

DATE	CUSTOMER ORDER NO.	DATE IN SERVICE	ENGINE MODEL	PUMP NO.	EQUIPMENT MAKE
03-JAN-2018		30-SEP-2009	ISX CM871 #		PETERBILT
CUSTOMER NO.	SHIP VIA	FAIL DATE	ENGINE SERIAL NO.	CPL NO.	EQUIPMENT MODEL
1477091		03-JAN-2018	79388474	2732	387
REF. NO.	SALESPERSON	PARTS DISP.	MILEAGE/HOURS	PUMP CODE	UNIT NO.
315285	212516		764029	AV10070	561222

QUANTITY ORDERED	BACK ORDERED	QUANTITY SHIPPED	PART NUMBER	DESCRIPTION	PRODUCT CODE	UNIT PRICE	AMOUNT
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OSN/MSN/VIN 1XP7D49XXAD103445

**COMPLAINT** CUSTOMER REQUEST UNIT HAVE DIAG RAN ON FUEL SYSTEM. NEEDS PRESSURE TESTED.

**CAUSE** CUSTOMER REQUEST

**CORRECTION** BACKED ON DYNO AND CHAINED DOWN. HOOKED UP GAUGES. RAN UNDER LOAD ON DYNO FOR A WHILE. FUEL RESTRICTION WAS 2 IN HG WHICH IS WITHIN SPEC. FUEL RAIL PRESSURE WAS THE SAME AS THE SENSOR WAS READING AND WAS 275 PSI UNDER LOAD. MADE A CONSISTANT 375 HP WHICH IS GOOD. ENGINE IS RATED FOR 450HP AND 80% IS 360HP. ALL OTHER PARAMETERS LOOKED GOOD WHILE LOADED. DID NOT HEAR ANY BOOST OR EXHAUST LEAKS. UNHOOKED EQUIPMENT FROM TRUCK AND PULLED OFF THE DYNO. CHECKED SENSORS WITH KEY ON ENGINE OFF AND DID NOT SEE ANY OUT OF SPEC. PERFORMED A REGEN TO CHECK READINGS. FOUND THAT THE BOOST, EXHAUST GAS PRESSURE AND TURBO SPEED WERE ALL HIGHER THAN THEY SHOULD HAVE BEEN. PROBABLY HAS DOC FACE PLUGGING. WOULD RECOMMEND CHECKING AND CLEANING THE EGR DIFF PORTS AND EXHAUST GAS PRESSURE SENSING TUBE. LOOKS LIKE THE EGR VALVE IS OPENING UP A LITTLE AS WELL AND WILL NEED INSPECTED TO SEE IF IT NEEDS CLEANED OR REPLACED. I WOULD RECOMMEND PRESSURE TESTING THE CAC AND TUBES AS WELL. ALSO THE LIFT PUMP IS NOT WORKING.

**COVERAGE** CUSTOMER BILLABLE

**REMARK** THANK YOU FOR USING CUMMINS SALES & SERVICE.

1 DY4604 FULL DYNO TEST

PARTS:	0.00
PARTS COVERAGE CREDIT:	0.00
TOTAL PARTS:	0.00
SURCHARGE TOTAL:	0.00

Billing Inquiries? Call 877-480-6970 or email CBSBridgeway.Receivables@cummins.com

THERE ARE ADDITIONAL CONTRACT TERMS ON THE REVERSE SIDE OF THIS DOCUMENT, INCLUDING LIMITATION ON WARRANTIES AND REMEDIES, WHICH ARE EXPRESSLY INCORPORATED HEREIN AND WHICH PURCHASER ACKNOWLEDGES HAVE BEEN READ AND FULLY UNDERSTOOD.

AUTHORIZED BY (print name)

SIGNATURE

DATE



**Sales and Service**

# Cummins Sales and Service

4000 Lyman Drive  
Hilliard Ohio  
614-771-1000

Name **Kage Trucking**

Vehicle Serial No.

