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Walter D. Temple Jr.
226 Oostanali Way
Loudon, Tn.37774
H (865) 458-1616
C (865) 406-3968

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Docket Management System,
U.S. Dept. of Transportation
Room Plaza 401, 700 7th St. S.W.
Washington, D.C., 20590-0001

Feb.7, 2002

Re:- Docket # FAA-2001-11032 - 16

My brother, Charles S. Temple, is a retired flight engineer with lengthy experience on B-29s, Eastern Airlines, and finally Flying Tigers cargo planes world-wide up to four engine turbo-prop aircraft.

I am a retired Vice President of Operations and Engineering for Wyatt Inc. of New Haven, CT. and a graduate of Stevens Institute of Technology in N.J. '49, after serving in WW II.

On Sept. 25, 2001 we jointly designed the Flightdeck Security System shown in the latest revised versions attached. We thought it worthy of a patent, so Atty. Clifford G. Frayne of Brick Township, N.J. filed an application for us, for a fee. The application was acknowledged by the patent office, and assigned # 60/326840 on Oct. 3, 2001. *From personal experience on long flights my brother strongly insisted on a design that would permit the flight deck personnel be able to get out of the flight deck periodically to use the toilet, get food, and "stretch their legs", particularly from planes like the Boeing 737, as fatigue is a serious safety hazard. This design provides that ability, but still keeps a locked door between the cabin and flight deck at all times, as a complete retrofit package that can probably be installed in less time than it would take to "harden" or replace the existing door, and at a cost comparable to those presented in this docket.* We just read that all Israeli planes have such outer doors. Upon examination of these drawings prepared by Remick Engineering Co. of Syracuse, N.Y. you should be able to correlate the following comments to our design concepts.

<u>The third paragraph of page 17 calls for deletion of the last section of 121.581(c) because leaving cockpit doors open for an F.A.A. inspector, or other authorized observers, is now prohibited.</u> With our design, the actual, inner cockpit door could be left open, with an observer seated in the kevlar enclosed area between the new outer door and the cockpit door, and still be entirely secure from attack

This section need not be deleted with our design.

This design also complies with the revision in paragraph four of page 17, which requires "that the flightcrew compartment door be closed and locked at all times when the aircraft is being operated." as the outer door would be extended and secured as soon as the passenger entrance door to the plane was closed, prior to leaving the passenger loading gate.

The second paragraph of page 10 recognizes that "changes to the interior can make it difficult for an intruder to have direct access to the door, and therefore difficult to exert much force." Our design makes it *impossible* for an intruder to have direct access to the cockpit door without first expending much time and energy to violate the outer door, or passageway enclosure. As soon as that was attempted, the flight deck crew would become aware of the attack via impact vibrations, intercom, audio and TV monitors, etc., and could take all necessary counter measures, such as a controlled de-pressureization of the cabin, in addition to the transponder notification to ground control. Our system also provides for optional installation of pepper spray nozzles at the entry to the inner door, which should be effective in halting an intruder that did manage to get through the outer door or penetrate the kevlar enclosure. Pepper spray is heavier than air, and could be exhausted by a floor level vent in the enclosure to minimize any effect on cabin personnel or passengers. Time would also be provided for the flight deck crew to avail themselves of any weapons that might be available for them in the flight deck area. This would make the flight deck "virtually impenetrable", rather than merely providing a "high level of protection".
A system could be installed which would automatically activate de-pressurization, the transponder emergency signals and open secure weapons containers in the flightdeck area as a result of one move by a pilot, such as activating the pepper spray system, or a general alarm signal.

