HOWARD HILL ARCHERY

By Scott Toll

Howard Hill Archery is one of the most successful traditional archery businesses in existence today. Their success may be attributed to having a most significant name, but there is more to this than meets the eye.

I went to Howard Hill Archery this summer to watch them build bows and learn more of their history. It was a valuable experience for me and really enjoyed it. I like to shoot Howard Hill longbows, own three, and have harvested many animals with them.

Howard Hill Archery is located at the foothills of the Bitterroot Range, outside of Hamilton, Montana. Craig Ekin is the owner and he and his family operates their business at their home.

When I arrived at their house, Jason Ekin, Craig's son, met me at the door of their basement where they handle their finished products. We had already met several years earlier at his archery shop in Hamilton when Red Chavez, who builds Bitterroot Longbows, took me there. We were there to shoot the DART system which was set up inside. The archery shop had shooting lanes as well and was fully complimented with modern and traditional equipment.

Jason is very likable and I enjoy visiting with him. We discussed my trip and then continued with hunting stories and archery. He was leaving for South Africa in several weeks on a bow hunting trip and was very excited about it; Consequently, he was having to build arrows like crazy and fill other orders before he left. The phone was ringing off the wall and he was hustling.

At first glance, the basement appears to be a typical archery shop with work benches, fletchers, and all sorts of supplies stacked everywhere, but it is far from ordinary. It is a huge working space with a high ceiling and overflowing with every conceivable Howard Hill product on the market today. The front of the basement is open at ground level with a driveway between it and the building where they make the bows.

The amount of products they move through the basement is impressive. Last year they sold 290 dozen arrows, 250 shooting gloves, 286 dozen Howard Hill Broadheads, 60 Howard Hill quivers, and 130 armguards. They also sell large amounts of raw arrow supplies, bowstrings, bow cases, books, videos, and bow building supplies. They are the only ones who sell full-length, Japanese Bamboo bow laminations for the "Do It Yourself Bowyer."

Jason eventually sold his own archery business. He told me, "I ran it for two years and didn't have enough time for my own hunting so I sold it. To be honest, things were going great and I enjoyed it. It was a full time job but I was working there sixty to seventy hours a week and also working full-time for Dad. I don't regret it a bit because it was a great experience for me."

Jason's experience is a valuable asset for their business now because of his knowledge of modern archery equipment. There are advantages in understanding a compound user before matching him up with traditional archery equipment.

I was eager to visit with Craig, who was building bows at this time, so Jason led me over to the bow manufacturing building to meet with him. They were as busy as ever inside but stopped when we arrived. After shaking hands with Craig, I was introduced to Travis Koch, pronounced, "Cook," Craig's nephew. He has worked with Craig in the bow shop for the last five years.

The bow manufacturing building is approximately thirty-five hundred square feet and was built in 1987. They moved into this facility from the original Howard Hill Archery business which was located a mile from here. They have modern machinery, plenty of working space, and separate rooms for wood storage, finishing, and the gluing up of bows.
There are racks, stacks, crates, and piles of bow building materials throughout this building. Its fragrance reminded me of a high school wood shop. There were huge quantities of yew wood, bamboo, and exotic hardwoods. One of the wall racks had more fiberglass laminations than I'd ever seen in one place. There were at least four, floor mounted belt sanders besides, several bandsaws, a table saw, and other pieces of machinery. Well-lighted workbenches are mounted to a wall with large windows in it. There is plenty of work space around each work station and the shop is safe, even though it appears to be crowded.

