



TQ ONIPRO



INDEPENDENT TESTING

SOLDIERS' STORIES

TRAINING CENTRES

SUMMER INNOVATIONS

Digest №1

12.2025

Testleitung: JOHANNES KOUBA | Fotos: SEBASTIAN FREILER



https://tqdnipro.com/uploads/files/Ranger_%20TQs_eng.pdf

INDEPENDENT
TESTING

Lifesaver

10 TOURNIQUETS

IN A PRACTICAL TEST FROM THE EXPERTS

Tourniquets are back in the spotlight: they save lives during road accidents, in mountains or in military conflicts, if you know how to use them.

To help you navigate the market, we involved three experts from Critical Knowledge, who tested the popular tourniquets “TQs” for Ranger Magazin in terms of their usability.

THIS IS HOW WE CONDUCTED *the test*

The task of the Critical Knowledge team, consisting of civilian paramedics and combat medics, was to offer assistance in choosing a tourniquet for both nonprofessionals and professional users if necessary to provide aid to teenagers or adults.

We tested ten tourniquets available in Europe. Among them there are models recommended by the Committee on Tactical Combat Casualty Care (CoTCCC) - the leading institution for developing recommendations for treating battlefield injuries (the models 3, 5, 6, and 7), relatively new developments (the models 2 and 10), and a tourniquet that was

purchased at a low price from a large retailer (the model 1). It should be noted that all the test participants have been using CAT and SOF tourniquets in their official activities for over 10 years. With the exception of one tourniquet (TQ Dnipro, the model 10), all others were purchased privately. Since this product appeared on the market not so long ago, and currently its distribution is mainly concentrated in Ukraine, we contacted the manufacturer for test samples, which they kindly provided.



HARD TEST - the Critical Knowledge team didn't spare the tourniquets (the photo above). During the day, about 40 "combat" applications were made, which were quite painful (the photo on the left). The high flexibility of the windlass rod and the very soft material of the internal sling demonstrated the poor quality of the Replika Tourniquets purchased from a large retailer (the photo below).



Hereafter we will try to conduct additional tests and provide results online for models that are mainly presented on the American market and are currently difficult to access in Europe.

The testing was aimed more at practical application, rather than testing in laboratory conditions. In order to obtain objective results, the presence or absence of blood circulation in each limb was determined using a Doppler ultrasound device. Also the study participants independently documented any features of each tourniquet in a special evaluation form.

To determine the effects of low temperatures, the tourniquets were kept for 14 hours at a temperature of -24°C , after which they were tested. To determine the effects of high temperatures, the tourniquets were kept at a temperature of 50°C for one hour before use.

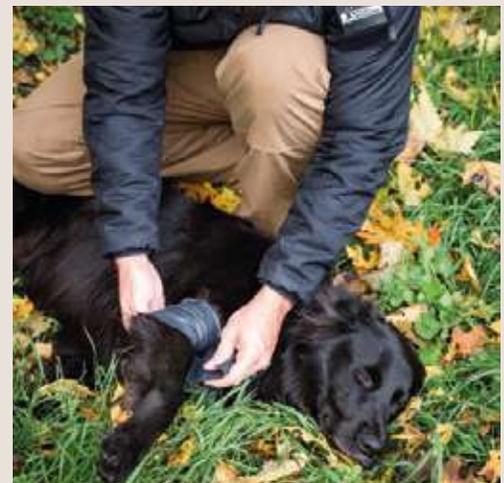
The efficiency in conditions of heavy contamination was checked by immersing the tourniquets without original packaging in a bucket of mud, after which they were immediately used. Also the study could not be complete and realistic without examining the possibility of effectively applying the tourniquets with hands in winter gloves and on a thick layer of outerwear (long underwear, trousers and sweater, Carinthia HIG 4.0 and MIG 4.0 jacket).

The other two models in the test series are applied to the limb either by wrapping it (the model 9) or by using a mechanical tensioning device that resembles the buckle mechanism of a ski boot (the model 2) to achieve the desired level of tension.



