

POP FISHING
& MARINE



The Hamaguchi Greenstick

FISHING SYSTEM

STANDARD (CS)

- HYBRID 24
- HYBRID 32
- HYBRID 40
- HYBRID 46

KONA STICK (CL)

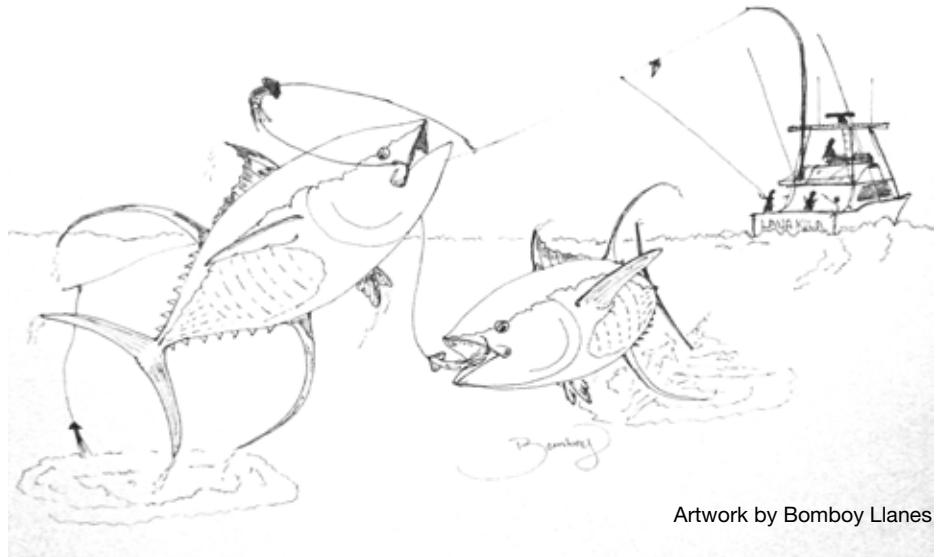
- HYBRID 24
- HYBRID 32

History

Greenstick fishing has been around Hawaii's fishermen since the early 70's. Primarily used for *ahi* (tuna) fishing, stick users know that anything can bite the rig. A 500-1200# test mainline ranging between 100-300 yards long is towed from the tip of the 24-48 foot pole, also known as a greenstick. Greensticks suspend a mainline that is kept taut by a specially designed wood "bird" on the end. From the mainline, 4-8 baits are suspended from leaders or "branch-lines" just above the water surface. When fished, the baits dance in and out of the water in a "dipping" motion. On a fish strike, the mainline breaks away from the greenstick, similar to the way an outrigger works, leaving the angler to haul in the mainline using hydraulic or electric reels, a modified 130 lb class trolling rod and reel, or even by hand. The strikes are often dynamic and explosive with large *ahi* leaping out of the water at the dancing baits. Multiple hook-ups are not uncommon. The origins of greenstick fishing however, remained muddled for years as stick fishing was done by only a handful with some keeping the technique a secret.

The history of the greenstick goes back to the 1960's, in the Shikoku area of Japan. The Shikoku fishermen were searching for a method to troll as many baits as they could around schools of baitfish that attracted *buru* (yellowtail). These fishermen were said to have developed the greenstick technique by attempting to mimic the New Guinea kite fishermen who "danced" their baits on the water surface with incredible results. The Shikoku fishermen successfully replicated this technique with long green bamboo poles (hence the name greenstick) instead of kites. The rig worked so well that large *hon-maguro* (bluefin tuna) would strike the baits with such force and weight they would frequently break the natural bamboo poles.

Yukinobu Shibata and fellow fisherman, Mikio Tokuda, recognized the limitations of using natural bamboo poles. They teamed up with Yukio Hamaguchi, a fiberglass manufacturer whose products included *katsuo* poles and outriggers. Together, they



Artwork by Bomboy Llanes



Yukinobu Shibata
The pioneer of modern greenstick fishing

developed a heavy-duty sectional fiberglass pole still known today as the greenstick.

Shibata and Tokuda brought the first greenstick to Hawaii in 1973. Their initial fishing expeditions were so successful that more greensticks were soon shipped to Hawaii. In 1975, Shibata and Tokuda brought greensticks to Kailua-Kona on the Big Island. Since then, Shibata and Tokuda developed relation-

ships with many Hawaii anglers and charter captains, not only teaching the technique, but learning of other stick fishermen's innovations and adaptations.

The technique did not stay hidden in Japan and Hawaii for long. In the 1980's, the greenstick made its way across the United States to North Carolina where fishermen were landing large tuna. The technique eventually caught the attention of the Portuguese government who invited Shibata to consult on this unique fishing method. Ever since, greenstick use has grown on the East Coast and spread as far as Tahiti and the Mediterranean Sea.

The greenstick had several design variations over the years, improving on construction and performance. The color changed from the original green to purple. Copycat sticks soon emerged in the market but none could stand up to the original Hamaguchi design. "Total balance" is what Shibata claims makes greenstick fishing work. Everything from the composition of the stick to the design of the bird has to be in complete balance for the baits to "dance" effectively.

Just prior to 2000, Shibata re-teamed with manufacturer Hamaguchi to produce a new carbon-fiber stick called the Hamaguchi Hybrid. It features a modular design and stronger, yet lighter stick than the previous all fiberglass model. Current standard models range from 24 to 46 feet. The latest greenstick product from Hamaguchi is the Kona Stick – a smaller profile stick for smaller boats or large boats with higher mounting options. The Kona Stick has two sizes, 24 and 32 feet.

POP Fishing & Marine (Hawaii) is the exclusive master distributor of Hamaguchi's Hybrid Greensticks. Through our years of selling greensticks we have collected scores of data, tips, and reports from our customer friends who use the greenstick with great success. Feel free to contact us for more information on everything described in this guide.



Photo courtesy Jim Noon / Midnight Rambler



Photo by Kotaro Kurosawa / Lanakila

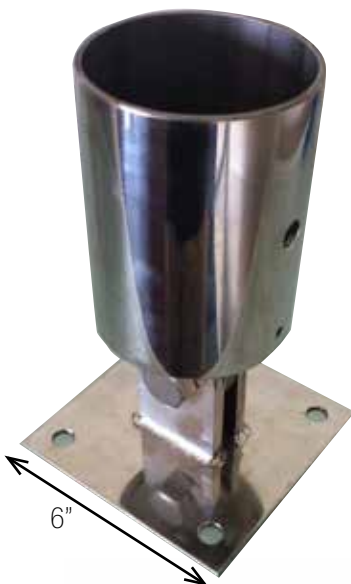
Setup

The Hamaguchi Hybrid Greenstick **Standard** model (CS) is a modular system combining interlocking and telescoping sections. The Hybrid 24 model uses three 8-foot sections, the Hybrid 32 has four, the Hybrid 40 has five, and the Hybrid 46 has six. The **Kona Stick** (CL) has a slimmer diameter than the standard and comes in two sizes – 24’ and 32’. The base diameter on the Kona Stick 32 is 2.48” and 1.97” for the Kona Stick 24. The Kona Stick is designed for smaller vessels or large vessels that have higher and more versatile mounting options. The Kona Stick 24 has three sections and the 32 has four.

