Heavy Vehicle Crash Investigation

2021 Annual Conference

09/28/21 – 10/01/21 Crown Plaza Conference Center Springfield, IL





Topics

On-Scene Inspection

Identification

Role of DOT inspector

Safety Systems

Vehicle Systems

ECM

Lamps

Weights

Documentation

Measurements

Tires

Brakes

Evidence Preservation

Brakes

ECM

Resources





Where Do You Start?





What Do You Document?





What Do You Preserve?





On-Scene Inspection

Heavy Vehicle Crash Investigation





On-Scene Inspection

Identification

Power Unit

Trailer(s)

DOT inspection detail

Safety systems

Vehicle systems

Electronic Control Module

Lamps

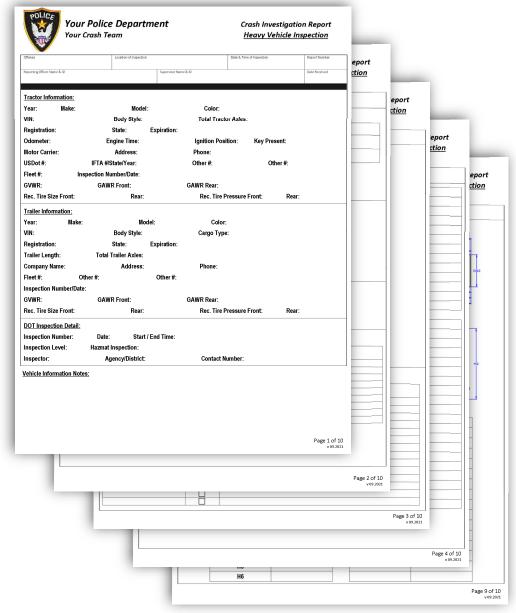
Weight

Documents

Dimensions

Tires

Brakes











Tractor Information:

Year: Make: Model: Color:

VIN: Body Style: Total Tractor Axles:

Registration: State: Expiration:

Odometer: Engine Time: Ignition Position: Key Present:

Motor Carrier: Address: Phone:

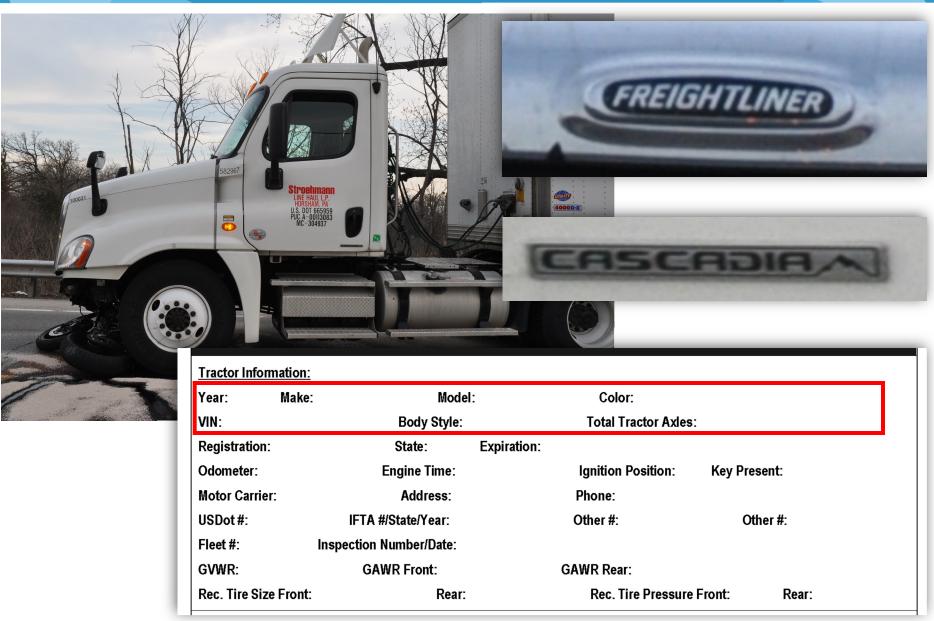
USDot #: IFTA #/State/Year: Other #: Other #:

Fleet #: Inspection Number/Date:

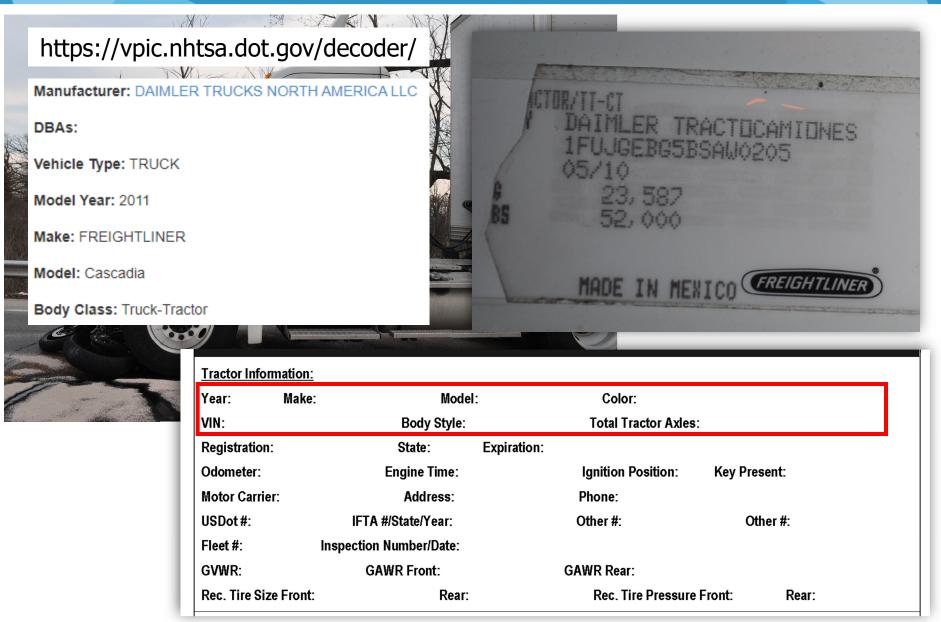
GVWR: GAWR Front: GAWR Rear:

Rec. Tire Size Front: Rear: Rec. Tire Pressure Front: Rear:

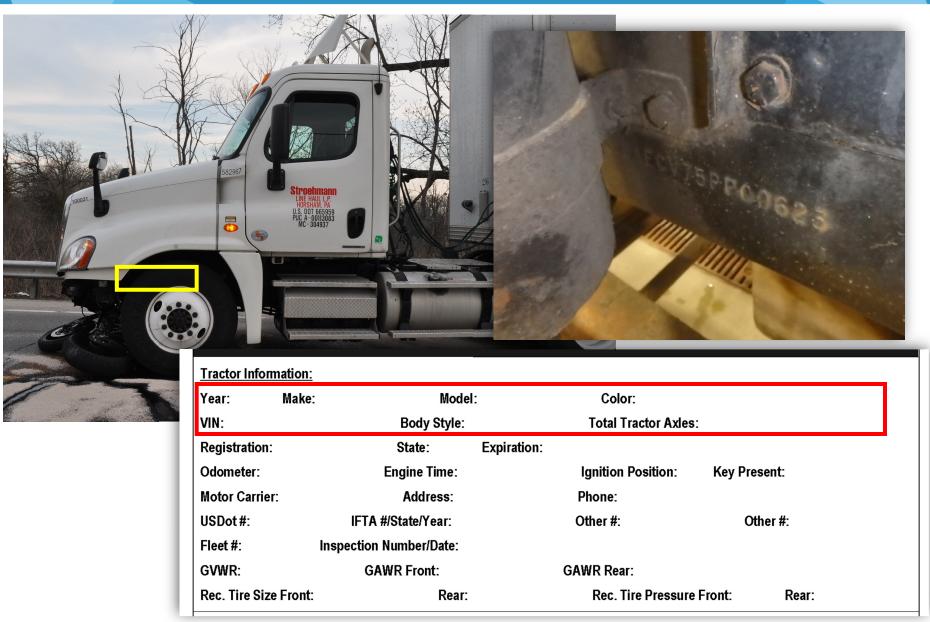








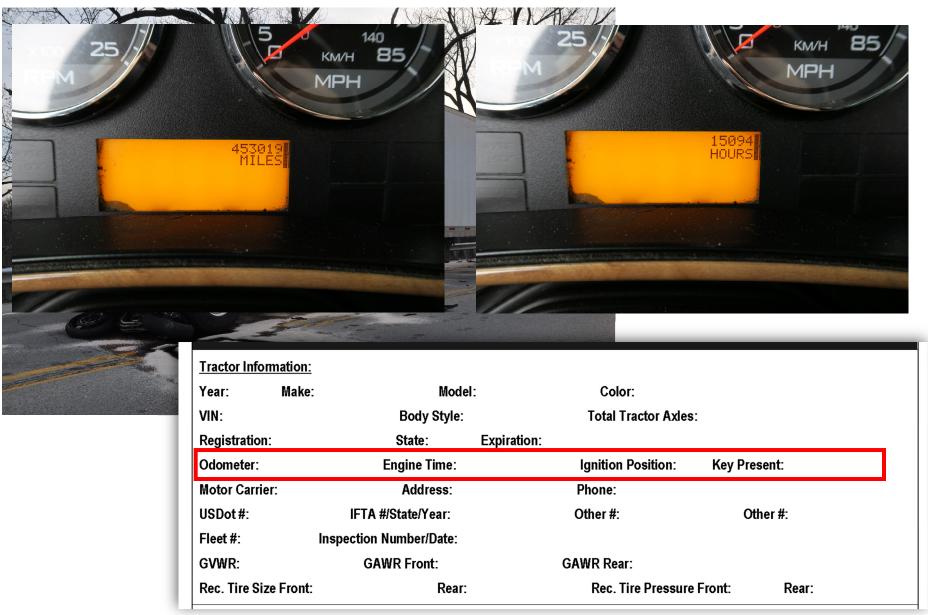




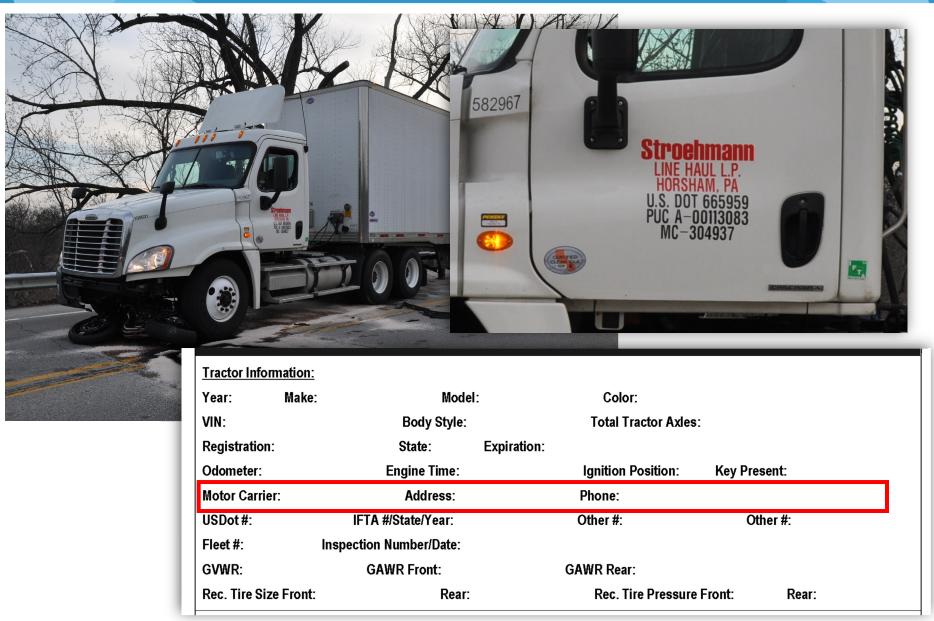




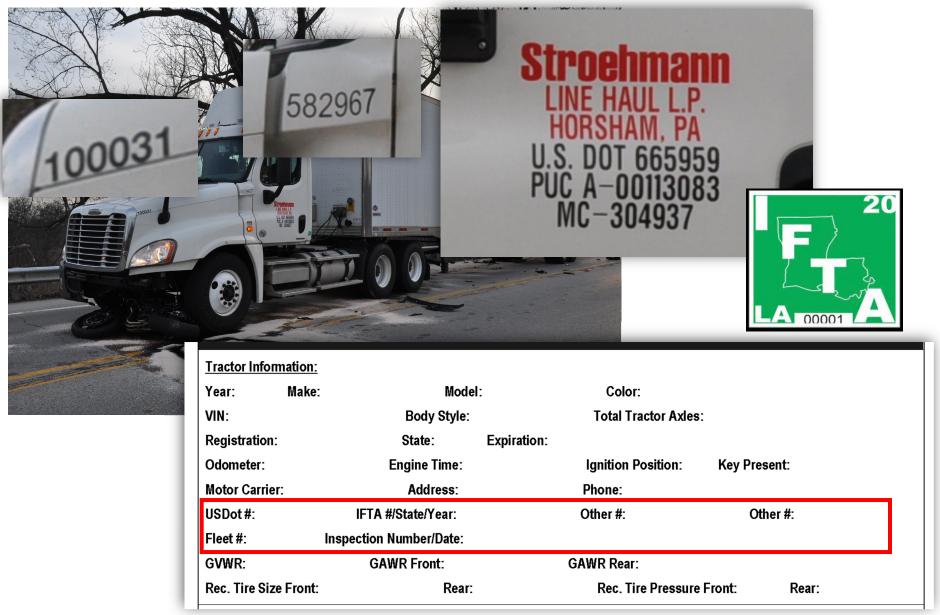




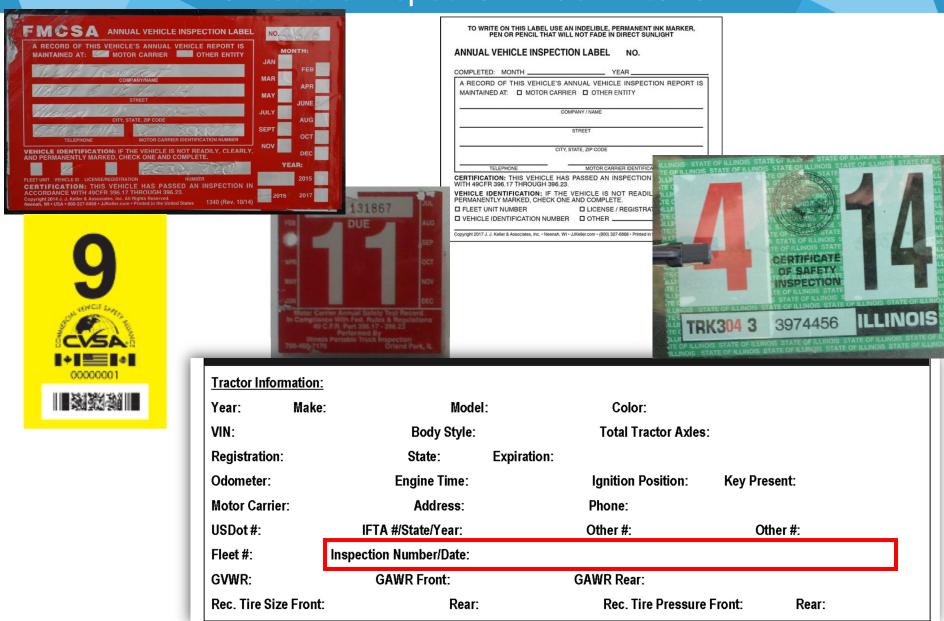




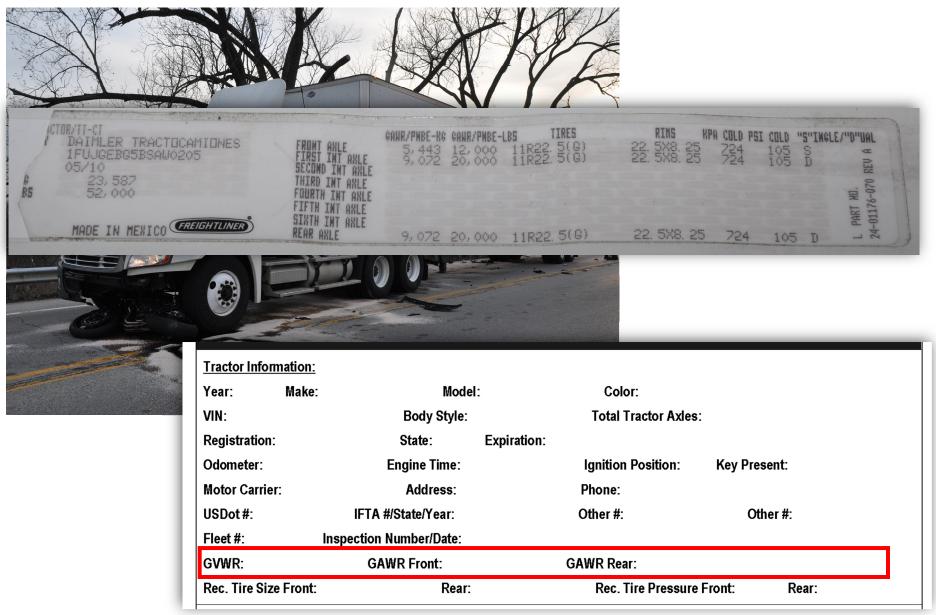




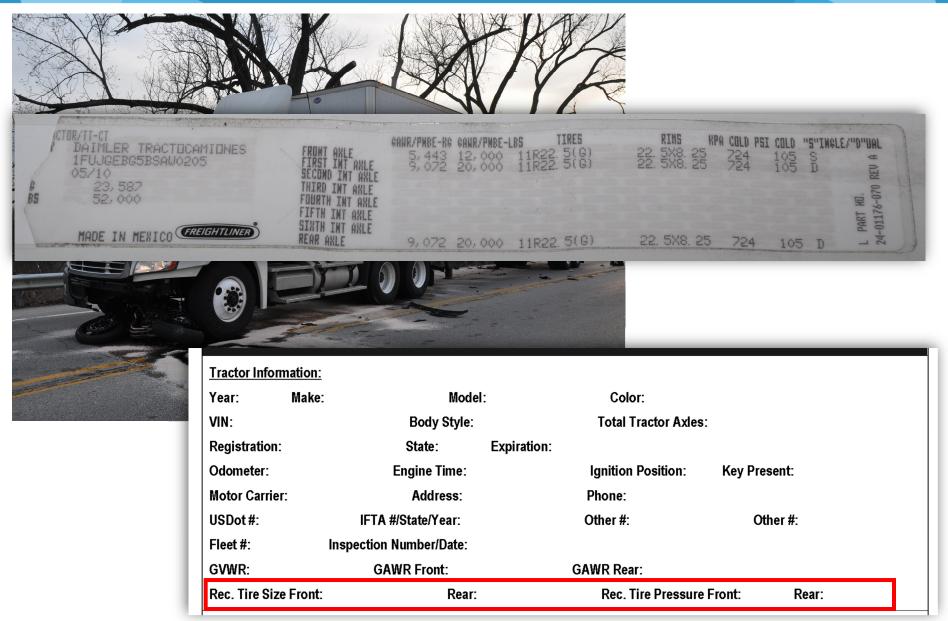




















Г	rail	۵r	Inf∧	rmatior	١.
•	ıaıı		m	mauvi	• •

Year: Make: Model: Color:

