



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

August 1, 2024

MIR-24-22

Contact of Towing Vessel *John 3:16* with Pier

On September 12, 2023, about 0641 local time, the towing vessel *John 3:16* was transiting the Lower Mississippi River near Saint Rose, Louisiana, when the vessel contacted an industrial cargo pier (see figure 1 and figure 2).¹ No pollution or injuries were reported. The final cost to repair the damages to the towing vessel and pier was \$285,441.

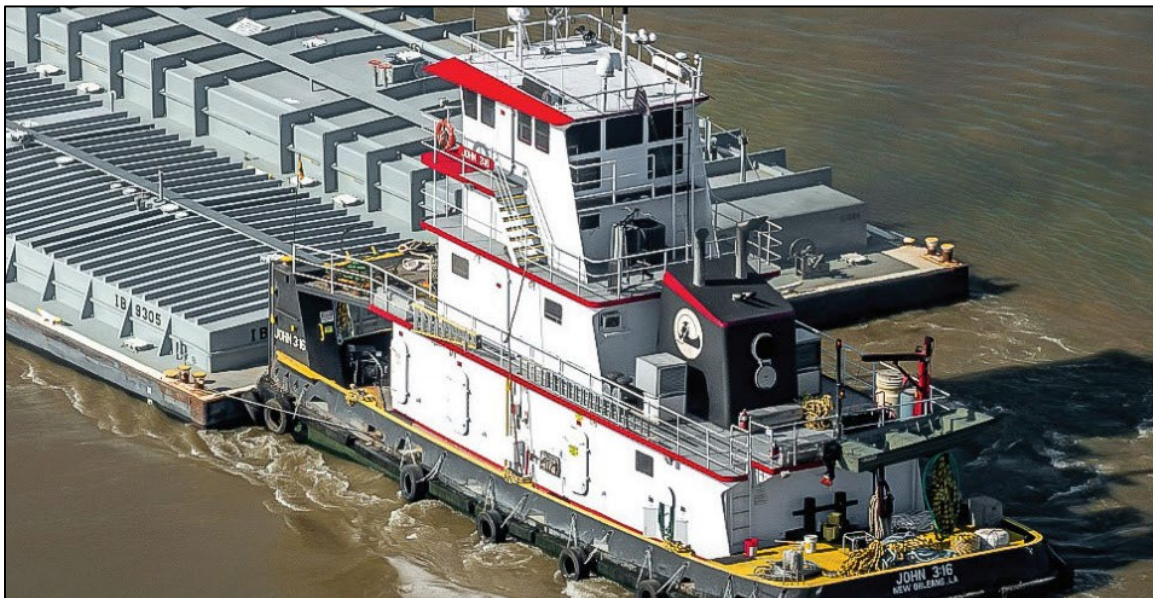


Figure 1. *John 3:16* underway on an unknown date before the contact. (Source: Marquette Transportation)

¹ (a) In this report, all times are central daylight time, and all miles are statute miles. (b) Visit [nts.gov](https://www.nts.gov) to find additional information in the [public docket](#) for this NTSB investigation (case no. DCA23FM049). Use the [CAROL Query](#) to search investigations.

Casualty Summary

Casualty type	Contact
Location	Lower Mississippi River, mile 118.6, Saint Rose, Louisiana 29°56.33' N, 90°19.69' W
Date	September 12, 2023
Time	0641 central daylight time (coordinated universal time -5 hrs)
Persons on board	6
Injuries	None
Property damage	\$285,441
Environmental damage	None
Weather	Visibility 10 mi, scattered clouds, winds west-northwest 4 kts, air temperature 79°F, sunrise 0645
Waterway information	River, width 1,800 ft, depth 44 ft, current <1 kt



Figure 2. Area where the *John 3:16* contacted the industrial cargo pier, as indicated by a circled X. (Background source: Google Maps)

1 Factual Information

1.1 Background

The *John 3:16* was a 71-foot-long inspected towing vessel constructed of steel by La Force Shipyard in Bayou La Batre, Alabama, in 2002. The *John 3:16* was owned and operated by Marquette Transportation, operating in the company's Gulf-Inland division. The vessel was primarily chartered to customers for barge fleet work on the Lower Mississippi River.²

Vessel propulsion was provided by two 1,000-hp diesel engines, each driving a fixed-pitch propeller through a reduction gear. Blade-type rudders behind each propeller, as well as flanking rudders forward of the propellers, provided steering. The *John 3:16* operated under the company's towing safety management system (TSMS) and had a valid US Coast Guard-issued certificate of inspection documenting compliance with Title 46 *Code of Federal Regulations* Subchapter M.

