

# HARLEY DAVIDSON FLH80

by Henry N. Manney III

■ Harley-Davidson is not one of those factories that rushes headlong into innovation. The FLH 80 is clearly a derivative of the veteran 74 ohv which in its turn (1941 model year) was a derivative of the popular 61 ohv which dates back to 1936. At that the 61 was probably not a clean sheet job. There have of course been modifications great and small over the years, most of them admirable and directed towards endless miles of trouble-free motoring, so that the FLH of today sports such features as hydraulic tappets, a proper clutch, and a wear index that put other manufacturers in the shade. By concentrating on the traditional aspect of these bikes, however, Harley-Davidson has built itself a very specialized machine indeed, one which amounts to an open-air car for long-distance touring. As any traveller across the country can tell you, there is a hard core of Harley enthusiasts (we are discussing the FLH now) who adore going from Wichita to New Orleans via Denver on their big Dressers and having done it that way since early Thirties aren't about to change. To them a motorcycle is a Harley and that's that; having driven Harleys on long runs for more miles than I care to think about, I can understand the attraction and even agree.

Since we last had an Electra Glide test in 1973 seems to me, the year that FLHs first got the electric starter along with head-waggings and murmurs of dissent from Harley fanatics, it is just as well to dissect the FLH a bit and clear up some of the mystery for those who think motorcycles were invented in Hammamatsu. The engine of course is a V-Twin of 1340cc . . . 80 cu. in. that is . . . enlarged 60 thou bore and 0.282-in. stroke from the parent 74. Heads and crankcases are alloy but the cylinders themselves remain resolutely iron (cast slightly differently on the 80) for a variety of reasons ranging from habit through noise dampening (although the rest of the machinery is noisy enough) to a happy relationship with the rather special pistons. No real tricks in the heads, fitted with two pushrod operated valves each via hydraulic tappets (see expansion rates of iron plus alloy), no tricks in the Keihin carb barring a flappy butterfly to avoid running with the choke on (see Gov't), and no tricks in the gear-driven camshafts. The bottom end is moderately tricky as it isn't



since the Gobron-Brillié that one sees a forked-rod setup running on one crankpin. That's right; one rod is forked at the bottom and the other one nestles in its arms, the whole business avoiding friction via three sets of "loose" rollers in a three-way split retainer. The mains also live on rollers, the right-side one being another come-apart deal while the drive side enjoys a beefier Timken item. Under prodding by the EPA, the 80's sparks are now looked after by electronic ignition if you please made for H-D by Presto-Lite; my experience with electronic ignition in cars shows it to be highly efficient and worth 5 hp anytime, but when it goes, it goes . . . no baling wire fixes. So a spare should live in the saddlebags even if it will probably never be used. More mundane electrics are furnished by an alternator well hidden (and gear driven) down on the left side plus a gigantic battery. The gears (3.00, 1.80, 1.23 and 1:1, from the 74) live in a separate gearbox God save the Mark which Harley people like as who wants to split cases that size to get at the gears, should the occasion arise? The beefy, to say the least, frame is from the 74 as is everything else fore and aft barring the "80" emblems and the Black Cherry paint job. All very trad including the pipes, a bit of a fraud with the left-hand one joining in by grace of a T junction on the right side. But Electra Glide owners like two pipes. In fact, the whole motorcycle is designed to please present Harley owners instead of postulating what they might like; a refreshing point of view in these days of unmodulated change that pays dividends in their traditionally strong Midwestern and Eastern markets.

The 80's arrival at the office produced the same sort of effect as the Golem's arrival at a synagogue . . . Yecch . . . Why do they make motorcycles like that? . . . Sheesh what a monster . . . plus anguished screams from Vuuci on being appointed to do the acceleration/braking tests. A few careful questions, though, revealed that none of those professing dislike had themselves ever owned (or in most cases even ridden) a Harley. They were instead repeating opinions obtained secondhand, which is to say of no value. Such people don't understand Harleys. I will admit that the not inconsiderable mass plus the ballet-second-position riding attitude plus a pronounced tendency to spin in at walking pace gives it all the grace of a double-jointed Greyhound Bus in low-speed traffic conditions but the Harley isn't made for that. At least it doesn't wag its head at

speed and spit you off like a certain high-performance J\*p\*n\*se make either. However, begone the mystical Harley starting drill (child's play to anyone with a big Single) as one now turns the ign switch, pulls out the choke, opens the throttle a crack, pushes the starter button and the big Twin starts. A bit of noise but quite tame. In California weather anyway the choke can be pushed home after a few seconds, the clutch pulled home (surprisingly light) and low gear selected with Harley's own rocker pedal. It makes quite a clank, in fact all the gears make a clank like someone living under the tank with a hammer but a bit of playing with the throttle, admirable clutch, and slack-taking-up with the gearshift may reward the rider with an almost noiseless change once in a while. Gives you something to do.

