
Howling, humming, droning, vibrations from drivetrain

Topic number	LI35.31-P-056961
Version	1
Design group	35.31 Rear axle center assembly
Date	08-12-2013
Validity	Affects all rear-wheel drive vehicles and 4MATIC vehicles
Reason for change	Document no. changed under remedial action.
Reason for block	

Complaint:

Howling, humming, droning, vibrations from the drivetrain in a specific vehicle speed range (e.g. between 50 mph and 55 mph)

If the complaint applies to the entire vehicle speed range - The differential has bearing damage.

Note: Two new damage types are available:

G 5 Noise in entire vehicle speed range - Bearing damage (see reference noise in attachment).

G 6 Noise within limited speeds

Attachments	
File	Designation
Bearing Noise Reference File.mp3	Reference File

Cause:

Drivetrain complaints can be traced to a number of different causes.

Imbalance of the wheels, imbalance of the propeller shaft flange, a stressed drivetrain and unfavorable positioning of the propeller shaft relative to the rear axle differential.

Remedy:

We recommend performing a test drive first to establish the nature of the complaint.

For accurate analysis and localization of the noise, use the "Steelman Chassis Ear" noise diagnosis kit (Optional Equipment - Please contact our Approved Equipment provider BASS, formerly known as SPX, at 1-888-458-4040)

Vibrations, humming and droning, howling may all be caused by imbalance of the wheels, tire flat spots or radial and lateral runout of the wheels.

The following procedure is recommended:

1.) Fit new, balanced genuine Mercedes-Benz wheels (test wheels) on the vehicle. Then perform a test drive.

2.) Check the bolted connections of the propeller shaft:

Are all the bolts present?

Are all the bolts the same length?

Do all bolted connections have washers?

Check the tightening torques (see WIS)

3.) Change the positioning of the rear axle differential flange relative to the propeller shaft:

Three-arm flange: Twist through 120 degrees

Four-arm flange: Twist through 90 degrees

4.) Relieve stress in the engine mounts, transmission mounts, exhaust system, flexible coupling, propeller shaft intermediate bearing/center bearing (LI22.10-P-056910).

Check flexible coupling for cracks and replace if necessary

Relieve stress in propeller shaft intermediate bearing/center bearing (if the intermediate bearing/center bearing has to be replaced, the aluminum version must be used).

XENTRY

When relieving the stress in the intermediate bearing/center bearing of the propeller shaft, make sure that the vehicle is standing with all four wheels on the ground.

With the bolts of the intermediate bearing/center bearing slackened, push the vehicle forward and back or wiggle the propeller shaft.

Then retighten the bolts to the specified tightening torque (AR41.10-P-0100CW).

5.) Measure inclination angle of propeller shaft and correct if necessary.

Symptoms
Power transmission / Power transmission, noise / Howling/whistling
Power transmission / Differential / Rear axle differential / Rear axle differential, noise / Howling
Power transmission / Drive shaft / Propeller shaft / Propeller shaft - noises / Humming/droning

Validity		
Vehicle	Engine	Transmission
203.004	611	722.619
203.004	611	716.601
203.006	611	722.699
203.006	611	716.640
203.040	271.948	722
203.040	271.948	716.628
203.040	271.948	716
203.042	271.940	722
203.042	271.940	716.631
203.042	271.940	716.605
203.042	271.940	716
203.043	271.942	722
203.043	271.942	716
203.046	271.946	722
203.046	271.946	716.631
203.046	271.946	716.605
203.046	271.946	716
203.052	272.920	716.638
203.054	272.940	716.669
203.056	272.960	716.664
203.061	112.912	716.623
203.204	611	722.619
203.204	611	716.601
203.206	611	722.699
203.206	611	716.640
203.240	271.948	722
203.240	271.948	716.628
203.240	271.948	716

