

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION TYPE CERTIFICATE DATA SHEET E00052EN	TCDS NUMBER E00052EN REVISION: ORIGINAL DATE: DECEMBER 21, 1995 HAMILTON STANDARD MODELS: FV4000-2TC
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Engines of models described herein conforming with this data sheet (which is part of Type Certificate Number E00052EN) and other approved data on file with the Federal Aviation Administration, meet the minimum standards for use in certificated aircraft in accordance with pertinent aircraft data sheets and applicable portions of the Federal Aviation Regulations, provided they are installed, operated, and maintained as prescribed by the approved manufacturer's manuals and other approved instructions.

TYPE CERTIFICATE (TC) HOLDER: Hamilton Standard Division  
 United Technologies Corporation  
 One Hamilton Road  
 Windsor Locks, CT 06096-1010

1. MODELS	FV4000-2TC		
TYPE	An eight cylinder reciprocating engine configured in a V-8 block with a geared propeller drive system on the forward end and an accessory drive system on the aft end. The engine incorporates dual overhead camshafts, four valves per cylinder, a dual channel full authority digital engine control, and liquid cooling.		
RATINGS (U.S. Standard Atmosphere at Sea Level Pressure Altitude)			
Reduction Gear Ratio	0.3846:1		
Max. Continuous and Takeoff HP	360		
Max. Continuous Engine RPM	5200		
Max. Continuous Man. Pr. In. Hg.	43		
Critical Altitude - Ft.	18,000		
FUEL (Aviation Gasoline)	100LL (Blue)		
LUBRICATING OIL (Engine and Turbocharger)	Mobil -1 (SG/CD 5W-30)		
COOLANT	60% LLC/40% water (Toyota Antifreeze-LLC)		
BORE AND STROKE - in.	3.44x3.25		
DISPLACEMENT, cu. in.	242		
COMPRESSION RATIO	9.7:1		
PROPELLER SHAFT	Integral SAE No. 6 flange with six 1/2 inch bolt holes on a 4.75 inch diameter circle		

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**LEGEND: "--" INDICATES "SAME AS PRECEDING MODEL"**  
 "—" NOT APPLICABLE  
**NOTE: SIGNIFICANT CHANGES ARE BLACK-LINED IN THE LEFT MARGIN.**

I. MODELS (cont.)	FV4000-2TC		
IGNITION-Electronic Engine Control (EEC)	Ignition, fuel injection, and wastegate are controlled by EEC300, EEC300 is a full authority digital engine control (FADEC).		
TIMING	Variable, controlled by EEC300		
SPARK PLUGS	One per cylinder (eight cylinders)		
OIL SUMP CAPACITY, Qts. (Drain & Refill)	7.0 - full level horizontal, attitude range is 30° nose up and 17.5° nose down.		
PRINCIPAL DIMENSTIONS (in)	Refer to HS dwg 817450		
WEIGHT (lbs) (Dry, no oil and no coolant) Includes basic engine, reduction gearbox, turbochargers, intercoolers, throttle, PRCV, waste gate valve (WGV), WGV actuator, WGV control cable, scavenging pump, alternators, engine mount brackets, starter	520		

CENTER OF GRAVITY LOCATIONS (in)

Refer to HS dwg. 817450.

CERTIFICATION BASIS

Federal Aviation Regulations (FAR) Part 33, effective February 1, 1965, and Amendments 33-1 to 33-15, inclusive.

TYPE CERTIFICATE E00052EN

MODELS	APPLICATION DATE	ISSUED/AMENDED
FV4000-2TC	March 17, 1993	December 21, 1995

PRODUCTION BASIS

Production Certificate No. TBD

**NOTES**

NOTE 1. MAXIMUM PERMISSIBLE TEMPERATURES:  
 Engine Coolant 212°F  
 Engine Oil 230°F  
 Exhaust Gas Turbocharger Inlet 1562°F  
 Temperature (T.I.T.)

NOTE 2. FUEL & OIL PRESSURE LIMITS  
 Pressure difference between fuel pressure regulator and intake manifold pressure 42-52 psi  
 Engine Oil Pressure Limits Idle - 11 psig (minimum)  
 Max 100 psig

NOTE 3. The following accessory drive or mounting provisions are available:

Accessory	Direction of Rotation*	Gear Ratio to Crankshaft	Max Weight (lbs)	Max Torque Continuous (in-lbs)	Maximum Overhung Moment (in-lbs)
Freon Compressor	CW	NA	15.5	94.6	40
Propeller Gov.**	CCW	.5:1	9.8	100	40
Accessory Drives (2)**	CW	.5:1	10.6	95.8	40
	* "CW" - Clockwise and "CCW" - Counterclockwise (Viewing Engine Drive Pad)				
	** These drives shall be supplied with covers.				

NOTE 4. The Installation Manual for the FV4000-2TC Engine System contains the requirements for installation of the FV4000-2TC engine system. All limitations and requirements must be followed to ensure safety.

NOTE 5. The Operation Manual for the FV4000-2TC Engine System contains the requirements for operating the FV4000-2TC engine system. All limitations and requirements must be followed to ensure safety.

NOTE 6. Specified Fuel Consumption:  
 - Rated max continuous and takeoff HP = .502 lbs/hp-hr. This is at 5200 rpm.  
 - Maximum best economy cruise at 4400 rpm = .382 lbs/hp-hr.

NOTE 7. Oil consumption = 2-3.4 oz/hr. This is an average value over 800 hours of operation.

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