

**CREW/OPERATOR
DAILY PREVENTIVE
MAINTENANCE CHECKLIST
FOR**

**IMPROVED OUTER TACTICAL VEST
GEN III (IOTV GEN III)**

NOTICE

To effectively perform the tasks in this checklist, you must be experienced in using the PMCS table in TM 10-8470-210-10. The item numbers in this checklist are the same as those in the PMCS tables.

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this publication. If you find any errors, or if you know of a way to improve this publication, please let us know. Mail your letters or DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to: U.S. Army TACOM Life Cycle Management Command, ATTN: AMSTA-LCL-MPP / TECH PUBS, 6501 E. 11 Mile Road, Warren, MI 48397-5000. A reply will be furnished to you.

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**HEADQUARTERS, DEPARTMENT OF THE ARMY
15 OCTOBER 2013**

WARNING SUMMARY

Safety warnings must be understood and applied during operation and maintenance of this equipment. Failure to observe these precautions could result in serious injury or death to personnel.

WARNING

Ensure the sizes of the front and back carrier match by comparing information on the data label. Ensure the sizes of the attachable items match the sizes of the front and back carriers by comparing data plate information. Failure to do so could affect performance, causing injury or death.

WARNING

When the IOTV Gen III is assembled with additional equipment that attaches to both the front and back carriers, such as a rucksack or the Tactical Assault Panel (TAP), one side of the equipment must be detached for the emergency release function to work properly. Failure to do so could affect performance, causing injury or death.

WARNING

Ensure front and back carrier soft ballistic protection overlaps under the arm when donning the vest.

WARNING

The emergency release system should be used during emergencies or for instructional purposes only. Using the emergency release method to routinely doff the vest could result in damage to the hard armor plates. Damage to the hard armor plates could result in injury or death to the wearer.

WARNING

The emergency release system cable must be seated correctly for the emergency release assembly to function properly. When the catch lever is closed, the edge of the round, black cable sleeve closest to the cable nut must be visible. If the cable is not placed correctly, remove the cable from the channel and reinsert it. Failure to do so will affect performance of the emergency release and may cause injury or death to personnel.

WARNING SUMMARY—CONTINUED

WARNING

Do not machine wash or dry. Failure to follow these instructions may render your IBA unserviceable.

WARNING

Do not machine wash or dry the SAPI/SBI inserts. Failure to follow these instructions may degrade the SAPI/SBI ballistic protection.

WARNING

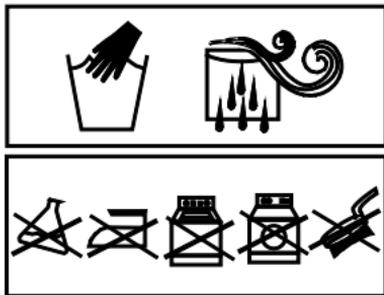
Soldiers must ensure they have the correct protective inserts. The ESAPI and ESBI have green covers and the XSAPI and XSBI have tan covers. All of these inserts provide a higher level of protection than the Small Arms Protective Insert (SAPI) and the Side Ballistic Inserts (SBI) which have black covers. ESAPI should be worn by all personnel in-theater. If a service member has the older black SAPI plates, they should be turned in and replaced with green ESAPI plates. Failure to ensure the correct plate while conducting combat operations may result in injury or death.

WARNING

Any damage to the soft ballistic inserts is cause for turn in. Failure to follow these instructions could result in degraded ballistic protection.

WARNING

Pressing, starching, dry cleaning, or the use of fabric softener will degrade the IBA. Washing IOTV ITEMS in hot water will damage the fabric. Hand wash IOTV ITEMS in cold water only. Failure to following these instructions could result in harm to the Soldier.



INTRODUCTION

This PMC covers the Improved Outer Tactical Vest, Gen III (IOTV Gen III). Preventive maintenance checks and services (PMCS) are performed to keep the IOTV Gen III in operating condition. Pay attention to WARNING statements. A WARNING indicates that someone could be hurt or killed.

Be sure to perform scheduled PMCS. Always perform PMCS in the same order so it becomes habit. With practice, you will quickly recognize problems with the equipment.

Use DA Form 2404, Equipment Inspection and Maintenance Worksheet, to record any discovered faults. Do not record faults that you fix!

PMCS PROCEDURES

Tasks in Table 1 are to be completed before or after use of the IOTV, as noted in the initial PROCEDURE entry for each item. Tasks in Table 2 are to be completed on a monthly basis.

