Removable handgun slide mounts are presented including: a mounting plate; a dovetail mounting adapter sized to slidingly couple with a rear open sight dovetail slot of a handgun slide and configured to removably coupled with the mounting plate; and a rear slide mounting adapter sized to slidingly couple with a rear opening of the handgun slide and configured to removably couple with the mounting plate. In some embodiments, the mounting plate includes: at least two locating posts for locating a rear sight; at least one threaded hole for receiving a threaded screw to couple the rear sight with the mounting plate; at least one countersunk hole for securing the mounting plate with the dovetail mounting adapter; and at least one additional countersunk hole for securing the mounting plate with the rear slide mounting adapter.
REMOVABLE HANDGUN SLIDE MOUNT

FIELD OF INVENTION

[0001] The present invention relates generally to removable handgun slide mounts that provide a solid and fast attachment mount that requires no permanent modification of the firearm.

BACKGROUND

[0002] Target shooters, competition shooters, and hunters alike have the need for a precision optic or sighting system for their sidebar. Traditional open sights are simply not accurate or precise enough at distance as compared with rifle style scopes and optics. The need for a red dot or small precision optic on a handgun has been needed for some time. However, unmodified handguns generally lack a solid permanent mount which keeps the red dot, laser, or optic locked with a slide of the semi-automatic handgun.

[0003] Common machining methods may be used to mill an area out of the slide to create a mounting surface on the slide of the handgun for a particular rear red dot optic sight as illustrated in FIG. 1, which is a prior art illustrative representation of unmodified handgun slide 100 and modified handgun slide 110. As illustrated, unmodified handgun slide 100 may include rear open sight dovetail slot 102 where a rear sight may be mounted. Further illustrated is modified handgun slide 110 having a milled surface 112 and one or more threaded holes 114 for mounting a custom rear sight such as a rear optic sight. This style of mounting, by customizing the firearm to accommodate a rear sight optic while stable, permanently modifies the firearm for a single type and style of optic. Since the base plates for a rear sight optic may vary from manufacturer-to-manufacturer, mounting provisions to mount the base plates are necessarily different. As such, once a particular handgun slide has been modified to accept one style of rear sight optic, the handgun slide may not be easily modified to fit another brand of rear sight optic. Furthermore, a modified handgun sight cannot be “un-machined” if the user wishes to revert back to iron or open sights as originally configured.

[0004] In addition, current rear sight attachment methods for a red dot optic or other optical aiming device include either utilizing a pre-cut slide to fit a specific optic or by utilizing a single dovetail attachment method with two single screws threaded into the rear open sight dovetail slot. With respect to the latter, a single dovetail mounting method may not be secure as that method may allow the optic to move or detach from the handgun slide. While a single dovetail attachment method provides a removable mount and does not require machining of the handgun slide, the method, nevertheless, may allow the red dot or accurate sighting device to drift from to rear thus losing its exact point of aim.

[0005] As such, removable handgun slide mounts are presented herein.

SUMMARY

[0006] The following presents a simplified summary of some embodiments of the invention in order to provide a basic understanding of the invention. This summary is not an extensive overview of the invention. It is not intended to identify key/critical elements of the invention or to delineate the scope of the invention. Its sole purpose is to present some embodiments of the invention in a simplified form as a prelude to the more detailed description that is presented below.

[0007] As such removable handgun slide mounts are presented including: a mounting plate; a dovetail mounting adapter sized to slidably couple with a rear open sight dovetail slot of a handgun slide and configured to removably coupled with the mounting plate; and a rear slide mounting adapter sized to slidingly couple with a rear opening of the handgun slide and configured to removably couple with the mounting plate in some embodiments, the mounting plate includes: at least two locating posts for locating a rear sight; at least one threaded hole for receiving a threaded screw to couple the rear sight with the mounting plate; and at least one countersunk hole for securing the mounting plate with the dovetail mounting adapter; and at least one additional countersunk hole for securing the mounting plate with the rear slide mounting adapter. In some embodiments, the dovetail mounting adapter further includes: at least one threaded hole for receiving a screw to secure the mounting plate. In some embodiments, the rear slide mounting adapter further includes: at least one threaded hole for receiving a screw to secure the mounting plate. In some embodiments, the mounting plate further includes: a non-marring protective layer located along a bottom surface of the mounting plate.

