

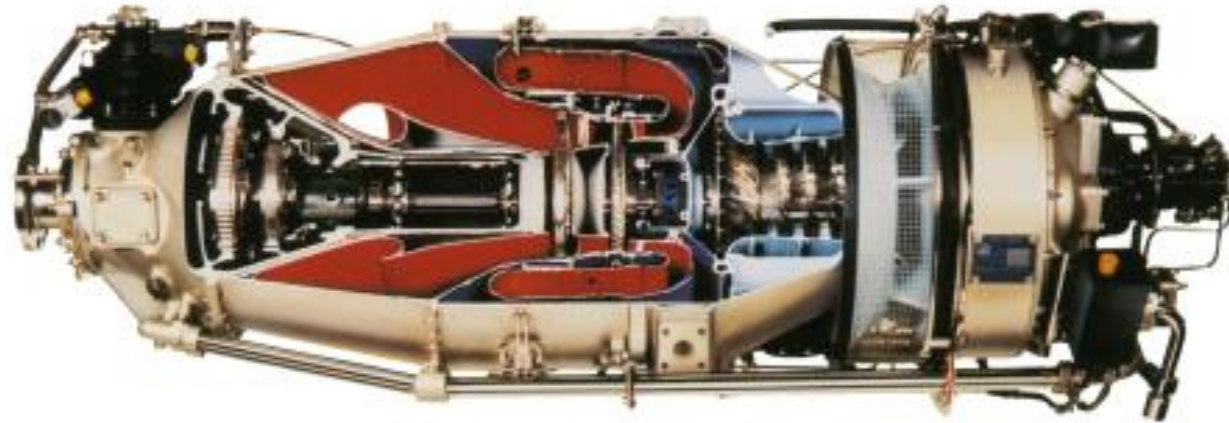
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TECHSAVIATION

Training Center

PT6A Série - Training Manual

72-20-00- AIR INLET SECTION



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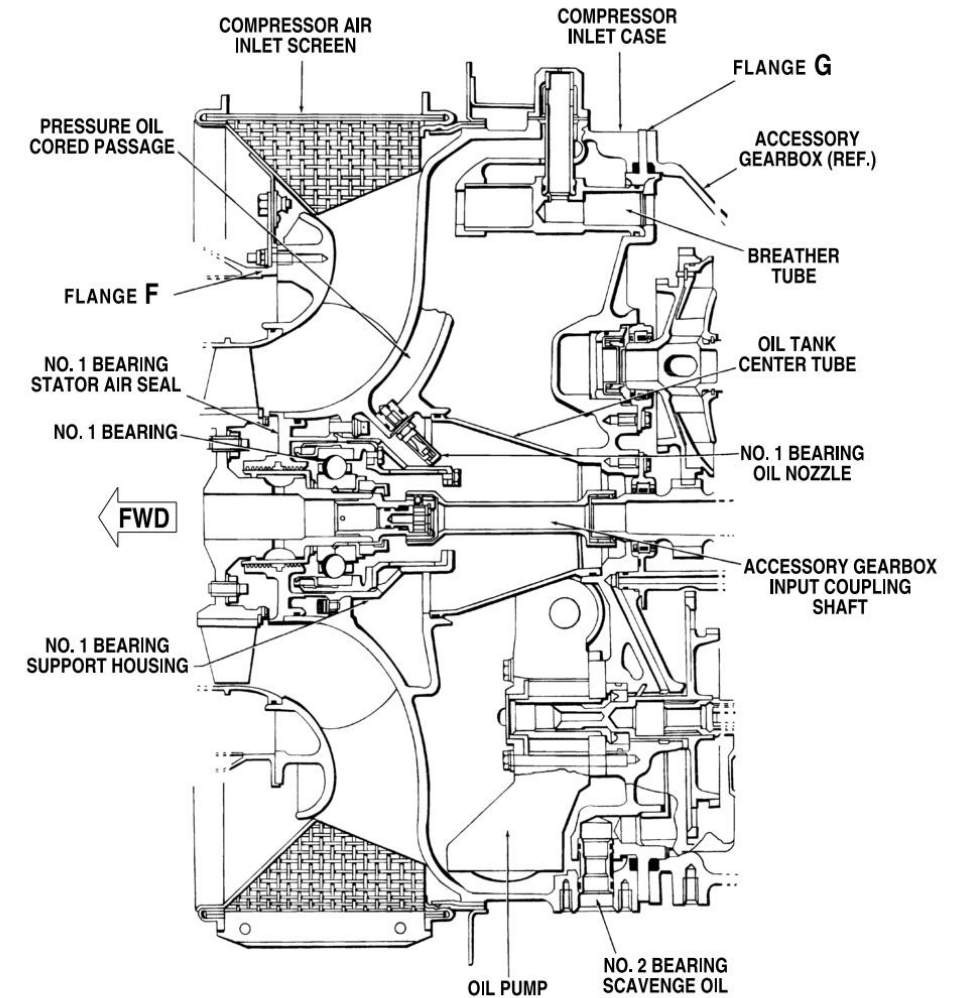
72-20-00- AIR INLET SECTION

