DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

E00013LA
Revision 1

HONEYWELL

HTS900-2-1D

April 6, 2011

TYPE CERTIFICATE DATA SHEET NO. E00013LA

Engines of models described herein conforming with this data sheet (which is part of Type Certification No. E00013LA) 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 FAA approved manufacturer's manual and other FAA approved instructions.

TYPE CERTIFICATE (TC) HOLDER: Honeywell International Inc.
111 South 34th Street
Phoenix, AZ 85034

I. MODELS	**HTS900-2-1D**			
TYPE	Free turbine turboshaft engine; two-stage centrifugal compressor; reverse-flow annular combustor; single-stage gas producer turbine; single-stage power turbine; front-mounted accessory/reduction gearbox.			
RATINGS (See NOTE 1) Maximum Continuous Output shaft horsepower, SHP Output shaft speed, rpm Takeoff (5 minute) Output shaft horsepower, SHP Output shaft speed, rpm	 757 6,317 820 6,317			
REDUCTION GEAR RATIO (Output shaft speed to power turbine speed)	0.1654			
CONTROL SYSTEM	The full-authority digital engine control (FADEC) system features a dual-channel electronic control unit (ECU) with an electromechanical manual mode backup, a fuel metering unit (FMU), harnesses, and sensors. Engine operation and condition are monitored through speed sensors mounted on the accessory/reduction gearbox, twelve measured gas temperature (MGT) thermocouples located between the gas producer turbine and the power turbine, and a hydromechanical torquemeter internal to the gearbox.			
FUEL	Refer to the engine installation manual for approved fuel types, limitations on their use and approved fuel additives. (see NOTE 11)			
OIL	Refer to the engine installation manual for approved oil types and brands. Installation of the engine must include a full flow scavenge oil strainer and chip detector. (see NOTE 11)			

LEGEND: "- -" INDICATES "SAME AS PRECEDING MODEL"
"---" INDICATES "DOES NOT APPLY"
NOTICE: SIGNIFICANT CHANGES ARE BLACK LINED IN THE LEFT MARGIN

I. MODELS	HTS900-2-1D			
PRINCIPAL DIMENSIONS & C.G. LOCATION	Refer to engine installation manual. (see NOTE 11)			
WEIGHT (Dry), lb. (Includes standard equipment listed in the engine installation manual)	338			

CERTIFICATION BASIS: Title 14 Code of Federal Regulations (CFR) part 33 effective February 1, 1965, as amended by 33-1 through 33-20, effective December 13, 2000.

MODEL	APPLICATION DATE	TYPE CERTIFICATE ISSUED / AMENDED
HTS900-2-1D	November 17, 2005	December 23, 2008

PRODUCTION BASIS: Production Certificate No. 413NM, reissued on January 25, 2000, to Honeywell International Inc.

NOTES

NOTE 1: Engine ratings are based on calibrated stand performance under the following conditions:
Static sea level conditions at 59 °F and 29.92 in. Hg.
No inlet loss, bleed air extraction or customer power extraction.
Reference exhaust duct as specified in the engine installation manual.

NOTE 2: Temperature Limits:

	HTS900-2-1D			
MEASURED GAS TEMPERATURE, °F (°C) as transmitted by the FADEC for display in the cockpit.				
Maximum Continuous Takeoff (5 minute) Transient (15 seconds) Starting	1,652 (900) 1,757 (958) 1,790 (977) 1,790 (977)			
OIL TEMPERATURE, °F (°C) measured at oil temperature bulb.				
Minimum for engine starting Minimum for operation above ground idle Minimum for operation above flight idle Maximum	Refer to engine installation manual 50 (10) 150 (66) 230 (110)			
FUEL TEMPERATURE	Refer to engine installation manual for starting and operating fuel inlet temperature limitations. (see NOTE 11)			
COMPONENT TEMPERATURE	Refer to the installation manual for external component temperature limits. (see NOTE 11)			

NOTE 3: Operating Speed Limits:

