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This page is a guided tour of the entirety for Luxe disassembly. The majority of these images are of components and practices you're likely to never see/use unless you feel the daring need to disassemble the entire marker, or experience problems and wish to diagnose yourself. Complete disassembly of the entire marker as shown here isn't necessitated during normal conditions.



Luxe wide



Luxe wide



Luxe front profile



Luxe rear profile

Eyes, Eye Covers, and Detents:

Each of the eye covers are held in place using a set of magnets between them and the body. The magnets are press-fitted into locator spots within the inside of the covers, and the opposing surface on the body's eye cover depression. To remove an eye cover, push inward on the front edge, propping up a small lip on the rear edge. (you're using the magnets to create a lever action, forcing the attractive magnets apart)...



Eye cover removal



Eye cover removal

Each eye cover has a spring-loaded detent located on the inside surface. They're "piston-style" detents with springs behind them, similar to those used in Shocker NXTs. The detents themselves are angled toward the bolt face, a feature designed to reduce wear on the plungers since the bolt strikes them at an angle instead of rubbing against the round detent crest. The detent pistons can be removed however doing this will likely damage them, so this shouldn't be done unless you already have replacements and are willing to damage the current detent. Detent removal is accomplished by inserting a small allen key into the detent access port, which will crimp the bottom of the piston inward and allow it to be pulled out from its retaining hole. The detent spring is visible in the access hole below.



Eye cover inside face



Angled detent plungers



Detent piston removal tool access hole

The eye elements sit within small grooves designed to retain them. The eyes are positioned on FPC flex-circuits. A small foam disk is positioned on the inside of the eye covers which presses on the back of the eye elements to keep them from wiggling.



Eyes installed in body



Eyes removed



Eyes removed

Bolt Removal and Theory:

The other field strip activity is breaking down the bolt and other firing components for cleaning and regreasing. The entire set of internals can be removed and serviced without using tools. Additionally, if the marker is still pressurized, simply turn off the air supply and the quickstrip process will automatically depressurize the marker at once, eliminating the need to "shoot the marker dry" as is common with some markers. The process is simple; the rear exposed component is lifted upward to release the firing assembly, allowing it to be removed. Visible on top of the marker body is a small finger groove for leverage on the quickstrip cover:



Bolt quickstrip cap



Bolt quickstrip actuator



Bolt quickstrip removed

At this point the bolt assembly can be gently pulled out the rear of the marker body.



Firing assembly removed from body



Firing assembly removed from body



Body firing assembly bore



Bolt quickstrip action

The bolt is contained inside its fire chamber housing, so you won't be able to access the internal o-rings until you remove it. Unscrew the fire chamber by grasping the quickstrip section and twisting the main housing with your other hand. This exposes the bolt and bolt guide components:



Firing assembly components



Firing assembly components with bolt guide removed

Two additional o-rings are retained inside the fire chamber, used to seal the bolt during firing. One of them is brightly seen in the picture below; the other is about a quarter inch deeper inward.



Fire chamber internal o-rings

The Luxe firing assembly design follows the same trend as an Evolve Shocker bolt in terms of function. The rear of the bolt is known as the *bolt sail*, and is responsible for the bolt's directional movement (forward and back) which is determined by the solenoid valve. The bolt's front section is designated the *dump chamber* which stores pressurized air to fire the paintball.

For general maintenance, all moving o-rings must be cleaned and regreased. It's possible to effectively regrease the internal o-rings of the fire chamber by applying a coat of grease to the outside of the bolt itself, since this is the opposing surface which comes in contact with the two o-rings. However, It wouldn't hurt to apply a thin coat of grease to the internal o-ring pair directly. Exercise caution to avoid overgreasing the moving o-rings. There's an additional "inside" o-ring located within the inside surface of the quickstrip plug (not pictured). This seals the rear of the bolt, which can also be regreased either directly or by applying a coat to the rear of the bolt itself (same as above).

Quickstrip Plug Disassembly:

The quickstrip plug is a complex piece of equipment actually comprised of several separate parts assembled together. It may be necessary to disassemble the plug in order to service a leaking problem. The first step is to separate the Luxe quickstrip cover from the rear of the housing. This is done by inserting an allen wrench into the receiving screw head which is only exposed while actuating the quickstrip cover upward. The small o-ring will snap it back into the "closed" position so you may need to jam it open using an allen key.



