JAMES TERTIN

Director of Research and Development, Magnum Research

September 29, 2022

Mr. Robert W. Zimmerman Saltz Mongeluzzi & Bendesky, P.C. One Liberty Place, 52nd Floor 1650 Market Street Philadelphia, PA 19103

Re: Robert Bryan Lang v. Sig Sauer, Inc.

Dear Mr. Zimmerman:

Pursuant to your request, I have reviewed and analyzed the materials you have provided to me in connection with the above-captioned matter. In addition, I performed a physical inspection of the subject handgun on September 28, 2022. Further, I examined an exemplar Sig Sauer P320 which I purchased from a retail store on February 25, 2022, which I understand was manufactured after Sig made changes to its original design. Finally, I reviewed several competitor pistols, including the Glock 19, as well as the literature for 39 base models of commercially available pistols, with a full list being provided below in Section I of this report. These 39 base models and their clones represent over 300 pistols sold in the United States. As a result of my analysis, I have formulated certain opinions, which are memorialized within the body of this report. I reserve the right to modify or append my opinions as additional discovery becomes available.

All review and analysis, as well as the formulations and hypothesis and conclusions, have been performed in accordance with generally accepted gunsmithing practices and through the use of scientifically sound methodologies. All opinions contained herein are held to a reasonable degree of engineering and gunsmithing certainty.

I. MATERIALS REVIEWED:

Plaintiff's Complaint
Defendant's Answer
Defendant's Responses to Plaintiff's Interrogatories
Defendant's Responses to Plaintiff's Requests for Production of Documents

Defendant's Document Production

Deposition of Sean Toner in the Above-Captioned Matter

Expert Report of Derek Watkins in the Guay v. Sig Sauer Matter

Expert Report of Sean Toner in the Guay v. Sig Sauer Matter

The Subject Pistol

Video of February 2, 2016 Incident in Roscommon, MI

Video of August, 2021 Incident in Port Huron, MI

Video of December 5, 2021 Incident in St. Rose, LA

Video of February 7, 2022 Incident in Honesdale, PA

Videos of March 28, 2022 Incident in Houston, TX

Video of 2022 Incident in Somerville, MA

Sporting Arms and Ammunition Manufacturers Institute Literature

Product Literature for the Following Pistols:

- Sig Sauer: P320, M17, P210 Target, M11-A1, P229, P928, P220, P322, P365XL, P238, P226, 1911, and CZ75.
- Glock: 17, 19, 20, 21, 22, 34, 26, 43
- Smith and Wesson: M&P Shield Plus, M&P 2.0, Shield EZ, Bodyguard, SD, Rimfire, CSX
- Taurus: Gx4, TH, Spectrum, G2, G3XL
- Kahr: All models
- Springfield Armory: Hellcat, XD
- Kimber: Micro 9CZUB: CZ75
- Magnum Research: MR9

II. SCOPE OF REPORT:

The purpose of this report is to analyze the adequacy and sufficiency of the safety mechanisms on Robert Lang's P320 X Carry pistol.

III. EXPERIENCE AND QUALIFICATIONS:

I am currently the director of research and development for Magnum Research, a firearms manufacturer based in Pillager, Minnesota. In that role, I am responsible for designing and developing new firearms for the company.

I have been a professional gunsmith since graduating in 1972 from the Gunsmithing School at Trinidad State College in Colorado; the oldest gunsmithing school in the United States. Over the past fifty years, I have been awarded seven firearm design patents.

IV. INCIDENT SCENARIO:

On December 11, 2018, Robert Bryan Lang attempted to remove his P320 X Carry pistol and its Blackpoint holster from his belt. The holster was specifically designed for the P320. Mr. Lang loosened his belt to ease the pressure on the gun and holster, then placed his hand onto the holster to verify the gun was secured. As his hand made contact with the holster, the weapon discharged.

Mr. Lang testified that he did not touch the trigger, nor could he have done so while it was in its holster. When the weapon discharged, a round struck Mr. Lang in the right upper thigh and exited above his knee.

V. INSPECTION OF THE SUBJECT FIREARM:

On September 28, 2022, I inspected a Sig Sauer P320 X Carry pistol with serial number 58C206002. It was represented to me that this was the pistol that fired on Mr. Lang.

