

**Operate Night Vision Goggles
071-SAWE08 / Version 1.0
Effective Date 08 Mar 2013**

SECTION I. ADMINISTRATIVE DATA

**All Courses
Including This
Lesson**

<u>Course Number</u>	<u>Version</u>	<u>Course Title</u>
None		

**Task(s)
Taught(*) or
Supported**

<u>Task Number</u>	<u>Task Title</u>
<u>Individual</u>	
071-710-0008 (*)	Operate Night Vision Goggles, AN/PVS-7-series
071-022-0024	Engage Targets with a Caliber .50 M2 Machine Gun Using an AN/PAQ-4-Series Aiming Light
071-025-0026	Engage Targets with an M240B Machine Gun Using an AN/PAQ-4 Series Aiming Light
071-025-0030	Engage Targets with an M240B Machine Gun Using an AN/PEQ-2A-Series Aiming Light
071-706-0001 (*)	Operate Night Vision Device, AN/PVS-14
071-706-0002 (*)	Maintain Night Vision Device, AN/PVS-14
071-710-0009 (*)	Maintain Night Vision Goggles, AN/PVS-7-series
071-701-0005	Engage Targets with an M16-Series Rifle / M-4 Series Carbine Using an AN/PEQ-15 Aiming Light
071-100-0037	Engage Targets with an M16-Series Rifle/M4-Series Carbine Using a Night Vision Sight AN/PVS-4
071-100-0041	Engage Targets with an M16-Series Rifle/M4-Series Carbine Using an AN/PAQ-4-Series Aiming Light
071-702-0006	Engage Targets with an M16-Series Rifle/M4- Series Carbine using an AN/PEQ-2 Series Target Pointer Illuminator/Aiming Light
071-010-0019	Engage Targets with an M249 Squad Automatic Weapon using an AN/PEQ-2 Aiming Light
071-025-0038	Engage Targets with an M240B Machine Gun using an AN/PEQ-15 Aiming Light
071-032-0008	Engage Targets with an M203 Grenade Launcher Using a Night Vision Sight, AN/PSQ-18A
<u>Collective</u>	
07-3-9016	Establish an Observation Post
07-3-9013	Conduct Action on Contact
07-5-1201	Acquire a Target
07-3-1333	Knock Out a Bunker
07-5-1001	Conduct Surveillance
07-3-9018	Enter and Clear a Building (Section-Platoon)
07-3-1072	Conduct a Disengagement (Section-Platoon)

**Reinforced
Task(s)**

<u>Task Number</u>	<u>Task Title</u>
None	

Knowledge

<u>Knowledge Id</u>	<u>Title</u>	<u>Taught</u>	<u>Required</u>
071-WPN-0066	Theory and Operation of Night Vision Devices	Yes	No

Skill	<u>Skill Id</u>	<u>Title</u>	<u>Taught</u>	<u>Required</u>
	071-MNT-0004	Maintain Night Vision Devices	Yes	No
	071-WPN-0025	Mount Night Vision Devices to Infantry Weapons	Yes	No

**Administrative/
Academic
Hours**

The administrative/academic hours required to teach this lesson are as follows:

<u>Academic</u>	<u>Resident Hours / Methods</u>		
Yes	7 hrs	40 mins	Conference/Demonstration
Yes	3 hrs	0 mins	Conference/Discussion
Yes	0 hrs	0 mins	Test Review
Yes	0 hrs	0 mins	Test
<hr/>			
Total Hours:	10 hrs	40 mins	

**Test Lesson
Number**

<u>Hours</u>	<u>Lesson Number</u>
None	

**Prerequisite
Lesson(s)**

<u>Lesson Number</u>	<u>Lesson Title</u>
None	

**Training
Material
Classification**

Security Level: This course/lesson will present information that has a Security Classification of: U - Unclassified.

**Foreign
Disclosure
Restrictions**

FD7. This product/publication has been reviewed by the training/educational developers in coordination with the DOTD, MCoE, Ft Benning, GA 31905 FD authority. This product is NOT releasable to students from foreign countries.

References

<u>Number</u>	<u>Title</u>	<u>Date</u>	<u>Additional Information</u>
FM 3-22.9	RIFLE MARKSMANSHIP M16-/M4-SERIES WEAPONS	12 Aug 2008	
TM 11-5855-262-10-2	OPERATORS MANUAL FOR NIGHT VISION GOGGLES (NVG) AN/PVS-7B (NSN 5855-01-228-0937) (EIC: IPS) AND AN/PVS-7D (5855-01-422-5413) (EIC: N/A) {TO 12S10-2PVS7-11; TM 09500A-10/1A; NAVSEA SW215-AT-OMI-010} (THIS	01 Jun 2000	
TM 11-5855-306-10	OPERATORS MANUAL FOR MONOCULAR NIGHT VISION DEVICE (MNVD) AN/PVS-14 (NSN 5855-01-432-0524) (EIC: N/A) {TM 10271A-10/1A}	15 May 2007	

**Student Study
Assignment**

NONE.

Instructor Requirements

Complete a risk management worksheet. It is recommended that you use the ground risk assessment tools provided by the US ARMY COMBAT READINESS/SAFETY CENTER at https://grat.safety.army.mil/ako_auth/grat/default.aspx

Additional Support Personnel Requirements

<u>Name</u>	<u>Student Ratio</u>	<u>Qty</u>	<u>Man Hours</u>
NCOIC	1:36		3.0
Combat Lifesaver	1:36		3.0
Equipment NCO	1:36		1.0

Equipment Required for Instruction

<u>ID - Name</u>	<u>Student Ratio</u>	<u>Instructor Ratio</u>	<u>Spt</u>	<u>Qty</u>	<u>Exp</u>
4470-01-359-2799 - COMPUTER, NOTEBOOK/LAPTOP	1:32	0:0	No	0	No
5855-01-228-0939 - Night Vision Goggle AN/PVS-7A	1:1	1:1	No	0	No
5855-01-422-5413 - Night Vision Goggle AN/PVS-7D	1:1	1:1	No	0	No
5855-01-432-0524 - Monocular Night Vision Device: AN/PVS-14	1:1	1:1	No	0	No
6545-01-254-9551 - MES,COMBAT LIFESAVER-1999	1:18	0:0	No	0	No
6730-01-484-2886 - SCREEN,PROJECTION	1:32	0:0	No	0	No
6730-01-551-9773 - Projector, Multimedia: Epson Powerlite 760C	1:32	0:0	No	0	No

(Note: Asterisk before ID indicates a TADSS.)

