

Big Red Truck

BRT Fire and Rescue Supplies



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Specialist Garments for Specialist Applications

STRUCTURAL FIRE FIGHTING | COAT AND OVER-TROUSER





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INDEPENDENT CERTIFICATION OF THE GARMENTS

The coat and over-trouser have been independently Certified by BSI Benchmark Certification to be fully compliant with the requirements of AS/NZS 4967: 2009 (Amdt1-2010) - the Australian and New Zealand Standard for the requirements and test methods of protective clothing worn during structural fire fighting activities. This Standard defines structural fire fighting as "activities of rescue, fire suppression and property conservation in buildings, enclosed structures, vehicles, vessels, or like properties that are involved in a fire or emergency situation".

Note: — It is important to confirm that the garment correctly fits the fire fighter prior to undertaking structural fire fighting activities.

GARMENT LAYERS

The garments consist of three layers, with each layer performing a specific function.

Layer One - The Outer Shell

The outer shell of the structural fire garments is made from Nomex* IIIA, a blend of 93% Nomex*, 5% Kevlar* and 2% carbon fibre. The outer shell is the fire fighters initial barrier against hazard, therefore required to be highly flame and thermal protective, abrasion resistant as well as subtle to allow for ease of movement. In addition, the inclusion of 2% carbon fibre provides permanent static dissipation performance.



Layer Two - The Thermal Barrier

Internal to the structural fire garments are two layers of Sontara*, a lightweight spun laced (non-woven) Aramid fabric that traps pockets of air to provide enhanced thermal protection.

Layer Three - The Inner Liner

Quilted to the thermal barrier is the liner, protecting the fire fighter from coming into direct contact with it. The garments utilise a fine yarn Nomex* Comfort fabric (93% Nomex*/ 5% Kevlar* and 2% P140 antistatic carbon fibre). The use of fine yarns in this fabric leads to a superior level of softness and comfort against the skin of the fire fighter and also has a slight slick feel to it making donning and doffing easier. This fabric also has a wick finish applied to it which, as the name suggests, assists in wicking moisture away from the body.



These garments offer stand alone protection – that is, no additional garments need be worn to achieve the Certified protective performance. However as a fire fighter is likely to wear an addition garment(s) beneath the ensemble, it is strongly recommended that these garments be flame retardant or at the very least of 100% natural fibre content (eg. Cotton, wool etc).

REMOVABLE LINERS

Both the coat and the over-trouser have removable thermal liners. This serves three purposes:-

- It allows the outer shell to be washed separately from the thermal liner on a more rigorous wash setting.
- . It allows for the thorough inspection of the thermal liner during the life of the garment to confirm its integrity.
- It allows for easier repair and maintenance processes to be carried out upon the outer shell if required.

The outer shell by itself does not provide adequate protective performance and it is the responsibility of the wearer to ensure that the thermal liner has been fitted. To assist in this, both garments have an identification system visually confirming that the thermal liners have been fitted. Those leading the fire fighting operations need be mindful of this and not allow garments to be worn without the correct thermal liner fitted.

The identification system on the coat consists of a flap of fabric attached to the thermal liner that covers a contrasting section of reflective tape on the outer shell (at rear centre waist of the coat). On the over-trouser, the studs to which the braces are attached form part of the thermal liner, and exit onto the outer shell through small openings (ie. if the liner is not fitted, there are no studs on which the braces can be affixed).

The following procedures are provided as a guide for the removal and re-fitting of each garments' thermal liner:

THE OVER-TROUSER - LINER REMOVAL

Step 1 - Remove the braces from the over-trouser.

Step 2 – At the fly front opening, undo the velcro fastening.

Step 3 – Internal to the fly front opening, undo the four (4) press studs attaching the outer shell to the liner.

Step 4 – Internal to the leg cuffs, undo the four (4) press studs attaching the outer shell to the liner.

Step 5 - Undo the zip at the inside waist of the over-trouser.

