B9Creator™
Silicone Gasket Installation

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Document Number: B9C0001 Revision: -

Revision Date: 1/29/2013

B9Creator™ Silicone Gasket Installation

RECORD OF REVISIONS		
LTR	**DESCRIPTION**	**DATE**
--	**Initial document release**	**1/29/2013**

B9Creator™ Silicone Gasket Installation

Tools & Equipment Listing

1)B9C silicone gasket kit
2)Small jewelers phillips head screwdriver
3)T1 phillips head screwdriver
4)Isopropyl alcohol 70 or 90% purity
5)Cotton swab / Q-tips or lens paper
6)Container
7)A good flashlight or light source
8)Hand pump / battery bulb filler / CMOS-CCD blower / turkey baster or low pressure air source.

Optional:
1)Magnetizer/ demagnetizer
2)Tweezers
3)Rubber / vinyl gloves
4)B9C optics adjustment video:

Scope

WARNING: The creator of this tutorial will not be held responsible for any damage done to persons, tools, equipment or anything else, while following this tutorial.

This document is to aid in the installation of the B9C silicone gasket kit into the Vivitek D535 DLP projector provided with your B9Creator™ .

Before proceeding, read through instruction to understand processes.

Remove the projector from your B9Creator™ by removal of the 3 projector screws that attach it on to the projector plate.

B9Creator™ Silicone Gasket Installation

B9C gasket kit

Inspect the gasket

Upon receiving your B9C gasket kit, in a letter envelope. Open the envelope and you should find a sealed plastic bag.

Inside the bag are two 1.5mm silicone rubber gaskets, that clean and stuck together in perfect alignment.

If that gaskets are separated or if you wish to realign or re-clean the two gaskets, proceed to the next page, if not proceed to page:8.

B9Creator™ Silicone Gasket Installation

Isopropyl alcohol

Container

B9 gasket kit

Gasket aligning materials

If your gaskets are separated or you want to realign them or simple re-clean them. Proceed with the following instructions pages: 5 – 7.

Materials required:
-Isopropyl alcohol
-Container
-B9C gasket kit
-Bag kit came in (not pictured)
-Rubber gloves (optional)

B9Creator™ Silicone Gasket Installation

Gaskets in container with isopropyl alcohol

Prepping the gaskets

Place the two gaskets into the container.

Pour in some isopropyl alcohol, it does not need to cover the gaskets completely.

Swirl the alcohol around the container for a few seconds.

This will clean and remove any leftover carbon residue from laser cutting, that did not come off during the rigorous cleaning process, before shipping.

B9Creator™ Silicone Gasket Installation

Stacking & aligning

Aligned & drying

Aligning the gaskets

Remove the two gaskets from the container, place them on the bag that came with the gasket kit.

Stack and align the gasket on top of the other gasket. Pay attention to the perimeter and the holes for good alignment.

Press the gaskets together to get some of the alcohol out from between them.

Set the gasket aside for now.

When the alcohol dries the gaskets should be stuck together.

Note: You can use a book or flat weight to keep them together, but I haven't found it necessary. If you do, fold the plastic bag over the top of the gasket to keep it clean.

B9Creator™ Silicone Gasket Installation

Tools & Equipment

-B9C silicone gasket kit
-Small jewelers phillips head screwdriver
-T1 phillips head screwdriver
-Isopropyl alcohol 70 or 90% purity
-Cotton Q-tips or lens paper
-Container

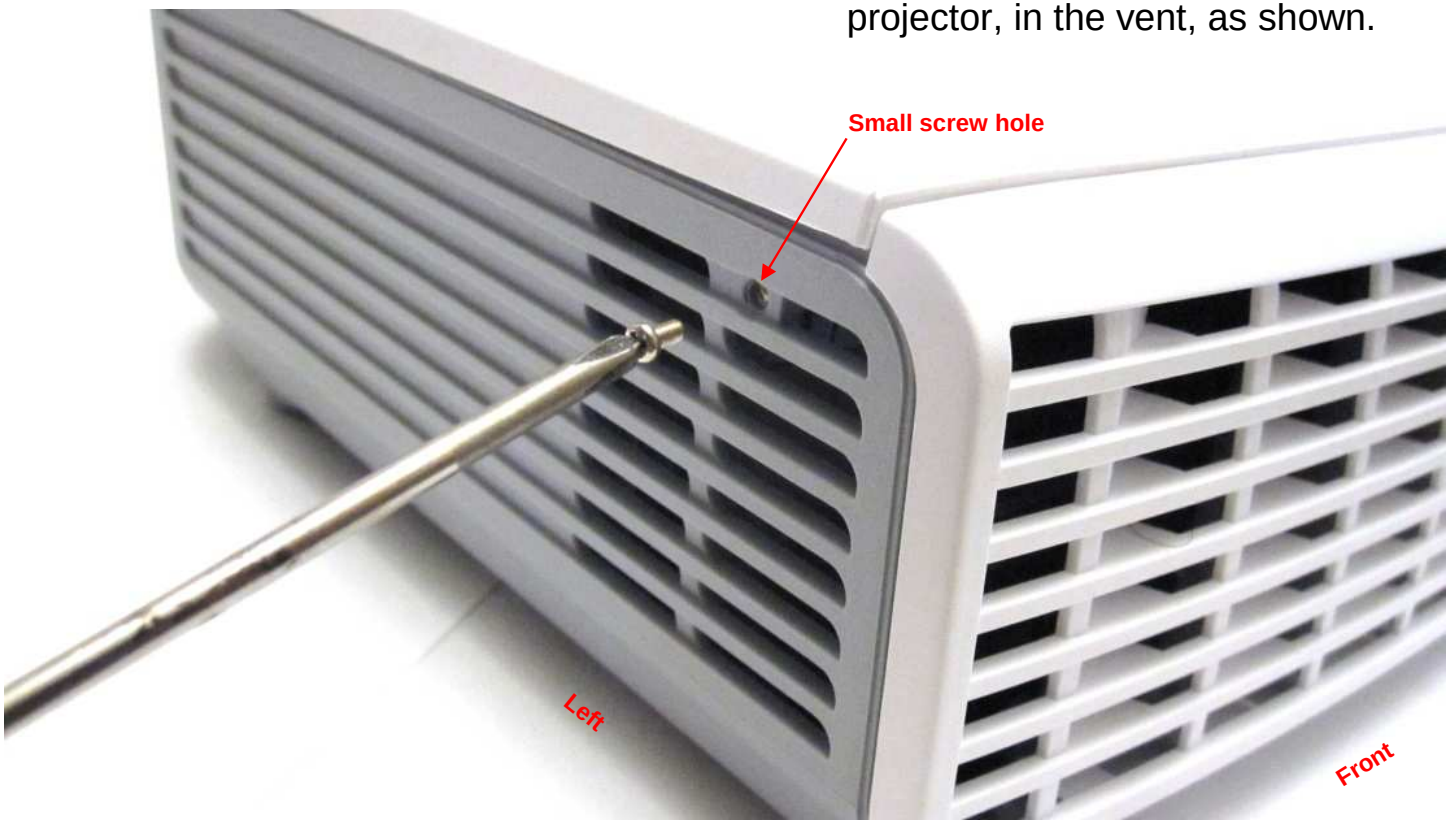
Optional:
-Magnetizer/ demagnetizer
-Tweezers
-Rubber / vinyl gloves
-B9C optics modification video:
http://youtu.be/WMJtPX1Dpj4

Magnetizer/demagnetizer (optional)

Projector disassembly 1

Small screw removal

With the projector lens facing you, use the small phillips head screwdriver to remove the small screw on the left side of the projector, in the vent, as shown.