Materials Required

Instructor Materials:

TM 11-5855-262-10-2

TM 11-5855-306-10

Student Materials:

Note taking material.

Field Uniform.

Classroom, Training Area, and Range Requirements

<u>ID - Name</u>	<u>Quantity</u>	<u>Student Ratio</u>	<u>Setup Mins</u>	<u>Cleanup Mins</u>
17120-1080-50 GEN INST BLDG, 1080 SF, 50 PN		1:32	15	15

Ammunition Requirements

<u>DODIC - Name</u>	<u>Exp</u>	<u>Student Ratio</u>	<u>Instruct Ratio</u>	<u>Spt Qty</u>
None				

**Instructional
Guidance**

NOTE: Before presenting this lesson, instructors must thoroughly prepare by studying this lesson and identified reference material.

Before presenting this lesson:

1. Have on hand identified reference material linked to the lesson plan.
2. Review presentation and develop a list of questions to use during class.
3. Review and prepare conference / discussion material presented.
4. Ensure all equipment listed for this lesson plan (LP) is present, operable, and set up for use before class.
5. Refer to the practical exercise of this lesson plan. When necessary develop additional situations to use during the practical exercise.
6. PowerPoint users: Ensure the SLI file you are using has been called up using Microsoft PowerPoint Viewer and SLI / slide 1 is showing on the screen before class.
7. Whenever noted, slides are available to assist in explanation of task steps. Use slides as needed during class or practical exercise to reinforce training. The instructor may choose to use / not use the LP SLIs as developed, modify the existing SLIs content / order or insert new material as is necessary based on audience analysis to assist in Soldier learning. Changes must be annotated as a pen / ink change on the vault file master LP, VIP LP, and instructor LP. Changes must be approved through Senior Instructor and TDCD 183rd RTI Development Team notified.
8. Whenever necessary, ask leading questions of Soldiers in order to prompt Soldier discussion.
9. Encourage Soldiers to relate their first hand experiences during the activities.
10. Facilitate this lesson using Instructor methodologies.
11. Control group activities using Instructor techniques.

**Proponent Lesson
Plan Approvals**

<u>Name</u>	<u>Rank</u>	<u>Position</u>	<u>Date</u>
Robert Padin	Not available	Approver	08 Mar 2013

SECTION II. INTRODUCTION

Method of Instruction: Conference/Demonstration
Instr Type(I:S Ratio/Qty): instructor (4:32/0)
Time of Instruction: 3 hrs
Instructional Strategy: Large Group Instruction

Motivator

As part of your training, you will be required to qualify with the weapon you are boresighting during day or night qualification using a night vision device, a weapon sight or a combination of a night vision device and an aiming light. Before you do this, a boresight zero must be established with your weapon and your night sight and/or aiming light, in order to effectively engage a target.

Terminal Learning Objective

NOTE. Inform the students of the following Terminal Learning Objective requirements.

At the completion of this lesson, you [the student] will:

Action:	Operate Night Vision Goggles.
Conditions:	In a classroom environment given all required equipment and references.
Standards:	Student must be able to maintain and operate the PVS-7 Series and PVS-14, night vision equipment.

Safety Requirements

Safety Requirements in a Classroom Setting:

Safety is of the utmost importance in any training environment. During the training process, commanders will utilize the 5-Step Risk Management process to determine the safest and most complete method to train. Every precaution will be taken during the conduct of training.

Safety is everyone's responsibility to recognize, mitigate, and report hazardous conditions.

Instructor note: The instructor will brief the students on the unit/facility SOP for classroom contingencies i.e. what doors will be used to exit the classroom, rally points, severe weather, WBGT/Kestrel set up, etc.

Safety Requirements other than Classroom Settings:

Safety must be paramount in the complex outdoor environment. During the training process, commanders will utilize the 5-Step Risk Management process to determine the safest and most complete method to train. Every precaution will be taken while replicating realistic battlefield conditions.

Safety is everyone's responsibility to recognize, mitigate, and report hazardous conditions.

Instructor note: The instructor will brief the unit/site SOP and Risk Management Worksheet for all potential contingencies encountered during that training period/event i.e. WBGT/Kestrel set up, trail vehicles for PT/foot marches, severe weather, fire, evacuation routes, muzzle awareness, range safety briefs, required medical FLA with driver and medics with emergency equipment, student injury procedures, and rally points etc.

Risk Assessment Level

Low - All Army Instructors will conduct a Risk Assessment Worksheet (DA Form 7566, CRM Worksheet, Apr 05) prior to training and brief Soldiers on identified hazards and required controls.

Assessment: The operations officer, in cooperation with the principal instructor, will prepare a risk assessment using the before, during, and after checklist and the risk assessment matrixes contained in Risk Management FM 5-19.

Controls: See Attached DA Form 7566.

Leader Actions: See Attached DA Form 7566.

Environmental Considerations

NOTE: Instructor should conduct a Risk Assessment to include Environmental Considerations IAW FM 3-34.5, Environmental Considerations {MCRP 4-11B}, and ensure students are briefed on hazards and control measures.

Users must comply with all local environmental regulations and guidance while conducting training.using state and local environmental regulations applicable to your area.

Evaluation

Soldiers will be evaluated by task performance measures.

Instructional Lead-in

This might be your first training on the Borelight. The purpose of this course is to teach you how to operate the borelight with an individual or crew served weapon IAW the Borelight Operators Manual. If you dont get an accurate boresight you will not be able to effectively engage targets when you live fire. Also remember that every barrel is unique and each weapon must be zeroed and boresighted.

SECTION III. PRESENTATION

NOTE: Inform the students of the Enabling Learning Objective requirements.