I don't understand, in these days of the Gov't shoving its unwanted nose into motorcycling in the holy name of Safety, how Harley gets away with some of its controls. The bike has footboards, all very well and good for long rides, but operation of either that damnable rocker shift or the high-mounted rear brake pedal requires disengagement of the relevant foot from underneath, a time-consuming move backwards, and then raising said foot up to do its job. This sort of toe-dancing tends to use up valuable avoidance time and while the disc brakes are pretty good, the similarity to one of those supertankers taking three miles to stop is all too plain. Consequently the pilot tends to ride neck-a-stretch watching for brakelights a quarter mile further up than he usually would. Perhaps Harley designed it like that. Furthermore the speedo and attendant idiot lights live on the tank practically in the rider's lap and inspecting them takes the eye off the road. As if that weren't enough, the cheapo winki winkis, one to each grip, operate only as long as they are depressed which sometimes means an awkward stretch with the fingers when they would rather be holding the clutch in, for instance, or the front brake.

The clutch, as I said, is sweet and getting under way is an easy matter of adding on a small amount of power from the surprisingly quick throttle providing you are already pointed in the direction desired. FLH 80s are quite heavy and it boggles the mind what would ensue if you dropped it off the stand (which locks on, by the way) let alone allow the very heavy steering and low-speed oversteer to take hold. \$300 worth of chrome for a start not to mention a flat leg. Plus a hernia. So it is chugga>



chugga Bong Chugga chugga Bong etc; actually the rider gets used to the FLH quickly in traffic as with its low center of gravity and fat tires it tends to hold an upright stable posture while gliding to a halt. Riders with short legs are going to have a terrible time, even though the riding position seems to be designed for someone 5'3" and measuring 30" across the pelvis,

as the 5-gal. "Fat Bob" tank, exceptional engine width, and protruding footboards mean that I am, at 6 ft., standing on tippy toes at rest. The Harley seat is a marvellous device on its sprung pillar, concealing underneath an equally marvellous linkage that provides an extra set-up for what used to be called buddy riding (more's the pity that the whole gemilla is held on with two

hose clamps) but it does perch the occupant way up in the air.

Details. Millions of contented riders have driven Harleys across the country and that is the sort of thing that Harley does best. Briskly massaging the gearbox to get out of town and on the highway produces useful acceleration a la traffic cop but the bike appears to go just as well with moderate throttle and a drop into top gear as soon as practicable, say 40 mph. Then the giant bore and giant stroke and all that lovely torque take over to produce a most satisfying waffling beat from the big Twin that wafts the outfit effortlessly down the highway, doing seemingly about 800 rpm. There is a little vibration under normal operation but no particular vibration period appears, up the range till you get to 75 approx. although the engine smooths out marvellously in the region of 60-70 which by happenstance used to be the speed limit before the Gov't used Arabs as an excuse to shut us down. Designed as it is for carrying a couple plus baggage across long distances, the FLH 80 pays no particular interest in mountain grades or otherwise and for that matter, is just as stable (i.e. like a rock) on mountain bends as it is on a dead straight road so long as too great an angle of lean is not employed. Bumpy bends can set up a gentle wallowing, probably encouraged by the pillar-sprung seat and the drooped bars, but like those old trainer biplanes the Harley can undoubtedly fly itself, given the chance. I don't care much for the riding position, sitting with legs spread apart and bent over to hold those bars, but you might like it. Comfort-

## A Surprisingly Tolerant Viewpoint

**C**an a Desert Rider Find Happiness on a Dresser? Let me say right away that I have changed my thoughts on 1. Fairings, 2. Floorboards, 3. Pegs on the crash bars, 4. Duckbill visors for the street, 5. Touring, and 6. Harleys. And realize at the onset that although I've been riding since 1953, my longest trips have always been in the dirt. Barstow to Vegas was a pleasant afternoon and 200-mile pre-runs in Baja were nothing to write home about but when Henry Manney suggested I ride the test Harley to Point Conception well... it was enough to cause a very restless night before the trip. You know the feeling, waking up an hour before the alarm goes off.

Of course a 360-mile day is nothing for a serious touring rider but I'd spent too much time at traffic lights looking over at those dresser Harleys and wondering how the hell do they ride those things. Good Lord, my Husky feels too heavy when the Baja tank is topped off. I also wondered what kind of people ride those behemoths and how they feel perched up there above

the cars.