Item 4 (IOTV Vest Assembly Inspection) on page 12 requires two soldiers to complete. All other inspection tasks require only one soldier.

EXPLANATION OF PMCS TABLE COLUMNS:

ITEM. Indicates the item name and number to be checked or serviced. When completing DA Form 2404, Equipment Inspection and Maintenance Worksheet, include the item number for the item to check/service indicating a fault. Item numbers appear in the order you must perform the checks/services listed.

PROCEDURE. Indicates the procedure you must perform on the associated ITEM. You must perform the procedure at the interval specified:

Before - perform before equipment operation

After - perform after equipment has been operated

Monthly - perform each month

The interval for all entries in Table 2 is "Monthly". The intervals in Table 1 are noted in the initial PROCEDURE entry for each ITEM.

INTRODUCTION—CONTINUED

EQUIPMENT NOT SERVICEABLE. Indicates faults which will prevent your equipment from performing its primary mission. If you perform procedures listed in Procedure column which show faults listed in this column, do not operate the equipment. Follow standard procedures for maintaining the equipment or reporting equipment failure.

COMMON CHECKS AND CLEANING

Cleaning

Observe the cleanliness of clothing articles as part of the item's serviceability. Remove loose dirt, sand, and debris from all items.

Corrosion Prevention and Control

Plastics, composites, and rubbers can degrade. Degradation is caused by thermal (heat), oxidation (oxygen), solvation (solvents), or photolytic (light, typically ultraviolet) processes. The most common exposures are excessive heat or light. Damage from these processes will appear as cracking, softening, swelling, and/or breaking. Avoid contact with all solvents.

Table 1. Before and After Use Checks.

ITEM	PROCEDURE	EQUIPMENT IS NOT SERVICEABLE IF
<p>Item 1. Base Vest Assembly</p>	<p>Inspect base vest assembly before use.</p>	
	<p>a. Open the vest assembly and lay it flat on a clean surface so the exterior of the vest is facing down and the interior of the vest is facing up.</p>	
	<p>b. Inspect the interior fabric of the vest and collar/yoke assembly for any cuts, frays or abrasions, or any damage that may interfere with the proper function of the body armor.</p>	<p>Any cuts, frays or abrasions, or any damage that may interfere with the proper function of the body armor.</p>
	<p>c. Inspect the interior fabric of the vest and collar/yoke assembly for any dirt, stains or debris. Brush off any dirt or debris with a brush or rag.</p>	<p>Any petroleum-based stains.</p>

Table 1. Before and After Use Checks—Continued.

ITEM	PROCEDURE	EQUIPMENT IS NOT SERVICEABLE IF
Base Vest Assembly (continued)	d. Run hands over entire surface of body armor to ensure ballistic inserts are flat. Smooth out any folds or bunching.	Cannot be flattened.
	e. Check the security of the hook and loop fasteners that close the inside fabric of the vest and attach the ballistic inserts to the interior vest fabric.	Hook and loop fastener tape does not function.
	f. Run fingers or hand around collar/yoke assembly checking for creases or bunching in the ballistic fabric. Smooth out any folds or bunching.	Cannot be flattened.
	g. Turn vest over so that interior fabric faces down and the exterior fabric faces up.	
	h. Inspect the exterior fabric of the vest and collar/yoke assembly for any cuts, frays or abrasions or any damage that may interfere with the proper function of the body armor (Figure 1).	Any cuts, frays or abrasions, or any damage that may interfere with the proper function of the body armor.

Table 1. Before and After Use Checks—Continued.

ITEM	PROCEDURE	EQUIPMENT IS NOT SERVICEABLE IF
Base Vest Assembly (continued)		

