This catalogue provides a general overview of the main Retrofit Solutions intended to enhance the efficiency, comfort, and operation of ATR aircraft. The content represents a summary of each modification.

Price estimates listed in this document are only intended to give the customer an order of magnitude of the modification price. A precise price can be established only after a dedicated study for each impacted MSN, depending on its actual configuration.

Furthermore, the supply, or not, of the equipment related to the retrofit solutions will be part of the commercial discussions.

Applicability of any presented modification depends on aircraft configuration and is subject to aircraft configuration review by the ATR Engineering Department. Information on weight change and price range is given as estimated guidelines only, and may vary depending on the configuration of a particular aircraft.

For further information, please contact your dedicated Services Sales & Contracts Director or Customer Support Director.

Latest version available on ATRactive: https://www.atractive.com/ServicesAndProjects/Catalogues/Pages
WHY CHOOSE
ATR RETROFIT SOLUTIONS?

ATR supports its customers in their business development through upgrade solutions enhancing passenger experience, aircraft performance and optimal adaptation to airlines’ requirements.

Choosing ATR Retrofit Solutions guarantees that the aircraft documentation will be automatically updated, simplifying configuration tracking of the aircraft and making future maintenance tasks easier to manage.

Manufacturer upgrades improve aircraft asset value & re-marketability.

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+35 DEDICATED EMPLOYEES

+85 NEW SB CREATED PER YEAR

+3700 SOLUTIONS DEVELOPED
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EXTENSION OF THE ENVIRONMENTAL ENVELOPE TO -45°C

DESCRIPTION

This modification consists in extending the environmental envelope to -45°C, allowing operations in extreme cold conditions. This modification involves only documentation updates.

For operations in extreme cold conditions attention should be directed to suggested cold weather modifications and maintenance tasks. For fuller information please refer to service letter ATR42-30-5015 or ATR72-30-6008.

NOTE: The environmental envelope is limited to -35°C on aircraft not equipped with the modification.

APPLICATION

For information only. Applicability of the modification to each MSN is subject to validation by the ATR Engineering Department.

<table>
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<th>AIRCRAFT MODELS</th>
<th>AVIONICS</th>
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<tr>
<td>ATR 42 42-500</td>
<td>Legacy avionics YES</td>
<td>Original cabin NO</td>
</tr>
<tr>
<td>ATR 72 ALL</td>
<td>New avionics suite NO</td>
<td>New-look cabin NO</td>
</tr>
<tr>
<td>Armonia cabin</td>
<td>Armonia cabin NO</td>
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For information only. Applicability of the modification to each MSN is subject to validation by the ATR Engineering Department.

PRE-REQUISITE

Wheels/tyre configurations (please contact us)

BENEFITS

Extended operational envelope
• Operations in extreme cold temperature conditions

<table>
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<tr>
<th>OPERATIONAL COSTS SAVINGS</th>
<th>MAINTENANCE COSTS SAVINGS</th>
<th>OPERATIONAL BOOST</th>
<th>PASSENGER COMFORT</th>
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<td>-</td>
<td>-</td>
<td>✓</td>
<td>-</td>
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SEE ALSO

- Extension of the Environmental Envelope to -54°C
- Wheels and Brakes Replacements

PACKAGE CONTENT

• SB Validation & Supply
• Updating of Operational and Maintenance Documentation

WEIGHT CHANGE

None

PRICE RANGE

From 500 USD per aircraft

ESTIMATED LEAD TIME

5 weeks

ESTIMATED MANPOWER

None

Subject to a possible specific adaptation to the relevant MSN.
EXTENSION OF THE ENVIRONMENTAL ENVELOPE TO -54°C

DESCRIPTION

This modification consists in extending the environmental envelope to -54°C, allowing operations in extreme cold conditions. This modification involves documentation updates and modifications to the nose landing gear and the main landing gear along with installation of CSA seals on the propeller blades.

For operations in extreme cold conditions attention should be directed to suggested maintenance and operation tasks. For fuller information please refer to service letter ATR42-30-5011.

NOTE: The environmental envelope is limited to -35°C on aircraft not equipped with the modification.

BENEFITS

Extended operational envelope

- Operations in extreme cold temperature conditions

OPERATIONAL COSTS SAVINGS

MAINTENANCE COSTS SAVINGS

OPERATIONAL BOOST

PASSenger COMFORT

CREW EFFICIENCY

- - ✓ - -

SEE ALSO

- Extension of the Environmental Envelope to -45°C
- Wheels and Brakes Replacements

PACKAGE CONTENT

- SB Validation & Supply
- Updating of Operational and Maintenance Documentation
- Kit supply (only for landing gears modification)

PRICE RANGE

From 700 USD per aircraft

ESTIMATED LEAD TIME

4 months

ESTIMATED MANPOWER

16 hours

Subject to a possible specific adaptation to the relevant MSN.

APPLICABILITY

For information only: Applicability of the modification to each MSN is subject to validation by the ATR Engineering Department.

<table>
<thead>
<tr>
<th>AIRCRAFT MODELS</th>
<th>AVIONICS</th>
<th>CABIN</th>
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<td>ATR 42 42-300/42-320</td>
<td>Legacy avionics</td>
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<tr>
<td>ATR 72</td>
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<tr>
<td></td>
<td>Armonia cabin</td>
<td>NO</td>
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</tbody>
</table>

PRE-REQUISITE

Wheels/tyre configurations (please contact us)

ATR UPGRADES SERVICES CATALOGUE - Issue 02

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EXTENSION OF THE ENVIRONMENTAL ENVELOPE TO ISA +40

DESCRIPTION
This modification consists in extending the environmental envelope to ISA +40 (limited to +50°C), allowing operations in extreme hot conditions. This modification involves only operational documentation updates; no maintenance program modification is needed.

