

BRAZILIAN AIR FORCE <u>AERONAUTICAL AND WARFARE MATERIEL DIRECTORATE</u> SÃO PAULO MAINTENANCE DEPOT

TECHNICAL SPECIFICATIONS nº 003/TMOT/2024

DATE: May 13th, 2024

I. PURPOSE

This Technical Specification (TS) has the purpose to present the collection of necessary and sufficient elements, with an adequate level of accuracy, to define the exchange by Fleet Enhancement Program – FEP of 01 (one) PRATT & WHITNEY PT6A-25C engine. This engine is applied in T-27 TUCANO aircraft, belonging to the fleet of Brazilian Air Force.

II. OBJECT

The exchange by Fleet Enhancement Program – FEP of 01 (one) PRATT & WHITNEY PT6A-25C engine, Serial Number PC-E26324, by a NEW PT6A-25C engine respecting the requirements described on this document.

Some information about the engine currently in the Brazilian Air Force fleet are listed at the table below:

MODEL	PN	SN	TSN	TSO	CYCLES
PT6A-25C	3101200-01	PC-E26324	7148:50	3484:15	7420 CY

III. REASONS FOR REMOVAL

The engine PT6A-25C SN PC-E26324 was removed from the aircraft because of the following reasons:

TBO

IV. ENGINE DATA

1. Life Limited Parts – Service Life Data

The following table shows the number of accumulated cycles (AC Cycles) since new the rotary components of the engine have completed.

			LFC	
COMPONENT	PN	SN	LIMIT	AC CYCLES
Disk	3011713	3Y672	25000	8591
Hub, Compressor, AIRC	3013111	4Y082	19000	8591
Disk and Hub, Compressor,	2012411	YUAA006A655	16000	10808
Aircraft gas Turbine Engine	3013411	TUAAUUGAGSS	16000	10000
Disk, Axial Compress	3013712	6L834	24000	7852
Disk, Turbine, Aircraft gas	3026812	5V641	20000	9755
Turbine Engine	3020012	31041	20000	9 7 55

Impeller	3027798	4D858	19000	8591	

2. Soft Time Accessories Data and Disposition

ACCESSORY	PN	SN	TSN	TSO
Pump, Rotary	025323-101-03	14006	3500:00	2302:25
Bleed-Air	3075033-02	AHX018189	3500:00	357:20
Control, Torque	3244790-2	C23221	4000:00	607:10
Fuel Control, Main,	3244789-1A	A87385	4000:00	193:45
Turbine Engine	3244709-1A	A07303	4000.00	193.43
Governor, Constant Speed	8210-002	1716050	4000:00	3444:00
Drive	0210-002	AC	4000:00	3444.00

V. **ESTIMATED COST**

According to market estimates, the maximum purchase price for the exchange by Fleet Enhancement Program – FEP is US\$777,000.00 (seven hundred and seventy-seven thousand dollars).

VI. TECHINICAL REQUIREMENTS

The engine and all its accessories must be at NEW. It Means that they must have accumulated no more operating hours than those necessary to accomplish their manufacture testing process. The engine and accessories shall not have been used by any previous operator.

The engine must be in airworthiness condition and up to date with respect to the Service Bulletins issued by the manufacturer. At delivery, it must has already undergone the actions to comply with all the applicable Service Bulletins issued so far.

VII. <u>DELIVERY</u>

The engine shall be delivered at the Brazilian Aeronautical Commission in Washington (CABW) warehouse, which address will later be informed, with all caps and covers as per the engine Maintenance Manual, and mounted in the approved P&WC shipping container. The engine must be at a preserved condition considering that it might be stored for over 91 days, in accordance with the requirements of the Maintenance Manual.

VIII. <u>TECHNICAL WARRANTY</u>

The engine shall be subjected to the technical warranty which is either 12 (twelve) months of operation or 1000 (one thousand) operation hours, whichever occurs first.