A. ENABLING LEARNING OBJECTIVE

ACTION:	Maintain Night Vision Device, AN/PVS-14
CONDITIONS:	In a classroom environment given PVS-14 w/batteries and appropriate tm.
STANDARDS:	Maintain US Army PVS-14 Night Vision monocular IAW TM 11-5855-306-23&P.

ELO A - LSA 1. Learning Step / Activity ELO A - LSA 1. Clean the AN/PVS-14.

Method of Instruction: Conference/Demonstration
Instr Type(I:S Ratio/Qty): instructor(4:32/0)
Time of Instruction: 0 hrs 15 mins
Instructional Strategy: Large Group Instruction
Media Type: Actual Equipment
Security Classification: This course/lesson will present information that has a Security Classification of: U - Unclassified.

1. Inventory the AN/PVS-14.
2. Perform preventive maintenance checks and services (PMCS).
 - a. Check optical surfaces.
 - b. Inspect battery cartridge/housing.
 - c. Check eyepiece lens.
 - d. Inspect eyecup.
 - e. Inspect eyeguard.
 - f. Check objective lens.
 - g. Inspect headset assembly.
 - h. Inspect viewer mount personal armor system ground troops (PASGT) and headset adaptor.
 - i. . Check lever bracket and headset adaptor.
 - j. Inspect weapon mount.
3. Clean AN/PVS-14 and accessories.

CAUTION: The coating on the demist shield can be damaged if cleaned while wet or if

cleaned with wet lens paper.

Clean only when demist shield is dry and only with dry lens paper.

4. Record any and all deficiencies on DA Form 2404.

Check on Learning: Determine if the students have learned the material presented by soliciting student questions and explanations. Ask the students questions and correct misunderstandings.

Review Summary: Summarize the learning activity.

CHECK ON LEARNING (ELO A): Determine if the students have learned the material presented by soliciting student questions and explanations. Ask the students questions and correct misunderstandings.

REVIEW SUMMARY(ELO A): Conduct a Summary Review

B. ENABLING LEARNING OBJECTIVE

ACTION:	Operate Night Vision Device, AN/PVS-14
CONDITIONS:	In a classroom environment.
STANDARDS:	Operate US Army Night Vision Device PVS-14 IAW TM 11-5855-306-23&P PVS-14.

ELO B - LSA 1. Learning Step / Activity ELO B - LSA 1. Prepare the device for operation.

Method of Instruction: Conference/Demonstration

Instr Type(I:S Ratio/Qty): instructor(4:32/0)

Time of Instruction: 0 hrs 5 mins

Instructional Strategy: Large Group Instruction

Media Type: Actual Equipment

Security Classification: This course/lesson will present information that has a Security Classification of: U - Unclassified.

1. Remove side mounted battery cap using thumb detents.
2. place two AA batteries in following guide for pos/neg into battery cap.
3. Replace battery cap using caution not to crack or break plastic guides.
4. Turn switch to on position.

Note: During daylight test with dust cover over lens to prevent too much light from entering optic.

Check on Learning: Determine if the students have learned the material presented by soliciting student questions and explanations. Ask the students questions and correct misunderstandings.

Review Summary: Conduct a Summary Review

ELO B - LSA 2. Learning Step / Activity ELO B - LSA 2. Perform operational procedures for hand-held operation.

Method of Instruction: Conference/Demonstration

Instr Type(I:S Ratio/Qty): instructor(4:32/0)

Time of Instruction: 0 hrs 5 mins

Instructional Strategy: Large Group Instruction

Media Type: Actual Equipment

Security Classification: This course/lesson will present information that has a Security Classification of: U - Unclassified.

a. Use hand-held operation.

- (1) Turn the power switch to ON.
- (2) Rotate the diopter adjustment for the clearest view of the image intensifier screen.
- (3) Focus the objective lens while observing an object until the sharpest image is obtained.

Check on Learning: Determine if the students have learned the material presented by soliciting student questions and explanations. Ask the students questions and correct misunderstandings.

Review Summary: Conduct a Summary Review

ELO B - LSA 3. Learning Step / Activity ELO B - LSA 3. Perform operational procedures for headmounted operation.

Method of Instruction: Conference/Demonstration

Instr Type(I:S Ratio/Qty): instructor(4:32/0)

Time of Instruction: 0 hrs 15 mins

Instructional Strategy: Large Group Instruction

Media Type: Actual Equipment

Security Classification: This course/lesson will present information that has a Security Classification of: U - Unclassified.

b. Use head mounted operation

- (1) Turn the power switch to ON.
 - (2) Align the headmount/helmet mount adapter's latch to the headmount socket.
 - (3) Press and hold down the latch lever while installing the monocular into the headmount socket.
 - (4) Release the latch when the monocular fully engages the socket.
 - (5) Set the eye relief.
 - (a) Depress the eye relief adjustment.
 - (b) Move the monocular back toward the non-dominant eye.
 - (c) Allow the eyecup to comfortably seal around the eye.
 - (6) Turn the monocular ON.
 - (7) Vertically readjust the headmount until the monocular is properly aligned with the eye.
 - (8) Rotate the diopter adjustment for the clearest view of the image intensifier screen.
- Note: Any readjustment of eye relief requires readjustment of the diopter.
- (9) Adjust the eye relief.

- (a) Press the eye relief adjustment.
- (b) Slide the monocular fore or aft to obtain a full field-of view of the image.
- (10) Adjust the objective lens focus while observing an object until the sharpest image is obtained.

Check on Learning: Determine if the students have learned the material presented by soliciting student questions and explanations. Ask the students questions and correct misunderstandings.

Review Summary: Conduct a Summary Review

ELO B - LSA 4. Learning Step / Activity ELO B - LSA 4. Helmet mounted operation.

Method of Instruction: Conference/Demonstration

Instr Type(I:S Ratio/Qty): instructor(4:32/0)

Time of Instruction: 0 hrs 15 mins

Instructional Strategy: Large Group Instruction

Media Type: Actual Equipment

Security Classification: This course/lesson will present information that has a Security Classification of: U - Unclassified.

c. Use helmet mounted operation.

