

THE CRIMPING PROCESS

By Garry Sato
SATO'S CUSTOM TACKLE
2/05

1. THREAD THE SLEEVE ONTO THE SPECTRA
2. OPEN-UP THE SPECTRA
3. INSERT THE MONO INTO THE SPECTRA
4. PULL THE SLEEVE DOWN TO THE END OF THE SPECTRA
5. CRIMP THE SLEEVE

ADDITIONAL SUBJECTS COVERED

GLUING

THE SOLID TO HOLLOW CONNECTION

THE HOLLOW TO HOLLOW SPLICE

THE SPLICED LOOP

TERMS & DEFINITIONS

Crimp or Crimping Sleeve: Machined hollow sleeve used to secure the hollow end of the spectra to mono that's been worked up into the spectra.

Hollow Connector: A hollow length of spectra 10'-15' long, used to connect solid spectra coming off a reel to mono or fluorocarbon.

Solid Spectra: Spectra woven without a hollow core.

Hollow Spectra: Spectra woven with a hollow core. Common sizes 80#, 135#, 200#

Sato Spectra Opener: A wire-opening tool used to expand the core of hollow spectra to more easily accept mono or fluorocarbon.

Crimp Threader: A small wire looped tool for getting the crimp onto the spectra.

Wire Loop Puller: A long piece of doubled over wire used to pull solid spectra up into hollow spectra. For making hollow connectors, spliced loops, and hollow splices.

Loop to Loop: A loop connection used to attach the spectra from the reel to the looped spectra end of a wind-on leader.

Spliced Loop: A means of creating a loop in hollow spectra without the need of a tying a Bimini type loop.

Hollow Splice: A means of splicing one piece of hollow into another. Such as a pre-made wind-on, or to repair a bad section of spectra on your reel.

Threading Needle: Hollow steel needles used to thread mono into hollow spectra.

Spectra Adhesive: Special 2-part glue to bond spectra to mono.

*** Contact Info for questions or re-ordering crimps & materials.

Website: satocustomtackle.com or Phone 213 369-3373

Select **Mono** & determine its diameter. Determine Spectra size by the monos Strength and/or its diameter. Refer to Crimp Data Chart #1 for correct mono/crimp size.

Getting the Crimp onto the Spectra

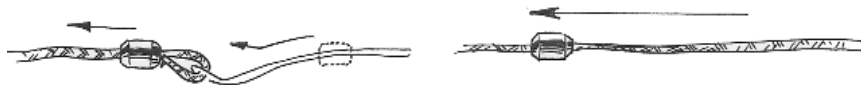


Slide your crimp over the end of the threader and down to its base.



Place the tip of the Spectra through the loop end of the threader.

****Note:** For the smaller crimp, sizes 40# and smaller, it's important to put only the very end tip of the Spectra through the loop. Otherwise you will have trouble pulling the Spectra through the crimp. It's possible that you may need a thinner wire threader for the smaller crimps. The threader provided in the kit is designed to handle 50#-200# crimps.



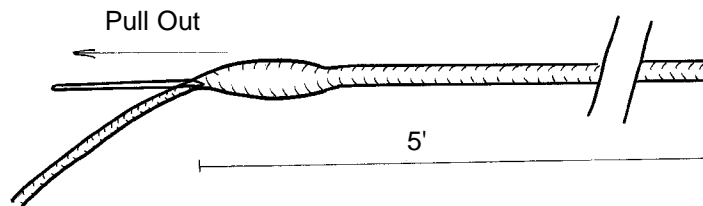
Slide the crimp up and over the end of the threader and onto the Spectra. Your crimp is now on the spectra, slide the crimp down far enough so that it won't fall off. Pull the end of the spectra out of the threader loop.

Getting the Mono into the Spectra

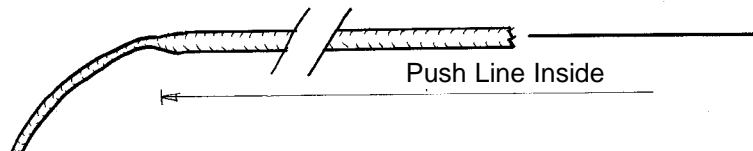
Open up the Hollow Spectra with the wire opener supplied with the kit. This will have to be done whether you use a threading needle or not. If done with the opener supplied, threading the mono up into the Hollow Spectra can be done without threading needles.



