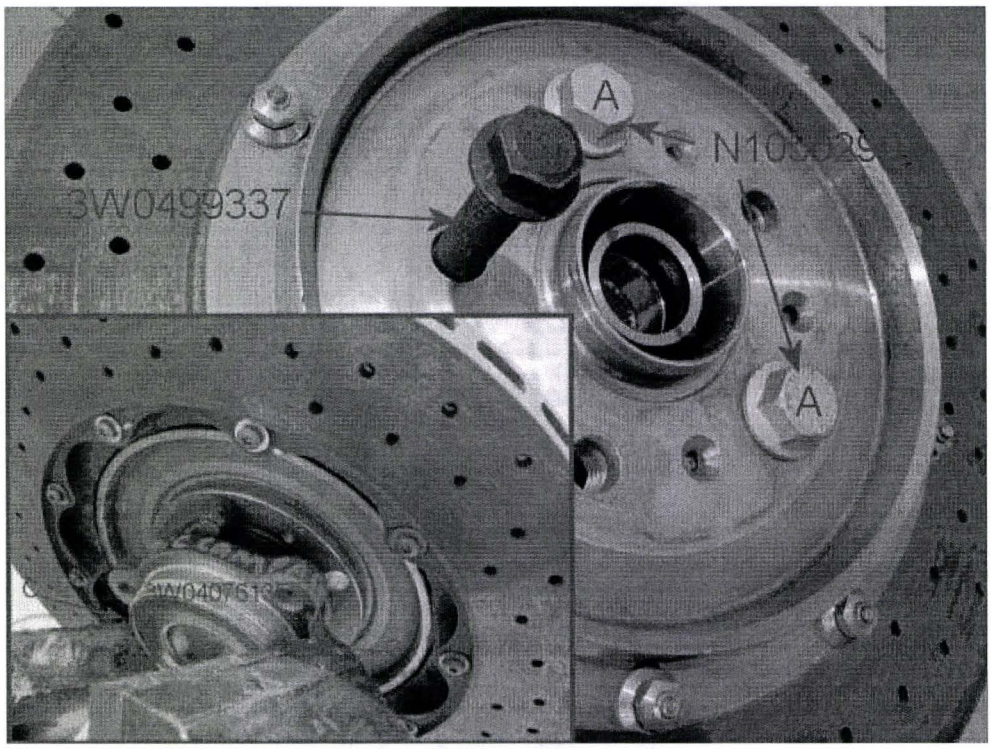


Replacing fasteners on brake discs that pass the above inspection

- After

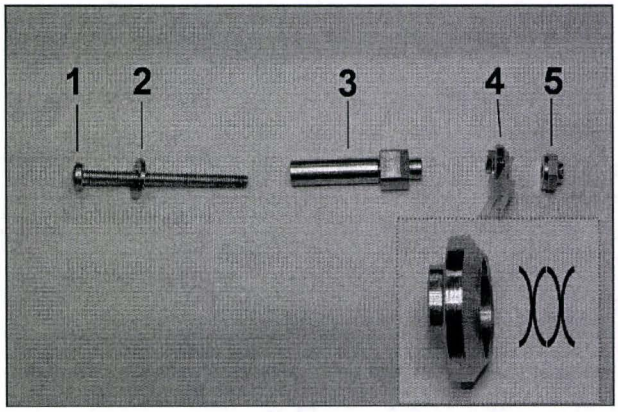
removal and inspection, attach the ceramic brake disc to the Continental hub (special tool).

It is recommended to produce flats (C) on the special tool hub to improve stability in the vice jaws.



Secure the special tool hub in a vice. Mount the disc onto the hub using bolts (A) and lock the hub with bolt (B) to enable the controlled tightening of the new fasteners

Section A - Rear axle – This joint is the subject of the recall



1 - Bolt

2 - Washer

3 - Sleeve

4 - Retaining washer with dished pressure springs (held together with cable tie)

Do not open cable tie until parts have been fitted.

