

Monaco Motorhome Fire Trip Report

Date: November 29&30, 2007

Destination: Coparts Auto Auction
3300 Vandalia Road
Des Moines, IA

Participants: Mark David, Mechanical Engineer/Fire Inspector, Brown Engineering Company, representing General Casualty Insurance Company (of the QBE Insurance Group)
Charlie Grier, Technical Coordinator, Caterpillar
John Walker, President, Walker Fire Forensic Analysis, Inc, representing Monaco Coach Corporation
Dan Pearse, Vehicle Safety Engineer, Vehicle Research and Test Center-DA Group

Purpose: Examine a vehicle that had experienced an engine compartment fire with representatives of the engine manufacturer, motorhome manufacturer, and vehicle owner's insurance company.

Background: The General Casualty representative, who was from a local engineering firm, had previously visited the vehicle twice before the group inspection. He reported the following information. The owner's names were Mike and Karen Gilomen, P. O. Box 564 Land of Lakes, WI 54540. The vehicle was a 2005 Monaco Coach produced Beaver Patriot 40-ft Lexington model with an optional Thunder package. The VIN was 1RFC0561351030761, Serial No. 051620834088301_807076. The vehicle had approximately 26,000 miles during the use of two owners. The owner had purchased the used motorhome approximately 1.5-years ago. The engine was a Caterpillar 525-horsepower model C13, which is an option with the Thunder package that also included a washer/dryer, awning, 37-in LCD television, and front mast. The current owner was headed to Colorado and then to Arizona for the winter. The vehicle had been serviced 1.5 months before the incident in Wisconsin after the owner complained of poor miles-per-gallon and possible lack of power. Since he was intending to travel through the mountains, he wanted the engine checked. The service facility checked for codes and looked at the engine management system, but did not perform any repairs to the vehicle.

The incident occurred on 10/05/07 along I-80 westbound at the 152-mile marker¹. The owner had driven half the distance from Land of Lakes, WI to Des Moines, IA the day before and the second half the day of the incident. There was a strong wind from the south blowing from the left side to the right side of the vehicle. The driver thought he heard a thump and saw some smoke in the mirror. He expected that he had a tire problem and pulled to the side of the freeway. As he walked around the back corner of the motorhome, he saw the rear of the vehicle fully engulfed in flames and a hose hanging down under the vehicle and spraying "oil" onto the ground. The wife of the owner was asleep in the bed directly over the engine compartment. The owner ran back into the motorhome and got the wife and their dog out of the motorhome. It was speculated that the engine was never shut off.

The General Casualty representative said that he asked the owner if it could have been diesel fuel and the owner replied, "ah, yeah". Then, when asked if he could tell the difference between diesel, hydraulic oil, transmission fluid, rear differential fluid . . . the

¹ The burn site was later found 0.2 mile west of the 150-mile marker along westbound I-80, just inside the Polk County line marker.

owner said that he did not know what kind of fluid was leaking. The General Casualty representative added that he had hired a large forklift to raise the vehicle to inspect the under side and that he had found melted aluminum, melted mirrors², and soot, but no sign of fire below the frame rails. The site spoils were bagged, but then were disposed of accidentally. The YouTube video³, which had originally alerted the ODI to this incident, shows the DOT putting an absorbent material onto the roadway and the General Casualty representative said that he had seen "cat litter" along the freeway for as far as one-half mile leading to the burn site two weeks after the event. At this point, he thought that it would be best if he let each investigator draw his own conclusions from what remained of the motorhome.

Inspection of Vehicle Results: The fire had consumed the secondary combustibles on the rear half of the motorhome. The strong crosswind had fed the fire toward the right berm side of the vehicle (left to right). The body of the rear of the motorhome was consumed, as shown in Figures 1 to 3. All figures appear in Appendix 1. The trailer the motorhome was towing was also destroyed, as shown in Figures 4 and 5. The left rear aluminum dual wheels were partially melted and distorted, but mostly intact. The right side rear wheels were completely melted leaving only a small puddle of aluminum in the axle hub, as shown in Figure 6. The engine block and the cylinder head were intact, but most of the accessories were at least partially destroyed, as shown in Figures 7 to 9. On the "hot" side of the engine (left), the series turbochargers and wastegate were intact. At the "cold" side of the engine (right) the intake manifold, fuel filters, and Engine Control Module (ECM) were melted and mostly missing. At the rear of the engine, the aluminum housings of the alternator and air conditioning compressor had melted away leaving only the alternator shaft/rotor and the a/c compressor clutch and reed plate, as shown in Figures 9 and 10. The molded carbon fiber cover on the cylinder head, which contains all of the higher-pressure components of the fuel injection system, was mostly burnt away. However, the insulation of the wiring to the electronically controlled injectors was intact, as shown in Figure 11. No codes could be retrieved because the ECM was destroyed.

The General Casualty representative confided that the area that was most burnt was the origin, which he thought was the cold (right) side of the engine. He also said that he had not seen an alternator burnt down to the rotor. During his previous inspection of the vehicle, he had tried to follow the wiring from the battery compartment to "arc map" area, or find where a wire could have chafed and rubbed off the insulation and then arced to ground. He found the vehicle was consumed to the point that he could not perform that part of his investigation. He also pointed out that the straight plates of what was left of the batteries, as shown in Figure 12. He said that if the batteries had an internal problem and exploded, the plates would not be in that original parallel alignment.

Later the General Casualty representative restated his fire origin and alternator claims, but the other two representatives thought the crosswind drove the fire to the right, that the area of origin could not be established. They also agreed that the alternator was only missing the aluminum housing and just appeared to have been in the heat of the fire. The Caterpillar representative removed the bedsprings, with the approval of the other representatives, and sifted through the debris on the forward edge of the engine block, shown after he had completed his search in Figure 13.

² The entire interior rear wall of this model is mirrored sliding closet doors.

³ The YouTube video can be seen at <http://www.youtube.com/watch?v=FUpKTRzZfh0>

At the end of the inspection, the three representatives seemed to agree that the cause of the fire could not be located. The report of a leaking hose hanging down somewhere under the rear of the vehicle was interesting, but it could not be determined which hose or what kind of fluid was involved.

Inspection of Burn Site Results: The site of the incident was reported as I-80 westbound at the 152-mile marker. This area was examined twice before finding the burn site as 0.2 mile west of the 150-mile marker (149.8 position), just across the Polk County line. The right berm was heat damaged along a length similar to the motorhome and the berm and surrounding area was sprinkled with melted aluminum and mirrors similar to the motorhome in the salvage yard. The right-of-way beyond the berm was burnt and appeared to have been bulldozed to clear the debris or assist in arresting the fire. The scene is shown in Figures 14 to 16.

While photographing the area, an Iowa State Patrol officer stopped to assist. She reported that she had been at the truck weigh station at the 150.75-mile marker the day of the incident. She could see the dense black smoke from the fire from that site. The traffic was stopped beyond the weigh station. She also said that the vehicle reignited the fire multiple times, as they tried to tow it away.

Research Results: Additional research was conducted to further determine the facts of this case, which included searching CARFAX records, reviewing weather records from a nearby airport, procuring the original motorhome sales brochure from the Monaco website detailing the model options and floor plan, obtaining a brochure from the Caterpillar website detailing a similar model C13 engine, collecting still images and transcript from the YouTube video, conducting an interview with a witness at the scene, gaining the Iowa State Patrol written report, attempting to conduct an interview with an Iowa Department of Transportation worker, and sending a written request to the Iowa Department of Transportation for a report of the incident.

The CARFAX reports this VIN (1RFC0561351030761) as a 2005 Roadmaster Rail Magnum B-Series Magnumair with no damage history. The first CARFAX record shows that on 10/06/04 at 2,502 miles, the vehicle was purchased in Bozeman, MT. Then on 11-17-06 at 20,145 miles, the vehicle was titled or registered in Land O Lakes, WI. The CARFAX records indicated "No total loss", "no structural/frame damage", "no airbag deployment", no indication of odometer rollback", and "no accidents" had occurred with the vehicle. The complete CARFAX record is shown in Appendix 2.

The National Weather Service records, as reported by the WeatherUnderground.com, from the airport at Newton, IA (17 miles due east of the incident site) were reviewed by going to <http://www.wunderground.com/>, drilling down into History, City/State, and Date. The archive records indicate that the temperature ranged from 64°F to 86°F, there was no precipitation, the visibility was 8 miles, and the wind was from the south at 23 gusting to 30 mph. A summary is shown in Figure 17, and the complete report for the day is shown in Appendix 2.

The vehicle was a 2005 Monaco Coach produced Beaver Patriot 40-ft Lexington model with the Thunder option package. To get a floorplan of this model, the website <http://www.monaco-online.com> was used to drill down the following path: Beaver, See All Products, Product Archive, 2005 Patriot, Floorplans, and Lexington 40. The entire brochure is in Appendix 2 and describes all of the Thunder option items.

The engine was a Caterpillar C13 and a 2007 version of the brochure on the engine was found at <http://207.36.244.78/new/cat/brochure.pdf>. The left and right sides of the engine are shown in Figures 19 and 20 for comparison to the previous engine photographs. The entire brochure is included in Appendix 2.

The YouTube video, that first alerted the ODI to the incident and started this portion of the research into diesel flammability and diesel-engine fires, can be found at <http://www.youtube.com/watch?v=FUpKTRzZfh0>. A series of still images were taken from the video clip, as shown in Figures 21 to 24. These images show the motorhome and trailer with the Corvette at the incident scene. The owner as he was being interviewed is in Figure 25. Jeff Rose, a witness, is shown as he was interviewed in Figure 26. And the Iowa DOT truck spreading an absorbent material is in Figure 27. A transcript of the 2-min video clip appears in Appendix 2.

Jeff Rose of Ankeny, IA was identified in the YouTube video with the report that he "sat in the first car behind the accident and waiting for nearly three hours to move." In the news clip Jeff Rose said, "I'm on my way from Miami to my home in Ankeny, I left Wednesday morning, and I within about 15 minute from being home, so I almost made it." From this information an Internet search was able to locate Mr. Rose and request an interview. He verified the reported time and weather conditions of that day. As he approached the incident scene he could see a column of black smoke from 2 to 3 miles before he reached the site. The traffic was slowing down and moving to the left lane. As he approached the motorhome he could see drivers ahead of him slowing more and deciding whether to pass the motorhome or stop. Approximately one-quarter of a mile before he arrived at the motorhome, an Iowa State Patrol Officer stopped him and blocked all subsequent traffic. He could see people outside the vehicle at the incident scene. There was a trail of some kind of liquid on the right lane of the roadway. The liquid covered the entire width of the lane and started at least one-eighth of a mile before the point he had stopped. Black smoke was "rolling" hundreds of feet into the air. The fire/rescue equipment arrived after he was stopped. The occupants of the vehicles stopped by the Iowa State Patrol were outside their vehicles watching and photographing the scene. He did not have a camera with him and did not take any pictures.

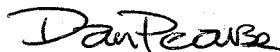
The Iowa Incident Report Supplemental Case No. 47652ISP was procured. Officer Bryan Guill describes responding to a 911 phone call "of a motor home traveling west on I80 from the 152 mm on fire." This would indicate that the motorhome had been moving on the freeway while on fire for at least two miles. Officer Guill found the vehicle at the Polk County line (149.8 mm) with the rear-engine compartment and the front of the trailer "fully engulfed" in flames. The brief report is in the Appendix 2. A call to the Iowa State Patrol District 1 office revealed that the "Supplemental" report did not mean it was an additional page of a primary report, but merely that it was an alternative report to a criminal report. There was no response to a request that Officer Bryan Guill return the phone call.

The Iowa Department of Transportation Maintenance Department in Newton, IA was called and "Rex" answered the phone. Rex said that he was present at the scene and had spread sand on the "hydraulic oil" spill. When asked if the spill could have been diesel fuel, he said he was not sure. When asked the length of the leak on the highway, he deferred all other questions to Von Richards at 515-239-1671 with Claims and Processing at the Iowa Department of Transportation. He said an investigation had been performed.

The Iowa Department of Transportation investigator Von Richards required a written request to Iowa DOT, attention General Counsel Division, 800 Lincoln Way, Ames, IA 50010. A request was sent 12/14/2007, but has not been received at this time.

Recommendations: Unfortunately, this vehicle was severely burnt and the secondary consumables in the rear half of the motorhome were gone. The three investigators made statements that appeared to agree that the initial cause of the fire could not be pinpointed. It was still useful to see a burnt motorhome in person and to discuss the facts and sort through the evidence with the three forensic fire experts. If another motorhome fire inspection arises, it should be attended.

Daniel G. Pearse



Vehicle Safety Engineer
Defects Analysis Group
Vehicle Research and Test Center

APPENDIX 1

Acronyms

A/C	Air Conditioning
DOT	Department of Transportation
ECM	Engine Control Module
°F	Fahrenheit scale of temperature measurement
I-80	Interstate Freeway 80
IA	Iowa
LCD	Liquid Crystal Display television
MT	Montana
ODI	Office of Defects Investigations
RV	Recreational Vehicle
VIN	Vehicle Identification Number
VRTC	Vehicle Research and Test Center
VRTC-DA	Vehicle Research and Test Center - Defects Analysis Group
WI	Wisconsin

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Figure 3 – Rear View of the Motorhome at the Coparts Auto Auction Salvage Yard



Figure 4 – Front View of the Trailer the Motorhome was Pulling Located at the Coparts Auto Auction Salvage Yard



**Figure 5 – Side View of the Trailer the Motorhome was Pulling
Located at the Coparts Auto Auction Salvage Yard**



**Figure 6 – Melted Aluminum from the Wheel was Found in the
Right Rear Axle Hub of the Motorhome**

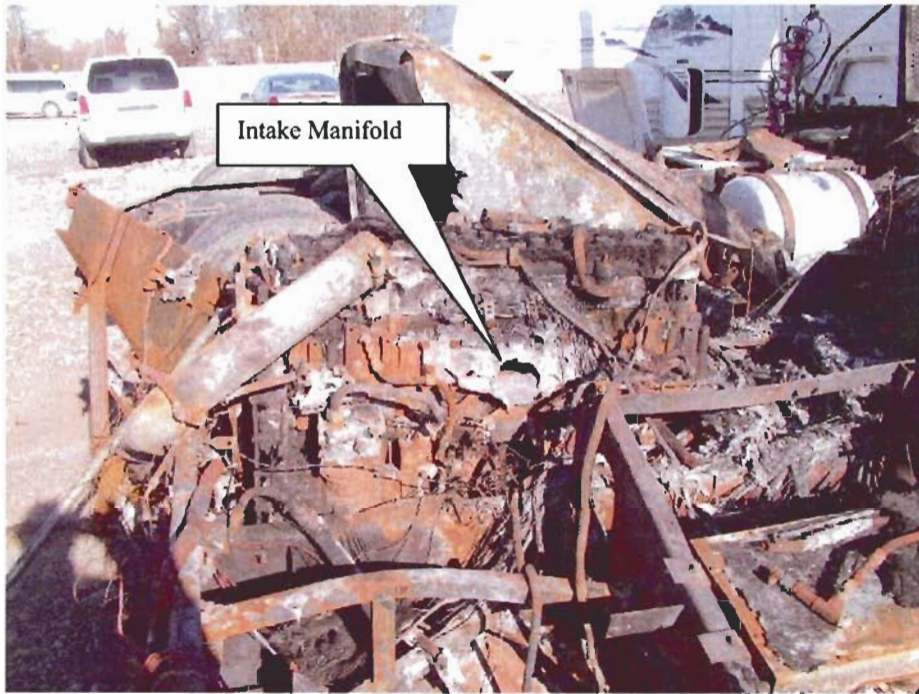


Figure 7 – View of the Right (or Cold) Side of the Diesel “Pusher” Engine in the Motorhome

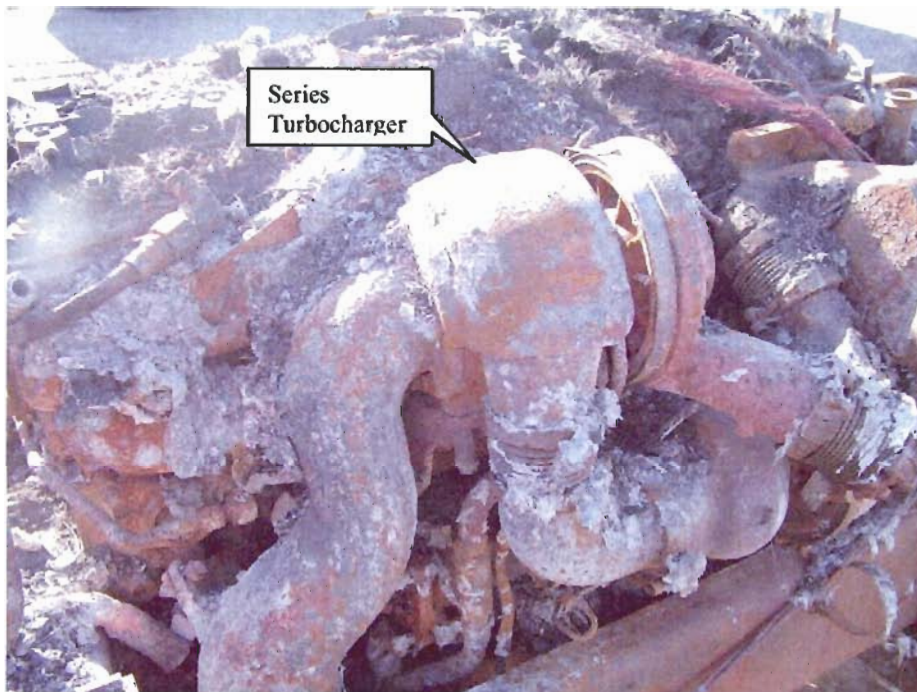


Figure 8 – View of the Left (or Hot) Side of the Diesel “Pusher” Engine in the Motorhome

Note: This photograph was taken after the debris had been removed from the top of the engine.

