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lssue #383

34 On the Cover

Backbone Built Bikes stuns with a cool Softail bobber. Photo by Don Kates/Shooters Images

26 Review: 2020 Indian Challenger





NEW BIKES, CUSTOMS & CLASSICS 26

2020 Indian Challenger Fixed fairing contender

34

Farm Girl Backbone built bobber

40

Dual Sportster Preston Petty parts



76 CAI: 1946 Harley Knuckle My buddy's bike

FEATURES

4.5 Beer Budget Bagger Part III: Museums & shows

52 Kickstart Classic Ride And TN Music Fest



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NUTS & BOLTS 24 Techline Carb function

56 Hog Helpline Recalls, vibration & oil spills

58 Daytona Bike Week Build Part II: Swingarm, wheels & brakes

52 Indian Scout Suspension Bobber shock upgrade

64. Mikuni Carb Install Set up & tune an HSR



64 Mikuni Carb Build

62 Fox Shocks on a Scout Bobber





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58 Daytona Bike Week Build

Memories

Letters

DEPARTMENTS

Shifting Gears

Ride to Work

Quoted & Noted

Holiday Widgets

Safety Skills

12

14

16

18

20

70

82





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New Riders & Win a New Bobber

A growing number of younger riders wrenching, repairing, and riding motorcycles

see a new wave of riders on the horizon. And that's good news for the industry. A few years ago, most people we saw with or on motorcycles were over 40 years old. That wasn't good news for the future of the motorcycle industry as too many riders are graying out and moving on. We need to replace them with the next generation of younger riders. Granted, we older riders tend to have higher disposable income for new motorcycles and parts than younger ones, but the future belongs to the youth. We are seeing a growing number of younger riders wrenching, repairing, and riding motorcycles. Think low-dollar Sportsters, custom Dynas, and the strong resurgence of popularity of FXRs.

I recently attended the Tennessee Motorcycles and Music Revival (TMMR) in Hurricane Mills, Tennessee (article on page 52), and was impressed by who and what I saw there. I was pleased to see so many young families there and impressed by the quality and diversity of custom bikes being ridden and displayed at this relatively new and growing event. Walking through the custom bike display (it wasn't a contest, but more like a gathering of craftsmen-most of them under 35 years old) with show promoter Bill Dodge, I was blown away by the quality and creativity of the builds. Bill told me a little about each of the

bikes and builders and what I heard was impressive.

One way to predict the future of our sport is what the younger riders are building and riding. And, based on what Bill told me and what I saw with my own eyes, the future of the custom bike market is bright. Non-believers need only check out the fine details of these machines — both subtle and lavish — from the young builders at TMMR, many of them displaying their first or second custom builds. I was so excited by these motorcycles that we are sharing some of them in this issue.

This is all thanks to the efforts of people like event promoters such as TMMR's Carrie Repp and Buck Shaw as well as Billy Lane and his hot and growing Sons of Speed boardtrack races in New Smyrna Beach, Florida, and just about anything Roland Sands or Jody Perewitz is involved in. We are seeing more of these grass roots

events springing up around the country with a younger, hipper vibe. There are more, and they are all great for the sport and great for the industry.

Print Is Not Dead! Our 2020 Plans

While the number of print motorcycle magazines continues to shrink, we at our privately owned and published TAM Communications are holding our own and bucking the trend going into 2020. We are still publishing 13 great issues a year of American

Iron Magazine. We are rebranding our all-tech and DIY Garage Build back to the original American Iron Garage with four issues a year. Our best-selling American Iron Salute issue will be back. And after a long hiatus, we are seriously considering bringing back our old Indian Motorcycle Illustrated as an annual newsstand-only special issue.

Whoever said print is dead isn't paying attention to our magazines or our active and engaged readers like you! With that in mind, I'd like to remind everyone that we can't do what we do without your support. And that means subscribing for yourself as well as for any and all of your friends who would enjoy what we do here.

Win A Free Motorcycle—Really!

This is the last issue of the year. If you have not yet subscribed to this magazine, what the heck are you waiting for? Subscribers get all 13 great issues a year (yes, we still publish every four weeks) for only \$29.97 (SAVING YOU \$73.90 A YEAR!) and all US subscribers are entered to win a free new Indian Scout Bobber! Someone will win it; might it be you?

But you must act quickly, as we are drawing the bike winner the end of December. Subscribe now—sign up at www.AIMag.com or call 877/693-3572. Ride safe, ride smart, have fun.

Buzz Kanter *Publisher/Editor in Chief*

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Give the Gift

Helping someone relive a fond old memory is priceless

nce again, I have been afflicted with writer's block. So, I turned to my staff for inspiration and Art Director Tricia said, "Why don't you write about gift giving for the holidays? We have that huge Holiday Widgets section starting on page 70." At first, I thought, "Nah, I got nothin'. I'm not gonna shill." Then some other things happened to influence this column.

Recently, my wife and I attended a birthday celebration for her niece. One of the gifts she received had us all scratching our heads, but it was the one she was most excited about receiving. It was an acupressure mat and pillow. If you've never seen one of these, go search online. It's a mat and pillow you lay on that features hundreds of sharp plastic discs that contact your skin and stimulate blood flow. The discs are not sharp enough to cut you, but they are rough to the touch. Maybe not my cup of tea, but then the gift wasn't for me. She really couldn't wait to try it out. So that got me thinking, the happiness and excitement exhibited upon opening that gift will happen all over the world pretty soon, so I wanted to come up with some motorcycle-specific ideas to help you spread the joy. Here I would like to give you some inspiration if you're having trouble figuring out what to give to your motorcycling friends and relatives this holiday season.

Watching TV with my wife, we saw an old commercial for Tootsie Pops. Remember the old cartoon commercial with the wise owl and the kid trying to determine how many licks it takes to get to the chocolate center of a Tootsie Pop? Somehow, they never made it past three licks. Well, anyway, this nostalgic commercial made me think of a cool gift for a motorcycle friend. I'm going to find an old magazine advertisement or dealership brochure with a picture of his bike, and frame it for him as a gift. Helping someone relive a fond old memory is priceless.

That commercial was followed by one for pizza. I remember giving my sister gift cards to her favorite pizza place one year, and what a hit that was. You might not think that was a big deal, but when you have three kids to feed and not enough time to cook, those gift certificates come in mighty handy, I'm sure. So, a gift certificate from the local dealer, bike shop, or online parts wholesaler might do the trick.

There are two schools of thought on gift giving: Give the person what they desire. Something that would make him or her happy, because he or she was hoping for it. In essence, you are granting a wish, or making a dream come true. But

on the other hand. giving something unexpected can make the holiday special too. A complete surprise or giving something the person didn't even know they'd like can really catch them off guard and put a smile on their faces. Actually, there is a third school of thought: Give the gift of

laughter. A gag gift always works.

You could give something old, like a motorcycling antique. An old collectable like a branded biker keychain or tool. I just saw a vintage wrench embossed with the Indian logo on eBay for 30 bucks. That would look cool mounted to a wooden plaque hanging in someone's man-cave. Or you can give something new, like a framed picture of their bike, or take 12 pictures of their bike and have a monthly calendar made for them.

Or give a motorcycling experience. Tickets to one of next year's AFT Flat Track races would be fun. And did you know you can already buy event tickets to stuff that's happening at Sturgis 2020? Heck, a zip-line ride is only \$17.50. Now your riding buddy has to go to Sturgis with you next year to use that zip-line ride reservation.

There's an art to listening. Even if your motorcycling friend didn't intend to give hints, you can often figure out things they would enjoy receiving by what they say. A friend who compliments you on how clean your bike always looks might enjoy receiving a bike wash kit. Just be sure to tell him it's not an insult, like, "Your bike's a mess, bro. Here, go clean it."

At that birthday celebration for my wife's niece, we all lamented how there were only a few weeks until Christmas, so we'd better get busy with our shopping. Then, someone brought up the fact that Amazon can guarantee quick delivery, for a fee of course. So, I guess money can buy happiness. (A tip for those who are hint impaired: Leave this magazine open to this page on the coffee table.)

Steve Lita Editor Steve Lita

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Avoiding Simple Road Traps

Improving on-the-road situational awareness

ith a reported 40% or higher of motorcycle crashes being related to single vehicle incidents (i.e., motorcycle only), it is obvious that we as riders are making mistakes we shouldn't be. A large portion of those crashes are related to speed and though hard to believe in this day and age-alcohol. The simplest solutions to these two problems would be to ride at a reasonable speed in all conditions and instances (road surface, traffic, weather, skill level, etc.) and to ride sober. Besides these more than obvious tips, what else can we do?

As discussed and reviewed here multiple times, becoming more proficient with skills and situational awareness through education is a major key to preventing unwanted scenarios that develop into crash situations. Most of us already know that drivers do not see us, that crashes occur more often at intersections, and that there are many reports of crashes that happen in one's neighborhood because of complacency and other factors. We should be using this information to protect ourselves.

They don't see us. Consider what we can do to help avoid that. Some folks say you should ride like you're invisible. That could be a good start, but at the same time, strive to be as visible as possible. Think about wearing brighter colored riding gear to better stick out when riding instead of donning black apparel and accessories. Adjust your lane position to be in the most noticeable spot, one that also offers good visibility ahead of and around you. Stay out of blind spots. You know what you can or cannot see when driving a car; use that information to fine-tune your placement. Increase the distance/space between yourself and other vehicles when in traffic. Granted, depending where you are riding, it may be hard

to make spacing adjustments due to traffic conditions, but you can still take steps to cover your controls in the event a quick reaction is needed.

Covering your controls is also a good method to use when approaching intersections – be ready for anything to happen. When approaching an intersection, scan the area as often as possible for any potential situations; all the "What Ifs" that could happen. Note the timing of traffic lights, adjust your speed and lane position, and always look for a way out before a potential crash happens. We know left-turning vehicles into our path of travel is the number one cause for a multi-vehicle crash at intersections, so adjust accordingly. Again, they don't see us, so never expect them to make proper adjustments or exercise good judgment—we as riders are responsible for performing the right actions and for our own safety.

Also, with intersections, while waiting at a stop, be aware of what is going on behind you and if there are multiple lanes. Likewise, do not instantly take off when the light turns green; there may be someone running a light. Plus, with your hesitation to go, make sure the traffic behind you isn't just going without looking at you. The visual scanning, lane positioning, and speed adjustments are just as important for side street intersections as they are with any four-way crossing.

This also is the case when entering community/neighborhood areas. As with every moment we ride, be aware of your surroundings, road conditions, traffic, intersections, pedestrians, etc. and be ready for anything.

Another big source for crashes, whether single- or multi-vehicle, pertains to corners, curves, and turns. Possessing the proper skills combined with developed situational awareness are crucial to avoiding an unwanted outcome when cornering or making a turn. Reading the road is important, especially in cases where there are not even road signs to give you a heads-up. Besides looking ahead and as much through a turn as you can, the correct speed adjustments for everything discussed above (all conditions, skill level, and even bike capabilities) can be a life saver. It is always better to err on the side of caution by going slow into a curve; you can always throttle up. When coming into a turn too hot all kinds of problems can develop.

Being aware of what's going on all around us as we ride is important; things change as quick as we roll. Backing up your situational awareness with continued education to be more proficient with your skills is just as important. To avoid those simple road

traps and even ones we don't even think about requires us to always think: "What If?" Our goal is to be a Monday Morning Quarterback on Saturday. Thinking ahead, contemplating every scenario, and making constant adjustments will help us get home and ride another

day. AIM

WHERE THERE'S A RIDE, THERE'S A STORY

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AMA Honors Genevieve Schmitt with Bessie Stringfield Award

MANY OF YOU MAY remember Genevieve Schmitt from her time as a columnist at *American Iron Magazine* and will be interested to know that American Motorcyclist Association (AMA) has recognized her efforts in introducing motorcycling to new or underserved markets by bestowing her the Bessie Stringfield Award. AMA Chairman of the Board Maggie McNally presented Genevieve the steel and

glass engraved award during a reception at the AIMExpo in Columbus, Ohio.

Genevieve is a motorcycle journalist and spokesperson in her own right with a focus on women's motorcycling, bringing relevant and timely content to the growing population of female riders. Aside from *American Iron Magazine*, she has written for nearly every other motorcycle magazine and worked as a reporter for Speed Channel and Outdoor Life Network. Genevieve went on to launch WomenRidersNow.com. which has grown to become the largest resource for women motorcyclists and the men who ride with them.

"I am truly humbled and grateful by the AMA choosing me to receive this award," says Genevieve. "This recognition is a nice validation of the work I've done with women and motorcycling for most of my journalism career."

AMA's Bessie Stringfield Award is but one more instance of validation of the work Genevieve has put out over the years. Genevieve is also a two-time motorcycle Hall of Fame inductee having been inducted into the Las Vegas Motorcycle Hall of Fame in 2017, and the Sturgis Motorcycle Hall of Fame in 2001.

Long Way Sequel A Long Time Coming

ACTORS EWAN MCGREGOR AND CHARLEY BOORMAN will return to make *Long Way Up*, the third entry in the *Long Way* British television series which sees the duo travel "the long way" on their bikes, first across Europe (*Long Way Round*) and then through

Africa (*Long Way Down*). This time around, they will be travelling across the American continent all the way "up" starting from Argentina. Their vehicles of choice? None other than electric motorcycles—Harley-Davidson LiveWires, to be exact. Not much else



is known about McGregor and Boorman's latest riding adventure but as can be expected with any travelogue centered around famous stars, they will be followed throughout their journey by a wellequipped professional film crew, presumably one with batteries to take care of any nagging e-vehicle charging issues along the way.

Corbin Saddles Donates Joe Petrali Statue to Wheels Through Time Motorcycle Museum

MIKE AND BEV CORBIN of Corbin Saddles will be donating a Jeff Decker full-size bronze statue of "Smokin" Joe Petrali, famed Class A racer and winner of 49 AMA national championship races, to Dale Walksler's Wheels



"Our precious piece of motorcycle art that we have had on display in our Elorida facilities for over 20 years will now be enjoyed for years

to Dale Walksler's Wheels Through Time Motorcycle Museum in Maggie Valley, North Carolina.

in our Florida facilities for over 20 years will now be enjoyed for years to come under the passionate and loving care of the Walksler family."

MOTORCYCLING AND RELATED INDUSTRIES ARE UNDERGOING ECONOMIC GROWTH

DATA FROM THE US BUREAU OF ECONOMIC ANALYSIS (BEA) HAS determined that Motorcycling, ATV riding, and side-by-side driving are among the five largest traditional or conventional outdoor recreation activities when ranked by economic output.

In a release, the BEA states, "[The] inflation-adjusted (real) GDP for the outdoor recreation economy grew by 3.9 percent in 2017, faster than the 2.4 percent growth of the overall U.S. economy. Real gross output, compensation, and employment all grew faster in outdoor recreation than for the economy as a whole."

Motorcycling/ATVing/SxS driving ranks third in the five largest conventional outdoor recreation activities by economic output, raking in \$9.1 billion.

"We have long known that motorcycling, ATV riding, and side-by-side driving are major contributors to the economy, to our country's GDP, in so many ways," said Tim Buche, president and CEO of the Motorcycle Industry Council (MIC). "We boost local economies, too, and not just through powersports dealers and retailers. Our enthusiasts book hotel stays, pay park fees, buy food, supplies, and other gear they need for all sorts of great outdoor adventures."

