

**UNCLASSIFIED**

**AD 288 425**

*Reproduced  
by the*

**ARMED SERVICES TECHNICAL INFORMATION AGENCY  
ARLINGTON HALL STATION  
ARLINGTON 12, VIRGINIA**



Best Available Copy

**UNCLASSIFIED**

**20030703108**

NOTICE: When government or other drawings, specifications or other data are used for any purpose other than in connection with a definitely related government procurement operation, the U. S. Government thereby incurs no responsibility, nor any obligation whatsoever; and the fact that the Government may have formulated, furnished, or in any way supplied the said drawings, specifications, or other data is not to be regarded by implication or otherwise as in any manner licensing the holder or any other person or corporation, or conveying any rights or permission to manufacture, use or sell any patented invention that may in any way be related thereto.

301507-1000

288 425

63-1-1

★  
CALCULATED BY ASTIA  
AS AD No. 288 425

USCONARC  
US ARMY  
ARCTIC TEST BOARD

Fort Greely, Alaska



Report of

SERVICE TEST

OF

CAP, COLD WEATHER, T01-3

Date 31 May 1962

Project Nr. ATB 8-212

ASTIA  
RECEIVED  
JUL 25 1962  
ASTIA

ASTIA AVAILABILITY REPORT  
Unlimited reproduction may obtain copies of  
this report from ASTIA.

HEADQUARTERS  
US ARMY ARCTIC TEST BOARD  
APO 733, Seattle, Washington

REPORT OF PROJECT NR ATB 3-212  
SERVICE TEST OF CAP, COLD WEATHER, T61-3

1. AUTHORITY:

a. Directive: Ltr. ATDEV-3 422, Hq USCONARC, 22 July 1961,  
subject: "Service Test of Cap, Cold Weather, T61-3."

b. Purpose:

(1) To determine the suitability of the Cap, Cold Weather, T61-3 for Army use under arctic winter conditions.

(2) To determine if the Cap, Cold Weather, T61-3, will eliminate the requirement for the Cap, Field, Wool, Pile Lined and the Cap, Cold Weather, CVC.

2. REFERENCES:

a. DA Project Nr: 7x79-10-002. Technical Objective Nr: Unknown.

b. CDOG, Par 1439b(15), Change 3, 1 December 1960.

c. Reports of Equipment Failures Nr 1 through 9, Project Nr ATB 3-212, US Army Arctic Test Board.

d. QMCTC Meeting Nr 2, 5 August 1959 (Military Characteristics).

e. Report of Test, Project Nr ATB 3-370, US Army Arctic Test Board, 19 May 1960, "Service Test of Uniform, Field, Combat, Cold-Wet, T59-2."

f. Report of Test, Project Nr ATB 2-150, US Army Arctic Test Board, 31 May 1960, "Service Test of Helmet, CVC, T56-6."

g. Report of Test, Project Nr ATB 3-360, US Army Arctic Test Board, 1 June 1960, "Service Test of Uniform, Field, Combat, Cold-Dry, T59-2."

h. Msg. ATDEV-3, 804613, Hq USCONARC, 2 May 1961.

i. Ltr, QMREL-PL, QMRE Cmd, 29 May 1961, subject: "Cap, Field, Cold Weather, T61-3."

j. Mag. ATDEV-3, 806333, Hq USCONARC, 2 June 1961.

k. Mag. ATBE IN, 892, US Army Arctic Test Board, 10 June 1961.

l. Plan of Test, Project Nr ATB 3-212, US Army Arctic Test Board, 26 October 1961, "Service Test of Cap, Cold Weather, T61-3."

### 3. DESCRIPTION OF MATERIEL:

a. The Cap, Cold Weather, T61-3 (test Cap) is a helmet style, close fitting covering for the head, sides of face and entire neck. The test cap incorporates a three-piece crown with lining, a combination earlap and neck protector with lining, back stretch panel, back elastic strap, a Velcro Overlap front closure (touch and close) and slits at each side of the earlaps. The visor has been eliminated from the cap.

b. The control item was the standard Cap, Field, Cotton, Poplin, Wool, Pile Lining, OG 107.

c. This Board received 148 test caps and operating instructions on 9 October 1961.

d. Photographs of the test and control caps are shown in Annexes C.1 and C.2.

