Music.

From touch down after a mission -- through processing for the next flight -- to liftoff again --

NASA's Space Shuttle fleet calls the Kennedy Space Center home.

It takes a vast array of facilities and workers to prepare, launch, and land the Shuttles --

a process KSC has handled for more than twenty years.

The first Shuttle flight blasted off from Pad 39-A at KSC on April 12, 1981. After this successful mission to test the orbiter's major systems,

it returned to Earth as scheduled -- landing at Edwards Air Force Base, Calif. -- with a KSC landing convoy standing by.

The California landing required a return ride to KSC aboard one of the two massive 747 Shuttle Carrier Aircraft.

Those piggy-back flights became less frequent after February 11, 1984,

when the first Shuttle touched down at KSC's Shuttle Landing Facility -- one of the world's longest runways.

Since then, primarily weather has kept returning Shuttles from making the roundtrip directly to KSC,

since landing here saves both time and money.

But no matter which landing site is used, KSC's skilled crews are on call to handle the returning orbiter.
Landings and launches are the most visibly recognizable Shuttle events at KSC, drawing live coverage by news media from across the country and around the world. Permanent facilities for the major networks and news organizations are part of the Launch Complex 39 Press Site area, where reporters monitor the huge countdown clock. Leading up to each mission, flight hardware is prepared at Kennedy Space Center. Astronauts practice and train while staying in the crew quarters of the Operations and Checkout building. Launch dress rehearsals are staged that include practice emergency escape plans at the pad. Between missions, the fleet of orbiters and other flight hardware are constantly undergoing processing by KSC's one-of-a-kind workforce. After the first two minutes of a Shuttle's climb toward space, the two reusable solid rocket boosters separate from the external tank and parachute back toward Earth for a splash down in the Atlantic Ocean. Divers aboard two special ships -- known as Liberty Star and Freedom Star -- retrieve the boosters. The ships tow them back by way of Port Canaveral so the refurbishing process can begin in Hangar AF at Cape Canaveral Air Force Station. Even the parachutes are recovered from the ocean using...
large reels and returned to the Parachute Refurbishment Facility where they are washed, dried and stored for reuse.

When a Shuttle returns to KSC, it's met by the Orbiter Convoy --

The convoy consists of about 25 specially designed vehicles or units of a team of around 150 trained personnel.

They help the crew exit the orbiter and "safe" the vehicle. They tow it to the Orbiter Processing Facility within hours of landing.

It is here -- in one of the three high bays -- that processing begins for the next mission. Separate facilities and crews prepare the multitude of components that go into the final integrated launch vehicle. One is the Thermal Protection System Facility that houses the repair and manufacture of the materials that protect the exterior of each orbiter from the heat of launch and re-entry.

Several facilities accommodate payload processing -- including the Space Station Processing Facility -- which serves as the central preflight check out point for hardware destined for the International Space Station.
The heart of Launch Complex 39 is the huge Vehicle Assembly Building -- one of the largest buildings in the world,

and certainly the most recognizable at KSC. It is in the VAB that all the components -- the orbiter,

external tank and solid rocket booster segments -- are assembled before being moved to the launch pad. Moving at one mile per hour,

one of the massive crawler transporters has the heavy task of moving the Mobile Launcher Platform and assembled launch vehicle --

with a combined weight of 12 million pounds -- to one of the two launch pads at Complex 39.

There -- after final preparation -- it awaits liftoff and another mission in space. "We have a go for main engine start

-- 4 -- 3 -- 2 -- 1 -- zero. We have booster ignition and liftoff of the Space Shuttle Discovery as NASA

embarks on the final mission ſ" And when that mission ends,

the orbiter will return to Kennedy Space Center to start the process all over again.

Music.