As a not-for-profit national industry association, the MIC seeks to support motorcyclists by representing manufacturers, distributors, dealers, and retailers of motorcycles, scooters, ATVs, ROVs, and motorcycle/ATV/ROV parts, accessories, and related goods and services.

"[The] release of state data is a significant step forward for the entire outdoor recreation industry," said Jessica Wahl, executive director of the Outdoor Recreation Roundtable, a coalition of outdoor recreation trade associations which the MIC is part of. "This second full year of national data—together with prototype statelevel numbers—proves that our industry is a driving economic force across the country."

A Decade of the Ultimate Builder Custom Bike Show

THE ULTIMATE BUILDER CUSTOM BIKE SHOW (UBCBS), SPONsored by J&P Cycles, will be returning to the 2019/2020 Progressive International Motorcycle Shows (IMS) tour hitting eight major cities across the US. This will be the UBCBS's tenth year going. In that time, it has showcased over 3,000 custom builds. "We're proud to support the 10th anniversary of the Ultimate Builder Custom Bike Show at IMS," said Zach Parham, President of J&P Cycles.

"The Ultimate Builder Custom Bike Show has probably helped more new





builders than any other competition in the world," said Bob Kay, a well-known member of the American Custom and V-Twin motorcycle community and director of J&P Cycles Ultimate Builder



Custom Bike Show. Kay will be bringing UBCBS to a new city with the addition of IMS's new debut tour stop in Denver.

Builders and fabricators of all stripes can enter the 2019/2020 UBCBS competition. Participants in each city tour stop may enter their custom bike to one of the competition's categories: Freestyle, Custom Street, and Custom Classic. There will also be the opportunity to take home the People's Choice award. Judged by a panel of industry experts, winners will be invited to compete in the championship round in Chicago for a



chance to be crowned King of the Builders.

Those interested in competing in the UBCBS can register online at www.MotorcycleShows.com or on-site for one or all eight shows this season. There is a \$50 registration fee per entry.

Briar Bauman Crowned AFT Twins Champion

AMERICAN FLAT TRACK (AFT) crowned Briar Bauman the 2019 AFT Twins champion following a wild and tense Indian Motorcycle Minnesota Mile in Shakopee, Minnesota.

Multi-time reigning champion Jared Mees attempted to turn the tides by winning his seventh AFT Twins Main Event of the season, but it was clear that Bauman only needed to finish on the podium to get the crown; a feat he had already accomplished this season 14 times in 16 attempts.

But this was not a smooth event for Bauman. He was embroiled in a high-speed crash in the early stages that involved numerous other racers, including his brother Bronson Bauman. As a result of this crash, his path to the podium would have to begin from the back row.

Undeterred by this set back, Bauman clawed his way up to the fight for second place. The moment of truth occurred as Bauman and Bryan Smith came together exiting Turn 4 for the final time. Smith narrowly beat Bauman, but in the end third place was just fine for Bauman, who always aspired to race with his heroes. "I've dreamed of this my whole life," an emotional Bauman uttered, "I used to have posters of Bryan and Jared hanging in my room growing up. And to win it ... I can't even put it into words."

Mees took Bauman on his victory lap. "My goal was to win these last two races," Mees said. "Being 35 points down, it was really going to take some



extremely bad luck for Briar—which almost happened to him. But he has a phenomenal team and they worked endlessly to get that bike put back together and back up front. I knew once he re-entered the race, he was going to get third." **AIM** We welcome letters on any subject, whether we agree with the writer or not. Photos should be high-resolution JPEG images (at least 300 dpi at 4" x 6"). Please include your name, address, and a brief description. E-mail them to Letters@AmericanIronMag.com.

Dear Motorcycle Industry...

Just read Rick Fairless' latest column about Dr. Pepper and Beer Nuts. I've been reading that the motorcycle industry is racking their brains trying to get a younger audience to try/start riding.

I am 61 and like Rick have been riding many years. The difference between Rick and myself is that as a young teenager I was not lucky enough to have an entry-level bike of my own to ride. But an awful lot of my neighbors and friends did.

They were kind enough to let me try riding their bikes. I became hooked and, after many nights busing tables and washing dishes, saved enough money for my first bike: A used Honda CB175.

Needless to say, I've had many bikes over the years.

My question to all the motorcycle manufacturers is: Where are all the kids' entry-level bikes? I just checked the Honda web site. A 50cc dirt bike is 2k with tax.

That's the problem. Two thousand dollars for a 50cc bike that your kid will outgrow in six months is way out of line.

Bring back the trail 50s, 70s, 90s, 125s, 175s, 250s, etc. The pricing should all be less than a grand. How do you expect young dads and moms to get their kids riding when the smallest bikes cost a small fortune?

If there is a will, there is a way. Somebody is building all those smaller bikes in various Asian countries. Start up the kids' bike program again. You won't be sorry. And as a side note, with kids' bikes you don't have to update the styles every year; maybe a different color every few years. I'll be watching for my own grandson's first bike.

> Jay Jenkins Prescott, AZ

Properly Paranoid

For Don Gomo: You are so right that we have to take more responsibility for our own safety and realize our griping about the carelessness of others isn't going to fix much. I'm reminded of a thread the prolific safety writer David Hough had in one of his books on the subject. He relayed how anytime someone tells him a story of an automobile



WHITE-HOT CUSTOM

I had this 1995 Harley-Davidson Ultra Classic for about three years, and it was just time to make it mine, make it different from all the rest of the bikes I saw. I'm most proud of just being able to do pretty much everything myself. When someone asks who built it for me, I can say



I did. Now everyone thinks it's beautiful and way newer than it is. Some even ask if it's a limited-edition Harley-Davidson.

> Randy Fultz Sinking Spring, PA



DREAMING ACROSS GENERATIONS

I grew up with a love for motorcycles from my daddy; he was an old school greaser. A Fat Boy was always my "untouchable" dream bike. I knew we could never afford her cause my husband is disabled so we're on a very limited income. So, when my baby rolled in the yard with my dream on the trailer, there was no stopping us—we had to make a custom build. So, I'm continuing that love of motorcycles my father shared with me and passing it on to my six-year-old daughter; she rides everywhere we go.

Debra Mefford Prattville, AL





WITH A LITTLE HELP FROM MY FRIENDS, PART 2

I wanted to drop you guys a note and photo of my second project bike. I had so much fun with my 2011 Wide Glide [Letters, issue 372], I decided to do a mild custom Softail. I found a screaming deal on a 2012 Blackline with under 4K on the clock; the paint showed some age, but the bike was solid. I had my good friends Jimmy and Barry Rogers strip down the bike for paint and powdercoating. My good friend Raymond Thorson stripped and powdercoated all the chrome parts. I found an incredibly nice guy named Patrick at Bad Apple



Graphix in Houston, Texas. Patrick laid down the H-D logo in dark cherry over perfect black, cleared and sanded to perfection. I ordered up some parts from my favorite online distributors, and Jimmy and Barry completed the build. The bike is fun to ride and turns heads wherever I go.

Dave Gough Cypress, TX

BREAKING OUT THE MUSEUM PIECE

I wanted to rebuild and ride this 1977 Harley Davidson FXE Super Glide again. The bike was stored and had not been ridden for eight years. I did not want to see it deteriorate anymore.

Jack Sund Savage, MN or truck driver causing them to crash, he listens patiently, nods at all the right times, and then responds, "Why did you let them get you?"

But let's face it: A lot of riders are more interested in living an image than in safety. How many times do I read in a forum someone asking about removing their front brakes, and others chiming in that it's fine, you just have to be more careful? (Perhaps the ones who crashed into an errant child running across the road are too embarrassed to chime in? Or the ones who are simply dead from a crash for lack of front brakes?) I'm heartened to see so many others, patiently and otherwise, explaining to them that they are nuts.

By the way, I have a story of how David Hough probably saved me from a crash. Anytime he rattled off various dangers in his books, he probably included diesel spills. This was something I read but was mostly ignorant of being much of a problem, until one day I was following a school bus and smelled something vaguely familiar to me. As I approached a four-way stop in my Dodge Caravan, I felt the ABS kick in strong, and noticed I wasn't stopping like I wanted to. It didn't cause an accident but at that stop the smell was very strong. Obviously, the bus had a leak, and when it stopped it left a puddle and not just a trail. Putting two and two together (I am a math professor), I realized that's what David was writing about. A couple weeks later, I was on my motorcycle and about to get onto a downhill on-ramp for I-40 near Oklahoma City, and there was that smell again. I looked down the ramp and saw a large spot of discoloration the width of the driving lane. I rode to the shoulder to avoid the spot and thought about what might have happened had I not been made paranoid by Mr. Hough's writings and my experience in the minivan.

Mike Dougherty Weatherford, OK



New Gear, Retro Look

This is my girl, Bouncing Betty. She is a 2018 Softail Street Bob. I bought her brand new at Old Fort Harley-Davidson in Fort Smith, Arkansas. I added the sissybar, Saddlemen step-up seat, Memphis Shades gauntlet fairing, Bassani radial sweepers exhaust, RSD black ops turbine air cleaner, headlight rock guard, and had her painted OD green with the stencil style lettering. Everybody is always extremely surprised to find out she's a 2018 model; they always think she's much older.

> Kevin N. Poor Wister, OK AIM

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CV Keihin Carburetor Function 1989 to 2006

arburetion on a Harley-Davidson, or any engine for that matter, is all about compromise. It is rarely perfect because of the weather's barometric influences and the overlapping of carburetor slowspeed, mid-range, and high-speed fuel circuits where each has a specific, primary function.

Barometric pressure is important to carburetor function because in the earth's atmosphere, high-pressure air flows continuously into low-pressure areas. The sun's heat or lack thereof creates these pressure zones. Heat causes air to expand, lessening oxygen levels, and cold causes air to contract, thus becoming denser with oxygen. Thinning air complicates this with a steady decrease in oxygen as altitude increases. Air density and related oxygen levels affect engine function. Furthermore, air's moisture content muddles consistent smooth running since warm air is capable of holding more water evaporation while cold air has less capacity. This exerts further influence on the persnickety carburetor so dependent on the laws of physics to function. I say persnickety because electronic fuel injection brings predictability and preciseness to fuel and air delivery.

The overlapping low-speed, midrange, and high-speed circuits have different size fuel jets and needles. Each addresses the specific needs of increasing or decreasing engine air/ gas requirements. These transitioning conflicts sometimes result in temporary engine stumbling (too much gas) or starving (too much air) conditions.

A traditional choke is replaced by an enrichener circuit to richen the air-fuel ratio (AFR) helping cold starting and engine warm-up. "Rich" refers to a higher gas-to-air ratio. "Lean" indicates a lower gas-to-air



The carburetor main jet threads into the brass emulsion tube inside the bowl.

ratio, necessary for a warmer engine and higher rpms. A lean AFR will make starting difficult.

The accelerator pump squirts fuel into the carburetor throat/venturi when first twisting the throttle to also assist in the transition acceleration area just above idle.

Fuel is gravity-fed from a gas tank located above the carburetor and is flow-controlled by using a floatoperated inlet valve. If looking down the center of the carburetor throat, the reader will notice the venturi, which is a narrowing in the throat. The narrowing venturi causes air to speed up through a law of physics called Bernoulli's Principle. The CV carburetor operates with a slide action variable venturi. The slide goes up and down, opening and closing the venturi in the carburetor throat. The physics principle of vacuum in the venturi dictates slide action. Thus, the slide, descriptively called the variable venturi vacuum piston slide, controls the venturi opening inside the carburetor's throat.

The CV, like other carburetors, has a throttle stop screw for idle speed adjustment by slightly opening and adjusting the throttle butterfly plate.

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2020 Indian Challenger

The heavyweight weigh-in

LET'S GET READY TO RUMBLE! WITH A NAME like *Challenger*, you'd think that this bike has its sights set firmly on winning the fight for major touring bike market share. The name evokes visions of a prizefighter entering the ring, intent on knocking out the reigning champion. It knows its place, and it brings the goods to beat the competition. And you'd be right for thinking that. Indian Motorcycle marketing folks told me it is difficult to finalize a product name. It happens at the end of the product development project, and you have to make sure no other company has laid a claim to the proposed name. True, *Challenger* is the name of an automobile, but never before had this name been affixed to a motorcycle. This name fits this product because the bike is intended to challenge the reigning fixed fairing king, the Harley Road Glide, for touring bike supremacy. Additionally, it sure beats the "Raptor" code name that Indian used during development. Indian pulled no punches and made direct comparisons to the Road Glide during the press launch. They even had a stock Road Glide test bike available on our ride, to evaluate back-to-back against the Challenger. I, for one, am glad Indian didn't dance around the subject or deny what it's after. Ever since Polaris unveiled the rebirth of Indian, there's been no doubt about its goal; being a serious competitor in the heavy American cruiser and touring market. The introduction of the Challenger helps round out the company's offerings, provides the consumer with a new choice for a full-sized touring bike, and in my opinion will indeed take a bite out of Road Glide sales.





The president of Indian Motorcycles, Steve Menneto, gave me a big-picture overview of Polaris and Indian. While US motorcycle sales are soft, he was optimistic this bike would fit a need in the market and offer consumers a better long distance touring option. Polaris is involved with electric vehicle development, and Indian will be sure to benefit from the research in the future. Indian is now selling bikes direct in Japan, and he was happy to proclaim 340 bikes attended a motorcycle rally in China recently. Per data Indian has collected, it is connecting with younger riders.

With the release of the Challenger, Indian is looking to build the best V-twin American bagger ever made. Now them's fightin' words. This bike is not intended to replace the aircooled Indian cruisers. The Challenger is being positioned as the big brother of the Indian lineup. It's a cross between an American style and brand, and a better riding experience. During the initial tech presentation, Indian reps said a bike's design is half science and half gut feeling, and muscular images were shown on the displayed mood board. The word chiseled was used several times as well. No, this bike wasn't meant to follow in the classic Indian retro lines. It's meant to be ripped. It has aggressive proportions with performance underpinnings, and as bikes go sportier, they get more chiseled. The Challenger is a modern interpretation of a performance bagger.

The customer for the Challenger is predicted to be younger and more hip to motorcycling trends; a more knowledgeable and discerning rider who travels long distances. While the Chieftain and Roadmaster customer admires the vintage look, the Challenger customer will probably be a fan of the custom American bagger scene. Indian noted that it interviewed current Road Glide owners to find out what they liked and disliked about their bikes. Then Indian set about correcting the pitfalls. I asked if there was fear of the Challenger cannibalizing sales from Indian's other models, and was told, yes, that may happen. However, the hope is to devour sales from other brands of bikes as well.

I had to address the elephant in the room, so I asked an uncomfortable question. I was told this bike is not, nor ever



was, intended to be the Victory Challenger. Despite learning that it had a four-year development cycle, it's pretty much irrelevant what it started life as on a designer's sketch pad. Victory is no more, and this is an Indian. However, I couldn't help having some fun by riding the Challenger wearing my trusty Victory carbon fiber helmet I unearthed recently during our office move. While having a forward leaning performance look, the Challenger does wear the lines of the arched fuel tank found on some other Indian models. And there's a reason for that.

