

Motorcyclist
TEST

Yamaha XS1100

**The New Performance King Is
Also A Prince Of Touring...**

Here's Proof:

Quarter-Mile: 11.73 seconds at 114.79 mph

LA To NY: 59½ Hours Non-Stop...

Except Once For A Very Big Ticket...

The night line rang at 7:06 p.m., 20 hours after *Motorcyclist's* XS Eleven test bike had left Los Angeles on its nonstop jam to New York City. The caller was second-leg rider Brad Zimmerman, who had the stretch from Grand Junction, Colorado, to Kansas City.

"How's it going?" asked the home office eagerly, the success of the January issue depending on the success of the trip. "Is the bike okay?"

"It's running fine," said Brad, "but we have a slight problem. I got a very big ticket."

It seems Mr. Zimmerman got nailed while trying to get back on schedule a little too quickly. The trip was not designed as a Cannonball Baker record run, just a nonstop 3000-mile cruise to test the Yamaha. But a schedule was still necessary so the bike would arrive at the airport concurrently with its next rider who had flown ahead from *Motorcyclist's* headquarters in Los Angeles. Brad was somewhere in Colorado trying to make up time when it happened.

"It had just gotten dark and I didn't see him sitting in the center median until I flashed past. I turned around to see two headlights pop on, then two red lights and a revolving blue. The siren was piercing instantly. I pulled to the side of the road, shivering and looking forward to sitting in the nice warm police car. The officer met me halfway.

"My god, that's the fastest I've ever registered anything on my radar gun! Do you have any idea how fast you were going?"

"I'm glad it was slower than in the daytime. What did you register?"

"You were going 103 mph! I'm sor-

ry, but I just can't overlook this. I've got to take you away, impound your bike and find the judge to see what's going to happen."

"What's this, your one phone call?" the home office growled.

"No. Don't worry. Everything's okay," shivered Brad. "I conned, tried to make friends, explained the trip and told both officer and judge that if I wasn't in Kansas City at 6:30 a.m. I would lose my job. I pulled out business cards, AMA cards, pictures of my mother and continually apologized. I was shivering uncontrollably which added to their sympathy. The fact that I was willing to get back on the bike to chill myself still further in 37-degree weather proved that I was

for real. I couldn't believe it but they officially cut the speed to 74 mph, I paid a fine and I'll be back on the road in a minute. But there's one catch. The judge made me give my driver's license and the bike registration to the police and they're supposed to escort me out of Colorado at 55 mph. If I speed, the original 103 mph will be reinstated, they'll impound the bike and I'll go to jail."

"Good god, don't take that thing out of second gear till you get to Kansas!"

"I promise. Goodbye. They won't let me leave without drinking some coffee. I think they're even going to buy it for me."

Brad the sweet talker. He was clocked at over 100 mph because speed builds on the Yamaha without the usual indications. This magnificent 1100cc twin-cam engine is asleep until 50 mph, begins rubbing its eyes and yawning at 65 mph, settles into an easy canter at 80 mph, puts its shoulder to the road at 100 mph, then easily accelerates to 130 mph where its component pieces at last realize their purpose—which is illegal, excessive, unprincipled—and absolutely transcendental to experience. Nothing has ever been so powerful, so fast and so all-around.

Yamaha introduced their 1978 new-model line to 1400 enthusiastic dealers at a posh hotel in downtown New Orleans—right across the street from the Superdome, site of many Team Yamaha motocross victories. However the dealer meeting was not a celebration of two-stroke prowess. Instead the theme was Yamaha's emergence as a four-stroke street power. To prove it they dimmed the



AAA Triptik maps displayed on the Amco tank bag directed our riders all the way across America.

Yamaha XS1100



hotel lights and projected about 45 seconds of film onto a huge screen. There was the sound of a powerful engine revving before an image appeared, and then suddenly a dark-maroon XS Eleven flashed on the screen in the midst of a full-bore burnout. Its front wheel was bumped against a solid concrete wall as banks of fog-thick smoke squirted from the screeching rear tire. Several mechanics steadied the straining machine from all sides like stable boys contain a restless racehorse. After a full 10 seconds of torturous burn-out to heat the tire and make it sticky, the scene cut to a drag-strip staging area. An overhead shot showed the tach needle whistling to 8000 revs and the clutch lever poised. Thunderous sound from huge rock 'n roll amplifiers penetrated the bone marrow of the audience. A gloved hand

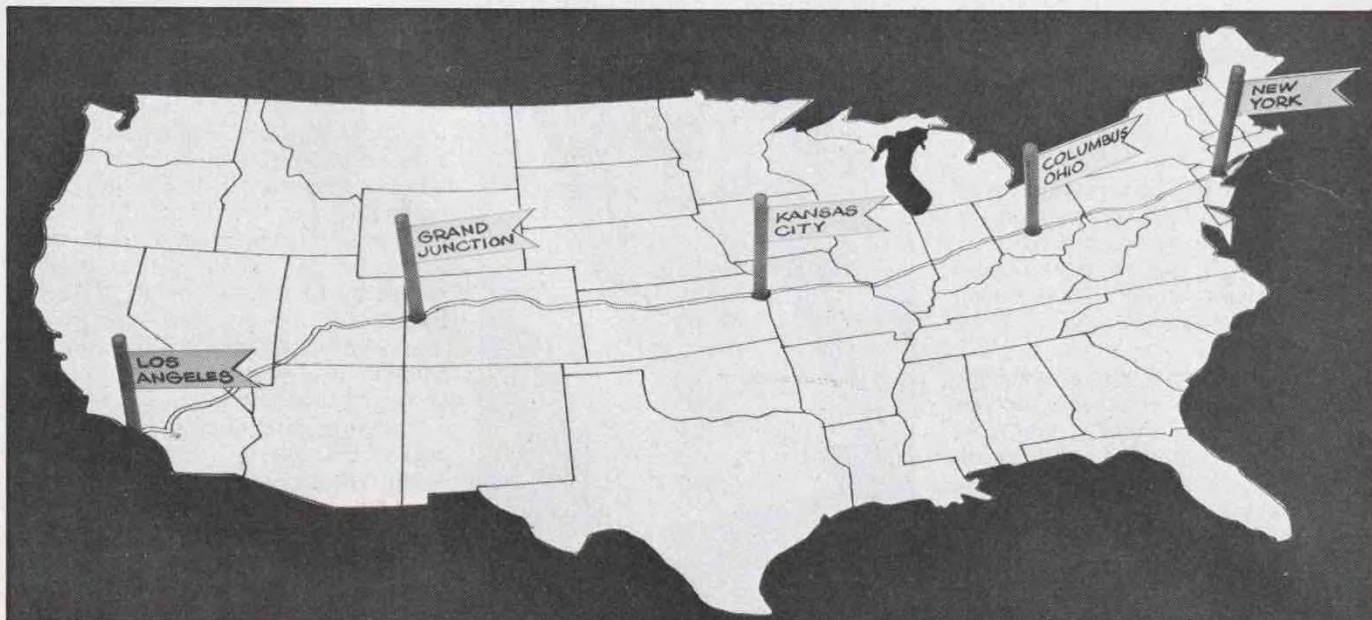
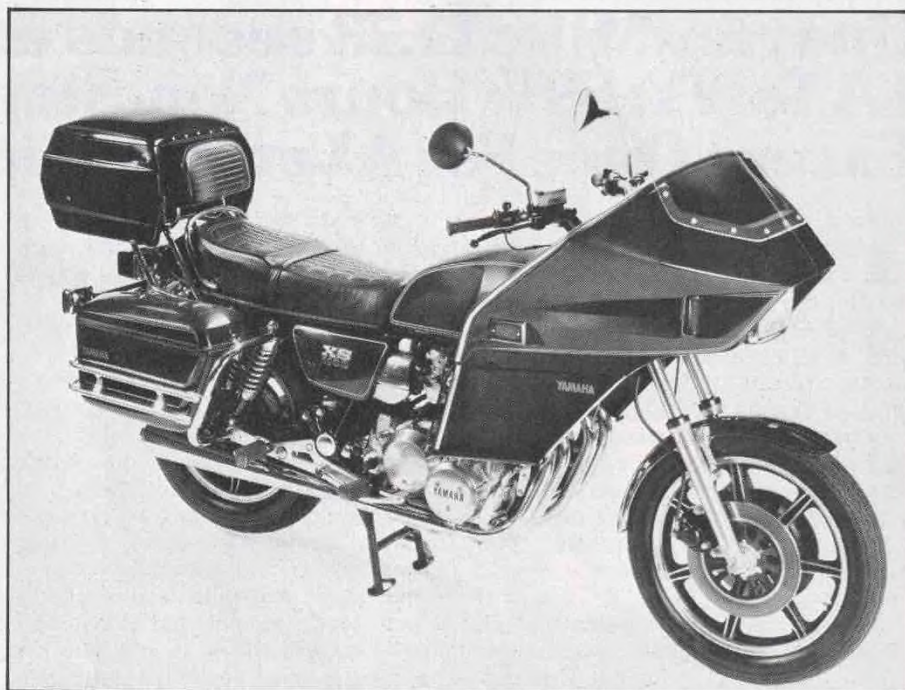
Yamaha's own touring package is sold as a kit which includes fairing, lowers, crash bars, rack, backrest, trunk, saddlebags, all hardware plus heavy-duty front-fork springs and shocks. Price is approximately \$1000 depending on dealer location.