XENTRY

203.242	271.940	722
203.242	271.940	716.605
203.242	271.940	716.631
203.242	271.940	716
203.243	271.942	722
203.243	271.942	716
203.246	271.946	722
203.246	271.946	716.605
203.246	271.946	716.631
203.246	271.946	716
203.252	272.920	716.638
203.254	272.940	716.669
203.256	272.960	716.664
203.261	112.912	716.623
203.706	611	722.699
203.706	611	716.640
203.730	271.921	716
203.740	271.948	722
203.740	271.948	716.628
203.740	271.948	716
203.741	271.957	722
203.741	271.957	716
203.742	271.940	722
203.742	271.940	716.605
203.742	271.940	716.631
203.742	271.940	716
203.743	271.942	722
203.743	271.942	716
203.746	271.946	722
203.746	271.946	716.605
203.746	271.946	716.631
203.746	271.946	716
203.752	272.920	716.638
203.756	272.960	716.664
204.002	651.911	716
204.002	651.911	722.646
204.003	651	722.646
204.003	651	711
204.003	651.911	722.646
204.003	651.911	711.670
204.022	642.960	722
204.022	642.960	711
204.041	271	722.695

XENTRY

204.041	271	716.635
204.041	271.950	722.695
204.041	271.950	716.635
204.044	271	722
204.044	271	716
204.044	271.910	722.695
204.044	271.910	716.635
204.045	271.910	722.695
204.045	271.910	716.607
204.046	271	722.695
204.046	271	716.635
204.046	271.952	722.695
204.046	271.952	716.635
204.047	271.860	722.618
204.077	156	722.907
204.089	642.961	722
204.202	651.911	716
204.202	651.911	722.646
204.203	651.911	722.646
204.203	651.911	711.670
204.222	642.960	722
204.222	642.960	711
204.241	271	722.695
204.241	271	716
204.241	271.950	722.695
204.241	271.950	716.635
204.245	271.910	722.695
204.246	271	722.695
204.246	271	716
204.246	271.952	722.695
204.246	271.952	716.635
204.247	271.860	722.618
204.277	156	722.907
204.289	642.961	722
204.983	642.961	722
207.322	642.836	722.902
207.356	272.961	722
207.372	273	722
209.375	113.968	722.901
209.375	113.968	722.633
209.376	113.987	722.636
209.376	113.987	722.907
209.475	113.968	722.901

XENTRY

209.475	113.968	722.633
209.476	113.987	722.636
209.476	113.987	722.907
211.052	272.922	716.634
211.054	272.943	716.669
211.054	272.943	716.667
211.252	272.922	716.634
211.254	272.943	716.669
211.254	272.943	716.667
212.002	651.924	722.646
212.002	651.924	716
212.003	651.924	722.646
212.003	651	711
212.025	642.850	722.902
212.025	642.850	711
212.054	272.952	722.999
212.056	272.980	722.906
212.057	272.983	722.906
212.072	273.971	722.904
215.373	113.986	722.636
221.022	642.930	722.902
221.054	272.946	722
221.056	272.965	722
221.056	272.965	722.906
221.080	642.932	722.962
221.122	642.930	722.902
221.154	272.946	722
221.156	272.965	722
221.156	272.965	722.906
221.180	642.932	722.962
C (202)	113	722
C (202)	111	722
C (202)	111	716
C (202)	604	722
C (202)	112	722
C (202)	112	716
C (202)	601	722
C (202)	104	722
C (202)	605	722
C (202)	611	722.699
C (202)	611	722.612
C (202)	611	722.614
C (202)	111	717.417

XENTRY

C (202)	111	717.441
C (202)	111	717.418
C (202)	111	717.446
C (202)	111	717.460
C (202)	111	717.416
C (202)	611	717
C (202)	605	717.441
C (202)	605	717.417
C (202)	605	717.460
C (202)	601	717
C (202)	112	717
C (202)	104	717.441
C (202)	604	717
C (203)	272	722
C (203)	642	722
C (203)	642	716
C (203)	113	722
C (203)	112	722.668
C (203)	112	722.618
C (203)	112	722.696
C (203)	112	722.633
C (203)	112	722.667
C (203)	112	722.698
C (203)	646	722
C (203)	646	716.654
C (203)	646	716.606
C (203)	612	722.634
C (203)	612	722.642
C (203)	612	716.641
C (203)	111	722.616
C (203)	111	722.602
C (203)	111	716.668
C (203)	111	716.633
C (203)	111	716.622
C (203)	111	716.662
C (203)	111	716.632
C (203)	111	716.620
C (203)	111	716.663
C (203)	271	722
C (204)	272	722
C (204)	272	716
C (204)	646	722
C (204)	646	716.608

