Claims

~~1. An automatic or semi automatic rifle comprising:~~

~~a receiver;~~

~~a bolt having a striking surface, the bolt housed within the receiver;~~

~~a barrel having a bore, the barrel coupled to the receiver; and~~

~~an indirect gas operating system having a cylinder and a piston, the indirect gas operating system mounted with a mounting structure connected to the receiver so that the indirect gas operating system depends from the receiver and is substantially independent of the barrel;~~

~~wherein, the cylinder is in communication with the bore, and wherein, the piston is fitted to the cylinder and disposed for striking the striking surface and displacing the bolt assembly.~~

~~2. The automatic or semi automatic rifle of claim 1, wherein the piston has a piston portion and an operating rod portion, the operating rod portion disposed for striking the striking surface and displacing the bolt assembly and wherein the operating rod portion and striking surface disengage each other after the operating rod portion strikes the striking surface.~~

~~3. The automatic or semi automatic rifle of claim 1, wherein the mounting structure of the indirect gas~~

~~operating system structurally de-couples the indirect gas operating system from the barrel.~~

~~4. The automatic or semi-automatic rifle of claim 1, wherein the indirect gas operating system is mounted to the receiver.~~

~~5. The automatic or semi-automatic rifle of claim 1 further comprising a hand guard coupled to the receiver, wherein the indirect gas operating system is mounted to the hand guard.~~

~~6. The automatic or semi-automatic rifle of claim 1, wherein the receiver has an integral hand guard portion, and wherein the indirect gas operating system is mounted to the integral hand guard portion.~~

~~7. The automatic or semi-automatic rifle of claim 1, wherein the piston comprises rings.~~

~~8. The automatic or semi-automatic rifle of claim 1, wherein the rifle is a black rifle type firearm.~~

~~9. The automatic or semi-automatic rifle of claim 1, wherein the bolt comprises a bolt carrier and an operating rod, and wherein the operating rod has an end portion comprising the striking surface.~~

1~~0~~. An automatic or semi-automatic rifle comprising:

a receiver;

a bolt assembly having a striking surface, the bolt assembly housed within the receiver;

a barrel having a bore, the barrel coupled to the receiver; and

an indirect gas operating system having a cylinder and a piston, wherein the cylinder and the piston~~indirect gas operating system~~ are structurally coupled to the receiver and structurally decoupled from the barrel;

wherein, the cylinder, the piston~~indirect gas operating system~~ and the barrel are separately and independently mounted to the receiver so that they~~the indirect gas operating system and the barrel~~ are structurally substantially independent from each other, and wherein the cylinder is in fluid communication with the bore, and wherein, the piston is fitted to the cylinder and disposed for striking the striking surface and displacing the bolt assembly and wherein the cylinder is isolated from deflection of the barrel, wherein the cylinder and the piston are independently removable from the rifle without further disassembly of the rifle other than removal of the cylinder and the piston from the rifle.

2~~11~~. The automatic or semi-automatic rifle of claim 1~~10~~, wherein the piston has a piston portion and an operating rod portion, the operating rod portion disposed for striking the striking surface and displacing the bolt assembly and wherein the operating rod portion and striking

surface disengage each other after the operating rod portion strikes the striking surface.

3~~12~~. The automatic or semi-automatic rifle of claim 1~~10~~, wherein ~~the indirect gas operating system and~~ the barrel depends independently from the receiver with respect to the cylinder and the piston~~substantially independently from each other~~.

4~~13~~. The automatic or semi-automatic rifle of claim 1~~10~~ further comprising a hand guard coupled to the receiver, wherein the cylinder and the piston~~indirect gas operating system~~ is mounted to the hand guard.

5~~14~~. The automatic or semi-automatic rifle of claim 1~~10~~, wherein the receiver has an integral hand guard portion, and wherein the cylinder and the piston~~indirect gas operating system~~ is mounted to the integral hand guard portion.

6~~15~~. The automatic or semi-automatic rifle of claim 1~~10~~, wherein the receiver has a hand guard portion and the cylinder is formed in a mounting structure removably secured to the hand guard portion and the piston is slidably received within the cylinder~~the piston comprises rings~~.

7~~16~~. The automatic or semi-automatic rifle of claim 6~~10~~, wherein the bolt assembly comprises a bolt carrier and

an operating rod, and wherein the operating rod has an end portion comprising the striking surface~~the rifle is a black rifle type firearm~~.

8~~17~~. The automatic or semi-automatic rifle of claim 1~~10~~, wherein the barrel has a forward end and a rearward end, wherein only the rearward end is directly secured to the receiver~~the indirect gas operating system is independently removable from the firearm without further disassembly of the firearm other than removal of the indirect operating system from the firearm~~.

9~~18~~. The automatic or semi-automatic rifle of claim 1~~10~~, wherein the bolt assembly comprises a bolt carrier and an operating rod, and wherein the operating rod has an end portion comprising the striking surface.

10~~19~~. An automatic or semi-automatic rifle comprising:

a receiver;

a bolt assembly having a striking surface, the bolt assembly housed within the receiver;

a barrel having a bore, the barrel coupled to the receiver; and

an indirect gas operating system having a cylinder and a piston, the cylinder and the piston~~indirect gas operating system~~ are structurally coupled to the receiver and structurally decoupled from~~independent of~~ the barrel;

wherein, the cylinder is in fluid communication with the bore through a gas tube~~feed system, the gas feed system~~

~~releasing the indirect gas operating system from barrel motion and displacement relative to the receiver,~~ and wherein, the piston is fitted to the cylinder and disposed for striking the striking surface and displacing the bolt assembly and wherein the cylinder is isolated from deflection of the barrel, wherein the piston and the cylinder are independently removable from the rifle without further disassembly of the rifle other than removal of the piston and the cylinder from the rifle.

11~~20~~. The automatic or semi-automatic rifle of claim 10~~19~~, wherein the piston has a piston portion and an operating rod portion, the operating rod portion disposed for striking the striking surface and displacing the bolt assembly and wherein the operating rod portion and striking surface disengage each other after the operating rod portion strikes the striking surface.

12~~21~~. The automatic or semi-automatic rifle of claim 10~~19~~, wherein the piston and the cylinder~~indirect gas operating system and the barrel~~ are structurally de-coupled from the barrel~~each other~~.

13~~22~~. The automatic or semi-automatic rifle of claim 10~~19~~ further comprising a hand guard coupled to the receiver, wherein the piston and the cylinder~~indirect gas operating system~~ are~~is~~ mounted to the hand guard.

14~~23~~. The automatic or semi-automatic rifle of claim 10~~19~~, wherein the receiver has an integral hand guard portion, and wherein the piston and the cylinder~~indirect gas operating system~~ are~~is~~ mounted to the integral hand guard portion.

15~~24~~. The automatic or semi-automatic rifle of claim 10~~19~~, wherein the piston comprises rings.

16~~25~~. The automatic or semi-automatic rifle of claim 10~~19~~, wherein the receiver has a hand guard portion and the cylinder is formed in a mounting structure removably secured to the hand guard portion and the piston is slidably received within the cylinder~~the rifle is a black rifle type firearm~~.

17~~26~~. The automatic or semi-automatic rifle of claim 16~~19~~, wherein the bolt assembly comprises a bolt carrier and an operating rod, and wherein the operating rod has an end portion comprising the striking surface~~the indirect gas operating system is independently removable from the firearm without further disassembly of the firearm other than removal of the indirect operating system from the firearm~~.

18. The automatic or semi-automatic rifle of claim 10, wherein the barrel has a forward end and a rearward end, wherein only the rearward end is directly secured to the receiver.