VIN: Body Style: Cargo Type:

Registration: State: Expiration:

Trailer Length: Total Trailer Axles:

Company Name: Address: Phone:

Fleet #: Other #: Other #:

Inspection Number/Date:

GVWR: GAWR Front: GAWR Rear:

Rec. Tire Size Front: Rear: Rec. Tire Pressure Front: Rear:





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Make: Model: Color: Year:

VIN: Cargo Type: **Body Style:**

Registration: State: Expiration:

Trailer Length: **Total Trailer Axles:**

Company Name: Address: Phone:

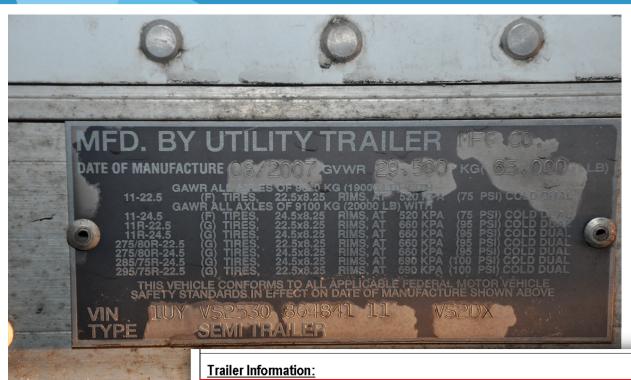
Other #: Other #: Fleet #:

Inspection Number/Date:

GVWR: **GAWR Front: GAWR Rear:**

Rec. Tire Size Front: Rear: Rec. Tire Pressure Front: Rear:





Year:	Make:	Мо	del:	Color:	
VIN:		Body Style:		Cargo Type:	
Registration:		State:	Expiration:		
Trailer Length:	Tot	al Trailer Axles:			
Company Name:		Address:		Phone:	
Fleet #:	Other #:		Other #:		
Inspection Numb	er/Date:				
GVWR:	GA	WR Front:		GAWR Rear:	
Rec. Tire Size Fro	ont:	Rear:		Rec. Tire Pressure Front:	Rear:



0		0	0		
				Confirmation.	
MED BY	LITILITY	TRAILER	MEG CO.		
DATE OF MANUFACT	TURE 08/2007	GVWR 29.500	kg(65,000	() (LB)	
11-22.5 GAW 11-24.5	(F) TIRES. 22.5x8.	O KG (1900 G 48) MARKET 25 RIMS, AT 520 KP/2 10 KG (20000 LB) WITH 25 RIMS, AT 520 KPA	(75 PSI) COLD DU		
11R-22.5 11R-24.5 275/80R-24.5	(G) TIRES, 22.5x8. (G) TIRES, 24.5x8. (G) TIRES, 22.5x8. (G) TIRES, 24.5x8.	25 RIMS, AT 660 KPA 25 RIMS, AT 660 KPA 25 RIMS, AT 660 KPA 25 RIMS, AT 660 KPA	(95 PSI) COLD DU/ (95 PSI) COLD DU/ (95 PSI) COLD DU/ (95 PSI) COLD DU/	AL CO	
285/75R-24.5 295/75R-22.5 THIS VEHIC	(G) TIRES, 24.5x8. (G) TIRES, 22.5x8. CLE CONFORMS TO A	25 RIMS, AT 690 KPA (25 RIMS, AT 690 KPA (LL APPLICABLE FEDERAL ON DATE OF MANUFACTU	100 PSI) COLD DUA 100 PSI) COLD DUA MOTOR VÉHICLE RE SHOWN AROVE	AL .	
VIN TYPE	VS2530 8G4 SEMITRAILE		52DX)		
	Trailer Information				\exists
		: lake:	Model:	Color:	
The state of the s	VIN:	Body St	yle:	Cargo Type:	
	Registration:	State:	Expiration:		
	Trailer Length:	Total Trailer Ax	des:		
	Company Name:	Addr	ess:	Phone:	
	Fleet #:	Other #:	Other #:		
	Inspection Number	/Date:			
	GVWR:	GAWR Front:		GAWR Rear:	



Rear:

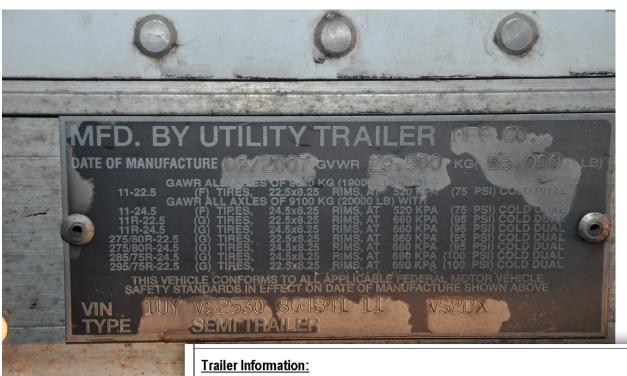
Rear:

Rec. Tire Pressure Front:

Rec. Tire Size Front:

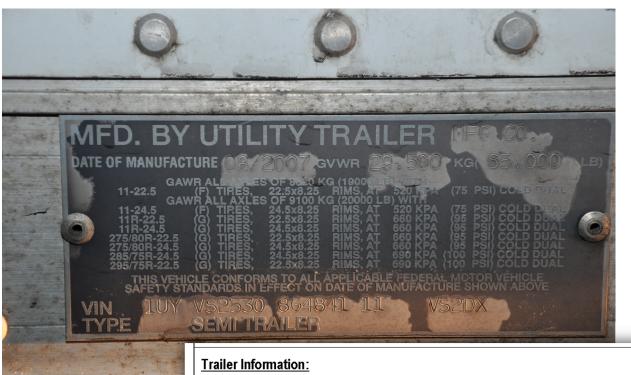
Trailer Information:	4000 D-X		
Year: Make:	Model:	Color:	
 VIN:	Body Style:	Cargo Type:	
Registration:	State: Expiration:		
Trailer Length:	Total Trailer Axles:		
Company Name:	Address:	Phone:	
Fleet #: Oth	er #: Other #:		
Inspection Number/Date:			
GVWR:	GAWR Front:	GAWR Rear:	
Rec. Tire Size Front:	Rear:	Rec. Tire Pressure Front:	Rear:





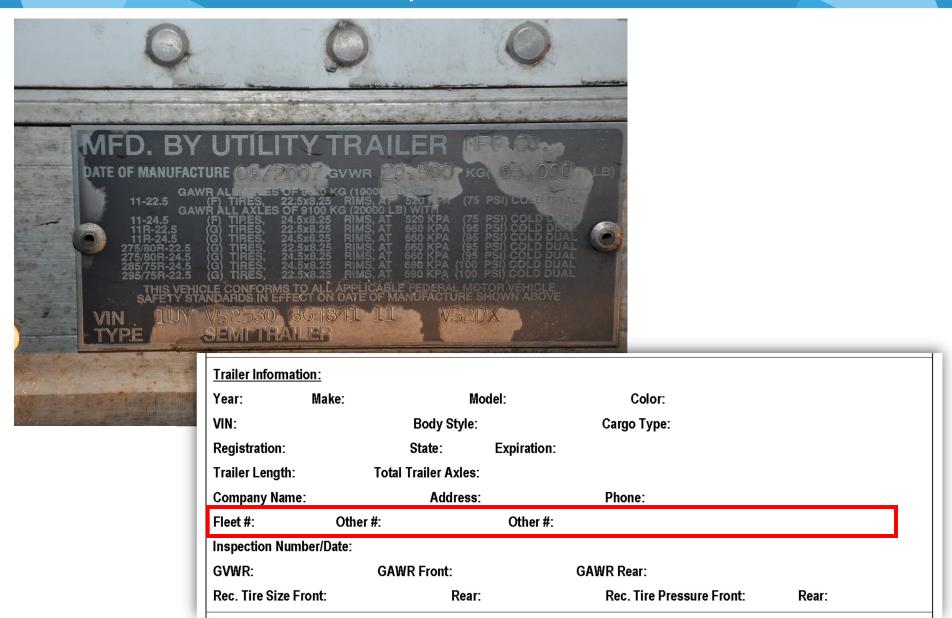
Trailer Information	on:				
Year:	Make:	Мо	del:	Color:	
VIN:		Body Style:		Cargo Type:	
Registration:		State:	Expiration:		
Trailer Length:	Tota	al Trailer Axles:			
Company Name:		Address:		Phone:	
Fleet #:	Other #:		Other #:		
Inspection Numb	per/Date:				
GVWR:	GA	WR Front:		GAWR Rear:	
Rec. Tire Size Fr	ont:	Rear:		Rec. Tire Pressure Front:	Rear:



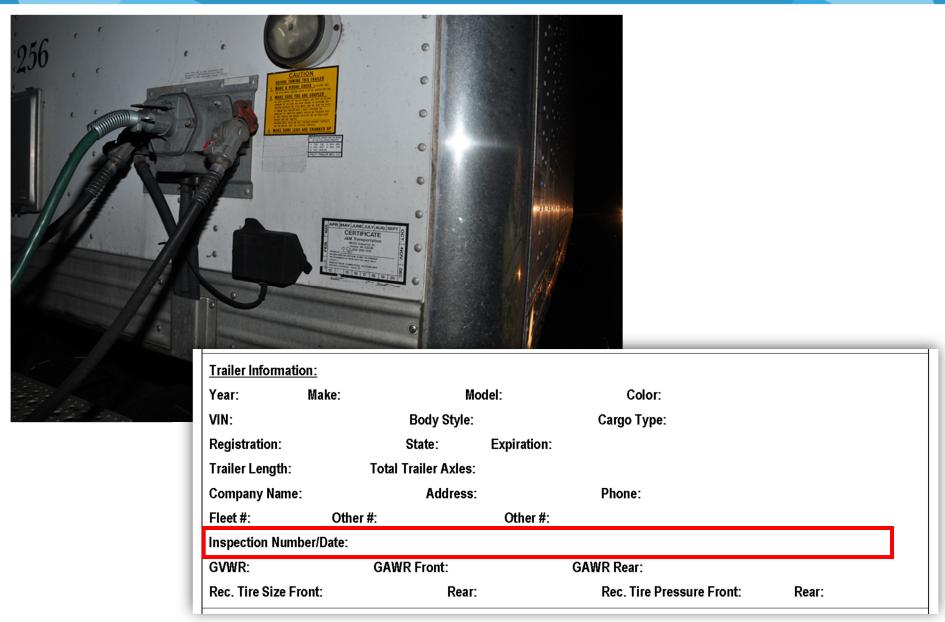


<u>i railer informatio</u>	<u>)n:</u>				
Year:	Make:	Мо	del:	Color:	
VIN:		Body Style:		Cargo Type:	
Registration:		State:	Expiration:		
Trailer Length:	Tota	al Trailer Axles:			
Company Name:		Address:		Phone:	
Fleet #:	Other #:		Other #:		
Inspection Numb	er/Date:				
GVWR:	GA	WR Front:		GAWR Rear:	
Rec. Tire Size Fro	ont:	Rear:		Rec. Tire Pressure Front:	Rear:

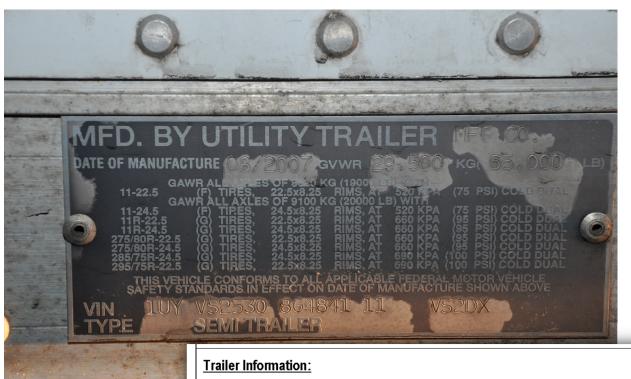












Year:	Make:	Mo	del:	Color:	
VIN:		Body Style:		Cargo Type:	
Registration:		State:	Expiration:		
Trailer Length:	Tota	al Trailer Axles:			
Company Name:		Address:		Phone:	
Fleet #:	Other #:		Other #:		
Inspection Numb	er/Date:				
GVWR:	GA	WR Front:		GAWR Rear:	
Rec. Tire Size Fro	ont:	Rear:		Rec. Tire Pressure Front:	Rear:



DOT Inspection Detail:

Inspection Number: Date: Start Time:

Inspection Level: Hazmat Inspection:

Inspector: Agency/District: Contact Number:

Motor Carrier Inspection

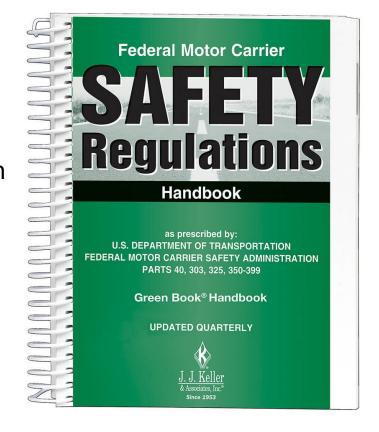
Level I: Standard Inspection

Level II: Walk-Around Driver/Vehicle Inspection

Level III: Driver/Credential/Administration Inspection

Level IV: Special Inspection

Level V: Vehicle-Only Inspection









DOT Inspection Detail:

Inspection Number: Date: Start Time:

Inspection Level: Hazmat Inspection:

Inspector: Agency/District: Contact Number:

When to call?