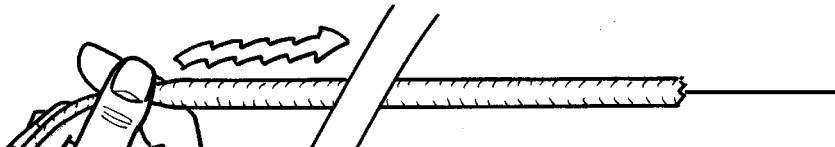
After reaching the desired distance, 5 feet or more, push the opener out the side wall of the spectra and remove.



With the nail file, round off the end of the mono till smooth. Carefully, inch the mono up into the Hollow Spectra a little at a time, the mono should slide easily. Slide the mono up into the Hollow Spectra a minimum of 5 feet.



After inserting the mono into the Hollow Spectra the desired distance, carefully smooth the Spectra down towards the entry point with your fingers till tight. Use your thumb and forefingers, not your fingernails.



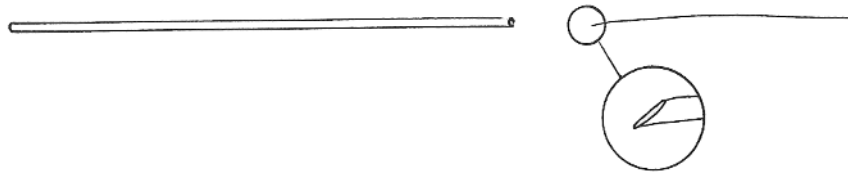
Carefully slide the crimp down to within about 1/8" of the end where the Mono enters the Spectra.

Note** If the crimp is tight going over the Mono/Spectra transition, you can do two things: First, put some saliva on the transition for lubrication, and use the pliers to push the crimp down over the Spectra to the end point. Secondly, find the smallest cavity that the Mono/Spectra will easily slide through with pliers closed. Place the small side of that cavity against the crimp and push down carefully and slowly, in small increments, down towards the end. Do not put the crimp in the pliers' cavity. **Be very careful not to push the crimp down off the end of the Spectra;** It's easy to do if you push too hard. If, after all of the above doesn't work, try the next size larger crimp.



Getting the Mono into the Spectra.

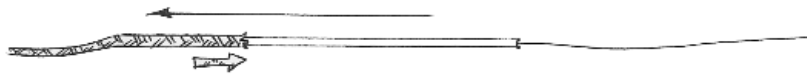
“OPTIONAL TECHNIQUE” if you wish to use threading needles.



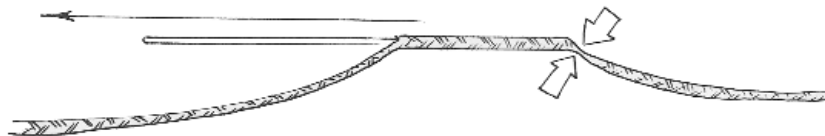
Make a 45 degree slice through the end of of the **Mono** to be slid into the **Spectra**.



Select the appropriate size hollow threading needle for the Mono. Slide the angled cut end of the Mono all the way up into the hollow needle. The Mono should fit snugly.



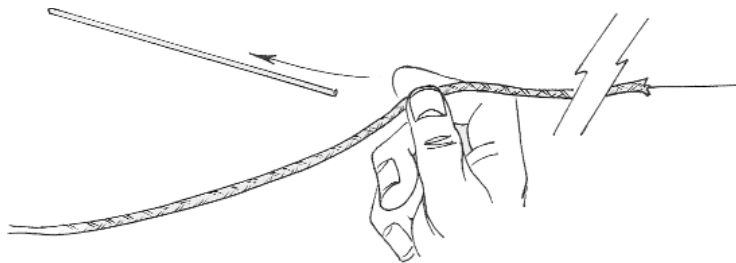
Carefully begin to slide the needle into the end of the **Hollow Spectra**. Work the needle up a little at a time, with a twisting/ pushing motion. Continue sliding the Mono filled needle **at least 5 feet** up into the Spectra.



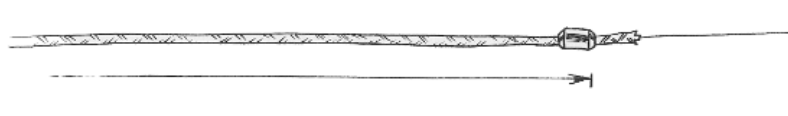
After reaching the desired distance, push the needle out the side of the Spectra through its wall.

Removal of the needle will reveal several inches of Mono protruding out the side of the Spectra.