AIR INLET SECTION - DESCRIPTION AND OPERATION

General

A. The compressor inlet case is a component of the engine gas generator assembly and directs incoming air to the compressor rotor assembly. An air inlet screen prevents debris entering the compressor inlet.

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72-20-00- AIR INLET SECTION

AIR INLET SECTION - DESCRIPTION AND OPERATION

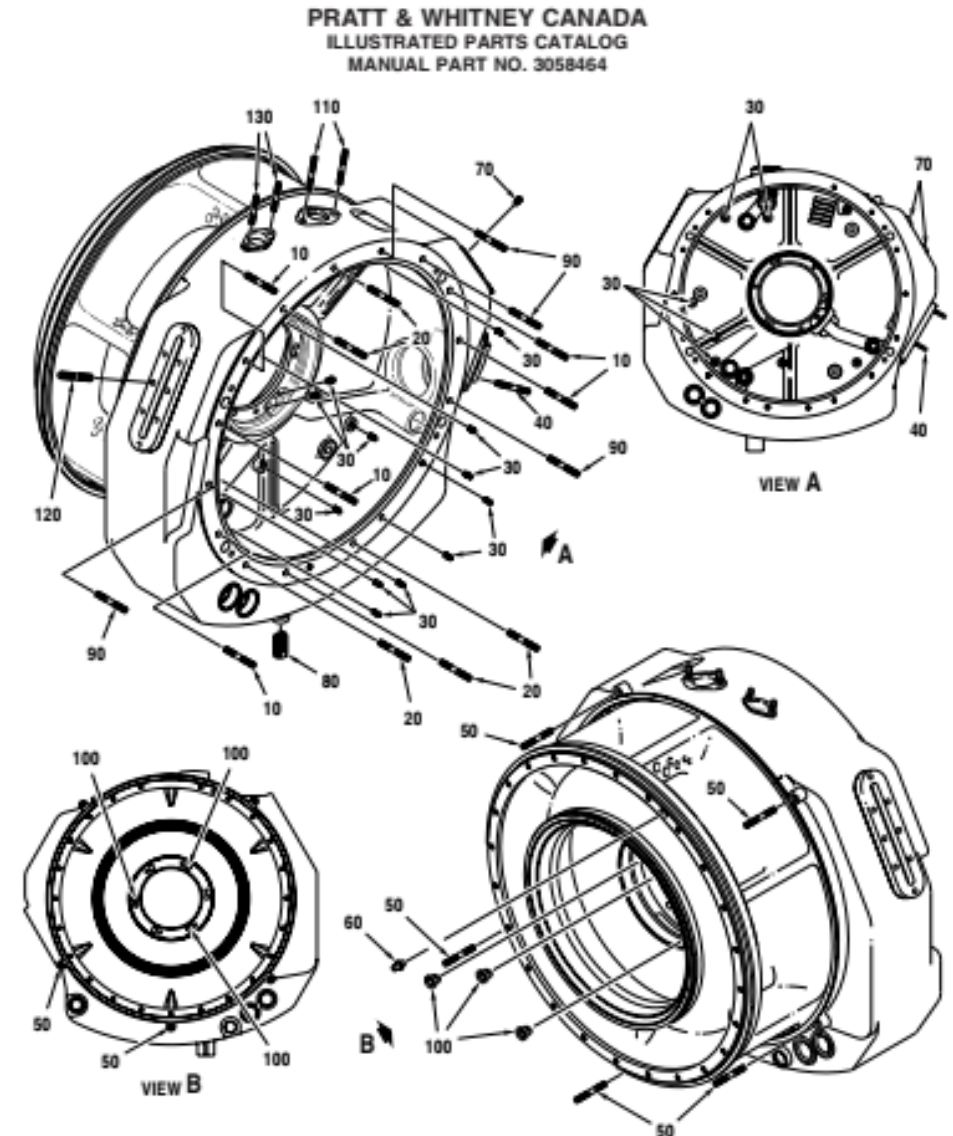
2. Description and Operation

A. Compressor Inlet Case

The compressor inlet case is a circular aluminum alloy casting that forms an annular plenum chamber for the passage of air to the compressor rotor. Two mounting flanges are incorporated; Flange F provides mounting for the gas generator case while Flange G provides mounting for the accessory gearbox. The rear section of the inlet case also forms the compartment and forward face of the integral oil tank.