I didn't want to interfere with their work so they agreed to let me step back and take pictures; However, it took me several attempts to find a place to stay that was out of their way. They work hard and move constantly as they pass from one work station to the next. I spent the rest of the morning taking pictures, asking questions, and watching Craig and Travis work with groups of longbows.
As a team, Craig and Travis build an average of forty bows a month. They separate work tasks according to which ones they are best at and build bows in groups of four or six to increase productivity.
A major portion of the work that goes into building bows is in the preparation of the components used in their construction Craig grinds limb laminations with a belt driven thickness sander and a taper-board. The Japanese Bamboo they use is shipped to them in large wooden crates. Each piece is full-length, nearly three inches wide, and one-half inch thick with the nodes protruding. They appear to have been split out from an eight to ten-inch trunk. The laminations are marked and cut to length after they have been machined. Travis prepares the riser blocks for the handles sections of the bows. Initially, a square block of hardwood is marked with a template then cut out to rough shape on a bandsaw. The edges are further shaped using a jig set-up on an edge sander. Finishing touches are made with a horizontal belt sander so that the fadeouts are paper thin and square.
There is a special room built for gluing-up bows, with a bow oven mounted on the wall above a built-in, layout bench. Craig and Travis glue up the bows together because the work is faster; preheated bow components stay warmer, and, they can inspect each other's glue coverage.
The components of each bow are stacked together in a sequence that facilitates their order of assembly, and then preheated in the bow oven prior to glue-up. They glue-up two bows per session.

Craig mixes enough Smooth-On epoxy for two bows using a grain weight scale that sits on the bench below the oven. When the epoxy is ready, the first group of preheated bow components is removed from the oven; Then, epoxy is carefully spread onto each piece as it is stacked onto the bow form. As one bow is completed, it is placed back into the oven, then the second set of components is removed and assembled in the same manner. The bow oven door stays closed as much as possible. I took pictures while they glued-up two, five-lamination, Wesley Specials. It took thirty minutes.
Craig will match the components of a bow according to weight and those materials the customer has specified. All of their bows are custom built except for having "stock bows," which they mostly sell at archery tournaments and bow shows. They have a wide selection of exotic woods, fiberglass, limb laminations, and materials for tip overlays.

There are only three bow forms used at Howard Hill Archery and two of them are identical. The other, shorter, bow form is for building kid bows, which is a scaled-down version of their standard model. They have stayed with their same bow design for many years because it has worked out so well for them.
Their bow form is not built the same way as most bow presses are today. It is a simple piece of channel steel, preformed to their specifications by a steel supplier. The shape of the form produces parabolic limbs with approximately, five-eights of an inch backset at the tips.
Vice-grip clamps, twelve all together, are used to apply pressure to the limbs for glue-up. Flat steel is laid on top of rubber strips against the bellies of each limb to provide even pressure and a clamping surface. Two more curved, steel plates hold pressure where the limbs meet the handle. These are held under pressure with a series of J-bolts built for this purpose. To ensure a tight joint at the fadeout, the J-bolts here are tightened one last time before they are finished.
The glued assemblies are left in the bow oven for two hours to cure and then they are removed. At this time, the forms can be removed but it still takes more time for them to cool out enough for handling.
Then, Craig marks the shapes of the limbs with a template before Travis cuts them out on a bandsaw. Travis finishes the shapes of the limbs with a horizontal belt sander before starting to work on shaping the riser.
Shaping the riser is no easy task as it is mostly done with rasps and files. The location of the arrow shelf is marked first and then a small amount of material is removed with the bandsaw. After this, the bow is clamped securely in a bench vice and carved out by hand. Travis is very good at this and once started, never slows down.

When the handles are finished, Craig cuts out the nocks to hold the bowstring. The bow is marked first for the location of the nocks, then clamped vertically in a vice so the work is at eye level. Material is removed with a Dremel. This is a critical task and Craig's specialty. When the nocks are done a string is placed on the bow and its brace height adjusted.
A tiller board is used for balancing the limbs of the bow. Craig uses a wall-mounted tiller board and weight scale for this. There are marks on the board to indicate proper flex but much of this work is done by pulling on the bow and checking its feel through the handle. To reduce the weight in limbs, material is removed from the belly side of the bow.
The bow is sanded down next and given a final inspection before going to the finish room. The finish room is a dust-free area and vented away from the main working areas. Besides a protective finish, each bow is marked for identification and then given a serial number. The serial number helps to keep track of the number of bows built and when they were made. Since 1982, they have built approximately forty-four-hundred of what they call serial number bows but they build other bows as well. The kid bows do not have serial numbers and the Special Edition longbows have their own serial numbers.
The first series of Special Edition longbows was built in 1975, when Howard Hill passed away. It was called, the "Commemorative" and was built in his honor. Since then, they have produced five additional series of Special Edition, longbows. The second series was called, "The Rogue"; fifty were built. The third series was called, the "Jungle Cat"; Only forty of these were built. The forth series was called, "King of the North"; Fifty were built. The fifth series was called, "Three Toes"; Fifty were built. Last year they built a sixth series called, the "Centennial." They built ninety. Surprisingly, most of the Special Edition longbows are used for bowhunting.
The most popular bow sold at Howard Hill Archery today is called the Wesley Special. It has five, full-length bamboo laminations in its construction.

