



# National Transportation Safety Board

## Marine Accident Brief

### Fire on board Vehicle Carrier *Honor*

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<b>Accident no.</b>	DCA17RM007
<b>Vessel names</b>	<i>Honor</i>
<b>Accident type</b>	Fire
<b>Location</b>	Westbound traffic separation scheme in the English Channel, about 55 miles* southwest of the Isle of Wight, United Kingdom, 50° 01.7' N, 002° 35.7' W
<b>Date</b>	February 24, 2017
<b>Time</b>	0302 Greenwich mean time (coordinated universal time)
<b>Injuries</b>	1
<b>Damage</b>	\$699,414 est. for vessel damage
<b>Environmental damage</b>	None
<b>Weather</b>	Visibility unrestricted at night, winds northeast at 30 knots
<b>Waterway information</b>	The English Channel is one of the busiest waterways in the world, providing access to some of western Europe's largest ports.

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About 0300 local time on February 24, 2017, the US-flagged roll-on/roll-off (ro-ro) vehicle carrier *Honor* was en route from Southampton, England, to Baltimore, Maryland, when a fire broke out in the upper vehicle deck. The fire was extinguished by the crew using the vessel's CO<sub>2</sub> fixed firefighting system. One injury was attributed to the firefighting efforts. The accident resulted in extensive damage, amounting to more than \$700,000, to the *Honor*'s hold as well its cargo of about 5,000 vehicles. No pollution resulted from the accident.

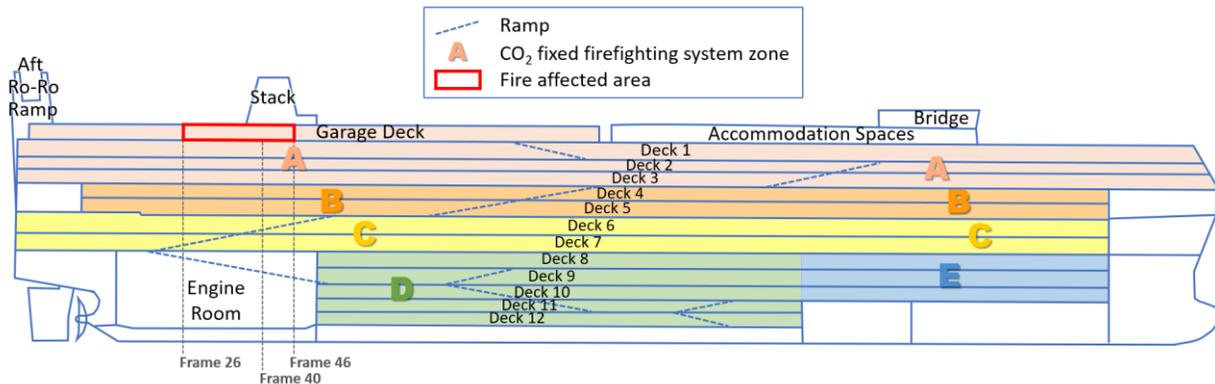


*Honor* under way prior to the accident. (Photo courtesy of Erwin Willemse)

\*All miles in this report are nautical miles (1.15 statute miles).

## Fire on board Vehicle Carrier *Honor*

The *Honor*, a 623-foot-long car and truck carrier, operated between various ports in the United States and Europe carrying cargo of new production vehicles, military vehicles, and personally owned vehicles for military and government personnel, as well as household goods shipments for military and government personnel. The vessel had 13 vehicle decks connected throughout by ramps. The upper deck, which was aft of the *Honor*'s crew accommodation spaces, was known as the "garage deck" and used for car stowage. The vehicle decks were protected by a low-pressure CO<sub>2</sub> single-tank fixed firefighting system that was divided into five zones designated A–E.



**Simplified diagram of *Honor*'s cargo decks and zones for CO<sub>2</sub> fixed firefighting system.**

About 2030 on February 23, the *Honor* departed the dock after conducting cargo operations at Southampton, United Kingdom. By 2230, the pilot had disembarked, and the vessel had begun its intended transit to Baltimore, Maryland, a voyage of more than 3,500 miles. The engineers readied the engine room for the sea voyage and then left it in its normal unmanned state while under way at night.

The *Honor* entered the English Channel and made its way westbound toward the Off Casquets Traffic Separation Scheme north of Cherbourg, France. During this time, the car carrier experienced near-gale force winds (Beaufort scale force 7) from the northeast. The second mate took over the bridge watch at midnight, along with an able-bodied seaman (AB) whose duties included lookout and helm.