Work Order **315285**

Engine Make

Engine ID **79388474**

Dyno Operator **44605**

Engine Model **ISX cm871**

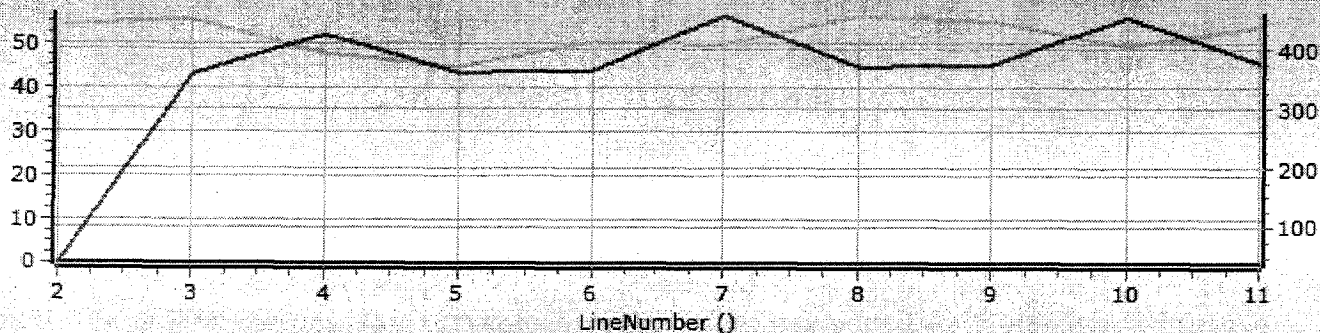
Engine Rating **450hp**

Operator Notes

Other Comments

Default test notes go here...

## cSpeed & Power



EngSpd (RPM) - 20180103 143555 
  VehSpd (mph) - 20180103 143555  
 VehPwr (hp) - 20180103 143555

DynPro2 - Taylor Dynamometer, Inc.

LineNum er ()	EngSpd (RPM)	VehSpd (mph)	VehPwr (hp)	eBoost press (psi)	eOilP (psi)	eCoolantT (° F)	eAccelPos (%)
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HARD STOP ACTIVATED

Faults Information

INSITE 8.3.0.120 / Datapack 8.3.00236

Company Name : Cummins Inc.

ECM Image Name : NA

Customer Name : USXPRESS

Count	Lamp	Description	PID	SID	J1587 FMI	J1939 FMI	SPN
First	Last	Units					
(Time)	022783:20:56	HH:MM:SS					
022090:49:27		HH:MM:SS					
991							
1	Amber	Accelerator Pedal or Lever Position Sensor 2 Circuit - Voltage Below Normal or Shorted to Low Source		385	4	4	2623
2	Red	Accelerator Pedal or Lever Position Sensor 1 Circuit - Voltage Below Normal or Shorted to Low Source			4	4	91
1	Amber	EGR Valve Controller - Out of Calibration		146	13	13	2791
2	Amber	Fuel Pump Delivery Pressure - Data Valid But Below Normal Operating Range - Moderately Severe Level			1	18	94
1	None	Roll Over Protection Brake Control Active - Condition Exists			11	31	1818
1	Amber	Coolant Level - Data Valid But Below Normal Operating Range - Moderately Severe Level		111	1	18	111