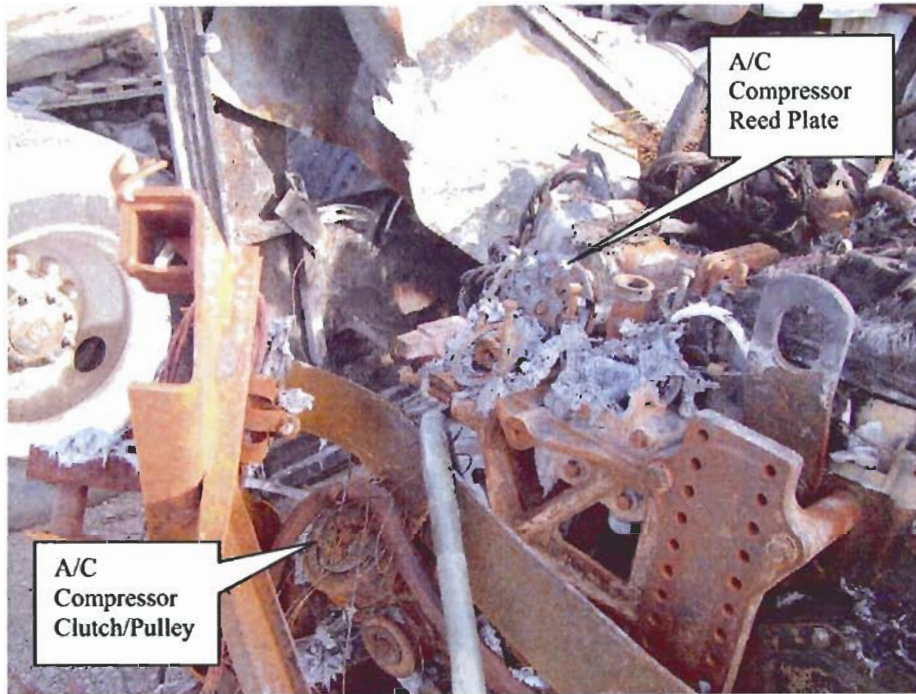


Figure 9 – View of the Rear of the Diesel “Pusher” Engine in the Motorhome

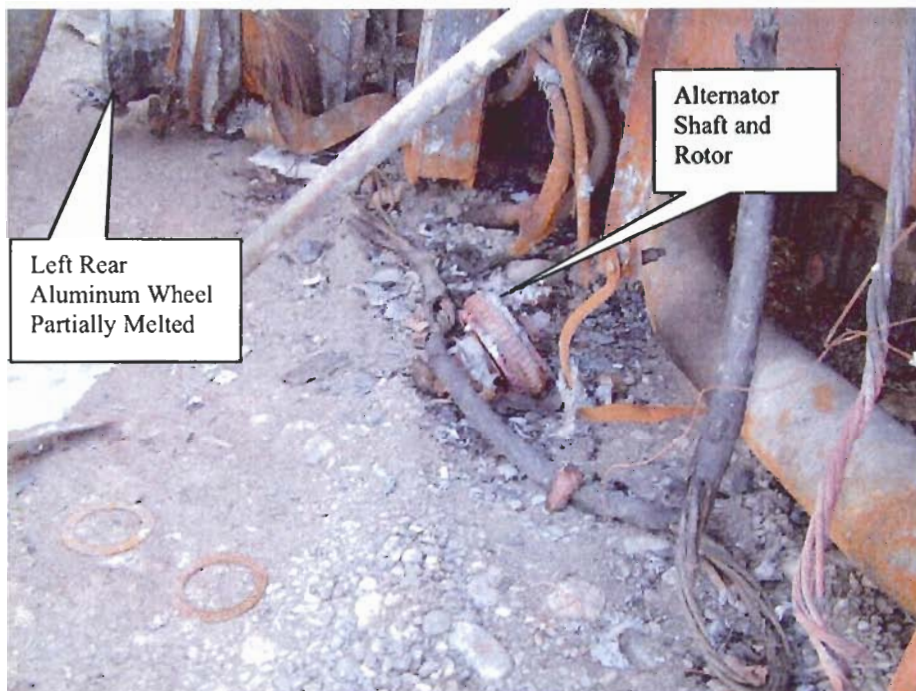


Figure 10 – The Alternator Housing had Melted Leaving only the Shaft and Rotor Below the Left Side of the Engine

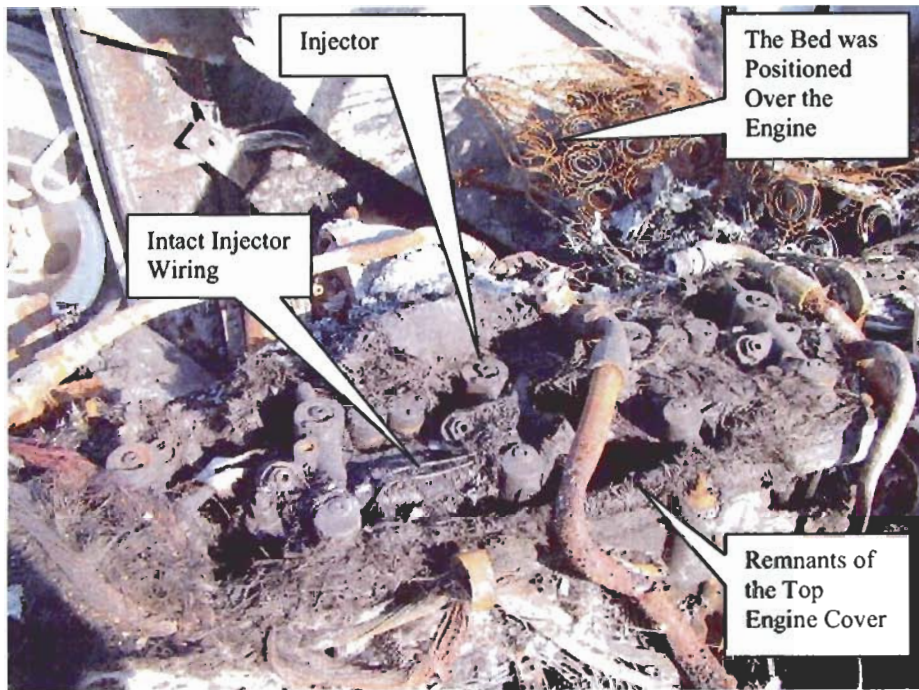


Figure 11 – Top of Engine Showing the Remnants of the Injector Cover, the Injectors, and the Electrical Wiring to the Injectors

Note: This photograph was taken prior to the removal of the debris on top of the

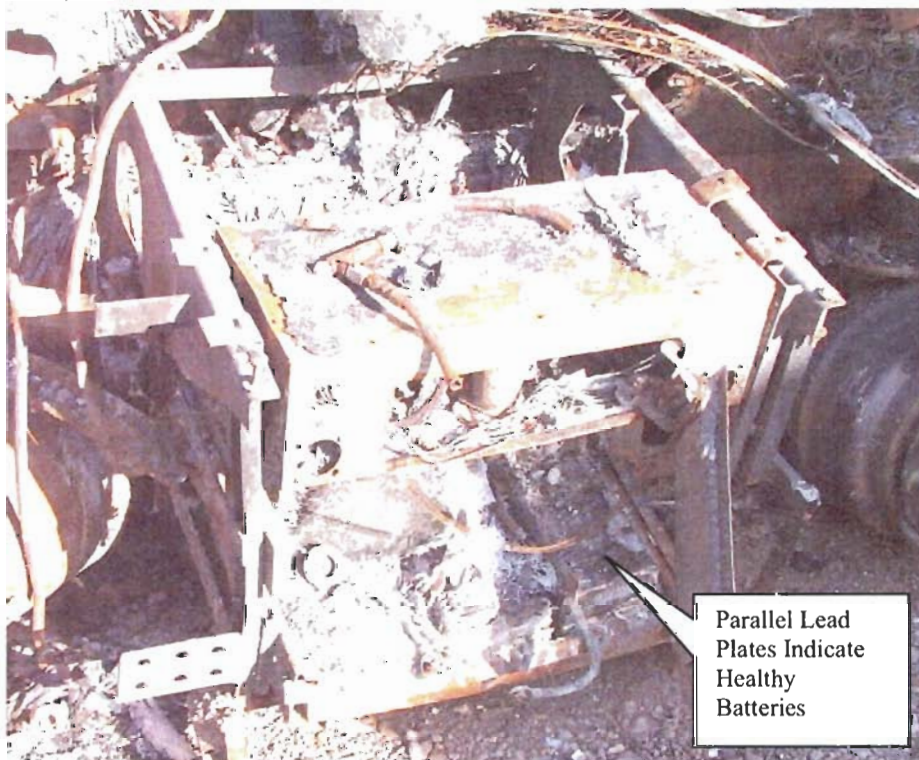


Figure 12 – The Battery Box Contains the Lead Plates from the Batteries, Which were Still Parallel and without Distortion Indicating that the Batteries Did not Explode



Figure 13 – Front of Engine After Large Debris Had Been Removed and Small Debris Sifted and Removed



Figure 14 – Westbound View of the Incident Site at the 149.8-Mile Marker Position Along Westbound I-80



Figure 15 – Eastbound View of the Incident Site



Figure 16 – View of the Right of Way Embankment at the Incident Site

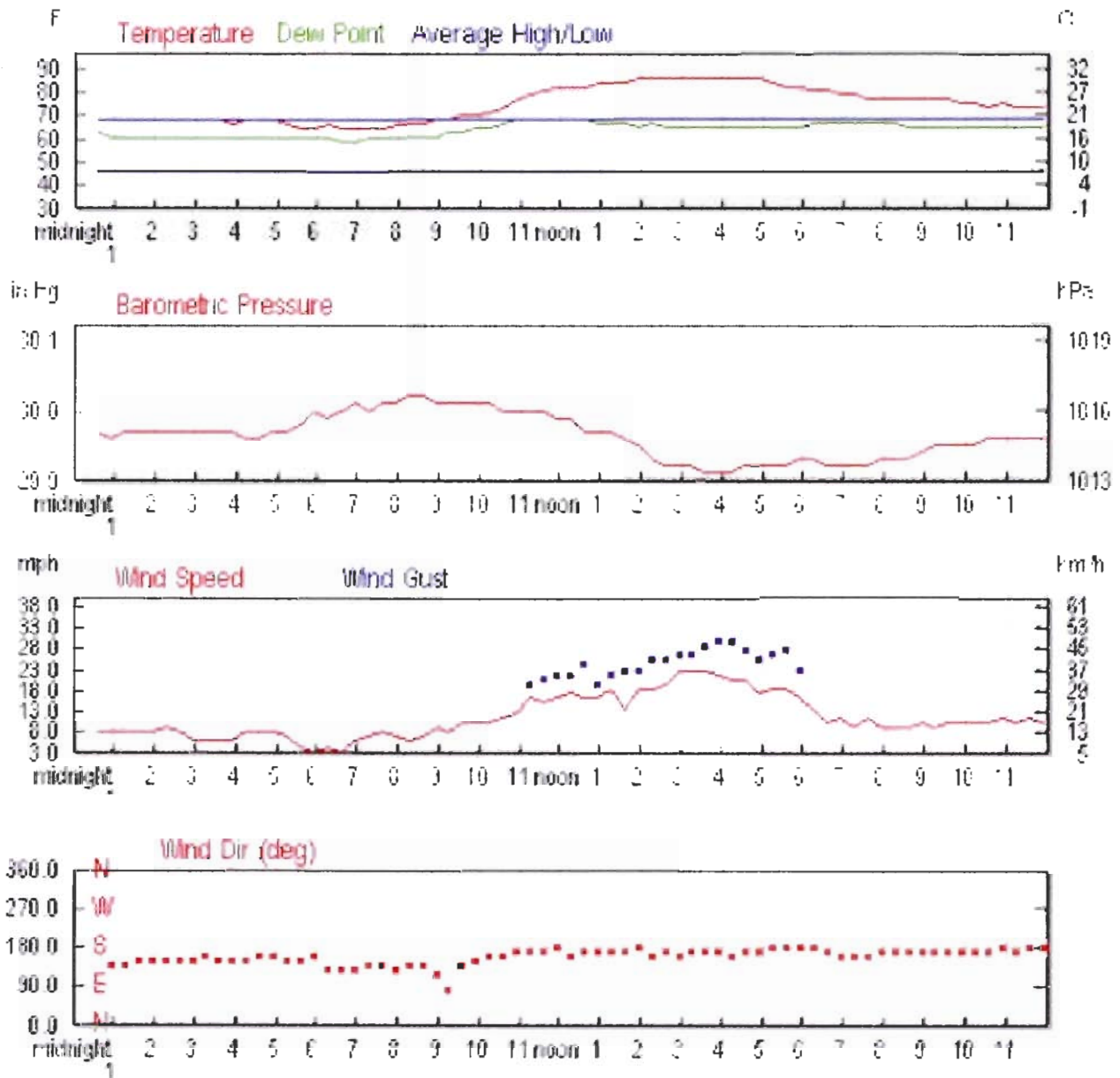
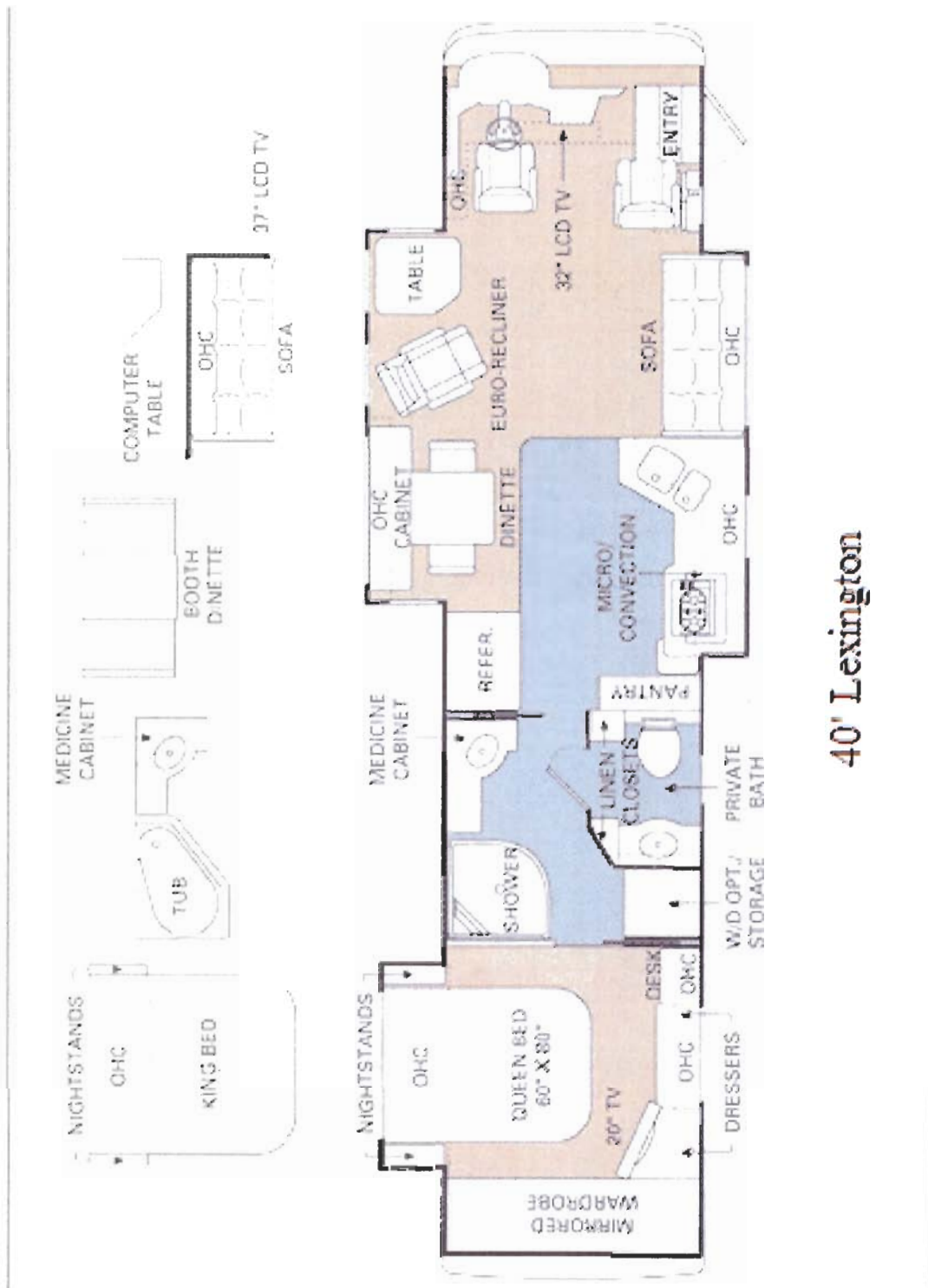


Figure 17 – The Weather Summary for Newton, IA on 10/05/07 from Weather Underground

Note: The source of information for the Weather Underground is the National Weather Service.



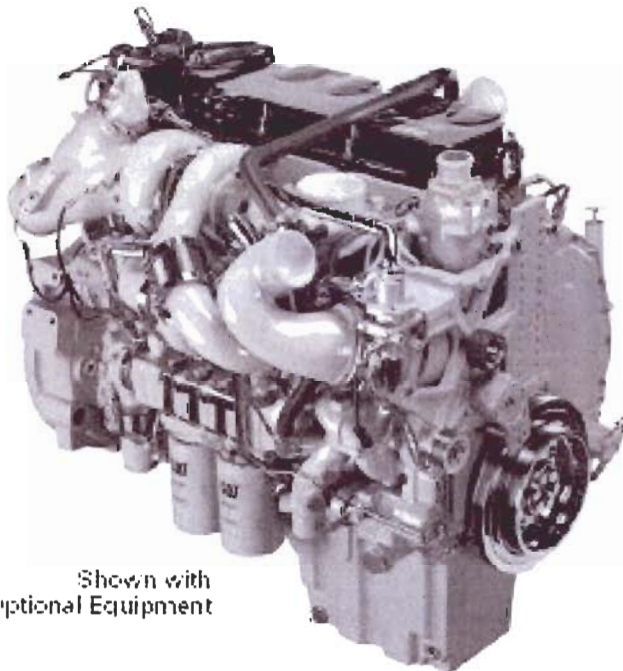
40' Lexington

Figure 18 – Floorplan of the Beaver Patriot Lexington 40-ft Recreational Vehicle



Figure 19 – Right Side (Cold) View of the Caterpillar C13 Engine is a Straight 6-Cylinder Model with a Displacement of 12.5-Liter and Rated at 525 Hp at 2100 RPM

Note: The fuel filter is located below the intake manifold



Shown with
Optional Equipment

Figure 20 – Left Side (Hot) View of the Caterpillar C13 Engine Showing Series Turbocharger and Dual Oil Filters

Note: The engine images are from <http://207.36.244.78/new/cat/brochure.pdf>

Blaze Destroys Vacationers' RV



Figure 21 – The Motorhome at the Incident Site as the Firemen Secured the Scene

Blaze Destroys Vacationers' RV



Figure 22 – The Front of the Motorhome at the Incident Site

Blaze Destroys Vacationers' RV

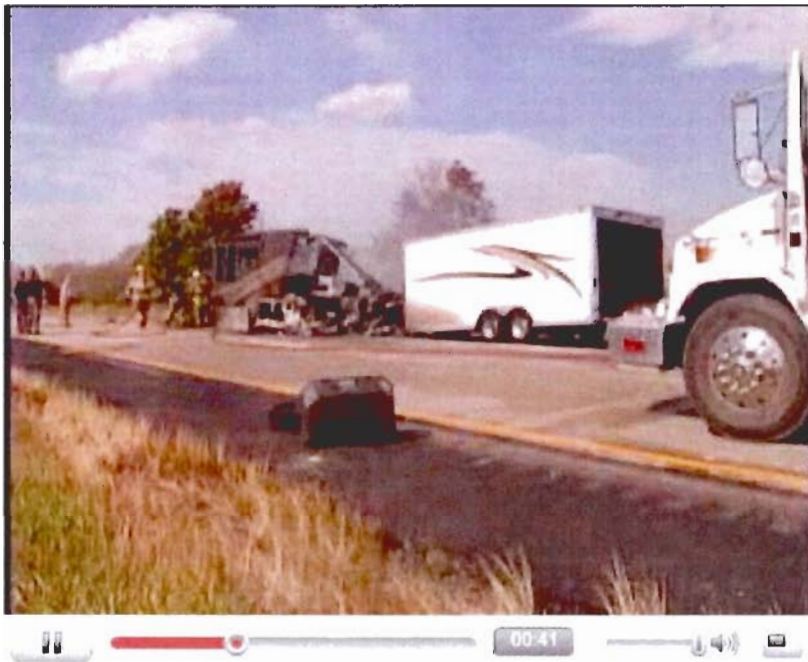


Figure 23 – Side View of the Motorhome with the Trailer

Blaze Destroys Vacationers' RV



Figure 24 – Firemen Attempt to Open the Trunk of the Corvette to Fully Extinguish the Fire

Blaze Destroys Vacationers' RV

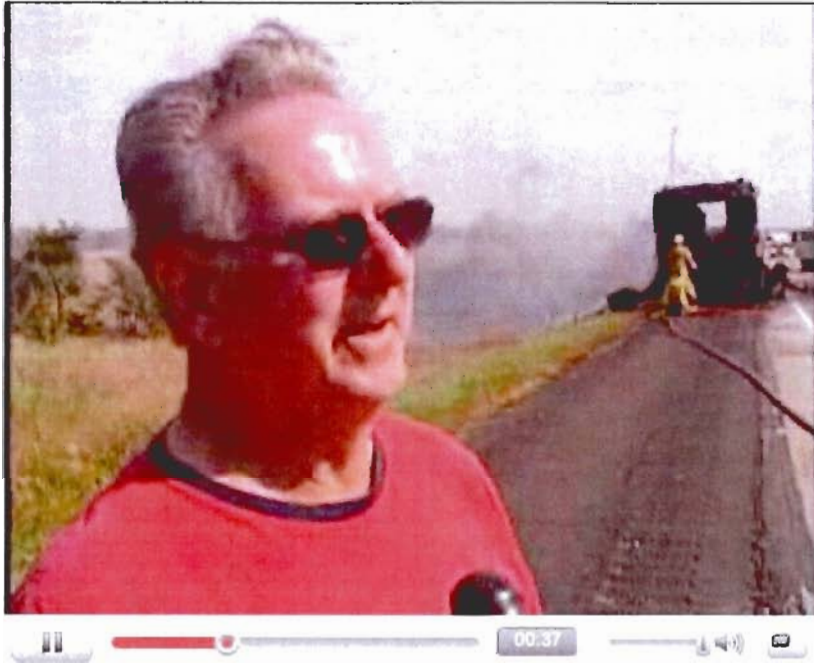


Figure 25 – The Owner of the Motorhome, Mike Gilomen, was Interviewed at the Scene

Blaze Destroys Vacationers' RV



Figure 26 – The First Person Stopped Behind the Motorhome was Jeff Rose of Ankeny, IA

Note: A dark stripe is noticeable behind Mr. Rose, and more noticeable in the video clip, that appears to be the spilled fluid from the motorhome.