[0008] In other embodiments, handguns having removable handgun slide mounts are presented including: a handgun slide installed on the handgun; a mounting plate positioned along a rear end of the handgun slide; a dovetail mounting adapter slidingly coupled with a rear open sight dovetail slot of the handgun slide and removably coupled with the mounting plate; and a rear slide mounting adapter slidingly coupled with a rear opening of the handgun slide and removably coupled with the mounting plate.

[0009] In other embodiments, methods of utilizing a removable handgun slide mount are presented, the methods including: providing a handgun having a handgun slide; providing the removable handgun slide mount, where the removable handgun slide includes, a mounting plate, a dovetail mounting adapter sized to slidingly couple with a rear open sight dovetail slot of the handgun slide and configured to removably coupled with the mounting plate, and a rear slide mounting adapter sized to slidingly couple with a rear opening of the handgun slide and configured to removably couple with the mounting plate; and mounting the removable handgun slide mount on the handgun slide. In some embodiments, mounting further includes: sliding the dovetail mounting adapter into the rear open sight dovetail slot of the handgun slide; sliding the rear slide mounting adapter into the rear opening of the handgun slide; locating the mounting plate along a top surface of the handgun slide; securing the mounting plate with the dovetail mounting adapter; and securing the mounting plate with the rear slide mounting adapter. In some embodiments, methods further include: providing a rear sight; locating the rear sight on the mounting plate, where the mounting plate further includes at least two locating posts for locating the rear sight; and securing the rear sight with the mounting plate, where the mounting plate further includes at least one threaded hole for receiving a threaded screw to couple the rear sight with the mounting plate.

[0010] The features and advantages described in the specification are not all inclusive and, in particular, many additional features and advantages will be apparent to one of
ordinary skill in the art in view of the drawings, specification, and claims. Moreover, it should be noted that the language used in the specification has been principally selected for readability and instructional purposes, and may not have been selected to delineate or circumscribe the inventive subject matter.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] The present invention is illustrated by way of example, and not by way of limitation, in the figures of the accompanying drawings and in which like reference numerals refer to similar elements and in which:

[0012] FIG. 1 is a prior art illustrative representation of an unmodified handgun slide and a modified handgun slide;

[0013] FIG. 2 is an illustrative exploded assembly representation of a removable handgun slide mount in accordance with embodiments of the present invention;

[0014] FIG. 3 is an illustrative exploded representation of a removable handgun slide mount in accordance with embodiments of the present invention;

[0015] FIG. 4 is an illustrative exploded representation of an installed removable handgun slide mount and a rear sight in accordance with embodiments of the present invention; and

[0016] FIG. 5 is an illustrative representation of an installed removable handgun slide mount and an installed rear sight in accordance with embodiments of the present invention.

DETAILED DESCRIPTION

[0017] The present invention will now be described in detail with reference to a few embodiments thereof as illustrated in the accompanying drawings. In the following description, numerous specific details are set forth in order to provide a thorough understanding of the present invention. It will be apparent, however, to one skilled in the art, that the present invention may be practiced without some or all of these specific details. In other instances, well known process steps and/or structures have not been described in detail in order to not unnecessarily obscure the present invention.

[0018] Embodiments provided herein relate to an add-on optics or visual aiming device mount, which may be installed or attached to a top surface of a handgun slide. Removable handgun slide mount embodiments may attach via machined provisions originally present on a handgun slide via the rear removable striker cover, which is found on the back of most modern semi-automatic firearms.

[0019] Embodiments provide a stable removable mounting platform for an optic or laser or aiming device to be affixed to the slide in a manner which does not permanently modify the firearm, does not require any machining, and installs with simple tools.