1.2 Event Sequence

On September 12, 2023, the *John 3:16* was engaged in barge fleet work on the Lower Mississippi River near New Orleans, Louisiana, with six crewmembers on board, including a captain, pilot, and four deckhands.³ Each crewmember stood a 12-hour watch. The pilot and two deckhands were assigned to the 0000–1200 watch. The captain and the other two deckhands were assigned to the 1200–0000 watch.

At 0000, the pilot and two deckhands assumed the watch. The pilot noted that there were no issues with the steering or propulsion systems and the *John 3:16* handled well. According to the *John 3:16*'s boat log and automatic identification system (AIS) data, from 0000 to 0528, the pilot navigated the *John 3:16* on four separate transits, transporting barges between miles 110 and 122. At 0528, the *John 3:16* dropped off one barge near mile 112 and then stopped to await additional orders. The pilot remained in the wheelhouse during this time. At 0546, the *John 3:16* received orders to transit to a barge fleet near mile 143.

² *Fleet work* typically describes small towboats moving barges around fleeting areas and assembling tows. A *fleeting area* is a geographic location where a group of barges, or fleets, are moored and later assembled to comprise a tow.

³ *Pilot* is a term used aboard towing vessels on inland waterways for a person, other than the captain, who navigates the vessel.

At 0548, AIS data showed that the *John 3:16* got underway from mile 112 and proceeded upriver at 6-7 knots. The pilot noted that it was clear, with no visibility issues and minimal current due to the low water level of the river. For this transit, the *John 3:16* was "light boat" (not pushing any barges).

About 0555, one of the on-watch deckhands went to the wheelhouse to bring the pilot breakfast, stating that he "took him some cinnamon rolls and milk upstairs" and that the pilot "looked normal." Shortly after, the deckhand departed the wheelhouse and joined the other on-watch deckhand in the galley. Both on-watch deckhands were in the galley during the transit, cleaning up and reviewing the remaining tasks for their watch.

The pilot told investigators that the last thing that he remembered before the contact was passing another towing vessel, the *Okaloosa*, at 0636. At 0640, the *John 3:16* was transiting at 7 knots near mile 118 when AIS data and the towing vessel's electronic chart system playback showed the vessel begin to turn to starboard toward an industrial cargo pier. The vessel continued its starboard turn toward the pier, and, at 06:41:42, the *John 3:16* contacted the pier at 6 knots, damaging the starboard side of the vessel's wheelhouse (see figure 3).