Housed in the inlet case are the No. 1 bearing, the bearing support housings and the compressor rear stator air seal. The bearing outer housing and rear stator air seal are secured to the centerbore flange by four bolts. The No. 1 bearing outer race is secured within the bearing inner housing by an externally threaded retaining ring and locking rivet, while the inner housing is secured to the outer housing by four bolts and nuts at the rear.

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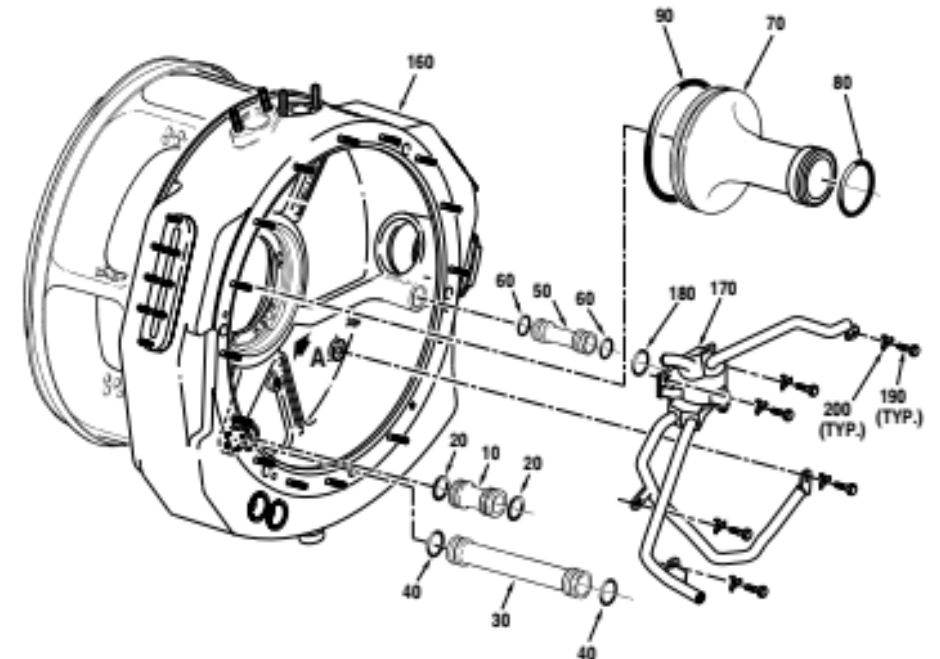
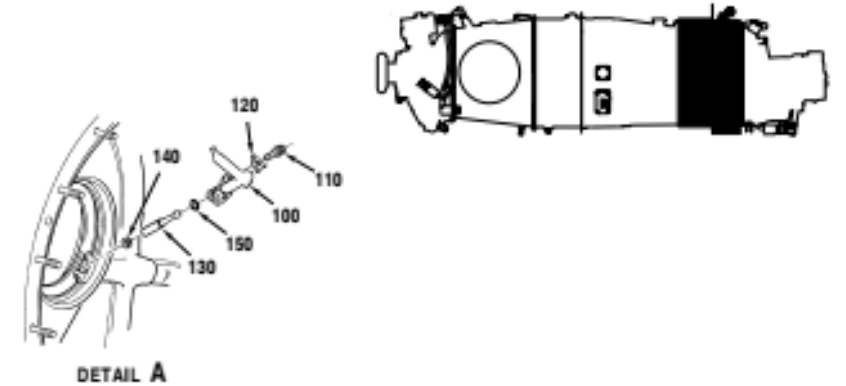
2. Description and Operation

A. Compressor Inlet Case

A calibrated oil nozzle, installed at the end of a cored passage in the compressor inlet case at approximately the 7 o'clock position, provides lubrication for the No. 1 bearing. A cored outlet port at the 6 o'clock position allows scavenge oil to flow to the accessory gearbox, via a transfer tube in the oil tank and port in the accessory gearbox diaphragm.