I measured the trigger travel distance using a dial caliper. I measured the trigger weight using a certified spring trigger pull gauge certified at four pounds. I measured the sear engagement using a bladed depth micrometer.

The distance from the resting point to the set point was .103". The trigger pull weight from the resting point to the set point was 1.5 pounds. The distance from the set point to the break point was .055". The trigger pull weight from the set point to the break point was 4.5 pounds. The striker-sear engagement was .040". Videos of these measurements are attached hereto as Appendix A.

The slide on this gun would not easily close into full battery.

The subject pistol was not equipped with any external safeties. There was no manual thumb safety, no grip safety, and no trigger safety.

VI. ANALYSIS

A. SINGLE ACTION VS. DOUBLE ACTION PISTOLS

For a pistol to fire a round, a cocked firing mechanism must release the firing pin to make contact with the primer of a cartridge. The two types of firing mechanisms available are hammers and strikers. These pistols are referred to as "hammer-fired" or "striker-fired," respectively. Every gun is designed so that the pull of the trigger releases the firing pin mechanism so that it can strike the cartridge.

Prior to the firing mechanism being able to be released, it must first be cocked. Once a firing mechanism is cocked, it is in position to be released.

In a "single-action" gun, the firing mechanism is cocked prior to the trigger being pulled by some action other than pull of the trigger. The trigger serves the sole purpose of releasing the firing mechanism.

In a "double-action" gun, the firing mechanism is un-cocked prior to the trigger pull. The pull of the trigger in a double-action gun serves to both cock and release the firing mechanism. Accordingly, the pull of the trigger of a double-action gun is significantly longer and requires more

consistent pressure over the length of the longer trigger pull than the trigger pull of a single-action gun.

Single-action guns have trigger-pulls that are substantially shorter than double-action guns in terms of the pull being under trigger pull weight.

The terms "single-action" and "double-action" were first used to describe hammer-fired pistols. However, the terms are equally applicable to striker-fired pistols, and are used by other manufacturers, because the same distinctions exist in striker-fired pistols; namely, some are designed so the trigger both cocks and release the striker, while others have a trigger that only releases the striker.

B. THE P320 FUNCTIONS AS A SINGLE-ACTION STRIKER-FIRE PISTOL

The Sig Sauer P320 functions as a single-action pistol. The striker is cocked by the forward motion of the slide. Once the slide has been moved fully rearward and reset in the forward position, the striker is fully cocked and ready to be fired before any trigger movement. The trigger pull only serves to drop the sear so that the striker can be released. This is confirmed by Sig Sauer in witness testimony. *See Deposition of Scott Berube at 57:22-58:8*. The trigger-pull does not cock the striker in any meaningful way.

In addition to being clear from the design of the weapon that the trigger only serves to release the striker, I also performed a test of an exemplar P320 which proves this to be the case. On May 22, 2022, I used a Bridgeport Mill to cut out a piece of the slide of a P320, making the striker visible during the normal operation of the gun.



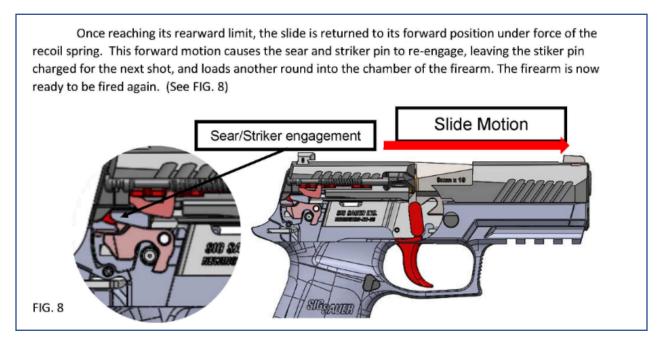
Exposed striker on a P320 (M17 model with manual safety included)

I filmed the striker before, during, and after several trigger-pulls. The videos are attached to this report in Appendix B. The videos establish that the striker is fully charged by the forward motion

of the slide or by fully articulating the slide, and that the trigger pull serves only to release the striker.

