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Condition

Applicable Vehicles					
Model(s)	Year	Eng. Code	Trans. Code	VIN Range From	VIN Range To
All (except Routan)	2014-2020	All	All	All	All

Revision Table			
Instance Number	Published Date	Version Number	Reason For Update
2015173/27	10/17/ 2019	46-19-02	To include model year 2020 applicability.
2015173/1	6/11/07	V46-07-01	Original publication.

When applying the brakes at highway speeds the following symptoms may occur:


- Brake Pedal pulsation
- Vibration felt in Vehicle Body
- Steering Wheel shakes

Technical Background

For brake vibration or pulsation concerns, Brake Disc machining is allowed between 6 and 12 months or 6,000 and 12,000 miles (whichever comes first) from the warranty in service date.

Production Solution

No production change required.

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Service

! Note:

All policies and procedures outlined in this technical bulletin also apply to sublet Brake Disc machining. Improperly machined Brake Discs may cause brake pulsation/vibration after several months in service. The servicing facility will be responsible for these failures.

Procedure:

- Remove Wheels and separate Brake Calipers from Carrier as outlined in Repair Manual Group 44 in Elsa.

Brake Disc Inspection

A detailed Brake Disc inspection is needed to determine if the Brake Disc should be machined or replaced.

- Inspect the Brake Disc friction surfaces on both sides of the Brake Disc for:
 - Severe discoloration (bluing)
 - High heat surface damage (raised hard spots)
 - Visible cracks

! Note:

Brake Discs showing any of the above described conditions are **NOT** serviceable. Parts must be replaced in accordance with the Volkswagen Warranty Policy and Procedure Manual.

Please see the example pictures below of damage NOT covered under warranty.



Figure 1: Brake pad imprint.



Figure 2: Brake pad imprint.


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Figure 3: Brake pad imprint.



Figure 4: Brake pad imprint.

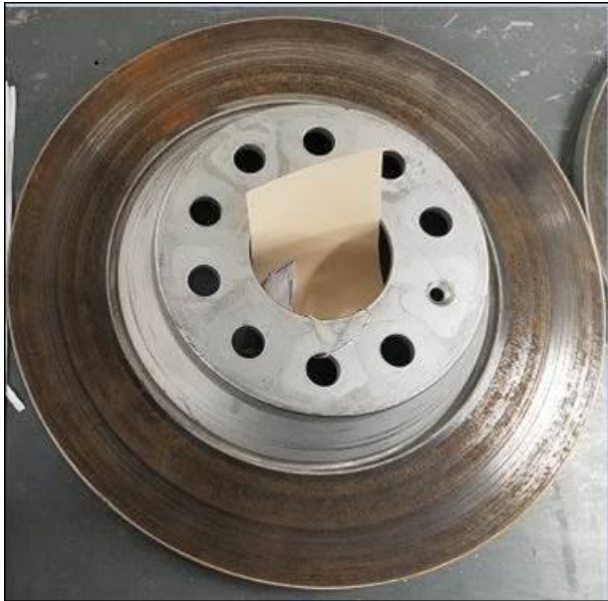


Figure 5: Corrosion.



Figure 6: Corrosion, brake pad stuck to brake disc.


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Figure 7: Corrosion, brake pad stuck to brake disc.



Figure 8: Corrosion, brake pad stuck to brake disc.



Figure 9: Brake Pad stuck to Brake Disc



Figure 10: Brake Pad stuck to Brake Disc.


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Figure 11: Brake pad imprint.