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PRATT & WHITNEY CANADA
ILLUSTRATED PARTS CATALOG
MANUAL PART NO. 3058464



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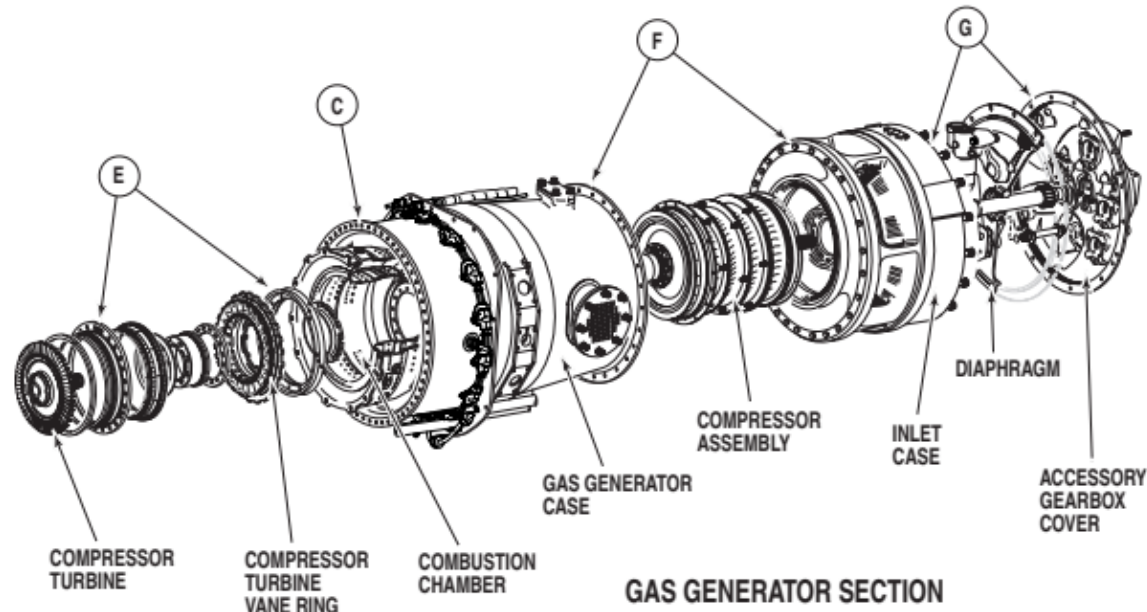
AIR INLET SECTION - DESCRIPTION AND OPERATION

2. Description and Operation

A. Compressor Inlet Case

Compressor interstage air is applied to the center of the rear stator air seal to prevent oil from the No. 1 bearing area flowing into the compressor section. Part of the air, at the center of the seal, vents forward and into the inlet air stream while the remainder vents to the rear and into the accessory gearbox via the oil tank center tube.

(GAS GENERATOR MODULE)



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AIR INLET SECTION - DESCRIPTION AND OPERATION

2. Description and Operation

A. Compressor Inlet Case

The oil filter, oil filter housing, check and bypass valve assembly (Ref. 79-20-04) are installed at the 3 o'clock position on the inlet case with the check valve located in the outlet port of the oil pump (Ref. 72-60-00). A cover plate, with a teflon spacer, that is bolted to the inlet case retains the oil filter and housing. A tube, with preformed packings, is installed between the centerbore of the inlet case and the accessory gearbox diaphragm to provide a passage for the accessory drive coupling shaft (Ref. 72-60-00).

