

Optimized Idle batteries dying (no OI...



Nathaniel Main 8 posts since Sep 28, 2019

Optimized Idle batteries dying (no OI specific faults) Nov 1, 2019 9:26 PM

Customer has a 2020 new Cascadia using parksmart and OI. This is the 3rd dealership the customer has come to with this issue. Previous dealerships could find no problem with OI. Previous dealerships tested entire powernet system. I rechecked all points. Everything looks good. Customer states that when he is in extreme cold or heat conditions running OI and parksmart overnight, OI fails and batteries die. Customer states that he tried setting OI to both interior comfort on and off. Both OI modes start and initially run correctly. Some time in the night, the batteries die without OI engaging battery mode. I checked all parameters, parameters are set correctly. Ambient temperature is correctly reading. I cleared the numerous faults and let the truck complete the initial OI run time and then let parksmart run with OI in standby mode. When batteries dropped below the default 12.2v threshold, OI started the engine perfectly. Battery mode charged the batteries to a steady 14.1v. I have been on the phone with DTTS all day, and nobody can find any resolution. Has anyone run into this issue? I attached all of the faults that were present upon the trucks arrival. I troubleshot system sSam power faults, and everything looks fine



Talbert Simonian 1,831 posts since Nov 21, 2014

Re: Optimized Idle batteries dying (no OI specific faults) Nov 2, 2019 12:03 AM

What is the VIN? I would like to look more into it. Is it using Parksmart or Optimized Idle?



Nathaniel Main 8 posts since Sep 28, 2019

Re: Optimized Idle batteries dying (no OI specific faults) Nov 4, 2019 4:49 PM

VIN: 3AKJHHDR1LSLT6986

OI set to either interior comfort on or off has same results. Parksmart runs between OI engine run cycles.



Kyle Siebert 4,101 posts since Nov 14, 2014

Re: Optimized Idle batteries dying (no OI specific faults) Nov 2, 2019 2:36 AM

You can change the O/I restart from 12.2 to a higher voltage of like 12.4 or so.

We have been seeing quite a few of those super heavy duty AGM batteries testing bad.



Nathaniel Main 8 posts since Sep 28, 2019

Re: Optimized Idle batteries dying (no OI specific faults) Nov 4, 2019 4:47 PM

Optimized Idle batteries dying (no OI...

Customer already took the truck home instead of trying to replicate fault overnight as DTTS recommended. I did notice that when the truck went into battery mode, the initial start at 12.15v hardly started the engine. But no faults are being logged for battery mode going into continuous mode because of battery failure. The procedure I took to begin troubleshooting was OI>interior comfort on>initial engine run phase> 1.5 hours voltage drop from 13.4v to 12.15>OI initialized battery mode 2 hour cycle>battery voltage maintained 14.1v while running>standby mode with similar battery drain as first standby.

The customer states that there are 2 vehicles in their fleet with identical problems, so if it is some sort of issue with parameters, it would be good for future reference.



[Kyle Siebert](#) 4,101 posts since Nov 14, 2014

Re: Optimized Idle batteries dying (no OI specific faults) Nov 4, 2019 6:39 PM

Now I'm not sure if it will set a code if the hood is opened during a O/I restart.

So you could check the mounting of the hood tilt switch

Also, would have to check switch in parts pro to see if open and closed resistance readings are open/closed circuits or if it's a change in resistance. A switch that is open closed type, you could have a intermittent open circuit and it won't be a issue till a o/i restart.



[Nathaniel Main](#) 8 posts since Sep 28, 2019

Re: Optimized Idle batteries dying (no OI specific faults) Nov 5, 2019 4:53 PM

there were no faults or issues with the hood tilt switch. I checked the operation while OI was in a running cycle. When the hood opens, OI alerts and stops engine cycle.



[Nathaniel Main](#) 8 posts since Sep 28, 2019

Re: Optimized Idle batteries dying (no OI specific faults) Nov 5, 2019 4:53 PM

The main issue is that the batteries somehow go below the battery mode threshold without starting the OI battery mode.



[Chris Vanboom](#) 172 posts since Nov 21, 2014

Re: Optimized Idle batteries dying (no OI specific faults) Nov 18, 2019 9:14 PM

Optimized Idle batteries dying (no OI...

We had one here with the exact same issue, replacing Aux and Main batteries ended up fixing it. You can monitor the last 5 OI cancellations with DDDL if you want to check for an intermittent hood tilt switch issue. Find "Latest OI dropout reason (0-4)" in instrumentation.