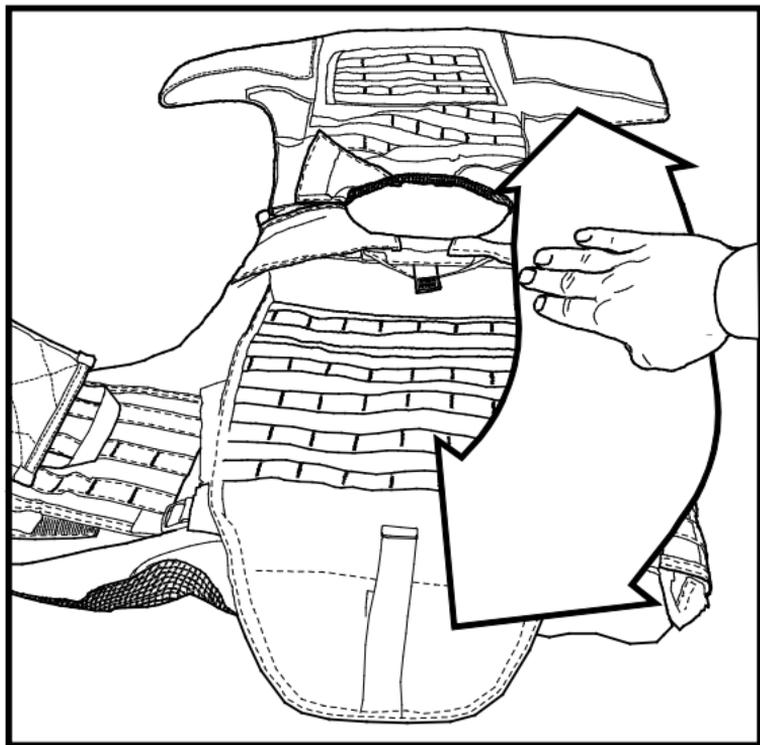


Figure 1. Smoothing Out IOTV.

Table 1. Before and After Use Checks—Continued.

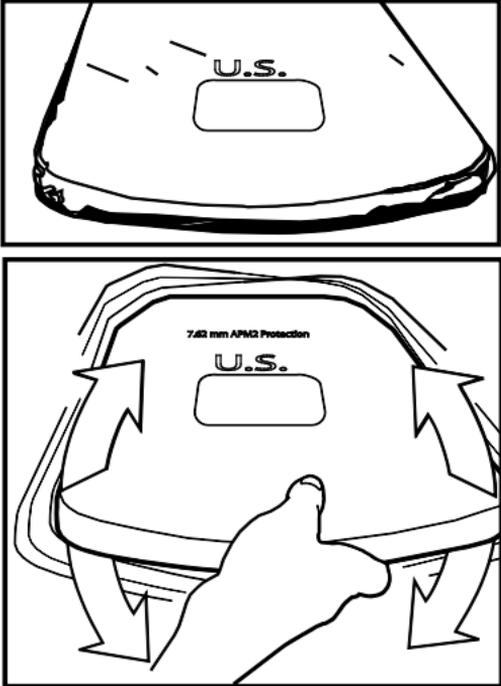
ITEM	PROCEDURE	EQUIPMENT IS NOT SERVICEABLE IF
<p>Item 2. Hard Armor Plates</p>  <p>Figure 2. Inspect Plates</p>	<p>Inspect hard armor plates (Figure 2) before use.</p> <p>Turn in plates if not serviceable.</p>	<p>Outer cover is damaged exposing the ceramic tile material.</p> <p>Plate is cracked and you hear loose pieces rattling around when shaken.</p> <p>Creaking or squeaking of ceramic tile heard when plate twisted by hand.</p> <p>Composite backing is delaminating (backing material plies are separating).</p> <p>Cracking of the ceramic tile is felt or heard as you firmly pinch the outer ½-inch perimeter of the plate.</p> <p>Plate has been hit by a bullet or fragment.</p>

Table 1. Before and After Use Checks—Continued.

ITEM	PROCEDURE	EQUIPMENT IS NOT SERVICEABLE IF
Item 3. IOTV Gen III Vest Assembly	Don the IOTV before use.	
	a. Slip the vest assembly over your head if both shoulder straps are connected or disconnect one of the shoulder straps and enter the vest from the side.	
	b. Pull vest assembly up to ensure that the yoke/collar protects the throat.	
	c. Pull down on the strap to the front access panel, and lift up the front panel of the front carrier to expose the side plate carrier attachment points.	

WARNING

For maximum protection it is important to hold the side of the front carrier along the side of the body when pulling the side plate carrier around to the front of the body. Failure to do so will result in reduced protection and could result in injury or death to the wearer.

Table 1. Before and After Use Checks—Continued.