From the Mono end of the Spectra, carefully work the protruding end of the Mono back down into the Spectra. Be careful not to pull the Mono all the way back out of the Spectra. Once the Mono end is worked back into the Spectra, smooth the Spectra down towards the Mono end until it is tight. Use only your thumb & fingers, not your fingernails.



Carefully slide the crimp down to within about 1/8"-1/4" of the end where the Mono enters the Spectra.



Note** If the crimp is tight going over the Mono/Spectra transition, you can do two things: First, put some saliva on the transition for lubrication, and use the pliers to push the crimp down over the Spectra to the end point. Secondly, find the smallest cavity that the Mono/Spectra will easily slide through with pliers closed. Place the small side of that cavity against the crimp and push down carefully and slowly, in small increments, down towards the end. Do not put the crimp in the pliers' cavity. **Be very careful not to push the crimp down off the end of the Spectra;** It's easy to do if you push too hard. If, after all of the above doesn't work, try the next size larger crimp.

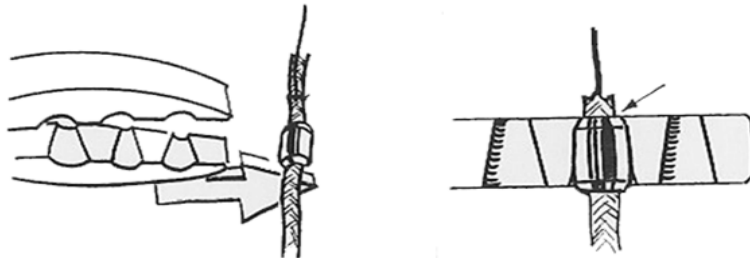
Using the Crimping Pliers

Before using, please inspect the pliers for the following:

Open & look inside the jaws of the pliers.

You will see that the cavities are cone shaped, one side of the opening is small, the other larger. The laser etch side of the tool. "Sato Tools," will be on the small hole side of the pliers.

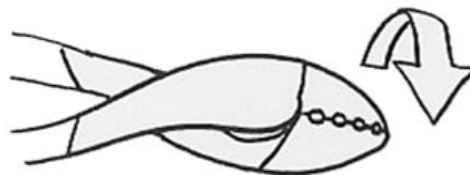
Refer to the cavity chart & determine the proper cavity for the crimp being used. Always be sure to have the small hole side of the cavity in the pliers facing towards the outside of the crimp. *Use the laser etch on the side of the pliers to indicate the small side.*



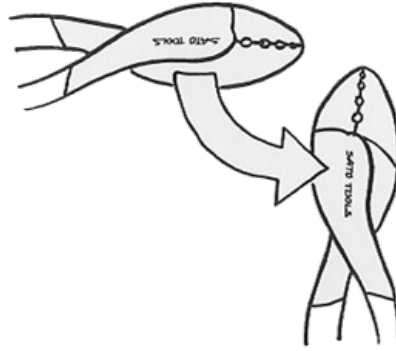
You will be crimping twice, once on either side.

Crimp the first side by placing the line with the crimp into the pliers. Make sure that the outside edge of the crimp lines up with the outside edge of the pliers.

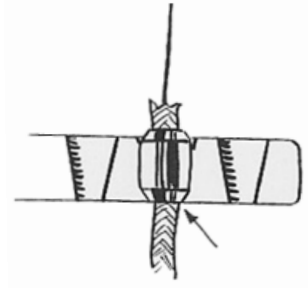
Crimp by squeezing firmly, like a firm handshake. *It's not necessary to squeeze the crimp till your veins pop.*



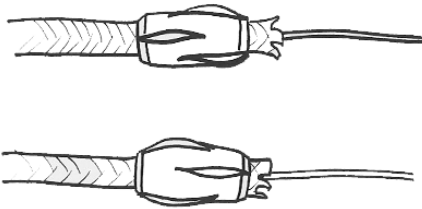
Once you have crimped the first side, open the jaws and flip the pliers over so that the small hole side is now facing the opposite end of the crimp.



Rotate the line & crimp 90 degrees in the jaws.



Again, line up the outside edge of the crimp with the outside edge of the pliers. Crimp by squeezing firmly.



