Msgt. Brian Boyce "B-Love", HH-60 Flight Engineer: It's unique because it's a space mission, I mean, there's only one place that they do this out of and that's over here and we happen to be fortunate enough to be located right next to Kennedy Space Center to be able to take part in this.

Lt. Col. John Brodeur, C-130 Pilot: A lot of folks don't even know we exist during a shuttle mission. Msgt. Stephen Schwarz "Spike", Flight Engineer: It's unlike anything I've ever done before. I've been doing it many years now and it's just a joy to do and we just love doing it here.

NARRATOR: The space shuttle depends on an extensive supporting cast to safely get off the launch pad and into space and then return safely to Earth. But if something goes wrong and astronauts have to bail out of the shuttle, there is another team of professionals standing by to rescue them.

MSgt. Rob Grande, C-130 radio Operator: You know, if we go to work somebody is having a really bad day. So, sometimes we like it to be boring. But we're always prepared for the what-if scenario. NARRATOR: These professionals are part of the Air Force Reserve's 920th Rescue Wing based at Patrick Air Force Base in Florida just a few miles south of NASA's Kennedy Space Center.
Their tools are helicopters and airplanes carrying specialized gear to allow them to pull distressed astronauts out of a swamp, away from the launch pad or rescue them miles out in the ocean.

The teams have not been needed for a real emergency during the space shuttle era, but that does not keep them from taking their mission seriously.

Msgt. Shane Smith, C-130 Loadmaster: We're excited to be a part of the mission, but we really hope that they don't have to use us. You know, we're as prepared as we could possibly be.

We're eager to get out and do the mission, but if somebody has to use us, that means something went wrong.

But the good thing is that we are there, we're ready, and we're completely prepared.

NARRATOR: The rescuers are equipped with everything from first aid supplies to defibrillators inside the helicopters.

They also have specialized medical packs to take with them to stabilize a patient.

Msgt. Brian Boyce, HH-60 Flight Engineer: The biggest unique challenge is probably how we configure the aircraft specifically for the shuttle rescue mission.

We take equipment out. We take out our fuel tanks, we take out the seat for the gunner,
we put in boxes that are provided to us by NASA. We put in more medical equipment than we normally take in combat.

00:02:07,840 --> 00:02:13,420
NARRATOR: The equipment list also includes night vision goggles and sensors for the aircrew and aircraft so they can

00:02:13,419 --> 00:02:16,219
find astronauts in the dark.

00:02:16,219 --> 00:02:21,949
But perhaps the most specialized equipment is the pilots, aircrew and pararescuemen themselves.

00:02:21,949 --> 00:02:28,329
Trained to rescue downed airmen behind enemy lines, the teams use many of the same skills and operate with the same

00:02:28,330 --> 00:02:32,670
urgency to recover astronauts in an emergency.

00:02:32,669 --> 00:02:38,509
Like all the armed forces' special operations forces, the PJs, as the pararescuemen are known,

00:02:38,509 --> 00:02:45,549
go through demanding training that tests their mental toughness every bit as hard as their physical capabilities.

00:02:45,550 --> 00:02:56,719
Some of the 3-year training cycle is performed alongside Army Special Forces soldiers and Navy SEALs along with

00:02:52,409 --> 00:02:56,719
NASA at Kennedy Space Center's Launch Pad 39A.

00:02:56,719 --> 00:03:03,500
They know how a rescue would go because of extensive practice for several rescue emergency situations.

00:03:03,500 --> 00:03:05,919
Lt. Col Robert Haston, HH-60 pilot: When we do an open-ocean rescue, that's called a Mode 8.

00:03:05,919 --> 00:03:09,709
We have seven other modes that start at the pad and work their way out.

00:03:09,710 --> 00:03:16,860
That's more or less where we perform a medevac role. Then there's, Mode 6 is at the runway and Mode 7, in terms of a real crisis situation can be a real problem given that a lot of the area up around NASA is swampy and the orbiter has a lot of poisonous hypergolics and other chemicals.

NARRATOR: A full-scale ocean rescue dress rehearsal incorporates NASA's own booster recovery ships and helicopters, Navy vessels and Coast Guard aircraft.

Lt. Col. Phillip Kennedy "Hoss", HH-60 Pilot: Over the years we would do the mode training with NASA specifically.

