Noise Symptom - Strong Vibrations During Acceleration: Replacing Front Drive Shafts (SY 16/15)

Model Year: **As of 2014 up to 2017**

General information

Symptom

Customers complain about strong vibrations during acceleration.

Information

These "Symptom-based repair instructions" replace the previous instructions.
Changes/additions compared to the previous repair instructions:

►Section "Cause, deployment date and remedy" part numbers changed.

►Section “Tools and materials” part numbers changed.

►Section "Check front drive shafts and replace if necessary" part numbers changed.

Information

These symptom-based repair instructions replace the previous instructions.
Changes/additions compared to the previous repair instructions:

► Remedial measures added under "Remedial action".

► Part numbers added under "Tools and materials".

► Section on "Checking front drive shafts and replacing them if necessary" added.

► Software version and PIWIS Tester release updated under "Re-programming all-wheel drive control unit".

► Scopes updated/new scopes added under "Invoicing".

Cause, introduction date and remedial action

Change Overview:

Version	Date	Change
0	09/28/2020	► First publication
1	04/08/2024	► Remedial measures added under "Remedial action". ► Part numbers added under "Tools and materials".

		► Section on "Checking front drive shafts and replacing them if necessary" added. ► Software version and PIWIS Tester release updated under "Re-programming all-wheel drive control unit". ► Scopes updated/new scopes added under "Invoicing".

Cause

The joint on the transmission side (tripod joint) on the front drive shafts can become damaged if the load exerted on it during acceleration is too high.

Date of Introduction

Optimized front drive shafts have been used during production since March 21, 2016.

Remedial action

In the event of a customer complaint, check which type of outer bellows is used on the front drive shafts at the left or right and carry out the following measures, depending on which type is installed and the actual cause of the fault:

Outer bellows with Part No. 7N0.407.285

- The **optimized front drive shafts are already installed**.
- In this case, **only the damaged components** must be replaced.

Information

When replacing individual components on the front drive shafts, a mixed installation of different types of components is not permitted. Only replace removed components with components that have the same part number.

Outer bellows with a part number other than 7N0.407.285

- The **optimized front drive shafts** are **not installed**.
- If **one or both front drive shafts**are **damaged**, **both front drive shafts** must always be replaced by optimized front drive shafts. Depending on the engine, **part no. 95B407271L** (see table) must be installed. ⇒ *Workshop Manual 'Tools and materials'*
- If **front drive shafts** were **replaced with front drive shafts of a different type**, the **all-wheel drive control unit must also be re-programmed**.

Engine type	Part number
Vehicles with Otto engine	**95B407271L**

Tools and materials

Tools and materials

Information

Only the latest type is listed.

Part No.	Designation – Location of use	Number
Vehicles with Otto engine		
95B407271L	⇒ Drive shaft	2 pieces
9A740730500	⇒ Outer constant-velocity joint	2 pieces
N 91170501	⇒ Circlip on outer joint	2 pieces
9A740728500	⇒ Bellows	2 pieces
N 10740101	⇒ Hose clamp on outer bellows	2 pieces
N 10740201	⇒ Hose clamp on outer bellows	2 pieces
95B407341	⇒ Cap on inner joint	2 pieces
95B407363A	⇒ Inner joint	2 pieces
N 90834501	⇒ Circlip on inner joint	2 pieces
N 91116901	⇒ Circlip on inner joint	2 pieces
9A740741300	⇒ Adapter on inner joint	2 pieces
9A740728300	⇒ Inner bellows	2 pieces
N 10672101	⇒ Hose clamp on inner bellows	2 pieces
N 10614801	⇒ Hose clamp on inner bellows	2 pieces

90999 - PIWIS Tester 4 with PIWIS Tester test software version **16.100** (or higher) installed
Battery Charger, 90 A

Checking front drive shafts and replacing them if necessary

Checking front drive shafts and replacing them if necessary

Information

The **listed part numbers** are only **compatible with** the **latest version of the front drive shaft, Part No. 95B.407.271.L**. Replace damaged components **only** with components with **the same part number**.

Information

For the latest type of front drive shafts, only replace individual components that are listed in the parts list.

1 Raise the vehicle. ⇒ *Workshop Manual 'Lift vehicle'*

2 Read off and take note of the part number of the outer bellows on the front drive shaft at the left or right.

- If the part number that is read off is **not 7N0.407.285**, **both** front drive shafts must be replaced with the latest type of front drive shafts. Continue with Step 3.
- If the part number that is read off is **7N0.407.285**, optimized front drive shafts are already installed. Look for and replace damaged components. End of remedial action. Invoicing for Scope 1.