### 4. BACKGROUND:

a. A general requirement for the test cap is stated in reference 2b.

b. The Cap, Field, Cotton, Poplin, w/Wool Pile Lining was tested during the 1959-1960 test season as a component part of the Uniform, Field, Combat, Cold-Wet and Cold-Dry, T59-2 and was found unsuitable for Army use under arctic winter conditions (reference 2e and 2g).

c. The Cap, Cold Weather, CVC w/Cape T59-2 was tested during the 1959-1960 test season with the Helmet, Combat Vehicle Crewmen, T56-6 and found suitable for Army use under arctic winter conditions (ref 2f).

d. The elimination of the visor (ref 2h) has been accomplished to improve functional suitability of the cold weather cap when worn under combat conditions in which ballistic protection is required. The need for an eye shading device and the degradation of appearance when worn by individuals not requiring ballistic protection is accepted as a comparatively lesser and nonessential requirement. This eye shading and appearance deficiency can be offset by allocating individuals who do not require ballistic protection to wear the T61-3 with the helmet liner (ref 2a).

e. The US Army Infantry Board is conducting tests to determine suitability of the Cap, Cold Weather, T61-3 for Army use under temperate environmental conditions.

f. This item is proposed for tripartite standardization and is included on CLS Nr 7-1-101-2.

5. SUMMARY OF TEST RESULTS: Tests were conducted by Captain Robert G. Burns, and other personnel of Test Division 3, US Army Arctic Test Board, assisted by personnel from Test Division 2, US Army Arctic Test Board, members of the Cold Weather and Mountain School and the 1st Battle Group, 23d Infantry, utilizing plan of test, reference 21.

a. General:

(1) Test caps were worn throughout the test season by personnel participating in the following type activities:

- (a) Cross-country marches on skis and snowshoes.
- (b) Long distance patrols.
- (c) Platoon tactical exercises.
- (d) Mobility and firing tests conducted with combat vehicles.
- (e) Firing of various type ground mounted and shoulder fired weapons.

(2) Ambient temperatures during the test period ranged from 41°F to -68°F. Wind velocity ranged from calm to 40 mph with gusts up to 67 mph.

(3) The steel helmet with liner and the CVC helmet were worn as appropriate during the conduct of the test. Where appropriate, results obtained while wearing the test cap under the combat vehicle crewman helmet (CVC) were compared with results achieved with the Cap, Cold Weather, CVC, as recorded in reference 2f.

(4) The test cap was satisfactory with respect to durability, functional suitability (hearing, efficient operation of weapons, communication equipment, wind resistance, protection afforded the neck area and adequacy of closure).

(5) The test cap was marginally satisfactory with respect to functional suitability (insulating qualities, susceptibility to moisture absorption, protection afforded the chin area, compatibility with related equipment, and icing of the earlap ends when closed over the chin), and laundering and dry cleaning.

(6) The test cap was unsatisfactory with respect to sizing and fitting, functional suitability (gathering of frost on the earlaps when not closed over the chin, and eye shade protection when worn without the steel helmet or liner).

(7) The test cap was superior to the control cap with respect to compatibility with related equipment and functional suitability (protection afforded the neck and chin area, efficient operation of communication equipment, adequacy of closure).

(8) The test cap was equal to the control cap with respect to functional suitability (wind resistance, freedom of head movement, use of optical instruments, insulating qualities when worn with the steel helmet, and interference with wearer while firing weapons) and durability. The test cap was inferior to the control cap with respect to preoperational inspection (production quality control), sizing and fitting, laundering and dry cleaning) and functional suitability (insulating qualities when worn without the helmet liner and susceptibility to moisture absorption, icing and frost gathering).

(9) The test cap failed to meet the military characteristics pertaining to ease of opening and closing the closure while wearing arctic handwear. The Arctic Mitten Set had to be removed in order to secure the earlaps over the steel helmet and liner (Test Nr 3).

b. Test Nr 1 - Preoperational Inspection and Physical Characteristics:

(1) Initial inspection revealed that the cloth lining of 12 test caps had small separations near the seams, and the back stretch panel stitching on one cap was not sewn properly.