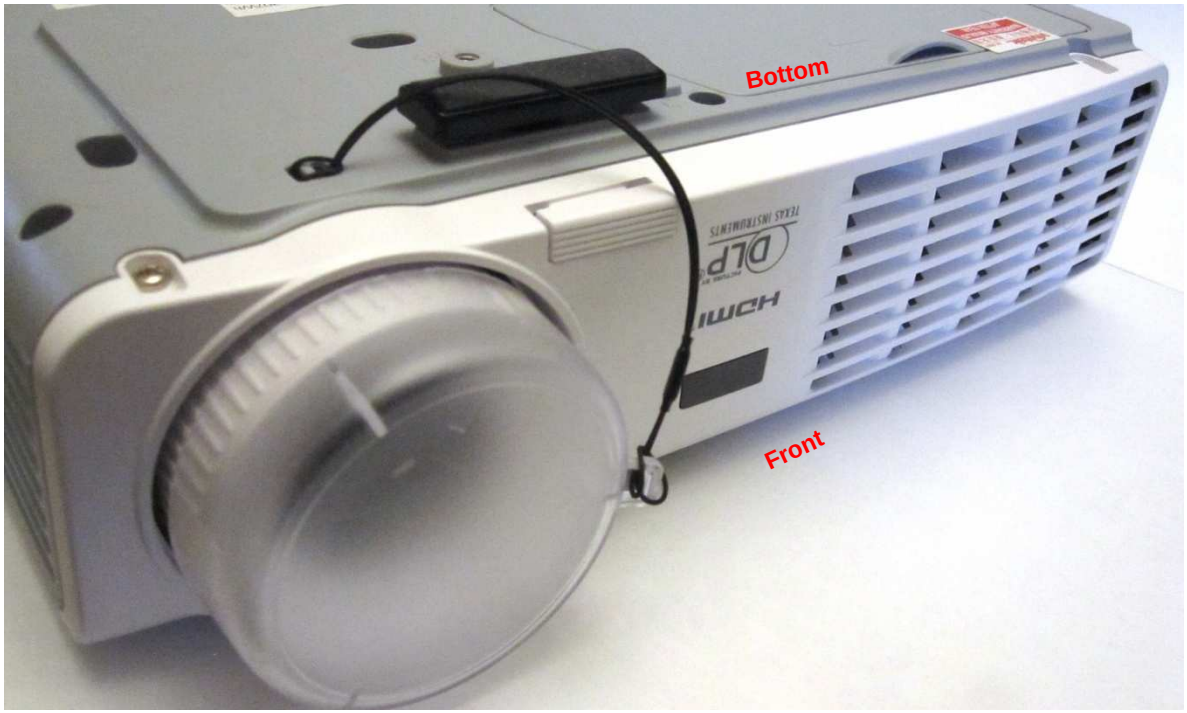


Projector disassembly 2

Bottom orientation

Flip over the projector counter clockwise with the lens still facing you.

With the larger T1 phillips head screwdriver remove the larger screws on the bottom of the projector in no particular order. Refer to next page:11 for screw locations.

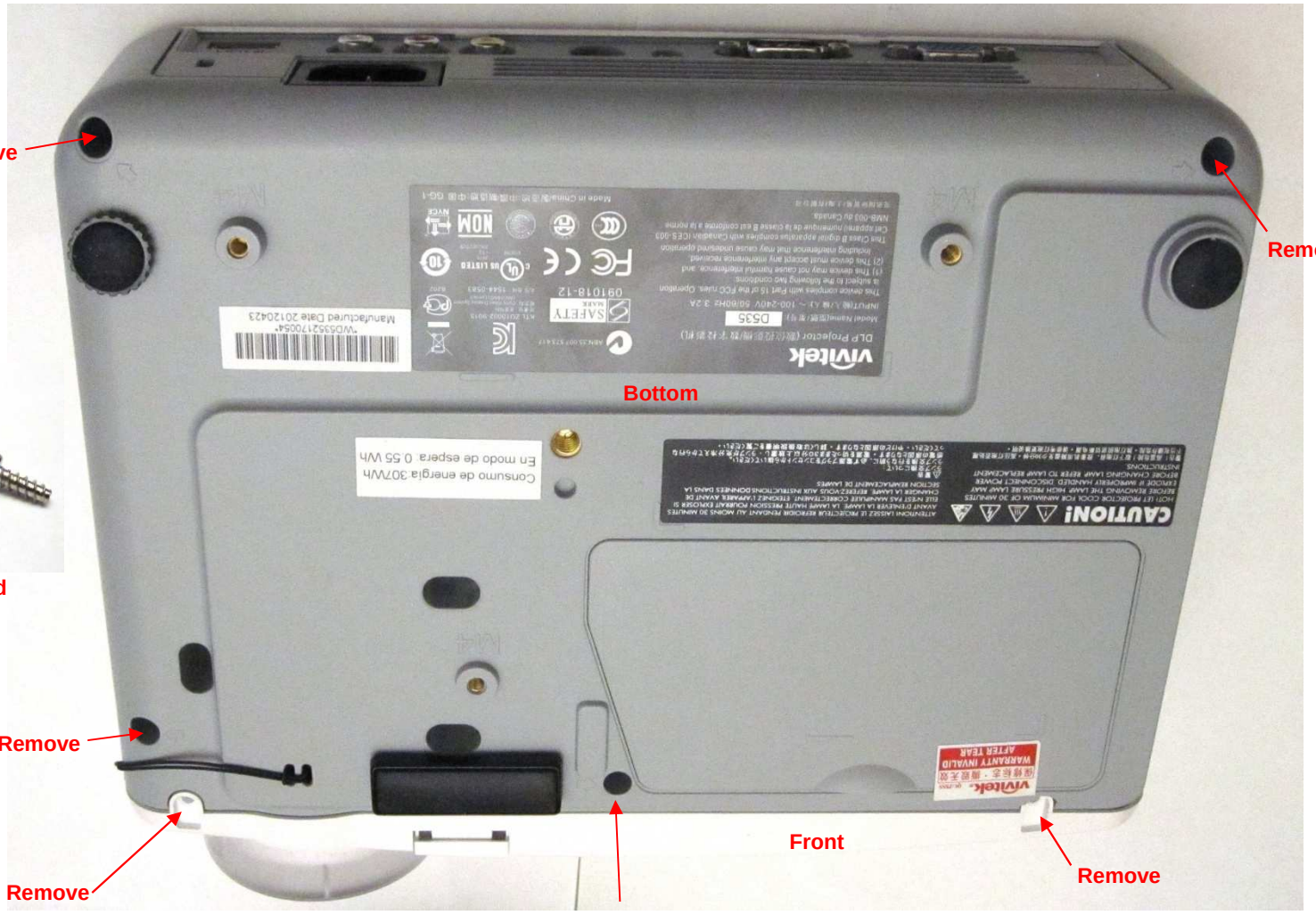


B9Creator™ Silicone Gasket Installation

Projector large screw locations

(6) Large screws

(1) Small screw removed on page 9



Projector disassembly 3

Top panel removal

Carefully flip the projector back over.

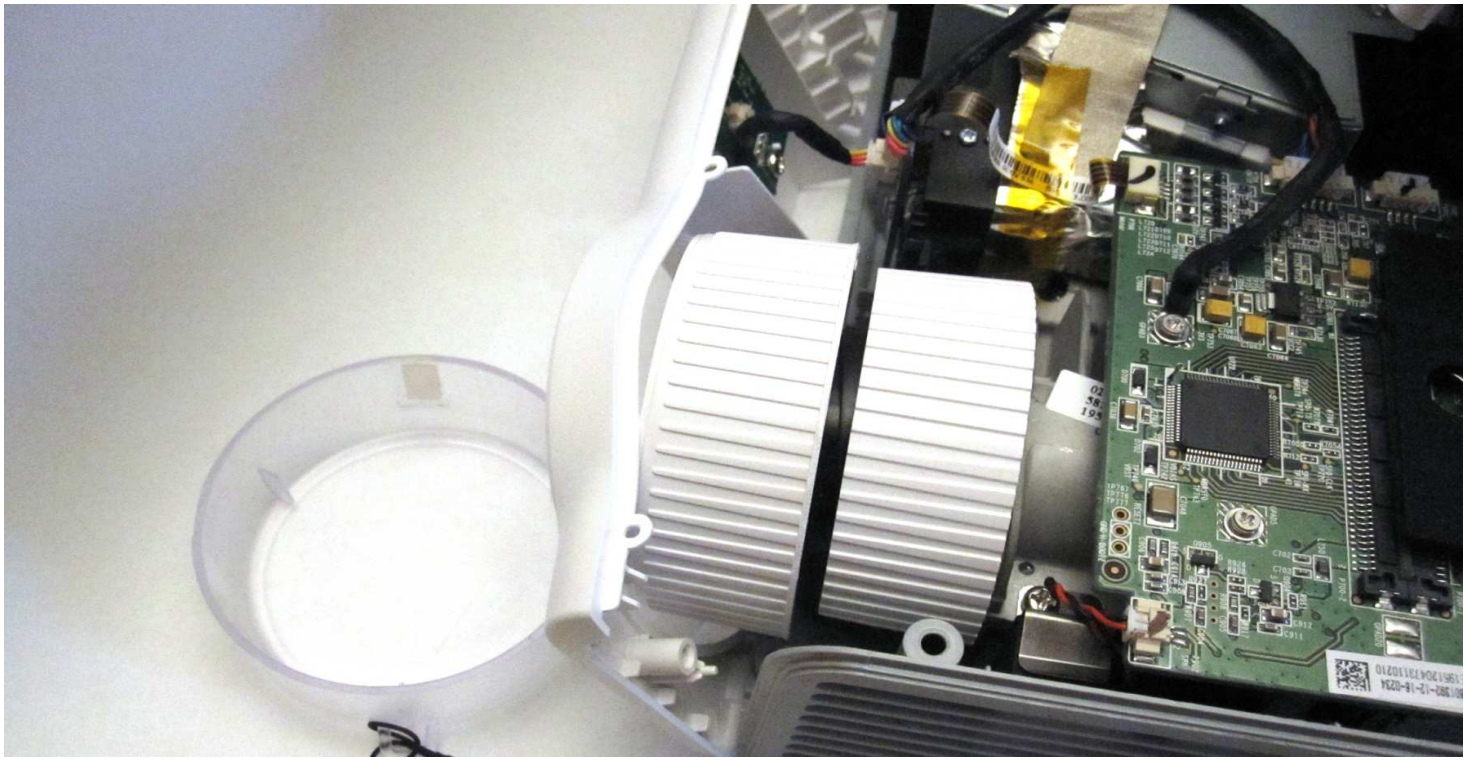
The top panel should easily come off, with light finger pressure. Your focus setting sticker may have to be removed.