[0020] Embodiments additionally incorporate a set of backup sights should the primary optic fail due to physical damage or battery failure. In the event of failure, the optic can simply be removed from the slide to provide simple open-sight optics for aiming the handgun.

[0021] FIG. 2 is an illustrative exploded assembly representation 200 of a removable handgun slide mount in accordance with embodiments of the present invention. The illustrative representation is provided for context in application of embodiments disclosed herein. As illustrated, embodiments may be useful for non-destructively modifying handgun slide 204 of handgun 202. Embodiments provide at least three key elements namely: mounting plate 210, dovetail mounting adapter 212, and rear slide mounting adapter 214. These elements function cooperatively to provide a secure and stable mounting platform for rear optic sight 220. These elements will be discussed in further detail below.

[0022] FIG. 3 is an illustrative exploded representation 300 of a removable handgun slide mount in accordance with embodiments of the present invention. As illustrated, embodiments may be installed on handgun slide 302 utilizing rear open sight dovetail slot 304 and rear opening 306. The dotted lines are presented for clarity in understanding mounting locations. Illustrated is mounting plate 310. In embodiments, mounting plate 310 may include two or more locating posts 312. In the illustrated representation, four locating posts are utilized however, the number and location of locating posts may be selected and configured based on manufacturer's specification for rear sight applications. Mounting plate 310 may further include one or more countersunk holes 314 for securing mounting plate 310 with the dovetail mounting adapter 330. Further illustrated is an additional countersunk hole 316 for securing mounting plate 310 with rear slide mounting adapter 340. In addition, mounting plate 310 may further include one or more threaded holes 318 for receiving a threaded screw to couple the rear sight with the mounting plate. As above, threaded holes may be selected and configured based on manufacturer's specification for rear sight applications. In some embodiments, a non-marring protective layer 320 located along a bottom surface of the mounting plate may be applied. In some embodiments, the non-marring protective layer is a polymeric film. In other embodiments, the non-marring protective layer further provides addition friction. It may be appreciated that mounting plate embodiments may be manufactured from any suitably stable materials such as a metal material, a polymeric material, a metal impregnated polymeric material, and a composite material without limitation.

[0023] Further illustrated is dovetail mounting adapter 330 sized to slidingly couple with rear open sight dovetail slot 304 of handgun slide 302 and configured to removably coupled with mounting plate 310. As may be seen, rear open sight dovetail slot 304 may include one or more threaded holes 332 for receiving a screw to secure mounting plate 310. It may be appreciated that dovetail mounting adapter embodiments may be manufactured from any suitably stable materials such as a metal material, a polymeric material, a metal impregnated polymeric material, and a composite material without limitation. Still further illustrated is rear slide mounting adapter 340 sized to slidingly couple with rear opening 306 of handgun slide 302 and configured to removably couple with mounting plate 310. As may be seen, rear opening 306 may include threaded hole 342 for receiving a screw to secure mounting plate 310. Rear slide mounting adapter 340 may be customized for a specific model of handgun. Rear slide mounting adapter 340 may be a simple drop-in part and may replace the original striker plate cover with a precise, tight fitting machined part that allows the mounting plate 310 to tighten to the hole in the rear opening 306. Rear slide mounting adapter 340 may be machined flush with the physical height of the handgun.
slide, so when installed, the mounting plate adapter may be very tight to the top surface of the handgun slide.

[0024] As above, it may be appreciated that dovetail mounting adapter embodiments may be manufactured from any suitably stable materials such as a metal material, a polymeric material, a metal impregnated polymeric material, and a composite material without limitation.

[0025] With reference to FIG. 3, in utilizing embodiments provided herein, methods may include at least the following steps:

[0026] providing a handgun having handgun slide 302;

[0027] sliding dovetail mounting adapter 330 into rear open sight dovetail slot 304 of handgun slide 310;

[0028] sliding rear slide mounting adapter 340 into rear opening 306 of handgun slide 310;

[0029] locating mounting plate 310 along a top surface of handgun slides 310;

[0030] securing mounting plate 310 with dovetail mounting adapter 330; and

[0031] securing mounting plate 310 with rear slide mounting adapter 340.