NOTE: The environmental envelope is limited to ISA +35 on aircraft not equipped with the modification.

BENEFITS
Extended operational envelope
- Operations in extreme hot temperature conditions

OPERATIONAL COSTS SAVINGS | MAINTENANCE COSTS SAVINGS | OPERATIONAL BOOST | PASSENGER COMFORT | CREW EFFICIENCY
--- | --- | --- | --- | ---
- | - | ✓ | - | -

PACKAGE CONTENT
- SB Validation & Supply
- Updating of Operational Documentation

WEIGHT CHANGE
None

PRICE RANGE
From 500 USD per aircraft

ESTIMATED LEAD TIME
5 weeks

ESTIMATED MANPOWER
None

APPLICABILITY

<table>
<thead>
<tr>
<th>AIRCRAFT MODELS</th>
<th>AVIONICS</th>
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<tbody>
<tr>
<td>ATR 42 42-300/42-320</td>
<td>Legacy avionics YES</td>
<td>Original cabin NO</td>
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<tr>
<td>ATR 72 72-211/72-212/72-212A</td>
<td>New avionics suite YES</td>
<td>New-look cabin NO</td>
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</tbody>
</table>

CABIN
- Original cabin
- New-look cabin
- Armonia cabin

PRE-REQUISITE
NONE

For information only. Applicability of the modification to each MSN is subject to validation by the ATR Engineering Department.

Subject to a possible specific adaptation to the relevant MSN.
**DESCRIPTION**

This modification enables operations with 15 kt tailwind at take-off and landing or 20 kt tailwind at take-off, gust included, allowing operations under specific weather conditions. Embodiment of this upgrade requires only operational documentation update, no hardware change is needed.

**NOTE:** On aircraft not equipped with the modification the tailwind limit at take-off is 10 kt.

**APPLICABILITY**

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<td>ATR 72</td>
<td>New avionics suite</td>
<td>YES</td>
</tr>
<tr>
<td>ATR 72</td>
<td>Armonia cabin</td>
<td>NO</td>
</tr>
</tbody>
</table>

**PRICE RANGE**

From 2,500 USD per aircraft

**ESTIMATED LEAD TIME**

5 weeks

**ESTIMATED MANPOWER**

None

**BENEFITS**

**Extended operation envelope**

- Operations under specific weather conditions

**PACKAGE CONTENT**

- SB Validation & Supply
- Updating of Operational Documentation

**WEIGHT CHANGE**

None

**PRICE RANGE**

From 2,500 USD per aircraft

**ESTIMATED LEAD TIME**

5 weeks

**ESTIMATED MANPOWER**

None

Subject to a possible specific adaptation to the relevant MSN.
OPERATIONS ON NARROW RUNWAYS

DESCRIPTION

This modification enables operational capability on narrow runways down to a minimum of 14 meters (46 ft) width instead of 30 meters (98 ft). This modification consists in updating the Aircraft Flight Manual (AFM) and the Flight Crew Operating Manual (FCOM).

NOTE: Embodiment of this modification induces a correction of crosswind limit. For fuller information please refer to the Aircraft Flight Manual.

APPLICABILITY

For information only. Applicability of the modification to each MSN is subject to validation by the ATR Engineering Department.

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<th>AVIONICS</th>
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<td>Original cabin</td>
</tr>
<tr>
<td></td>
<td>YES</td>
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</tr>
<tr>
<td>ATR 72</td>
<td>New avionics suite</td>
<td>New-look cabin</td>
</tr>
<tr>
<td></td>
<td>YES</td>
<td>Armonia cabin</td>
</tr>
</tbody>
</table>

PRE-REQUISITE

NONE

BENEFITS

Extended operational envelope
- Operations on runways with local limitations

OPERATIONAL COSTS SAVINGS | MAINTENANCE COSTS SAVINGS | OPERATIONAL BOOST | PASSENGER COMFORT | CREW EFFICIENCY
- | - | ✔ | - | -

SEE ALSO

- Operations on High Altitude Runways
- Operations on Runways With a 2% Or Over Slope Factor
- Take-off at RTO (100% power)

PACKAGE CONTENT

- SB Validation & Supply
- Updating of Operational Documentation

WEIGHT CHANGE

None

PRICE RANGE

From 500 USD per aircraft

ESTIMATED LEAD TIME

5 weeks

ESTIMATED MANPOWER

None

Subject to a possible specific adaptation to the relevant MSN.
**DESCRIPTION**

Depending on aircraft models and configuration, two modifications are available.
- For ATR42-300/320 equipped with Legacy Avionics: This modification consists in inhibiting the EXCESS CAB. ALTITUDE function in order to allow operations on high altitude runways without having a red warning at take-off.
- For ATR42-500 or ATR72-212A equipped with New Avionics Suite: This modification consists in updating the NAS options configuration file in order to allow operations on high altitude runways.

In both cases this modification validates the aircraft configuration to enable high altitude airport operations up to 11,000 ft instead of 8,500 ft above mean sea level on aircraft not equipped with the modification.

**APPLICABILITY**

<table>
<thead>
<tr>
<th>AIRCRAFT MODELS</th>
<th>AVIONICS</th>
<th>CABIN</th>
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<td>Original cabin</td>
</tr>
<tr>
<td>ATR 72 72-212A</td>
<td>New avionics suite</td>
<td>Armonia cabin</td>
</tr>
</tbody>
</table>

**PRICE RANGE**

From 5,000 USD

**ESTIMATED LEAD TIME**

5 weeks

**ESTIMATED MANPOWER**

- Aircraft equipped with Legacy Avionics: 35 hours
- Aircraft equipped with New Avionics Suite: 1 hour

Subject to a possible specific adaptation to the relevant MSN.