released the clutch with lightning finesse. From the timing lights one-quarter-mile away a long lens compressed the strip and bathed the fast closing XS Eleven in a shimmering mirage. Everyone's ears tingled to the Doppler effect as the bike suddenly rushed off the screen in a blur. They cut the projector to instant silence. A darkened hush prevailed for one spellbound second, and then the auditorium went mad. The dealers knew it was everything they'd hoped for. A Z-1 eater with shaft drive. Probably the fastest production motorcycle ever offered to the public. A complete color-matched touring package available from Yamaha. Competitive pricing at \$2989.

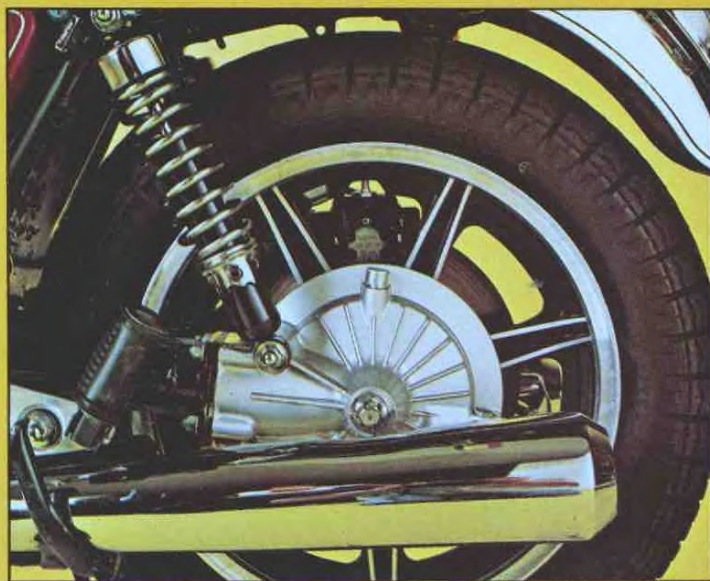
Obviously Yamaha wanted the XS

Eleven's front-line image to be performance, backed with claims of touring excellence as well. Primed by the dramatic New Orleans movie, we went truth hunting at the drag strip first. Yamaha said they called the bike "Eleven" because the engine displacement is 1100cc and because it runs 11-second quarter-miles. No stock motorcycle had ever done that, not even the mighty Z-1, which at best ran 12.2s at 110 mph.

Motorcyclist got the first production Eleven to arrive in America for magazine road testing. When we picked it up, at Yamaha headquarters in Buena Park, California, the rough-hewn boards of its airline crate still lay in a heap next to the gleaming maroon Eleven. Technicians had run-



The XS Eleven got a fresh rider at each of these points in its nonstop cross-country jam. The trip totaled 2963 miles and cost \$54.60 for gas. Mileage ranged from 33.2 mpg to 45.6 mpg, and speeds from 10 mph in traffic to 103 mph.



Beautiful instrument panel features a fork lock built into the ignition and reads in both kilometers and miles. The XS is steady at speed even with two-up.



Yamaha XS1100



up a scant 330 break-in miles. We rode the machine 20 miles on the Santa Ana Freeway to Orange County Dragstrip, wondering if the tight new engine could squeak into the elevens. It had to be done that afternoon or never, because late delivery of the bike left us scheduled to leave for New York the same night. Once there, the bike would be left in Yamaha's New Jersey warehouse, so we wouldn't get a second shot.

Tech Editor Jody Nicholas pulled leathers onto his lightweight frame and rolled-off a 12.8/107.90-mph orientation run to get familiar with traction and the clutch. Next, without

even taking a deep breath, the Yamaha ripped an 11.88/114.10 to the glee of everyone because it meant that fiddling with tire pressure and burnouts might shave another tenth. Simultaneously, however, everybody feared that the abuse attendant to maximum performance quarter-miles might break the big Yamaha before it even tasted an Interstate. Jody's third pass was an incredible 11.73/114.79, certainly the quickest and fastest quarter-mile ever turned by a production machine. Motorcycling suddenly had a new performance King.

A drama had begun to accompany these runs as Jody staged for the second shot. Already his gloved hand was fumbling with the clutch cable adjuster. He twisted it again to get full release before the third run. On the fourth and fifth attempts he missed shifts because the clutch was going away.

Let it cool and try again.

There was no reason to suspect permanent damage because the clutches on other big Japanese road burners have often survived as many as 20 back-to-back drag-strip runs without a whimper. Nevertheless 40 minutes later Jody took three more

shots, none better than 11.73, and finally coasted back to the start to park the Eleven—its clutch fried.

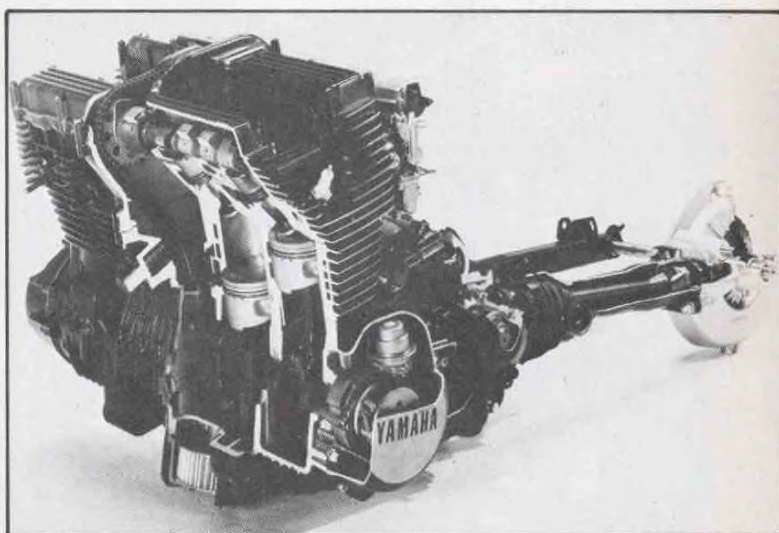
A phone call to Yamaha produced little enthusiasm. They were pleased with the 11.73, which was a quicker time than any of their pre-production prototypes had turned, but they were incredulous that the clutch was destroyed. Our van trucked the disabled motorcycle back to Yamaha where tech crews installed a "Stage 2" clutch assembly which had just arrived from the factory. Its existence would indicate that Japan may have encountered similar problems.