- (1) Don the helmet.
- (2) Place the monocular in the socket of the helmet mount.
- (3) Depress the side buttons (or press down on side lever on metal mount) to set the eye relief.
- (4) Move the monocular fore or aft until the eyecup comfortably seals around the eye.
- (5) Turn the monocular ON.
- (6) Rotate the diopter adjustment for the clearest view of the image intensifier screen.
- (7) Adjust the eye relief distance.
 - (a) Press the side buttons (or press down on side lever on metal mount).
 - (b) Slide the monocular fore or aft to obtain a full field-of-view of the image.
- (8) Adjust the objective lens focus while observing an object until the sharpest image is obtained.
- (9) Grasp the helmet tilt and flip-up assembly and rotate upward and rearward until the latch is firmly engaged.

Note: The monocular will not be turned off automatically when flipped up. The monocular must be turned off by the power switch.
- (10) Grasp the helmet tilt and flip-up assembly and rotate downward and forward until the latch is firmly engaged.
- (11) Turn the power switch to the ON position to resume viewing.

Check on Learning: Determine if the students have learned the material presented by soliciting student questions and explanations. Ask the students questions and correct misunderstandings.

Review Summary: Conduct a Summary Review

ELO B - LSA 5. Learning Step / Activity ELO B - LSA 5. Perform the procedures for weapon mounted operation.

Method of Instruction: Conference/Demonstration

Instr Type(I:S Ratio/Qty): instructor(4:32/0)

Time of Instruction: 0 hrs 20 mins

Instructional Strategy: Large Group Instruction

Media Type: Actual Equipment

Security Classification: This course/lesson will present information that has a Security Classification of: U - Unclassified.

d. Use weapon mounted operation.

- (1) Assemble the weapon mount to the monocular.
- (2) Rotate the diopter adjustment for the clearest view of the image intensifier screen.
- (3) Adjust the objective lens focus while observing an object until the sharpest image is obtained.

e. Use compass operation.

WARNING: The compass reading is the magnetic North, not true North.

CAUTION: Use of the compass with the plastic headmount or plastic helmet mount will result in inaccurate compass

readings. The magnet cannot be removed from these mounts. The magnet is removed from the ruggedized metal helmet mount before installation of the compass. Failure to do so will result in inaccurate compass readings. If the magnet is not removed, turn the ruggedized metal helmet mount in to unit maintenance for removal.

- (1) Remove the sacrificial window or objective lens cap.
- (2) Turn goggles ON.
- (3) Rotate the objective lens focus completely counterclockwise.

Note: The o-ring must be in place in the compass in order for the compass to fit properly.

- (4) Press the compass onto the objective lens at an angle using the left hand.
- (5) Ensure that the compass fits tightly to the objective lens.
- (6) Adjust the objective lens focus slightly by gripping the compass and turning clockwise.
- (7) Grip the compass with index finger on top and thumb on illumination button on bottom to view the compass through the monocular.
- (8) Press button slowly with thumb until proper brightness is obtained.
- (9) Rotate or tap compass slightly to ensure compass is operating correctly.

Note: The compass readings should change when you move your head from side to side.

- (10) Hold the monocular in a level position to assure free rotation of the compass scale.

f. Use 3X Magnifier Operation.

- (1) Thread directly into the objective lens, with the light interference filter (LIF)

removed.

(2) Thread into the focus ring adapter and slip on over the end of the objective lens with the LIF installed.

(3) Grasp the 3X magnifier and focus while observing an object until the sharpest image is obtained.

Check on Learning: Determine if the students have learned the material presented by soliciting student questions and explanations. Ask the students questions and correct misunderstandings.

Review Summary: Conduct a Summary Review

ELO B - LSA 6. Learning Step / Activity ELO B - LSA 6. Operate goggles under unusual conditions.

Method of Instruction: Conference/Demonstration

Instr Type(I:S Ratio/Qty): instructor(4:32/0)

Time of Instruction: 0 hrs 30 mins

Instructional Strategy: Large Group Instruction

Media Type: Actual Equipment

Security Classification: This course/lesson will present information that has a Security Classification of: U - Unclassified.

2. Operate AN/PVS-14 series under unusual conditions.

a. Use in extreme darkness.

(1) Pull the power switch knob out and rotate clockwise to the IR position.

(2) Observe that a red light appears in the eyepiece.

(3) Turn the power switch clockwise (without pulling) past the ON position for momentary IR.

(4) Observe that a red light appears in the eyepiece.

b. Use in dust and sand conditions.

(1) Remove the objective lens cap.

(2) Attach the sacrificial window to protect the objective lens from scratches and other damage.

(a) Push the sacrificial window over the objective lens until it pops.

(b) Turn the sacrificial window clockwise until it snaps in place.

c. Use in Rainy and humid conditions.

(1) Carefully remove the eyecup or eyeguard.

(2) Press the demist shield onto the eyepiece.

Note: Do not to smudge the eyepieces or demist shields.

(3) Install the eyecups.

d. Use in a laser threat environment.

(1) Remove the container/wrench from the carrying case.

(2) Remove the objective lens cap, compass or sacrificial window if in place.

CAUTION: Be careful not to touch glass surfaces. If you get fingerprints or contamination on glass surfaces, use lens paper to clean the LIF. If moisture is needed, use your breath to mist the surface of the glass.

(3) Carefully open the container/wrench and remove the LIF.

- (4) Hold the LIF by the ridged end and thread it clockwise, into the end of the objective lens.
- (5) Use the ridged side of the container/wrench as a wrench.
 - (a) Engage the ridges on the container with the ridges on the LIF.
 - (b) Tighten the LIF handtight.
- (6) Place the empty container/wrench back into the carrying case pouch.
- (7) Install the objective lens cap or the sacrificial window onto the end of the objective lens and cover the LIF.

Check on Learning: Determine if the students have learned the material presented by soliciting student questions and explanations. Ask the students questions and correct misunderstandings.

Review Summary: Conduct a Summary Review

CHECK ON LEARNING (ELO B): Determine if the students have learned the material presented by soliciting student questions and explanations. Ask the students questions and correct misunderstandings.

