



**TPL...Installation, Fitting, and Maintenance
for the SPH-4 Helmet**

(Script for Training Video)

By

**John V. Barson
Douglas P. Pritts
Bernard A. Lanoue**

Biodynamics Research Division

September 1988

Approved for public release; distribution unlimited.

**United States Army Aeromedical Research Laboratory
Fort Rucker, Alabama 36362-5292**

Notice

Qualified requesters

Qualified requesters may obtain copies from the Defense Technical Information Center (DTIC), Cameron Station, Alexandria, Virginia 22314. Orders will be expedited if placed through the librarian or other person designated to request documents from DTIC.

Change of address

Organizations receiving reports from the U.S. Army Aeromedical Research Laboratory on automatic mailing lists should confirm correct address when corresponding about laboratory reports.

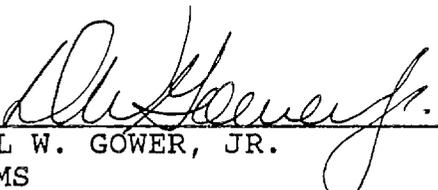
Disposition

Destroy this document when it is no longer needed. Do not return it to the originator.

Disclaimer

The views, opinions, and/or findings contained in this report are those of the author(s) and should not be construed as an official Department of the Army position, policy, or decision, unless so designated by other official documentation. Citation of trade names in this report does not constitute an official Department of the Army endorsement or approval of the use of such commercial items.

Reviewed:

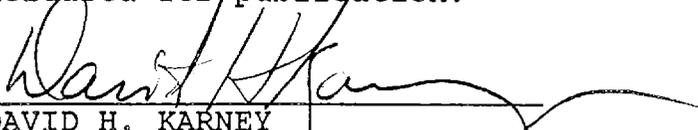


DANIEL W. GOWER, JR.
MAJ, MS
Director, Biodynamics Research
Division



J. D. LaMOTHE, Ph.D.
COL, MS
Chairman, Scientific
Review Committee

Released for publication:



DAVID H. KARNEY
Colonel, MC
Commanding

REPORT DOCUMENTATION PAGE

1a. REPORT SECURITY CLASSIFICATION UNCLASSIFIED		1b. RESTRICTIVE MARKINGS N/A	
2a. SECURITY CLASSIFICATION AUTHORITY		3. DISTRIBUTION/AVAILABILITY OF REPORT Public release; distribution unlimited	
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE		4. PERFORMING ORGANIZATION REPORT NUMBER(S) USAARL Report No. 88-18	
5. MONITORING ORGANIZATION REPORT NUMBER(S)		6a. NAME OF PERFORMING ORGANIZATION U.S. Army Aeromedical Research Laboratory	
6b. OFFICE SYMBOL (if applicable) SGRD-UAD-IE		7a. NAME OF MONITORING ORGANIZATION U.S. Army Medical Research and Development Command	
6c. ADDRESS (City, State, and ZIP Code) P.O. Box 577 Fort Rucker, AL 36362-5292		7b. ADDRESS (City, State, and ZIP Code) Fort Detrick, Frederick, MD 21701-5012	
8a. NAME OF FUNDING/SPONSORING ORGANIZATION		8b. OFFICE SYMBOL (if applicable)	
8c. ADDRESS (City, State, and ZIP Code)		9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER	
10. SOURCE OF FUNDING NUMBERS		11. TITLE (Include Security Classification) Video Tape - TPL...Installation, Fitting, and Maintenance for the SPH-4 Helmet	
PROGRAM ELEMENT NO. 62787A		PROJECT NO. 3E162787A878	
TASK NO. AG		WORK UNIT ACCESSION NO. 131	
12. PERSONAL AUTHOR(S) J. V. Barson, D. Pritts, B. Lanoue			
13a. TYPE OF REPORT Final		13b. TIME COVERED FROM _____ TO _____	
14. DATE OF REPORT (Year, Month, Day) 1988 September		15. PAGE COUNT 20	
16. SUPPLEMENTARY NOTATION			
17. COSATI CODES		18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)	
FIELD	GROUP	SUB-GROUP	
		TPL, helmet, SPH-4, fit, install	
19. ABSTRACT (Continue on reverse if necessary and identify by block number) The thermoplastic liner (TPL™) was accepted by the U.S. Army for use in the SPH-4 flyer's helmet in August 1988. This videotape demonstrates the U.S. Army Aeromedical Research Laboratory's techniques and procedures for installing, fitting, and maintaining the TPL™ in the SPH-4. Areas covered include TPL™ size selection, installation, fitting of the preformed TPL™, care and maintenance of the TPL™.			
20. DISTRIBUTION/AVAILABILITY OF ABSTRACT <input checked="" type="checkbox"/> UNCLASSIFIED/UNLIMITED <input type="checkbox"/> SAME AS RPT. <input type="checkbox"/> DTIC USERS		21. ABSTRACT SECURITY CLASSIFICATION UNCLASSIFIED	
22a. NAME OF RESPONSIBLE INDIVIDUAL Chief, Scientific Information Center		22b. TELEPHONE (Include Area Code) (205) 255-6907	
		22c. OFFICE SYMBOL SGRD-UAX-ST	

