



Technical Journal

TITLE:

Test schedule for vehicle speed dependent vibrations at highway speeds

| | | | |
|--|---|--|-----------------------------------|
| REF NO: TJ 20803.17.0 | ISSUING DEPARTMENT: Technical Service | CAR MARKET: United States and Canada | |
| PARTNER: 3 US 7510 Volvo Car USA | | ISSUE DATE: 2018-03-21 | STATUS DATE: 2018-03-26 |
| FUNC GROUP: 2180 | FUNC DESC: Engine mounting | Page 1 of 11 | |

“Right first time in Time”

Attachment

| File Name | File Size |
|-----------------|-----------|
| T9379EN01.docx | 0.0435 MB |
| TJ 20803 v2.pdf | 0.2406 MB |

Vehicle Type

| Type | Eng | Eng Desc | Sales | Body | Gear | Steer | Model Year | Plant | Chassis range | Struc Week Range |
|------|-----|----------|-------|------|------|-------|------------|-------|-----------------|------------------|
| 124 | | | | | | | 2007-2017 | | 0000850-0200260 | 200620-201614 |
| 134 | | | | | | | 2011-9999 | | 0000194-9999999 | 201020-999999 |
| 135 | | | | | | | 2008-2010 | | 0000395-0377263 | 200720-201152 |
| 136 | | | | | | | 2008-2017 | | 0000395-0274097 | 200720-201619 |
| 155 | | | | | | | 2011-9999 | | 0000100-9999999 | 201035-999999 |
| 157 | | | | | | | 2015-9999 | | 0000001-0999999 | 201450-999952 |
| 234 | | | | | | | 2017-9999 | | 0000001-9999999 | 201617-999952 |
| 235 | | | | | | | 2017-9999 | | 0000001-9999999 | 201624-999952 |
| 256 | | | | | | | 2015-9999 | | 0000001-0999999 | 201505-999952 |
| 275 | | | | | | | 2007-9999 | | 0328000-9999999 | 200620-999999 |
| 285 | | | | | | | 2007-9999 | | 0617000-9999999 | 200620-999999 |
| 295 | | | | | | | 2007-9999 | | 0254000-9999999 | 200620-999999 |
| 384 | | | | | | | 2007-9999 | | 0600000-9999999 | 200620-999999 |
| 5XX | | | | | | | 2007-9999 | | 0010000-9999999 | 200620-999999 |



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 |
| 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 chassis range.
- * Added conversion to Ft.LBs in Attachment

This TJ is for vibrations at 80-135 km/h.

When writing a report, attach force variation measurement as instruction says.

In case of complain of Noise, Vibration or Harshness, NVH, and you need help from CMQ, 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.

The attachment **MUST** be in English when sending in it to CMQ.

Use always function group 2180.

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



| | | | |
|---------------|----------------------------|--------------------------|-------|
| Title | Fault-tracing schedule NVH | Page: | 1 (3) |
| Action | Test protocol | Operation number: | |

| 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.



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



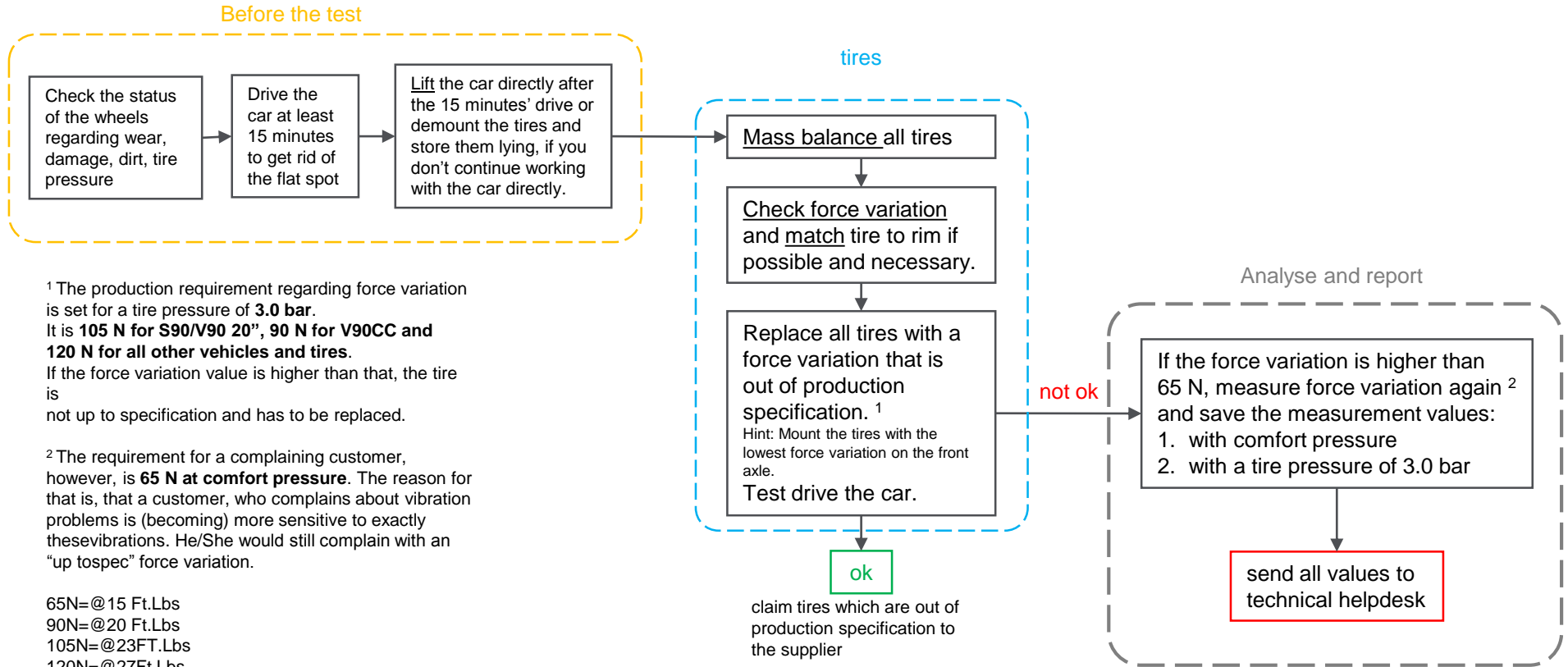
If none of the tests helps, submit a report to technical helpdesk.