Ola Stenegard, Indian's Director of Motorcycle Design, filled me in. DNA runs through Indian's entire line of bikes. Certain things need to carry over from model to model. Indian is really developing two families of bikes: the air-cooled models have rounded tanks and side mounted air cleaners, while the liquid-cooled models have arched tank lines and a backbone air cleaner. As for engine platforms, this is the Scout's big brother, but the lower end of the engine resembles that of the big air-cooled bikes. This is Ola's second





The 108 ci liquid-cooled Power Plus V-twin comes in two liveries. Chrome engine covers are used on the base model and Challenger Limited. While the Challenger Dark Horse wears black engine covers. Both versions deliver 122 hp and 128 ft-lbs of torque.

time working for Indian, as he was with Indian in the Gilroy days. He actually came back to Indian/Polaris at the tail end of this project, and when he was shown the current projects, he felt there was nothing to tweak on the Challenger. Ola says, "The proportion was spot on, with no apologies."

I asked Ola about one of my perhaps least favorite features of the Challenger. I'm not a fan of the conventional round headlight situated in the middle of the high-tech angles of the large headlight "mouth." Ola admits the headlight was done at the tail end of the project, and the round design was chosen because of customers' familiarity with the round headlight. "We didn't want to throw the ball too far and balance runs through Indian bikes. The Challenger 'face' has clamps and blades and can't be mistaken for anything else. It's noticeable and identifiable when seen in the rear-view mirror. It's a mix of tradition and the future."

My immediate interest was with the all-new PowerPlus engine, so I homed in on it when meeting with Indian reps. The new engine's name is a nod to Indian Motorcycle's iconic history, paying homage to the Indian PowerPlus motorcycle produced from 1916 to 1924. But the name was also used in the 2000s on that generation's Indian bottle cap engines.

Indian's goal was to build the highest-performing American V-twin ever developed. The PowerPlus shares a few design features with the liquid-cooled Indian Scout engine,



like overhead camshafts and four valves per cylinder, but the similarities end there. The 108 ci, 60-degree PowerPlus Vtwin was developed to be a big-piston, big-torque engine that delivers maximum power across the entire curve. So, why not build it with more cubic inches? I asked why the engine was "limited" to 108 ci. The answer is you don't need huge cubes with liquid cooling. But there's always room to grow.

Starting at the base, the crankcase is a unit design featuring a high capacity semi-dry sump oil system and the crank oil and trans oil areas are completely segregated. There's one long oil drain plug behind the kickstand; it has an O-ring midway up the threads. The one drain plug drains both crankcase and trans oil. The primary on the left side is gear driven and primary oil is fed by transmission drainback and there's pressurized oil for the clutch. The stator and charging system reside inside the right-side engine cover and offers a 55 amp output. A timing wheel on the crank provides triggering for the crank sensor. The connecting rods are bigger and stronger than those on the 111 Thunder Stroke. There's a single gear-driven counter balancer located behind the crankshaft. In riding the Challenger, I felt the engine seems to be smoother and quieter than 111, but it gets a bit busy at higher rpms. The water pump is located under the rounded boss on the left side of the engine and is chain

driven off crank. There are no external hoses or lines to develop leaks, and only two rubber main feed and return hoses to the radiator. A single electric fan provides cooling airflow to the radiator and is obscured by some plastic shrouding. Packaging the radiator has always been a problem for motorcycle manufacturers, but I think Indian did a masterful job of blending the modest radiator into the frame surround and the whole look of the chassis is sanitary.

There is some similarity between the PowerPlus transmission and the 111 Thunder Stroke trans, but just a few shared parts. And the PowerPlus offers a true overdrive sixth gear. I was pleased to find it to be smooth shifting and not clunky. The oil pump is situated inside the primary cover; it's a semi dry sump system. An oil filter points up on the engine behind the radiator, all hidden behind a plastic cover. The engine is virtually maintenance-free, with oil changes necessary at 5k intervals. There's no oil cooler; Indian found it was not needed. Oil is pumped upward through passages in the cylinders, through the rocker shafts and out to hydraulic lash adjusters and rocker tips.

One important feature remains down at the base of this engine: The assist clutch. The premise is that it works the reverse of a slipper clutch. It provides high-speed clamping on the clutch plates. With the Indian assist clutch, you don't



need stiffer clutch springs, so the rider gets an easier clutch feel. There are aluminum-to-aluminum ramps which engage to provide the clamping force, and the clutch is cable operated. With ramp assist, engineers realized they could use a smaller clutch with fewer plates and softer coil springs.

This is a high revving American V-twin, with a hard rev limit of 6500. The PowerPlus makes peak power of 122 hp at 5500 rpm. And there's massive 128 ft-lbs. of torque at 3800 rpm. I found this to be a super quick revving engine. When rowing through the gears, the tach needle is just a blur between 3k to 5k.

Piston speeds of the PowerPlus are high. Engineers had to make sure the power cylinder—the jug, rod, piston, and head—were stable. Compression ratio is 11:1 and the bore and stroke are 4.252" x 3.799". There are two cam chains on the right side of the engine, with hydraulic tensioners, driven by the crankshaft spinning the single overhead cams. The cams are different front and rear as are the heads. Of course, I couldn't resist asking about cam swaps, because that's what bagger guys live for. You cannot remove the rocker cover with the engine situated in the bike's frame in its stock location. However, you can "droop" the engine to lower it slightly to gain access to the camshafts. There are no lower frame rails and the engine is a stressed member. So,







the good news is you don't have to completely remove the engine from the chassis. There are hydraulic lash adjusters near the valve tips for maintenance-free lash. And there's a roller tip on the rocker where it contacts the camshaft. The rocker arm ratio is 1.35:1. Intake valve diameters are 43mm and exhaust valve diameters are 36mm. I spent two days riding the Challenger and over time I noticed a faint audible clicking noise at idle. This is not the hydraulic adjusters creating the noise; it is actually the closing of the intake valves.

Externally, you'll notice "V covers" on both sides of the engine. Neither of these are air cleaners. The right-side cover hides emissions controls and the ignition coil and thermostat



housing (connected with small hoses) is under the left-side cover. The coolant jug reservoir is located in the nose fairing. Maximum engine speed of the PowerPlus is 6500 rpm with a soft rev limit; the bike's pulling power just levels out when you hit it. Fuel is provided by electronic fuel injection with oval-shaped 52mm dual bore throttle bodies receiving air from the backbone area. A three-hole "snout" located

under the lower fork triple clamp is the air induction point. Engine responsiveness can be rider-tailored via three ride modes: Rain, Standard, and Sport that changes the throttle mapping and traction control. Changes can be made on the fly, but the throttle needs to be chopped to engage a new mode.

Indian has put this engine through its paces already with a million miles of simulated testing, including state-of-the-art dyno testing, and more than 300,000 on-road test miles. The PowerPlus will be built in Osceola, Wisconsin, with final motorcycle assembly taking place in Indian Motorcycle's production facility in Spirit Lake, Iowa.

For me, riding the Challenger was a joy. Full disclosure here: The Road Glide

is one of my favorite bikes. So, when someone comes along and says they're going to out-Road-Glide the Road Glide, it gets my attention. The ergonomics of the Challenger feel akin to the Chieftain with nice, big floorboards for plenty of room for your foot placement and a comfortable reach to the handlebars. The windscreen on Challenger's chassis-mounted fairing is extremely purposeful, meaning it works! Raising the screen electronically through almost 3" of travel brought it to a level that had a genuine effect on windflow and turbulence control, yet I still look over the screen when it's in the "up" position. There's a neat little trick I found of double tapping the windscreen button to have it automatically raise or lower to its fullest amount without having to hold the button. While seated on the bike, the bottom of the two analog instruments are slightly obscured. This might be a problem for shorter people, but I was able to see the important information fine. Two lower dash pockets are situated below the huge speakers, with the right-side pocket containing a USB cord for phone charging or audio connection. The Ride

Command 7" dash touchcreen is customizable and glove-friendly. Key vehicle information is displayed, as well as the entertainment system. The Bluetooth pairs easily and the Challenger comes with two years of renewable connected services that feature weather and traffic overlays and turn-by-turn navigation. To say the 100-watt audio system is *loud* is an understatement. It plain kicks butt! I rarely spun the dial all the way to 11. The fairing-mounted 6.5" speakers pumped out the sound clearly. The fairing also features adjustable air vents and NACA ducts.

The Challenger is smooth and stable, even over 100 mph. It all starts with a cast aluminum frame. The upside-down fork, wearing radially-mounted Brembo Brakes, soaks up

the bumps fine, and the rear FOX shock is easily hydraulically adjustable so the rider can tune it to load or road. Simply remove the left body side cover and there is a hex that can be ratcheted to the desired preload. The tool is provided in the bike's toolkit. No more air pumps. The 19" front and 16" rear cast wheels wear all-new Metzeler Cruisetec tires, designed specifically for this bike as well as floating brake rotors. This high-tech bagger also features Smart Lean Technology on the Limited and Dark Horse variants of Challenger. (Sorry, not available on the base model.) Pre-control lean angle sensitive traction control and predictive ABS uses a Bosch IMU to adjust the torque and ABS.



The Challenger comes with a shopping list of standard features that you'd expect on a full-service long-haul tourer. Electronic cruise control, LED lighting, a comfortable seat, keyless ignition, weather-proof 18-gallon saddlebags, and something I think should be standard on all bikes: A tire pressure monitoring system. A neat new feature was the electronically locking centrally mounted gas cap. It always remains on the bike and is flush fitting to the tank console when latched. Even the obligatory front fender Indian headdress was redesigned and modernized with an LED light band down the center. It's truly a modern take on the classic. One item I was disappointed I did not find available, yet, was a topcase. Hopefully, Indian is working on an accessory add-on.

Pricing for the 2020 Indian Challenger, available in Titanium Metallic paint, starts at \$21,999, while the Challenger Dark Horse, starting at \$27,499, is available in Thunder Black Smoke, Sandstone Smoke, and White Smoke. The Indian Challenger Limited starts at \$27,999, and is available in Thunder Black Pearl, Deepwater Metallic, and Ruby Metallic.

No bike review would be complete without finding a couple faults, and I've pointed out just a couple above. While I enjoyed the Challenger immensely, and agree the list of amenities is long, the important thing to point out is that it's not the number of features on the bike that count. What matters is that everything works well to give the rider a superior ride experience. The gadgets on the Challenger are integrated well. It brings the heat with plenty of power output, great handling, and lots of comfort. I wish it had heated grips, but that's an easy accessory fix. I was hoping for a little more differentiation from the Road Glide look. Several people commented that from the back, this bike is undiscernible from a Road Glide. While I noted earlier that Road

ACCESSORIES

The Challenger customer has an impressive list of Indian Motorcycle authentic accessories to choose from. There are two families of bolt-on parts to choose from: The Rogue collection, and the Tour collection. From the Rogue line, riders can improve sound and add blacked-out styling with the black Stage 1 Slip-On Muffler and black Stage 1 Air Intake. There are also gloss black mid-ape handlebars, a new tinted curved windshield, and gloss black front highway bars in blacked-out finish.

For the long haul, the Tour collection consists of a 16" tall windshield, quickrelease passenger sissy bar, passenger backrest and passenger floorboards, and an extended reach seat. There's also Infinite highway pegs and a Pinnacle heel shifter. Riders can also upgrade the Indian Challenger's audio with the PowerBand Audio Plus system, which delivers exceptional sound and clarity from high-output fairing and saddlebag speakers that are 50% louder than the Challenger's stock audio system.



Glide customers liked many things about their bikes, perhaps a little more distinction should have been worked into the plan. Indian said it wanted to offer the highest performing, fully-loaded bagger on the market. In my opinion, the Challenger has a wicked combination. Will the champ be unseated? The bell for the next round is about to ring. **AIM**



2020 Indian Motorcycle Challenger

Length	98.5" (2501mm)
Seat height	26.5" (672mm)
Ground clearance	5.4" (137mm)
Rake	25 degrees
Trail	5.9" (150mm)
Wheelbase	65.7" (1668mm)
Engine	PowerPlus 108 water-cooled
Engine	V-twin (108"/1768cc)
Horsepower	122 hp
Torque	128 ft-lbs. @ 3800 rpm
Compression ratio	11.0:1
Fuel system	EFI w/52mm dual bore
Transmission	Six-speed
Front tire	Metzeler Cruisetec, 130/60B19"
Rear tire	Metzeler Cruisetec, 180/60R16"
Fuel capacity	6 gallons (22.7L)
Oil capacity	5 quarts (4.7L)
Dry weight	796 lbs. (361kg), (Limited) 805
Dry neight	lbs. (365kg)
GVWR	1,385 lbs. (628kg)
Front brake	Four-piston calipers, 320mm
	floating dual rotors; standard ABS
Rear brake	Two-piston caliper, 298mm float-
	ing rotor; standard ABS
Exhaust system	Split dual exhaust w/resonator
Front fork	43mm inverted
Rear shock	Single shock, hydraulic preload
	adjustable
Front suspension	5.1" (130mm)
Rear suspension	4.5" (114mm)
Front wheel	Cast aluminum 19" x 3.5", w/TPMS
Rear wheel	Cast aluminum 16" x 5.0", w/TPMS
Colors	(Base) Titanium, (Dark Horse)
	Black, sandstone, white, (Lim-
	ited) Black, blue, red
MSRP	(Base) \$21,999,
	(Dark Horse) \$27,499-\$28,249,
	(Limited) \$27,999–\$28,749

FARM CHRES FURST Rejuvenating a beloved junker

By Edward Arriaza Photos by Don Kates/Shooters Images

ETZELER




his tricked out Softail bobber, owned by Anita Sandberg, is her first custom bike! It was built by Joel Gurath over at Backbone Built Bikes out in Fond du Lac, Wisconsin. Joel has been building full-time since last year, and has spent six months working on what he calls "Farm Girl," a 2004 Harley-Davidson Softail Deuce.

Joel has been riding and modifying bikes since a very early age, his first one being a DK 80 Yamaha, which he immediately stripped down when he got the chance. Joel sees bikes as "rolling art," with the European scene being an inspirational source of "great two-wheel art," as he puts it. His distinctive style captures the old school hot rod gasser look and has been well received by his satisfied patrons. He was recently approached by Anita Sandberg to help her out with her CVO. "When I received the bike, it was a complete mess," Joel said frankly and with goodnatured laughter. "The license plate also read 'Farm Girl'!" an amusing detail that stuck with him, hence his nickname for the once-shot machine.

Anita, like Joel, also rode beginning at a young age, and with her brother. They started with a 125 Kawasaki and a 175 Honda. She rode minibikes in high school with her friends before taking her motorcycle test at 16 on a friend's bike. All this time, she had never built any bikes. "I always joked with my son David about building me a custom bike when he went to school for small engine repair," she related. "Building a bike has always been a dream, and I met Joel with Backbone Built Bikes in 2018 during a rally. Joel had built a bike for a mutual friend, and we started visiting about a plan for mine." It was then that she shipped him her Softail Deuce.

As a farm girl herself, Anita wanted a rustic rat rod-style bike. Joel needed to be convinced to apply this weathered look; he was hesitant to not apply a more traditionally shiny and pristine look, but in the end, he conceded to go with



such a paint job, and in blue. And, of course, there had to be barbwire, and it had to be loud!

The bike, with its Harley-Davidson silver powder coat, was a complete frame up build. Modifications were made to the back half of the frame and the welds were completely sandblasted and smoothed out. The engine case was split and the crank was welded and trued by Revolution Performance

with a billet cam plate, oil pump, cams, and pushrods by Feuling Parts. The engine now measures 98ci with Revolution Performance cylinders and heads. The top half was built by Backbone Built Bikes and the transmission was gutted and rebuilt by King Cycles, LLC. Suspension is by SAS air ride with a Backbone Built Bikes swingarm. Hand and



foot controls are RSD. The gas tank was also built by Backbone Built Bikes. The Switches and electrical functions are controlled by a Moto-Gadget M box. The speedometer is now electronic and has smartphone connectivity. All in all, practically everything other than the frame is brand new.

