

THE CAN-AM LINE

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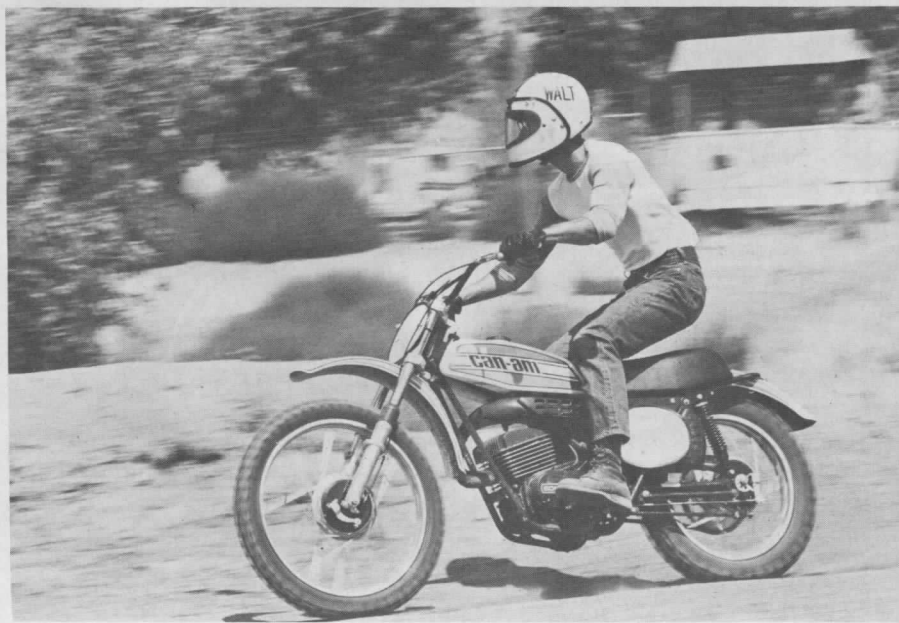
THE SKI-DOO PEOPLE ARE GETTING READY
TO GO PLAY IN THE DIRT.



On August 1st, the staff of *Modern Cycle* was invited to attend a motorcycle model presentation at Indian Dunes with the folks from Bombardier, the Canadian manufacturer of the popular Ski-Doo snowmobile. The only disappointment of the day was the fact that we couldn't stick around to attend the free lunch planned by the Bombardier people.

We feel that the four motorcycles presented (125 and 175 motocross and enduro models) are a successful first effort. Bombardier has been a successful builder of snowmobiles for both general recreation purposes and racing. Their racing sleds have won many races and championships throughout the United States and Canada. (Kawasaki's ace road racing kamikaze pilot, Yvon DuHamel,





throws away his leathers and dons his parka for the winter months, competing in snowmobile races in a Ski-Doo sled.) Few of their personnel have ever been involved with the motorcycling facet of the recreational field, however, until recently.

From all indications, it appears that Gary Robison is the motivating force behind the motorcycle effort. At one time he was involved with Ken Harmon and Russ Collins, manufacturers of cams and other speed equipment. Then he got involved in the technical end of things at Bombardier. This eventually led to the responsibility of managing product testing and development for the Can-Am division.

One of the first things any PT&D manager worth his salt does, is hire a competent test rider and evaluator-designer. For such an individual Bombardier went to Europe and hired Jeff Smith, two times world champion in motocross and nine years a development engineer for BSA.

A preview of the products result-

ing from the combined efforts of Robison, Smith and their cohorts at factory headquarters in Canada was the purpose of the model presentation-test riding session.

The four different models previewed to the press were Bombardier's Can-Am series. The only difference in the motocross versions and the enduro versions of both the 125 and 175 is that the enduro models are equipped with a lighting system that conforms to the 1974 federal standards for highway use. Also, the traditional trials universal tires are found on the dual-purpose bikes, replacing the motocrosser's knob-bies. Unlike some manufacturers who introduce a lightweight go-fast racer and then follow it up with a heavier, de-tuned version of the same machine, Bombardier has chosen to use identical frames, wheels, brakes, forks, and engines. (Of course, that is also a lot more economical if you're just getting started.)

The frames are the tubular double cradle type. They are manufactured from high strength tensile steel, which provides good rigidity. The large diameter backbone design of the frame performs two functions. One, of course, is to add support and rigidity to the frame. Secondly, the tube doubles as a container for 2.3 quarts of oil used for oil injection. This means that no oil tank has to be fitted where it can possibly be a hindrance to riding comfort, bulging into the rider's leg.

