



THE  
PREVENTIVE  
MAINTENANCE  
MONTHLY

## SERGEANT'S TIME TRAINING SUPPORT

### Tap & Torque for Top ESAPI Protection!

#### An Easy Outline for Sergeant's Time Training

**(Note to Sergeants:** Here's an easy training outline you can follow any time your unit has a free minute. A problem & solution format is provided below, with visuals if you scroll down. Use this outline or add more info as you see fit. Make it yours & make it matter! –*PS Magazine*)

**Problem:** The Enhanced Small Arms Protective Inserts (ESAPI) in body armor can become delaminated, putting Soldiers' lives at risk.

**Solution:** A simple tap test can check for delamination of the hard armor plates. Here's how to do it:

1. Do the tap test in a quiet area so you can hear the taps clearly.
2. Use a dense, solid metal object like a bolt, metal pin or folding knife to tap the ESAPI plate.
3. Rest the plate on the fingertips of your non-dominant hand. Tap in the upper portion of the plate. Don't tap on the sides.
4. Tap three times. Listen for one of two sounds: either a chime (three tinny chimes) or a thud (three dull thuds).
5. A chime-like sound means the plate is good to go. A thudding sound means it may be delaminated.
6. If you hear three dull thuds, put that plate aside. Don't issue or use it due to possible delamination.

**Problem:** The ceramic tile in ESAPI can crack, putting Soldiers' lives at risk.

**Solution:** The Torque test.

1. Do the test in a quiet area.
2. Start by shaking the ESAPI. Grab one corner of the plate with one hand and the opposite corner with the other hand, and torque, or twist, the plate.
3. Listen for any crumbling, cracking or rattling sounds.
4. Switch hands to the opposite corners of the plate and twist again, listening carefully for any crumbling, rattling or crunching sounds.
5. Feel around the outer edges of the plate, too. It's the most easily damaged area. Set aside any plates that make the sounds mentioned above.

**Important!** All plates found unserviceable because of failing either the tap test or the torque test should be pulled and disposed of in accordance with Army guidance.

**Bonus!** For a step-by-step video showing the proper way to do both the tap and torque tests on ESAPI, visit:

<https://www.dvidshub.net/video/473427/peo-soldier-armored-plate-tap-test-training>

# KNOCK THREE TIMES



COMBAT IS TOUGH ENOUGH,  
EVEN WHEN YOU HAVE **COMPLETE  
CONFIDENCE** IN YOUR BODY ARMOR.  
DO REGULAR INSPECTIONS TO MAKE  
SURE YOU'RE **PROTECTED**.



HARD ARMOR INSERTS  
HAVE **SAVED THE LIVES**  
OF MANY SOLDIERS  
IN COMBAT. BUT LIKE  
ANY EQUIPMENT,  
BODY ARMOR NEEDS  
TO BE **INSPECTED**  
BEFORE USE.

YOU CAN CHECK YOUR  
PLATES AND CONDUCT  
**SIMPLE TESTS**  
TO ENSURE THAT YOUR  
ENHANCED SMALL  
ARMS PROTECTIVE  
INSERTS (ESAPI)  
ARE INTACT AND WILL  
OFFER LIFE-**SAVING**  
**PROTECTION**.

BECAUSE PLATE DAMAGE  
**ISN'T** ALWAYS VISIBLE, DO  
THESE **TWO TESTS** TO HELP  
**ENSURE** YOUR ESAPI IS FIT  
FOR THE FIELD: THE **TAP**  
TEST AND THE **TORQUE TEST**.



## The Tap Test

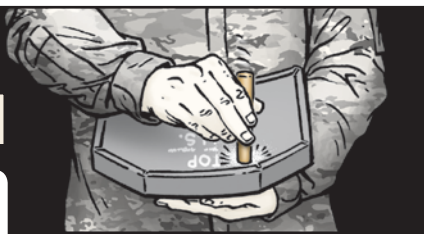


THE TAP TEST CHECKS FOR **DELAMINATION** OF THE HARD ARMOR PLATES.

HERE'S HOW TO DO IT...

THE TAP TEST SHOULD BE DONE IN A **QUIET AREA** SO YOU CAN **HEAR** THE TAPS.