Boats come in all different shapes and sizes which makes mounting options varied and subjective. The primary rule is: **mount the stick where your vessel will safely accommodate it and not adversely affect the vessel’s center of gravity or normal operation.** Also, careful planning should go into your stick’s **two** secure points – the **base** and **mid-point** support. By both design and function, the greenstick resembles an oversized outrigger that has a considerable load on it when engaged and the resulting recoil effect upon a fish strike should be addressed when planning a mount.

The base and mid-point support (U-Bolt)

Our multi-position base comes in 3 different cup sizes (3”, 4”, 5”). The base plate is a 6” x 6” x 1/4” stainless steel square with a connecting bolt. There is a small drain hole at the base of the cup. Above the drain hole is a



Greensticks are shipped in sections along with a set of locking pins.

larger hole for a support bolt or pin (optional). If you intend to use this optional hole to secure your stick into the base, you will need to drill a hole in the ferule.

Unless you are able to mount your greenstick into a rigid sleeve-style base that supports the entire stick upright, it is necessary to provide additional support in the form of a clamp at a mid-level point, **between the halfway point and bottom third portion** of the stick. We suggest a heavy duty stainless steel U-bolt or a custom fabricated stainless steel clamp anchored to a solid upper area of your boat. Solutions



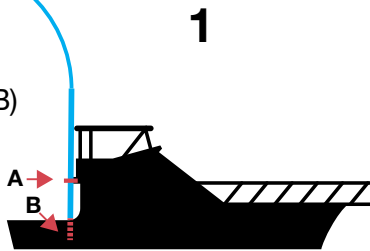
Two examples of custom built (DIY) upper support clamps, when a U-Bolt just won't do.

vary vessel to vessel which is why we don't yet sell a universal mid-point support clamp. Over the years, greenstick fishermen have become very innovative in fabricating their own bases and mid-point support clamps.

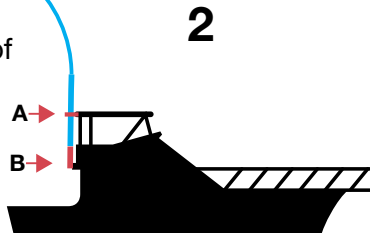
Do not mount your stick where it may impede access to engine covers and other vital areas. Do not mount any stick in a potentially weak or unreinforced part of your boat.*

The image at right illustrates possible mounting options.

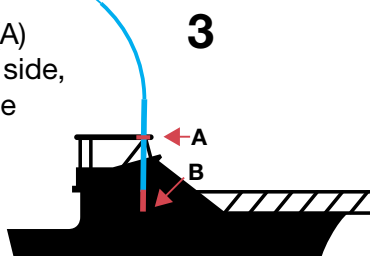
1: Floor mounted base (B) with secondary support anchored to the flybridge floor (A).



2: Base (B) mounted to flybridge floor and secondary support (A) anchored to flybridge roof (Note: Flybridge roof must be hardtop and reinforced type.)



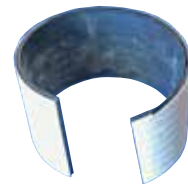
3: Side mounted base (B) mounted to gunwale and/or cabin side, with secondary support (A) anchored to upper cabin side, flybridge floor, or flybridge hardtop.



The Hybrid Greenstick's new modular design offers users upgrade and expanded mounting options. Sections can be added later to increase a stick's overall height. Also, the Kona Stick, because of its smaller profile, can be mounted in higher and more locations than its predecessor.

Standard stick sections have a ferruled end for connectivity purposes. For a snug fit in the base cup, it is recommended to use a shim piece (not included), like PVC rubber hose or similar.

* See User Instructions for more details on mounting.



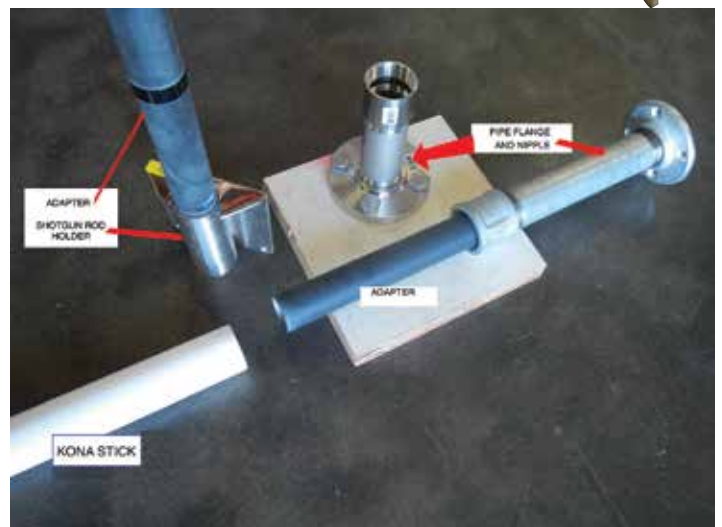
Snug Fit: Cut PVC hose makes a good shim sleeve to fill any space between the base cup and Standard stick ferrule.



At right: Bottom of Kona Stick Hybrid 32 (white) fits over adapter (black) and into 2" transom mount rod holder.

If fabricating your own base, it is important to measure the outside diameter up the entire length of the ferruled portion. These values may vary significantly because of a built-in natural taper.

The Kona has a smaller outside diameter than the Standard stick - 2.48" (Hybrid 32) / 1.97" (Hybrid 24). This allows for the use of existing products like heavy duty shotgun rod holders or pipe flanges to serve as bases.

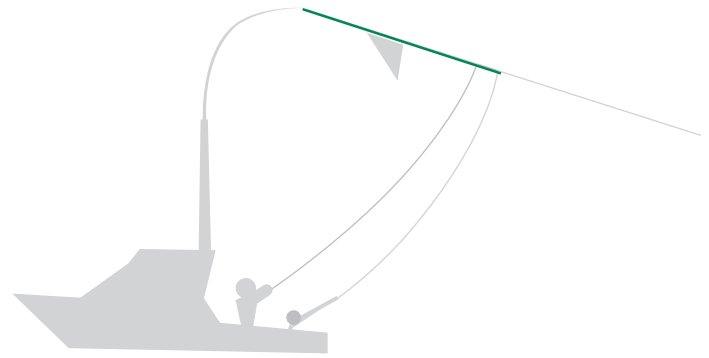


Kona Stick Base Ideas. The black 2" adapter (available at POP) is a carbon fiber piece specially designed to fit into the end of the Kona Stick 32's bottom section (CL-4). Like the standard stick, it is recommended to add a secondary support clamp higher up the stick.