(2) The average weight of the test cap for all sizes was 4.25 ounces and the average weight of the control cap for all sizes was 6.5 ounces.

(3) Photographs of the test and control caps are shown in Annexes C.1 and C.2

c. Test Nr 2 - Sizing and Fitting: None of the participating personnel could be properly fitted with test caps marked with their normal cap sizes. All personnel required a test cap marked one to two sizes larger than the control cap.

d. Test Nr 3 - Functional Suitability:

(1) Freedom of head movement with the test and control cap was not impaired unless the hood with fur ruff was utilized (Test Nr 4).

(2) Personnel experienced no noticeable reduction of hearing when the test cap was worn. When the control cap was secured around the chin the wearer's hearing was slightly reduced.

(3) Neither the test nor control cap impaired the efficiency of personnel operating weapons or optical instruments; however, in most cases the ear flap of the control cap had to be lifted in order to hear properly when using communications equipment.

HEADQUARTERS  
UNITED STATES CONTINENTAL ARMY COMMAND  
FORT MONROE, VIRGINIA

ATDEV-3

25 July 1962

**SUBJECT:** Reports of Service Tests of US Army Infantry Board Project No 2969 and US Army Arctic Test Board Project No 3-212 of the Cap, Cold Weather, T61-3

**TO:** Chief of Research and Development  
Department of the Army  
Washington 25, D.C.

1. The US Army Infantry Board and the US Army Arctic Test Board have concurrently conducted service tests to determine the suitability of the Cap, Cold Weather, T61-3, for use under temperate and arctic environmental conditions respectively. Subject reports are forwarded together to permit ready comparison of the conclusions and recommendations of each test board.

2. It is concluded by this headquarters that:

a. The Cap, Cold Weather, T61-3, is suitable for Army use in both temperate and arctic environments when modified as indicated in Annex B of the US Army Arctic Test Board Project No ATB 3-212.

b. A requirement for a second cold weather field cap is not justified solely for use in garrison or rear areas.

c. The Army will have only two field caps in the supply system for use both in the field and in garrison, i.e., the Cap, Field, Hot Weather, M1961, and the Cap, Cold Weather, T61-3.

d. Adoption of the Cap, Cold Weather, T61-3, can eliminate requirements for the following items: Cap, Field, Poplin; Cap, Wool, Pile Lined; Cap, Cold Weather, CVC; Hood, Winter, Cotton.

3. It is recommended that:

a. No development be initiated to provide a second cold weather field cap.

b. The Cap, Cold Weather, T61-3, be modified to correct the deficiencies listed in Annex B of the Report of Service Test of Project No ATB 3-212 and type classified Standard A.

c. The item be adopted as a cold weather supplement to the Helmet Liner/Steel Helmet combination and issued as an item of organizational clothing.

d. The following standard items be reclassified Standard C:

(1) Cap, Wool, Flee Lined.

(2) Cap, Cold Weather, CVC.

(3) Hood, Winter, Cotton.

e. Reclassification of the Cap, Field, Poplin, be held in abeyance pending completion of the confirmatory test of the Cap, Field, Hot Weather, M1961.

f. The nomenclature of the item be changed from Cap, Cold Weather, T61-3, to Helmet Liner Insulator.

4. Data for the development of a basis of issue have been sent to the Combat Developments Command.

FOR THE COMMANDER:

- 2 Incl  
1. USAIB Rept No 2969  
2. USAATB Rept No 3-212

Copies furnished:

0

  
LEE L. STEWART  
Colonel, AGC  
Asst Adjutant General

(4) The test cap provided greater protection than the control cap in the neck and chin area. However, when the test cap was secured around the chin it had a tendency to ride up over the chin and cover the mouth area. When this occurred, that portion of the earlap absorbed moisture emitted from the wearer's mouth and nose and in many instances the earlap became covered with ice on both sides.

(5) When worn under the steel helmet and liner, the test cap provided adequate insulation at all temperatures and wind conditions encountered. When the test cap was worn without the steel helmet or liner, all personnel suffered cold in the forehead area at temperatures below  $-25^{\circ}\text{F}$ .

(6) The test cap did not provide adequate eye shade when worn without the steel helmet and liner.