"Any truck having a gross vehicle weight rating (GVWR) of more than 10,000 pounds or a gross combination weight rating (GCWR) over 10,000 pounds used on public highways."







https://ai.fmcsa.dot.gov/dataquality/CrashCollectionTraining/lesson1/weight.html





DOT Inspection Detail:			
Inspection Number:	Date:	Start Time:	
Inspection Level:	Hazmat Inspection:		
Inspector:	Agenc	y/District:	Contact Number:

DRIVER/VEHICLE INSPECTION REPORT (Driver Copy) Officer No. Begin Time Time Zone Inspection Number 5566 9/25/2017 11:00 CENTRAL TIME L3836070825 ILLINOIS STATE POLICE Commerce Type Inspection Level COMMERCIAL VEHICLE SECTION 1 - INTERSTATE 1 - FULL INSPECTION 801 S. SEVENTH STREET, SUITE 200-N County Location Location Description IL 62703 SPRINGFIELD Number 999 | 170 CLARK (217)782-6267 Mile Post# Special Checks 149 03,05 DRIVER Middle DRIVER Name - Last First Suffix Address City State Zip Code Driver License Number State of License Date of Birth CDL Class Restriction(s) NONE NONE Drug Search Alcohol Test Administered Arrests NO NO Results BAC CARRIER MOTOR CARRIER Name USF HOLLAND LLC Address State Zip Code 700 S WAVERLY **HOLLAND** MI 49423 U.S. DOT Number Phone Number Fax Number ICC Number IL CC Number 75806 (616) 395-5000 **VEHICLES** Company Unit# GVWR Vehicle Make License# Typ State VIN#



DOT Inspection Detail:			
Inspection Number:	Date:	Start Time:	
Inspection Level:	Hazmat Insp	ection:	
Inspector:	Agenc	y/District:	Contact Number:

DRIVER/VEHICLE INSPECTION REPORT (Driver Copy) Officer No. Begin Time Time Zone Inspection Number 5566 9/25/2017 11:00 CENTRAL TIME L3836070825 ILLINOIS STATE POLICE Commerce Type Inspection Level COMMERCIAL VEHICLE SECTION 1 - INTERSTATE 1 - FULL INSPECTION County Location Location Description SPRINGFIELD IL 62703 Number 999 | 170 CLARK (217)782-6267 Mile Post# Special Checks 149 03,05 DRIVER Middle DRIVER Name - Last First Suffix Address City State Zip Code Driver License Number State of License Date of Birth CDL Class Restriction(s) NONE NONE Drug Search Alcohol Test Administered Arrests NO NO Results BAC CARRIER MOTOR CARRIER Name USF HOLLAND LLC Address State Zip Code 700 S WAVERLY **HOLLAND** MI 49423 U.S. DOT Number Phone Number Fax Number ICC Number IL CC Number 75806 (616) 395-5000 **VEHICLES** Company Unit# GVWR Vehicle Make License# Typ State VIN#



DOT Inspection Detail:				
Inspection Number:	Date:	Start Time:		
Inspection Level:	Hazmat Inspection:			
Inspector:	Agency/District:		Contact Number:	

DRIVER/VEHICLE INSPECTION REPORT (Driver Copy) Officer No. Begin Time Time Zone Inspection Number 5566 9/25/2017 11:00 CENTRAL TIME L3836070825 ILLINOIS STATE POLICE Commerce Type Inspection Level COMMERCIAL VEHICLE SECTION 1 - INTERSTATE 1 - FULL INSPECTION County Location Location Description

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DRIVER/VEHICLE INSPECTION REPORT (Driver Copy) Officer No. Time Zone Inspection Number 9/25/2017 L3836070825 ILLINOIS STATE POLICE 5566 11:00 **CENTRAL TIME** Commerce Type nspection Level COMMERCIAL VEHICLE SECTION 1 - INTERSTATE 1 - FULL INSPECTION 801 S. SEVENTH STREET, SUITE 200-N County Location Description Location **SPRINGFIELD** IL 62703 Number 999 | 170 CLARK (217)782-6267 Mile Post# Special Checks 149 03,05 DRIVER DRIVER Name - Last First Middle Suffix Zip Code Address City State Driver License Number State of License Date of Birth CDL Class Endorsement(s) Restriction(s) NONE NONE Drug Search Arrests Alcohol Test Administered NO Results BAC CARRIER MOTOR CARRIER Name USF HOLLAND LLC Address State Zip Code 700 S WAVERLY **HOLLAND** 49423 U.S. DOT Number ICC Number IL CC Number Phone Number Fax Number 75806 (616) 395-5000 **VEHICLES** Company Unit# Vehicle Make Тур License# GVWR 15184 2014 FRHT Ιπ P865273 18,000 3AKGGEDV4FSGK3481 Existing CVSA Decal Status Existing CVSA Decal CVSA Decal Issued# OOS Sticker# Cargo Seal Removed Removed Time Cargo Seal Replaced Replaced Time Vehicle Make Company Unit# Year State License# Тур 1GRAA06246T521<u>648</u> 002 546460 2006 GDAN Ist TN T783960 64,000 xisting CVSA Decal Status Existing CVSA Decal CVSA Decal Issued# OOS Sticker# Cargo Seal Removed Removed Time Cargo Seal Replaced Replaced Time LOAD



On-Scene Inspection - DOT Inspection

				1.0						
				L	DAD					
Origin City		State [Destination City		State		Exempt#	HazMat Coo	le Reportable Qni	y. Haz Waste
STLOUIS		MO Y	/ANDALIA		он					
Shipping Paper#		Shipper Nam	е				Placards Required	HazMat Coo	le Reportable Qnt	y. Haz Waste
1062877458		GOLTERM.	AN AND SAB	0						
Cargo				Cargo Breakdown			Cargo Tank Specs	HazMat Coo	le Reportable Qnt	y. Haz Waste
COMMODITIES	, DRY BULK - 0	5								
				VIOL	.Αποι	NS				
Identification Unit No. Out 0f Se		Out 0f Servi	се						Document Number	
395.8F1	395.8F1 D - DRIVER		NO	Verification	N		Warning			
Description	DRIVERS R	ECORD OF	DUTY STATU	IS NOT CURREN	Т					
		Axle 1	Axle 2	Axle 3	P	xle 4	Axle 5	Axle 6	Axle 7	
Brake	Chamber	L-20	C-30	C-30		C-30	C-30			Surveillance
Adjustment			1 3/4	1 3/4	·	1 1/2	1 1/2			
	Left	1 1/2	1 3/4	1 3/4	Ţ,	1 1/2	1 1/2			
			_	0.01	AMENI	TC				

C12-17-623

Post Crash Damage;

Unit #1: (Totaled) Front Bumper; Engine Compartment; Windshield; Cab; Driver and Passenger Side Doors

Unit #2: Front Semi Trailer Wall

Last Log entry on 09/22/17 at 11:00pm (On Duty)

DRIVER'S SIGNATURE: I acknowledge being present while the above vehicle was inspected and have been informed of the above infractions and/or deficiencies.	Officer's Signature	Date Completed
,	*	9/25/2017 Time Completed
IL3836070825	IL3836070825	<u>13:00</u>
DRIVER: This report must be furnished to the motor carrier whose na	ame is listed on this report.	



IL3836070825

1 of 2

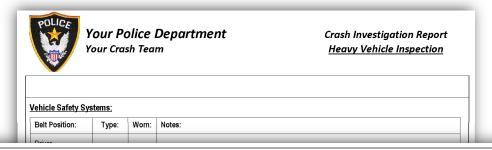


On-Scene Inspection

	Your Po Your Cra		Departme ^m	ent			Investigation Report y Vehicle Inspection
Vehicle Safety Sy	stems:						
Belt Position:	Type:	Worn:	Notes:				
Driver							
Front Right							
<u>kirbag Deployme</u> Driver Front: Other/Notes:	<u>nt:</u> Driver Si	de:	Pass. Front:	Pass. Si	ide:		
/ehicle Systems:							
Engine: Make: Fransmission: Ma	ako:	ſ	Model: Model:		Serial #:	erial #:	
Rear Axle: Make:	INE.		Model:		Serial		Gear Ratio:
ith Wheel: Adjusta	ble:		Position:		001101		
Tracking Devices							
Other/Notes:							
Electronic Contro	l Module D	etails:					
Accessible:		Da	te/Time of Imagir	ıg:		Imaging Location	1:
maged By:		Sof	tware Used:		In	erface/Cables Used:	
Other/Notes:							
<u>Lamp Details:</u>							
Lamp Pos	ition		Туре	Collected	Photo		Condition
					Ä		
				\Box	$ \perp$		
M.4							
Notes:							
Notes:							
Votes:							



On-Scene Inspection – Safety Systems



Vehicle Safety Systems:

Belt Position:	Type:	Worn:	Notes:
Driver			
Front Right			

Airbag Deployment:

Driver Front: Driver Side: Pass. Front: Pass. Side:

Lamp Position	Type	Collected	Photo	Condition
•				
			H	
			H	
			H	
vtes:				
				Page 2 of



On-Scene Inspection – Safety Systems

Vehicle Safety Systems:

Belt Position:	Туре:	Worn:	Notes:
Driver			
Front Right			

Airbag Deployment:

Driver Front: Driver Side: Pass. Front: Pass. Side:





On-Scene Inspection – Safety Systems

Vehicle Safety Systems:

Belt Position:	Type:	Worn:	Notes:
Driver			
Front Right			

Airbag Deployment:

Driver Front: Driver Side: Pass. Front: Pass. Side:

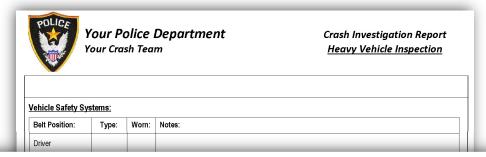
Other/Notes:



https://www.volvotrucks.us/trucks/vnl/top-ten/safety/







Engine: Make: Model: Serial #:

Transmission: Make: Model: Serial #:

Rear Axle: Make: Model: Serial #: Gear Ratio:

5th **Wheel:** Adjustable: Position:

Tracking Devices:

Lamp Position	Type	Collected	Photo	Condition
s:				



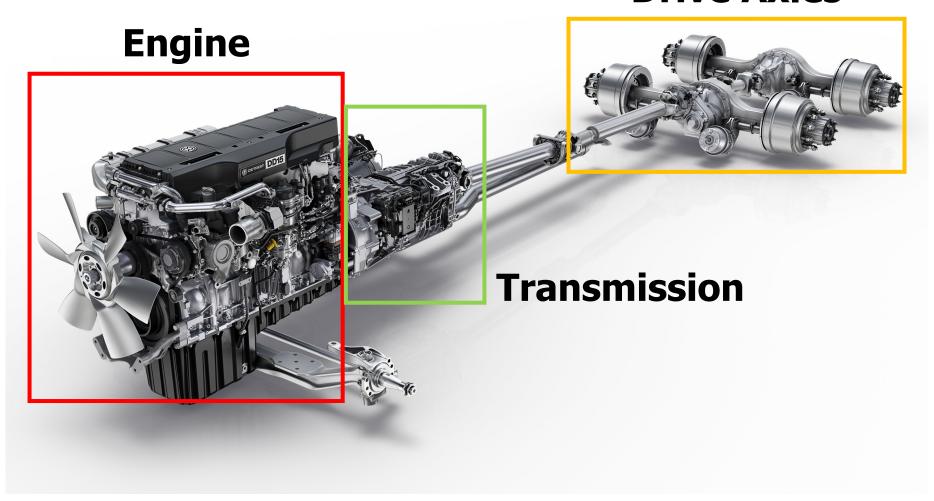


https://demanddetroit.com/our-company/media/press-releases/freightliner-trucks-pushes-innovation-with-new-2016-09-01/





Drive Axles



https://demanddetroit.com/our-company/media/press-releases/freightliner-trucks-pushes-innovation-with-new-2016-09-01/





Detroit Diesel

Mercedes Benz

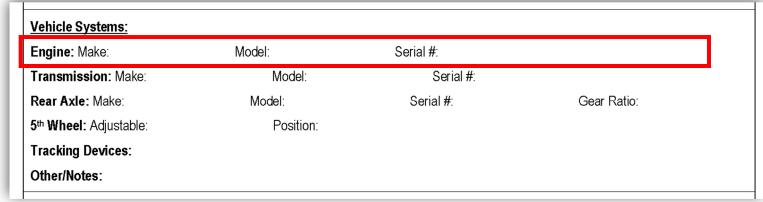
Cummins

Caterpillar

Mack

Volvo

International





Detroit Diesel

Mercedes Benz

Cummins

Caterpillar

Mack

Volvo

International









Engine: Make:	Model:	Serial #:	
Transmission: Make:	Model:	Serial #:	
Rear Axle: Make:	Model:	Serial #:	Gear Ratio:
5 th Wheel: Adjustable:	Position:		
Tracking Devices:			
Other/Notes:			



Detroit Diesel

Mercedes Benz

Cummins

Caterpillar

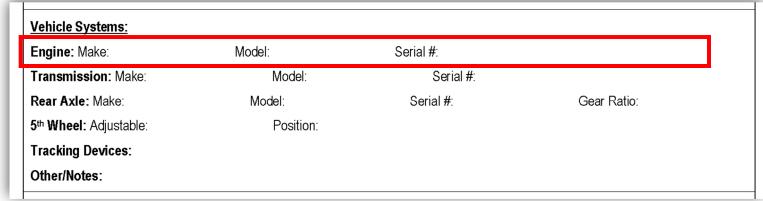
Mack

Volvo

International









Detroit Diesel

Mercedes Benz

Cummins

Caterpillar

Mack

Volvo

International





Engine: Make:	Model:	Serial #:	
Transmission: Make:	Model:	Serial #:	
Rear Axle: Make:	Model:	Serial #:	Gear Ratio:
5th Wheel: Adjustable:	Position:		
Tracking Devices:			
Other/Notes:			



Detroit Diesel Mercedes Benz

Cummins

Caterpillar

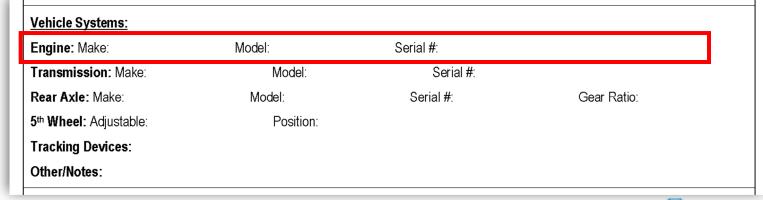
Mack

Volvo

International









Detroit Diesel

Mercedes Benz

Cummins

Caterpillar

Mack

Volvo

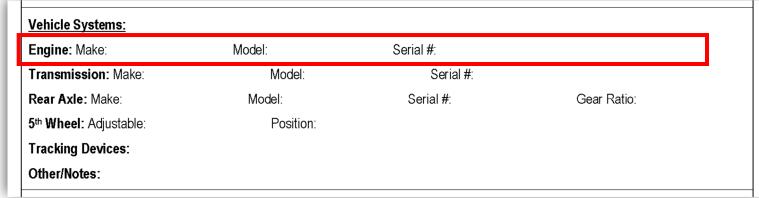
International













Detroit Diesel

Mercedes Benz

Cummins

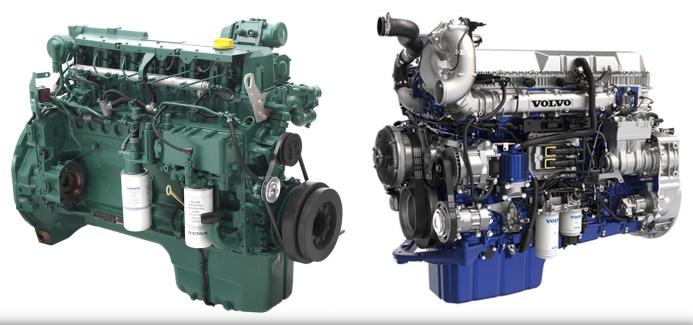
Caterpillar

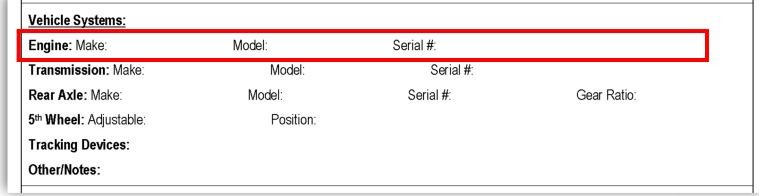
Mack

Volvo

International PACCAR









Detroit Diesel
Mercedes Benz
Cummins
Caterpillar
Mack
Volvo
International





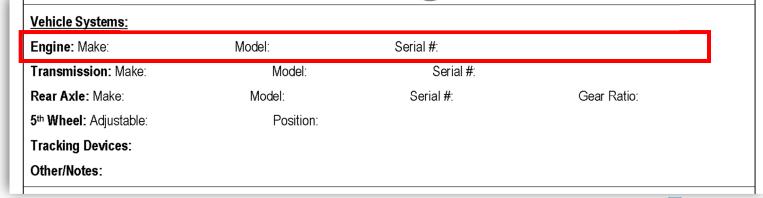
Engine: Make:	Model:	Serial #:		
Transmission: Make:	Model:	Serial #:		
Rear Axle: Make:	Model:	Serial #:	Gear Ratio:	
5 th Wheel: Adjustable:	Position:			
Tracking Devices:				
Other/Notes:				