Needless to say, this was quite an extensive custom build, but the results were well worth it. Anita

was all smiles when she first laid her eyes on the newly customized "Farm Girl," and her friends and family have similarly reacted with overwhelming approval of Joel's work, in particular the blue patina-style paint job. Joel describes his time coordinating the restoration with Anita as sublime, in part because they habitually viewed a rendering of the work





Thus far, the bike has been to a few shows. It was first at a show by a local bike club, Ray Ramblers, where it won first place. Anita then entered it at the Women & Wheels bike show at the Sturgis Buffalo Chip this year, where she received one of the Judge's Choice Awards along with a pair of Harley-Davidson boots. While at Sturgis Buffalo Chip, Anita also entered her bike at the Rat's Hole Bike Show, where it placed in sixth. At Iron Horse Saloon, Anita and her bike won a custom trophy in the Renegade Rat Rod Invasion. Recently, Anita has been asked to enter her custom in the AMD championship in Austin, Texas.

The Backbone Bobber—"Farm Girl"—aside from looking great now, rides great too, being a very light and maneuverable motorcycle thanks to the efforts of Joel and everyone at Backbone Built Bikes. Anita is proud of her first custom bike. **AIM**



Tech Sheet

Owner	Anita Sandberg	
Builder	Backbone Built Bikes	
Time to build	6 Months	
Polisher	Backbone Built Bikes	
Powdercoater	Optimum Powder Coating	
	(Cerakote)	
Painter	Tony Falvey, Eagle Eye Custom	
	LLC. /Pinstriping: Wade Nieman	
	(Eye Kandy Kustoms)	
Color	Patina Blue	

Powerplant

- on or press	•	
Engine	2004 Twin Cam	
Builder	Revolution Performance/	
	Backbone Built Bikes	
Displacement	98 Cubic Inch	
Flywheels	H-D/Revolution Performance	
Balancing	Revolution Performance	
Cylinders	Revolution Performance 3.938"	
	Bore	
Pistons	Revolution Performance 9.75:1	
Heads/valves	Revolution Performance	
Cam	Feuling 543 Cams	
Push rods	Feuling	
Carb	45 HSR Mikuni	
Air cleaner	Paughco	
Exhaust	SIK Pipes	
Ignition/coils/wires	s Thunder Heart	
Regulator	HardDrive	
Oil pump	Feuling	
Cam/primary covers	rs Performance Machine	
Transmission	H-D Five-Speed	
Mods	King Cycles, LLC.	
Clutch	H-D Screaming Eagle	
Primary drive	Chain	
Final drive	Belt	

Chassis Frame 2004 H-D Softail Rake 30 Degrees

Rake	30 Degrees
Front forks	Three Two Choppers Redneck
	Midglide Springer
Mods	Engraved Rockers (Misfit Skinny
	Kustoms)
Swingarm	Backbone Built Bikes Legend
	Swingarm Modified
Shocks	SAS Air Suspension
Front wheel	23" Custom Machined by Back-
	bone Built Bikes
Rear wheel	18" Custom Machined by Back-
	bone Built Bikes
Rear brake	Billet Proof Designs Brake
	Hanger/Performance Machine
	calipers
Front tire	130/60-23 Metzeler
Rear tire	160/60-18 Metzeler
Rear fender	Cooper Smithing Co.
Fender struts	Backbone Built Bikes

Accessories

Bikes Headlight Mount	
Diresticulight hount	
Taillight West-Eagle	
Fuel/oil tank Backbone Built Bikes	
Handlebars Nash	
Risers RSD	
Seat Misfit Skinny Kustoms Engrave	d
Tooled Leather	
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Preston Petty Dual-Sportster

By Buzz Kanter

A dirty new life for old Harleys?



It all began, as many of

these bike projects do, over dinner and drinks. We were enjoying a home cooked, garden-to-table dinner with my friends Paul and Patti Stannard in the Vermont mountains. We were celebrating the fact that they had just completed a deal to acquire the famed Preston Petty Products line of motorcycle parts.

Paul and Preston were long-time friends, and when the company became available, Paul was a natural buyer. For those of you not familiar with Preston Petty Products, they were the biggest deal in off-road motorcycle products. While stock factory fenders and lights of the 1970s could not hold up to serious off-road action, Preston Petty's products would.

The after-dinner conversation eventually got around to how cool it would be to use Preston Petty parts to convert a heavy street-only Harley Sportster into something lighter, more fun, and just cool. Like a "Dual-Sportster," he could ride around the dirt roads everywhere in Vermont. Paul, who has ridden and raced off-road motorcycles for decades, had never owned or even ridden a Harley before, so this was all-new territory for him. He heard that all Harleys were expensive - even used. When I showed him some ads for running Sportsters for \$2,000 or less, I could see our idea become a possibility. Can he create and sell a bolt-on kit that looked good, worked well, and was affordable? To keep it popular in approach and price, he'd need to use the stock Harley engine, frame, swing arm, and forks. He could use standard Preston Petty fenders and lights, but he'd need to fabricate mounting brackets to fit Sportsters. "No problem!" Paul said, "We can do that, and they'll look great."

Paul, who has been in the motorcycle parts business for three decades, recognized how appealing such a bike would be to us, and a small number of our friends. But we wondered if enough people would want a kit like this to make the effort worthwhile. Paul wanted to build something worthy of the Preston Petty name and reputation. And I saw it as a cool way to expand the brand into a whole new marketplace of riders who never heard of AMA Hall of Famer Preston Petty.

"Our goal was to convert the Sportster with our new Preston Petty products into a fun bike to ride around the

gravel roads in Vermont. We can drop some weight, while adding coolness and color to it," Paul explained. "This bike isn't for competition; it's for dirt road fun rides. After more years than I want to count, I want a bike that's just fun to ride. There are a lot of guys like me who enjoy running the back roads and dirt roads. I wanted this bike to be fun, affordable, and cool."

Paul found a good used 1990 Sportster 883 at a local bike shop an hour away in New York. He and his wife Patti rode it for a couple of months before they began the project. Patti, who was used to riding on the back of





250cc or smaller two-stroke dirt bikes, told me the four-speed Sportster 883 was the fastest and most comfortable motorcycle she had ever ridden on. That was almost two years ago.

After a couple false starts, Paul brought the bike to VanNess Mountain Powersports in Eagle Bridge, New York. Owner Todd Gates had been a mechanic at a local Harley dealership and rides off-road competitively. The stalled project bike quickly moved to the front of the line. The frame and swing arm were cleaned, checked, and powdercoated. The tired rear shocks were binned for a set of new Progressive Suspension units from Van Leeuwen Distribution. The front forks and triple trees were disassembled, cleaned, and powdercoated. New fork springs fork oil was added. Rubber gaiters were



installed to keep the seals protected.

Paul didn't care for the stock Harley hand controls or handlebars. So, we reached out to his wide network of friends in the motorcycle industry. He explained his vision and asked for suggestions. He started by upgrading the stock risers, bars, and controls. Joe Fratis and Chris Carter of Motion Pro supplied the Rev2 throttle assembly, Honda CRF perches with throttle and clutch cables, and the Magura levers.

Currently the Dual-Sportster is running a stock Harley peanut gas tank, but that might be replaced at some point with something more off-road friendly. Joker Machine was the source for the ignition cover, fancy fork caps, steering stem caps, and bar mounts that allow the 7/8" handlebars. Also, the special foot pegs. The seat is a Biltwell unit. The gold chain, countershaft, and rear sprockets were sourced from Sprocket Specialists.

The engine was cleaned up and painted and the stock

Keihin CV carb was left in place as was the stock Harley air cleaner. A bike like this doesn't need a lot of power to be fun, so it is still motivated by the stock 883 displacement power train. The exhaust system, on the other hand, was something Paul strongly felt needed to be changed. The stock pipes were too low, too heavy, and just didn't look right. But this SuperTrapp system was just what Paul had in mind. And they echo the legendary XR750 Harley racers of the past.

Paint was minimal but important for the look Paul wanted. All the paint and powdercoating was handled by Nick Masterson—tanks, fork legs, and engine—and Mike Smith did the custom gas tank decals. The stock fork legs were scrubbed and painted. The frame and swing arm were powdercoated. Dubya USA provided the 21" front and 18" rear Excel aluminum rims, which were mounted to the powdercoated Sportster hubs with heavy-duty stainless spokes. The tires are Continental Twinduros.



Readers should realize this build was never intended to compete with purpose-built dirt bikes or hardcore enduros, especially for these prices. The idea is to build an affordable bike most of us could do with our tools, and one we could have some fun with. Knowing there are thousands of used Sportsters waiting to be put back into service for just a little money, this might be a great opportunity for you. Especially as you can buy some or all of the components shown here. For example, you can buy the basic Dual-Sportster kit with both fenders (in several colors) and taillight, with mounting brackets for \$350 plus shipping. Add the headlight with mounting, plus Works GP grips, and the price is \$500 plus shipping. You can always upgrade with other elements, like the handlebar kit or seat—your call. I would not be surprised to see a number of Preston Petty/Harley Dual-Sportsters ripping it up on the gravel roads of Vermont and elsewhere. AIM

Tech Sheet

Owner Builder	Paul Stannard Todd Gates VanNess Mountain	
	Powersports	
Year/model	1990 Harley Sportster	
Time to build	Eight months	
Polisher	Nick Masterson	
Painter	Nick Masterson / Tank decals	
	Mike Smith	
Color	Black and orange	

Powerplant

Engine	1990 Harley Sportster	
Builder	Todd Gates	
Displacement	883	
Cylinders	Harley stock	
Air cleaner	Screamin' Eagle	
Ignition	Dyna 2000	
Cam cover	Joker Machine	
Transmission	ansmission 1990 Harley Sportste	
Primary drive	e Sprocket Specialists	
Final drive	Sprocket Specialists	

Chassis

Frame	1990 Harley Sportster 883	
Shocks	Progressive	
Front wheel	21″ Dubya USA	
Rear wheel	18″ Dubya USA	
Front brake	Magura	
Front tire	Continental TKC 80 90/90 21'	
Rear tire	Continental TKC 80 140/80 18'	
Front fender	Preston Petty Products	
Rear fender	Preston Petty Products	

Accessories

Headlight	Preston Petty Products	
Taillight	Preston Petty Products	
Handlebars	Preston Petty Products	
Risers	Joker Machine	
Seat	Biltwell	
Pegs	Joker Machine	
Hand controls	and controls Magura/Motion Pro	
Levers	Magura/ Motion Pro	





Part 3: Davenport and National Motorcycle Museum

By Buzz Kanter

AM AMAZED AT HOW CHEAP YOU CAN GET A great used Harley bagger these days. I'm not really sure why this is, but I suspect it has something to do with supply and demand. There was a time, not so very long ago, when decent used four-speed Harley Sportsters sold for about the same amount of money as tour optioned-out TC88 Harley baggers.

This is the third installment on our recent adventure where Paul Ousey and I bought high-mile, cheap used Harley baggers, sight unseen. We flew out and rode them more than 1,500 miles back home. We bought almost identical Twin Cam Harley-Davidson ElectraGlide Classics for less than \$5,000 each. A lot of people, when hearing what we did, ask if we got a special deal because we are with the magazine. The simple answer is no. Road Track & Trail (where we bought them) had lots of great used bikes on the floor with similar low pricing. Paul's bike was a 2000 with 55,000 miles, and my bike was a 2002 with 53,000 miles. In the last two articles, we shared the process of buying the bikes online, packing and flying out from New York to Milwaukee, and the first day on them.

On the second day, we had a leisurely breakfast with the "Two Laurens" who handle the public relations for Harley Footwear (and supply us with review boots!). We repacked the bikes, fired up, and left Milwaukee towards Madison. Both bikes had some handling issues when fully loaded with all our gear. We stopped at a random Harley dealership along the highway to check our tire pressures. Both front tires were fine, but the rears were a bit higher than we preferred. As mentioned in the last article, at the Harley dealership, we had "Beer Budget Bagger" hand lettered on both bikes for fun. Then, back on the road, again with no rush. The more miles we put down with the bikes, the better they ran and handled. Traffic was a mixed bag, and when we stopped for lunch, we realized we'd pulled into Davenport later in the afternoon than initially planned. But, hey, no big rush, right?

We rode nearly 250 miles from Milwaukee to Davenport, and pretty much all of it was on highways. We were still learning



Paul wanted to stop and "refuel" our Beer Budget Baggers. But we were already pretty well packed out and had no spare room. Oh, well!



Buzz added some Lucas Fuel System Cleaner to the fuel in these high mileage baggers. Buzz and Paul could feel the bikes run better afterward.

Mike Wolfe of *American Pickers* posing in the late day sun on a recently acquired 1913 Harley twin engine.





Mike Wolfe showed this historic motorcycle to Paul and then tried to sell it to Buzz for "only" \$100,000. No one even knows what make or model it is. But most agree it was pre-1905.

about these used bikes and not yet pushing them hard. They had no issues keeping up with or exceeding the traffic with the 70 mph speed limits in Wisconsin and into Iowa. The weather was perfect, sunny, and warm the entire ride. At one gas stop, Paul spotted a large beer delivery truck and insisted we park the Beer Budget Baggers next to it for a photo op. He's easily amused. And I am fine going along for the ride. The delivery driver saw our bikes and thought it was so funny, he offered us each a free case of beer. We had to



A rare Henderson four-cylinder prototype engine. You never know what's going to show up at this event.

decline as we were tight on space. Go figure!

By the time we rolled onto the vast Davenport fairgrounds, it was around 6 p.m. and most of the vendors were shut down for the night. I'd never been to this event, and its size and scope blew me away. I parked my bike and had a look around, spotting a lot of friends, including Mike Wolfe of *American Pickers* fame and many fellow Motorcycle Cannonballers. For anyone into classic motorcycles—like me and Paul—this is a must-attend event. There was something for just about everyone, from \$2 trinkets to rare and expensive motorcycles.

It was a long day in the saddle, and having heard hotel rooms in town were tough to find due to the motorcycle event, we were anxious to claim ours. My friend Jill Parham, of the National Motorcycle Museum, had a block of rooms, and one pair that she offered us. Paul and I had a wonderful steak dinner and called it an early night. We had a lot of swap meet ground to cover the next day.

We were up early the next morning, and as always relieved to see the bikes still parked—unmolested—where we left them the night before. In the hotel lobby, an older



Dirt racing action was popular, especially the minibikes, tank-shifters, and boardtrackers.



Stunning red open-fender Indian for sale. Tempting, but the guys passed on it.

gentleman saw my Harley sweater and asked if I'd like to see his antique Harley pocket watches he wanted to sell. They were quite nice, but we could not agree on prices, so I wished him good luck and passed on them. Paul and I choked down some free (overvalued!) hotel breakfast and coffee before riding over to the fairgrounds. We threw sweaters in the Tour Paks knowing we'd be staying late that night for the antique motorcycle races. Good idea, as it got chilly for the ride back after sunset. We stopped at an auto parts store and bought some Lucas fuel treatment for our gas tanks to help clean up the fuel lines and carburetors. It also helps with any carbon build up on the valve-train and piston crowns. Paul was not convinced, but after using it we could both feel the bikes run better.

