



.68 .CAL SEMI-AUTOMATIC PAINTBALL MARKER

!CAUTION!

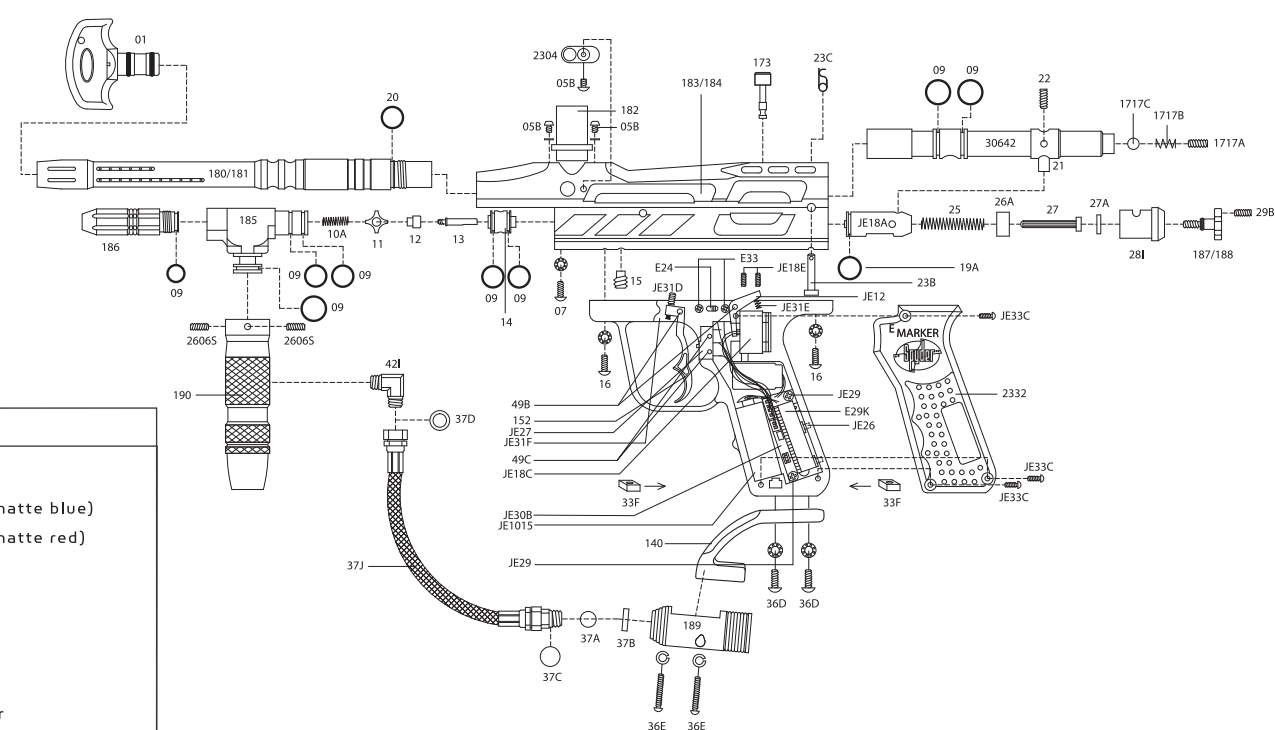
- Kingman recommends that customer be at least 18 years of age to purchase this product.
- Read this manual and air systems warnings before using this product.
- Any modifications or tampering of original factory parts will void all warranties and liabilities from Kingman.
- Kingman recommends using a barrel plug or barrel sock when the marker is not in operation.
- To ensure proper adjustment on velocity (fps) Kingman strongly recommends using a chronograph for paintball use (located at most paintball fields).
- Never shoot or point your marker at a person that is not in a designated paintball facility and without proper paintball protection.
- Never look down the barrel of loaded or unloaded marker.
- Always keep the paintball marker in SAFE or OFF mode until ready to operate.
- Always remove gas source before disassembly.
- Fire only 0.68 caliber paintballs from this product.
- Always make certain the bolt is in the un-cocked position when marker is not in use.
- Transfer this instruction manual upon change of marker ownership.