The look of the finished crimp should have 2 sets of alternating "fins."
(Two "fins" on either end of the crimp)
For viewing: *Use the loop supplied in the kit.*

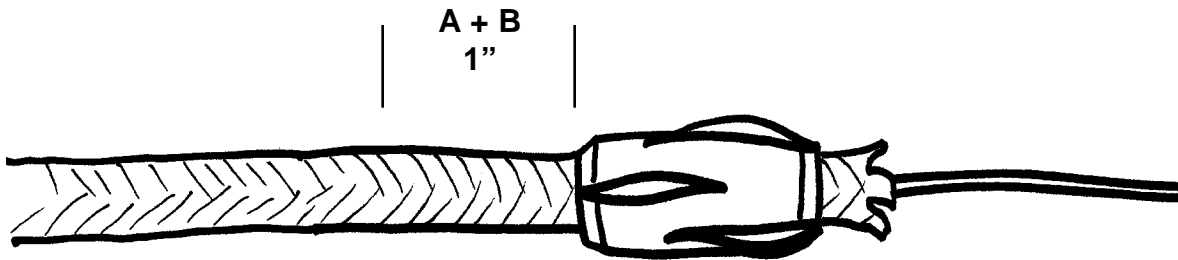
Gluing the crimped section

Spectra adhesives currently available consist of two parts. Read the instructions carefully before using to determine the proper order and process of application. The products vary in their procedures.

Gluing the connection after applying the crimp may give a bit of added strength and durability to the connection. However, the connection will still hold and is reliable if not done. Gluing in addition to the crimp is an individual decision.

Gluing the connection without the crimp is not advised. You are at great risk of failure on big fish.

Apply 1" of adhesive to the spectra above the crimped connection.
See illustration



The adhesive process is very fast, usually ready and dry in less than 2 minutes.

Special Note**

Close the containers immediately after use. Do not add one to the other. Avoid smoking, flames, or sparks when using. The adhesives will bond to skin. Remove with fingernail polish remover or acetone. Observe great care with these materials. When not in use keep in cool dark place. Potency of the materials may decline after 1 year.

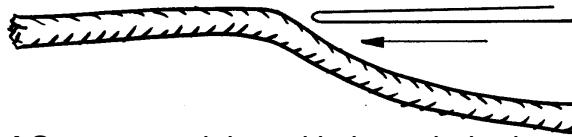
The Solid to Hollow Connector

Here's what to do if you have solid spectra on your reel and want to use the crimping sleeves with Hollow Spectra.

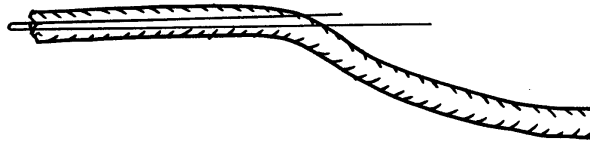
*This connector will work with long, 100+ yds or short 15 foot sections of Hollow Spectra. In this example, I'm going to build a **15' Hollow Connector** to the **Solid Spectra** on the reel.*

Cut off **15' of Hollow Spectra** and lay it out flat. Measure 5' from the end and mark. Take the 2.5' long wire threader from the kit and unwind it. Take the folded, doubled end and insert it into the side-wall of the **Hollow Spectra Connector** that you just marked.

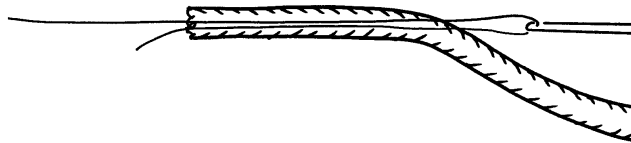
Work the wire threader down to the end and out the marked, 5' section of the **Connector**.



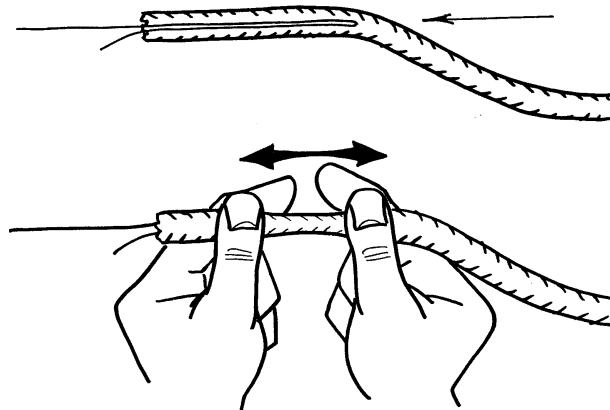
Now take your **Solid Spectra** and thread it through the loop of the threader. Pull the **Solid Spectra** through the loop so that you have 5' of Solid hanging from the threader. You are now going to pull a doubled 5' section of **Solid** up into the **Hollow Connector**.



