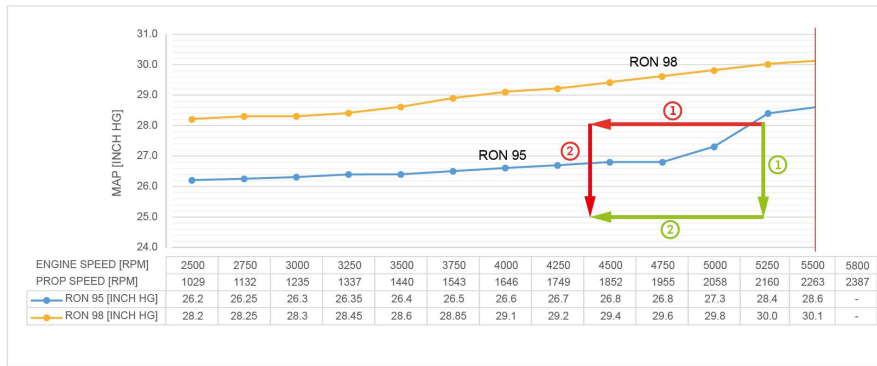


NOTICE

Red arrows describe the way it should not be done. Green arrows describe the right way.



AE_2_0600

Figure 9: Power reduction

5.2) Fuel consumption

Fuel consumption	912 A/F/UL	912 S/ULS
At take-off performance	24.0 l/h (6.3 gal/h)	27.0 l/h (7.1 gal/h)
At max. continuous performance	22.6 l/h (5.6 gal/h)	25.0 l/h (6.6 gal/h)
At 75 % continuous performance	16.2 l/h (4.3 gal/h)	18.5 l/h (4.9 gal/h)
Specific consumption at max. continuous performance	285 g/kWh (0.47 lb/hph)	285 g/kWh (0.47 lb/hph)

are utilized, refer to the lower octane fuel as reference for selecting the operating limits.

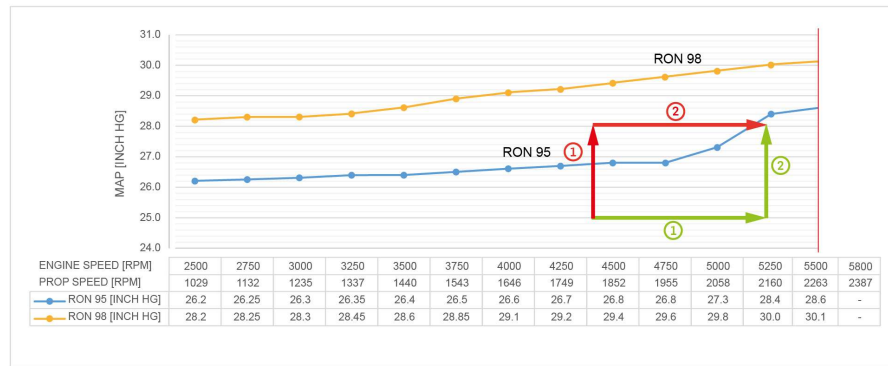
In addition to the manifold absolute pressure and engine/propeller speed limitations, adjustment of the power needs to be performed in a correct way:

- Power increase needs to be led with the propeller control followed by the throttle control as outlined in the table below.

Step	Procedure – Power increase
1	First increase propeller speed (rpm).
2	Then increase MAP with the throttle lever.

NOTICE

Red arrows describe the way it should not be done. Green arrows describe the right way.



AE_2_0599

Figure 8: Power increase

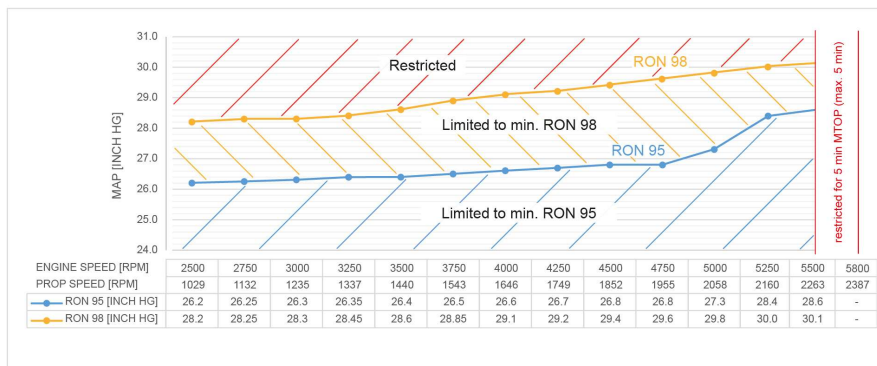
- Power reduction needs to be led with the throttle control followed by the propeller control as outlined in the table below.