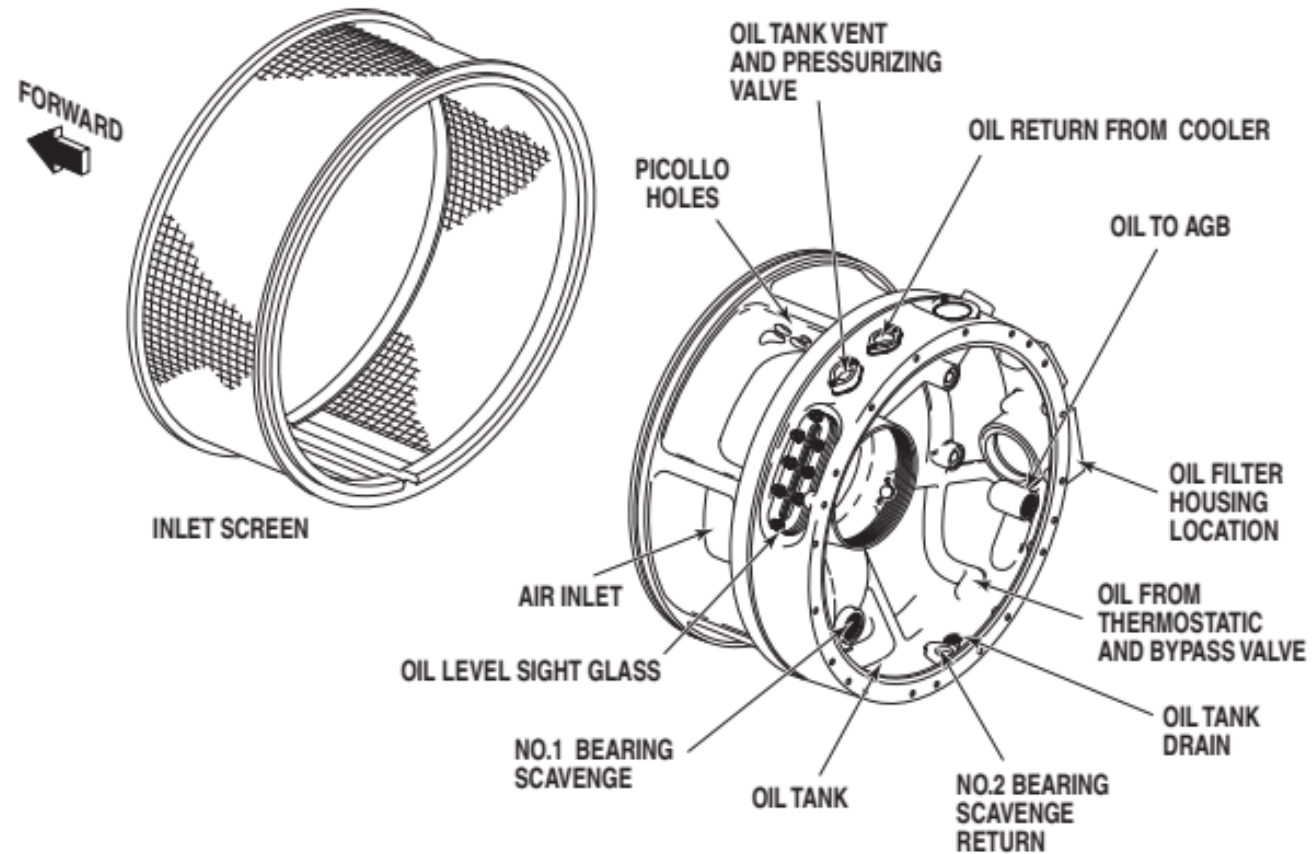
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AIR INLET SECTION - DESCRIPTION AND OPERATION