Now pull the puller with the **Solid Spectra** back up into the **Hollow Connector** and out the side-wall from where it started. Unhook the puller from the **Solid Spectra** loop protruding from the side-wall of the **Connector**.



Carefully pull the **Solid Spectra** loop protruding from the side-wall back down into the **Hollow Connector**. Smooth the filled section with your fingers and pull tight. You should now have a **15' Connector of Hollow Spectra** with **5 feet of doubled Solid Spectra** threaded into it. At one end you will see both the solid entering and a tag end exiting. Make sure the filled **Hollow** section is pulled down tightly over the **Solid Spectra**.

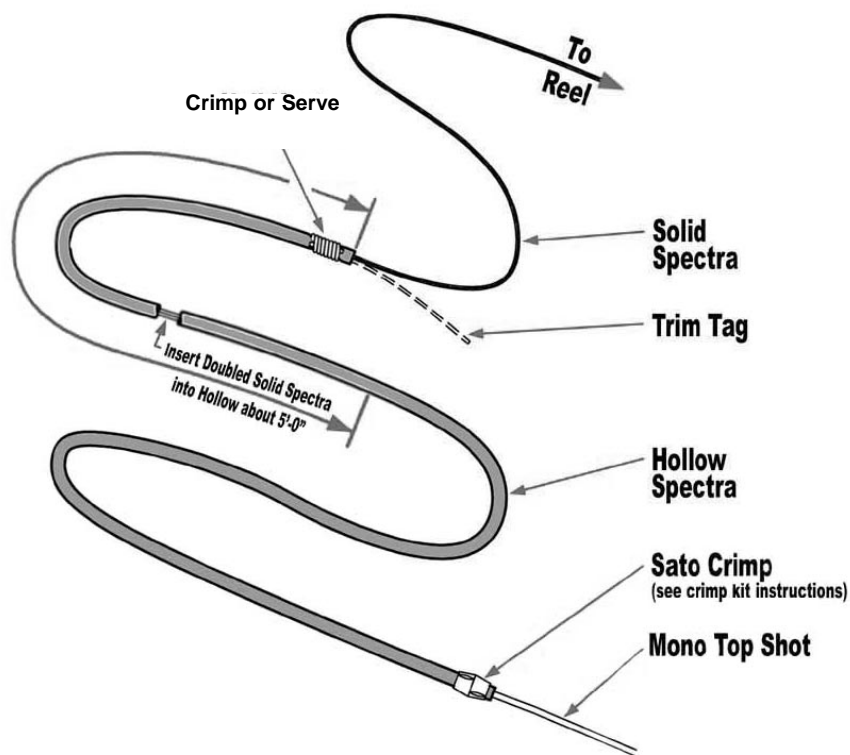


You are now ready to secure the entry point where the **Solid** entered the **Hollow Connector**. There are several ways in which you can secure this entry point: over-hand knot, serve, or crimp.. For **short term** use, use a crimp. For **long term** use, (two weeks or longer), I would advise serving the end with 50# solid spectra. If you have the time and tools, serving the end is excellent.



Clip the loose **Solid** Spectra tag end exiting from the **Hollow** entry point. After crimping you may glue the secured section as well (optional)

Solid to Hollow Connector



The Hollow to Hollow Splice

This splice dates back to the old Hollow Dacron Splice used years ago before Spectra was invented. How this works is that two separate ends are threaded inside of each other going in opposite directions. When pulled tight, the hollow weave tightens around whatever it surrounds like a "Chinese Finger Cuff". The longer or more surface area used, the greater the holding power; therefore, the stronger the splice.

Note**

Since loop needles come with this kit, we will use them for the following instructions. To use the latch needle or doubled wire, switch the entry & exit points in the instructions below. All the other steps remain the same.

Terminology:

(A) Line coming from the reel.

(B) Line coming from the top-shot.

Entry Point: The point where the loop puller enters the sidewall of the Spectra.

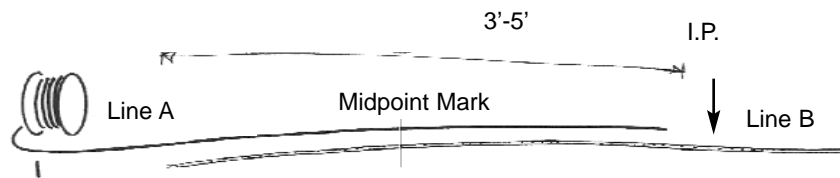
Exit Point: The point where the loop needle & tag end exit the sidewall of the Spectra.

