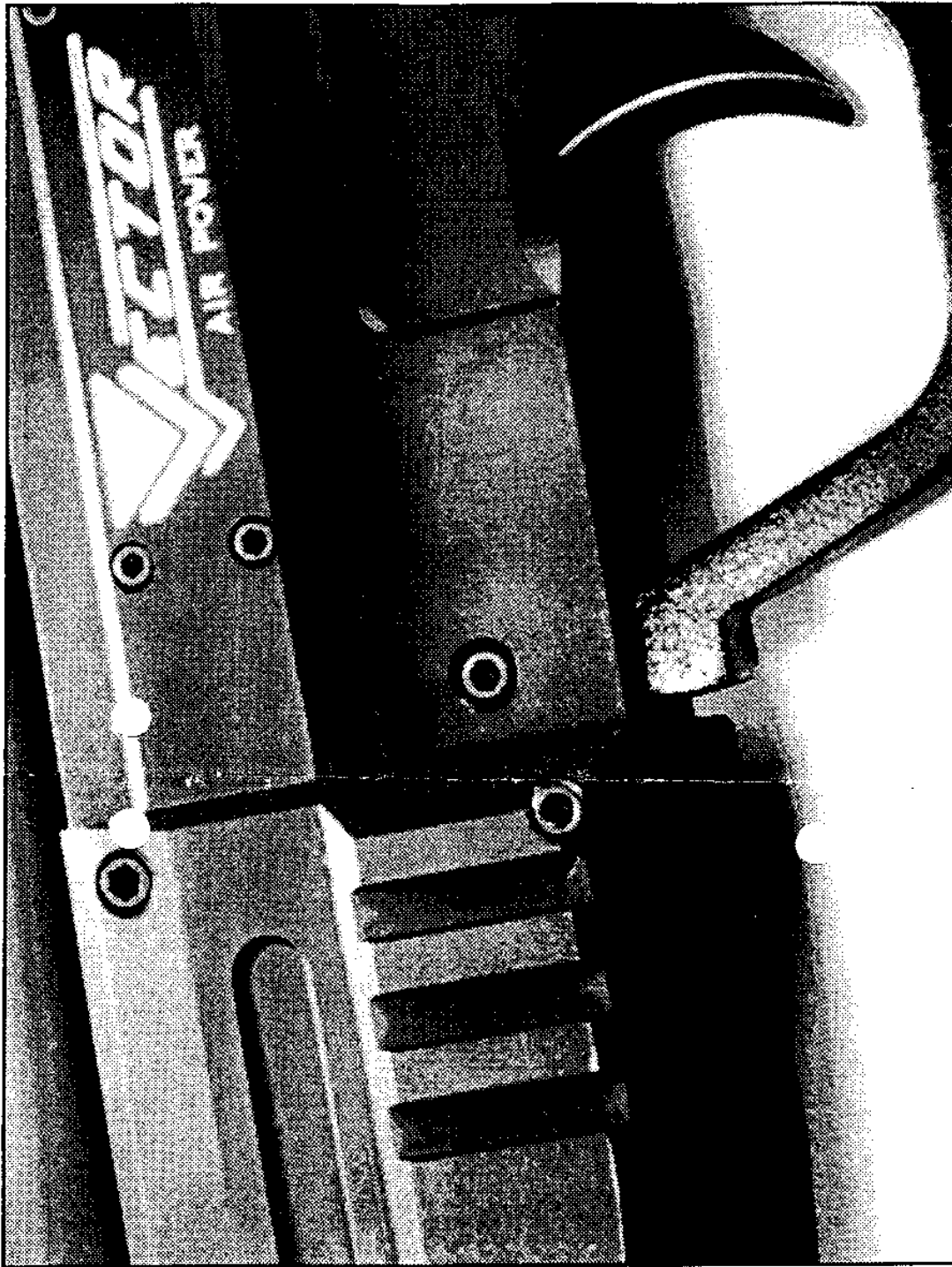


OWNERS MANUAL



**AIR POWER**

509 Viking Drive, Suite E, Virginia Beach, Virginia 23452 PHONE (804)486-8114 FAX (804)486-8177

## Limited Warranty

Air Power will repair or replace, at Air Power's option, this product in the event of a defect in materials or workmanship as follows:

### Parts

New or rebuilt parts in exchange for defective parts one year from the date of original purchase.

