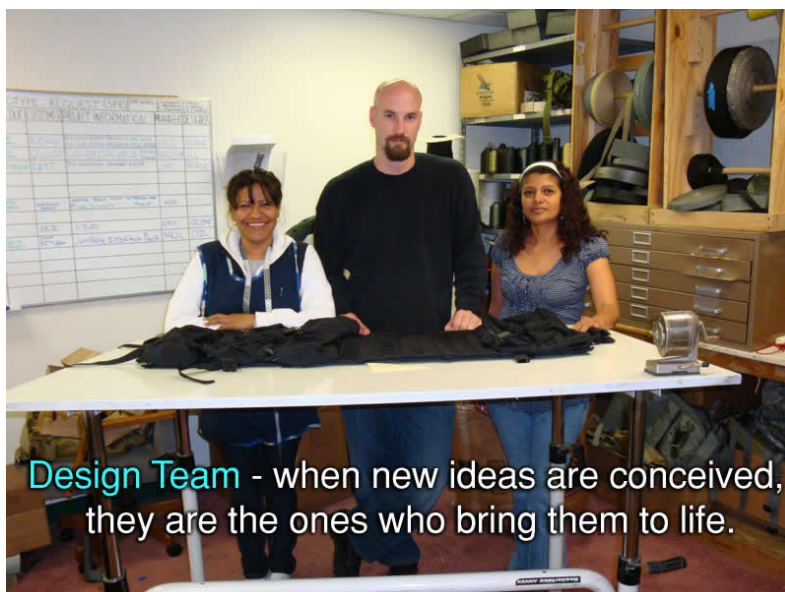


## SOTech Design and Ingenuity

Ingenuity is the cornerstone of S.O.Tech. Our customers come back to us year after year to see what new cutting edge tactical gear design has been born from our design shop. They have come to expect that SOTech's designers would have their fingers on the pulse of gear trends, and as such, SOTech designers have become a common sight in the field determining our operator's latest requirements. But to build this reputation, SOTech drew upon three essential ingredients: experience, ingenuity, and ethics. *Experience* came first. Years behind a sewing machine are great, but it has to be combined with years in the field humping a ruck, and shooting, moving and communicating. In Special Operations, we were afforded the opportunity to use numerous tactical systems as well as cross training in multiple operational disciplines. While this is a fun challenge while in uniform, it presents a great depth of knowledge of medicine, radios, breaching, and other disciplines when discussing design requirements with customers. SOTech recruits designers with field experience that mirror this capability. Next is *ingenuity*, also know as thinking outside the box. History's great warriors found victory by creating a tactical advantage that hadn't been considered by their foes, not by attempting tactical maneuvers that looked impressive in the last battle. In tactical gear design, the greatest pitfall is designing something that will only look appealing to the operator, rather than challenging him to fight outside the gear that he has become accustomed to. In life-or-death scenarios of the modern battlefield, warriors will tend towards the gear that they are used to, but that is what the enemy expects, and the greatest opportunity for victory will lie with the warrior who strikes from the unconsidered route. And finally there is *ethics*. There is an understanding between men in uniform. You can bend the truth when telling your wife how good of a cook she is, but lies are not tolerated amongst soldiers, and especially not when lives are on the line. Experienced operators can smell through deceptive advertising – flashy ads that talk about tough gear but conspicuously leave out “made in USA” or “made with Cordura<sup>®</sup> cloth” because these guys have seen cheap gear fail in the field – when it matters. These guys know that when they are talking to a designer who has worn the uniform and humped the same load, they are getting intel that they can trust.



**Design Team** - when new ideas are conceived, they are the ones who bring them to life.

What does a “no rip-offs” design policy mean to you? It means the creative fires are constantly lit to come up with the most effective way to solve your problem. We at SOTech believe that reverse engineering other company's designs leads you down a path of designer complacency and stagnation. Legally it has put us on the moral high ground. Having seven patents and six pending, SOTech has established itself as a recognized inventor. Yes, there are only so many ways to build a pouch

or a pack, you can't deny the feeling a man gets when he engineers a piece of gear that will help others in his field to do their jobs. And we applaud our government for recognizing this in our law. SOTech is proud to have successfully prosecuted a legal defense of our designs, as well as being instrumental in sending two criminals to prison for fraud in separate cases. We at SOTech support development of new designs and we are always eager to work with operators who want to bring their gear ideas to market. SOTech always advises these customers on how to protect their ideas. There are a lot of people with faulty opinions on "how easy it is to beat a patent" but we recommend you do your research before falling into some costly traps.