Engine Protection

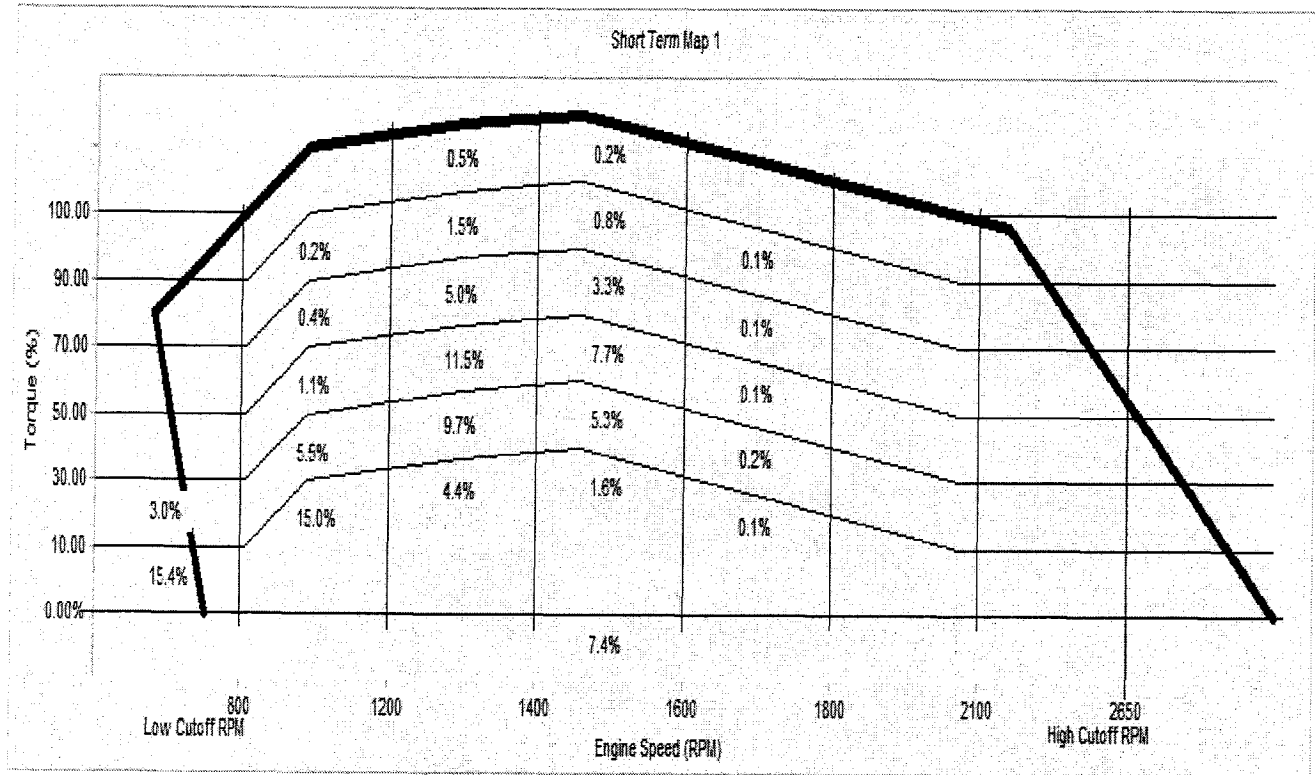
INSITE 8.3.0.120 / Datapack 8.3.00236  
 Company Name : Cummins Inc.  
 ECM Image Name : NA  
 Customer Name : USXPRESS

Fault Code	Occurrence	Value	Duration	ECM Time (Key On Time)	ECM Real Time
143	Newest	0.9 psi	000000:00:01	017446:08:44	Not Applicable
143	2	6.6 psi	000000:00:01	017446:08:37	Not Applicable
143	3	5.5 psi	000000:00:33	017446:05:53	Not Applicable
143	4	5.7 psi	000000:00:13	017429:13:41	Not Applicable
143	Oldest	5.8 psi	000000:00:05	017429:12:47	Not Applicable
151	Newest	241.0 °F	000000:00:01	006573:03:21	Not Applicable
2963	Newest	233.9 °F	000000:01:54	006576:58:00	Not Applicable
2963	2	225.6 °F	000000:00:04	006576:34:09	Not Applicable
2963	3	227.5 °F	000000:01:30	006573:21:16	Not Applicable
2963	4	226.0 °F	000000:00:11	006573:20:23	Not Applicable
2963	Oldest	242.8 °F	000000:00:33	006573:03:12	Not Applicable

Duty Cycle Monitor

Engine Serial Number : 79388474  
 Customer Unit Number : 01585  
 Work Order Name : NA

INSITE 8.3.0.120 / Datapack 8.3.00236  
 Company Name : Cummins Inc.  
 ECM Image Name : NA  
 Customer Name : USXPRESS



Aftertreatment History

INSITE 8.3.0.120 / Datapack 8.3.00236  
 Company Name : Cummins Inc.  
 ECM Image Name : NA  
 Customer Name : USXPRESS

Starting Diesel Particulate Filter Soot Load	Ending Diesel Particulate Filter Soot Load	Starting Diesel Oxidation Catalyst Intake Temperature	Maximum Diesel Particulate Filter Intake Temperature	Maximum Diesel Particulate Filter Outlet Temperature	Maximum Diesel Particulate Filter Differential Pressure
		°F	°F	°F	inHg
Normal	Normal	689.3	647.1	650.0	1.7
Normal	Normal	643.4	1044.5	1194.5	2.1
Normal	Normal	683.0	1038.0	1173.2	2.3
Normal	Normal	602.6	995.1	1034.0	1.2
Normal	Normal	636.4	1055.7	1089.5	1.9
Normal	Normal	672.5	1077.1	1100.7	3.1
Normal	Normal	684.5	715.6	741.2	3.0
Normal	Normal	623.9	731.8	814.1	1.7
Normal	Normal	673.7	780.0	822.0	1.9
Normal	Normal	586.4	1089.5	1142.9	2.2

