



## **WARNING!**

This is not a toy. Misuse may cause serious injury or death. Eye protection designed specifically for paintball must be worn by the user and persons within range. Recommend 18 years of age or older to purchase. Persons under 18 years of age must have adult supervision.

# **BT-16**

**HIGH PERFORMANCE PAINTBALL MARKER  
USER MANUAL: TACTICAL / ELITE / FIELD**

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# READ OWNER'S MANUAL BEFORE USING.

**BT Paintball Designs, Inc.  
Model BT-16**

## Rules of Safe Marker Handling

1. Treat every marker as if it were loaded.
2. Never look down the barrel of a paintball marker.
3. Keep your finger off the trigger until ready to shoot.
4. Never point the marker at anything you don't wish to shoot.
5. Keep the marker on safe until ready to shoot.
6. Keep the barrel blocking device in/on the marker's muzzle when not shooting.
7. Always remove paintballs and propellant source before disassembly.
8. After removing propellant source, point marker in safe direction and discharge until marker is degassed.
9. Store the marker unloaded and de-gassed in a secure place.
10. Follow warnings listed on propellant source for handling and storage.
11. Do not shoot at fragile objects such as windows.
12. Every person within range must wear eye, face and ear protection designed specifically to stop paintballs and meeting ASTM standard F1776.
13. Always measure your marker's velocity before playing paintball and never shoot at velocities in excess of 91.44 meters (300 feet) per second.

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Congratulations on your selection of the BT-16 paintball marker. The BT-16 is made to provide you with many years of reliable performance. BT Paintball Designs, Inc. is honored that you have chosen the BT-16 as your marker of choice and hope you enjoy using this high quality product.

## BT-16 Specifications

Model.....	BT-16
Caliber.....	.68
Action.....	Semi-Automatic
Powered.....	CO2, Compressed Air or Nitrogen
Cycle Rate.....	13BPS
Main Body Material.....	Billet Aluminum
Accuracy Range.....	150+ft

The BT-16 comes with a removable barrel system. This feature allows the user to select a barrel that is most suitable for the playing conditions. Standard barrels are mirror-honed with a step-bore and porting and stock length is 8 inches.



**NOTE: Eye protective devices designed specifically for paintball use must be worn by the operator and anyone within range.**

Read this entire manual before loading, attaching a propellant source or in any way attempting to operate the BT-16.

### Barrel Installation

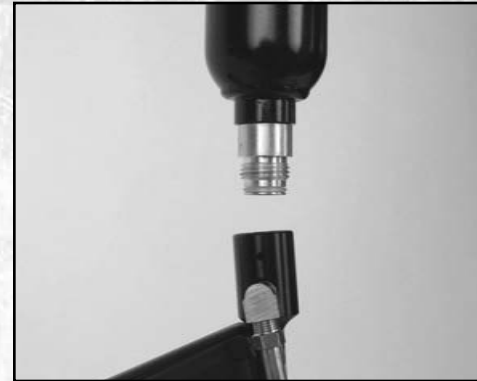
1. While pointing the marker in a safe direction, make sure that it is degassed, with hopper removed, no paintballs are in the feed port or the breech and the safety is set to "safe".
2. Place the threaded end of the barrel into the front opening of the marker body.
3. Turn the barrel clockwise into the marker, until it stops (do not over tighten).
4. Adjust the barrel accessories if necessary.
5. Install a barrel blocking device. This can be a barrel plug or other such device that prevents the accidental discharge of a paintball.



### Air Cylinder Installation

1. Make sure the barrel blocking device is properly installed and the marker safety is set to "safe".
2. While pointing the marker in a safe direction, cock the marker by pulling the T-handle located on the top rear of the marker all the way back until it stops.
3. Release the T-handle and allow it to slide all the way forward.
4. The marker is now cocked.
5. Locate the air cylinder adapter. The BT-16 Elite cylinder adapter is located at the base of the pistol grip. Other models have the air cylinder adapter located below the center of the marker and just in front of the trigger guard.
6. Turn the marker so that the air cylinder adapter is pointed upwards while keeping the muzzle of the marker pointed in a safe direction
7. Insert the threaded cylinder valve end into the adapter.
8. Without pushing the cylinder, twist the cylinder clockwise and allow the threads to draw the cylinder into the marker, until it stops. Your marker is now charged.