PILOT



PARTS LIST

ITEM #:	NAME OF PARTS:
01	Spyder Barrel Plug
180	12" Competition Barrel (matte blue)
181	12" Competition Barrel (matte red)
2304	Ball Stopper (Black) f
05B	M4 x 6 Screw (Silver)
182	Direct Feed (m. black) f
183	Receiver (matte blue)
184	Receiver (matte red)
07	M5 x 14 Screw w/ Washer
185	Vertical Adapter (m. black)
186	Low Pressure Chamber (matte black)
09	O-Ring #015 80D
10A	Valve Spring
11	Cup Seal Guide
12	Cup Seal
13	Valve Pin
14	Valve Body
15	Valve Body Screw
16	Frame Screw M5 x 12 Screw
30642	ACS Cocking Bolt
1717A	Retaining Screw
1717B	Retaining Spring
1717C	Retaining Bearing



ITEM #:	NAME OF PARTS:	ITEM #:	NAME OF PARTS:
JE18A	Striker Bolt	26A	Striker Buffer
19A	Striker O-Ring	27	Striker Spring Guide
20	Barrel O-Ring	27A	Flat Disc
21	Bolt Pin	187	Thumb Adjuster w/ screw (matte blue)
22	Bolt Screw	188	Thumb Adjuster w/ screw (matte red)
23B	Quick Release Pin	29B	Lock Screw
23C	Disconnect Pin Lock	2332	Rubber Grip Panel (black)
28I	Striker Bolt Plug (silver)	33F	Nut Screw
25	Striker Spring	189	C/A Adapter (matte black)

ITEM #:	NAME OF PARTS:
173	Top Cocking Knob
26065	Expansion Chamber Lock Screw
140	Deluxe Drop Forward (matte black)
36D	5/32" x 5/8" Screw
36E	5/32" x 7/8" Screw (Black)
37A	Filter O-Ring
37B	Air Filter
37C	Disconnect O-Ring #011
37D	Plastic Washer
37J	Disconnect Hose
2741	Spare Parts Kit
194	Expansion Chamber (matte blue)
42I	90° Male to Male Adapter
190	Expansion Chamber (matte black)
49	Trigger Roll Pin
49B	Secondary Sear Roll Pin
49C	Touch Switch Roll Pin
E24	On/Off Switch with wiring harnesses
E24A	Battery harness
E29K	C.A.M.D. 2.0 Circuit Board
E33	On/Off Screw (M2 x 6 Screw)
JE1015	9.6v Rechargeable Battery
JE12	Trigger Sear
JE18C	Coil Set
JE18E	Coil Set Screw
JE26	Charge Pin
JE27	Touch Switch
JE28D	IPI-Tack Switch
JE29	Circuit Board Screw
JE30B	Tournament Lock Switch
152	Sensi-Touch Straight Trigger
JE31D	Trigger Adjust Screw
JE31E	Sear Spring
JE31F	Trigger Spring
JE33C	Grip Cover Screws (M3 x 10)

OPERATION GUIDE

- Put the marker on 'SAFE' by pushing the on/off switch to the right. The marker is now off. To power on the marker, push the on/off switch to the left. **CAUTION:** with the power on, the electronic circuit board is now powered on and ready to shoot.
- Cock the marker by pulling the Top Cocking Knob (#173) rearward until it latches. **CAUTION:** if you let go before it latches, your marker may fire.
- Tighten the air tank until it is snug. If a leak occurs between the tank and the C/A adapter, replace the tank o-ring. **IMPORTANT:** You should never need to use any hand tool to attach a CO2 / Compressed Air Tank.
- Install the loader onto the direct feed (#167). Tighten the direct feed screw; fill loader with .68 caliber paintballs only. Please refer to the C.A.M.D. 2.0 mode settings guide to set the R.O.F. on the trigger frame.
- Turn the marker on by pushing the ON/OFF switch to the left. Then click the Function MODE once to turn off the secondary safety. **CAUTION:** Your marker is ready to fire.
- Only use lubrication specifically designed for paintball markers. To lubricate your marker, you will need to disassemble your marker. **HELPFUL TIP:** please note how parts are removed from marker as this will ease re-assembly. Remove the Quick Release Pin (#23D) and hold down the Striker Plug (198) and Thumb Adjuster (#187) before you pull the Quick Release Pin (23D), as internal parts may be spring-loaded. As you pull the cocking knob out of the receiver, the ACS Venturi Bolt (#30642) and striker (#JE18A) will also be removed.
- Lubricate o-ring #19A with a few drops of paintball oil only.
- Re-assemble parts back into the marker. **NOTE:** when putting the ACS Venturi Bolt and striker back into the marker, you will need to apply pressure behind the bolt while pushing the movable disc of the coil set (#JE18C) forward to the limit at the same time. (right now the battery side grip must be opened) This will allow the bolt and striker to be properly installed back into the receiver.
- When you are finished shooting the marker, first, unload the marker of all paintballs. **NOTE:** there may be a ball in the receiver; take a couple of shots in a safe direction to make sure that the barrel and receiver are empty. Second, put the barrel plug into the barrel. Put the safety on and slowly unscrew the air source tank. **CAUTION:** do not unscrew the tank valve from the tank. Doing so may cause serious injury or death.
- Empty the hopper or remove the hopper off the marker to stop the flow of paintballs in the marker.
- Adjusting the trigger pull – you may adjust the trigger pull on your marker by tuning the major Trigger Adjust Screw (JE31D).