2. Description and Operation

A. Compressor Inlet Case

INLET CASE



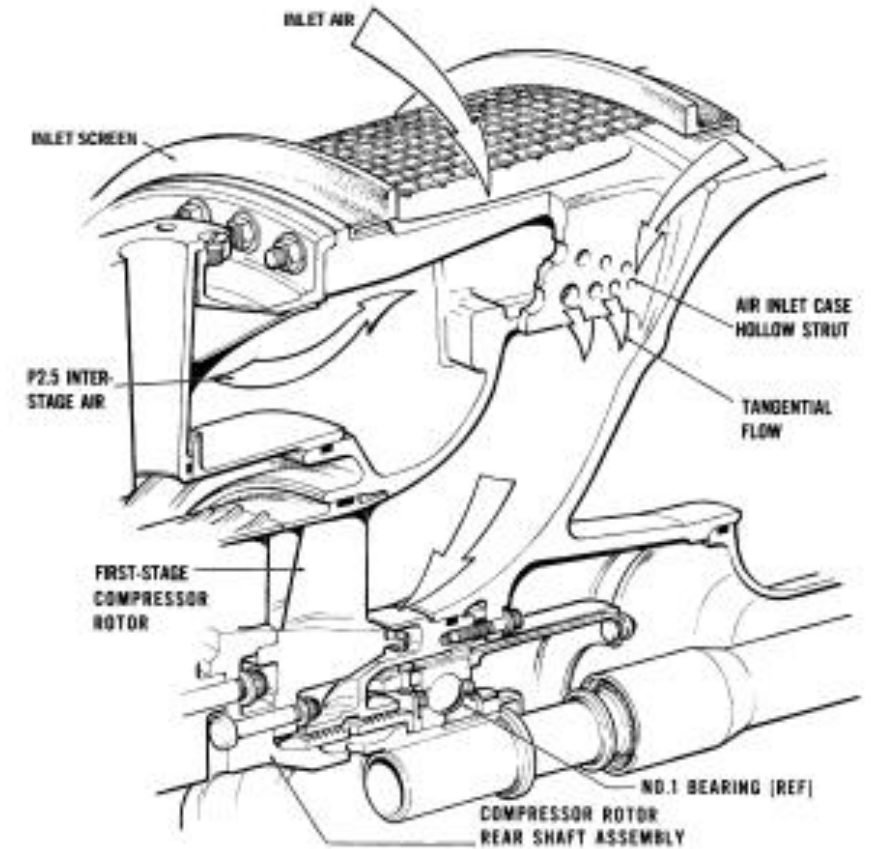
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AIR INLET SECTION - DESCRIPTION AND OPERATION

B. Air Inlet Screen

The air inlet screen is a circular wire mesh screen that is bolted around the air inlet area of the inlet case to prevent foreign object ingestion by the compressor.

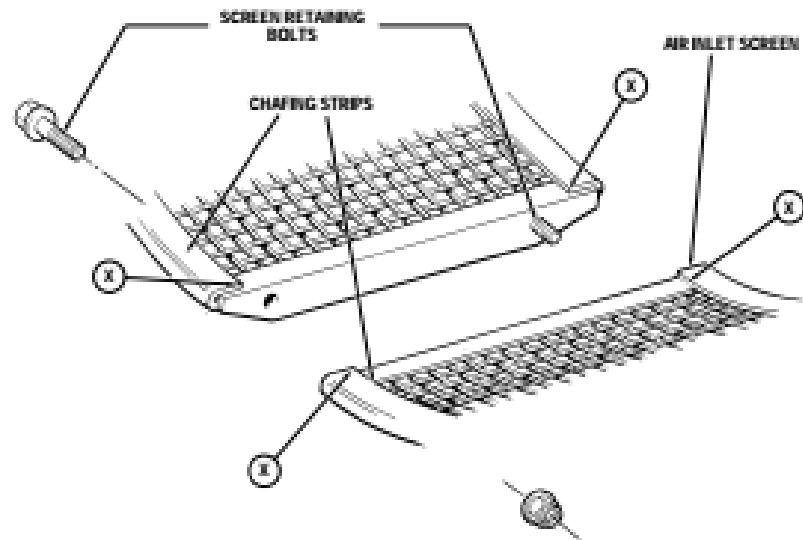
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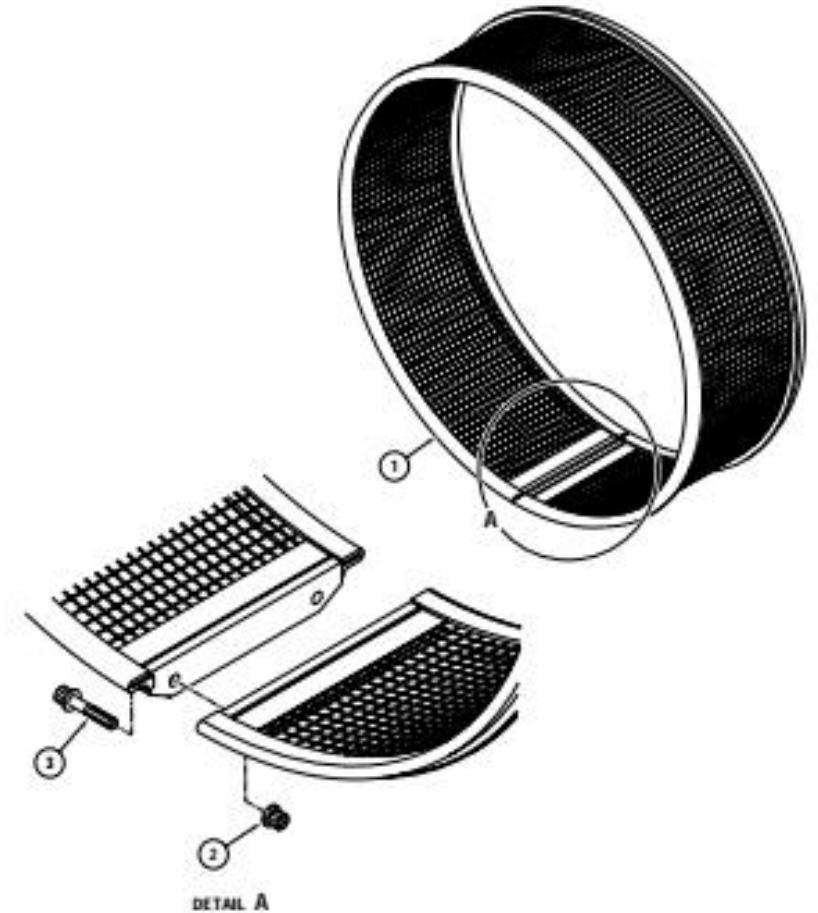
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AIR INLET SECTION - DESCRIPTION AND OPERATION