The Kona Hybrid 32 will fit a 2" carbon fiber adapter (available at POP). One end slides into the bottom of the stick and the other end into a 2" pipe shotgun rod holder. A secondary upper support is still recommended. The 24' stick fits a 2" base without the adapter.



The Kona Stick's slimmer and lighter profile offers more versatile mounting options like this DIY base designed to fit in a boat's gunwale. Photo: Troy Ogasawara



The tagline should be long enough to reach after it is deployed. Also, do not use any large metal clips and snaps at the breakaway end to avoid potential damage/injury from a recoil.

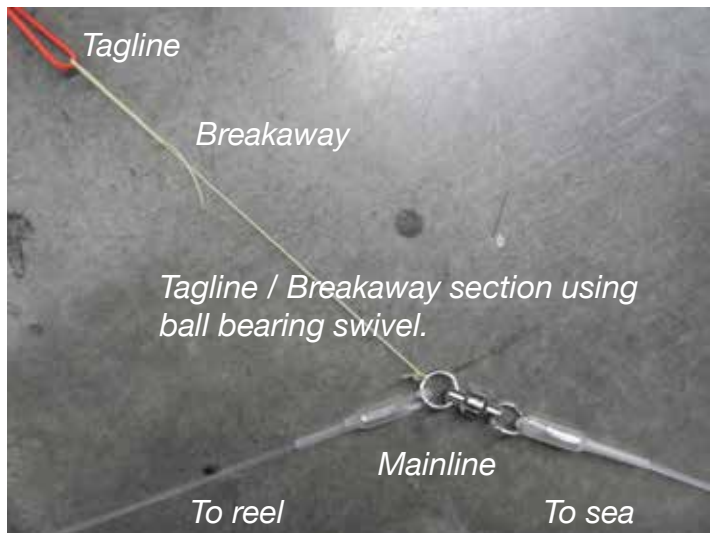


Jerking the action line

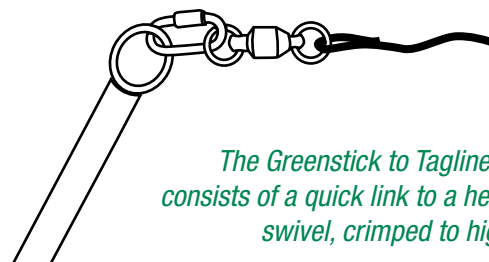
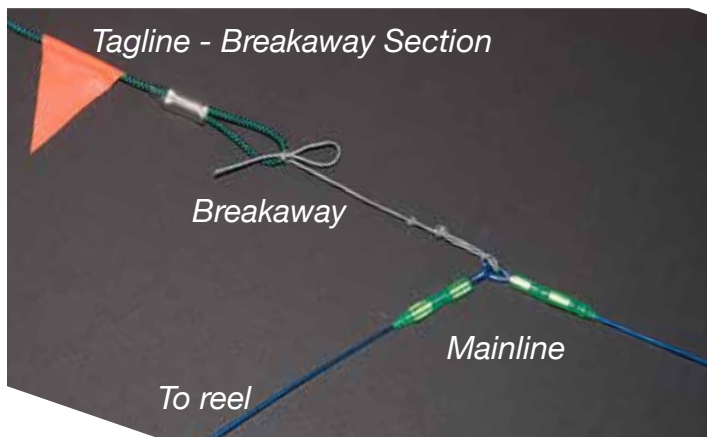
Tagline

A **tagline** connects the top of the greenstick to the mainline with a short cotton or Dacron® cord - the breakaway. Like an outrigger clip, the breakaway snaps upon fish strike and releases the mainline from the greenstick top. Your tagline should be a polyester cord of at least 650 lb test. The length of the tagline is determined by your reach – when the mainline breaks away after a strike, you will need to reach the end of the tagline to re-arm it.

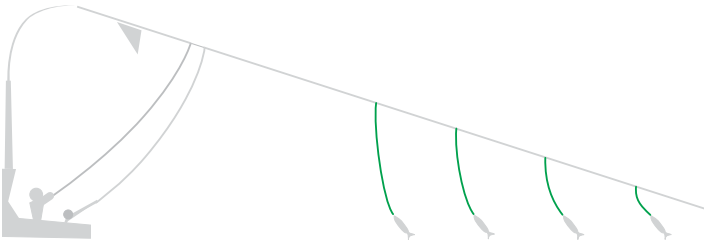
The “action line” connects to the tagline end of the breakaway. When fishing, a steady tug or jerk of the action line produces the dipping action of the surface lures, a major factor in more hookups.



Tagline / Breakaway section using ball bearing swivel.



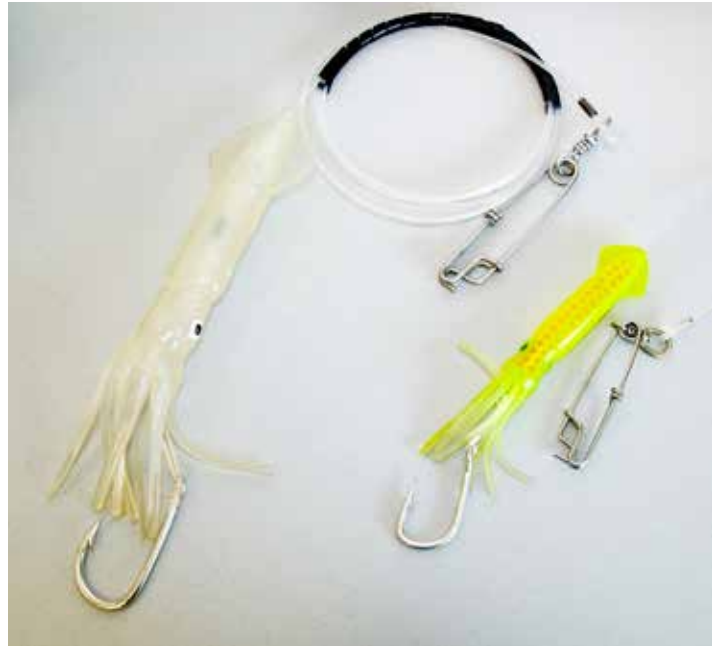
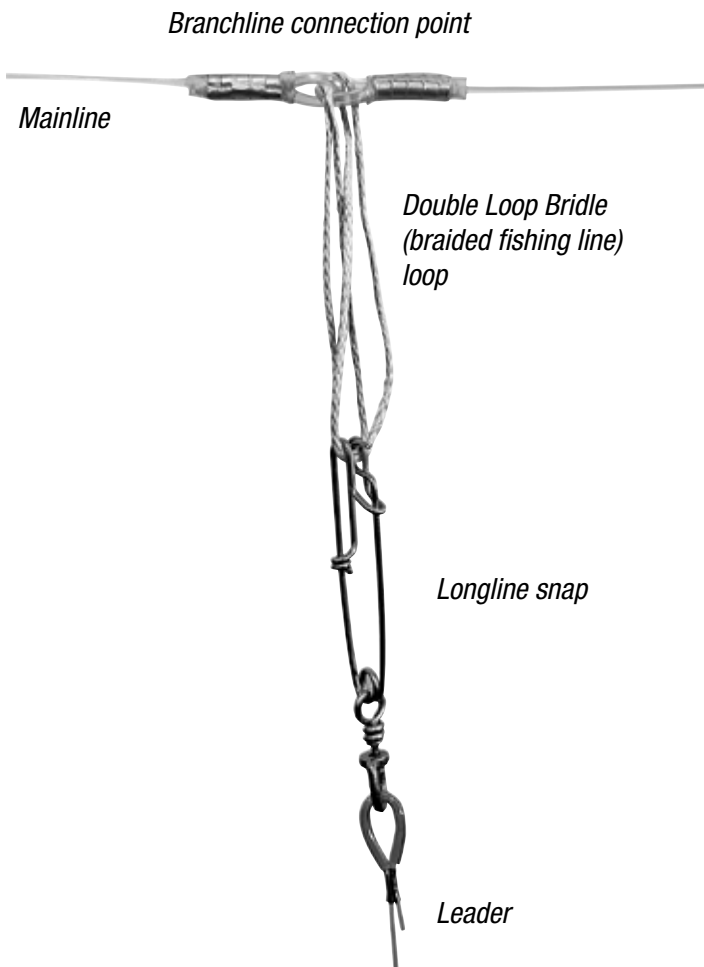
The Greenstick to Tagline Connection typically consists of a quick link to a heavy duty ball bearing swivel, crimped to high test cord (tagline).



