

Manufacturing

Tools/Materials:

Sheath/Box/Test Tube Stands	Electrical Components
Cricut Maker	Blue LED light strip, 460nm"
Cricut 24" × 12" Mat	LED strip-wire connectors
Cricut Deep Point Blade	9V battery
Cricut Scoring Pen	9V battery holder
6-ply Railroad Paperboard	USB Heater
2"x4"Yellow Transparent Acrylic Filter	Velcro Dots

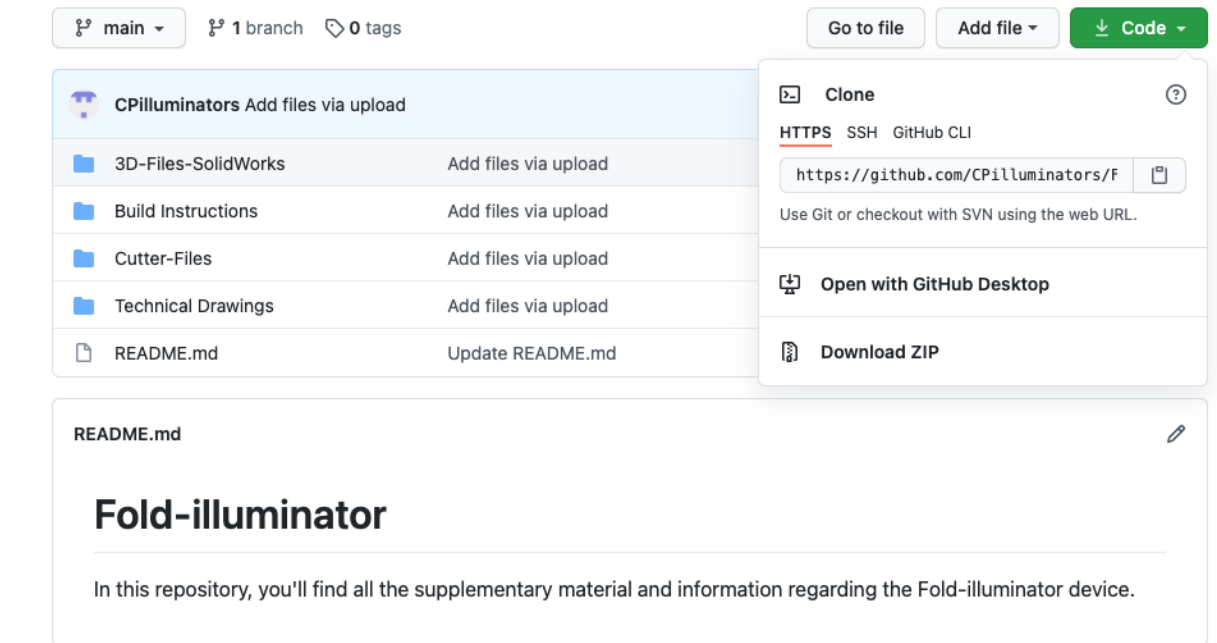
The Cricut

1. Plug in the power cable to the back of the Cricut and press the Power Button to power on the Cricut.



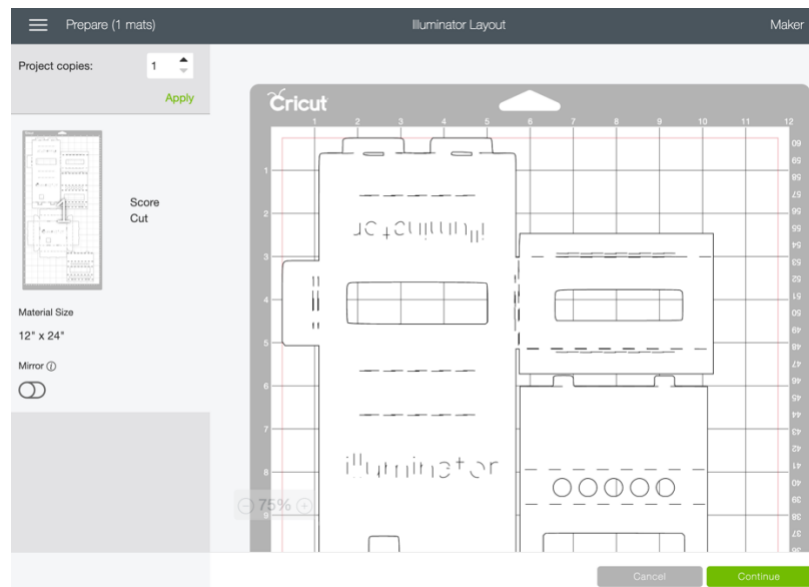
2. On your laptop's browser, copy and paste the following link which will direct you to download and set up the **Cricut software**:
<https://design.cricut.com/#/launcher>