Pre	pare	ed	by	
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Eder Luiz Da Silva – 1st Lt. QOCon MEC Engine Engineer

Reviewed by:

Carlos César Minoru **Imaniche** – Lt. Col. Eng. Head of Engines Subdivision

Approved by:

Claudomiro **Feltran** Junior — Col. Av. Head of Technical Division



CONTROLE DE ASSINATURAS ELETRÔNICAS DO DOCUMENTO

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BRAZILIAN AIR FORCE <u>AERONAUTICAL AND WARFARE MATERIEL DIRECTORATE</u> SÃO PAULO MAINTENANCE DEPOT

TECHNICAL SPECIFICATIONS nº 002/TMOT/2024

DATE: March 13th, 2024

I. PURPOSE

This Technical Specification (TS) has the purpose to present the collection of necessary and sufficient elements, with an adequate level of accuracy, to define the exchange by Fleet Enhancement Program – FEP of 01 (one) PRATT & WHITNEY PT6A-25C engine. This engine is applied in T-27 TUCANO aircraft, belonging to the fleet of Brazilian Air Force.

II. OBJECT

The exchange by Fleet Enhancement Program – FEP of 01 (one) PRATT & WHITNEY PT6A-25C engine, Serial Number PC-E26130, by a NEW PT6A-25C engine respecting the requirements described on this document.

Some information about the engine currently in the Brazilian Air Force fleet are listed at the table below:

MODEL	PN	SN	TSN	TSO	CYCLES
PT6A-25C	3101200-01	PC-E26130	8513:30	3499:25	8339 CY

III. REASONS FOR REMOVAL

The engine PT6A-25C SN PC-E26130 was removed from the aircraft because of the following reasons:

TBO

IV. ENGINE DATA

1. Life Limited Parts – Service Life Data

The following table shows the number of accumulated cycles (AC Cycles) since new the rotary components of the engine have completed.

			LFC	
COMPONENT	PN	SN	LIMIT	AC CYCLES
Disk	3011713	5P073	25000	15193
Hub, Compressor, AIRC	3013111	RWA00C696	19000	14354
Disk and Hub, Compressor,	2012411	YUAA003A244	16000	2237
Aircraft gas Turbine Engine	3013411	1 UAAUUSA244	10000	2231
Disk, Axial Compress	3013712	9N098	24000	14193
Disk, Turbine, Aircraft gas	2026012	A002H4MD	20000	15354
Turbine Engine	3020012	AUUZH4IVID	20000	15554

Impeller	3027798	2C470	19000	9193
IIIIhellel	3021130	20410	19000	5 5

2. Soft Time Accessories Data and Disposition

ACCESSORY	PN	SN	TSN	TSO
Pump, Rotary	025323-101-03	13205	3500:00	2:50
Valve Assembly, Comp	3100829-03	A8414	1100:00	-18:50
Control, Torque	3244790-1	A87571	4000:00	69:50
Fuel Control, Main,	3244809-8	C26068	2000:00	118:05
Turbine Engine	3244009-0	C20000	2000.00	116.05
Governor, Constant Speed	8210-002	LS02	4000:00	138:00
Drive	0210-002	LSUZ	4000.00	130.00

V. **ESTIMATED COST**

According to market estimates, the maximum purchase price for the exchange by Fleet Enhancement Program – FEP is USD 784,300.00 (seven hundred eighty-four thousand three hundred dollars).

VI. TECHINICAL REQUIREMENTS

The engine and all its accessories must be at NEW. It Means that they must have accumulated no more operating hours than those necessary to accomplish their manufacture testing process. The engine and accessories shall not have been used by any previous operator.

The engine must be in airworthiness condition and up to date with respect to the Service Bulletins issued by the manufacturer. At delivery, it must has already undergone the actions to comply with all the applicable Service Bulletins issued so far.

VII. <u>DELIVERY</u>

The engine shall be delivered at the Brazilian Aeronautical Commission in Washington (CABW) warehouse, which address will later be informed, with all caps and covers as per the engine Maintenance Manual, and mounted in the approved P&WC shipping container. The engine must be at a preserved condition considering that it might be stored for over 91 days, in accordance with the requirements of the Maintenance Manual.

VIII. TECHNICAL WARRANTY

The engine shall be subjected to the technical warranty which is either 12 (twelve) months of operation or 1000 (one thousand) operation hours, whichever occurs first.

Pre	pare	ed	by	
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Eder Luiz Da Silva – 1st Lt. QOCon MEC Engine Engineer

Reviewed by:

Carlos César Minoru **Imaniche** – Lt. Col. Eng. Head of Engines Subdivision

Approved by:

Claudomiro **Feltran** Junior — Col. Av. Head of Technical Division



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Assinado via ASSINATURA CADASTRAL por Cel JANO FERREIRA DOS SANTOS no dia 09/01/2025 às 19: 05:58 no horário oficial de Brasília.