REVIEW SUMMARY(ELO B): Conduct a Summary Review

C. ENABLING LEARNING OBJECTIVE

ACTION:	Maintain Night Vision Goggles, AN/PVS-7(x)
CONDITIONS:	In a classroom environment.
STANDARDS:	Maintain US Army Night Vision Device IAW TM 11-5855-262-10-02 PVS-7(x).

ELO C - LSA 1. Learning Step / Activity ELO C - LSA 1. Inventory the carrying case for the following items.

Method of Instruction: Conference/Demonstration
 Instr Type(I:S Ratio/Qty): instructor(4:32/0)
 Time of Instruction: 0 hrs 5 mins
 Instructional Strategy: Large Group Instruction
 Media Type: Actual Equipment
 Security Classification: This course/lesson will present information that has a Security Classification of: U - Unclassified.

Check for:

1. Headmount assembly
2. Carrying case
3. Accessory pocket
4. Demist shields

5. Medium and thick brow pads

6. Operators manual

7. BA-5567/u (battery)

8. BA-3058/u (AA)

9. Lens paper

10. Carrying strap

11. Goggles assembly

12. Sacrificial window

13. LIF

Check on Learning: Determine if the students have learned the material presented by soliciting student questions and explanations. Ask the students questions and correct misunderstandings.

Review Summary: Conduct a Summary Review

ELO C - LSA 2. Learning Step / Activity ELO C - LSA 2. Clean the AN/PVS-7B.

Method of Instruction: Conference/Demonstration

Instr Type(I:S Ratio/Qty): instructor(4:32/0)

Time of Instruction: 0 hrs 5 mins

Instructional Strategy: Large Group Instruction

Media Type: Actual Equipment

Security Classification: This course/lesson will present information that has a Security Classification of: U - Unclassified.

Clean goggles and accessories IAW TM 11-5855-262-10-02 PVS-7(x).

Check on Learning: Determine if the students have learned the material presented by soliciting student questions and explanations. Ask the students questions and correct misunderstandings.

Review Summary: Conduct a Summary Review

ELO C - LSA 3. Learning Step / Activity ELO C - LSA 3. Inspect the accessories and goggles for conditions indicated. Take corrective action as indicated for damaged items.

Method of Instruction: Conference/Demonstration

Instr Type(I:S Ratio/Qty): instructor(4:32/0)

Time of Instruction: 0 hrs 30 mins

Instructional Strategy: Large Group Instruction

Media Type: Actual Equipment

Security Classification: This course/lesson will present information that has a Security Classification of: U - Unclassified.

2. Inspect optical surfaces.

a. Check all lenses (objective, eyepiece, IR lens and highlight cutoff window) for the following:

- (1) Dirt.
- (2) Fingerprint residue.
- (3) Chips.
- (4) Cracks.

b. Clean and dry lenses with water and lens tissue.

3. Inspect wired body housing.

a. Inspect external surfaces and latch for cracks or damage.

Note: Scratches and gouges are OK if operation is not affected.

b. Inspect battery compartment.

(1) Check to make sure the battery cap present.

(2) Check to make sure the battery cap retainer is present.

c. Inspect battery cap by doing the following:

- (1) Remove battery cap.
- (2) Check for moisture.
- (3) Check for cracks.
- (4) Check for corrosion.
- (5) Check for defective spring contacts.
- (6) Check to make sure the o-ring is present in cap.

d. Remove any batteries.

e. Turn the power switch from RESET/OFF to ON.

f. Turn the power switch from ON to IR/PULL.

Note: Each position should have a definite stopping point.

g. Inspect for broken or missing power switch.

h. Install batteries.

i. Check IR source.

j. Check momentary IR source.

k. Check the highlight cutoff by doing the following:

Note: The highlight cutoff should be checked with daylight or in a bright room not with fluorescent light.

(1) Place the objective lens cap on the objective lens.

(2) Turn the goggles ON.

(3) Observe that the system cuts off within 70 ± 30 seconds.

l. Turn goggles off.

m. Turn on to reenergize goggles.

Note: If the goggles fail this highlight cutoff test, it does not cause the end item to be non mission capable.

However, it should be sent to higher level of maintenance as soon as practical.

4. Inspect rear cover external surfaces.

Note: Scratches and gouges on the rear cover external surfaces are okay if operation

is not affected.

- a. Check rear cover external surfaces for cracks or damage.
- b. Rotate diopter adjustment to make sure the eyepiece lenses move freely and are not loose.

Note: Range is approximately $\frac{1}{2}$ turn.

- c. Check diopter cell retainers for chips.
- d. Check interpupillary adjustment by sliding each eyepiece lens back and forth for binding or looseness.

Note: There is a certain amount of friction present to keep the eyepiece lenses from moving once you set them.

5. Inspect eyecups.

- a. Check eyecups for the following:

- (1) Dirt or dust.
- (2) Cracked or torn eyecups.
- (3) Bent or broken eyecups.
- (4) Improperly fitting eyecups.

- b. Clean with water, if necessary.

6. Inspect objective lens.

- a. Rotate focus adjustment to ensure free movement.
- b. Check objective lens for chips, cracks and dents.
- c. Check the infinity focus locking ring for tightness.
- d. Check the infinity focus locking ring for cracks.

7. Inspect neck cord.

- a. Check neck cord for cuts.
- b. Check neck cord for damage.
- c. Check neck cord for loose ends.
- d. Re-tie ends if necessary.

8. View image to inspect for operational defects.

9. Inspect headmount.

- a. Inspect straps and pads.

- (1) Check for cuts, tears, fraying, holes, or cracks.
- (2) Check for defective fasteners.

- b. Inspect socket.

- (1) Check for dirt, dust, or corrosion.
- (2) Insert goggles latch into socket to verify secure attachment of goggles to helmet mount.

- (3) Clean socket with water, if necessary.

- c. Inspect eye relief adjustment.

- (1) Press the eye relief adjustment.
- (2) Check for free motion.
- (3) Check for damage.

10. Inspect helmet mount.

- a. Inspect straps.

- (1) Check for cuts, tears, fraying, holes, or cracks.

- (2) Check for defective fasteners.
- b. Inspect socket.
 - (1) Check for dirt, dust, or corrosion.
 - (2) Insert goggles latch into socket to verify secure attachment of goggles to helmet mount.
 - (3) Clean socket with water, if necessary.
- c. Inspect fore-and-aft adjustment.
 - (1) Press the 2 side buttons on plastic mount.
 - (2) Check for free motion.
 - (3) Check for damage.