XENTRY

C (204)	646	716.657
CL (140)	120	722
CL (140)	119	722
CL (215)	113.991	722
CL (215)	113.960	722.636
CL (215)	113.960	722.901
CL (215)	275	722
CL (215)	137	722
CL (216)	275	722.649
CL (216)	273	722
CL (216)	156	722.907
CLK (208)	112	722
CLK (208)	113	722
CLK (208)	111	722
CLK (208)	111	716
CLK (208)	111	717
CLK (209)	642	716
CLK (209)	642	722
CLK (209)	273	722
CLK (209)	156	722
CLK (209)	112	716
CLK (209)	112	722
CLK (209)	272	716
CLK (209)	272	722
CLK (209)	646	716
CLK (209)	646	722
CLK (209)	271	716
CLK (209)	271	722.695
CLK (209)	612	716
CLK (209)	612	722
CLS (219)	642	722
CLS (219)	273	722
CLS (219)	156	722.907
CLS (219)	113	722
CLS (219)	272	722
E (210)	611	716.649
E (210)	611	716.603
E (210)	611	716.640
E (210)	611	716.651
E (210)	611	716.647
E (210)	611	716.601
E (210)	611	722
E (210)	602	722

XENTRY

E (210)	604	722
E (210)	112	716
E (210)	112	722
E (210)	605	722.605
E (210)	605	722.601
E (210)	605	722.699
E (210)	605	722.442
E (210)	605	722.614
E (210)	613	722
E (210)	119	722
E (210)	113	722
E (210)	104	722.509
E (210)	104	722.605
E (210)	104	722.424
E (210)	104	722.510
E (210)	104	722.604
E (210)	104	722.329
E (210)	104	722.629
E (210)	606	722
E (210)	612	716
E (210)	612	722
E (210)	111.957	716
E (210)	111.942	716
E (210)	111.947	716
E (210)	111.970	722
E (210)	111.957	722
E (210)	111.942	722
E (210)	111.947	722
E (210)	602	717
E (210)	111.970	717
E (210)	111.942	717
E (210)	111.947	717
E (210)	112	717
E (210)	611	717
E (210)	605	717
E (210)	606	717
E (210)	104	717.441
E (210)	604	717
E (211)	648	722
E (211)	642	716
E (211)	642	722
E (211)	629	722
E (211)	273	722

XENTRY

E (211)	647	716
E (211)	647	722
E (211)	156	722
E (211)	112	716
E (211)	112	722
E (211)	628	722
E (211)	113	722
E (211)	272	722
E (211)	646	716
E (211)	646	722
E (211)	271	716
E (211)	271	722
GLK (204)	272	722
S (140)	120	722
S (140)	603	722
S (140)	119	722
S (140)	104	722
S (140)	606	722
S (140)	104	717
S (220)	648	722
S (220)	137	722
S (220)	275	722
S (220)	112	722
S (220)	628	722
S (220)	613	722
S (220)	113	722
S (221)	629	722
S (221)	273	722
S (221)	275	722
S (221)	156	722.907
S (221)	272	722.999
S (221)	272	722.950
SL (129)	120	722
SL (129)	112	722
SL (129)	119	722
SL (129)	113	722
SL (129)	104	722
SL (129)	103	722
SL (129)	113	717
SL (129)	112	717
SL (129)	120	717
SL (129)	103	717
SL (129)	104	717

XENTRY

SL (230)	273	722
SL (230)	275.981	722.649
SL (230)	275.954	722.649
SL (230)	275.951	722.649
SL (230)	156	722
SL (230)	112	716
SL (230)	112	722
SL (230)	113	722
SL (230)	272	722
SLK (170)	112	716
SLK (170)	112	722
SLK (170)	111	716
SLK (170)	111	722
SLK (170)	111	717.417
SLK (170)	111	717.418
SLK (170)	111	717.460
SLK (171)	113	722
SLK (171)	272	716
SLK (171)	272	722
SLK (171)	271	716
SLK (171)	271	722