Branchlines

Approximately 50 yards down the mainline should be the location of the first branchline. To create this point, the mainline is cut and reconnected with a loop and crimp method.

A loop of high test (minimum 800 lb) braided fishing line (Dacron®, Spectra®, micro-Dyneema®) threads between the mainline loops. The snap then clips to the bridle loop. Leaders should be 400-1000 lb test monofilament. Branchline lengths are determined by the apex height of your stick, mainline to branchline link locations, and distance to your bird. Typical lengths range from 6" to 48". When fully deployed, your baits should be at rest just above the water surface and not submerged. For first time setups, there may be an adjustment period as you



determine the correct leader lengths for optimum lure presentation. When fishing, a steady and repeated tug on the action line will cause the baits to splash and dip into the water.

As for the hook, the beefier the better. Our beefiest hook is the Japan-made OPI Stick Hook, made of extra hard galvanized carbon steel and designed for stick fishing. The amount of force on the rig when a 200-pound tuna hits a lure in mid-air can be tremendous. Many fishermen report bent open hooks after using standard trolling offshore hooks.

For a higher hookup ratio, use a bridle to connect the hook to the branchline (photo above). Traditional crimping directly to the hook eye is more rigid. Most bites occur on a lure in mid-air. A hook tethered with high test braid allows for freer movement and a higher hookup percentage.

The **Double Loop** (photo left) is one of the more popular and simpler branchline junction methods. It is a rigging style from the origins of greenstick fishing that incorporates the modern braided fishing lines found in the market today.

The use of chafe gear at all mainline connections is recommended for a smoother retrieve, especially when using a modified trolling rod and conventional reel (130 lb class) for retrieval. These links will have to pass through the oversized roller guides and wind on to a standard sized 130 lb reel spool.

As greenstick fishing continues to evolve, different branchline bridling techniques are being discovered in the fishing community.

One of these newer methods is the **Single Loop Bridle**. Users claim the single loop is easier to thread a snap on and off, especially in a rocking boat on open seas. It's also recommended a very high test braided line be used with this single loop method.

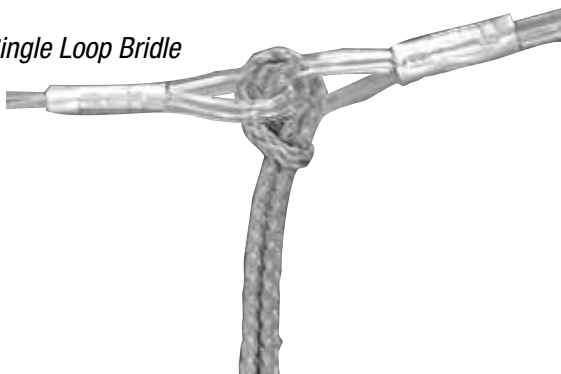
The **Mainline Bridle** technique simplifies snap work even further by eliminating any loops to thread a snap through – just open and close a snap across the braid bridge.

The **Heavy Duty Ring Bridle** goes back to the early days of greenstick rigs and is still used today by fishermen needing a heavy duty setup. Before braided fishing line hit the market, 2-way ring swivels

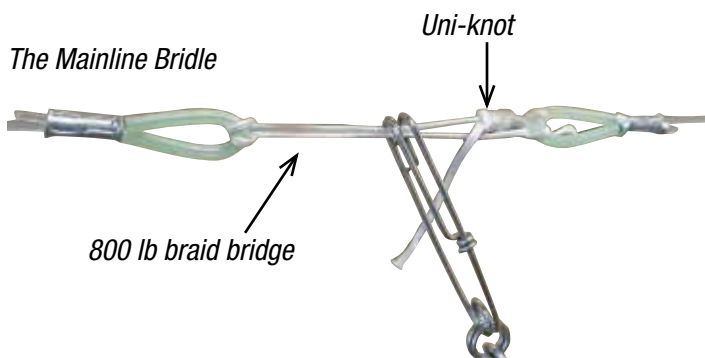


were used in between the mainline mono loops. This method is used today by fishermen hunting extra large tuna. Longline snaps clip to the center ring. The increased weight of this setup can cause mainline sag which may impede or limit the action of the lures. To compensate, a larger bird may be required to keep the mainline taut. A higher capacity reel/spool such as a bandit style (Custom Sea Gear) or Electra-mate® Tuna-Brute is also recommended to haul and store heavy duty rigs.