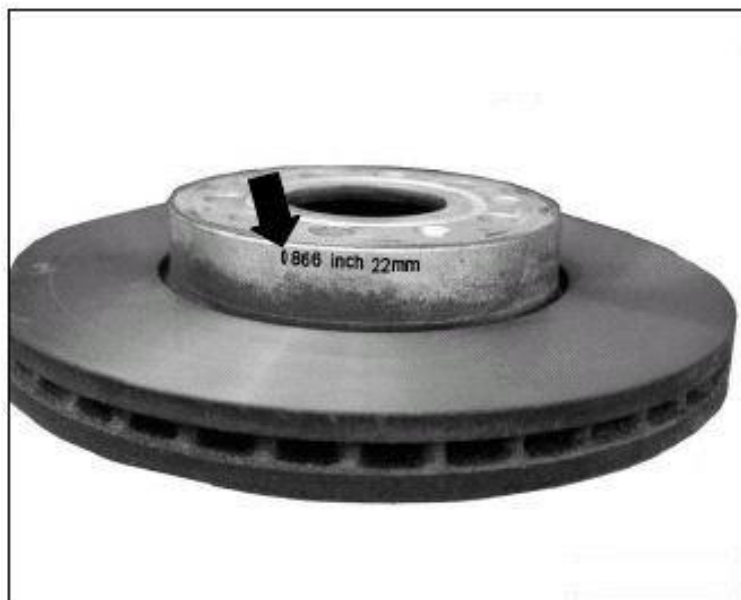
Disc Thickness Measuring

Technician must record the beginning thickness measurements on the back of the repair order.

Each Brake Disc has the minimum allowed thickness cast, stamped or laser-etched into the disc hub.

- Measure the Brake Disc thickness in 4 locations using either the Pro Cut International™ Disc thickness measuring tool Part No. 50-902 or the Hunter Engineering Company disc thickness measuring tool Part No. 25-99-2. Measurements **MUST** be taken at the same distance from the Brake Disc outer circumference to ensure consistency.

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! **Note:**

The Brake Disc thickness measurement must exceed the minimum specification after the machining process is completed in order to be re-used. If the Brake Disc thickness measurement does not meet this requirement after machining, replace the Brake Disc.


Brake Disc Machining

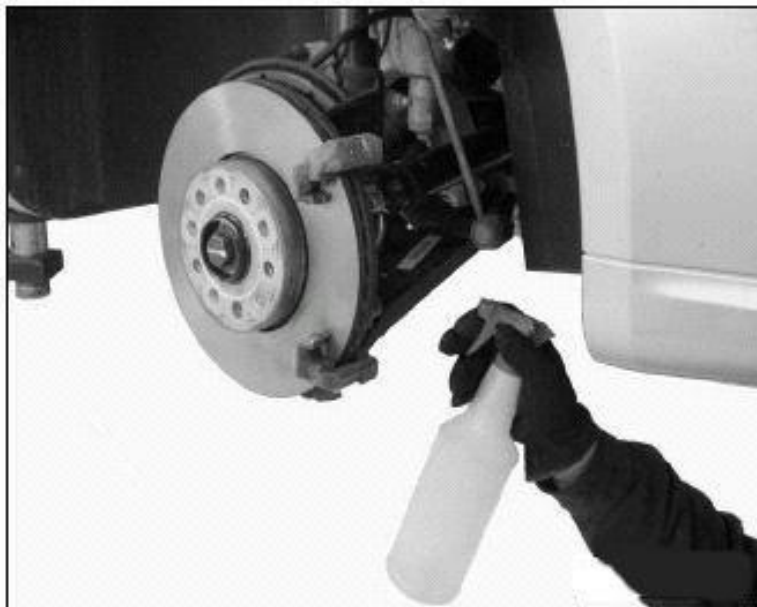
! **Note:**

All Brake Discs must be machined.

Recommended on-car brake lathes are either the PRO-CUT International™ PFM 9.0, or the Hunter Engineering Company model OCL 400. This design of brake lathe will produce a surface quality which will provide proper brake performance without a brake pad to brake disc break-in period.

To ensure that a high quality Brake Disc finish is produced, brake lathe cutting tools must be maintained as directed by the lathe or tool manufacturer.

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- Follow the brake lathe manufacturer's instructions for set-up and machining.
- Wash the Brake Disc with a soap and water solution upon completion of resurfacing to remove all machining particles.




Technician must record the final thickness measurements after machining on the back of the repair order.

- Re-measure Brake Disc thickness in 4 locations using either the Pro Cut International™ disc thickness measuring tool Part No. 50-902 or the Hunter Engineering Company disc thickness measuring tool Part No. 25-99-2. If recorded Brake Disc measurement is less than the minimum thickness, the Brake Disc **MUST** be replaced.