Detroit Diesel
Mercedes Benz
Cummins
Caterpillar
Mack
Volvo
International









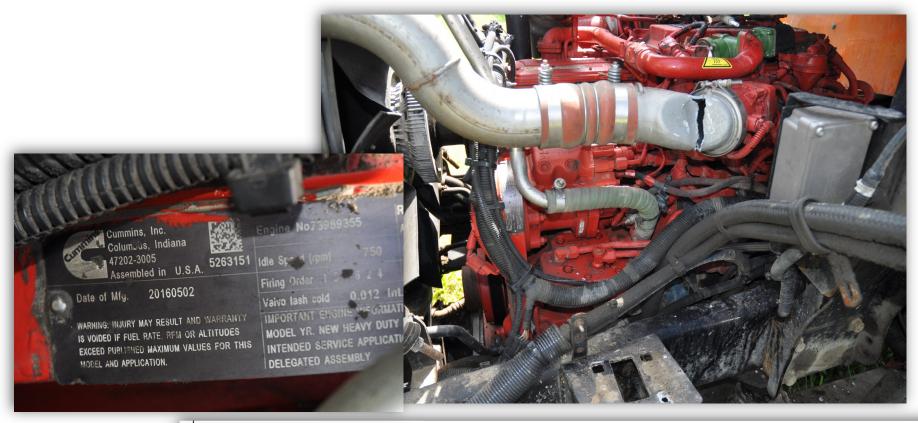






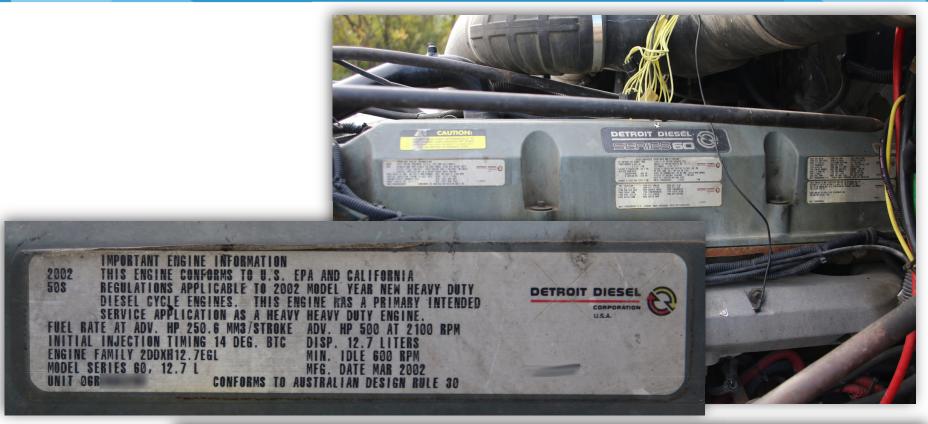
E ngine: Make:	Model:	Serial #:		
Transmission: Make:	Model:	Serial #:		
Rear Axle: Make:	Model:	Serial #:	Gear Ratio:	
5 th Wheel: Adjustable:	Position:			
Tracking Devices:				
Other/Notes:				





Engine: Make:	Model:	Serial #:	
Transmission: Make:	Model:	Serial #:	
Rear Axle: Make:	Model:	Serial #:	Gear Ratio:
5th Wheel: Adjustable:	Position:		
Tracking Devices:			
Other/Notes:			

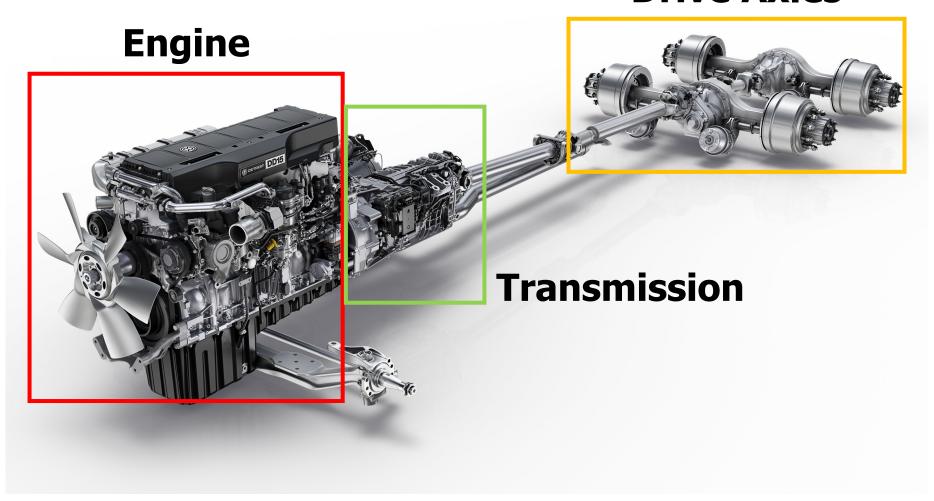




<u>Vehicle Systems:</u>			
Engine: Make:	Model:	Serial #:	
Transmission: Make:	Model:	Serial #:	
Rear Axle: Make:	Model:	Serial #:	Gear Ratio:
5 th Wheel: Adjustable:	Position:		
Tracking Devices:			
Other/Notes:			



Drive Axles



https://demanddetroit.com/our-company/media/press-releases/freightliner-trucks-pushes-innovation-with-new-2016-09-01/









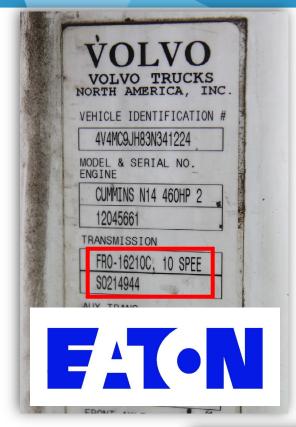






Engine: Make:	Model:	Serial #:		
Transmission: Make:	Model:	Serial #:		
Rear Axle: Make:	Model:	Serial #:	Gear Ratio:	
5 th Wheel: Adjustable:	Position:			
Tracking Devices:				
Other/Notes:				









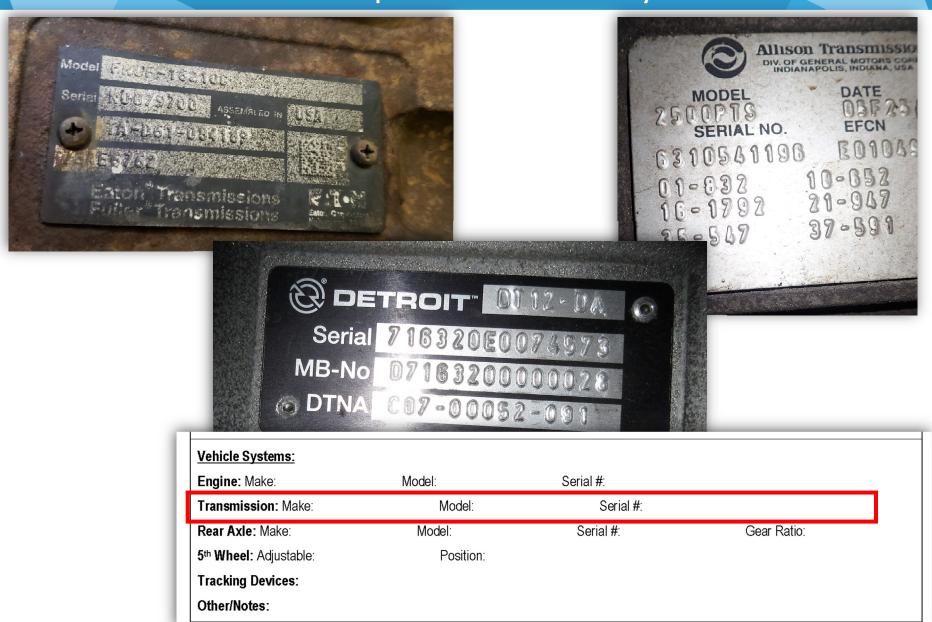
Vehicle Systems:				
Engine: Make:	Model:	Serial #:		
Transmission: Make:	Model:	Serial #:		
Rear Axle: Make:	Model:	Serial #:	Gear Ratio:	
5 th Wheel: Adjustable:	Position:			
Tracking Devices:				
Other/Notes:				



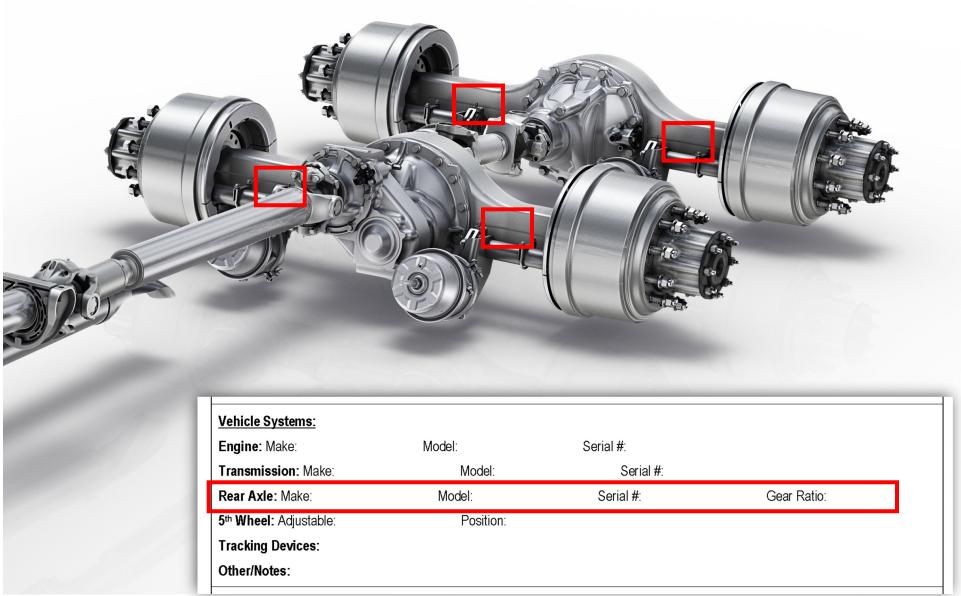


Vehicle Systems:				
Engine: Make:	Model:	Serial #:		
Transmission: Make:	Model:	Serial #:		
Rear Axle: Make:	Model:	Serial #:	Gear Ratio:	
5 th Wheel: Adjustable:	Position:			
Tracking Devices:				
Other/Notes:				











Degreaser wipes

Putty knife Wire brush





<u>Vehicle Systems:</u>				
Engine: Make:	Model:	Serial #:		
Transmission: Make:	Model:	Serial #:		
Rear Axle: Make:	Model:	Serial #:	Gear Ratio:	
5 th Wheel: Adjustable:	Position:			
Tracking Devices:				
Other/Notes:				



Degreaser wipes Putty knife Wire brush







Vehicle Systems:				
Engine: Make:	Model:	Serial #:		
Transmission: Make:	Model:	Serial #:		
Rear Axle: Make:	Model:	Serial #:	Gear Ratio:	
5 th Wheel: Adjustable:	Position:			
Tracking Devices:				
Other/Notes:				





Vehicle Systems:			
Engine: Make:	Model:	Serial #:	
Transmission: Make:	Model:	Serial #:	
Rear Axle: Make:	Model:	Serial #:	Gear Ratio:
5 th Wheel: Adjustable:	Position:		
Tracking Devices:			







Engine: Make:	Model:	Serial #:		
Transmission: Make:	Model:	Serial #:		
Rear Axle: Make:	Model:	Serial #:	Gear Ratio:	
5th Wheel: Adjustable:	Position:			
Tracking Devices:				



Electronic Control Modules (ECM)

Beginning in mid to late-90's, most heavy vehicles were equipped with an ECM.

Serve as main processing function controlling each of the engine's functions

ECMs assist in meeting EPA standards for emissions

May have an **Event Data Recorder (EDR)** component

EDR assists with:

Monitoring performance

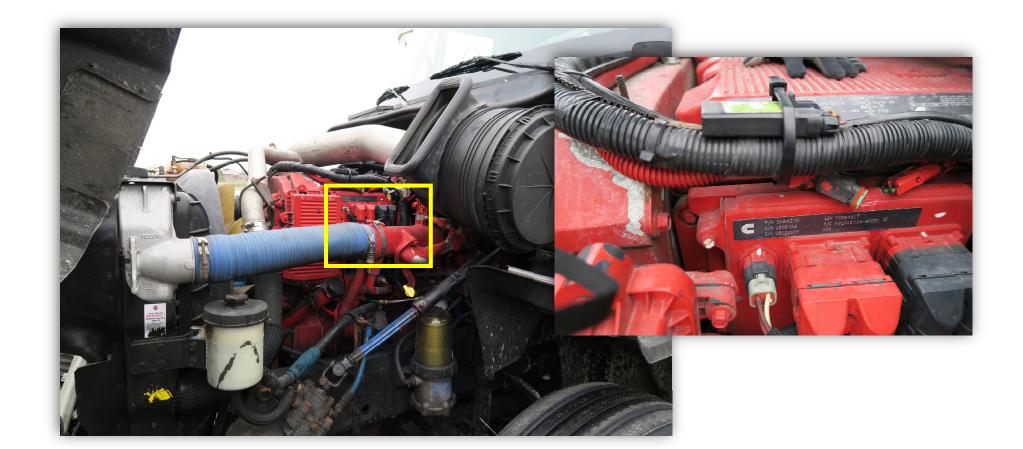
Diagnosing problems

Electronic Control Module Details:

Accessible: Date/Time of Imaging: Imaging Location:

Imaged By: Software Used: Interface/Cables Used:



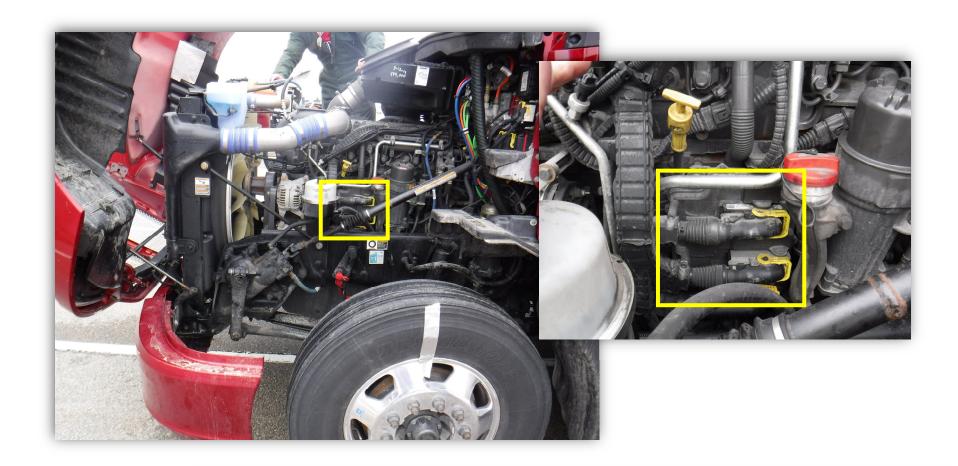


Electronic Control Module Details:

Accessible: Date/Time of Imaging: Imaging Location:

Imaged By: Software Used: Interface/Cables Used:





Electronic Control Module Details:

Accessible: Date/Time of Imaging: Imaging Location:

Imaged By: Software Used: Interface/Cables Used:



What data may be available?

Dependent upon:

Engine manufacturer

Generation / Year of the ECM

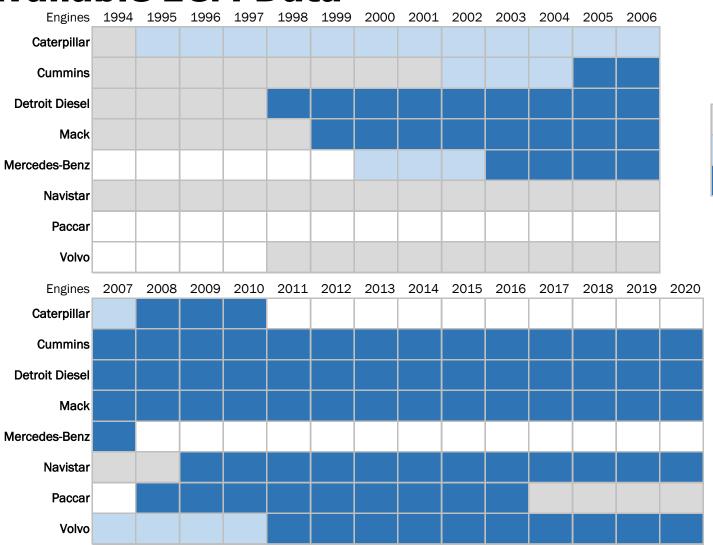
Factory settings

User-modified settings

Type of collision / maneuver by heavy vehicle



Available ECM Data



Steiner, John C, et al. "Accessing and Interpreting Heavy Vehicle Event Data Recorders." SAE International, HVEDR Devices and Available Data, vol. 1, 2019, pp. 128.





Diagnostic Data

Incident Data

Limited Incident Data



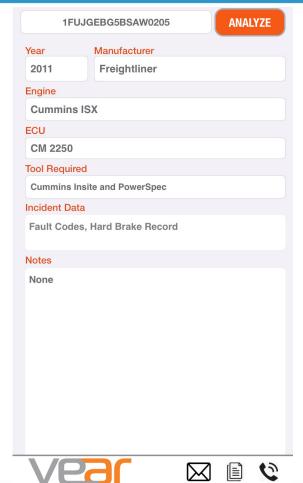
VINTrucks - Heavy Truck EDR

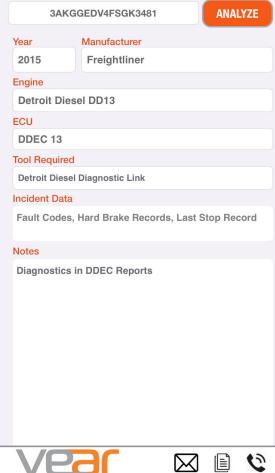
Vear, Inc.