ITEM	PROCEDURE	EQUIPMENT IS NOT SERVICEABLE IF
IOTV Gen III Vest Assembly (continued)	d. Use one hand to hold the side of the front carrier under the arm to keep it smooth and snug, and with the other hand pull the side plate carrier towards the center of the front carrier.	
	e. Tighten or loosen the webbing strap to ensure a snug fit, and then connect the buckle. Repeat for the other side.	
	f. Lower the front flap and tuck the end of the flap into the lower pocket.	
	g. If installed, wrap the straps of the deltoid protectors securely around your biceps.	
Item 4. IOTV Gen III Vest Assembly	Second soldier, inspect donned IOTV Gen III on first soldier for proper fit.	
	a. Vest assembly should fit securely with no folds against the body and no movement when turning side to side.	

Table 1. Before and After Use Checks—Continued.

ITEM	PROCEDURE	EQUIPMENT IS NOT SERVICEABLE IF
Item 4. IOTV Gen III Vest Assembly (continued)	b. Bottom of hard armor plates in side plate pockets align as closely as possible to the bottom of the hard armor in the front carrier.	
	c. Hard armor plates in the side plate pockets are positioned directly under the arm.	Hard armor plates are not aligned with the arm.
	d. There is at least a ½-inch overlap of fabric where the front and back carriers join at the shoulder.	Overlap is less than ½ inch.
	e. Lift up the lower panel on the exterior of the back carrier to expose the attachment points for the side plate carrier.	
	f. Remove the side plate carrier from the back carrier if necessary to adjust the position of the side plate pockets in accordance with WP 0007, TM 10-8470-210-10.	

Table 1. Before and After Use Checks—Continued.

ITEM	PROCEDURE	EQUIPMENT IS NOT SERVICEABLE IF
<p>Item 4. IOTV Gen III Vest Assembly (continued)</p>	<p>g. Tighten or loosen the fit of the side plate carrier by releasing the webbing hanger lock and adjusting the side plate carrier inward or outward, and then re-secure the side plate carrier in accordance with WP 0007, TM 10-8470-210-10.</p>	
	<p>h. Any additional pouches or gear should not cross front and back carriers or connect the side plate carrier. This will interfere with the emergency release. Readjust if necessary.</p>	
	<p>i. Check both shoulders for proper overlap. Front and back carriers should overlap a minimum of ½ inch. Readjust if necessary.</p>	

Table 1. Before and After Use Checks—Continued.

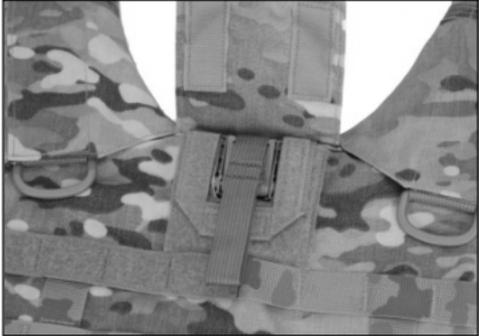
ITEM	PROCEDURE	EQUIPMENT IS NOT SERVICEABLE IF
<p>Item 4. IOTV Gen III Vest Assembly (continued)</p>	<p>j. Check the emergency release assembly under the access panel at the top of the front carrier. The assembly should be fully seated, and the emergency release strap should lie on top of the emergency release assembly reinforcement (Figure 3).</p>	
 <p>Figure 3. Emergency Release Assembly.</p>		
<p>Item 5. IBA</p>	<p>Ensure all ITEMS are attached to the IOTV per unit SOP before use.</p>	

Table 1. Before and After Use Checks—Continued.

ITEM	PROCEDURE	EQUIPMENT IS NOT SERVICEABLE IF
Item 6. Emergency Release Assembly	Inspect and test emergency release connections before and after use.	
	a. Remove all hard armor plates.	
	b. Don the vest assembly.	
	c. Pull the emergency release assembly strap to ensure the vest assembly completely disengages.	

WARNING

The emergency release system cable must be seated correctly for the emergency release assembly to function properly. When the catch lever is closed, the edge of the round, black cable sleeve closest to the cable nut must be visible. If the cable is not placed correctly, remove the cable from the channel and reinsert it. Failure to do so will affect performance of the emergency release and may cause injury or death to personnel.

Table 1. Before and After Use Checks—Continued.