Diesel Oxidation Catalyst Intake Temperature	Diesel Particulate Filter Intake Temperature	Diesel Particulate Filter Outlet Temperature	Diesel Particulate Filter Differential Pressure
°F	°F	°F	inHg
571.3	794.9	1282.2	1.3

Condition



Data Monitor/Logger

Engine Serial Number :79388474  
Customer Unit Number :01585  
Work Order Name :NA

INSITE 8.3.0.120 / Datapack 8.3.00236  
Company Name :Cummins Inc.  
ECM Image Name :NA  
Customer Name :USXPRESS

Parameter	Value	Units	Minimum Measured	Maximum Measured
Barometric Air Pressure	29.1	inHg	29.1	29.2
Battery Voltage	13.9	V	9.5	14.2
Crankcase Pressure	6.8	inH2O	0.0	13.4
EGR Differential Pressure	3.8	inHg	0.0	6.3
EGR Temperature	186.2	°F	38.4	207.9
EGR Valve Position Commanded	42	percent	0	77
EGR Valve Position Measured (Percent Open)	42	percent	0	77
Engine Coolant Level	Normal			
Engine Coolant Temperature	204.2	°F	74.0	207.5
Engine Oil Pressure	40.5	psi	0.0	60.7
Engine Oil Temperature	199.0	°F	75.3	199.0
Engine Operating State	Maximum Throttle			
Engine Speed	1651	RPM	0	2134
Exhaust Gas Pressure	107.91	inHg	28.66	127.70
Exhaust Gas Temperature (Calculated)	1037	°F	40	1193
Exhaust Volumetric Flowrate	28.80	ft3/s	0.03	30.22
Exhaust Mass Flowrate	59.2	lb/min	0.0	73.8
Fuel Rail Pressure Measured	280	psi	-1	287
Fuel Temperature Sensor	69.9	°F	41.8	85.9
Intake Manifold Air Temperature	143.2	°F	38.2	204.4
Intake Manifold Pressure	64.2	inHg	0.0	78.5
Percent Accelerator Pedal or Lever	100	percent	0	100
Percent Load	100	percent	0	101
Turbocharger Actuator Position Commanded (Percent	54	percent	0	100
Turbocharger Actuator Position Measured (Percent Closed)	54	percent	0	96
Turbocharger Speed	87062	RPM	0	90844
Aftertreatment Diesel Oxidation Catalyst Intake Temperature	741.5	°F	27.4	743.3
Aftertreatment Diesel Particulate Filter Intake Temperature	811.5	°F	68.5	811.5
Aftertreatment Diesel Particulate Filter Outlet Temperature	920.3	°F	13.2	920.3
Aftertreatment Diesel Particulate Filter Differential Pressure	3.05	inHg	0.00	3.09



## Data Monitor/Logger

Engine Serial Number :79388474  
 Customer Unit Number :01585  
 Work Order Name :NA

INSITE 8.3.0.120 / Datapack 8.3.00236  
 Company Name :Cummins Inc.  
 ECM Image Name :NA  
 Customer Name :USXPRESS