[0032] FIG. 4 is an illustrative exploded representation 400 of installed removable handgun slide mount 410 and rear sight 420 in accordance with embodiments of the present invention. It may be seen that removable handgun slide mount 410 may be secured via screws 412 that couples mounting plate with dovetail mounting plate adapter embodiments and via screw 414 that couples mounting plate with rear slide mounting adapter. Further illustrated is rear optic sight 420 that may include one or more countersunk holes 422 for securing with mounting plate 410.

[0033] With reference to FIG. 4, in utilizing embodiments provided herein, methods may include at least the following steps:

[0034] providing rear sight 420;

[0035] locating rear sight 420 on mounting plate 410 along locating posts 416; and

[0036] securing rear sight 420 with mounting plate 410.

[0037] Although a generic rear optic sight is illustrated, mounting plate embodiments may be configured to receive a variety of rear sights and may, in addition, be configured to receive other handgun accessories such as, for example and without limitation, laser pointers, laser sights, rails, attachment elements, etc.

[0038] FIG. 5 is an illustrative representation 500 of an installed removable handgun slide mount 502 and an installed rear sight 504 in accordance with embodiments of the present invention. As may be seen, rear sight 504 may be secured with slide mount 502 with one or more screws 506.

[0039] It may be appreciated that embodiments may provide at least the following features without limitation:

[0040] Shock resistance—Embodiments are secured in a manner so as to not be adversely affected by recoil;

[0041] Stability—Embodiments may be mechanically coupled to a firearm in a way that provides a stable platform and an accurate base that resists both vertical and horizontal motion;

[0042] Flexibility—Embodiments attach with existing rear dovetail slot machined into an original equipment manufactured handgun slide and provide two stable mounting locations with support no less than three locations;

[0043] Ease of Use—Embodiments may be installed and removed using simple hand tools;

[0044] Configurability—Mounting plate embodiments may be configured to a manufacturer's specification and may be easily swapped to install another type of optic onto the slide;

[0045] Multi-use—Embodiments provide a platform for handgun accessories as miniature adjustable laser or pointing devices on the side of the scope mount or provide for multiple optical sights; and

[0046] Reliability—Embodiments provide a reliable platform that accommodates additional moving mass of mounted optics. Embodiment mass may be very low, providing no negative resulting reliability issues from fast moving mass during unlocking and blow-back operation of the handgun.

[0047] The terms “certain embodiments”, “an embodiment”, “embodiment”, “embodiments”, “the embodiment”, “the embodiments”, “one or more embodiments”, “some embodiments”, and “one embodiment” mean one or more (but not all) embodiments unless expressly specified otherwise. The terms “including”, “comprising”, “having” and variations thereof mean “including but not limited to”, unless expressly specified otherwise. The enumerated listing of items does not imply that any or all of the items are mutually exclusive, unless expressly specified otherwise. The terms “a”, “an” and “the” mean “one or more”, unless expressly specified otherwise.

[0048] While this invention has been described in terms of several embodiments, there are alterations, permutations, and equivalents, which fall within the scope of this invention. It should also be noted that there are many alternative ways of implementing the methods and apparatuses of the present invention. Furthermore, unless explicitly stated, any method embodiments described herein are not constrained to a particular order or sequence. Further, the Abstract is provided herein for convenience and should not be employed to construe or limit the overall invention, which is expressed in the claims. It is therefore intended that the following appended claims be interpreted as including all such alterations, permutations, and equivalents as fall within the true spirit and scope of the present invention.

What is claimed is:

1. A removable handgun slide mount comprising:
   a mounting plate;
   a dovetail mounting adapter sized to slidingly couple with a rear open sight dovetail slot of a handgun slide and configured to removably coupled with the mounting plate; and
   a rear slide mounting adapter sized to slidingly couple with a rear opening of the handgun slide and configured to removably coupled with the mounting plate.