B. Air Inlet Screen



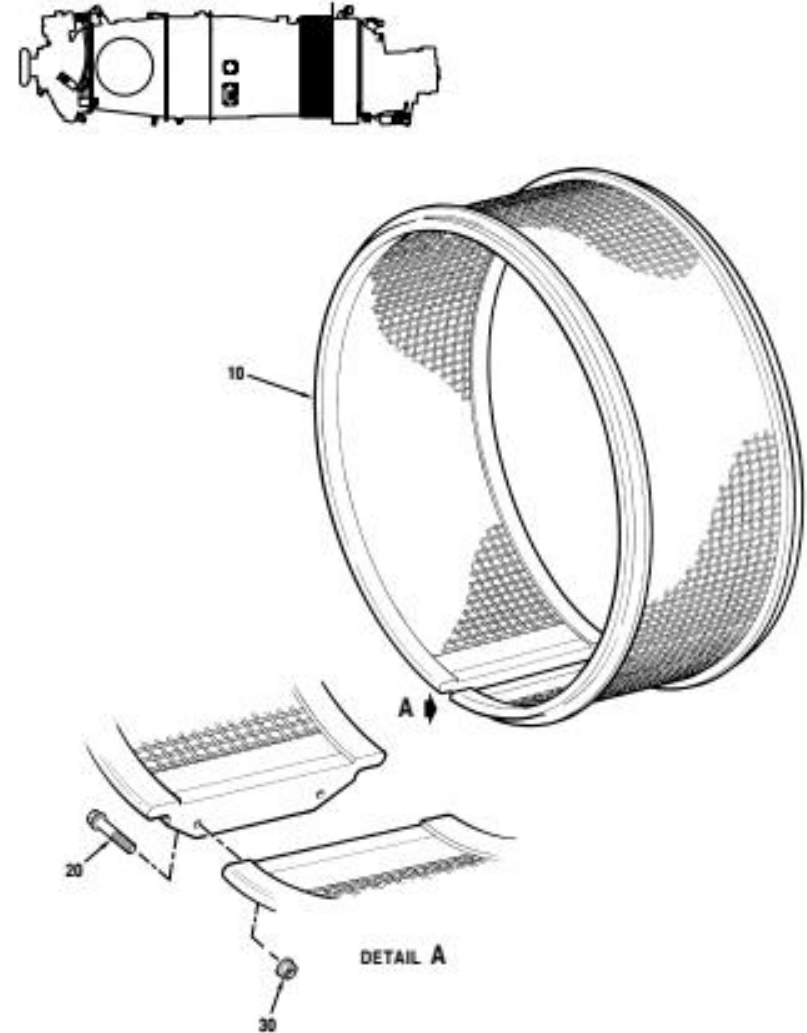
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AIR INLET SECTION - DESCRIPTION AND OPERATION