We walked the vast swap meet, and for the first time ever at one of these events, neither of us bought anything other than food and drink! I visited with Mike Wolfe, who was anxious to show me his recent acquisitions, including a handsome early motorbike he claimed was a 1902 or 1903, but didn't know what make or model. I asked him how he could know the age, but not what it was. He said they relied on the design and hardware to date it; items like the primitive fuel mixer from the pre-carburetor turn of the century days. Mike said, with a straight face, because we are such good friends, he'd sell it to me for \$100,000. It was a fascinating machine that I studied a lot, but I was not a buyer. I smiled and thanked him for the "good guy" price—NOT! Later, I spoke with another friend who, it turned out, had sold Mike this bike and said \$100,000 would be a massive markup on the machine. What a surprise!

The dirt races that evening were great. I especially enjoyed the crazy minibikes, old tank-shifters, and the even older boardtrackers. Judging by the response from the well-packed stands, these were three of the more popular classes. After the races, we went back to the hotel (and finally got to check out the lighting on our used Harleys) where we were forced to drink adult beverages with Jill Parham and the crew from the National Motorcvcle Museum.

The next morning (Day 4) was another stunning day. Sunny and warm perfect riding weather. We loaded the baggers and skipped the hotel breakfast to look for something better. Twenty minutes later, we pulled over at a random breakfast place and bumped into our friend Carl Olsen of Carl's Supply, who wanted to hear all about our adventures. He admired our bikes and offered me \$2,000 for it when I finish the ride back home. Yeah, right! After breakfast, we headed North and West to Anamosa, Iowa, home of the National Motorcycle Museum, only about 70 miles away. We stopped frequently for gas and calls of nature along the way, as well as for photo ops, like in front of Wyoming City Hall (did we make a wrong turn and go too far West?), whenever we spotted them.

National Motorcycle Museum



We made it to the National Motorcycle Museum in Anamosa, Iowa, on the fourth day of the Beer Budget Bagger adventure/tour.



Replicas of the stars of *Easy Rider*: Captain America and Billy Bike! Always a popular display.

I have been to this museum many times over the years, and have always enjoyed

it. Founded by my friends John and Jill Parham after they sold J&P Cycles several years ago, it is jam-packed with just about any two- or three-wheeled vehicle you can think of. Inside you will find ultra rare motorcycles, like an original paint tank strap Harley-Davidson, and those you and I grew up riding. All makes, models, and years including antiques, racers, and sidecars are present. Plus, early bicycles, art, and a world class collection of motorcycle toys.

You name it, and there's a pretty good chance the National Motorcycle Museum has it displayed somewhere. Land speed racers, drag machines, hill climbers, boardtrackers, dirtbikes, streetbikes, antiques, classics, choppers, bobbers, baggers, and cut-downs. Lots of art, posters, and even

full-size billboards. And more engines on display than you can count. They even have a prototype mock-up Indian motorcycle from the early 1990s during the Indian trademark battles. And check out Steve McQueen's white Indian Chief chopper or the *Easy Rider* bikes. Want more? How about a couple of Evel Knievel's jump bikes and gear?

We could spare only a day and a half at the National Motorcycle Museum before we had to roll on. We said our goodbyes to Jill and the crew and left the next morning with a slight chill in the air and heavy overcast clouds. Prior to this we had only warm sunny days. We started out the day riding back roads to experience some of the Iowa experience. We saw a lot of corn fields, straight roads, and almost no traffic.



National Motorcycle Museum has most of the rare and valuable motorcycles out in the open to see and enjoy.



Very rare Cyclone engine replica. Not many of these in the world.



Where else are you going to find an actual record-setting Bonneville streamliner?



Paul, clowning around as he does, sitting astride the Indian FTR motorcycle the National Motorcycle Museum is raffling off and channeling Museum founder John Parham (in the painting behind Paul).



Paul wanted to stop at "The World's Largest Truckstop" on Iowa Route 80. If this is not the world's largest, we will be blown away by what is. Huge inside and out!

Cloudy skies as we rolled out of Anamosa and headed East. Lots of silos everywhere. Are they all for corn or something else?







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We did find a very cool-looking retro diner where we stopped for lunch, but it looked abandoned, as did a number of other businesses in the area. After a while, we hopped on the Interstate to cover more ground and make up for some lost time. The bikes were running strong and we maintained 70 mph or more, depending on the traffic. Cruising down Iowa Route 80, Paul waved me down at the "World's Largest Truckstop." It must have been the size of a city block, all under one roof. There were other free-standing buildings around the massive parking lot, too, with one housing a truck museum. Because our gas gauges were less than consistent, we made it a point to stop every 130 miles or so to fill up. I suspect they could go further, but why risk running dry miles from the nearest gas station? In our next issue, we'll share how we bumped into Terry Vance of Vance & Hines at a random hotel and how he was disappointed we were not running V&H exhausts. Also, we visit the AMA Hall of Fame before riding back home.

Reader feedback on this adventure, to date, has been amazing! If you have a "beer budget" motorcycle that you bought cheap and have ridden high miles, send us a photo and brief description for possible publication. Please send the photo, info, and your name (and where you live, if you wish) to Letters@AmericanIronMag. com and include "Beer Budget" in the subject or headline. **AIM**

SOURCES

National Motorcycle Museum 319/462-3925 102 Chamber Dr. Anamosa, IA 52205 NationalMcMuseum.org

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TART WITH THE BEST, BUILD THE BEST...



The Kickstart Classic & Tennessee Motorcycle and Music Revival

A little rain never hurt anyone By Buzz Kanter

ho doesn't love a great motorcycle ride over miles of stunning and twisty mountain roads with a select group of skilled riders? Especially

when most of the bikes are older than the riders? Welcome to the Kickstart Classic Motorcycle Ride, a fun event we hold every year.

My rules are simple: Be safe and have fun. We don't care what make, model, or year motorcycle you ride—new or old. All are welcome, and we joke that the kickstart bikes ride up front and the electric start machines ride in the back to pick up any parts that fall off the old ones.

This year's event, sponsored by Greg Allen Insurance, *American Iron Magazine*, GreaseRag. com, and AI Garage, started at Dale's Wheels Through Time Museum in Maggie Valley, North Carolina, and ended two days later at the Tennessee Motorcycles and Music Revival (TMMR) — a new event for us to enjoy — in

sprawling Loretta Lynn's Ranch in Hurricane Mills, Tennessee. The weather forecasts this year were not our friend and,





as predicted, there was a heavy downpour the day before our departure. This dampened spirits, riders, and machines (the latter two literally as much as figuratively) that had come from as far away as Canada, New England, and Texas for the ride.

Wheels Through Time is usually closed Tuesday and Wednesday, but they opened the place just for us. We had the run of the place all day Tuesday, and a terrific catered dinner that evening. Talk about Dale and the crew making us feel special! Too bad it rained—sometimes quite heavily—most of the day.

The next morning was cool and crisp with Maggie Valley wrapped in thick fog. But that didn't stop our crew from bundling up and riding over to the museum. Thank goodness for hot coffee! By the time we set up for a group photo (several riders came late and didn't make it to the photo), the fog was starting to burn off and some riders began to peel off layers of clothing and gear—something they would want back on

later as we rode up and into the chilly mountain roads. Some of the more interesting motorcycles included





a "Captain America" themed Panhead the rider has owned and ridden for over 30 years! Also, several Harley flatheads, a stunning Indian Chief with rainbow paint job, a strong running high pipe Harley Sportster XLCH, a hot rod Indian Powerplus, a few bobbers and mild customs, and modern Harley baggers. There were also a handful of cool import bikes including a BSA Gold Star, a Velocette, and a Honda 305 Scrambler. I rode my 1948 Harley Panhead we featured in these pages many years ago (Project Crustoration).

This was one of the smaller turnouts for the Kickstart Classic, possibly a combination of being so late in the season and the scary weather predictions. Either way, everyone seemed to have fun, and Scott, our route master, did an amazing job picking great roads for both days. He managed to find plenty of nice twisty back





roads that kept us focused on the riding. Early on our first day, one of the newer bikes had a massive mechanical issue when the charging system literally disintegrated, leaving the hapless rider on the side of the road. One of the other riders' chase trailer came to the rescue, and everyone continued to ride on. Gas and photo stops were social time for the riders; some were old hands at this and others were on their first Kickstart ride. We were riding for more than eight hours on Day 1, and they were hard miles navigating the switchbacks and mountain sweepers. Day 2 was a lot easier with only about four hours in the saddle.

As ugly as the weather was up until the day of the ride, it was near-perfect for both days on the road. Crisp, cool, sunny mornings and gentle, warm, sunny afternoons. What more could you ask for?

For various reasons, by the time we rolled into







Loretta Lynn's place our number of riders had dropped. We were greeted at the gates by promoter Buck Shaw, who treated us like royalty.

Tennessee Motorcycle and Music Revival

I'd heard about the TMMR last year and about what a





great event it was. I also was impressed with the quality and quantity of amazing custom motorcycles and builders Bill Dodge, or "Bling" as many of you know him, was able to gather for the BC Invitational show. I heard good things from Rhett Rotten of the Wall of Death, and knew it would be a great destination for us to end our Kickstart ride.

We rolled in Thursday afternoon, before the real crowds

rolled in, and got a chance to check things out before it got too crowded. Even then a lot of people had already arrived and set up camping tents (best spots were along the crystalclear river), including vendors and performers.

I'd never seen "glamping" before and can best describe it as high-end camping they offered in limited quantities. Imag-

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ine fancy oversized tents with all the comforts of home like furniture, heating, and air conditioning!

The music was great and wide ranging from country (including an appearance from Loretta Lynn's granddaughter who sang for us) to rock and indie too. Live music filled the afternoons and well into the night. In addition, there were two brave guys jumping dirt bikes well over 100 feet into the air and landing on a big air pillow ramp. No thanks! Plus, Rhett Rotten's Wall of Death show he put on every few hours. While free to watch, the Wall of Death riders were happy to snatch money from your hands, and in at least one case, a man's mouth as they passed around the walls at high speed. There were also mini-bike and





hooligan races in the dirt oval.

Harley-Davidson and Indian had a presence there with a nice choice of bikes to demo. We saw these bikes out and about quite often with people trying various new motorcycles. And I was blown away by the custom bikes at the BC Invitational. Choppers, bobbers, cafes, and classics. You



name it, and these builders, many of whom we have never heard of before, were sharing.

While still in its infancy (this was only the third year for the TMMR), we expect this fun event will continue to grow in size and scope. Dates for the 2020 event have not yet been released, but you really should check it out. AIM



Recalls, Vibrations & Oil Spillage

I own a 2017 Ultra Limited and I just received a letter from Harley stating that my bike is involved in a recall concerning reflectors missing from the back of the bike. I'm not sure what the problem is and wondered how important the recall is. You have any information for me?

Robert Ripley Deerfield, TN

If you received the letter about this recall, you've already installed a Detachable Tour Pak kit on your vehicle. At installation, your dealer registered the kit with Harley to maintain 2-year Custom Coverage warranty on the part. Your vehicle came up on their list when it was determined that the kit may cause the vehicle





Harley has to comply with federal regulations reguarding reflectors, but many owners choose not to add them when they install accessories. to fail to meet federal regulations because it is missing a red reflex reflector on the rear of the motorcycle.

The stock license plate bracket was originally attached to the fixed Tour Pak mount and the reflector was attached to it. When the kit was installed, the license plate bracket was changed and moved below the taillamp. The reflector was removed with the stock bracket.

The government is worried that the absence of these reflectors could "reduce the rear conspicuity of the vehicle," possibly increasing the risk of a crash. In our language, someone might not see you and run into you.

So, Harley started a recall to get you back in to install small reflectors on the back of your saddlebags under the auxiliary taillamps that are part of the Detachable kit.

It's an easy fix but call your dealer ahead of time as they will probably have to order the part for your VIN for tracking purposes. I'm sure it can be done while you wait once the part is in stock.

Seems strange to me that you need more reflectors and visibility after installing extra LED lamps back there, but the government has its requirements, so Harley has to comply.



My 2017 Road King M8 developed a slight vibration felt only in the foot boards. It is only noticeable in the RPM range of about 1950 to 2100. The gear or mph don't matter, the H-D dealer said it was loose heat shields, etc. They say they tightened everything up, checked the tightness on the boards, etc. His efforts really didn't change it drastically. The bike has 11,000 miles on it. No objectionable vibration at idle or any other RPM speed; it's actually very smooth. Vibration started about 1,500 miles ago.

It just bugs me as it used to be smooth as silk throughout the RPM range. The only work done to the engine has been oil changes and spark plug replacement.

> **Dan Green** Birmingham, AL

I'm thinking, Dan, that your engine mounts may have sagged a little over the time and miles you've had the motorcycle. I wouldn't worry about it. The vibration only happens at that small RPM range which you are probably never really operating in. You could try changing the rubber mounts, but I really don't think it is worth the expense for such a small issue.

You can also check the clearance between the engine and frame rails. Look closely along the entire frame for anything that may be contacting or is very close to the engine or transmission housing. It could be as simple as a cable tie or hose clamp that hits the frame at that RPM. It could transmit the engine vibration into the frame and foot boards. Again, the sag of the engine mounts over time could let parts come into contact that previously had clearance. Look for a pebble or road debris that may have gotten in between the frame and engine or swingarm. This type of thing can be easily overlooked.

Did you add any accessories to the

To submit a question to our H-D-certified mechanic, who has been working in dealerships for over 20 years, send in as much info about the problem and bike as possible to Hog Helpline, c/o *American Iron Magazine*, 37 North Ave, Suite 208, Norwalk, CT 06851 or e-mail SteveL@AmericanIronMag.com. Sorry, but due to volume, we cannot respond to requests for personal replies or to all letters.

motorcycle? Sometimes even highway pegs can vibrate just right at a given RPM that it's felt somewhere else on the chassis. I've seen where a lucky bell that a customer tied on would swing between the frame rail and lower crankcase and get stuck. Of course, this would come and go and would never happen when I was riding the motorcycle.

Hi, long time reader. In Hog Helpline of issue 380 it states for twin cams to "fill the filter before screwing it on." On my 2000 Road King the oil will pour out all over front of my bike like it does on filter removal. Am I missing something?

> **Kim Therkelsen** Eureka, CA

Yes, Kim, it can make a mess. You will lose some oil out of the new filter, but it is better than starving the engine for oil while the oil pump fills the filter with the engine running. I usually fill the filter with fresh oil before I start draining the oil. The filter media will saturate and hold the oil in. Half fill again so



you can see a puddle inside but most of the oil is soaked in. Then when you screw the filter on you won't lose so much and

there is still enough inside to keep the engine lubed.

And don't bother cleaning the old drain oil until the new filter is installed. Some good quality brake cleaner will wash away all the oil spillage at once.

You may not remember but when the five-speed transmission first came around the oil filter was mounted underneath the rear of the transmission housing. This made it very easy and clean to change the filter. It unscrewed straight down and caught its own oil drips as you removed it. Sportsters had their filter up front since late 1984 but I was very disappointed when they moved it to the front of the engine in 1991 on the Dyna Sturgis model. So, I've been cleaning off oil filter drips for quite some time! AIM



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Official 2020 Daytona Beach Bike Week Build

Part 2: Start installing

T'S BACK TO DAVE PEREWITZ'S SHOP IN HALIFAX, MASSachusetts, for some more Daytona Bike Build Madness! Last issue, we told you about the premise for the build, and you saw the starting point donor bike: A real clean, low-mileage 2005 Dyna Super Glide. The disassembly was fast and furious as Dave and his daughter Jody made plans for the build and separated the take-off parts into two piles: Stuff to scrap, and parts to prep for refinishing. We'll show some of the latter here.

