Technical Service Bulletin Transaction No.: **2015173/29**

46-19-02 - Brake Disc, Vibration / Pulsation (U.S. Only) Release date: Dec 2, 2020

Condition

Applicable Vehicles					
Model(s)	**Year**	**Eng. Code**	**Trans. Code**	**VIN Range From**	**VIN Range To**
All (except Routan)	2014-2021	All	All	All	All

Revision Table			
Instance Number	**Published Date**	**Version Number**	**Reason For Update**
2015173/28	6/4/2020	46-19-02	To include model year 2021 applicability.
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.

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.

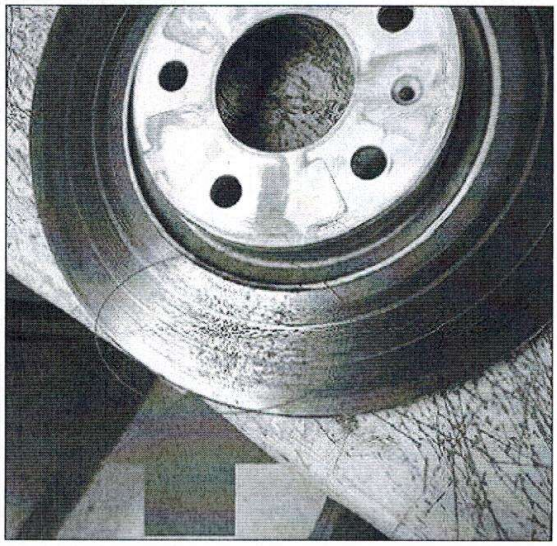
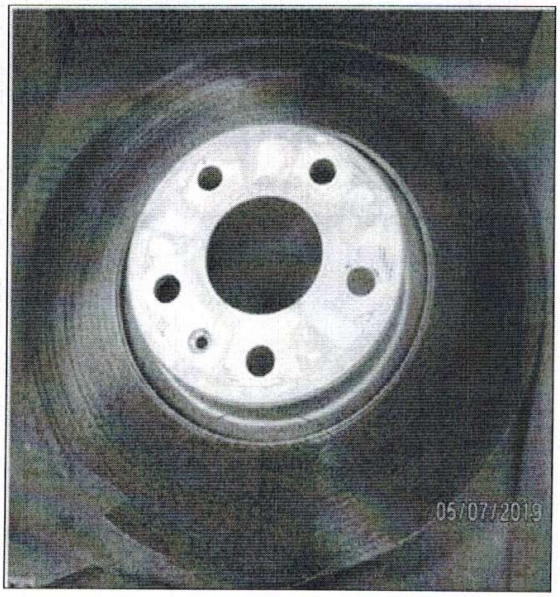


Figure 1: Brake pad imprint.

Figure 2: Brake pad imprint.



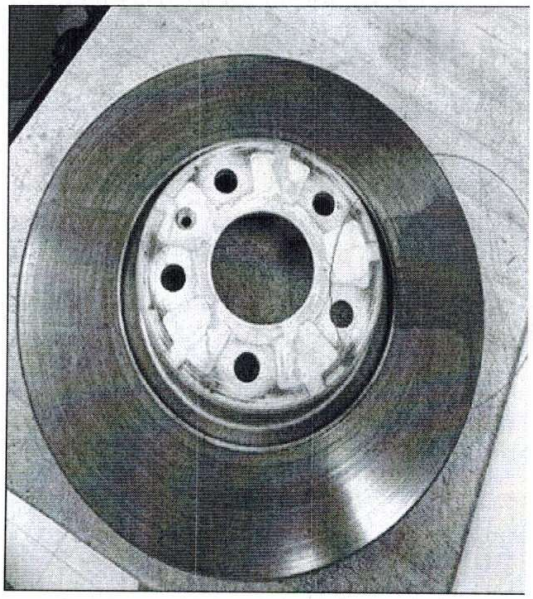


Figure 3: Brake pad imprint.