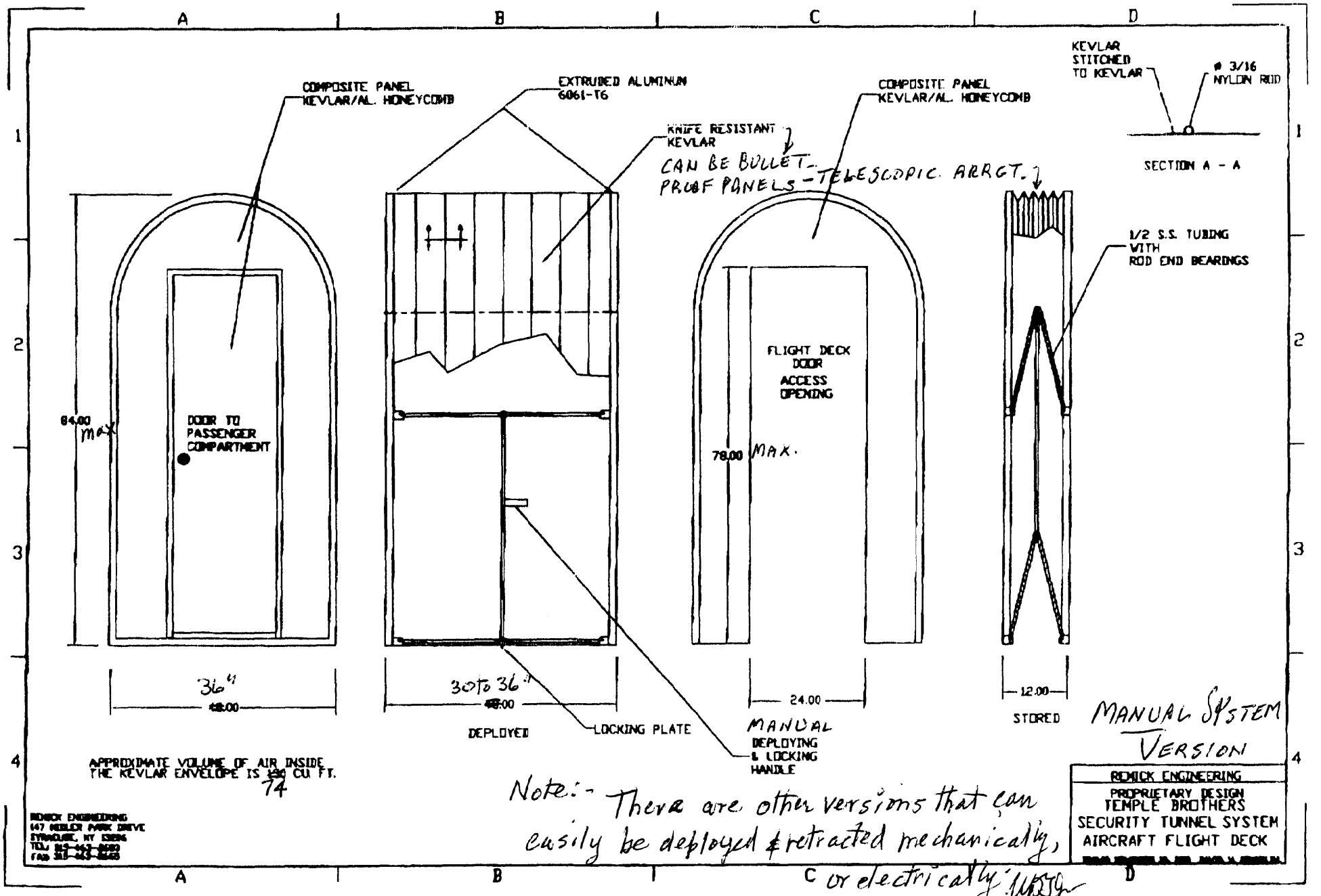
Paragraph three of page 12 states that "Congress recognizes in 104(a)(1)(c) of the Act that there would be times when it would be necessary for authorized persons to enter the flight deck." That implies that the cockpit door may be opened to the cabin area momentarily. Paragraph three of page 18 confirms that expectation by stating that "Congress expected the opening of that door to be brief, and that the door will be closed and locked quickly." That brief moment is just what a terrorist would be prepared to jeopardize! This system makes it possible for such authorized persons to enter, and still have a locked

door between the cabin and flight deck at all times, even at the moment of entry into the cockpit.

Paragraph three of page 11 mentions the need for venting of the cockpit door in event of decompression. Venting of the enclosure between the inner and outer doors will be accomplished by slots in the kevlar fabric of the enclosure as needed for the particular aircraft. Paragraph four expresses concern about access by rescue personnel. This system locks the outer door with an electrical solenoid, or similar device, that is energized to lock the door. A similar device could be installed on the inner actual cockpit door as well. This is similar in principal to the operation of doors in apartment houses now, except that they are energized to open the doors. Prior to a crash, pilots always cut the power to the plane to prevent fires from short circuits. That would unlock the doors for access by rescue personnel, flight attendants or passengers, even in remote areas where special tools are not available to breach locked doors.

Paragraph four of page 12 requires "that there be a means to allow the flight attendants to enter the flight deck should the flight crew become incapacitated." Earlier requirements prevent the cabin crew from having keys that would permit access by them to the flight deck door which must be locked at all times that the plane is in operation. It is extremely unlikely that both pilots would be incapacitated simultaneously. If they were, there very probably wouldn't be anyone available to fly the plane anyway. No solution to this problem is offered in these regulations. With our new system, the remaining un-capacitated pilot can actuate the release circuit to allow access to the flight deck by flight attendants, after calling them for assistance on the intercom system. Conceivably a more sophisticated system could incorporate a radio controlled device that could be operated to release the door locks, upon receipt of a coded signal from the chief flight attendant, if both pilots were known to be incapacitated. It could be kept in a locked compartment in the cabin which might also contain a stun gun or pepper spray.
This should comply with the top paragraph on page 15 which requires that such a system "must be operable from the crew member's duty station."
Paragraph 121.587(b) on page 34 which permits the flightdeck door to be opened briefly to access from the cabin area by authorized persons should be deleted,.in view of this outer door design.

Sincerely yours, Walter D. Temple Jr. Walter D. Temple Jr., Mech. Engr.



Note:- There are other versions that can easily be deployed & retracted mechanically, or electrically.