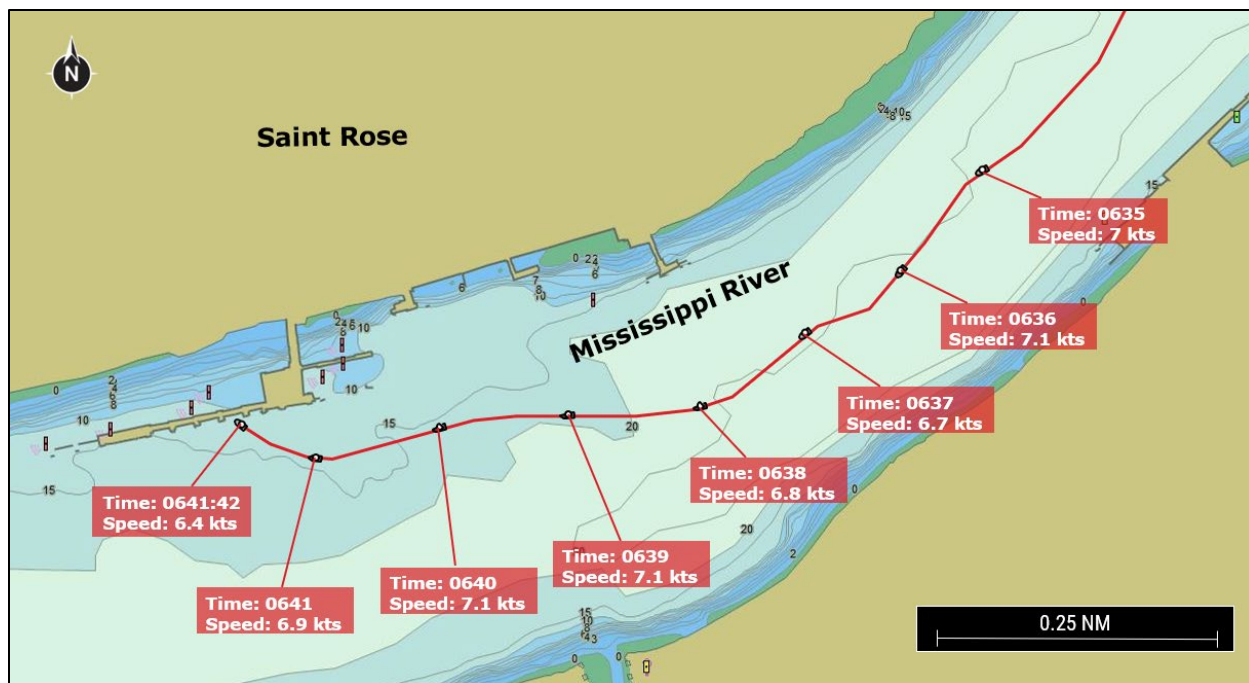


Figure 3. Trackline of the *John 3:16* before the contact. (Background source: National Oceanic and Atmospheric Administration Electronic Navigation Chart US5LU8AH as viewed on Made Smart)

Investigators interviewed one of the on-watch deckhands, who stated that he did not hear the general alarm, or any other alarm, prior to the contact. Based on CCTV footage recorded from the pier, 10 seconds after the contact, the propeller wash from the *John 3:16*'s engines stopped, and, after another 10 seconds, the *John 3:16* began to back away from the pier.

Following the contact, the deckhand woke the off-watch crew and went to the wheelhouse to check on the pilot. When the deckhand entered the wheelhouse, the pilot acknowledged him and asked him to check for damages and any water ingress. The deckhand went below, confirmed there was no water ingress, and then proceeded to clean up items that had fallen because of the contact.

The pilot notified the company port captain, who was responsible for the *John 3:16*, and told the port captain that he fell asleep.

About 0730, the company that owned the pier notified the Coast Guard, which contacted the operating company of the *John 3:16*. After being released from the scene, the *John 3:16* transited unassisted to a shipyard.

1.3 Additional Information

1.3.1 Damage

The wheelhouse sustained damage to the framing, windows, exterior railing, and exposed deck on the starboard side (see figure 4). Due to the height of the pier above the waterline, the *John 3:16* sustained no damage below the wheelhouse. The final estimate to repair the damage to the towing vessel was \$89,000.

