

Apex seal lubrication became a critical issue. In a race engine, oil supply to the rotor housing by means of injection was precisely monitored and controlled, whereas in the production unit, a larger amount is supplied, just to be on the safe side. Some of the lubricant is fed into the trochoid chamber through a metering nozzle. The previous nozzle's oil passage was 2.0 mm (0.08 in.) in diameter. Negative pressure created in the rotor chamber would cause all the oil within the nozzle to be sucked out. When the engine accelerated rapidly, oil supply could not keep up with the speed. To prevent oil starvation, the previous system supplied a larger amount of oil to be on the safe side. In the new metering nozzle, the passage diameter has been reduced to 0.08 mm (0.003 in.), halving its volume of 0.0005 L (0.03 in<sup>3</sup>). A new rubber seal is also inserted to fill a gap within the nozzle body where oil used to be sidetracked. Now, there is still some oil left within the nozzle after each suction, so that the lubrication system responds to the apex seal's requirement.