FINAL SHOOTING SCRIPT

"TPL . . . INSTALLATION, FITTING, AND MAINTENANCE FOR THE SPH-4 HELMET"

Presentation Sequence (PS #) # 1

Opens with the following TITLE:

-2C/600-011-1392-B
A0522-88-0033
TPL[Installation, fitting,
and maintenance for the
SPH-4 Helmet]
Produced for USAARL
08-10-1988
Running time 29.53
ETV Ft. Rucker AL

PS # 2

Opens with music and the ETV Aviation Center LOGO and the TITLE:

ETV
FORT RUCKER
ALABAMA

PRESENTS...

PS # 3

Continue music and dissolve to solid color background with SUPER title:

VIDEO PRODUCTION
BY
VISUAL INFORMATION BRANCH
AND
BIODYNAMICS RESEARCH DIVISION

U.S. ARMY AEROMEDICAL
RESEARCH LABORATORY
FORT RUCKER, ALABAMA

PS # 4

Continue music and opens with the following MONTAGE:

USAARL LOGO spinning in on star field.

PS # 4

Helicopter pilots wearing SPH-4s while flying NOE:

(VOICE OVER)

THE SPH-4 HELMET HAS BEEN PROVIDING SUPERIOR HEARING
PROTECTION AND GOOD CRASH IMPACT PROTECTION TO U. S.
ARMY AIRCREW MEMBERS SINCE ITS INTRODUCTION IN THE
LATE 1960S.

PS # 5

DISSOLVE to UH-60 with external fuel tanks:

VO:

IN THE LATE 1970S AND EARLY 1980S, INCREASING
MISSION LENGTHS,

PS # 6

DISSOLVE to pilot flying wearing PVS-5 Night Vision Goggles:

VO:

THE USE OF NIGHT VISION IMAGING DEVICES,

PS # 7

DISSOLVE to female pilot in helicopter wearing SPH-4:

VO:

AND AN INCREASE IN THE NUMBER OF FEMALE AIRCREW MEMBERS WITH THEIR DIFFERENT ANTHROPOMETRIC HEAD DIMENSIONS HAVE SURFACED SEVERAL DEFICIENCIES WITH THE SPH-4 SLING SUSPENSION SYSTEM.

PS # 8

DISSOLVE to PANNING view of TPL kit on flat surface:

VO:

IN RESPONSE TO THESE PROBLEMS, A NEW SUSPENSION SYSTEM, THE THERMOPLASTIC LINER OR TPL, WAS DEVELOPED FOR THE SPH-4 HELMET. EXTENSIVE TESTING BY THE U.S. ARMY AEROMEDICAL RESEARCH LABORATORY AND THE U.S. ARMY AVIATION BOARD HAS DEMONSTRATED THAT THE TPL CAN REMEDY MANY OF THE SPH-4 FIT PROBLEMS WHILE PROVIDING INCREASED CRASH IMPACT PROTECTION AND IMPROVED HELMET STABILITY.