Blaze Destroys Vacationers' RV



Figure 27 – The Iowa DOT Spread an Absorbent Material on the Roadway, Reportedly to Cleanup Split Diesel Fuel

APPENDIX 2

APPENDIX 2 - List of Items

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(NOT YET AVAILABLE)

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CARFAX[®] Vehicle History Report[™]

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2005 ROADMASTER RAIL MAGNUM B-SERIES

MAGNUMAIR

1RFC0561351030761
INCOMPLETE CHASIS
/ REAR WHEEL DRIVE
Standard Equipment | Safety Options




Hi-I'm the CARFAX Xpert[™]. I'm here to help you better understand the data in this CARFAX Report. Did you know...

- We checked over 5 billion records from thousands of data sources for this vehicle
- This vehicle qualifies for the CARFAX Buyback Guarantee
- The last reported odometer reading was 20,145

SUMMARY

A CARFAX Vehicle History Report is based only on information supplied to CARFAX. Other information about this vehicle, including problems, may not have been reported to CARFAX. Use this report as one important tool, along with a vehicle inspection and test drive, to make a better decision about your next used car.

TITLE PROBLEMS	SUMMARY
CARFAX guarantees the information in this section	
Salvage Junk Rebuilt	Guaranteed No Problem
Fire/Flood Hail Damage Buyback/Lemon	Guaranteed No Problem
Not Actual Mileage Exceeds Mechanical Limits	Guaranteed No Problem
	
<p>GUARANTEED - None of these major title problems were reported by a state Department of Motor Vehicles (DMV). If you find that any of these title problems were reported by a DMV and not included in this report, CARFAX will buy this vehicle back.</p>	


OTHER INFORMATION	SUMMARY
Not all accidents or other issues are reported to CARFAX	
Total Loss Check No total loss reported to CARFAX.	<input checked="" type="checkbox"/> No Issues Reported
Structural / Frame Damage Check No structural / frame damage reported to CARFAX.	<input checked="" type="checkbox"/> No Issues Reported
Airbag Deployment Check No airbag deployment reported to CARFAX.	<input checked="" type="checkbox"/> No Issues Reported
Odometer Rollback Check No indication of an odometer rollback.	<input checked="" type="checkbox"/> No Issues Indicated
Accident Check No accidents reported to CARFAX.	<input checked="" type="checkbox"/> No Issues Reported
Manufacturer Recall Check Check with an authorized Roadmaster Rail dealer for any open recalls.	<input checked="" type="checkbox"/> No Recalls Reported

DETAILS

 Glossary

A CARFAX Vehicle History Report is based only on information supplied to CARFAX. CARFAX checked over 5 billion vehicle history events and found **8 record(s)** for this 2005 ROADMASTER RAIL MAGNUM B-SERIES MAGNUMAIR (1RFC0561351030761).

Date:	Mileage:	Source:	Comments:

10/06/2004		Montana Motor Vehicle Dept. Bozeman, MT	Vehicle purchase reported
10/06/2004	2,502	Montana Motor Vehicle Dept. Bozeman, MT Title #G388523	Odometer reading reported for title or registration
10/18/2004		Montana Motor Vehicle Dept. Bozeman, MT Title #G388523	Registration issued or renewed New owner reported Loan or lien reported
11/05/2004		Montana Motor Vehicle Dept. Bozeman, MT Title #G388523	Title issued or updated Loan or lien reported Vehicle color noted as Gold
			
			<p>If you are buying this vehicle from a private seller, check to be sure any associated <u>lien</u> on the vehicle has been paid off.</p>
05/02/2006		Montana Motor Vehicle Dept. Bozeman, MT Title #G388523	Registration issued or renewed Registration updated when owner moved the vehicle to a new location Vehicle color noted as Gold
11/17/2006	20,145	Wisconsin Motor Vehicle Dept. Land O Lakes, WI Title #0633504190986	Odometer reading reported for title or registration
12/01/2006		Wisconsin Motor Vehicle Dept. Land O Lakes, WI Title #0633504190986	Title issued or updated New owner reported
02/20/2007		Wisconsin Motor Vehicle Dept. Land O Lakes, WI	Registration issued or renewed

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GLOSSARY

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- **New Owner Reported**
When a vehicle is sold to a new owner, the Title must be transferred to the new owner(s) at a Department of Motor Vehicles.
- **Ownership History**
CARFAX defines an owner as an individual or business that possesses and uses a vehicle. Not all title transactions represent changes in ownership. To provide estimated number of owners, CARFAX proprietary technology analyzes all the events in a vehicle history. Estimated ownership is available for vehicles manufactured after 1994 and titled solely in the US including Puerto Rico. Dealers sometimes opt to take ownership of a vehicle and are required to in the following states: Maine, Massachusetts, New Jersey, Ohio, Oklahoma, Pennsylvania and South Dakota. Please consider this as you review a vehicle's estimated ownership history.
- **Title Issued**
A state issues a title to provide a vehicle owner with proof of ownership. Each title has a unique number. Each title or registration record on a CARFAX report does not necessarily indicate a change in ownership. In Canada, a registration and bill of sale are used as proof of ownership.

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Earn an Associates, Bachelor's, Master's, or Career Certificate Fast, and Make More Money!



23 People Needed Now

Earn \$6,500 to \$12,000 Per Month From Home. Admin, Clerical, Sales, Cust Serv, and more. PT & FT avail.



Notre Dame Certificate

Make More Money with a Online Career Certificate. Keep Your Job, & Complete In Weeks. Have this Big Name on Resume



Make Money With

Working Just An Hour Computer Will Make You \$300-500 A Day. Get of the Pie. Free Kit.

History for Newton, IA

Friday, October 5, 2007

Daily Summary

	Actual:	Average :	Record :
Temperature:			
Mean Temperature	75 °F / 23 °C	-	
Max Temperature	86 °F / 30 °C	68 °F / 19 °C	88 °F / 31 °C (1990)
Min Temperature	64 °F / 17 °C	46 °F / 7 °C	30 °F / -1 °C (1988)
Cooling Degree Days	10		
Growing Degree Days	25 (Base 50)		
Moisture:			
Dew Point	62 °F / 16 °C		
Average Humidity	70		
Maximum Humidity	88		
Minimum Humidity	48		
Precipitation:			
Precipitation	0.00 in / 0.00 cm	-	- ()
Sea Level Pressure:			
Sea Level Pressure	29.96 in / 1014 hPa		
Wind:			
Wind Speed	8 mph / 13 km/h (SSE)		
Max Wind Speed	23 mph / 37 km/h		
Max Gust Speed	30 mph / 48 km/h		
Visibility	8 miles / 14 kilometers		
Events			

Averages and records for this station are not official NWS values.

T = Trace of Precipitation, MM = Missing Value

Source: NWS Daily

Seasonal Weather Averages



U.S. Department
of Transportation

National Highway
Traffic Safety
Administration



Memorandum

Vehicle Research and Test Center P.O. Box B37
East Liberty, Ohio 43319
(937) 666-4511

Subject: FINAL REPORT: "Monaco Motorhome Fire Trip Report"

Date:

DEC 28 2007

From: 
Michael W. Monk
Director, Vehicle Research and Test Center

Reply to NVS-310
Attn. Of:

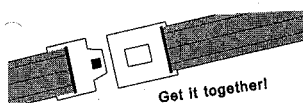
To: Kathleen DeMeter
Director, Office of Defects Investigation

NVS-210

Attached are four (4) copies of the subject report. This completes the requirements for this program.

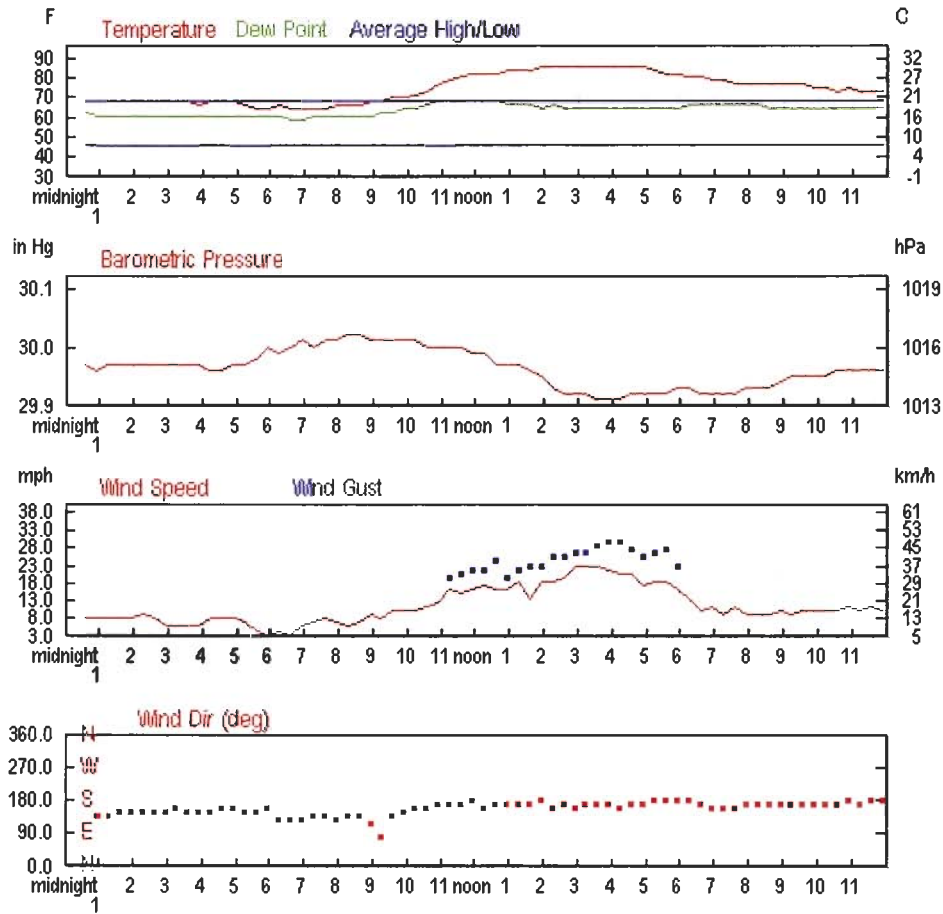
Attachment:
Final Report

#



SAFETY BELTS SAVE LIVES

AUTO SAFETY HOTLINE
(800) 424-9393
Wash. D.C. Area 366-0123



Hourly Observations

Time (CDT):	Temp:	Dew Point:	Humidity:	Sea Level Pressure:	Visibility:	Wind Dir:	Wind Speed:	Gust Speed:	Precip:	Events:	Co
12:35 AM	68.0 °F / 20.0 °C	62.6 °F / 17.0 °C	83%	29.97 in / 1014.8 hPa	10.0 miles / 16.1 kilometers	SE	8.1 mph / 13.0 km/h / 3.6 m/s	-	N/A		Cl
12:55 AM	68.0 °F / 20.0 °C	60.8 °F / 16.0 °C	78%	29.96 in / 1014.4 hPa	10.0 miles / 16.1 kilometers	SE	8.1 mph / 13.0 km/h / 3.6 m/s	-	N/A		Cl
1:15 AM	68.0 °F / 20.0 °C	60.8 °F / 16.0 °C	78%	29.97 in / 1014.8 hPa	10.0 miles / 16.1 kilometers	SE	8.1 mph / 13.0 km/h / 3.6 m/s	-	N/A		Cl
1:35 AM	68.0 °F / 20.0 °C	60.8 °F / 16.0 °C	78%	29.97 in / 1014.8 hPa	10.0 miles / 16.1 kilometers	SSE	8.1 mph / 13.0 km/h / 3.6 m/s	-	N/A		Cl
1:55 AM	68.0 °F / 20.0 °C	60.8 °F / 16.0 °C	78%	29.97 in / 1014.8 hPa	10.0 miles / 16.1 kilometers	SSE	8.1 mph / 13.0 km/h / 3.6 m/s	-	N/A		Cl
2:15 AM	68.0 °F / 20.0 °C	60.8 °F / 16.0 °C	78%	29.97 in / 1014.8 hPa	10.0 miles / 16.1 kilometers	SSE	9.2 mph / 14.8 km/h / 4.1 m/s	-	N/A		Cl
2:35 AM	68.0 °F /	60.8 °F /	78%	29.97 in / 1014.8 hPa	10.0 miles / 16.1 kilometers	SSE	8.1 mph / 13.0 km/h /	-	N/A		Sc Cl

	20.0 °C	16.0 °C					3.6 m/s			
2:55 AM	68.0 °F / 20.0 °C	60.8 °F / 16.0 °C	78%	29.97 in / 1014.8 hPa	10.0 miles / 16.1 kilometers	SSE	5.8 mph / 9.3 km/h / 2.6 m/s	-	N/A	St Cl
3:15 AM	68.0 °F / 20.0 °C	60.8 °F / 16.0 °C	78%	29.97 in / 1014.8 hPa	10.0 miles / 16.1 kilometers	SSE	5.8 mph / 9.3 km/h / 2.6 m/s	-	N/A	Cl
3:35 AM	68.0 °F / 20.0 °C	60.8 °F / 16.0 °C	78%	29.97 in / 1014.8 hPa	10.0 miles / 16.1 kilometers	SSE	5.8 mph / 9.3 km/h / 2.6 m/s	-	N/A	Cl
3:55 AM	66.2 °F / 19.0 °C	60.8 °F / 16.0 °C	83%	29.97 in / 1014.8 hPa	10.0 miles / 16.1 kilometers	SSE	5.8 mph / 9.3 km/h / 2.6 m/s	-	N/A	Cl
4:15 AM	68.0 °F / 20.0 °C	60.8 °F / 16.0 °C	78%	29.96 in / 1014.4 hPa	10.0 miles / 16.1 kilometers	SSE	8.1 mph / 13.0 km/h / 3.6 m/s	-	N/A	Cl
4:35 AM	68.0 °F / 20.0 °C	60.8 °F / 16.0 °C	78%	29.96 in / 1014.4 hPa	10.0 miles / 16.1 kilometers	SSE	8.1 mph / 13.0 km/h / 3.6 m/s	-	N/A	Cl
4:55 AM	68.0 °F / 20.0 °C	60.8 °F / 16.0 °C	78%	29.97 in / 1014.8 hPa	10.0 miles / 16.1 kilometers	SSE	8.1 mph / 13.0 km/h / 3.6 m/s	-	N/A	Cl
5:15 AM	66.2 °F / 19.0 °C	60.8 °F / 16.0 °C	83%	29.97 in / 1014.8 hPa	10.0 miles / 16.1 kilometers	SSE	6.9 mph / 11.1 km/h / 3.1 m/s	-	N/A	Cl
5:35 AM	64.4 °F / 18.0 °C	60.8 °F / 16.0 °C	88%	29.98 in / 1015.1 hPa	10.0 miles / 16.1 kilometers	SSE	4.6 mph / 7.4 km/h / 2.1 m/s	-	N/A	Cl
5:55 AM	64.4 °F / 18.0 °C	60.8 °F / 16.0 °C	88%	30.00 in / 1015.8 hPa	10.0 miles / 16.1 kilometers	SSE	3.5 mph / 5.6 km/h / 1.5 m/s	-	N/A	Cl
6:15 AM	66.2 °F / 19.0 °C	60.8 °F / 16.0 °C	83%	29.99 in / 1015.5 hPa	10.0 miles / 16.1 kilometers	SE	4.6 mph / 7.4 km/h / 2.1 m/s	-	N/A	Cl
6:35 AM	64.4 °F / 18.0 °C	59.0 °F / 15.0 °C	83%	30.00 in / 1015.8 hPa	7.0 miles / 11.3 kilometers	SE	3.5 mph / 5.6 km/h / 1.5 m/s	-	N/A	Cl
6:55 AM	64.4 °F / 18.0 °C	59.0 °F / 15.0 °C	83%	30.01 in / 1016.1 hPa	7.0 miles / 11.3 kilometers	SE	5.8 mph / 9.3 km/h / 2.6 m/s	-	N/A	Cl
7:15 AM	64.4 °F / 18.0 °C	60.8 °F / 16.0 °C	88%	30.00 in / 1015.8 hPa	7.0 miles / 11.3 kilometers	SE	6.9 mph / 11.1 km/h / 3.1 m/s	-	N/A	Cl
7:35 AM	64.4 °F / 18.0 °C	60.8 °F / 16.0 °C	88%	30.01 in / 1016.1 hPa	5.0 miles / 8.0 kilometers	SE	8.1 mph / 13.0 km/h / 3.6 m/s	-	N/A	Hi
7:55 AM	66.2 °F / 19.0 °C	60.8 °F / 16.0 °C	83%	30.01 in / 1016.1 hPa	5.0 miles / 8.0 kilometers	SE	6.9 mph / 11.1 km/h / 3.1 m/s	-	N/A	Hi
8:15 AM	66.2 °F / 19.0 °C	60.8 °F / 16.0 °C	83%	30.02 in / 1016.5 hPa	5.0 miles / 8.0 kilometers	SE	5.8 mph / 9.3 km/h / 2.6 m/s	-	N/A	Hi
8:35 AM	66.2 °F / 19.0 °C	60.8 °F / 16.0 °C	83%	30.02 in / 1016.5 hPa	5.0 miles / 8.0 kilometers	SE	6.9 mph / 11.1 km/h / 3.1 m/s	-	N/A	Hi
8:55 AM	68.0 °F / /	60.8 °F / /	78%	30.01 in / 1016.1 hPa	5.0 miles / 8.0 kilometers	ESE	9.2 mph / 14.8 km/h /	-	N/A	Hi

	20.0 °C	16.0 °C					4.1 m/s			
9:15 AM	68.0 °F / 20.0 °C	62.6 °F / 17.0 °C	83%	30.01 in / 1016.1 hPa	5.0 miles / 8.0 kilometers	East	8.1 mph / 13.0 km/h / 3.6 m/s	-	N/A	Hi
9:35 AM	69.8 °F / 21.0 °C	62.6 °F / 17.0 °C	78%	30.01 in / 1016.1 hPa	7.0 miles / 11.3 kilometers	SE	10.4 mph / 16.7 km/h / 4.6 m/s	-	N/A	CI
9:55 AM	69.8 °F / 21.0 °C	64.4 °F / 18.0 °C	83%	30.01 in / 1016.1 hPa	7.0 miles / 11.3 kilometers	SSE	10.4 mph / 16.7 km/h / 4.6 m/s	-	N/A	CI
10:15 AM	71.6 °F / 22.0 °C	64.4 °F / 18.0 °C	78%	30.01 in / 1016.1 hPa	7.0 miles / 11.3 kilometers	SSE	10.4 mph / 16.7 km/h / 4.6 m/s	-	N/A	CI
10:35 AM	73.4 °F / 23.0 °C	66.2 °F / 19.0 °C	78%	30.00 in / 1015.8 hPa	10.0 miles / 16.1 kilometers	SSE	11.5 mph / 18.5 km/h / 5.1 m/s	-	N/A	CI
10:55 AM	77.0 °F / 25.0 °C	68.0 °F / 20.0 °C	74%	30.00 in / 1015.8 hPa	10.0 miles / 16.1 kilometers	South	12.7 mph / 20.4 km/h / 5.7 m/s	18.4 mph / 29.6 km/h / 8.2 m/s	N/A	CI
11:15 AM	78.8 °F / 26.0 °C	68.0 °F / 20.0 °C	69%	30.00 in / 1015.8 hPa	10.0 miles / 16.1 kilometers	South	16.1 mph / 25.9 km/h / 7.2 m/s	19.6 mph / 31.5 km/h / 8.7 m/s	N/A	CI
11:35 AM	80.6 °F / 27.0 °C	68.0 °F / 20.0 °C	65%	30.00 in / 1015.8 hPa	10.0 miles / 16.1 kilometers	South	15.0 mph / 24.1 km/h / 6.7 m/s	20.7 mph / 33.3 km/h / 9.3 m/s	N/A	CI
11:55 AM	82.4 °F / 28.0 °C	68.0 °F / 20.0 °C	62%	29.99 in / 1015.5 hPa	10.0 miles / 16.1 kilometers	South	16.1 mph / 25.9 km/h / 7.2 m/s	21.9 mph / 35.2 km/h / 9.8 m/s	N/A	CI
12:15 PM	82.4 °F / 28.0 °C	68.0 °F / 20.0 °C	62%	29.99 in / 1015.5 hPa	10.0 miles / 16.1 kilometers	SSE	17.3 mph / 27.8 km/h / 7.7 m/s	21.9 mph / 35.2 km/h / 9.8 m/s	N/A	CI
12:35 PM	82.4 °F / 28.0 °C	68.0 °F / 20.0 °C	62%	29.97 in / 1014.8 hPa	10.0 miles / 16.1 kilometers	South	16.1 mph / 25.9 km/h / 7.2 m/s	24.2 mph / 38.9 km/h / 10.8 m/s	N/A	CI
12:55 PM	84.2 °F / 29.0 °C	66.2 °F / 19.0 °C	55%	29.97 in / 1014.8 hPa	10.0 miles / 16.1 kilometers	South	16.1 mph / 25.9 km/h / 7.2 m/s	19.6 mph / 31.5 km/h / 8.7 m/s	N/A	CI
1:15 PM	84.2 °F / 29.0 °C	66.2 °F / 19.0 °C	55%	29.97 in / 1014.8 hPa	10.0 miles / 16.1 kilometers	South	18.4 mph / 29.6 km/h / 8.2 m/s	21.9 mph / 35.2 km/h / 9.8 m/s	N/A	CI
1:35 PM	84.2 °F / 29.0 °C	66.2 °F / 19.0 °C	55%	29.96 in / 1014.4 hPa	10.0 miles / 16.1 kilometers	South	13.8 mph / 22.2 km/h / 6.2 m/s	23.0 mph / 37.0 km/h / 10.3 m/s	N/A	CI
1:55 PM	86.0 °F / 30.0 °C	64.4 °F / 18.0 °C	48%	29.95 in / 1014.1 hPa	10.0 miles / 16.1 kilometers	South	18.4 mph / 29.6 km/h / 8.2 m/s	23.0 mph / 37.0 km/h / 10.3 m/s	N/A	Sc CI
2:15 PM	86.0 °F / 30.0 °C	66.2 °F / 19.0 °C	51%	29.93 in / 1013.4 hPa	10.0 miles / 16.1 kilometers	SSE	18.4 mph / 29.6 km/h / 8.2 m/s	25.3 mph / 40.7 km/h / 11.3 m/s	N/A	CI
2:35 PM	86.0 °F / 30.0 °C	64.4 °F / 18.0 °C	48%	29.92 in / 1013.1 hPa	10.0 miles / 16.1 kilometers	South	19.6 mph / 31.5 km/h / 8.7 m/s	25.3 mph / 40.7 km/h / 11.3 m/s	N/A	CI
2:55 PM	86.0 °F / 30.0 °C	64.4 °F / 18.0 °C	48%	29.92 in / 1013.1 hPa	10.0 miles / 16.1 kilometers	SSE	23.0 mph / 37.0 km/h / 10.3 m/s	26.5 mph / 42.6 km/h / 11.8 m/s	N/A	CI
3:15 PM	86.0 °F / 30.0 °C	64.4 °F / 18.0 °C	48%	29.92 in / 1013.1 hPa	10.0 miles / 16.1 kilometers	South	23.0 mph / 37.0 km/h /	26.5 mph / 42.6 km/h /	N/A	CI