FOLLOW THESE STEPS TO ACCESS THE TRIGGER ADJUSTMENT

- CAUTION:** Remove all paintballs and CO2 / Compressed Air Tank before making any adjustment to the Trigger.
- Using the proper Allen wrench to adjust the Trigger Screw (JE31D) located beneath the Trigger Frame in front of the Trigger. Turning this screw clockwise will swing the Trigger closer to the Touch Switch allowing a shorter Trigger travel. Turning counter-clockwise will swing the Trigger away from the Touch Switch for a longer stroke.
- NOTE:** Over adjusting the Trigger travel to close to the Touch Switch, can lead to a non active Trigger adjustment.

IMPORTANT

- Firing velocity may vary according to altitude and climate conditions.
- BEFORE using your marker in play, you must always first perform a "SAFE VELOCITY TEST". This can only be accomplished by using a testing device called a "Velocity Chronograph" and can be performed by the dealership where you purchased this product or at a local paintball playing field.
- **NOTE:** This product is intended to be used at a velocity no greater than 300 feet per second (FPS).
- Recommended velocity is 280 FPS or less.
- This product is NOT intended to be used at any distance less than 25 feet.
- This paintball marker may have excess gas after removal of the tank. Please remove all paintballs and discharge the remaining gas safely.

GENERAL MAINTENANCE

- Using a can of compressed air to clean the coil set after every use (part no. #JE18C) to maintain performance.
- Beside step (1), cleaning should only be performed on the exterior of the E-Marker frame. Never submerge the E-Marker frame in any type of liquid for any reason. The electronics may become damaged or destroyed. Keep water or cleaning solution from entering the inside of the trigger frame. Solvents should not be used to clean any part of the trigger frame.
- Always use the appropriate tool to remove screws and other components of the Pilot frame.
- DO NOT DRY FIRE.**

TOURNAMENT MODE SETTING

The Pilot circuit board – (C.A.M.D. 3.0) part #193 also equipped with a "LOCK" function. A short-circuit plug (JE30B) located on the internal circuit board serves this function. When this plug had been pulled out, the MODE will be locked to SEMI, (single shot mode) and cannot be adjusted. Putting the lock switch (JE30B) back into the circuit board will enable the multi-mode functions. **IMPORTANT!** For optimal performance, Kingman recommends that an agitator loader or hopper be used in order to shoot at high rate of fire. Kingman also recommends using the Spyder CO2 Air Tank or High Pressure Air Tank and tournament grade paint.

A JAMMED PAINTBALL IN THE BREACH

In the event of a paintball break and the Venturi bolt jammed, follow these steps to help un-jam the marker. The markers breach is located where the barrel starts to thread in the receiver and underneath the markers feed neck.