### Parts Not Under Warranty

Air Power does not warranty O-Rings, the Cup Seal, the Valve Shaft, the CO2 Cylinder or any product not directly manufactured by Air Power.

### Labor

Carry in or mail in service for one year from the date of purchase. Air Power pays no incoming or outgoing freight.

This warranty is extended to the original purchaser only.

A purchase receipt or warranty card registered with Air Power will be required before warranty performance is rendered.

This warranty does not cover damage which occurs in shipment or failures which are caused by products not supplied by Air Power, or failures which result from accident, misuse, abuse, neglect, mishandling, misapplication, alteration, modification, overloading the product beyond its rated capacity, using the product with an improper accessory or service by other than an authorized Air Power service representative, or damage that is attributed to acts of God.

### Limits and Exclusions

There are no other express warranties except as listed above.

Air Power shall not be liable for incidental or consequential damages resulting from the use of this product, or arising out of any breach of this warranty. All express and implied warranties, including the warranties of merchantability and fitness for a particular purpose, are limited to the applicable warranty period set forth above.

This warranty gives you specific legal rights and you may have other rights which vary from state to state.

If a problem arises with this product always contact Air Power at (804)486-8114 or by FAX at (804)486-8177.

## Table of Contents

Safety Precautions	1
Description and Operation	3
General Maintenance and Cleaning	4
Disassembly	8
Adapter Body Disassembly	9
Parts Breakdown	11
Adapter Body Assembly	12
General Maintenance and Cleaning Assembly	16
Velocity Regulator Adjustment Instructions	17
Trouble Shooting the Vector	18
Repairs	19
Limited Warranty	

The information in this manual is subject to change without notice. This manual does not represent a commitment on the part of Air Power Enterprises Inc. Air Power reserves the right to make improvements to the products without obligation to improve any products previously sold.

COPYRIGHT AIR POWER ENTERPRISES INC. 1994

# Trouble Shooting the Vector

<b>Problem</b>	<b>Possible Cause</b>	<b>Solution</b>
<b>Gas Leak From Rear</b>	Adapter Body O-Rings	replace
	HP Line Block	send to Air Power
	HP Line Block O-ring	replace
	Valve Seat O-Ring	replace
<b>Gas Leak Down Barrel</b>	dirt on Cup Seal	remove and inspect replace if needed
	new Cup Seal	fire to seat Seal
	broken Valve Shaft	replace Assembly
<b>Vector Cycles Inconsistent</b>	4-Way Valve moved	re-set 4-Way
	oversize Paintball	set Safety and fire to clear. If ball does not fire, remove Barrel to clear ball.
	Side Cover too tight	loosen Sidecover Screws
<b>Bolt Sticks Forward</b>	4-Way Valve moved	reset 4-Way
	obstruction in Barrel	clean Barrel
<b>Ball Breakage</b>	poor Paintballs dirt in Chamber	use better Paintballs clean Barrel

## **WARNING**

NEVER AIM AT ANYTHING WHICH YOU DO NOT WISH TO SHOOT. ALWAYS KEEP THE MUZZLE POINTING IN A SAFE DIRECTION. BE SURE OF YOUR INTENDED LINE OF FIRE BEFORE SHOOTING.

## **WARNING**

THIS PAINTGUN HAS BEEN TESTED WITH .68 CALIBER PAINT PELLETS AND IS FOUND TO PERFORM TO STANDARD SPECIFICATIONS. IT IS INTENDED FOR USE WITH PAINT PELLETS ONLY. WE SPECIFICALLY DISCLAIM ANY RESPONSIBILITY FOR ANY DAMAGE OR INJURY WHATSOEVER EVER OCCURRING IN CONNECTION WITH THE USE OF ANY FAULTY OR NON-STANDARD OR ILLEGAL PROJECTORIES.

## **WARNING**

ALWAYS WEAR SAFETY EYE PROTECTION WHEN USING THIS PAINTGUN. WE SPECIFICALLY DISCLAIM ANY DAMAGE OR INJURY RESULTING FROM NON USAGE OF SAFETY EYEWEAR OR FROM DAMAGE OR INJURY RESULTING FROM NON-STANDARD EYEWEAR.