Nathaniel Main 8 posts since Sep 28, 2019

Re: Optimized Idle batteries dying (no OI specific faults) Nov 19, 2019 2:07 PM

I'll keep that noted if we see another truck with this issue again. I wasn't aware of that instrumentation field.



German Alamos 3 posts since Dec 3, 2018

Re: Optimized Idle batteries dying (no OI specific faults) Apr 23, 2020 3:32 PM

I HAVE A UNIT CUSTOMER CAME IN FOR HOOD TILT SWITCH FAULTY, CHECKED UNIT OVER FPUND EVERYTHING WORKING PROPLERY WITH HOOD TILT SWITCH, CORRECT VOLTAGE, WIRES CHECKED OUT GOOD, CALLED CUSTOMER TO GET MORE INFO SAY OI CUTS OUT AND DOES NOT READ HOOD SWITCH, CHECKED BATTERY VOLTAGE READS 12.34 VOLTS, CHECKED OI DROP OUTS SHOWS NOTHING ASSISGNEED

DiagnosticLink - Professional

File Edit View Log Parameters Actions Tools Help

Find

Full Screen

Identification

Fault Codes

Troubleshooting

Instrumentation

Service Routines

I/O Control

Parameters

Program Device

Connections

Common Powertrain Cont...

CPC302T: Online

Motor Control Module 2.1

MCM21T: Online

Transmission Control Mod...

TCM01T: Online

Antilock Braking System

ABS02T: Online

Integrated Predictive Pow...

IPPC01T: Online

Steering Angle Sensor

SAS01T: Online

Instrument Cluster

J1708

J1939

FAH

Instrumentation

VIN: 3AKJH0R4LSL65118

ESN: 47291050710617

Vehicle: New Cascadia-Sleeper

Engine: DDEC16-DD15

Transmission: DF12-DT12 OA

English (United States) troubleshooting content (DDC-SVC-MAN-0211) is missing and needs to be downloaded. This requires an internet connection, and may take a few minutes. Click here to download this content now.

Instrument	Value	Units	Minimum	Maximum	Description
AS: Lever Lock Indicator: LeverLockIndicatorBit 2 - AP difference	False				AP difference
AS: Lever Lock Indicator: LeverLockIndicatorBit 3 - EBM lever no	False				EBM lever no
AS: Lever Lock Indicator: LeverLockIndicatorBit 4 - EBM lever no	False				EBM lever no
AS: Lever Lock Indicator: LeverLockIndicatorBit 5 - RetDirectSw	False				RetDirectSw
AS: Lever Lock Indicator: LeverLockIndicatorBit 6 - RetDirectSw	False				RetDirectSw
AS: Maximum Speed Path State	SPDLIM_BY_N				
AS: Minimum SpeedPath State	SPDLIM_BY_N				
AS: OI Last Dropout Reason 1	not assigned				
AS: OI Last Dropout Reason 2	not assigned				
AS: OI Last Dropout Reason 3	not assigned				
AS: OI Last Dropout Reason 4	not assigned				
AS: OI Last Dropout Reason 5	not assigned				
AS: Optimized Idle Current State	Optimized Idle				
AS: PMC Veh Stand Still	standstill				
AS: PTO Diag Status	Engine Off				
AS: RSL VSpeed Adder	No vehicle sp				
AS: RSL VSpeed Limiter	Customer limi				
AS: Requested Power Rating Engine Map	non-reduced				
AS: Retarder Disable Condition: RetarderDisableConditionBit 0 - r	False				retarder disab

10:26 AM 4/23/2020

Optimized Idle batteries dying (no OI...

DiagnosticLink - Professional

File Edit View Log Parameters Actions Tools Help

Find

Full Screen

VIN: 3AKJHHR4LSL65118
E3N: 47291050710617

Vehicle: New Cascadia-Sleeper
Engine: DDEC16-DD15
Transmission: DT12-DT12 OA

English (United States) troubleshooting content (DDC-SVC-MAN-0211) is missing and needs to be downloaded. This requires an internet connection, and may take a few minutes. Click here to download this content now.