**BENEFITS**

**Extended operational envelope**

- Operations on high altitude runways with local limitations

<table>
<thead>
<tr>
<th>OPERATIONAL COSTS SAVINGS</th>
<th>MAINTENANCE COSTS SAVINGS</th>
<th>OPERATIONAL BOOST</th>
<th>PASSENGER COMFORT</th>
<th>CREW EFFICIENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>-</td>
<td>✓</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**SEE ALSO**

- Operations on Narrow Runways
- Take-off at RTO (100% power)

**PACKAGE CONTENT**

- SB Validation & Supply
- Updating of Operational and Maintenance Documentation
- Kit supply (only for aircraft equipped with Legacy Avionics)
- NOFU (only for aircraft equipped with New Avionics Suite)

**WEIGHT CHANGE**

None

**OPERATIONS ON HIGH ALTITUDE RUNWAYS**

ATA 00 GENERAL
## OPERATIONS ON RUNWAYS
### WITH A 2% OR OVER SLOPE FACTOR

### DESCRIPTION
Implementation of this modification enables take-off and landing on runways sloping by a factor of 2% or over without hardware modification. This modification consists in updating the Aircraft Flight Manual (AFM) and induces a correction of tailwind limit. Runway slope permitted with this modification and tailwind limit are listed below.

<table>
<thead>
<tr>
<th>Tailwind limit</th>
<th>Take-off</th>
<th>Landing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10 kt</td>
<td>Downhill:&lt;br&gt;10 kt up to -2% runway slope&lt;br&gt;5 kt between -2% and -4.5%&lt;br&gt;Uphill:&lt;br&gt;10 kt</td>
</tr>
<tr>
<td>Maximum mean runway slope</td>
<td>-4.5% / + 2%</td>
<td>-4.5% / +4.5%</td>
</tr>
</tbody>
</table>

Slope limitations are linked to aircraft models. For fuller information, please, refer to AFM.

**NOTE:** Maximum mean runway slope for aircraft not equipped with the modification is +/- 2%.

### BENEFITS
**Extended operational envelope**
- Operation on runways with local limitations

<table>
<thead>
<tr>
<th>OPERATIONAL COSTS SAVINGS</th>
<th>MAINTENANCE COSTS SAVINGS</th>
<th>OPERATIONAL BOOST</th>
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<th>CREW EFFICIENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>-</td>
<td>✓</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### SEE ALSO
- Operations on Narrow Runways
- Operations on High Altitude Runways
- Take-off at RTO (100% power)

### PACKAGE CONTENT
- SB Validation & Supply
- Updating of Operational Documentation

### WEIGHT CHANGE
None

### PRICE RANGE
From 2,000 USD per aircraft

### ESTIMATED LEAD TIME
5 weeks

### ESTIMATED MANPOWER
None

Subject to a possible specific adaptation to the relevant MSN.

### APPLICABILITY
For information only. Applicability of the modification to each MSN is subject to validation by the ATR Engineering Department.

<table>
<thead>
<tr>
<th>AIRCRAFT MODELS</th>
<th>AVIONICS</th>
<th>CABIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATR 42</td>
<td>Legacy avionics</td>
<td>Original cabin</td>
</tr>
<tr>
<td>ATR 42-300/42-320/42-500</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>ATR 72</td>
<td>New avionics suite</td>
<td>New-look cabin</td>
</tr>
<tr>
<td>72-211/72-212/72-212A</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Armonia cabin</td>
<td></td>
<td>NO</td>
</tr>
</tbody>
</table>

| PRE-REQUISITE  | NONE |

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DESCRIPTION

Embodiment of this modification allows, through the application of a certified procedure, to use the RTO (Reserve Take-Off) power to improve the take-off performances on relatively short runways, enabling payload gain.

When using the RTO, 100% of the engine power available is used from brake released, instead of 90% in normal take-off conditions.

AFM updated, with the addition of new performance charts.

Examples of take-off performance improvements (ISA, S/L conditions):

<table>
<thead>
<tr>
<th></th>
<th>ATR 42-500</th>
<th>ATR 72-212A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shorter take-off run</td>
<td>-143 ft Runway 3 663 ft ➔ 3 500 ft For TOW = 18 164 kg</td>
<td>-143 ft Runway 4 143 ft ➔ 4 000 ft For TOW = 22 144 kg</td>
</tr>
<tr>
<td>Higher payload at take-off</td>
<td>+ 368 kg TOW 17 796 kg ➔ 18 164 kg For runway = 3 500 ft</td>
<td>+ 342 kg TOW 21 801 kg ➔ 22 143 kg For runway = 3 500 ft</td>
</tr>
</tbody>
</table>

APPLICABILITY

For information only. Applicability of the modification to each MSN is subject to validation by the ATR Engineering Department.

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<tr>
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<td>Legacy Avionics</td>
<td>YES</td>
</tr>
<tr>
<td>ATR 72</td>
<td>New avionics suite</td>
<td>YES</td>
</tr>
<tr>
<td>ATR 42-500</td>
<td>Legacy Avionics</td>
<td>YES</td>
</tr>
<tr>
<td>ATR 72-212A</td>
<td>New avionics suite</td>
<td>YES</td>
</tr>
<tr>
<td>ATR 42-500</td>
<td>Original cabin</td>
<td>NO</td>
</tr>
<tr>
<td>ATR 72-212A</td>
<td>New-look cabin</td>
<td>NO</td>
</tr>
<tr>
<td>ATR 72-212A</td>
<td>Armonia cabin</td>
<td>NO</td>
</tr>
</tbody>
</table>

PRE-REQUISITE

Applicable only on aircraft equipped with PW127M engine

BENEFITS

Operational gains

- Increase of the allowable take-off and landing weight at airports with weight limitations induced by climb constraints (2nd segment, obstacles)

<table>
<thead>
<tr>
<th>OPERATIONAL COSTS SAVINGS</th>
<th>MAINTENANCE COSTS SAVINGS</th>
<th>OPERATIONAL BOOST</th>
<th>PASSENGER COMFORT</th>
<th>CREW EFFICIENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>-</td>
<td>✓</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

SEE ALSO

- Steep Slope Approach Capability

PACKAGE CONTENT

- SB Validation & Supply
- Updating of Operational Documentation

WEIGHT CHANGE

None

PRICE RANGE

From 2,000 USD per aircraft

ESTIMATED LEAD TIME

5 weeks

ESTIMATED MANPOWER

None

Subject to a possible specific adaptation to the relevant MSN.
**DESCRIPTION**

This option allows an increase of aircraft weight characteristics in order to meet customer operational needs. The maximal weight characteristics per ATR aircraft model are stated in the table below.

