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**DEPARTMENT OF THE ARMY**  
**ARMY CONCEPT TEAM IN VIETNAM**  
 APO San Francisco 96384

AVIB-LED

10 October 1967

**SUBJECT:** Letter Report of Evaluation - Lightweight Nylon Jungle Rucksack ACL-73/67

**TO:** Commanding General  
 United States Army Vietnam  
 ATTN: AVHGC-DST  
 APO 96375

## 1. REFERENCES

- a. MACV msg 21220, 21 June 1966, subject: ENSURE Requirement - Lightweight Nylon Rucksack.
- b. DA msg 774617, 23 July 1966, subject: ENSURE Requirement - Lightweight Nylon Rucksack.
- c. USARV msg AVHGC-DH 35278, 13 Nov 66, subject: ENSURE Request for Nylon Jungle Rucksack.
- d. USARV msg AVHGC-DH 39153, 6 Dec 1966, subject: Lightweight Jungle Rucksack.
- e. USARV msg AVHGC-DH 11218, 22 Feb 1967, subject: Lightweight Jungle Rucksack.
- f. NLABS msg AMXRE-338, 3 March 1967, subject: Nylon Jungle Rucksacks.

## 2. PURPOSE

Determine acceptability, suitability, and durability of the Lightweight Nylon Jungle Rucksack in the RVN and recommend modifications, as necessary.

## 3. BACKGROUND

During June 1966, COMUSMACV submitted an ENSURE requirement for 500 lightweight nylon rucksacks (reference 1a) for evaluation by ACTIV.

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This ENSURE requirement was approved by DA on 23 July 1966 (reference 1b). References 1c, d, and e forwarded information on the lightweight nylon rucksacks to the 173rd Airborne Brigade and the 1st Cavalry Division (AM). Reference 1e advised the 1st Cavalry Division (AM) of anticipated arrival date of a limited quantity of prototype rucksacks. CO, ACTIV was informed by Natick Laboratories of shipment on 13 February 1967 of 500 rucksacks (reference 1f).

Distribution of the lightweight nylon rucksacks to US Army, Navy, Marine Corps, and Australian Army Forces was completed on 31 March 1967. Units were issued rucksacks along with two sizes of polyethylene plastic bags for a 30-day field test. User units were requested to submit information pertinent to shortcomings, deficiencies, and suggested improvements.

#### 4. DISCUSSION

a. Design features of the rucksack are: lightweight nylon construction, comfortable fit, quick release buckles on the shoulder straps, plastic holding device on the drawstrings for the large compartment, five sections of webbing with eyelets for mounting additional equipment, and a pocket in the large compartment cover secured by a velcro fastener.

b. In order to establish a valid evaluation base with the limited number of test items available, combat units located in I, II, and III Corps Tactical Zones in the RVN were selected to participate in the evaluation. A one-time report based on actual usage during combat operations was requested by Headquarters, USARV.

c. The results of the evaluation of the Lightweight Nylon Jungle Rucksack were generally favorable, although a number of shortcomings were identified. All US Army, Navy, and Marine Corps units commented favorably on the rucksack, citing its durable, compact, lightweight, and quick-drying characteristics. The shoulder strap quick release feature functioned well and received favorable comment from all units. The water-proof compartment in the top flap of the main pack was considered excellent. The test item provided adequate space to carry combat essentials and permitted good accessibility to contents of the rucksack. The polyethylene plastic bags used in the main compartment and external pockets of the rucksack to keep contents dry were considered an outstanding improvement.

d. A total of four hundred-fifty seven user replies were received.

(1) Ninety percent of the respondents noted the primary shortcoming was the discomfort caused by the lower support bar rubbing across the

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back. Respondents felt this could be corrected by use of a wider nylon strap in conjunction with padding of the lower support bar. Ten percent of the respondents felt the built-in metal frame did not allow adjustment of the rucksack to the individual, causing the rucksack to ride high.

(2) Fourteen percent of the respondents felt the metal snap hooks and tie rings on the shoulder strap extensions were too noisy and tended to snag on bushes and hang up on other web gear. It appears feasible that the metal snap hooks and tie rings could be eliminated. Since the addition of the shoulder strap quick release feature, the need for snap hooks and tie rings appears unwarranted. Additionally, they felt the two 3/4-inch wide nylon back straps running vertically from top to bottom of the metal rucksack frame should be increased to a minimum of one-inch in width and padded to enhance wearer comfort.