Designed for iPhone

**** 5.0 • 2 Ratings

\$0.99







Accessible: Date/Time of Imaging: Imaging Location:

Imaged By: Software Used: Interface/Cables Used:

Other/Notes:

https://vintrucks.com/





Identification

VIN

Engine type

Engine serial number

Condition at imaging

ECM run time

Odometer

Condition at event(s)

ECM run time

Odometer

Air temperature

Trip details

Operation hours

Fault codes

Maintenance alerts

Audit history

Configuration

Governed speed

Rear axle ratio

Drive wheel revolutions/mile

Vehicle speed

Engine speed

Percent throttle

Brake use

Clutch use



Fault Codes

Triggers snapshot of data at time of event

Trouble code triggered event such as:

Low oil pressure

Low coolant level

Last Stop Record

Heavy vehicle comes to a stop, parking brake is set, or has its ignition turned off

Hard Brake Records

Heavy vehicle's speed decreases at a rate greater than a preset threshold.

Typically set at 7, 9 or 10 mph/second (user defined)



DDEC® Reports - Diagnostic Records

#1

File Name: 061820123456AA.XTR Print Date: 6/18/2020 10:52 AM

Trip: 03/27/12 12:05:48 To 08/03/03 (EST) Vehicle ID:

Driver ID:

Odometer: 931487.0 mi Engine S/N: 06R0630514

Trip Distance Trip Time 161574.1 mi 29042.25 gal Fuel Consumption 5.01 gal/h Trip Fuel 5.56 mpg 44 % 1926:39:14 Fuel Economy Idle Time Idle Percent 33.27 % 847.75 gal Avg Drive Load Avg Vehicle Speed 41.8 mph Idle Fuel

Notes:

Not all faults that are displayed in Diagnostic Link (Fault Codes View) will be displayed here.

The diagnostic codes shown in DDEC Reports are a subset of all possible fault codes.

iag. Code: [43] - Coolant Level Low

Diag. Code: [4 Diag. Time: 2/

2/2/2002 2:02:21 AM (EST)

Time	Vehicle Speed (mph)	Engine Speed (rpm)	Boost Press (psi)	Oil Press (psi)	Fuel Press (psi)
02:02:21	3.0	907	0.9	62.1	0.0
02:02:16	10.0	1099	1.5	62.1	0.0
02:02:11	10.0	1114	1.4	62.1	0.0
02:02:06	9.5	1064	1.1	62.1	0.0
02:02:01	11.0	1254	1.5	62.1	0.0
02:01:56	12.0	1363	2.0	62.1	0.0
02:01:51	11.0	1257	1.4	62.1	0.0
02:01:46	11.0	1195	2.0	62.1	0.0
02:01:41 02:01:36 02:01:31 02:01:26	3.5 3.0 3.0 3.0	802 729 0	1.1 0.0 0.0 0.0	62.1 62.1 0.0 0.0	0.0 0.0 0.0 0.0
Time	Coolant Temp	Oil Temp (°F)	Fuel Temp (°F)	Engine Load (%)	Throttle (% throttle)
02:02:21	213.0	183.0	75.5	11.0	9.6
02:02:16	212.3	182.5	75.5	13.5	16.8
02:02:11	211.8	182.5	75.8	20.0	24.4
02:02:06	211.0	182.5	75.8	16.5	18.4
02:02:01	210.5	182.3	75.8	0.0	0.0
02:01:56	210.0	181.8	75.8	17.5	29.2
02:01:51	209.5	181.0	75.5	9.5	14.8
02:01:46	208.3	180.3	75.3	19.0	25.6
02:01:41	208.3	180.0	74.8	52.0	34.0
02:01:36	199.8	175.5	73.5	43.5	0.0
02:01:31	-	-	-	0.0	0.0
02:01:26	-	-	-	0.0	0.0
Time	Eng. Brake (cylinders)	Cruise	Accel Switch	Brake Switch	Clutch Switch
02:02:21	Off	No	No	No	No
02:02:16	Off	No	No	No	No
02:02:11	Off	No	No	No	No
02:02:06	Off	No	No	No	No
02:02:01 02:01:56 02:01:51 02:01:46	Off Off Off Off	No No No No	NO NO NO	No No No	NO NO NO
02:01:41	Off	No	No	No	No
02:01:36	Off	No	No	Yes	No
02:01:31	Off	No	No	No	No
02:01:26	Off	No	No	No	No

ECM S/W: 29.000

Version: 9.01-00379-00000

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DDEC® Reports - Diagnostic Records

#1

DDEC® Reports - Diagnostic Records

#1

File Name: 061820123456AA.XTR

Print Date: 6/18/2020 10:52 AM

Trip: 03/27/12 12:05:48 To 08/03/03 (EST)

Vehicle ID: Driver ID:

Odometer: 931487.0 mi Engine S/N: 06R0630514

Trip Distance	161574.1 mi	Trip Time	5791:37:53
Trip Fuel	29042.25 gal	Fuel Consumption	5.01 gal/h
Fuel Economy	5.56 mpg	Idle Time	1926:39:14
Avg Drive Load	44 %	Idle Percent	33.27 %
Avg Vehicle Speed	41.8 mph	Idle Fuel	847.75 gal

Notes:

Not all faults that are displayed in Diagnostic Link (Fault Codes View) will be displayed here. The diagnostic codes shown in DDEC Reports are a subset of all possible fault codes.

Diag. Code: [43] - Coolant Level Low
Diag. Time: 2/2/2002 2:02:21 AM (EST)

Time	Vehicle Speed	Engine Speed	Boost Press	Oil Press	Fuel Press
	(mph)	(rpm)	(psi)	(psi)	(psi)
02:02:21	3.0	907	0.9	62.1	0.0
02:02:16	10.0	1099	1.5	62.1	0.0
02:02:11	10.0	1114	1.4	62.1	0.0
02:02:06	9.5	1064	1.1	62.1	0.0
02:02:01	11.0	1254	1.5	62.1	0.0
02:01:56	12.0	1363	2.0	62.1	0.0
02:01:51	11.0	1257	1.4	62.1	0.0
02:01:46	11.0	1195	2.0	62.1	0.0
02:01:41	3.5	802	1.1	62.1	0.0
02:01:36	0.0	729	0.0	62.1	0.0
02:01:31	0.0	3	0.0	0.0	0.0
02:01:26	0.0	3	0.0	0.0	0.0

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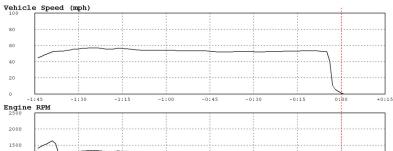


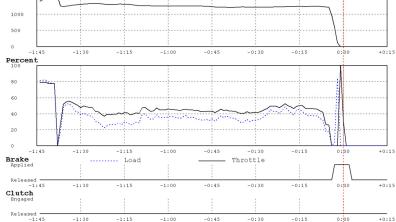
931487.0 mi

DDEC® Reports - Last Stop Record

Trip: 03/27/12 12:05:48 To 08/03/03 (EST) Print Date: 6/18/2020 10:52 AM Vehicle ID: Driver ID: 931487.0 mi Odometer: 06R0630514 Engine S/N: Trip Time Fuel Consumption Trip Distance 161574.1 mi 29042.25 gal Trip Fuel 5.01 gal/h Fuel Economy 5.56 mpg Idle Time 1926:39:14 Avg Drive Load 44 % Idle Percent 33.27 % Avg Vehicle Speed 41.8 mph Idle Fuel 847.75 gal

Last Stop Time: 09/27/02 0:09:51 (EST) Last Stop Odometer:





Version: 9.01-00379-00000 C:\ProgramData\Detroit Diesel\DDEC Reports\Diagnostic\DATA PAGES\061820123456AA.XTR

-0:45

-0:30

-0:15

-1:00

-1:15

DDEC® Reports - Last Stop Record

Print Date: 6/18/2020 10:52 AM

Trip: 03/27/12 12:05:48 To 08/03/03 (EST)

Vehicle ID: Driver ID:

Odometer: Engine S/N:

931487.0 mi 06R0630514

Last Stop Time: 9/27/2002 12:09:51 AM (EST) Last Stop Odometer: 931487.0 mi

Time	Vehicle Speed (mph)	Engine Speed (rpm)	Brake	Clutch	Engine Load	Throttle (%)	Cruise	Diag. Code
-0:24	52.5	1229	No	No	43.50	49.60	No	No
-0:23	52.5	1233	No	No	43.50	49.60	No	No
-0:22	52.5	1236	No	No	41.00	48.00	No	No
-0:21	52.5	1233	No	No	44.50	50.00	No	No
-0:20	53.0	1238	No	No	49.00	52.80	No	No
-0:19	53.0	1241	No	No	45.00	50.40	No	No
-0:18	53.0	1243	No	No	42.00	48.80	No	No
-0:17	53.0	1241	No	No	39.00	46.80	No	No
-0:16	53.0	1246	No	No	45.50	49.60	No	No
-0:15	53.0	1245	No	No	45.50	50.40	No	No
-0:14	53.5	1252	No	No	43.50	50.40	No	No
-0:13	53.5	1244	No	No	40.00	47.20	No	No
-0:12	53.5	1250	No	No	37.50	46.40	No	No
-0:11	53.5	1252	No	No	38.50	46.40	No	No
-0:10	53.5	1250	No	No	37.50	46.40	No	No
-0:09	53.5	1247	No	No	38.00	46.00	No	No
-0:08	53.5	1245	No	No	34.50	44.00	No	No
-0:07	53.0	1244	No	No	33.00	42.40	No	No
-0:06	52.5	1233	No	No	17.50	26.40	No	No
-0:05	52.5	1222	No	No	17.50	26.00	No	No
-0:04	41.0	972	No	No	0.00	0.00	No	No
-0:03	11.0	605	Yes	No	4.50	0.00	No	No
-0:02	5.5	127	Yes	No	84.50	0.00	No	No
-0:01	3.0	0	Yes	No	0.00	100.00	No	No
0:00	1.5	0	Yes	No	0.00	30.00	No	No
+0:01	0.0	0	Yes	No	0.00	0.00	No	No
+0:02	0.0	0	Yes	No	0.00	0.00	No	No
+0:03	0.0	0	No	No	0.00	0.00	No	No
+0:04	0.0	0	No	No	0.00	0.00	No	No
+0:05	0.0	0	No	No	0.00	0.00	No	No
+0:06	0.0	0	No	No	0.00	0.00	No	No
+0:07	0.0	0	No	No	0.00	0.00	No	No
+0:08	0.0	0	No	No	0.00	0.00	Nο	No
+0:09	0.0	0	No	No	0.00	0.00	No	No
+0:10	0.0	0	No	No	0.00	0.00	No	No
+0:11	0.0	0	No	No	0.00	0.00	No	No
+0:12	0.0	0	No	No	0.00	0.00	No	No
+0:13	0.0	0	No	No	0.00	0.00	No	No
+0:14	0.0	0	No	No	0.00	0.00	No	No
+0:15	0.0	0	No	No	0.00	0.00	No	No

Version: 9.01-00379-00000

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+0:15

DDEC® Reports - Last Stop Record

Print Date: 6/18/2020 10:52 AM

Trip Fuel

Trip: 03/27/12 12:05:48 To 08/03/03 (EST) Vehicle ID: Driver ID:

DDEC® Reports - Last Stop Record

Print Date: 6/18/2020 10:52 AM

Trip: 03/27/12 12:05:48 To 08/03/03 (EST) Vehicle ID: Driver ID:

DDEC® Reports - Last Stop Record

Print Date: 6/18/2020 10:52 AM

Trip: 03/27/12 12:05:48 To 08/03/03 (EST)

Vehicle ID: Driver ID:

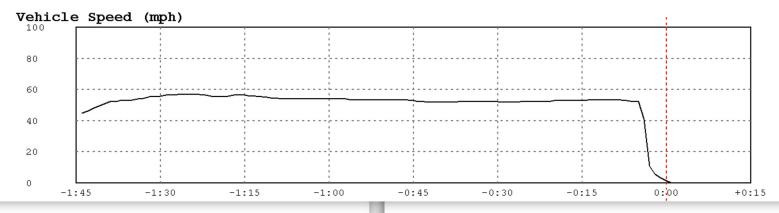
Odometer: 931487.0 mi Engine S/N: 06R0630514

Trip Distance 161574.1 mi Trip Time 5791:37:53 29042.25 gal Fuel Consumption 5.01 qal/hFuel Economy 1926:39:14 5.56 mpg Idle Time Avg Drive Load 44 % Idle Percent 33.27 % Avq Vehicle Speed 41.8 mph Idle Fuel 847.75 gal

Last Stop Time: 09/27/02 0:09:51 (EST)

Last Stop Odometer:

931487.0 mi



ECM S/W: 29.000

Version: 9.01-00379-00000

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ECM S/W: 29.000 Version: 9.01-00379-00000 Page 3/3

C:\ProgramData\Detroit Diesel\DDEC Reports\Diagnostic\DATA PAGES\061820123456AA.XTR





						Fast stop recorder							
							/9/2019 1:58:47 PM 1627 - Schaefer Engineering - Schaefer Engineering						
Comp	any is numb	er				P627 - GJ118		∍ı ⊑ngın	ering -	ocnaet	er Engir	eering	
	e numbe					Y09167							
	l vehicle		е			174718	3			mi			
Recor	1 1												
ECU s	erial num	ber				50294							
Total v	ehicle dis	tance				174718				mi			
Total e	ngine tim	e				4599 : 2	28 : 14			(hours:	minutes:	seconds)	
													E
		F				_						Accelerator pedal position [%]	/ehicle speed[mph]
a	Į.	토토	ě	9	ě	횰	ş	E	si jk	≥ če	_	<u> </u>	ped
3.1 3.1	<u>8</u> .	5 P	- pra	ds	bra 2,1	sw 2*]	ď	yst 2*]	를 를	<u>.</u>	ے د	og c	g
등등	se l	se	<u>e</u> <u>e</u>	e –	ine	lion Is	ice	s es	ice sau	ec 2	₹ 5	tior	icle icle
Clutch pedal switch [3*]	Cruise control status [1*]	Cruise control set speed [mph]	Engine brake level [%]	Engine speed [rpm]	Engine brake status [2*]	Ignition switch status [2*]	Service brake [2*]	Brake system status [2"]	Service brake Pressure[psi]	ESP Roll Over Protection [2']	ESP Yaw Control [2*]	ACC	/eh
0	0	0.0	0	1012	0	1	0	0	0	0	0	90	45.0
0	0	0.0	0	1018	0	1	0	0	0	0	0	85	45.4
0	0	0.0	0	1032	0	1	0	0	0	0	0	59	45.8
0	0	0.0	0	1040 1044	0	1	0	0	0	0	0	55 53	46.2 46.6
0	0	0.0	0	1059	0	1	0	0	0	0	0	54	47.0
0	0	0.0	0	1060	0	1	0	0	0	0	0	51	47.4
0	0	0.0	0	1070 1049	0	1	0	0	0	0	0	49 1	47.8 48.0
0	0	0.0	0	1049	0	1	0	0	0	0	0	0	47.7
0	0	0.0	0	1060	0	1	0	0	0	0	0	0	47.6
0	0	0.0	0	1057	0	1	1	0	0	0	0	0	47.4
0	0	0.0	0	979 762	0	1	1	0	0	0	0	0	45.9 37.4
0	0	0.0	0	698	0	1	1	i	0	0	0	0	30.0
0	0	0.0	0	680	0	1	1	1	0	0	0	0	32.3
0	0	0.0	0	661 647	0	1	1	1	0	0	0	0	31.2 25.9
0	0	0.0	0	642	0	1	1	1	0	0	0	0	23.0
0	0	0.0	0	643	0	1	1	1	0	0	0	0	18.7
0	0	0.0	0	651 645	0	1	1	0	0	0	0	0	0.0 17.4
0	0	0.0	0	650	0	1	1	1	0	0	0	0	17.4
0	ō	0.0	0	644	0	1	1	1	0	0	0	0	13.1
0	0	0.0	0	654	0	1	1	1	0	0	0	0	11.1
0	0	0.0	0	648 650	0	1	1	1	0	0	0	0	8.8 5.1
0	0	0.0	0	650	0	1	1	1	0	0	0	0	2.5
0	0	0.0	0	649	0	1	1	1	0	0	0	0	0.8
0	0	0.0	0	649 649	0	1	1	1	0	0	0	0	0.0
0	0	0.0	0	651	0	1	1	0	0	0	0	0	0.0
0	0	0.0	0	650	0	1	1	0	0	0	0	0	0.0
0	0	0.0	0	649	0	1	1	0	0	0	0	0	0.0
0	0	0.0	0	649 651	0	1	1	0	0	0	0	0	0.0
0	0	0.0	0	648	0	1	1	0	0	0	0	0	0.0
0	0	0.0	0	647	0	1	1	0	0	0	0	0	0.0
0	0	0.0	0	649 650	0	1	1	0	0	0	0	0	0.0
	Ü	0.0	Ü	050				Ü	Ü	Ü	Ü	Ü	0.0
Leger	nd												
	D = Disab 1 = Hold 2 = Accel 3 = Decel 4 = Resul 5 = Set 6 = Overr 7 = Not a	erate erate me]	1	= Not ac = Active = Fault = Not su				[3*]	0 = No 1 = Ap	t applied plied	