The most popular bow weight sold at Howard Hill Archery is between fifty-five and sixty pounds. They are also selling more sixty-six-inch long, longbows than ever before. This is an ideal length for the archer with a twenty-six to twenty-seven-inch draw.

Contrary to popular belief, Howard Hill longbows are as fast, and faster than most of the longbows being sold today when they are compared with equal length longbows. When fast-flite string is used, they pick up an additional eight feet per second. The shorter bows are becoming more popular because of their increased speed.

As with any bow, the working ranges of the Hill longbows vary with the draw length being used. I have found that a sixty-eight-inch Hill longbow works very well with my twenty-nine-inch draw, even though my own Hill longbows are seventy-inches. Howard Hill longbows can be purchased as short at sixty inches. Jason was taking a sixty-five pound, sixty-six-inch, Wesley Special with him on his trip to South Africa. It casts his arrows 188 feet per second at his twenty-seven inch draw.

After the glueing-up of the Wesley Specials, we all went to lunch together. Afterward, Jason and I went back to the basement. Jason and his South African hunting partner had previously planned to shoot the archery range, which is located on the Ekin's property, that afternoon. Jason invited me to shoot with them.

The Ekin's home rests on a small ridge at the upper corner of a beautiful, seventeen-acre parcel, at the edge of the forest. A small valley runs through the middle of their property which continues downward for several miles until it meets the Bitterroot River. Their place is scattered with pine trees, lush meadows, and large willow thickets that spread out along a creek bottom. Hidden within this foliage is a thirty-target, archery range which includes a full complement of McKenzie 3-D animals.

Several years earlier, Jason and Travis had persuaded Craig to let them build the target range and let other people use it for a fee. Hamilton does not have an archery range, nor do they have an archery club. They knew that it would pay for itself if they built a good one, and they did. The range is open from daylight to dusk, all year, and for a nominal $50.00 annual charge. They have an honesty box at the practice butts for nonmembers, or guests of members and ask for $5.00. With Jason's business contacts, they were able to purchase their targets at very reasonable prices.

It is one of the best 3-D courses I've ever had the pleasure to shoot. The stakes are set at reasonable hunting distances with its targets positioned in realistic hunting situations. There is a tree stand high in a tree above two of the targets. Most of the targets run along the creek and require kneeling shots to gain clearance through brush. It is open to all archers of every sort, including traditional and compound bow users.

After we finished shooting the 3-D course, Craig, Jason, and I settled down in the living room. We discussed details about their business and personal feelings about archery. I met Craig's wife Evie, and daughter Mindy, who handle the bookkeeping for the business. Later, I met Chad, who is their youngest son. He is attending college and playing baseball. Ted Ekin, Craig's dad, started out in the archery business in 1953 when he formed a partnership with Dick Garver to open the Shawnee Archery Shop in Sunland, California. Their connection with Howard Hill started several years later when Dick met Howard at a property owner's meeting in Los Angeles, California. Dick was running for a position on the City Council and Howard was there to contest the building of a new freeway through his property. Dick helped Howard in his efforts, but needless to say, the freeway was built anyway. The Garvers and Ekins became close friends of Howard Hill in spite of this. Howard, Ted, and Dick decided to go into business together in1958 and so the Shawnee Archery Shop started to sell Howard Hill Productions equipment designs for the first time. Before this, Howard had never really been in the bow building business. He built his own,