IN PRACTICE applying tourniquets on clothing and in tactical gloves is the most common scenario in real conditions, and dirt cannot be excluded either (the photo above, on the right). Reliable fixation of the remaining band in the CAT type tourniquets (the model 3) is always performed in the same way (the photo below: Rhino Gen2).

The Doppler device clearly confirms the effectiveness of stopping blood flow (the photo below, on the left). On thin limbs, the SWAT-T tourniquet performs its task well (the photo on the right), while applying it on a thick layer of winter clothing requires considerable efforts (the photo below, on the right).



TEST RESULTS

REPLIKA TOURNIQUET

It is offered by large retailers as a cheap alternative to the CAT Gen7. However, compared to the original, a softer and thinner material was used. The internal sling, which provides pressure on the limb by rotating the windlass rod, is less rigid and longer than in the original. Therefore, it takes significantly more turns to create the necessary tension and pressure compared to the original. For example, during the test with thick clothing, the original CAT Gen7 (the model 3) required 4 turns to stop the blood flow, while the Replika required 11 turns. This clearly demonstrates the low quality of the materials used in the Replika tourniquet. The windlass rod bends so much that it looks like it is about to break. The flap tape for indicating the application time is only stuck, not rigidly fixed, which can lead to its loss both as a platform for indicating the time and as an element for fixing the rest of the tourniquet band. As in the original, when tightening the tourniquet ring, the skin may be pinched, which can cause discomfort.

RAPIDSTOP-TOURNIQUET

is made of high-quality components. The tourniquet ring tightening device resembles a snowboard binding and consists of plastic and metal parts. After firmly tightening the first round, the pressure is then increased by a mechanism similar to a rack ratchet. To loosen or remove the tightened tourniquet, there is a small hook under the main buckle that unlocks the mechanism. However, this can be difficult in terms of coordination, especially during self-application to the upper limb if the ring tightening device itself is out of sight. Among the advantages of this innovative product are the absence of skin pinching and the low effort required to tighten the mechanism.

COMBAT APPLICATION TOURNIQUET GENERATION 7 (CAT GEN7)

, is probably the best known in German-speaking countries and America. Due to its lightweight but robust construction, it has been successfully used for many years by the test team members both in domestic and foreign missions. In addition to this test, the tourniquet has also been successfully tested in Arctic training conditions in Canada and in hot climates in Africa. No team member has yet experienced this tourniquet failure due to component damage. During the test, it also ensured stopping the blood flow in all conditions. Among the great advantages is the thick polymer windlass rod, which adds strength to the product. However, the disadvantage is that the skin is often pinched in the buckle during tightening, which can cause severe pain and lead to the formation of hematomas.

RHINO RESCUE GEN.2 TOURNIQUET ALUMINIUM

is almost identical in design to the CAT Gen7 (the model 3). Notable differences, besides color, include:

- a metal windlass rod;
 - a flap tape for indicating the time of application with a marked area for documentation using a ballpoint pen built into the windlass rod;
 - a coarser Velcro pile on the C-shaped clip of the windlass rod.
- Otherwise, due to its almost identical design to the CAT Gen7, it has the same advantages and disadvantages.

TACTICAL MECHANICAL TOURNIQUET (TMT)

looks like a hybrid of the CAT Gen7 (the model 3) and the SOF-Tourniquet (the model 7). All rigid parts are made of very soft plastic, and the windlass rod is quite smooth and relatively thin, which makes it difficult to control when twisting, especially in wet conditions. One of the testers found that during self-application to the upper limb it was impossible to secure the windlass rod due to its excessive deformation. The tourniquet requires double threading of the band into the buckle, and there is a risk of accidental release from the plastic fasteners, which can cause the same problems as those recorded with the SOF-Tourniquet. Among the advantages, it should be noted one of the widest bands (along with the SWAT-T, the model 9), which reduces point pressure on soft tissues.