Parameter	Value	Units	Minimum Measured	Maximum Measured
Barometric Air Pressure	29.1	inHg	29.1	29.2
Battery Voltage	13.9	V	9.5	14.2
Crankcase Pressure	5.4	inH2O	0.0	13.4
EGR Differential Pressure	2.8	inHg	0.0	6.3
EGR Temperature	184.0	°F	38.4	207.9
EGR Valve Position Commanded	36	per cent	0	77
EGR Valve Position Measured (Percent Open)	37	per cent	0	77
Engine Coolant Level	Normal			
Engine Coolant Temperature	199.9	°F	74.0	213.5
Engine Oil Pressure	37.9	psi	0.0	60.7
Engine Oil Temperature	215.7	°F	75.3	215.7
Engine Operating State	Maximum Throttle			
Engine Speed	1553	RPM	0	2134
Exhaust Gas Pressure	96.40	inHg	28.66	127.70
Exhaust Gas Temperature (Calculated)	1040	°F	40	1201
Exhaust Volumetric Flowrate	28.20	ft3/s	0.03	30.89
Exhaust Mass Flowrate	56.5	lb/min	0.0	73.8
Fuel Rail Pressure Measured	277	psi	-1	287
Fuel Temperature Sensor	77.7	°F	41.8	85.9
Intake Manifold Air Temperature	104.9	°F	38.2	204.4
Intake Manifold Pressure	55.7	inHg	0.0	78.5
Percent Accelerator Pedal or Lever	100	per cent	0	100
Percent Load	100	per cent	0	101
Turbocharger Actuator Position Commanded (Percent)	49	per cent	0	100
Turbocharger Actuator Position Measured (Percent Closed)	49	per cent	0	96
Turbocharger Speed	84484	RPM	0	90844
Aftertreatment Diesel Oxidation Catalyst Intake Temperature	756.1	°F	27.4	766.9
Aftertreatment Diesel Particulate Filter Intake Temperature	837.8	°F	68.5	849.4
Aftertreatment Diesel Particulate Filter Outlet Temperature	915.9	°F	13.2	979.1
Aftertreatment Diesel Particulate Filter Differential Pressure	2.76	inHg	0.00	3.23

## Data Monitor/Logger

Engine Serial Number :79388474  
 Customer Unit Number :01585  
 Work Order Name :NA

INSITE 8.3.0.120 / Datapack 8.3.00236  
 Company Name :Cummins Inc.  
 ECM Image Name :NA  
 Customer Name :USXPRESS

Parameter	Value	Units	Minimum Measured	Maximum Measured
Barometric Air Pressure	29.1	inHg	29.1	29.2
Battery Voltage	13.9	V	9.5	14.2
Crankcase Pressure	5.0	inH2O	0.0	13.4
EGR Differential Pressure	4.0	inHg	0.0	6.3
EGR Temperature	210.7	°F	38.4	216.3
EGR Valve Position Commanded	58	percent	0	77
EGR Valve Position Measured (Percent Open)	57	percent	0	77
Engine Coolant Level	Normal			
Engine Coolant Temperature	203.2	°F	74.0	214.2
Engine Oil Pressure	37.5	psi	0.0	60.7
Engine Oil Temperature	223.8	°F	75.3	224.4
Engine Operating State	Maximum Throttle			
Engine Speed	1675	RPM	0	2134
Exhaust Gas Pressure	106.32	inHg	28.66	127.70
Exhaust Gas Temperature (Calculated)	1031	°F	40	1203
Exhaust Volumetric Flowrate	32.86	ft3/s	0.03	32.88
Exhaust Mass Flowrate	59.0	lb/min	0.0	73.8
Fuel Rail Pressure Measured	280	psi	-1	287
Fuel Temperature Sensor	83.4	°F	41.8	85.9
Intake Manifold Air Temperature	145.1	°F	38.2	204.4
Intake Manifold Pressure	63.2	inHg	0.0	78.5
Percent Accelerator Pedal or Lever	100	percent	0	100
Percent Load	100	percent	0	101
Turbocharger Actuator Position Commanded (Percent	53	percent	0	100
Turbocharger Actuator Position Measured (Percent Closed)	53	percent	0	96
Turbocharger Speed	86406	RPM	0	90844
Aftertreatment Diesel Oxidation Catalyst Intake Temperature	744.7	°F	27.4	783.1
Aftertreatment Diesel Particulate Filter Intake Temperature	884.6	°F	68.5	901.1
Aftertreatment Diesel Particulate Filter Outlet Temperature	1013.3	°F	13.2	1050.8
Aftertreatment Diesel Particulate Filter Differential Pressure	3.03	inHg	0.00	3.26

## Data Monitor/Logger

Engine Serial Number :79388474  
 Customer Unit Number :01585  
 Work Order Name :NA

INSITE 8.3.0.120 / Datapack 8.3.00236  
 Company Name :Cummins Inc.  
 ECM Image Name :NA  
 Customer Name :USXPRESS

