四行程火花點火引擎進氣系統調諧與容積效率關係之研究

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摘 要

容積效率是引擎單位排氣量之輸出馬力及扭力大小的重要指標，而影響容積效率的主要因素為進、排氣系統元件的尺寸設計。本論文將針對進氣系統對容積效率的影響做深入的探討。 引擎週期性的間歇進氣行為在進氣系統內部產生了壓力脈波，當這些因種種物理現象所產生的脈波與引擎轉速或因共振，或因正時而調諧時，容積效率的峰值就此出現。影響這些脈波的週期、振幅及波形的主要因素，正是引擎的轉速及進氣系統元件的尺寸，故往後的研究將釐清其彼此間與容積效率的關係。 在以往反射波調諧理論常有學者提及，但僅止於模擬，本研究的另一重點即將以實驗來驗證此一效應對容積效率的影響程度。

關鍵詞 : 容積效率 ; 壓力脈波 ; 調諧

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