Product	Replika Tourniquet	RapidStop-Tourniquet	Combat Application Gen7	Gen. 2 Metal Tourniquet	Tactical Tourniquet (TMT)
Manufacturer	No-Name-Produkt	RapidStop	CAT Resources	Rhino Rescue	Combat Medical
Price	around 10 Euro	around 50 Euro	around 35 Euro	around 15 Euro	around 30 Euro
Source / Manufacturer	amazon.at	rapid-stop.com/at/	combattourniquet.com	rhinorescuestore.com/en-at	combatmedical.com

Testing and evaluation*	Replika Tourniquet	RapidStop-Tourniquet	Combat Application Gen7	Gen. 2 Metal Tourniquet	Tactical Tourniquet (TMT)
Tactile sensations and appearance	5	11	12	9	6
Self-aid (the upper limb)	6	9	13	12	7
Self-aid (the lower limb)	7	10	13	13	7
Mutual aid (the upper limb)	7	11	13	13	8
Mutual aid (the lower limb)	7	11	13	13	8
Gloves	7	7	12	11	5
Training intensity	10	7	12	12	10
Total number of points	49	66	88	83	51
Rating in the test	9. Place	7. Place	2. Place	3. Place	8. Place

*Self-aid (the upper limbs), Self-aid (the lower limbs), Mutual aid (the upper limbs), Mutual aid (the lower limbs), Gloves

EXTREMITY TOURNIQUET SAM XT

has a design similar to the CAT Gen7 (the model 3), but is made of stronger component materials:

- a metal windlass rod connected to the tension band using rivets;
- a clasp similar to the SAM Pelvic Sling that works when a certain tension force is reached on the tourniquet band, so that the clips hold the band even if the Velcro tears, for example, when lifting or crawling. The opening of a fixed mechanism requires some practice, especially when applied as part of self-aid. The clasp worked properly and never jammed. However, it is worth noting that this product has the highest potential for skin pinching of any of the tourniquets tested, which can lead to unnecessary pain and hematomas.

SOF-TOURNIQUET GEN4

has a metal windlass rod and a metal buckle for securing the band, as well as a polymer intermediate C-shaped clip and a polymer triangle for securing the windlass rod. The materials of the other components also look high-quality. There is a small gap on the tourniquet band label to record the time of application. The clip has been improved compared to the previous version, but it can still cause problems for less trained users in stressful situations. Another note: this product should only be used with double threading of the tourniquet band into the buckle, which makes it difficult to self-apply the tourniquet to the upper limb. To make it easier, you can press the upper part of the arm with the tourniquet applied against a hard surface or your body to tighten the first round. The excess band is wrapped around the tourniquet and fixed.

SICH-TOURNIQUET

resembles the CAT Gen7 (the model 3), but has a stronger band and a different Velcro design. We especially liked that the buckle for connecting the tourniquet into a ring, the triangle for fixing the windlass rod and the windlass rod itself were made of metal. The band has a small field for recording the time, which can be filled in with a pen or scratched with a sharp metal object. The band tip is stitched, which makes it easy to work with it even with gloves and in stressful conditions. This tourniquet can be used both with the tourniquet band threaded into one slot of the buckle and into both slots. However, for self-application to the upper limb, double threading can be very difficult or even impossible, so this should be taken into account when preparing to use the tourniquet.

SWAT-T TOURNIQUET (Stretch-Wrap-And-Tuck)

is a further development of the Esmarch bandage from the 19th century and resembles a manipulation tape. It is applied to the limb using the developed wrapping technique and is fixed on itself. The tourniquet has printed markers indicating the optimal tension force. This tourniquet has no restrictions on limb diameter, which allows it to be used on dogs (K9) or children. It also has a wide contact surface that is gentle for soft tissues. However, there is no special field for recording the time of application. This tourniquet performed its function on the upper limb, but when applied to the lower limb over trousers it didn't work in several cases, and also failed to perform its function when applied over winter clothing. The main problem is that under stress, if the tourniquet slips out of your hands, you need to completely re-roll it to apply it again, or try to use the rest of the band. Under these conditions, we recommend this tourniquet not as a universal one, but rather for cases where you need to work with thin limbs.