 **Note:**

Always replace Brake Discs in pairs (front axle or rear axle). Do not replace all 4 Brake Discs unless it is required.

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- Measure Brake Disc lateral run out using Pro Cut Disc Lateral run out measuring kit Part No. 50-700FC or the Hunter Disc Lateral run out measuring kit Part No. 25-128-2 with a dial indicator.
- Run out must not exceed 0.1mm after machining.
- If Brake Disc exceed the 0.1mm specification after machining replace the applicable Brake Discs.

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Warranty

To determine if this procedure is covered under Warranty, always refer to the Warranty Policies and Procedures Manual ¹⁾

Model(s)	Year(s)	Eng. Code(s)	Trans. Code(s)	VIN Range From	VIN Range To
All (except Routan)	2014-2020	All	All	All	All
Claim Type:		Use applicable Claim Type ¹⁾			
SAGA Coding					
Service Number	Damage Code	HST	Damage Location		
4650	0013	--	001 – Left 002 – Right		
4653	0013	--	001 – Left 002 – Right		
Parts Manufacturer	Passat/CC/Tiguan/Eos/ Touareg/Golf R/e Golf and MY14 Golf/Atlas/Arteon		WVO ²⁾		
	Jetta/Beetle/Beetle Cabrio, MY14 Jetta SportWagen and MY15-20 Golf/Golf SportWagen/Alltrack/Tiguan LWB		3ME ²⁾		
On Car Lathe is available (All vehicles)					
Labor Operation 3): Remove and Reinstall Front and Rear Wheels			44052004 = See Elsa for latest time units		
Labor Operation 3): Front and Rear Disc Resurfacing – On Vehicle			46504699 = 120 TU And 46534699 = 120 TU		

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Or	
If On Car Lathe is unavailable:	
CC/Tiguan/Eos/Arteon	
Labor Operation 3): Remove and Reinstall Front and Rear Wheels	44052004 = See Elsa for latest time units
Labor Operation 3): Remove and Reinstall Front and Rear Carriers	46142050 = See Elsa for latest time units And 46152050 = See Elsa for latest time units
Labor Operation 3): Remove and Reinstall Front and Rear Discs	46502050 = See Elsa for latest time units And 46532050 = See Elsa for latest time units
Labor Operation 3): Front and Rear Discs Machining	46504699 = 160 TU And 46534699 = 160 TU
OR	
Tiguan LWB	
Labor Operation 3): Remove and Reinstall Front and Rear Wheels	44052004 = See Elsa for latest time units
Labor Operation 3): Remove and Reinstall Front and Rear Carriers	46142050 = See Elsa for latest time units And 46152050 = See Elsa for latest time units
Labor Operation 3): Remove and Reinstall Front and Rear Discs	46502050 = See Elsa for latest time units And 46532050 = See Elsa for latest time units
Labor Operation 3): Front and Rear Discs Machining	46504699 = 160 TU And 46534699 = 160 TU
OR	

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Atlas	
Labor Operation 3): Remove and Reinstall Front and Rear Wheels	44052004 = See Elsa for latest time units
Labor Operation 3): Remove and Reinstall Front and Rear Carriers	46142050 = See Elsa for latest time units And 46152050 = See Elsa for latest time units
Labor Operation 3): Remove and Reinstall Front and Rear Discs	46502050 = See Elsa for latest time units And 46532050 = See Elsa for latest time units
Labor Operation 3): Front and Rear Discs Machining	46504699 = 160 TU And 46534699 = 160 TU
Or	
Passat	
Labor Operation 3): Remove and Reinstall Front and Rear Wheels	44052004 = See Elsa for latest time units
Labor Operation 3): Remove and Reinstall Front and Rear Discs	46502050 = See Elsa for latest time units And 46532050 = See Elsa for latest time units
Labor Operation 3): Front and Rear Discs Machining	46504699 = 160 TU And 46534699 = 160 TU
Or	
Jetta/Beetle/Beetle Carbio and MY14 Jetta SportWagen	
Labor Operation 3): Remove and Reinstall Front and Rear Wheels	44052004 = See Elsa for latest time units
Labor Operation 3): Remove and Reinstall Front and Rear Brake Carriers	46142050 = See Elsa for latest time units And 46152050 = See Elsa for latest time units