3. Once you have created an account and set up the Cricut design space on your laptop, copy and paste the following link to your browser which will direct you to the illuminator's Github repository:
<https://github.com/CPilluminators/Fold-illuminator>
4. You'll be taken to the CPilluminator's Fold-illuminator repository where you can download the necessary files to setup your own cutting patterns in Cricut's maker space. Click on "Download Zip" to download the files.

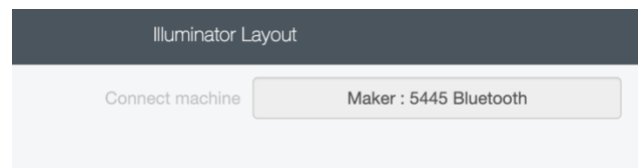


5. Under the "Cutter-Files" file path, you'll find the necessary "Cut Pattern" and "Fold Pattern" files to use in the Cricut maker space software. Along with those files, you'll find the associated "Flat Pattern" files that provide the proper scaling dimensions for the cut and fold pattern files.
6. Watch "Kit manufacturing Video" in CPilluminators YouTube channel using the links below on how to setup the cutout using the provided files in the Cricut maker space software.
Channel Link: <https://www.youtube.com/channel/UCoxxTKNHAJlapybWZ8iRnKw>
Video Link: <https://youtu.be/3BL6wxpkZuU>
7. Once your cutout setup is complete on the maker space, click on "Make it".

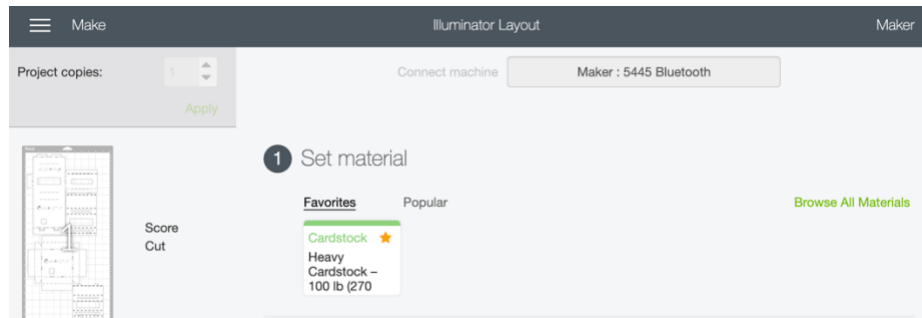
8. The layout on the mat will be shown. The red line on the mat represents the area the Cricut is able to cut/score. The area is 1cm away from all 4 borders of the Cricut mat. Click on “Continue.”



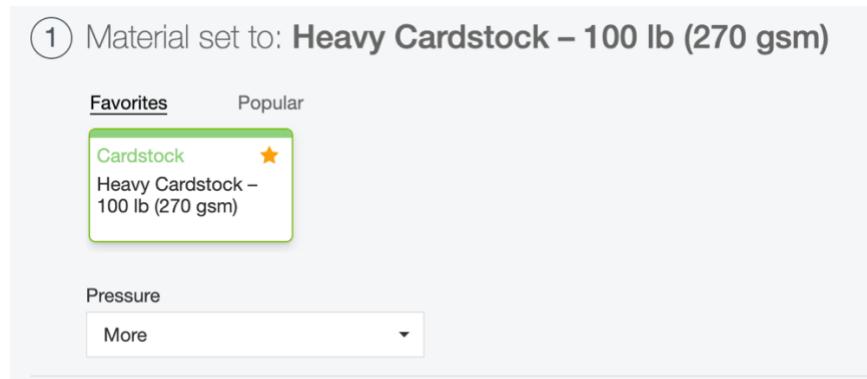
9. Connect to your Cricut Maker through Bluetooth, by clicking the “Connect Machine” button on top. If you don’t have a Bluetooth, you may also connect to the Cricut Maker through the provided USB cable. Attach the USB cable to the port at the back of the Cricut maker and also to your laptop.



