



Figure 1. Here is the ASP headquarters building in Appleton, WI.



ASP: Locks That Protect and Serve

Todd Martin shows how this company's handcuff models work.

NESTLED IN THE picturesque heart of the Fox River Valley in Wisconsin is a company of about 40 people dedicated to outfitting our men and women in blue with the tools needed to protect and serve us. The company is called ASP (Armament Systems and Procedures). Among the tools they manufacture are handcuffs, handcuff

locksets and restraints, which have now become the fastest-growing segment of the ASP product line. ASP also supplies officers with lights, batons and other tools to help keep our streets — and them — safe.

The Appleton-based company was founded in 1976 by Kevin Parsons, who holds a Ph.D. in police science and is a bona fide expert on use of force. Besides earning a 9th degree black belt in kara-

te, Parsons also holds over 100 patents on ASP-related products. His interest in martial arts was the precursor to his first product, the ASP expandable baton (a modernized version of the Nobel Baton used by the Japanese Railroad Police). Since then, a plethora of other patented creations have sprung from the fertile mind of Parsons, including the locks that secure the ASP line of handcuffs.



Figure 2. This is the ASP museum at its headquarters building.

Now, more than ever, being armed with a safe and secure method of restraining suspects is paramount to successful law enforcement. ASP recognized long ago, however, that preparedness can't stop with the tools — it also requires training. The company's research revealed that the biggest problem facing law enforcement today is a lack of thorough, practical teaching. In answer to that need,

ASP offers free three-day integrated training (incorporating flashlights, batons and handcuffs). These courses have spanned over 100 countries and prepare officers for the unique challenges of today's streets. Due to their participation, many agencies report having effectively curbed the liability concerns that are part and parcel of today's reality when restraining unruly suspects.

Working With Handcuff Locks

As security professionals the prospect of servicing handcuffs, unlike other locks, carries with it unique challenges. The *Locksmith Ledger* published a series of articles by Dick Norman in 1956-1957 on servicing handcuffs. Included in those pages are descriptions of prying open lock cases to gain access to the hand-



Figure 3. Here's a close-up view of the restraint board at ASP. Note the color coding to meet individual agency requirements.



Figure 4. This is ASP's single pawl lockset.

cuff locks for repair. For those of us who have done this, we know that while it can be done, it is time-consuming and often hard to reassemble the cuff without it looking “worked on.” ASP has reimagined the industry with a clever patented solution: removable handcuff locksets. Although these locksets have been available for over a decade, few locksmiths are aware of their existence.

The removable locksets of the ASP

handcuffs allow the handcuffs to be easily serviced or have the key profile changed. It also allows the company to meet any police agency need quickly and has greatly reduced the supply-chain issues that plague other companies.

Handcuff Function

Before going further, let's review the basic function of a handcuff. The bow that adjusts to the prisoner's wrist has teeth

that mate with the teeth on the pawl or ratchet of the lockset to secure the prisoner. A double lock can be applied that will freeze the pawl in position. This protects the prisoner from being injured by a handcuff that is too tight and gives greater overall security to the handcuff. Modern handcuffs are of the swing-through design (patented in 1912). This means that the bow is free to swing through the body of the handcuff and is always ready for quick application.

ASP Locksets

There are three primary ASP locksets: single pawl, double pawl (high security) and triple pawl. All the locksets have keyways on both sides (29/64 between centers), so the officer doesn't have to worry about which way they're facing when applying them in challenging situations. The locksets are also designed to unlock both the single and double locks with a single turn of the key in one direction, unlike most handcuffs that require a directional change in rotation to unlock both the single and double lock.

“A double lock can be applied that will freeze the pawl in position.”

The single-pawl lockset essentially meets the industry standard and uses the traditional handcuff key to open. An exploded view of this lockset (*Figure 4*) reveals the pawl, double locking bar (in yellow) and a compression spring.

The double-pawl lockset is designed to meet higher security needs. This lockset requires a special key to open. An exploded view (*Figure 5*) reveals two pawls, double locking bar (in blue), a ward and a split flat spring. The ward is nested between the pawls to prevent the standard key from operating. The split spring enables a single spring to produce independent force to each pawl, thwarting picking attempts through the keyhole. The ward necessitates that a cut be present in the flag of the key to bypass it.

The triple pawl lockset is most often referred to as the “European” design and features a triple ratchet configuration popular in those countries. These pawls are also supplied with spring force by a single spring, but with a triple split at the top. This lockset functions with a standard handcuff key.

The internal springs in the ASP locksets do double duty. They supply force to the pawls as well as loading the double locking bars with spring force.

Service and Design

The removal of the locksets is extremely easy and makes servicing these a breeze. A single detent (*Figure 7*) is pressed in on the face of the handcuff (ASP supplies a



Figure 5. Here is ASP’s high-security double pawl lockset. The double locking bar is in blue.



Figure 6. This is the triple pawl lockset.



Figure 7. The author is depressing the lockset detent.



Figure 8. The lockset is levered up for removal.



Figure 9. The lockset is removed and ready for replacement or service.

special tool to depress the detent, but the double lock pin on the key will work in a pinch) and gently levered up. This action will free the lockset to be pulled from the handcuff body to be replaced or serviced (Figures 8 and 9).

It may be of interest that even the standard key is not standard at ASP. Their patented key design has the flag backset by .020 to help facilitate placement in the keyhole.

The ASP handcuffs are available in traditional chain, hinged and rigid configurations. Each of the three designs progressively increases control of the arrested party. As mobility is decreased for the detained subject based on which configuration is used, applying it to a struggling offender is generally harder as well. ASP trains officers how to decide what type of restraint to use, based on in-



Figure 10. The ASP key with flag backset is pictured above, with a typical handcuff key beneath it.



Figure 11. Here are ASP handcuffs in chain, hinged and rigid configurations.

dividual situations, and shows them how to apply the restraints efficiently.

Early in the design of the ASP handcuff, great attention was paid to ergonomics and the need to meet or exceed National Institute of Justice standards. There are no jagged, abrupt changes in the cuffs' shape that could result in injury. In fact, the handcuff edges flow with a gentle refinement not usually associated



Figure 12. Pictured is ASP's Sentry handcuff.

“All the locksets have keyways on both sides, so the officer doesn't have to worry about which way they're facing when applying them in challenging situations.”

with restraining devices. The handcuff bodies are made from precision-forged aluminum and have a flat contact point that meets the suspect's wrist prior to the bow swinging through and locking.

In examining their use of force data, the Seattle Police Department identified handcuff use as a major contributor of injury reports. In response, they have switched their entire department over to the ergonomic ASP handcuffs and restraints — a real-life testimony that the design changes made a difference.

In recent years, ASP has answered the need for an entry-level handcuff by manufacturing its Sentry handcuff. This handcuff is not forged, but rather constructed of sandwiched stainless steel. While having the same ergonomic design

as the company's other models, the locks of these handcuffs are not removable like the others in the ASP line and are meant to satisfy customers whose foremost concern is price.

As security professionals, being aware of customer options can enable us to offer intelligent, well-informed advice. The ASP line of changeable locksets has made the irksome task of servicing handcuffs into the proverbial “walk in the park” — a benefit we can all appreciate. ☺



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