Dave wanted to black out the engine, so all the stock engine covers were treated to some PPG black paint, along with the fork lowers. The basic long block engine was coated with a wrinkle finish black, and the covers are a contrasting gloss black. Many man hours were put into prepping, painting, sanding, and buffing on the engine covers. Let's just say they put more love into these engine covers than I do into the paint job on my car.

By my second visit to the shop, many new parts had arrived as well. Just check out the vendor list sidebar in issue 382 to see all the companies that provided parts for the build. In this issue, you'll see the bitchin' carbon fiber BST wheels from Brocks wrapped in Avon Cobra Chrome rubber, as well as the even more bitchin' aluminum swingarm and Bitubo shocks, also from Brocks. Some super strong HHI brakes are going to accompany those wheels for some much needed stopping power. And a PBI drive gear for the chain drive conversion is going to be hung on the trans as well.

So, while last issue's Part 1 was

HOW TO WIN

You can win the Official Daytona Bike Week custom Dyna built by American Iron Magazine and Perewitz Cycle Fab! Purchase your raffle tickets at OfficialBike-Week.com. Tickets are \$50 each, or three for \$100. For every two tickets you order, you get one additional ticket. Drawing will be held March 14, 2020. A limited number of tickets are available; only 4,500 will be sold. All proceeds from the drawing donations go back into supporting Daytona Bike Week.



This is pretty much where we start the build. That stock swingarm and brake caliper are going to end up in the scrap heap too.



The engine covers were painted using glossy PPG black paint.



The stock fork lowers were sanded and painted.

more about disassembling a bike before building an all-out custom, this issue we start seeing some forward progress with the installation of the rolling stock and suspension. And while we keep you in suspense about the final look and style of the 2020 Daytona Bike Week Giveaway Bike, trust me when I say the winner of this beauty will surely be proud to own it. Over the next few issues, the bike will reveal itself to you; watch for a big splash on the cover of issue 386.



Dyna ignition will fire the fuel provided by the Pingel fuel valve and filter. The PBI gear is part of the chain drive conversion.



Dave Perewitz took the BST carbon fiber wheels from Brocks to a whole new level by painting the spokes blue.



The aluminum swingarm from Brocks is a thing of beauty.

AlMag.com

A Fly handlebar came from Hard Drive.



high–end units from Europe.



Brocks kicked in a lightweight and powerful Full Spectrum battery.



HHI Rotors are drilled for maximum stopping power.



upgrade over the stock units.



Dave bolted the HHI brake rotor onto the carbon fiber wheels.



Dave then slips the fork tubes into the stock triple trees and bolts them in place.



The front wheel assembly was slid between the forks and held on with the stock axle.



The HHI front caliper was hung on the fork tube before being installed on the bike.



Out back, the new Brocks aluminum swingarm was hung in place.



New Bitubo shocks are adjustable for ride quality and super trick.



The PBI chain drive conversion gear was secured in place.



The details on this swingarm are jewel-like exquisite.



Dave had to fab up some proper wheel spacers for the rear wheel.



Once the wheel was centered and aligned, Dave tightened up the massive rear axle nut. **AIM**

SOURCES

Avon Cobra Chrome Tires AvonTyres.com/en-us

Brocks

Aluminum swingarm Bitubo shocks BST wheels Full Spectrum battery BrocksPerformance.com

Hard Drive

Dyna ignition PBI drive gear Fly handlebar Pingel fuel valve and filter Forbidden Motorcycles risers HDTwin.com **HHI** Brakes HawgHalters.com

Perewitz Cycle Fab

Fabrication, assembly, custom painting JodyPerewitz.com

PPG

Paint PPGAutoCoatings.com

Performance Shocks By Fox

Improving the ride with a little less kick



HE INDIAN SCOUT BOBBER IS AN ABSOLUTE BLAST to ride. The fun bike handles well, is quick enough to raise the heart rate, and is damn good looking. Whenever parked in public, this bike always gets a

positive comment or two.

All that being said, the stock suspension, with

17mm socket17mm open-end wrench

TOOLS NEEDED

- Torque wrench
- Center stand
- Small scissor jack
- Blue threadlocker

SOURCES

Indian Motorcycles Performance Shocks By Fox PN 2881790-463

\$929.99 IndianMotorcycle.com



its low stance, is shy of impressive and provides a fairly stiff ride. You can adjust the stock spring rate, but that doesn't improve the ride performance that much.

Indian Motorcycles considered this and partnered up with Fox to provide an aftermarket solution, the Performance Shocks By Fox.

These are high-end shocks that allow you to dial in preload and rebound setting with a spring tuned specifically for the Scout models.

> This provides much higher ride performance over the stock set up. Plus, they're Indian branded, giving them a unique look. Installation of

these shocks requires little effort with one 17mm ratchet and open-end wrench, but you will need to lift the back tire off the ground in order to mount the new shocks. You want to remove any pressure from the mounting bolts when removing or installing the shocks to avoid cross threading. I used a center stand and a small scissor jack under the rear tire to do this.

After a test run with the Performance Shocks installed, I can honestly say this is a must-have upgrade for the Scout. This fun little Bobber handled much better, felt glued to the road, and no longer kicks like an angry mule over bumps. Huge improvement. The Bobber will sit an inch or two higher with the new Performance Shocks depending on your adjustments. But this Indian looks just as good as it did with the low stock stance. The positive comments will continue.



Lift the rear tire off the ground using a center stand and jack up the rear tire to allow access to the bottom shock bolt on the exhaust side. This will avoid having to remove the exhaust.



Remove the stock top bolt on both sides using a 17mm socket. Put the bolts aside; they will be used to install the new shocks.



Remove the stock bottom bolts using a 17mm socket. Also, put these bolts aside; they'll be used to install the new shocks.



Remove the stock shocks from the bike.



Put a dab of blue Loctite on the stock shock bolts before reinstalling them with the new shocks.



Install the new Performance Shocks starting with the bottom bolt on the exhaust side using the stock bolts.



Position the rear wheel so the top shock mount lines up with the mounting point on the bike frame. We used a small scissor jack to do this step.



It helps to have one person raise or lower the wheel and another person watch to see where the mounting bolt holes line up.



Using the stock mounting bolts, attach the top of the shock to the bike.



Torque all mounting bolts to 55 ft. lbs. Torque the bottom exhaust side first before installing any of the other bolts. This bolt will be hidden behind the exhaust after all other bolts are in place.



You can fine-tune these Performance Shocks By Fox using a provided spanner wrench to adjust the preload.



There's an easy-to-access dial on the bottom for rebound.



The new Performance Shocks By Fox installed and ready to ride. **AIM**





If you don't own an Indian Scout Bobber, don't worry, but hurry— American Iron will be giving one away at the end of the month. All you have to do is subscribe to *American Iron Magazine*. And if you're already a subscriber you're already entered to win. Good luck! Call 877/693-3572 or visit AIM.com to subscribe.

Mikuni HSR Carbs

How to install, setup, and tune a Mikuni 42mm or 45mm HSR carb

HE MIKUNI HSR SMOOTHBORE FLAT-SLIDE CARBUREtor is different from all other performance carbs presently available for Harley-Davidsons in two major ways. First, an HSR carb's bore has only a slight taper to it while all other carbs have an obvious taper in their bore called a *venturi*. The venturi is there to speed up the air flowing through the carb, which creates a low pressure

TOOLS NEEDED

- Blue Loctite
- Wire cutter
- #1 Phillips screwdriver
- #2 short, flat-bladed screwdriver
- 1/4"-drive 1/4" socket
- 1/4"-drive 3" extension
- 1/4"-drive ratchet
- 1/4" Allen socket
- 3/8"-drive 6" extension
- 3/8" wrench
- 11mm wrench
- 12mm wrench
- 17mm wrench

through the carb, which creates a low pressure area in the carb's bore. This low pressure area is what draws fuel up from the carb's float bowl via a small hole in the floor of the bore. As fuel enters the carb's bore, it's mixed with the incoming air and then drawn into the engine's cylinders to be burned. Carbs with this tapered bore are called *fixed-venturi* carburetors. Mikuni's HSR carbs have what's called a *variable venturi* since the venturi needed to draw fuel from the float bowl is created by a moving slide that's controlled by the throttle cable.

HSR carbs are also different from other carbs in that they don't have a throttle plate at the engine end of their bore to control how much air/fuel mixture enters the engine. A standard throttle plate (butterfly valve) creates turbulence in the intake tract even when wide open

and edgewise to the bore since it's right in the path of the air flowing through the carburetor. And though you want turbulence in the engine's combustion chamber to thoroughly

mix the fuel and air molecules for better combustion, you don't want any turbulence in the intake tract. An HSR carb's variable venturi slide also controls how much air/fuel mixture enters the engine, eliminating the throttle plate. Since this slide, also called a flat-slide, retracts into the carb's body, it creates less turbulence than a throttle plate at partial throttle settings. When the throttle is wide open, the slide is completely retracted out of the bore with only a small needle protruding into the air flowing through the carb.

For these reasons, Mikuni's HSR series of smoothbore, flat-slide carbs have less turbulence in the intake tract and more flow potential than a same-size bore, fixed-venturi, butterfly valve-equipped carburetor. Also, since the size of the venturi is determined by throttle position, incoming air can move



Left side: Idle speed adjuster (white), throttle lever stop screw (blue), vent fitting (yellow), pilot air screw (pink), fuel inlet fitting (red), and VOES fitting (green).

through the carb faster at part-throttle settings. This results in better performance and air/fuel mixture atomization, as well as greater cylinder fill. What the rider experiences is improved throttle response and more power. And since the variable venturi/throttle slide in the HSR is supported by roller bearings, throttle movement is very smooth! Another result is that an HSR carburetor is more forgiving of improperly matched camshaft and exhaust combinations.

Mikuni offers 42mm, 45mm, and 48mm bore HSR carbs, in both polished and cast versions, for 1990-99 Evo and all Twin Cam Big Twins, as well as 1994 to present Evo Sportsters. You can get a 42mm or 45mm carb in one of Mikuni's Easy Kits, which consist of a pre-jetted carb that slips right into the 1990 or later stock intake manifold and uses the stock 1992 or later throttle cables. An adapter is also included so you can reuse the stock air cleaner assembly in some cases or go with a high flow aftermarket setup. An extra main jet one size larger than what is already in the carb, one size smaller pilot jet, a size 50 accelerator pump nozzle, and some cable lube is also in the kit. However, an enrichener/ choke cable is not included, but fittings so you can attach your stock cable are in the kit. Mikuni enrichener cables are, of course, available separately. Mikuni Total Kits come with a 42mm or 45mm pre-jetted carb plus a special manifold, rubber flange, high-flow air cleaner assembly, an enrichener/choke cable, and the same assortment of extra jets as the Easy Kit. However, intake manifold clamps and seals are not included, so use new stock components. Got a monster motor to feed? Then step up to one of Mikuni's 48mm Race Kits! This setup has lots of special features for large displacement engines used in race applications. As for our build, we went with a 42mm Easy Kit since we're going to run a custom air cleaner setup and already have a Mikuni manifold and rubber flange installed.

You may have heard that an HSR carb is hard to tune if you need to change the jetting. While it's true the process is more involved than what it takes to tune a simpler designed carb, it's not hard to do. If you need to reset the jetting because you've made changes to your engine since you bought the carb, read the HSR Tuning Manual. And though this manual is available as a download on MikuniPower.com, we're going to cover the main points here.



Right side: Where the choke/enrichener cable attaches (blue), purge fitting (white), and the two accelerator pump adjusting screws (yellow).



Once the float bowl is removed, you can access the main jet (white) and pilot jet (yellow). You can also access the main jet by removing the float bowl drain plug.

The big difference between tuning an HSR and any other carb is that throttle position, not engine speed, is the indicator of what fuel circuit is active on the HSR. That's why the HSR manual tells you to wrap masking tape around the throttle grip and mark it in 1/4-throttle increments. Otherwise, you won't know what system to adjust if a tuning problem appears. Fuel on the HSR is handled by four different systems: The pilot jet circuit (idle/low speed), the needle/needle jet circuit (mid-throttle), the main jet circuit (3/4 to wide open throttle), and the accelerator pump. The easiest way to tune the carb is to do each system separately even though there's some overlap between systems.

Let's start with the enrichener (choke), which is the easiest one to do. Be sure to use the Mikuni spring and



Our bike already has a Mikuni intake manifold, which goes on exactly like a stock Harley manifold, installed with H–D clamps and new manifold seals.



Start the new carb installation by removing the enrichener cable parts that come on the new carb using a 12mm wrench.



Here are the parts that came out of the carb, in the order they came off: Plastic nut/cable holder, spring, and brass plunger.



Our bike already has the same setup installed on its enrichener cable, so we're just going to connect this cable to our new carb.

plunger that comes with the carb on the stock Harley choke cable or a Mikuni cable. The Mikuni instructions explain this clearly, so we won't go into it here. Once you have the right plunger setup installed, make sure the enrichener cable has enough free play to let the plunger seat fully in the carb body. Then route the enrichener's flexible cable, which pivots 360 degrees (just like the fuel inlet fitting), to where you want it.

Next up is the idle/low speed circuit, which controls the air/fuel mixture from idle up to about 1/4-throttle but adds fuel at all throttle positions. This system has a fixed fuel supply called the pilot jet, an adjustable air supply called the pilot air screw, and an idle speed adjustment knob. A different size pilot jet, which is located inside the float bowl (Photo 3), can be installed as needed. You need a #1 Phillips screwdriver to remove the four small screws holding the float bowl to the bottom of the carb. The pilot air screw, which is located on the left side of the carb body (Photo 1), is used to fine-tune the pilot jet. The starting point for the pilot air screw is two turns out from seated. When turning the screw inward, seat the screw gently. Turning the pilot air screw out adds more air and leans the air/fuel mixture while turning it in reduces how much air gets added to the pilot jet's fuel supply and makes the mixture richer. The Mikuni techs have an easy way to remember this: Left (counter-clockwise) to lean, right (clockwise) to richen. Since changes to the idle air/fuel mixture affect the engine's idle speed, you can adjust the idle speed using the knob on the left side of the carb (Photo 1).

The mid-range is tuned with the upper portion of the jet needle and clip position on the jet needle. The straight upper portion of the jet needle fills most of the hole in the needle jet from just off-idle up to the 1/2-throttle position. This greatly limits how much fuel can flow through the needle jet and into the air flowing through the carb's bore. Once the throttle is opened more than halfway, the jet needle's tapered section is in the needle jet's hole. Since the lower end of the jet needle tapers down, as the throttle is opened the jet needle fills less of the hole, which allows more fuel to flow up the needle jet and into the carb's bore.

The main jet circuit supplies almost all the fuel at settings above 3/4-throttle, so tuning problems in this area require changes to the main jet.



Next, remove the float bowl drain plug using a 17mm wrench and check that the plug comes off easily and that the main jet is installed just snug. Then reinstall the plug.



Put a little of the supplied cable lube inside the new Mikuni rubber flange's carb opening and then test fit the carb. Doing this now makes it easier once the flange is installed.



The last prep step is to squirt some of the supplied cable lube into the throttle cables and then hang them with the open end up, so the lube runs down the entire cable.



