The Piaggio Aero MPA – Multirole Patrol Aircraft

The Piaggio Aero MPA – Multirole Patrol Aircraft – is a technologically advanced, efficient and competitive Special Mission Aircraft. Enhanced lightness, high operable speeds and long range allowed the design to meet the most demanding requirements of a patrol aircraft for the low-risk and high-safety operations and best in class operational characteristics, comparable to those required by the most demanding multi-role maritime patrol aircraft.

The Piaggio Aero MPA is a variable-sweep wing configuration, with the wing sweep selected to comply with the most severe requirements of maritime patrol operations. The Piaggio Aero MPA is a true fixed-wing aircraft and can operate in all weather conditions, including hot and high conditions.

The Piaggio Aero MPA is the first aircraft to feature a full suite of mission-specific sensors and management features, including a state-of-the-art communication system with wideband LOS datalinks and a flexible yet powerful software architecture.

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2 SAAB removable, tactical operator stations equipped with multifunction, integrated display control units.

**POWERPLANT**

- Max Operation Altitude: 41,000 ft
- Max Cruise Speed: 350 KTAS
- Max Fuel @ Max Payload: 5,100 lbs
- Zero Fuel (ZFW): 11,050 lbs
- Max Landing (MLW): 14,500 lbs
- Max Takeoff (MTOW): 16,100 lbs

**WEIGHTS**

- Height: 3.964 m [12.08 ft]
- Length: 14.400 m [43.89 ft]
- Span: 21.378 m [65.16 ft]

**DIMENSIONS**

**MISSION CAPABILITIES**

- The Piaggio Aero MPA with a Maximum Mach Operative (MMO) of 0.65 is the fastest Special Mission turboprop on the market. The platform has been designed to integrate the most sophisticated mission sensors in the category and provide best in class vehicle performance at the same time, e.g.:
  - Mission System by SAAB
  - Rockwell Collins Fusion EDS
  - Piaggio Aero MPA provides end-users performances that surpass other competitors in the segment of light category and provide best in class vehicle performance at the same time, e.g.
  - Piaggio Aero and SAAB are integrating the MPA with a full suite of sophisticated airborne sensors and surveillance systems and  the advanced Aquila Mission Management System (MMS) will be integrated on the MPA.
  - The large, stand up cabin allows installation of a wide range of sensors for long endurances and special operations, thanks to the advanced mission management system, which allows managing the aircraft’s mission planning and best in class operational characteristics, compatible to those required by the most demanding operators in the market.
  - The platform is configured to be a flexible platform able to provide different intelligence roles and its low noise and vibration signature makes it excellent for military, special operations and reconnaissance missions.

**ABOUT THE PROGRAM**

The Piaggio Aero MPA provides the evolution of the Piaggio Aero P.180 Avanti II aircraft leading to the Piaggio Aero MPA Multirole Patrol Aircraft designed to meet the requirements in Maritime Patrol, Ground Surveillance, Tactical ISR, ELINT/COMINT missions. The Piaggio Aero MPA with a Maximum Mach Operative (MMO) of 0.65 is the fastest Special Mission turboprop on the market. The platform has been designed to integrate the most sophisticated mission sensors in the category and provide best in class vehicle performance at the same time, e.g.

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**MANUFACTURER HIGHLIGHTS**

- **Production**
  - Piaggio Aero is an Italian aerospace manufacturer that designs, builds and markets medium-range aircraft. The company was established in 1932 by the aviation pioneer Pietro Piaggio, who was a close collaborator of Leonardo da Vinci.
  - Piaggio Aero is the world's largest manufacturer of high-speed turboprop aircraft. The company's flagship model is the P.180 Avanti II, which was introduced in 1994 and has since become a popular choice for military and special operations missions.
  - The P.180 Avanti II is a twin-turboprop, four-seat aircraft that is capable of flying at high altitudes and speeds, making it ideal for long-range missions.
  - The Piaggio Aero MPA is a variant of the P.180 Avanti II, designed specifically for maritime patrol and surveillance missions. It features advanced avionics and sensor systems, as well as a large, stand-up cabin for enhanced crew comfort.