About 0302 the next day, a pre-warning alarm on the fire detection panel sounded on the bridge. The alarm indicated that the problem was on the garage deck, so the second mate sent the AB aft to investigate. While the AB was on his way to the garage, the pre-warning alarm became a full alarm. The AB opened the door and inspected the space, radioing back to the second mate that there was smoke in the garage. The second mate called the master and chief mate to inform them of the alarm and smoke. A few seconds later, the AB reported to the bridge that there was also fire, which the second mate relayed to the master and chief mate. The AB told the bridge that there was too much smoke to access the space from the mid-section of the garage forward and that he was going to attempt to approach the fire from the aft entrance of the space.

The master and chief mate met at the entrance to the forward door to the garage. Upon opening the door, they could see thick white smoke farther back in the compartment. The master instructed the chief mate to start donning firefighting equipment, and then the master proceeded to the bridge. An emergency gear locker was only a few feet away from the forward door to the garage where they had just observed the fire.

## Fire on board *Vehicle Carrier Honor*

Once on the bridge, the master instructed the second mate to sound the general alarm. The master then began reducing the vessel's speed while maneuvering the ship to the north, out of the traffic scheme, and away from vessel traffic. At 0311, according to the master's statement and the ship's log, the general alarm was sounded. The master made an announcement to all hands, alerting them about the fire in the garage deck and instructing them to muster at emergency stations.

The master ordered the second mate to head aft, dress out in firefighting gear with the chief mate, and attempt entry into the garage with dry chemical fire extinguishers. During this time, the third mate arrived on the bridge to assist the master.

The chief mate, after twice attempting to enter the space, reported to the master that the space was inaccessible due to thick black smoke. Consequently, the master asked for the second mate to return to the bridge and sent the third mate down to assist the chief mate.

According to the master, all crewmembers had been mustered, accounted for, and dispersed to their fire teams or other emergency stations by about 0320. The engine room was manned by the chief engineer, first assistant engineer, and an oiler who were standing by with the fire pump running. The master updated the chief engineer over the phone about the fire and told him to go up to the CO<sub>2</sub> room in preparation for release of the firefighting agent into the affected space.

At 0325, the chief mate reported visible flames outside the garage, both on the deck above and at the aft end of the space. The crew had run out at least four firefighting hoses and commenced spraying water on the outside bulkheads and overhead of the garage for boundary cooling and to knock down the visible flames. By 0328, all the ventilation to the area had been secured and confirmed closed.

The master instructed the second mate, who had returned to the bridge, to contact "Jobourg Traffic" (the controlling traffic service for this section of the English Channel) on VHF radio to report the vessel's condition and inform them about the fire.

A recounting of the event by crewmembers and analysis of the *Honor's* voyage data recorder (VDR) and electronic chart display and information system (ECDIS) documented that the ship had maneuvered out of the traffic scheme and slowed down to bare steerageway to be clear of other vessels and to allow the crew to focus on fighting the fire. At 0334, the second mate switched the status of the vessel on the bridge's automatic identification system (AIS) to "not under command" so that any approaching vessels would be aware that the *Honor* had a problem. He then broadcast this status over the VHF radio. The deck lights were also energized, affording the crew better lighting during the emergency.