PS # 9

DISSOLVE to solid background color with SUPER title:

(MAIN TITLE)

TPL...
INSTALLATION,
FITTING,
AND MAINTENANCE
FOR THE
SPH-4 HELMET

PS # 10

DISSOLVE to solid background color with SUPER title:

BY

MAJ JOHN V. BARSON
SSG DOUGLAS P. PRITTS
SGT BERNARD A. LANOUE

BIODYNAMICS RESEARCH DIVISION

AUGUST 1988

VO:

THIS TAPE WILL DEMONSTRATE THE INSTALLATION, FITTING,
AND MAINTENANCE OF THE THERMOPLASTIC LINER SYSTEM.

PS # 11

DISSOLVE to angled view from above of TM 10-8415-206-12&P laying on a
flat surface:

VO:

THIS VIDEOTAPE CANNOT COVER ALL ASPECTS OF SPH-4
HELMET MAINTENANCE THEREFORE, BEFORE ATTEMPTING
INSTALLATION OF THE THERMOPLASTIC LINER, YOU SHOULD
BECOME FAMILIAR WITH THE SPH-4 TECHNICAL MANUAL,
TM 10-8415-206-12 AND P, ESPECIALLY CHAPTER 4 AND APPENDIX B.

PS # 12

DISSOLVE to layout of TPL kit and zoom in on foam liner, then DISSOLVE
to each item as is mentioned in the narration:

VO:

THE THERMOPLASTIC LINER KIT OR TPL KIT IS AVAILABLE
IN THREE SIZES, SMALL REGULAR, REGULAR, AND EXTRA LARGE.

(PAUSE)

IT CONSISTS OF A 5/8TH INCH THICK EXPANDED FOAM LINER,

(PAUSE)

A CLOTH COVERED FOUR LAYER OPEN CELL PLASTIC LINER,

(PAUSE)

FOUR FOAM LINER PLUGS (PAUSE) SIX RUBBER HELMET SHELL PLUGS

(PAUSE)

FOUR STRIPS OF SELF ADHESIVE HOOK VELCRO,

(PAUSE)

TWO STRIPS OF SELF ADHESIVE PILE VELCRO,

(PAUSE)

AND A COPY OF FITTING AND USER INSTRUCTIONS

PS # 13

DISSOLVE to solid color background with SUPER title:

"TOOLS REQUIRED FOR TPL INSTALLATION"

VO:

MOST OF THE TOOLS NECESSARY TO INSTALL A THERMOPLASTIC LINER
ARE FOUND IN THE TECHNICAL MANUAL UNDER APPENDIX B, SECTION 3.

PS # 14

DISSOLVE to first tool in display, then DISSOLVE to each tool as it is described by narration:

VO:

ADDITIONAL TOOLS AND ITEMS INCLUDE THE FOLLOWING:

(PAUSE)

A NUMBER 1 PHILLIPS HEAD SCREWDRIVER

(PAUSE)

A 16 PENNY NAIL OR A POINTED AWL

(PAUSE)

AN ELECTRICIAN'S WIRE STRIPPER AND SCREW CUTTER TOOL

(PAUSE)

CELLOPHANE TAPE, DO NOT USE SCOTCH TAPE BECAUSE IT WILL NOT STICK AS WELL AS THE CELLOPHANE

(PAUSE)

QUICK SETTING EPOXY OR ONE HUNDRED MILE AN HOUR TAPE

(PAUSE)

A MODIFIED BUTTER KNIFE THAT IS MADE BY CUTTING OR GRINDING A NOTCH IN AN ORDINARY, UNSERRATED TABLE BUTTER KNIFE AND THEN BENDING THE KNIFE SLIGHTLY AS SHOWN.

PS # 15

DISSOLVE to solid color background with SUPER title:

"DETERMINING TPL KIT SIZE"

PS # 16

DISSOLVE to side-by-side comparison of standard liner and TPL liner:

VO:

THE FIRST STEP IN THE INSTALLATION OF THE TPL IS TO DETERMINE THE SIZE OF TPL KIT THAT WILL BE REQUIRED. BECAUSE THE TPL FOAM LINER IS 1/8 OF AN INCH THICKER THAN THE STANDARD SPH-4 LINER, THE INCREASED THICKNESS MAY REQUIRE SOME PERSONNEL TO BE MOVED UP FROM A REGULAR SIZED SPH-4 TO AN EXTRA-LARGE SPH-4 USING THE EXTRA-LARGE TPL KIT.