10. Once connected, click on “Browse All Materials” and under category “Cardstock,” find and select “Heavy Cardstock – 100lb”. “Heavy Cardstock” will show up under select material, click on it again.

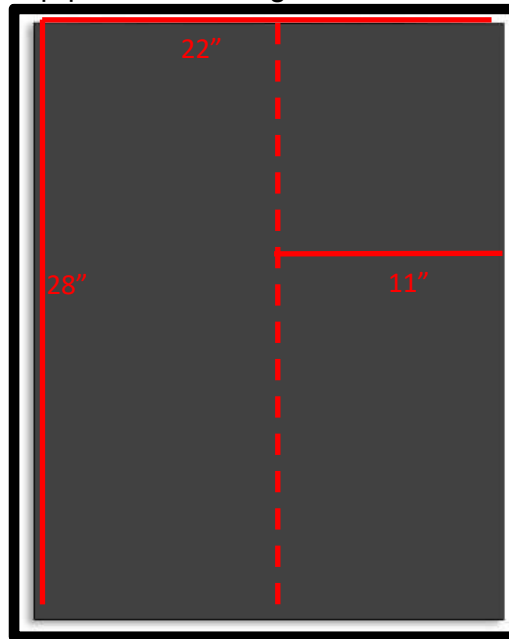


11. A “Pressure” menu drop down will appear. Select the “More” pressure mode.



Prepping the Mat

1. Cut the 22"x28" Railroad paper into half along the dashed line with scissors so it is 11"x28".



2. Next, lay the paper onto the 24" grip-mat. Make sure to line up the top of the paper to the top horizontal border of the mat.

Align the left side of the paper 1 centimeter away from the right border of mat. The easiest way to do so is to align the paper vertically to the "30" cm mark denoted on the bottom of the mat.

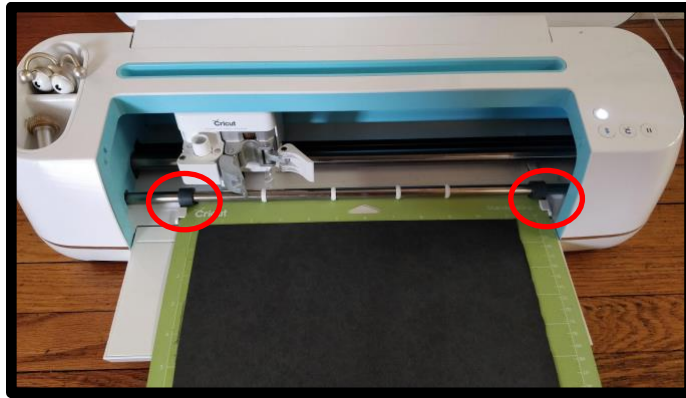
If the grip on the mat is not strong, make sure to tape the edges of the paper onto the map so it doesn't come off during the cutting process.

Why the weird alignment? We do this to be able to cut 2 illuminators from one sheet of paper and also the fact that the Cricut doesn't cut/use any paper left of the 30 cm mark.