Note: Only pop off the top panel and move it to expose the optics area, there is no need to disconnect the ribbon cable.

Projector disassembly 4

Front panel removal

Remove the lens cap and carefully pull off the front panel this should also easily come off, with light finger pressure.
Be careful not to pull too hard.

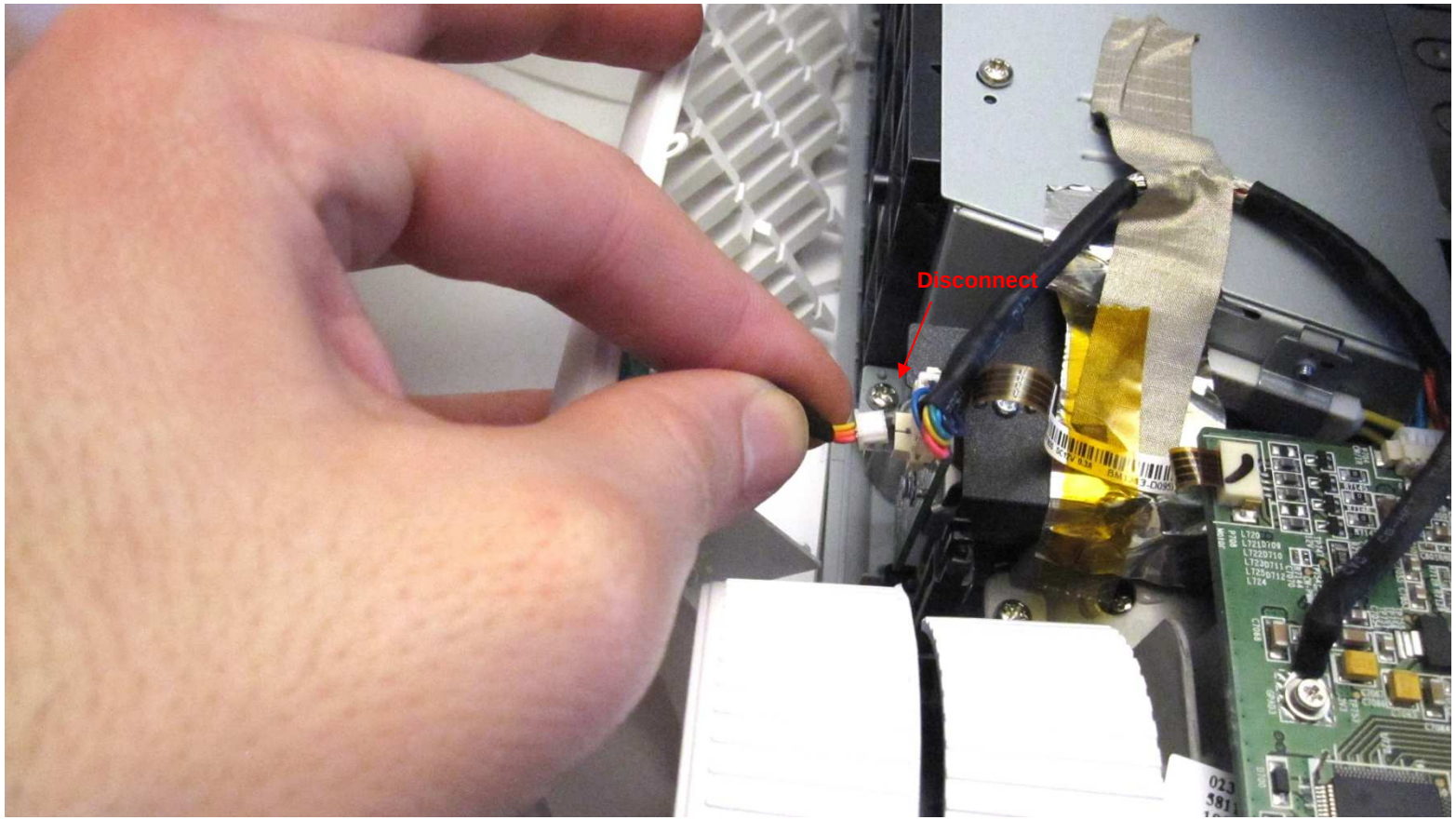


Projector disassembly 5

Disconnect front panel connector

Carefully disconnect the connector shown and remove the front panel from the area.

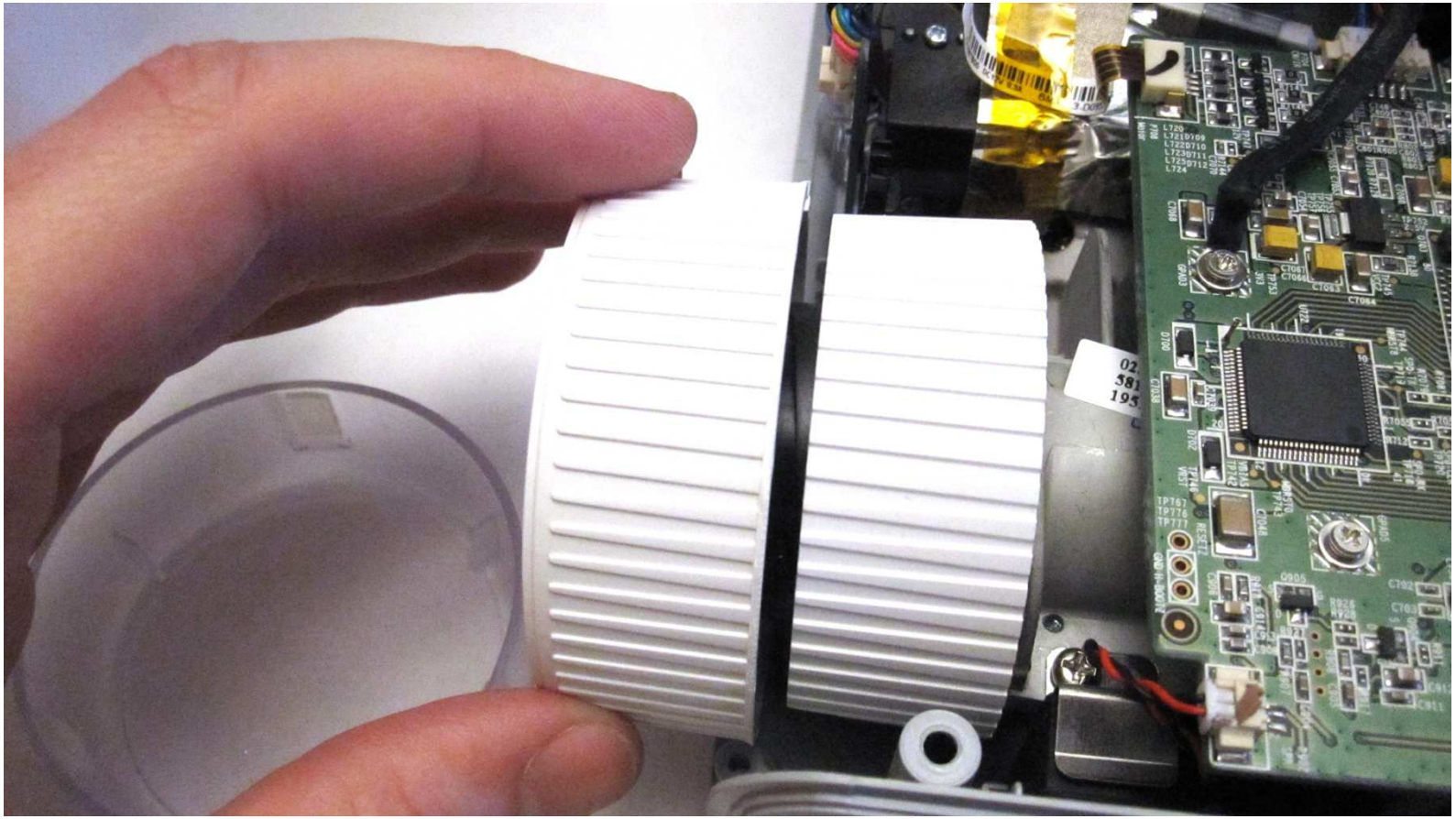
Projector disassembly is now complete.