	30.0 °C	18.0 °C					10.3 m/s	11.8 m/s		
3:35 PM	86.0 °F /	64.4 °F /	48%	29.91 in / 1012.8 hPa	10.0 miles / 16.1 kilometers	South	23.0 mph / 37.0 km/h / 10.3 m/s	28.8 mph / 46.3 km/h / 12.9 m/s	N/A	CI
3:55 PM	86.0 °F /	64.4 °F /	48%	29.91 in / 1012.8 hPa	10.0 miles / 16.1 kilometers	South	21.9 mph / 35.2 km/h / 9.8 m/s	29.9 mph / 48.2 km/h / 13.4 m/s	N/A	CI
4:15 PM	86.0 °F /	64.4 °F /	48%	29.91 in / 1012.8 hPa	10.0 miles / 16.1 kilometers	SSE	20.7 mph / 33.3 km/h / 9.3 m/s	29.9 mph / 48.2 km/h / 13.4 m/s	N/A	CI
4:35 PM	86.0 °F /	64.4 °F /	48%	29.92 in / 1013.1 hPa	10.0 miles / 16.1 kilometers	South	20.7 mph / 33.3 km/h / 9.3 m/s	27.6 mph / 44.4 km/h / 12.3 m/s	N/A	CI
4:55 PM	86.0 °F /	64.4 °F /	48%	29.92 in / 1013.1 hPa	10.0 miles / 16.1 kilometers	South	17.3 mph / 27.8 km/h / 7.7 m/s	25.3 mph / 40.7 km/h / 11.3 m/s	N/A	CI
5:15 PM	84.2 °F /	64.4 °F /	51%	29.92 in / 1013.1 hPa	10.0 miles / 16.1 kilometers	South	18.4 mph / 29.6 km/h / 8.2 m/s	26.5 mph / 42.6 km/h / 11.8 m/s	N/A	CI
5:35 PM	82.4 °F /	64.4 °F /	54%	29.92 in / 1013.1 hPa	10.0 miles / 16.1 kilometers	South	18.4 mph / 29.6 km/h / 8.2 m/s	27.6 mph / 44.4 km/h / 12.3 m/s	N/A	CI
5:55 PM	82.4 °F /	64.4 °F /	54%	29.93 in / 1013.4 hPa	10.0 miles / 16.1 kilometers	South	16.1 mph / 25.9 km/h / 7.2 m/s	23.0 mph / 37.0 km/h / 10.3 m/s	N/A	CI
6:15 PM	80.6 °F /	66.2 °F /	61%	29.93 in / 1013.4 hPa	10.0 miles / 16.1 kilometers	South	13.8 mph / 22.2 km/h / 6.2 m/s	-	N/A	CI
6:35 PM	80.6 °F /	66.2 °F /	61%	29.92 in / 1013.1 hPa	10.0 miles / 16.1 kilometers	South	10.4 mph / 16.7 km/h / 4.6 m/s	-	N/A	CI
6:55 PM	78.8 °F /	66.2 °F /	65%	29.92 in / 1013.1 hPa	10.0 miles / 16.1 kilometers	SSE	11.5 mph / 18.5 km/h / 5.1 m/s	-	N/A	CI
7:15 PM	78.8 °F /	66.2 °F /	65%	29.92 in / 1013.1 hPa	10.0 miles / 16.1 kilometers	SSE	9.2 mph / 14.8 km/h / 4.1 m/s	-	N/A	CI
7:35 PM	77.0 °F /	66.2 °F /	69%	29.92 in / 1013.1 hPa	10.0 miles / 16.1 kilometers	SSE	11.5 mph / 18.5 km/h / 5.1 m/s	-	N/A	CI
7:55 PM	77.0 °F /	66.2 °F /	69%	29.93 in / 1013.4 hPa	10.0 miles / 16.1 kilometers	South	9.2 mph / 14.8 km/h / 4.1 m/s	-	N/A	CI
8:15 PM	77.0 °F /	66.2 °F /	69%	29.93 in / 1013.4 hPa	10.0 miles / 16.1 kilometers	South	9.2 mph / 14.8 km/h / 4.1 m/s	-	N/A	CI
8:35 PM	77.0 °F /	64.4 °F /	65%	29.93 in / 1013.4 hPa	10.0 miles / 16.1 kilometers	South	9.2 mph / 14.8 km/h / 4.1 m/s	-	N/A	CI
8:55 PM	77.0 °F /	64.4 °F /	65%	29.94 in / 1013.8 hPa	10.0 miles / 16.1 kilometers	South	10.4 mph / 16.7 km/h / 4.6 m/s	-	N/A	CI
9:15 PM	77.0 °F /	64.4 °F /	65%	29.95 in / 1014.1 hPa	10.0 miles / 16.1 kilometers	South	9.2 mph / 14.8 km/h / 4.1 m/s	-	N/A	CI
9:35 PM	77.0 °F /	64.4 °F /	65%	29.95 in / 1014.1 hPa	10.0 miles / 16.1 kilometers	South	10.4 mph / 16.7 km/h /	-	N/A	CI

	25.0 °C	18.0 °C					4.6 m/s			
9:55 PM	75.2 °F /	64.4 °F /	69%	29.95 in / 1014.1 hPa	10.0 miles / 16.1 kilometers	South	10.4 mph / 16.7 km/h / 4.6 m/s	-	N/A	CI
10:15 PM	75.2 °F /	64.4 °F /	69%	29.95 in / 1014.1 hPa	10.0 miles / 16.1 kilometers	South	10.4 mph / 16.7 km/h / 4.6 m/s	-	N/A	CI
10:35 PM	73.4 °F /	64.4 °F /	73%	29.96 in / 1014.4 hPa	10.0 miles / 16.1 kilometers	South	10.4 mph / 16.7 km/h / 4.6 m/s	-	N/A	CI
10:55 PM	75.2 °F /	64.4 °F /	69%	29.96 in / 1014.4 hPa	10.0 miles / 16.1 kilometers	South	11.5 mph / 18.5 km/h / 5.1 m/s	-	N/A	CI
11:15 PM	73.4 °F /	64.4 °F /	73%	29.96 in / 1014.4 hPa	10.0 miles / 16.1 kilometers	South	10.4 mph / 16.7 km/h / 4.6 m/s	-	N/A	CI
11:35 PM	73.4 °F /	64.4 °F /	73%	29.96 in / 1014.4 hPa	10.0 miles / 16.1 kilometers	South	11.5 mph / 18.5 km/h / 5.1 m/s	-	N/A	CI
11:55 PM	73.4 °F /	64.4 °F /	73%	29.96 in / 1014.4 hPa	10.0 miles / 16.1 kilometers	South	10.4 mph / 16.7 km/h / 4.6 m/s	-	N/A	CI



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 BEAVER 2005 PATRIOT®

ONE COACH AT A TIME.



YOURS.



 BEAVER 2005 PATRIOT®

Detail by detail, we've created a home.

As you step aboard the Patriot, the first thing you'll notice is its residential style living area. Countless distinctive touches add up to a



beautiful first impression. And this year, we've even raised the ceiling height and widened the hallways, giving the coach an open, spacious feel. You'll also notice the impeccable craftsmanship of the woodwork, featuring solid wood doors with colonial arch raised panels, hidden

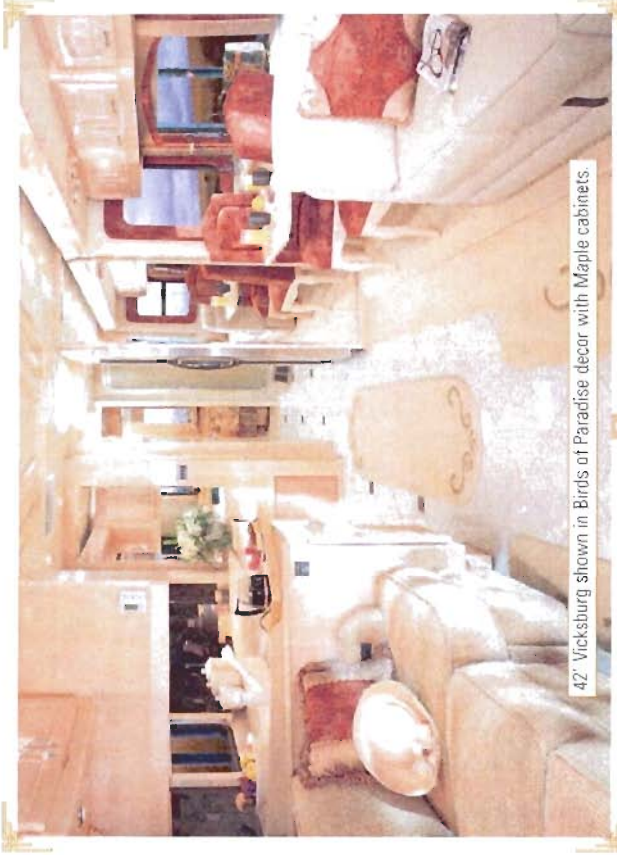
hinges and adjustable shelves. Other details include newly styled hardwood slide-out trim, a new textured vinyl ceiling with

wood design, and a custom tile backsplash with creative inset accent design. You'll enjoy textured carpet or the optional sculptured carpet design shown here, and the coach's lighting is exquisite, with soft lighting in the living room ceiling and halogen lights under the overhead cabinets.





42' Richmond shown in Birds of Paradise decor with Cherry cabinets and Mappa Buri inlays.



42' Vicksburg shown in Birds of Paradise decor with Maple cabinets.



1. On most floorplans, the Patriot features a side-slide solid surface fixed dinette table. This adjustment allows the table top to move for additional space on either side. And with the addition of a leaf, there is seating for four people.
2. Shown here is the living area in Paloma Picasso's Birds of Paradise decor with tile aisle from entry to kitchen and Maple woodwork.
3. You'll love this optional 37" LCD TV that drops from the ceiling at the touch of a button. It makes the perfect companion to the exciting new home theater system with combination VCR/DVD player.

The choice is yours.



Beaver coaches have always been known for giving you more ways to create a coach that's distinctively your own. This year, the Patriot is available in five color schemes with stunning fabric combinations, including Birds of Paradise combinations, including Birds of Paradise by Paloma Picasso. In addition, you have your choice of a wide selection of innovative double, triple and quad slide-out floorplans, in lengths ranging from 37' to 42', with numerous furniture options to fit your lifestyle. Now, it's all up to you.



**B E T T E R
STAIN
PROTECTION**

Manufactured in, not added on. For added protection against stains, Dupont Teflon® soil repellent is applied to virtually all upholstery fabric during the finishing process for superior coverage.*

*Based on application of upholstery fabric, protection may vary depending on use. Traditional ethanol stain removers are not recommended.

Patriot Designer Series "Birds of Paradise" by Paloma Picasso

SOFA DISSETT

BEDSPREAD CARPET



"Silver Sable"

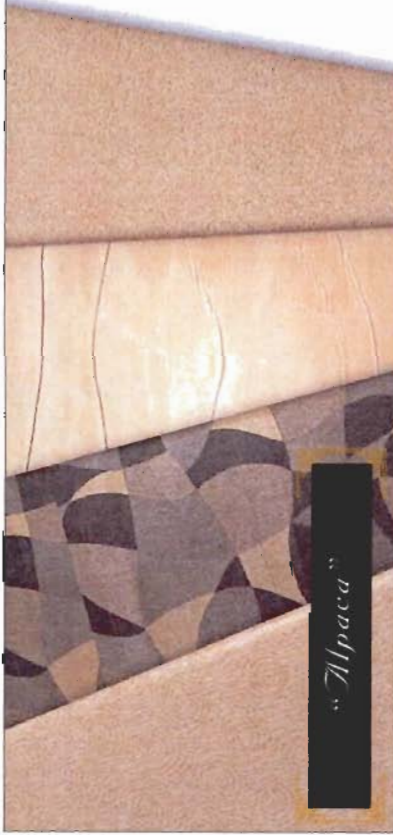
SOFA

DISSETT

BEDSPREAD

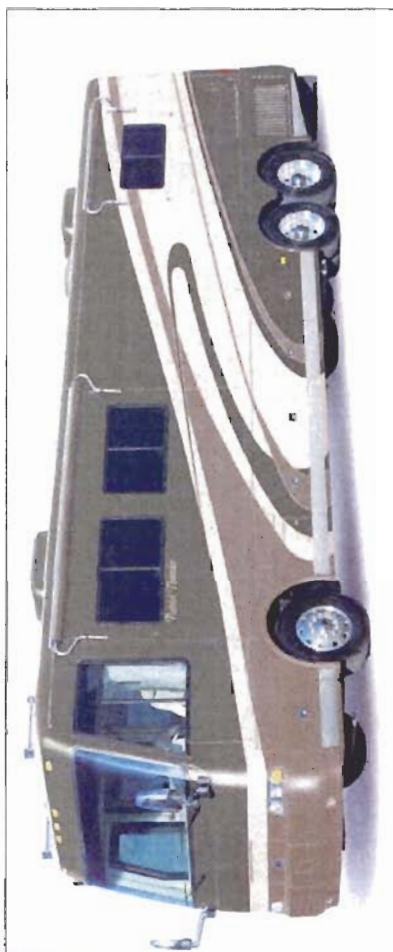
CARPET





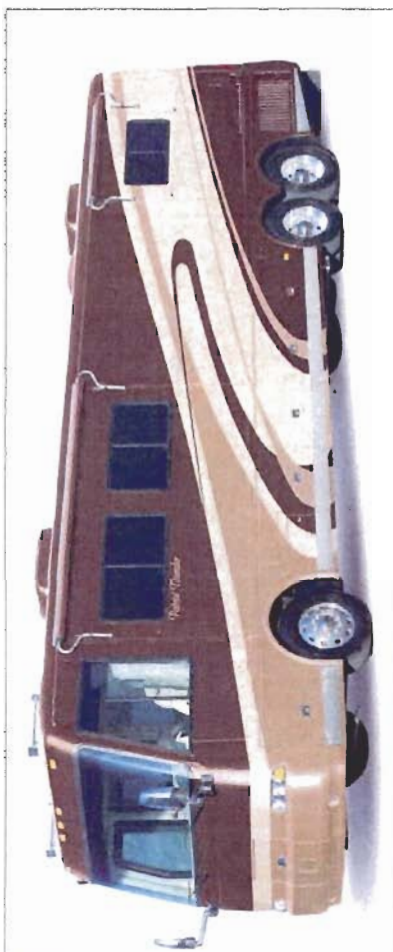
"Alpaca"

SOFA DINETTE BEDSPREAD CARPET



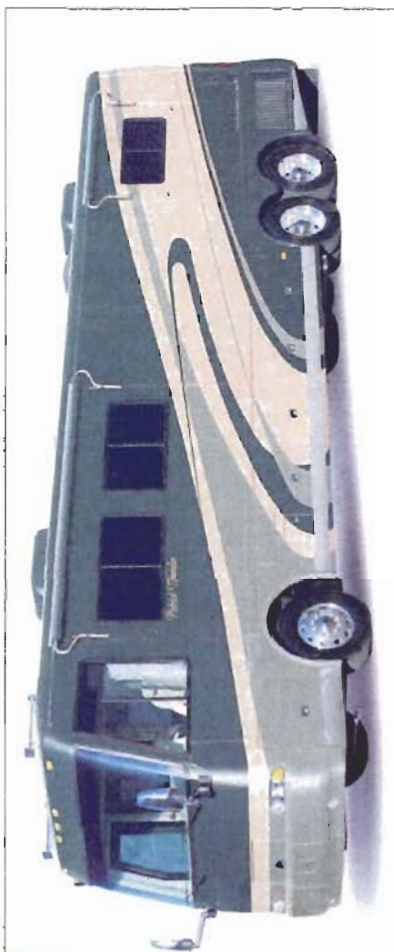
"Sienna"

SOFA DINETTE BEDSPREAD CARPET



"Spa Green"

SOFA DINETTE BEDSPREAD CARPET



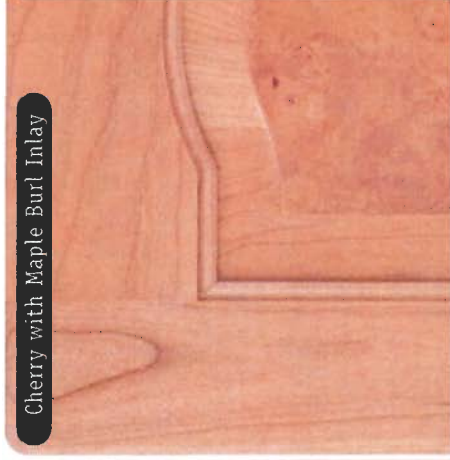
The unmistakable craftsmanship of a Beaver coach.

Our love affair with beautiful hardwoods from around the world continues to inspire the most stunning cabinetry you'll find anywhere. What you see here is the all natural character of our select woods, with no stains applied. This year we're offering a selection of new styles, including gloss finishes in Maple and Cherry, as well as optional cabinet door accents in Maple Burl, Mappa Burl, Makori and Bird's-Eye Maple.