USE A PROPER TOOL FOR THE TEST. A TAP TEST TOOL MUST BE A **DENSE, SOLID METAL OBJECT**, LIKE A BOLT, METAL PIN OR FOLDING KNIFE.



Bolt



Metal pin



Folding knife

**NOTE:** THE TAP TEST SHOULD **NOT** BE DONE ON THE ESAPI'S SIDES.

WHEN DOING THE TAP TEST, REST THE PLATE ON THE FINGERTIPS OF YOUR NON-DOMINANT HAND.



TAP IN THE **UPPER PORTION** OF THE PLATE.

WHILE TAPPING ON THE PLATE, LISTEN FOR **ONE OF TWO SOUNDS**: EITHER A **CHIME** (THREE TINNY CHIMES) OR A **THUD** (THREE DULL THUDS).

A CHIME-LIKE SOUND MEANS THE PLATE **ISN'T** DELAMINATED. A THUDDING SOUND MEANS THE PLATE MAY BE DELAMINATED.

WHEN TAPPING A PLATE, IF YOU HEAR **THREE DULL THUDS**, PUT THAT PLATE ASIDE. **DON'T** ISSUE OR USE THE PLATE BECAUSE THERE MAY BE DELAMINATION ISSUES.

**THERE ARE TWO EXCEPTIONS TO THIS RULE!**

1. Tapping directly in the center of the plate will **always** result in a solid sound (three tinny thuds). The amount of surrounding material acts as a dampener, which prevents large amounts of resonance.
2. If you tap a plate directly on a label, you may also hear a solid sound (three tinny thuds). However, that **doesn't** mean the plate is delaminated because the curvature of the plate in this area also dampens the resonance.

**SOLUTION: AVOID TAPPING IN THESE TWO AREAS.**



## The Torque Test

THE TORQUE TEST INSPECTS FOR CRACKS IN THE CERAMIC TILE IN THE HARD ARMOR PLATE.

DO THE TEST IN A QUIET PLACE.



START BY SHAKING THE PLATE.

GRAB ONE CORNER OF THE PLATE WITH ONE HAND AND THE OPPOSITE CORNER WITH THE OTHER HAND, AND **TORQUE, OR TWIST**, THE PLATE.



LISTEN FOR ANY CRUMBLING, CRACKING OR RATTLING SOUNDS.



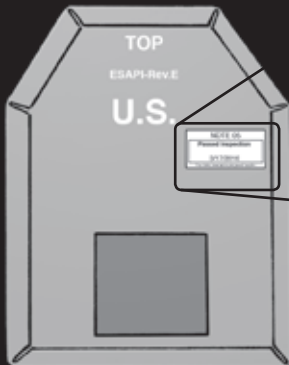
**SWITCH HANDS TO THE OPPOSITE CORNERS OF THE PLATE AND TWIST AGAIN, LISTENING CAREFULLY FOR ANY CRUMBLING, RATTLING OR CRUNCHING SOUNDS.**

FEEL AROUND THE OUTER EDGES OF THE PLATE, TOO.

ENSURE THAT YOU GO **ALL THE WAY AROUND** THE PLATE, BECAUSE THE **OUTER EDGE IS THE MOST SUSCEPTIBLE TO DAMAGE.**

PLATES SHOULD BE SCANNED EVERY NINE MONTHS.

A SCANNED PLATE DISPLAYS A **SILVER STICKER** THAT SHOWS THE LAST DATE IT PASSED INSPECTION.



NDTE 05  
Passed Inspection  
3/17/2016

Silver sticker shows last time plate passed inspection

ALL PLATES THAT ARE FOUND **UNSERVICEABLE** BECAUSE OF FAILING EITHER THE TAP TEST OR THE TORQUE TEST SHOULD BE **PULLED AND DISPOSED** OF IN ACCORDANCE WITH ARMY GUIDANCE.

FOR A STEP-BY-STEP VIDEO SHOWING THE **PROPER WAY TO DO BOTH THE TAP AND TORQUE TESTS** ON YOUR ESAPI, VISIT:

<https://www.dvidshub.net/video/473427/peo-soldier-armored-plate-tap-test-training>