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

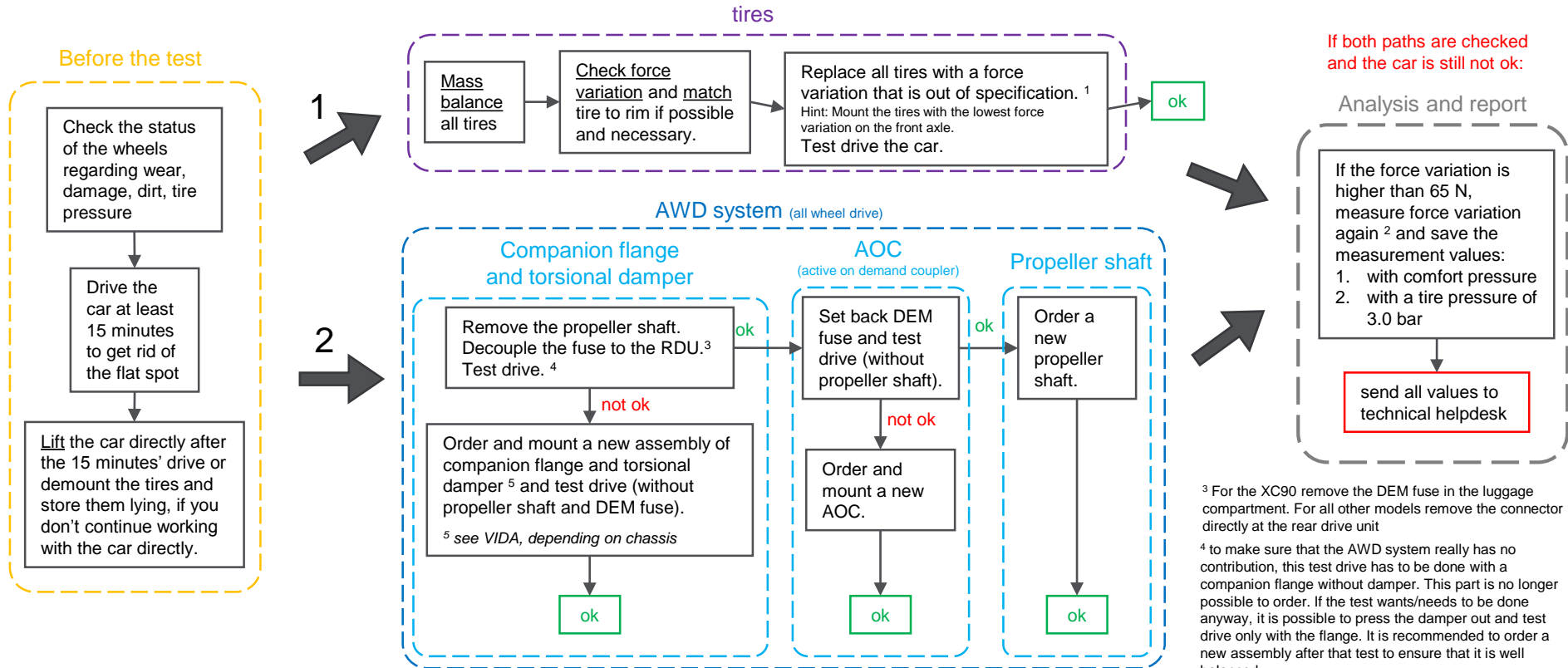
Make sure all tires have comfort pressure.

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



³ For the XC90 remove the DEM fuse in the luggage compartment. For all other models remove the connector directly at the rear drive unit

⁴ to make sure that the AWD system really has no contribution, this test drive has to be done with a companion flange without damper. This part is no longer possible to order. If the test wants/needs to be done anyway, it is possible to press the damper out and test drive only with the flange. It is recommended to order a new assembly after that test to ensure that it is well balanced.



IF THE CAR IS STILL VIBRATING...

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)