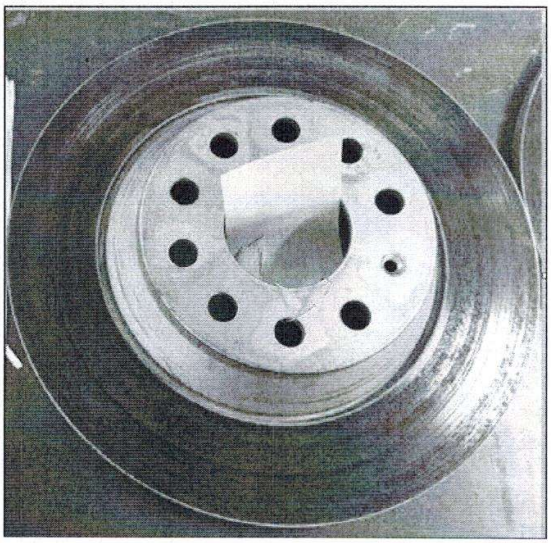


Figure 4: Brake pad imprint.

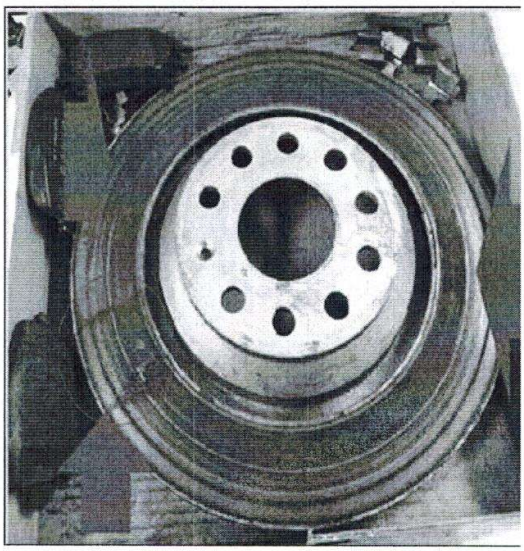


Figure 5: Corrosion.

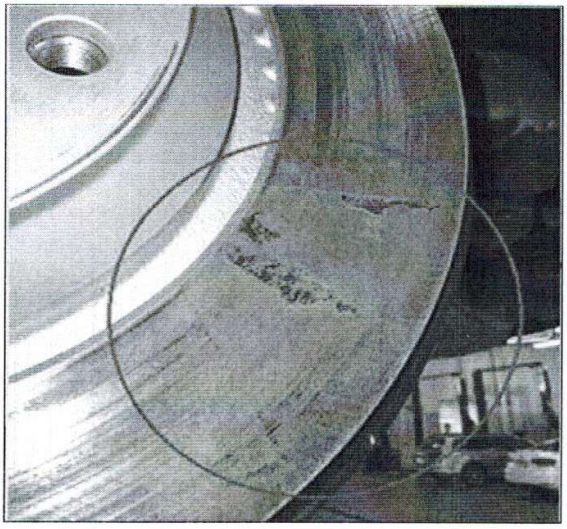


Figure 6: Corrosion, brake pad stuck to brake dis

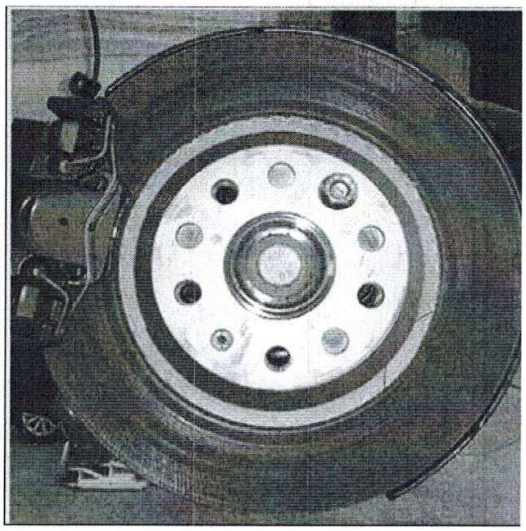


Figure 7: Corrosion, brake pad stuck to brake disc.

