

Repeat engine smoothness control codes...



[Nick Guraluick](#) 19 posts since Mar 14, 2016

Repeat engine smoothness control codes 5362/16 Jun 19, 2020 9:16 PM

5362/16 engine smoothness control/cylinder #5 quantity deficit. vin: KA6078, 2019 western star 5700. 591512kms, I'm looking for some ideas on this unit. Customer keeps getting repeat fault codes for engine smoothness control, it does jump around to different cylinders. Each time we see the unit for these codes we perform all the troubleshooting and it leads us to replacing the injector. We have replaced all 6 injectors once and cylinder #2 has been replaced twice, We have also replaced the MCM, both injector harness's and the engine harness. The engine was rebuilt about a week ago as per csc in response to these codes. The code has returned and I do have a ticket started with the csc again. Has anyone had these issues before? Am I missing something obvious? All of the troubleshooting is checking out and no engine over speeds. idle speed balance test is 0 on all cylinders, relative compression is 95% and up (tested three times).



[Jon Cecil](#) 848 posts since Nov 25, 2014

Re: Repeat engine smoothness control codes 5362/16 Jun 20, 2020 2:51 AM

Inspect for any flywheel tone ring damage? Any damage or debris on crank sensor?



[Nick Guraluick](#) 19 posts since Mar 14, 2016

Re: Repeat engine smoothness control codes 5362/16 Jun 22, 2020 3:48 PM

no damage on the crank sensor or the flywheel/tone ring



[James McFadden](#) 156 posts since Dec 9, 2014

Re: Repeat engine smoothness control codes 5362/16 Jun 22, 2020 11:42 AM

has the overhead adjustment been checked ? I have had some tight valves cause this. not holding a valve open to the point of failing a relative compression test, but when running allowing more air into / out of a cylinder and that changes the combustion rate thus causing a idle speed issue that the injector is trying to compensate for and will set a code for idle smoothness control . just try to think what its trying to tell you. its not always an injector problem , its just trying all it can do to keep the idle speed relevant between all cylinders. something causing a cylinder to move too slow or to fast relative to the others. bearing , liner, rings, valves, cams, injector, ect.

possible a harness issue picking up an extra pulse from a tone wheel .



[Scott Trippel](#) 3,958 posts since Dec 13, 2014

Re: Repeat engine smoothness control codes 5362/16 Jun 22, 2020 3:09 PM

Interesting TS

The causes it lists at the beginning are:

Repeat engine smoothness control codes...

- **Drivetrain Vibrations....it list this first yet there are no steps in the TS to see if there is a vibration? Is there?**
- Valve Lash Out Of Adjustment
- Valve Train Damage/Failure
- Bent Valve
- Valve Face/Seat Damage
- Stuck Jake Brake
- Bearing Failure
- Bent Connecting Rod
- Cylinder Liner Damage
- Piston Ring Damage
- Failed Cylinder Head Gasket
- Failed Fuel Injector



[Nick Guraluick](#) 19 posts since Mar 14, 2016

Re: Repeat engine smoothness control codes 5362/16 Jun 22, 2020 3:52 PM

we have road tested the truck multiple times and no vibrations are felt/noticed, customer hasn't noticed any vibrations, we have checked the drive line and drive line angles, everything looks good, we have reset the valve multiple times and just checked again this morning and they are still within spec. This truck will sometimes run for a couple weeks before the code returns, so it has been difficult to verify if the problem is repaired



[James McFadden](#) 156 posts since Dec 9, 2014

Re: Repeat engine smoothness control codes 5362/16 Jun 22, 2020 4:34 PM

I haven't seen it happen before but.... im wondering if something in the apt gearbox is got a little hitch in it and causing a brief slowdown in the gear train when that cylinder is firing and thinks is too slow . it is across different cylinders at different time you say . . im just thinking outside the box here.



[Nick Guraluick](#) 19 posts since Mar 14, 2016

Re: Repeat engine smoothness control codes 5362/16 Jun 22, 2020 4:53 PM

Repeat engine smoothness control codes...



Repeat engine smoothness control codes...

these are of the intake cam shaft and cam tray, all journals look similar which it appears this is normal wear. the scoring is quite deep but I'm not sure this would cause the engine smoothness issue. Just waiting on the CSC to see what they think about these parts.



[Nick Guraluick](#) 19 posts since Mar 14, 2016

Re: Repeat engine smoothness control codes 5362/16 Jul 30, 2020 3:05 PM

The CSC had us replace the cams and cam housing, Unit coded again during the first trip. When the unit returned to the shop the CSC had us replace both rocker shafts and all rocker arms. This seemed to have fixed it for just over two weeks. The unit just coded again last night and is on the way to our shop as we speak. Not sure where else to go with this unit. Any ideas?



[Scott Trippel](#) 3,958 posts since Dec 13, 2014

Re: Repeat engine smoothness control codes 5362/16 Jul 30, 2020 4:11 PM

I would consider pulling the head off and inspect for:

- Valve Lash Out Of Adjustment
- Valve Train Damage/Failure
- Bent Valve
- Valve Face/Seat Damage
- Stuck Jake Brake
- Bearing Failure
- Bent Connecting Rod
- Cylinder Liner Damage
- Piston Ring Damage
- Failed Cylinder Head Gasket
- Failed Fuel Injector

We had our first ever DD16 with a blown head gasket, first one since the HDEP engine began in 2007



[Nick Guraluick](#) 19 posts since Mar 14, 2016

Re: Repeat engine smoothness control codes 5362/16 Jul 30, 2020 4:53 PM

CSC had us pull the head off in June and the unit ended up getting 6 cylinder kits and a new head. The jake brake solenoids were replaced with the cam frame and rockers. we have also removed the injectors again and measured piston protrusion. So far everything is checking out. When the unit gets to the shop today we will be contacting the CSC again, I just wanted to update the thread in case anyone else was seeing this issue. I thought we had it fixed with the rocker arms and shafts. I guess it is possible something we have previously looked at has failed now, we are having fun with the warranty on this unit, since we are replacing parts and not really fixing anything or they are not (warrant-able) failures. So we have been waiting for the CSC or our DSM to make the call on how to proceed.



[Penske St augustine](#) 2 posts since Jul 14, 2020

Re: Repeat engine smoothness control codes 5362/16 Oct 9, 2020 9:05 PM

Repeat engine smoothness control codes...

I have a 2016 freightliner Cascadia that has the same code for a while now. it seems to stay on cylinder #2 only but it will not go away. mine also surges pretty bad at idle. I haven't been able to get the customer to let me keep the truck long term to try and diagnose it because it doesn't seem to have any power loss or fuel mileage issues. I will follow this thread and see what you guy's come with.



[Penske St augustine](#) 2 posts since Jul 14, 2020

Re: Repeat engine smoothness control codes 5362/16 Oct 9, 2020 9:08 PM

correction I do not have the same exact code but I believe it is related to the one you have.

spn 1324 / 31 Idle Smoothness Control / Cylinder #2 Quantity Deficit At Idle