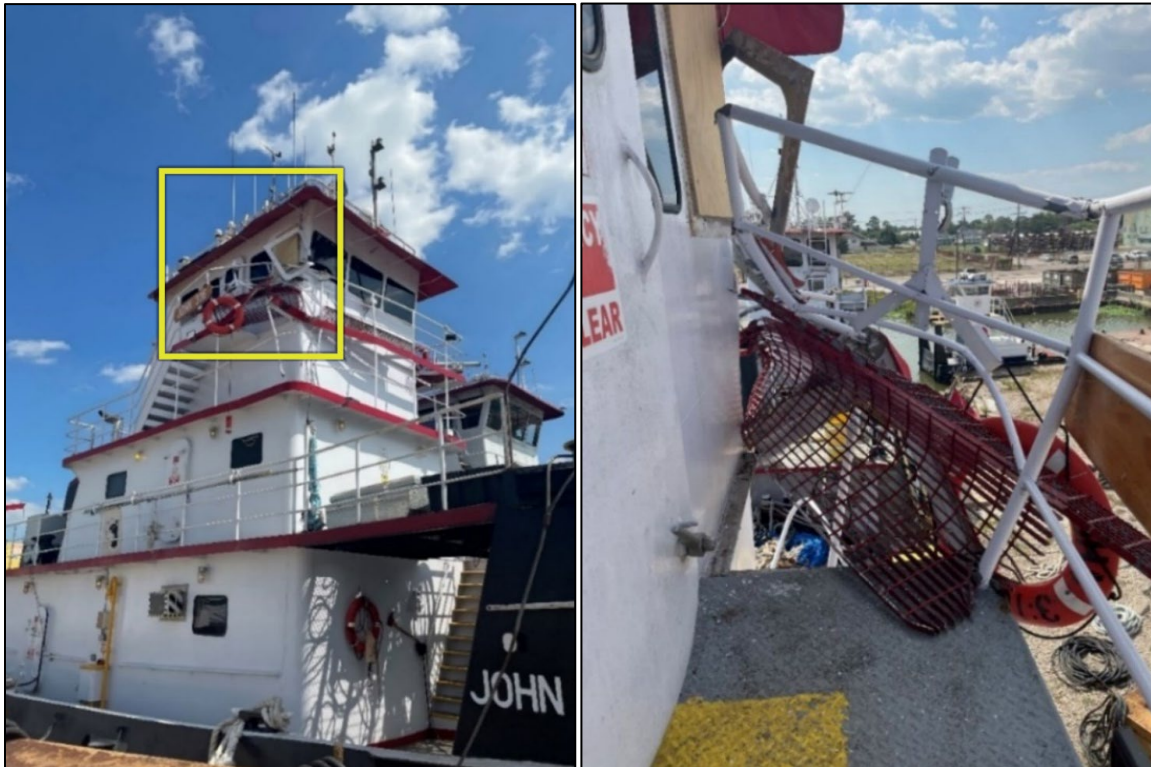


Figure 4. Left to right: Damage to the *John 3:16* wheelhouse structure (indicated by the square) and damage to the exterior deck and railing on the starboard side of the wheelhouse.

Engineers from the company that owned the pier noted damages to a main vertical piling, pier support bracings, railings, and an insulated pipe that ran along the pier (see figure 5). The final cost to repair the pier was \$196,441.



Figure 5. Left to right: Damage to a vertical piling and insulated pipe, pier support bracings, and railing (indicated by the circles). (Source: Coast Guard)

1.3.2 Personnel

The *John 3:16* pilot held a valid Coast Guard-issued credential as a master of towing vessels upon Great Lakes, inland waters, and Western Rivers. He had been employed as a pilot with the company for about 1 year at the time of the contact and had 16 years of combined experience in the towing industry working as a deckhand before earning his credential in 2013.

The pilot submitted samples for alcohol and other drug testing within the required time following the contact, with negative results.

1.3.3 Work/Rest History and Company Policies

At the time of the casualty, the pilot had been assigned to the *John 3:16* for 3 months and was 14 days into a 28-day rotation—the pilot’s typical hitch rotation. During this hitch, the pilot maintained the same watch schedule (0000-1200) and typically received 5 hours of sleep during each 12-hour off-watch period. When at home between hitches, the pilot stated that he also typically received 5 hours of sleep each night.

Following the casualty, the pilot completed a work/rest report detailing his hours of sleep and awake time in the 4 days before the casualty. On September 8, he slept 7 hours, and, on September 9, he slept 5 hours. He reported sleeping from 1800 to 2100 (3 hours) on September 10 and from 1700 to 2000 (3 hours) on September 11 (the day before the casualty). When asked about his sleep in the

24 hours before the casualty, the pilot noted personal stressors that affected his sleep quality and duration. The pilot stated that he did not feel tired or fatigued when assuming the watch at 0000 on September 12.

The operating company maintained a “Watchstanding Work Hours” procedure as part of its TSMS that described the times at which watch changes were to occur (0600, 1200, 1800, and 0000), explained how watches were to be structured, and mandated that credentialed wheelhouse personnel not work more than 12 hours in a 24-hour period except in emergencies. Daily crewmember work hours were tracked in the vessel’s daily log, which recorded each time a crewmember either took the watch or was relieved from the watch. Company management told investigators that crewmembers were individually responsible for getting sufficient sleep during their off-watch time so they could be well-rested when coming on watch.

The TSMS also outlined the company’s “stop work responsibility” for masters or officers of the navigational watch “to stop operations when unusual conditions dictate.” The unusual conditions included reduced visibility, severe weather, traffic restrictions, and mechanical problems or failure. Company management stated that if crewmembers felt that they were fatigued and could not safely perform their duties, they were expected to institute their stop work responsibility, notify company management, and take measures to mitigate the risk such as stopping operations or having another crewmember take over the watch.