- Before attempting to un-jam the Venturi bolt you should always have your Safety Goggles or Safety Glasses on.
- Make sure the marker is in the SAFE / OFF position before attempting to un-jam the Venturi bolt.
- Remove the attached CO2 / Compressed Air Tank before attempting to un-jam the Venturi bolt.
- Remove all paintballs and loader from the feed neck.
- Have the barrel removed from the receiver to allow the paintball (s) to exit.
- With enough tension on the cocking knob, pull back to release the Venturi bolt from the jammed position.
- Another method is to use a "Straight Shot Squeegee" or the end of a wood dowel rod; push against the face of the Venturi bolt with enough force to release the jammed bolt.
- Always clean the paint from the breach and barrel to hence the performance of your marker.

! IMPORTANT

Never look down the barrel of the marker when loaded or unloaded. Remove the attached CO2 / Compressed Air Tank before attempting to un-jam the Venturi bolt. **NOTE:** Never use a metal rod or screwdriver as a tool to push on the Venturi bolt, anything metal will scratch and damage the inside of the marker.

KINGMAN WARRANTY REGISTRATION

PLEASE COMPLETE AND RETURN THIS FORM, ALONG WITH A COPY OF YOUR PURCHASE RECEIPT, WITHIN 15 DAYS OF PURCHASE SO THAT WE MAY VALIDATE YOUR 90 DAY LIMITED WARRANTY.

NAME: _____

ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____

COUNTRY: _____ AGE: _____ JOB: _____

E-MAIL: _____ PHONE #: () _____

PRODUCT NAME/MODEL: _____

WHAT OTHER BRAND(S) OF MARKERS DO YOU OWN?: _____

WHY DID YOU PURCHASE THIS KINGMAN MARKER?: _____

WHAT IS THE NEXT PAINTBALL PRODUCT YOU INTEND TO BUY?: _____

WHAT ARE YOUR HOBBIES (OTHER THAN PAINTBALL)?: _____

WHAT ARE SOME MAGAZINES YOU LIKE TO READ?: _____

HAVE YOU MADE ANY ONLINE PURCHASES IN THE PAST 6 MONTHS?: Y / N

COMMENTS/SUGGESTIONS: _____

MAIL TO: _____

KINGMAN GROUP 14010 LIVE OAK AVE. BALDWIN PARK, CA 91706 USA



SPYDER

KINGMAN

WARRANTY STATEMENT:

Kingman warrants to the original customer/purchaser that this product is free from defects in material and workmanship under normal use and service for a period of 12 months from the original date of purchase by the initial owner/purchaser. For warranty to be effective, customer must return the enclosed warranty registration card, along with a copy of the purchase receipt, within fifteen days of purchase. Kingman agrees to repair or replace (at its discretion) any product within a reasonable period of time. This warranty does not cover o-rings, 9.6v rechargeable battery, charger, scratches, nicks, normal wear and tear of parts, any modifications or normal fading of anodizing or damage caused by dropping or hitting of products. This warranty shall not apply if it is shown by Kingman that the consumer caused the defect or malfunction because of misuse. This warranty only covers original factory parts. Any modifications or tampering with original factory parts will not be covered by this warranty. Any damage caused by water will not be covered by this warranty. Warranty repair labor may only be conducted by Kingman technicians or by technicians authorized by Kingman to perform warranty repairs. If product needs repair, package it carefully and send together with your name, address, phone number and a brief description of the malfunction to:

14010 Live Oak Avenue Baldwin Park, CA 91706 U.S.A.
 Phone no.: 626.430.2300 Fax no.: 626.851.8530
 www.kingman.com www.spyder.tv



CO2/HP AIR TANK WARNING

- VALVES MUST BE INSTALLED OR REMOVED ONLY BY QUALIFIED PERSONNEL.
- BOTTLE MUST BE RETESTED SEE CO2/HP TANK LABEL FOR RETEST DATE!
- Improper use, filling, storage or disposal of this cylinder may result in death, personal injury and property damage.
- This cylinder must be filled only by properly Trained personnel in accordance with CGA Pamphlets P.1 and G-6.3 available from the Compressed Gas Association WWW.CGANET.COM
- Do not over pressurize. Do not expose pressurized cylinder to temperatures in excess of 130 degrees fahrenheit.
- Do not expose cylinder to corrosive materials and do not clean with caustic cleaners.
- Do not alter this cylinder in any way.
- Cylinders heated to a temperature of 250 degrees F or more must be condemned or requalified in accordance with test defined in CFR-49.
- Keep cylinder out of reach of children.
- The valve should NEVER be detached from the canister. Should this occur, please seek assistance from a trained airsmith immediately.
- This tank is intended for paintball use only.