Hitting the San Diego Freeway north at six a.m. would put us ahead of the Los Angeles rush and crush. Wrong. We soon found ourselves in bumper to bumper stop and go traffic—an ominous start to our first touring experience. The Harley was much easier to handle in this situation than I expected and I was even beginning to relax a bit when we turned on to the Santa Monica freeway and headed out to Coast Highway and the ocean.

Traffic was still a bit thick until we passed Malibu and it was about this time I stopped and made my first underwear adjustment. Nothing serious, just a little uncomfortable. Beyond Malibu the traffic on our side of the road virtually disappeared and we had both northbound lanes to ourselves. The sun was up and at our backs and the smell of chapparral was mixing with the salt spray off the ocean. If I'm going to be a touring rider I want it to be like this.

The Harley wound its way around the curves of Point Dume and up the coast so

effortlessly that I almost felt it knew the way north. The bike becomes nearly weightless at speed and lane changing is no more than a thought. It seems like anything that touches the rider is insulated and as a result very little engine vibration is felt. Another stop for underwear adjustment and I begin wondering what's wrong. Are my Levis too tight? Wrong underwear for touring?

We stopped to fill up with gas and I figured the gas mileage to be 45.5 mpg—not bad considering a lot of that was stop and go. Another underwear adjustment. Is it the seat?

Out of Ventura and up the beach with little or no traffic and a seventy degree day. I'm beginning to really enjoy both the Harley and this touring.

The handlebar position feels so strange when you first sit on the bike but after an hour or so it seems just right as does the position of the floorboards. The position of the rear brake pedal seemed awkward at first but ever that's natural after awhile. I did find myself moving my feet around



wise, in spite of the Neanderthal front forks and the rear shocks being at the front end of the swing arm to clear the saddlebags, the FLH 80's fat whitewall tires mounted on stylish alloy wheels smooth out the road in impressive fashion. Rain grooves and similar manifestations of the paver's art have little or no effect. A badly cut-up surface, however, reminds one that Harley has never heard of the theory of unsprung vs sprung weight, i.e., those or-

namental chrome doodads on each end of the front axle which weigh almost 200 grams (abt 7 oz) each. In spite of a rather poor finish on the fiberglass, both fairing (which resonates a little at times) and saddlebags make life much much easier on the road and although we made one run of about 200 miles, a longer one would be quite interesting. The big Twin idled faultlessly, ran reliably, never got hot, cured its own sticky tappet and only used one of the

four quarts from its filtered dry sumped tank, most of that I suspect courtesy the rear chain oiler. The bike is very handsome and well finished off, drawing admiring looks from not only other Harley riders but smiling gents in big cars who are just apt to say "I useter have one like that". With a Harley you are in another mode of life from "normal" motorcycling and, to be honest, a very pleasant and relaxed one. Vancouver, here we come! >

after a few hours and I kept wondering how a set of pegs mounted on the crash bars would have felt. Maybe those extra pegs aren't just for the laid-back look.

Near Carpinteria I caught something out of the corner of my eye and looked towards the ocean to see an open cockpit bi-wing airplane winging its way north at about the same speed as the Harley. We looked at each other for a moment and then at the same moment waved. An unspoken thought between us said, "The only way to travel."

We arrived near Point Conception before noon and after another underwear adjustment had lunch with a friend and hit the beach for a few hours. Shortly after starting back for the city at four o'clock, we ran into off-shore winds that were blowing 30 mph with, according to the truckers, gusts to 45 mph. After seeing several semis nearly go over we decided to stop for dinner. Pulling into the roadside restaurant by Gaviota, we found all manner of vehicles waiting out the wind. Campers, VW buses, semis and even a few other touring

bikes. Why do the Gold Wing riders pretend they don't see Harleys?

After dinner and against the advice of several professionals, we headed south towards Santa Barbara. The Harley punched into those gusts without so much as a quiver and the only trouble I had was with my duckbill visor catching gusts that came in around the fairing. A heavy bike is an asset in these conditions.

Another gas stop and the mileage calculated at 51.47 mpg. Most of this was between 60 and 70 mph and part of it in very windy conditions.

It occurs to me about this time that I've ridden nearly 250 miles and not one close call with a rude or unattentive driver. Is it just getting away from the city or could it be the size of the bike? A friend whose car I followed part way south admitted later that the sight of the Harley in his rear view mirror was most imposing. That's a nice change, a bike looking imposing. I was also a little surprised to find that riders don't wave like they did in the Fifties. Only one rider waved—a Triumph near Oxnard.

And, of course, the Outlaw type that pulled alongside near Los Angeles International Airport and carefully looked over the Harley from front to rear. Only after what seemed like five minutes did he look at me and then flashed a huge grin and a thumbs up signal before disappearing into the night.