XS Eleven buyers will find it impossible to resist a few rabbit starts from local intersections. If *Motorcyclist's* experience was not an isolated instance, their friction plates could be reduced to oil-soaked powder like ours, and this would be bad for the new King's reputation. There's also the matter of a \$50 to \$60 repair bill, plus down time. Though we didn't drag-race the Stage 2 clutch, its perfect performance on our cross-country trip indicates that it's plenty rugged to contain the Eleven's awesome 96 horsepower.

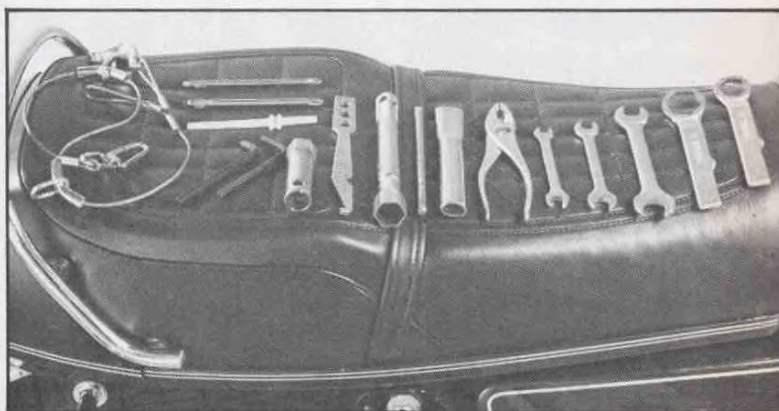
This figure is unconfirmed by a dy-



No production motorcycle has ever gone quicker or faster at the drag strip. Though not timed electronically, we read an indicated 134-mph top speed off the speedo.



Standard three-ring pistons move in an iron bore. This year an automotive-type U-joint transmits power to the driveshaft which turns a standard ring-and-pinion gear.



Elaborate tool selection includes the cable at left which attaches to the frame, then raises the swing arms so axle can be pulled without removing mufflers.

namometer because Los Angeles does not yet have a public dyno facility equipped to obtain accurate and consistent readings from shaft-drive machines. Calculations based on its 603-pound wet weight and 11.73 quarter-mile indicate that the Yamaha's horsepower rating is solidly over 90. Certain hard-running stock Z-1s have slipped into the eighties on the Webco dyno, and it's presumed that the Honda shaft-drive GL1000 also nudges 82-84 hp. But nothing really comes close to the Yamaha. Furthermore we would speculate that a sharp rider, after experimenting with tires, tire pressure and burn-outs, could put Yamaha's bomb through the traps in 11.5.

All this talk of horsepower and drag strips would be meaningless if all the motorcycle could do was go fast. To see if the Eleven really doubles as a tourer, *Motorcyclist* devised a torturous real-world all-or-nothing test which would also examine the bike's reliability in unparalleled terms. We would attempt to ride the XS Eleven cross-country nonstop 24-hours-a-day without ever turning the engine off. Basically that's what we did, except the motor couldn't be

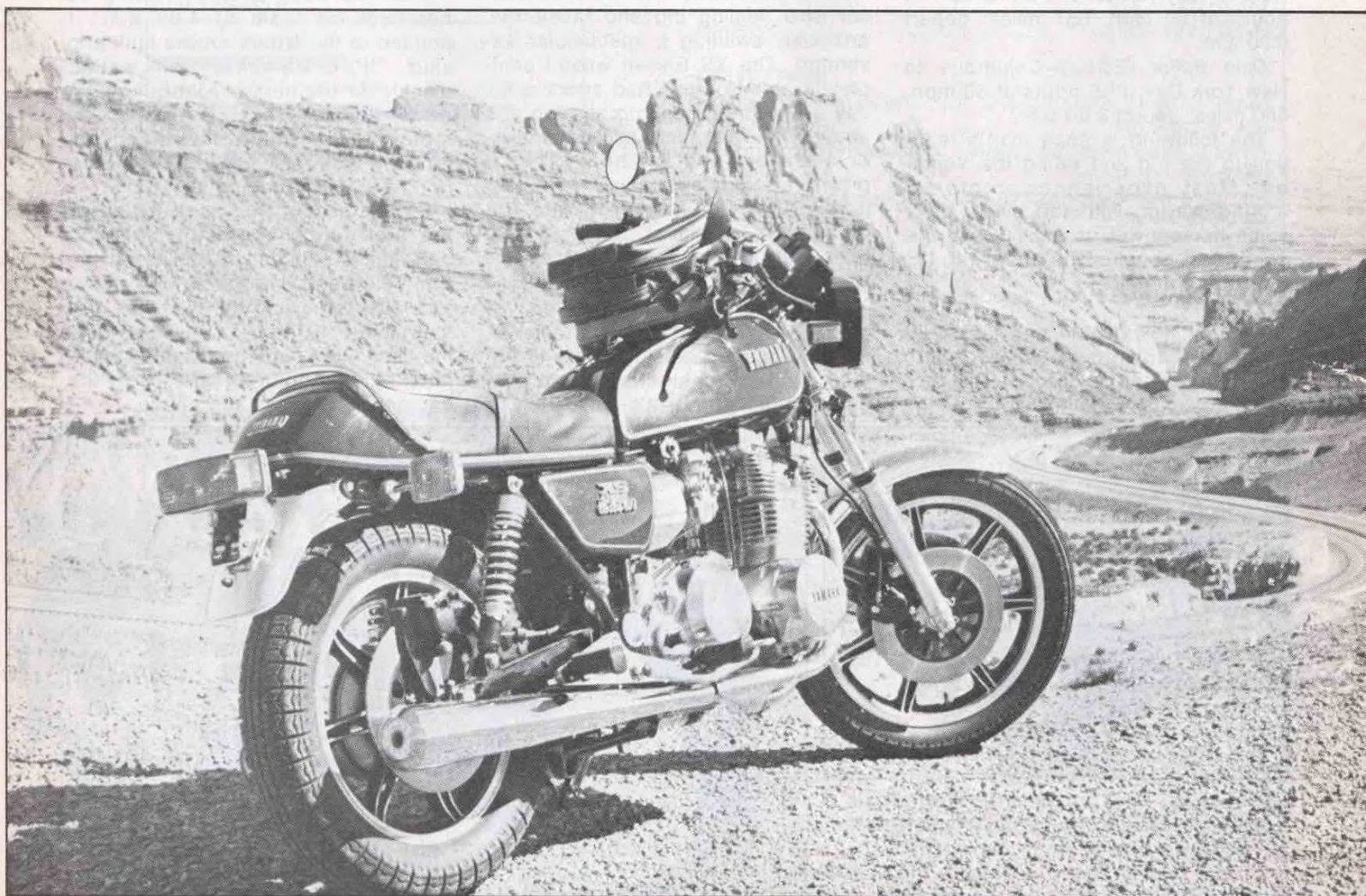
left idling during fuel stops or while Brad was with Colorado authorities.

