How the commission is testing ATVs, and what it could mean for the future of the sport

INSIDE THE CPSC

BY MIKE BISHOP, U.S. GOVT. ATV TEST RIDER

Wow! Sounds impressive, doesn't it? Working for the feds! In these pages I will try to reconstruct what the Consumer Product Safety Commission is doing to find out if ATVs are a safety problem.

In October of 1984 I went to Washington, D.C., to appear before the CPSC for the first time. They were very interested in our California safety programs. It was at this meeting that I met Stuart Statler for the first time. When I returned to California I had a premonition of what was to come, and I reported to *3Wheeling* just how serious the question of ATV safety had become. *3Wheeling* decided to start the Safety's Sake column to help get this information out to the ATV users, six months before the rest of the world saw the infamous 20/20 TV special.

In May of '85 I went back to Washington as a Safety Expert to provide accident reports showing user error as the major cause of California ATV accidents. A week later I went to the hearing in Jackson, Mississippi, as a guest of *Motorcycle Industry* Magazine.

TOP, a video camera was used to catch the ATV's reaction over a set of bumps, and the movements were highlighted by reflective dots placed on the machine and rider. ABOVE, every aspect of each ATV was carefully measured.

In my testimony I urged the Commission to not jump to conclusions based on accident victims and their lawyer's testimonies. I invited them to come to the Pismo Dunes and learn firsthand the joys of ATV recreation.

The next month, in June, the staff came to Pismo to ride with the Dune Patrol. They saw accidents happen right in front of them. They saw drunks riding three to a bike without any safety equipment on. They saw ten-year-olds on 40-horsepower 3-wheelers riding alone with no supervision. In short they saw what causes accidents: not the vehicle, the operator. When the staff returned to Washington they convinced the commissioners themselves to learn how to ride and to visit the various ride spots to get the proper perspective of the problem. The commissioners and staff all went through the SVIA Rider's Course and some went on to become SVIA Instructors, a feat that takes five days of intensive instruction.

In October, after the last public hearing in Los Angeles, the staff returned to Pismo with, guess who, Commissioners Stuart Statler and Carol Dawson, along with several new riders from the staff. After an orientation from the SVIA and Dune Patrol, a trail

ride through the sand dunes added a perspective of ATV recreation that cannot be attained in hearing rooms. In a thank you letter sent to us afterwards, Statler said: "I feel I learned a great deal about the ATV riding experience that can't ever be really captured without actually doing it." As you know, this feeling only lasted seven months, because in May of 1986, as a farewell blast, Statler wrote a letter to many influential legislators telling them that the Commission staff were dragging their feet and not coming up with the answers to the problem. This brings us to the present.

The CPSC had told all the manufacturers that they wanted sample vehicles to test, and about 20 were provided by the various makers. The CPSC staff had tried to use each other as test riders, but that didn't work out, as the riders could not explain *why* a particular vehicle handled poorly or why another vehicle excelled through the same course. Also, even though these staff people were trained SVIA Instructors, they lacked the experience that years of riding provides. They decided to contract out the job of riding and evaluating the 20 vehicles. The contract read: "The contractor shall provide a subjective evaluation of the handling quality of ATVs under test conditions which will involve steady-state turns, transient turns and obstacle encounters."

Why pick me over all other test riders available? The staff people knew my qualifications as a test consultant for various aftermarket companies and they didn't want a professional racer because they aren't the ones getting hurt. I had already spent days working with the staff, and they felt I could provide analytical evaluation of the vehicles.

Time was of the essence, as the final report was due September 30. We set aside the last week in July for the work and I arrived two days early to get acclimated to the hot, humid July Washington weather.