## **WARNING**

THIS PAINTGUN HAS BEEN THOROUGHLY TESTED AND INSPECTED PRIOR TO SHIPMENT AND WE ASSUME NO RESPONSIBILITY OR LIABILITY FOR ANY INJURY OR DAMAGES FROM ITS INTENTIONAL OR ACCIDENTAL DISCHARGE.

## ASSEMBLY continued

**STEP 16** Install the side cover and side cover screws.



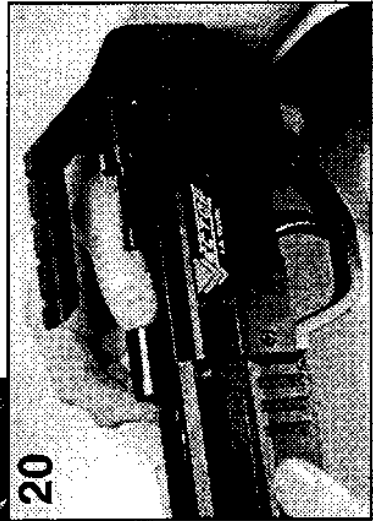
**STEP 17** While applying rearward finger pressure to the 4-way valve, tighten the 4-way valve screws. **NOTE: Do not over tighten the screws, serious damage can occur to your Vector.**

**STEP 18** Install the high pressure line cover and line cover screws.



**STEP 19** Attach the foregrip and foregrip screws. **NOTE: Do not over tighten the screws.**

**STEP 20** Position the drive slider in the slot and insert the slider pin.



**STEP 21** Re-attach the barrel.

**15**

## General Maintenance and Cleaning Disassembly

The following detailed disassembly and assembly instructions require a high degree of mechanical ability. Repairs should not be undertaken without first reading all of the directions of the manual.

We have provided photographs with detail descriptions of each operation. Please read all instructions carefully and thoroughly before attempting any operation.

**No tools are required to perform Steps 1 thru 4.**

**STEP 1** Remove barrel by depressing barrel button and pulling barrel straight off of receiver. **DO NOT TWIST BARREL.**



**STEP 2** Pull drive slider pin up and remove from receiver.



**STEP 3** Slide bolt head slider forward to remove.



**STEP 4a and 4b** Remove adapter body pin and slide out adapter body.



**NOTE: Steps 1 thru 4 are all that is required for lubrication and quick cleaning of the Vector. Use light lubricant such as Break Free, Tri-Flow, or Gold Cup, one or two drops of oil in the receiver cavity is sufficient.**

**4**

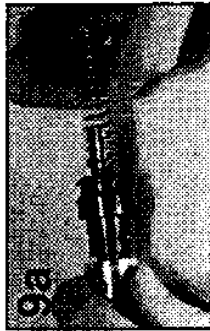
## ASSEMBLY continued



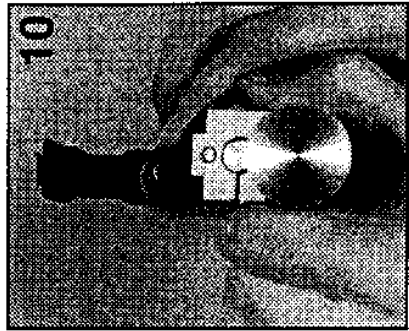
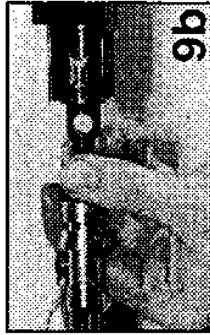
**STEP 7** Insert the hammer assembly into the bore. Slide the hammer to the rear with the sear catch towards the front of the receiver.



**STEP 8** Attach the sear spring retainer and sear.



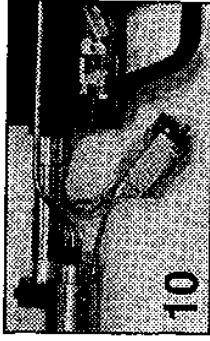
**STEP 9a, 9b, and 9c** Place the main spring into the bolt carrier. Rotate the bolt carrier so that the bolt carrier drive pin hole will align with the top slot. Insert the action assembly into the receiver.