Parameter	Value	Units	Minimum Measured	Maximum Measured
Barometric Air Pressure	29.1	inHg	29.1	29.2
Battery Voltage	13.9	V	9.5	14.2
Crankcase Pressure	4.4	inH2O	0.0	13.4
EGR Differential Pressure	3.8	inHg	0.0	6.3
EGR Temperature	210.7	°F	38.4	221.3
EGR Valve Position Commanded	55	percent	0	77
EGR Valve Position Measured (Percent Open)	54	percent	0	77
Engine Coolant Level	Normal			
Engine Coolant Temperature	201.6	°F	74.0	214.9
Engine Oil Pressure	34.9	psi	0.0	60.7
Engine Oil Temperature	226.9	°F	75.3	229.2
Engine Operating State	Maximum Throttle			
Engine Speed	1652	RPM	0	2134
Exhaust Gas Pressure	105.28	inHg	28.66	127.70
Exhaust Gas Temperature (Calculated)	1019	°F	40	1203
Exhaust Volumetric Flowrate	33.25	ft3/s	0.03	33.26
Exhaust Mass Flowrate	58.6	lb/min	0.0	73.8
Fuel Rail Pressure Measured	278	psi	-1	287
Fuel Temperature Sensor	93.5	°F	41.8	93.5
Intake Manifold Air Temperature	129.2	°F	38.2	204.4
Intake Manifold Pressure	61.3	inHg	0.0	78.5
Percent Accelerator Pedal or Lever	100	percent	0	100
Percent Load	100	percent	0	101
Turbocharger Actuator Position Commanded (Percent)	52	percent	0	100
Turbocharger Actuator Position Measured (Percent Closed)	52	percent	0	96
Turbocharger Speed	85867	RPM	0	90844
Aftertreatment Diesel Oxidation Catalyst Intake Temperature	751.3	°F	27.4	785.6
Aftertreatment Diesel Particulate Filter Intake Temperature	915.7	°F	68.5	926.3
Aftertreatment Diesel Particulate Filter Outlet Temperature	1033.0	°F	13.2	1050.8
Aftertreatment Diesel Particulate Filter Differential Pressure	2.94	inHg	0.00	3.26

## Data Monitor/Logger

Engine Serial Number :79388474  
 Customer Unit Number :01585  
 Work Order Name :NA

INSITE 8.3.0.120 / Datapack 8.3.00236  
 Company Name :Cummins Inc.  
 ECM Image Name :NA  
 Customer Name :USXPRESS

Parameter	Value	Units	Minimum Measured	Maximum Measured
Barometric Air Pressure	29.1	inHg	29.1	29.2
Battery Voltage	13.9	V	9.5	14.2
Crankcase Pressure	4.2	inH2O	0.0	13.4
EGR Differential Pressure	3.4	inHg	0.0	6.3
EGR Temperature	209.8	°F	38.4	221.3
EGR Valve Position Commanded	60	per cent	0	77
EGR Valve Position Measured (Percent Open)	60	per cent	0	77
Engine Coolant Level	Normal			
Engine Coolant Temperature	206.7	°F	74.0	214.9
Engine Oil Pressure	34.9	psi	0.0	60.7
Engine Oil Temperature	227.6	°F	75.3	230.0
Engine Operating State	Maximum Throttle			
Engine Speed	1600	RPM	0	2134
Exhaust Gas Pressure	100.81	inHg	28.66	127.70
Exhaust Gas Temperature (Calculated)	1066	°F	40	1218
Exhaust Volumetric Flowrate	32.49	ft3/s	0.03	33.26
Exhaust Mass Flowrate	56.7	lb/min	0.0	73.8
Fuel Rail Pressure Measured	276	psi	-1	287
Fuel Temperature Sensor	100.7	°F	41.8	100.7
Intake Manifold Air Temperature	145.1	°F	38.2	204.4
Intake Manifold Pressure	61.1	inHg	0.0	78.5
Percent Accelerator Pedal or Lever	100	per cent	0	100
Percent Load	100	per cent	0	101
Turbocharger Actuator Position Commanded (Percent)	51	per cent	0	100
Turbocharger Actuator Position Measured (Percent Closed)	51	per cent	0	96
Turbocharger Speed	85203	RPM	0	90844
Aftertreatment Diesel Oxidation Catalyst Intake Temperature	759.2	°F	27.4	785.6
Aftertreatment Diesel Particulate Filter Intake Temperature	916.5	°F	68.5	935.9
Aftertreatment Diesel Particulate Filter Outlet Temperature	1039.6	°F	13.2	1050.8
Aftertreatment Diesel Particulate Filter Differential Pressure	2.84	inHg	0.00	3.26