Step	Procedure – Power reduction
1	First reduce MAP with the throttle.
2	Then decrease propeller speed (rpm).

5.1.1) Power setting

Operator requirements

In case of an aircraft equipped with a MAP gauge by the OEM use the following graph to determine appropriate MAP and RPM settings depending on fuel type to ensure maximum margin/robustness for piston damage/pre-ignitions.



AE_2_0598

Figure 7

Manifold absolute pressure (MAP) and engine speed settings for ROTAX® 912 S/ULS for fuel type RON 95 and RON 98 ⁸

⚠ WARNING

The area above 25.3 inch Hg must be avoided at all times when the carb. heat is on/activated.

The blue and orange lines represent the limits for RON 95 and RON 98 respectively above which piston damage may occur. The areas above the RON 95 inch Hg line and the RON 98 inch Hg line respectively must be avoided at all times. RON 95 and RON 98 lines are valid for manifold air temperature up to max. 50 °C / 122 °F.

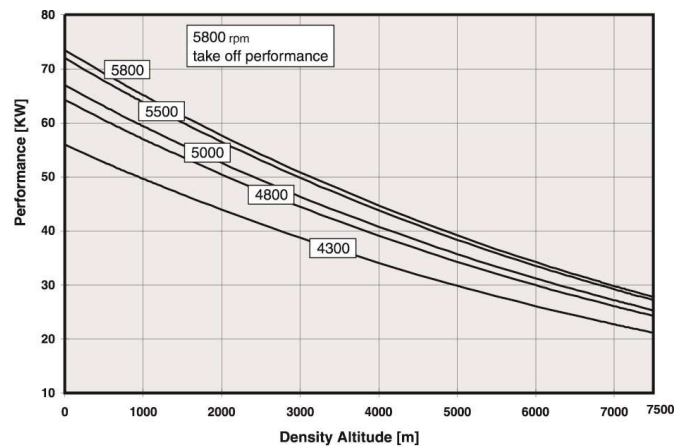
For the allowed fuels as per latest Service Instruction (SI)⁹ the octane number of the specific fuel dictates which operating limits do apply (RON 95 or RON 98). If mixtures of different fuels

8. for specification of fuel types see Service Instruction SI-912-016.
9. for specification of fuel types see Service Instruction SI-912-016 and current Service Bulletin SB-912-079.

Performance graph for non standard conditions

The following graph shows the performance drop with increasing flight altitude. The curves show the performance at 5800, 5500, 5000, 4800 and 4300 rpm, at full throttle.

At deviation of temperature conditions from standard atmosphere conditions the engine performance to be expected can be calculated from the performance indicated, multiplied by standard temperature, divided by actual temperature in °K.



$$P_{act.} = P_{stand.} \frac{T_{standard}}{T_{actually}}$$

$$T [K] = t [^{\circ}C] + 273$$

Figure 6: Performance graph

**Performance data
Engine 912 S/ULS**

Performance data for variable pitch propeller

Engine speed over 5500 rpm is restricted to 5 minutes.
Run the engine in accordance with the following table.

Power setting	Engine speed (rpm)	Performance (kW) / (HP)	Torque (Nm) / (ft. lb)	Manifold pressure (in.Hg)
Take-off power	5800	73.5 / 100	121.0 / 89.24	27.5
Max. continuous power	5500	69.0 / 90	119.8 / 88.36	27
75 %	5000	51.0 / 68	97.4 / 71.84	26
65 %	4800	44.6 / 60	88.7 / 65.42	26
55 %	4300	38.0 / 50	84.3 / 62.17	24

NOTE

Further essential information regarding engine behavior see current Service Bulletin SB-912-079.