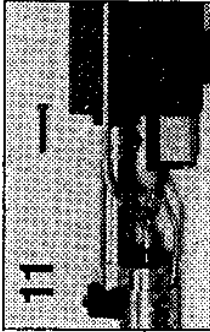
**STEP 10** Align the action assembly in the receiver so that the assembly is parallel to the receiver unit.

**13**

## DISASSEMBLY continued



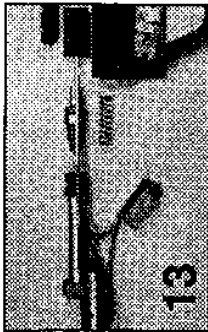
**STEP 10** The four way valve can now be removed from the receiver housing.



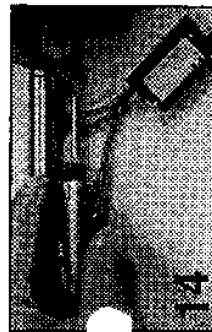
**STEP 11** The trigger pieces are now exposed. With a 7/64 allen wrench remove the cylinder mount screw.



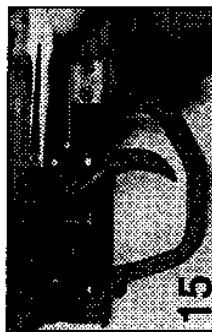
**STEP 12** Removal of the action power unit requires the trigger valve arm to be rotated clockwise to allow the bolt carrier to be removed from the receiver.



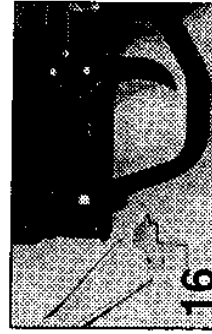
**STEP 13** The action power unit can be removed from the receiver by pulling the unit straight out. The main spring will also come out of the receiver unit. **NOTE: The bolt carrier is locked in position do not remove or loosen. Changing the position of the bolt will affect the timing of the action!**



**STEP 14** Remove the high pressure line from the action assembly by pulling the line straight out.



**STEP 15** With a pair of needle nose pliers remove the sear roller.



**STEP 16** Remove the valve arm.

**6**

## Adapter Body Assembly

**STEP 1** Install adjustment screw.

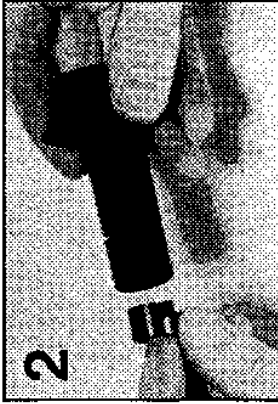
**STEP 2** Install piston. Align piston so the piston port sits above the adjustment screw.

**STEP 3** Install valve shaft return spring.

**STEP 4** Install valve shaft into seat.

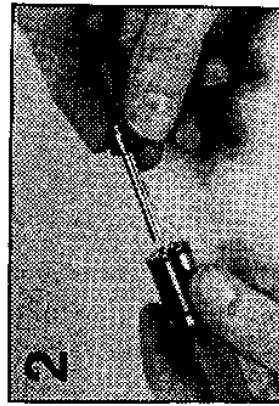
**STEP 5** Lubricate o-rings and interior of adapter body. Screw valve seat into adapter body. **NOTE: Be careful not to slice o-rings when assembling.**

**STEP 6** Inspect o-rings for damage. Adapter body is now ready for insertion into Vector.



## Adapter Body Disassembly

**STEP 1** Unscrew the seat from the adapter body. **WARNING: DO NOT SCAR ADAPTER BODY. SCRATCHES TO THE SURFACE CAN CAUSE IRREPARABLE DAMAGE. ALWAYS HOLD THE SEAT WITH A TOOL, NOT THE ADAPTER BODY TO PREVENT DAMAGE.**