### Air Cylinder Installation



### Velocity Adjustment

1. Always check the velocity of the marker prior to playing paintball. Different playing fields may have different maximum velocity limits. At no time should you shoot at velocities above 300 feet per second.
2. Put on an eye protective device designed specifically for paintball and make sure that anyone within range of the marker does the same.
3. While pointing the marker a safe direction, remove the barrel blocking device.
4. Point the marker over a chronograph that will measure the velocity of the paintballs discharged by the marker.
5. Set the trigger safety to "fire".
6. Pull the trigger and check the reading on the chronograph.
7. Locate the velocity adjuster screw on the center of marker opposite the name plate.
8. Using a 5/32 hex key, turn the screw Inward or clockwise to reduce the velocity, and outward or counterclockwise to increase the velocity of the paintballs discharged from the marker.

**DO NOT REMOVE THE VELOCITY ADJUSTMENT SCREW.**



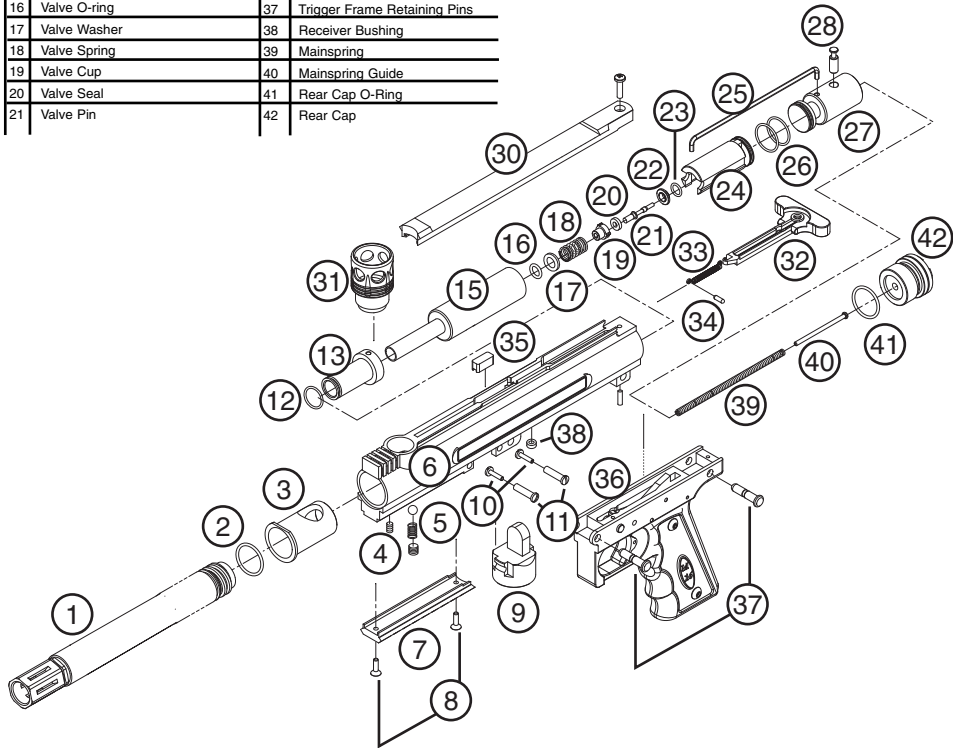
### Loader Installation

1. To install loader check vertical feed adapter and loader to make sure they are free from debris and obstructions.
2. Place the feed neck of the loader into the adapter all the way in until it stops.
3. Align the loader so that the lid is in the rear and the loader is parallel with the marker.
4. Twist the locking ring of the feed adapter clockwise until it is snug.
5. You are now ready to load the marker with paintballs.



