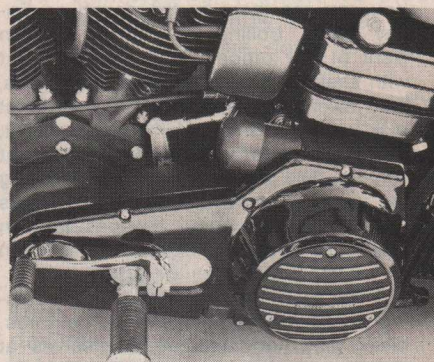
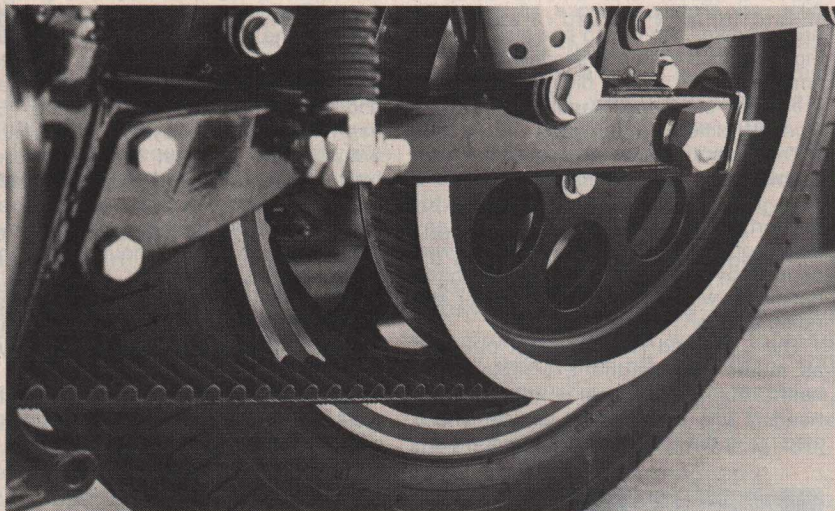


PRODUCT CLOSEUP



The primary belt behind this new gloss black sidecover is 1½ inches wide and has 78 teeth. The larger rear belt is 1½ inches wide with 126 teeth. The primary sprocket is damped.

H-D STURGIS: THE FIRST BELT-DRIVE

Harley-Davidson, fresh from breaking new ground by fitting an enclosed chain to their 1980 Tour Glide, has announced another drive-train breakthrough with the FXB 80 Sturgis. Motorcycles routinely had belt drive in the early years, but nothing like the steel-tough synthetics in Harley's "Black Belt." Both the primary and secondary drives on the Sturgis are *via* belt, the purpose being to reduce noise, improve smoothness and eliminate the problems of oiling and adjusting chains without the weight, expense and horsepower loss of a shaft. The Harley is particularly suited to a primary belt because of its dry clutch which previously had to be isolated from the primary chain oil system.

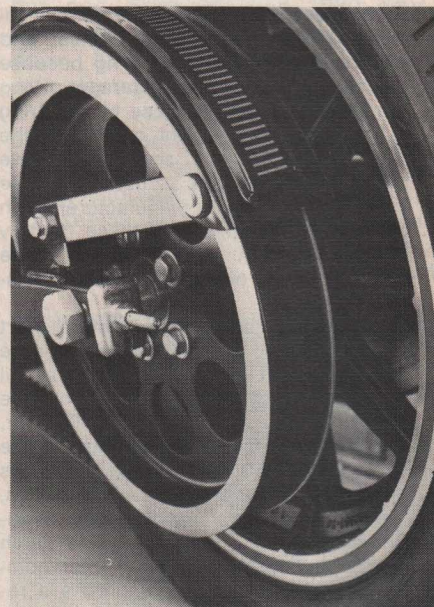
H-D began researching belt drive three years ago following the success of various aftermarket suppliers with their own systems. Gates Rubber Company, a huge supplier of fan belts to the automotive industry, worked closely with Milwaukee engineers from the beginning to develop a polyurethane belt strengthened with DuPont Kevlar, a plastic tougher than steel in many applications. The resultant "polychain" seems to be a miracle product: it needs no oiling, requires minimal adjustment, lasts up to 20,000 miles, stays reliable in rain and snow, robs less than one percent of the engine's horsepower and costs about the same as a modern steel O-ring chain (\$75-90).

Motorcyclist rode the Sturgis briefly (about two miles in a parking lot) and other than being noticeably quieter, it