Quickstrip tension o-ring visible on bottom



Quickstrip cover screw exposed



Quickstrip cover removed

After removing the tension o-ring you can further disassemble the quickstrip plug. Attached in the middle (directly behind the bolt sleeve housing) is a silver pin-shaped latch which is held onto the lever by a small threaded pin. This is the left of the two allen wrench hexes seen in the below picture. The right hex is the lever pivot; both screws can be removed, although I won't bother with the pivot. The pins are unscrewed using a 0.05" allen wrench; after removal, the lever will swing freely since it's no longer attached to the latch pin. The latch pin itself is fitted with a pair of o-rings and seals within its retaining hole in the bolt sleeve housing.



Quickstrip lever removal



Quickstrip latch pin removed



Quickstrip latch pin vent hole

During normal operation, the latch pin's o-rings surround the small air port. These o-rings pass over the air port when the quickstrip function is actuated, since this involves the latch pin being drawn upward in its hole. When this occurs the pressure within the dump chamber is allowed to vent out this port, where it exists to open air. The remaining pressure within the marker's pneumatics vents backward through the fire chamber and vent here as well.

Frame Disassembly & Removal:

The good stuff is hidden within the frame. Some of these images show regular adjustment, some show infrequent maintenance that will ideally never need to happen. Either way, the first step is to remove the grips. Electronics adjustment requires only the left side panels to be removed, but a frame removal/disassembly requires both (shown). The frame's circuit board is revealed on either side of the frame.



Grip wraps removed



Grip wraps removed



Charging port in front

The circuit board's right side contains most of the circuit components, including a number of ROM modules needed for the board's complex sound effects. The eye ribbon (FPC) is also located on this side. The right side circuit board is a different story; it's here that the speaker, adjustment joystick, battery, solenoid, and

trigger microswitch are located. Also note the front of the grip wraps enclose and protect the battery charging port, visible in the picture above. It's actually a SATA port (used on modern harddrives), although this marker doesn't have a computer interface available.

At this point you're ready to service the electronics, charge the battery, and adjust the circuit board settings. Further disassembly is not necessary except when separating the frame from marker body, which is the next step. To do this, the speaker must first be removed by loosening the pair of screws holding the speaker mount in place. Gently lift the mount upwards; it also surrounds the adjustment joystick which is easy to damage if care not taken. Disconnect the speaker plug and battery plug; on the opposite side of the marker also disconnect the eye ribbon.



Speaker mount removal



Speaker and battery removal



Speaker and battery removed



Eye ribbon disconnected

The frame is held up against the body using a pair of cap screws. The front screw is located in front of the trigger guard; the rear screw is located toward the rear of the frame, accessed only when the firing assembly has previously been removed.



Front frame screw



Rear frame screw

The frame is finally loose. From this point onward **EXERCISE EXTREME CAUTION**; the frame can now be **GENTLY** removed from the body, paying special attention to the solenoid and circuit board within the frame. Do not quickly remove the frame from the body or you risk serious damage to the frame coupling, solenoid, manifold, and/or electronics.



Gentle removal of the frame



Gentle removal of the frame

After everything is disconnected you can also remove the circuit board from the frame. It's held in place using three retaining screws, removed with a 1/16" allen key. One screw will remain installed on the circuit board; this screw holds the trigger microswitch in place and never needs to be removed.



Board screws removed



Circuit board left side



Circuit board right side



LED array lightpipe to back of frame



LED array lightpipe to back of frame

The below pictures show the frame internals. Take note of the offset block of material behind the trigger; this is the location of the grip-routed air supply from the bottomline to the body. This air passage leads up to the top of the frame and ends at a raised gasket coupling sticking up above the frame. This coupling is inserted into a receiving o-ring, sunk into the underside of the marker body.



Frame side layout



Frame top layout

The trigger is removed from the frame by loosening the two conical set screws, one located on each side of the frame. These screws are used to suspend the trigger bearing in the middle of the frame. The trigger has a pair of roll pins bossed into the side; these pins are used as the pre and post-travel stops.