**STEP 2** Remove the shaft from seat.

**STEP 3** Remove the spring from adapter body.

**STEP 4** Remove the velocity piston.

**STEP 5** Remove adjuster screw.



# Safety Precautions

---

## WARNING

*THE VECTOR IS NOT A TOY. ADULT SUPERVISION REQUIRED. MISUSE OR CARELESS HANDLING MAY CAUSE SERIOUS INJURY OR DEATH. USE PROPER .68 CALIBER PAINT PELLETS ONLY. READ ALL INSTRUCTIONS BEFORE USING. THIS IS A HIGH POWER CO2 GAS GUN INTENDED FOR USE BY ADULTS ONLY. NOT INTENDED FOR USE BY PERSONS UNDER THE AGE OF 18.*

## Safety Rules Should Be Followed

1. Do not handle this paintgun until you are thoroughly familiar with its mechanical and handling characteristics.
2. Engage the CO2 cylinder only while the gun is in use.
3. Unload it completely after use.
4. Always engage the safety when not in use.
5. Never look directly into the barrel. Accidental discharge can cause permanent injury or death.
6. Use only .68 caliber paint pellets. Do not substitute any foreign objects for use as ammunition.
7. Do not attempt to service the gun without disengaging the CO2 gas cylinder first.
8. When using this paintgun always wear protective eyewear.

# Repairs

---

If your Vector malfunctions contact Air Power at (804)486-8114 Monday thru Friday 8am to 5pm.

If you require factory repair please include with your gun a short description of the problem, your name, address, telephone number and if your gun is still under warranty a copy of your receipt if you have not previously mailed Air Power your warranty card.

Refer to page 19 of this manual regarding warranty factory service. Air Power pays no incoming or outgoing freight.

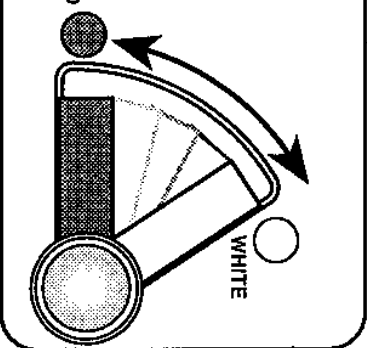
Air Power will repair or replace parts as specified under warranty. Any and all parts replaced under warranty become the property of Air Power.

For parts orders call (804)486-8114, refer to the parts breakdown list on page 9 of this manual.

# Description and Operation

## Safety

1. The Vector is equipped with a safety.
2. Engage the safety by rotating the safety to the white dot.
3. Disengage the safety by rotating to the red dot.
4. **Always engage safety when Vector is not in use.**



## Gas Up the Vector

1. Make sure that your CO2 cylinder is filled to the proper capacity. The Vector is equipped with a 12 ounce cylinder.
2. Make sure that there are no paintballs in the Vector.
3. Point the gun in a safe direction. Pull the trigger. Screw cylinder into the adapter body of the Vector. Turn clockwise until the cylinder has seated.

**WARNING: THE VECTOR MAY FIRE DURING THIS GAS UP PROCEDURE SO ALWAYS MAKE SURE THAT YOUR GUN IS EMPTY DURING GAS UP.**

4. The Vector is ready to fire. Place the gun on safety and load up with paintballs. **CAUTION: USE ONLY CARBON DIOXIDE CO2 IN THE VECTOR.**

## Removal of Quick Release Barrel

1. Engage safety by rotating to the white dot.
2. Depress barrel latch button and pull the Vector barrel straight off. **Do not twist barrel during removal.**
3. Barrel and bolt can now be accessed for cleaning.

3

# Velocity Regulator Adjustment Instructions

The velocity of a shot is regulated within the adapter body. The adjustment controls the amount of gas used by a shot.

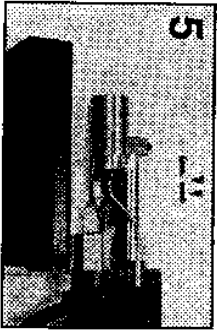
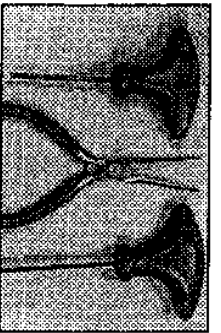
To access the adjustment, the CO2 bottle must be removed from the adapter body. With a 5/64 hex wrench insert through the rear of the adapter into the small hole on the left. Position it into the head of the adjustment screw. Turning clockwise, toward the right, will decrease the velocity. Whereas, the opposite direction, counter clockwise will increase it. Quarter to half turns can make significant velocity changes.