TQ DNIPRO looks and feels more solid than some of the previously described products. In particular, the coarse ribbed windlass rod and the ergonomically shaped metal connecting buckle. This product is also well-designed in the details: the flap tape for indicating the application time is securely fastened and has a hole, probably so that it can be found in poor lighting conditions. The tip of the tourniquet band is securely stitched, which makes it easier to separate it from the Velcro. Moreover, most testers didn't feel any painful pinching of the skin, or it was insignificant. Overall, this tourniquet received the highest marks in the tests due to its robust construction and stable performance indicators.



SAM XT Tourniquet
SAM Medical
around 45 Euro
sammedical.com

SOF-Tourniquet Gen4
TacMed
around 45 Euro
tacmedsolutions.com

SICH-Tourniquet
SICH
around 40 Euro
sicheurope.com

SWAT-T Tourniquet
Combat Medical
around 20 Euro
combatmedical.com

TQ Dnipro
TQ Dnipro
around 35 Euro
tqdniipro.com

Product Manufacturer
Price
Source / Manufacturer

					Testing and evaluation*
					Tactile sensations and appearance
12	13	11	5	15	Self-aid (the upper limb)
10	7	10	4	13	Self-aid (the lower limb)
12	12	10	5	14	Mutual aid (the upper limb)
12	13	10	6	13	Mutual aid (the lower limb)
12	13	10	6	13	Gloves
10	10	8	4	12	Training intensity
10	8	10	6	12	Total number of points
78	76	69	36	92	Rating in the test
4. Place	5. Place	6. Place	10. Place	1. Place	

* Application with gloves, Training intensity = Can a tourniquet be used without much practice? In each category of the testing, 15 points could be scored = 105 points in total.

TENSILE TEST REPORT

Report Number	LB23-0537	Test Date	11-May-23
Customer	SOTER International Ltd		
Customer Address	121 Sugar Bag Rd Alexandra Headlands QLD		
Requested By	Tim Webb	Purchase Order	TBA
Accredited Laboratory	LMATS Brisbane Laboratory		
Job Description	(x3) Tourniquet Compression test		
Identification	CAT, SOF, DNIPRO		
Material Specification	Not specified		
Test Specification	Client's requirement - Report findings		
Test Method	MTS TP 3.1-Compression test-Other		
Test Specimen	As received		
Dimensions (mm)	Not applicable		
C.S. Area (mm²)	Not applicable		
Gauge Length (mm)	Not applicable		
Test Personnel	Joseph Gyu Tae No		

Table 1. Tensile Test Results

Identification	Max Force (kN)	Force at Fracture (kN)	Location of Fracture	Stop-lock (Rod)
CAT	2.40	1.97	Buckle	Broken
SOF	2.08	1.58	Belt(connector)	Broken
DNIPRO	2.77	2.75	Belt	Bowed a bit
Requirements	NA	NA	NA	NA



**Accredited for compliance with
ISO/IEC 17025 – Testing**
Accreditation Number 15840

Signatory


Joseph GTN
Date 11/05/2023

***Photograph**

- Before test

SOF

DNIPRO

CAT



- After test

CAT

SOF

DNIPRO



- Stop-lock (Rod)



Notes

1. All test and inspection items will be discarded after 6 weeks, unless retrieved by the clients representative.
2. Samples, identification of samples and all job specific details were supplied by the client.
3. Any stated nominal pipe sizes and nominal thickness of the material were provided by the client.
4. Where applicable, the Measurement Uncertainty (MU) applies to the test results as per LMATS procedure. MU can be obtained by contacting one of the LMATS ISO 17025 accredited laboratory.
5. If this report does not specify acceptance criteria, then the test or inspection results should be referred to a competent authority for further action.
6. This report shall not be reproduced except in full without approval of the issuing laboratory to ensure that parts of a report are not taken out of context. The client or their representatives shall not edit this report.
7. LMATS or its professional indemnity insurance provider do not indemnify the contents within this report or the conformity of a tested product unless the invoice for the reported work is paid in full within the agreed credit terms. Reports will be revoked if the invoice for the completed work is not paid in full.