Midpoint Mark: The marked, 1/2 way point of the threaded portion of the line.

Tag End: The loose line extending out from the exit point.

Splice Point: The 1/4" of line where both lines enter each other.

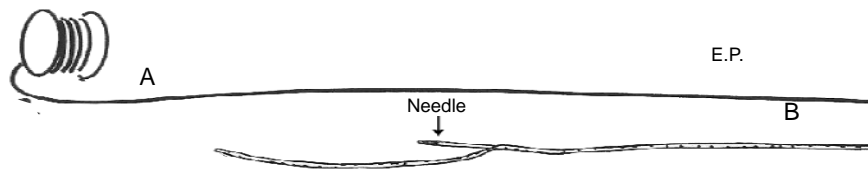
Loop Puller: 1.8" long, boubled, over wire.



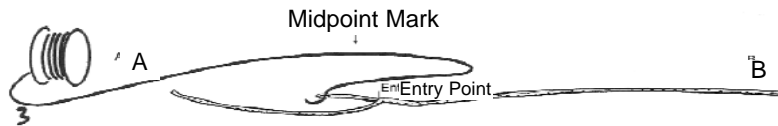
On a flat surface, layout approx. 3'-5' of lines (A & B), side by side. (See above) Observe how long your empty Spectra line is on your top-shot (B). However long it is, you will be using 1/2 of its length for the 2 parts of the splice.

Example: If your top-shot has a 5' empty end, you will have 2-1/2 feet of line to use for the 2 parts of your splice. The same applies for your (A) section of line.

Find the mid-points of lines (A&B) and mark them for future reference.



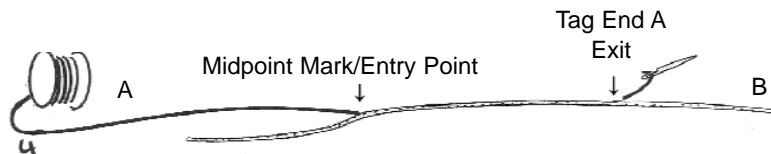
Insert the loop needle into the **side wall** and then into the core of the Hollow Spectra towards the Mono end of the top-shot. Your entry point should be an inch or more longer than the tag end of line (A).



Pull it back out the way you came in.

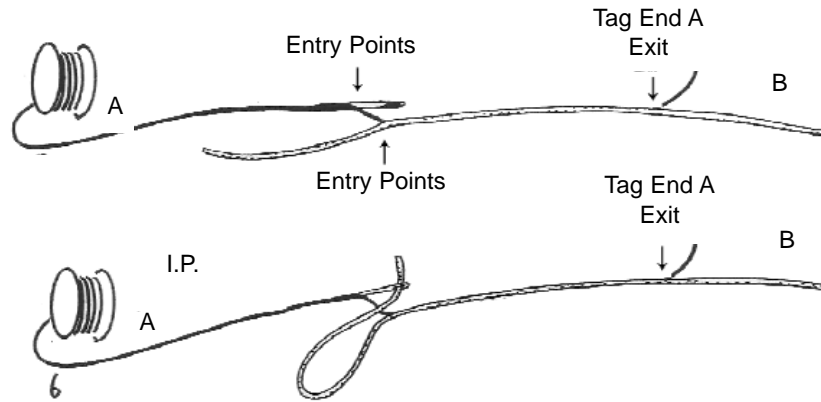
Note**

Keep an eye on the **midpoint mark** you put on line (A). You will want to keep this mark at the **entry point** once it gets that far. By doing this step properly, your **tag end** will disappear or blend into the mainline later on in the process.

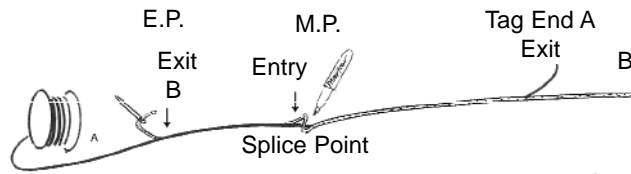


Once you have threaded line (A) into line (B) and reached the **midpoint mark** you put on the (A) line in step #1. Pull the entire needle out of the Spectra. Leaving the **tag line (A)** hanging out the side of the Spectra. Do not let the loose, tag end (A) disappear into the line (B) outer shell. *See above*

