

Summary Report for Individual Task
551-88M-1650
Operate Vehicle Using Drivers Vision Enhancer
Status: Approved

Distribution Restriction: Approved for public release; distribution is unlimited.

Destruction Notice: None

Foreign Disclosure: FD5 - This product/publication has been reviewed by the product developers in coordination with the Fort Lee, VA. foreign disclosure authority. This product is releasable to students from all requesting foreign countries without restrictions.

Condition: In an operational environment, given a tactical wheeled vehicle equipped with the driver's vision enhancer already mounted and connected, route to maneuver, and conditions of limited visibility or darkness.

Standard: Operate the Driver Vision Enhancer (DVE), then safely operate the vehicle through a pre-designated route with limited visibility while relying on the use of the driver's vision enhancer to negotiate terrain. All maneuvers are to be completed with 100% accuracy, and without personnel injury, damage to equipment or surroundings.

Special Condition: Training institution must ensure adequate transition from illumination to darkness is accomplished to maximize the Soldiers' ability to use the night vision devices.

Safety Risk: Medium

MOPP 4:

Task Statements

Cue: Inclement Weather.

DANGER Adhere to all DANGER statements in the DVE and vehicle Technical manuals.
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WARNING Adhere to all WARNING statements in the DVE and Vehicle technical manuals.
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CAUTION Adhere to all CAUTION statements in the DVE and Vehicle technical manuals.
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Remarks: None

Notes: Each Soldier is to alternately operate the vehicle while using either the Driver's Vision Enhancer (screen down without wearing NVGs) and the Night Vision Goggles (without the DVE, screen up).

Performance Steps

1. Perform Before-operation preventive maintenance checks.
 - a. Refer to TM 11-5855-306-10, PMCS table 2-2, page 2-9 for Before-operation preventive maintenance checks.
 - b. Record any uncorrectable faults on maintenance inspect worksheet or faults that render item Not Mission Capable.
2. Start the vehicle. Refer to the applicable vehicle TM for proper starting procedures.
3. Perform initial setup procedures for the DVE. (DO NOT attempt to operate vehicle using both the NVGs and the DVE. Remove NVGs FIRST.
Note: Before powering up the unit, ensure that the following control positions are as indicated in the following steps.

WARNINGS

BEFORE OPERATING THE VEHICLE, ENSURE THAT THE DVE AZIMUTH AND ELEVATION CONTROLS ARE IN THE LOCKED POSITIONS. THIS WILL ENSURE THAT THE DVE IS LOOKING STRAIGHT AHEAD WHEN OPERATING THE VEHICLE. MANUALLY VERIFY FORWARD AND LOCK POSITION PRIOR TO OPERATING THE VEHICLE.

HELMETS MUST ALWAYS BE WORN WHEN DRIVING WITH THE DVE INSTALLED. THE DVE DISPLAY SHOULD BE REMOVED FROM ITS MOUNT WHEN NOT IN USE FOR EXTENDED DRIVING OPERATIONS TO MINIMIZE THE RISK OF HEAD STRIKE INJURIES.

- a. Rotate Sensor Assembly azimuth and elevation to straight ahead and level 00 detent positions.
 - b. Set DVE POWER switch to OFF (down position).
 - c. Set VIDEO switch to SENSOR (up position).
 - d. Set POLARITY switch to WHT-HOT (up position).
 - e. With DISPLAY BRIGHTNESS control turned fully Counterclockwise(ccw), rotate knob approximately $\frac{1}{4}$ turn Clockwise (cw).
 - f. Set SENSOR LEVEL and SENSOR GAIN controls to full ccw (AUTO) detent position.
4. Place DVE into operation.
 - a. Set POWER to ON position (up). Allow 5 minutes for system electronics to stabilize for maximum image clarity.
 - b. Leave the VIDEO switch in the SENSOR (up position) for sensing input from the Sensor Assembly to the display. For external input to display, set switch to EXT (down position).
 - c. Adjust the seat height and/or Display module to place the display at eye level.
Note: If the display becomes degraded while driving the vehicle, such as the presence of dead pixels and/or video noise that prevents the driver from performing his/her mission, then immediately bring the vehicle to a safe stop to avoid a collision. If the problem cannot be fixed, report the situation to higher level of maintenance.
 - d. Adjust the DISPLAY BRIGHTNESS control until the scene brightness is suitable for operator viewing.
 - e. Select either the AUTO LEVEL or the MANUAL LEVEL position.

WARNING

WARNINGS

THE AUTO LEVEL AND AUTO GAIN MODES DO NOT REACT INSTANTLY TO RAPIDLY CHANGING SCENERY (SHADE TO SUN, SUN TO SHADE). THE AUTO LEVEL AND AUTO GAIN MODES REQUIRE ONE OR TWO SECONDS TO COMPENSATE. THE AUTOMATIC GAIN AND LEVEL FEATURES WILL ADJUST FASTER THAN MANUAL ADJUSTMENTS. IF NECESSARY, SLOW VEHICLE.