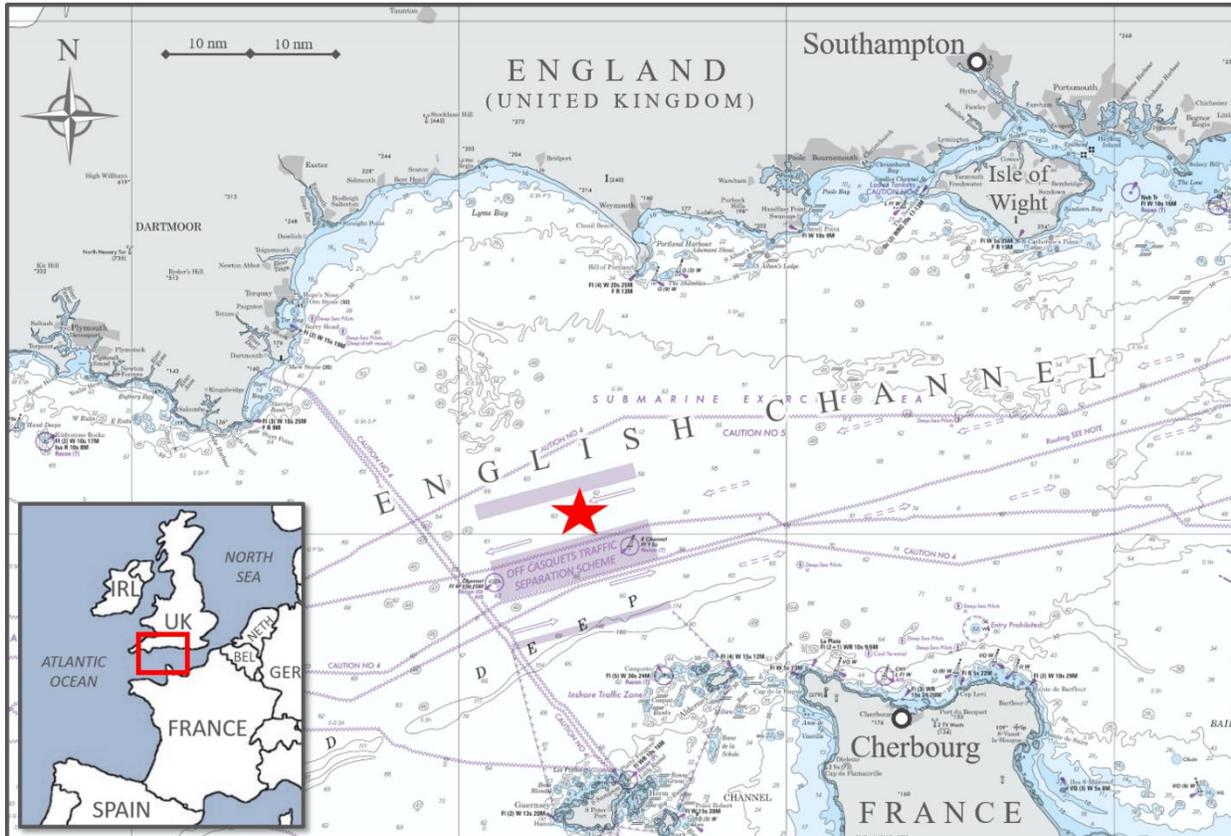
As the master prepared to give the order to release CO<sub>2</sub>, the crew continued to boundary cool the area, and another round of checks was made about the perimeter to ensure all ventilation was secured. At 0336, another muster was taken to confirm that no one was in the affected space or any space where the CO<sub>2</sub> would be discharged. At 0339, the master instructed the chief engineer to release CO<sub>2</sub>.

After the release, the chief mate, the third mate, and an oiler inspected the surrounding areas for visible smoke, hot spots, or other signs of fire, while the rest of the crew continued to actively monitor and cool the adjacent bulkheads and decks. When external signs indicated that the fire was out, the chief mate and chief engineer donned self-contained breathing apparatuses

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(SCBAs) and protective equipment and then inspected the affected areas. They used a thermal imaging device to further ensure that the fire was out.

The *Honor* had no CO<sub>2</sub> remaining after the discharge. The master contacted the United Kingdom's Maritime and Coastguard Agency (MCA) to report the event and to request to return to Southampton. After the master was given permission to proceed back to Southampton, he reported to the MCA that no additional underway assistance was needed.



**The English Channel. The red “star” shows the *Honor*'s location when the fire started. (National Geospatial-Intelligence Agency chart 36005)**

About 1200 on February 24, the *Honor* was approximately 7 miles southwest of the southern tip of the Isle of Wight in a holding track when local coast guard and fire officials boarded the vessel via helicopter for inspection prior to the vessel being permitted to enter the port. After the inspection, the *Honor* was granted permission and proceeded to Southampton, where it was moored to a pier at 2100. Throughout the entire transit from the accident site to the pier, the garage deck was continuously monitored by crewmembers with thermal detection equipment, and hoses were run out and at the ready.

Upon arrival at a lay pier in Southampton, local fire and port authority personnel boarded the *Honor* to assess and inspect the vessel. A determination was made to vent the affected space while the vessel was at an anchorage. The *Honor* departed the dock early on 27 February and proceeded to the Southampton anchorage, whereupon it anchored about 0400 awaiting an approved venting plan. Once the plan was approved, the vessel was vented before returning to the berth for the investigation.