Scoring and Cutting Processes

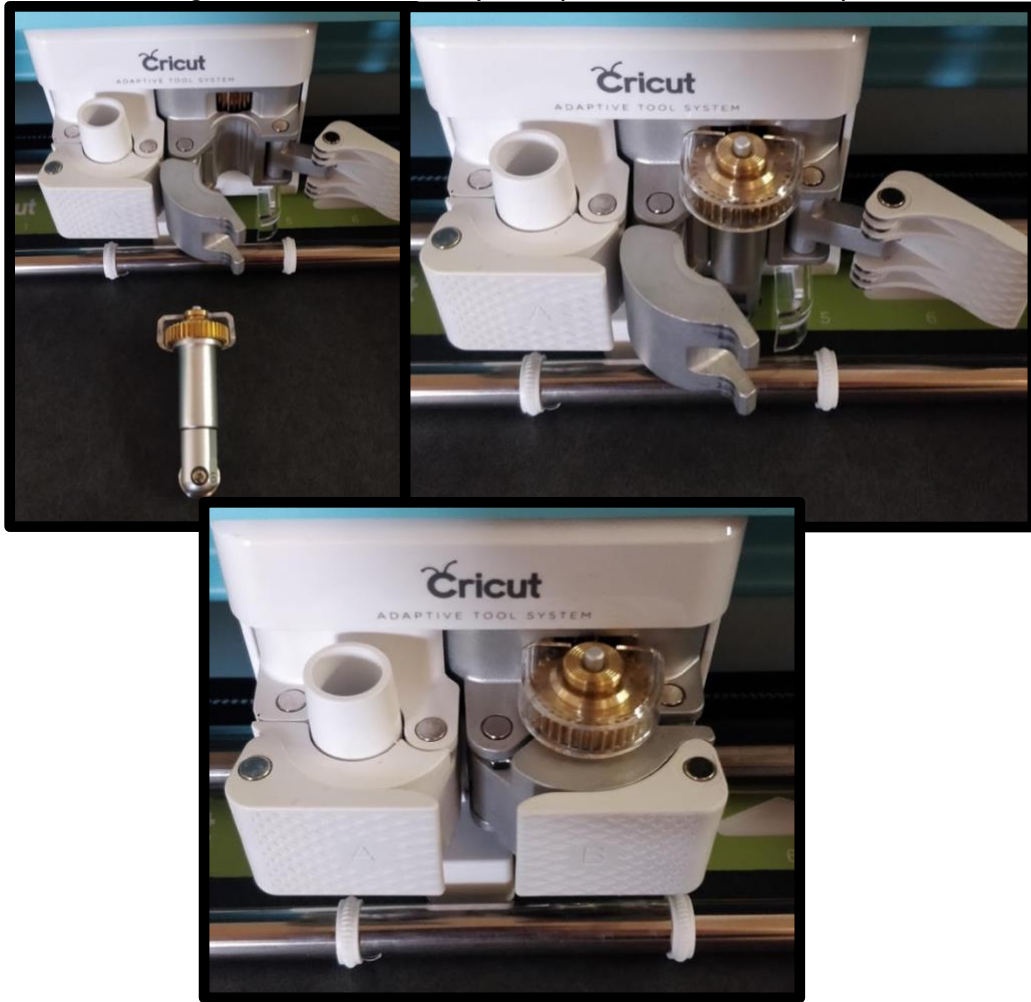
1. Load the prepared mat onto the Cricut. Make sure to feed the mat under the mat guide notches (circled).



2. Once the mat is in contact with the black rubber wheels behind the notches, press the “Load/Unload” button.



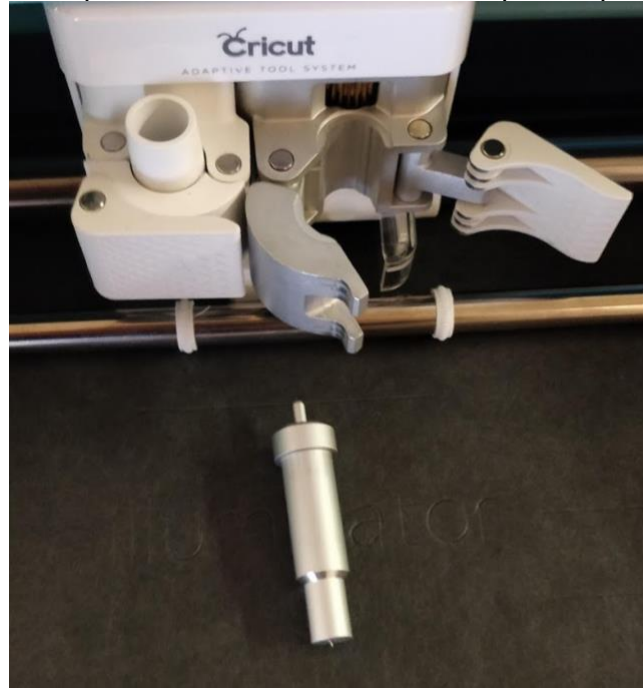
3. Load the scoring wheel onto “Accessory Clamp B” and close the clamp.