11. Inspect Accessories.

- a. Inspect demist shields.
 - (1) Check for dirt, dust, scratches or damage.
 - (2) Clean if necessary.

Note: Demist shields should be cleaned when they are dry and should be cleaned with lens tissue only.

- b. Inspect Light Interference Filter (LIF).

- (1) Check for dirt, dust, scratches or damage.
- (2) Clean if necessary.

Note: LIF should be cleaned when it is dry and should be cleaned with lens tissue only.

- c. Inspect sacrificial window.

- (1) Check for dirt, dust, scratches or damage.
- (2) Clean, if necessary.

Note: Sacrificial window should be cleaned when it is dry and with lens tissue only.

- d. Inspect IR spot/flood lens to ensure free movement.

- e. Inspect compass.

- (1) Check for dirt, dust, scratches or damage.
- (2) Clean with water, if necessary.
- (3) Dry with lens tissue, if necessary.
- (4) Install Compass.
- (5) Turn on goggles.
- (6) Depress illumination button to ensure compass became visible.
- (7) Turn off goggles.

12. Inspect Carrying Case.

- a. Inspect case.

- (1) Remove all items.
- (2) Shake out loose dirt or foreign material.
- (3) Check for tears, cuts, excess wear, or damage to mounting clips.

- b. Inspect shoulder strap.

- (1) Check for cuts, tears, or excess wear.
- (2) Check for damaged clips.

13. Report any deficiencies to your immediate supervisor

Check on Learning:

Determine if the students have learned the material presented by soliciting student questions and explanations.

Ask the students questions and correct misunderstandings.

Review Summary: Conduct a Summary Review

ELO C - LSA 4. Learning Step / Activity ELO C - LSA 4. Perform an operational check.

Method of Instruction: Conference/Demonstration

Instr Type(I:S Ratio/Qty): instructor(4:32/0)

Time of Instruction: 0 hrs 5 mins

Instructional Strategy: Large Group Instruction

Media Type: Actual Equipment

Security Classification: This course/lesson will present information that has a Security Classification of: U - Unclassified.

1. Place either BA5567/U or BA-3058/U batteries into optic.

2. Rotate the power button to the on position.

Note: During daylight ensure the dust cover is on.

3. Rotate further to turn on IR and look through goggles for red light indicator.

Check on Learning: Determine if the students have learned the material presented by soliciting student questions and explanations. Ask the students questions and correct misunderstandings.

Review Summary: Conduct a Summary Review

CHECK ON LEARNING (ELO C): Determine if the students have learned the material presented by soliciting student questions and explanations. Ask the students questions and correct misunderstandings.

REVIEW SUMMARY(ELO C): Conduct a Summary Review

D. ENABLING LEARNING OBJECTIVE

ACTION:	Operate Night Vision Goggles, AN/PVS-7(x).
CONDITIONS:	In a classroom environment.
STANDARDS:	Operate US Army Night Vision Device IAW TM 11-5855-262-10-02 PVS-7(x).

ELO D - LSA 1. Learning Step / Activity ELO D - LSA 1. Prepare the goggles for operation.

Method of Instruction: Conference/Demonstration

Instr Type(I:S Ratio/Qty): instructor(4:32/0)

Time of Instruction: 0 hrs 5 mins

Instructional Strategy: Large Group Instruction

Media Type: Actual Equipment

Security Classification: This course/lesson will present information that has a Security Classification of: U - Unclassified.

1. Install batteries if required.
 - a. Ensure power switch is in the OFF position.
 - b. Remove the battery cap by turning it counterclockwise.
 - c. Ensure that the o-ring is present and replace if missing.
 - d. Insert either two AA 1.5-volt batteries or one 3.0-volt battery into battery compartment, plus (+)end first or by observe polarity indicated on the outside of the battery compartment and the batteries.
 - e. Replace battery cap by pushing and turning it clockwise until it is hand tight.

Check on Learning: Determine if the students have learned the material presented by soliciting student questions and explanations. Ask the students questions and correct misunderstandings.

Review Summary: Conduct a Summary Review

ELO D - LSA 2. Learning Step / Activity ELO D - LSA 2. Operate goggles under normal conditions.

Method of Instruction: Conference/Demonstration

Instr Type(I:S Ratio/Qty): instructor(4:32/0)

Time of Instruction: 1 hr 0 min

Instructional Strategy: Large Group Instruction

Media Type: Unassigned

Security Classification: This course/lesson will present information that has a Security Classification of: U - Unclassified.

2. Operate AN/PVS-7 under normal conditions.
 - a. Power up the goggles

Note: A green glow will appear in each eyepiece indicating the goggles are powered up.

 - (1) Power up the AN/PVS-7A (five position rotary switch).
 - (a) Depress button on top of the rotary switch knob.
 - (b) Pull the rotary switch knob from the OFF position to the rear (away from the objective lens) ON position.
 - (2) Power up the AN/PVS-7B, 7D (three position power switch).
 - (a) Pull the power switch knob out.
 - (b) Turn power switch knob clockwise (up) from the OFF position to the ON position.
 - b. Adjust Focus.
 - (1) Manipulate eye relief control for the most comfortable use of the goggles.
 - (2) Adjust eye span distance control (interpupillary adjustment) by sliding the eyepieces together or apart so each eye can observe the entire field at the same time.
 - (3) Adjust objective lens to focus on distant object by turning the ring for sharpest view.
 - (4) Adjust eyepiece focus rings (diopter rings).
 - (a) Adjust right eyepiece focus ring.
 - _1_ Close left eye.
 - _2_ Adjust the right eyepiece focus ring (diopter) for clearest focus on image tube screen.

(b) Adjust left eyepiece focus ring.

1 Close right eye.

2 Adjust the left eyepiece focus ring (diopter) for clearest focus on image tube screen.

(c) Adjust each until a bright clear image appears.

c. Check IR illuminator.

Note: A red indicator light will appear in the left eyepiece indicating the IR illuminator is functioning.