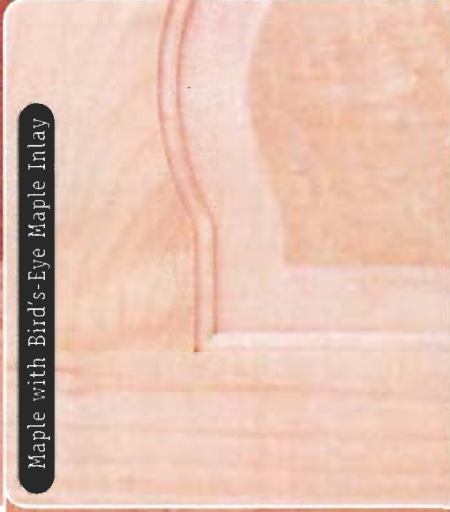
Standard-Maple



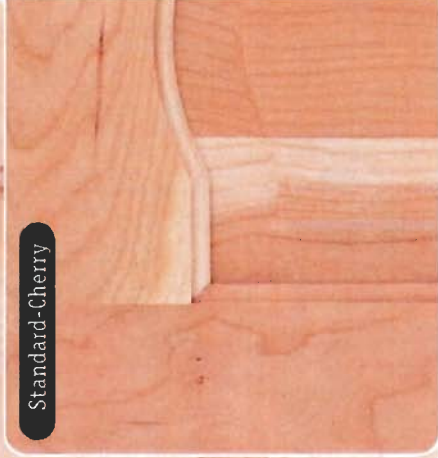
Cherry with Maple Burl Inlay



Maple with Bird's-Eye Maple Inlay



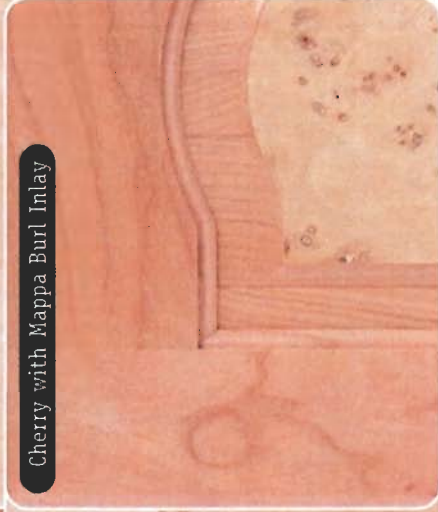
Standard-Cherry



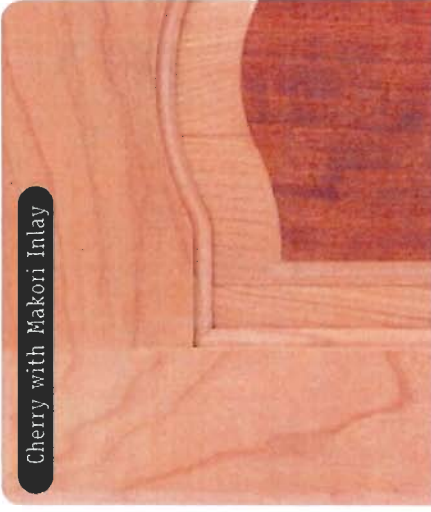
Maple with Mappa Burl Inlay



Cherry with Mappa Burl Inlay



Cherry with Makori Inlay

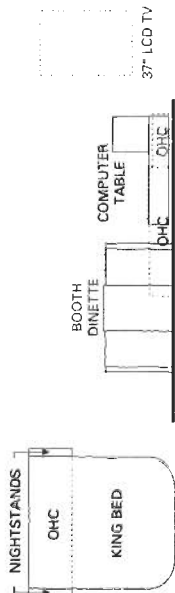
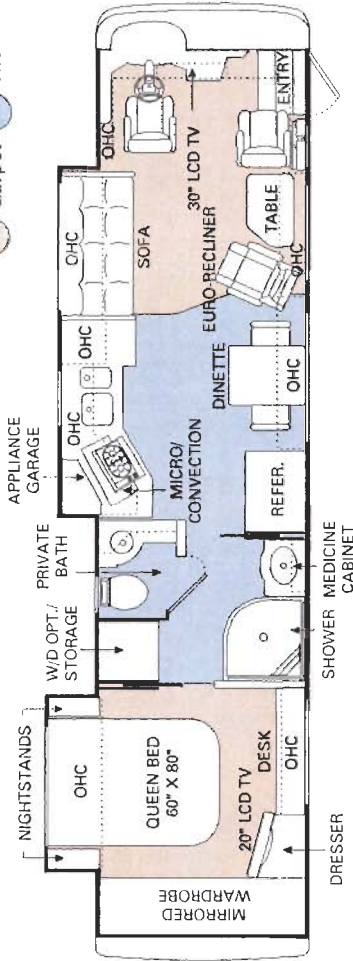


You can see the detailed craftsmanship of our solid wood colonial arch raised panel cabinet doors. By strictly managing and verifying the origins of our woods, we can ensure the consistency of grain, density and finishing characteristics — giving you the highest standards of quality. In short, it's all about our commitment to excellence and your pride in owning a Beaver coach.

2005 Patriot Floorplans & Options

37' Ticonderoga

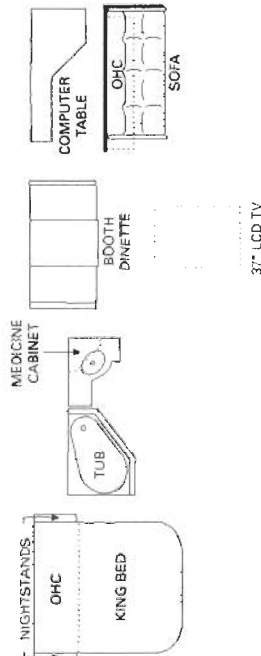
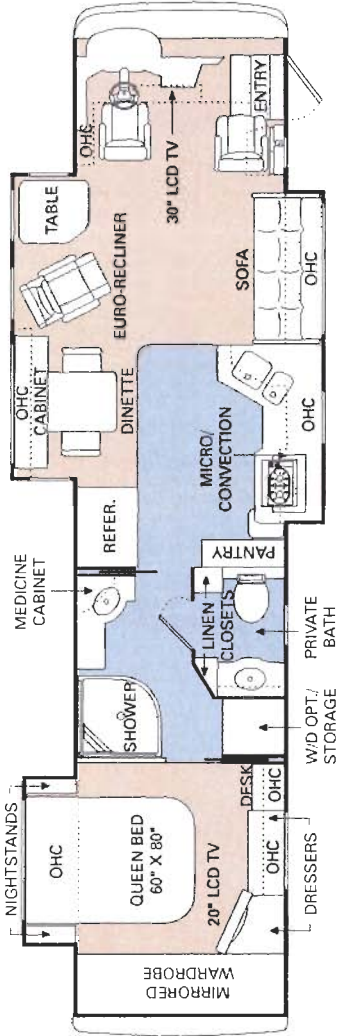
● Carpet ● Tile



37' Ticonderoga Floorplan Options

40' Lexington

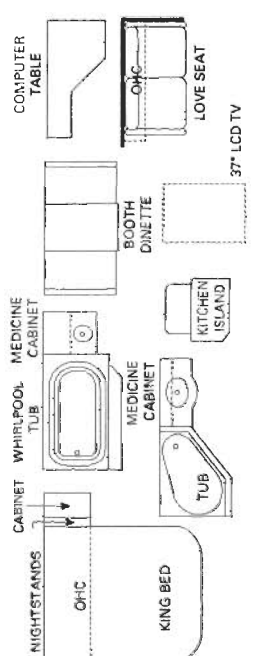
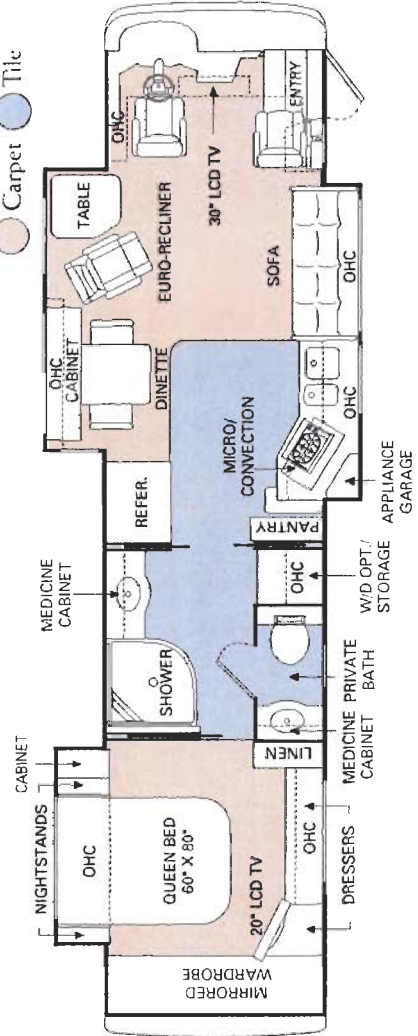
● Carpet ● Tile



40' Lexington Floorplan Options

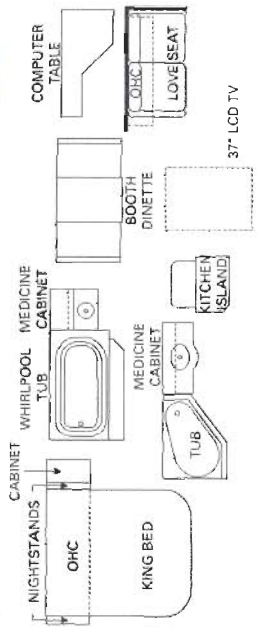
40' Yorktown

● Carpet ● Tile



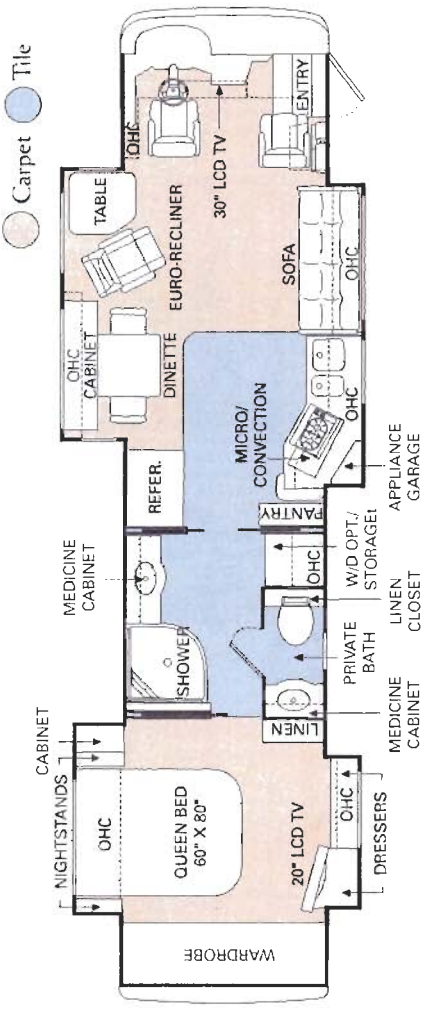
40' Yorktown Floorplan Options

2005 Patriot Floorplans & Options

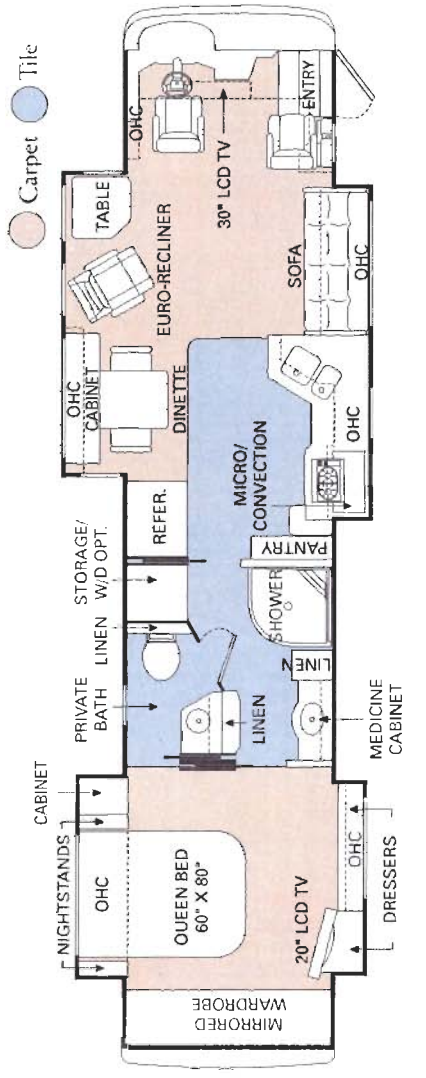


40' Wilmington Floorplan Options

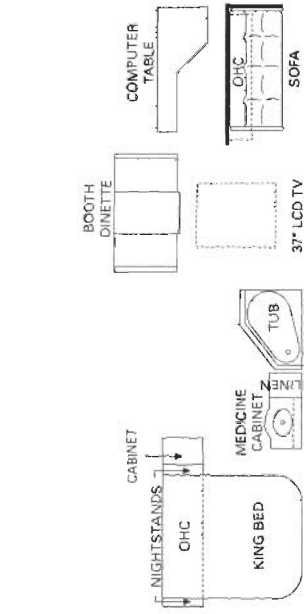
40' Wilmington



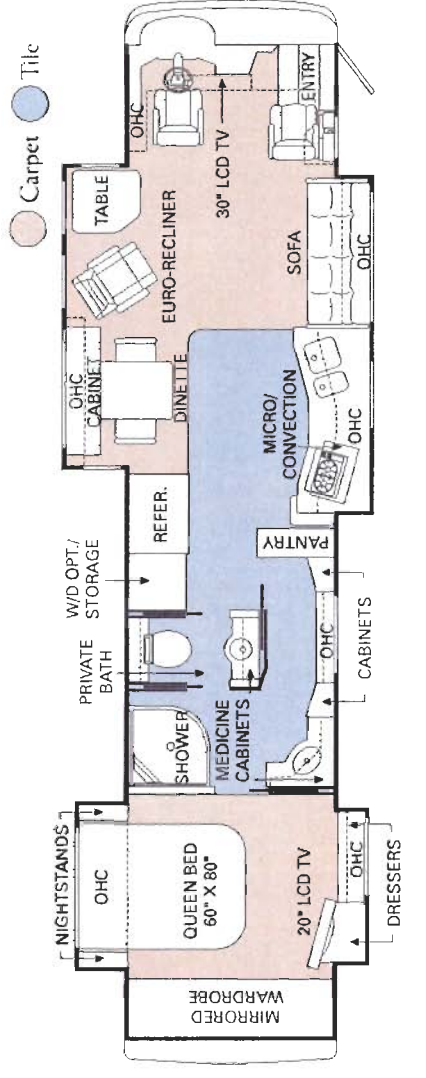
42' Vicksburg



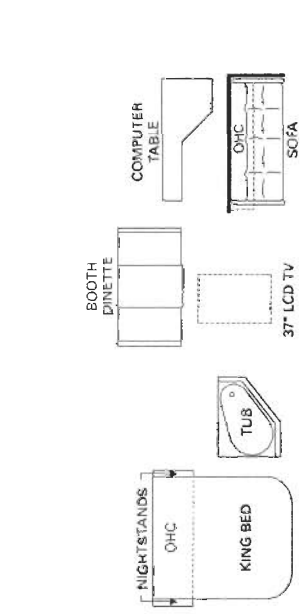
42' Vicksburg Floorplan Options



42' Richmond



42' Richmond Floorplan Options



2005 Patriot Specifications

Body Construction

Standard Features

Aluminum Framed Superstructure
 Seamless One-Piece Molded Crowned Fiberglass Roof
 Laminated Gel Coat Fiberglass Sidewalls
 All-Season Foam Insulated Roof
 One-Piece Front and Rear Molded Fiberglass Caps with Recess in Front Cap for Mirror Bases and Integrated Air and Turbo Intake in Rear Cap

One-Piece Windshield
 Chrome Triple Head Power Controlled Heated Exterior Mirrors
 Aluminum Framed Laminated Floor on Steel Trusses
 Foam Insulated Underbelly
 Driving Lights
 Roof-Mounted Dual Trumpet Air Horns
 Insulated Aluminum Side-Hinged Baggage Doors under Passenger Side Front Slide-Out with Power Locks
 Storage Bays Extend with Slide-Out on Roadside
 Stationary Storage Bays on Passenger Side
 Carpet Lined Storage Compartments
 Full-Length "Beaver" Mud Flap
 Deluxe Full-Body Paint
 Chrome Rocker Trim
 Rear Ladder
 Power Entry Step
 Entry Step Storage

Options

3M® Film Front Mask
 Exterior Sun Screens
 One Manual Storage Bay Slide-Out Tray (One Side)

Two Manual Storage Bay Slide-Out Trays (One Side) (42' Models Only)

One Manual Storage Bay Slide-Out Tray (Full Pass-Thru)

Chassis/Engine/Suspension

Standard Features

Roadmaster M105-Series Chassis (40' and 42' Models) or Roadmaster M85-Series Chassis (37' Models)
 Caterpillar 400 HP C-9 with Allison 3000 MH 6-Speed Transmission with Electronic Shifter; 1100 lbs./ft. Torque Max. Net @ 1300 RPMs; 540"/8.8L Engine Displacement
 Rear Axle Ratio: 4.33:1

160 Amp Alternator
 Dual Fuel Fill
 Polished Aluminum Wheels
 Tires: 295/80R/22.5
 Cushion Air Glide Suspension with 10 Air Bags and 10 Shock Absorbers (8 Bags/8 Shocks on 37' Models)
 Anti-Lock Braking System with Full Air Brakes (Disc)

Anti-Lock Braking System on Tag Axle (Drum) (40' and 42' Models)
 Auto Slack Adjusters
 Automatic Traction Control
 PAC Brake

Fuel/Water Separator
 Air Cleaner Restriction Indicator
 Engine Block Heater with Switch on Dash
 Hydraulic Leveling System
 Engine Diagnostic Plug Added in Engine Area
 10,000 Lb. Hitch Receiver and 7/4 Way Trailer Plugs

Options

Dual Leveling System
 Air Leveling
 Caterpillar® 525 HP C-13 Engine with Thunder Package (See Thunder Specs Pg. 22)

Cockpit

Standard Features

Fiberglass Automotive Dash with Bird's-Eye Burl Instrumentation Panel, Tan Gauges with Black Lettering and Gun Metal Bezels

Rear Vision System with Color Monitor
 In-Dash AM/FM Stereo with Multi-Disc CD Changer
 Aladdin™ Video Coach Systems Monitor with Audible Alarm Tone
 Adjustable Accelerator and Brake Pedals
 Multiplex in Dash Area

Cup Holders
 Intermittent Windshield Wipers
 Audible Turn Signals
 Black VIP Lighted Smartwheel with Controls for Windshield Wipers, ICC and Cruise Control

Power Steering
 OptimalLeather™ 6-Way Power Pilot and Co-Pilot Seats with Power Footrest on Co-Pilot Seat

Air Powered Front Entry Step Cover
 Carpet Pilot and Co-Pilot Floor Mats
 Power Sunvisors with Driver and Passenger Switches
 Manual Privacy Drapes

Options

OptimalLeather™ Extra-Wide Co-Pilot Seat with Power Footrest
 Power Privacy Cab Drapes
 CB Radio
 Global Positioning System with DVD OnStar™ Mobile Assistance (Requires Subscription)
 Sirius Satellite Stereo (Requires Subscription)
 Cellular Antenna and Wiring

Appliances and Accessories

Standard Features

Four-Door Refrigerator with Ice Maker and Raised Panel Doors

High-Output Two-Burner Recessed Cooktop
 Convection Microwave with Touch Control
 32" LCD TV with Remote in Living Area
 20" FlatScreen Color TV with Remote Control in Bedroom

Power TV Antenna and Booster
 DVD/VCR/Home Theater Combo System in Living Area

VCR/DVD Combo Unit in Bedroom
 Prep for Satellite Receiver
 Cable TV Hook-Up and Telephone Jacks
 Combination Washer/Dryer Prep

Options

Combination Washer/Dryer
 37" LCD TV in Living Area Ceiling
 Stainless Steel Refrigerator
 Stainless Steel Microwave
 Fully Automatic Digital Satellite System with Receiver in Living Area and Bedroom
 Fully Automatic In-Motion Digital Satellite System with Receiver in Living Area and Bedroom
 Universal Remote System

Interior

Standard Features

Maple Gloss Finish Cabinetry
 Solid Wood Colonial Arch Raised Panel Cabinet Doors with Hidden Hinges
 Carpet Lined Cabinet Shelves
 Low Friction Roller Drawer Guides
 Textured Vinyl Ceiling with Wood Design
 Wallpaper with Chair Rail in Living Area
 High Gloss Solid Surface Galley Countertop with Integrated Solid Surface Sink

Furniture

High-Gloss Solid Surface Bath Countertop with Solid Surface Edge and Integrated Sink

Solid Surface and Tile Galley Backsplash

Solid Surface and Mirror Vanity Backsplash

Large Pot and Pan Drawer in Kitchen Area

Appliance Garage on Kitchen Countertop (N/A: 42" Vicksburg, 42" Richmond)

Cutting Boards in Kitchen

Built-In Storage Area for Kitchen Countertop Covers

Cedar-Lined Wardrobe Closet with Mirrored Wardrobe Doors

Medicine Cabinet

Bathroom Vanity Mirror

Decorative Hardwood Slide-Out Fascia Trim

Decorative Solid Mirror with Beveled Edges on Refrigerator Wall

Bedroom Dresser

Bedspread with Pillows

Day/Night Shades Throughout with Blackout Shades, Bedroom

Mini Blinds in Kitchen and Bathroom

Textured Carpet in Living Area and Throughout

Ceramic Tile Border Accent in Kitchen

Ceramic Tile in Entry, Kitchen and Bath Area

Options

Decors: Sienna, Alpaca, Spa Green, Silver Sable

Paloma Picasso Decor: Birds of Paradise with Tile Aisle from Entry to Kitchen

Gloss Finish Cabinetry Choices: Cherry with Cherry Cabinet Door Inserts with Cherry Cabinetry

