



# Technical Journal

TITLE:

**Test schedule for vehicle speed dependent vibrations at highway speeds**

<b>REF NO:</b> TJ 20803.14.0	<b>ISSUING DEPARTMENT:</b> Technical Service	<b>CAR MARKET:</b> United States and Canada	
<b>PARTNER:</b> 3 US 7510 Volvo Car USA		<b>ISSUE DATE:</b> 2017-10-09	<b>STATUS DATE:</b> 2017-10-18
<b>FUNC GROUP:</b> 2185	<b>FUNC DESC:</b> Engine undershield	Page 1 of 11	

“Right first time in Time”

## Attachment

File Name	File Size
T9379EN01.pdf	0.1646 MB
instruction SPA vibrations.pdf	0.2396 MB

## Vehicle Type

Type	Eng	Eng Desc	Sales	Body	Gear	Steer	Model Year	Plant	Chassis range	Struc Week Range
1XX							2008-9999		-	0-0
2XX							2007-9999		-	0-0
3XX							2007-9999		-	0-0
5XX							2007-9999		-	0-0

## CSC Customer Symptom Codes

Code	Description
C4	Complete vehicle/Unusual noise/While driving
F3	Complete vehicle/Unusual noise/During acceleration
F6	Complete vehicle/Unusual noise/During deceleration
8N	Driving/Unusual noise/Unsure when/at all times
F1	Driving/Unusual noise/At engine shut off
F2	Driving/Unusual noise/During acceleration
ZE	Idling/Unusual noise
XB	Exhaust system/Rattle/rumble
WX	Engine cooling fan (FC)/Unusual noise



Code	Description
F4	Clutch/Unusual noise/Noise from engine compartment
C3	Automatic transmission/Unusual noise
F5	Gear selector/Unusual noise
C6	Manual transmission/Unusual noise
D2	Front/rear axle/Unusual noise
WV	Suspension/Clicking/clonking noise/At start/stop
WY	Suspension/Clicking/clonking noise/Unsure when/at all times
X1	Suspension/Unusual noise
H3	Steering wheel/Squeak/rattle/Steering column/wheel
H4	Steering/Unusual noise/Unsure when/at all times
X8	Steering/Unusual noise/At full turn
E7	Suspension/Unusual noise
WZ	Suspension/Clicking/clonking noise
8J	Shock absorption/Unusual noise
1M	Wheels, tires, hubs/Unusual noise/Front
1N	Wheels, tires, hubs/Unusual noise/Rear
V6	Complete vehicle/Vibration/When driving below 45 MPH
V7	Complete vehicle/Vibration/When driving above 45 MPH
NY	Automatic transmission/Vibration
V9	Gear selector/Vibration
8A	Manual transmission/Vibration
W2	Front/rear axle/Vibration/shake
V2	Steering wheel/Vibration/shimmy/When driving above 45 mph
W3	Steering wheel/Vibration/shimmy/When driving below 45 mph
X7	Steering wheel/Vibration/shimmy/At idle
V1	Tires/Vibration/out of round

## VST Operation Number

## DTC Diagnostic Trouble Codes

Rows beginning with \* are modified

Note! If using a printed copy of this Technical Journal, first check for the latest online version.

## Text

**DESCRIPTION:**

\* Updated attachment "Fault tracing schedule"

In case of complaint of Noise, Vibration or Harshness, NVH, and you need help from the technical helpdesk, some "tools" have been created to help you to do a better and more precise fault tracing.

1. Question form to fill in and attach along with a vehicle report for faster support.
2. Guideline to help you to sort out NVH related problems.

**SERVICE:**

N/A

**VEHICLE REPORT:**

Yes, together with a complete filled in attachment, included in this journal.

Use function group 2185.

**To view TJ attachment continue to next page. This TJ has two attachments.**



## Volvo Car Customer Service

TJ Instruction T9379

<b>Title</b>	Fault-tracing schedule NVH	<b>Page:</b>	1 (3)
<b>Action</b>	Test protocol	<b>Operation number:</b>	

Issue	Date	Cause
1	2015-02	First issue

### Affected vehicles

Year	Model	Engine	Transmission	Steering	Chassis number
All	All				

### Special tools

Description	Tool number
CHASSIS-EAR	9814108

### Relevant vehicle

VIN	Model	Year	Engine	Transmission	Steering

1.

**Note! ALWAYS** start by inflating the tyres to **comfort** pressure.

**Note! ALWAYS** test drive with the customer and allow the customer to describe the interference.

**Note! ALWAYS** record the noise and include in the report.

2.