Step 6 – The studs which hold the braces are connected to the inner liner and exit out through large button holes onto the outer protective shell of the over-trouser. Remove the studs from the outer lining by

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pushing them back through the button holes (in the same manner as you would undo the waist stud button on a pair of jeans). There are sixteen (16) studs altogether.

At this point the liner has been fully detached from the outer shell.

Step 7 — With one hand, hold onto one of the legs cuffs of the outer shell. With the other hand, pull out the inner liner of the corresponding leg through the waist area of the garment. Repeat with the other leg.

At this point the outer shell and the liner should be fully separated into two sections.

THE OVER-TROUSER - LINER REPLACEMENT

Step A – Hold the inner liner and identify the front of the liner by the presence of the front fly opening. Ensure that the yellow thermal liner is facing outwards.

Step B – Push your hand down the entire length of one of the legs of the liner and grasp onto the cuff opening. With your other hand, hold open the waist of the outer shell and insert the leg section of the liner into the corresponding leg of the outer shell. Repeat with the other leg.

Step C – With one hand, grasp together the liner and the outer shell at one side of the waist and firmly hold. Repeat at the other side of the waist with the other hand. Shake the garment vigorously 2 or 3 times to settle the liner into place.

Step D – Re-connect the studs that hold the braces by pushing them back through the button holes (in the same manner as you would do up the waist stud button on a pair of jeans). Start at one side of the fly opening and work your way around the garment.

Step E - Fasten the inside waist zip.

Step F — Re-connect the four (4) press studs internally to the over-trouser at the fly front opening.

Step G – Re-connect the press stud straps on each internal leg cuff. Be sure that the leg of the inner liner has not become twisted when being re-inserted into the outer shell.

Step H - re-attach the braces.

Step I - try on the over-trousers to ensure liner has been correctly reattached to the outer shell.

THE COAT - LINER REMOVAL

Step 1 – Fully open the front of the coat by pulling back the Velcro fastened storm flap and undoing the zipper.

Step 2 – Insert one hand down the entire length of a coat sleeve and grasp a hold of the outer shell cuff.

Step 3 – Still holding onto the cuff, pull your arm out of the sleeve taking the sleeve backwards as you go. You will then end up with the entire sleeve of the coat becoming inside-out. Beneath the knitted cuff piece is the Velcro attachment of the liner to the outer shell.

Step 4 – At the arm cuff of the now inside-out sleeve, pull apart the Velcro that attaches the outer shell to the inner lining. Work your way around the Velcro and as it separates, trying to push the separated outer shell back down into the sleeve (thereby reducing the chance of the Velcro reattaching itself).

Step 5 – Once the cuff piece Velcro has been fully detached, insert one hand down the entire length of the inside-out coat sleeve (this time from the created opening at the shoulder). With the hand inside the sleeve, find and grasp a hold of the outer shell cuff. With the other hand, hold onto the cuff of the inner liner.

Step 6 — Pull out the arm whilst still holding onto the outer shell cuff. The outer shell sleeve should now be back in it's correct position and separated from the inverted inner lining.

Step 7 - Repeat steps 2 to 6 with the other arm.

Step 8 — Undo the zips down both internal sides of the coat. Undo the press studs across the internal waist of the coat.

Step 9 – On the rear waist of the outer shell, remove the Velcro fastened flap that covers the liner attachment identification strip. Peel back and undo the zipper attaching this flap to the inner liner.

Step 10 – Detach the outer shell of the collar from the inner liner by lifting up the internal collar and detaching the Velcro holding it in place.

At this point the liner has been fully detached from the outer shell and is in two sections.

 $\mbox{\bf Step 11}-\mbox{\bf Push}$ or pull out the sleeves of the liner so that they are in their correct position.

THE COAT - LINER REPLACEMENT

Step A – Make sure that the outer shell and the liner are in their correct positions and that none of the arms are inverted.

Step B – Pull on the inner lining as if it were a normal coat. Now over the top of this, pull on the outer shell.

Step C – Fully remove one arm and then the other, being careful to keep the outer shell and lining in place. By doing this, you align the sleeves of the liner correctly with the sleeves of the outer shell.