(7) When the earlaps of the test cap were worn down, but not fastened over the chin, frost accumulated on both earlap ends. The frost accumulation on the fleece side of the right earlap of the test cap prevented subsequent overlap of earlaps over the chin area to provide added protection when required, because of the possibility of frostbite when the frosted earlap was placed on the skin.

(8) The test and control caps were generally equal in wind resistance capabilities with the exception that the test cap provided more protection for the chin against wind than did the control cap. Personnel wearing the Arctic Mitten Set could secure the test cap around the chin more rapidly than the control cap. The Arctic Mitten Set had to be removed in order to secure the earlaps on the control cap.

e. Test Nr 4 - Compatibility with Related Equipment:

(1) The test cap was compatible in all respects when worn under the steel helmet with liner and under the CVC helmet except when the hood with fur ruff was utilized.

(2) The control cap was not compatible for wear under either the steel or CVC helmet.

(3) Personnel, wearing the Arctic Mitten Set, could not secure the earlaps of the test cap over the steel helmet because of the short length of the earlaps.

(4) When either the test or control cap was worn under the steel helmet or CVC helmet and the hood with fur ruff was worn over the helmets, freedom of head movement was restricted. This condition resulted from the small size and tight fit of the hood over the helmets.

f. Test Nr 5 - Effects of Laundering and Dry Cleaning:

(1) There was no apparent loss of insulating qualities in the test and control caps after cleaning.

(2) Over-all average shrinkage in the test cap amounted to approximately 7/16 of an inch. When worn after laundering, the test caps were tight, but soon stretched back to their original shape. No significant shrinkage of the control cap was encountered after cleaning.

(3) Grease stains from wearing the test cap could not be completely removed by laundering by hand or by Quartermaster laundering processes.

g. Test Nr 6 - Durability: No damage to the test or control caps occurred from the effects of cleaning or from wear during a 90-day period.

6. CONCLUSIONS: It is concluded that:

a. The Cap, Cold Weather, T61-3 should be suitable for Army use for wear under the steel helmet and liner or steel helmet liner and the combat vehicle crewman's helmet when modified as indicated in Annex B.

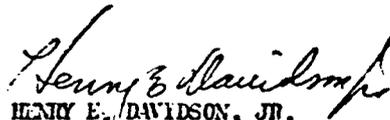
b. The Cap, Cold Weather, T61-3, when modified as indicated in Annex B, will eliminate the requirement for the Cap, Cold Weather, CVC.

c. The Cap, Cold Weather, T61-3, when modified, can eliminate the requirement for the Cap, Field, Wool, Pile Lined, providing it is worn with the steel helmet and/or the helmet liner.

7. RECOMMENDATIONS: It is recommended that the Cap, Cold Weather, T61-3 be modified in accordance with Annex B and returned to this Board for test as a component of the Integrated Combat Uniform, T61-4.

ANNEXES:

- A - Details of Test
- B - Findings
- C - Photographs
- D - Coordination

  
HENRY E. DAVIDSON, JR.  
Colonel, Armor  
President

DISTRIBUTION:

- 40 - CG, USCONARC
- 2 - Ch, R&D Off, Alaska, APO 731
- 3 - Board file

ANNEX A - DETAILS OF TESTS  
REPORT OF PROJECT NR ATB 3-212

Test Nr 1 - Preoperational Inspection and Physical Characteristics

1. PURPOSE:

- a. To determine whether the test and control caps were in proper condition for test.
- b. To determine the physical characteristics of the test cap.

2. METHOD:

- a. The test and control caps were inspected in detail to determine if they were in satisfactory condition for test.
- b. Test and control caps were measured, photographed and examined for other pertinent characteristics.

3. RESULTS:

- a. The test caps were inspected in accordance with the operating instructions and the following defects were found (par 5, Annex B):
  - (1) The cloth lining of twelve test caps had small separations near the seams apparently caused by skip stitching.
  - (2) The back stretch panel of one test cap was improperly sewn.
- b. The test cap was as described in paragraph 3, Description of Material.
- c. The average weight for all sizes of the test cap was 4.25 ounces and the average weight for all sizes of the control cap was 6.50 ounces.
- d. The sizes of the test caps received for test ranged from 6 $\frac{1}{2}$  to 7-3/4.
- e. No defects in the control caps were revealed during the initial inspection.
- f. Photographs of the test and control caps are shown in Annexes C.1 and C.2.