The trigger-pull does cause a negligible amount of rearward movement in the striker, but that is due to the rearward angulation of the sear. This movement is not a means to cock, or tension, the spring, but is merely a byproduct of the design of the sear lowering. I measured this rearward movement to be twelve thousandths of an inch – which is approximately 2.5% of the total rearward movement of the striker (.461"). Comparatively, the Glock has .362" of rearward movement and the trigger movement clearly cocks, and then releases, the striker.

The single-action nature of the pistol was further confirmed in the expert report Mr. Toner in another matter related to the Sig Sauer P320. Mr. Toner's report is attached as Appendix C. Mr. Toner's report provides a detailed explanation of the mechanics of the P320. In the report, he confirms that the striker is "charged for the next shot" by the movement of the slide, not the trigger.



Sean Toner Expert Report in Guay v. Sig Sauer, Inc. at Pg. 7 (SIG-EXPRPT_00533)

The fact that the striker is fully under tension prior to the trigger being pulled was also confirmed by Sig Sauer expert witness Derek Watkins in his report in the Guay v. Sig Sauer, Inc. matter. Mr. Watkins report is attached as Appendix D.

First, Mr. Watkins refers to the P320 trigger as a "short displacement trigger system." Mr. Watkins notes that the Colt 1911 is the prototypical example of a "short displacement trigger system." *See*

¹ The sear is angled slightly. As the sear travels down, the striker is pushed back slightly due to the angle of the sear.

Watkins Report at Pg. 6 (SIG-EXPRPT_00492). The 1911 is universally known as a single-action pistol and is also equipped with an external safety.

Mr. Watkins notes that the "short displacement trigger system of the P320 is one of the features that distinguishes it from many other striker fired pistols on the market." *See* Watkins Report at Pg. 6 (SIG-EXPRT_00492).

Second, Mr. Watkins confirms that movement of the slide on the P320 places the striker under tension so that it is ready to fire another round.

As the trigger bar is displaced, it first contacts the safety lever, causing the safety lever to rotate counterclockwise, displacing the striker safety lock and unlocking the striker pin. When the striker safety lock is in the down position, as shown in Figure 3.2, the striker pin is blocked from traveling forward and detonating the cartridge loaded in the chamber of the barrel (Figure 3.1). Once the striker safety lock has been displaced, the trigger bar contacts and rotates the sear counterclockwise, causing the sear to lose its engagement with the striker pin. When the striker pin is no longer restrained by the sear and the striker safety lock is in the unlocked position, the striker pin — which is under spring tension — is propelled forward and impacts the primed cartridge causing the pistol to discharge. Each time the pistol discharges and the pistol fully cycles, the striker safety lock will re-engage, blocking/locking the striker pin until the trigger is once again pulled. The sear also resets, catching the striker and re-energizing it under spring tension and making it ready to fire another round. If the sear does not rise back up and catch the striker foot, the P320 pistol is not cocked and is unable to fire.

Derek Watkins Expert Report in Guay v. Sig Sauer, Inc. at Pg. (SIG-EXPRPT_00493)

Mr. Watkins twice confirms that the P320 is cocked before the trigger is pulled, by opining on Pg. 6 of his report that: "The P320 also employs a passive safety system, meaning the safety is engaged at all times when the pistol is cocked and the trigger is not being pulled."

Sean Toner, Sig Sauer's lead engineer for the P320, incorrectly testified that the P320 has a "double action-style trigger." *Toner Deposition at 111:2-7*. Mr. Toner testified that "when you move the trigger, you're actually – you're cocking the striker to its final cocking point." *Toner Deposition at 111:3-5*. This testimony is contradicted by Mr. Toner's and Mr. Watkins's reports and examinations of the pistols. As provided above, the negligible rearward movement caused by the

trigger pull is caused by the angulation of the sear, and does not serve the purpose of cocking the striker in any meaningful way. Once the slide has gone through its progression, the striker is fully cocked and ready to be released with an extremely short trigger-pull under trigger pull-weight.



