Jammed Hatch Jones

'Jammed Hatch Jones' (Photo #1) is what I jokingly called myself in my role as LRD recovery engineer responsible for the Apollo command module Jammed Hatch Kit (JHK) supporting Apollo launch site recovery for Apollo's 7-14. Working launch site recovery with Doc, Rip, Ralph, and Keith is one of my best NASA memories. One week before an Apollo launch, the Launch Site Recovery Team (NASA and Patrick AFB and ARRS Air Force personnel) would train together covering each possible landing scenario following a launch abort at KSC (deep water, surf, beach, swamp, land) and including fire suppression of a possible hypergolic propellant leak. (Photo #2) The requirement for emergency access into the Apollo command module could possibly occur in the land landing scenario with the command module exceeding its design landing loads and deforming structure to prevent access to the crew nominally through either the side or top hatches, thus the need for the JHK.

I volunteered to observe Apollo emergency access tests for LRD at North American Aviation at Downey CA in August 1968 less than two months before Apollo 7. At some earlier date in 1968, the emergency access requirement for the command module at the launch site had been identified as a recovery requirement in case a hard landing resulted in jammed hatches. Tests were quickly conceived and consisted of trying several methods (crash axe, chainsaw, etc.) to penetrate the command module through the aluminum honeycomb forward tunnel wall. No method worked that well, but the chainsaw was deemed the best although it just chewed its way through the aluminum honeycomb and left ragged edges around the access hole cut into the tunnel wall. Also, a test was performed to break a command module window to provide a fresh air path to the crew compartment.

Back at MSC, I rushed into pulling together a jammed hatch tool kit to support Apollo 7. This single kit was an interim solution, and with more time, the kit was entirely revamped for Apollo 8 and subsequent missions. Custom aluminum cases were built by the Field Test Branch of Technical Services Division with separate compartments for tools and emergency crew breathing tanks and served the purpose perfectly for the entire program. The two-part case had a false floor in the bottom compartment to conceal two scuba tanks which provided the high pressure air to drive the quick-disconnect pneumatic circular saw. (Photo #3) There also were two identical kits to provide prime and backup capability.[1] Another aspect of emergency access was to provide fresh air to the crew in the command module, and this was provided by a portable gas-powered ventilator.

On launch day, the Launch Site Recovery Team assembled for a L-4 hour weather briefing, which told us the landing footprint in case of a launch abort. Apollo launch site recovery covered a launch abort for approximately the first 90 seconds of powered flight at which point the vehicle was beyond the coverage range of the helicopters. The

possibility of a landing creating the need for emergency access only would occur when the offshore winds were strong enough to potentially make the aborted command module on its parachutes drift back over the coastline. For Apollo's 7-14, only Apollo 10 was predicted at the L-4 hour weather briefing to have the potential of a land landing after a launch pad abort. For Apollo 10 the prime JHK and I were staged onboard a HH-53C flying a racetrack pattern north of the launch pad at 500 feet. The helicopter pilots timed their pattern to be inbound toward the launch pad at T-0 so we had a unique perspective of launch compared to viewing on the ground. For the other launches, the prime and backup JHK's were staged from the ground (Photo #4) so the HH-53C's could drop down and pick up if needed.[2]

Fortunately, there were no launch aborts in the Apollo program, but the Launch Site Recovery Team (Photo #5) was well trained for any landing scenario including emergency access to the command module.

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Written By:
Coye Mac Jones
NASA-MSC/LRD Vehicle Project Engineer in 1964-71
Retired NASA-Johnson Space Center/Houston in January 2003

References:

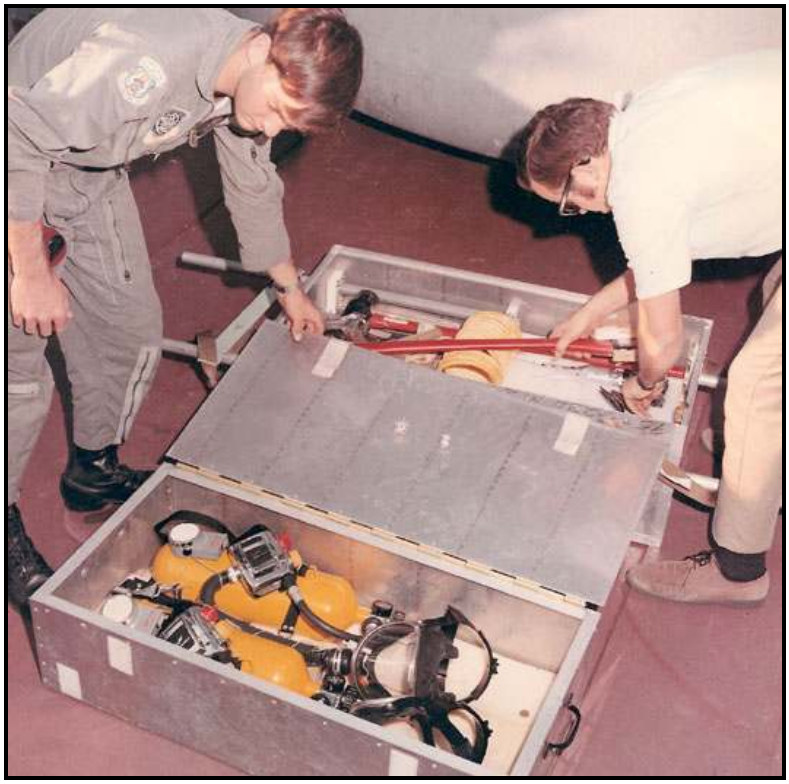
1. **"**System Test Report For Apollo Command Module Jammed Hatch Rescue Team – Development Of Equipment Kit and Procedures", NASA-MSC STR 69-10 dated 1969.

2. "Apollo Recovery Operations Procedures Manual, Revision C", MSC-01856 dated June 21, 1971: Para. 4.3.4.2 "Jammed hatch Procedures" (http://www.scribd.com/doc/16986108/NASA-Apollo-Recovery-Operational-Procedures-Manual).

Photos:

1. C. Mac Jones outfitted in jammed hatch recovery engineer garb (Nomex suit, Scott airpak, and VHF radio) on Apollo 9 at KSC in March 1969 (Photo Credit: NASA 108-69C-1586).

2. Launch site recovery personnel pictured are PJ's, firemen, and jammed hatch recovery engineer with training boilerplate at KSC for Apollo 13 pre-launch training in April 1970 (Photo Credit: NASA 108-KSC-370C-96/21).



3. Jammed Hatch Kit (JHK) consisted of emergency access tools and crew breathing equipment in two-part aluminum case with stowable litter handles and lifting sling (not pictured is portable ventilator) for Apollo 13 at KSC in April 1970 (Photo Credit: NASA 108-KSC-369C-355/11).

4. C. Mac Jones with primary Jammed Hatch Kit and fire suppression unit on station at KSC for Apollo 13 launch on April 11, 1970. (Photo Credit: Personal Photo of C. Mac Jones).

5. Launch site recovery team in front of HH-53C at KSC for Apollo 9 in March 1969 (Photo Credit: USAF).