2. The removable handgun slide mount of claim 1, wherein the mounting plate comprises:
   at least two locating posts for locating a rear sight;
   at least one threaded hole for receiving a threaded screw to couple the rear sight with the mounting plate;
   at least one countersunk hole for securing the mounting plate with the dovetail mounting adapter; and
   at least one additional countersunk hole for securing the mounting plate with the rear slide mounting adapter.

3. The removable handgun slide mount of claim 1, wherein the dovetail mounting adapter further comprises:
   at least one threaded hole for receiving a screw to secure the mounting plate.
4. The removable handgun slide mount of claim 1, wherein the rear slide mounting adapter further comprises: at least one threaded hole for receiving a screw to secure the mounting plate.

5. The removable handgun slide mount of claim 1, wherein the mounting plate further comprises: a non-marring protective layer located along a bottom surface of the mounting plate.

6. A handgun having a removable handgun slide mount comprising: 
a handgun slide installed on the handgun;
a mounting plate positioned along a rear end of the handgun slide;
a dovetail mounting adapter slidingly coupled with a rear open sight dovetail slot of the handgun slide and removably coupled with the mounting plate; and
a rear slide mounting adapter slidingly coupled with a rear opening of the handgun slide and removably coupled with the mounting plate.

7. The handgun of claim 6, further comprising: a rear sight coupled with the mounting plate.

8. The handgun of claim 7, wherein the mounting plate comprises: at least two locating posts for locating the rear sight; at least one threaded hole for receiving a threaded screw to couple the rear sight with the mounting plate; at least one countersunk hole for securing the mounting plate with the dovetail mounting adapter; and at least one additional countersunk hole for securing the mounting plate with the rear slide mounting adapter.

9. The handgun of claim 6, wherein the dovetail mounting adapter further comprises: at least one threaded hole for receiving a screw to secure the mounting plate.

10. The handgun of claim 6, wherein the rear slide mounting adapter further comprises: at least one threaded hole for receiving a screw to secure the mounting plate.

11. The handgun of claim 6, wherein the mounting plate further comprises: a non-marring protective layer located along a bottom surface of the mounting plate.

12. A method of utilizing a removable handgun slide mount comprising:
providing a handgun having a handgun slide;
providing the removable handgun slide mount, wherein the removable handgun slide includes, a mounting plate;
a dovetail mounting adapter sized to slidingly couple with a rear open sight dovetail slot of the handgun slide and configured to removably coupled with the mounting plate, and
a rear slide mounting adapter sized to slidingly couple with a rear opening of the handgun slide and configured to removably couple with the mounting plate; and
mounting the removable handgun slide mount on the handgun slide.

13. The method of claim 12, wherein the mounting further comprises:
sliding the dovetail mounting adapter into the rear open sight dovetail slot of the handgun slide;
sliding the rear slide mounting adapter into the rear opening of the handgun slide;
locating the mounting plate along a top surface of the handgun slide;
securing the mounting plate with the dovetail mounting adapter; and
securing the mounting plate with the rear slide mounting adapter.

14. The method of claim 13, wherein the mounting plate further comprises:
at least one countersunk hole for securing the mounting plate with the dovetail mounting adapter wherein the dovetail mounting adapter includes at least one threaded hole for receiving a first screw to secure the mounting plate; and
at least one additional countersunk hole for securing the mounting plate with the rear slide mounting adapter, wherein the rear slide mounting adapter includes at least one threaded hole for receiving a second screw to secure the mounting plate.

15. The method of claim 13, further comprising:
providing a rear sight;
locating the rear sight on the mounting plate, wherein the mounting plate further includes at least two locating posts for locating the rear sight; and
securing the rear sight with the mounting plate, wherein the mounting plate further includes at least one threaded hole for receiving a threaded screw to couple the rear sight with the mounting plate.

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