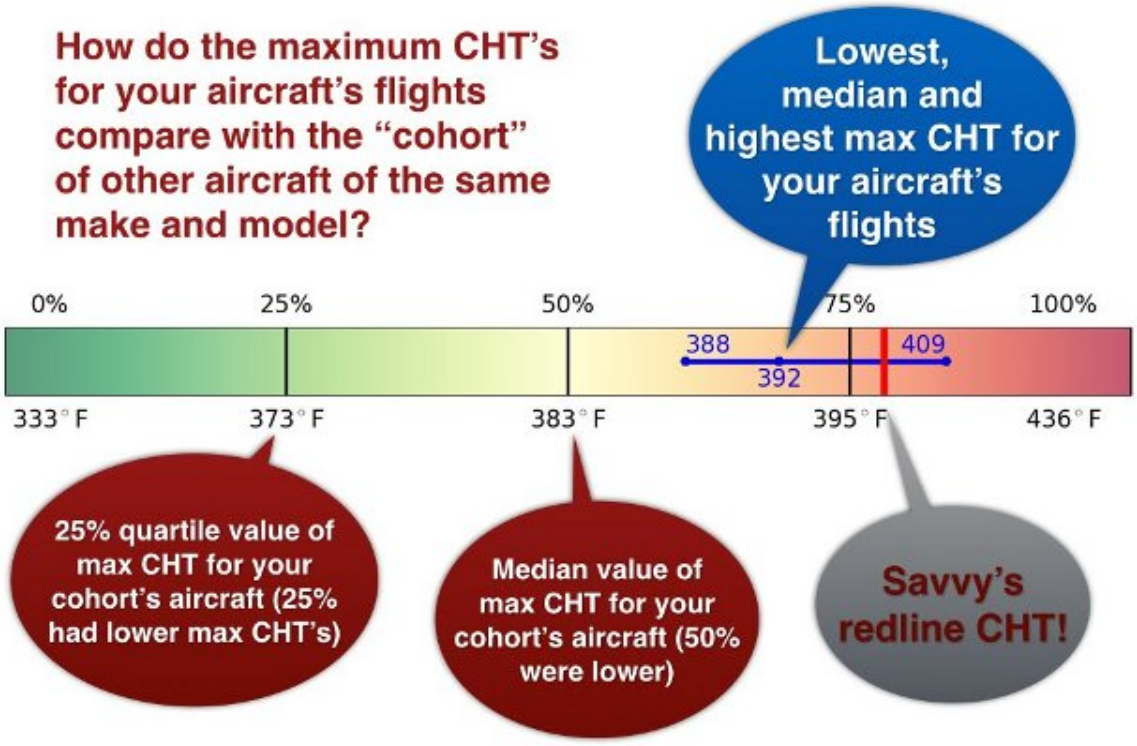
Savvy Analysis Report Card

N658DS · DA40 Star · IO-360 · 2006

Includes 140 flights between Jan 01, 2022 and Jun 05, 2025, compared with 58906 flights by a cohort of 216 DA40 Star aircraft.

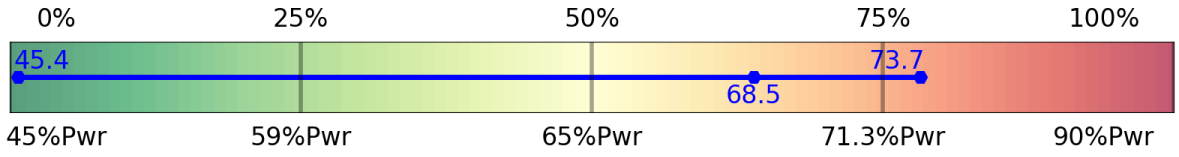
Interpreting these Report Card "thermometers"

How do the maximum CHT's for your aircraft's flights compare with the "cohort" of other aircraft of the same make and model?



PERCENT POWER IN CRUISE

Measures your engine's power output during cruise flight. High power output for extended periods can contribute to reduced fuel efficiency, elevated CHT and reduced cylinder life.