Step D – Peel back one of the outer shell arm cuffs until you reach the Velcro strip. Carefully attach the Velcro of the liner arm cuff to the outer shell. Start at one side of the Velcro and work your way around.

Note - You may have to pull apart and reattach several times to get an even bonding without "waves".

Once attached to your satisfaction, straighten out the outer shell arm cuff back to it's rightful position. Repeat with the other arm.

Step E - Do up the zips on both internal sides of the coat. Reconnect the press studs across the internal waist of the coat.

Step F – Insert the collar piece of the inner lining into the collar section opening of the outer shell. Fasten this section in place with the associated tabs of Velcro.

Step G - At the rear centre waist, re-connect the zip that attaches the liner attachment identification strip covering flap. Velcro this flap into place onto the outer shell.

Step H – The lining is now fully fitted. Try on the coat to ensure liner has been correctly re-attached to the outer shell.



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CLEANING

As previously mentioned, one of the benefits of a removable liner is the ability to clean the outer shell and the thermal liner separately as each has its unique laundering requirements. Please follow the care and maintenance instructions listed upon the internal labels of the garments. If you choose not to remove the thermal liner from the outer shell for laundering purposes, then the cleaning procedures listed for the thermal liner (ie. the section that requires the most careful cleaning) need to be followed. Failure to do so will deteriorate the thermal liner and therefore disrupt its protective integrity.

Prior to cleaning remove all loose items (eg. gloves, personal items) and ensure that all closures are fastened inclusive of front closure, zip and velcro.

GARMENT SPECIFICATION SUMMARY

CERTIFICATION	Certified to AS/NZS 4967:2009 (Amdt1-2010)					
COLOUR	Lime Green					
REFLECTIVE TAPE	3M #9587 50mm Yellow/Silver Firetrim® – Flame Retardant					
HOOK & LOOP TAPE	Flame Retardant					
THREAD	Nomex® Minimum Requirement					
REFLECTIVE BACKPANELS	Reflective back panels, fully tested and compliant to the requirements of AS 4967,					
	may be added to the rear of the coat upon request.					

GARMENT SELF MEASUREMENT GUIDES

To ensure the appropriate size garment is selected, please follow the following measurement instructions. Cross reference the measurements taken

COAT

- 1. Chest Measurement (Point A) measure around the chest, directly under your arms and across (around) the back. The chest measurement will determine the size of the coat (eg. XL). If you fall between two sizes, choose the larger size. The sleeve and back length measurements will determine a regular or long fit.
- 2. Sleeve Measurement (Point B) measure from point of shoulder (crown) down arm to the point of the finger knuckles.
- 3. Back Length (Point C) measure from the centre back of the neck to the middle of the thigh.

REGULAR									LONG			
Size	S	M	L	XL	2XL	3XL	4XL	S	M	L	XL	2XL
Chest	95	100	105	110	115	120	125	95	100	105	110	115
Sleeve Length	66	66.5	67	67.5	68	68.5	69	69	69.5	70	70.5	71
Back Length	83	84	85	86	87	88	89	87	88	89	90	91

OVER-TROUSER

1. Waist Measurement (Point D) - measure around the waist at the widest point.

The waist measurement will determine the size of the over-trouser (eg. XL). If you fall between two sizes, choose the larger size. The in-leg length measurement will determine a regular or long fit.

2. In-leg Measurement (Point E) – most easily taken when wearing a pair of long sleeve trousers, measure from the crotch junction point down the in-leg seam and to the top of the heal of the foot

REGULAR								LONG					
Size	S	M	L	XL	2XL	3XL	4XL	S	M	L	XL	2XL	
Waist	80-85	85-90	90-95	100-105	105-110	110-115	120-125	80-85	85-90	90-95	100-105	105-110	
In-leg	69	70	71	72	73	74	75	75	76	77	78	79	

BRACES

The braces for the T340 over-trouser come in two sizes; Regular and Extra Large (XL). Typically, those of 1.83m (6ft) and under in height will take a Regular size brace. Those over 1.83m (6ft) in height will take a Extra Large brace.