PS # 17

DISSOLVE to side-by-side regular SPH-4 and extra-large SPH-4 with TPL:

VO:

A WAY TO SAVE TIME IN DETERMINING THE SIZE REQUIRED FOR A CREWMEMBER IS TO INSTALL A TPL KIT IN A REGULAR AND AN EXTRA-LARGE SPH-4. HAVE ALL PERSONNEL WHO WILL BE FIT WITH TPLS TRY ON BOTH HELMETS TO FIND OUT WHICH FITS BEST. AFTER DETERMINING THE PROPER SIZE HELMET AND TPL KIT, THE HELMET MUST BE PREPARED FOR TPL INSTALLATION.

PS # 18

DISSOLVE solid color background with SUPER title:

"PREPARING THE HELMET FOR TPL INSTALLATION"

PS # 19

DISSOLVE to prepared SPH-4 helmet and FOLLOW action:

VO:

AS STATED EARLIER IN THIS PRESENTATION, INSTALLATION OF THE TPL SHOULD BE PERFORMED ONLY BY PERSONNEL FAMILIAR WITH THE MAINTENANCE PROCEDURES IN THE TECHNICAL MANUAL.

OPEN on the microphone side of the helmet:

VO:

FOR INSTRUCTIONAL PURPOSES, THE SIDE OF THE HELMET WHERE THE MICROPHONE BOOM ATTACHES WILL BE CALLED THE LEFT SIDE OF THE HELMET.

HOLD POSITION while the helmet is rotated to show interior:

VO:

USING THE PROCEDURES IN THE TECHNICAL MANUAL, THIS HELMET HAS HAD THE SLING SUSPENSION ASSEMBLY, THE EARCUP RETENTION ASSEMBLY, AND THE FOAM LINER REMOVED. ANY EXCESS ADHESIVE SHOULD NOW BE REMOVED FROM INSIDE THE HELMET SHELL.

(PAUSE VO while helmet is rotated to show nuts)

AT THIS POINT, YOU CAN SECURE THE VISOR HOUSING NUTS BY USING EITHER THE QUICK SET EPOXY TO GLUE THE FOUR VISOR HOUSING NUTS ONTO THE HELMET SHELL, OR A PIECE OF ONE HUNDRED MILE AN HOUR TAPE CAN BE PLACED OVER EACH NUT ON THE INSIDE OF THE HELMET SHELL. IF EPOXY IS USED, CARE SHOULD BE TAKEN NOT TO GET IT ON ANY THREADED SURFACES.

(PAUSE VO while helmet is rotated to show front holes)

INSTALL THREE OF THE RUBBER PLUGS INTO THE EMPTY SUSPENSION

SCREW HOLES ON THE FRONT OF THE HELMET SHELL.

(PAUSE)

THEN REINSTALL THE VISOR HOUSING TAKING CARE NOT TO OVERTIGHTEN THE SCREWS.

PS # 20

DISSOLVE to electrician's tool and snaps:

VO:

BEFORE PROCEEDING TO THE NEXT STEP, IT MUST BE DETERMINED IF PNV5-5 NIGHT VISION GOGGLES ARE TO BE USED WITH THE HELMET. IF SO, THEN THE NIGHT VISION GOGGLE ATTACHMENT SNAP SCREW MUST BE SHORTENED BY AN EIGHTH OF AN INCH USING THE SCREW CUTTER ON THE ELECTRICIAN'S TOOL. THIS IS DONE BY INSERTING THE SNAP SCREW INTO THE APPROPRIATE SIZE CUTTING HOLE OF THE ELECTRICIAN'S TOOL UNTIL IT IS FLUSH WITH THE OPPOSITE SIDE OF TOOL, THEN BACK THE SCREW OUT APPROXIMATELY ONE-HALF TURN AND QUICKLY CUT IT. ROTATE THE SCREW SEVERAL TIMES IN AND OUT OF THE CUTTING HOLE TO REMOVE ANY METAL BURRS.