<table>
<thead>
<tr>
<th>ATR 42-300 / -320</th>
<th>ATR 42-400</th>
<th>ATR 42-500</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MTOW</strong> (Max Take-Off Weight)</td>
<td>16 900 kg</td>
<td>17 900 kg</td>
</tr>
<tr>
<td><strong>MZFW</strong> (Max Zero Fuel Weight)</td>
<td>15 540 kg</td>
<td>16 300 kg</td>
</tr>
<tr>
<td><strong>MRW</strong> (Max Ramp Weight)</td>
<td>17 070 kg</td>
<td>18 070 kg</td>
</tr>
<tr>
<td><strong>MLW</strong> (Max Landing Weight)</td>
<td>16 400 kg</td>
<td>17 600 kg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ATR 72-101 / -102 / -201 / -202 / -211 / -212</th>
<th>ATR 72-212A</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MTOW</strong> (Max Take-Off Weight)</td>
<td>22 000 kg</td>
</tr>
<tr>
<td><strong>MZFW</strong> (Max Zero Fuel Weight)</td>
<td>19 700 kg</td>
</tr>
<tr>
<td><strong>MRW</strong> (Max Ramp Weight)</td>
<td>22 030 kg</td>
</tr>
<tr>
<td><strong>MLW</strong> (Max Landing Weight)</td>
<td>21 350 kg</td>
</tr>
</tbody>
</table>

**APPLICABILITY**

For information only. Applicability of the modification to each MSN is subject to validation by the ATR Engineering Department.

<table>
<thead>
<tr>
<th>AIRCRAFT MODELS</th>
<th>AVIONICS</th>
<th>CABIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATR 42</td>
<td>Legacy avionics NO</td>
<td>Original cabin NO</td>
</tr>
<tr>
<td>ATR 72</td>
<td>New avionics suite NO</td>
<td>New-look cabin NO</td>
</tr>
</tbody>
</table>

**PRE-REQUISITE**

NONE

**BENEFITS**

- **Operational gains**
  - Weights adjustments in accordance with operational needs (e.g. increase of transportation capability)

<table>
<thead>
<tr>
<th>OPERATIONAL COSTS SAVINGS</th>
<th>MAINTENANCE COSTS SAVINGS</th>
<th>OPERATIONAL BOOST</th>
<th>PASSENGER COMFORT</th>
<th>CREW EFFICIENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>-</td>
<td>✓</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**SEE ALSO**

- Multiple Weight Variants Capability

**PACKAGE CONTENT**

- SB Validation & Supply
- Updating of Technical publications
- Kit supply (if needed)

**WEIGHT CHANGE**

From none to + 5 kg (+ 11 lb) depending of the aircraft configuration (minor structural reinforcement to be applied or not).

**PRICE RANGE**

From 10,000 USD per 100 Kg MTOW increase

**ESTIMATED LEAD TIME**

5 weeks

**ESTIMATED MANPOWER**

None

Subject to a possible specific adaptation to the relevant MSN.
**MULTIPLE WEIGHT VARIANTS CAPABILITY**

### DESCRIPTION

Multiple weight variants capability enables an operator to declare a lower Maximum Take-Off Weight (MTOW) among several possible certified values, according to its flight/dispatch conditions and then, to make it able to operate their aircraft within particular weight and balance limits.

Before each flight, the airline chooses a Weight Variant at which it wishes to operate its aircraft, among the different available weight allowances, then uses the relevant Load and Trim Sheet according to the selected Weight Variant.

The list of operational Weight Variants values is mentioned in the AFM and in the WBM.

**NOTE:** Design certified weight limitations are not impacted and no modifications are to be performed on the aircraft, except if the airline wishes to extend the weight variant range.

* Capability subject to local authorities acceptance.

### WEIGHT VARIANTS

<table>
<thead>
<tr>
<th>Weight Variant (WV)</th>
<th>WV 00</th>
<th>WV 10</th>
<th>WV 20</th>
<th>WV 30</th>
<th>WV 40</th>
<th>WV 50</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTOW (Maximum Take-Off Weight)</td>
<td>20 000 kg</td>
<td>20 500 kg</td>
<td>21 000 kg</td>
<td>21 500 kg</td>
<td>22 000 kg</td>
<td>22 500 kg</td>
</tr>
<tr>
<td>MZFW (Maximum Zero Fuel Weight)</td>
<td>20 000 kg</td>
<td>20 500 kg</td>
<td>21 000 kg</td>
<td>21 500 kg</td>
<td>22 000 kg</td>
<td>22 500 kg</td>
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<td>MRW (Maximum Ramp Weight)</td>
<td>21 000 kg</td>
<td>21 500 kg</td>
<td>22 000 kg</td>
<td>22 500 kg</td>
<td>23 000 kg</td>
<td>23 500 kg</td>
</tr>
<tr>
<td>MLW (Maximum Landing Weight)</td>
<td>21 000 kg</td>
<td>21 500 kg</td>
<td>22 000 kg</td>
<td>22 500 kg</td>
<td>23 000 kg</td>
<td>23 500 kg</td>
</tr>
</tbody>
</table>

### APPLICABILITY

- **AIRCRAFT MODELS**
  - ATR 42: Not applicable
  - ATR 72: 72-212A

- **AVIONICS**
  - Legacy avionics: NO
  - New avionics suite: NO

- **CABIN**
  - Original cabin: NO
  - New-look cabin: NO
  - Armonia cabin: NO

### PRE-REQUISITE

Certification of the aircraft to the highest MTOW value

### BENEFITS

- Optimization of airport tax related to aircraft declared weight.