Figure 8: Corrosion, brake pad stuck to brake dis

Figure 9: Brake Pad stuck to Brake Disc

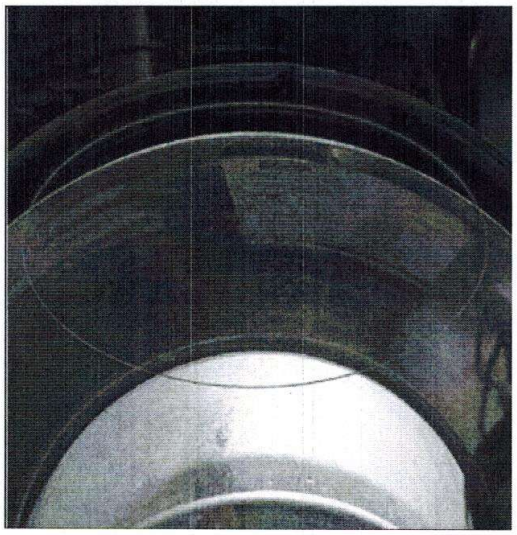


Figure 10: Brake Pad stuck to Brake Disc.

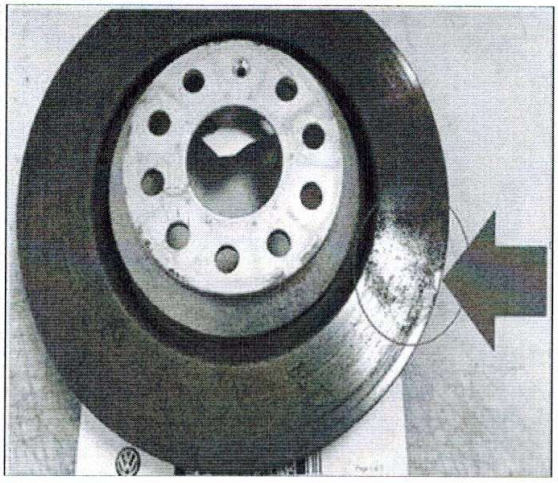
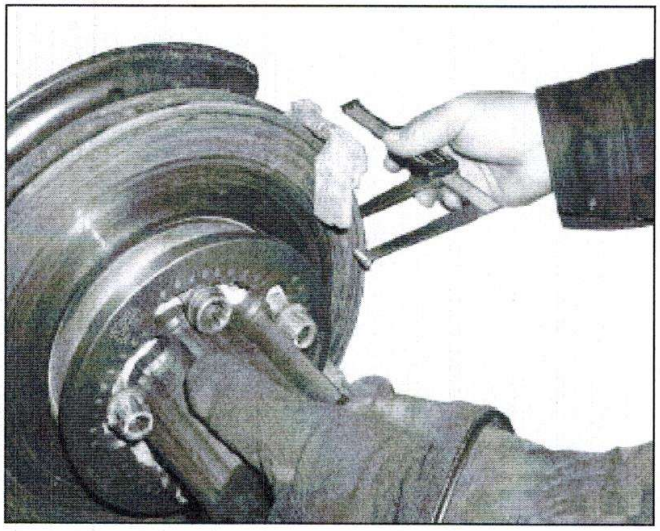


Figure 11: Brake pad imprint.