(1) Check AN/PVS-7A IR Illuminator (five position rotary switch).

(a) Depress button on top of the rotary switch knob.

(b) Pull the knob to the front, IR ON, position.

(2) Check AN/PVS-7B/7D IR Illuminator (three position power switch).

(a) Pull the rotary switch knob out.

(b) Rotate clockwise (up) to the IR position.

d. Operate in head-mounted mode.

(1) Operate the AN/PVS-7A in head-mounted mode.

(a) Attached goggles to the headmount assembly.

(b) Adjust strap assembly for vertical adjustment of the headgear until goggles are aligned with the eyes.

(c) Operate the goggles.

(2) Operate the AN/PVS-7B/7D in head-mounted mode.

(a) Attach goggles to the headmount assembly.

(b) Depress the socket release button and move the goggles back toward the eyes until eyecups and eyepieces are comfortably aligned to the eyes without stray light showing through the eyecup edges.

(c) Operate the goggles.

e. Operate in hand-held mode.

(1) Remove goggles from the headmount or helmet mount assembly.

(2) Pull lens cap up tight under the goggle by removing the objective lens cap and pulling the neck cord to bring the lens cap up tight under the goggle.

(3) Place the neck cord around neck.

(4) Operate the goggles.

f. Operate the Compass (AN/PVS-7B, 7D only).

(1) Ensure the compass is installed.

(2) Adjust the objective lens focus slightly by gripping the compass and turning clockwise, if necessary.

(3) Grip the compass with index finger on top and thumb on illumination button at the bottom.

(4) Press button slightly with thumb until proper brightness is obtained.

(5) Rotate or tap compass slightly to ensure compass is operating correctly.

Note: The compass readings will change as you move your head from side to side.

(6) Hold the goggles in a level position to assure free rotation of the compass scale.

g. Shut down the night vision goggles.

(1) Turn the power switch to the OFF position.

- (2) Remove the goggles from the headmount or helmet mount.
- (a) Depress the latch lever.
- (b) Remove the goggles from the headmount or helmet mount socket.

Check on Learning: Determine if the students have learned the material presented by soliciting student questions and explanations.
Ask the students questions and correct misunderstandings.

Review Summary: Conduct a Summary Review

ELO D - LSA 3. Learning Step / Activity ELO D - LSA 3. Operate goggles under unusual conditions.

Method of Instruction: Conference/Demonstration

Instr Type(I:S Ratio/Qty): instructor(4:32/0)

Time of Instruction: 0 hrs 30 mins

Instructional Strategy: Large Group Instruction

Media Type: Actual Equipment

Security Classification: This course/lesson will present information that has a Security Classification of: U - Unclassified.

- 3. Operate AN/PVS-7 series under unusual conditions.
 - a. Operate during extreme darkness.
 - (1) Turn on IR.
 - (2) Ensure the eyecups are positioned to prevent light escaping from the goggles.
 - b. Operate during dust and sand.
 - (1) Remove the sacrificial window from the carrying case.
 - (2) Attach the sacrificial window.
 - c. Operate during rainy and humid conditions.
 - (1) Remove the eyecups by carefully pulling them off the diopter rings.
 - (2) Remove Demist shield from carrying case.
 - (3) Attach demist shield.
 - d. Operate during laser threat environment.
 - (1) Remove the container/wrench from the carrying case.
 - (2) Install LIF.
 - e. Operate during chemical, biological, radiological and nuclear (CBRN) environment.
 - (1) Place the protective mask on head.
 - (2) Install headmount assembly over the protective mask.

Check on Learning: Determine if the students have learned the material presented by soliciting student questions and explanations.
Ask the students questions and correct misunderstandings.

Review Summary: Conduct a Summary Review

ELO D - LSA 4. Learning Step / Activity ELO D - LSA 4. Stow the night vision goggles.

Method of Instruction: Conference/Demonstration

Instr Type(I:S Ratio/Qty): instructor(4:32/0)

Time of Instruction: 0 hrs 5 mins

Instructional Strategy: Large Group Instruction
Media Type: Actual Equipment
Security Classification: This course/lesson will present information that has a Security Classification of: U - Unclassified.

4. Stow the AN/PVS-7.
 - a. Remove the AN/PVS-7 from the headmount or helmet mount assembly, if applicable.
 - b. Remove battery(ies).
 - c. Remove eyecups, demist shields, sacrificial window, compass or 3X magnifier, if applicable.
 - d. Replace eyepiece and objective lens caps.
 - e. Ensure AN/PVS-7 is clean and dry before placing into carrying case.
 - f. Properly place batteries, carrying case strap, lens paper, manual, browpads, headmount, and helmet mount in the carrying case compartments.
 - g. Place the AN/PVS-7 (objective lens down) into the shallow pocket of the carrying case.
 - h. Place the carrying case into the shipping and storage case.
 - i. Close the shipping and storage case.
 - j. Latch the shipping and storage case.

Check on Learning: Determine if the students have learned the material presented by soliciting student questions and explanations. Ask the students questions and correct misunderstandings.

Review Summary: Conduct a Summary Review

CHECK ON LEARNING (ELO D): Determine if the students have learned the material presented by soliciting student questions and explanations. Ask the students questions and correct misunderstandings.

REVIEW SUMMARY(ELO D): Conduct a Summary Review

SECTION IV. SUMMARY

Method of Instruction:	Conference/Discussion
Instr Type(I:S Ratio/Qty):	instructor(4:32/0)
Time of Instruction:	3 hrs
Instructional Strategy:	Large Group Instruction

Check on Learning

Determine if the students have learned the material presented by soliciting student questions and explanations. Ask the students questions and correct misunderstandings.

Review/ Summary

Summarize the learning activity.

SECTION V. STUDENT EVALUATION

Testing Requirements

Soldiers will be evaluated by task performance measures.

Feedback Requirements

Feedback is essential to effective learning. Schedule and provide feedback on the assessment and any information to help answer Soldiers' questions about the training exercise.