### SEE ALSO

- Optional Design Weight Increase

### PACKAGES CONTENT

- SB Validation & Supply
- Updating of Technical Publications

### WEIGHT CHANGE

- None

### PRICE RANGE

- From 2,000 USD per aircraft

### ESTIMATED LEAD TIME

- 5 weeks

### ESTIMATED MANPOWER

- None

Subject to a possible specific adaptation to the relevant MSN.
DESCRIPTION

This modification consists in installing a single HF 9000 COLLINS unit. This system allows voice communications in the 2 to 29.9999 MHz range providing a selection capability of 280 channels, spaced at 100 Hz increments. It is used for all long distance radio communications.

The installation of a dual HF 9000 Collins system is also possible to provide the use of both a primary and a complementary HF system.

To improve flight crew comfort during flight, it is recommended to complement HF9000 with a “SELCAL System”.

NOTE: When the modification is installed, the rear cargo compartment volume is reduced by 0.15 m³ due to the installation of the HF equipment in rear upper area of the cargo compartment.

APPLICABILITY

For information only, Applicability of the modification to each MSN is subject to validation by the ATR Engineering Department.

APPLICATIONS

<table>
<thead>
<tr>
<th>AIRCRAFT MODELS</th>
<th>AVIONICS</th>
<th>CABIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATR 42 42-300/42-320/42-500</td>
<td>Legacy avionics</td>
<td>Original cabin</td>
</tr>
<tr>
<td>ATR 72 ALL</td>
<td>New avionics suite</td>
<td>New-look cabin</td>
</tr>
</tbody>
</table>

PRE-REQUISITE

NONE

SEE ALSO

SELCAL System Installation

BENEFITS

Improved pilot performance
- Extended radio frequency range
- Improved immunity against electromagnetic interference from optional fiber links

Operational Boost
- Mandatory for ETOPS operations; allows to operate new routes

PACKAGE CONTENT

- SB Validation & Supply
- Updating of Operational and Maintenance Documentation
- Kit supply
- Equipment supply (for HF installation): HF control panel, HF antenna coupler, HF coupler adapter kit, HF transceiver
- Equipment supply (for HF provision): HF transceiver mount, HF coupler mount
- NOFU (only for aircraft equipped with New Avionics Suite)

WEIGHT CHANGE

+ 14.6 kg (+ 32.2 lb) for HF installation
+ 23.4 kg (+ 51.7 lb) for HF provision

PRICE RANGE

From 140,000 USD (provision + installation + equipment)

ESTIMATED LEAD TIME

5 months

ESTIMATED MANPOWER

3 hours for HF installation
250 hours for HF provision

Subject to a possible specific adaptation to the relevant MSN.
DESCRIPTION
This modification consists in installing a selective calling system (SELCAL) to provide visual and aural indications of calls transmitted by ground stations and received by aircraft equipment (VHF or HF communications). The use of SELCAL allows an aircraft crew to be notified of incoming communications even when the aircraft radio has been muted. The modification is applicable on aircraft equipped with VHF or/and HF systems.

APPLICABILITY
<table>
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<tr>
<td></td>
<td>New avionics suite</td>
<td>New-look cabin</td>
</tr>
<tr>
<td>ATR 72</td>
<td>ALL</td>
<td>Armonia cabin</td>
</tr>
</tbody>
</table>

PRE-REQUISITE
VHF or/and HF systems

BENEFITS
Improved pilot performance
- Reduced workload due to the alert system which eliminates the need for a continuous listening watch to be maintained on the assigned radio channels
- Reduced cockpit noise

PRICE RANGE
From 45,000 USD equipment included

ESTIMATED LEAD TIME
4 months

ESTIMATED MANPOWER
60 hours

APPLICATION
Subject to a possible specific adaptation to the relevant MSN.

SEE ALSO
Single COLLINS HF 9000 Installation

PACKAGE CONTENT
- SB Validation & Supply
- Updating of Operational and Maintenance Documentation
- Kit supply
- Equipment supply:
  - Selector code selection panel
  - Decoder

WEIGHT CHANGE
+ 1.6 kg (+ 3.5 lb)
**DESCRIPTION**

This modification provides a Collins Aircraft Communication Addressing and Reporting System (ACARS), featuring a datalink recording interface capability, which allows data exchange between aircraft and flight operations centers or air traffic control by VHF communication. Data are displayed on the second Multipurpose Control and Display Unit (MCDU) and can be printed (if the option is selected).

Uplink and downlink messages facilitate communication and transmission of information such as Position reporting, Terminal weather, ATIS reports, Pre-departure clearances, Delay reports, Emergency reports, Fuel status and any other type of information including free text messages.

The ACARS application is typically tailored in collaboration with the ACARS system supplier Rockwell Collins to meet each customer’s specific needs in terms of type of messages exchanged.