Lens disassembly 1

Turn the front focus

Turn the front lens focus counter clockwise to the hard stop and back off ever so slightly, clockwise.



Lens disassembly 2

Locate the small black screw

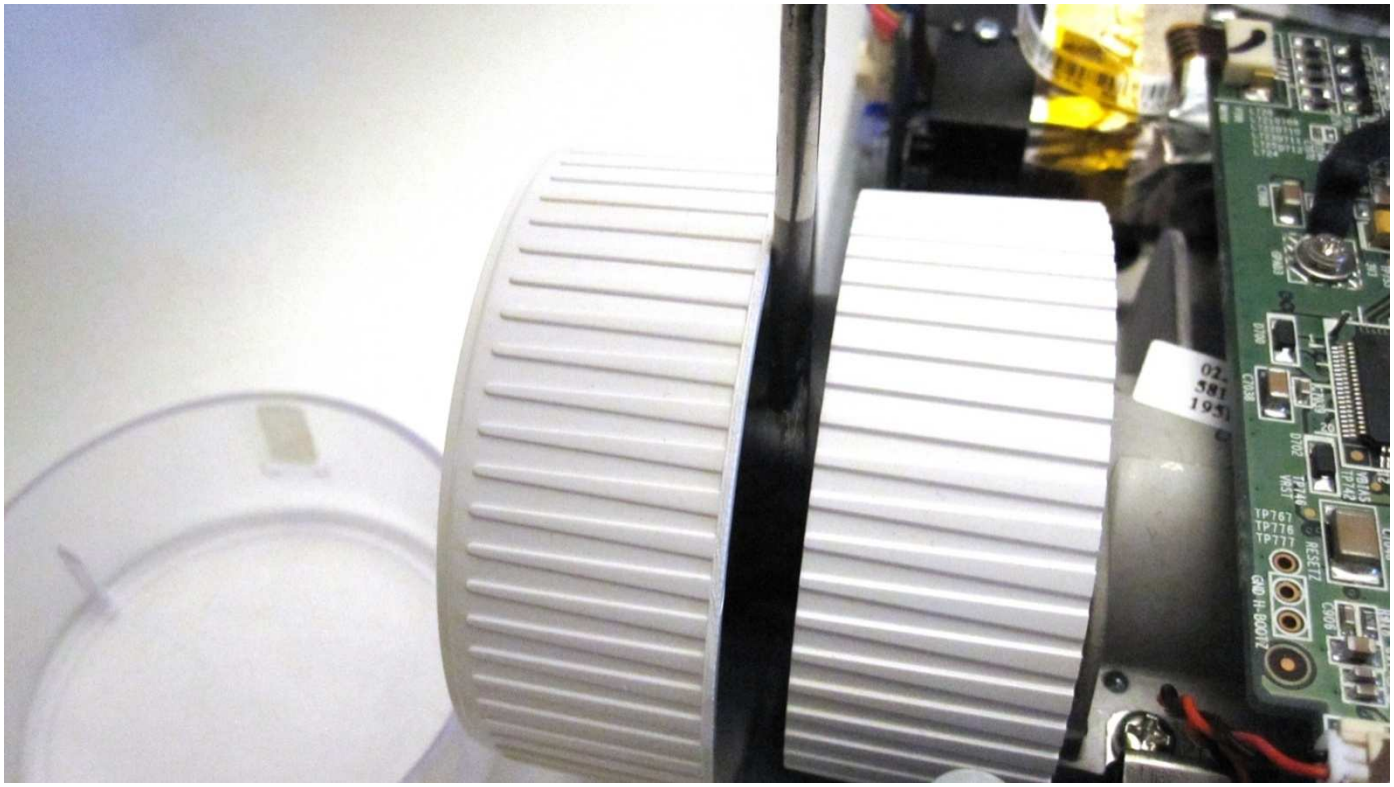
The hard stop is a tiny black screw in between the two focus adjustments.

Lens disassembly 3

Small screw removal

With a small phillips head jewelers screwdriver remove the tiny black screw in between the focus adjustments.

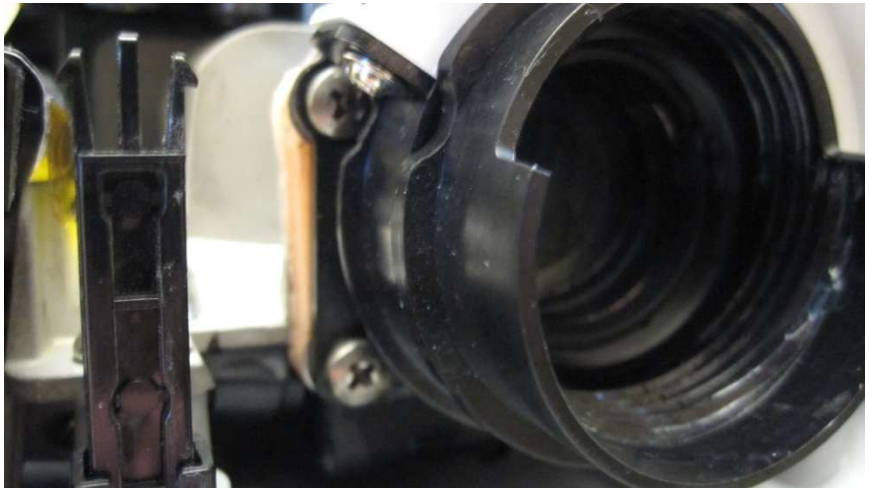
Set it aside with the other screws.



Lens disassembly 4

Front lens removal

Turn the front focus lens counter clockwise to remove the front lens, then set it aside.

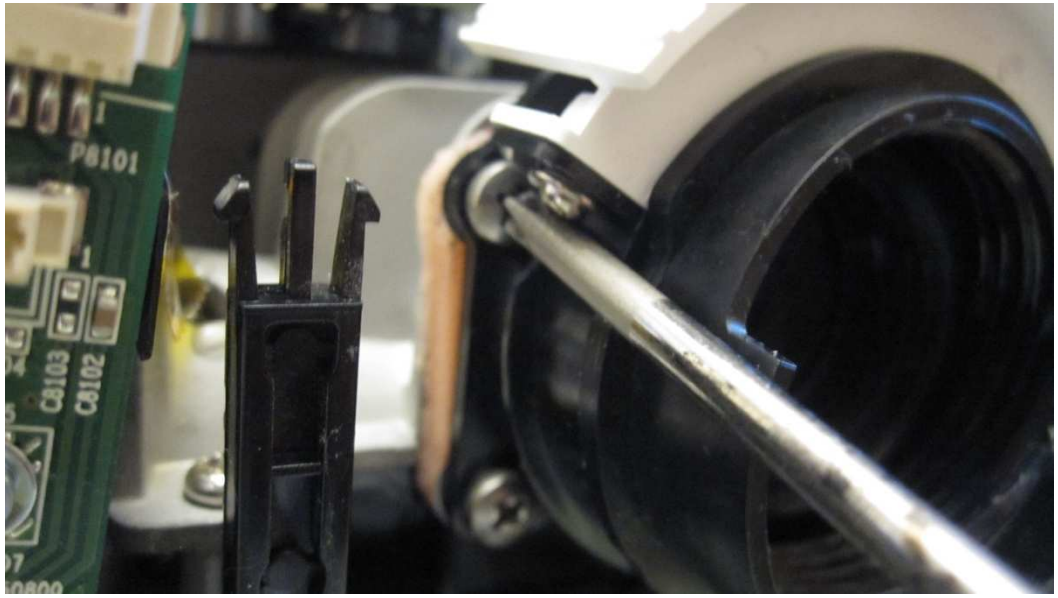


Lens disassembly 5

Rear lens removal

Turn the rear focus adjustment clockwise to expose the left top screw.