## Questions to be filled in with the customer

### 1: When was the interference noticed for the first time?

Odometer: \_\_\_\_\_ KM

Odometer: \_\_\_\_\_ Miles

### 2: What type of interference?

- Noise  
 Vibration

### 2:2 Experienced in?

- The steering wheel  
 Floor  
 Seats: Front  
 Seats: Rear  
 Seats: Third row (XC90)

### 3: When does the interference occur?

- Stationary vehicle during "revving engine"  
 uphill  
 Downhill  
 Whilst driving  
 Rolling vehicle  
 Acceleration  
 Deceleration

Speed: \_\_\_\_\_ km/h

Speed: \_\_\_\_\_ mph

Engine speed: \_\_\_\_\_ Rpm

Which gear(s)? \_\_\_\_\_

- Recurring     Sporadic

### 4: Weather conditions when the interference occurs?

Outdoor temperature: \_\_\_\_\_ °C

- Dry road  
 Wet road

### 5: What type of road surface?

\_\_\_\_\_

### 6: Vehicle status?

- Cold  
 Hot

### Further questions

7: Engine temperature? \_\_\_\_\_ °C

8: If there is a sound file, where is it recorded?

- In the passenger compartment, front seat
- In the passenger compartment, rear seat
- Under the vehicle
- In the engine compartment

Describe at what second the noise is heard. \_\_\_\_\_ Sec?

9: Has Chassis-ear, 9814108, been used for fault tracing?

- Yes
- No

10: What type of recording equipment has been used? \_\_\_\_\_

11: Space for further comments.

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# TJ 20803

## VIBRATIONS IN SPA CARS

**AT CONSTANT SPEED AND MODERATE ACCELERATION  
(MAINLY 80 - 135 KM/H)**

Issuer:  
CMQ NVH Quality  
Lisette Hey

# FIRST TESTS

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If none of the tests helps, submit a report to technical helpdesk.

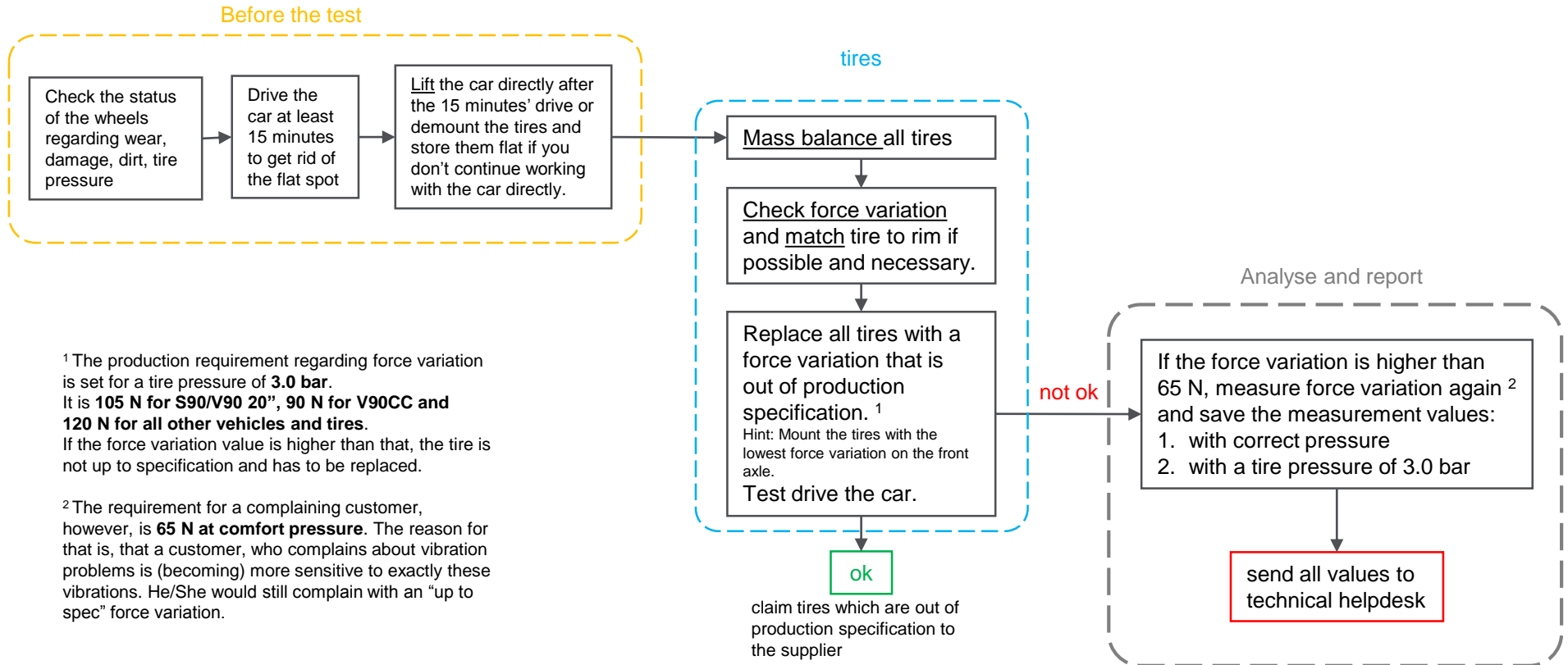
Make sure to perform the test drive on a smooth, straight and dry road.