3 Remove and install front drive shafts at the left and right. ⇒ *Workshop Manual 'Removing and installing the front drive shaft'*

Programming all-wheel drive control unit

Programming all-wheel drive control unit

Information

The procedure described here is based on the PIWIS Tester 4 software version **16.100**.

The PIWIS Tester instructions take precedence and in the event of a discrepancy, these are the instructions that must be followed.
A discrepancy may arise with later software versions for example.

4 Connect a battery charger with a current rating of **at least 90 A**.

5 Switch on the ignition using the **original driver's key**. On vehicles with “Porsche Entry & Drive”, do this by replacing the control unit in the ignition lock with the original driver's key if necessary.

6 **90999 - PIWIS Tester 4** with software version **16.100 (or higher)** installed must be connected to the vehicle. Then switch on the PIWIS Tester.

7 On the PIWIS Tester start screen, call up the ⇒ **'Diagnostics'** menu and select the relevant vehicle type.

The diagnostic application is then started and the control unit selection screen is populated.

5	Control units '**Overview**'	**Additional menu**		•F7 “
6	'**Campaign**'		select	•F12 “
7	Programming code '**B2H7A**'		enter	•F12 “
	Read and follow the **information and instructions on the PIWIS Tester** during the guided programming sequence. Then press •>> “ to continue. During the programming sequence, the control unit is re-programmed and then re-coded automatically if necessary. **Do not interrupt programming and coding.** Once control unit programming - and coding if necessary - is complete, you will be prompted to switch the ignition off and then back on again after a specified waiting time.			
8	Control units '**Overview**'	**All-wheel drive**	select	•F12 “
9	'**Extended identification**'		select	•F12 “
10	Software version programmed during this campaign		**1204** Following control unit programming, the software version can be read out of the all-wheel drive control units in the ⇒ 'Extended identification' menu using the PIWIS Tester.	
	If programming is not completed successfully (error message “Programming unsuccessful”), programming must be **repeated**.			

1 Read out and erase all fault memories.

2 Switch off the ignition.

3 Disconnect the PIWIS Tester from the vehicle.

4 For vehicles with Porsche "Entry & Drive", replace the original vehicle key in the ignition lock with the control panel again.

5 Switch off and disconnect the battery charger.

Invoicing

Invoicing

Scope 1: Reading off part number of the bellows on the front drive shaft at the left and right

Work is invoiced under the labor operation:

APOS	Labour operation	I No.
40410200	Checking front drive shafts	

For invoicing and documentation using PCSS, enter the following coding:

Location (FES5)	40440	Constant-velocity joint
Damage type (SA4)	1511	Break

Scope 2: Checking and replacing front drive shafts (with new type)

Work is invoiced under the labor operation:

APOS	Labour operation	I No.
39952550	Programming all-wheel drive electronics control unit	1BK "4 CORNER AIR SUSPENSION CDC (PASM)"
40411951	Removing and installing front drive shaft	1BK "4 CORNER AIR SUSPENSION CDC (PASM)"
40411952	Removing and installing front drive shaft	1BK "4 CORNER AIR SUSPENSION CDC (PASM)"
40410200	Checking front drive shafts	1BK "4 CORNER AIR SUSPENSION CDC (PASM)"
44052001	Removing and installing wheels	1BK "4 CORNER AIR SUSPENSION CDC (PASM)"

For invoicing and documentation using PCSS, enter the following coding:

Location (FES5)	40440	Constant-velocity joint
Damage type (SA4)	1511	Break

Scope 3: Checking and replacing front drive shafts (with new type)

Work is invoiced under the labor operation:

APOS	Labour operation	I No.
40411951	Removing and installing front drive shaft	1BK "4 CORNER AIR SUSPENSION CDC (PASM)"
39952550	Programming all-wheel drive electronics control unit	1BK "4 CORNER AIR SUSPENSION CDC (PASM)"
43431750	Drain and fill air spring bellows	1BK "4 CORNER AIR SUSPENSION CDC (PASM)"
40411952	Removing and installing front drive shaft	1BK "4 CORNER AIR SUSPENSION CDC (PASM)"
40410200	Checking front drive shafts	1BK "4 CORNER AIR SUSPENSION CDC (PASM)"
44052001	Removing and installing wheels	1BK "4 CORNER AIR SUSPENSION CDC (PASM)"

For invoicing and documentation using PCSS, enter the following coding:

Location (FES5)	40440	Constant-velocity joint
Damage type (SA4)	1511	Break