Why is it important to think outside the box? Most soldiers will do as they are told and dress right dress just as the Sergeant Major told them to do. We at SOTech understand the need for uniformity, but we've also witnessed some amazing operators hold up a radical new rig and say "I know it's a more efficient design, but it just doesn't look right..." To be fair, their minds almost always open up, but it's this wall that we always have to breach. Luckily there is almost always a troop in every unit that bucks the monotony and is looking for a better gadget. Whether he's a corporal or a captain, he usually finds his way to SOTech. We'll shoot him straight and build him a better rig. We'll help him help his comrades come home alive.

Diversity is both an advantage and thorn in the side of SOTech. While many business models encourage focusing on one field and then sticking to it, SOTech has engaged a wide variety of fields. Tactical, medical, aviation, EOD, sporting goods, and even fashion projects have come across our design tables. While this may prove distracting for some designers, we feel it brings new ideas into the office. When we design a tool panel that helps a medic do his job, it's great to be able to show that design to an aviator or a bomb technician to integrate into their designs. Just because a design originates at the tip of the spear doesn't mean it can't be applied to the everyday life of the common citizen.

How does SOTech stay in business designing and manufacturing gear? Customer loyalty is our cornerstone. Our ingenuity and ethics have inspired our customers to bring us the requirements for over 1500 designs currently hanging on our sample wall. And we hope that the product they received inspires them to bring in their next requirement. There are two business models in tactical gear manufacturing. The first is costly: set up a custom design shop and staff it with design sewers and engineers while sending design consultants out to units and agencies to learn design requirements from troops in the field. Then you go back and forth with design samples until you have it right. The other model is astronomically cheaper: wait for another company to spend the research and design money, buy two products off the internet, send them to your offshore factory, and have them mass produced and sell them at a lower price considering your lower overhead. Option 2 has its financial benefits, but we believe our customers and our warriors deserve better. Honor is a way of doing business.

SOTech has decided to reengage its policy of listing on its website the name of the personnel that brought in ideas or assisted in the development of designs with SOTech staff. It is our way of saying thanks to our supporters and of challenging the knock-off companies of doing the same.

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## SOTech's Design Innovations:

### Internal Magazine Slot Chest Rig and Vests

Probably SOTech's most prolific contribution to the tactical community is the internal magazine vest. By stitching slots into what was originally the internal map pocket of a chest rig, we effectively moved the rifle magazines off the front of the vest allowing for mounting other pouches while laying the heavy



mags flat against the operator's body for a low profile and lower center of gravity. The idea came from Brandon Scott, a Ranger medic at the beginning of the GWOT, who originally asked us for a way to deal with his need for both rifle magazine pouches and medical pouches on his chest. Brandon originally had us design a medical pouch with rifle magazines built into the rear of the pouch. Thinking of how he had dumped empty rifle magazines into our map pockets on our chest rigs, we decided to open the map pocket and construct rifle magazine slots. A SOF operator tested and gave valuable feedback and recommendations on

the original designs. SOTech applied for patents and was granted US Patent 7458491 B2 and has patent pending on a similar aspect. We recognize that John L. from Natick and Logan Coffey in a similar time frame developed similar concepts around individual pouches, not chest rigs or vests.

A humorous illustration about thinking outside the box: In 2003 SOTech answered the USMC Assault Load Carrier ALC MARCORSYSCOM solicitation by submitting the internal magazine chest harness as a ALC. During the debriefing as to why SOTech was not selected, a very well meaning USMC Major explained that SOTech's internal magazine chest harness had magazine slots that were secured by straps, not by full cover flaps with side ears. The Major went on to explain that this would allow dirt to get into the pocket, fouling the magazine, and potentially getting Marines hurt or killed. Ironically, eight years later, the USMC issued a contract through MARCORSYSCOM to equip all 400,000 Marines with an internal magazine chest harness nearly identical to SOTech's original design. The Army also issued a similar contract for a near identical design called the TAP. That Major has probably forgotten the conversation and moved on to better things, and SOTech has a copy of that original submittal to bring up a smile.

### Taser Holster for M26 and X26

One of the designs that put SOTech on the map was the Ambidextrous Taser Thigh Holster. When Mike Harding of LASD and John Russo of Escondido PD approached SOTech for a holster solution, the police departments attempting to field test the new taser system weren't getting many field uses to analyze. The problem was that the officers were thinking inside their boxes and mounting the gun shaped taser on their gun belts in pistol shaped holsters. Because the officer's gun belts were already crammed with gear, the testing officers were leaving the tasers in their trunks. Given the challenge, SOTech modified its quick clip-on thigh rig to allow officers to grab the taser holster from their squad car, and clip it to a



receptor belt hanger adapter buckle on the off-hand side of the officer's duty belt. This allowed the officer to add or remove the rig quickly giving him flexibility and minimizing his load. By making the holster ambidextrous, it could be issued by shift with the taser, and mounted on the offhand leg, minimizing the possibility of mistaking it for the lethal pistol mounted on the strong side. This design was so popular that it was adopted by LAPD, LASD, San Diego PD, Portland PB, and Honolulu PD and over 100 other agencies worldwide. SOTech patented both the ambidextrous design of the holster and the quick disconnect aspect of the belt hanger buckle under US Patents US 6691906 B2 and US 6685066 B2.