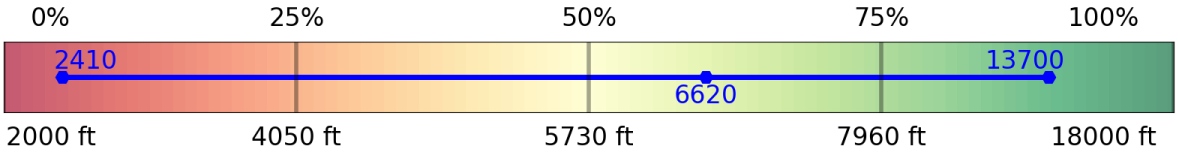


SAVVY SAYS...

The median of your engine's power output during cruise flights is about average.

ALTITUDE IN CRUISE (MSL)

Measures the altitude during the cruise phase of flight. For turbocharged aircraft, higher altitudes generally provide better performance and efficiency.

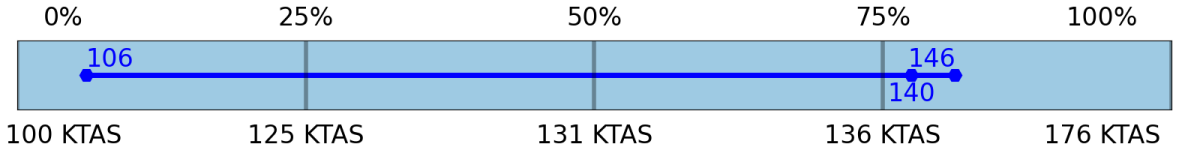


SAVVY SAYS...

Your cruising altitudes tend to be at mid-levels, resulting in average fuel efficiency and performance.

TRUE AIRSPEED

This is the true airspeed in cruise, if available. Higher speed might be due to high power output, resulting in high CHT and reduced cylinder life, or possibly operation at higher, more efficient altitudes.

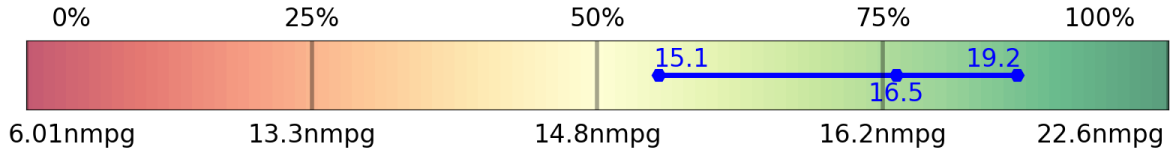


SAVVY SAYS...

Your cruise speed is higher than average when compared with your cohort.

FUEL EFFICIENCY (NM PER GAL.)

Measures your aircraft's fuel efficiency during cruise flight.

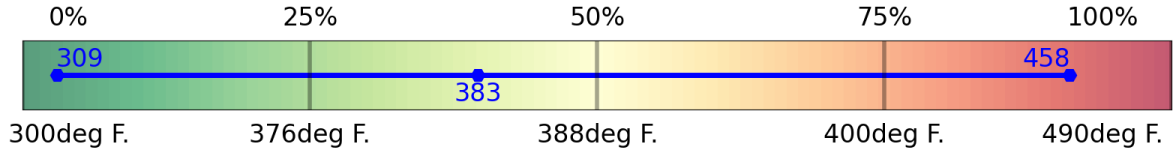


SAVVY SAYS...

Your aircraft's fuel efficiency is excellent.

MAXIMUM CHT DURING FLIGHT (DEG. F.)

Measures the maximum CHT attained during each flight, most likely during climb phase. Prolonged periods of high CHT can contribute to reduced cylinder life.

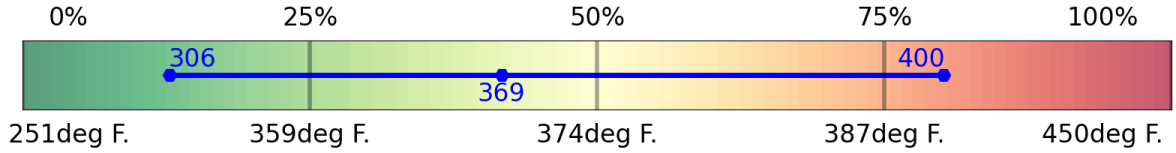


SAVVY SAYS...