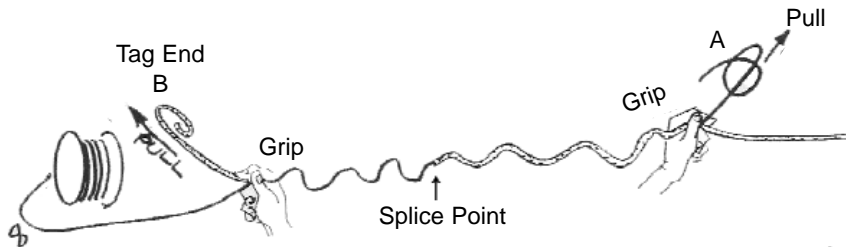
Make sure the **midpoint mark** on line (A), stays at the **entry point**. You can achieve this by compressing the outer Spectra. This will help keep the **midpoint mark** at the **entry point** as well as keeping the **tag end** hanging out of the side wall of the Spectra.



Find an **entry point** on line (A) about 1/8"-1/4" from the first entry point on line (B).

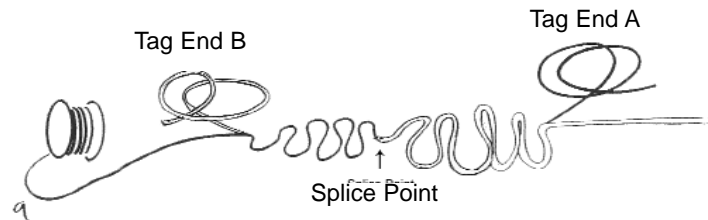


Insert the loop needle and repeat steps 2-4.



If you haven't already done so, make a mark at your **splice point**. This will help you later when you want to take the splice apart and re-splice on a new top-shot.

Carefully grip the **exit points** above and pull on the **tag ends**. See above



Pull the **tag ends** until the outer Hollow Spectra; surrounding the inner line is completely compressed. At this point you won't be able to pull any further. Do this for **both tag ends**.



Find the marked **splice point** you made earlier. This area will be compressed and wrinkled.



Take this area and roll it with your fingers as shown. You are actually blending and smoothing the **splice** together. It won't be very apparent but you will feel the splice roll, flatten and get smoother as you continue.

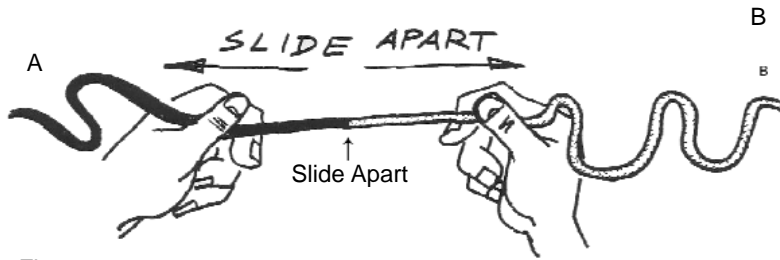
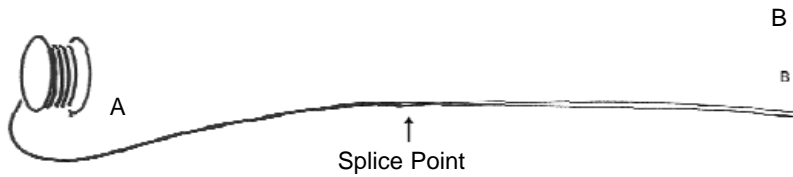


Figure 28

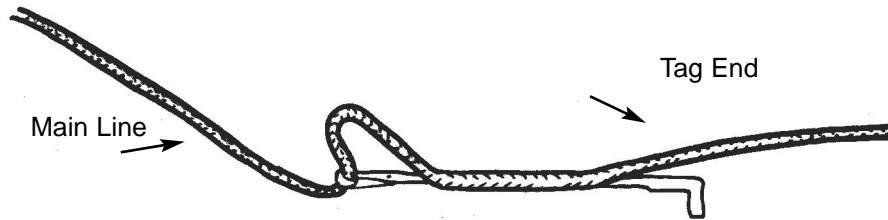
Carefully pull and smooth the compressed lines out in both directions away from the splice. (*Don't use your fingernails*). If done properly, the **tag ends** will be pulled back into the Spectra, (*See figure #3*), if not – you may hide the remaining tag end. By cutting a bit more than what is exposed and then pulling the spectra back over the tag.