ITEM	PROCEDURE	EQUIPMENT IS NOT SERVICEABLE IF
	<p>d. Reattach the vest assembly and ensure the cables is in the secure and correct position (Figure 4) when the lever is closed and not partially secure (Figure 5).</p>	

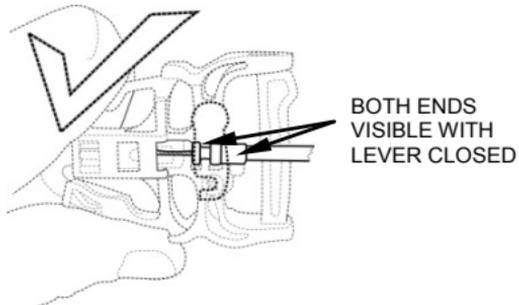


Figure 4. Correct Placement of the Cable

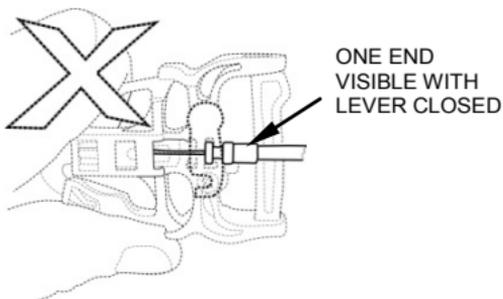


Figure 5. Incorrect Placement of the Cable

Table 1. Before and After Use Checks—Continued.

ITEM	PROCEDURE	EQUIPMENT IS NOT SERVICEABLE IF
	<p>e. Stow the emergency release strap under the access panel and secure the hook and loop.</p>	
<p>Item 7. IBA</p>	<p>Doff IOTV and check IBA after use.</p>	
	<p>a. If attached, remove the deltoid protector attachment straps from the arms.</p>	

Table 1. Before and After Use Checks—Continued.

ITEM	PROCEDURE	EQUIPMENT IS NOT SERVICEABLE IF
Item 7. IBA (continued)	b. Pull down on the strap to the front panel of the front carrier and lift the panel up.	
	c. Detach both buckles of the side plate carrier.	
	d. Lift the vest over the head, or disconnect one of the side release buckles at the shoulder and remove the vest assembly.	

Table 1. Before and After Use Checks—Continued.

ITEM	PROCEDURE	EQUIPMENT IS NOT SERVICEABLE IF
Item 8. Hard Armor Plates	Inspect the hard armor plates after use.	
	a. Turn in plates if:	<p>Outer cover is damaged exposing the ceramic tile material.</p> <p>Plate is cracked and you hear loose pieces rattling around when shaken.</p> <p>Creaking or squeaking of ceramic tile heard when plate twisted by hand.</p> <p>Composite backing is delaminating (backing material plies are separating).</p> <p>Cracking of the ceramic tile is felt or heard as you firmly pinch the outer ½-inch perimeter of the plate.</p> <p>Plate has been hit by a bullet or fragment.</p>

Table 1. Before and After Use Checks—Continued.

ITEM	PROCEDURE	EQUIPMENT IS NOT SERVICEABLE IF
Item 8. Hard Armor Plates (continued)	b. Clean your hard armor plates thoroughly before storing.	
	c. Place the hard armor plates into the IOTV pockets in the same manner as when worn. This prevents loss of plates.	
	d. Store the IOTV system as flat as possible to avoid bunching of materials.	
	e. It is recommended that the system, when dry, be stored in a plastic bag to keep out dirt, dust and moisture.	

Table 2. Monthly Checks.

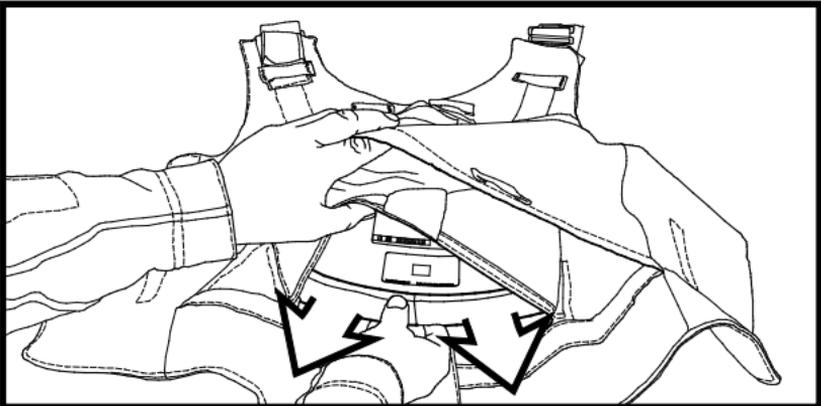
ITEM	PROCEDURE	EQUIPMENT IS NOT SERVICEABLE IF
Item 9. IBA	Disassemble IOTV	
	a. Remove hard armor plates from the front and back carriers, if installed (Figure 6).	
		