	HTS900-2-1D			
GAS PRODUCER SPEED, rpm as transmitted by the FADEC for display in the cockpit (100% = 47,870 rpm)				
Maximum Continuous Takeoff (5 minute) Transient (15 seconds)	48,410 49,570 49,980			
OUTPUT SHAFT SPEED, rpm as transmitted by the FADEC for display in the cockpit (100% = 6,317 rpm)				
Minimum governed speed Maximum Continuous Takeoff (5 minute) Transient (15 seconds)	6,000 6,633 6,633 7,265			

NOTE 4: Torque Limits:

	HTS900-2-1D			
OUTPUT SHAFT TORQUE, lb-ft as transmitted by the FADEC for display in the cockpit (100% = 629 lb-ft)				
Maximum Continuous Takeoff (5 minute) Transient (15 seconds)	629 682 760			

NOTE 5: Fuel and Oil Pressure Limits:

	HTS900-2-1D			
FUEL INLET PRESSURE	Minimum fuel inlet pressure limits vary with fuel type, temperature and ambient conditions. Refer to the engine installation manual (see NOTE 11).			
Maximum (psig)	50			
OIL PRESSURE	Oil pressure limits vary with gas producer speed (NG) and oil temperature. Refer to the engine installation manual (see NOTE 11).			

NOTE 6: Accessory Drive Provisions:

Drive Pad	**Drive Type**	**Speed Ratio**	**Rotating (Facing Pad)**	**Maximum Continuous Extraction (7,000 rpm to maximum pad speed)**	**Maximum Transient Extraction (7,000 rpm to maximum pad speed)**	**Maximum Torque During Starts**	**Maximum Shear Torque of Mounted Accessory**
Starter/ generator	AND20001 XIA (modified) *	0.2512 NG, 12,025 rpm at 100%	CW	10.9 hp, except above 20,000 ft. altitude per operating limits in the engine installation manual	16.5 hp (2-min.)** 21.8 hp (5-sec.)**	500 in-lbf	1,100 in-lbf
Auxiliary generator / alternator	AND20002 XIIA (modified)*	0.3265 NP, 12,472 rpm at 100%	CW	10.9 hp	16.5 hp (2-min.) 21.8 hp (5-sec.)	N/A	1,100 in-lbf

CW = Clockwise NG = Gas producer speed NP = Power turbine speed

* Limit pad speed and maximum loads modified. Refer to specification AND20001 Rev. 2, Drive – Type XI Engine Accessory, controlled by Army – Aviation Missile Command, and specification AND20002 Rev. 3, Drive – Type XII Engine Accessory, controlled by Air Force Material Command Logistics Support. Engine installation manual includes drive pad mounting limits and pad definition. (see NOTE 11)

** Engine operation with starter/generator pad power extraction in excess of the maximum continuous value has not been verified to be surge free.

NOTE 7: Maximum permissible bleed air extraction at the customer bleed port is 5% of inlet airflow.

NOTE 8: The engine complies with induction system icing and the ice ingestion requirements of 14 CFR §§ 33.68 and 33.77, provided that the applicable airframe inlet screens, filters, particle separators, and bypass systems are sized to prevent the passage of objects greater than 0.50 inch diameter. Details of the ice ingestion limits based on engine type certification testing are defined in the engine installation manual. (see NOTE 11)

NOTE 9: Certain engine parts are life-limited and the limits are included in the engine Light Maintenance Manual, Airworthiness Limitations Section.

NOTE 10: Recommended engine inspection intervals are included in the engine Light Maintenance Manual.

NOTE 11: For additional performance, authorized operation and detailed installation information, refer to the FAA approved sections of the engine installation manual as follows:

Models	Engine Installation Manual
HTS900-2-1D	IM-8028

NOTE 12: Deleted (Rev 1)

NOTE 13: As provided for in 14 CFR §§ 33.76, 33.78, the engine has not been tested to evaluate the effects of bird and hailstone ingestion. The bird and hailstone ingestion characteristics of the airframe air inlet and engine combination are to be evaluated prior to approval of the engine installation.

...END...