After dyno @ rdle

Data Monitor/Logger

Engine Serial Number :79388474  
Customer Unit Number :01585  
Work Order Name :NA

INSITE 8.3.0.120 / Datapack 8.3.00236  
Company Name :Cummins Inc.  
ECM Image Name :NA  
Customer Name :USXPRESS

Parameter	Value	Units	Minimum Measured	Maximum Measured
Barometric Air Pressure	29.1	inHg	29.1	29.2
Battery Voltage	14.0	V	9.5	14.2
Crankcase Pressure	0.6	inH2O	0.0	13.4
EGR Differential Pressure	0.9	inHg	0.0	6.3
EGR Temperature	178.3	°F	38.4	221.3
EGR Valve Position Commanded	20	percent	0	77
EGR Valve Position Measured (Percent Open)	18	percent	0	77
Engine Coolant Level	Normal			
Engine Coolant Temperature	202.9	°F	74.0	214.9
Engine Oil Pressure	14.4	psi	0.0	60.7
Engine Oil Temperature	226.3	°F	75.3	230.0
Engine Operating State	Low Speed Governor State			
Engine Speed	599	RPM	0	2134
Exhaust Gas Pressure	36.54	inHg	28.66	127.70
Exhaust Gas Temperature (Calculated)	381	°F	40	1218
Exhaust Volumetric Flowrate	2.74	ft3/s	0.03	33.26
Exhaust Mass Flowrate	3.8	lb/min	0.0	73.8
Fuel Rail Pressure Measured	255	psi	-1	287
Fuel Temperature Sensor	107.6	°F	41.8	107.6
Intake Manifold Air Temperature	129.3	°F	38.2	204.4
Intake Manifold Pressure	0.9	inHg	0.0	78.5
Percent Accelerator Pedal or Lever	0	percent	0	100
Percent Load	6	percent	0	101
Turbocharger Actuator Position Commanded (Percent)	95	percent	0	100
Turbocharger Actuator Position Measured (Percent Closed)	95	percent	0	96
Turbocharger Speed	13258	RPM	0	90844
Aftertreatment Diesel Oxidation Catalyst Intake Temperature	621.2	°F	27.4	789.4
Aftertreatment Diesel Particulate Filter Intake Temperature	954.7	°F	68.5	979.1
Aftertreatment Diesel Particulate Filter Outlet Temperature	987.1	°F	13.2	1061.3
Aftertreatment Diesel Particulate Filter Differential Pressure	0.09	inHg	0.00	3.26

Regen

Data Monitor/Logger

Engine Serial Number :79388474

Customer Unit Number :01585

Work Order Name :NA

INSITE 8.3.0.120 / Datapack 8.3.00236

Company Name :Cummins Inc.

ECM Image Name :NA

Customer Name :USXPRESS

Parameter	Value	Units	Minimum Measured	Maximum Measured
EGR Differential Pressure	0.4	inHg	0.0	6.3
EGR Temperature	157.9	°F	38.4	221.3
EGR Valve Position Commanded	0	percent	0	77
EGR Valve Position Measured (Percent Open)	0	percent	0	77
Exhaust Gas Pressure	148.97	inHg	28.66	162.10
Exhaust Gas Temperature (Calculated)	628	°F	40	1218
Exhaust Volumetric Flowrate	11.69	ft <sup>3</sup> /s	0.03	33.26
Exhaust Mass Flowrate	21.8	lb/min	0.0	73.8
Intake Manifold Air Temperature	85.0	°F	38.2	204.4
Intake Manifold Pressure	19.3	inHg	0.0	78.5
Turbocharger Actuator Position Commanded (Percent	89	percent	0	100
Turbocharger Actuator Position Measured (Percent Closed)	89	percent	0	96
Turbocharger Speed	50820	RPM	0	90844
Aftertreatment Diesel Oxidation Catalyst Intake Temperature	489.5	°F	27.4	789.4
Aftertreatment Diesel Particulate Filter Intake Temperature	649.3	°F	68.5	979.1
Aftertreatment Diesel Particulate Filter Outlet Temperature	885.8	°F	13.2	1061.3
Aftertreatment Diesel Particulate Filter Differential Pressure	0.63	inHg	0.00	3.26