<p>Figure 6. Removing Hard Armor Plates from Front Carrier</p>		
	b. Remove hard armor plates from side carriers, if installed.	

Table 2. Monthly Checks—Continued.

ITEM	PROCEDURE	EQUIPMENT IS NOT SERVICEABLE IF
Item 9. IBA (continued)	C. Remove the deltoid protectors, lower back protector and groin protector, if attached, and remove ballistic inserts from each (Figure 7).	

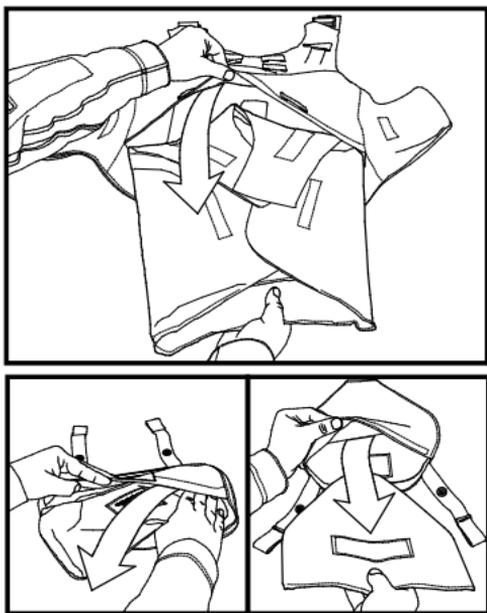


Figure 7. Removing Soft Ballistic Inserts

Table 2. Monthly Checks—Continued.

ITEM	PROCEDURE	EQUIPMENT IS NOT SERVICEABLE IF
Item 9. IBA (continued)	d. Remove yoke/collar from vest (Figure 8).	

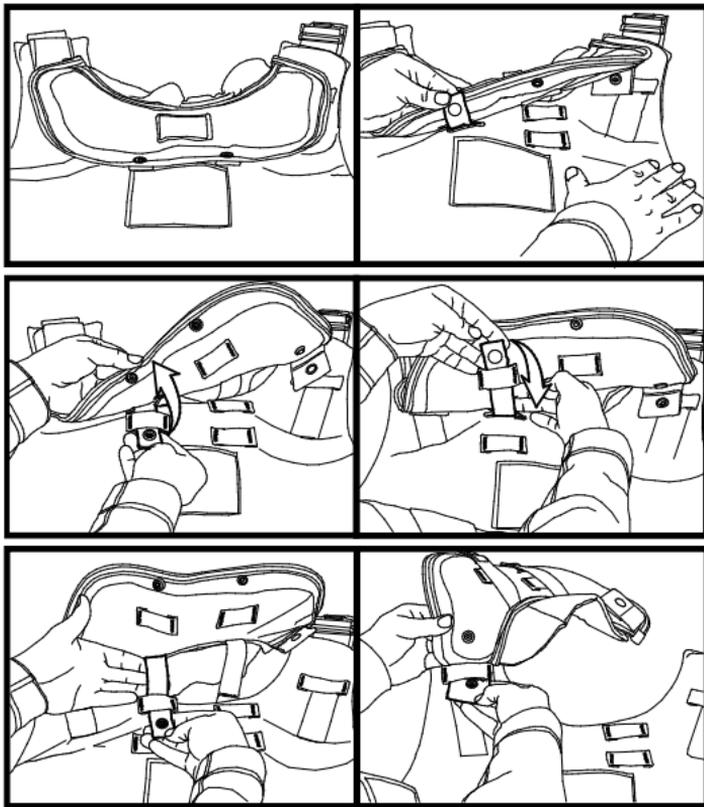


Figure 8. Removing Yoke/Collar Assembly.

Table 2. Monthly Checks—Continued.

ITEM	PROCEDURE	EQUIPMENT IS NOT SERVICEABLE IF
Item 9. IBA (continued)	e. Separate the front and back carriers by releasing the four buckles at the shoulders and under the front flap.	
	f. Remove side plate carriers.	
	g. Remove ballistic inserts from front and back carriers.	
	h. Reassemble in accordance with WP 0005 of TM 10-8470-210-10.	

Table 2. Monthly Checks—Continued.

