

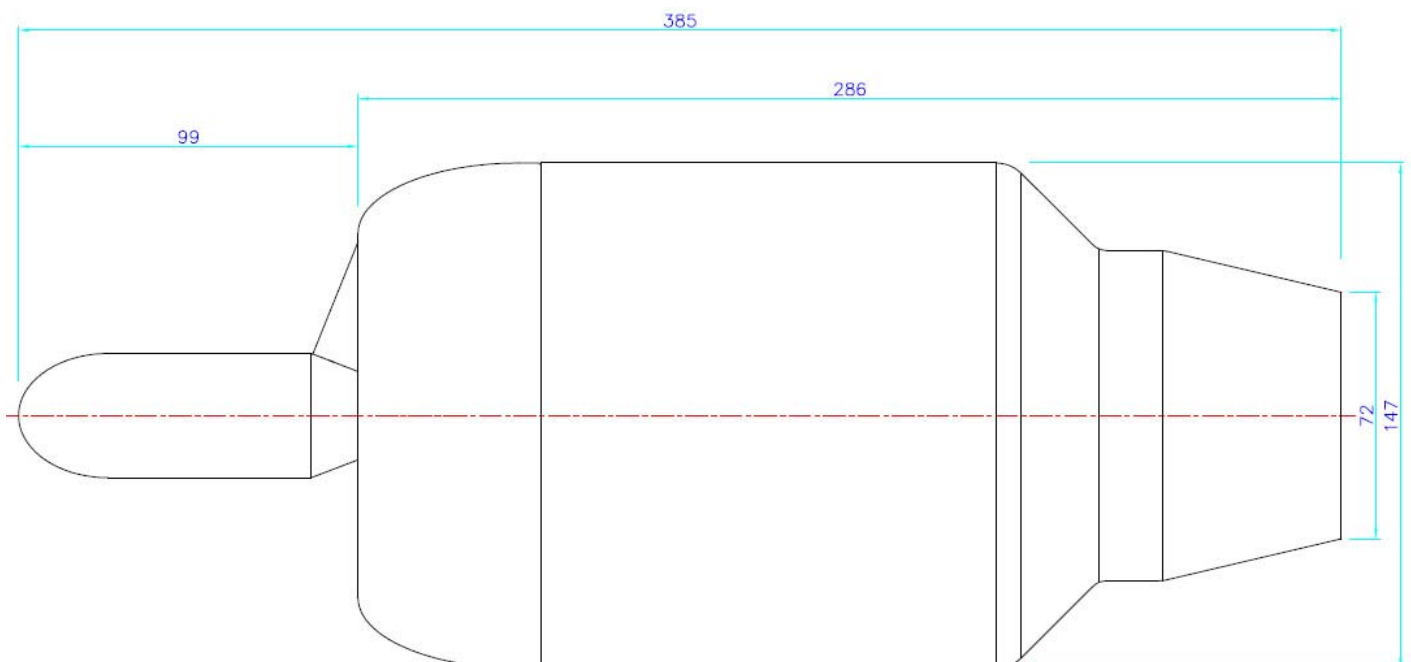
Date 15-05-2008

## Mk-6 400N UAV gas-turbine.

Diameter	147 mm	5.8 inch
Length air-start	268 mm	10.5 inch
Length electric-start	385 mm	15.1 inch
Turbine weight air-start	2975 gram	6.6 inch
Turbine weight electric-start	3350 gram	7.4 inch
System airborne weight air-start *	4200 gram	9.3 Lbs
System airborne weight electric-start *	4575 gram	10 Lbs
Thrust @ max. rpm	392 N	88.2 Lbf
Thrust @ min. rpm	13 N	2.9 Lbf
Maximum RPM	95,000	95.000
Idle RPM	30,000	30.000
Pressure ratio @ max. rpm	3,8 :1	3.8 : 1
Mass flow @ max. rpm	660 gr/sec.	1.46 Lb/sec
Normal EGT	700 C	1290 F
Maximum EGT	750 C	1382 F
Fuel consumption @ max. rpm	1120 gr/min.	39,5 oz/min
Fuel	JP-4/petroleum/Jet A1	
Oil	4,5% aeroshell 500 mixed with fuel.	

\* The system airborne weight includes engine, ECU, pump, battery, thermo sensor and mounting straps.