Exposed striker on a P320 (M17 model) with the striker under tension

As further evidence that the P320 is a single-action gun, the undersigned disassembled a Taurus GX4 (which includes an external safety) and found that it operates in a substantially similar manner as the P320; insofar as the striker is fully cocked by racking the slide, and the trigger serves only to release the striker. *See* Appendix E. Taurus acknowledges that this design is a "single action only" design.²

THE BASICS	ITEM NUMBER 1-GX4MP931	UPC 7-25327-93551-3
	CALIBER 9MM LUGER	CAPACITY 13 Rounds
	FRONT SIGHT Fixed	REAR SIGHT Drift Adjustable
	MAGAZINES INCLUDED 2	ACTION TYPE SAO

Screenshot of Taurus's Website

 $\underline{https://www.taurususa.com/pistols/taurus-gx4/taurus-gx4-tm-t-o-r-o-black-9mm-luger-micro-compact-11-rds}$

C. REQUIREMENT FOR EXTERNAL SAFETIES ON SINGLE ACTION GUNS

All engineers must follow the design hierarchy when considering the safe design of a product. A manufacturer should first try to eliminate the hazard through design. Then, if it can't, it must implement the necessary safeguards to minimize the risk of such hazards or, as a last resort, provide warnings to the end-user.

² Additionally, unlike the Sig Sauer P320, every Taurus GX4 is equipped with a trigger safety.

Even though many double-action guns on the market also contain at least one of the three primary types of external manual safeties, discussed in detail below, it is even more imperative that single-action guns have a manual external safety that prevents the trigger from being moved without intent. Simply put, the trigger travel distance of a single-action gun makes it very easy for the trigger to be inadvertently actuated by a part of a user's body or a foreign object. For that reason, to the best of the undersigned's knowledge, there is no single-action firearm on the market without an external safety other than a Sig Sauer.

As Mr. Watkins notes in his report, the Colt 1911 is single-action pistol. Every version of the 1911 on the market, including every model of the Sig Sauer 1911, is equipped with some type of manual safety. In fact, every Sig Sauer pistol that Sig Sauer acknowledges is a single-action only pistol is equipped with an external safety. The only two striker fired guns on the market with no external manual safety that I have found are the Sig Sauer P320 and the P365. Despite marketing the effectiveness of the internal safety features, those features do nothing to prevent unintended trigger movement and do not even remain engaged until the set point.

Mr. Toner testified during his deposition that the only purpose of a manual safety on a single-action gun is to prevent the exposed hammer from being struck and causing the gun to discharge. *Deposition of Sean Toner at 121:2-21*. While preventing the cocked hammer on a single-action pistol is one reason why manual safeties are required on those guns, it is not the only reason. This point is proven by the fact that one of Sig Sauer's newest pistols, the P322, is a single-action pistol with an internal (unexposed) hammer that is only available with a manual safety. Notably, Mr. Toner testified that he would not personally feel comfortable carrying a P320 with a round in the chamber. *Deposition of Sean Toner at 89:4-91:1*.

D. DESIGN DEFECT OF THE INTERNAL SAFETIES

Lacking any sort of external safety to prevent inadvertent trigger pulls, the P320 relies exclusively on internal safeties to prevent inadvertent discharges. Mr. Watkins refers to this as a "passive safety system." See SIG_EXPRT_00492. Sig Sauer routinely claims the internal safeties are sufficient to prevent unintended discharges. An analysis of the internal safeties establishes they are disengaged with exceptionally little manual effort, and are disengaged during the pre-travel and before the trigger is actuated. Unfortunately, once the internal safeties are disengaged, the pistol becomes susceptible to discharging without user's intent and without complete trigger actuation. Further, these internal safeties are not visible to the user; who cannot be reasonably expected to understand how they function and if they are functioning as intended.

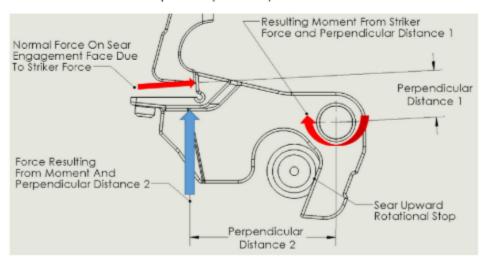
According to Mr. Toner, the P320 incorporates two major internal safety features which act to prevent the P320 from discharging without actuation of the trigger mechanism. See SIG-EXPRT_00533. Those two features are the striker-sear engagement and the striker safety lock. *Id.* Mr. Toner provides the following description of the striker-sear engagement safety feature:

Sear/Striker Engagement

FIG. 9

The first safety feature is the positive connection between the sear and striker pin when the firearm is at rest in a charged condition. This connection holds the striker pin under tension imparted by the striker spring, which provides the energy required to launch the striker pin forward and impact a chambered cartridge. In order for the firearm to discharge, the sear must move in a downward direction, allowing the striker pin to move forward under this tension and impact the primer of a chambered cartridge (see description of firing cycle above). If these two components are not disengaged, the firearm cannot discharge.