Remove the screw with a small phillips head screw driver.

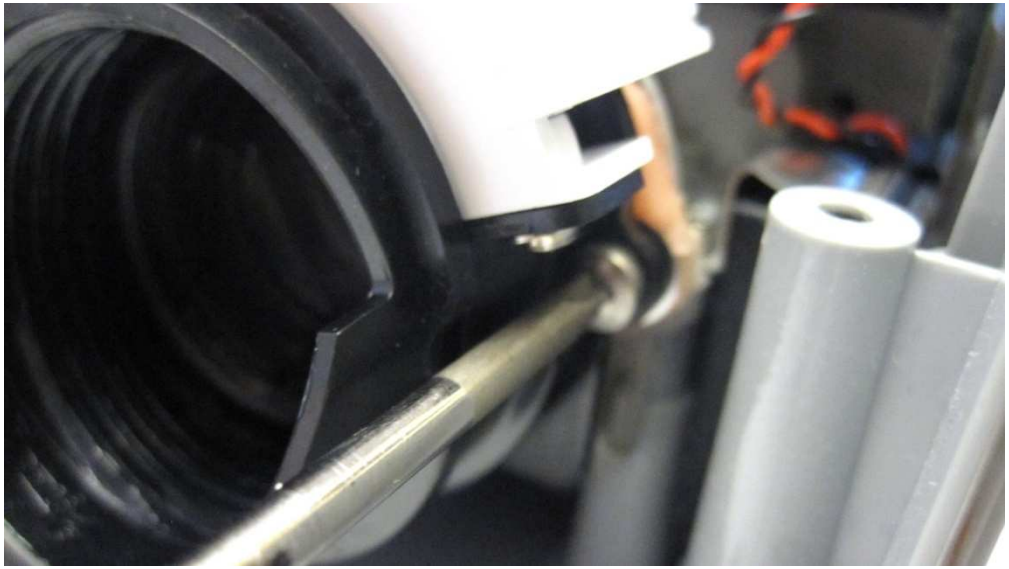


Lens disassembly 6

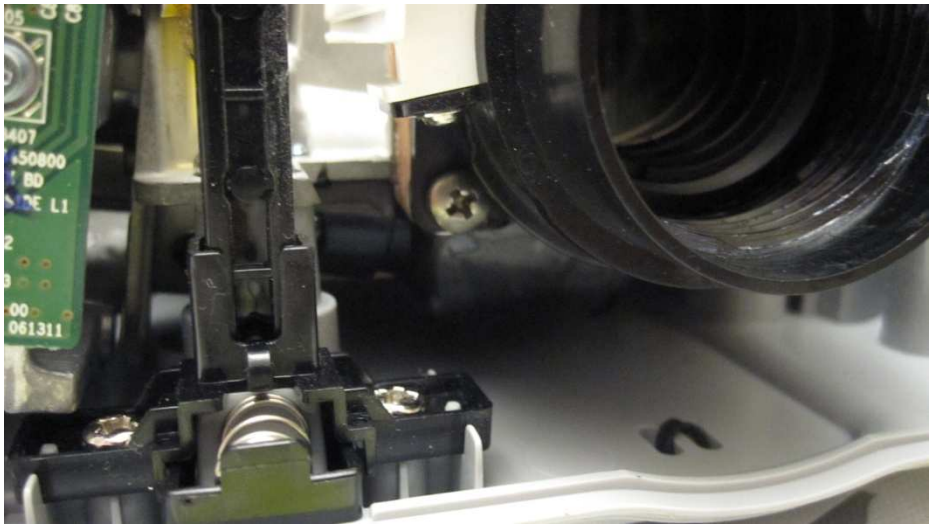
Rear lens removal

Turn the rear focus adjustment counter clockwise to expose the right top screw.

Remove the screw with a small phillips head screw driver.



B9Creator™ Silicone Gasket Installation

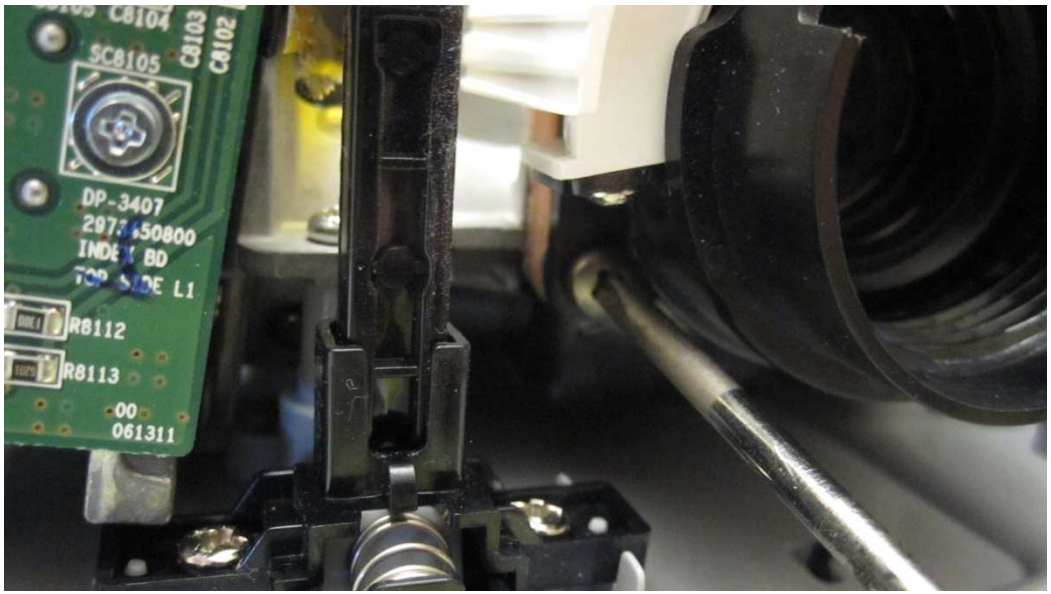


Lens disassembly 7

Rear lens removal

Remove the lower left screw that should already be exposed with a small phillips head screw driver.

Caution: Carefully remove the lower lens, some spacers and washers may fall off, don't lose them.



B9Creator™ Silicone Gasket Installation

Lens disassembly 8

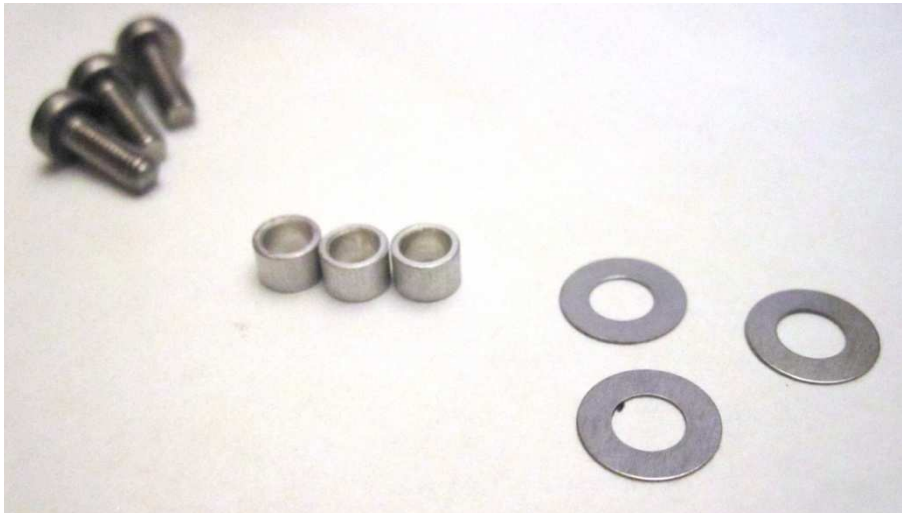
Rear lens removal

Set aside the removed lower lens.