Though the trip's logistics rivaled those of a space launch, actual bike preparation was minimal. The XS left Yamaha with its new clutch and headed through rush-hour freeways to the *Motorcyclist* shop, located about 50 yards off Sunset Boulevard's fabled Strip. Jody Nicholas prepared the machine, first by searching for loose fasteners. He only found one on the exhaust cambox cover. Then he added ACP Liquid Tire Balancer and Puncture Sealer to each tire and to both of our spare tubes as a precaution against flats. He also mounted a VDO quartz clock which ran off the battery and had a lighted dial so the rider could tell time without digging through four or five jacket sleeves to his watch. A Digitronics chrono-computer on the left handlebar displayed the mileage that the bike's odometer should also read to average whatever speed the schedule required. Finally Jody wired a plug for our Widder electric vest directly to the battery. He didn't know it at the time, but the XS Eleven has a fused 10-amp auxiliary connector plug to accommodate CB ra-

dios, stereos, electric clothing, etc.—a much safer and quicker way of connecting electrical accessories. We installed one final gadget, a Vanda Cruise throttle locking device which proved invaluable.

Trip-planner Brad Zimmerman divided the United States into four sections, one for each of *Motorcyclist's* editors. The switch-over cities were chosen because they had direct flights from Los Angeles which coincided fairly closely to the bike's projected arrival time. The plan was to have each fresh rider waiting in the TWA airport terminal when the bike arrived. The electric vest would be passed from man-to-man and the bike would be back on the road in a matter of minutes. Shuttling people back-and-forth cross-country cost over \$1000 in air fares alone.

The trip totaled 2917 miles on the map. A 60-mph average was programmed through the western states where wide-open spaces afford greater speed. In the East where the turnpikes are heavily patrolled and rain was a distinct possibility, the rate was dropped to 50 mph. Both averages included all stops so actual enroute speeds would be considera-



Twelve hours after leaving the lights of L.A. the XS Eleven took a well-deserved breather at a scenic Utah turnout overlooking winding Route 70.

Yamaha XS1100



bly faster than the posted recommendations. If met, these averages would produce a total time of 53.6 hours. Luckily the schedule was flexible enough to allow for airport side trips, getting lost, taking photos, etc. Here's how it looked on paper:

Rich Cox (Associate Editor)—Los Angeles to Grand Junction, Colorado: 13.5 hours at 60 mph; 811 miles; depart 11 p.m.

Brad Zimmerman (Feature Editor)—Grand Junction to Kansas City: 15 hours at 60 mph; 889 miles; depart 2:30 p.m.

Jody Nicholas (Technical Editor)—Kansas City to Columbus, Ohio: 13 hours at 50 mph; 657 miles; depart 6:30 a.m.

Dale Boller (Editor)—Columbus to New York City: 11.5 hours at 50 mph; 560 miles; depart 8:30 p.m.

The following is each man's reaction to the trip and riding the Yamaha. Most experiences centered around playing with the bike's awesome horsepower or coping with the cold. Most conclusions about the XS Eleven are identical.

RICH COX:

Scheduled to ride the first leg spanning from downtown Hollywood to Grand Junction, Colorado, a distance of approximately 810 miles, I couldn't

help feel a little uneasy and nervous. It was my initial attempt to travel that far on a motorcycle nonstop, and I felt a strong sense of responsibility knowing that the enormous money and time spent so far would be flushed down the tubes if I failed to show up in Colorado—not to mention this month's cover story, this month's *Motorcyclist* and ultimately my job.

I was giggling in a way, for although it wasn't the shortest distance, I knew I'd have the best weather, the warmest temperatures and miles and miles of wide-open road. While my other partners were gearing up for sub-freezing cold, I dressed relatively light: plain old Levi's, a sweatshirt, flannel shirt, a one-piece Wheels Of Man touring suit, Full Bore riding boots and Hondaline Gauntlet Gloves. My biggest fear was falling asleep somewhere in the middle of all that distance. Plans had me leaving at 11 o'clock on a Tuesday night but nervous anticipation didn't allow much napping before weighing anchor. Unable to obtain anything stronger than No Doz tablets I arrived for departure a little blurry-eyed but loaded with enthusiasm.

At 11 p.m. sharp I rolled onto Sunset Blvd. feeling big and fancy-free, anxiously awaiting a spectacular adventure. The XS Eleven wasn't completely new to me; I had spent a full day on it during a photo session and already knew its feel and characteristics. It's big and it's heavy, but it prowls around town easily, requiring just a twitch of the throttle to get from signal to signal. It can act so tame, yet rip arms from their sockets when it wants to.

Three hours into the ride with Vegas ahead and twinkling stars above, my mind started settling down to the realization of what this superb machine is all about—it's absolutely a

dream-mobile on two wheels. With earplugs installed to help cut wind noise through my full face helmet, the ride was incredibly quiet—to the point where it got a little spooky. The speedo showed 70 mph, and yet the bike feels like it's floating six inches off the ground. There's no vibration, no rattles, no engine noise, no sense of time—it just eats up the road effortlessly. The large-format headlight throws an impressive beam of light, long and wide enough on high beam to illuminate upcoming objects even at speeds approaching 70 mph. The instrument panel lighting is also quite pleasant at night. Our Vanda-Cruise definitely made the long hours more comfortable; it's no doubt one of the best working units on the market.

I reached Vegas at 4:00 a.m. stopping briefly for gas and vending machine coffee. I expected it, and it happened. The station attendant walked over and eyeballed the XS, twisting his neck like a pretzel. He was obviously a biker as his 350 Honda was parked out front with a "For Sale" sign on it. He looked, then walked away, came back again and asked with a puzzled expression, "What the heck is that?" Being as heartless as I am at 4:00 a.m., I pointed to the letters on the tank and said, "It's a Yamaha," and waited blankly for the next question. It never came. Instead I got his life story in motorcycling which convinced me he'd probably kill himself if he ever got on a 750—let alone an 1100.

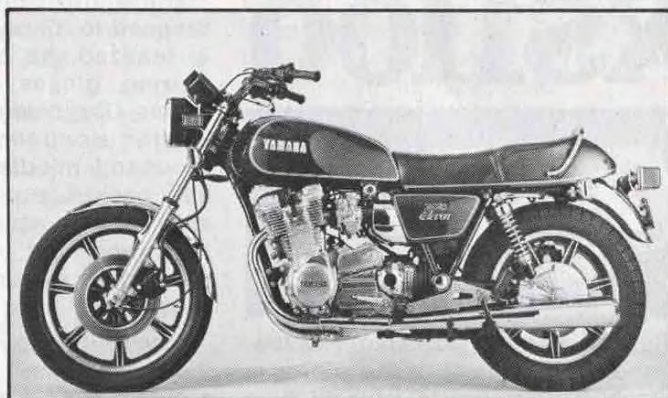
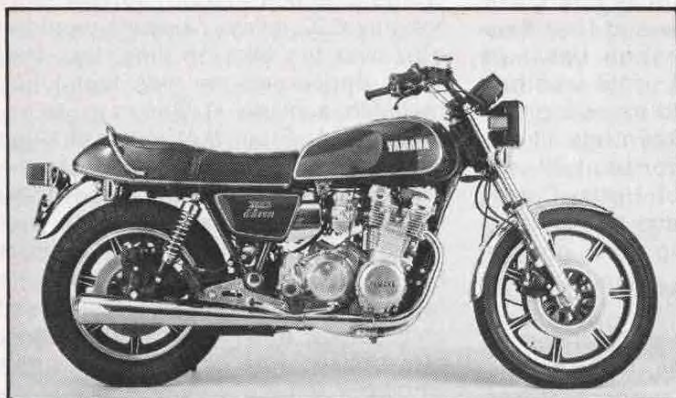
By this second fuel stop I realized the fuel gauge fibs a lot, showing half empty with only 50 miles on the trip meter, and empty with only about 115 miles. Knowing the bike was getting about 40 mpg (I checked it at the first stop) and had a five-gallon tank, I judged future gas stops by the odometer instead of the gauge.