**APPLICABILITY**

<table>
<thead>
<tr>
<th>AIRCRAFT MODELS</th>
<th>AVIONICS</th>
<th>CABIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATR 42</td>
<td>ALL Legacy avionics</td>
<td>YES Original cabin NO</td>
</tr>
<tr>
<td>ATR 72</td>
<td>ALL New avionics suite</td>
<td>YES New-look cabin NO</td>
</tr>
</tbody>
</table>

For non-NAS aircraft:

- Multipurpose Control and Display Unit (MCDU) with GNSS
- HT1000 installation
- Elementary surveillance (ELS)

For NAS aircraft: NONE

**PRE-REQUISITE**

For information only. Applicability of the modification to each MSN is subject to validation by the ATR Engineering Department.

**PACKAGE CONTENT**

- SB Validation & Supply
- Updating of Operational and Maintenance Documentation
- Kit supply
- Equipment supply: ACARS computer, Transmitter/Receiver, ECU-3000, VHF transceiver and antenna

**WEIGHT CHANGE**

+ 4.6 kg (+ 10.1 lb)

**PRICE RANGE**

From 95,000 USD equipment included for aircraft equipped with New Avionics Suite
From 150,000 USD equipment included for aircraft equipped with Legacy Avionics

**ESTIMATED LEAD TIME**

5 months

**ESTIMATED MANPOWER**

300 hours

Subject to a possible specific adaptation to the relevant MSN.

**BENEFITS**

**Increased operational and maintenance efficiencies**

- From constant communication access to flight operations centers (e.g. early preparation of maintenance tasks while the aircraft is still in-flight)

**Improved flight crew performance and flight safety**

- Reduced workload due to the elimination of voice transmissions on routine information
- Faster and more accurate flow of information
- Reduced congestion on voice frequencies

**Improved passenger service**

- Transmission of passenger service information such as connection flights delays, terminal details, etc.

**SEE ALSO**

NONE
DESCRIPTION

This modification consists in installing a third Audio Control Panel (ACP) on the pedestal for the observer and a third microphone; it interfaces with the Remote Control Audio Unit (RCAU) which enables the observer to:

- Select the transmission frequencies of HF or VHF transmitters, intercom systems and Passenger Address systems
- Select and adjust the reception levels of HF or VHF transmitters, intercom systems or radio navigation receivers (MLS, VOR/ILS, DME, ADF, MKR).

NOTE: The modification is not compatible with the dual HF system installation (for non-NAS aircraft). In aircraft not equipped with the modification the observer communications are managed via the captain ACP. This modification is mandatory in areas under FAA authority.

APPLICABILITY

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<th>AIRCRAFT MODELS</th>
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</tr>
<tr>
<td>ATR 72</td>
<td>New avionics suite</td>
<td>New-look cabin</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Armonia cabin</td>
</tr>
</tbody>
</table>

PRE-REQUISITE

- 3 Channels Remote Control Audio Unit (RCAU)
- Flight deck observer boomset

BENEFITS

- Allow Communication with the Observer
- Allows redundancy in case of pilot ACP unavailability

SEE ALSO

NONE

PACKAGE CONTENT

- SB Validation & Supply
- Updating of Maintenance Documentation
- Kit supply
- Equipment supply:
  - Audio control panel
  - Remote control audio unit
  - Hand microphone
  - Hand microphone jack panel

WEIGHT CHANGE

+ 3kg (+ 6.6 lb)

PRICE RANGE

From 65,000 USD

ESTIMATED LEAD TIME

4 months

ESTIMATED MANPOWER

50 hours

Subject to a possible specific adaptation to the relevant MSN.
**DESCRIPTION**

The modification consists in replacing existing boomsets by BOSE A20 boomsets P/N 324843-2070 provided BFE (plug is XLR-5 to get the ANR capability). BOSE boomsets are equipped with Active Noise Reduction (ANR) function, and requires adapted jack panels (with electrical power supply) and a 3-station audio system. The characteristics of BOSE A20 boomsets are:

- Acclaimed noise reduction: 30% greater active noise reduction than conventional aviation headsets
- Active equalization for enhanced audio: automatically shapes and equalizes incoming signals for enhanced clarity and intelligibility
- Customizable audio prioritisation: choose “mute” to immediately mute an auxiliary audio signal when receiving a communication.
- Side swappable mic: connect the mic to either the left or right earcup.
- Comfortable, stable fit: 30% less clamping force than conventional aviation headsets.
- Bluetooth connectivity: wireless connect to your Bluetooth-enabled devices.
- Fully certified: certified to FAA TSO and E/TSO-C139a standards

The certification of the use of the jack panels with BOSE boomsets described here is included.

**BENEFITS**

- **Improved pilot performance**
  - By using boomsets with Active Noise reduction system
- **Maintenance gains**
  - Retrofitting can be applied progressively to cover entire fleets

<table>
<thead>
<tr>
<th>OPERATIONAL COSTS SAVINGS</th>
<th>MAINTENANCE COSTS SAVINGS</th>
<th>OPERATIONAL BOOST</th>
<th>PASSENGER COMFORT</th>
<th>CREW EFFICIENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>✓</td>
<td>-</td>
<td>-</td>
<td>✓</td>
</tr>
</tbody>
</table>

**SEE ALSO**

NONE

**PACKAGE CONTENT**

- SB Validation & Supply
- Updating of Technical Publications
- Kit supply
- BOSE boomsets not supplied by ATR

**WEIGHT CHANGE**

From none to + 1.5 kg (+ 3.3 lb) depending on current configuration

**PRICE RANGE**

- From 1,000 USD (Sennheiser noise reduction Captain and FO boomsets replacement)
- From 22,000 USD (Team Captain and FO boomsets replacement including jack panels)

**ESTIMATED LEAD TIME**

3 months

**ESTIMATED MANPOWER**

1 hour for aircraft already equipped with ANR capability
8 hours for other aircraft

Subject to a possible specific adaptation to the relevant MSN

---

**APPLICATION**

- **AIRCRAFT MODELS**
  - ATR 42: ALL
  - ATR 72: ALL

- **AVIONICS**
  - Legacy avionics: YES
  - New avionics suite: YES

- **CABIN**
  - Original cabin: NO
  - New-look cabin: NO
  - Armonia cabin: NO

- **PRE-REQUISITE**
  - 3 Channels RCAU
  - 3rd ACP

---

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INSTALLATION OF SSCVR WITH 90 DAYS ULB AND 120 MINUTES RECORDING DURATION

DESCRIPTION
This modification proposes the replacement of existing Cockpit Voice Recorders (CVR), by a new type, the Solid State Cockpit Voice Recorder (SSCVR) with 90 day Underwater Locator Beacon and 120 minute recording duration. SSCVR is equipped with a Crash-Survivable Memory Unit (CSMU) for the protection of the solid state voice recording memory. This modification is mandatory in areas under EASA and FAA authority.