The adjusting set screw positions a blocking device called the piston, this affects the amount of rearward travel called the valve shaft. In turn the amount of facing of the shafts pickup ports is determined. It is possible to adjust clockwise far enough to where the gun will not fire (zero velocity). In the other direction, counter clockwise, there is a point reached when the piston no longer blocks the valve shaft. At this point the Vector would be shooting at its highest velocity. This is a variable number of counter clockwise turns from zero - gun to gun. Generally it is about six to eight turns. The velocity can not be increased beyond this point. Caution is advised against counter clockwise turning of the set screw and allowing its head to protrude into the area the bottle is screwed. It could scar the face of the bottle valve, introducing metallic chips that may become imbedded in the plastic cup seal, creating a leak.

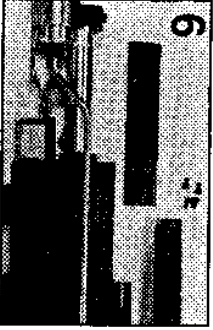
16

## DISASSEMBLY continued

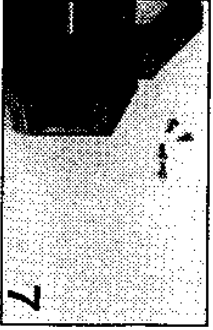
A 7/64 allen wrench, a 3/32 allen wrench, and needle nose pliers are required to perform Steps 5 thru 23.



**STEP 5** Remove upper and lower foregrip screws with a 7/64 allen wrench. The foregrip can be removed by pulling it forward.



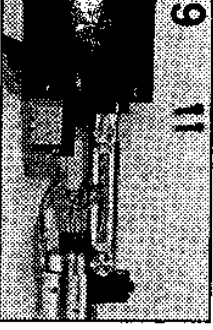
**STEP 6** With a 3/32 allen wrench remove the four (4) high pressure line cover screws. Lift up the high pressure line cover.



**STEP 7** Remove the four (4) high pressure block screws.



**STEP 8** With a 3/32 allen wrench remove the two (2) side cover screws. Remove the side cover. **NOTE: If the side cover is tight do not force it.** Loosen the four way screws shown in Step 9 to loosen side cover if necessary.

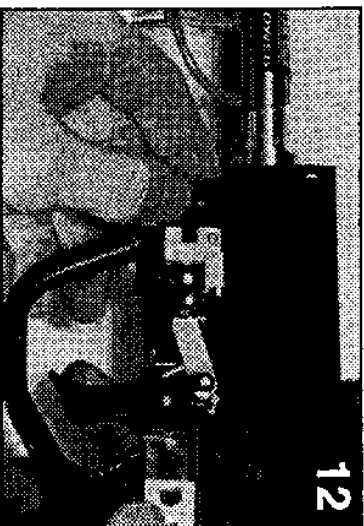


**STEP 9** With a 7/64 allen wrench remove the two (2) 4-way valve screws on the side opposite of the side cover. **NOTE: If side cover did not come off after Step 8 it can now be removed.**

5

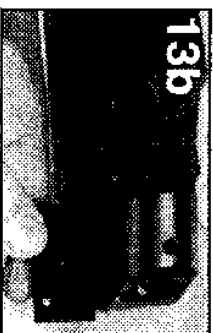
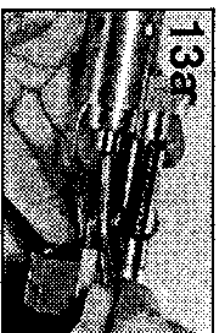
## ASSEMBLY continued

**STEP 11** Screw in the cylinder mount screw. Re-check the alignment before snuging screw.



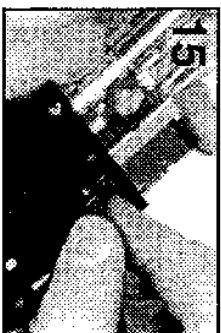
**STEP 12** Install the valve arm.

**STEP 13a and 13b** Insert the high pressure line into the action regulator. Make sure the high pressure block o-ring is in the groove before fastening screws.