Make sure all tires have correct pressure.

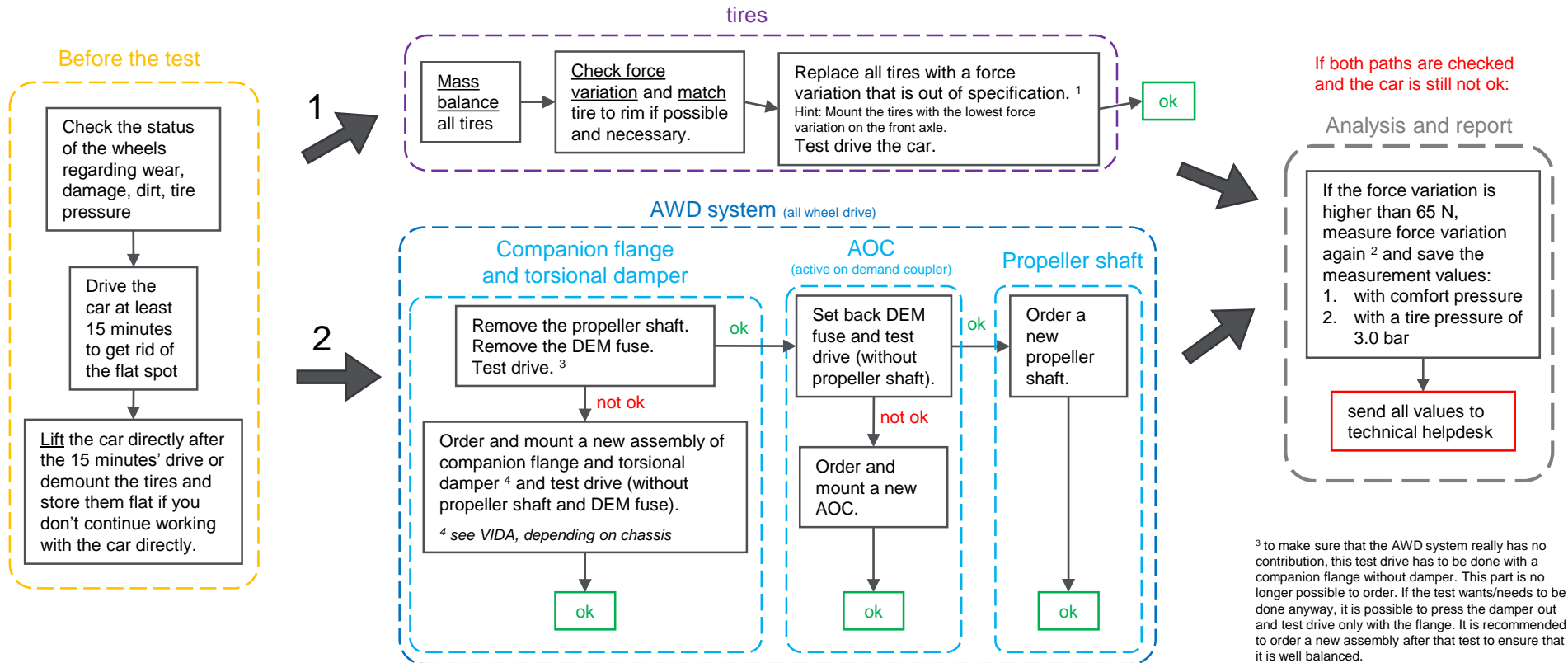
Make sure to drive the car 15 minutes before judging, to avoid flat spot contribution.



# FRONT WHEEL DRIVEN CAR (INCL. HYBRID)



# ALL WHEEL DRIVEN CAR





# IF THE CAR IS STILL VIBRATING...

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If the car is still vibrating, send a report to technical helpdesk.

The report has to include:

- ✓ T9379
- ✓ Which problem does the customer experience?
- ✓ What work has been done so far?
- ✓ **Numbers of the force variation measurement** of the Hunter machine (including tire pressure)