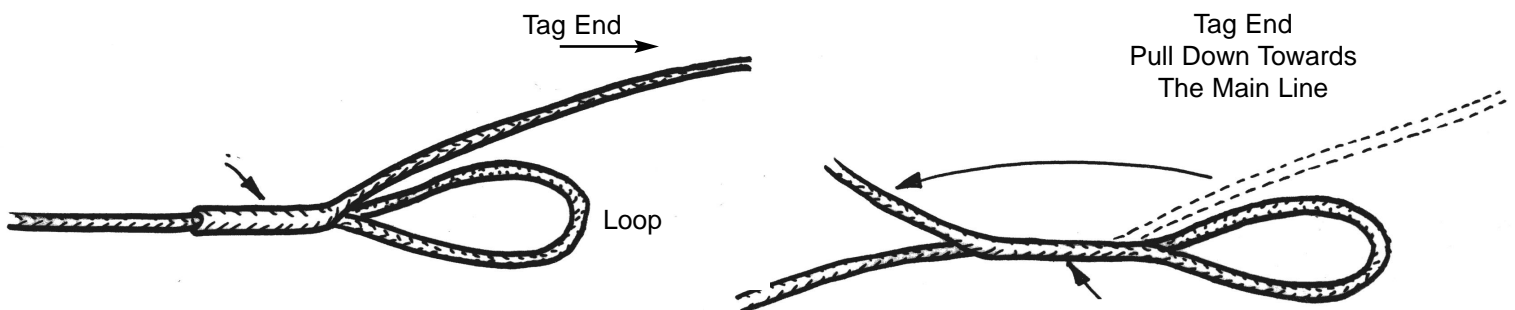
Now you should have a smooth, invisibly spliced line. Pull on the top-shot firmly to test your splice. It will not move. You are now ready for your hook and bait. (*Do not use glue here. It won't make it any stronger and you won't be able to re-splice this section again later.*)

The Spliced Loop

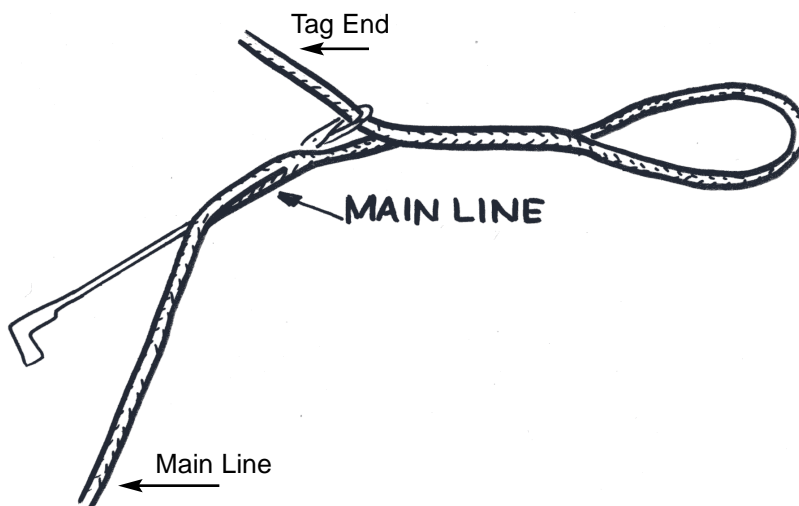
The spliced loop is used when one wants to use the loop to loop connection from the spectra mainline from the reel to a pre-made top-shot or leader. Insert the splicing needle about 4" - 6" from the end of the hollow spectra. Run the needle about 2" inside the spectra, and catch the line with the hook.



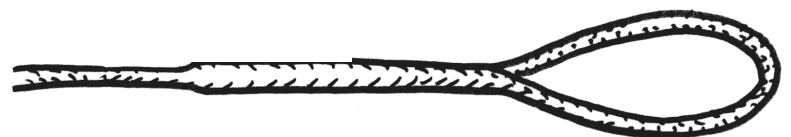
Pull the line back through and out, forming a loop, detach the needle. Hold the loop with the thumb and forefinger in one hand. With the other hand, grab the 6" tag end and pull it down towards the main line do that it literally turns itself inside out.



Insert the needle about an inch beyond the exit point of the tag end of the main line. Push the needle towards the exit point. Hook the tag end and pull it back down into the main line.



Pull the hook out of the main line, unhook the tag end and smooth out the main line. Trim loose ends.



Finished Spliced Loop