of course, but only built them occasionally for friends and acquaintances. He sold his broadheads and performed shooting exhibitions.
In 1960, Howard Hill Productions was incorporated as Howard Hill Archery, Inc. and was moved to Sun Valley. Ted Ekin, Dick Garver, and Howard Hill all held shares of stock in this new venture. This adventure fell through however, in 1962, but the Shawnee Archery Shop, now called the Shawnee Archery Center, had always kept selling Howard's equipment. When the Sun Valley business fell through, Howard, Ted, and Dick agreed to continue selling Howard's equipment as they had before.
Craig was a young boy and worked at the store for his father during his summer vacations. At eight years old, he was responsible for building and stocking the kiddy arrow bins in the business. That was in 1958. They handled all sorts of other sporting goods as well and he continued to work during his summers while he grew up.
In 1968, Ted and Betty Ekin sold their interest in the Shawnee Sports Center but retained the rights to produce and sell Howard Hill Archery equipment. They moved to Hamilton, Montana, and with advice from Howard, started the Howard Hill Archery business.

In 1979, Ted Ekin passed away and Craig stepped in to help with the business. Howard Hill Archery did not build their own bows; In fact, they had always contracted with other bowyers to build their bows for them until 1982. That is when Craig started building all of the bows.
John Schultz built bows for Howard Hill Archery from 1969 until 1975. Jim Darling made the bows prior to Schultz. Ted and Lee Kramer supplied bows from 1976 to 1980. Tim Meigs and Dan Schulz were also building bows for them.
Craig has a good collection of the various longbows made by previous bowyers. That evening, Craig pointed out their differences to me, then compared them with several longbows that Howard had made.
Dan Schulz learned to build longbows from Howard himself in the early sixties and was supplying most of the longbows when Craig took over. Dan was a sheet rocker by trade and built bows as a part-time occupation. He wanted to get out of the archery but Craig needed him. In the end, Dan taught Craig how to build the bows and obviously taught him well. Craig admitted that he has never seen anyone else build bows. Since 1982 he has built nearly five-thousand Howard Hill bows.
One of Craig's beliefs is that an archer should never overbow himself. He shoots a seventy-five-pound longbow himself but is very capable of handling this much weight as I found out later. He told me,
"There was a time when I pulled 172 pounds. I even had a 160 pounder that I shot, but not a lot. I drew it about twenty-seven-inches and normally pulled twenty-eight. I was in my early thirties. I had minor injuries when pulling this weight but never anything that lasted more than two weeks. The main thing that I did was on my pulling hand; I strained a finger. Another injury had to do with having strained ligaments in my bow arm, shoulder socket because the arm would set so much further in. Muscles grow quickly but not tendons and ligaments. So even if you are really strong and jump into heavy bow pulling, it takes much more time to build up the tendons and ligaments that support the stronger muscles."

When Craig used to pull heavy bows he used a 125 pound longbow to work out with. He did a several different exercises with it. One exercise was to pull the bow back and hold for as long as he could. He could pull a 125 pound bow back and hold it between twenty-five and thirty seconds. The other exercise he did was to pull this bow all the way back and then let it down slowly, then keep repeating this.
Whenever Craig cannot talk a customer out of too much weight he tells them,

"Whatever you do, don't loose an arrow out of that bow for a week. Take the bow and work it like it were weights. Do this by pulling it back until you can't hold it anymore and then pulling it back repetitiously until you can't pull it back at all."
He tells them that after about ten days they will be into that bow unless they are outrageously overbowed. Craig continued with,
"If they can shoot a seventy-five pound, compound, the muscles are there. They just haven't worked that last half of their draw before. I try to remind them that they haven't used those muscles when shooting a compound or have not been shooting a bow at all. They have to make sure that they do not develop bad habits by shooting a bow that is too heavy for them."
When Craig builds a bow that pulls more than 110-pounds he will not build it with any other material than bamboo. Other materials do not handle this kind of stress. He has built a number of bows which pulled between 110-pounds and 125-pounds, and a few between 125-pounds and 150-pounds. The heaviest bow he ever built was for Chief AJ which weighed 207-pounds at twenty-eight-inches draw.
After supper, we went to the basement to play with some of their heavier bows. There were two, already strung, laying on the top of a bow rack which held more than fifty other longbows. One of these bows had a pull-weight of 90-pounds and the other, 115-pounds. Jason and I were pulling on the lighter of the two when I noticed Craig pulling back the 115-pounder. He was toying with it! First, he would hold it back at his anchor, and then slowly let it back down. He was working with it in the same manner as the exercises he'd mentioned earlier. He just turned fifty this year and is certainly not overbowed by his seventy-five-pound hunting bow.