PS # 21

DISSOLVE to reinstalling of left side retention assembly:

VO:

REINSTALL THE LEFT EARCUP ASSEMBLY USING THE NIGHT VISION GOGGLE MODIFICATION IF REQUIRED.

(PAUSE)

THIS COMPLETES HELMET PREPARATION AND THE INSTALLATION OF TPL KIT CAN NOW TAKE PLACE.

PS # 22

DISSOLVE to solid color background with SUPER title:

"TPL KIT INSTALLATION"

PS # 23

DISSOLVE to left side of helmet looking slightly downward:

VO:

FIRST, WORKING FROM THE RIGHT SIDE OF THE HELMET, INSERT THE TPL FOAM LINER INTO THE HELMET SHELL BY PUTTING THE LEFT SIDE IN FIRST AND ROTATING IT CAREFULLY INTO PLACE.

HOLD position as helmet is rotated to show first inside front then back:

VO:

MARK THE INSIDE OF THE HELMET SHELL AT FRONT AND REAR TO SHOW WHERE THE EDGES OF THE VELCRO ON THE FOAM LINER FALL ON THE INTERIOR OF THE HELMET SHELL. THESE MARKS WILL LATER BE USED TO LINE THE VELCRO FASTENERS THAT WILL HOLD THE FOAM LINER IN PLACE.

(PAUSE)

REMOVE FOAM LINER BY ROTATING IT OUT IN THE OPPOSITE DIRECTION FROM WHICH IT WAS PUT IN. THIS IS DONE BY PULLING UP AND ROTATING THE RIGHT SIDE OF THE LINER UP AND OUT OF THE HELMET SHELL.

(PAUSE)

TAKING CARE TO ALIGN THE PILE VELCRO FASTENERS WITH THE PREVIOUSLY MADE ALIGNMENT MARKS, ATTACH A ONE INCH BY ONE-HALF-INCH PILE VELCRO FASTENER TO THE INSIDE OF THE

FRONT OF THE HELMET SHELL AND ANOTHER TO THE INSIDE OF
THE REAR OF THE HELMET SHELL.

(PAUSE)

FOLD A SMALL PIECE OF PAPER OVER THE FRONT AND REAR EDGES
OF THE HELMET SHELL COVERING THE PILE VELCRO FASTENER.
THIS IS DONE SO THAT THE HOOK VELCRO FASTENER ON THE
FOAM LINER WON'T CATCH DURING INSERTION INTO THE SHELL.

(PAUSE)

REINSERT THE FOAM LINER IN THE SAME MANNER AS BEFORE
ENSURING THAT THE FRONT EDGE OF THE LINER AND THE FRONT
EDGE OF THE SHELL ARE EVEN.

(PAUSE)

ALIGN THE VELCRO FASTENERS ON THE SHELL AND THE LINER
AND PULL THE PIECE OF PAPER OUT FROM THE FRONT FASTENER
AND PRESS GENTLY ON THE FOAM LINER TO SECURE. LEAVE
THE BACK PIECE OF PAPER IN PLACE.

PS # 24

DISSOLVE to left side of the helmet and FOLLOW action:

VO:

TO INSTALL THE RIGHT SIDE EARCUP RETENTION ASSEMBLY
AND NIGHT VISION GOGGLE MODIFICATION IF REQUIRED,
A PIECE OF CELLOPHANE TAPE MUST BE WRAPPED AROUND
THE EARCUP RETENTION ATTACHMENT STRAP AND EARCUP TENSION
STRAP TO HOLD THE NUT IN PLACE.

(PAUSE)

STARTING WITH EITHER THE FRONT OR BACK HOLE AND USING
THE MODIFIED BUTTER KNIFE, SLIDE THE NOTCH OF THE KNIFE
BLADE BETWEEN THE STRAPS OF THE TAPE, STRAP AND NUT
ASSEMBLY UNTIL IT HOOKS OVER THE NUT. THEN SLIP THE
ENTIRE ASSEMBLY DOWN BETWEEN THE FOAM LINER AND THE
HELMET SHELL SO THAT THE NUT ALIGNS WITH THE PRE-PUNCHED
HOLE IN THE LINER AND THE SCREW HOLE IN THE HELMET SHELL.
THIS CAN BE A TIGHT FIT AND MAY TAKE SEVERAL ATTEMPTS TO
ACCOMPLISH. DO NOT RUSH OR YOU MAY DAMAGE THE FOAM LINER.