Nice. The median of the maximum CHTs attained during your flights has been lower than 60% of the cohort. We think you can expect average longevity of your cylinders if you continue operating with your current power settings.

MAXIMUM CHT IN CRUISE (DEG. F.)

Measures the maximum cylinder head temperature (CHT) during the cruise phase of flight, an indication of the stress placed on your engine's reciprocating components. High CHT correlates with reduced longevity of cylinder assemblies.

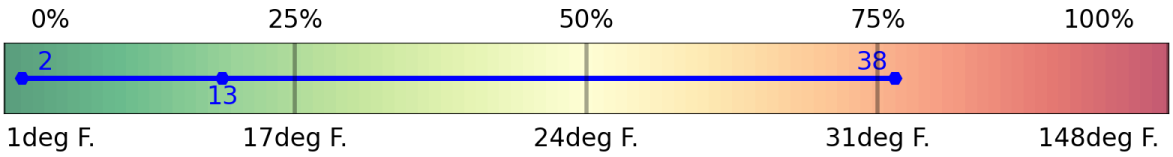


SAVVY SAYS...

Nice. Your cruise CHTs have been moderate, with a median value lower than 58% of the cohort. We think you can expect average longevity of your cylinders if you continue operating with your current leaning procedures and/or power settings.

MAXIMIMUM CHT SPREAD IN CRUISE (DEG. F.)

Measures the median temperature spread between your hottest and coolest cylinders at maximum CHT during cruise. The spread is an indication of mixture distribution and the adequacy of cooling airflow to all cylinders.

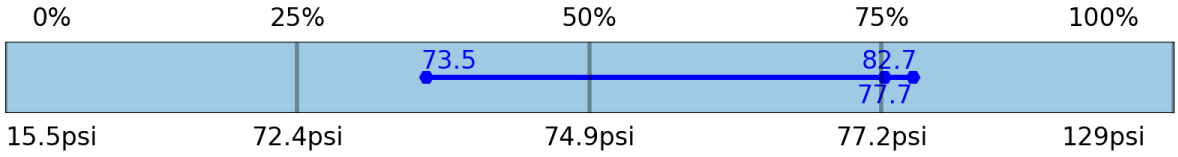


SAVVY SAYS...

The median value of the maximum CHT spread during cruise flights is lower than 88% of the cohort.

OIL PRESSURE IN CRUISE (PSI)

Measures the average oil pressures during cruise for your flights.

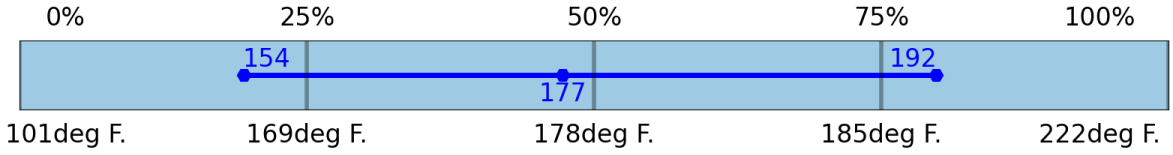


SAVVY SAYS...

Your average oil pressures during cruise have a median value higher than 79% of the cohort. Your oil pressures are in the normal range.

OIL TEMPERATURE IN CRUISE

Measures average oil temperature during cruise.

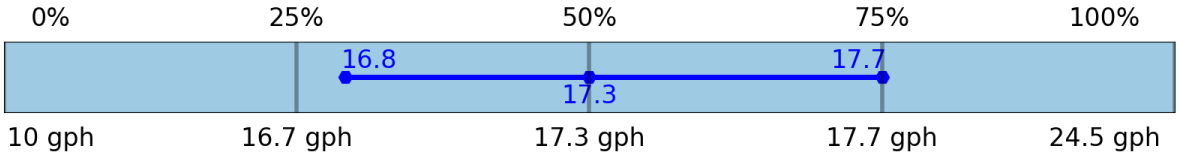


SAVVY SAYS...

The median of your average oil temperatures during cruise are about average when compared with the cohort. Your oil temperatures are in the normal range.