Test Nr 2 - Sizing and Fitting

1. PURPOSE: To determine the adequacy of sizing and fitting of the test and control caps.

2. METHOD:

a. The test and control caps were worn throughout the test period by 45 men of an Infantry rifle platoon, 9 armored crewmen, 55 personnel of the Cold Weather and Mountain School, and 37 other personnel of this Board. The size and fit of the test and control caps were compared and evaluated.

b. By observation and interrogation of participating personnel, the capability of the test and control caps to fit all available head sizes was evaluated and compared.

c. Differences in sizing between the test and control caps on the same individual were recorded.

d. This test was repeated after each laundering and dry cleaning to check the effects of laundering and dry cleaning on the test cap.

3. RESULTS:

a. None of the participating personnel could be properly fitted with test caps which were marked with their normal cap size. Most individuals required a test cap of from one to two sizes larger than they did in the control cap (par 1, Annex B).

b. The following are examples of the size caps personnel normally wore compared with the size test cap required for a proper fit:

<u>Size Cap Normally Worn</u>	<u>Size Test Cap</u>
6-1/2	7
6-3/4	7
6-7/8	7-1/4
7	7-1/4
7-1/4	7-3/4
7-1/2	*7-3/4

\*The test cap size 7-3/4 fit too tightly when worn by an individual who normally wore a size 7-1/2 cap.

Test Nr 3 - Functional Suitability

1. PURPOSE: To determine the functional suitability of the test and control caps.

## 2. METHOD:

a. After sizing and fitting the test and control caps were worn by personnel of an Infantry platoon and personnel of the Cold Weather and Mountain School and this Board under the following conditions:

(1) While engaged in winter field exercises to include exercise "Great Bear."

(2) While traveling cross-country on individual oversnow equipment with full field marching load with and without wearing the steel helmet and liner.

(3) While engaged in mobility and firing tests with combat vehicles with and without wearing the CVC helmet.

b. By observation and interrogation of participating personnel, the suitability of the test and control caps were evaluated and compared to include consideration of the following:

(1) Freedom of head movement.

(2) Restriction of hearing.

(3) Any interference with efficient operation of weapons, communications equipment, and instruments.

(4) Protection afforded the neck and chin areas.

(5) Insulating qualities.

(6) Any adverse effect on the physical well-being of the individual.

(7) Wind resistance.

(8) Adequacy of closure.

## 3. RESULTS:

a. Freedom of head movement while wearing the test or control caps was not impaired unless the hood with fur ruff was utilized (Test Nr 4).

b. There was no noticeable restriction to the hearing ability of personnel wearing the test cap with the CVC or steel helmet. When the control cap was tied under the chin, personnel's hearing ability was slightly reduced.

c. The test and control caps did not impair the efficiency of personnel while firing weapons or using optical instruments. In most cases the ear flap of the control cap had to be lifted in order for personnel to hear properly when operating communication equipment.

d. The test cap provided greater protection in the neck and chin area than did the control cap; however, when the test cap was secured over the chin for maximum protection, it had a tendency to ride up over the chin and cover the mouth area. The overlap portion of the earlap then absorbed moisture emitted from the wearer's mouth and nostrils. At temperatures below 0°F the moisture froze on both the inside and outside of the overlap portion of the earlap. Although frostbite did not occur from the frost accumulation, most test personnel preferred to wear the test cap unsecured to avoid the discomfort of the cold, wet material against the chin. This feature, in many instances, negated the advantage of the added protection featured in the test cap (par 4, Annex B).

e. At temperatures down to -30°F, most test personnel preferred to wear the test cap with the earlaps down, but not closed over the chin area. This method of wear generally provided adequate protection with the necessary ventilation at these temperatures. However, when the test cap was worn with the earlaps down, but not closed, at temperatures below 0°F, there was considerable frost build-up on the overlap portion of the earlap. The frost was sufficient in most cases to prevent closing the earlaps over the chin when required for maximum protection (par 2, Annex B).

