FED SUP CLASS. 2520

OUTPUT RATING FOR 40 KVA POWER SYSTEM @ 0.9 P.F.

INPUT SPEED RANGE MIN-MAX RATED, RPM	STEADY-STATE, OUTPUT, RPM	HORSEPOWER	TORQUE @5700 RPM LB.IN	DUTY (1000 Hrs.)
2100-8500	6000 ± 15	63	700	Continuous
2100-8500	6000 ± 15	96	1060	5 Minutes (1 per hour)
2100-8500	6000 ± 15	132	1460	5 Seconds (1 per 10hours)
2625-8500	6000 ± 300	190	2100	5 Seconds(1 per 100hours)

DIMENSIONS: (ENGINE PAD MOUNTED)

LENGTH, Maximum, Inches	10
DIAMETER, Maximum, Inches	11
RADIUS, UNIT MOUNTED CONTROLS, MAXIMUM	7.75
SECTOR, UNIT MOUNTED CONTROLS, MAXIMUM, DEGREES	80

INPUT FLANGE (TO MATE WITH DEPTH OF PILOT CAVITY OF AS470 PAD) AND 10266 TYPE XVI A (MODIFIED)
OUTPUT PAD (WITH DEPTH OF PILOT CAVITY OF AS470 PAD) AND 20006 TYPE XVI B (MODIFIED)
SPLINE P.D., Inches 1.200

MILITARY PART NO. MS-25341

CHARACTERISTICS

Polar Moment of Inertia (driven generator) Range, Lb.Ft²	1.0-2.0
Efficiency over Rated Input Speed Range @ Continuous Rated Load, Minimum, Percent	85
Weight, (engine mounted components), Maximum, Lbs.	75
Audio Noise, Maximum above 90 DB Level, db	5
Over Speed, Minimum, RPM	10,000

NOTES:

1. The transmission system shall include all components and accessories to obtain the performance within the requirements of MIL-T-7101 A(Aer) and this drawing. The design criteria for filters, fluid, reservoir, and cooler shall be provided by the drive manufacturer subject to approval of the procuring agency for aircraft installations. The weight of the components and accessories other than the engine mounted components, shall be listed separately.

2. A remote electrical junction box, if employed for the control system including paralleling, shall not exceed 5X7X10 inches.

3. The shear value of the input shaft shall not exceed 6000 inch pounds. Decoupling and over running clutch for paralleling shall be provided subject to approval of the procuring agency.

4. Maximum acceleration and decelerating rates shall be 1200 rpm per second for Speed stability, Paragraph 4.6.13.1 and Paragraph 4.6.16.2 of Spec. MIL-T-7101 A(Aer).

5. During paralleling, load division shall not exceed 10% of the transmission rating above or below its normal share of the connected load.

6. This transmission is intended primarily for driving a 40 KVA generator at constant speed over its rated input speed range when installed on aircraft engines with speed ranges within the transmission speed range.

(A)

CANCELED AFTER 4 May 1971 NO SUPERSEDING STANDARD.

THIS DOCUMENT HAS BEEN PROMULGATED BY THE DEPARTMENT OF DEFENSE AS THE MILITARY STANDARD TO LIMIT THE SELECTION OF THE ITEM, PRODUCT, OR DESIGN COVERED HEREIN IN ENGINEERING, DESIGN, AND PROCUREMENT. THIS STANDARD SHALL BECOME EFFECTIVE NOT LATER THAN 90 DAYS AFTER THE LATEST DATE OF APPROVAL SHOWN.

APPROVED / Aug 1958 REVISED (A) 4 May 71

CUSTODIANS	OTHER INT.	MILITARY STANDARD	MS25341 (AER)
Navy - BuAer [redacted]	A - N - AF -	TRANSMISSION, POWER, CONSTANT SPEED - 40 KVA	
PROCUREMENT SPECIFICATION MIL-T-7101A(AER)	SUPERSEDES:		SHEET 1 OF 2

DD FORM 672-1
1 OCT 52

SUPPLEMENT TO SPECIFICATION
MIL-T-7101A(AER)

A. Overspeed Protection - The transmission system shall provide a reliable overspeed device which will automatically prevent the output speed from exceeding 115% of the rated ouput speed in event of malfunction of the normal governing controls. The overspeed device shall reduce the output speed to that attainable at the lowest speed reducing ratio of the transmission and shall hold that ratio until reset by other means, subject to approval by the procuring agency.