1.3.4 Watch Alarm

The *John 3:16* wheelhouse was equipped with a pilothouse alerter system, or watch alarm, that functioned when either the vessel’s steering pumps were on or the engines were in gear.⁴ The system monitored movement in the wheelhouse using motion detectors and monitored rudder input. If there was no motion in the wheelhouse or rudder input detected for 2 minutes, an audible and visual alarm activated in the wheelhouse, requiring the on-watch crewmember in the wheelhouse to acknowledge the alarm, which, after they did so, would reset the 2-minute interval. If the alarm was not acknowledged, subsequent alarms would activate in crew spaces. The intervals could not be changed, nor could the system be disabled by wheelhouse personnel.

⁴ The *John 3:16* was required under 46 *Code of Federal Regulations* 143.450 to have a pilothouse alerter system installed on board to “detect when its master or mate (pilot) becomes incapacitated.”

The pilot stated that the watch alarm activated and woke him up just before the *John 3:16* contacted the pier. The pilot recalled "hearing the dead man alarm, opening my eyes, and there was the dock."

Following the casualty, the operating company verified that the watch alarm was operational.

1.3.5 Cell Phone Use

The pilot noted that he was dealing with personal stressors in the days leading to the contact and that he was sending and receiving a lot of text messages. Investigators reviewed the pilot's cell phone records for September 11-12. On September 11, during the pilot's 12 hours of off-watch time (1200-0000) before the casualty, the pilot sent 33 text messages and either made or received 11 phone calls (totaling about 77 minutes). Nearly all the sent and received text messages were to or from the same number. The longest period during the pilot's 12 hours of off-watch time without an outgoing text or connected phone call (incoming or outgoing) was 2 hours. The records also showed that during the casualty transit on September 12, between 0548 and 0611, the pilot sent 10 text messages and made a 9-minute phone call. However, there were no text messages or phone calls (incoming or outgoing) in the 30 minutes before the contact at 0641.

The operating company maintained a "Distracted Duty Prevention" document as part of its TSMS that established requirements to prevent distracted operations due to the use of personal electronic devices, including cell phones. The document prohibited the use of personal electronic devices while crewmembers were on watch, working on the exterior main deck, on tow, conducting work that required a lifejacket or work vest to be worn, or any time other than "leisure time." In addition, the document specifically identified navigation as a "critical operation," noting that "distractions and interruptions increase the risk of an incident."

A company cell phone was kept in the wheelhouse, and its use was permitted for business purposes only. According to company management and in accordance with the requirements in the TSMS, crewmembers were permitted to have their personal cell phones with them in the wheelhouse but were only allowed to use them during down time while awaiting orders.

2 Analysis

While transiting the Lower Mississippi River near Saint Rose, Louisiana, the *John 3:16* contacted an industrial cargo pier.

Following the casualty, the pilot tested negative for alcohol and other drugs, and no issues were noted with the vessel's steering or propulsion systems. Additionally, the pilot did not experience any challenges related to weather, visibility, or river conditions.

The pilot's cell phone records indicated that he was using his phone while operating the vessel. However, the records showed there were no text messages or phone calls (incoming or outgoing) in the 30 minutes leading up to the contact at 0641, and therefore the pilot was not distracted by cell phone use immediately prior to the contact.

The pilot noted that he was dealing with personal stressors in the days before the contact. These stressors resulted in increased cell phone use during his off-watch time. The pilot reported receiving 3 hours of continuous sleep during his 12 hours of off-watch time before the casualty. However, a review of the pilot's cell phone records during these 12 hours indicated that the longest period between either a sent text message or a connected phone call (indicating some action on the part of the pilot and that he was awake) was only 2 hours. Therefore, because of his cell phone use during his off-watch time, the pilot had an opportunity for less than 2 hours of continuous sleep before taking the casualty watch.