MAXIMUM FUEL FLOW DURING FLIGHT

Measures maximum fuel flow during flight, most likely during takeoff. Sufficient fuel flow is important for proper cylinder cooling during high power operations

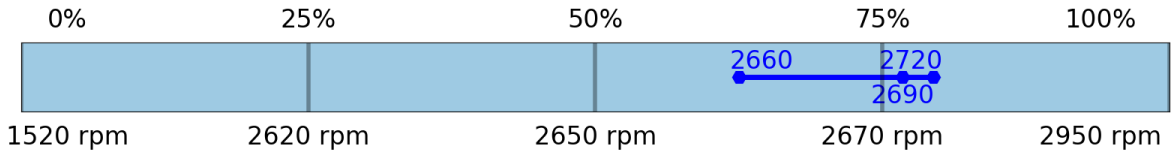


SAVVY SAYS...

Your maximum fuel flow is average when compared with your cohort.

MAXIMUM RPM DURING FLIGHT

Measures maximum rpm during flight, most likely during takeoff. Maximum permitted RPM is necessary for the engine to develop full rated power during takeoff and in initial climb.

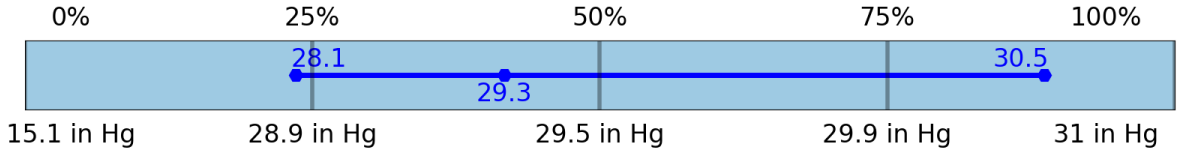


SAVVY SAYS...

Your maximum RPM is higher than average when compared with your cohort.

MAXIMUM MAP DURING FLIGHT

Measures maximum manifold pressure during flight, most likely during takeoff. Sufficient MAP, not to exceed redline, is necessary for the engine to develop full rated power during takoff and initial climb

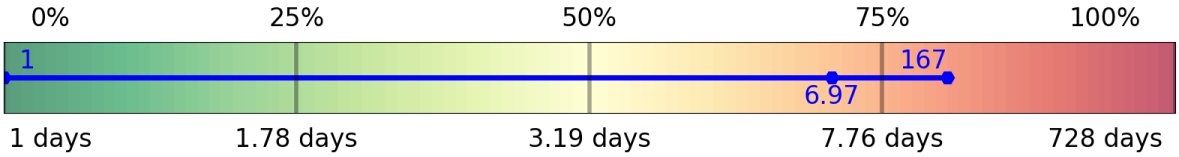


SAVVY SAYS...

Your maximum MAP is average when compared with your cohort.

INACTIVITY PERIODS (DAYS)

Measures the number of days your aircraft was inactive between flights. Inactivity can contribute to engine corrosion and reduced life of engine components.

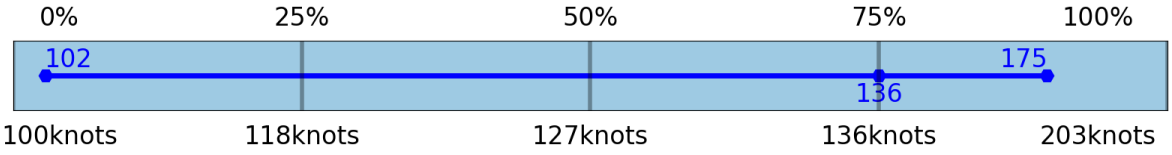


SAVVY SAYS...

Your engine has been inactive for periods of time longer than average. Savvy recommends flying more frequently.

GROUND SPEED

This is the ground speed during cruise, if available. For a given true airspeed, higher ground speeds are a result of operating with more favorable winds.



SAVVY SAYS...

Your ground speed is higher than average when compared with your cohort.

For more information about the contents of this SavvyAnalysis Report Card and how to interpret it, see our FAQ page.
If you have questions or comments, please let us know.