Maple Burl Accent Cabinet Door Inserts with Cherry and Maple Cabinetry

Makori Accent Cabinet Door Inserts with Cherry Cabinetry

Bird's-Eye Maple Accent Cabinet Door Inserts with Maple Cabinetry

Manual Roman Shades

Sculptured Carpet Design in Living Area

2,500 Watt Inverter with Remote

Solar Panel with Regulator

Solar Connector with Regulator

Two 12V Deep Cycle Chassis Batteries

Four 6V Deep Cycle Coach Batteries

Lights in Outside Storage Compartment

120V Receptacle in Storage Compartment

Recessed Stepwell Lights

Decorative Lighting in Bedroom and Living Area

Cosmetic Vanity Light

Halogen Lights in Dinette Area

Halogen Lights under Overhead Cabinets

Halogen Lights in Living Area Ceiling

Fluorescent Light in front of Refrigerator, Bath Area and Bedroom

110V Recept in Bed Base

Computer Hook-Up with Phone Jack at Dinette Area

Pilot/Co-Pilot Map Lights

Porch Light

Options

Pure Sine Wave Inverter

Handheld Shower with Slide Bar
Granicoat Shower with Shelf for Soap and Shampoo

Options

Garden Tub (N/A: 37" Ticonderoga)

Whirlpool Tub (40" Yorktown, 40" Wilmington)

Heating, Vents and Air Conditioning

Standard Features

Two Low-Profile Ducted 15M BTU Roof Air Conditioners with Heat Pumps (N/A: 42" Vicksburg, 42" Richmond)

Three Low-Profile Ducted 15M BTU Roof Air Conditioners with Heat Pumps (42" Vicksburg, 42" Richmond)

Aqua-Hot Heating System

Electronic Air Conditioning/Heat Climate Control System

Dash Heating and Air Conditioner System with Defroster

12V Attic Fan with Sensor and Wall Switch in Kitchen, Bath and Vanity Area

Options

Two Low-Profile 110V Baseboard Heaters

Windows, Doors and Awnings

Standard Features

Radius Dual Pane Safety Glass Dark Tinted Slider Windows

Front Entry Door with Removable Screen

Keyless Entry System with Pocket Remote

Tinted Skylight in Bathroom

Automatic Patio Awning with Color-Coordinated Hardware

Slide-Out Topper Awnings

Window Awning over Passenger Side Bedroom Window with Color Coordinated Hardware

Automatic Front Door Awning

Options

Remote Controlled Girard Automatic Patio Awning with Wind Sensor

Plumbing and LP Systems

Standard Features

Manifold Water Control System

Kitchen Faucet with Pull-Out Sprayer and Water Bay

Water Pump Switches in Galley, Bath and Water Bay

Water Purifier for Icemaker

China Toilet

No-Fuss Flush Black Holding Tank Rinsing System

Sewer Hose Connection inside Plumbing Manifold Center

Insulated Systems Compartment with Easy Access to Hook-Ups

Water Sprayer in Outside Bay

Power Water Hose Reel

Pressurized Water Fill

Soap Dispenser in Vanity

Electrical Systems and Lights

Standard Features

50 Amp 120/240V Distribution Panel and Power Cord with Quick Disconnect

Locking Battery Disconnect Switch inside Coach

Battery Disconnect Switch in Battery Compartment

Onan 10.0 kW Quiet Diesel Generator on Power Slide-Out Tray with Auxiliary Start Switch

Integrated Surge Suppression

Safety

Standard Features

- Fire Extinguisher
- Back-Up Alarm
- Deadbolt Lock on Entrance Door
- Lighted Interior and Exterior Grab Handles
- 120V GFI Protected Circuit (Kitchen, Bath, Exterior)
- LP Gas Detector
- Smoke Detector
- Carbon Monoxide Detector
- Integrated Pilot and Co-Pilot Three-Point Seat Belts
- Third Brake Safety Light
- Egress Window(s)

Options

- Deluxe Security System
- Security Safe



Thunder Package Standard Features

- Deluxe Full Body Paint with Thunder Logos Painted on Front and Rear Caps
- Caterpillar™ 525 HP C-13 and Allison 4000 MH 6-Speed Transmission with Electronic Shifter; 1650 lbs./ft. Torque Max. Net. at 1200 RPMs; 12.5 Liter
- Jacobs Engine Brake
- CB Radio
- Two Tone Leather VIP Lighted Smart Wheel with Controls for Windshield Wipers, ICC and Cruise Control
- 6-Way Power OptimaLeather™ Pilot and Co-Pilot Seat with Adjustable Headrests, Colored Pleats and Thunder Logo
- Residential Refrigerator
- Tapered Corian™ Splash Guard
- Sleeper Sofa with Drawer and Footrest
- Solid Surface Shower with Corian Shower Caddy and Plumbing Access Cover in Gramicote Base

- Beige Grid Finish Instrumentation Panel
- Modified Exterior Graphics

Options

- Electric Slide-Out Storage Tray (Full Pass-Through)
- Queen Air Mattress with Remote
- King Air Mattress with Remote
- SEE-Vision Security Camera System
- Collision Avoidance System
- Stainless Residential Refrigerator

Weights

Gross Vehicle Weight Rating (Lbs.)	37' Ticonderoga	40' Lexington	40' Yorktown	40' Wilmington	42' Vicksburg	42' Richmond
	36,300	46,300	46,300	46,300	46,300	46,300

Gross Combined Weight Rating* (Lbs.)

37' Ticonderoga	46,300
40' Lexington	56,300
40' Yorktown	56,300
40' Wilmington	56,300
42' Vicksburg	56,300
42' Richmond	56,300

Front Gross Axle Weight Rating (Lbs.)

37' Ticonderoga	15,300
40' Lexington	15,300
40' Yorktown	15,300
40' Wilmington	15,300
42' Vicksburg	15,300
42' Richmond	15,300

Rear Gross Axle Weight Rating (Lbs.)

37' Ticonderoga	21,000
40' Lexington	21,000
40' Yorktown	21,000
40' Wilmington	21,000
42' Vicksburg	21,000
42' Richmond	21,000

Tag Gross Axle Weight Rating (Lbs.)

37' Ticonderoga	40' Lexington	40' Yorktown	40' Wilmington	42' Vicksburg	42' Richmond
N/A	10,000	10,000	10,000	10,000	10,000

Measurements

Wheelbase

37' Ticonderoga	238"
40' Lexington	263-11/16"
40' Yorktown	263-11/16"
40' Wilmington	263-11/16"
42' Vicksburg	286-11/16"
42' Richmond	286-11/16"

Overall Unit (Length) (Width) (Height)**

37' Ticonderoga	37' 10"	102"	12'4"
40' Lexington	40' 10"	102"	12'4"
40' Yorktown	40' 10"	102"	12'4"
40' Wilmington	40' 10"	102"	12'4"
42' Vicksburg	42' 10"	102"	12'4"
42' Richmond	42' 10"	102"	12'4"

(** Includes Roof Air Conditioner)

Interior Height

All Patriot Models	81"
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Tank Capacities

Gray Tank

All Patriot Models (62 Gal. Actual)	58 gal.
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Black Tank

All Patriot Models	58 gal.
--------------------	---------

Fresh Tank

All Patriot Models	100 gal.
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Fuel Tank

All Patriot Models	148 gal.
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LP Tank***

All Patriot Models	29 gal.
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* Towing capacity is limited by GCWR; your vehicle's towing capacity is the difference between the GCWR and the actual vehicle weight, including all water, fuel, passengers and cargo. Your towed vehicle should be equipped with auxiliary brakes if the weight of the towed vehicle exceeds 1,000 lbs. Consult your Owner's Manual for further towing information.

** Actual filled LP capacity is 80% of listing due to safety shut off required on tank.

All tank capacities are estimated based upon calculations provided by the tank manufacturers and represent approximate capacities. The actual "usable capacity" may be greater or less than the estimated capacities based upon fabrication and installation of the tanks.

Due to the large variety of options and floorplan arrangements available to our customers, actual weights for each unit may differ. Beaver Motor Coaches provides a weight sticker on each unit we produce, which includes that unit's tank capacities and approximate weight. Consult your local Beaver Motor Coaches dealer for unit availability and further information. The information printed in this brochure reflects product design, fabrication,

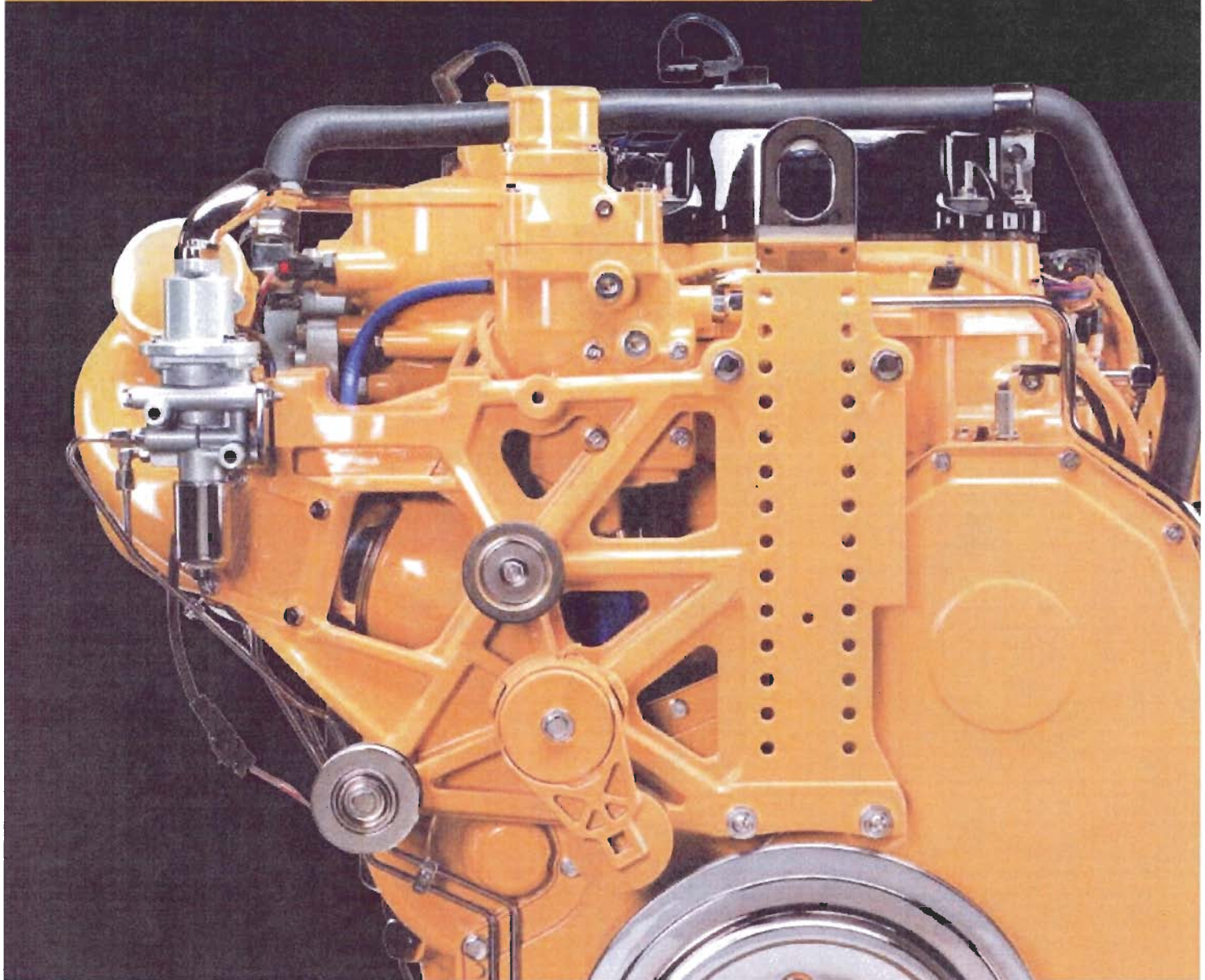
and component parts at the date of printing. The manufacturer reserves the right, at any time, to make changes in product design, material or component specifications as its sole option, without notice. This includes the substitution of components of a different brand or trade name, which will result in comparable performance.

All information printed in this brochure is subject to change after the date of printing. Some features shown or mentioned in this brochure are optional and may only be available in selected floorplans. Photographs may show props or decorations that are not standard equipment on Beaver Motor Coach models. Beaver Motor Coaches, the Beaver logo and its design, are registered trademarks. All other products and company names are trademarks and/or registered trademarks of their respective holders.

The actual overall length of the recreational vehicle may differ from that indicated in the brochure due to variances in the manufacturing process and/or installed components. The actual length may be greater or less than that indicated.

Cat[®] C13 for Payload-Pulling Profitability

ACERT[™] Technology for 2007



CATERPILLAR[®]

305-525 Horsepower

Reliability

Dealer Repair Frequency statistics show Caterpillar® heavy duty engines offer outstanding reliability based on initial quality and customer surveys.

Durability

Laboratory tests and engine disassembly analyses indicate Cat® C13 engines are expected to have a B50 life of one million miles with Cat's recommended maintenance.

Fuel Economy

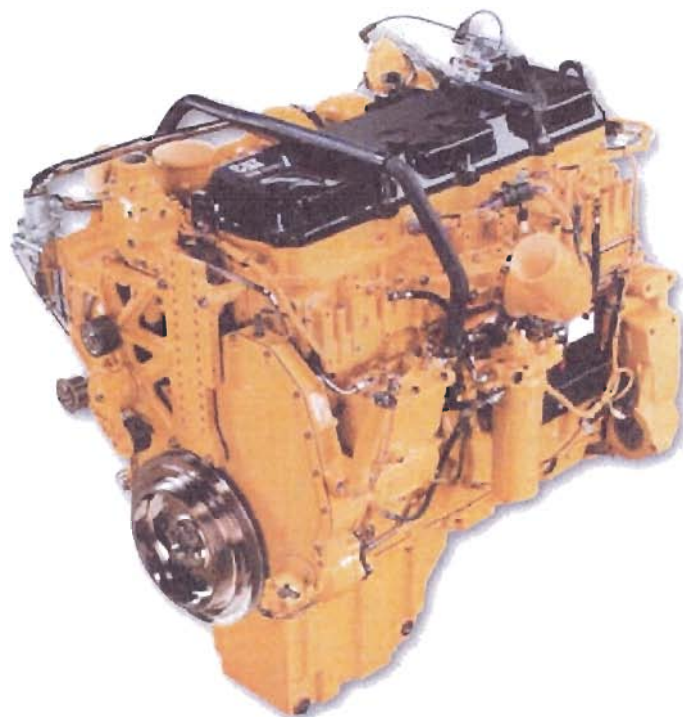
2007 compliant Cat® C13 engines are engineered to offer the same fuel economy as EPA 2004 compliant engines.

Total Owning/Operating Costs

2007 compliant Cat engines are engineered to offer the same reliability, durability, fuel economy and similar maintenance costs as EPA 2004 compliant engines for outstanding overall value.

Dealer Support

Caterpillar sets the industry standard for support with 2,500 authorized North American service locations and a 24/7 call center.



Cylinders: In-line 6

Bore/Stroke: 5.12 x 6.18 (130 mm x 157 mm)

Displacement: 12.5 L (763 cu in)

Weight: 2610 lb (1184 kg)

Vocational Truck and Bus Ratings: 305-370 hp @ 2100 rpm

Line Haul Truck and Bus Ratings: 380-470 @ 2100 rpm

Fire Truck Ratings: 485-525 hp @ 2100 rpm

RV Ratings: 525 hp @ 2100 rpm

Torque: 1150-1750 lb-ft @ 1200 rpm

Choose from two Cat® C13

The Cat® C13 is the heavy duty engine built for versatility. In line haul or vocational applications, it delivers a solid combination of rugged reliability, million-mile durability, low operating costs and excellent fuel economy.

ADEM™ A4 enhanced electronics — Three times the memory, five times the processing speed of ADEM 2000 technology

One-piece steel piston four-bolt connecting rod and high efficiency water pump — Heavy duty components deliver the reliability, durability and resale value you expect from Caterpillar

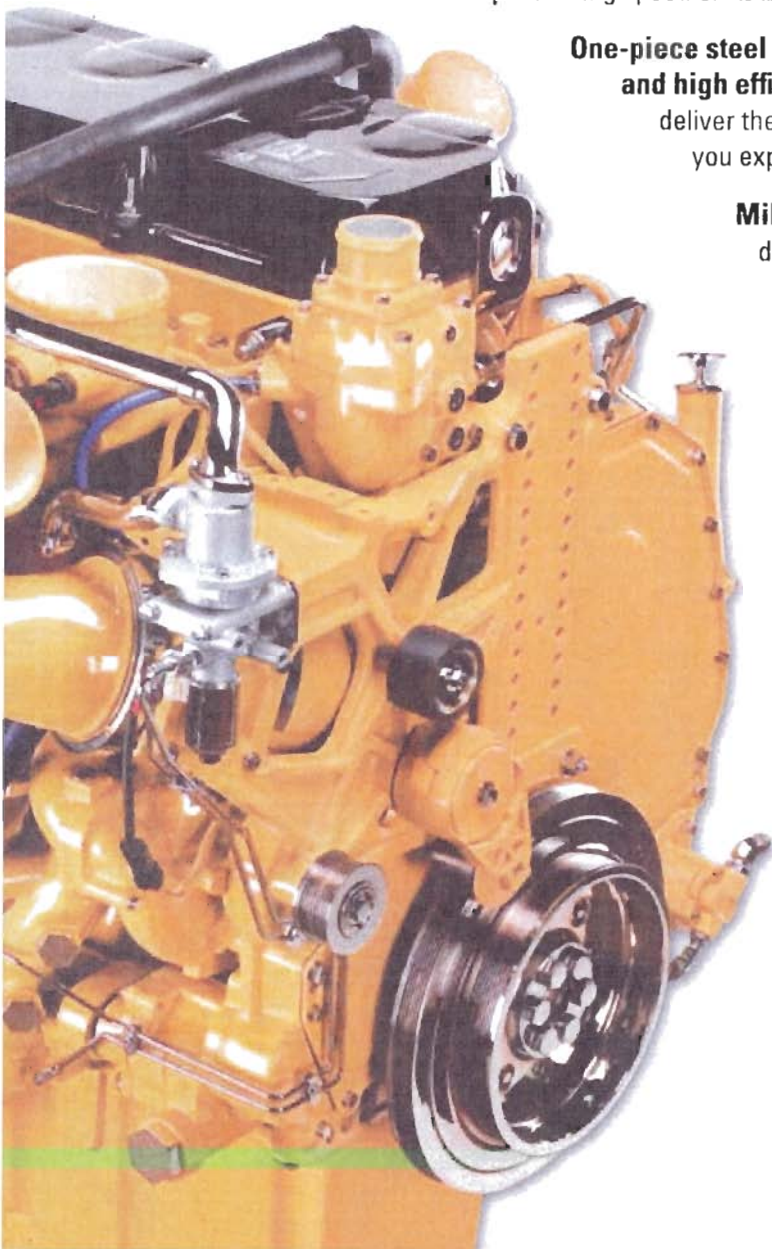
Million-mile durability — Thanks to increased displacement, one million miles to overhaul is easily within reach

Cross-flow cylinder head — Improves the engine's ability to breathe to increase responsiveness

Large displacement — Allows more cool, clean air into the combustion chamber to reduce emissions and enables "Gear Fast, Run Super Slow" driving techniques to optimize fuel economy

"Leak-free" technology — Significantly reduces leaks to cut downtime and improve reliability

Cat compression brake — 400 retarding horsepower now available



Configurations for Line Haul

How do Cat® engines with ACERT™ Technology meet tougher 2007 emissions standards while maintaining top performance and excellent fuel economy? With refinements to the same innovative approach proven successful over millions of miles: using more cool, clean air for more efficient combustion.

Still a Systems Solution

The systems solution of ACERT Technology, a proven success, hasn't changed for 2007. Its four basic systems of *Air Management*, *Precision Combustion*, *Advanced Electronics* and *Effective Aftertreatment* are still the building blocks for reduced emissions, powerful performance and outstanding fuel economy.