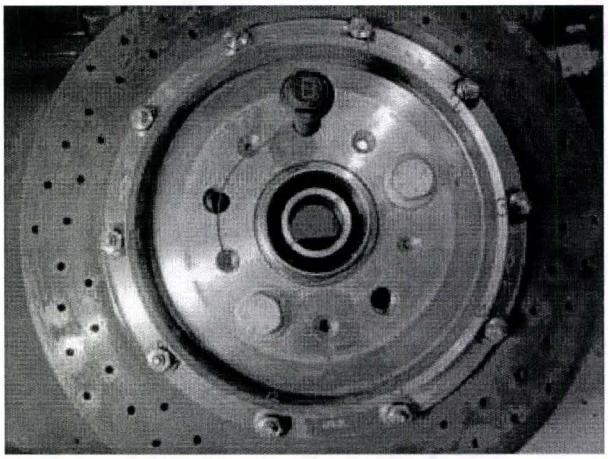
5 - Nut

- Replace fasteners 1...10.

Replace the fasteners one after the other. Do not loosen and replace more than one

fastener at a time.

The fasteners are single use only. If there is a requirement for a fastener (either 4F0.698.998.A or 4F0698.998.D) to be rectified, then a new bolt must be used.



Rotate the disc with the hub to position each fastener for ease of access.
Lock the hub with bolt (B) to enable tightening operation

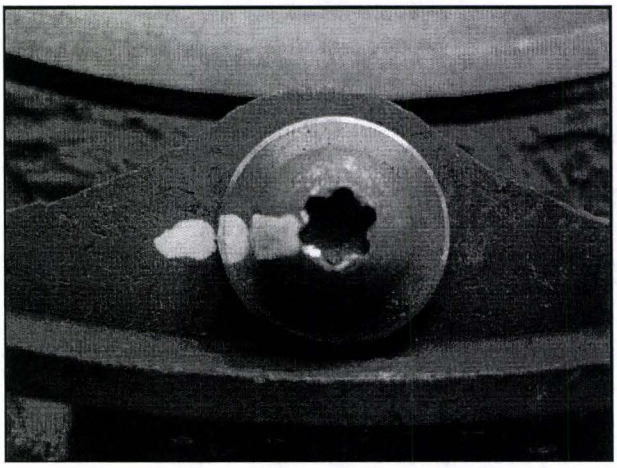
- Fit sleeve from outside.

Inside:

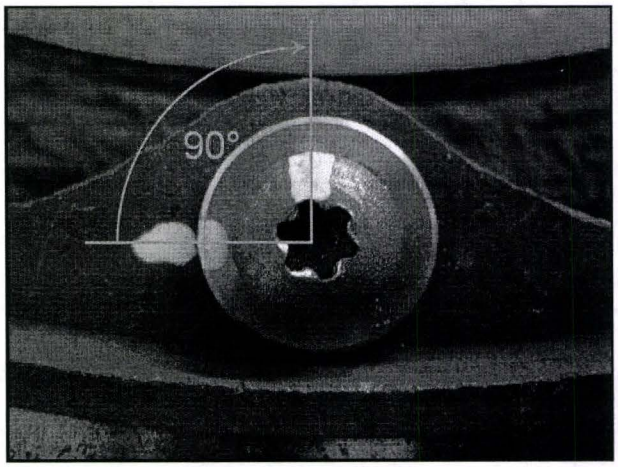
- Tighten bolt with washer.

Tightening torque: 4 Nm

- Mark bolt.