Performance
graphs
Engine 912 S/ULS

Performance graphs for standard. conditions (ISA)

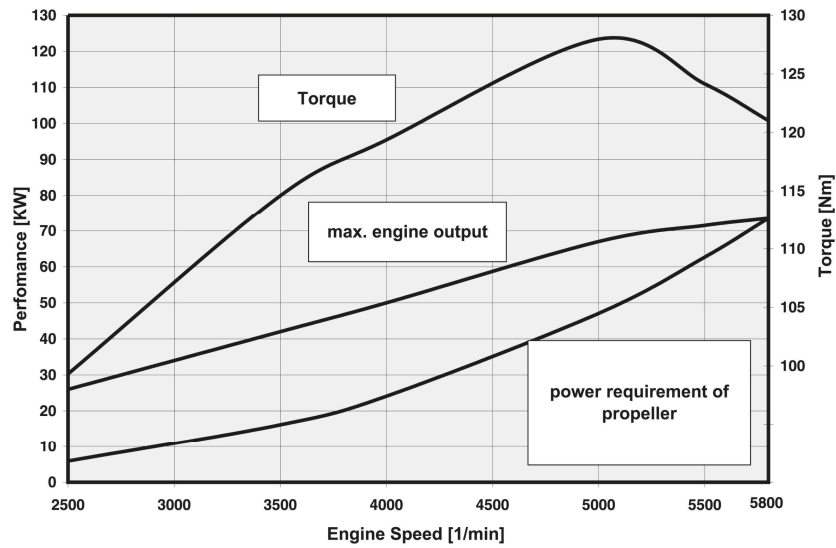


Figure 4: Performance graphs Engine 912 S/ULS

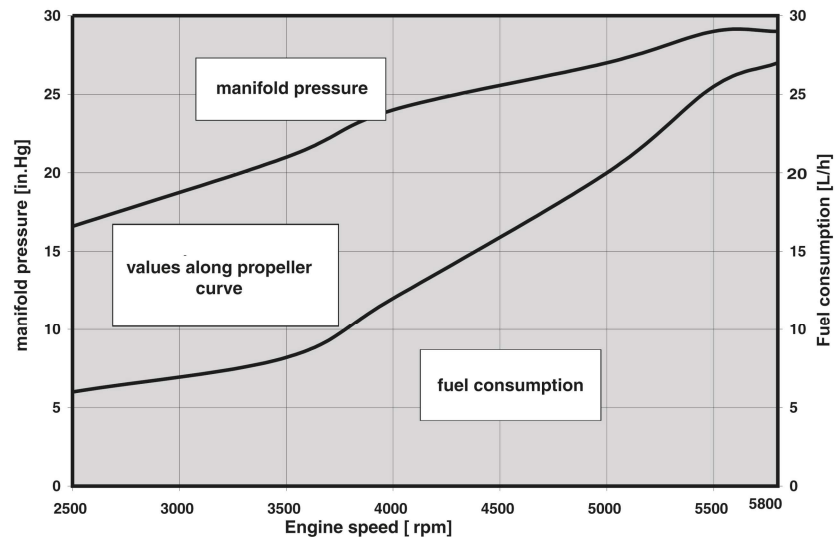
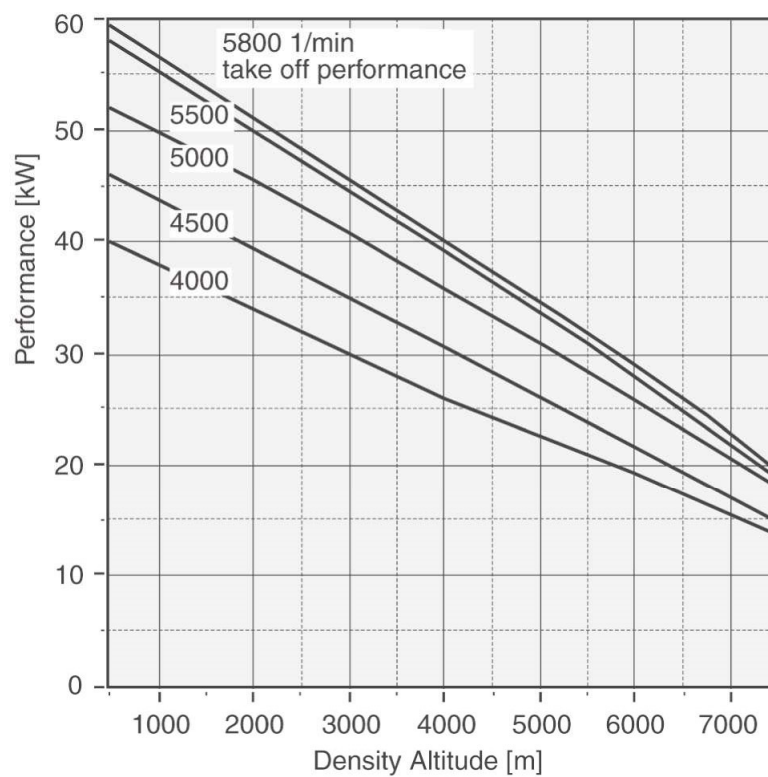