Using a 1/4" Allen socket and blue Loctite, lightly secure the rubber flange to the intake manifold. Be sure the flange is positioned evenly on the manifold. Then tighten down the two flange mounting bolts using a 1/4" Allen.



To connect the enrichener cable to the carb, push in against the spring to get the plunger's pin seated in its hole in the enrichener and then tighten the plastic nut with a 12mm wrench.



We're not using the purge fitting, so we left the supplied rubber cap on it. We are using a VOES, so its rubber hose goes onto its fitting on the new carb next.



With the throttle cable adjuster fully collapsed, insert the cable end (arrow) in its hole in the throttle wheel. Then wrap the cable around the carb's cable wheel and then the cable holder's wheel.



Position the rubber flange's clamp onto the flange. This clamp location worked well for us, but we needed to have the clamp facing up, not down.



To get our cable to fit fully inside the carb's cable holder, we had to spread the cable holder open a little using a flat-bladed screwdriver.

If a different-size main jet is needed, it can be changed using a short #2 flat-bladed screwdriver after removing the float bowl drain nut with a 17mm wrench. Of course, you can also change the main jet if you have the float bowl removed to swap out the pilot jet.

That leaves the accelerator pump, which shoots a stream of raw fuel into the carb's bore when the throttle is quickly opened, which is why it can also be used to make the very rich air/fuel



The last item to connect is the fuel line, which goes onto the movable fuel fitting. Secure it using the supplied clamp and a flat-bladed screwdriver, or a 1/4" socket/nut-driver.



Now that everything is connected to the new carb, install the carb into the new rubber flange by pressing it in with the palm of your hand while gently moving the carb from side to side.



After checking that the carb is fully seated in the flange, use a 1/4"-drive ratchet, 1/4"-drive 3" extension, and 1/4" socket to tighten the flange clamp.

mixture needed to start a cold engine. The HSR pump has two adjustments: The bottom screw with spring sets when the stream starts and the top screw sets when it stops. You can also install a different size accelerator nozzle if needed.

The accompanying photos and captions show how easy it is to install a Mikuni HSR carb, as well as the location of important fittings and adjustment points. The bike we're using for this article already had a Mikuni carb, but

Tuning an HSR

To check whether the enrichener is working, pull its knob out and try to start the engine. If it starts, turn the idle speed up so the engine stays running without you working the throttle. Pulling the enrichener on (out) should make the idle speed rise while pushing it in (off) should make it drop. If the engine will not start with the enrichener, give it one or two squirts of fuel with the accelerator pump by twisting the throttle wide open. Then do the idle speed test.

the carb.

it was damaged in a minor accident, so

a Mikuni manifold and choke assembly

components get installed the same way

the stock Harley parts do, we decided

there was no need to show how to bolt

them on. Our installation begins with

connecting all needed hoses, cables,

etc. to the Mikuni carb, then attach-

ing a new rubber flange, which is not

included in the Easy Kit, followed by

are already on the bike. Since these

The idle mixture and speed are the first two settings to get right. After checking that the pilot air screw is two full turns out from lightly seated, start the bike and bring it up to operating temperature. With the engine idling, slowly turn the pilot air screw in (counting the half-turns) until the engine's rpm drops slightly. Remembering left to lean and right to richen, the idle mixture is now too rich, so slowly turn the air pilot screw back out (again counting the half-turns) until the engine's rpm drops slightly again. The correct idle mixture setting is halfway between the two points where the engine's rpm drops. However, if when turning the air pilot screw out (lean) the idle speed doesn't drop, the fixed pilot jet is one size too large. Likewise, if when turning the air pilot screw in (rich) the idle speed doesn't drop, the fixed pilot jet is one size too small. If you have to change the pilot jet, repeat this process. Once the idle mixture setting is correct, use the idle speed knob to set the engine's rpm where it should be for your engine.

With masking tape wrapped around the throttle grip and marked in 1/4-throttle increments, as per the HSR manual, it's time to see if you have the correct size main jet installed. To do this, the Mikuni HSR Tuning Manual wants you to bring the bike up to speed and have the engine spinning at 3500-4500 rpm. Now turn the throttle wide open for a few seconds and then slowly close it to the 7/8 open position. If the engine's rpm increases, the air/fuel mixture is too lean, so you need to swap out the main jet for a larger one. If engine response isn't immediate (sluggish), the air/fuel mixture is too rich, so swap out the main jet for a smaller one. If engine response is crisp, immediate, and correct, the main jet is the right size. Of course, you can also check main jet size using the standard indicators: If the air/fuel mixture is too lean, the engine will cough through the carb, and the engine will surge when you try to hold a steady speed on the highway and overheat and/or detonate. If the mixture is too rich, engine response will be sluggish under load, there'll be black smoke from the pipes, or the bike will backfire in the pipes. However, the Mikuni way fine tunes the carb more precisely and doesn't activate the accelerator pump, which would interfere with your main jet tests.

Once you have the correct main jet installed, check the accelerator pump by snapping the throttle open a few times to see if the pump is shooting in too much or too little fuel. Too much fuel produces black exhaust smoke, while too little causes the engine to stumble. The correct amount of fuel results in crisp engine response with no smoke or raw gas smell. A different size nozzle is included in the kit, but you can probably get it set correctly with minor tweaks to the adjustment screws. Just be sure to record how many times and in which direction you turn the screws, so you can go back to the original settings if needed.









Now route the carb's float bowl overflow line behind the rear pushrod tubes and down past the rear of the engine's right crankcase.



Install the supplied O-ring into its groove in the kit's air cleaner adapter. Make sure the O-ring is fully seated in its groove.



Install the air cleaner adapter onto the carb by pressing it on with the palm of your hand and fingers while gently moving the adapter from side to side.



With the throttle wide open only the jet needle is in the bore (center). The pin on the left is the idle adjuster; on the right is the accelerator pump nozzle. In the back of the bore you can see the inside of the intake manifold.



Adjust the throttle cables (we used a 3/8" wrench and an 11mm wrench) so you can turn the throttle about 1/16" before the cable moves the carb's throttle plate.



After securing the throttle cable using the supplied wire-ties and cutting off the tails with a wire cutter, turn the front end from steering stop to steering stop to make sure throttle operation is not affected.



Here's our Mikuni HSR 42mm carb, fully installed. When you install your air cleaner, its backing plate and top end breather assembly will secure the carb in the rubber flange. **AIM**

SOURCES

Mikuni Carburetor #42-18, \$399 MikuniPower.com

XKursion Saddlebags

Throwover luggage to go

ESIGNED TO WORK ON ALL KINDS OF MOTORCYCLES, Kuryakyn's XKursion XB saddlebags offer the ease of throwover saddlebags with thermoformed, waterresistant construction. Unlike other saddlebags that have the tendency to sag inward, these semi-rigid bags hold their shape and maintain their position on the bike without installing hardware on the motorcycle.



The contemporary-styled bags are made from UV-rated 1680 denier textile and have heat-resistant bottoms and anti-scratch back sides. The XKursion saddlebags feature a lined interior and multiple storage pockets and compartments. Each bag measures 16" wide x 9.5" deep (11.5" expanded) x 11" tall and holds 27 liters of storage (33 liters expanded). Expanding the bag increases the depth by 2", providing enough room for a full-face helmet and more.

The main compartment zips opened by way of a clamshell design and has side gussets and an elastic

mesh panel to keep your contents from falling out when opened. The lid contains several pockets Kuryakyn calls "media storage." The largest pocket is 12" wide perfect for storing your favorite magazine or a small laptop or tablet. Two other smaller pockets can be used for a variety of smaller items you want to access easily.



An outer zippered lined compartment offers more options for smaller items, and contains a key ring, three penci holders, and two other small pockets. All zippers are weather-resistant and easy to use even with gloves on due to long leather pulls.

Each bag has a pocket for a water bottle that faces forward for easy access. Both forward and rear panels offer laser-cut, low-profile MOLLE modular attachment options.

There are options for mounting the XKursion saddlebags. The strap kit includes an adjustable seat strap with zippered bag attachments which can be fitted to use either on top or under the motorcycle passenger seat. We mounted ours under our one-piece Corbin seat for the best fit on our Harley-Davidson Street 750. Four heavy-duty D-rings on the bike-side of the bags and two on the front are used with the included straps for extra security.

Each bag also includes G-hooks and adjustable straps for securing more stuff to the exterior of the bag. I find this best for larger soft goods like jackets and bed rolls. Ergonomic and secure topmounted carry handles and a removeable adjustable shoulder strap allows you to easily transport your luggage off the bike at the end of the ride. **AIM**



SOURCES

Kuryakyn XKursion XB Fast Lane Saddlebags #5293, \$296.99 Kuryakyn.com





rain covers hidden zippered compartments on



The outer compartment offers a place for keys, pens, maps, and anything you need to get to easily.

My Arai Quantum-X full-face helmet fit perfectly inside the XKursion when expanded. The mesh panel keeps it from falling out while loading and unloading.


In it for the Long Haul

Hardstreet unveils its Tour Pack Configurators, available for certain 2005–2020 Harley Davidson touring bikes. Hardstreet's Tour Packs can be integral in vastly improving the long-haul capability of your motorcycle. Once installed, the Tour Pack Configurators provide owners interior protection and configurable divider system convenience. Hardstreet, Hardstreet.com.



A Motorcycle Pick-Me-Up

GET JumpStarter is a multifunctional mini starter which allows you to restart any motorbike and scooter (including watercrafts and small boats) when they're out of battery. Light and compact, JumpStarter has an LED light included and it can also be used as a power bank for your electric devices thanks to the USB output port 5V/2.4A which allows you to connect it to smartphones, tablets, etc. JumpStarter is extremely easy and safe to use as it is provided with a special protection against overvoltage and inversion of its power supply polarity. Athena USA, AthenaUSA.com.

Keep Your Bike Warm This Season

UltraGard has expanded its market-leading X-Large Bagger Cover in an all-new blue over black color choice. The custom fit UltraGard cover includes reflective piping and logo, elastic hem for a snug fit, tie-down points with bungees, water-resistant polyurethane coating, windshield liner, heatshield, rear centering tag to assist in a quick installation, and zippered storage pouch. Designed for the best fit on Harley-Davidson Ultras, Victory Cross Country Tours, and Indian Chiefs, Chieftains, Roadmasters, and Springfields. \$79.95. Big Bike Parts, BigBikeParts.com.



Silky, Soft, and Smooth

A classic silk scarf should be soft, thin, and slippery so you can wrap one around your neck, close up your jacket, and rotate your head and neck all day in draftfree comfort, without chafing. Aerostich's Competition Silk Scarves are made of a soft, dense weave that's perfect for riding. No synthetic fiber is warmer, softer, stronger, or more durable.

Silk provides maximum comfort across every temperature range: Warm and draft-blocking when cool, refreshing when worn wetted during hotter conditions. When traveling, this durable silk washes perfectly in any sink with a simple bar of hand soap.

The Aeorstich Competition Silk Scarf is medium weight silk and two layers thick; it measures 10"×60". \$47. Aerostich, Aerostich.com.





Simple Protection for Your Smartphone

With the release of Apple's iPhone 11 range, the team at Quad Lock has introduced its own case-based mounting system range for iPhone 11 for riders wanting to capture video on the go or navigate their rides using Waze, Google Maps, or any of the growing number of motorcycle-specific apps.

Quad Lock's Handlebar/Mirror Mount Kit for iPhone 11, 11 Pro, and 11 Pro Max gives riders the confidence of knowing their smartphones are securely mounted in a safe and optimal viewing position. Using a patented dual stage locking system, Quad Lock allows users to securely attach and detach their iPhones in seconds. The Quad Lock case also provides excellent drop protection during everyday use. \$69.90. Annex Products, QuadLockCase.com.

All Work and All Play

The Peshtigo Leather Gloves from Harley-Davidson are designed to look like classic work gloves. The elastic wrist, ergonomic thumb, and 15-degree pre-curved fingers add

comfort. The distressed leather grants a vintage appearance to these men's motorcycle gloves while the contrasting tricot lining adds some flair. Available in size S–3XL. \$65. Harley-Davidson, Harley-Davidson.com.

An Acceptable Mixture

Do you drink wine? Do you love motorcycles? Hopefully you don't enjoy both at the same time, but when the bike is parked, and you've picked up a fine bottle of red or white, what better way to display it than with this sculpted biker wine bottle holder. Whether for the connoisseur, the collector, or your favorite biker, these bottle holders fit the bill and add a unique look to any bar or counter. The poly resin sculptures are hand-painted with incredible detail. \$29.95. GreaseRag, GreaseRag.com.



Monkey Business

Nancy Gerloff and Mark Augustyn won the 2019 Motorcycle Industry Council Gas Tank Competition, a program in which entrants pitch a new product or service that will support the growth of the powersport sector to a panel of judges with industry leaders in attendance. Their idea that impressed this group of critics and executives? Mimi and Moto, a pair of cute anthropomorphic monkeys! *Mimi and Moto Ride the Alphabet* introduces children to the two-wheeled life through the simian riding duo and their adorable motorcycle-related antics. \$14.99. Little Rider Enterprises, MimiAndMoto.com.



How to Come out of Your Shell

Boost Your Confidence Through Motorcycling: A Woman's Guide to Being Your Best Self On and Off the Bike contains ideas and inspiration for both experienced and inexperienced female riders and uses examples from Alisa Clickenger's own personal journey learning to ride. Clickenger knows first-hand that motorcycling can be a life-changing experience for women, and through her book helps female riders become more comfortable riding motorcycles. Regarding the book's purpose, Clickenger states, "Since motorcycling was what transformed me from a shy housewife into a world traveler, I decided to distill the many lessons from my own confidence journey into a set of practical, actionable tips which other women could benefit from." Available through Amazon.com for Kindle for \$4.99 and in paperback form for \$14.99.



Light up the Asphalt

The Silencer Performance Eyewear by Wiley X is composed of matte black frames and orange mirror lenses which brighten the environment in low-light conditions and enhance contrast and depth perception. These glasses make for perfect eyewear when riding in overcast, hazy, and foggy conditions. Included is an H-D clamshell case, cleaning cloth, and a leash cord or T-Peg elastic strap. \$50. Harley-Davidson, Harley-Davidson.com.

Billowing in the Wind

Indian's unisex lightweight scarf is composed of a cotton and linen mix that makes for a comfortable product. It features the discharge print logo and the signature Indian red and cream colors with wrinkle finishing. \$24.99. Indian Motorcycle, IndianMotorcycle.com.

Remington Steel

Remington Cutlery's Tactical series of knives, known for their focus on strength and durability, now includes the R30007 Tactical Series Folder, a framelock knife with partially serrated tanto blade and a Black Oxide coated stainless steel clip. \$22.40. Remington Cutlery, RemingtonCutlery.com.



Stylish Storage

This women's purse from Indian features soft black leather, quilted panels, branded lining, and multiple compartments. The quilted leather purse is perfect for storing whatever items you want in a fashionable manner. \$69.99. Indian Motorcycle, IndianMotorcycle.com.



Alternative Electronic Entertainment

Christmas will be here before you know it, and the big man in red is still taking orders. Instead of a PS4 or Xbox One, get your children or grandchildren hooked on the two-wheeled life with an electric OSET motorcycle.

OSET bikes are electric off-road motorcycles primarily for children aged 3–12. They come in five different sizes and are ideal for teaching kids throttle control, balance, and technique all in the comfort of the backyard or wider open spaces.

Electric power has surprising torque, but that's because it's linear and can be turned down to walking pace, meaning there's no scary power band to put kids off. These bikes have no hot parts, require no gas, need very little maintenance, and are virtually silent, so the neighbors won't be annoyed.