- **Operational Attributes**
  - The Piaggio Aero MPA is designed to operate in both day and night, and in all weather conditions. It is capable of loitering at low speeds for extended periods, making it ideal for surveillance missions.
  - The aircraft's twin-engine configuration provides added redundancy and increased payload capacity.

- **Mission Capabilities**
  - The Piaggio Aero MPA is capable of conducting a wide range of missions, including maritime patrol, ground surveillance, and tactical intelligence, surveillance, and reconnaissance (ISR).
  - The aircraft is equipped with advanced avionics and sensor systems, including radar, infrared (IR), and electro-optical (EO) systems.
  - The MPA's large, stand-up cabin provides enhanced crew comfort and allows for the installation of advanced mission systems.

- **Performance Highlights**
  - The Piaggio Aero MPA has a maximum operating speed of 350 knots (652 km/h) and a range of up to 3,300 nautical miles (6,112 km).
  - The aircraft is capable of loitering at 125 knots (231 km/h) for up to 7 hours, providing extended surveillance capabilities.
  - The MPA features a twin-turboprop engine configuration, which provides added redundancy and increased payload capacity.

- **Safety and Reliability**
  - The Piaggio Aero MPA is designed with safety in mind, featuring a robust airframe and advanced avionics systems.
  - The aircraft is capable of operating in high stress environments, thanks to its advanced avionics and sensor systems.

- **International Success**
  - The Piaggio Aero MPA has been sold to several countries, including Italy, the United Arab Emirates, and other nations, demonstrating its versatility and capabilities.
  - The aircraft has undergone rigorous testing and certification processes, ensuring its reliability and safety for mission operations.
**THE PIAGGIO AERO MPA - MULTIROLE PATROL AIRCRAFT**

The Piaggio Aero MPA - Multirole Patrol Aircraft - is a technologically advanced, efficient and competitive Special Mission Aircraft. Its high-tension lightweight high performance structure, designed to meet the most rigorous mission requirements, is characterized by a modular and flexible design, allowing for maximum performance and best in class operational characteristics, specifically to those required by the most demanding mission requirements.

**PERFORMANCE**

- Max Endurance (at 5000 ft) 45 min VFR reserve 6.4 hours
- Max Cruise Speed 350 KTAS
- Max Fuel @ Max Payload 5,100 lbs
- Mission Payload (mission equipment and 2 operators) 1,350 lbs
- Zero Fuel (ZFW) 11,050 lbs
- Max Landing (MLW) 14,500 lbs
- Max Takeoff (MTOW) 16,100 lbs
- Length 14.400 m \[43.89 ft\]

**MISSION CAPABILITIES**

- Human, sensorial and tactical fusion allowing operators to conduct a wide variety of missions, making the MPA one of the most functional and advanced aircraft available on the market.
- High performance Search Radar and EO/IR sensor suite will be integrated into the MMS to conduct Maritime Patrol, Ground Surveillance, Tactical ISR and COMINT missions.
- Piaggio Aero and SAAB are integrating the MPA with a full suite of sophisticated airborne sensors and surveillance systems.

**MPA – MULTIROLE PATROL AIRCRAFT**

The Piaggio Aero MPA Multirole Patrol Aircraft, characterized by the Piaggio Aero P.180 Avanti II aircraft, is conceived to be missionized for many different roles:

- Maritime Patrol
- Ground Surveillance
- Tactical ISR
- ELINT/COMINT
- Maritime Surveillance
- Ships Escort
- Border Surveillance
- Clouds of cruise missiles detection

**POWERPLANT**

- 2 × Pratt & Whitney Canada PT6A-66B 950 SHP each (ISA, sea level)

**POWERPLANE**

- Hartzell five blades low noise propeller, counter rotating

**Cockpit**

- First Operator Mission Consolle
- Second Operator Mission Consolle
- Small Galley
- Stowage
- LHS Auxiliary Cabin Fuel Tank
- RHS Auxiliary Cabin Fuel Tank
- Toilet Seat

**AVIONICS SYSTEM**

- Rockwell Collins Fusion EDS
- Electronic Systems Investments, a subsidiary of Tawazun - the company that manages many complex programs for operators in this category.