Figure 5: Performance graphs Motor 912 S/ULS



$$P_{\text{act.}} = P_{\text{stand.}} \frac{T_{\text{standard}}}{T_{\text{actually}}}$$

$$T \text{ [K]} = t \text{ [}^{\circ}\text{C]} + 273$$

Figure 3: Performance graphs 912 A/F/UL

**Performance data
Engine 912 A/F/UL**

Performance data for variable pitch propeller

Engine speed over 5500 rpm is restricted to 5 minutes.
Run the engine in accordance with the following table.

Power setting	Engine speed (rpm)	Performance (kW)/(HP)	Torque (Nm)/(ft. lb)	Manifold pressure (in. Hg)
Take-off power	5800	59.6 / 80	98.1 / 72.35	full throttle
max. continuous power	5500	58.0 / 78	100.7 / 74.27	full throttle
75 %	5000	43.5 / 58	83.1 / 61.29	27.2
65 %	4800	37.7 / 50	75.0 / 55.32	26.5
55 %	4300	31.9 / 43	70.8 / 52.22	26.3

NOTE

Further essential information regarding engine behavior see Service Letter SL-912-016, latest edition.

**Performance data
Engine 912 A/F/UL**

Performance data variable pitch propeller

The following graph shows the performance drop with increasing flight altitude. The curves show the performance at 5800, 5500, 5000, 4500 and 4000 rpm, at full throttle.

At deviation of temperature conditions from standard atmosphere conditions the engine performance to be expected can be calculated from the performance indicated, multiplied by standard temperature, divided by actual temperature in K.

5.1) Performance data

Performance
graphs
Engine 912 A/F/UL

Performance graphs for stand. conditions (ISA)

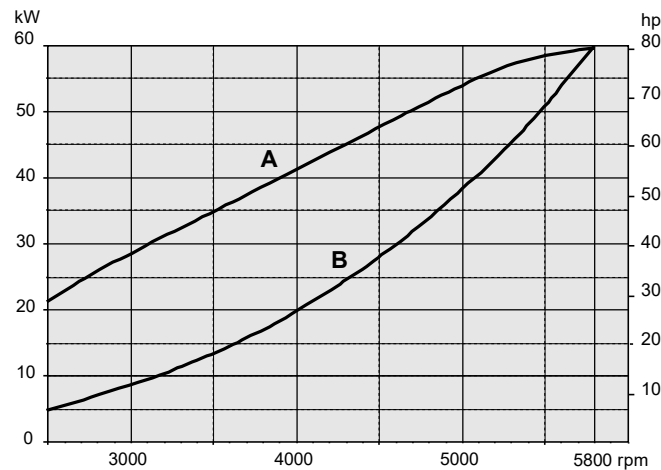


Figure 1: Performance graphs 912 A/F/UL

A max. engine output B power requirement of propeller

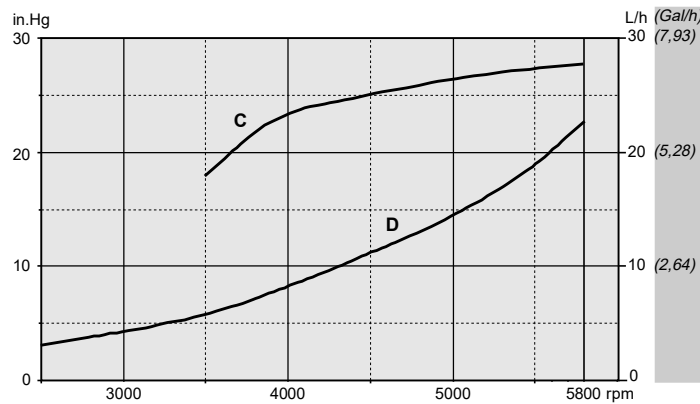


Figure 2: Values along propeller curve

C manifold pressure D fuel consumption

5) Performance and fuel consumption

Topics in this chapter

5.1 Performance data	2
5.1.1 Power setting	8
5.2 Fuel consumption	10

Introduction

The performance tables and performance graphs on the next few pages are intended to show you what kind of performance to expect from your engine in terms of power output. The indicated power can be achieved by following the procedures laid out in the Operators Manual (OM) and ensuring that the engine is well-maintained.