Trigger removed



Trigger adjustment screws

Body Disassembly & Solenoid:

The infrequent maintenance internals for the marker include everything in this section. This involves the Vision eye system, solenoid and its mounting methods, and sealed set screws located within the body. The Vision eye ribbon FPC is retained within a slim groove in the body by a series of notches designed to grasp onto the sides of the ribbon and keep it in place. This helps keep the electronics clean during reassembly.



Body underside



Body's eye ribbon retaining slot

The solenoid is held onto a small vertical manifold block, which is held onto the Luxe body by a pair of mounting screws, removed using a 1/16" allen key. The solenoid is held onto its manifold using a pair of M1.6x0.35 screws, common to these Parker solenoids. The manifold itself has a number of cross-drilled air ports running through it, some with loctited set screws used to seal off passages as needed.



Solenoid manifold removed from body



Solenoid removed from manifold



Solenoid manifold

Eye removal is easy to do since the eyes aren't held in place by any screws; everything simply pulls out from the body. However, the eyes are fragile and need to be handled carefully.



Eye ribbon removed



Eye elements

The eyes are much more difficult to reinstall than they are to remove, so you must take your time. They go in exactly as you would think, after matching up the eye ribbon FPC shape onto the groove in the bottom of the body; the FPC bends to the right side of the marker, following the noticeable slot in the bottom of the body. Thread one eye down through its hole, then pull it up into position. When in position, thread the other eye down the other hole, using a small tool to guide it if needed. When both eyes are in place, gently push the FPC back down into its groove.



Threading the eyes into body wiring canals



Both eyes threaded into the wiring canals



Eye retaining slot in body

You can reinstall the assembled solenoid/manifold onto the body at this point, then reassemble the frame.

Frame Reassembly onto Body:

This is technically no different than the removal, however you again need to exercise extreme caution to avoid damaging the solenoid or board. Start by threading the solenoid connector through the frame opening, then guide the frame upward and onto the solenoid while keeping the solenoid toward the rear of the frame. It's helpful to angle the frame as shown in the pictures below, which leaves extra space for the solenoid to slide forward later.



Threading the solenoid connector into frame



Inserting the solenoid into frame

At this point you need to realign the frame so it fits straight onto the body. When it's in the correct alignment, **SLOWLY** push the frame up toward the body, again paying attention to the solenoid and circuit board. Do not force any component inward or you will likely break something expensive. Once everything is aligned properly, the final step is to gently push the frame upward so the raised input coupling slides down into the o-ring within the marker body. You should feel it slide into position and lock down. Reinstall the frame screws immediately, before reconnecting the electronics. When the screws are in place and tight, plug the eye FPC back into its brown connector, silver contacts facing up as shown below. You may then plug the solenoid harness back into its connector, using a small tool (such as an allen wrench) to push it in after aligning the plug.



Aligning solenoid inside frame



Aligning solenoid inside frame



Eye ribbon reinstall



Eye ribbon reinstalled



Solenoid connector reinstall

Reinstall the battery and speaker in reverse order from the disassembly process. When all parts are reinstalled, power the marker and verify that the eyes still work. If not then you will have to check the connections and eye alignment.

Regulators and Air System:

The Limited Edition package Luxe includes an integrated Max-Flo preset air system attached to the bottomline. Standard markers use a typical screw-in ASA

adapter. Either way, high pressure air is directed up through the frame where it enters the body and is shunted to the front foregrip. The foregrip acts as a bi-directional regulator that has input and output both at the top. Its purpose is to drop the pressure down to around 200-psi which is used to operate the marker. This low pressure air is then fed back into the body where it enters the fire chamber and solenoid manifold.

The bottomline adapter is replaceable with a standard screw-in ASA, and the Luxe foregrip regulator is also replaceable with a standard vertical reg, using macroline to connect the two. However, you cannot use the integrated Max-Flo air system with a standard vertical reg; you must use the Luxe foregrip reg. Several examples of reg combinations are shown below.



Luxe with Shocker SFT vertical regulator



Luxe with Ion vertical regulator



Luxe with 2-liter vertical regulator

The bottomline Max-Flo system is essentially the same as previous versions of the Smart Parts Max-Flo Micro preset reg. This is a high pressure reg with preset-output designed for use on any marker using HP input. The Luxe version is obviously milled quite differently, but it's otherwise the same. The reg comes from DLX with a preset output around 650-psi (I assume) which isn't necessary to adjust.