Appendix A - Viewgraph Masters

**Operate Night Vision Goggles
071-SAWE08 / Version 1.0**

Sequence	Media Name	Media Type
None		

Appendix B - Test(s) and Test Solution(s)

Appendix C - Practical Exercises and Solutions

PRACTICAL EXERCISE(S)/SOLUTION(S) FOR LESSON 071-SAWE08 Version 1.0

Appendix D - Student Handouts

**Operate Night Vision Goggles
071-SAWE08 / Version 1.0**

Sequence	Media Name	Media Type
None		

Appendix E - TRAINER'S LESSON OUTLINE

Operate Night Vision Goggles

071-SAWE08 / Version 1.0

Effective Date: 08 March 2013

1. The importance of this lesson: (Why)

Operate Night Vision Goggles.

2. What we want our Soldiers to Achieve: (Outcomes/Standard)

Student must be able to maintain and operate the PVS-7 Series and PVS-14, night vision equipment.

3. Tasks to be taught

<u>Task Number</u>	<u>Task Title</u>	<u>Task Type</u>
071-710-0008	Operate Night Vision Goggles, AN/PVS-7-series	Individual TAUGHT
071-022-0024	Engage Targets with a Caliber .50 M2 Machine Gun Using an AN/PAQ-4-Series Aiming Light	Individual SUPPORTED
071-025-0026	Engage Targets with an M240B Machine Gun Using an AN/PAQ-4 Series Aiming Light	Individual SUPPORTED
071-025-0030	Engage Targets with an M240B Machine Gun Using an AN/PEQ-2A-Series Aiming Light	Individual SUPPORTED
071-706-0001	Operate Night Vision Device, AN/PVS-14	Individual TAUGHT
071-706-0002	Maintain Night Vision Device, AN/PVS-14	Individual TAUGHT
071-710-0009	Maintain Night Vision Goggles, AN/PVS-7-series	Individual TAUGHT
071-701-0005	Engage Targets with an M16-Series Rifle / M-4 Series Carbine Using an AN/PEQ-15 Aiming Light	Individual SUPPORTED
071-100-0037	Engage Targets with an M16-Series Rifle/M4-Series Carbine Using a Night Vision Sight AN/PVS-4	Individual SUPPORTED
071-100-0041	Engage Targets with an M16-Series Rifle/M4-Series Carbine Using an AN/PAQ-4-Series Aiming Light	Individual SUPPORTED
071-702-0006	Engage Targets with an M16-Series Rifle/M4- Series Carbine using an AN/PEQ-2 Series Target Pointer Illuminator/Aiming Light	Individual SUPPORTED
071-010-0019	Engage Targets with an M249 Squad Automatic Weapon using an AN/PEQ-2 Aiming Light	Individual SUPPORTED
071-025-0038	Engage Targets with an M240B Machine Gun using an AN/PEQ-15 Aiming Light	Individual SUPPORTED
071-032-0008	Engage Targets with an M203 Grenade Launcher Using a Night Vision Sight, AN/PSQ-18A	Individual SUPPORTED
07-3-9016	Establish an Observation Post	Collective SUPPORTED
07-3-9013	Conduct Action on Contact	Collective SUPPORTED
07-5-1201	Acquire a Target	Collective SUPPORTED
07-3-1333	Knock Out a Bunker	Collective SUPPORTED
07-5-1001	Conduct Surveillance	Collective SUPPORTED
07-3-9018	Enter and Clear a Building (Section-Platoon)	Collective SUPPORTED
07-3-1072	Conduct a Disengagement (Section-Platoon)	Collective SUPPORTED

Additional Non-Standard Tasks

None

4. References:

<u>Reference Number</u>	<u>Reference Title</u>	<u>Date</u>
FM 3-22.9	RIFLE MARKSMANSHIP M16-/M4-SERIES WEAPONS	12 Aug 2008
TM 11-5855-262-10-2	OPERATORS MANUAL FOR NIGHT VISION GOGGLES (NVG) AN/PVS-7B (NSN 5855-01-228-0937) (EIC: IPS) AND AN/PVS-7D (5855-01-422-5413) (EIC: N/A) {TO 12S10-2PVS7-11; TM 09500A-10/1A; NAVSEA SW215-AT-OMI-010} (THIS	01 Jun 2000
TM 11-5855-306-10	OPERATORS MANUAL FOR MONOCULAR NIGHT VISION DEVICE (MNVD) AN/PVS-14 (NSN 5855-01-432-0524) (EIC: N/A) {TM 10271A-10/1A}	15 May 2007

Additional Non-Standard References

Unit Markanmanship SOPs.

5. Resources

TIME: Time of Instruction (Time not specified)

LAND: Classroom, Training Area, and Range Requirements

<u>Id</u>	<u>Name</u>
17120-1080-50	GEN INST BLDG, 1080 SF, 50 PN

AMMO: Ammunition Requirements

<u>DODIC</u>	<u>Name</u>
None	

MISC: Materiel Items and TADSS Requirements

<u>Id</u>	<u>Name</u>
4470-01-359-2799	COMPUTER, NOTEBOOK/LAPTOP
5855-01-228-0939	Night Vision Goggle AN/PVS-7A
5855-01-422-5413	Night Vision Goggle AN/PVS-7D
5855-01-432-0524	Monocular Night Vision Device: AN/PVS-14
6545-01-254-9551	MES,COMBAT LIFESAVER-1999
6730-01-484-2886	SCREEN,PROJECTION
6730-01-551-9773	Projector, Multimedia: Epson Powerlite 760C

(Note: Asterisk before ID indicates a TADSS.)

Additional Non-Standard Resources

None

6. A possible technique to achieve the outcome:

Maximise hands on training time to allow the students to achieve task mastery.
Grade the Soldiers using the task performance measures.
Retrain Soldiers who do not receive a GO.
Re-test Soldiers until they achieve a GO.

7. Conduct AAR with Soldier and Cadre.

AAR's are essential to ensure the quality of the instruction and the efficiency of the course.
Schedule AAR's with Instructors to solicit feedback on the techniques and procedures in use.
Schedule AAR's with the Student's to solicit feedback on Instructional techniques, information being presented, and efficiency of the course.

NOTE: Before presenting this lesson, Instructors must be thoroughly prepared by studying the appropriate lesson plan and identified reference material.