

Hard Cold Start



[Corey Magnus](#) 28 posts since Sep 8, 2015

Hard Cold Start Feb 11, 2021 8:13 PM

i have a 04 Freightliner columbia DDEC 5 vin/N30344 /06R0761748 when it is inside it will start just fine but take it outside for a couple hours and it starts really hard and smokes a lot i have egr code of 39 boost power. i think that is a different problem i do have the ambient air temp sensor is reading 30 degrees F different from all the others so 66 in shop it is reading 35 and out side it was -5 but the sensor was reading -25. does the ambient air temp sensor affect a 60 for start up or does it use the inlet temp sensor for that

i am with a western star dealer



[Scott Trippel](#) 4,094 posts since Dec 13, 2014

Re: Hard Cold Start Feb 11, 2021 11:33 PM

No S60 does not use the ambient air sensor for any fueling.

What is the crank speed

what is the fuel pressure

and what are your compression readings?

Could be just the cold air



[Robert Cadell Jr](#) 2,837 posts since Nov 9, 2014

Re: Hard Cold Start Feb 11, 2021 11:43 PM

That's confusing Scott drawing a06-47470-001 shows a ambient temp sensor on the engine wiring supplied by freightliner ill upload the print



[Robert Cadell Jr](#) 2,837 posts since Nov 9, 2014

Re: Hard Cold Start Feb 11, 2021 11:46 PM

see attached use revision -001 right above the ecm up about 8 inches, if equipped the sensor should be tied off to the metal fuel line.

Looking something else up real quick. Wanted to get this out there.

- [ddec 5 engine print.pdf](#) 1.2 MB Preview



[Robert Cadell Jr](#) 2,837 posts since Nov 9, 2014

Re: Hard Cold Start Feb 11, 2021 11:55 PM

Hard Cold Start

the print shows a ambient temp sensor, but on the engine side only thing I can see is a Barometric temp sensor.

and to be honest at this point I dont remember, can you take a pic of the screen where you are seeing this?

I would start with [Scott Trippel](#) request



[Robby Dabernig](#) 123 posts since Nov 14, 2014

Re: Hard Cold Start Feb 12, 2021 12:22 AM

We see this problem quite a bit in glider kits with reman Detroit's. We never really had one come in with that as a complaint though. But I remember hearing something about a cracked head causing this issue. Causing low compression when cold but sealing up when its warm.



[Steve Reppard](#) 168 posts since Jun 29, 2020

Re: Hard Cold Start Feb 13, 2021 1:54 PM

Well I would make sure it isn't flowing egr when cold, that will cause excessive smoke and poor running until it is up to temps where egr starts flowing. I would look into that code for egr and rule it out.



[Brett Hall](#) 12 posts since Jul 25, 2020

Re: Hard Cold Start Feb 13, 2021 6:01 PM

what is fuel pressure while cranking when cold? does it have a fuel knock when it first starts to crank? what are fuel pressures at idle and 2100 rpm? any air in return line?



[Corey Magnus](#) 28 posts since Sep 8, 2015

Re: Hard Cold Start Feb 15, 2021 8:21 PM

i just got back on the truck today i have put sight glass on the out of fuel pump and then on the return line i have a pressure gauge on and at idle i have 18 and at 2100 i have 28 that is in the shop i have it out side cooling down in the sight glass the is some small micro bubbles that i have been told not to worry about in the past but maybe i should be i have put pics of the temps one is in the shop and one is out side before starting it after two hours. after i get it back in the shop i will start going after the egr code if i dont find anything from it sitting out side

Hard Cold Start

Fuel Delivery Pressure	14.4	psi
Engine Oil Pressure	No Data	psi
Air Inlet Pressure	0.0	psi
Fuel Filter Differential Pressure	14	psi
Oil Filter Differential Pressure	No Data	
Air Filter Differential Pressure	No Data	
Temperature		
Engine Oil Temperature	35	*F
EGR Temperature	73	*F
Engine Coolant Temp	39	*F
Ambient Air Temperature	-24	*F
Fuel Temperature	20	*F
Air Inlet Temperature	34	*F
Exhaust Temperature	No Data	*F
Intake Air Temp	No Data	*F
Internal ECU Temperature	No Data	*F
Engine ECU Temp	15	*F
Indicators		
Idle Shutdown Timer Function	Disabled In Calibration	
Idle Shutdown Timer Status	Inactive	
Idle Shutdown Driver Alert Mode	Inactive	
For Help, press F1		
estd. DDEC Repo. DML-20180. DESA1_5_0. OPTI/MAAX	SERVICE PRO	
Diagnosti	Subscriptions	

Hard Cold Start

Aux. Water Pump Pressure	No Data	psi	---	---
EGR Delta Pressure	5.2	"H2O	5.2	5.5
Crankcase Pressure	No Data	"H2O	---	---
Barometric Pressure	14.3	psi	14.3	14.3
Fuel Delivery Pressure	No Data	psi	---	---
Engine Oil Pressure	0.0	psi	0.0	0.0
Air Inlet Pressure	14.5	psi	14.5	14.5
Fuel Filter Differential Pressure	No Data	"Hg	---	---
Oil Filter Differential Pressure	No Data		---	---
Air Filter Differential Pressure	No Data		---	---
Temperature				
Engine Oil Temperature	65	*F	65	65
EGR Temperature	82	*F	80	82
Engine Coolant Temp	65	*F	65	65
Ambient Air Temperature	35	*F	35	35
Fuel Temperature	65	*F	64	65
Air Inlet Temperature	64	*F	64	65
Exhaust Temperature	No Data	*F	---	---
Intake Air Temp	No Data	*F	---	---
Internal ECU Temperature	No Data	*F	---	---
Engine ECU Temp	63	*F	60	63
Indicators				
Idle Shutdown Timer Function	Disabled In Calibration		Disabled In Calibration	Disabled In Calib
Idle Shutdown Timer Status	Inactive		Inactive	Inactive
Idle Shutdown Driver Alert Mode	Inactive		Inactive	Inactive
Idle Shutdown Timer Override	Inactive		Inactive	Inactive
Idle Shutdown Engine Shutdown	No		No	No
Engine Oil Level	No Data		---	---
Coolant Level	Full		Full	Full
SRS Received	No		No	No
Active Governor	None		None	None
In Smoke Control Mode	No		No	No
Opt Idle Alarm Mode	Unconfigured		Unconfigured	Unconfigured
Opt Idle Start Relay	Unconfigured		Unconfigured	Unconfigured
Opt Idle System	Unconfigured		Unconfigured	Unconfigured
Opt Idle Thermostat Ctrl Mode	On		On	On
Half Engine Mode	Inactive		Inactive	Inactive
Engine Brake	Off		Off	Off



[Robert Cadell Jr](#) 2,837 posts since Nov 9, 2014

Re: Hard Cold Start Feb 15, 2021 8:59 PM

ok, I have a silly thing to ask, Run the unit out of a 5 gallon bucket, make up somelines, run your inlet and return to the bucket, fill 3/4 full of fuel prime the unit start and let run, you may have to add some to your 5 gallon bucket, if BY CHANCE this resolves your issue then go over your fuel lines to the truck, does the unit have cut off valve for a dual tank set up? those will leak over time and you wont know it.