HELPFUL HINTS

- Always remove air tank before any disassembly of your marker. DO NOT remove #14 (valve body) unless specific valve body repairs are needed. If needed, remove valve body with a long, soft-tipped object such as the eraser end of a pencil. DO NOT remove the valve body with a screwdriver as it will damage the valve body and cause air leaks. **NOTE:** #15 screw must be removed prior to taking out the valve body.
- Air leaks are usually cause by a damaged valve body or damaged cup seal (#12). Replace with new valve body and/or cup seal if necessary.
- To assure marker is assembled properly, follow the schematic drawing or place parts in order during disassembly. Parts assembled backwards or placed in the wrong order will cause marker to malfunction.



The CO2 or Compressed Air Tank can fly off with enough force to cause serious injury or death if the Valve unscrews from the cylinder head. LOOK at the Valve when removing the cylinder from the marker. Be sure that the valve is turning with the cylinder rather than remaining stationary with the marker. STOP if the Valve starts to unscrew from the cylinder. If in doubt, screw the cylinder back onto the marker and contact a trained person for repair.

CHARGING INSTRUCTION AND SPECIFICATIONS FOR RECHARGEABLE BATTERY

The battery to be used with your frame is a specially designed 9.6Volt NiMH Battery. To maximize the life of the battery, please read the following instructions before use.

CONNECTING THE BATTERY

Remove the Left E-Marker grip cover (part #192). The battery terminal is located to the left of the circuit board. Attach the battery to the battery connectors by aligning the + (positive) on the battery connector to the + (positive) on the battery.

SPYDER LED A/C CHARGER INSTRUCTIONS

To charge a Spyder 9.6 NiMH Battery the circuit board must be in the OFF Position. Spyder Batteries (#JE1015) are not fully charged when purchased. Using the supplied Spyder LED A/C Charger (#JE1029) Kingman recommends a charging time of 5 hours for a complete charge.

- STEP 1. Plug the Spyder LED A/C Charger into a 110v-120v power outlet.
- STEP 2. Connect the Spyder LED A/C Charger cord to the rear of the markers trigger frame.
- STEP 3. The LED indicator on the A/C Charger will display RED when the battery is charging.
- STEP 4. The LED indicator on the A/C Charger will display GREEN when the battery is fully charged.
- STEP 5. Unplug the Spyder LED A/C Charger cord from the rear of the markers trigger frame.
- STEP 6. Remove the Spyder LED A/C Charger from the 110v-120v power outlet.

NOTE: It is recommended that the battery be charged prior to use in order to ensure maximum performance, especially if the battery has not been used in over a week.

IMPORTANT: You should never charge the battery over 24 hours or you can run the risk of damaging the battery or electronics. The battery charger will continue to power until removed from charging port.

SPYDER 9.6 NiMH BATTERY LIFE

Always use the supplied Spyder 9.6volt NiMH Battery and Spyder LED A/C Charger to operate this marker. A fully charged Spyder Battery will last about 3,000 to 5,000 shots. Under normal use and charging conditions the expected life of the Spyder 9.6 NiMH Battery to is approximately 700-1,000 charging cycles.

WARNING: This marker is not intended to use any normal 9 volt battery or charger that is NOT a Spyder Product. Doing so will VOID all electronic warranties and liabilities from Kingman.

- WARNING:**
- Spyder Electronic Markers are not water resistant.
 - Extreme moisture can cause serious damage to any Spyder Electronic Marker.
 - Always clean any dirt or paint inside the markers electronics.
 - Never attempt to modify the electronics circuitry, doing so will VOID all electronic warranties and liabilities from Kingman.