The design of these two components, and how they interact with each other, act to keep the components in positive connection until a sufficient force is applied to the sear to break the connection (specifically through actuation of the trigger mechanism). This is accomplished by the presence of a closing moment between the two components when they are engaged. The effect of this closing moment is to always pull the sear upward as long as the striker pin is charged. This closing moment leads the two components to always seek full engagement. The image below further illustrates this closing moment and the interaction of these two components. (See FIG. 9)



Without a counteracting force being exerted on the sear to overcome this closing moment (namely the forward motion of the trigger bar rotating the sear in the opposite direction of the closing moment), the sear and striker pin will remain in engagement and the striker pin will not be released to impact a chambered cartridge.

SIG-EXPRT 00534

The striker-sear engagement on the subject pistol is only .040", which for comparison is less than the thickness of a dime. For the striker to disengage from the sear without the striker safety block engaged, it would only need to move approximately one-twenty-fifth of one inch. Such a disengagement can be caused by vibration, jostling, or contact with the P320.

Sig Sauer acknowledges in its safety manuals for the P320 that contact such as the "firearm being dropped, impact to the firearm, or the firearm being struck by another object" can cause safety mechanisms to "fail to work as designed." *See* SIG-SLATOWSKI 00698. While Sig

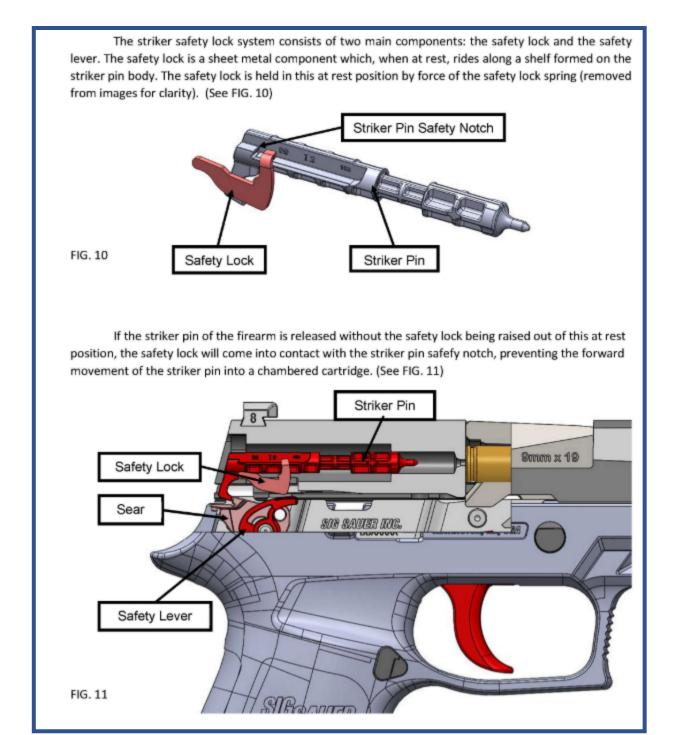
Sauer describes this type of contact as "abusive handling," the situations described by Sig Sauer (i.e. firearm being dropped, impact to the firearm, firearm being struck by another object) are commonplace occurrences. By Sig Sauer's own admission, the mechanical safety systems (including the .040" striker-sear engagement) can fail when the weapon is exposed to contact. Even minimal contact, as evidenced in videos of other incidents, can cause a hazardous unintended discharge.

ABUSIVE HANDLING

All SIG SAUER firearms incorporate effective mechanical safeties. However, like any mechanical device, exposure to abusive conditions may have a negative effect on these safety mechanisms and cause them to fail to work as designed. Do not subject your SIG SAUER firearm to any type of abusive handling. This includes the firearm being dropped, impact to the firearm, or the firearm being struck by another object. Make sure you always maintain control of your firearm at all times. If your firearm does suffer an abusive event, as previously described, do not attempt to use the firearm. Keep the firearm pointed in a safe direction, unload and clear the firearm immediately, and have it inspected by a certified SIG SAUER armorer or gunsmith prior to using the firearm.