All Faults Fault History Test Results Virtual Technician Data

Description	Number	Mode	Status	Troubleshooting Type
[UDS-0] CPC302T - Common Powertrain Controller 3				
CPC3 Ground Circuit Pin 5/6 Open Circuit	520204	5	not active	Traditional
Accelerator pedal not in idle position after reset while engine idles	524208	14	not active	Traditional
[UDS-11] ABS02T - Antilock Braking System				
SPN/FMI=1807/8 Steering Wheel Angle / abnormal frequency, pulse width or period	1807	8	not active	Refer to OEM
SPN/FMI=520216/31 ESC function is reduced (trailer ABS not OK) / condition exists	520216	31	not active	Refer to OEM
SPN/FMI=520240/9 External Brake Demand System (VRDU) / abnormal update rate	520240	9	not active	Refer to OEM
[UDS-23] ICUC01T - Instrument Cluster				
EEPROM checksum fault	523002	31	not active	Traditional
[UDS-33] SSAM02T - Single SAM				
MQ Switch Bus - malfunction	520197	31	previously active	Traditional
Hood Tilt Switch - Current Below Normal Or Open Circuit	520981	5	previously active	Refer to OEM
Trailer Stop Lamps - Voltage Below Normal, Or Shorted To Low Source.	521143	4	previously active	Traditional
[UDS-42] RDF02T - Radar Frontend 2				
ECU Contamination error (blockage detection)	523010	31	previously active	Traditional
ECU Disturbance - CAT2	523001	31	previously active	Traditional
[UDS-232] VRDU02T - Video Radar Decision Unit 2				
Chassis CAN Electrical error	639	3	not active	Traditional
Chassis CAN timeout	639	9	not active	Traditional
[J1939-209] J1939-209-33152 - Forward Road Image Processing				
Wheel-Based Vehicle Speed - Data erratic, intermittent or incorrect	84	2	previously active	Refer to OEM

Clear All Faults Clear Fault

Troubleshoot Symptom... Troubleshoot Fault...

, I ALSO ADDED 2 PICTURES OF CODES UNIT CAME IN WITH AND OI DROP OUT 0-4



Kyle Siebert 4,101 posts since Nov 14, 2014

Re: Optimized Idle batteries dying (no OI specific faults) Apr 23, 2020 7:02 PM

So was the issue was a hood tilt switch?

Interesting it wasn't detected by this drop out parameter.



German Alamos 3 posts since Dec 3, 2018

Re: Optimized Idle batteries dying (no OI specific faults) May 25, 2020 3:58 AM

The problem was just a hood tilt switch, installed a new one and everything started working as it should with no problems, unit never came back to the shop



Justin Johnson 983 posts since May 12, 2017

Re: Optimized Idle batteries dying (no OI specific faults) Nov 18, 2019 6:54 PM

Were you able to get to the bottom of this one, Nathaniel?



Nathaniel Main 8 posts since Sep 28, 2019

Re: Optimized Idle batteries dying (no OI specific faults) Nov 19, 2019 2:05 PM

Optimized Idle batteries dying (no OI...

I wasn't able to. The customer had taken the truck after the first night. Haven't returned since. But, the customer said that his fleet has 3 trucks with this issue, so I figured it would be a good thread to continue in case this is a broad issue with the OI/PS system.



[German Alamos](#) 3 posts since Dec 3, 2018

Re: Optimized Idle batteries dying (no OI specific faults) Apr 23, 2020 8:07 PM

I LEFT TRUCK IN OI MODE, WENT TO WORK ON OTHER UNIT AND CHECKED PRDIOTICALLY ON UNIT, UNIT STARTED WHEN BATTRIES GOT BELOW 12.2 AS IT SHOULD, THEN WHEN I CAME BACK UNIT WAS OFF AS IT SHOULD BE, CALLED TECH SUPPORT AND TALKED WITH THEM, HAD ME CHECK HOOD SWITCH MOUNTING WHITCH WE FOUND RIVETS MOVED AROUND BUT HELD SENSOR IN PLACE HAD ME INSTALL NEW RIVETS AND WILL RUN UNIT IN OI THROUGH THE NEXT DAY TO SEE IF THAT FIXES IT



[Kyle Siebert](#) 4,101 posts since Nov 14, 2014

Re: Optimized Idle batteries dying (no OI specific faults) Jul 16, 2020 6:36 PM

We had one here with the exact same issue, replacing Aux and Main batteries ended up fixing it. You can monitor the last 5 OI cancellations with DDDL if you want to check for an intermittent hood tilt switch issue. Find "Latest OI dropout reason (0-4)" in instrumentation.

