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31 January 1967

MEMORANDUM FOR : Deputy for Operations, OSA
SUBJECT : IDEALIST Life Support Equipment
References : (1) IDEA-0156-67 dated 20 January 1967
(2) IDEA-0030-67 dated 16 January 1967

1. In accordance with reference 1, the following responses to reference 2 are submitted:

a. Modification of survival kit rucksacks with CO₂ and oral inflation systems, and adjustable carrying straps. An inflatable rucksack was included in LAC ECP-266 dated 17 August 1966. Because of high cost and long lead time for prototype development, this ECP was not approved in its entirety (Ref: IDEA-3246-66 dated 8 September 1966, IDEA 3351-66 dated 26 September 1966, and message [redacted] 7169 dated 28 September 1966). This ECP and the decisions regarding it were discussed with both [redacted] (OIC and NCOIC, [redacted] Life Support Section). During a meeting with [redacted] on 23-24 January 1967, he again reemphasized that most of the changes outlined in ECP-266 (other than QD changes) should not be pursued due to the long lead times, since the U-2R will have such provisions in the seat kit. In light of these comments by [redacted] Life Support personnel, there seems to be a misunderstanding on the part of [redacted] since he refers to "discussions" and "unknown reasons" neither of which are verified by [redacted] Life Support. However, if [redacted] Life Support does desire inflatable rucksacks with adjustable carrying straps for the present U-2 seat kit they need only to identify the item required and request this office to take action.

ACTION: Will be deferred until [redacted] Life Support pursues these requirements.

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b. Provision of Let-Down ropes for tree landings
It is my understanding, from discussions with [redacted] and [redacted] (INTEL/O/GSA) that such an item was installed on the drivers lower leg in the past but was removed because of possible interference during ejection. However, [redacted] has been actively investigating the availability and suitability of new let-down devices. This survival item, once identified and evaluated by the responsible division (INTEL Div) can be evaluated with respect to its compatibility with Life Support equipment. Apparently, [redacted] was unaware of several discussions I have had with [redacted] on this subject.
ACTION: Awaiting action by INTEL Division.

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c. Modification of Survival kit lanyards for manual or automatic inflation. I presume this refers to life raft inflation. If so, this modification was never proposed for the IDEALIST program at any time in the past. It was discussed for the OXCART program and is therefore a misplaced item in reference #2. However, according to my records the requirement for such a device in OXCART was dropped following a meeting between my predecessor, [redacted] (Chief, INTEL Div at that time) in January 1966.
ACTION: No action planned unless requested by [redacted] Life Support.

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d. Installation of adjustable automatic deployment devices for use in flights over areas of very high terrain. It is apparent that this item was not discussed with [redacted] Life Support Personnel or even with [redacted] since the F-1B Automatic Parachute Release used in the U-2 personnel parachute has an aneroid block mechanism which is adjustable from 5,000 to 20,000 feet above sea level. As pointed out in previous discussions between [redacted] adjustment of this setting to altitudes above the standard setting of 14,000 feet will have to receive careful consideration as to the severe effects of increased parachute opening shock versus the risk factor (ie, time flown over high altitude terrain with elevations of 14,000 feet or more).
ACTION: No action planned unless discussions with [redacted] are generated regarding policy on F-1B timer settings.

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e. Modification of the canopies with deflation pockets. This item was discussed with [redacted] who is in the water survival section of the Aircrew Laboratories at Wright-Patterson AFB, Ohio on 9 Sept. 1966. This modification, which has apparently been approved by the U.S. Navy has not received USAF approval because the modification apparently lengthens the time required for parachute deployment. The present escape system in the U-2 does not offer low altitude capability and any modification which reduces the minimum altitude capability any further is not an acceptable trade-off. ACTION: More specific information will be researched on this item with regards to future use on the U-2R escape system.

f. Walk-around sleeping bags in seat cushions. After discussions of this item in 1965, a prototype was developed by [redacted] in early 1966. Evaluation at [redacted] revealed that the cushion was too thick and caused the pilots head to be elevated above the headrest. In addition to the head hitting the canopy during flight, this arrangement would preclude through-the-canopy ejection. Since thinner packaging was not obtainable this item was no longer considered. This information was obtained from and can be verified by [redacted] Life Support personnel.

ACTION: If there is a valid requirement for a walk-around sleeping bag in the future, investigation of a cushion packed item for use in the U-2R will be undertaken.

g. "Four line cut" or related action to make 35-foot canopy steerable and reduce oscillation. This item is also misplaced in reference #2 since the present IDEALIST personnel parachute does not have a 35-foot canopy. The 4-line cut is being taught for the 28-foot canopy being used. Again, it is apparent that this item was not discussed with [redacted] personnel as stated in reference #2, and since it does not apply to the IDEALIST program it obviously has not been placed in a "hold-status". For the record, I did discuss this procedure for OXCART application with [redacted] at Wright-Patterson AFB, Ohio on 9 September 1966, and discussed his expert views with [redacted] shortly thereafter. [redacted] stated that a 4-line cut for the 35 foot canopy would not damage the chute and would be safe to test. However,

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he further stated this procedure would probably make little difference in stability since the 35 foot chute is already stable, due to its shaped canopy (as opposed to the flat canopy of the 28 foot chute). Because the 35 foot canopy has more lines, a 4-line cut would probably not give a vent that would provide increased steerability.

ACTION: Will make further inquiries in the future with reference to the U-2R escape system which will use a 35 foot canopy. However, the possible benefits seem to be minimal.

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h. Procurement of 35-foot canopies for the parasail. This item has never been investigated by this office in the past nor has it been the subject of any discussions by [redacted] Life Support personnel with the undersigned. If it has been in a "hold status" or "proceeding at a slow rate" it has been so within INTEL/Div/O/OSA since survival training, including parachute training, is apparently a function of that division. It seems that a clarification is in order regarding the respective responsibilities of INTEL/Div/O/OSA and ASD/R&D/OSA with regards to life support equipment and procedures and with regards to survival equipment, procedures and training.

ACTION: None

2. I would be happy to discuss any of the above items further if any questions remain unanswered.

[redacted]

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ASD/R&D/OSA, [redacted] (31 January 1967)

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