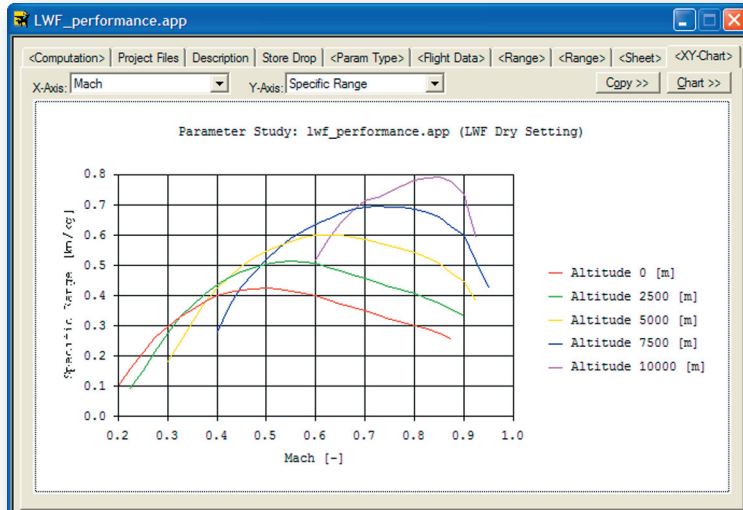## Aircraft Performance Program

(APP) was created in 1981, by ALR Aerospace, in association with RUAG Aerospace Defence Technology, as a unique aircraft performance and preliminary design analysis program, using their own design activity of fighters, trainers and light aircraft. APP has since evolved into an aircraft performance analysis tool, unlike anything available in the industry today!

APP computes the complete range of performance parameters over a user-specified range of altitudes, speeds and other variables. The program is designed for simplicity and flexibility in its use and provides the user with useful quick-look (evaluate) functions for the examination of a wide variety of data (e.g. thrust, fuel flow, lift, drag, SEP, turn rate, etc.)

APP will compute most mission profiles based on defined mission specifications. The types of mission flight phases (takeoff, climb, cruise, loiter, descent, etc.) are suitable for civil and military aircraft. Due to its modular design, APP can be used for nearly all flying vehicles, including Military and Commercial aircraft, UAVs, Turboprops, Gliders, Trainers, Business Jets and General Aviation Aircraft.
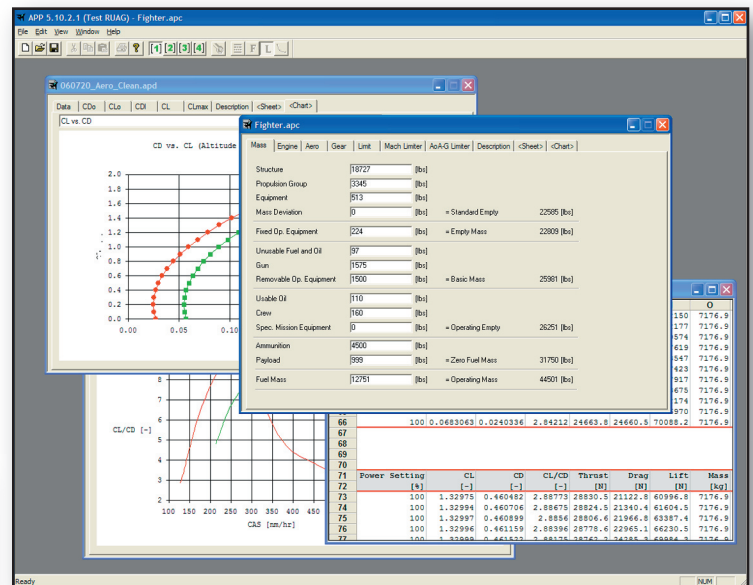
Whether you need to evaluate and compare turn rate of different fighter aircraft, analyze the most efficient cruise conditions of a transport, or the best glide ratio of a powerless glider – due to its optimized numerical capabilities, the program solves performance calculations within seconds. At any time during input and output of data, the user is able to toggle between metric and imperial units. This feature allows a rapid conversion of results into either system of units.

For performance and mission evaluation, more than 60 output parameters are available. The output format can be changed without re-computation. Charts and spreadsheets may be copied directly into any Microsoft document or saved to file. For increased flexibility, the spreadsheets are compatible with MS Excel file format.
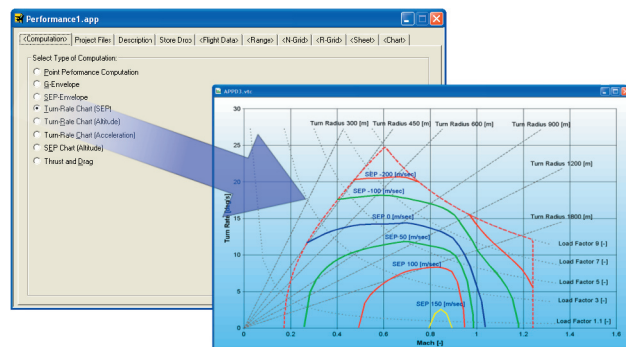
POINT PERFORMANCE

· Acceleration
· Climb
· Cruise
· Maneuver
· Maximum Speed
· Stall Speed
· Specific Excess Power (SEP)
· Takeoff Acceleration

MISSION OPTIMIZER

· Range Optimization
· Endurance Optimization
· Radius of Action

STANDARD PERFORMANCE CHARTS

· Sustained Load Factor Envelope
· Turn Rate at Constant SEP
· Turn Rate at Constant Altitude
· Turn Rate at Constant Acceleration
· Specific Excess Power Chart
· Thrust & Drag Chart

MISSION PERFORMANCE

· Acceleration
· Climb
· Climb at Best Angle
· Climb at Best Rate
· Climb at CAS
· Climb at EAS
· Climb at Constant Mach
· Cruise at Best SR Cruise at Mach
· Cruise at Optimum Altitude & Mach
· Deceleration
· Descent
· Descent at No Credit
· Energy Exchange
· Ground Operation
· Initial Settings
· Landing Roll
· Loiter
· Loiter at best FF
· Maneuver at Constant Load Factor
· Maneuver at Maximum Load Factor
· Refuel
· Reset Mach
· Reset Altitude
· Store Drop
· Take-off
· Tank Drop

Aircraft Performance Program is a valuable tool for small design teams and large aerospace companies. The latter will find it effective for producing quick assessments without having to resort to their own large, but very expensive, computer programs. Operators, research establishments, universities, government agencies and air forces will use it as a very cost-effective tool by avoiding expensive and lengthy subcontracting in many phases of their work. APP is the perfect solution for:

· Practical and theoretical performance analysis
· Concept development and detail design
· Competitor performance analysis
· Flight test and Certification support
· Flight handbooks, Performance and Marketing brochures
· University teaching and instruction

DARcorporation offers commercial and educational license pricing of Aircraft Performance Program (APP). We also offer a limited time version of APP for trial use and evaluation.