(PAUSE)

THE SIXTEEN PENNY NAIL OR AWL IS USED TO MAKE A HOLE IN THE TAPE
AND TO LINE UP THE HOLE IN THE NUT WITH THE HOLE IN THE HELMET.

(PAUSE)

INSERT THE ATTACHMENT SCREW AND WHILE PUSHING
YOUR FINGER THROUGH THE HOLE IN THE FOAM LINER,
HOLD THE NUT AND TIGHTEN THE SCREW.

(PAUSE)

REPEAT THESE STEPS FOR THE OTHER HOLE.

PS # 25

DISSOLVE to front view of the helmet looking towards the helmet's rear:

VO:

USING THE BUTTER KNIFE, CAREFULLY ROUTE THE COMMUNICATION WIRE FROM THE RIGHT EARCUP BEHIND THE REAR VELCRO FASTENER BETWEEN THE FOAM LINER AND THE HELMET SHELL TAKING CARE NOT TO DAMAGE THE LINER.

(PAUSE)

REMOVE THE PIECE OF PAPER COVERING THE REAR FASTENER AND GENTLY PRESS THE INSIDE OF THE FOAM LINER OVER THE FASTENER TO SECURE.

(PAUSE)

ATTACH THE 2-AND-1/4-INCH LONG BY ONE-INCH WIDE HOOK VELCRO FASTENERS TO THE INSIDE SURFACE OF THE FRONT AND REAR OF THE FOAM LINER NEAR THE EDGE OF THE LINER AND ALLOW THEM TO SET FOR SEVERAL MINUTES.

(PAUSE)

CAREFULLY INSERT THE FOUR FOAM PLUGS INTO THE APPROPRIATE HOLES OF THE FOAM LINER. THIS PLUGS CAN BE SQUEEZED SLIGHTLY SO THAT THEY WILL FIT INTO THE HOLES EASIER.

(PAUSE)

INSTALL THE THREE RUBBER PLUGS INTO THE EMPTY SUSPENSION SYSTEM HOLES ON THE REAR OF THE HELMET SHELL.

PS # 26

DISSOLVE to viewing helmet from the left side and FOLLOW action:

VO:

TO INSERT THE TPL INTO THE HELMET, SQUEEZE THE TPL BY FOLDING IT IN HALF LENGTHWISE AND SLIP IT INTO HELMET WITH THE TWO LARGE HOLES ON THE TOP TOWARDS THE FRONT OF THE HELMET.

(PAUSE)

ALIGN THE FRONT EDGE OF THE TPL WITH THE FRONT EDGE OF THE FOAM LINER AND PULL THE REAR OF THE TPL LOOSE FROM THE VELCRO. ADJUST THE TPL UNTIL IT FITS SMOOTHLY AGAINST THE FOAM LINER.

(PAUSE)

EXAMINE THE TPL AND HELMET MAKING SURE ALL OF THE COMPONENTS ARE PRESENT AND PROPERLY ALIGNED.

PS # 27

DISSOLVE to solid color background with SUPER title:

"CHECKING THE FIT OF THE INSTALLED TPL"

VO:

THE THERMOPLASTIC LINER THAT COMES IN THE TPL KIT HAS BEEN PREFORMED ON A MOLD PRIOR TO SHIPPING. OUR RESEARCH HAS LEAD US TO BELIEVE THAT THIS PREFORMING SHOULD ALLOW THE TPL TO FIT A MAJORITY OF PERSONNEL WITHOUT ANY MODIFICATIONS.

PS # 28

DISSOLVE to view 45 degrees off front facing fitting subject:

VO:

THERE ARE SEVERAL STEPS TO CHECKING THE FIT OF A TPL.

(PAUSE)

FIRST, HAVE THE CREWMEMBER DON THE HELMET AND TIGHTEN THE CHIN STRAP AND THE NAPE STRAP AS IT WOULD BE WORN WHILE FLYING.