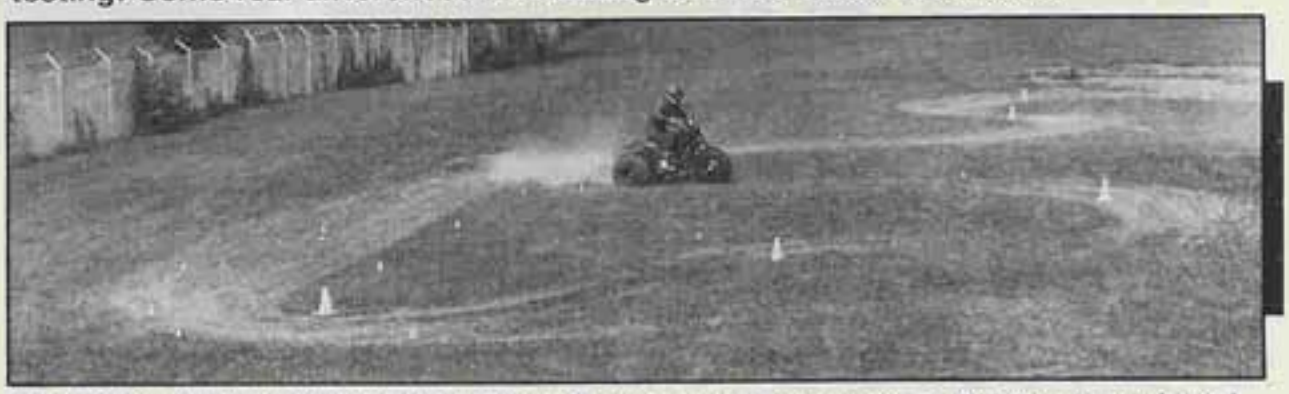
This first day was spent running the vehicles through a set of bumps at different speeds. What an eye opener that was! Before each test all the machines were set up as recommended: tire pressures, chain adjustments, suspension preloads, etc. Each machine was painted black on the right side so the video cameras would pick up only the reflective targets that were mounted, four on the rider and four on the machine. I wore Levis, Hallman boots, a Malcolm Smith non-lettered, dark jersey, Scott goggles and a Moto-4 helmet, painted black so it wouldn't reflect light. I had targets on my helmet, wrist, waist and leg. The machines had targets on the right axles, footpegs and headlight. The video camera was encircled by high-intensity lights that made the targets reflect. What the video camera saw was my body position relative to the machine for ultimate control. The obstacles were two 6-in. humps positioned exactly five feet apart. After every test the humps were built up using a template to make each test uniform. The throttle was set to a predetermined speed of 9 mph by using a stop watch over a set distance and using a throttle stop assembly manufactured just for this test.

At 9 mph I would hit the two bumps straight on and put my weight forward for one test, center for one test, then rearward for the third test, each time reporting to a recording person the exact reaction of the vehicle. As I approached each test area I would stand on the pegs to absorb the shock and maintain control. After the three runs I returned to mission control for the next set of instructions.

What happened next was fascinating. We were going for a speed change, all the way up to 10 mph. That's right, 10 mph! I said 1 mph wasn't going to change anything, but I was in for a big surprise! You see, at 9 mph the vehicle hits the first bump, lands on the ground then hits the second bump. It has time to stablize between bumps. At 10 mph however, the vehicle hits the first bump and then comes down on the uphill ramp of the second bump and tries to bounce the rear end twice as high as

Suspension and ride characteristics were tested by riding each ATV over these two bumps at various speeds. Every run was videotaped.

A total of 20 vehicles were provided by the various manufacturers for CPSC testing. Some real differences in handling and ride were discovered.



The second phase of dynamic testing involved running each ATV over a closed course against a stopwatch. Steering and stability were the main concerns.

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before. At 12 mph the machine would clear the second bump entirely. Bear in mind, in the real world you let off the gas when you encounter obstacles.

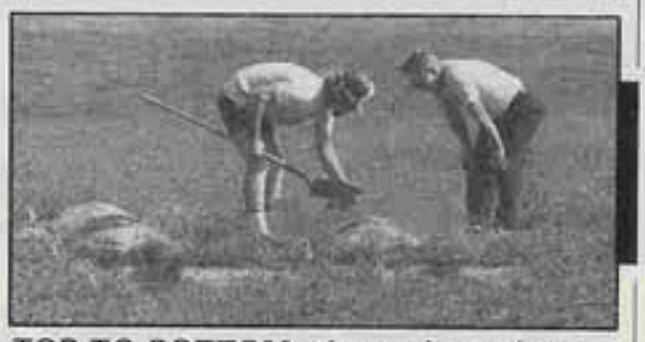
After each test I had to rate the vehicles, one through five, on the effort required to control each vehicle, amount of suspension compression and rebound, resistance to wheelies, pitch, roll and so on. They were also interested in throttle response, center of gravity, ease of shifting to both higher gears and lower gears, feedback of knowing what gear you had shifted into and the positioning of the gear lever, etc.