**STEP 14** Install the sear roller.

**STEP 15** Position the 4-way valve. Install the 4-way valve screws finger tight.



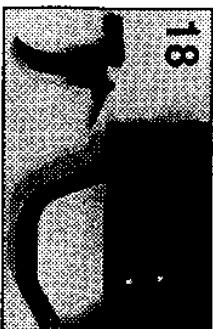
14

## DISASSEMBLY continued

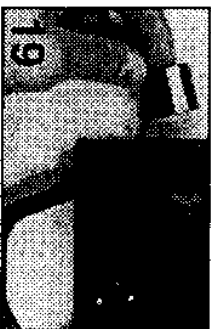
**STEP 17** Remove the trigger sear spring and spring retainer. **NOTE:** Caution when removing this item, the spring can fly out if you are not careful.



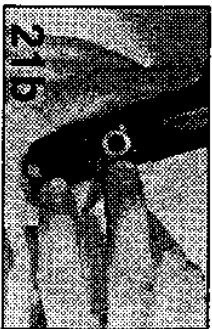
**STEP 18** The trigger assembly can now be removed from the receiver. When removing the trigger assembly make sure that you hold down the disconnecter to prevent the spring and pin from flying out.



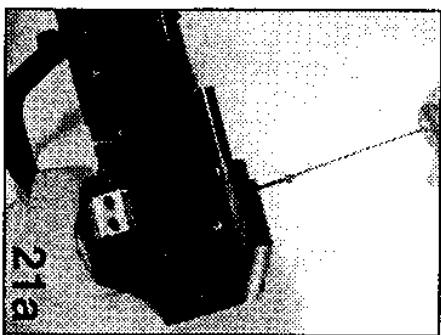
**STEP 19** The hammer can now be slid out of the receiver.



**STEP 20** Remove sight base screws to remove sight base.



**STEP 21a and 21b** Remove screws from barrel mount and remove barrel mount. **NOTE:** Barrel mount seal and adapter pin o-ring are located below the barrel mount, make sure that you do not lose them.



**STEP 22** Remove the pistol grip screws and remove the pistol grip.



**STEP 23** The Vector is now disassembled, the receiver can be washed with hot water and soap. All components should be coated with a lubricant such as Break Free, Gold Cup, Tri-Flow etc. Make sure to lubricate the receiver in order to prevent any corrosion.

7

## General Maintenance and Cleaning Assembly

**STEP 1** Make sure that all components have been cleaned and lubricated.

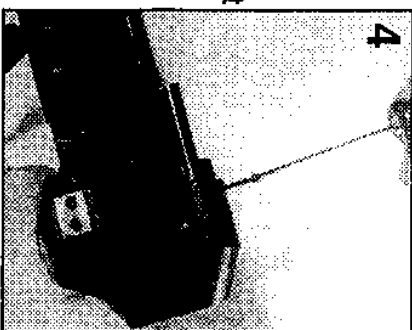
**STEP 2** Reattach the pistol grip.



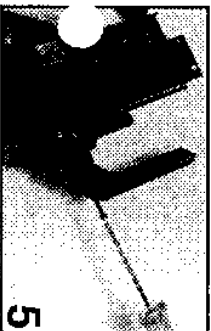
**STEP 3** Position the barrel mount seal and adapter pin o-ring.



**STEP 4** Attach the barrel mount. Make sure that the screws do not protrude into the receiver action bore. **NOTE: Do not over tighten screws, serious damage to the threads can cause irreparable damage to your Vector.**