Color Access Mode Display (C.A.M.D. 2.0) Specifications & Operation Diagram

1. The C.A.M.D. 2.0 has one push key for adjustment and 1 Color Display Panel to display all functions.
2. For "MODE" indicator, the C.A.M.D. 2.0 shows following functions:
 1. SEMI: Semi Auto Mode
 2. BUR 3: Burst-3 Mode
 3. BUR 6: Burst-6 Mode
 4. AUTO: Full Auto Mode
3. Rate of Fire (ROF) can only be adjusted in the modes of 3-burst, 6-burst and full auto. The rate of fire will range from 6 shots per second to 13 shots per second. For "SEMI" mode, the reactive trigger responses up to 20 bps.
4. When POWER is turned ON, the default will set the mode in "SEMI" and "R.O.F." is set at "13" bps. All settings can be adjusted while power is ON. Any adjustments will be lost when POWER is turned off.
5. The Battery pattern on the panel is used for "Battery Low" Indicator, and will stay OFF during normal operations. When the capacity of battery drops to about 1/3 of the battery full capacity, this indicator will be turned ON.
6. The C.A.M.D. 2.0 is also equipped with a "LOCK" function. A short-circuit plug located on the internal circuit board serves this function. When this plug had been pulling off, the MODE will be locked to SEMI, and cannot be adjusted.
7. Operation Methods: Press, Push and hold the key for over 2 seconds, then release the key. Click, Push and then release the key. The duration should be less than 1 second.

NOTE: During the interval of ROF Adjustment, the SAFETY will be turned ON automatically, that is, trigger will be disabled on this interval. The SAFETY will be turned OFF automatically at the end of ROF Adjustment, and then the trigger will be functioning normally. The SAFETY is displayed on the lower right corner of the panel.

ROF Adjustment: The Indicator of Burst-3 will be on, and the shot rate display on the right will start to flash. You can adjust the shot rate by clicking Push key. The range of rate is from 6 to 13 shots per second.

ROF Adjustment: The Indicator of Burst-6 will be on, and the shot rate display on the right will start to flash. You can adjust the shot rate by clicking Push key. The range of rate is from 6 to 13 shots per second.

ROF Adjustment: The Indicator of FULL will be on, and the shot rate display on the right will start to flash. You can adjust the shot rate by clicking Push key. The range of rate is from 6 to 13 shots per second.

NOTICE: It is recommended that the battery be charged prior to use to ensure the maximum capacity if you leave the battery unused for over a week.



SPYDER

TROUBLESHOOTING

- ONE OR MORE OF THE FOLLOWING MAY CAUSE RECOCKING RELATED PROBLEMS:
- The pressure in the tank is too low. In some cases, the weather can affect the liquid in the CO2 tank to not expand into gas (carbon dioxide).
 - Need lubrication. (See OPERATION GUIDE)
 - #19A (striker o-ring) is damaged. Replace with new Kingman or Kingman-approved o-ring. **NOTE:** the #19A O-ring cannot be substituted by a tank o-ring or a #9 o-ring.
 - Need to clean barrel and upper chamber or the receiver.
 - Paintball may be defective (i.e. expired, change shape)
 - After ball breaks, remove all parts from UPPER chamber of receiver, wipe parts clean, and reassemble parts into receiver. Also make sure to clean barrel with squeegee.

HELPFUL HINTS

- Always remove air tank before any disassembly of your marker. DO NOT remove #14 (valve body) unless specific valve body repairs are needed. If needed, remove valve body with a long, soft-tipped object such as the eraser end of a pencil. DO NOT remove the valve body with a screwdriver as it will damage the valve body and cause air leaks. **NOTE:** #15 screw must be removed prior to taking out the valve body.
- Air leaks down the barrel are usually cause by a damaged or worn cup seal (#12). Replace with a new cup seal.
- To assure marker is assembled properly, follow the schematic drawing or place parts in order during disassembly. Parts assembled backwards or placed in the wrong order will cause marker to malfunction.

ELECTRONIC GRIP TROUBLESHOOTING

- Check to make sure there is enough air pressure to fire the marker.
- Battery may need to be recharged.
- If the Rocking Trigger is not functioning, please following these steps:
 - Turn the trigger screw (#JE31L) clockwise to shorten the gap between the dual touch switch (#JE27A) using an allen wrench. **IMPORTANT:** Do not over extend the trigger screw (#JE31L) or this can cause the dual touch switch to stick.
 - Turn the trigger screw (#JE31J) clockwise or counter clockwise to balance and to shorten the trigger pull.
- Specific troubleshooting questions may be answered by calling toll free at: (888) KINGMAN or (626) 430-2300.