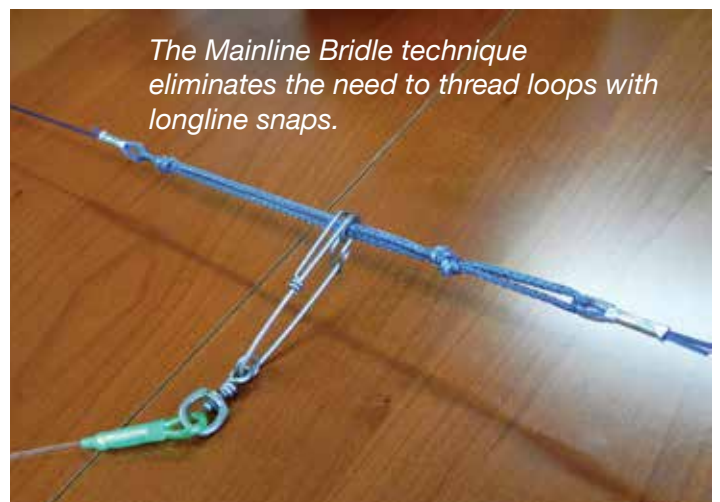
The Single Loop Bridle

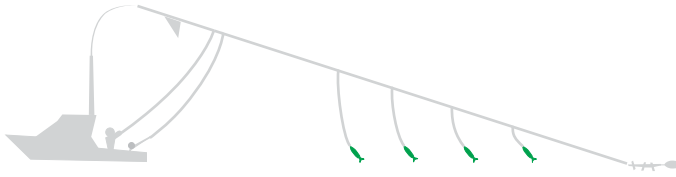


The Mainline Bridle



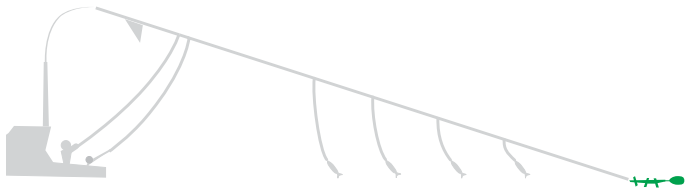
Heavy Duty Ring Bridle





Lures

Our best-selling greenstick lures are from Moldcraft (USA), Yamashita (Japan) and Yozuri (Japan). Soft “squid” lures between 6-12 inches are rigged with high strength hooks like the extra thick OPI Stick Hook. Dead baits (mackerel, ballyhoo, etc.) can also be used but are less popular due to the difficulties in handling, smaller hook size, and keeping dead baits intact with this style of fishing. New soft lures are rapidly entering the market as the popularity of greenstick fishing grows.



Bird and Float

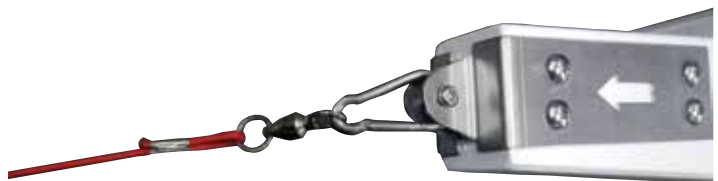
The primary role of the bird is to keep the mainline taught when towed through the water. It is critical that the mainline is fully stretched and branchlines are at their proper lengths for successful fishing. Birds have gone through various design changes throughout the years but the basic principle is a wooden water sled weighted with lead for balance. Improperly designed and unbalanced birds can flop or lose its grip on the water surface, causing the mainline to sag and the baits to lose their action on the water surface.



The float serves two purposes – (1) to signal nearby vessels that you have a greenstick rig in tow, and (2) should the mainline break, to aid in gear retrieval. The float is usually a Polyform A-series buoy with a minimum 30 lb buoyancy rating. A heavy duty ball bearing swivel between the bird’s nose end and the mainline is recommended to mitigate twisting and kinking (pictured).

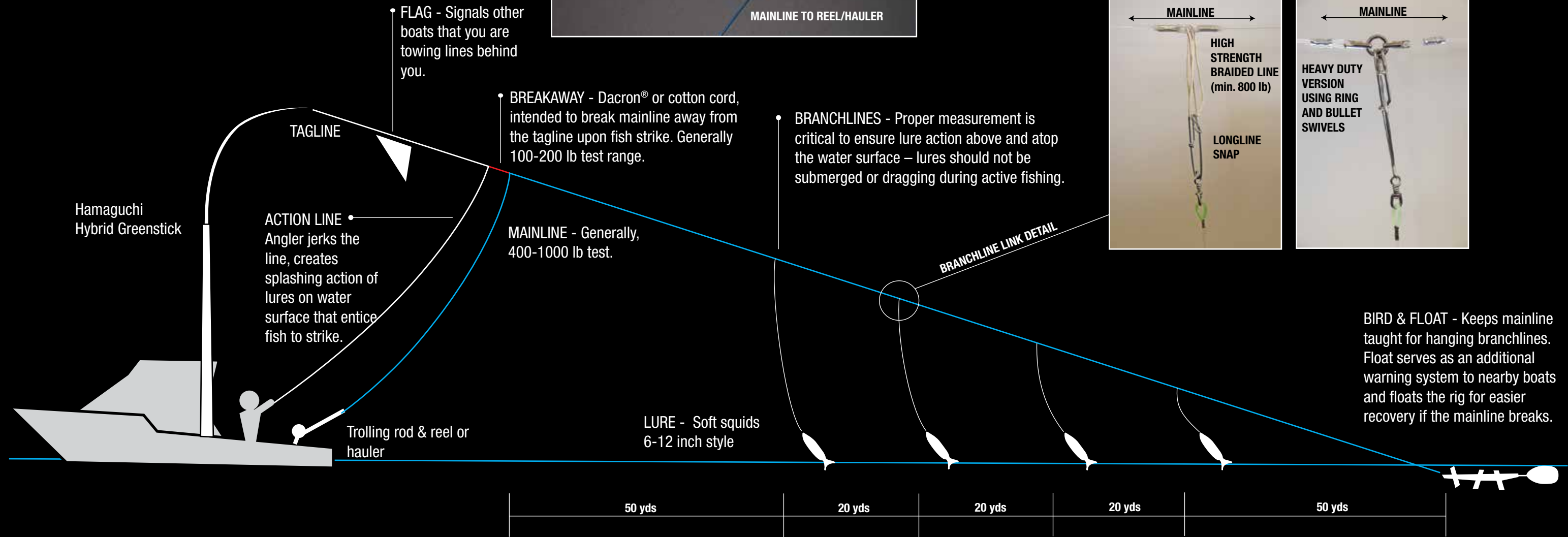
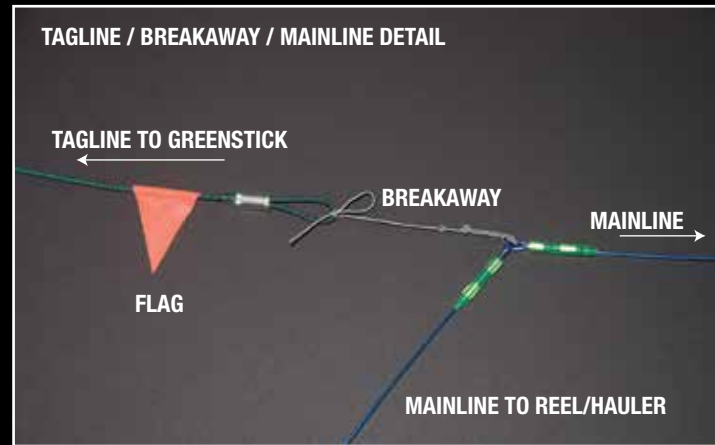


POP has 2 bird models: the Jumbo (HAM009) for Standard sticks and Small (HAM0028) for Kona sticks.