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**ABOUT THE PROGRAMME**

The Piaggio Aero MPA Multirole Patrol Aircraft represents the evolution of the Piaggio Aero P.180 Avanti II aircraft. Aimed at being the most effective Special Mission light turboprop aircraft on the market, Piaggio Aero teamed up with the defence and security company SAAB as the MPA systems supplier.

Piaggio Aero is developing the Multirole Patrol Aircraft - MPA in partnership with ADASI - Abu Dhabi Autonomous Systems Innovation, a subsidiary of Tawazun - the company that manages many complex programs for operators in this category.

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**MANUFACTURING AND CERTIFICATION**

- The new state-of-the-art production line allowes, in a wide range of solutions for the Special Mission and executive market, flight test in the normal configuration of the aircraft, with the first MPA flight test scheduled for 2022.

**SAAB REMOVABLE, TACTICAL OPERATOR STATIONS**

- 2 SAAB removable, tactical operator stations equipped with multifunction, integrated display control units.

**POWERPLANE**

- Hartzell five blades low noise propeller, counter rotating

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- Length 14.400 m \[43.89 ft\]
The Piaggio Aero MPA – Multirole Patrol Aircraft

**Dimensions**
- Length: 23.55 m
- Width: 8.39 m
- Height: 5.57 m

**Weights**
- Empty Weight: 5,400 kg
- Operational Weight: 10,500 kg
- Maximum Takeoff Weight: 16,100 kg

**Performance**
- Maximum Operation Altitude: 41,000 ft
- Maximum Cruise Speed: 350 KTAS

**Weights**
- Max Allowable Fuel: 5,300 lbs
- Max Fuel @ Max Payload: 5,100 lbs
- Zero Fuel (ZFW): 11,050 lbs
- Max Landing (MLW): 14,500 lbs
- Max Takeoff (MTOW): 16,100 lbs

**Dimensions**
- Height: 3.964 m [12.08 ft]
- Length: 14.400 m [43.89 ft]
- Span: 21.378 m [65.16 ft]

**Mission Capabilities**
- Aimed at being the most effective Special Mission light turboprop aircraft on the market, Piaggio Aero
  has created a new solution for the maritime patrol market, offering unparalleled performance and best in
  class operational characteristics, capable of being employed by the most demanding sea area surveillance
  missions.

**About the Program**
- The Piaggio Aero Multirole Patrol Aircraft represents the evolution of the Piaggio Aero P.180 Avanti II aircraft
  line, incorporating new advanced avionics, enhanced mission systems and airframe modifications for
  improved performance and increased mission flexibility.

**Operational Capabilities**
- The Piaggio Aero MPA integrates a wide range of mission systems, including the most advanced avionics,
  radar, and mission sensors, designed to provide the most effective solution for maritime patrol, surveillance,
  and rescue missions.

**Operational Characteristics**
- Twin turboprop, all weather, proven system architecture and technologies.
- Full stand up cabin, with lowest noise & vibration level and cabin relative pressure altitude for best in
  class crew comfort
- Patrolling time @100nm, low-altitude surveillance @5,000ft is 7.0 hours (45’ fuel reserve)
- Loiter capability at 125KTAS in less than 1 turn radius.
- Climbing to 35,000 ft. in 20 minutes at maximum weight

**MANUAL TECHNICAL CHARACTERISTICS**

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Designed mission radius</td>
<td>100 nm</td>
</tr>
<tr>
<td>Maximum endurance time</td>
<td>7.0 hours (45’ fuel reserve)</td>
</tr>
<tr>
<td>Cruise speed</td>
<td>350 KTAS</td>
</tr>
<tr>
<td>Climb rate</td>
<td>2000 fpm</td>
</tr>
</tbody>
</table>

**Performance**
- The Piaggio Aero MPA is designed for use by law enforcement agencies and governments, providing
  unmatched combination of performance for multi-role missions.
- The Piaggio Aero MPA is equipped with the latest avionics and mission systems, including a high-performance
  Search Radar and EO/IR sensor suite, designed to provide the most effective solution for maritime patrol,
  surveillance, and rescue missions.

**Mission System**
- The Piaggio Aero MPA integrates a wide range of mission systems, including the most advanced avionics,
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**Technical Data**
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