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Labor Operation 3): Remove and Reinstall Front and Rear Discs	46502050 = See Elsa for latest time units And 46532050 = See Elsa for latest time units
Labor Operation 3): Front and Rear Discs Machining	46504699 = 160 TU And 46534699 = 160 TU
Or	
Touareg	
Labor Operation 3): Remove and Reinstall Front and Rear Wheels	44052004 = See Elsa for latest time units
Labor Operation 3): Remove and Reinstall Front and Rear Discs	46502050 = See Elsa for latest time units And 46532050 = See Elsa for latest time units
Labor Operation 3): Front and Rear Discs Machining	46504699 = 160 TU And 46534699 = 160 TU
Or	
MY15-20 Golf SportWagen, Alltrack	
Labor Operation 3): Remove and Reinstall Front and Rear Wheels	44052004 = See Elsa for latest time units
Labor Operation 3): Remove and Reinstall Front Carrier	46142050 = See Elsa for latest time units
Labor Operation 3): Remove and Reinstall Front and Rear Discs	46502050 = See Elsa for latest time units And 46532050 = See Elsa for latest time units (includes carrier)
Labor Operation 3): Front and Rear Discs Machining	46504699 = 160 TU And 46534699 = 160 TU

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Or	
MY14 Golf	
Labor Operation 3): Remove and Reinstall Front and Rear Wheels	44052004 = See Elsa for latest time units
Labor Operation 3): Remove and Reinstall Front and Rear Carrier	46142050 = See Elsa for latest time units And 46152050 = See Elsa for latest time units
Labor Operation 3): Remove and Reinstall Front and Rear Discs	46502050 = See Elsa for latest time units And 46532050 = See Elsa for latest time units
Labor Operation 3): Front and Rear Discs Machining	46504699 = 160 TU And 46534699 = 160 TU
Or	
MY15-20 Golf/Golf R/eGolf	
Labor Operation 3): Remove and Reinstall Front and Rear Wheels	44052004 = See Elsa for latest time units
Labor Operation 3): Remove and Reinstall Front Carrier	46142050 = See Elsa for latest time units
Labor Operation 3): Remove and Reinstall Front and Rear Discs	46502050 = See Elsa for latest time units And 46532050 = See Elsa for latest time units (includes carrier)
Labor Operation 3): Front and Rear Discs Machining	46504699 = 160 TU And 46534699 = 160 TU
Outside Labor: Sublet Machining	Sublet Machining not to exceed Elsa SRT
Causal Part:	Select Labor
Diagnostic Time ⁴⁾	

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GFF Time expenditure	01500000 = 00 TU max.	NO
Road Test	01210002 = 10 TU 01210004 = 10 TU	YES
Technical Diagnosis	01320000 = 00 TU max.	NO
Claim Comment: Input "As per Technical Bulletin 2015173" in comment section of Warranty Claim.		
<p>1) Vehicle may be outside any Warranty in which case this Technical Bulletin is informational only.</p> <p>2) Code per warranty vendor code policy.</p> <p>3) Labor Time Units (TUs) are subject to change with Elsa updates.</p> <p>4) Documentation required per Warranty Policy Procedures Manual.</p>		

Required Parts and Tools

No Special Parts required.

Description	Part No:	Quantity
Pro Cut TM Disc Thickness Measuring Tool	50-902	1
Hunter Disc Thickness Measuring Tool	25-99-2	1
Pro Cut Disc Lateral Run out Measuring Tool	50-700FC	1
Hunter Disc Lateral Run out Measuring Tool	25-128-2	1
PRO-CUT International TM PFM 9.0	PCIPFM90VW	1
Hunter Engineering Company Model OCL 400	HUNOCL400VW	1

Additional Information

All part and service references provided in this Technical Bulletin are subject to change and/or removal. Always check with your Parts Dept. and Repair Manuals for the latest information.