All data at STP      **S.T.P.**            : Standard Temp. & Pressure  
 Temperature        : 15 Degrees Celsius / 59 Degrees Fahrenheit  
 Pressure             : 1013 Mbar / 29.91 in



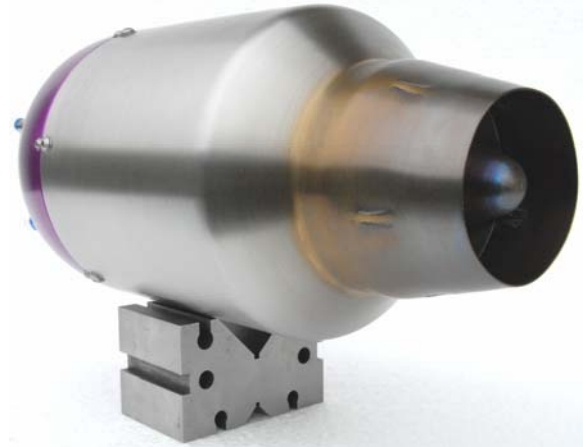
## Description of the Mk-6 400N UAV Electric start gas turbine

The Titan has been constructed from a single radial compressor and an axial flow turbine stage. The UAV turbine owes much of its excellent performance and superb power/weight ratio to a new design diffuser. This revolutionary type of diffuser also allows the relative small engine diameter.

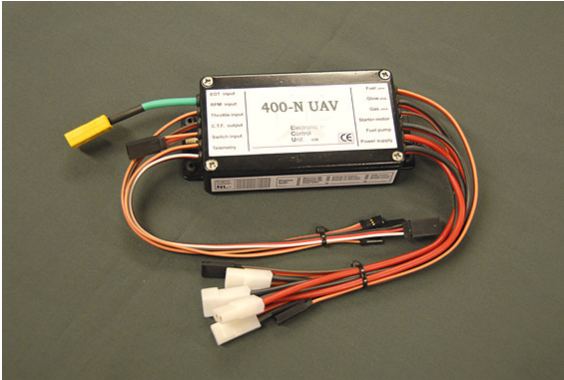
The time required for the Titan to spool up and down is also positively influenced by the low mass of the axial turbine wheel, taking less than 4 seconds from min. to max. rpm and only 3 seconds from max. rpm to min. rpm.

The combustion chamber is of the annular type, which is fitted with a unique "low pressure" fuel system. Both the front and the rear hybrid bearings are lubricated and cooled by the fuel system, and therefore the motor requires no separate lubrication system or oil tank.

The turbine is protected from misuse and accidental damage by means of a microprocessor based controller (ECU) which regulates operation of the engine within pre programmed software limits. The ECU is fully automatic and needs no adjustment by the operator.



## Version 2b ECU ( Fully automatic E-Start and Airstart )



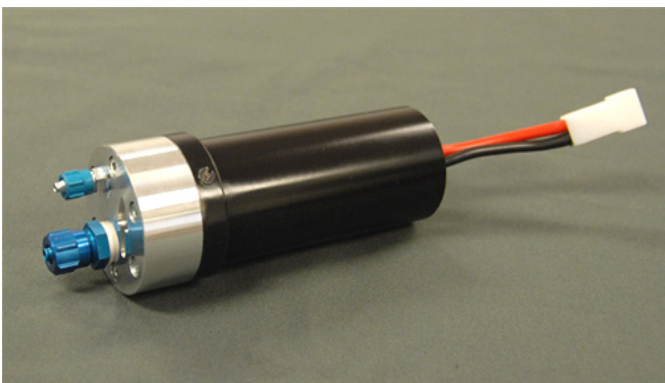
### Features:

- \* One or Two channel operation.
- \* ECU works at 12 volt supply voltage.
- \* Output for fuel solenoid valve.
- \* Output for propane solenoid valve.
- \* Output for glowplug.
- \* Output for E-starter or valve for full automatic airstart.
- \* Log file of last 22 min, of run @ 1 seconds interval.(V29)

### Logged is:

- > RPM of shaft.
- > Exhaust Gas Temperature.
- > Throttle channel.
- > Switch channel, or throttle trim @ single channel operation.
- > Fail save condition if occurred.
- > Number of fail safes during last engine run.
- > Supply voltage of ECU.
- > Pump voltage.
- > Status of ECU (e.g. started up, max RPM set, error messages)
- \* At error, last 8 sec. log is available in 0.2 seconds intervals.
- \* Serial 2400 Baud, rs232 level output.
- \* Capable of driving Automatic Startup Unit.
- \* Weight 350 gram / 12,3 oz.
- \* Fuzzy logic software, for fastest possible throttle response.
- \* No adjustments needed.
- \* Ridged aluminium ECU housing.
- \* All high quality cables with gold plated connectors.
- \* Standard "K type" EGT probe connector.
- \* Own design ECU.

## 400-N UAV turbine fuel pump



High-tech kerosene fuel pump with high flexible cable and gold plated connector.

The input side has a FESTO PP4 connector, the pressure side a FESTO PP3 connector, flow direction is marked with an arrow on the front side of the pump.

The fuel pump has a fully enclosed aluminium housing, EMC is internally suppressed with capacitors for a minimum of interference.

In a engine set the fuel pump has a serial number the same as the turbine, weight of fuel pump is 460 Gram / 16,2 oz.

All specifications are subject to change without notice.

For latest information, contact **Jet Aero Modelling, Inc.** or visit <http://www.jetaero.com>