



Tandem Notes

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No. 3

Super D First Flight

Next Generation Chinook Takes To The Sky



Boeing CH-47SD No. 1 hovers over Boeing Philadelphia's flight ramp. □

The first Boeing CH-47SD, or Super D, Chinook tandem rotor helicopter took to the air on August 25, culminating a process begun in February 1998 with completion of contract negotiations with an unnamed international customer for six of the new Chinooks.

The Super D Chinook took off at the Boeing Philadelphia flight ramp with test pilots Jack Jordan and Armand Barrieault at the controls, Joe Schluck handling engineer liaison duties and John Williams as crew chief.

The SD completed basic hover and flight maneuvers before leaving the flight ramp for a successful 1.5-hour flight, followed by another flight later in the day.

"The aircraft performed as advertised and met our expectations," said Jordan. "The subsequent flight test program will enable us to ensure the SD digital cockpit management system works flawlessly so we can deliver a superior aircraft to our launch customer on time, on cost and within spec."

"We are pleased with the first Super D's performance," said James D. Waterman, CH-47SD program manager. "Completion of first flight is an important milestone, and reflects the high standards of professionalism and craftsmanship the Super D team has met throughout this program. We are looking forward to on-time delivery of the first SD this autumn."

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Dear Chinook and Sea Knight User:

Iam happy to report some progress in the recent situation leading to flight suspension for much of the Chinook fleet.

As of this writing, more than 300 U.S. Army CH-47D Chinooks are operating with 80-percent torque restrictions. Boeing and the Corpus Christi Army Depot are inspecting forward and aft gear/bearing assemblies in Chinooks affected by the Boeing Service Bulletin as quickly as possible to return these aircraft to full service. First priority is inspection of MH-47E Special Operations Chinooks. Boeing is also working with international Chinook operators to return affected aircraft to flight status as soon as possible.

Boeing also is conducting transmission load testing of suspect gear/bearing assemblies to determine if small defects discovered earlier will increase as a result of normal operations. Boeing is conducting two test phases. Completion of the tests may help to determine how many transmissions require further inspection and lead to the release of some Chinooks currently operating with flight restrictions.

As always, send all correspondence to Jack Satterfield, Boeing Philadelphia, P.O. Box 16858, M/S P10-18, Philadelphia, PA 19142-0858. Ph: (610) 591-8399; Fax: (610) 591-2701, e-mail: john.r.satterfield@boeing.com
Good luck and good flying!

John Gilbride
Director - Aerospace
Support Philadelphia

'Super D,' from p. 1

The Super D is the new standard CH-47 model. Although aimed primarily at the international market, the rotorcraft also will be available to the U.S. armed forces. It incorporates several significant system improvements such as fully integrated "glass" cockpit with automated flight controls, and full authority digital engine control.

The CH-47SD retains the familiar Chinook external profile, but provides long-range fuel tanks with 2,068-gallon capacity, doubling the operational range of the D-model. In addition, the new Chinook will use the longer "radar nose," found on the MH-47E Special Operations Chinook and several international CH-47Ds, to accommodate radar antennas.

The SD Chinook's cockpit is state of the art, with a fully integrated cockpit management system, including automated flight controls. The new Chinook is also the first to utilize full-color digital display units.

Developed by Boeing and Honeywell, instrumentation includes a complete digital GPS/INS nav/com suite with radar altimeter. The cockpit also has provisions for a digital map, FLIR imager, heads-up display, weather radar, and data transfer system. In addition, health and usage monitoring systems (HUMS) are available. Airborne survivability equipment includes radar and missile warning systems and chaff/flare dispensers.

The Super D's propulsion system will feature AlliedSignal T55-L-714A engines with full authority digital engine controls (FADEC). With 4,075 maximum continuous shaft horsepower (3,039 kW), these engines provide more than eight percent greater output than any CH-47D. The 714As engines provide the ability to fly at a 54,000-lb. maximum gross weight at higher density altitudes than the CH-47D.

