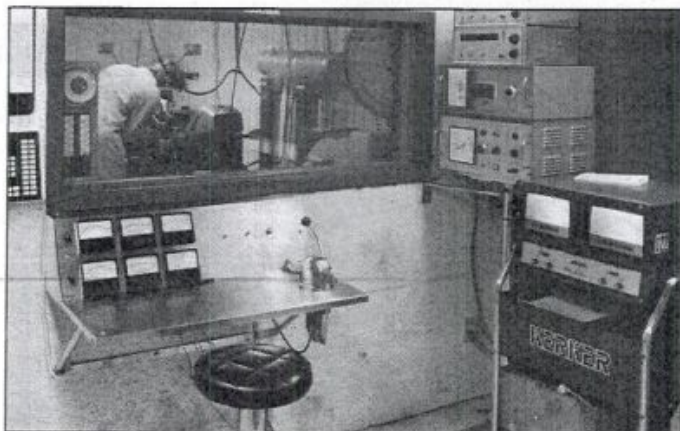
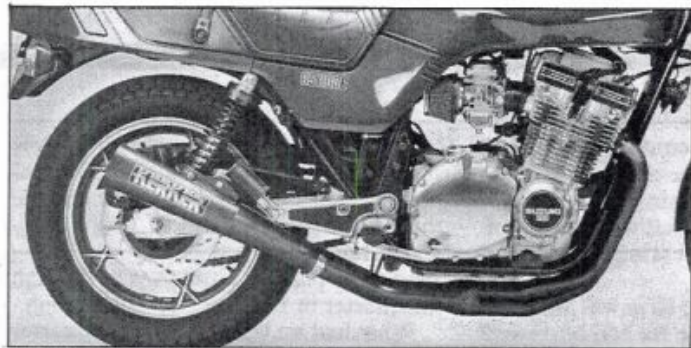


RUN 4			RUN 5	
POWER (Horsepower)	CO (Percent)	SFC (lb./hp.-hr.)	POWER (Horsepower)	RPM
31.9	3.0	.49	—	3500
39.4	3.4	.48	—	4000
42.2	7.0	.56	—	4500
46.2	9.4	.61	—	5000
55.3	8.8	.57	—	5500
61.1	10.0	.59	67.6	6000
71.1	7.0	.54	—	6500
77.5	5.6	.52	—	7000
81.0	5.2	.51	—	7500
84.3	5.0	.51	92.8	8000
85.5	4.0	.50	—	8500
85.0	3.5	.53	94.6	9000

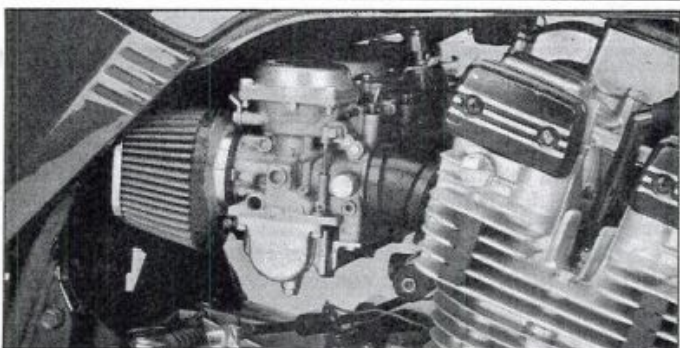
(5) 33mm smoothbores, large competition baffle in Kerker KR exhaust.



Instruments in the Kerker dyno room show cylinder head temperature, throttle control, engine torque, rpm, fuel flow and exhaust gas content.



With the Kerker KR pipe installed, the Suzuki GS1100E's centerstand had to be removed. Individual K&N oval air filters are installed.



Individual air filters replace the airbox and the large single air filter.

Our jetting experimentation for the fourth run drove home one of the peculiarities of CV carburetors. On slide throttle carburetors, which were the standard five years ago, the slide is directly connected to the twist grip. Slide movement is directly proportional to twist grip rotation. On CV carburetors, the actual throttle is a butterfly downstream of the slide, and only the butterfly is directly controlled by the rider. The slide is controlled by air pressure differentials between the carburetor throat and normal air pressure, with the intent of maintaining constant air velocity through the throat. During our experimentation, we removed one of the air filters so the slide could be watched during a dyno run. At 5000 rpm and full throttle, the slide was only 70 percent open. At 7000 rpm and full throttle, it was 90 percent open. This meant at speeds below 6000 rpm, the needle and needle jet were as important as the main jet in determining mixture strength. Only at 7000 rpm and above was the bike running primarily on the main jet.

What this means in practice is that it can be very difficult to know what carburetor circuit CV carburetors are operating on. With a slide throttle carburetor, full throttle operation would be controlled by the main jet. On a CV carburetor,

full throttle operation could be controlled by any carburetor circuit, depending on the engine speed.

The final combination tried was the substitution of a set of Mikuni 33mm smoothbore carburetors and a large baffle in the Kerker pipe. There was no attempt to dial this combination in over the entire engine and speed range; we simply put in main jets that would allow peak power measurements to be made. (The jetting that came installed in the smoothbores was at least as bad as the stock jetting had been with the airbox removed.) Peak power went up 14 horsepower from the stock condition, and the noise increase was commensurate, suitable only for a race track. While we saw no evidence of it from this run, the Kerker people said the smoothbores could be made to carburetor well over the entire engine operating range, and yield more power everywhere. And, unlike the stock CV carbs, a complete selection of carburetor tuning parts, including slides, needle jets, and needles, is available for the smoothbores.

Figure 2 shows the results of our second set of dyno runs. These were done with a fresh GS1100, and were done to compare the effects on jetting of the air filter element. The first run was with a completely stock bike, and shows two

things. First, a fresh, non-abused GS1100 makes good horsepower. Second, it might make more with a one size smaller main jet.

The second run was made with a stock replacement K&N air filter, the type that drops in the stock airbox. Because the flow restriction through K&N filters (or any other oiled filter) is dependent on how thoroughly oiled it is, we were careful to spray it with oil and then put 75 mi. on the filter installed in a bike before we brought it to the test. From previous experience we have noticed that it takes a few miles for the oiliness of these filters to stabilize, and until this has occurred it is futile to adjust the carburetion. In this case there was no need to adjust carburetion. Power output was essentially the same as for the stock air filter, and the CO output indicated a slight leaning of the mixture over the entire speed range.

The final run of this set was made with no air filter element at all, but with the airbox lid back in place. Power went up by a horsepower or so throughout the entire speed range, and the CO meter showed another leaning of the mixture beyond the K&N results. The mixture leaned out enough at low rpm to be noticeable when riding the bike, but above 5000 rpm it approached the ideal 6 percent CO reading. So the power increase