**STEP 5** Attach the sight base to the barrel mount.

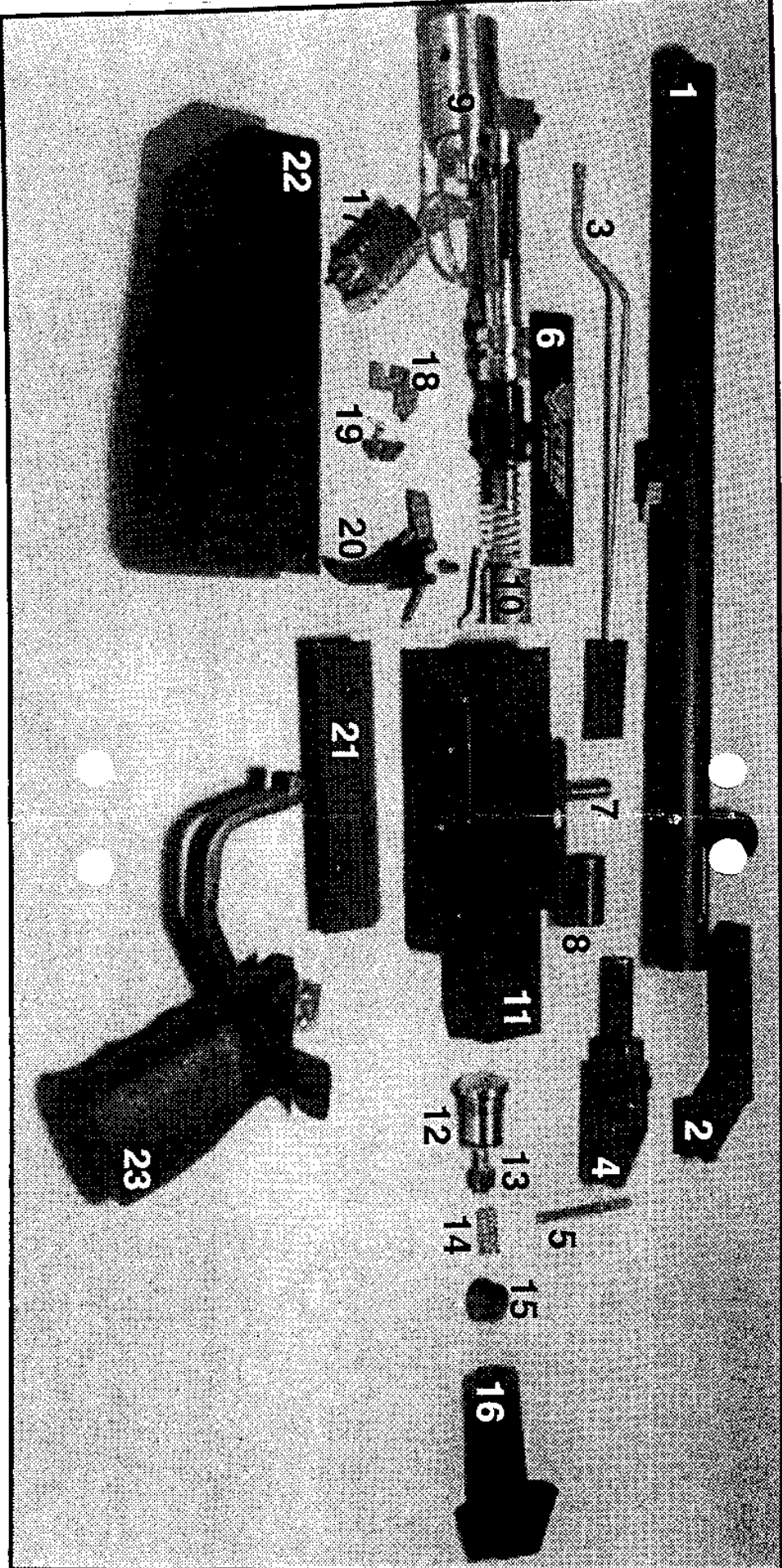


**STEP 6a and 6b** Attach the trigger extension spring to the receiver pin. Install the trigger assembly into the Vector.



12

# Vector Parts Breakdown



1. Barrel	\$75.00	7. Drive Pin	\$ 4.00	13. Valve Shaft	\$20.00	19. Trigger Sear	\$20.00
2. Sight Base	20.00	8. Bolt Head Slider	20.00	14. Return Spring	1.50	20. Trigger Assembly	30.00
3. HP Line	25.00	9. Action Power Unit	200.00	15. Velocity Piston	4.50	21. Side Cover	*30.00
4. Barrel Mount	45.00	10. Hammer	25.00	16. Adapter Body	*40.00	22. Foregrip	27.00
5. Adapter Pin	4.00	11. Receiver	*CALL	17. 4-Way Valve	100.00	23. Pistol Grip	25.00
6. HP Line Cover	20.00	12. Valve Seat	*30.00	18. Valve Arm	*20.00	Parts Kit not pictured	40.00

\*These parts require match fitting