The lens disassembly is now complete.

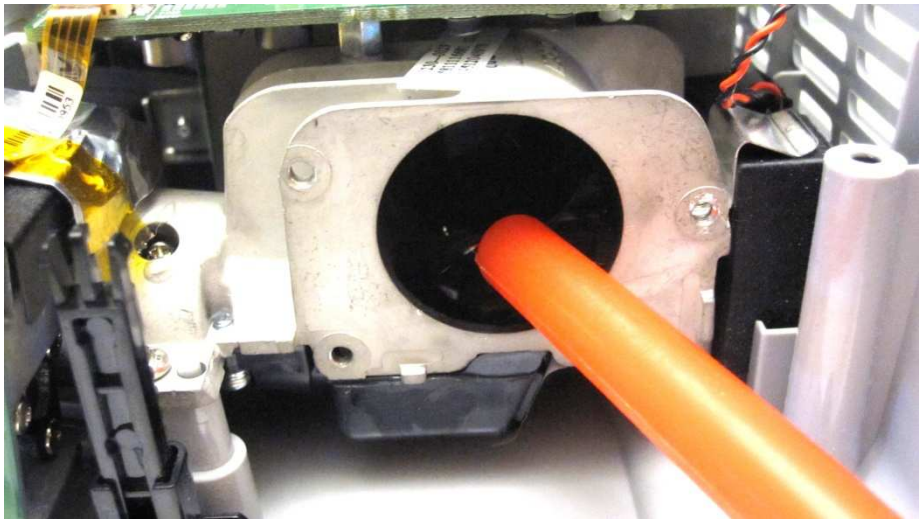
Inventory the small parts you have removed.

You should have:
-(3) shim washers
-(3) Small phillips head screws
-(3) 3mm thick aluminum spacers



Then set the inventoried hardware aside with the very small black screw you removed on page 17.

Tip: Put your hardware in a bag or a closed container.



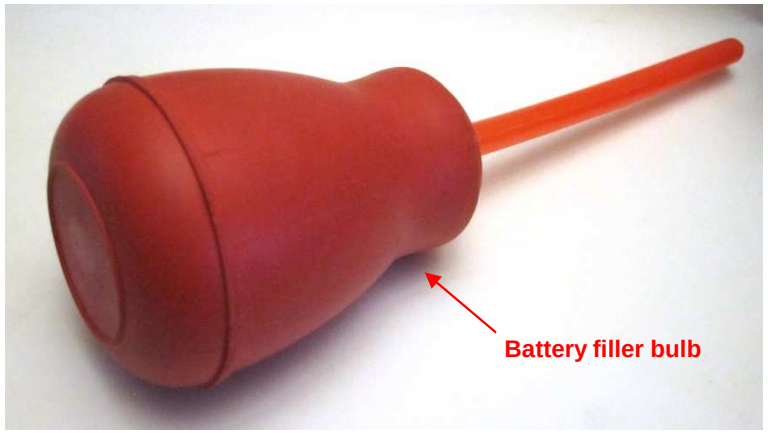
Cleaning the optics 1

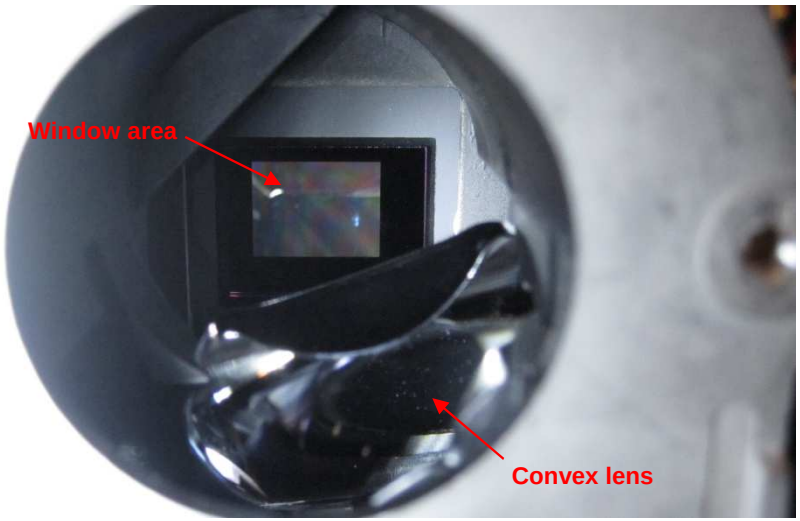
Blowing out dust

First use a hand pump or low pressure air source, to blow any loose debris out of the optics area. Repeat a few times.

Shown is a battery filler bulb that can be used to blow loose dust out of the optics area. This one cost about a $1USD at Harbor Freight tools (was on sale).

Alternative methods and tools are acceptable, just make sure it's low pressure.





Cleaning the optics 2

Swab the internal optics

Dust and debris usually collects on The “window” inside the projection area due to not having a gasket and the orientation of the projector when installed in your B9Creator™.

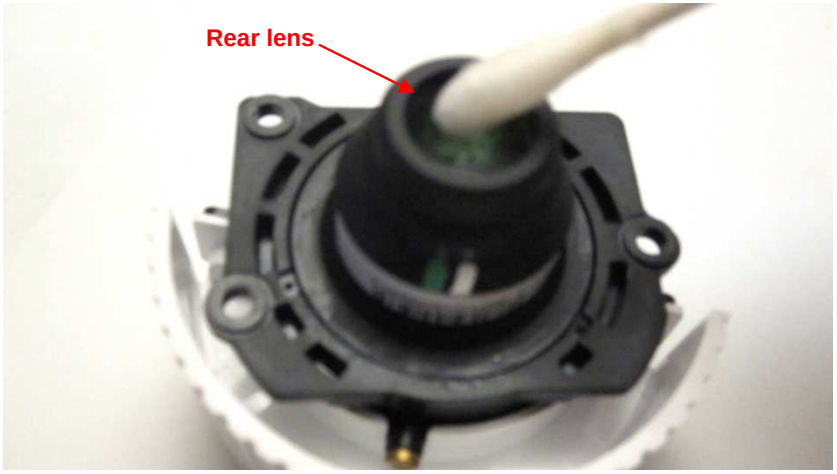
To clean any dust or debris that didn’t come off during the blowing out operation, use an isopropyl alcohol soaked cotton swab (q-tip) or alternative lens safe material.

Rub gently in small circles to wet the Window with alcohol, then immediately use a dry cotton swab in a gentle small circular motion to dry the window. May need to repeat with another dry swab.

Repeat the same process with the convex lens. Also, repeat the process as necessary until you’ve cleaned the dust off of the optics.

Tip: Use a bright flash light to look inside the optics area to see the dust.

B9Creator™ Silicone Gasket Installation



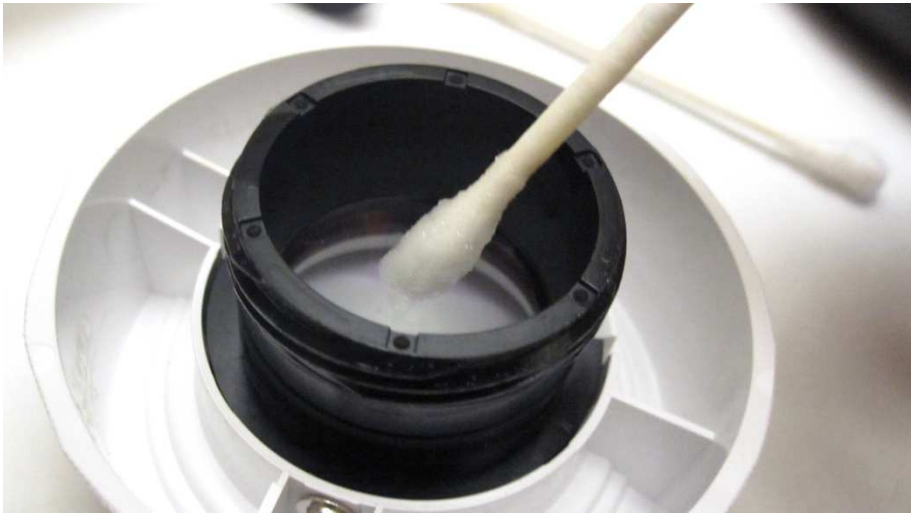
Cleaning the optics 3

Swab the rear lens assembly

Now that you're a pro at cleaning optics, use the same method described on page 24, to clean the rear and front lens of the rear lens assembly with an alcohol soaked cotton swab or alternative lens safe material.