### Flex Tab

Responding to complaints by SOF operators over failing metal snaps, SOTech designed for USASOC a new MOLLE / PALS compatible pouch attachment system mid way though the GWOT. It has been a long standing goal of SOTech designers to minimize metal and plastic fixtures on their tactical nylon systems as metal can bend and rust and plastic can snap, where even though nylon can rip, it can be repaired in the field by a needle and thread. SOTech's first effort was a design with Mike Maceda which utilized a forward or rearward flipping tab. The next and final effort included a folded and stitched tab forming a v shaped anchor at the end of the PALS routed tab. This simple, durable and easily repairable Flex-Tab™ withstood a wind tunnel test of 750 knots, out-performing the MOLLE





snap and all other official contenders. The Flex-Tab has been utilized on all USASOC Special Forces Medical Equipment Sets and is now used throughout SOTech's product line. The design is currently Patent Pending.

### **SOTech Speed Clip and Belt Hanger Adapter**



SOTech's first design challenge came from the streets of Los Angeles. After the BofA Shootout in 1998, LAPD and LASD officers rushed in looking for ways to add a thigh rig of shotgun and pistol ammunition to their patrol uniform. During the shootout, officers found themselves rummaging through their squad car trunks securing cardboard boxes of 9mm and 12 gauge ammunition under their arms. LASD Deputy Frank LaFlamme came to SOTech with the idea to affix a d-ring to the top of a thigh rig so a patrol officer could grab it from his patrol car and clip it to the key snap on his Sam Brown belt. These rigs flew off the shelves and put SOTech on the map. SOTech enhanced the design by adding the 2 inch side lock buckle on a belt hanger adapter that could affix to the under belt. This design was so popular that LAPD designed its Urban Rifle Magazine Carrier on it, and riot gas mask carriers, and other agencies designed shotgun rigs, MP5 rigs, riot grenade rigs, and numerous other arrangements on that same platform. This is covered under our patent # 6685066 B2.

### **Mission Pack with drop down**

Early in the GWOT, Dave LaValle, a PA and 18D from the 101<sup>st</sup> AASLT DIV approached SOTech with requirements for a medical pack. He explained that when platoon sergeants were giving the order to drop rucks and go to the three day pack, the medic was stuck with two bags – a three day pack and a medical pack. The zippered down expanding bottom pouch is a key feature. SOTech produced the Mission Medical Pack with expanding drop down pockets and extra carry space to integrate the survival pack with the medical pack. Taking it a step further, SOTech added a CLS bag as a pull out trauma go bag. This design later morphed into the Mission Go Bag and the official SF issue MPMD medical ruck.



### **Hi-Vis Modular Labels**

In 2003, during the parachute jump injury that caused SOTech to become a Service Disabled Veteran Owned Small Business, Jim Cragg watched his medic fumble through the med pack he had borrowed from the other team medic looking for splinting material. Jim realized that even though every medic



packs his gear differently, there had to be a universal labeling system. He conceived of hook –and-loop military style name tapes that could be affixed to medical pouches whether in packs, on vehicle panels, or in hospitals. This way, if a nurse stepped off an aircraft where he/she had been working off a medical panel, he/she could open a field med pack and recognize the labels, though the pouches may be arranged in a foreign manner. This label system has been applied through US and NATO military medical organizations, and has bled over into other areas such as EOD, sniper, and mechanical repair.

### **SOTech Go Bag**



While satchels are not new, and Claymore bags have been field expedient grab bags since Vietnam, SOTech brought the concept to market in the late 90's with ALICE Pack external pocket liner pouch with pull-out shoulder strap to ditch the ruck and grab the go bag with mission essential gear. Next we have a SOF operator who showed up with a tubular bag from the Gap store and asked us to enlarge and modify it to fit his requirements. This tubular design fit between the seats of up armored vehicles and in aircraft and was easily donned while exiting during emergencies. Since that time, the SOTech design of the tubular go bag has morphed into longer bags, bags with no external pouches, and some fashionable designs. The tubular design has proven useful for carrying devices clandestinely because of its non-traditional profile. By the way, the product code is SGB-NP for the initials of its designer. Not wanting to rest on our laurels, SOTech presented this trend to use go bags to the highest military sources, and integrated it in SOTech's answer to lighten the warrior's load.

A follow on development was the Mission Go Bag which continued SOTech's range of go bags officially accepted by the US military.