THERE ARE TWO SHORT PERIODS EACH DAY CALLED CROSSOVER PERIODS OR DIURNAL CYCLE WHEN MOST NATURAL OBJECTS ARE ABOUT THE SAME TEMPERATURE. THIS IS WHEN THEY HAVE COOLED DOWN AT NIGHT AND AS THEY ARE HEATING UP IN THE EARLY MORNING. SINCE OBJECTS ARE NEAR THE SAME TEMPERATURE, THERE IS NOT MUCH TEMPERATURE DIFFERENCE FOR THE DVE TO USE, DEGRADING THE IMAGE DISPLAY QUALITY. THIS IS ALSO WHAT HAPPENS WHEN A HEAVY RAIN MAKES ALL NATURAL OBJECTS CLOSE TO THE SAME TEMPERATURE.

f. Adjust the SENSOR GAIN control to automatic or manual position. The AUTO GAIN mode should normally be used while driving the vehicle.

g. Set scene POLARITY switch to either WHT-HOT (up position) or BLK-HOT (down position).

h. Set azimuth position by rotating Pan/Tilt Mechanism (PTM) to desired setting. Lock azimuth-locking mechanism.

i. Set elevation position to desired position. Lock elevation-locking mechanism.

5. Maneuver vehicle while relying on DVE for terrain negotiation.

a. Operate the vehicle while monitoring the DVE screen.

b. Adjust vehicle speed as necessary while DVE is making auto adjustments to conditions.

c. Exercise increased caution when operating vehicle, using DVE for navigation.

6. Shutdown DVE.

a. Press FORWARD POSITION switch.

b. Visually verify sensor is in the straight ahead and level position.

c. Set SENSOR LEVEL and GAIN controls to full ccw (AUTO) detent position.

d. With the DISPLAY BRIGHTNESS control turned fully ccw, rotate the knob approximately ¼ turn cw.

e. Set POLARITY switch to WHT-HOT (up) position.

f. Set VIDEO switch to SENSOR (up) position.

g. Set POWER switch to OFF position (down).

h. Swing the DVE viewer screen up and out of view.

7. Shutdown vehicle. Refer to vehicle TM for proper shutdown procedures.

(Asterisks indicates a leader performance step.)

Evaluation Guidance: Score the soldier GO if all performance measures are passed. Score the soldier NO-GO if any performance measure is failed. If any performance measure is failed, tell the soldier what was done wrong and how to do it correctly.

Evaluation Preparation: Setup: Brief Soldier on Task specifications.

PERFORMANCE MEASURES	GO	NO-GO	N/A
1. Performed PMCS.			
2. Started vehicle.			
3. Performed initial set up of DVE.			
4. Placed DVE into operation.			
5. Operated vehicle while relying on DVE for terrain negotiation.			
6. Shutdown DVE.			
7. Shutdown vehicle.			

Supporting Reference(s):

Step Number	Reference ID	Reference Name	Required	Primary
	TC 21-305-20	Manual for the Wheeled Vehicle Operator {AFMAN 24-306(I)}	No	No
	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}	Yes	No
	TM 11-5855-311-12&P-2	Operator's and Unit Maintenance Manual for Driver's Vision Enhancer	Yes	No
	TM 9-2320-366-10-1	OPERATORS INSTRUCTIONS MANUAL FOR M1083 SERIES, 5-TON, 6X6, MEDIUM TACTICAL VEHICLES (MTV) VOLUME NO. 1 OF 2 TRK, CAR., MTV, M1083 W/WN (NSN 2320-01-360-1895) (EIC: BT3) W/O WN (2320-01-354-3386) (EIC: B	No	No
	TM 9-2320-366-10-2	OPERATORS INSTRUCTIONS MANUAL FOR M1083 SERIES, 5-TON, 6X6, MEDIUM TACTICAL VEHICLES (MTV) VOLUME NO. 2 OF 2 TRK, CAR., MTV, M1083 W/WN (2320-01-360-1895) (EIC: BT3) W/O WN (2320-01-354-3386) (EIC: BR2)	No	No

Environment: Environmental protection is not just the law but the right thing to do. It is a continual process and starts with deliberate planning. Always be alert to ways to protect our environment during training and missions. In doing so, you will contribute to the sustainment of our training resources while protecting people and the environment from harmful effects. Refer to FM 3-34.5 Environmental Considerations and GTA 05-08-002 ENVIRONMENTAL-RELATED RISK ASSESSMENT. None.

Safety: In a training environment, leaders must perform a risk assessment in accordance with ATP 5-19, Risk Management. Leaders will complete the current Deliberate Risk Assessment Worksheet in accordance with the TRADOC Safety Officer during the planning and completion of each task and sub-task by assessing mission, enemy, terrain and weather, troops and support available-time available and civil considerations, (METT-TC). Note: During MOPP training, leaders must ensure personnel are monitored for potential heat injury. Local policies and procedures must be followed during times of increased heat category in order to avoid heat related injury. Consider the MOPP work/rest cycles and water replacement guidelines IAW FM 3-11.4, Multiservice Tactics, Techniques, and Procedures for Nuclear, Biological,

and Chemical (NBC) Protection, FM 3-11.5, Multiservice Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Decontamination. Ensure all WARNING and CAUTION statements are adhered to from the vehicle and system technical manuals.

Instructors (unit Master Driver) must ensure that operators (candidates) of tactical wheeled vehicles are trained IAW AR 600-55, AR 385-10 Chapter 11, vehicle training circulars (TC), and TC 21-305-20. When training on a specific vehicle the instruction will include all safety hazards and risks of operating or working with the vehicle.

Prerequisite Individual Tasks :

Task Number	Title	Proponent	Status
551-88M-1359	Operate a Vehicle in a Convoy	551 - Transportation (Individual)	Reviewed

Supporting Individual Tasks :

Task Number	Title	Proponent	Status
551-88M-1364	Operate Vehicle with Standard, Automatic/Semiautomatic Transmission	551 - Transportation (Individual)	Reviewed

Supported Individual Tasks : None

Supported Collective Tasks : None