Precision Combustion

Cat Designed Injection Technology
Clean Gas Induction

Air Management

Variable Valve Actuation
Series Turbocharging



Advanced Electronics

Electronic Control Module
System Integration

Effective Aftertreatment

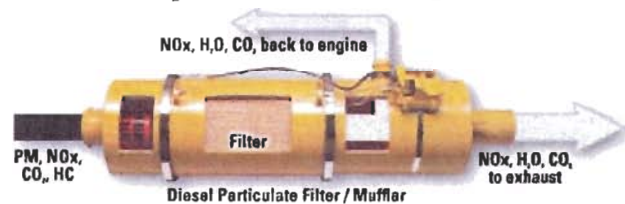
Diesel Particulate Filter
Cat Regeneration System

But 2007 emissions regulations require diesels to emit lower levels of oxides of nitrogen (NOx) and particulates. That's why Cat has added two new enhancements: Clean Gas Induction and a Cat Diesel Particulate Filter featuring its own Cat Regeneration System (CRS).

New Clean Gas Induction

Clean Gas Induction (CGI) is a proprietary ACERT Technology process that draws off a small amount of non-combustible gas after it has passed through the engine's aftertreatment system. The gas is then cooled, blended with more incoming cool, clean air and returned to the combustion chamber. Since it has passed through the diesel particulate filter, most contaminants have been removed before the gas re-enters the intake system.

The CGI process through the DPF



The CGI process filters and cools exhaust before re-routing it to the engine.

The CGI advantage is clear. It recycles cool, clean air, which is key to good fuel economy, reliability and durability.

New Diesel Particulate Filter

For 2007, all engines require a diesel particulate filter (DPF) to further reduce emissions of hydrocarbons and other contaminants. But the Cat manufactured DPF is designed for self-regeneration under all conditions. When the electronic control module detects soot buildup, the Cat Regeneration System (CRS) activates. CRS works automatically, using only the precise amount of fuel necessary to oxidize soot. With CRS, no driver action is required for regeneration. Ash that collects in the Cat DPF can be cleared with a special removal tool.

or Vocational Applications.

Most Horsepower Ratings in its Class (80,000 lb GCW or less)

Cat C13 2007 Compliant EPA Ratings			
Advertised Horsepower	Maximum Horsepower	Peak Torque lb-ft	Governed Speed RPM
305	320	1150	2100
335	350	1250	2100
350	365	1350	2100
350	365	1450	2100
350	420	1550	2100
370	385	1350	2100
370	385	1450	2100
380	395	1450	2100
410	425	1450	2100
410	425	1550	2100
430	445	1550	2100
430	445	1650	2100
470	485	1550	2100
470	485	1650	2100
Multi-Torque Options*			
410 MT	425	1450/1550	2100
410 MT	425	1450/1650	2100
430 MT(a)	445	1550/1750	2100
470 MT	485	1550/1750	2100
485*	485	1650	2100
525**	525	1750	2100

(a) Gear Fast, Run Super Slow Option (GFRSS) – available for use with the Eaton Fuller RTLOC-16909A or RTLOC-16909A-T2.

* Fire Truck rating only.

** RV and Fire Truck rating only.

Gearing Considerations

The C13 engine offers a wide operating range and high torque rise for compatibility with a wide range of transmissions. For best performance, trucks should be geared to achieve the appropriate balance between startability and desired road speed, and drivers should follow "Gear Fast, Run Super Slow" techniques.

For the **best balance of performance and economy**, spec axle ratios and tire sizes according to the following:

80,000 lb GCW or less
Less than 1750 lb-ft: 1400 rpm @ 65 mph (105 km/h)
1750 lb-ft and above: 1325 rpm @ 65 mph (105 km/h)

Maximum recommended engine speed at cruise is 1500 rpm.

To optimize your truck's performance characteristics, the minimum startability requirements are 10% for pickup and delivery, 14% for line haul, 20% for on/off-highway and 25% for off-highway.

At peak torque rpm in top gear, the recommended gradeability is 1.8% (1.5% minimum). At cruise speed in top gear, 1.0% is the ideal gradeability.

A computerized spec'ing tool called Design Pro 2.0, offered by your Caterpillar® dealer or authorized truck dealer, calculates the effects that various driveline components such as transmissions, axles and tires have on engine operation. This analysis allows you to test various driveline specifications to find the one best suited for your application and fuel economy requirements.

Genuine Network. Genuine Value.



24-Hour Coast-to-Coast Support

Count on the Cat® dealer and truck dealer network of more than 2,500 authorized locations for convenient access to genuine Cat parts and service across North America. Our industry-leading support even includes the Caterpillar On-Highway Engine Call Center, where technicians are available 24 hours a day, seven days a week to answer technical questions, direct you to a dealer or help arrange on-the-road assistance. Just dial 1-800-447-4986 or send an email to Call_CAT@cat.com.

Peace of Mind Mile After Mile

The standard warranty* for Cat C13 on-highway engines is 24 months.

Extended Service Coverage (ESC)* is an optional repair cost protection plan for owners of all on-highway trucks powered by Cat truck engines including engines with ACERT Technology. The coverage pays 100% of parts and labor charges for any covered failures caused by defects in materials or workmanship under normal use and service.

**See your dealer for full details and conditions.*

Delivering Excellence

Caterpillar has earned the J.D. Power and Associates award for "Highest in Customer Satisfaction with Vocational Heavy Duty Diesel Engines" six times. No other engine manufacturer has ever received this satisfaction award — not even once.

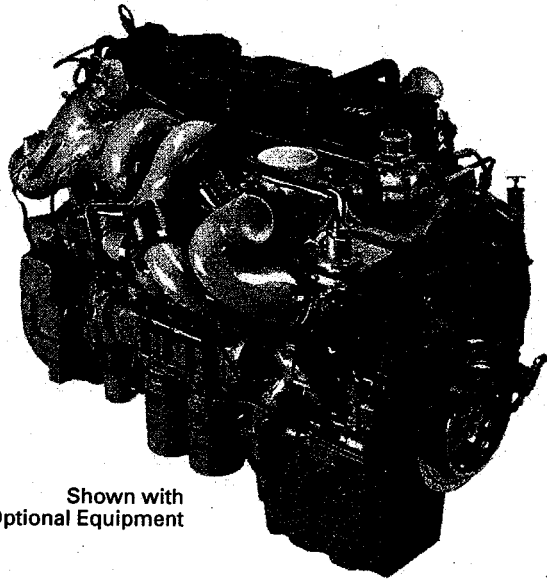
Caterpillar C-12 received the highest numerical score in the proprietary J.D. Power and Associates 2000-2003, 2005-2006 Heavy Duty Truck Engine/Transmission Customer Satisfaction Study.^{1,2} 2006 study based on 2,529 total telephone interviews measuring opinions of principal maintainers (owner/operators and fleet managers) of Class 8 heavy duty trucks. Proprietary study results are based on experiences and perceptions of principal maintainers surveyed in April-June 2006. Your experiences may vary. Visit jdpower.com



CATERPILLAR®

**On-Highway
Diesel Engine
with ACERT®
Technology**

C13
EPA 07 Certified
305-470 hp @ 2100 rpm
1150-1750 lb-ft @
1200 rpm Peak Torque



Shown with
Optional Equipment

CATERPILLAR® ENGINE SPECIFICATIONS

In-line 6-Cylinder, 4-Stroke-Cycle Diesel
Bore — in (mm) 5.12 (130)
Stroke — in (mm) 6.18 (157)
Displacement — cu in (L) 763 (12.5)
Combustion/Aspiration... Series Turbocharged
Compression Ratio 17.1:1
Rotation (from flywheel end) .. Counterclockwise
Cooling System¹ — gal (L)..... 5.76 (21.8)
Lube Oil System (refill) — gal (L) 10 (38)
Weight, Net Dry (approx) — lb (kg)
with standard equipment 2610 (1184)

¹ Engine only. Capacity will vary with radiator size and use of cab heater.

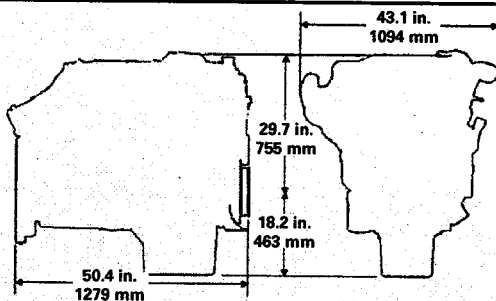
STANDARD EQUIPMENT

Caterpillar® Regeneration System
Cooling: gear-driven water pump, oil cooler
Diesel particulate filter
Electronic Control Module (ECM)
Electronic Data Link, SAE/ATA, SAE/J1939
Electronically Controlled Unit Injection Fuel System
Fuel: spin-on secondary filter, transfer pump
Gear-driven water pump
Governor: full-range, electronically controlled
Hydraulic steering pump drive, SAE A
Lifting eyes
Lubrication: gear-driven pump, front or rear sump pan, full flow spin-on filter, oil filler, oil level gauge (dipstick)
Open crankcase ventilation
Pad mount air conditioner compressor
Pad mount alternator
SAE No. 1 Flywheel Housing
Series-turbochargers
Vibration damper

ACCESSORY EQUIPMENT

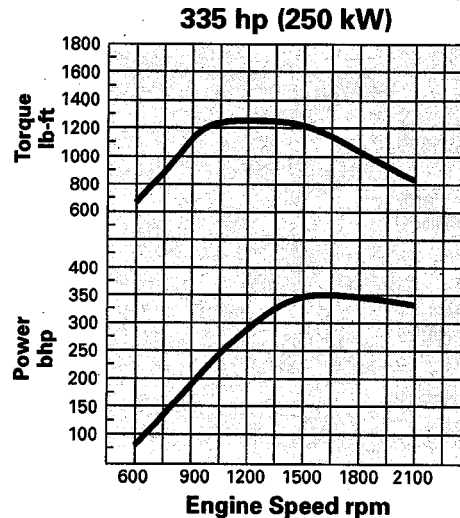
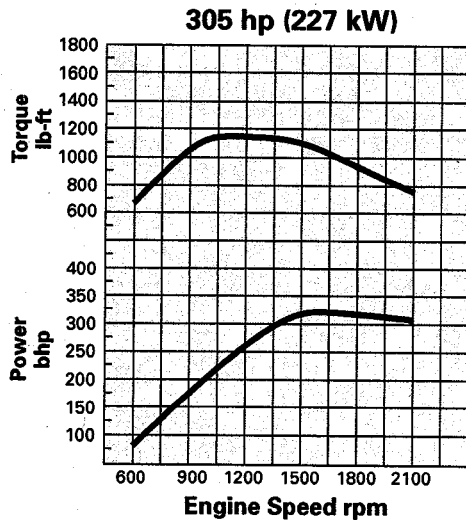
Air compressor: 16.1 cfm (0.46 m³/min) or 31.6 cfm (0.9 m³/min)
Air inlet elbow
Air inlet shut off
Alternator (12 Volt-115 Amp)
ATAAC inlet elbow
Automatic transmission adapter
Cat compression brake
Exhaust couplings
Fan drive mounting bracket
Flywheel
Front engine support
Front PTO adapter
Fuel priming pump
Lubricating oil filter, bypass spin on
Optional secondary auxiliary oil filter
Optional turbocharger mounting locations
Primary fuel filter (10 micron)
Rear PTO (RPTO)
Starting motor: 12V or 24V

DIMENSIONS



LEHT4569-09

PERFORMANCE CURVES

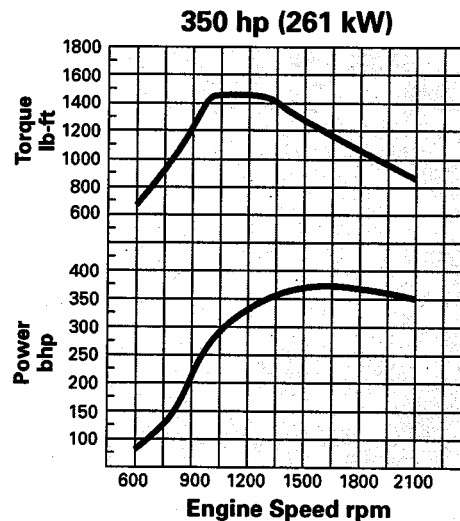
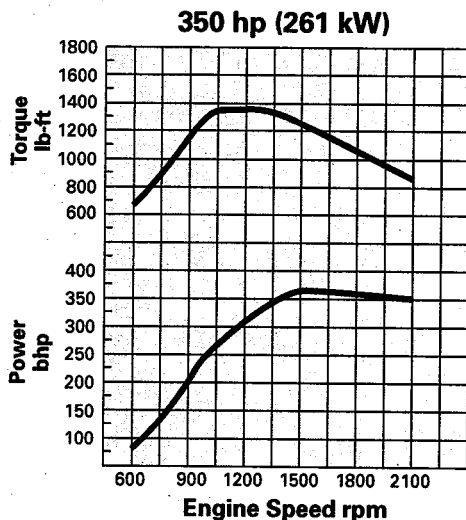


PERFORMANCE DATA

Operating Range (rpm) 1200–2100
Governed Speed — rpm **2100**
 Advertised hp (kW) 305 (227)
 Max hp (kW) 320 (239)
Peak Torque — lb-ft (N·m) **1150 (1559)**
 Peak Torque — rpm 1200
 Torque rise (%) 51
 Altitude Capability — ft (m) 10,000 (3048)

Operating Range (rpm) 1200–2100
Governed Speed — rpm **2100**
 Advertised hp (kW) 335 (250)
 Max hp (kW) 350 (261)
Peak Torque — lb-ft (N·m) **1250 (1695)**
 Peak Torque — rpm 1200
 Torque rise (%) 49
 Altitude Capability — ft (m) 10,000 (3048)

PERFORMANCE CURVES

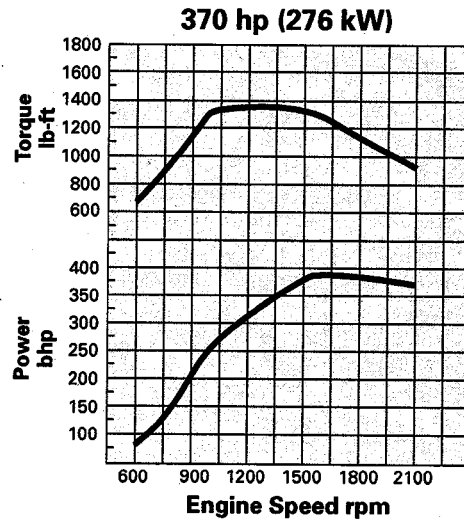
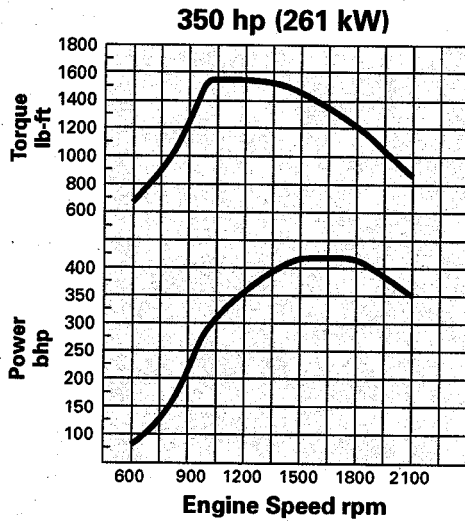


PERFORMANCE DATA

Operating Range (rpm) 1200–2100
Governed Speed — rpm **2100**
 Advertised hp (kW) 350 (261)
 Max hp (kW) 365 (272)
Peak Torque — lb-ft (N·m) **1350 (1830)**
 Peak Torque — rpm 1200
 Torque rise (%) 54
 Altitude Capability — ft (m) 10,000 (3048)

Operating Range (rpm) 1200–2100
Governed Speed — rpm **2100**
 Advertised hp (kW) 350 (261)
 Max hp (kW) 365 (272)
Peak Torque — lb-ft (N·m) **1450 (1966)**
 Peak Torque — rpm 1200
 Torque rise (%) 66
 Altitude Capability — ft (m) 10,000 (3048)

PERFORMANCE CURVES

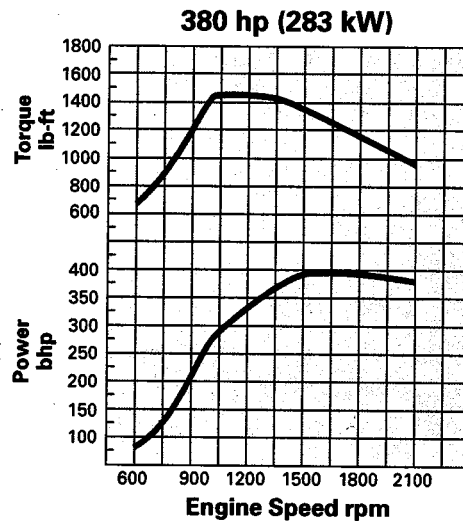
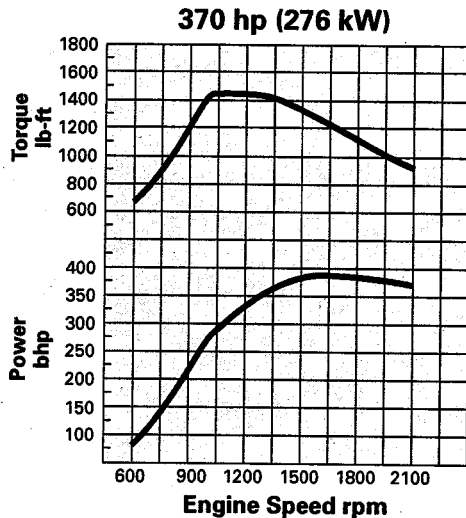


PERFORMANCE DATA

Operating Range (rpm) 1200–2100
Governed Speed — rpm **2100**
 Advertised hp (kW) 350 (261)
 Max hp (kW) 420 (313)
Peak Torque — lb-ft (N·m) **1550 (2101)**
 Peak Torque — rpm 1200
 Torque rise (%) 77
 Altitude Capability — ft (m) 10,000 (3048)

Operating Range (rpm) 1200–2100
Governed Speed — rpm **2100**
 Advertised hp (kW) 370 (276)
 Max hp (kW) 385 (287)
Peak Torque — lb-ft (N·m) **1350 (1830)**
 Peak Torque — rpm 1200
 Torque rise (%) 46
 Altitude Capability — ft (m) 10,000 (3048)

PERFORMANCE CURVES

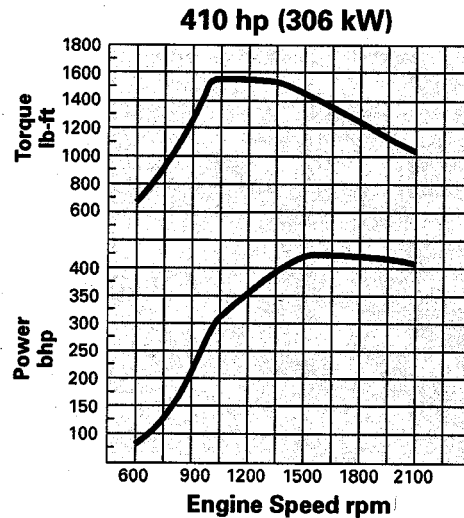
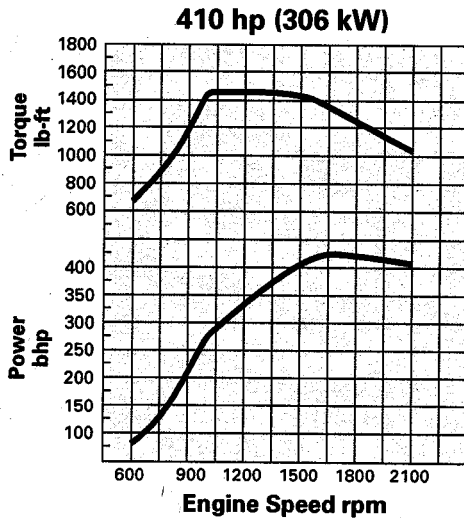


PERFORMANCE DATA

Operating Range (rpm) 1200–2100
Governed Speed — rpm **2100**
 Advertised hp (kW) 370 (276)
 Max hp (kW) 385 (287)
Peak Torque — lb-ft (N·m) **1450 (1966)**
 Peak Torque — rpm 1200
 Torque rise (%) 57
 Altitude Capability — ft (m) 10,000 (3048)

Operating Range (rpm) 1200–2100
Governed Speed — rpm **2100**
 Advertised hp (kW) 380 (283)
 Max hp (kW) 395 (293)
Peak Torque — lb-ft (N·m) **1450 (1966)**
 Peak Torque — rpm 1200
 Torque rise (%) 53
 Altitude Capability — ft (m) 10,000 (3048)