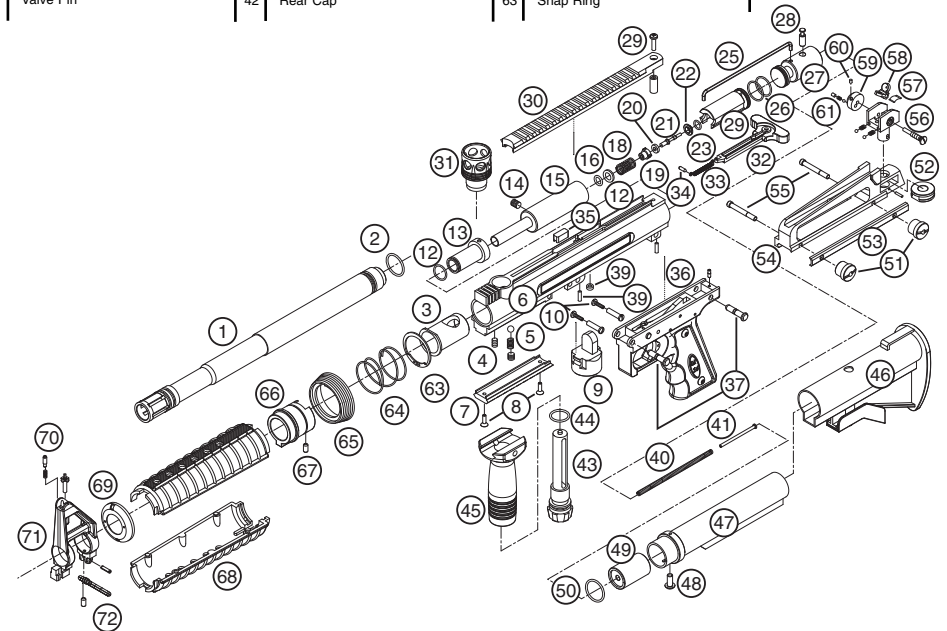
## BT-16 FIELD MARKER Parts List

1	Barrel	22	Valve Spacer
2	Barrel O-ring	23	Rear Valve Seal
3	Barrel Adapter	24	Valve Tube
4	Barrel Adapter Screw	25	Connecting Rod
5	Ball Retainer	26	Rear Valve O-rings
6	Receiver	27	Hammer
7	Bottom Plate	28	T-Handle/Hammer Connector
8	Bottom Plate Screws	29	Top Rail Screw
9	Cylinder Adapter	30	Top Rail
10	Cylinder Adapter Screw	31	Vertical Feed Adapter
11	Cylinder Adapter Screw Interface	32	T-Handle
12	Bolt O-ring	33	T-Handle Spring
13	Bolt	34	T-Handle Spring Retainer
14	Velocity Adjuster Screw	35	Spacer Block
15	Valve Body	36	Trigger Frame Assembly
16	Valve O-ring	37	Trigger Frame Retaining Pins
17	Valve Washer	38	Receiver Bushing
18	Valve Spring	39	Mainspring
19	Valve Cup	40	Mainspring Guide
20	Valve Seal	41	Rear Cap O-Ring
21	Valve Pin	42	Rear Cap



## BT-16 TACTICAL & ELITE MARKER Parts List

1	Barrel	22	Valve Spacer	43	Vertical Foregrip Insert	64	Hand Guard Spring
2	Barrel O-ring	23	Rear Valve Seal	44	Vertical Foregrip O-ring	65	Hand Guard Rear Collar
3	Barrel Adapter	24	Valve Tube	45	Vertical Foregrip Housing	66	Hand Guard Spacer
4	Barrel Adapter Screw	25	Connecting Rod	46	Collapsible Stock	67	Hand Guard Pin
5	Ball Retainer	26	Rear Valve O-rings	47	Collapsible Stock Shaft	68	Hand Guard Set
6	Receiver	27	Hammer	48	Collapsible Stock Retainer	69	Hand Guard Front Collar
7	Bottom Plate	28	T-Handle/Hammer Connector	49	Collapsible Stock Bushing	70	Front Sight Pin Assembly
8	Bottom Plate Screws	29	Top Rail Screw	50	Collapsible Stock O-ring	71	Front Sight Body
9	Cylinder Adapter	30	Top Rail	51	Carrying Handle Lugs	72	Front Sight Retainer Set
10	Cylinder Adapter Screw	31	Vertical Feed Adapter	52	Peep Sight Bushing		
11	Cylinder Adapter Screw Interface	32	T-Handle	53	Carrying Handle Retainer		
12	Bolt O-ring	33	T-Handle Spring	54	Carrying Handle		
13	Bolt	34	T-Handle Spring Retainer	55	Carrying Handle Screws		
14	Velocity Adjuster Screw	35	Spacer Block	56	Peep Sight Axle		
15	Valve Body	36	Trigger Frame Assembly	57	Peep Sight Clip		
16	Valve O-ring	37	Trigger Frame Retaining Pins	58	Peep Sight		
17	Valve Washer	38	Receiver Bushing	59	Peep Sight Wheel		
18	Valve Spring	39	Mainspring	60	Peep Sight Wheel Screw		
19	Valve Cup	40	Mainspring Guide	61	Peep Sight Wheel Spring Pin		
20	Valve Seal	41	Rear Cap O-Ring	62	Peep Sight Retaining Screws		
21	Valve Pin	42	Rear Cap	63	Snap Ring		