4. Press the “Go” button on the Cricut to begin the scoring process. This should take about 7 minutes.



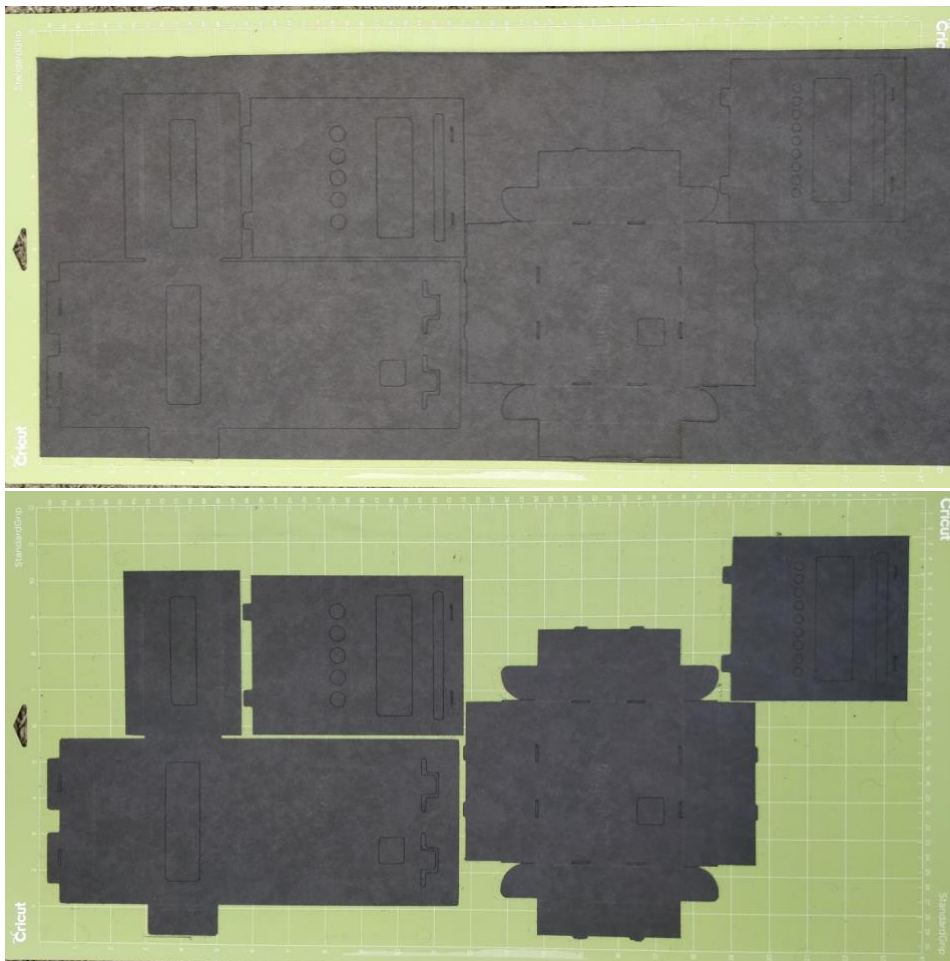
5. Once the scoring process is complete, you'll be prompted to insert the blade into Clamp B by the Cricut Software. Both the Fine Point Blade (silver), or the Deep Point Blade (black – not pictured) will work for this process. Load the blade onto Clamp B and press the Go button.



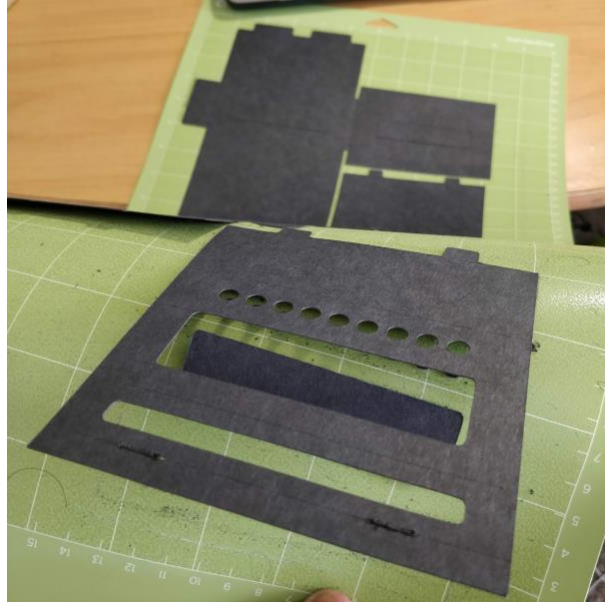
- The cutting process will take about (7 minutes). Once it's complete, unload the mat by pressing the "Load/Unload" button.