Rider swaps in front of airline terminals were quite a sight. Since the Widder electric suit was passed from man-to-man, the first rider had to take it off before the second one could put it on. Four layers of clothes per person made a real mess on the curb. This is Kansas City where Jody (right) took over from Brad.



YAMAHA XS1100



PRICE

YAMAHA XS1100	\$2989
HONDA 1000 GOLD WING	\$2938
KAWASAKI KZ1000	\$2575

QUARTER-MILE

YAMAHA XS1100	11.73 @ 114.79
HONDA 1000 GOLD WING	14.06 @ 91.09
KAWASAKI KZ1000	12.02 @ 112.40

WEIGHT

YAMAHA XS1100	603 lbs
HONDA 1000 GOLD WING	669 lbs
KAWASAKI KZ1000	560 lbs

MILES PER GALLON

YAMAHA XS1100	37.8 mpg
HONDA 1000 GOLD WING	42.6 mpg
KAWASAKI KZ1000	39.5 mpg

TEST BIKE: YAMAHA XS1100E

Price, sugg. retail.....\$2989

ENGINE

Type.....DOHC transverse four
 Bore/stroke.....71.5 x 68.8 mm (2.81 x 2.70 in.)
 Piston displacement.....1101cc (67.2 cu. in.)
 Compression ratio.....9.2:1
 Carburetion.....(4) Mikuni BS34II constant velocity
 Air filtration.....Dry paper
 Ignition.....Transistorized, vacuum-controlled advance
 BHP @ rpm.....95 @ 8000 (claimed)
 Torque @ rpm.....66.5 lbs./ft. @ 6,500 (claimed)
 Lubrication.....Wet sump, trochoid pump
 Electrical power.....325W alternator
 Battery.....GS 12V, 20AH

DRIVETRAIN

Primary transmission.....Hy-Vo chain (1.657:1 ratio)
 Clutch.....Multi-plate, wet
 Secondary transmission.....Shaft and bevel gear (3.261:1 ratio)
 Gear ratios, overall: 1st 12.07; 2nd 8.78; 3rd 6.94; 4th 5.57; 5th 4.76

CHASSIS & SUSPENSION

Suspension, front.....Telescopic fork, 175mm (6.89 in.) travel
 Suspension, rear.....Swing arm, 108mm (4.25 in.) wheel travel
 Tire, front.....3.50 H 19 Bridgestone
 Tire, rear.....4.50 H 17 Bridgestone
 Brake, front.....Disc, 298 x 37mm (11.73 x 1.46 in.) x 4
 Brake, rear.....Disc, 298 x 37mm (11.73 x 1.46 in.) x 2
 Brake swept area.....717.8 cm./sq. (282.6 in./sq.)
 Rake/trail.....29° 30'/130mm (5.12 in.)
 Wheelbase.....1544mm (60.8 in.)
 Seat height.....820mm (32.3 in.)
 Handlebar width.....812mm (32.0 in.)
 Ground clearance.....150mm (5.9 in.)
 Instruments.....Speedometer, trip reset; tachometer; turn signal, high beam, oil, neutral, headlamp warning
 Stands.....Side and center
 Tire retention device(s).....None

WEIGHTS & CAPACITIES

Fuel capacity.....20.06 lit. (5.3 U.S. gal.)
 Oil capacity.....3.97 lit. (4.2 qt.)
 Weight, wet, unladen.....273.5 kgs. (603 lbs.)

PERFORMANCE

Standing start quarter-mile.....11.73 sec./114.79 mph
 Average fuel consumption.....37.8 mpg (see text)

Yamaha XS1100



Passing through Mesquite, Nevada, offered the first thrill of the trip as a 30-mph crosswind was causing havoc through the canyon areas. A convoy of truckers was fishtailing lane-to-lane at around 70 mph and I was playing dodgeball trying to get through them; it's the first time I really needed the excess horsepower and torque the XS possesses. Like watching waves roll in and out, I patiently waited for the big Peterbilts to

either parked or cruising the opposite way—there are benefits to living in small towns.

Once into Utah, the temperature dropped to 37 degrees and I suddenly realized the difference between touring gloves and cold-weather gloves. The biting cold air was piercing the Hondaline Gauntlets like a thousand needles. Fortunately, we had packed a pair of Harley-Davidson mittens which are two inches thick, and after pulling them on, the pain finally subsided; without them I never would have made it.

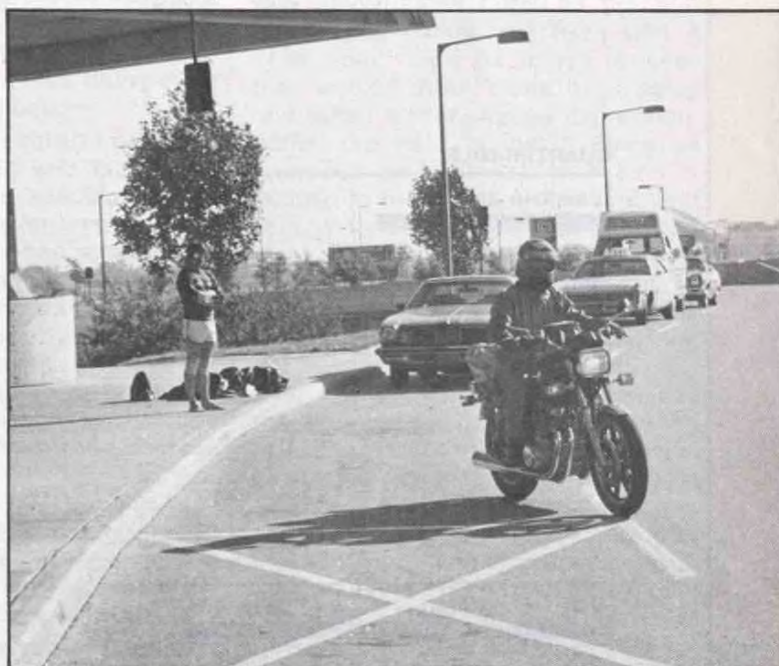
Several things kept me amused as the hours passed away. I was having a personal bout with my nose; it was constantly dripping from the cold and causing my moustache to tickle—have you ever tried to stick a two-inch glove up through a one-inch helmet opening? It's worth hours of fun. There's the "see how many motorists you can dazzle" game which consists of a double-speed charge past the car and then watching the

change as we headed east and I was immediately behind an hour. Suddenly it was 10:30 and I was due in Grand Junction at 2:30, a distance of roughly 320 miles. I knew I wouldn't turn over the bike on time, but what really concerned me was that I had to catch a plane at 3:45 p.m. to return to L.A. From that moment I had to average 70 mph with no stops—but I knew I'd need gas twice and I hadn't yet taken my roadside pictures. Needless to say, the blast from Beaver to Grand Junction was quite fun and definitely illegal. The XS still amazes me how it eats up territory effortlessly. The faster it goes the smoother it gets—the ride is equivalent to Japan's bullet train which silently sails by Mount Fuji at 125 mph.

Grand Junction doesn't exactly have the busiest airport in the U.S., so when you're supposed to catch a plane, you'd better make it, or you're likely to spend another week there. This was flashing through my mind when I slid the XS into the parking



Right here it's 9:30 a.m. in Kansas City about 34 hours into the trip. Jody was on his way to Columbus, Ohio, ten minutes after the Yamaha arrived.