Found this in CPC, * (enumeration), AS: OI Last Dropout Reason 1

This was also for a CPC5

s/n MH2906

Thank you for the tip Chris Vanboom Just expanding on it a little



[Nathaniel Main](#) 8 posts since Sep 28, 2019

Re: Optimized Idle batteries dying (no OI specific faults) Jul 17, 2020 6:55 PM

Glad I posted this here. That truck gave us hell. Good to know a solution was found.



[Kyle Siebert](#) 4,101 posts since Nov 14, 2014

Re: Optimized Idle batteries dying (no OI specific faults) Sep 29, 2020 8:34 PM

Have one here with CEL complaint and CPC code 1663/7 inactive. GHG14 engine.

Trying now to figure out what the "latin/engineer" terms are supposed to mean for "OI enable fault" and "OI cruise main off" as Latest OI Dropout Reason.

Doesn't seem to be described in:

GHG14/GHG17

REFERENCE GUIDE

GHG14/GHG17 DDEC13 Electronic

Optimized Idle batteries dying (no OI...

Controls Application and Installation

or

Optimized Idle User Manual

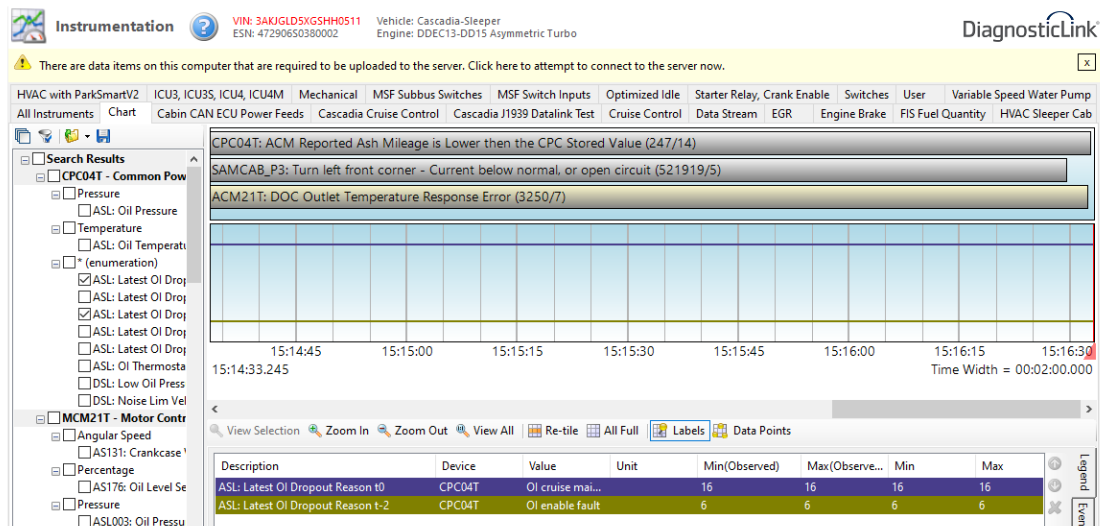


Kyle Siebert 4,101 posts since Nov 14, 2014

Re: Optimized Idle batteries dying (no OI specific faults) Sep 29, 2020 8:35 PM

Found this in CPC, * (enumeration), AS: OI Last Dropout Reason

ASL: Latest OI Dropout Reason t0	OI cruise main off			_098-Latest OI Dropout Reason t0
ASL: Latest OI Dropout Reason t-1	OI no fault			_100-Latest OI Dropout Reason t-1
ASL: Latest OI Dropout Reason t-2	OI enable fault			_101-Latest OI Dropout Reason t-2
ASL: Latest OI Dropout Reason t-3	OI no fault			_102-Latest OI Dropout Reason t-3
ASL: Latest OI Dropout Reason t-4	OI no fault			_103-Latest OI Dropout Reason t-4
ASL: MCM UDS Synch Status	MCMSYNC_READ			_049-MCM UDS Synch Status



Optimized Idle batteries dying (no OI...



[Mike Swint](#) 4 posts since Nov 14, 2014

Re: Optimized Idle batteries dying (no OI specific faults) Dec 31, 2020 9:28 PM

I have one in the shop same complaint, vin LP0671, I agree it would be nice to know what all the terms they use mean. I was looking at "opti idle VPS request" it shows level 13.?? What's that mean? I can load the batteries down below the 12.2 volt opti idle start threshold and nothing changes. hood switch statue is staying closed so I don't believe that to be a issue. In the older models I could always check the battery feature by just loading the batts with a carbon pile and it would start right up. I was watching all battery voltages, including the aux parksmart batts, and all dropped below the 12.2 but nothing happens.