SIG SLATOWSKI 00698

The second major internal safety described by Mr. Toner is the striker safety lock. The striker safety lock serves to block the striker pin from moving forward and impacting a chambered cartridge in the event the striker-sear engagement is lost. Mr. Toner describes the striker safety lock feature accordingly:



SIG-EXPRT_00535

Despite Mr. Toner's representation that a trigger pull is required to release the striker safety lock, the striker safety lock is disengaged by pulling the trigger a fraction of the total travel distance required to discharge a round as the weapon is designed. As measured by the undersigned, the striker safety lock is disengaged with a trigger pull of under .075" with under 1.5 pounds of pressure on a newly purchased exemplar P320. Once the striker safety lock is disengaged, the sear-sear connection is the only feature holding back a fully cocked striker. At

that point, disengagement of the striker and sear can be caused by dropping of the firearm, impact to the firearm, or the firearm being struck by another object without a full actuation of the trigger.



The firing pin block disengaging with less than .075" of a trigger pull under less than 1.5 pounds of pressure. See Appendix F.

'Upgraded' models of the P320, including the subject model, include a "secondary notch" which is designed, in theory, to catch the striker foot in the event it becomes disengaged with the sear. Unfortunately, this secondary safety notch is ineffective because, as designed, it drops out of the way when the primary sear is dropped. In the event the striker-sear connection is unintentionally lost, and that loss is a result of the sear dropping, the secondary notch will fail to catch the striker foot.

Given the very minimal trigger movement within the pre-travel phase and before trigger actuation required to disengage the internal safeties, a foreign object or pressure against the holster can leave the gun unacceptably vulnerable to a discharge without an intentional trigger pull; without the finger being on or near the trigger, or even without full actuation of the trigger.

E. TYPES OF MANUAL SAFETIES

There are three primary types of manual safeties that can be equipped on a striker-fired pistol: thumb safeties, grip safeties, and tabbed trigger safeties. All three help prevent unintended discharges by manually blocking the trigger from being pulled until the user decides they are ready to fire. Any of the three could have been designed into the P320 with minimal added cost or disruption to the pistol's functionality, as evidenced by the fact

that a manual thumb safety was included on the military version of the P320, and the fact that Sig even advertised the tabbed trigger safety as an option despite not following through with it.

A thumb safety is a switch on the side of the pistol that can be flipped on or off with the user's thumb. Typically, the thumb safety is flipped up to put the gun in "safe mode," and down to place it in "fire mode." Unless and until the thumb safety is flipped down, the trigger cannot be actuated. A thumb safety takes a user a small fraction of a second to flip into "fire mode." Without question, the added fraction of a second that the manual safety takes a user to flip is well worth the massive safety benefit of preventing unintended discharges in a single-action pistol. This safety feature does not prevent military personnel equipped with the P320 from performing their duties. Further, the M-17's thumb safety is ambidextrous to accommodate both right and left handed shooters.

While nearly every P320 sold to law enforcement and private consumers is not equipped with a thumb safety, the military version of the P320 is equipped with an ambidextrous thumb safety. The thumb safety makes the military version of the P320 substantially safer for our men and women serving in uniform.



P320 M17 with a thumb safety

A grip safety is a lever on the grip of the pistol that must be depressed for the trigger to be able to actuate and fire the gun. A grip safety requires virtually no extra effort on the part of the user, because their hand would naturally depress the safety as they were holding the pistol. Sig Sauer employs a grip safety on several of its 1911 models. Sig Sauer's competitor, Springfield Armory, uses a grip safety in its striker-fired XD series. Another top Sig Sauer competitor, Smith and Wesson, employs a grip safety on their popular M&P Shield EZ series.