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During the firefighting efforts, one crewmember suffered a leg injury. Once in Southampton, the crewmember was seen at a medical facility and, due to his injury, was discharged from the vessel and returned to the United States.

### Analysis

Investigators examined the garage deck postaccident when the space was brightly lit. Cars were stowed close together with multiple lashings. During the fire, thick black smoke reduced visibility to nothing. With no visibility, the way in which the cars were stowed and lashed would have made it virtually impossible for crewmembers to make their way through the space, especially while suited out in bulky firefighting gear and carrying equipment such as portable extinguishers or fully charged hoses. The crew's timely and effective use of the CO<sub>2</sub> fixed firefighting system, along with boundary cooling, likely prevented the spread of the fire and minimized the damage.



**At top, damaged cars on the garage deck. At bottom from left to right, damage to the top deck above the garage and the exterior bulkhead on the port side of the garage while looking aft.**

Fire investigators examined the affected spaces and identified the likely origin to be about frame 40 port side on the garage deck (see illustration on page 2). There was substantial damage to the deck from frames 22 to 46, and several of the vehicles on this deck were destroyed by fire. These vehicles were all personally owned cars and sport utility vehicles that were being shipped back to the United States. In addition, several new vehicles (that were being shipped to US car

## **Fire on board Vehicle Carrier *Honor***

dealerships) located on the deck below (deck 1) sustained fire-related damage. A ventilation duct located at frame 40 port side allowed flaming debris to fall on to the vehicles below.

Sixteen of the personally owned vehicles sustained fire damage significant enough to warrant further examination. On May 15, 2017, fire investigators recovered and performed an initial visual examination of the vehicles along with a damaged section of the vessel's wiring. Evidence of interest removed from several vehicles, along with the damaged wiring, was taken to a third-party laboratory for examination. A joint forensic examination of the evidence was conducted in September 2017. Investigators found that there were three vehicles that were subject to open recalls for fires; however, following an analysis of the debris, none of the recall items were determined to be the cause of the fire. Rather, investigators identified the likely cause of the fire was a fault in the starter motor solenoid in one of the personally owned vehicles in shipment. Preliminary testing of this scenario confirmed that a fault within the solenoid could cause ignition of the insulation and covering on the adjacent wiring.

## **Probable Cause**

The National Transportation Safety Board determines that the probable cause of the fire on board the vehicle carrier *Honor* was a fault in the starter motor solenoid in one of the personally owned vehicles being transported in the vessel's cargo space.

## Fire on board Vehicle Carrier *Honor*

### Vessel Particulars

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<b>Vessel</b>	<b><i>Honor</i></b>
<b>Owner/operator</b>	Fidelio Limited Partnership/Tote Services, Inc.
<b>Port of registry</b>	Wilmington, Delaware
<b>Flag</b>	United States
<b>Type</b>	Roll-on roll-off vehicle carrier
<b>Year built</b>	1996
<b>Official number</b>	1175822
<b>IMO number</b>	9126297
<b>Classification Society</b>	American Bureau of Shipping (ABS)
<b>Construction</b>	Steel
<b>Length</b>	623.5 ft (190.1 m)
<b>Draft</b>	33.4 ft (10.2 m)
<b>Beam/width</b>	105.8 ft (32.3 m)
<b>Gross and/or ITC tonnage</b>	49,814 gross tons
<b>Engine power; manufacturer</b>	17,500 hp (13,050 kW) Diesel United-Sulzer engine
<b>Persons on board</b>	21

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**NTSB investigators worked closely with our counterparts from Coast Guard Activities Europe throughout this investigation.**

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For more details about this accident, visit [www.nts.gov](http://www.nts.gov) and search for NTSB accident ID DCA17RM007.

**Issued: March 6, 2017**

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The NTSB has authority to investigate and establish the probable cause of any major marine casualty or any marine casualty involving both public and nonpublic vessels under 49 *United States Code* 1131. This report is based on factual information either gathered by NTSB investigators or provided by the Coast Guard from its informal investigation of the accident.

The NTSB does not assign fault or blame for a marine casualty; rather, as specified by NTSB regulation, “[NTSB] investigations are fact-finding proceedings with no formal issues and no adverse parties and are not conducted for the purpose of determining the rights or liabilities of any person.” 49 *Code of Federal Regulations*, Section 831.4.

Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by conducting investigations and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report. 49 *United States Code*, Section 1154(b).

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