Once every six months we'd do a land- or water-based trainer specifically with an exercise and what we do for a normal training for SAR is, over water, we do over water training weekly.

BOYCE: NASA has a way of, when they're preparing for their missions, that they set up some very interesting scenarios for us to deal with. Some of them would be where they put the shuttle cockpit mock-up in the swamp and we would have to deal with that.

NARRATOR: Hoisting astronauts from the ocean is quite a bit different from picking up stranded boaters.
they fill up with water and that turns a 200-pound individual a 300- to 350-pound individual and that makes it extremely difficult to bring him up into the cabin of the helicopter.

Lt. Col. John Brodeur, C-130 Pilot: During a rescue operation, we've got PJ's on board and a combat rescue officer.

We also carry three of their RAMZ packages, which we can deploy out the back of the aircraft. And what we'll do is we'll deploy that package and then the PJ's will follow outside right after that.

And then they'll land in their boats and try and find, take the boats to the astronauts that we've already spotted.

GRANDE: We do a lot of OJT just to get ourselves to the point where we can go out and successfully prosecute within the time frame that the astronauts expect us to.

KENNEDY: We practice that on a regular basis, it's just now we're taking that skill set and applying it to the shuttle mission.

NARRATOR: Helicopters are the preferred method for lifting astronauts out of danger because they can hover over a person and basically act like a crane in the sky.

Known by their call sign "Jolly," rescue helicopters have been greeted enthusiastically by downed pilots,
stranded boaters and even hurricane survivors.

There are times, though, when rough seas or other conditions can make a simple hover very difficult.

Sometimes the pilot has to chase the person as they bob up and down on large ocean waves.

HASTON: All I'm doing is, I'm flying the helicopter and listening to the engineer who has to tell me how to fly the helicopter while he's trying to pick this guy up out of the water on a hoist and not bang him into anything.

NARRATOR: The helicopters also perform range clearing tasks offshore. It is up to the pilots and air crew to go out and make contact with the offending vessel, whether it is a wayward pleasure boater or a cargo ship with a foreign crew.

HASTON: There's been some really dark, scary nights dealing with ships and there's been some fishing tournament days I guess you'd call them, generally speaking, and you're like a bouncer at a really big concert trying to keep all the boats out of the way.

Lt. Col. Kurt Matthews "Junior", HH-60 Pilot, Cdr. 308th Squadron: It's fun to communicate with vessels that aren't on a marine band or you have to resort to dropping written messages down or get low enough to try and communicate using hand signals with them.
NARRATOR: NASA and the Air Force Reserve can also employ up to three C-130 transport aircraft for shuttle launch and landing alerts.

The C-130s, using the call sign "King," carry pararescuemen, a host of supplies that can be parachuted to the ocean's surface, markers for recording locations and perhaps the most critical element for an ocean rescue: fuel.

The C-130s are equipped with drogues that allow them to refuel helicopters in the air.

HASTON: We may be out there for hours looking for an astronaut that hasn't been located or is incommunicado.

NARRATOR: Since a shuttle rescue would require substantial coordination, all the crews learned something in common with NASA's launch team: An ability to listen to and understand several conversations at the same time.

KENNEDY: I can be listening to five different radios at a time. Now we do share that within the helicopter,

GRANDE: We've got, oh, I can't tell you how many radios, like 10 different inputs, 20 different conversations going on all at once and I've got to pick out the little bits and pieces of information that my airplane needs or the airplane next to me, or the guy in the back running the show, who's the air boss.
I've got to put all that stuff together so everybody can get a good picture of what's going on outside the airplane.

The Air Force's space rescue operations did not begin with the space shuttle. Units were used or on-call for all of NASA's manned space programs. After all, before shuttle, the Mercury, Gemini and Apollo astronauts counted on landing in the ocean to end their missions. And they counted on ships and helicopters to reel them in safely.

KENNEDY: The mission itself, how we execute it, how we do it, has not really changed, but the visibility has changed over the years. You bring home a son, a daughter, a dad or a mother when you rescue somebody and you're saving a life. In the peacetime rescue world, that's outstanding.

MATTHEWS: That's what we do in rescue, hopefully we don't have to do what we're trained to do, but we train tirelessly all the time to be ready.