B. Air Inlet Screen

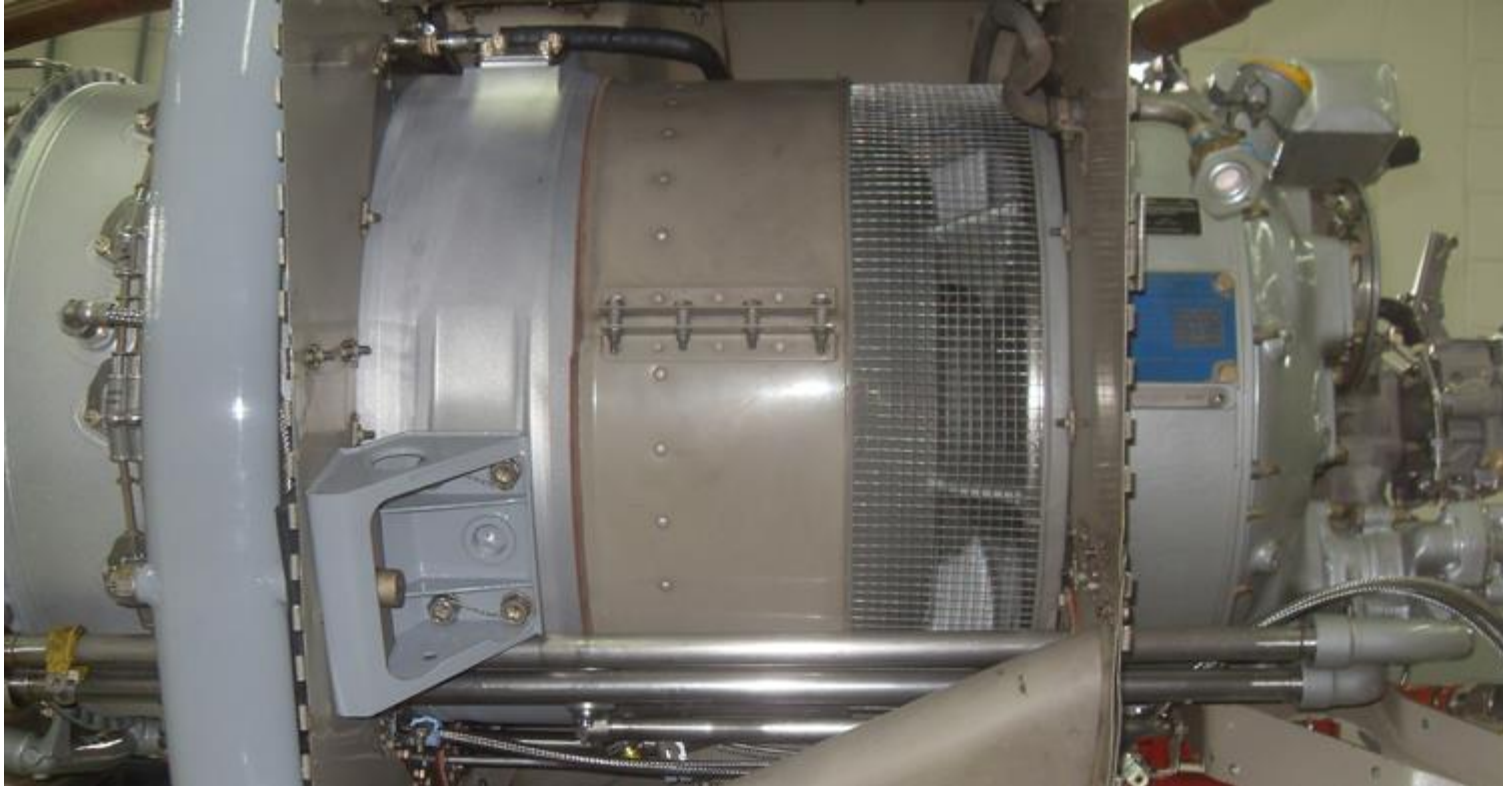
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AIR INLET SECTION - DESCRIPTION AND OPERATION

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B. Air Inlet Screen



BIBLIOGRAPHY

- PRATT WHITNEY. **Maintenance Manual:** PT6A-114/-114A/-116/-135/-135A. PN3043512.
Rev. 22, 03 de abril de 2009

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