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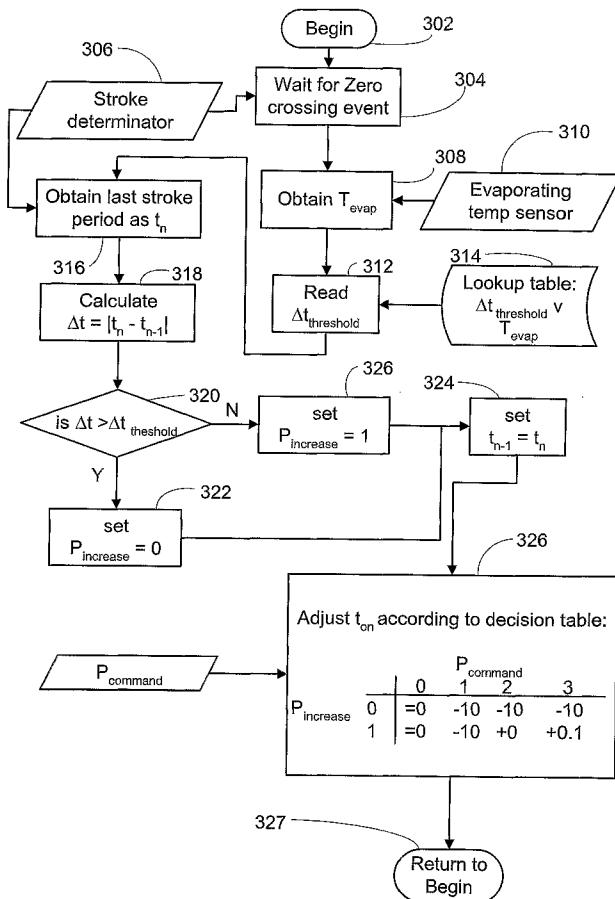
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(54) Title: LINEAR MOTOR CONTROLLER IMPROVEMENTS



(57) Abstract: A free piston gas compressor has a cylinder, a piston, the piston reciprocable within the cylinder in alternating compression and expansion strokes. A reciprocating linear electric motor is drivably coupled to the piston. A controller is programmed to control or adjust power input to the linear motor on the basis of a relationship including at least one of the present compression stroke or expansion stroke durations, the relationship being indicative of the top dead centre (TDC) position of the piston, including in the absence of any collision. In the preferred embodiment the controller obtains a measure reflecting the difference between the compression stroke duration and the expansion stroke duration and adjusts the power input in response to the obtained measure.



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