Caution: Try not to get any of the grease from the threads on to the front lens or you will have to clean a lot more. Once clean take care not to touch the lenses.

Tip: Hold the lens up to a light source and look for dust and overall clarity.



Cleaning the optics 4

Swab the back of the front lens

While you have it apart, you might as well clean the back of the front lens with the process described on page 24 & 25, in case any dust, debris or finger prints got on it while removing it.

Once done cleaning, flip it over and leave it black side down, so dust doesn't settle on the back of the lens.

Don't worry about cleaning the other side of the lens at this time. It can be cleaned at any time after assembly.

You are now done with cleaning all of the optics and ready to start assembly.

B9Creator™ Silicone Gasket Installation

Assemble the gasket

Insert spacers

Insert the (3) 3mm thick spacers that you removed during disassembly of the optics into the stacked B9C gasket.

The spacers should go in with very little force and stay in snugly

If the gasket still didn't aligned well, go ahead and realign it again, by using the process described on pages:5-7.

Completed B9C gasket assembly

B9Creator™ Silicone Gasket Installation

Assemble the rear lens 1

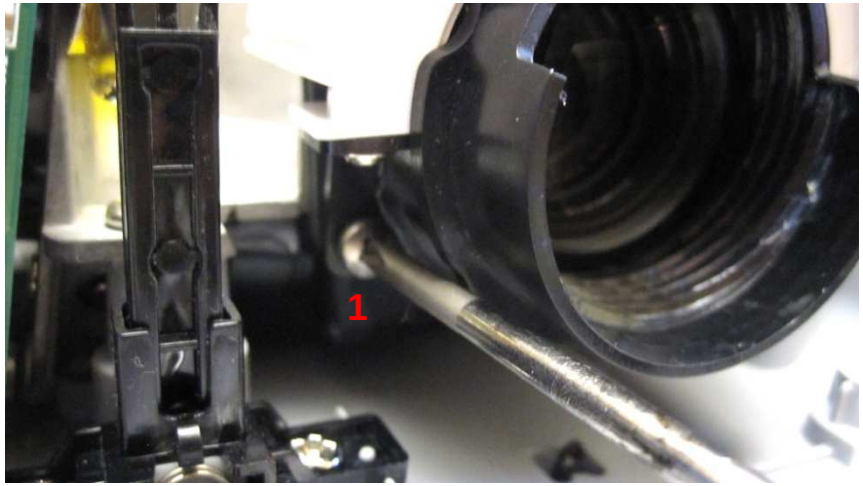
Placing hardware

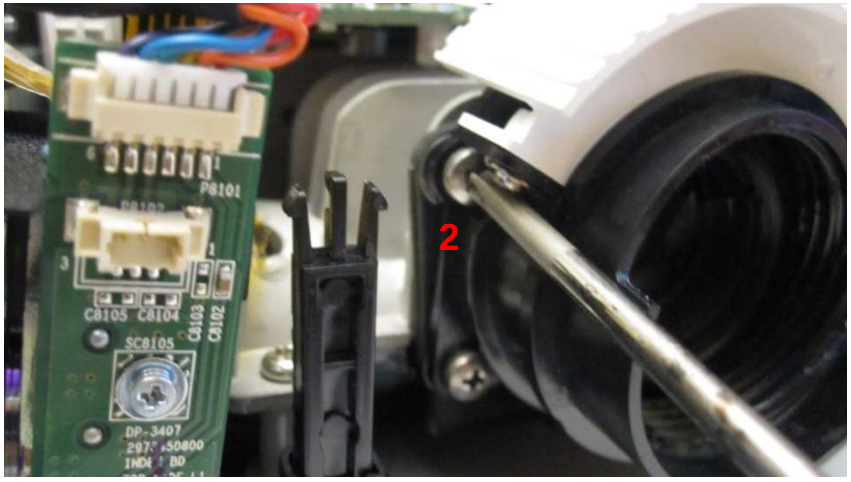
Place the 3 small phillips screws and shims that you removed during disassembly of the optics, as shown.

Next place on the B9C gasket assembly on to the rear lens assembly, in the orientation shown below. The smooth side of the gasket should be facing the focus adjustment. The notch side of the gasket should be facing away from the focus adjustment.

Example of how the gasket will be oriented on the projectors optics plate.

B9Creator™ Silicone Gasket Installation





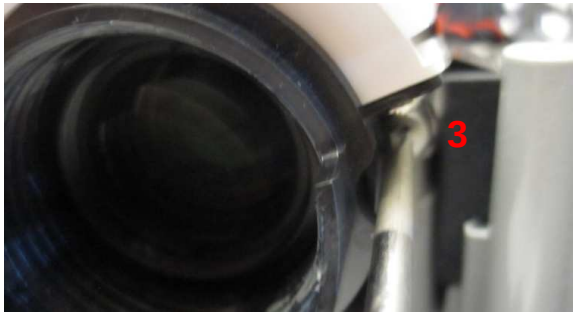
Assemble the rear lens 2

Attach the rear lens to the plate

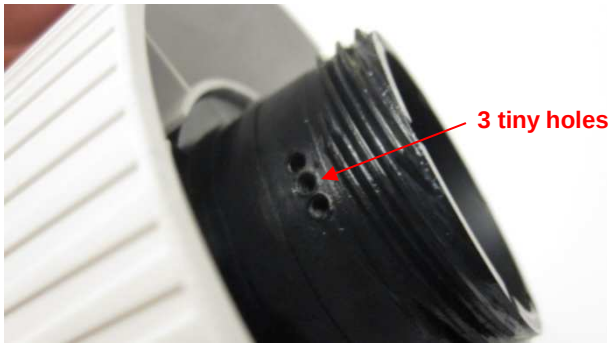
With the gasket notch side down as shown on page 28, take care to place and attach the rear lens assembly to the optics plate by first starting with the exposed lower left screw.

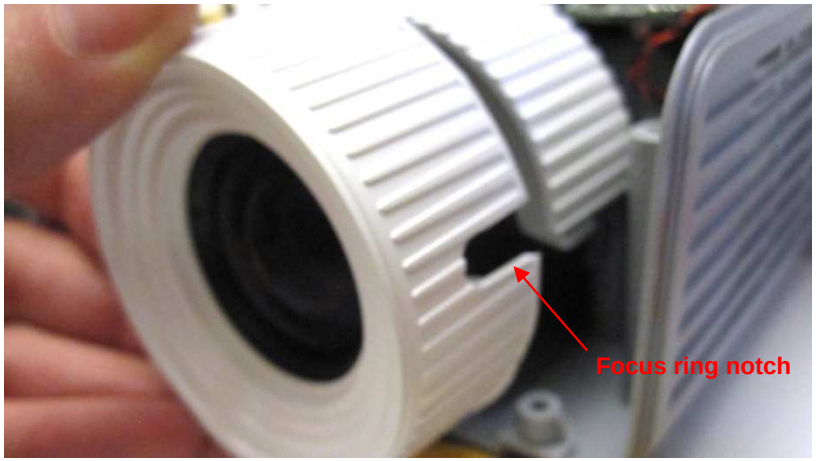
Then attach the other two screws the same way as you did on pages:19 & 20 by moving the focus adjustment clockwise or counter clockwise, to expose the screw you want to tighten with your small phillips head screwdriver. The rear lens is now attached.