f. The amount of insulation provided by the test cap when worn under the steel helmet and CVC helmet was adequate at all temperatures encountered. The amount of insulation provided by the control cap was excessive, particularly in the forehead area and caused sweating during periods of high physical activity. The test cap did not provide adequate insulation in the forehead area when worn without the steel helmet or liner. When the test cap was worn at temperatures below 25°F all test personnel suffered cold in the forehead area. This failure did not occur with the control cap (par 6, Annex B).

g. The test and control caps were equal in wind resistance capabilities, with the exception that the test cap provided more protection for the neck and chin from wind than did the control cap.

h. The test cap did not provide adequate eye shade when worn without the steel helmet and liner.

i. The test cap could be secured around the chin more readily than the control cap. The Arctic Mitten Set had to be removed in all cases to secure the earlaps on the control cap. Securing the test cap earlaps over the steel helmet and liner while wearing the Arctic Mitten Set could not be accomplished because the earlaps were not of sufficient length (Test Nr 4).

j. Ambient temperatures during this test ranged from 41°F to -68°F. Wind velocity ranged from calm to 40 mph with gusts up to 67 mph.

Test Nr 4 - Compatibility with Related Equipment:

1 PURPOSE: To determine the compatibility of the test and control caps with related equipment.

2. METHOD: This test was conducted concurrently with all other tests. Any difficulties encountered with the test and control caps when worn with the standard cold weather uniform, the Helmet, Soldier, Steel, and Helmet, CVC were recorded and analyzed.

3. RESULTS:

a. When wearing the Arctic Mitten Set the earlaps of the test cap could not be secured over the steel helmet and liner because the earlaps were not of sufficient length (par 7, Annex B).

b. The control cap was not compatible with the steel helmet and liner or the CVC helmet because of the bulkiness of the cap. The sweat band of the helmet liner had to be removed in order to wear the steel helmet with liner.

c. As a result of the hood with fur ruff being too small and fitting tightly over the steel helmet and CVC helmet, freedom of head movement was restricted and in most instances the entire body had to be turned in order to change the direction of observation. This condition occurred regardless of the type cap worn under the steel helmet and CVC helmet (par 8, Annex B).

d. The test cap was compatible with the steel helmet with liner and with the CVC helmet in all respects except when the hood with fur ruff was utilized.

Test Nr 5 - Effect of Laundering and Dry Cleaning

1. PURPOSE: To determine the effects of cleaning the test and control caps.

2. METHOD:

a. Seventy-two test caps were laundered a total of three times by Quartermaster laundry facilities in accordance with the wool method using Formula II prescribed in RM 10-16. Thirty additional test caps were hand laundered a total of four times in lukewarm water, using a milk soap or detergent, squeezed as dry as possible with the hands, and hung to drip dry.

b. Fifty control caps were dry-cleaned three times in accordance with DA Technical Manual 10-3000, August 1955.

c. During this test and concurrently with all other tests, particular attention was directed to determining the following:

(1) Loss of insulating quality.

(2) Shrinkage.

d. By observation, interrogation of test personnel, and analysis of test data, the effect of cleaning the test and control caps was evaluated and compared.

3. RESULTS:

a. There were no failures of the test or control caps as a result of cleaning.

b. There was no apparent loss of insulating qualities in the test and control caps after cleaning.

c. Head band shrinkage of the test cap after laundering ranged from 1/8 to 3/8 of an inch for all sizes. When worn after laundering, the test caps were initially tight, but soon stretched back to their original size. No significant shrinkage was noted in the control cap after dry cleaning.

d. The test cap was very sensitive to grease stains from the head of the wearer. These stains were noticeable in the forehead area of the cap after the cap was worn for only a short period of time. In several instances, these stains had spread to near the top of the crown of the cap after the cap was worn one week. Neither laundering method would completely remove the grease stains (par 3, Annex B).

Test Nr 6 - Durability

1. PURPOSE: To determine the durability of the test and control caps.

2. METHOD:

a. This test was conducted concurrently with all other tests. Inspection of the test and control caps were conducted prior to and periodically throughout the test period. A record was made of the type and number of failures and the apparent causes thereof.

b. At the end of the test period, a physical inspection of all test and control caps was conducted. Test data was analyzed with respect to the comparative durability of the test and control caps.