Except for gas the bike would not stop again for 17 hours. Brad was left to find some pants, stagger to an airplane and fly to Las Vegas for a dealer show.

whip right or left and then I'd blast through the opening before they'd close the gap—there is a time and place for real Superbike machines.

Arriving at St. George, Utah, at around 6:00 a.m., I started feeling the results of 400 miles of pavement as my shoulder started to ache and my tired back felt in desperate need of a chair. While fueling at a Standard station the local attendant, who had vividly explained how he had the fastest hot rod in town (a 289 Mustang), tipped me to where all the local cops hung out; I marked them on the map and sure enough, everywhere he indicated I saw a smokey

reaction you get from its occupants. You can just see Fred turning to Martha with his eyes bugged out: "What the heck was that?" Then for a change of pace you can set the cruise control and see how many different riding positions you can attain with your hands off the bars.

At 9:30 a.m. I made my first phone call back to the office and although feeling a bit fuzzed-out, I could still muster a wisecrack. "Dale, guess where I am?" "Where?" "I'm in heaven—Beaver, Utah." During this conversation I was informed of a small problem. It seems nobody had accounted for the one-hour time



lot at 3:40, totally exhausted and in a desperate panic. From the off-ramp leading to the airport I had seen the plane taxiing (I knew it was mine—it was the only one with more than one engine), but I wasn't sure it was coming or going. I said a couple hurried words to Brad, who was waiting patiently for my arrival, and sprinted into the terminal still dressed in full riding gear. You should have seen the looks on peoples' faces. One guy thought I was a paratrooper and another thought it was one of those new-fangled holdups. I ran for the plane and hit the bottom step of the loading ramp with one minute to spare. By the time I settled into a seat the turbo-prop engines were starting to whine.

On the plane back to L.A. I slowly unwound, thinking back on the incredibly long and tiring trip I had experienced. I had always questioned the need for outrageously large and powerful machines like XS1100, but after covering the length of distance

I did, in the short allotted time, I wouldn't do it again on anything smaller. This new Yamaha is absolutely astonishing out on the open road. It's quicker and more powerful than any other production bike I've ever tested, and yet it's as smooth and quiet as the finest Cadillac. And one thing I still can't believe—after covering over 800 miles and spending a minimum of fourteen hours in the saddle, my butt never even began to ache!

BRAD ZIMMERMAN:

I must have been quite a sight occupying the bus bench outside the Grand Junction airport. Laid out on the ground before me was a set of Koho road-racing leathers, Full Bore boots, a full-face helmet and gloves. While sitting on the bench wearing a T-shirt and tennis shorts, I wrapped my knees with ace bandages and donned a pair of mid-thigh motocross socks in anticipation of the upcoming mountain weather. Using a Bell bag as a pillow I stretched out

on the bench as onlookers gave me second looks (many clad in duck-down hunting vests due to the 50-degree weather). Of course reading a copy of the book *Oh God!* (now a movie starring George Burns) didn't detract from the spectacle.

Rich and the XS showed up and slide sideways to a stop.

"It runs fine," said Rich. "Catch ya later. Have fun."

Rich ran to his plane still in his riding gear and I jumped on the bike and split, leaving travelers with a vivid story of airport weirdos.

The first leg was rather uneventful. The XS Eleven yawned its way down the interstate at 70 mph, impatient, eager and seemingly resentful. It was saying "Come on pal, the last guy went a lot faster than this!" I obliged by pushing the speedo needle higher up on the scale, all the while taking mental notes of the bike's performance. A little vibration at first in the left mirror. Then smoothness all the

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This lady symbolizes New York as much as the Empire State Building with her dungarees and black pea coat. The look is pure Greenwich Village.



The Yamaha is to motorcycling what the World Trade Center is to architecture. It still looks good with chrome dulled by 3000 miles of road dirt.

Yamaha XS1100



way, especially after 80 mph when the machine mechanically comes into its own. 100 mph was like 55 mph. 120 was pushing it a bit, but there was still throttle left. With cheeks bouncing off cheekbones, a tank bag on the brink of tearing loose, and my helmet quivering from the wind, bike and I attempted to get back on schedule by going faster than legally (and safely) advisable. Part of the job? Not really, but I'd always wanted to find out what it would be like to hold my breath for over two miles.

We would have gotten back on schedule too, except for a couple of crimps. You've read about one.

Up in the Rocky Mountains near the Continental Divide, small towns

like Vail and Steamboat Springs flew past in a blur. The Yamaha was equally at home on fast twisty mountain roads. It handled well at high speeds and only wobbled slightly when there was a change in road surface. Otherwise it was rock steady and pulled through corners nicely enough to deserve an occasional pat on the gas tank for a job well done. I was already envisioning the look on Jody's face when I brought him the bike an hour ahead of schedule instead of two hours late.

As the sun set, it got extremely cold. Nor was snow alongside the road encouraging. With ambient air temperatures touching 25 degrees and me clad only in flimsy leathers, a congo beat could be heard as my shaking knees bounced off the gas tank. Once past Steamboat Springs I heavily got into racing. It was Imola, Kenny Roberts was behind me and Steve Baker just around the upcoming corner. I computed speed (approximately 120 mph), chill factor (about minus 20 degrees) and gas consumption (not overwhelmingly good at these speeds). Maybe I'd better slow down a little after this hill. Right here is where I encountered the uniformed gentleman with the radar gun and pretty red lights on his car. Nailed!

Down time with the law and my subsequent escort to the Kansas border at 55 mph put me 3½ hours behind schedule.

From here on I got a little more observant. The only thing to do was look for cops and try to keep warm. The bike took care of itself, never complaining or attempting any tricks. Just rocketship fast in a straight line, smooth as an Eldorado. All I had to do was alternate pounding on each thigh in an effort to keep warm. Two more tanks worth of gas went through the engine without incident.

Then halfway through Kansas the now familiar red lights flared behind me again. This time I had seen him and chopped the speed to a more reasonable 83 mph before the radar gun took a shot. This police officer was much more understanding. He owned a GS750 Suzuki, and against odds too high to calculate, subscribed to *Motorcyclist*.

Just before dawn I saw a large Black Angus standing in the slow lane of the freeway. The tickets hadn't really slowed me down; the cold air hadn't slowed me down, nor did the danger factor make me back off. But the idea of hitting a cow in excess of 100 mph did, and I cruised conservatively until dawn when I could see better.

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I never thought that Kansas City could look so good. Sliding in three hours behind schedule at 9:30 a.m. I turned over the bike to Jody in the chaotic exchange of gear and clothing shown in the photographs.

The bike had proved more than willing, and I was extremely impressed with its performance. When ridden properly, it is an excellent handling machine. It accelerates hard and runs smoothly at ridiculously high speeds. It never missed a beat, never complained and always worked. I would never ride my own bikes the way I did the XS Eleven. I had the longest leg of the trip, went the fastest and honestly expected the bike to blow up under me more than anyone else. It never did. As a matter of fact, I think it would run out of gas before anyone could break it.

JODY NICHOLAS:

I had expected to arrive in Kansas City at 8:38 p.m., enjoy a good night's sleep and then relieve Brad Zimmerman in the neighborhood of 6:30 a.m. But I was forced to rearrange the latter part of this schedule upon learning that Brad would be delayed for some time due to a couple of unfortunate, although not undeserved, encounters with the law.