Sig Sauer 1911 Fastback Nightmare Carry with Grip Safety



Springfield Armory Striker-Fired XD Series with Grip Safety

A trigger safety, the most widely used type of safety for striker fired guns, is a small tab within the trigger that must be depressed for the trigger to be able to fully depress and fire the weapon. Trigger safeties are able to effectively and efficiently prevent accidental discharges because they require a user's finger to be placed squarely on the center of the trigger prior to the pistol being discharged. Therefore, the user is required to more deliberately place their finger on the trigger to fire the weapon. Trigger safeties are found on all Glock striker-fired pistols, the Springfield Hellcat series, the Springfield XD series,

the Walther PDP series, the Walther PPQ series, the Walther Q5 series, the Taurus GX4 series, the CZ P-10 series, the M&P 2.0 series, the Ruger Max-9 (also equipped with a thumb safety), and the H&K VP9 series among others. It is important to note that a tabbed trigger safety was permitted under the ICE contract with Sig Sauer.



Glock tabbed trigger safety

Additionally, there are two forms of safeties that are less common, but still effective means of preventing accidental discharges. The first of which is a "hinged trigger," which is similar to a tabbed trigger because it prevents the trigger from being pulled if it not deliberately pulled squarely. The second of which is a "de-cocker," which releases striking mechanism from being in a single-action position to being in a double-action position. A weapon that has been "de-cocked" will have a much longer, heavier double-action trigger pull on its first shot, making an unintentional trigger-pull much less likely.

The fact that nearly every Sig Sauer P320 sold to law enforcement and the general public is sold without any type of manual safety makes the P320 unique among single-action pistols; and uniquely dangerous.

The distinctively dangerous characteristics of the Sig Sauer P320, along with the internal design decisions discussed below, explain the sheer number of incidents of unintentional discharges across the country; especially among highly trained and skilled firearms users. I have been made aware of close to 100 other incidents of the P320 discharging when a user believes they did not pull the trigger. On several of these occasions, Sig Sauer claimed the trigger was pulled by a foreign object like a seatbelt. I have also reviewed several videos of P320 unintended discharges where the user does not pull the trigger.

Taking Sig Sauer's explanation for some of these discharges as true for the sake of argument, it is not acceptable for a firearm to discharge with a passing graze from a foreign

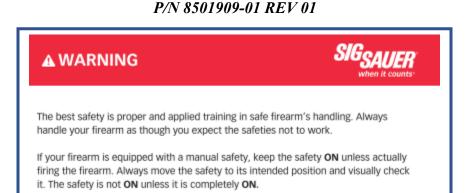
object like a seatbelt. However, the Sig Sauer P320 is uniquely capable of such a discharge because of its short, lightweight trigger pull along with its complete lack of any sort of safety which can block the trigger from being inadvertently depressed.

F. LACK OF WARNINGS

The danger posed by a single-action pistol without a safety can be mitigated by carrying the pistol without a round in the chamber. A user carrying the P320 when it is not "locked, loaded, and ready to fire" is protected against an accidental discharge caused by the pistol's extremely short trigger travel distance.

Upon review of the Sig Sauer P320 manuals provided to me (BATES Nos.) I found that some manuals have added a warning that appears to caution against carrying with a round in the chamber, but other manuals do not. Based on revision number of the manuals, it appears that Sig Sauer *removed* the warning from their manuals.





Sig Sauer P320X Manual, SIG-SLATOWSKI 00656 (without warning) P/N 8501909-01 REV 02

Despite Sig Sauer warning against the practice, Mr. Toner testified that Sig Sauer is aware that some users would carry their P320s with a round in the chamber. *Deposition of Sean Toner at 116:6-117:1*. Mr. Toner testified that it would not be "wrong" for a user to carry with a round in the chamber, despite the manual warning against it. *Deposition of Sean Toner at 117:2-20*. Sig Sauer was clearly aware that the practice of carrying the P320 with

a round in the chamber was dangerous, but manufactured the single-action pistol without manual safeties anyway.

Additionally, the manuals fail to warn users that the P320 is functionally a single-action pistol. In my fifty years of experience in the firearms industry, I have reached the opinion that the average consumer does not understand the complicated internal mechanisms of a pistol. An ordinary consumer can be expected to know how to operate and care for their weapon, but not fully understand the way the component pieces work together to make the gun fire. For that reason, an average P320 user likely would not appreciate the fact that the P320 is functionally a single-action pistol rendered unreasonably dangerous by the lack of manual safeties.