(PAUSE WHILE DONNING HELMET)

ASK HIM IF HIS EARS FEEL LIKE THEY ARE FULLY INSIDE THE EARCUPS AND IF HE DETECTS ANY SOUND LEAKS.

(PAUSE)

IF THERE IS ANY QUESTION AS TO THE EARS FITTING, SLIDE YOUR FINGER UP UNDER THE EARCUP SEAL TO CHECK THE EAR LOBE POSITION.

(PAUSE WHILE CHECKING EAR LOBE POSITION)

ASK THE WEARER IF THE HELMET IS COMFORTABLE AND IF HE NOTICES ANY TIGHT OR LOOSE AREAS, OR PRESSURE POINTS.

(PAUSE)

CHECK TO SEE IF THERE IS ADEQUATE RETENTION BY TRYING TO ROTATE THE HELMET FORWARD AND BACKWARD, AND FROM SIDE TO SIDE. IF THE HELMET ROTATES TO COVER THE EYES, EXPOSES THE FOREHEAD, OR BREAKS THE EARCUP SEAL ON THE SIDES, THEN THE TPL MAY NEED FORM FITTING.

(PAUSE)

HAVE THE WEARER LOWER VISOR TO SEE IF THE TPL SITS LEVEL IN THE HELMET.

(PAUSE)

THE CREWMEMBER SHOULD THEN WEAR THE HELMET FOR 15-30 MINUTES TO SEE IF PROBLEM AREAS DEVELOP.

(PAUSE)

ALTHOUGH A MAJORITY OF TPL USERS WILL BE ACCOMMODATED BY THE PREFORMED LINER, CERTAIN INDIVIDUALS WILL REQUIRE A CUSTOM MOLDING OF THE TPL TO THEIR HEAD. THE FOUR-LAYER OPEN CELL PLASTIC LINER WITH THE BLACK COVER HAS THE CAPABILITY TO BE HEATED AND MOLDED TO THE WEARER'S HEAD. THE INSTRUCTION BOOKLET THAT COMES WITH THE TPL KIT HAS A PROCEDURE FOR THE CUSTOM HEAT FITTING OF THE LINER. WE RECOMMEND THAT YOU SHOULD NOT TRY THIS PROCEDURE BECAUSE IT REQUIRES THAT THE HEATING OVEN BE CAPABLE OF MAINTAINING A PRECISE TEMPERATURE. MOST HOME OVENS CANNOT DO THIS AND WILL DAMAGE THE TPL. IF YOU HAVE SOMEONE WHO REQUIRES CUSTOM FITTING, PLEASE CONTACT US AT THE ADDRESS OR TELEPHONE NUMBER GIVEN AT THE END OF THIS PRESENTATION.

PS # 29

DISSOLVE to solid color background with SUPER title:

"TPL INSPECTION AND MAINTENANCE CRITERIA"

VO:

USE OF THE TPL IN THE SPH-4 DOES NOT SIGNIFICANTLY CHANGE THE INSPECTION CRITERIA FOR THE HELMET. THE HELMET IS TO BE INSPECTED AT THE NORMAL 120 DAY CYCLE.

PS # 30

DISSOLVE to inverted helmet with TPL looking from 45 degrees off front:

VO:

INSPECTION ITEMS FOR THE TPL INCLUDE:

(PAUSE)

REMOVING THE TPL TO INSPECT THE FOAM LINER FOR CRACKS,
GOUGES, AND OTHER PHYSICAL DAMAGE.

(PAUSE)

INSPECTING THE TPL FOR RIPS IN THE CLOTH COVER OR DAMAGE
TO THE BUBBLE PLASTIC.

PS # 31

FREEZE FRAME:

VO:

TO KEEP THE TPL FUNCTIONING WELL OVER TIME,
CARE MUST BE TAKEN NOT TO DAMAGE OR ABUSE IT.
TO PREVENT DAMAGE TO THE TPL, THE WEARER MUST FOLLOW
SEVERAL BASIC RULES:

(PAUSE)

THE TPL IS HEAT SENSITIVE. DO NOT LEAVE THE
HELMET IN AN ENCLOSED AIRCRAFT OR AUTOMOBILE IN
THE SPRING AND SUMMER MONTHS.