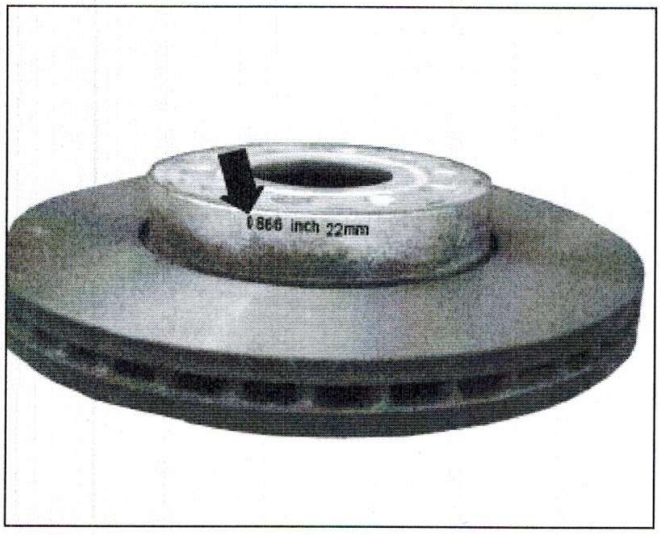
Disc Thickness Measuring

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 a digital or mechanical caliper/micrometer. Measurements **MUST** be taken at the same distance from the brake disc outer circumference to ensure consistency.



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.

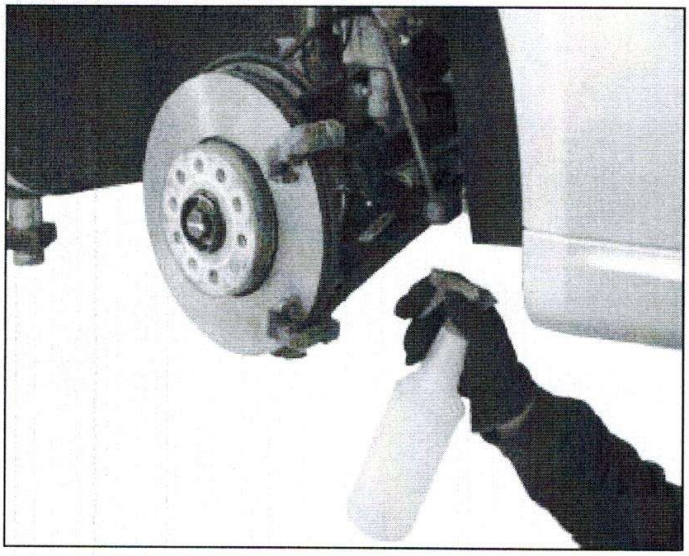
Brake Disc Machining

Note:

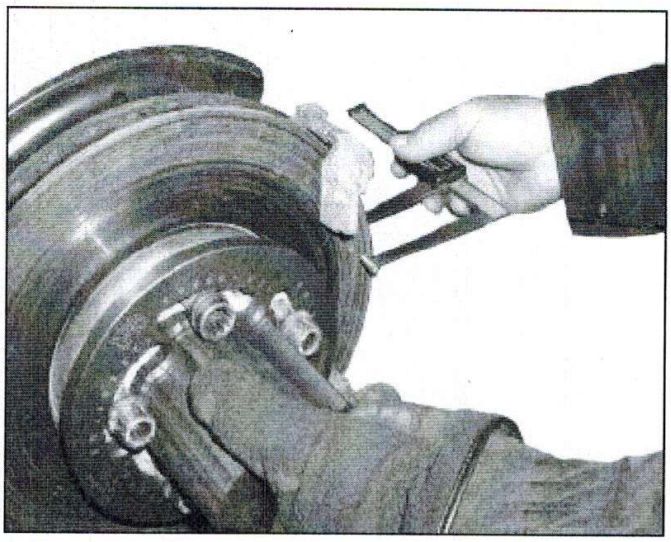
All Brake Discs must be machined.

Recommended on-car brake lathe is the PRO-CUT International ™ PFM 9.2 (or equivalent – can be locally sourced). 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.



- 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.