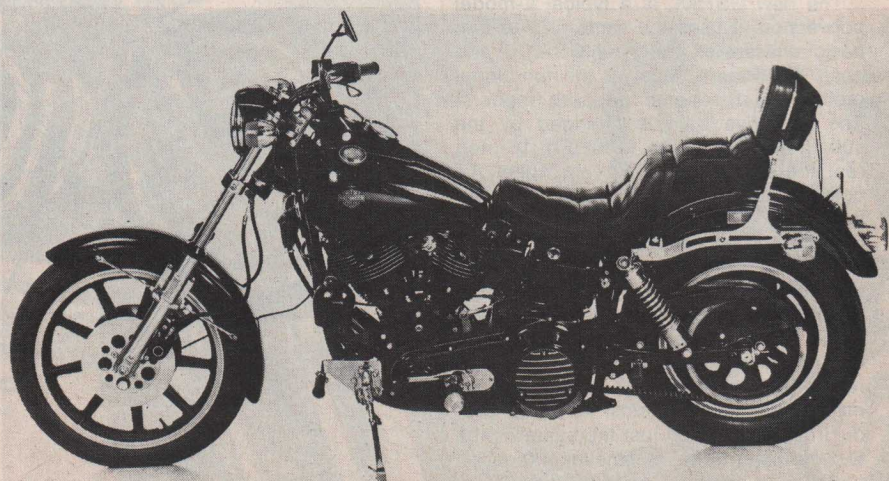
felt no different than the standard Low Rider. We speed-shifted the bike and let it lug mercilessly in top gear at 10 mph to see if the belts would balk, but they performed perfectly. In front of H-D personnel, we locked the front brake, gassed the throttle and gingerly let out the clutch while watching the rear belt to see if it stretched or threatened to jump a tooth. "Go ahead," said test-fleet manager Jack Malone, "wind 'er up and drop the clutch. You can't hurt it."

The factory is obviously very confident in their technology on the Sturgis, named for the famous Black Hills biker rally in Sturgis, South Dakota, but they're unsure of market acceptance as yet. Harley buyers are a breed steeped in image and tradition, and could very well consider belt drive a dilution of purity: "A Harley ain't a Harley without a genuine

continued on page 29



The 70-tooth aluminum sprocket is satin finished and drilled for lightness.



Black is the dominant theme of the Sturgis' styling. The bike is noticeably quieter because of its belt drive, but otherwise feels no different from the FXS 80 Low Rider that sired it.

H-D STURGIS

continued from page 20

god-fearing chain." Consequently, only 1200 Sturgis models will be produced and sold this spring with no advertising to test market response.

The Sturgis is derived from the FXS 80 Low Rider, the backbone of Harley's line. Both engines are the same and include the new Magnavox electronic ignition advance for smoother power delivery. The overall gear ratio on the Sturgis is about 5 percent higher than the Low Rider, but with a claimed 71.5 foot-pounds of torque at 3800 rpm, the 80-inch Sturgis V-twin can easily handle the taller gear.

If reliability proves to be what Harley-Davidson says it is, belt drives appear to have a strong future. We can see only a couple of drawbacks. One is installation which will involve the aggravation of swingarm removal, but this is standard with endless chains as well. The other is the non-repairable nature of a belt. At least a chain can almost always be repaired with proper tools and spares. But what happens if a belt breaks? Don't count on being saved by a spare unless you figure you can pull the swingarm on the side of the road, a chore doubly tough on a Harley because it has no centerstand and no toolbox. What might save you is a repair kit Gates and H-D are testing right now. It enables a broken belt to be spliced with small metal pins so it's good for about 200 miles of riding at very careful throttle openings.

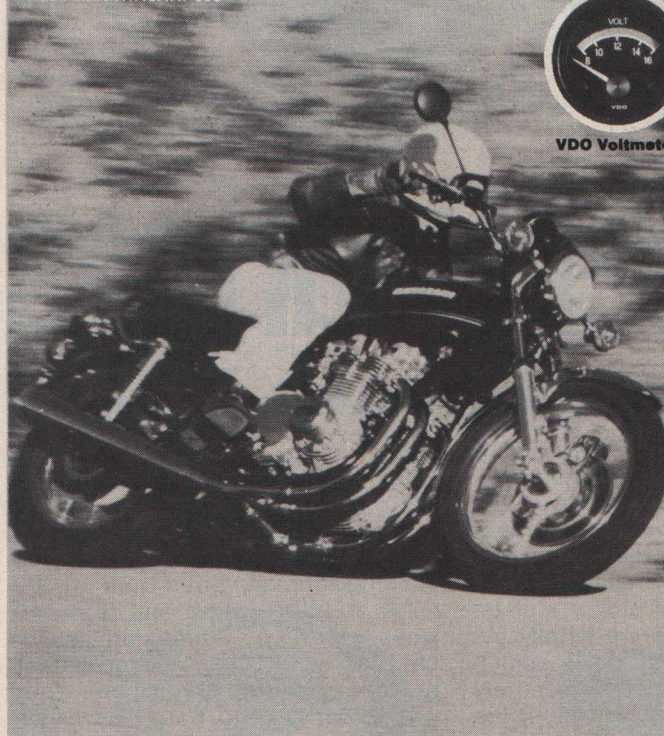
For manufacturers the great benefit of belt drive is noise reduction, which will help them meet ever-tightening EPA regulations. The consumer's main benefit is an end to the oiling ritual and those tiny grease spots on clothes from oil flinging off the chain. True, an O-ring or X-ring chain doesn't need heavy oiling and doesn't fling, but they do need a light coating on the outside to prevent rust. And this coating must be reapplied after every rain or 50-cent car wash. You can say goodbye to all of that with a belt.

Don't expect every new model to have belt drive in a year or two. Kawasaki will have one later this spring on their KZ440 street twin, but Yamaha testing has shown that to survive on a large-displacement high-revving 80-to-100 horsepower Japanese four, a belt would have to be three inches wide. So for a while at least the Harley Sturgis, with its lumbering torque, big flywheels and deliberate power delivery will be the only big bike to boast the benefits of belt drive. Its price is \$5687, \$261 more than a chain-drive FXS 80 Low Rider. **M**



STALLION HUMP BACK

PHOTO: KAWASAKI 650



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