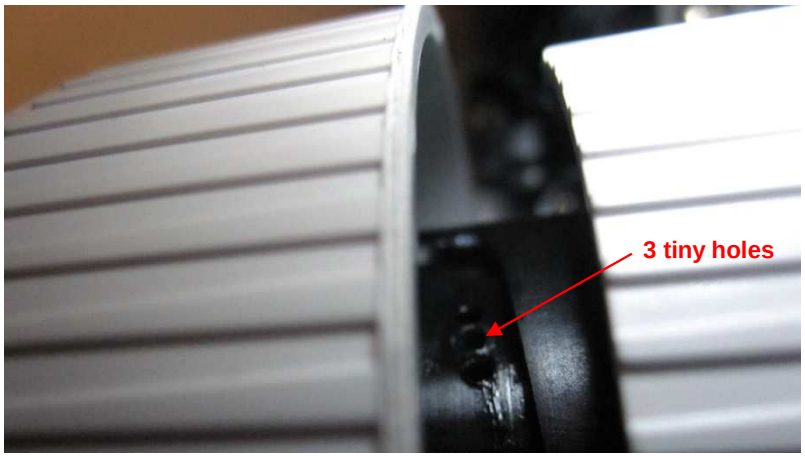
Note: Screws, washers and gasket are Loose, so try not to drop any.



B9Creator™ Silicone Gasket Installation







Attach the front lens 1

Threading & alignment

Take your front lens, look at the 3 tiny holes, you'll have to find them later.

Then take the lens with the notch in the focus ring to the right, as shown and start threading it into the lower lens.

Adjust the front lens focus until you see the 3 tiny holes.

Tip: A lot of additional lighting helps with locating the holes.

Now take the tiny black screw that was removed on page:17 and put it on your small phillips head screwdriver. This is where a magnetizer comes in handy.

B9Creator™ Silicone Gasket Installation

Attach the front lens 2

Threading & alignment

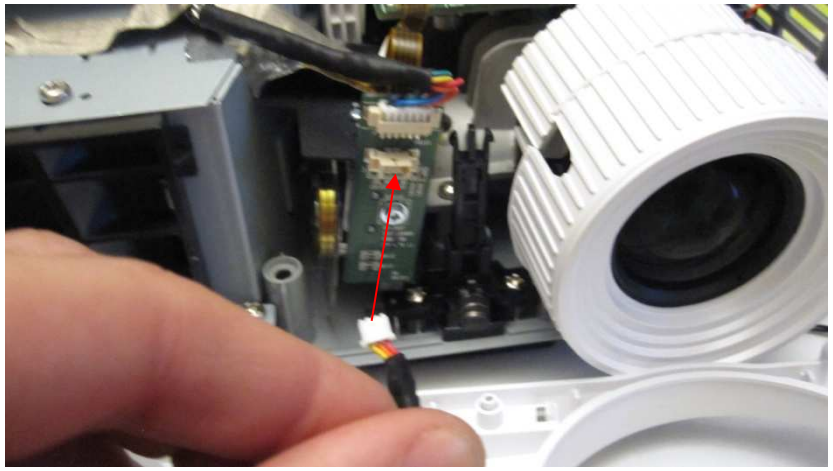
Insert the tiny black screw into the center on the 3 tiny holes in the front lens.

Then test to see if the focus moves smoothly and the screw hits the hard stops.

You are now done assembly the entire optics assembly.

Tip: If you don't have a magnetizer, you can try putting grease on the tip of your screwdriver, or a tiny magnet on it. Also, positioning the projector on it's side, so you're threading horizontally instead of vertically may help keep the screw on the screwdriver.

B9Creator™ Silicone Gasket Installation

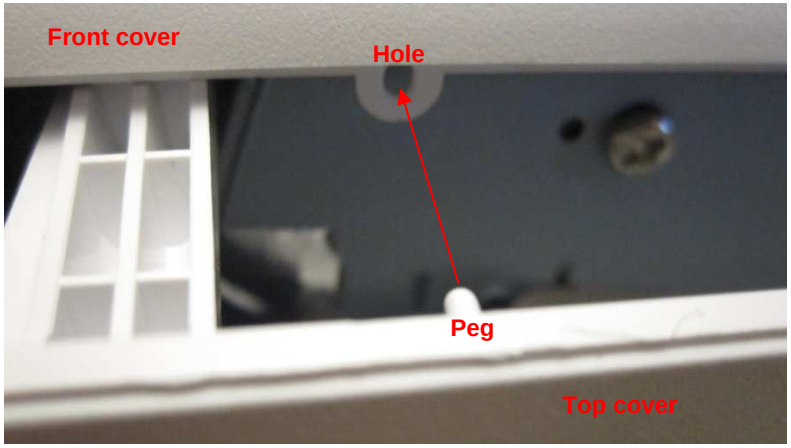


Attach the front panel

Take the front panel and insert the connector you disconnected on page:14 to the circuit board connection on the projector, left of the optics assembly.

Then position the front panel over the front lens and snap on the front panel to the projector chassis.

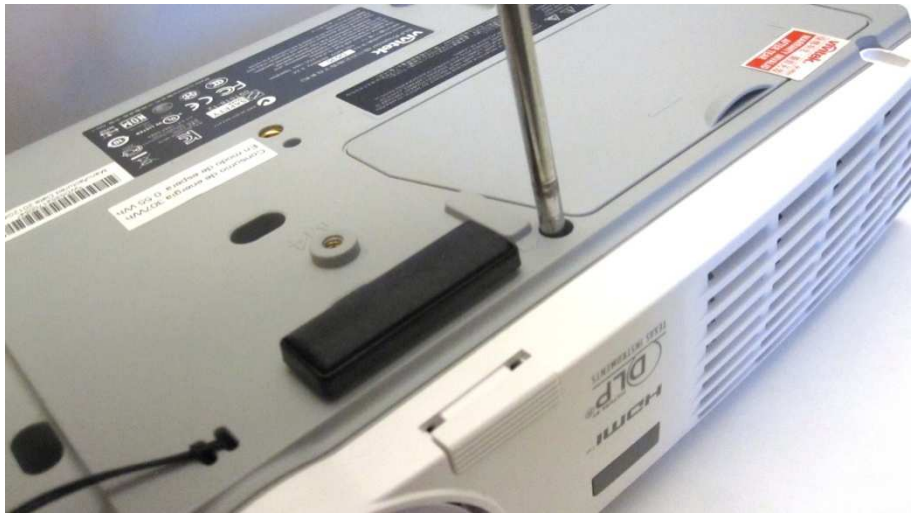
B9Creator™ Silicone Gasket Installation



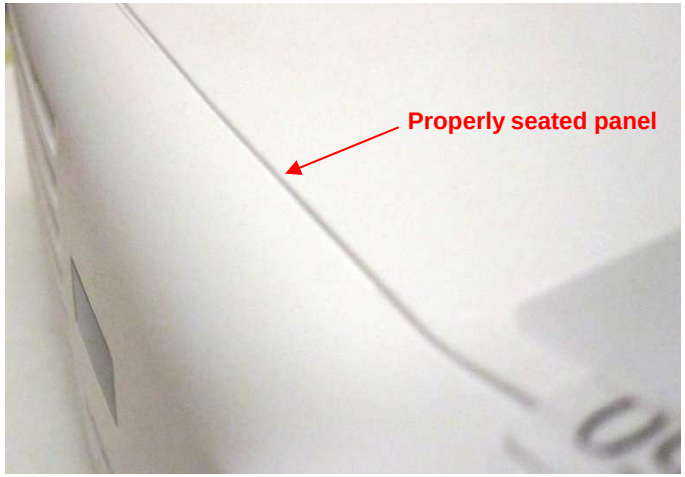
Attach the top panel

Take the top panel and insert it's pegs into the holes of the front panel. Then, carefully flip the projector over to have the bottom side facing up. Make sure the top panel stays down during handling.

Next take a large phillips screw that you removed on page:11 and with a T1 screwdriver, fasten the screw into the Hole to the right of the rubber foot. This should lock the pegs into the front panel.



Flip the projector back over, to check if the top panel is seated properly by looking at the panel line.



B9Creator™ Silicone Gasket Installation

Fasten remaining screws

Orient the projector to install the screw that was removed on page:9 and fasten the screw to the threaded hole in the vent with your small phillips screwdriver.

Next, flip over the projector and install the rest of the remaining large phillips head screws with your T1 screw driver, in no particular order.

If all went well, you should have no more remaining parts.

Optional: Go ahead and clean the outer lens with the alcohol cleaning technique described on pages:24-26 and recap it with the lens cap or you can clean it, after installation on to the projector mounting plate of your B9Creator.

Congrats, you have now completed cleaning and installing your B9C projector gasket! Next follow the calibration procedures provided on B9creator.com

B9Creator™ Silicone Gasket Installation

Revisions

If you are trying to purchase a gasket or have any questions, comments, revisions, corrections or improvements to these instructions,

please contact user “Chooch” on the B9Creator™ support forums.