Hamaguchi birds are the result of decades of trial and error and are specifically designed to work in conjunction with the Hybrid Greensticks. There are two models, the Jumbo Bird for the Standard stick

The Greenstick Fishing System



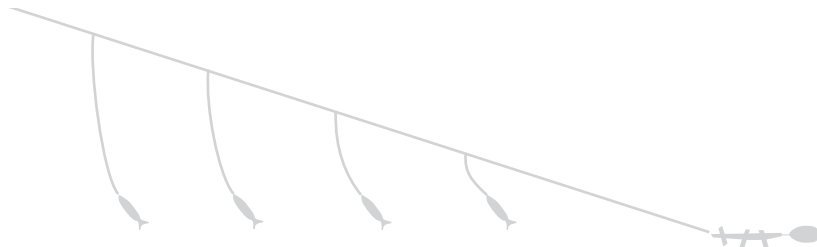
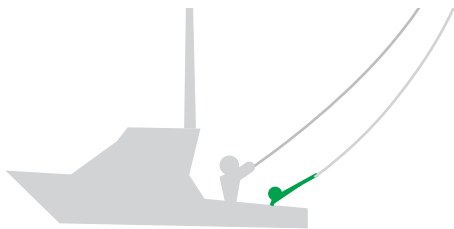
SPACING - First lure is approximately 50 yds from the tagline, with subsequent branchlines about 20 yards apart. Bird and float are approximately 50 yds back of last lure. The example above depicts a 4-bait setup, totalling over 160 yards in length not including the bird and float.

and the Small Bird for the Kona Stick. At 8 knots, the Jumbo bird pulls approximately 90 pounds of tension and the Small pulls 55 pounds. Even at lower speeds, the Hamaguchi birds still produce the best tension over any other design and also works well with the original Hamaguchi fiberglass greensticks.

Photo right: The main role of the bird is to keep constant pressure on the mainline which suspends the lures over the water.

Below: A properly stretched mainline with hanging branchlines and lures splashing on water surface.





Hauling options

Bandit style reels (Custom Sea Gear) or Electramate 1380GH electric motors (i.e. Brute series) are the most common choice for hauling among Hawaii's greenstick fishermen. Bandit style reels also have hydraulic options. Rigging (light, medium or heavy) and mainline length will be determining factors in choosing your hauling method. Systems with 300-plus yards of 1000 lb test and more than five baits, will need a larger capacity reel/hauler.

Pinch pullers are an option when using line other than monofilament or braided fishing line.

A key step in designing your fishing system will be the selection of the reel and rigging style - Light, Medium, or Heavy.



Shimano Tiagra (130) fitted with an Electramate 1380GH motor and a modified 130 lb class trolling rod, with extra wide roller guides and tip.

RIG STYLE (mono)	HAULING OPTIONS			
Light 300-550 lb	130 lb class conventional reel. Manual or fitted with ELECTRAMATE 1380GH motor	ELECTRAMATE BRUTE series reels, BRUTE 1000 and up.	CUSTOM SEA GEAR (Bandit) reels	LP S-1200 electric reel w/ levelwind modification
Medium 550-700 lb	ELECTRAMATE BRUTE series reels, BRUTE 2000 and up.	CUSTOM SEA GEAR (Bandit) reels		
Heavy 800-1000 lb	ELECTRAMATE TUNA BRUTE	CUSTOM SEA GEAR (Bandit) reels		

Standard 130 lb class trolling rods require oversized roller guides and tips to accommodate the additional gear affixed to the mainline, like loops, knots, crimps, etc. POP has professionally built greenstick rods made by Fishing Rods of Hawaii that have over-sized rollers by Stuart (pictured), Winthorp, and AFTCO.



Light Style: 130 lb class greenstick rod and Penn International (130) with Electramate 1380GH motor.





Left: The Tuna Brute from Electramate has a 10" x 4" spool, a 130 lb class boom and large block for easy knot clearance and powerful hauling; 12 or 24VDC; and 393 fpm maximum retrieval speed.



The Lindgren-Pitman S-1200 electric reel (12VDC motor). Note: a modified level winder may be needed for knot clearance.

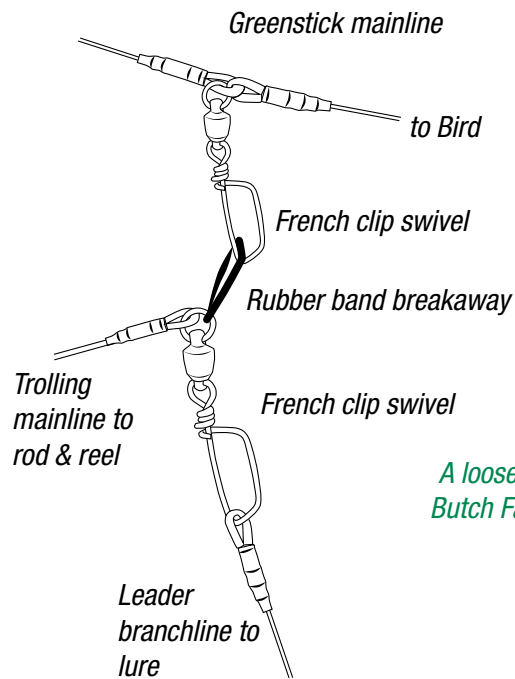


Bandit style reels like the units from Custom Sea Gear have electric or hydraulic options.

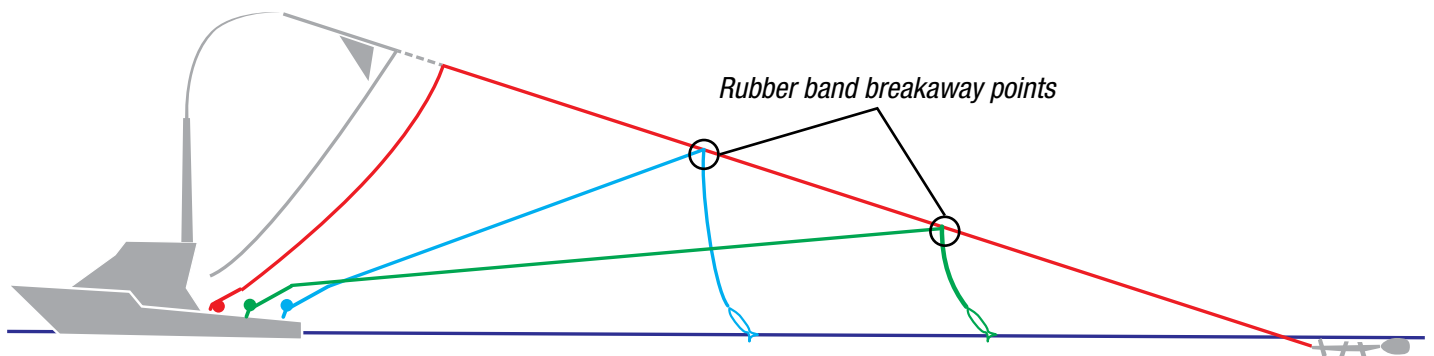
Multiple Breakaway

Much has been made recently about a **multiple breakaway** system, specifically in sportfishing applications. The technique was shared with us by Hawaii fisherman, Butch Farm of Hobbietat who figured it out back in the 1980's. The appeal to recreational fisherman is the ability to fight a hooked fish in a fighting chair in the traditional style.