The reg is removable by loosening the two socket head cap screws holding it on. This exposes the grip-routed air supply o-ring on the bottom of the frame, and the opposing port on top of the reg. The screw located on top of the reg is a retainer for the Smartvalve on/off knob. It can be removed to service the knob's o-rings in case of a leak.



Bottomline screws



Bottomline screws and regulator removed



On/off knob retaining screw

The regulator's rear input from the tank has a small filter located inside, which blocks debris from entering. The regulator is actually adjustable by removing the filter to expose the primary base seat, loosening the set screw on top of the tank threads, and using an allen wrench to screw the primary base inward or outward. However, I do not suggest you do this. Partially because you don't know the exact output pressure without using a gauge to verify, but also because adjusting the primary pressure has virtually no advantage.



Primary regulator input filter

Luxe Max-Flo disassembly process is the same as the Smart Parts [Micro Max-Flo](#) system.

Foregrip Regulator:

The Luxe foregrip regulator is a redesigned version of the well-performing Ion/NXT regulator found on Ions and Shocker NXTs. The Luxe version is a bit smaller, and the disassembly process is also different as a result. The reg also has a milled aluminum shroud/cover which slides over and conforms to the cosmetic curves of the body (the red external part of the regulator seen in all these pictures). The reg has three separate sets of hex receivers in the bottom end;

it's best to avoid confusing them so I've listed their sizes and uses below:

- The smallest hex (5/32") adjusts the reg's output pressure; screw clockwise for more pressure and counterclockwise for less (when looking up at the bottom of the reg as seen in the picture above).
- The middle hex (5/16") is used to remove the regulator from the marker's ASA.
- The largest hex (3/8") is an aluminum nut that holds the reg cover onto the rest of the regulator.



Foregrip regulator allen key hex receptacles

To remove the regulator, use a 5/16" allen wrench to unscrew it. To do this, you must hold the reg cover straight with one hand, and unscrew it with your other hand. If you don't hold onto the reg cover it will jam the reg and prevent you from unscrewing it.

The inside of the bi-directional vertical adapter can be seen on the underside of the body in the below pictures. A filter screen is installed to guard against dirty air fills. The two small air ports seen on the outside rim act as the HP input to the top of the foregrip regulator.



Bi-directional front reg mount (FRM) with input filter

With the reg removed, it can then be disassembled. A pair of 3/8" allen wrenches is needed for this; one in the top and another in the bottom. Unscrew to remove the reg cover retaining screw. A small o-ring lies within the reg cover.



Regulator cover removed



Regulator cover o-ring

Use a 1/16" allen key to remove the two "dogbite" screws located on either side of the regulator body. These screws are lightly loctited so an amount of torque is needed to break them free. With the dogbite screws removed, insert a 3/8" allen key into the top of the reg body, and a 5/16" allen key into the bottom. Unscrew to separate the two housing sections from one-another. Out will come the reg piston and its spring. The piston might stay inside the reg body, if this is the case then gently push it out from the top.



Dogbite set screws removed



Reg body disassembled



Reg piston and spring removed

There's an internal o-ring located in the bottom reg housing, which seals against the bottom of the piston shaft. To regrease this, apply grease to the o-ring located around the piston itself, clean the bottom *base seal* on the tip of the piston, and apply a thin layer of grease to the piston's thin shaft. Reassembly is the next step.

The base seat for the regulator is imbedded inside the lower reg housing. It can only be removed after removing the c-clip from the bottom of the reg housing. I don't recommend you do this unless there's a leak, since it's easy to scratch and damage the components during the removal attempt. Nevertheless, there's an o-

ring located around the base seat screw, which can cause a leak out the bottom of the reg if worn out (replace it).

Reassembly is the exact same as the reversed disassembly. Install the piston and spring into the reg body, then screw the lower reg housing up onto it. Reinstall the two dogbite set screws into the side of the reg body. It's suggested to use a very very small amount of loctite on these screws, to prevent them from loosening on their own.

Slide the reg cover up around the outside of the regulator and make sure the small o-ring is present on the bottom end. Reinstall the reg cover retaining screw using the pair of large allen wrenches, afterward the regulator is ready to be reinstalled onto the marker.

When reinstalling the reg, you must hold the reg cover with one hand and screw the reg body down (5/16" allen) using your other hand.

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