The Chinook SD will cruise at 140 knots (250 km/hr) at 50,000-lb mission weight on a standard day. Vertical rate of climb will be 1,846 feet (563 meters) and ceiling 11,100 feet (3,383 meters), with a range of more than 650 nautical miles (1,208 km). And this superior performance is available with a useful load of up to 27,686 lbs. (12,553 kg). □



Going to Work — In the CH-47SD cabin, Boeing test pilots Jack Jordan (left) Armand Barrieault (center, back to camera), and flight engineer Joe Schluck (right, standing) prepare for the first flight of the Boeing CH-47 Super D as instrumentation technician Ron Skuback (right, sitting) checks telemetry systems. □

From the Field...



Checking It Twice — Test pilots Jack Jordan (left) and Armand Barrieault (right) complete preflight checklists before lifting off on the first flight of the Boeing CH-47 Super D. After hover and basic maneuvers, the flight test crew completed a 1.5-hour first flight over southern New Jersey. The aircraft is scheduled to complete pre-acceptance flight tests in time for customer delivery in the autumn. Boeing has contracts or orders for nearly 20 CH-47SDs. □

A Co., 5/159th Takes On Mt. Rainier Rescue Duties

By MAJ Dave LeBlanc,
Office of the Commander,
Army Reserves

Company A, 5/159th Aviation Regiment, U.S. Army Reserve, based at Fort Lewis, Wash., has taken on one of the most challenging rescue assignments in the nation – plucking stranded climbers off majestic Mount Rainier.

The unit assumed its new responsibilities from the 214th Aviation Regiment, which was formally deactivated in mid-September.

Capt. Stew Stanton, A Co.'s executive officer, said two crews already have been trained for high-altitude rescues. Other crew members will be trained over the next year.

The unit has 17 Chinooks, 210 reservists and six active-duty Reserve noncommissioned officers who share firefighting experience. □

Testing...Testing...TESTING



Armed Chinook? No, a Chinook from the Delta Schooners in Stockton, Calif., lifts off with a NASA X-38 Space Re-entry Vehicle test article to perform parachute tests at Yuma Proving Ground. □

**By Steve Robertson, SI,
Stockton AASF**

Thanks to a joint effort in the picturesque Arizona desert by NASA, the U.S. Army Yuma Proving Ground and **Co. G, 140th Avn., the "Delta Schooners,"** future space travelers may use the X-38 Space Re-Entry Vehicle with confidence.

The X-38 is being developed as an emergency escape craft for the International Space Station if the Space Shuttle is not available. The X-38 leaves the Space Station, enters the earth's atmosphere and deploys parachutes for a gentle landing.

Tests in Yuma measured parachute performance. NASA chose the Army Aviation Systems Division at Yuma for the tests, and the "Delta Schooners" quickly agreed to carry a heavy test device for a high-altitude drop.

The test article, weighing in at 15,000 lbs., looks like a giant dart.

Drops to test the durability of X-38 parachutes were scheduled from 10,000 and 15,000 feet AGL. CW4 William Martin completed performance planning for the mission, and CW5 John Clark coordinated with the flight crew on how to achieve maximum flight performance by removing unnecessary weight and carrying the exact amount of fuel to perform each test flight.

The first flight went flawlessly at 10,000 feet in freezing temperatures that produced contrails behind the Chinook's engines. Over the drop zone, Flight Engineer SGT Ken McLaughlin released a special lanyard beneath the aircraft, releasing the test article.

The parachute deployed in stages with pyrotechnic devices. Several other flights would compare different chute configurations at different altitudes so that NASA can choose the optimal combination to get Space Station astronauts from orbit and back to earth safely if necessary.

Everything went smoothly, and Test Director Carmen Blankenship credited the Schooners for their expert airmanship and crew coordination. Drop Master Bob Avila said, "Flying this mission on the CH-47 was the thrill of my life." After each drop, Bob followed the test article by parachuting off the Chinook's ramp. NASA engineers recovered the test missile, reviewed video tape of the drops, and debriefed the flight crews.

When Yuma needs more tests, the Delta Schooners will return again to the desert Southwest to show the capabilities of the mighty Chinook! □

CHI In Line Of Fire

In late August, Columbia Helicopters of Aurora, Ore., had assigned nine of eleven tandem-rotor helicopters in the U.S., more than 80 percent of its fleet, to fire fighting. Only two of the company's U.S. helicopters remained on logging projects, one in Alaska and the other in California.