PERFORMANCE CURVES

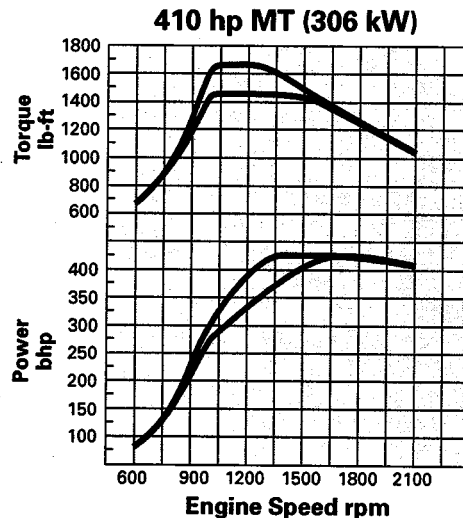
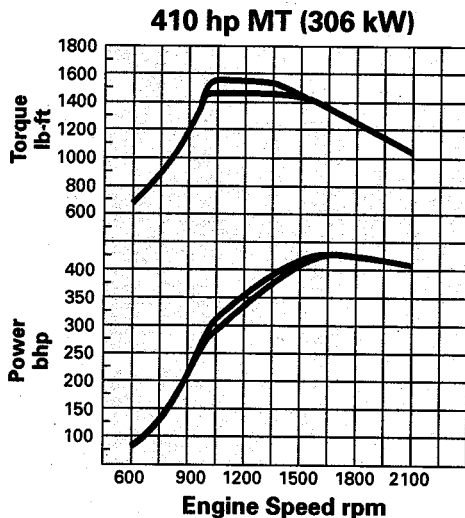


PERFORMANCE DATA

Operating Range (rpm) 1200–2100
Governed Speed — rpm **2100**
 Advertised hp (kW) 410 (306)
 Max hp (kW) 425 (315)
Peak Torque — lb-ft (N·m) **1450 (1966)**
 Peak Torque — rpm 1200
 Torque rise (%) 41
 Altitude Capability — ft (m) 10,000 (3048)

Operating Range (rpm) 1200–2100
Governed Speed — rpm **2100**
 Advertised hp (kW) 410 (306)
 Max hp (kW) 425 (317)
Peak Torque — lb-ft (N·m) **1550 (2102)**
 Peak Torque — rpm 1200
 Torque rise (%) 51
 Altitude Capability — ft (m) 10,000 (3048)

PERFORMANCE CURVES

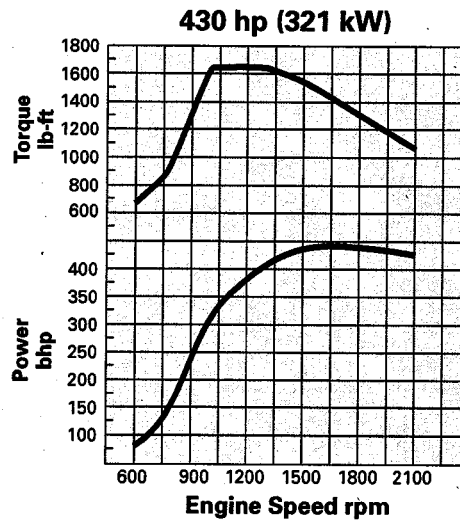
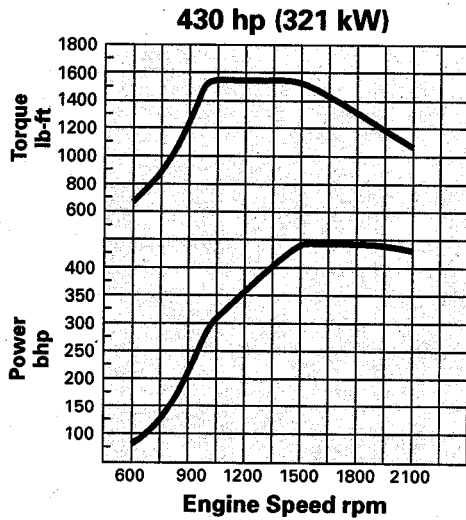


PERFORMANCE DATA

Operating Range (rpm) 1200–2100
Governed Speed — rpm **2100**
 Advertised hp (kW) 410 (306)
 Max hp (kW) 425 (315)
Peak Torque — lb-ft (N·m) .. **1450/1550 (1966/2102)**
 Peak Torque — rpm 1200
 Torque rise (%) 41/51
 Altitude Capability — ft (m) 10,000 (3048)

Operating Range (rpm) 1200–2100
Governed Speed — rpm **2100**
 Advertised hp (kW) 410 (306)
 Max hp (kW) 425 (315)
Peak Torque — lb-ft (N·m) .. **1450/1650 (1966/2237)**
 Peak Torque — rpm 1200
 Torque rise (%) 41/61
 Altitude Capability — ft (m) 10,000 (3048)

PERFORMANCE CURVES

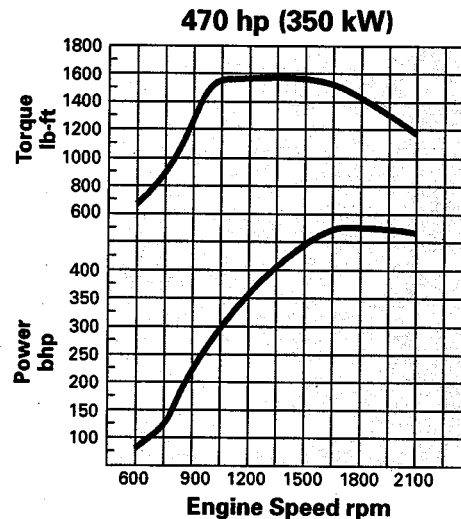
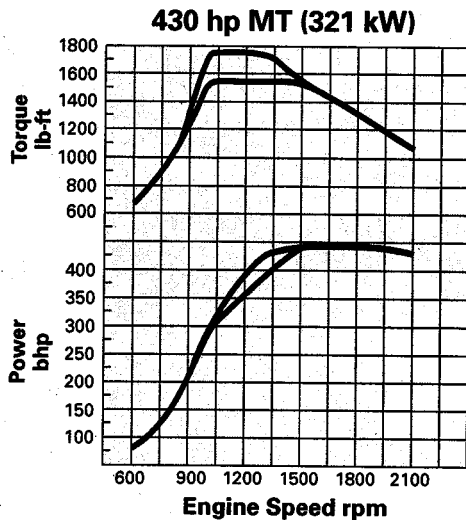


PERFORMANCE DATA

Operating Range (rpm) 1200–2100
Governed Speed — rpm **2100**
 Advertised hp (kW) 430 (321)
 Max hp (kW) 445 (332)
Peak Torque — lb-ft (N·m) **1550 (2102)**
 Peak Torque — rpm 1200
 Torque rise (%) 44
 Altitude Capability — ft (m) 10,000 (3048)

Operating Range (rpm) 1200–2100
Governed Speed — rpm **2100**
 Advertised hp (kW) 430 (321)
 Max hp (kW) 445 (332)
Peak Torque — lb-ft (N·m) **1650 (2237)**
 Peak Torque — rpm 1200
 Torque rise (%) 54
 Altitude Capability — ft (m) 10,000 (3048)

PERFORMANCE CURVES

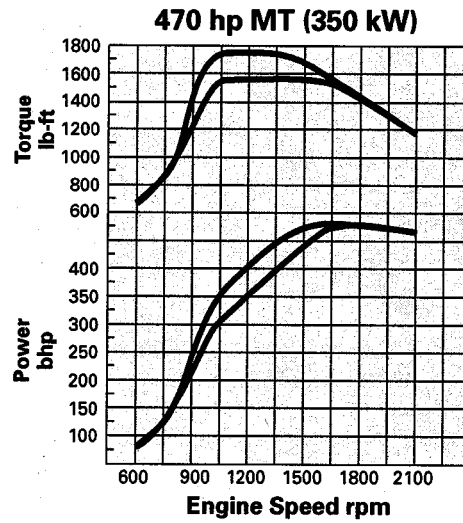
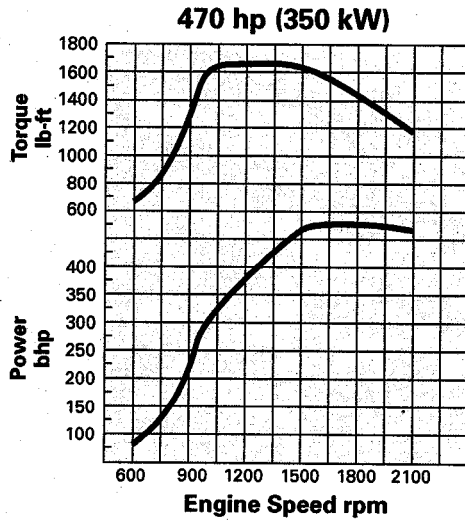


PERFORMANCE DATA

Operating Range (rpm) 1200–2100
Governed Speed — rpm **2100**
 Advertised hp (kW) 430 (321)
 Max hp (kW) 445 (332)
Peak Torque — lb-ft (N·m) .. **1550/1750 (2102/2373)**
 Peak Torque — rpm 1200
 Torque rise (%) 44/63
 Altitude Capability — ft (m) 10,000 (3048)

Operating Range (rpm) 1200–2100
Governed Speed — rpm **2100**
 Advertised hp (kW) 470 (350)
 Max hp (kW) 485 (362)
Peak Torque — lb-ft (N·m) **1550 (2101)**
 Peak Torque — rpm 1200
 Torque rise (%) 32
 Altitude Capability — ft (m) 10,000 (3048)

PERFORMANCE CURVES



PERFORMANCE DATA

Operating Range (rpm) 1200–2100
Governed Speed — rpm **2100**
 Advertised hp (kW) 470 (350)
 Max hp (kW) 485 (362)
Peak Torque — lb-ft (N·m) **1650 (2237)**
 Peak Torque — rpm 1200
 Torque rise (%) 40
 Altitude Capability — ft (m) 10,000 (3048)

Operating Range (rpm) 1200–2100
Governed Speed — rpm **2100**
 Advertised hp (kW) 470 (350)
 Max hp (kW) 485 (362)
Peak Torque — lb-ft (N·m) .. **1550/1750 (2102/2373)**
 Peak Torque — rpm 1200
 Torque rise (%) 32/49
 Altitude Capability — ft (m) 10,000 (3048)

GEARING CONSIDERATIONS

The C13 On-Highway Diesel Engine offers a wide operating range and high torque rise, which promotes the use of transmissions with fewer gears. Even with this built-in feature, heavy/specialty haulers must remember their trucks should be geared to achieve the appropriate compromise between startability and desired road speed. The general principal drivers should follow is that of the "gear fast, run slow" strategy to achieve optimal performance.

For the best balance of performance and fuel economy, spec axle ratios and tire sizes according to the following:

- **80,000 lb GCW or less**
430 hp, 1650 lb-ft:
1400 rpm @ 65 mph (105 km/h)

Multi-Torque:

- **80,000 lb GCW or less**
430 hp, 1550/1750 lb-ft:
1325 rpm @ 65 mph (105 km/h)
- **60,000 lb GCW or less**
430 hp, 1450/1650 lb-ft:
1325 rpm @ 65mph (105 km/h)

Maximum recommended engine speed at cruise is **1500 rpm**.

The minimum startability requirements are 10% for pick-up and delivery, 14% for linehaul, 20% for on/off highway, and 25% for off-highway. At peak torque rpm in top gear, the recommended gradeability is 1.8% (1.5% minimum). At cruise speed in top gear, 1.0% is the ideal gradeability.

To optimize your truck's performance characteristics, a computerized spec'ing tool called Design Pro is offered by your Caterpillar dealer. It calculates effects of various driveline variables on engine operation such as transmissions, axles, and tires. This analysis allows you to verify that your truck's driveline specifications are best suited to your application.

FUEL AND LUBE OIL REQUIREMENTS**FUEL**

Model year 2007 and newer Caterpillar on-highway diesel engines require the use of ULSD fuel in order to meet the United States (U.S.) Environmental Protection Agency (EPA) 2007 emissions regulations for on-highway diesel engines. Failure to use ULSD in these engines is punishable with civil penalties.

Ultra Low Sulfur Diesel (ULSD) fuel will have ≤ 15 ppm (0.0015%) sulfur using the ASTM D5453, ASTM D2622, or DIN 51400 test methods.

CRANKCASE LUBE OIL

Diesel engine oils meeting the Cat ECF-3 (Engine Crankcase Fluid-3) specification are strongly **recommended** for use in 2007 model year and newer Caterpillar on-highway diesel engines. The Cat ECF-3 specification was developed in order to protect emissions control systems, help comply with the emissions standards, reduce engine wear, and control piston deposits and oil consumption in 2007 model year and newer on-highway diesel engines that are designed to use fuels with ≤ 15 ppm (0.0015%) sulfur.

The combination of ULSD fuel and API CJ-4 compliant diesel engine oil is strongly recommended for optimum engine system performance.

Note: Oils that meet the API CJ-4 oil category requirements are Cat ECF-3 compliant.

ELECTRONIC FEATURES

- Real time clock with date and time stamping of critical events
- Electronic self-diagnostics
- Electronically tabulated total fuel consumption, hours, idle time, and miles
- Customer selectable, re-programmable operational parameters:
 - Adjustable low idle rpm
 - Automated transmission compatibility
 - Cooling fan control
 - Cruise control with exclusive Soft Cruise
 - Customer password protection
 - Engine Monitoring System — warning, derate, or shutdown
 - Enhanced theft deterrent and secure idle (Cat Messenger or Pocket Tec required)
 - Fleet Information Software capability
 - Idle shutdown timer & override
 - Maintenance monitor [miles (km) or hours]
 - OEM parameter lockout
 - Progressive shifting and gear down protection
 - Vehicle speed [mph (km/h)] limiting and protection
- Programmable Power Take-Off (PTO) functions:
 - Adjustable maximum engine rpm speed
 - Adjustable minimum engine rpm speed
 - Adjustable ramp rate up or down between PTO set speed(s)
 - Adjustable rpm "bump" intervals
 - Adjustable speed control [mph (km/h)] of vehicle while in PTO mode
 - Kick-out vehicle speed limit
 - Limit engine torque to driven equipment
 - Multi-speed PTO set speed capability
 - Selectable PTO configuration for "in cab" or station of remote operation
- Battery backup
- Quick stop recorder
- Compatible with Caterpillar Electronic Technician (ET)
- Cold weather startup strategy and electronic idle control functions
- ECM storage of operational, maintenance, diagnostic codes and diagnostic data
- J1939 compatible

RATING DEFINITIONS AND CONDITIONS

Performance is based on SAE J1995 standard conditions of 29.61 in. Hg (100 kPa) and 77° F (25° C).

The curves shown are for a standard engine without fan, but equipped with air compressor and fuel, lubricating oil, and water pumps.

Materials and specifications are subject to change without notice. The International System of Units (SI) is used in this publication. CAT, CATERPILLAR, their respective logos, ACERT, "Caterpillar Yellow" and the POWER EDGE trade dress, as well as corporate and product identity used herein, are trademarks of Caterpillar and may not be used without permission.

This is a VRTC transcript of the YouTube video from the KCCI Des Moines Channel 8 television station KCCI.com that submitted the Giloman RV fire video clip on October 5, 2007.

Blaze Destroys Vacationers' RV

<http://www.youtube.com/watch?v=FUpKTRzZfh0>

Gridlock, that's what westbound drivers to Des Moines discovered this afternoon on Interstate 80.

A stretch of the interstate was closed westbound for more than two and half hours today. Traffic came to a stand still this afternoon east of the Mitchellville exit on the Polk County line and had to be detoured south of Colfax, this is why:

A dream vacation in a new motorhome ended up in smoke. "It went up so fast", Mike and Karen Gilomen and their dog were driving along I-80 from Wisconsin to Arizona when their Patriot Thunder went up in flames like lightening in the middle of Iowa. Mike Gilomen: "I jumped out and the back of the motorhome was totally going up, so we got out and ran. Karen Gilomen: "He said get out of here and start running and so of course my purse and everything you can possibly think of is behind."

Skip Bane, Witness: "Huge cloud of black smoke, a lot of flames, and then when we stopped, they were waiting for it to burn I think because there was some explosive material in there and it did blow up".

Cynthia Fodor, Reporter: "To make matters worse, the mobile home was pulling this trailer and inside it a very special car."

Gilomen: "It's a Corvette with a fiberglass body and it is all melted, so that is gone. It was a convertible and the top is burned off, so I guess everything is gone that was there."

Eastbound traffic was backed up for about 8 miles to Colfax, where it detoured. Jeff Rose sat in the first car behind the accident and waiting for nearly three hours to move.

Jeff Rose: "I'm on my way from Miami to my home in Ankeny, I left Wednesday morning, and I within about 15 minute from being home, so I almost made it."

The RV leaked a trail of diesel fuel for miles, the DOT worked to clean up slippery spill but motorists and authorities had to wait patiently for the burned out shell of a motorhome to stop smoking before it could be towed away and traffic could start moving down the highway once again.

Now the state patrol believes it was a broken fuel line on the motorhome which led to the fire.

IOWA INCIDENT REPORT SUPPLEMENTAL

Iowa State Patrol - Dist 01

260 NW 48TH PLACE

Des Moines, IA 50313

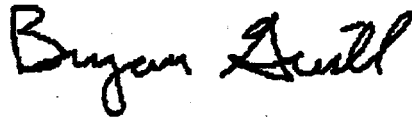
(515) 725-0010

ric030102

C A S E I N F O	Case Number 47652ISP		Date of This Report 10/05/2007		County in which Incident Occurred Polk - 77	
	ORI Number Polk County Sheriff's Office - IA0770000					
	Date of Original Occurrence 10/05/2007				Type of Offense FIRE	
	Name - Last GILOMEN		First MICHAEL	Middle J		Suffix
	Clearance Classification <input type="checkbox"/> Unfounded <input checked="" type="checkbox"/> Exceptionally Cleared <input type="checkbox"/> Cleared by Arrest				Investigative Status <input type="checkbox"/> Open <input checked="" type="checkbox"/> Closed <input type="checkbox"/> Suspended	

Narrative

ON 10/05/07 AT APPROXIMATELY 1230 PM I WAS DISPATCHED BY DES MOINES STATE RADIO REFERENCE A 911 CALL OF A MOTOR HOME TRAVELING WEST ON I80 FROM THE 152 MM ON FIRE. I LOCATED THE MOTOR HOME AT THE POLK COUNTY LINE ON THE NORTH SHOULDER. THE VEHICLE CONSISTING OF A 40 FOOT MOTOR HOME HAULING A CAR TRAILER W/CORVETTE WAS FULLY ENGULFED IN THE ENGINE COMPARTMENT AND FRONT OF THE TRAILER. I WAS ADVISED BY THE OWNER A PROPANE TANK WAS ONBOARD. SMALL EXPLOSIONS WERE COMING FROM REAR OF THE TRAILER SENDING FLAMES ONTO THE ROADWAY. I NOTIFIED STATE RADIO AND AT THAT POINT SHUT DOWN I80. THE MOTOR HOME WAS A 2005 BEAVER RV. THE TRAILER WAS A 2005 ALSO CONTAINING A 2005 CHEVY CORVETTE WISCONSIN PLATE 578JMD. THE MAKE OF TRAILER IS UNKNOWN FOR THE FIRE DESTROYED IDENTIFYING MARKS. VIN OR PLATE INFO WAS ALSO DESTROYED ON RV. COLFAX, BONDERANT, AND ALTOONA FIRE MADE THE SCENE. TRAFFIC WAS REROUTED ONTO SECONDARY ROADS THROUGH JASPER COUNTY AND COLFAX. INTERSTATE WAS SHUT DWN FOR SEVERAL HOURS.

O F F I C E R	Complainant/Reporting Party (Signature)			
	Reporting Officer GUILL BRYAN		Badge Number 498	
	Assisting Officer / Administrative Reviewer		Badge Number	
	Supervisor		Badge Number	
	Incident Assigned to:			

Daniel Pearse
Vehicle Research and Test Center
National Highway Traffic Safety Administration
United States Department of Transportation
East Liberty, OH 43319
937-666-4511 ext 267

Iowa Department of Transportation
Chief Counsel Division
800 Lincoln Way
Ames, Iowa 50010

RE: motorhome fire associated with Iowa Incident Report Supplemental No. 47652ISP

Dear Sir:

While pursuing an investigation concerning engine fires on diesel vehicles, I was directed to send my request to you in writing by Von Richards (515-239-1671 Iowa Claims and Processing). Do you have any records or other information concerning a motorhome fire on I-80 near the 150 mm on October 5, 2007? The Iowa Incident Report Supplemental No. 47652ISP states little more than a fire occurred. My primary concerns, among others, are the type of fluid spilt on the roadway, the distance and the width of the fluid on the roadway, and any witness statements describing where the leak was coming from on the motorhome.

thank you,

Dan Pearse
Vehicle Safety Engineer