PS # 32

DISSOLVE to scene of knee board in SPH-4 with TPL:

VO:

THE FOAM LINER IN THE TPL KIT IS MADE OF A LOWER DENSITY FOAM TO IMPROVE CRASHWORTHINESS THEREFORE, IT IS MUCH MORE SENSITIVE TO ROUGH HANDLING THAN THE CURRENT LINER IN THE SPH-4 AND WILL DENT AND CRACK VERY EASILY. FOR THIS REASON, DO NOT PUT HEAVY ITEMS IN THE HELMET SUCH AS KNEEBOARDS OR TOOLS. ADDITIONALLY, SPECIAL CARE SHOULD BE TAKEN WHEN REMOVING THE FOAM LINER FOR HELMET REPAIRS.

PS # 33

DISSOLVE to scene removing black cover from TPL:

VO:

IF THE CLOTH COVER BECOMES SOILED, IT CAN BE REMOVED FOR LAUNDERING. WE RECOMMENDED THAT THE COVER BE WASHED BY HAND USING A MILD DETERGENT SUCH AS WOOLITE AND ALLOWED TO AIR DRY. ONCE DRY, THE BLACK COVER IS PUT BACK ON THE BUBBLE PLASTIC WITH THE TOP OF THE "Y" SHAPE IN THE STITCHING FACING TOWARDS THE END OF THE TPL WITH THE TWO BIG HOLES. THE COVER IS THEN REATTACHED USING ANY TYPE OF DOUBLE STICK TAPE.

PS # 34

DISSOLVE to front view of inverted helmet with TPL:

VO:

IF THE TPL SHIFTS IN THE HELMET, IT CAN BE ADJUSTED
EASILY BY PULLING THE BLACK LINER MATERIAL AWAY FROM
THE VELCRO HOOK FASTENERS AND REPOSITIONED.

PS # 35

DISSOLVE to skull cap:

VO:

ALTHOUGH UNNECESSARY, A SKULL CAP CAN BE USED WITH THE TPL.

PS # 36

DISSOLVE to solid color background with SUPER title:

"CONCLUSION"

VO:

USE OF THE THERMOPLASTIC LINER WILL REMEDY MOST SPH-4 FITTING
PROBLEMS WHILE IMPROVING CRASH IMPACT PROTECTION
AND HELMET STABILITY. THE INSTALLATION OF A TPL KIT TAKES
APPROXIMATELY 30 TO 60 MINUTES PER HELMET IF FORM FITTING
IS NOT REQUIRED. PLEASE UNDERSTAND THESE TIMES ARE
REPRESENTATIVE OF AN EXPERIENCED TPL INSTALLER. THE FIRST
FEW KITS YOU INSTALL WILL PROBABLY TAKE LONGER, BUT RUSHING
THE PROCEDURE ONLY INCREASES THE RISK OF DAMAGING THE TPL.
BY TAKING YOUR TIME AND INSTALLING THE TPL CORRECTLY, YOU WILL
GIVE YOUR AIRCREW MEMBERS A BETTER FITTING AND SAFER HELMET,
AND YOU WILL SAVE TIME, EFFORT, AND MONEY IN THE LONG RUN.

PS # 37

DISSOLVE to solid color background with SUPER title:

VO:

IF YOU HAVE ANY QUESTIONS OR PROBLEMS CONCERNING ANY ASPECT
OF THE TPL, OR IF ONE OF YOUR AIRCREW MEMBERS REQUIRES FORM
FITTING, PLEASE CONTACT US AT THE FOLLOWING ADDRESS OR
TELEPHONE NUMBERS:

CHIEF, LSE/CIE
U.S. ARMY AEROMEDICAL RESEARCH LABORATORY (USAARL)
P.O. BOX 577
ATTN: SGRD-UAD-IE
FT RUCKER, ALABAMA 36362-5292

TELEPHONE

AUTOVON 558-6882/6881

COMMERCIAL (205) 255-6882/6881

PS # 38

USAARL LOGO spinning in on star field.