APPLICABILITY

<table>
<thead>
<tr>
<th>AIRCRAFT MODELS</th>
<th>AVIONICS</th>
<th>CABIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATR 42</td>
<td>Legacy avionics</td>
<td>Original cabin NO</td>
</tr>
<tr>
<td>ATR 72</td>
<td>New avionics suite</td>
<td>New-look cabin NO</td>
</tr>
</tbody>
</table>

PRE-REQUISITE
NONE

PRICE RANGE
From 21,000 USD equipment included

ESTIMATED LEAD TIME
2 months

ESTIMATED MANPOWER
1 hour

Subject to a possible specific adaptation to the relevant MSN.

BENEFITS
Maintenance gains
- Low cost of ownership and simpler maintenance
- Higher recording capacity and higher reliability

Operational gains
- High recording quality
- Reduced weight

Compliance with Local Regulatory Requirements

SEE ALSO
Installation of SSCVR With Data Link Recording
Installation of SSFDR With 90 Days ULB

PACKAGE CONTENT
- SB Validation & Supply
- Updating of Technical Publications
- Equipment supplied:
  - SSCVR

WEIGHT CHANGE
From none to - 5.9 kg (- 13 lb) depending of current equipment installed

ATR 23
COMMUNICATIONS

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DESCRIPTION

This modification proposes the replacement of existing Cockpit Voice Recorders (CVR or SSCVR) by a new type, the Solid State Cockpit Voice Recorder (SSCVR) with data link recording. SSCVR utilizes a Crash-Survivable Memory Unit (CSMU) for the protection of the solid state voice recording memory and retains most recent 120 minutes information.

NOTE: This modification is mandatory is zone under FAA and EASA authority for aircraft issued with a Certificate of Airworthiness after January 1st 2016 and equipped with ACARS computer.

BENEFITS

Maintenance gains
- Low cost of ownership and simpler maintenance
- Higher recording capacity and higher reliability

Operational gains
- High recording quality
- Reduced weight

Compliance with Local Regulatory Requirements

SEE ALSO
- Installation of SSCVR With 90 Days ULB and 120 Minutes Recording Duration
- Installation of SSFDR With 90 Days ULB

PACKAGE CONTENT
- SB Validation & Supply
- Updating of Technical Publications
- Equipment supplied:
  - SSCVR

WEIGHT CHANGE
From none to - 5.9 kg (- 13 lb) depending of current equipment installed

PRICE RANGE
From 25,000 USD equipment included

ESTIMATED LEAD TIME
2 months

ESTIMATED MANPOWER
1 hour

Subject to a possible specific adaptation to the relevant MSN.
ATR UPDATES SERVICES CATALOGUE - Issue 02

DESCRIPTION
This modification consists in installing a video surveillance system including 3 cameras surveying cockpit entrance, cargo and passenger compartments. A LCD monitor installed in the cockpit is automatically activated by the call button of the cockpit door and can also be manually activated by the first officer.

BENEFITS
• Compliance with ICAO and EU-OPS requirements
• Enhanced Security
  - Simplified crew members authentication procedure
  - Improved monitoring of events in the passenger cabin leading to better assessments of required actions

OPERATIONAL COSTS SAVINGS | MAINTENANCE COSTS SAVINGS | OPERATIONAL BOOST | PASSENGER COMFORT | CREW EFFICIENCY
--- | --- | --- | --- | ---
- | - | - | - | 

SEE ALSO
NONE

PACKAGE CONTENT
• SB Validation & Supply
• Updating of Technical publications
• Kit supply
• Equipment supply

WEIGHT CHANGE
+ 5 kg (+ 11 lb)

ATR 42
See “pre-requisite”

ATR 72
ALL

APPLICATION
For information only. Applicability of the modification to each MSN is subject to validation by the ATR Engineering Department.

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PRE-REQUISITE
Application of the modification Cockpit security door installation

PRICE RANGE
20,000 to 30,000 USD

ESTIMATED LEAD TIME
3 months

ESTIMATED MANPOWER
70 hours

Subject to a possible specific adaptation to the relevant MSN.
**DESCRIPTION**

The modification consists in changing starter generators -121 or -123 by a new starter generator P/N 8260-124 with an extended brush life. On the new starter generators, brush length have been increased from 38mm to 43mm and brush grade has been changed. The new brush change interval is postponed to 1200fh, synchronized with bearing change interval. No intermediated check is needed. See RIL Ref RIL-2017-07 for additional details.

**NOTES:**
- The replacement of the starter generators involves an evolution of the fuel drain pipes, because of a design adjustment.
- Old and new generators are mixable, under constraint of the mechanical adaptation described here above.

**APPLICABILITY**

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**PRICE RANGE**

See RIL-2017-07

**ESTIMATED LEAD TIME**

3 months

**ESTIMATED MANPOWER**

1 hour

**BENEFITS**

- Time between overhaul extended from 2400FH to 3600FH.
- Reduction of DC Gen Fault and consecutive operational burdens.

