

## Humming, droning, vibrating, throbbing in various operating states

|                   |                                                                                      |
|-------------------|--------------------------------------------------------------------------------------|
| Topic number      | LI35.30-P-059149                                                                     |
| Version           | 1                                                                                    |
| Design group      | 35.30 Final drive, drive shafts                                                      |
| Date              | 06-04-2014                                                                           |
| Validity          | Only affects vehicles of model series C117, 156, 176, 246 with 4Matic (SA code M005) |
| Reason for change |                                                                                      |
| Reason for block  |                                                                                      |

### Complaint:

1. Low-frequency throbbing or vibration at 1200 - 1400 rpm under light load, primarily noticeable in the rear compartment.
2. Throbbing at a constant speed of 75 - 86 km/h under light load, also possible when accelerating (all gear ranges affected).

### Cause:

Several causes are possible:

1. Unfavorable setup of the rubber mounts at the rear axle differential.
  - 1a. Hollow axle side shaft installed on the rear axle.
2. Slight imbalance between propeller shaft and rear axle differential.

### Remedy:

1. Install rear axle damper (A 246 350 54 01) in model series 117, 156 and 246 (Figure 2); this measure is not possible on model series 176 because the installation space is too small.
  - 1a. Only for vehicles up to production date 31.12.2013!: Check tube diameter of both side shafts on rear axle. Shafts with a diameter of 23 mm should be installed. If shafts with a diameter of 33 mm are installed, these must be replaced (Figure 1).
2. Rotate the propeller shaft at the 3-arm flange of the rear axle differential (the 3-arm flange allows three possible assembly positions).

| Attachments                               |                                           |
|-------------------------------------------|-------------------------------------------|
| File                                      | Description                               |
| Rear Axle Shaft Type.pdf                  | Rear axle side shaft (solid shaft)        |
| Mounting Position of Rear Axle Damper.pdf | Installation location of rear axle damper |

| Symptoms                                                                        |
|---------------------------------------------------------------------------------|
| Power transmission / Power transmission, noise / Throbbing/intermittent humming |
| Power transmission / Power transmission, noise / Humming/droning                |

Power transmission / Drive shaft / Propeller shaft / Propeller shaft - noises / Humming/droning

Power transmission / Drive shaft / Axle shaft / Axle shaft, noise / Humming/droning

## Parts

| Part number     | ES1 | ES2 | Designation                   | Quantity | Note                                       | EPC | Other<br>ma-<br>ke<br>part |
|-----------------|-----|-----|-------------------------------|----------|--------------------------------------------|-----|----------------------------|
| A 246 350 95 00 |     |     | Left side shaft               | 1        |                                            | X   |                            |
| A 246 350 96 00 |     |     | Right side shaft              | 1        |                                            | X   |                            |
| A 246 350 54 01 |     |     | Rear axle differential damper | 1        |                                            | X   |                            |
| N 910105 014022 |     |     | Bolt for rear axle damper     | 1        | The bolt must be renewed at the same time. | X   |                            |
| A 230 990 00 40 |     |     | U-washer                      | 1        |                                            | X   |                            |

## Validity

| Vehicle   | Engine | Transmission |
|-----------|--------|--------------|
| 156.902   | *      | *            |
| 156.903   | *      | *            |
| 156.905   | *      | *            |
| 156.908   | *      | *            |
| 156.912   | *      | *            |
| 156.943   | *      | *            |
| 156.944   | *      | *            |
| 156.945   | *      | *            |
| 156.946   | *      | *            |
| 156.952   | *      | *            |
| 242.848   | *      | *            |
| 242.890   | *      | *            |
| 246.200   | *      | *            |
| 246.201   | *      | *            |
| 246.203   | *      | *            |
| 246.207   | *      | *            |
| 246.211   | *      | *            |
| 246.212   | *      | *            |
| 246.242   | *      | *            |
| 246.243   | *      | *            |
| 246.244   | *      | *            |
| 246.247   | *      | *            |
| A (176)   | *      | *            |
| CLA (117) | *      | *            |