When he finally arrived just before 9:30 a.m., I took a quick look at the bike, mounted up and headed for I-70 and points east. I had previously ridden the XS Eleven only to get a basic feel for the bike before shrieking off down the drag strip for the fastest run I've ever made on a completely stock machine. On one of the drag-strip runs the front wheel lifted about two feet after moving over 40 feet from the starting line! I couldn't tell whether the rear tire was breaking loose, the clutch was slipping slightly, or both, but having a 600-pound motorcycle's front wheel pawing the air was an experience I won't soon forget. At any rate, I was less than qualified to take off down the Interstate like the Mad Hatter, so I cooled it to Independence, Missouri, where I stopped for gas and the bike's first quart of oil. Three gallons of fuel replenished the tank after 110 miles on the odometer which works out to 36.6 mpg. After hearing Brad's tale of blistering speeds and confrontations with *John Law* I figured it wouldn't be too hard to beat that gas mileage figure.

Soon I began to feel confident with the machine. And what a motorcycle. Naturally I played with the XS Eleven, testing the top gear acceleration and trying to find a happy cruising speed. Said speed turned out to be somewhere between 70 and 80 mph indicated, or over 4200 rpm as near as I could tell because of the fluttering tachometer needle. Too fast, of

course, but I rode there long enough to learn that the big bike smooths out above that engine speed, and although it's far from rough at lower speeds, the difference is detectable.

At Pcochontas, Illinois, I again stopped for fuel and called the *Motorcyclist* office to report my whereabouts. When leaving the freeway to make the call, I pushed the XS harder than normal on the off-ramp, hit what was evidently spilled diesel fuel on the road, got the behemoth crossed-up and began to think I was back at Ascot Park during the Trophy Dash right after the maintenance crew had dragged the track, though turning right instead of left. The combination of the sheer weight of the XS, the softly sprung and damped rear suspension and my unawareness must have put on a real show for anybody who might have been watching—full-lock slide, to the right, at over 60 mph! There was no damage to either machine or rider except that the right-hand cylinders' exhaust collector box touched the ground with an audible crunch.

When darkness fell it soon became obvious that I was going to have to don more clothes. On went the Dry Rider suit over my Full Bore touring boots and riding suit joined by an Apple Warmer and Thurlow deerskin gauntlets. At Casey, Illinois, I had travelled 95 miles from the last stop in 92.9 minutes and had averaged just over 40 mpg. Here is where I ate my only food in 14 hours—two ice cream sandwiches and coffee.

Shortly after this repast, I began to get a little weary of just riding and my muscles started to ache. . . . everything except my posterior that is, which could hardly tell I'd been sitting on a motorcycle seat for about nine hours. Somewhere near Indianapolis, Indiana, the high point of the trip came when I turned off the lights, accelerated up to well over 100 mph, and passed a silver Maserati or Lamborghini, I'm not sure which, and then switched the lights back on, slowing to an indicated 60 mph very gradually. The middle-aged gentlemen behind the wheel was driving about 70 mph and it took awhile for him to catch me. I pretended not to notice when he passed, but caught sight of his incredulous stare when he came up alongside. That and the previously mentioned lurid slide I got into when leaving the freeway were the most exciting parts of my entire trip.

It was nearing 2:30 a.m. when I missed a turn on the poorly marked road leading from I-270 to the Columbus, Ohio, airport, where I was to have met Dale Boller six hours earlier at 8:30 p.m. He had left me a note at TWA and gone to the Holiday Inn for

some sleep. We switched riders there at 3:15 a.m. and I crawled into his pre-warmed bed to grab a little over four hours' sleep before stepping on a plane to Los Angeles.

Trips on an airplane are restful in most cases and mine was no exception. I reflected over my portion of the trip and came up with some impressions about the XS Eleven. It's likely that the long distances at high speeds on an almost new engine accounted for the oil consumption during the first two legs of the trip. The next items that came to mind were all comfort-related: The XS has the most delightful seat I've ever sat on for a long period of time, the smoothest engine, excellent brakes, and comfortable but misleading rear suspension units that let you get into a corner too fast before they started acting up. My portion of the trip was covered averaging 60-plus mph and 43.6 mpg. The good mileage was probably due to my light weight (125 pounds sans clothing) and moderate riding, most of the time.

DALE BOLLER

That "sleep" Jody said I was getting at the Holiday Inn was mostly tossing and turning as I worried over whether I could ride for 12 hours after being awake for the last 19 hours. Like Rich, I was new at this long-distance nonstop touring game, preferring a Boeing 747 for cross-country trips because of a weak back and a bottom that's incompatible with most motorcycle seats after a couple of hours. I have always taken my street riding in hard fast doses through the mountains and only tolerated straight stretches if they led to another asphalt corkscrew. Curiosity about the XS was my only enthusiasm.

I-70 was cold at 3:30 a.m. In fact weather made 90 percent of my trip a miserable ordeal. Even the incredible Yamaha couldn't neutralize the intense discomfort of riding 200 miles in a heavy rain at 40 degrees without a Dry Rider suit. The one packed in the tank bag was a medium, and I wear an extra large. With six layers of clothing soaked, fingers numb, toes on fire with cold, ears ringing and eyes straining through a runny face shield, I wanted nothing else in the world but an end to the trip. Why couldn't the George Washington Bridge have been in Pennsylvania so I'd be there now?

Not once did the motorcycle contribute to my discomfort. It bucked on freeway seams due to a mild case of stiction, the gearbox clunked, its horn was weak and fuel gauge useless, but nothing else was wrong on the open highway. By contrast I could rattle off superlatives like a machine gun: acute speed, solid han-

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ding, Goliath brakes, arm-chair comfort, talcum smoothness, hushed exhaust, gorgeous instruments and absolutely violent power.

I played the same games with the motor as everybody else. Once a car and I simultaneously started to pass five trucks creeping up a steep grade on the Pennsylvania Turnpike. I downshifted, tucked-in and broke clear of the whole string just as the car pulled even with the first tractor. Nothing on the road can touch the Yamaha's acceleration.

When I stopped at toll booths, it took awhile to undress my hands and dig through two pair of pants to my wallet. In the line behind me some impatient clown of questionable ancestry invariably honked his horn. After paying the toll I'd pull to the side of the road to redress so I wouldn't further delay the cars. About a minute later I'd focus the honker in the Yamaha's cross-hair and drill past at 100 mph about a foot from his side mirror. That fixed him but good.

Interstate 70 is part motocross course. There are potholes, frost heaves and patch seams. The Yamaha's headlight was bright enough to warn me they were upcoming so I could brace myself, but the suspension was good enough to make my precaution unnecessary in all but the worst cases. These bottomed the shocks (at 80 mph) but not the forks. The bike's weight was never a hindrance on the Interstate and probably added to straight-line stability, especially over bumps.

I averaged 34.8 mpg in the 128.8 miles from Columbus to Wheeling, West Virginia, where the temperature was 38 degrees at 5:30 a.m. Never having used an electric vest before, I didn't realize mine hadn't been working through this entire stretch. I found out after a marvelous warmth enveloped my shivering body about a half-mile from Wheeling. It seems this time I plugged it in all the way. With the vest working I was never again as cold as before even though air temperatures were less. I also realized the seat hadn't gotten hard yet. It never would.

The long tunnels became playthings. I would downshift twice and let her rip to eight grand. The sound, amplified by the walls, shook tile from the ceiling. It was just something else to kill another mile. After having experienced 130 mph on an XS Eleven, incidents of falling tile were blase.

I rode along marveling at how this motorcycle was still crisp and smooth

after so much distance, so much abuse and so many hours. All the human frailties which had nearly aborted the trip, the cold, the uphill, the twists, the turns, the traffic—none of it bothered the Yamaha one iota. Turn the throttle and it still lunges. Pitch off into a corner—still rock steady. How many million times had the pistons gone up and down? How many sparks had the black box fired with nano-second accuracy? And still the XS Eleven kept rolling. You had to reach down and scratch its neck.