- This is what the final scored/cut product will look like. Remove/recycle the excess paper and retrieve the cutouts.



Hint: The easiest way to remove the cutouts from the mat is to bend the mat where the locations of the cutouts. The cutouts themselves will un-attach themselves from the grip-mat.

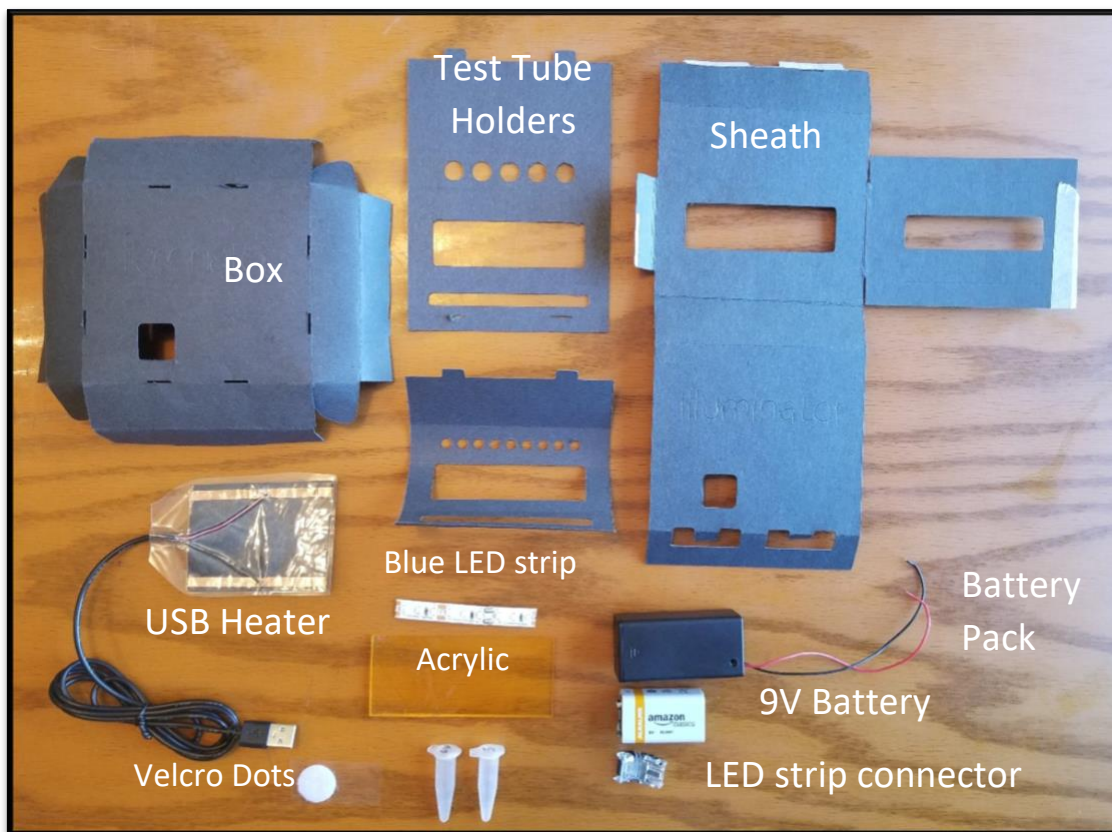


Kitting

1. Grab the spool of 460nm Blue Lights and cut a 3 inch segment of it. Make sure you cut slightly left to the left of marked cutting line denoted by a scissor on the LED strip. This leaves more room for the connector during the assembly process.



2. Grab a sheet of Velcro dots and cut off 2 pairs for the kit.
3. Make sure you have all the listed Illuminator components to include in the kit.



Description	Checklist
(1) Sheath Piece	
(1) Box Piece	
(1) Test Tube Holder, 0.6 mL (9-hole pattern)	

(1) Test Tube Holder, 2.0 mL (5-hold pattern)	
(1) LED Strip to Wire Connector	
(1) 4" × 2" Yellow Acrylic Filter	
(1) 9-Volt Battery	
(1) 9-Volt Battery Holder	
(1) Blue LED Light Strip	
(1) USB Heater Pad	
(2) Velcro Dot Pairs	

- Put all the listed components into a gallon sized ziplock bag to complete the kit. You may need to fold some of side flaps on the Sheath and the box to make them fit inside the bag.