ITEM	PROCEDURE	EQUIPMENT IS NOT SERVICEABLE IF
Item 10. IBA	Inventory the body armor.	
	Ensure all ITEMS are available: Front Carrier Front Ballistic Insert Back Carrier Back Ballistic Insert Universal Side Plate Carrier (x2) Webbing Hangers (x2) Universal Side Plate Pocket (x2) Front Yoke/Collar Assembly Back Yoke/Collar Assembly Lower Back Protector Lower Back Protector Ballistic Insert Deltoid Protector (x2) Deltoid Protector Ballistic Insert (x2) Groin Protector Groin Protector Ballistic Insert Groin Protector Plastic Insert SBI Hard Armor Plate (x2) SAPI Hard Armor Plate (x2)	Item sizes are mismatched.
	b. Check the data label on each ITEM to ensure each ITEM is in the same size or size range in accordance with WP 0005.	

Table 2. Monthly Checks—Continued.

ITEM	PROCEDURE	EQUIPMENT IS NOT SERVICEABLE IF
Item 11. IOTV Cloth Items	Inspect each cloth item for tears, punctures or abrasions.	Any tears, punctures or abrasions.
Item 12. Soft Ballistic Inserts	Inspect soft ballistic inserts for any tear, puncture, abrasion or heavy discoloration.	Any damage or heavy discoloration.
Item 13. IOTV	Inspect each item for heavy staining. Use mild soap to clean the area.	
Item 14. Soft Ballistic Inserts	Hand wash all ITEMS, except hard armor plates, soft ballistic inserts and emergency release assembly (Figure 8).	

WARNING

Washing IOTV ITEMS in hot water will damage the fabric.
Hand wash IOTV ITEMS in cold water only.

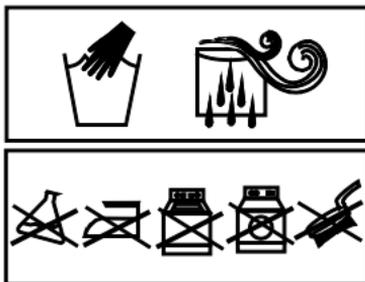


Figure 9. Cleaning Restrictions.

Table 2. Monthly Checks—Continued.

ITEM	PROCEDURE	EQUIPMENT IS NOT SERVICEABLE IF
Item 14. Soft Ballistic Inserts (continued)	a. Remove dirt from outer surface using a cloth or soft bristle brush.	
	b. Hand wash IOTV outer-shell and ITEM carrier covers only in cold or warm water, with mild detergent or soap.	
	c. Air dry all ITEMS away from direct heat or sun.	
Item 15. Hard Armor Plates	Clean hard armor plates.	
	a. Remove loose dirt and lint from the outer surface of the hard armor plates using a cloth or soft bristle brush. Never use a stiff bristle brush.	
	b. Wet the hard armor plates in a sink or shower using warm, not hot, water.	
	c. Apply a mild soap or detergent to the soiled areas and scrub with a cloth or soft bristle brush. Scrub only long enough to remove soil.	

Table 2. Monthly Checks—Continued.

ITEM	PROCEDURE	EQUIPMENT IS NOT SERVICEABLE IF
<p>Item 16. Soft Ballistic Inserts</p>	<p>Clean soft ballistic inserts with a damp cloth.</p>	
<p>Item 17. IOTV</p>	<p>Install soft ballistic inserts in carriers (front, back, lower back protector, groin protector, and deltoid protector) in accordance with WP 0005.</p>	
	<p>a. Lay the carrier on a flat surface with interior, label side facing up (Figure 10).</p>	

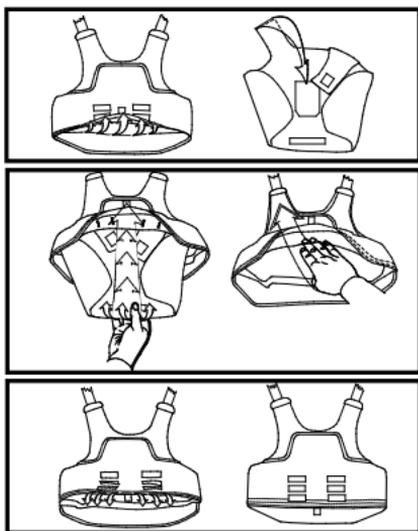


Figure 10. Installing Soft Ballistic Inserts

Table 2. Monthly Checks—Continued.