These sleek little units are obviously well thought out. Nothing on

the motorcycle interferes with attaining an optimum riding position. The high mounted exhaust pipe runs beneath the gas tank and then into a box type silencer and muffler. The same exhaust system is fitted to both the enduro unit and motocross model. It is extremely quiet and seems to do little in the way of reducing engine performance.

The kick starter mounted on the left side also folds up well out of the way and behind the left engine case. Primary kickstarting eliminates the need to return to neutral when trying to restart. This always seems to happen at the most inopportune time.



A first, we believe, for any production motorcycle, is a unique adjustable front fork system. It is possible to alter the fork angle a total of six degrees in one half degree increments. This is an obvious advantage to the rider who wants to tune the steering response of his machine to his particular style or track conditions. (Kawasaki's Hatta forks do offer a trail adjustment but Bombardier's approach lets the rider change both rake and trail.) The front forks are by Betor, and are claimed to offer six inches of travel.

According to the specifications, Girling shocks (five way adjustable) are fitted to the rear. However, our test units had a multitude of shocks fitted to them. For what reason, we can only guess. We were satisfied with the performance of the Girling shocks.

The fenders and gas tank are made from a high density polyurethane and appear to be virtually indestructible. This material is manufactured with a "memory." Theoretically, a Mack truck can run over it and it will spring back into shape. Not having a Mack truck handy at the moment, we took their word for it.

We were happy to note that the gas cap did not leak under the most severe of conditions. The Bombardier engines feature a rather novel approach to the rotary valve two-stroke design. As on the Kawasaki rotaries, the carburetor is positioned directly behind the rotary valve at the end of the crankshaft. This type of power plant is wider than





the conventional approaches. This means, for the trail rider at least, that those narrow pathways between rocks require extra attention.

One of the supposed advantages of the rotary valve approach is good torque. The Can-Am seems to bear this out. Even the 125 seemed to want to pull. Of course, part of this impression may also be attributable to the closer gear ratios possible with a six-speed box.

Bombardier's rotary valve is located at the left end of the crankshaft. The fuel mixture reaches the valve by way of a long tuned intake track. The 32mm Bing carburetor (found on both the 125 and 175) is located on top of the crankcase behind the cylinder, much in the same

manner that Kawasaki mounts their air filter element. This approach helps to reduce engine width to 10 inches and affords protection to the carburetor.

The Can-Am engine has a distinctive sound—the same high pitched (but in this instance, greatly muffled) whine associated with (surprise) snowmobile engines. It is different, but in no way irritating because it is quiet.

The engine fire is supplied by a 30,000 volt Bosch solid state unit. As with CDI ignition systems fitted to other motorcycles, once it has been properly set at the factory, then, theoretically at least, the ignition timing will not change. This

eliminates the need for points. Although the point system is fairly simple, ignition timing gradually changes because of wear. The points set-up is also subject to possible drowning out when riding in the wet. CDI eliminates these problems.

The gearboxes on all four motorcycles are six-speed units. This gives an extremely wide selection of ratios to be utilized on or off the track, trails, or highways. It also means you do more shifting. The gearbox performed perfectly during our brief riding session, as did the clutch. Neutral was extremely easy to find at all times, and each gear selection was both easy and positive. The shift pattern is one down, and five up. One unusual trait of shifting behavior, is that you really don't feel that expected "snick" when the next higher gear is engaged. The lever arm feels very loose when the toe taps it up, but the next gear always seems to be there.

The six inch single leading shoe brake fitted to both the front and rear wheels utilizes a conical hub. These brakes offered extremely good stopping ability and did not fail to perform when thoroughly doused with water. The rear brake pedal was extremely difficult to locate. It is positioned quite close to the right case and is somewhat higher than pedals on most units we have tested. This necessitates removing the foot from the peg before the rear brake can be operated. The kill switch is located on the right handlebar. For reasons we have mentioned before, we feel that it would be advantageous to relocate this switch so that it could be operated by the left hand.

After spending a few hours on all four of these units, we feel that it is necessary to give credit where credit is due. It is obvious to us that Bombardier has put forth a commendable effort for their first excursion into motorcycling.

We will be doing a complete test evaluation of one or more of these units in the future. This now leads us to a question of availability. Bombardier built 2500 units this year. These have already been sold to their snowmobile dealers. Tentative plans for 1974 call for ten to twelve thousand units. In their efforts to make haste slowly, initial distribution will be through their snowmobile dealer networks in Canada, the northeast, the Great Lakes, and the Western snow regions. If things go well they will then expand their distribution network. Production and delivery of the 1974 output is slated to begin in December. If there is a Bombardier dealer in your neighborhood, you just might want to take a look.