CHI's U.S. tandem fleet includes nine Boeing Vertol 107-IIIs, two Boeing 234 Commercial Chinooks. Most of the aircraft were involved in logging operations when the U.S. Forestry Service or the California Department of Forestry called them to fight fires. The calls for assistance came suddenly. Two days earlier, not a single CHI helicopter was battling a blaze. □

'Pedro,' from page 4

northbound truck. He had been headed from Birmingham, Ala., to Dover, Del., with a load of paper goods before misjudging the stream.

Nelson said that by the time the helicopter arrived riding 50 feet straight up on a cable was the least of his worries. "I wasn't scared about the height," he said. "I was more afraid of the current because that truck was leaning."

The southbound driver, James Hammond of Bridgeport, N. J., carrying medical supplies to Sumter, S.C., looked dazed by his rapid ascent and release onto dry ground. "It was the first time I ever did that, and I was a little bit scared," he said.

This was just one instance in four long days of lifesaving. Pedro crews, utilizing three CH-46Es, flew 50 sorties Sept. 16-20 and 22 rescue missions that picked up 399 storm victims. In addition, the unit delivered nearly 15,000 pounds of cargo in support of rescue efforts.

Earlier in the summer, Pedro crews handled several rescue missions off the coast, picking up a fishing boat crewman in need of treatment after a severe asthma attack, a pregnant boater and a sailor who needed to reach family members involved in an auto accident, among others.

Bravo Zulu to all involved! □ **3**



Phrog Phorum

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“Pedro” Saves The Day Marines To The Rescue In Hurricane Floyd

By John Sanner,
Boeing Field Service Rep.

As Hurricane Floyd churned through North Carolina, drenching rain turned parts of Interstates 95 and 40 into treacherous passages, leading to at least two deaths and two rescues in Nash County, near Rocky Mount.

Fortunately, the “Roadrunners” of VMR-1 from MCAS Cherry Point, known by the call sign “Pedro” were on the scene. A newspaper reported the story:

“Along I-95, a woman riding in a van died after her vehicle stalled in the middle of a four-foot-deep torrent, perhaps from a heart attack. One of several drivers who tried to help her waded into the stream with a length of heavy chain to attach to the van, but the current grabbed the chain and pulled it and the man off the road and into deep water.

“He bobbed up three times and started grabbing for trees and just barely got one and pulled himself up,” said Jim Howell, a volunteer firefighter from nearby West Mount who happened on the scene and used his hand-held radio to begin directing the rescue effort.

Then a twin-rotor Marine helicopter arrived and lowered a Marine on a cable, who looped a sling over the unidentified man and embraced him as the two were pulled into the safety of the helicopter.

As Howell talked about that rescue, several frustrated truck drivers on both sides of the highway began crossing the stream, trying their luck. Two of them didn’t have any.

“Look,” Howell said, pointing at a southbound truck that had begun crabbing sideways against the current and slipped off into deeper water in the median.

“There’s another one messing up.”

Even as he spoke, a northbound truck glided off the outside lane into a ditch and stalled.

Minutes later, another Marine helicopter following the interstate northward stopped over the scene. The pilot picked the northbound truck for his first rescue attempt, perhaps because it seem-

ed in danger of being swept off the road into deeper water. He hovered, the heavy rotor wash whipping a white dish of spray around the truck 50 feet below, and lowered a Marine in a short-sleeve wetsuit.

The rescuer swung in wide arcs, then landed on the hood of the truck. He slipped a strap around the driver and gave a hand signal, and the two were winched up out of sight into the helicopter.

Meanwhile the second truck driver had crawled out onto his own

hood, ready for his turn. Again, the rescuer came down and attached the sling, and again men were pulled to safety.

From the helicopter’s arrival until the moment it sat down in the median on the south side of the stream and disgorged the two truck drivers, the operation took less than 15 minutes.

“Oh man, those Marines, they are great,” said Melon Nelson of Lynchburg, Va., the driver of the

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A Sea Knight from VMR-1, based at MCAS Cherry Point, saved trucker James Hammon when his rig stalled in flood waters on I-95 near Rocky Mount, N.C. □