### Proper storage of the marker

When you are finished using the marker it is important that you properly store it. This will not only serve to increase the life of the marker and result in reduced maintenance requirements, it will be in keeping with important safety procedures.

### Unloading

1. Put on an eye protective device designed specifically for paintball and make sure that anyone within range of the marker does the same.
2. Make sure the barrel blocking device is properly installed and the marker safety is set to "safe".
3. Loosen the loader locking nut.
4. While holding the paintball hopper in place, invert the marker so that the hopper is below the marker.
5. Remove the hopper and all paintballs.
6. While pointing the marker in a safe direction, remove the barrel blocking device and set the safety to "fire".
7. Keep the marker pointed in a safe direction and pull the trigger several time to insure there are no balls remaining in the chamber or the barrel.
8. Properly re-install the barrel blocking device and set the safety on "safe".

### Removing The Air Supply

1. Make sure the barrel blocking device is properly installed and the marker safety is set to "safe".
2. Point the marker in a safe direction and turn the cylinder counter clockwise or out  $\frac{1}{2}$  of a turn. This allows the cylinder valve to close without damaging the cylinder O-ring.
3. While pointing the marker in a safe direction, disengage the safety (set to "fire").
4. Keeping the marker pointed in a safe direction, pull the trigger until the remaining CO2 or air is expelled and it fails to re-cock.
5. Unscrew the cylinder from the marker.
6. The marker is now ready to be cleaned or put a way for future use.

**Always store the marker in a secure location when not in use so as to prevent access by unauthorized persons.**

### Cleaning the marker

Once the marker is unloaded and the air cylinder is removed you can use a damp cloth to wipe off paint, oil, dirt, and debris. You can also use warm water to rinse the marker clean. Once your marker is clean and dry you can re-oil it using a light premium marker oil such as Hoppes #9 marker oil. To oil the marker put a few drops on the front bolt, rear bolt, linkage arm, trigger and sear. To access the rear bolt and linkage arm you must remove the top plate (see marker disassembly section).

**Disassembly and field stripping  
(MARKER MUST BE UNLOADED, DEGASSED AND UNCOCKED BEFORE ANY DISASSEMBLY)**

### Remove The Barrel

Unscrew the barrel from the marker by turning the barrel counterclockwise until it is removed from the marker.

### Trigger Frame Removal/Pivot

The trigger frame may be removed or may be pivoted out of the way without removing. To pivot the trigger frame, remove the rear trigger frame retention pin and tilt downward while leaving the front pin in place.

1. To remove the trigger frame, remove both retention pins and pull the trigger frame down and away from the receiver.





### Removal of Cylinder Adapter

**NOTE: Air source must be removed for this procedure**

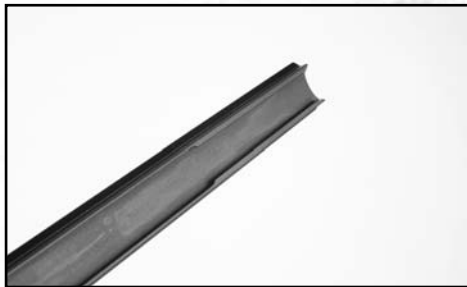
1. Using a flathead screw driver, turn the cylinder adapter screws counterclockwise and remove them.
2. The cylinder adapter will pull directly out of the marker and valve assembly.