B. Lubricating and Cooling System - The transmission shall include a lubrication system for use with an independent oil supply, at the maximum continuous and intermittent temperatures under the operating conditions specified for satisfactory filtering, lubrication and cooling of the transmission system.

C. Par. 3.2.2 - Temperture. - The transmission design shall be capable of continuous operation with lubricant and coolant temperatures from (-55°C)-67°F to (150°C) 302°F, and intermittent 15 minute periods of 1 per 5 hours operation up to (185°C) 365°F. Ambient air temperature and altitude curve, MS33542, shall be used in lieu of Figure 1 of MIL-T-7101A(Aer).

D. Par. 4.6.2.1, 4.6.11c 4.6.12a - High temperature tests shall be run after a 5 hour (150°C) 302°F soak temperature followed by high temperature tests not to exceed (185°C) 365°F for a minimum of two hours.

E. Par. 3.3.3 - Fluids and lubricants.- The maximum continuous inlet oil temperatures shall be (150°C) 302°F with intermittent temperatures up to (185°C) 365°F.

F. Par. 3.2.7 - Operating Position.- The transmission when mounted with the rotational axis in a horizontal position shall be capable of satisfactory operation through aircraft maneuvers as follows: (a) Level position with the transmission inclined 20 degrees to either side; (b) Zero to 30 degrees diving angle with up to 10 degrees inclination on either side; (c) 31 to 90 degrees diving angle with up to 10 degrees inclination on either side for period of 60 seconds; (d) Zero to 45 degrees climbing angle with up to 10 degrees inclination on either side; (e) 46 to 90 degrees climbing angle with up to 10 degrees inclination to either side for a period of 60 seconds; (f) negative "g" and/or inverted flight operation for 60 seconds.

G. Par. 4.6.21 - Operating Position.- Delete last sentence and add "Full operating life shall be obtainable with the rotating axis normally mounted in a horizontal position including normal flight maneuvers" (described above in Par. F).

H. Par. 3.3.4 - Mounting Positions- When not flange mounted, mounting provisions shall be as approved by the procuring agency.

I. Par. 3.3.10 - Direction of Input Rotation.- The transmission design shall provide for operation when the input is driven in either direction of rotation with an interchange of such components as the over running clutch, thruster, and fluid lubrication pump. Clockwise output rotation need not be maintained in both conditions.

J. Par. 3.3.12 - Speed Adjustments.- No speed adjustments shall be required for life of drive. Speed adjustments shall not be readily accessible.

K. Par. 4.6.13 - Stability.- During speed and load stability tests the output speed shall not deviate from the steady state value by more than ± 4% and shall return to ± 1% of the steady state value within 0.6 second and ± 1/2% of steady state value within 1 second from the moment of application of speed or load changes.

L. Par. 4.6.16.2 - Angular Acceleration.- The maximum rate of acceleration shall be 1200 rpm per second in lieu of 1000 rpm per second for Jet engines (3000 rpm for reciprocating engines.)

M. Par. 4.6.20 - Altitude Performance.- Ambient air temperature and altitude curve, MS33542 shall be applicable for altitude performance requirements in lieu of Figure 1 of MIL-T-7101A(Aer).

N. Reverse Rotation - Unit shall be capable of operation with reverse input rotation without damage to the unit.

O. Generator Oil Cooling- Unit shall be capable of providing cooling fluid to the driven generator.

P. Starting losses - Losses with no load applied to the driven generator shall not exceed 6 horsepower.

Q. Alternate Output Pad - An alternate output pad design shall be provided for a single bearing generators subject to approval by the procuring agency.

APPROVED 1 Aug 1950 REVISED (A) CANCELED SEE SHEET 1

THIS DOCUMENT HAS BEEN PROMULGATED BY THE DEPARTMENT OF DEFENSE AS THE MILITARY STANDARD TO LIMIT THE SELECTION OF THE ITEM, PRODUCT, OR DESIGN COVERED HEREIN IN ENGINEERING, DESIGN, AND PROCUREMENT. THIS STANDARD SHALL BECOME EFFECTIVE NOT LATER THAN 90 DAYS AFTER THE LATEST DATE OF APPROVAL SHOWN.

CUSTODIANS	OTHER INT.	MILITARY STANDARD	MS25341 (AER)
Navy - BuAer [redacted]	A - N - AF -	TRANSMISSION, POWER, CONSTANT SPEED - 40 KVA	
PROCUREMENT SPECIFICATION MIL-T-7101A(AER)		SUPERSEDES:	SHEET 2 OF 2

DD FORM 672-1
1 OCT 52