Mainlines from individual trolling rod and reels (blue and green) are run up the greenstick mainline (red) and attached by rubber band breakaways. When a tuna hits the lure, the line breaks away from the greenstick mainline and all the fight is on the rod and reel's mainline. A hauler would still be attached to the greenstick for bird retrieval and a breakaway (grey dash) would still be attached between the tagline and greenstick mainline, but the purpose of this breakaway has now changed from a fish strike release to a fail-safe release.



A loose interpretation of Butch Farm's sportfishing technique



Frequently Asked

Why should I use a greenstick?

It works. Higher catch ratios and a more engaging experience than traditional offshore trolling.

What kind of greensticks are there?

The Hybrid is a fiberglass carbon fiber composite model and the latest evolution from Hamaguchi, the original manufacturer. The original fiberglass and carbon fiber models have been discontinued by the manufacturer.

Why are they called greensticks? I've seen them in various colors?

Before fishing pioneer Yukinobu Shibata modernized the fishing method back in the late 1960's, the original sticks were large sections of green bamboo, hence the name greenstick. Since then it has been reproduced and painted in different colors.

What size stick should I be using?

The stick may affect your vessel's stability as your center of gravity will be elevated. Larger vessels over 24' with a tuna tower or fly bridge allow for a smaller stick mounted at a higher point. The new Kona Stick (CL model) gives vessels in the 18'-24' range opportunity to install a greenstick.

What style of greenstick fishing should I use? Heavy, medium or light rigging?

The "heavy-rigging" style was originally utilized in Hawaii and the East Coast, but in recent years more vessels use medium or light rigging styles. East coast fishermen were said to extend rigs out over 250 yards, while some Hawaiian fishermen downsized their rigs to 150 yards or less.

Why should I go with a Japanese-manufactured greenstick vs. other brands or materials that may be out there?

The Hamaguchi sticks are the best choice for greenstick fishing. Not only have these sticks had a success rate dating back to the 1970's, but the manufacturer has been involved in making fiberglass products for decades and produces their own fiberglass



Photo by Wayne Davis/OceanAerials.com

materials used in the production of greensticks giving them better quality control. Replacement tips and other parts are now available. Hamaguchi sets the standard in premium quality greensticks.

What is the breaking strength of a greenstick?

The greenstick is a fishing pole. And fishing poles in general have a line test rating but no breaking strength rating. Current fishing systems in the field are using 250-1200 lb test mono mainlines.

I have an older telescoping greenstick. How do I secure it to prevent it from collapsing back into itself?

A piece of rubber bicycle tire tubing and a couple stainless clamps work well here. We have heard of a few individuals who have drilled into the stick and secured it with a bolt or pin.

How should I mount my greenstick?

Forward of the cabin, tuna tower/fly bridge, gunwale or even on the swim step/transom. Overall, mount the stick wherever your vessel is best able to safely accommodate it. Keep in mind, the vessel's stability, deck mobility, and access to engine covers/hatches. Avoid mounting your stick in a potentially weak or non-reinforced area.

What is the tagline and how should I set it up?

The tagline connects the tip of the greenstick to the mainline via a breakaway line. It is recommended a loop be used at the end of the tagline instead of a snap or swivel to prevent damage or injury from recoil during a strike. The length of the tagline is determined by your ability to access the line when you need to retrieve the line to reset, adjust, or break down your gear. The strength of the tagline needs to be greater than the breakaway line but not so heavy that it af-

fects the action of your baits. Polyester line from 650 lb or up to 4 mm in most setups are sufficient.

What should I use as my breakaway line?

Monofilament, Dacron® and cotton cord ranging from 100-200 lb test. It is important that the mainline is able to breakaway from the tip upon strike to mitigate the chances of breaking or collapsing any of your greenstick sections which may lead to vessel equipment damage or injury.

How do I connect my breakaway line to the tagline and mainline?

Have an adequate supply of pre-rigged breakaways on hand. A loop is made on one end. The looped end of the breakaway can then be looped into the swivel or connected loops on the mainline on one end and secured to the tagline via a slip knot. Those using a snap on the end of the tagline can make loops on both ends of the breakaway and snap the tagline snap onto the loop. For safety reasons we recommend a loop on the end of the tagline and securing to the breakaway via slip knot.

What kind of baits should I use?

Popular baits are from Moldcraft, Yozuri or Yamashita. Artificial squids ranging from 4"-12". Dead baits also have been used.

How many baits should I use?

Current systems range between 2-10 baits with most between 4-7 baits. It may be a good idea to start off with a lower number of baits and increase as needed.

How should my baits be fished?

Your baits should be dipping in and out of the water in an up and down motion and not trolling/dragging the surface or swinging side to side.

What kind of hooks should I use?

The impact of the strike can exert tremendous pressure on the stick and we've seen stainless hooks open up. We recommend the specially designed Tosa galvanized stick hook.

What other resources are out there to learn about stick fishing?

Two segments on the locally-produced "Let's Go Fishing" TV show which might give you better insight into the fishing techniques. They can be viewed online at youtube.com or benwongtv.com

What is the importance of the bird design?

The bird keeps the line constantly taut so the baits hang properly over the water. If the bird skips or rolls over because of poor design, it will cause the line to sag and the baits to drag and submerge.

What speed should I troll my greenstick rig at?

The standard is 5-7 knots. The faster you push the



vessel, the more tension you create on the rig. Too much tension will cause premature breakaway. As you learn your system there may be need to adjust the breakaway line's rating to suit your gear and speed.

How do I connect my branchline to the mainline?

Traditionally a longline snap on the welded ring of a 2-way swivel. The light rigging style uses a smaller Japanese snap with an SBL swivel affixed to nylon braided fishing line (Dacron®, Spectra®, micro-Dyneema®) bridles that are looped through the joined sections in the mainline as no swivels are used in the mainline of the light rigging style.

What kind of safety measures should I consider?

Routinely inspect your greenstick, the base and brackets, and mounting areas for wear.

Make sure you have a proper platform to safely mount a greenstick that can weigh as much as 85 pounds. Keep this in mind as you are shifting your vessel's center of gravity.

The tagline may recoil on a fish strike. We recommend using a loop instead of a snap at the end of the tagline and secure the breakaway with a slip knot. Safety eyewear is also recommended.

We recommend a flag on the tagline to signal other vessels that you have a greenstick line in tow.

Disconnect the branchline snap before removing the lure from the water and into the boat, just in case a fish strikes the other connected lures still in the water.

Avoid using a line size or material that will restrict a proper breakaway between the stick and the mainline when it gets stressed.

Can I re-paint my greenstick?

Yes. The manufacturer recommends a high quality 2-part polyurethane coating.