Near Long Beach a Beemer pulled up with what looked like a 25-year-old crouched low over the bars at 65-70 mph. He slowed for a moment and then in perfect mime indicated he wanted my fairing. Yes, it was nice to have a fairing on the road.

A full moon was directly in front of us as we dropped the bike off at Henry's and I realized I'd just ridden 360 miles and was ready for several hours more. Except for the underwear problem, the Harley provided a smooth and enjoyable ride and I found myself thinking about a trip to San Francisco. I guess that's the real test of a touring bike—as you're putting it away after a long ride, you find yourself planning the next. —Chuck Johnston

# HARLEY DAVIDSON FLH80

## SPECIFICATIONS

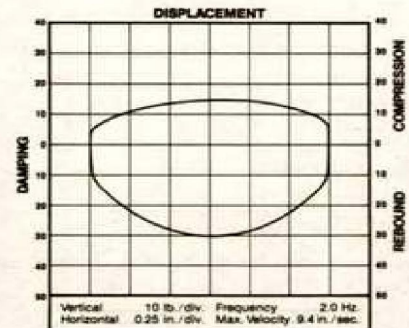
List price	\$4905
Engine	ohv V-Twin
Bore x stroke	88.8 x 108mm
Piston displacement	1338cc
Compression ratio	8:1
Carburetion	38mm Keihin
Air filtration	oiled foam
Ignition	pointless electronic
Claimed power	na
Claimed torque	na
Lubrication system	dry sump
Oil capacity	8.0 pt.
Fuel capacity	5.0 gal.
Recommended fuel	premium
Starting system	electric
Electric system	12v 225w alternator
Clutch	multi-disc, wet
Primary drive	duplex chain
Final drive	# 530 chain
Gear Ratios, overall:1	
4th	3.73
3rd	4.59
2nd	6.79
1st	11.19
Suspension, front	telescopic fork
Suspension, rear	swing arm
Tire, front	5.10-16
Tire, rear	5.10-16
Brake, front	9.7-in. disc
Brake, rear	9.9-in. disc

Total brake swept area	196 sq. in.
Brake loading (160-lb. rider)	4.7 lb./sq. in.
Wheelbase	61.5 in.
Fork rake angle	30 deg.
Trail	5.75 in.
Handlebar width	33.0 in.
Seat height	29.9-31.4 in.
Seat width	14.4 in.
Footpeg height	8.0 in.
Ground clearance	4.7 in.
Curb weight (w/half-tank fuel)	752 lb.
Weight bias, front/rear, percent	43.8/56.2

## PERFORMANCE

Engine speed @ 60 mph	3069 rpm
Power/weight ratio, (160-lb. rider)	na
Fuel consumption	49.0 mpg
Speedometer error:	
30 mph indicated, actually	27.4
40 mph indicated, actually	36.7
50 mph indicated, actually	46.5
60 mph indicated, actually	55.9
Braking distance	
from 30 mph	38.0 ft.
from 60 mph	156.5 ft.
Standing start	
¼-mile	15.15 sec. @ 84.19 mph
Speed after ½ mile	89 mph

## FRONT FORKS

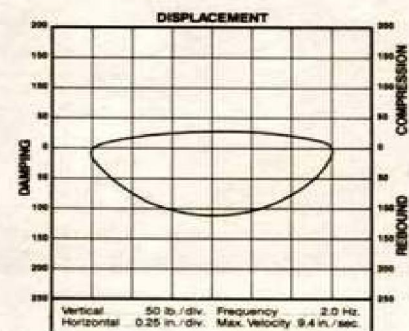


### Hydra-Glide fork

Fork travel	5.0 in.
Engagement	7.3 in.
Stanchion tube diameter	41 mm
Spring rate	50 lb./in.
Compression damping force	14 lb.
Rebound damping force	30 lb.
Static seal friction	36 lb.

Because of the size of the FLH, its front suspension yields a fairly soft ride. Static seal friction is unusually high, but effectively supplements the forks' relatively low damping rates. The fork springs, preloaded at nearly 80 lb., are not as stiff as one might expect, and allow utilization of the available travel with no bottoming or topping.

## REAR SHOCKS



### Gabriel shock, non-rebuildable

Shock travel	2.7 in.
Wheel travel	4.1 in.
Spring rate	250 lb./in.
Compression damping force	25 lb.
Rebound damping force	110 lb.

For such a heavy machine, the stock shocks do an admirable job, at least for the solo rider. Adjusting the spring preload will compensate for most variations in laden weight, but the damping is not proportional to the scaled-up size of the machine. For additional control when the bike is heavily laden, a set of aftermarket shocks with extra firm damping would be advantageous.