SOLDIERS' STORIES

Call sign «Alex» – a story of resilience, survival, and strength of spirit.

For 24 long days, he remained trapped beneath the rubble in the city of Vovchansk, with no food, severely wounded, and alone – except for the unbreakable will to live and one vital companion: a reliable TQ Dnipro tourniquet firmly secured to his arm.



YOUTUBE CHANNEL



It was no mere piece of equipment.
It was a lifeline.

The tourniquet held fast.
It didn't tear,
didn't shift,
didn't give in – not for a moment.
It stopped the bleeding,
prevented toxins from entering the bloodstream,
and gave him a chance to hold on until rescue arrived.

Evacuation medic: *«Life is a constant school of survival. Every day you learn something new, come up with a way to get out of a difficult situation. I myself had to face a severe injury case, when a soldier was wounded in both arms – one of them very seriously – and the tourniquet remained on his arm for 24 full days! Not hours, but actual days! Only after that was he able to crawl out and get picked up by the evacuation team.»*

I want to emphasize that the Dnipro tourniquet was applied and performed its job well: the person did not bleed out, and the tourniquet did not allow toxins to spread further into the bloodstream.»



Such are the people of titanium!

TRAINING CENTRES



Serhii "Domkrat" – a combat medic of the 129th Brigade, Donetsk direction, who received and examined the wounded.
His words of gratitude: «If not for the Dnipro tourniquet, it would have been a tragedy. It was a groin injury – an area with concentrated arteries.»
Today, Serhii is a tactical medicine instructor at a training ground.
For over 2 years, he has been using, teaching with, and recommending TQ DNIPRO tourniquets.



NGO Kupyna

NGO Kupyna – instructors in tactical and pre-medical care based in Sumy.
They trust their lives to TQ DNIPRO tourniquets and train participants of their courses using them.



425th Separate Assault
Battalion "SKALA"

425th Separate Assault Battalion "SKALA"

What is a tourniquet to a soldier? It's life! A life that will be saved if there's a tourniquet in your pocket! We thank the manufacturers of TQ Dnipro tourniquets for providing 1,500 units to our unit! They will undoubtedly help save the lives of our assault troops.



199th Training Centre of the Air Assault Forces



Practicing evacuation and casualty care skills in conditions close to combat, using TQ DNIPRO Gen2 training tourniquets.



Training Center of the National Police

Training Center of the National Police Headquarters in Dnipropetrovsk region.

Training sessions conducted using TQ DNIPRO training tourniquets.

It is important to know both the theory of tourniquet use and to practice self-aid and buddy-aid skills in cases of massive limb bleeding.



SUMMER INNOVATIONS

Combat Medic Bag PM 302

Technical Specifications

- Original 1000D Cordura from the USA. The fabric is not visible under night vision, has a dual polyurethane coating for water resistance, is flame-retardant, UV-resistant, and highly durable.
- Elastic bands and mesh in Multicam – USA Original
- Polyamide Multicam webbing – USA Original
- Hardware – Italy, 2M
- Zippers – YKK, Japan Original
- Bag weight: 1050 g
- Dimensions: 400 x 250 x 150 mm
- Volume: 10 L

TOURNIQUET POUCH PM08 gen2



Additional velcro for
securing the side
panels

Extended pouch



Velcro in Multicam



An additional pull tab that assists
in fully deploying the tourniquet
and preparing it for use



Technical Specifications

Material:
Cordura fabric – Germany
[USA for Multicam color]

Elastic strap – Italy
[USA for Multicam color]

Weight: 90 g
Size: 230x50x40 mm





TQ DNIPRO



www.tqdnipro.com

info.tq@tqdnipro.com

Dnipro, Ukraine