- Turn bolt 90° further (1/4 turn)

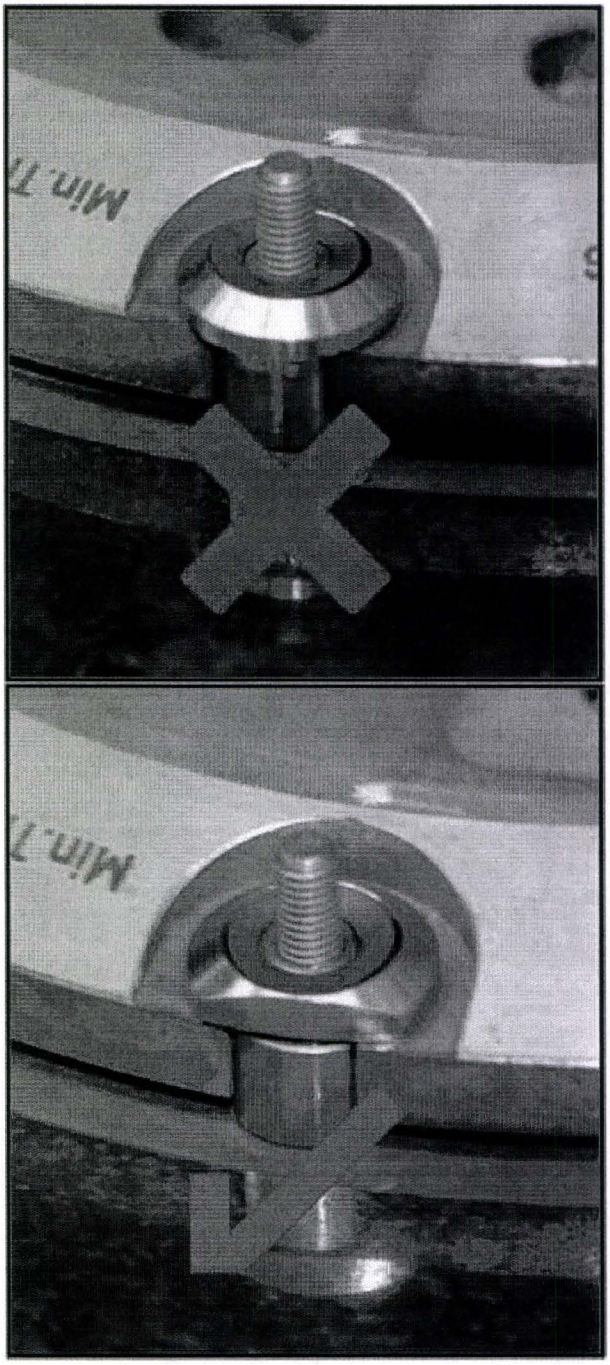


Outside:

- Fit retaining washer with dished pressure springs

and then (but not before) cut open cable tie.

Make sure that the retaining washer is fitted in the correct position, as shown in illustration.



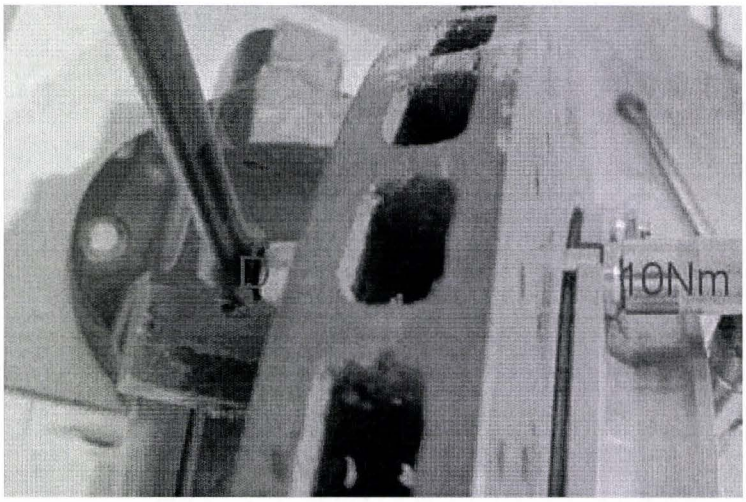
- Counterhold bolt (D) and tighten nut.

Tightening torque: 10 Nm

Replace the fasteners one after the other. Do not loosen and replace

more than one fastener at a time.