(3) Poor quality of workmanship was experienced on several of the rucksacks evaluated. Side web equipment attachment straps on three rucksacks were torn loose at the seam. One respondent experienced tears in the stitching at the juncture of the shoulder straps to the frame. A sample with the side web equipment attachment strap failure has been returned to the developer, Natick Laboratories.

(4) Twenty percent of the users recommended modifying the location of the web equipment attachment straps. The center web equipment attachment strap could not be used when the center external pocket is utilized. Relocation of the side web equipment straps to a position one inch higher was also recommended.

(5) Twenty-nine percent of the respondents recommended modification of the jungle rucksack by addition of drainage holes in the bottom corners of the main pack and increasing the size of the drainage holes in the external pockets from the present 1/4-inch eyelet to a 3/8-inch eyelet.

## 5. FINDINGS

It was found that:

a. The lightweight Nylon Jungle Rucksack with modifications was acceptable, suitable, and sufficiently durable for use by combat personnel in the RVN.

b. The lower support bar of the rucksack rubbing across the back of the wearer caused discomfort.

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- c. Metal snap hooks and tie rings were too noisy and had a tendency to snag on brush and other web equipment.
- d. The two 3/4-inch wide nylon back straps connecting the top and bottom of the metal rucksack frame caused discomfort to the wearer.
- e. Quality of workmanship was below standard on several of the rucksacks.
- f. The center external equipment attachment strap could not be utilized if the center external pocket is used.
- g. The side web equipment attachment straps were poorly located.
- h. No allowance was made for drainage in the bottom of the main pack and the size of the drainage holes located in the external pockets was too small.
- i. The polyethylene plastic bags used in the main compartment and external pockets of the rucksack kept contents dry.

## 6. CONCLUSIONS

a. The Lightweight Nylon Jungle Rucksack is acceptable, suitable, and sufficiently durable for issue to combat personnel in the RVN, provided the following recommended modifications are incorporated in the production model:

- (1) Padding of the lower support bar in conjunction with use of wider nylon webbing adjustment strap.
- (2) Elimination of the snap hooks and tie rings located on the bottom of the shoulder strap extensions which appear unnecessary because of the shoulder strap quick release feature.
- (3) Increase the width to a minimum of one-inch and pad the two 3/4-inch wide nylon back straps connecting the top and bottom of the metal rucksack frame.
- (4) Relocation of the center equipment attachment strap to allow the center external pocket to be utilized when carrying equipment such as the entrenching tool.
- (5) Relocation of the side equipment attachment straps one inch higher than present location.

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(6) Install drainage holes with 3/8-inch eyelets in the bottom corners of the main pack, and increase the size of the drainage holes in the bottom of the external pockets to 3/8-inch.

(7) Improve the quality of workmanship (stitching) of the rucksack.

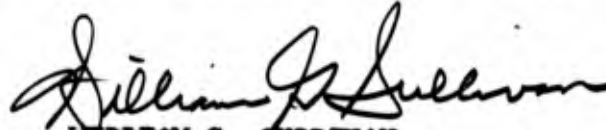
b. The polyethylene plastic bags for the main compartment and external pockets of the rucksack are required for use with the rucksack.

#### 7. RECOMMENDATIONS

a. It is recommended that the lightweight nylon jungle rucksack, when modified in accordance with paragraph 6a above, be authorized as a WABTOC item for issue to US combat troops in the Republic of Vietnam.

b. It is recommended that the polyethylene plastic bags in sizes 18 1/2 by 24 inches and 9 by 15 inches for use with the lightweight nylon jungle rucksack be stocked as standard items of issue.

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Distribution



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13. ABSTRACT

The nylon lightweight rucksack was demonstrated to several commands in Vietnam in November and December 1966. During these demonstrations, three modifications were suggested to improve the rucksack. The rucksacks furnished for evaluation incorporated these modifications. The lightweight nylon jungle rucksack was utilized by all combat units in the RVN during a 30-day trial period. It is recommended that the lightweight nylon jungle rucksack, when modified in accordance with paragraph 6a, be authorized as a WABTOC item for issue to US combat troops in the Republic of Vietnam, and polyethylene plastic bags in sizes 18½ by 25 inches and 9 by 15 inches be stocked as standard items of issue for use with the lightweight nylon jungle rucksacks.

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REPLACES DD FORM 1473, 1 JAN 64, WHICH IS OBSOLETE FOR ARMY USE.

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