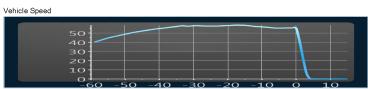


Vehicle Sudden Deceleration Report Record 2

Engine Type	ISL 2013	Ecm Code	EB90164.04
Engine Serial Number	73989355	Software Phase	21.60.70.2
Unit Number	******	Extraction Date	07-06-2019 10:10:55
Sudden Decel Threshold	9.01 mph	ECM Run time	8582:0:20
Rate:			

Occurrence Date: NVA ECM Run Time at Occurrence: 8581:28:13

Air Temperature (°F) at Occurrence: 87 Occurrence Distance (mi): 87588.8







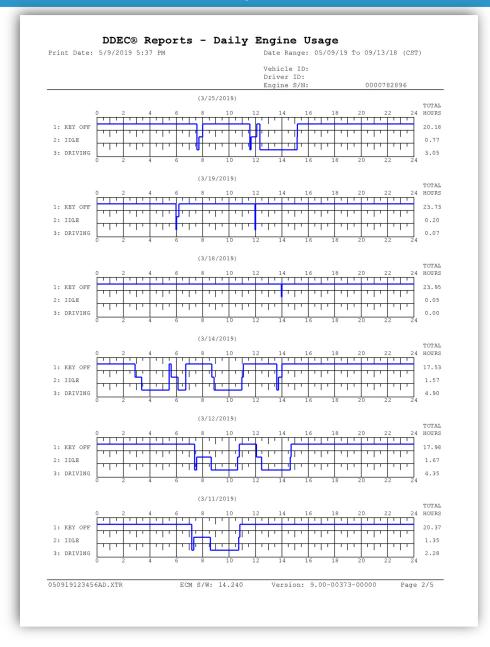


PowerSpec v6.2.0.22 Page 5 of 13

Record 2								
Time	Vehicle	Engine	Engine	Throttle	Brake	Clutch	Cruise	Lamp
(Seconds	Speed (mph)	Speed	Load (%)	(%)	Status	Status	Status	Status
)		(rpm)						
-17	58	1633	32.8	56.4	-	-	-	-
-16	58	1628	19.1	47.2	-	-	-	-
-15	58	1619	19.1	47.2	-	-	-	-
-14	58	1616	9.4	40.8	-	-	-	-
-13	58	1615	4.7	37.6	-	-	-	-
-12	57	1600	5.1	37.2	-	-	-	-
-11	57	1574	12.9	42.0	-	-	-	-
-10	57	1572	12.9	42.0	-	-	-	-
-9	56	1561	22.3	48.0	-	-	-	-
-8	56	1564	9.0	39.2	-	-	-	-
-7	56	1540	0.0	0.0	-	-	-	-
-6	55	1538	40.2	70.4	-	-	-	-
-5	55	1534	68.8	78.4	-	-	-	-
-4	55	1551	58.2	71.6	-	-	-	-
-3	55	1537	49.2	65.6	-	-	-	-
-2	55	1550	62.5	74.4	-	-	-	-
-1	55	1542	39.1	58.8	-	-	-	-
0	55	1511	0.0	0.0	On	-	-	-
1	41	1027	0.0	0.0	On	-	-	-
2	23	411	0.0	0.0	On	-	-	-
3	7	0	0.0	0.0	On	-	-	-
4	0	0	0.0	0.0	On	-	-	-
5	0	0	0.0	0.0	On	-	-	-
6	0	0	0.0	0.0	On	-	-	-
7	0	0	0.0	0.0	On	-	-	-
8	0	0	0.0	0.0	On	-	-	-
9	0	0	0.0	0.0	On	-	-	-
10	0	0	0.0	0.0	On	-	-	-
11	0	0	0.0	0.0	On	-	-	-
12	0	0	0.0	0.0	On	-	-	-
13	0	0	0.0	0.0	On	-	-	-
14	0	0	0.0	0.0	On	-	-	-
15	0	0	0.0	0.0	On	-	-	On

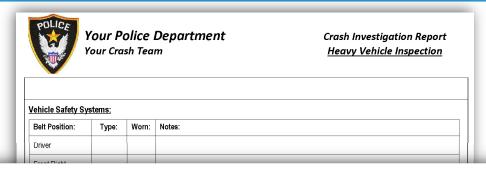
PowerSpec v6.2.0.22 Page 8 of 13







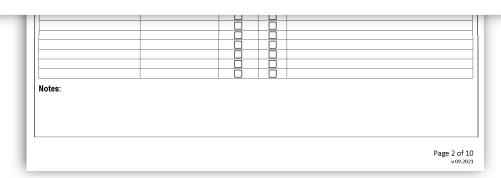
On-Scene Inspection – Lamps



Lamp Position	Туре	Collected	Photo	Condition

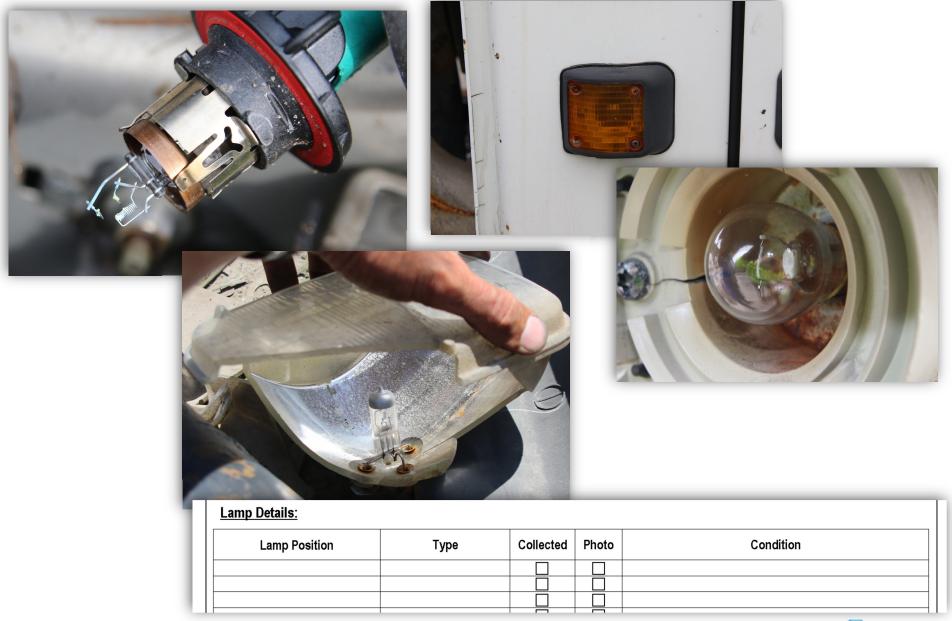
Notes:

Lamp Details:





On-Scene Inspection – Lamps



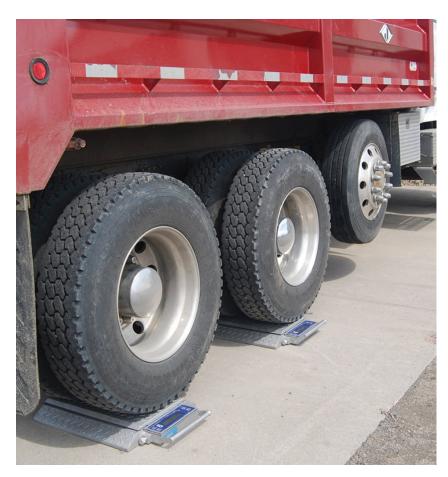


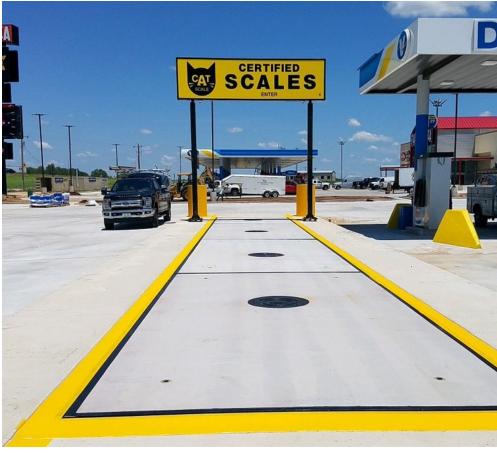
	ur Polic ır Crash			Crash Investigation Report <u>Heavy Vehicle Inspection</u>		
Vehicle Weight Obtai	ned:					
Location Weighed:			Scale	Туре:	Operator:	
Scale Certification #:				tification Date	-	iraduations:
ocale octuiteadoli #.			061			maddadons.
	Left			Right	Total	
Axle 1						
Axle 2						
						_
Axle 3						
				Gross:		
Elevated ()						
Elevated Wheel Dia.:	Gr	ound to	Axle (Center:	Wheelbase:	
	Left				Total	
	Len			Right	Iotai	
Axle 4						
Axle 5						
				Gross:		
Flavorte d ()						-
Elevated ()						
Ground to Kingpin: Notes:	Gro	und to	Kingpir	n Elevated:	Kingpin to 1	Tandem Center:
Documents to Exam	nine/Obtain:					
Туре		Colle	cted			Status
Driver's Log - Hours	of Service					
Bills of Lading Tractor Registration/	Coh Cord	<u> </u>	-			
Trailer Registration	Jab Cara	+ +	+			
Insurance Paperwork		 	i			
Weight Tickets		<u> </u>	ī			
Oversize/Overweight	Permits	Ť	ī			
GPS Data		Ī				
Drivecam Video Foot	age	Ī	1			
		Ī				
Electronic Tolling Sys		Ī				
DOT Inspection Repo			1			



ocation Weighed:		Scale Type:	Operator:	
Scale Certification #:		Certification Date	e: Scale (Graduations:
	Left	Right	Total	
Axle 1				
Axle 2				
Axle 3				
		Gross:		
Elevated ()				
Elevated Wheel Dia.:	Groun	d to Axle Center:	Wheelbase:	
	Left	Right	Total	
Axle 4				
Axle 5				
		Gross:		
Elevated ()				
Ground to Kingpin:	0	to Kingpin Elevated:	Vinania 4a	 Tandem Center











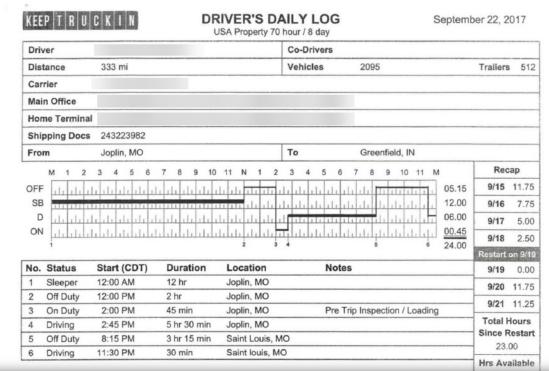


Туре	Collected	Status
Oriver's Log – Hours of Service		
Bills of Lading		
Tractor Registration/Cab Card		
Trailer Registration		
Insurance Paperwork		
Weight Tickets		
Oversize/Overweight Permits		
GPS Data		
Drivecam Video Footage		
Electronic Tolling Systems		
DOT Inspection Report		



Electronic Logging Devices (ELDs)

Mandatory as of December 2019 (with some exceptions)



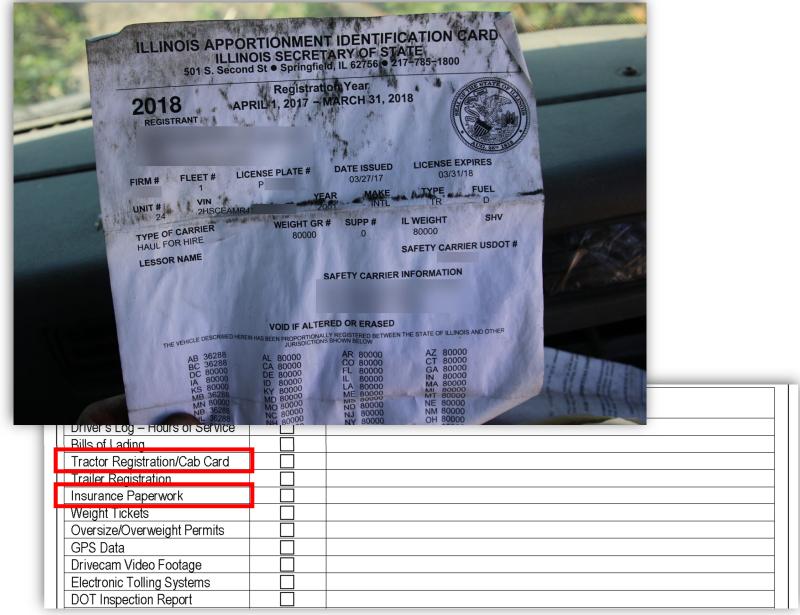
			Today
Туре	Collected	Status	
Driver's Log – Hours of Service			
Bills of Lading			
Tractor Registration/Cab Card			
Trailer Registration			
Insurance Paperwork			
Weight Tickets			
Oversize/Overweight Permits			
GPS Data			
Drivecam Video Footage			
Electronic Tolling Systems			
DOT Inspection Report			



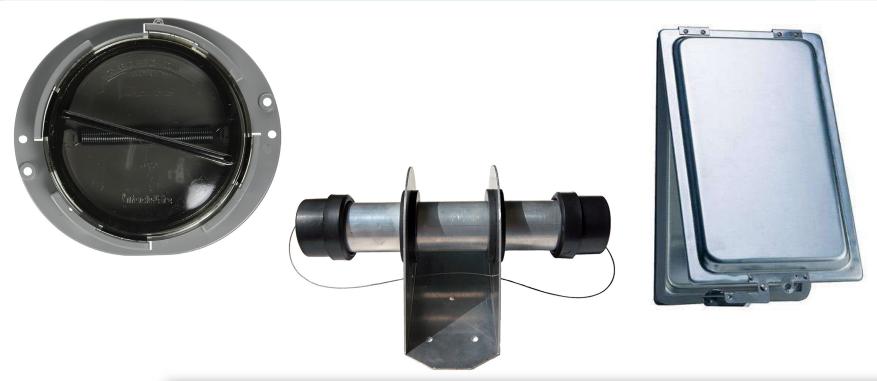
Page1 of	Pa		GINAL GOTIABLE	Shipper No Carrier No	0.:			
					te:		anuary	1, 2018
TO:		(Name of Carrier)	FR011		_	_		
Consignee:		USA Inc. the letters "COO" must appear before consignee's name	FROM: Shipper:	XYZ USA Inc.	5	5		
Street:	123 F	ake Street	Street:	100 ABC Aver	nue			
City/State:	Centr	al City, NY Zip Code: 15790	City/State:	Niagara Falls,	NY Z	р Со	de: 14	1304
Route:	8			10	11	Uni	t No:	
No. of Units & Container Type	нм	9 DESCRIPTION Beetfication NumberProper Shipping NamePhased ClassiquipPac	sking Group	TOTAL QUANTITY (Might, lot,me, Unit of Measure)	WEIGH (Subject to Co		RATE	CHARGES (For Carner Use Only
1 box	х	UN1219, Isopropanol, Class 3, PG II		2 lb				
5 drums	×	UN1993, Flammable liquid, n.o.s. (pentanes), Class 3, PG II		110 gal	lons		
2 boxes		100' x 3/8" hemp braided rope		121 lbs				
3 fiber drums	×	UN1823, Sodium hydroxide, solid,8, III		66 lbs				
4 drums		RQ UN1114, Benzene, 3, II		220 gallons				
	_							
	_							

Туре	Collected	Status
Driver's Log - Hours of Service		
Bills of Lading		
Tractor Registration/Cab Card		
Trailer Registration		
Insurance Paperwork		
Weight Tickets		
Oversize/Overweight Permits		
GPS Data		
Drivecam Video Footage		
Electronic Tolling Systems		
DOT Inspection Report		