The fasteners are single use only. If there is a requirement for a fastener (either 4F0.698.998.A or 4F0698.998.D) to be rectified, then a new bolt must be used.



Section B - Front axle – This joint is not affected by stress corrosion cracking

To commonise the screws across the axles the front screws should also be replaced

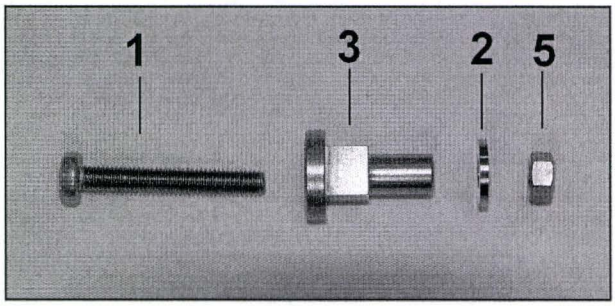
1 - Bolt

2 - Washer

3 - Sleeve

5 – Nut

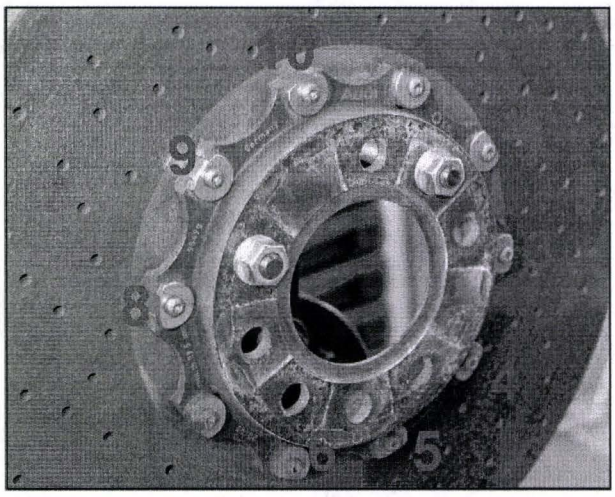
Check ceramic brake discs for damage as per criteria already described



- Replace fasteners 1...10.

Replace the fasteners one after the other. Do not loosen and replace more than one fastener at a time.

The fasteners are single use only. If there is a requirement for a fastener (either 4F0.698.998.A or 4F0698.998.D) to be rectified, then a new bolt must be used.



- Fit sleeve and bolt from outside.

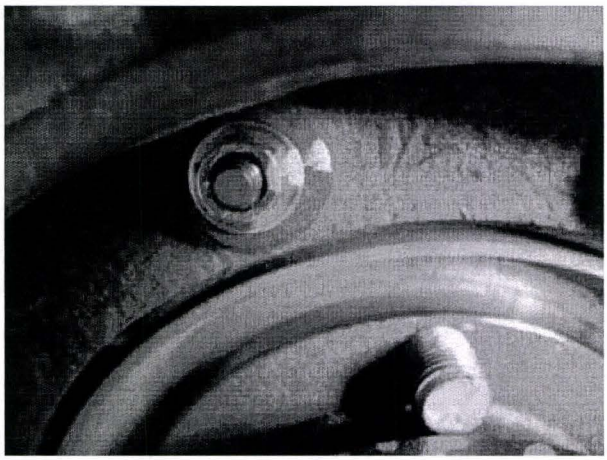
Inside:

- Install washer.

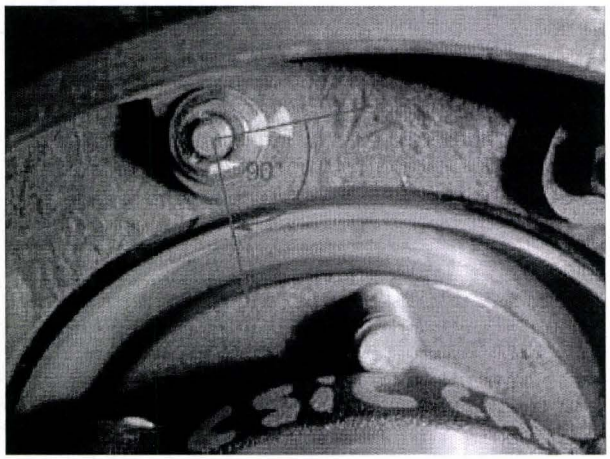
- Tighten nut.