We spent more time in the basement looking at various personal items which belonged to Howard. This was most enjoyable for me. There is a set of Cape Buffalo Horns hanging on the wall and a ten-foot snake skin, tacked out on a board, right below them. Howard collected both of these trophies when he traveled to Africa in the fifties. An arrow spine chart that Howard made for the business in the fifties hangs on the wall. It uses a graph-like format, with curved lines running throughout to indicate bow poundage. There is a wooden, eight-arrow, fletching jig Howard made back in the late twenties. It is more complicated than reading the spine chart. It was a real pleasure for me to look at and handle longbows that Howard had actually built. They had three of these beauties, including two that he'd built for an NBA basketball player and his girlfriend in 1939. All three longbows are fiberglass backed with multiple-pieced, laminated handles. The basic dimensions are the same as those made today with an exception of having more backset in their limbs.
Craig brought out an old cardboard box containing a set of Howard's buckskins, which matched, in every detail, with those he wore in his earliest hunting pictures. They are sweat- stained and have cigarette burns on the front side. I had never noticed the built-in armguard on the bow arm sleeve before.
There is a worn out backquiver of Howard's hanging on a nail in the wall. It contains several of the special arrows he used to use. One arrow is blunt-tipped, with high cut feathers. It was an arrow he used for stunt shooting in the original filming of Robin Hood, with Errol Flynn. Another is an arrow he used for hunting elephants with in Africa. It has a prodigious broadhead welded onto a five-inch, steel shank, which is inserted into an aluminum shaft.
Travis brought out a box which contained family photographs, news paper articles, and letters with Howard Hill in them. He had gathered it together several years earlier by rummaging through the basement and gathering it into one place. One priceless picture was a snap-shot of Howard sitting in a lawn with his longbow. It was taken in 1975 and is

the last known picture of him pulling back a bow before he passed away that year. We spent a great deal of time just looking over the unpublished photographs and discussing them.

The Ekin family's relationship with Howard Hill lasted for many years in business and as a friend of the family. Their genuine respect for Howard is still obvious in the way they speak of him and run their business today.

When I asked Craig what he thought Howard might think of their operation today, he replied,

"He was always looking to make it a successful business. I'd have to say that he would be happy with the way things are progressing because we are doing our best to get the products to the people in a timely fashion. He always wanted that. I think he'd be proud of what is going on up here because it is probably more successful today than it ever has been."

"We are building the best bow that we can and as close to what Howard made with the materials we have today; However, if there were a few things that Howard didn't like, we would change it."

I asked Craig if they had discussed any future plans for Howard Hill Archery. He smiled and said,

"We've discussed the ideas of different bows and components, but it has always been along the lines of increasing production, not decreasing it. One of these days I'm going to die, maybe even before I retire. They're (Craig & Travis) trying to encourage me to retire now! They're young and have new ideas; I'm tired and want to sit back and rest. It might be better, down the road, to just back off and let them go with it."

Jason's remark to this was, "Yea, we finally got the 3-D range!"

I doubt that Craig will retire in the near future but, if he does, the business will certainly be left in good hands.

My trip to Howard Hill Archery was a great experience for me and the Ekins are great people. I would recommend a tour to anyone interested in a Howard Hill experience, too. It is comforting to know that Craig and his family will continue to keep the spirit of Howard Hill alive by their efforts to build the longbows he liked so well.