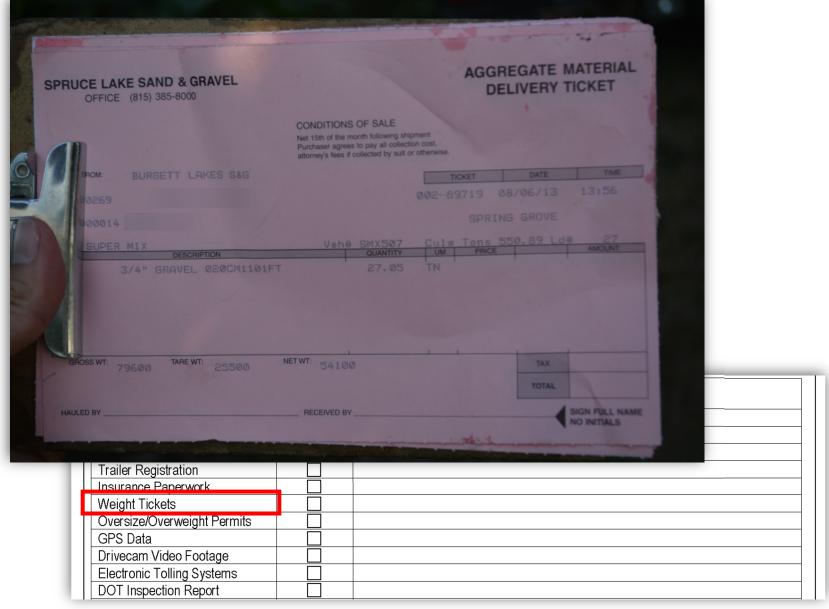






Туре	Collected	Status
Driver's Log – Hours of Service		
Bills of Lading		
Tractor Registration/Cab Card		
Trailer Registration		
Insurance Paperwork		
Weight Tickets		
Oversize/Overweight Permits		
GPS Data		
Drivecam Video Footage		
Electronic Tolling Systems		
DOT Inspection Report		

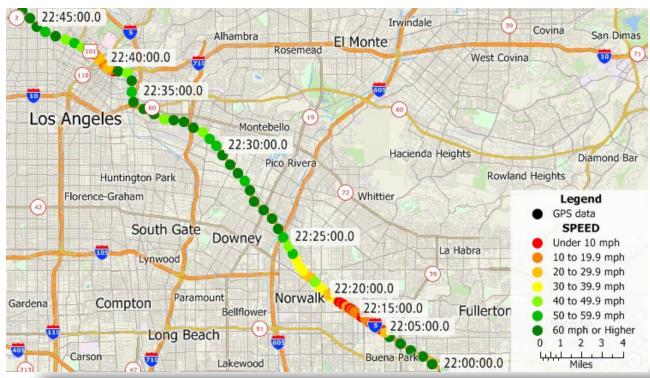












Туре	Collected	Status
Driver's Log – Hours of Service		
Bills of Lading		
Tractor Registration/Cab Card		
Trailer Registration		
Insurance Paperwork		
Weight Tickets		
Oversize/Overweight Permits		
GPS Data		
Drivecam Video Footage		
Electronic Tolling Systems		
DOT Inspection Report		

https://www.caliper.com/graphics/xmaptitude-gps-mapping-software-location-tracking.jpg.pagespeed.ic.BQxwrx6e6D.jpg







Туре	Collected	Status
Driver's Log – Hours of Service		
Bills of Lading		
Tractor Registration/Cab Card		
Trailer Registration		
Insurance Paperwork		
Weight Tickets		
Oversize/Overweight Permits		
GPS Data		
Drivecam Video Footage		
Electronic Tolling Systems		
DOT Inspection Report		











Туре	Collected	Status	
Driver's Log – Hours of Service			
Bills of Lading			
Tractor Registration/Cab Card			
Trailer Registration			
Insurance Paperwork			
Weight Tickets			
Oversize/Overweight Permits			
GPS Data			
Drivecam Video Footage	_ 🗆		
Electronic Tolling Systems			
DOT Inspection Report			



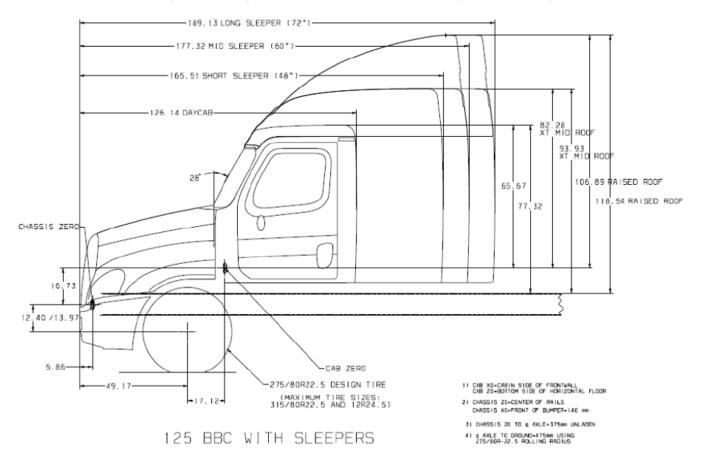
STATE	ILLINOIS STATE POL	ICE	Officer No. 5566	Date 9/25/20	_		Time Zone CENTRAL TIME	Inspection Nu IL38360708
	COMMERCIAL VEHICE	LE SECTION	Commerce Type 1 - INTERSTA		11		Inspection Level 1 - FULL INSPECTION	
	SPRINGFIELD	IL 62703	County CLARK	L	Location Number 999	170	on Description	
SERVICE	(217)782-6267		Mile Post# 149			Spec 03,0 :	al Checks i	
				DRIVER				
DRIVER Name - Last		First	Middle		Suffix			
Address		City		State	Zip Ci	ode		
Driver License Numb	er St	ate of License Dat	e of Birth CC	DL Class	Endorse NONE	ment(s) Restriction(s)
Drug Search NO	Arrests	Alcohol Te	st Administered		INONE	Res		
			C#	ARRIER				
MOTOR CARRIER N USF HOLLAND L							_	
Address 700 S WAVERLY					City HOLLAND	1	State MI	Zip Code 49423
	ICC Number IL CC N	Number Phone Numb	er		Fax Number		· · · · · · · · · · · · · · · · · · ·	43420
75806		(616) 395-5	5000					

Туре	Collected	Status
Driver's Log – Hours of Service		
Bills of Lading		
Tractor Registration/Cab Card		
Trailer Registration		
Insurance Paperwork		
Weight Tickets		
Oversize/Overweight Permits		
GPS Data		
Drivecam Video Footage		
Flectronic Tolling Systems		
DOT Inspection Report		



FREIGHTLINER CASCADIA EVOLUTION

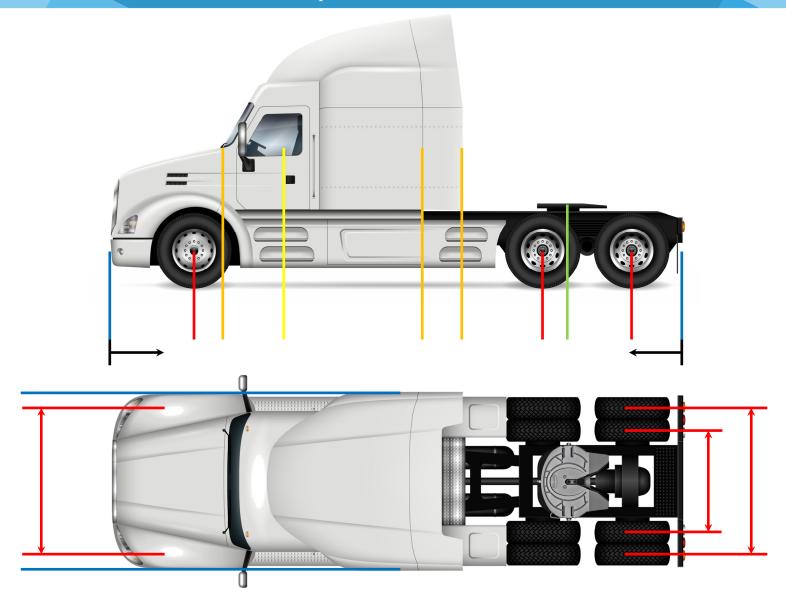
GVWR: 35,000-60,600 Lbs. GCWR: 80,000-110,000 Lbs.



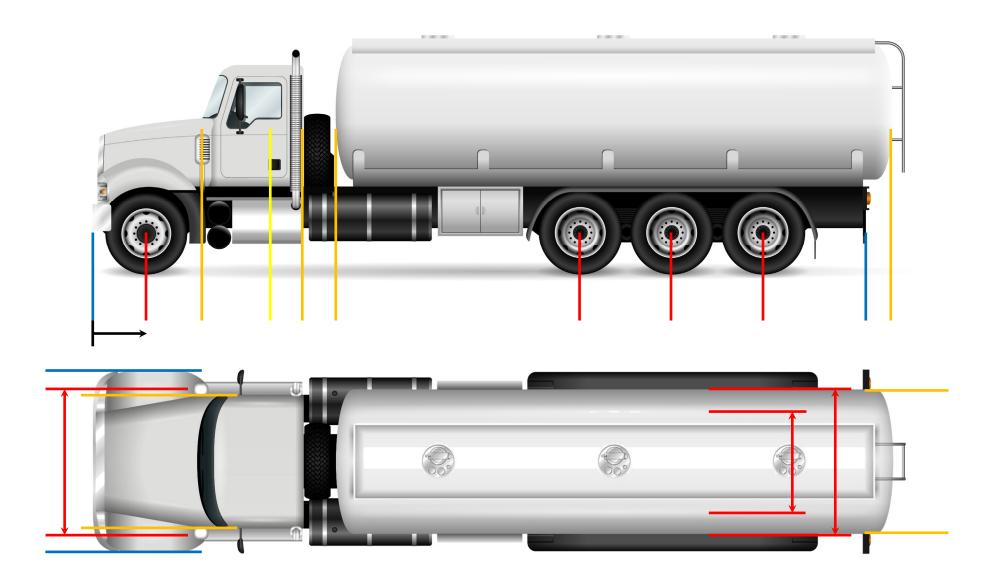
2019 Diesel Truck Index



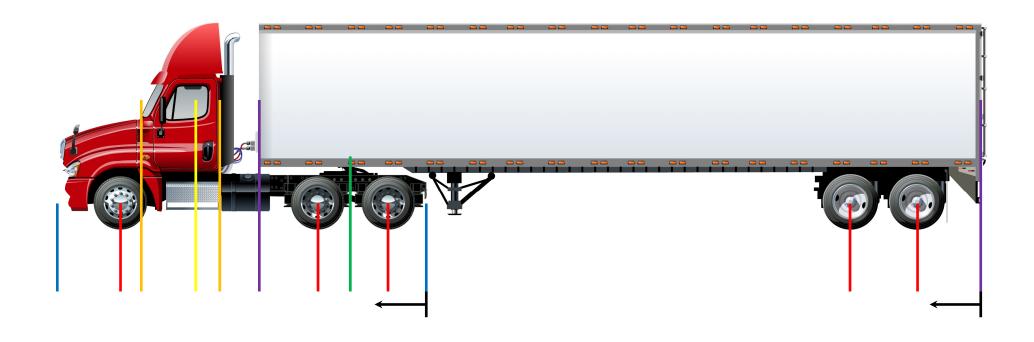




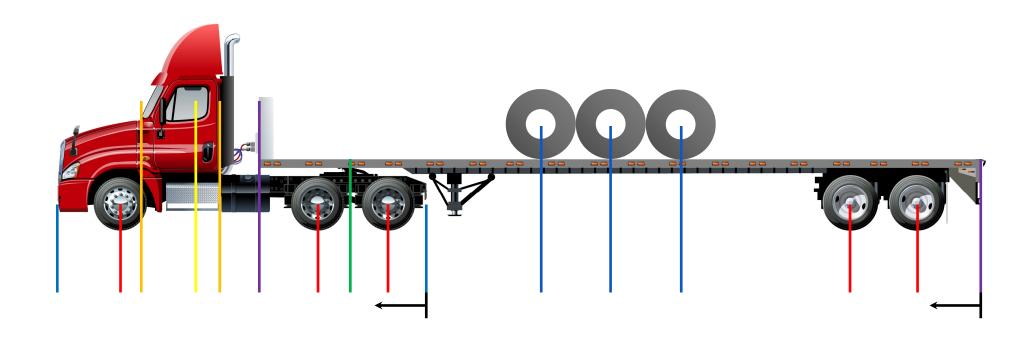




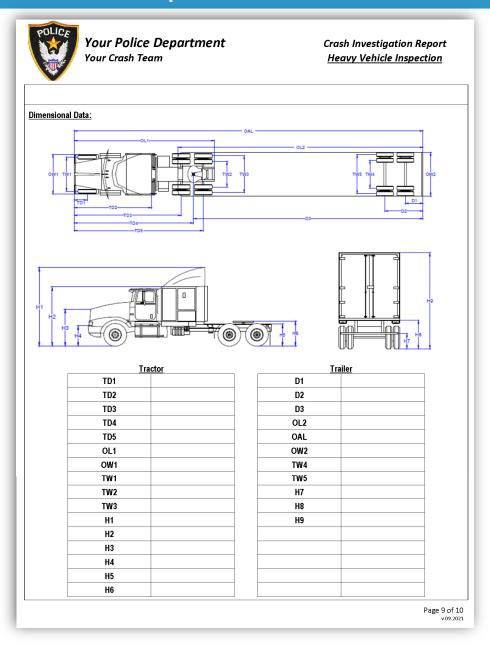






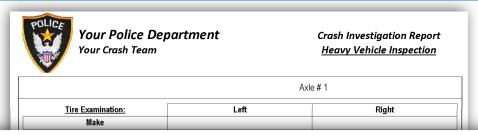








On-Scene Inspection – Tires



Tire Examination:	Left	Right
Make		
Model		
Size		
DOT Number		
Locked from Damage		
Flat Tire		
Unseated		
Tire Damaged		
Rim Damaged		
Air Pressure (PSI)		
Tread Depth (O/M/I)		
Rolling Radius		

Pad Thickness		
Cracks in Pad		
Excessive Oil / Grease		
Metal Flaking		
Pad Missing		
<u>otes:</u>		

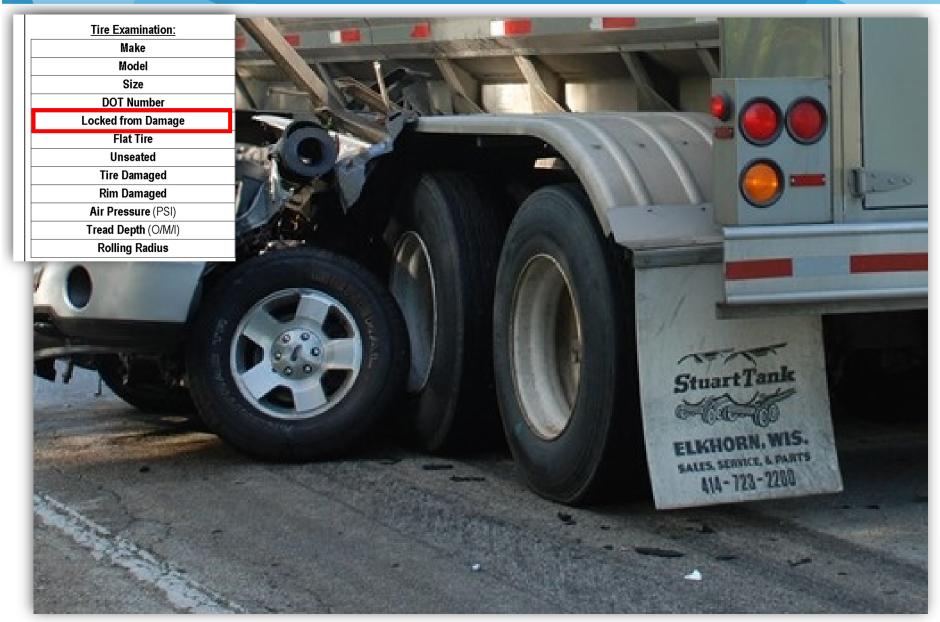


On-Scene Inspection – Tires





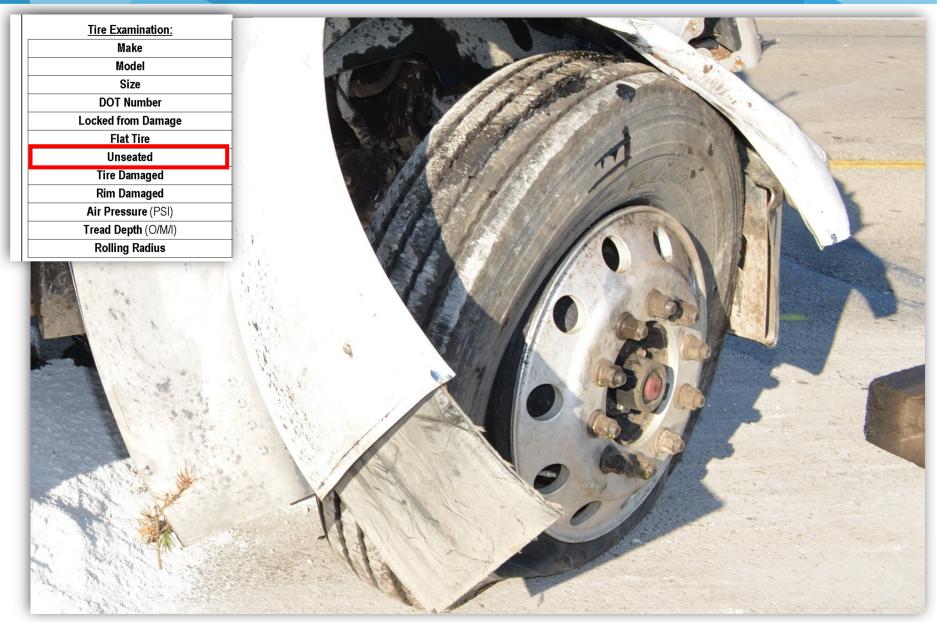
On-Scene Inspection – Tires



















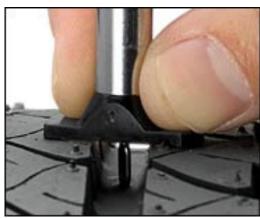






<u>Tire Examination:</u>
Make
Model
Size
DOT Number
Locked from Damage
Flat Tire
Unseated
Tire Damaged
Rim Damaged
Air Pressure (PSI)
Tread Depth (O/M/I)
Rolling Radius