The bikes retail from \$1,399–\$4,399. The OSET 12.5 Racing in particular is a very popular choice. It is an excellent beginner bike for children aged 3–5 who have never ridden before and will grow with the child as they venture into more challenging riding terrain. \$1,699. OSET Electric Bikes, OSETBikes.com.

Clean and Green

Survivor Filter introduces the Survivor Filter Active Filtration Bottle. The Active Filtration Bottle combines the convenience and portability of a water bottle with the assurance of a reliable filter. The Active Filtration Bottle provides the ultimate assurance for anyone concerned with the quality of municipal tap water.



The filter sits between the water bottle

and its lid. Simply fill the bottle, insert the filter, and screw the lid back in place. Squeeze the bottle and drink as the filtered water passes through. The Active Filtration Bottle will filter 100 gallons—eliminating the need for numerous single-use water bottles.

The Active Filtration Bottle filters 99.99% of bacteria, parasites, volatile organic compounds, toxic chemicals, and heavy metals. The ionic absorption filter improves taste, while the whole system has been tested to meet ANSI/NSF Standards 42&53—levels that match or exceed in-home filtration systems. \$40. Survivor Filter, SurvivorFilter.com.



Kick Start the Holidays in Comfort

Harley-Davidson Men's Vented Performance Riding Socks by Wolverine are made with Merino wool to keep your feet warm in colder temperatures while naturally wicking moisture away to keep you drier and more comfortable. They are thin enough to wear in a riding boot, so you can stay warm without the bulk. Cushioned soles and reinforced heel and toe protection add to the comfort levels. \$12. Harley-Davidson, Harley-Davidson.com.

Money in the Bank

This premium black leather Tri-Fold Wallet from Indian is a spacious, secure, and stylish way to carry



valuables. It has a long pocket for currency and numerous stacked slot pockets for storing cards for quick and easy access. The Tri-Fold Wallet features branded 100% lining and embossed logo. \$39.99. Indian Motorcycle, IndianMotorcycle.com.



Don't Sweat It

GILLOW SINGLE

Playing sports, working hard on the job, or just riding around town can lead to breaking out in a sweat that interferes with your activities. Getting sweat in your eyes or having it roll down your face can throw you off when going from point A

iles Donishi

to point B on your bike and lead to bad odor and stains. NoSweat allows you to combat these effects with its disposable performance liners for hats, helmets, hard hats, and visors. The NoSweat thin liners simply peel and stick to the inside of headwear to instantly absorb sweat. Moisture is locked inside the liner to help prevent dripping sweat and fogging. Each NoSweat liner absorbs around two ounces of sweat.

NoSweat liners start at \$6.99 for a pack of three and \$34.99 for a pack of 25. NoSweat, NoSweatCo.com.



30 Years of Excellence

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Have a Happy AIM Holiday

American Iron has teamed up with Hot Leathers to bring you authentic AIM wearables! Check out the entire line of T-shirts. There are four different designs to choose from featuring the American Iron logo, vintage knucklehead motorcycle, crossed wrenches, or a spark plug. It's the perfect holiday gift for your riding buddies, and don't forget to order one for yourself. From \$17.95. Hot Leathers, HotLeathers.com.



The 50mm Zx2-1116 watch with Silicone Dumbell strap available from Gear'd Hardware is built by bikers, for bikers. Gear'd products are unapologetically masculine, extremely durable, and feature rugged

styling. These watches are designed and assembled in the USA, feature ultra-tough scratch-resistant Hardlex glass, and come with a lifetime warranty. Gear'd Hardware even offers free shipping. From \$189.99. Gear'd Hardware, GeardHardware.com.

Santa Suit Buckles

You can make a statement with a great belt buckle, and they make great gifts too. Here are a few genuine Harley-Davidson belt buckles that were offered by Harley dealers more than a decade ago. Odds are you can't buy these anywhere else but GreaseRag. com. There are five designs to choose from: Harley V-Twin Buckle, Harley Skull Buckle, Harley Bar & Shield Buckle, Harley Flying Eagle Buckle, and Harley Eagle Bar & Shield Buckle. From \$20, Greaserag.com, 203/425-8777 ext. 114.



Build a Brick Bike

Developed in collaboration with Harley-Davidson, this detailed LEGO Creator Expert model of the iconic Fat Boy captures the beauty of the real-life machine. Featuring 1,023 pieces, the model comes complete with solid-disc wheels, teardrop fuel tank, and dual exhaust pipes. The finished model measures over 7" high, 7" wide, and 12" long and features several moveable parts.



Spin the rear tire, turn the handlebar, move the gear shift and brake levers, and flip down the motorcycle's kickstand for easy desktop parking. Finished in dark red and black, the LEGO model emulates the 2019 Fat Boy's Wicked Red paint scheme. \$99.99.

LEGO, Shop.LEGO.com, Harley-Davidson.com, or your local Harley-Davidson dealer.



Keep Pants in Place

Faärken, Inc. Biker Stirrups help keep your pants from riding up when you're riding. They work best when wearing boots or shoes with heels, and the stirrups will last many riding seasons if your bike is equipped with floorboards. Faärken Biker Stirrups not only look great while riding, but you'll want to wear them when you're just hangin' out waiting for Santa. From \$25. Faärken, Inc., Faärken.com. **AIM**

1946 HARLEY-DAUDSON KIUCKLEHEAD John is my co-pilot

By Jim Babchak Photos by Jim Babchak and Bob Feather





Our featured 1946 Harley-Davidson El

this month is a very special motorcycle indeed, not only because Knuckleheads are highly desirable and sought after as collector machines, but also because this one belonged to one of my closest friends, John Faraci, and I have the honor of owning it now.

One of the great things about the hobby and sport of motorcycling is the camaraderie that comes naturally as an outgrowth of our shared passion for these amazing twowheeled machines. Motorcycles have a great way of bringing folks together, and through these friendships, lifelong bonds are formed.

Back in the late 1970s I joined the Antique Motorcycle Club of America (AMCA), and at one of the early meets in Schenectady, New York, I met John Faraci, who was wandering around the swap meet looking for VL parts. John was an industrial arts teacher in the Half Hallow Hills School District and was working on a 1931 VL and looking for a primary chain cover. I happened to have one on my vendor table; he bought it and and inquired what other VL parts I might have. Letters and phone calls followed, and over time we became great friends. He finished the VL restoration in 1986 and sent me a letter and photos of the completed bike, which I have to this day. He went on to restore a 1915 boardtrack racer, a 1927 JD, and the 1946 Harley-Davidson Knucklehead we are featuring this month. John was a first-class machinist, incredible fabricator, excellent painter, and amazing mechanic who could fix almost anything and diagnose any mechanical issue. He really



was a one-stop shop and performed every aspect of every restoration except leather work, which he could easily have done had he set his mind to it. He restored this Knucklehead as his daily rider and took extra care assembling it as he lived in Long Island and knew the heavy traffic in that area demanded a reliable machine that would run like the wind, stop on a dime, and perform flawlessly under all conditions.

The bones of the motorcycle were purchased as a basket case in the early 1980s and he set about restoring it from the ground up. The motor was taken completely apart, cases bead-blasted, and NOS rods, bearings, and bushings were



obtained to rebuild the bottom end. This was the 1980s when you could still buy these parts at our meets for very reasonable prices. Cylinders were honed, heads rebuilt, oil pump refreshed, generators rebuilt, and Linkert carburetor gone through and restored. The transmission was opened up and a complete rebuild initiated. New NOS gears were incorporated in the rebuild and a new clutch and bearings installed.

The chassis was next up for a restoration. John realigned the frame himself by making up a jig that mirrored an H-D frame table and brought it all into alignment. The springer front end was in great shape, as were the handlebars, so he sand-blasted all the pieces and primed and painted them in his garage in a paint booth he fashioned from plastic sheets and a good dose of ingenuity.

His attention then focused on the sheet metal. He welded up some wounds in the fenders and some extra holes that had been drilled by past owners for saddlebags. John spent countless hours straightening and tweaking both fenders until they were laser-straight. The tanks were boiled out and tested for leaks, and then he shot all the sheet metal in blue and cream, two of his favorite colors. The seat was sent out to Howard Heilman, and he acquired a new wiring



harness to conduct the six volts of electricity to all the right places. After the Guide headlight and accompanying pieces were shot black, John's attention moved to the wheels. John rebuilt the Star wheel hubs, laced in new spokes and added 5.00" x 16" black wall tires. We had a long debate about white walls, but John was a conservative guy and

didn't want the bike to look like a parade vehicle. Again, because the bike was to be his everyday rider, he added a performance shotgun exhaust and rubber-mounted the foot boards to isolate vibrations. Upon completion, John rode the bike everywhere on Long Island. He took trips to the Hamptons, up to the North Fork, along the North Shore and all around his home in Seaford. He rode it to school, rode it with friends, rode it alone and basically road the wheels off it. He never babied it even though it was 40 years old at the time.

Eventually, John bought a new 1992 FXR and fell in love with its power and handling and stopping

characteristics, and he started getting away from riding the antique machines. Traffic patterns were changing on Long Island, and he felt safer on newer machines. The desire to build still burned strongly in John, and he then devoted himself to building replica motorcycles based on new Harleys that looked old. We featured his 1936 Knucklehead replica based on a 2002 Harley back in 2013 here in *American* *Iron*. It was breathtaking to behold, and was highly praised for John's workmanship and attention to detail.

I mentioned John was a teacher. After retirement from his long and storied career as a teacher and mentor to generations of students, and infusing a love of all things mechanical into their DNA, he devoted himself to fabricating parts for his

> future restoration work as well as building even more replica motorcycles. His newfound freedom allowed us the opportunity to speak at length every day, and my wife could never quite understand how we could have 45-minute conversations every day. What could we possibly have to talk about? The answer, of course, is that we had so many shared passions and so much to talk about; we talked about everything from motorcycles and cars to women, life, and everything in between. Tragically, cancer took John last year, and I lost an amazing friend. I'm very proud to have his motorcycle in my collection and thank his family members, Loretta and Lou, for their generosity in allowing me the opportunity to own it.

I have a laminated photograph of John affixed to the motorcycle so that when I go out for a ride, he's always my co-pilot. On rainy days when there is great turmoil in the atmosphere, and the sky is thundering, I'm sure it's John and all our motorcycle riding buddies out for a spin on the edge of the clouds. Heaven really is an eternity of motorcycling across the universe. Ride on, partner, ride on. **AIM** This plate is in the rear of the carburetor after the slide. Idle and transfer holes (ports) by the throttle plate provide a balanced fuel mixture during the transition period from idle to mid-range along with a slow jet.

A needle extends down from the variable venturi slide and into a needle jet to provide mostly midrange fuel requirements. Below this is the main jet whose main function is to supply high-speed fuel. With full throttle, there is maximum vacuum in the venturi and the slide moves up, fully exposing the full venturi for high-speed air demand. The upward slide movement also lifts the midrange needle from its needle jet to allow more fuel to travel up from the larger high-speed jet below.

At the front of the CV carburetor, centered above the throat, is a rounded hole 1" long and 3/8" wide. This is an atmospheric vent connecting to the positive side of the internal chamber, underneath the vacuum piston slide diaphragm of the CV Keihin, to assist in raising the slide in the venturi.

The unthreaded hole at the top left opposite the top threaded air cleaner mounting hole is the float bowl vent. If gas is added to the float bowl, there must be a channel for displaced air to escape. A vent is always above the maximum fill of gas. Conversely, as gas flows out, there must be venting to allow air back in to replace the lessening gas reservoir. If not, the gas will have much difficulty filling or emptying the float bowl.

The accelerator pump nozzle is at the right front just inside the carburetor throat. Twist the throttle and a squirt of gas will inject back into the carburetor venturi assisting in rapid acceleration.

Beside the upright accelerator pump nozzle is the recessed (horizontal) main air jet. The slow jet sits near the top of the internal gasoline float bowl reservoir. It feeds gas up through a vertical channel to intersect with a horizontal passageway. This runs parallel to and underneath the carburetor throat and venturi extending back to the transfer ports and ending with the idle port. The idle port hole is at the bottom of the carburetor throat just behind the throttle butterfly plate. The tiny transfer ports (holes) are blocked from view when the throttle plate is in the closed position. As the throttle plate opens, the transfer ports expose, and more fuel directs into the carburetor throat on the engine side of the venturi.

At rest, the vacuum piston slide sits in its closed position inside the carburetor venturi with the needle sitting inside the needle jet that extends up slightly into the venturi underneath the slide. The needle jet originates in the float bowl connecting to the main bleed tube. The main jet itself locates in the float bowl in the gasoline reservoir just below the main bleed tube. The bleed tube also intersects with the main air jet passage just below the venturi.

Fuel meters through the slowspeed jet and a mixture screw controls idle speed when the throttle plate is barely open. At low speed when the throttle opens the plate a little more, additional fuel directs into the carburetor throat venturi. At the same time, the almost fully lowered position of the vacuum piston slide reduces the venturi opening, which reduces air flow. The idle and low-speed circuit controls idle and assist the transition into mid-range. This circuit controls 100% of idle and about 25% of just off idle low speed.

The mid-range circuit-slide position rises from the lower low speed location. This movement occurs as the throttle butterfly plate opens, creating a low vacuum situation that moves the vacuum piston slide upwards. The midrange circuit controls steady throttle opening and lighter acceleration.

The high-speed circuit activates by opening the throttle butterfly plate further. This increases the difference in pressure in the venturi, raising the vacuum piston slide fully upwards, opening up the venturi. This allows maximum air flow as well as gas passing by via the main bleed tube to meet engine demands. In this situation, of wide open throttle during hard acceleration, the main jet is the primary controller of fuel delivery.

Next issue, I will continue to discuss actual tuning of the best Harley carburetor, the CV Keihin (1989 to 2006). **AIM**



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HHI Renegade Wheels	877/442-5837 45
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International Motorcycle Show	motorcycleshows.com 15
Le Pera Enterprises	
Legendary Products	LegendaryUSA.com 50
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Up To Today

In the last year -13 issues – we have looked back on how American Iron Magazine has led, influenced, and shared trends in our sport over our 30 years of publication. Since 1989, we have seen so many trends from the Hamster FXR sleek look with bikini fairings to long fork, fat rear tire choppers to slammed big wheel baggers and more. We have covered the antique and classic bike market, sharing more than a century of American motorcycle history, as well as new bikes and what makes them interesting. Plus DIY tech and upgrades, tours, and all sorts of events.

Our last installment is 2016 to current, and we certainly hope you already know what was hot and featured in our pages. Buzz Kanter showed old guys can still go fast by racing a 1915 Harley boardtracker on the crazy Sons of Speed races.

No brakes, no clutch, and no transmission at over 80 mph on skinny tires.

ELECTRIC HARLEY! FAST & FUN OR FAD & FIZZLE?

Last year, Harley surprised the industry by announcing the end of the Dyna family and a radically improved new line of Softails. We lost a truly great man who had immense influence on all aspects of American motorcycling with the passing of Arlen Ness. We rode and reviewed the exciting new Indian FTR 1200 S and the amazing new electric Harley LiveWire a couple issues ago.

This will be our last installment in our long road to get here, but we are already planning great articles and info for the next 30 years. If you have not yet subscribed, why not sign up today to ensure you get all the issues at a fraction of the cost in stores? Just go online at AIMag.com or call 877/693-3572. AIM



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