Four more gallons of gas at Bedford, Pennsylvania, resulted in another 34.8 mph average. The temperature was up to 43 degrees and it was daylight now, though overcast and threatening. I had 284 miles to go. Exactly 83.8 miles later near Harrisburg the sky let loose.

There's nothing like 96 horsepower on a rain-slicked Turnpike. At moderate throttle openings the tires stuck beautifully, but a sloppy shift or too much gas stepped out the rear end instantly. I would never ride in the rain by choice because it's no fun and very wet. Nevertheless I struggled on for five more hours along Highways 81, 78, 287 and 80 to the long-awaited G.W. bridge leading from New Jersey to The Bronx. I hit the City at 1:27 p.m., 59½ hours and 2963-odometer miles after Rich had turned up Sunset Boulevard and headed for the desert. We had done it. I was tired, wet, cold and proud—of the editors, of myself, of the magazine and of the Yamaha.

Technically this machine is just as impressive as its performance. The bike is a combination of proven engineering design and highly sophisticated innovation. Here are some of the innovations: (1) If the machine leans over past 60 degrees the motor automatically shuts off. This is a safety feature to eliminate the danger

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of a spinning rear wheel if the bike tips over. (2) The seat doesn't fold so it won't interfere with saddlebag or backrest placement. Instead two very accessible extended-head bolts hold it down and the tools and registration are stored behind a locking sidecover. The chrome tools even slip back into their storage compartment without the coaxing of a sledge hammer. (3) After removing two bolts, the rear fender folds out of the way for easy wheel removal. (4) The front-disc master cylinder reservoir is tilted 10 degrees up so it remains level when the brake lever is set at a comfortable position. (5) For easier cold-weather starting there is a two-stage enrichening system and an automatic ballast-resistor bypass so all 12 volts reach the coil while the starter button is depressed. (6) All circuits in the black box can be checked with a simple ohm meter. (7) After switching on the ignition, primary voltage to the black box automatically turns off if the engine isn't started within four seconds. This protects various electronic circuits inside the box. As soon as the starter rotates the crankshaft 180 degrees, the voltage goes back on. (8) A sealed electronic "reserve lighting unit" under the tank automatically switches on the high-beam headlight if low beam burns out, and vice versa. A light on the dash tells when this has occurred. (9) The two center cylinder studs in front of the engine are specially rubber-coated so their expansion rates match those of the more slowly expanding outer studs.

Basic engine design is patterned after the XS750, though the only interchangeable parts are the valve train components, connecting rods and oil filter. The Eleven's one-piece forged crank spins in five plain main-bearings. The two-piece rods have plain big ends and a small-end bush. A crankshaft gear between No. 2 and 3 cylinders drives a jackshaft connected to the transmission mainshaft by a Hy-Vo chain. The jackshaft gear contains a spring damper system to reduce engine shock loadings before they reach the transmission. The 750's damper is after the transmission. After passing through a reverse-hub clutch (no long activating rod that's tricky to adjust), power is processed by huge transmission gears before making a right-angle turn in the "middle gearbox." This leads to a driveshaft 1mm larger in diameter than the 750, and a beefier rear end. To get all these shafts and gears turning in the right direction, the engine spins backwards initially.

The gearbox has one peculiarity. The first four gears are constant mesh in the usual manner, but fifth requires that the two gears slide into engagement. The reason is probably to reduce drive-line slop in high gear as this is caused by the large clearances necessary between the dogs and their slots in constant-mesh pairs. Indeed the Eleven's driveline is less jerky in fifth gear, and nobody missed any high-gear shifts. In fact nobody missed a shift in our entire American tour.

Single-cable constant vacuum carburetors dump ethyl gas into a two-valve combustion chamber. Chain-driven double-overhead cams activate the valves via the same bucket-and-shim arrangement as the 750. TCI (Transistor Controlled Ignition) is merely battery ignition with "electronic points." However there are both mechanical and vacuum advance systems. Beginning with a static timing of 10 degrees, it is bumped up to 36 degrees mechanically and from there up to 52 degrees depending on throttle vacuum. This system is one of the reasons why the engine runs so well at all temperatures, altitudes and speeds. We at *Motorcyclist* aren't great black-box fans, so we've got our fingers crossed that Yamaha's version will prove to be reliable. At least it's easy to check (or change) in its location under the seat just above the rear fender. The electrics also include a gigantic charging system which produces 325 watts at 5000 rpm.

The chassis is fairly standard except for considerable rake (29½ degrees) and a 17-inch rear tire instead of an 18-incher. The frame has built-in lugs for mounting saddlebags, racks, etc., and is the first street machine to feature tapered roller bearings in both the steering head and swing-arm pivot. These expensive bearings provide greater strength, more rigidity and longer life than any other type. Mechanics will be pleased that the chassis layout allows the cylinder head to come off without removing the engine from the frame. Even the transmission shifting forks and mainshaft can be pulled with the engine still bolted in place. One Yamaha service school instructor boasts that he can have a completely disassembled engine on the bench in an hour-and-a-half. He claims the entire motorcycle will be "easy for dealers to work on." *Motorcyclist* certainly found no snags in maintenance.

Rarely has it been so easy to summarize the overall performance of a motorcycle. We have only three basic criticisms: (1) Since our clutch disintegrated at the drag strip, there is the possibility that all Elevens will have similar trouble. However we would be

amazed if Yamaha let this happen. (2) The bike's size and heavy 603-pound wet weight makes it feel massive and big, especially at slow speeds. Its weight is simply too much for the suspension to control when the bike is ridden race-track fast on smooth roads or moderately fast on rough roads. Size is one of the trade-offs for the Eleven's titanic power and amazing comfort, and since both of these advantages can be enjoyed more often than rock-steady nimbleness at speed, few people will pass on the Yamaha because it's heavy. As purists, the *Motorcyclist* staff still grimaces when a sporting machine breaks the 600-pound barrier. This is especially painful because we felt the same way seven or eight years ago when the first bikes crept over 500 pounds. (3) The plague common to all Japanese multis, drive-train snatch, approaches unacceptable levels in the Yamaha. Turning the throttle on-and-off produces lurching and diving as slop in the drivetrain catches up with the engine. The ride is jerky, awkward and irritating. Careful riding technique can minimize the effect, but it seems odd that a company capable of engineering a superb overall piece like the XS Eleven has not attempted to overcome the only major drawback to the machine's total success. Owners will simply have to get used to the snatch, and live with it.

These criticisms are bricks with broken corners in a skyscraper of perfect masonry. We found the XS Eleven to be the most impressive street bike yet built, mainly due to its total versatility, its comfort and an engine that dares and tempts and defies you to find a limit.

What does it all mean, these 11-second quarter-miles and sound-barrier speeds? Where will it all end, and why? Shortly there will be three other motorcycles from three other brands capable of running 11-seconds at the drag strip. The bikes exist because the major Japanese manufacturers are engaged in a performance race. Each new machine will get the same publicity as the Eleven—confessions from the press that testers ran 130 on the Interstate and buzzed cars at 100 mph for fun. The government will begin to notice. Someone will tell a congressman that certain motorcycles can accelerate to 115 mph in 11 seconds. He will conclude that such performance is superfluous, dangerous and illegal in an era of 55-mph speed limits. Legislation will be proposed, studies made and statistics twisted. Eventually they'll pass a law and it will all be over.

In the meantime buy an XS Eleven and gas it up. Brad says to be especially careful in Colorado. **M**