

Title (en)  
SUPERCHARGER ASSEMBLY AND ROTOR PHASING FIXTURE

Publication  
**EP 0135256 B1 19880525 (EN)**

Application  
**EP 84304078 A 19840618**

Priority  
US 50607583 A 19830620

Abstract (en)  
[origin: EP0135256A1] An improved Roots-type blower (10) and fixture (200) for timing rotors (20, 22) and timing gears (36, 38) of the blower during assembly. The blower includes a housing (12) defining generally cylindrical chambers containing the rotors having meshed, helical lobes (20c, 22c). The rotors are fixed to stepped diameter shafts (24, 26) pressed into stepped bores (20d, 22d) in the rotors. Straight splines on the shafts respectively form mating splines in the rotor bores and in the hub bore of timing gear (36). In a modified form of the blower, the straight splines form mating splines in both timing gears. The shafts are supported in the housing by fixed ball bearings (28, 30) at one end of the rotors and at the other end by ball bearing (32, 34) resiliently biased by springs which preload all four bearings. The fixture includes a base (202) having two surfaces (202f, 240a) for supporting ends (20b, 22b) of the rotors. Surface (202f) is integral with the base and surface (240a) is rotatable relative to surface (202f). The surfaces transversely space the shafts and rotors the same parallel distance apart they will have after final assembly of the blower and provide support of pressing the gears on the shafts. An annular gear (246), fixed to surface (240a) and having the same pitch diameter of rotor lobes (20c, 22c), drives a rack gear (260) which in turn drives a dial indicator (282) providing a direct readout of backlash between the lobe in response to rotation of surface (240a). Springs (268, 272) resiliently bias the rack gear into the annular gear to remove backlash.

IPC 1-7  
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IPC 8 full level  
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Cited by  
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