G. THE GLOCK STRIKER FIRED SYSTEM

Mr. Toner confirmed during his deposition that Sig Sauer's biggest competitor in the striker-fired pistol market is Glock. *Deposition of Sean Toner at 46:22-48:6*. Glock produces a series of striker-fired pistols that are extremely popular both in the consumer market and with law enforcement. Glocks notably do not have a manual or grip safety. However, Glocks are substantially safer than P320s because their "Safe Action" design serves to prevent accidental discharges.

First, unlike the P320, all Glock pistols are functionally double-action pistols. The trigger pull on a Glock serves to both cock and release the striker. *See* Appendix G. This results in a much longer trigger pull, which in turn makes the pistol far more difficult to accidentally discharge. On March 24, 2022, I measured the trigger travel distance of an exemplar Glock 19. The trigger travel distance to discharge the pistol was .223 inches under full weight for the length of the pull; roughly four times longer than the P320 trigger pull under full weight.

Second, all Glock pistols are equipped with a trigger safety. As provided above, the trigger safety is a highly effective tool to prevent unintended discharges.

For those reasons, a Glock is a far safer striker-fired pistol than the P320.

Notably, Glock produces the standard sidearms for the Federal Bureau of Investigation, the U.S. Navy Seals, U.S. Customs and Border Control, the U.S. Secret Service, the New York City Police Department, the Los Angeles Police Department, the Philadelphia Police Department, the Washington D.C. Police Department, the Atlanta Police Department, the Boston Police Department, the Miami-Dade Police Department, the Baltimore County Police Department, and the British Army, among others.

H. CONCLUSIONS:

- 1. The Sig Sauer P320 is functionally a single-action pistol because the striker is under full tension prior to the trigger pull.
- 2. The P320's trigger pull does not meaningfully cock the striker, and only serves to release the striker.
- 3. Single-action pistols must have an external safety that blocks the trigger from being inadvertently discharged because the extremely short distance the trigger must travel to release the firing mechanism creates a high risk of accidental discharge.
- 4. The Sig Sauer P320, as designed, is generally not equipped with any manual safeties.
- 5. The subject P320 was not equipped with any manual safeties.
- 6. The inclusion of a manual thumb safety on the military model of the P320 proves that it is possible for P320 to be equipped with a manual thumb safety.
- 7. Sig Sauer could have easily included a manual thumb safety, grip safety, or tabbed trigger safety on the P320.
- 8. The P320 is the only single-action firearm on the market that does not come equipped with any sort of manual safety.³
- 9. The P320 is unreasonably dangerous and defectively designed because the combination of its extremely short single-action trigger-pull and lack of external safeties makes it far too easy for the trigger to be accidentally actuated.
- 10. An ordinary user of the P320, without detailed knowledge of the internal mechanics of the pistol, would likely not recognize how dangerously defective and out of the ordinary the P320's design is.
- 11. Sig Sauer was aware that some users would carry the pistol with a round in the chamber, despite acknowledging in some manuals that the practice was dangerous.
- 12. In the event Mr. Lang's trigger was touched by his finger or a foreign object, the firearm most likely would not have discharged if it was equipped with a manual safety.

³ This opinion is rendered based upon the undersigned's over fifty years' of experience working in the firearms industry, as well as extensive market research performed in preparation of this report. To the extent the undersigned is made aware of a single-action firearm available without any sort of manual safety, the undersigned reserves the right to amend this report and/or issue a supplemental opinion.

- 13. In the event Mr. Lang's trigger was touched by his finger or a foreign object, it would have been much more difficult for the trigger to fully actuate if the pistol was a double-action pistol like those manufactured by Glock.
- 14. In the event that Mr. Lang's trigger was touched by his finger or a foreign object, it most likely would not have discharged if the gun was safely designed.
- 15. The defective design of the P320 was a proximate cause of Plaintiff's accident, in the event that his finger or a foreign object touched the trigger.
- 16. If Sig Sauer had not made the only single-action pistol on the market without any manual safeties, Plaintiff's accident most likely would not have occurred, in the event it was caused by his finger or a foreign object touching the trigger.
- 17. The P320's internal safeties are disengaged by a trigger depression of under seventy-five one-thousandths of one inch, with 1.5 pounds or less pressure. If the P320's internal safeties are disengaged by pressure against the holster or a foreign object, the P320 is susceptible to a discharge if the gun is impacted.

JAMES TERTIN

James Tertin

Dated: September 29, 2022