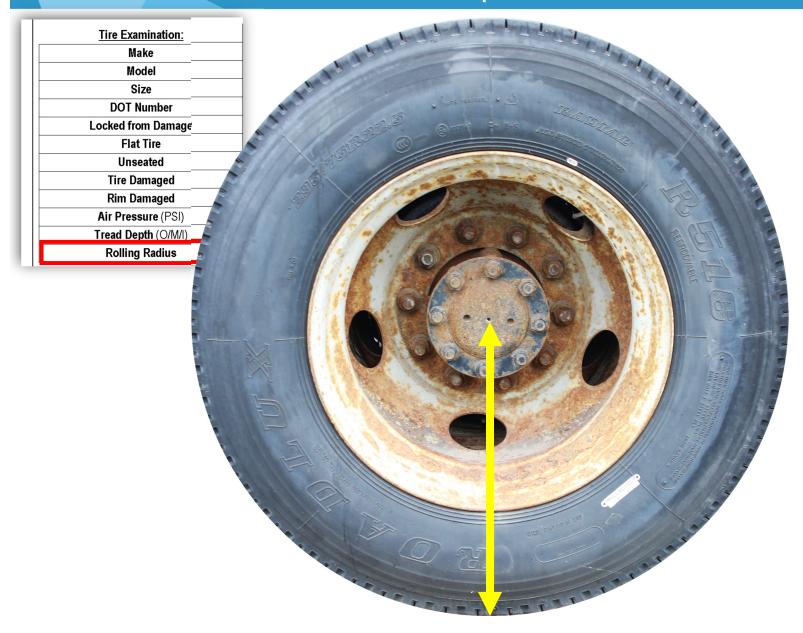




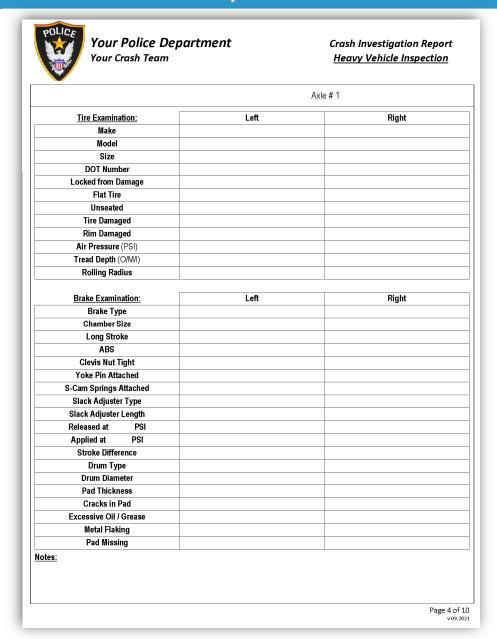
https://www.tirerack.com/tires/tiretech/techpage.jsp?techid=148













	POLICE	our Police Department	igation Report
Brake Examinati	on:	Left	
Brake Type			

Brake Examination:	Left	Right
Brake Type		
Chamber Size		
Long Stroke		
ABS		
Clevis Nut Tight		
Yoke Pin Attached		
S-Cam Springs Attached		
Slack Adjuster Type		
Slack Adjuster Length		
Released at PSI		
Applied at PSI		
Stroke Difference		
Drum Type		
Drum Diameter		
Pad Thickness		
Cracks in Pad		
Excessive Oil / Grease		
Metal Flaking		
Pad Missing		

	- 1
	- 1
Page 4 of 1	
V 09.20	



	•	hicle Inspection
Brake Examination:	Left	Right
Brake Type		
Chamber Size		
Long Stroke		
ABS		
Clevis Nut Tight		
Yoke Pin Attached		
S-Cam Springs Attached		
Slack Adjuster Type		
Slack Adjuster Length		
Released at PSI		
Applied at PSI		
Stroke Difference		
Drum Type		
Drum Diameter		
Pad Thickness		
Cracks in Pad		
Excessive Oil / Grease		
Metal Flaking		
Pad Missing		



Page 4 of 10 v 09.2021

Brake Examination:	Left	Right
Brake Type		
Chamber Size		
Long Stroke		
ABS		
Clevis Nut Tight		
Yoke Pin Attached		
S-Cam Springs Attached		
Slack Adjuster Type		
Slack Adjuster Length		
Released at PSI		
Applied at PSI		
Stroke Difference		
Drum Type		
Drum Diameter		
Pad Thickness		
Cracks in Pad		
Excessive Oil / Grease		
Metal Flaking		
Pad Missing		



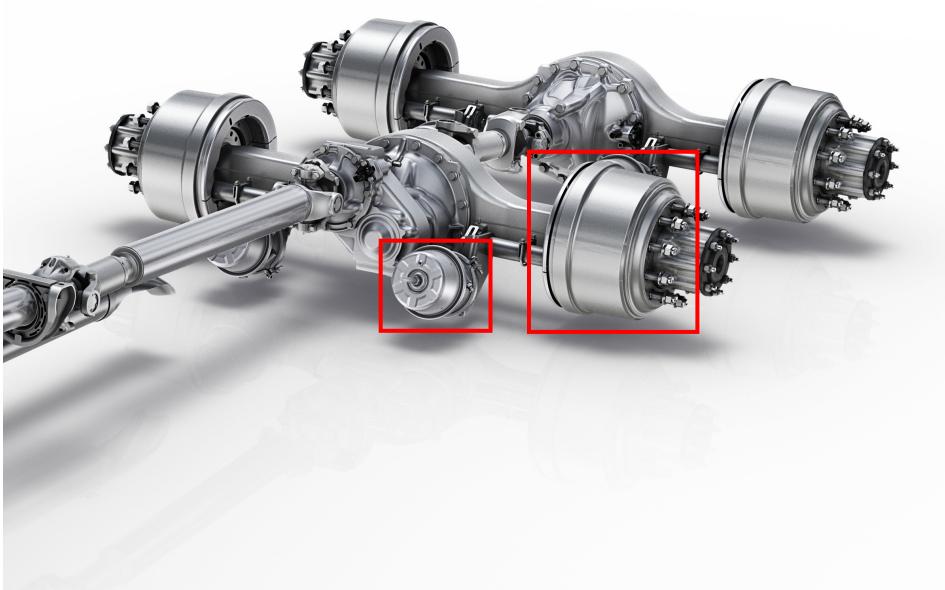
Page 4 of 10 v 09.2021

POLICE

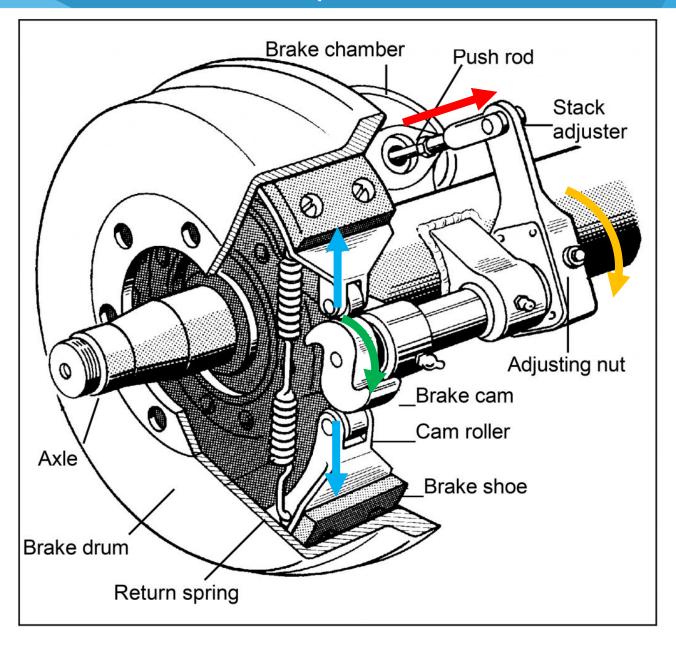
	Your Police Department	Crash Investigation	
	Your Crash Team	Heavy Vehicle Inst	ection
Brake Examination:		Left	Right
Brake Type			
Chamber Size			
Long Stroke			
ABS			
Clevis Nut Tight			
Yoke Pin Attached			
S-Cam Springs Attached	l		
Slack Adjuster Type			
Slack Adjuster Length			
Released at PSI			
Applied at PSI			
Stroke Difference			
Drum Type			
Drum Diameter			
Pad Thickness			
Cracks in Pad			
Excessive Oil / Grease			
Metal Flaking			
Pad Missing			



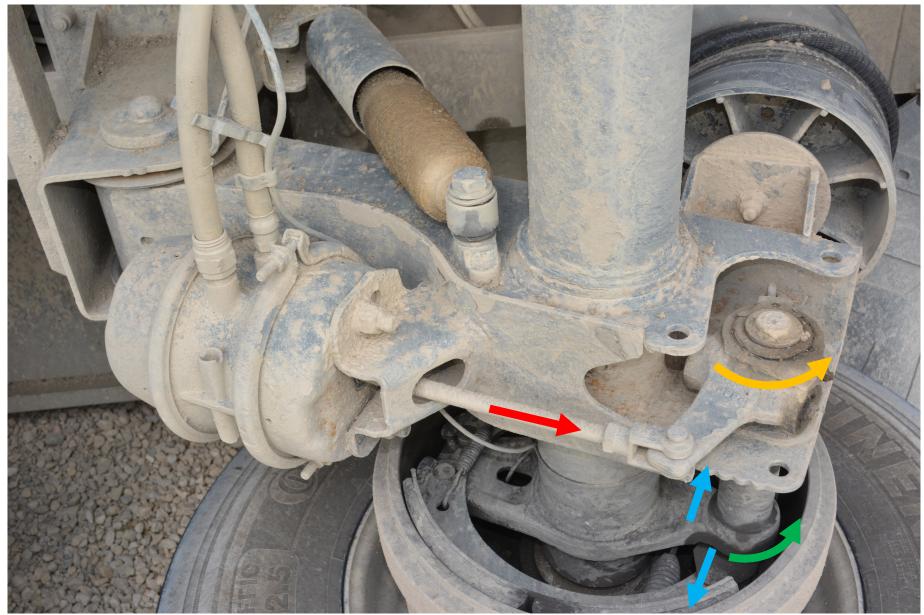
Page 4 of 10 v 09.2021















CFTC - Centre de formation en transport de Charlesbourg - https://youtu.be/FDCaDGZKdTQ?t=18





Evidence Preservation **During Towing & Removal**

Heavy Vehicle Crash Investigation





All Rights

2021 Reserved



Evidence Preservation

Towing and removal considerations

Braking systems

Electronic control module (ECM)





Evidence Preservation – Braking System

Single-Chamber





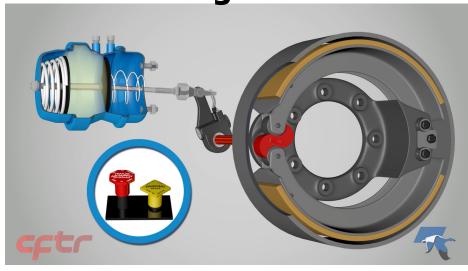


When no air is present within the chamber, the parking spring activates the brake at this wheel

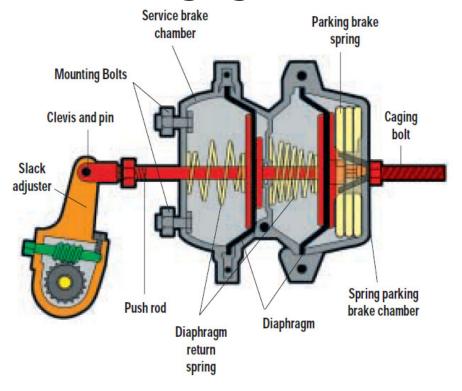


Evidence Preservation – Braking System

Air Provided by Towing Vehicle



Caging Bolt





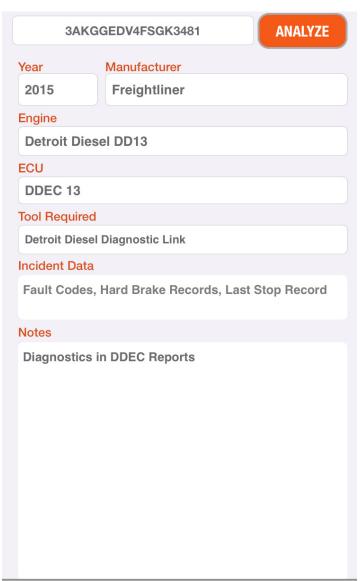
Evidence Preservation – Braking System





Evidence Preservation – ECM













On-Scene Inspection – ECM

Fault Codes

May be overwritten by subsequent faults

Last Stop Record

Overwritten when vehicle exceeds 1.5 mph

Hard Brake Records

7, 9 or 10 mph/second







Evidence Preservation – ECM

Do not remove the module(s)

Power Off



Remove driveshaft or remove axle shafts









Heavy Vehicle Crash Investigation







Resources - Training

Heavy Vehicle Overview

ITEA – Basic & Advanced Truck Enforcement

Heavy Vehicle Investigation/Reconstruction

NUCPS - Heavy Vehicle Crash Reconstruction

IPTM - Commercial Vehicle Crash Investigation 1 & 2

Heavy Vehicle EDRs

SAE - Accessing and Interpreting Heavy Vehicle Event Data Recorders

SAE - Advanced Applications of Heavy Vehicle EDR Data

IPTM - Heavy Vehicle Electronic Control Module Data Use in Crash Reconstruction

Vehicle Systems

NUCPS - Heavy Truck Forensic Mechanical Inspection for Collision Investigators

Bendix - Air Brake Training

Bendix - Advanced Technology Training







RELEGIES TERN UNITED

FOR PUBLIC



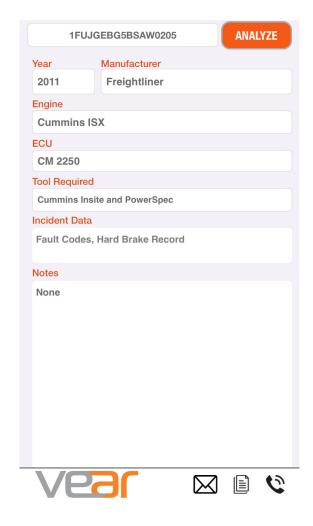
VINTrucks - Heavy Truck EDR

Vear, Inc.

Designed for iPhone

**** 5.0 • 2 Ratings

\$0.99



https://vintrucks.com/







ITEA Mobile 12+

Member Resources Authoritek, LLC

Designed for iPad

**** 5.0 • 9 Ratings

Free



https://vintrucks.com/

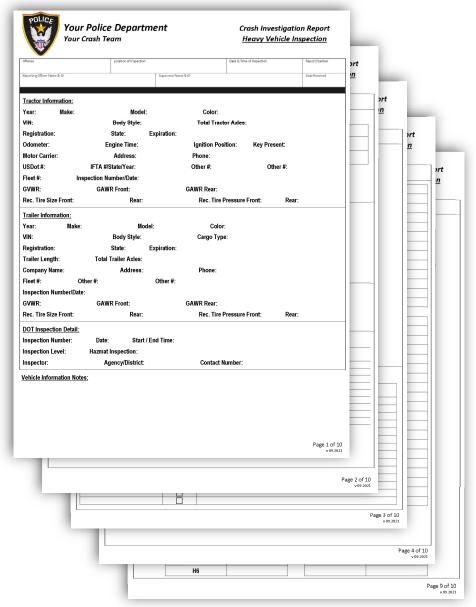




Andrew W. Thomas

andrew@collisionanalyticsllc.com www.collisionanalyticsllc.com (815) 260-3721







Heavy Vehicle Crash Investigation

2021 Annual Conference

09/28/21 – 10/01/21 Crown Plaza Conference Center Springfield, IL