It was very apparent in this test that the suspended bikes had a distinct advantage over the unsuspended ones. Remember, by "unsuspended" I mean pneumatic suspension—tires alone, not mechanical. Some of the units bounced quite a bit even with the suspension. Perhaps they had the bouncy tires that most unsuspended bikes use, instead of the harder construction models that the suspended bikes should have. Without going into brand names, it was amazing how different the machine's test results compiled.

Another thing that surprised me was the reaction that shaft drive units have compared to chain driven units. The shaft driven bikes tend to keep the suspension extended longer than the chain units. At 10 mph some bikes would shoot me nearly three feet high and others would only rebound a foot. It was truly amazing, the differences between the bikes. At one time or another I have ridden all of these bikes for short intervals but never one right after another in such a controlled sequence.

At lunch the staff told me what to eat and what not to eat, so the afternoon tests would be as close to the morning tests. Never in all the testing did I crash or go out of control. Some reactions were surprising but not to the point of producing an accident. Even the hardest-to-control ATV was stabilized with proper riding stance and weight transfer. What the videotape will show is the vehicle's reaction to rider input at different speeds. The computer would attempt to see the difference 1 mph makes and program a certain vehicle's responses accordingly. I had two video units trained on the course, one in front and one to the side.

The next day's test was in the yard of the CPSC Testing Laboratory, also in Gaithersburg, Maryland. This facility was quite nice; it used to be a Nike Missile Base until the area grew too



TOP TO BOTTOM, the author relates his personal opinion; pushing it through a grassy turn; Roy Deppa uses a template to keep the bumps consistent.

populated. The CPSC showed me though the labs where they test coffee makers, chainsaws, childrens toys, and as you know, ATVs.

The test involved a grassy track using all the turning motions the SVIA has in their skills test. The course starts out in a slalom, then a real tight left, then a tight right, through another slalom, then a real tight right, and then rejoins the first left going the other way, which becomes a right turn back through the slaloms to the start/finish line. There were no hazards or obstacles in this test, it was merely to test all the controls in a timed activity.

The unsuspended bikes did very well at this test because the overall center of gravity was usually lower on these vehicles. Each vehicle was ridden five times on the track following the owner's manual's instructions concerning body position, as fast as possible without crashing or knocking any cones over. The sixth time I was allowed to freestyle. When I was allowed to stand on the pegs and really pitch the bike around, I could knock three to five seconds off my time.

On the tight track the 3-wheelers were easier to get between the cones. The 4-wheelers don't turn tight enough as a general rule. The off-camber turns were much easier on the 4-wheelers because of the extra tire. All the bikes that had the engine behind the footpegs were hard to steer, and when freestyling, I had to load the front tire with my weight and front brake to initiate tight turns.

Believe it or not, the fastest bikes around the course were children's model 70cc bikes. I could go full throttle all the way without using the brakes, and these little guys were so low to the ground that they didn't tip over. The smaller bike could cut corners down and improve overall lap times.

For this test we had two video cameras: one was on a building roof and the other was trained down course. The cameras would catch any control problems and I would write a short paragraph explaining how the bike handled or any comfort problems I encountered.

At the end of the day I had ridden this track over 135 times and was glad to see the last bike arrive. Finally, I could rest for a while. "What? An abandoned golf course next door? Let's go!" I'm never too tired to explore new experiences with ATVs. We all went pleasure riding in the summer rain of Maryland. All in all, a complete experience. During this intense testing I wore holes in the bottom of my boots and wore out a pair of gloves.

As I bid farewell to Washington, I was satisfied that this in-depth investigation, which has taken over two years and is costing several million dollars, will have a solution we can all live with. **3W**