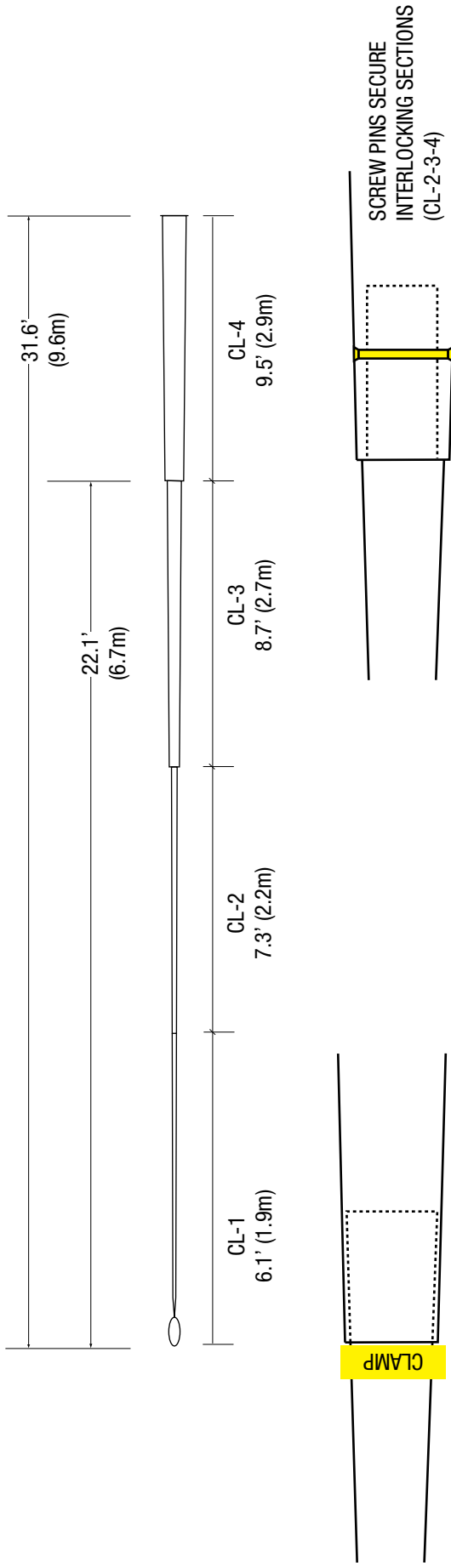
Photo courtesy Kotaro Kurosawa

Greenstick guru Yukinobu Shibata (left) and Captain Bomboy Llanes perfecting the technique in the tuna-rich waters of Kailua-Kona, Hawaii

Please feel free to call us at 808-537-2905 or email sales@pop-hawaii.com to speak to one of our greenstick experts if you have any questions about the hottest fishing system on the planet. We have extensive sales and research material to serve all your greenstick needs.

Hamaguchi Hybrid Greenstick (CL) Specifications Hybrid Model 24 and 32

POP FISHING MARINE

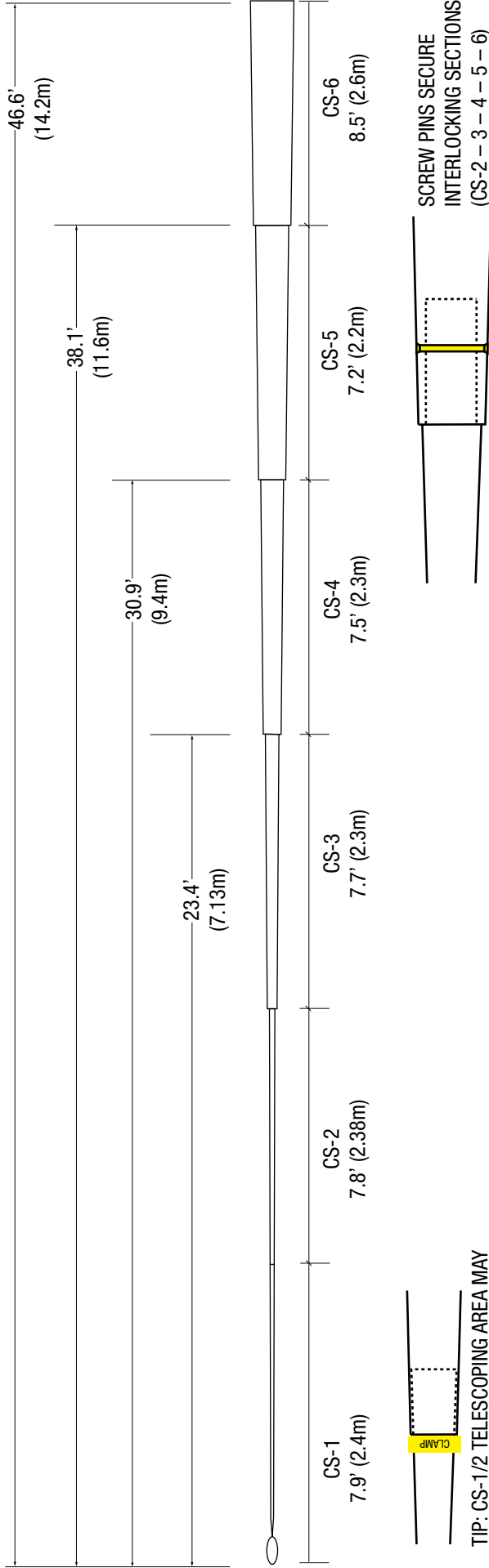


TIP: CS-1/2 TELESCOPING AREA MAY BE SECURED WITH A CLAMP TO PREVENT ACCIDENTAL COLLAPSING.



MODEL	WEIGHT	O.D. (BOTTOM)
CL-32	21.4lb/9.7kg	2.5"/63.5mm
CS-24	11.7lb/5.3kg	2"/50mm

Hamaguchi Hybrid Greenstick Specifications Standard (CS) Hybrid Model 24 - 46



FOR JOINT REINFORCEMENT, EACH SECTION IS SLIGHTLY THICKER (O.D.) ON THE ENDS THAN THE MIDDLE REGION. THE FERRULE PORTION JOINS SECTIONS TOGETHER.

SECTION	A (O.D.)	B (O.D.)	C	D (O.D.)	E (O.D.)	F	WT
CS-1	NA	1.3"/33mm	NA	NA	NA	8.7'/2.7m	3.1lb/1.4kg
CS-2	1.8"/45.5mm	NA	9.1"/230mm	NA	2.6"/65mm	8.5'/2.6m	7.7lb/3.5kg
CS-3	3"/76.5mm	2.8"/71mm	10.2"/260mm	2.9"/75mm	3.2"/80.5mm	8.5'/2.6m	13.5lb/6.1kg
CS-4	3.6"/92mm	3.4"/86.5mm	11.8"/300mm	3.5"/90mm	3.8"/97.5mm	8.5'/2.6m	18.5lb/8.4kg
CS-5	4.1"/105mm	4"/101mm	16.5"/420mm	4.2"/105.8mm	4.8"/106mm	8.5'/2.6m	21.2lb/9.6kg
CS-6	4.9"/126mm	4.7"/119mm	NA	NA	4.9"/126mm	NA	31lb/14kg





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