ROTARY PISTON ENGINE

The rotary piston engine, also known as the Wankel engine, is another kind of internal combustion engine. It works on the same general principle as the four-stroke gasoline engine but is more efficient. The energy produced in a four-stroke or two-stroke engine drives the piston up and down. This up-and-down motion must then be converted by connecting rods into a round-and-round, or rotary, motion. In a rotary piston engine, the piston moves by rotating in circles. Since the rotary piston engine needs only two moving parts, the energy that would otherwise be lost in converting up-and-down motion into rotary motion is saved. In addition, because the rotary piston engine has only two moving parts (the two rotors), it makes almost no noise. The pounding of pistons moving up and down that we hear in four-stroke and two-stroke engines is eliminated. All we hear when a rotary piston engine is running is a quiet hum. This reduction in noise is an important ecological factor.

The rotary piston engine has a piston shaped like a triangle with convex (curved outward) sides. This piston rotates in a chamber shaped like an oval that has been slightly pinched in the middle (see Fig. 1). When the piston rotates, the seals mounted at its three corners
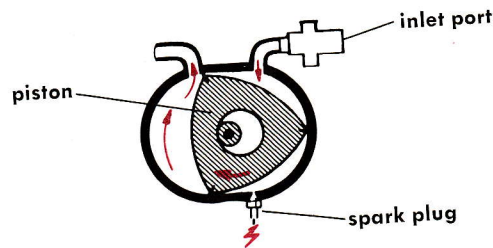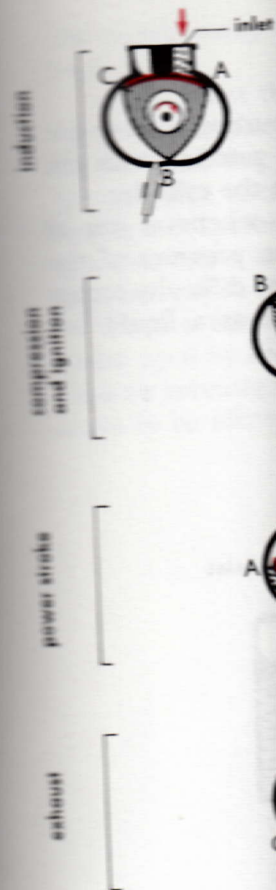

Fig. 1   ROTARY PISTON ENGINE

sweep continuously along the wall of the chamber. The three spaces formed between the piston and the chamber wall get larger and smaller as the piston rotates. These changes in the size of the spaces are used for drawing in the mixture of gasoline and air, for compressing the mixture, for combustion, and for discharging the burned gases, so that the full four-stroke working cycle is performed. The four "strokes" for the space in the chamber between corners A and C of the piston (see Fig. 2) are as follows:

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