### Top Plate Removal

(If marker is equipped with a carrying handle it must first be removed by loosening the carrying handle screws)

1. Using a 5/64 hex key wrench remove the top plate screw.
2. Pull the top plate and the T-handle simultaneously towards the rear of the marker and lift off until top plate can be lifted off the marker.



### Removal of Rear Cap or Rear Stock

**NOTE: The trigger frame must first be removed or pivoted downward before starting this procedure.**

Turn the rear cap or stock counterclockwise until the cap or stock is completely removed. This procedure will also allow you to remove the drive spring, drive spring pin, and bolt buffer.

### Removal of T-handle, Bolt Rod and Rear Bolt

1. Remove the T-handle spring retainer which is located at the top center of the marker.
2. Pull the T-handle back and up to remove it from the rear bolt.
3. Turn the marker upside down and remove the bolt rod (you may have to shake the marker to get the rod to fall out).
4. Pull the rear bolt out of the back of the receiver.

### Removal of Valve, Valve Tube, and Front Bolt

1. Screw the velocity screw all the way in.
2. Pull the valve, valve tube, and front bolt out of the back of the marker.



### Removal of Barrel Adapter and Ball Retainer

1. Using a 5/64 hex key, remove the bottom plate screws.
2. Pull the bottom plate directly off the bottom of the marker.
3. Using a flathead screwdriver remove the ball retainer (large brass fitting).
4. Loosen the barrel adapter screw located in front of the ball retainer with a 5/64 hex key by turning it counterclockwise at least 2 turns.
5. Pull the barrel adapter out of the front of the marker.

P11 arrows indicate ball retainer and barrel adapter screw.



**There is no need for further disassembly of the marker.**



## Reassembly

To reassemble the marker reverse the Disassembly instructions starting with the valve, valve tube, and front bolt. While reassembling the marker you should oil all O-rings and sliding parts. All parts and O-rings returned to the marker should be free of debris and visual nicks and scratches which can alter the performance of the marker. All screws returned to the marker must be tightened so there is no chance of them vibrating loose.

## Storage and Transportation

1. BT-16 must be clear of all paint and propellant when not being used.
2. Be sure to have marker in SAFE MODE when not in use.
3. Make sure barrel blocking device is in place.
4. Store BT-16 and propellants in a cool dry place.
5. Keep the BT-16 secure location.
6. Your BT-16 must be free of all paint and not attached to an propellant source while being transported to and from the playing field.
7. Observe and obey all local, state and federal laws concerning the transportation of paintball markers. For information concerning any of the laws in your area, contact your local law enforcement.

## BT PAINTBALL DESIGNS, INC. LIMITED WARRANTY

BT PAINTBALL DESIGNS, INC. warrants the replacement of any original part due to defect in materials and/or workmanship of this marker. This warranty will be in effect for twelve (12) months for parts and twelve (12) months for labor following the original date of purchase for the original purchaser. Such warranty service will be provided only if the warranty registration card included with this manual is filled in completely and on file at BT PAINTBALL DESIGNS, INC. All other service will be duly charged for and returned via UPS C.O.D.

BT PAINTBALL DESIGNS, INC. will replace without charge any original part that is determined by BT PAINTBALL DESIGNS, INC. to be defective under the terms of this warranty. However, shipping charges are not covered hereunder. Failure due to an accident, abuse, neglect, modification, normal wear, operator error, maintenance by other than an authorized BT PAINTBALL DESIGNS, INC. dealer, or use of parts inconsistent with the use originally intended for the marker as sold, is not covered by this warranty.

There are no other warranties or guarantees, expressed or implied, made by BT PAINTBALL DESIGNS, INC. on this marker. The sole and exclusive liability of BT PAINTBALL DESIGNS, INC. and/or its authorized dealers, affiliates, or agents pursuant to this warranty will be for repair or replacement of the defective part; incidental or consequential damages are expressly excluded hereunder.

BT PAINTBALL DESIGNS, INC., its authorized dealers, affiliates, or agents, will not be liable under this warranty, nor under any state or federal law, or the common law or otherwise for any damage or failure, including personal injury, resulting from such use and/or alteration. This warranty gives you specific legal rights, and you may also have other rights that may vary from state to state.

**For warranty parts, service or information contact:**

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