

Operator's Manual

Lycoming

O-360, HO-360,

IO-360, AIO-360,

HIO-360 & TIO-360 Series

Approved by FAA

8th Edition

Part No. 60297-12

LYCOMING

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October 2005

**SECTION 3
OPERATING INSTRUCTIONS**

**LYCOMING OPERATOR'S MANUAL
O-360 AND ASSOCIATED MODELS**

GENERAL RULES

Never exceed the maximum red line cylinder head temperature limit.

For maximum service life, cylinder head temperatures should be maintained below 435°F (224°C) during high performance cruise operation and below 400°F (205°C) for economy cruise powers.

Do not manually lean engines equipped with automatically controlled fuel system.

On engines with manual mixture control, maintain mixture control in "Full Rich" position for rated take-off, climb, and maximum cruise powers (above approximately 75%). However, during take-off from high elevation airport or during climb, roughness or loss of power may result from over-richness. In such a case adjust mixture control only enough to obtain smooth operation – not for economy. Observe instruments for temperature rise. Rough operation due to over-rich fuel/air mixture is most likely to be encountered in carbureted engines at altitude above 5,000 feet.

Always return the mixture to full rich before increasing power settings.

Operate the engine at maximum power mixture for performance cruise powers and at best economy mixture for economy cruise power; unless otherwise specified in the airplane owner's manual.

During letdown flight operations it may be necessary to manually lean uncompensated carbureted or fuel injected engines to obtain smooth operation.

On turbocharged engines never exceed 1650°F turbine inlet temperature (TIT).

1. LEANING TO EXHAUST GAS TEMPERATURE GAGE.

a. Normally aspirated engines with fuel injectors or uncompensated carburetors.

- (1) *Maximum Power Cruise (approximately 75% power) – Never lean beyond 150°F on rich side of peak EGT unless aircraft operator's manual shows otherwise. Monitor cylinder head temperatures.*
- (2) *Best Economy Cruise (approximately 75% power and below) – Operate at peak EGT.*

b. Turbocharged engines.

- (1) *Best Economy Cruise – Lean to peak turbine inlet temperature (TIT) or 1650°F, whichever occurs first.*
- (2) *Maximum Power Cruise – The engine must always be operated on the rich side of peak EGT or TIT. Before leaning to obtain maximum power mixture it is necessary to establish a reference point. This is accomplished as follows:*
 - (a) *Establish a peak EGT or TIT for best economy operation at the highest economy cruise power without exceeding 1650°F.*