



Technical Bulletin

Model(s)	Year	Eng. Code	Trans. Code	VIN Range From	VIN Range To
All (except Routan)	2011-2013	All	All	All	All

Condition

46 13 02 April 19, 2013 **2015173** Supersedes T. B. V461005 dated October 25, 2010 to remove Canadian market and include additional models and model year applicability.

Brake Disc, Pulsation, All Vehicles except Routan (U.S. Only)

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

- Brake pedal may pulsate
- Vibration may be felt in vehicle body
- Steering wheel may shake

 **Note:**

The procedure as follows outlines the recommended repair process for brake vibration/pulsation concerns.

Technical Background

For brake vibration / pulsation concerns, brake disc machining is allowed between 6 months / 6000 miles and 12 months / 12,000 miles of the warranty in service date.

 **Note:**

Vehicles between 0 and 6 months / 6000 miles in service are **NOT** eligible for brake disc machining. For braking vibration complaints on these vehicles, see Technical Bulletin subject matter, "Vibration or Noise When Braking", instance number 2010245.

Vehicles after 12 months / 12,000 miles in service are not eligible for brake disc machining.

Production Solution

No production change required.

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Service

Note:

BEFORE machining brake discs, the technician must record the beginning thickness measurement on the back of the repair order followed by the ending thickness measurement upon completion of machining process. All policies and procedures outlined in this technical bulletin also apply to sublet brake disc machining.

Improperly machined brake discs may cause brake pulsation after several months in service.

The servicing facility will be responsible for failures described above.

Procedure:

- Remove wheels and separate brake calipers from carrier as outlined in Repair Manual Group 44 – Wheels, Tires, Vehicle Alignment and Group 46 – Brakes – Mechanical components in ElsaWeb.

Brake Disc Inspection

A detailed brake disc inspection is needed to determine if the brake disc should be machined or replaced.

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

Brake discs showing any of the above described conditions **MUST** be replaced.



Disc Thickness Measuring

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 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 thickness specification after the machining process is completed in order to be reused.

Brake Disc Machining

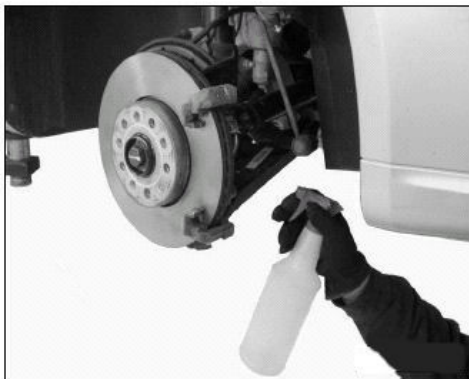
i Tip:

Brake discs must be machined in pairs (front axle and / or rear axle).

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.

! Note:

To ensure that a high quality brake disc finish is produced, brake lathe cutting tools must be maintained as directed by the lathe 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.

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- Re-measure brake disc thickness in 4 locations using either the Pro Cut disc thickness measuring tool Part No. 50-902 or the Hunter disc thickness measuring tool Part No. 25-99-2, to verify that minimum thickness is still exceeded. 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).



- 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.



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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)	2011-2013	All	All	All	All
Claim Type:			Use applicable Claim Type ¹⁾		
SAGA Coding					
Service Number:	Damage Code	HST	Damage Location (Depends on Service No.)		
4650	0013	--	Use applicable when indicated in ElsaWeb (L/R)		
4653	0013	--	Use applicable when indicated in ElsaWeb (L/R)		
Parts Manufacturer	Eos, CC, Golf, Tiguan, Touareg			WWO ²⁾	
	Jetta, Jetta SportWagen, Beetle, Beetle Convertible			3ME ²⁾	
	Passat			TX6 ²⁾	
On Car Lathe is available					
Labor Operation ³⁾: Front Disc Resurfacing-On Vehicle			46504699 = 120 TU		
Labor Operation ³⁾: Rear Disc Resurfacing-On Vehicle			46534699 = 120 TU		
If On Car Lathe is unavailable:					
Labor Operation ³⁾: Remove and Install Brake Disc, Front			46502050 = 70 TU		
Labor Operation ³⁾: Front Brake Disc Turn			46504650 = 160 TU		



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Labor Operation ³⁾ : Remove and Install Brake Disc, Rear All EXCEPT Touareg	46532050 = 70 TU
Labor Operation ³⁾ : Remove and Install Brake Disc, Rear Touareg ONLY	46532050 = 90 TU
Labor Operation ³⁾ : Rear Brake Disc Turn	46534650 = 160 TU
Outside Labor: Sublet Machining	Sublet Machining not to exceed ElsaWeb 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.	
<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>	



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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.