Following the contact, the pilot told the port captain that he fell asleep. Individuals typically require 7-8 hours of sleep in each 24-hour period to avoid the negative performance effects of fatigue. Fatigue is the human body's desire for sleep and impacts all aspects of human performance. A deficit of as little as 2 hours can result in acute sleep loss and associated performance decrements, including decreased attention, slower reaction time, reduced vigilance, poor decision-making, and an inability to stay awake. While there are differences in the hours of sleep that an individual may require to feel "well-rested" (the pilot noted that he normally received 5 hours of sleep), the pilot had accumulated a significant sleep debt, having likely received less than 5 hours of sleep combined over the 2 days before the contact. This is less sleep than what the pilot typically received, and significantly less than the recommended 7-8 hours of sleep for each 24-hour period needed to avoid fatigue-related performance impacts. Therefore, the pilot had accumulated an acute sleep debt in the 2 days before the casualty, which resulted in the pilot falling asleep while on watch, leading to the vessel's contact with the pier.

The only policy in the operating company's TSMS related to the mitigation of fatigue for wheelhouse personnel was the requirement for crewmembers to work no more than 12 hours in a 24-hour period. It was therefore the responsibility of each crewmember to obtain sufficient sleep during their 12 hours of off-watch time in order to be well-rested and alert when coming on watch. To mitigate fatigue, the company expected crewmembers to exercise their stop work responsibility if they became too fatigued to safely continue operations. Research has shown, however, that self-assessment of fatigue is problematic due to the noted impacts to judgment and decision-making. These impacts result in a diminished ability of the fatigued individual to detect when their performance is declining.⁵ Further, self-reporting of fatigue can be hindered by industry or cultural factors that discourage individuals from acknowledging when they are too fatigued to continue operations.⁶ Although the pilot was experiencing the performance effects of acute fatigue, he stated he did not feel fatigued when assuming the watch. As such, he did not use the company's stop work responsibility; instead, he continued operations until he fell asleep.

⁵ National Safety Council, "Fatigue in Safety-Critical Industries: Impact, Risks, & Recommendations," 2018, <https://www.nsc.org/getmedia/4b5503b3-5e0b-474d-af19-c419cedb4c17/fatigue-in-safety-critical-industries.pdf>, 8.

⁶ National Safety Council, 8.

3 Conclusions

3.1 Probable Cause

The National Transportation Safety Board determines that the probable cause of the contact of the *John 3:16* with an industrial cargo pier was the pilot falling asleep while navigating due to an accumulated sleep debt. Contributing to the pilot's fatigue was cell phone use during off-watch time, which significantly limited the pilot's opportunity for sleep.

3.2 Lessons Learned

Maximizing Sleep during Off-watch Rest Periods

Fatigue is often a factor in casualties investigated by the NTSB. Fatigue affects all aspects of human performance, including decision-making, alertness, and reaction time, all of which affect a mariner's ability to safely navigate a vessel. Mariners should understand the performance effects of sleep loss and recognize the dangers of working on board a vessel while fatigued. Individuals typically require 8 hours of quality sleep each 24-hour period to avoid the performance effects of fatigue. A sleep deficit of as little as 2 hours can result in performance decrements caused by acute sleep loss. Obtaining quality, uninterrupted sleep on board a vessel is often challenging due to shipboard environmental factors and external distractions such as cell phones. It is important that mariners get enough sleep during each off-watch period, so they remain alert when assuming watch.

Vessel Particulars

Vessel	<i>John 3:16</i>
Type	Towing/Barge (Towing vessel)
Owner/Operator	Marquette Transportation, Gulf-Inland Division (Commercial)
Flag	United States
Port of registry	New Orleans, Louisiana
Year built	2002
Official number (US)	1123262
IMO number	N/A
Classification society	Sabine Surveyors (Third-party organization)
Length (overall)	70.6 ft (21.5 m)
Breadth (max.)	28.0 ft (8.5 m)
Draft (casualty)	10.0 ft (3.0 m)
Tonnage	96 GRT
Engine power; manufacturer	2 x 1,000 hp (746 kW); Cummins KTA-38MO diesel engines

NTSB investigators worked closely with our counterparts from **Coast Guard Sector New Orleans** throughout this investigation.

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For more detailed background information on this report, visit the [NTSB Case Analysis and Reporting Online \(CAROL\) website](#) and search for NTSB accident ID DCA23FM049. Recent publications are available in their entirety on the [NTSB website](#). Other information about available publications also may be obtained from the website or by contacting—

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