3. RESULTS:

a. The test and control caps were utilized for approximately 90 days during the period 27 November 1961 through 1 March 1962. During this period no durability failures occurred with either the test or control caps.

b. No damage from cleaning the test and control caps occurred.

ANNEX B

FINDINGS

DEFICIENCY/SHORTCOMING

SUGGESTED CORRECTIVE ACTION

REMARKS

This section contains deficiencies requiring elimination in order to make the item acceptable for use on a minimum basis.

- |   |  |  |
|---|--|--|
| 1. Personnel could not be fitted with normal cap sizes. All personnel required a test cap marked one to two sizes larger than they did in the control cap.  | Provide a standard cap size.   | Test Nr 2, Report of Equipment Failure Nr 8. |
| 2. Frost accumulated on the overlap portion of the earlap when not worn closed over the chin area and prevented subsequent closure for maximum protection because of the possibility of frostbite when the frosted earlap was placed over the chin. | Provide a touch and close fastening device near the slits in the earlaps so that the ends of the earlaps can be secured so as to not be subject to frosting. | Test Nr 3, Report of Equipment Failure Nr 5. |
| 3. After a short period of wear, grease stain from the head of the wearer spread rapidly from the forehead area up over the crown of the cap. Grease stains could not be completely removed by laundering.  | Provide a material that will not absorb and transmit grease stains.  | Test Nr 5, Report of Equipment Failure Nr 7. |
| 4. When the test cap was secured around the chin area, the earlaps had a tendency to ride up over the chin covering the mouth area. The overlap portion of the earlap then absorbed moisture and froze at low temperatures.                         | Provide an earlap closure that will not ride up over the chin when secured and that can alternately be secured under the chin comfortably.                   | Test Nr 3, Report of Equipment Failure Nr 3. |

DEFICIENCY/SHORTCOMING

SUGGESTED CORRECTIVE ACTION

REMARKS

SECTION II

This section lists those deficiencies and shortcomings in the item which were discovered during test and satisfactorily corrected prior to completion of the test. They no longer represent a defect in the item tested. The correction must be applied to the production model of this item.

None.

SECTION III

This section contains shortcomings which should be corrected, if it can be done without unduly complicating the item or inducing another undesirable characteristic, either concurrent with elimination of the deficiencies in Section I, or in production engineering, or by product improvement.

- |  |  |  |
|--|--|--|
| 5. Twelve test cap cloth linings had small separations near seams, apparently caused by skip stitching, and one test cap back stretch panel stitching was not sewn properly. | Provide better quality control.  | Test Nr 1, Reports of Equipment Failures Nr 1 and 2. |
| 6. Test personnel experienced cold in the forehead when the test cap was worn with the earlaps down and without the steel helmet and liner.                                  | Provide more insulation in the forehead area.  | Test Nr 3, Report of Equipment Failure Nr 4.         |
| 7. Personnel wearing the Arctic Mitten Set could not secure the earlaps of the test cap over the steel helmet and liner because the earlaps were not of sufficient length.   | Provide an earlap that can be easily secured over the top of the steel helmet and liner. | Test Nr 4, Report of Equipment Failure Nr 6.         |
| 8. Freedom of head movement was restricted when the hood with fur ruff was worn over the steel helmet or liner and the CVC helmet.   | Provide a larger hood.   | Test Nr 4, Report of Equipment Failure Nr 9.         |



**US ARMY ARCTIC TEST BOARD**  
**FORT GREELY, ALASKA**

PROJECT NR ATB 3-212

17 OCT 61

NEGATIVE NR 20-1

SERVICE TEST OF CAP, COLD WEATHER, T61-3

FRONT AND REAR VIEW OF TEST CAP

C.1



**US ARMY ARCTIC TEST BOARD**

**FORT GREELY, ALASKA**

PROJECT NR ATB 3-212

29 DEC 61

NEGATIVE NR 185 1

SERVICE TEST OF CAP, COLD WEATHER, T61-3

FRONT AND REAR VIEW OF CONTROL CAP

C. 2

ANNEX D - COORDINATION OF PLAN  
UNITED KINGDOM AND CANADIAN COMMENTS  
PLAN OF TEST - PROJECT NR ATB 3-212

The British and Canadian Liaison Officers, USCONARC, did not reply.