Tightening torque: 4 Nm

- Mark nut.



- Counterhold bolt and turn nut 90° further (1/4 turn).

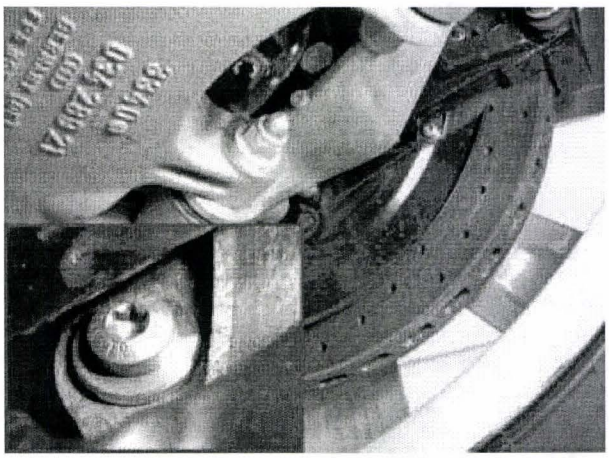


Replace the fasteners one after the other. Do not loosen and replace more than one fastener at a time.

The fasteners are single use only. If there is a requirement for a fastener (either 4F0.698.998.A or 4F0698.998.D) to be rectified, then a new bolt must be used.

Identification

Any applicable Bentley models in the Continental family found to have CSiC brake discs secured with "Original" bolts must have this campaign applied



The rear disc retaining bolt can be viewed from inside the wheel. The front is checked through the wheel spokes

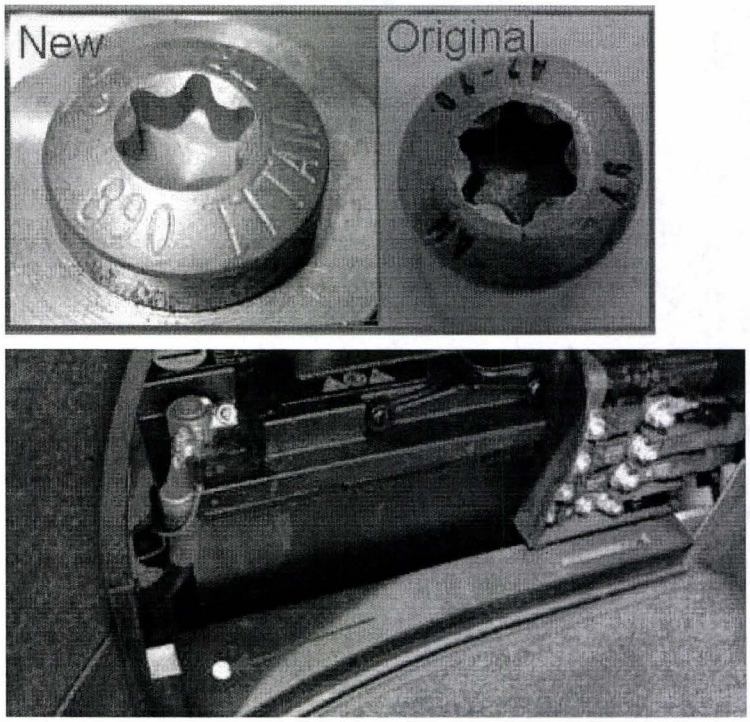


Figure 2

On completion apply a white campaign complete mark adjacent to the main battery (see Figure 2)

The presence of "New" bolts securing all four brake discs will also serve to indicate that this campaign has been performed

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Repair instructions Notes