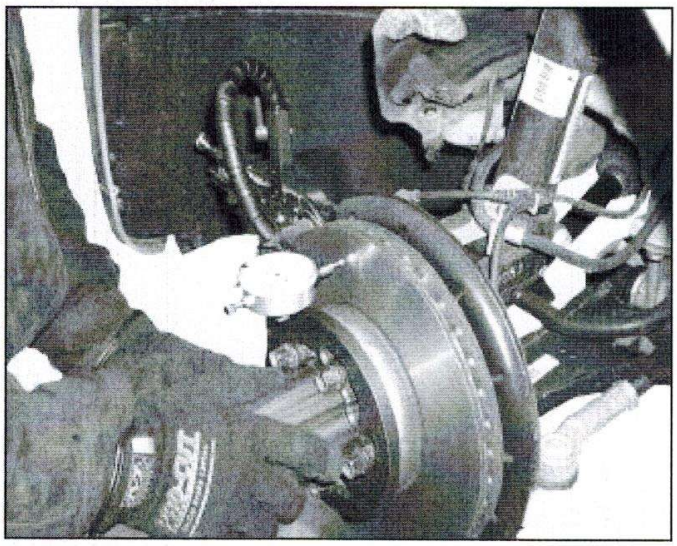
Technician must record the final thickness measurements after machining on the back of the repair order.

- Re-measure Brake Disc thickness in 4 locations using a digital or mechanical caliper/micrometer. If recorded Brake Disc measurement is less than the minimum thickness after machining, 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.

- Measure Brake Disc lateral run out using a caliper and dial gauge set.
- Run out must not exceed 0.1mm after machining.
- If Brake Disc exceed the 0.1mm specification after machining replace the applicable Brake Discs.



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)	2014-2021	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/Atlas Cross Sport/Arteon		WWO [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
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	
Atlas/Atlas Cross Sport	
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
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	
MY15-21 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
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	
MY15-21 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	
Or		
If sublet machining is used:		
Outside Labor: Sublet Machining	Sublet Machining not to exceed Elsa SRT	
Causal Part:	Select Labor	
Diagnostic Time [4]		
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.		
[1] Vehicle may be outside any Warranty in which case this Technical Bulletin is informational only. [2] Code per warranty vendor code policy. [3] Labor Time Units (TUs) are subject to change with Elsa updates. [4] Documentation required per Warranty Policy Procedures Manual.		

Required Parts and Tools

No Special Parts required.

Suggested tools and tool part numbers are current at the time of publication and listed below.
(*Equivalent tools can be used or locally sourced as needed)

Suggested Brake Lathe		
Description	**Part No:**	**Quantity**
PFM 9.2	PCI92BASEIBT	1
Suggested Brake Measuring Tools		
Caliper and Dial Gauge Set	VAS6668	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.

Warranty Test Center
Phone: 248-754-6146
Fax: 248-754-6540
E-mail: vwoawtc@vw.com

Brake Disc Measurement Form

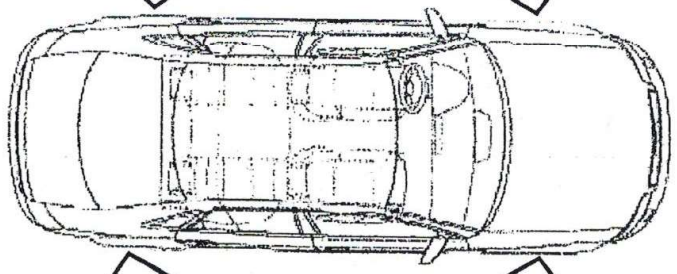
VIN _____ Date _____

Odometer _____ Condition _____

Repair Order No. _____ Dealer No. _____

LR DISC
THICKNESS POINT 1 _____ MM
THICKNESS POINT 2 _____ MM
THICKNESS POINT 3 _____ MM
THICKNESS POINT 4 _____ MM
RUN OUT _____ MM

LF DISC
THICKNESS POINT 1 _____ MM
THICKNESS POINT 2 _____ MM
THICKNESS POINT 3 _____ MM
THICKNESS POINT 4 _____ MM
RUN OUT _____ MM



RR DISC
THICKNESS POINT 1 _____ MM
THICKNESS POINT 2 _____ MM
THICKNESS POINT 3 _____ MM
THICKNESS POINT 4 _____ MM
RUN OUT _____ MM

RF DISC
THICKNESS POINT 1 _____ MM
THICKNESS POINT 2 _____ MM
THICKNESS POINT 3 _____ MM
THICKNESS POINT 4 _____ MM
RUN OUT _____ MM