ITEM	PROCEDURE	EQUIPMENT IS NOT SERVICEABLE IF
	b. Separate hook and loop seam and install soft ballistic insert with the label side facing up.	
	c. Position insert, aligning the hook and loop tapes and ensuring the carrier material is smooth and flat after the installation.	
	d. Re-seal seam of the insert pocket.	Seam does not re-seal.
Item 18. Emergency Release Assembly	Inspect and test emergency release assembly.	
	a. Remove all hard armor plates.	
	b. Don the vest assembly.	
	c. Pull the emergency release assembly strap to ensure the vest assembly completely disengages.	

WARNING

The emergency release system cable must be seated correctly for the emergency release assembly to function properly. When the catch lever is closed, the edge of the round, black cable sleeve closest to the cable nut must be visible. If the cable is not placed correctly, remove the cable from the channel and reinsert it. Failure to do so will affect performance of the emergency release and may cause injury or death to personnel.

Table 2. Monthly Checks—Continued.

ITEM	PROCEDURE	EQUIPMENT IS NOT SERVICEABLE IF
	<p>d. Reattach the vest assembly and ensure the cables is in the secure and correct position (Figure 11) when the lever is closed and not partially secure (Figure 12).</p>	

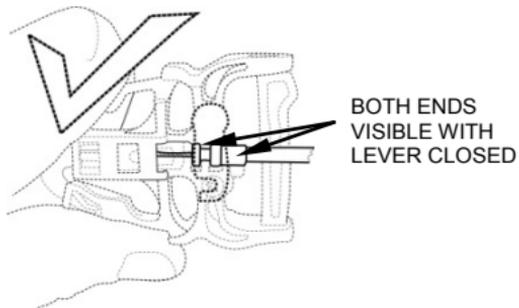


Figure 11. Correct Placement of the Cable

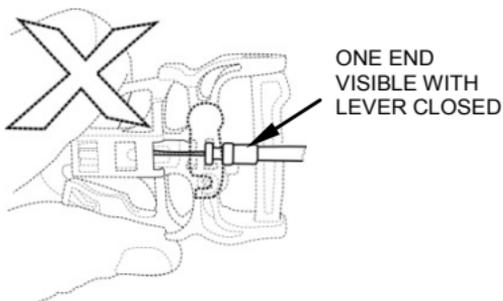


Figure 12. Incorrect Placement of the Cable

Table 2. Monthly Checks—Continued.

ITEM	PROCEDURE	EQUIPMENT IS NOT SERVICEABLE IF
Item 19. IBA	Adjust IOTV size.	
	a. Don IOTV.	
	b. Secure the side plate carriers to the front carrier by attaching the buckles.	
	c. Lift the lower panel on the front carrier and tighten or loosen the straps on the buckles evenly. The side plate carriers should fit securely against the vest.	
	d. If more adjustment is necessary, unbuckle the side plate carrier and remove the vest.	
	e. Place the back carrier on a flat surface with the exterior facing up.	
	f. Pull down on the webbing strap at the bottom of the lower back panel and lift up to gain access to the side plate carrier adjustments.	

Table 2. Monthly Checks—Continued.

ITEM	PROCEDURE	EQUIPMENT IS NOT SERVICEABLE IF
Item 19. IBA (continued)	g. The side plate carriers attach to the PALS by means of a webbing hanger. Pull outward on the webbing hanger's pull cord to unlock the webbing hanger.	
	h. Slide the webbing hanger out of the webbing loops.	
	i. Adjust inward (tighten) or outward (loosen) to achieve the correct fit.	
	j. Rethread the webbing hanger through the webbing loops on the back and side plate carriers in accordance with WP 0005, and snap the top of the webbing hanger back against the carrier to lock it.	
	k. Repeat until the vest fits firmly and comfortably on the body. Ensure all straps are adjusted evenly.	

Table 2. Monthly Checks—Continued.

ITEM	PROCEDURE	EQUIPMENT IS NOT SERVICEABLE IF
	I. Close the access panel aligning the sides of the panel with the hook and loop on the back carrier, and tuck the flap up and into the back flap pocket.	

MANDATORY REPLACEMENT PARTS

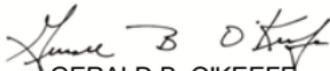
There are no mandatory replacement parts for the IOTV GEN III.

TM 10-8470-210-10PMC

By Order of the Secretary of the Army:

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