**PACKAGE CONTENT**

For fuel drain pipe replacement only:
- SB Validation & Supply
- Updating of Technical publications
- Kit supply

For starter generators replacement:
- Equipment to be purchased as spare parts or upgraded through Thales Vendor Service Bulletin.

**WEIGHT CHANGE**

- 0.2 kg (0.45 lb) for fuel drain pipe replacement (on two engines)
- 0.4 kg (- 0.9 lb) per equipment for starter generator replacement

**SEE ALSO**

NONE
**DESCRIPTION**

This modification consists in replacing existing Captain and First Officer seats by new seats with enhanced comfort. The comfort is enhanced thanks to:
- A headrest with rotation and vertical adjustment
- A lumbar adjustment system
- A thigh rest

*NOTE:* Customer may also benefit from advantages of new seat version including multi density foam and five points restraint system.

**BENEFITS**

- Enhanced Captain and First Officer comfort and cockpit seats ergonomics

**PRICE RANGE**

From 2,500 USD without equipment

**ESTIMATED LEAD TIME**

4 months

**ESTIMATED MANPOWER**

1 hour

**PACKAGE CONTENT**

- SB Validation & Supply
- Updating of Technical Publications
- Kit supply
- Equipment supply (not included)

**WEIGHT CHANGE**

+ 4.5 kg (+ 8.7 lb)

**APPLICABILITY**

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**PRE-REQUISITE**

NONE

**SEE ALSO**

NONE
DESCRIPTION
This modification consists in installing one supplementary Protective Breathing Equipment for the observer in the cockpit behind the captain seat (LH side), bringing to 3 the number of PBE in the cockpit. The PBE hood envelopes the head of the wearer and provides oxygen with a demand based air regeneration system. The system is a chemical process that uses potassium superoxide (KO2).

APPLICABILITY

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PRE-REQUISITE: NONE

BENEFITS
• Allows to equipped the observer with oxygen equipment

OPERATIONAL COSTS SAVINGS | MAINTENANCE COSTS SAVINGS | OPERATIONAL BOOST | PASSENGER COMFORT | CREW EFFICIENCY
---|---|---|---|---
- | - | - | - | ✔

SEE ALSO
NONE

PACKAGE CONTENT
• SB Validation & Supply
• Updating of Maintenance Documentation

WEIGHT CHANGE
+ 2.5 kg (+ 5.5 lb)

PRICE RANGE
From 10,000 USD without equipment

ESTIMATED LEAD TIME
3 months

ESTIMATED MANPOWER
2 hours

Subject to a possible specific adaptation to the relevant MSN.
DESCRIPTION

Aircraft cabin configuration can be modified to accommodate specific customer choices and operational needs. From high density to comfort configuration, ATR can develop various solutions with different types of galleys (different size, wet or dry) and different types of storages. Cabin configuration is fully customizable from color choice, to general arrangement including possibility to be Head Injury Criterion (HIC) compliant. Upon request, technical studies are undertaken to define which options will best fit customer requirements.

ATR42 CONFIGURATION
Interior configuration of 50 seats at 30” pitch

ATR72 CONFIGURATION
Interior configuration of 78 seats at 28” pitch

APPLICABILITY

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PRE-REQUISITE
NONE

BENEFITS

Operational gains
- Higher per-flight profits due to increased aircraft capacity
- Fleet commonality in terms of passenger capacity

Improved passenger comfort

<table>
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<th>OPERATIONAL COSTS SAVINGS</th>
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<th>OPERATIONAL BOOST</th>
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PRICE RANGE
On quote

ESTIMATED LEAD TIME
On quote

ESTIMATED MANPOWER
On quote

Subject to a possible specific adaptation to the relevant MSN.

SEE ALSO
- Passenger Seats Replacement Geven Neo-Classic and Neo-Prestige Seats
- Passenger Seats Replacement Expliseat Titanium Seats
- Galley Modification
- Rear Cargo Compartment Galley Storage Unit
- Additional Stowage Unit
- Cargo Flex
PASSENGER SEATS REPLACEMENT
GEVEN NEO-CLASSIC AND NEO-PRESTIGE SEATS

DESCRIPTION

This modification consists in replacing existing passenger seats with new Neo-Classic or Neo-Prestige Geven seats with outstanding features. Geven Neo-Classic and Neo-Prestige seats are lightweight with a carbon backrest and have a modern design specially developed for the ATR Cabin; their ergonomic shape improves passenger comfort and living space, especially at knee level. Geven seats are optimized for high density configurations, enabling very low pitch. Seat is designed to be simple, robust, reliable and easy to maintain.

BENEFITS

Passenger comfort gains
- High siting comfort
- Modern appearance
- Improve living space

Payload increase benefit
- About 2 pax saving with Geven “Neo-Classic” seats
- About 1 pax saving with Geven “Neo-Prestige” seats

Fuel saving benefit and more environmental friendly

APPLICABILITY

AIRCRAFT MODELS AVIONICS CABIN

| ATR 42 | ALL | Legacy avionics | NO | Original cabin | NO |
| ATR 72 | ALL | New avionics suite | NO | New-look cabin | YES |
|        |     | Armonia cabin | YES |                  |    |

PRE-REQUISITE

NONE

PRE-REQUISITE

NONE

PRICE RANGE

On quote

ESTIMATED LEAD TIME

On quote

ESTIMATED MANPOWER

On quote

Subject to a possible specific adaptation to the relevant MSN.
### DESCRIPTION

This modification consists in replacing existing passenger seats with new Expliseat Titanium seats. Expliseat Titanium seats are lightweight (5.5 kg (11 lb)) and allow to save up to 300 kg (661.4 lb) when compared to standard ATR ‘600 series’ cabin configuration. These new seats will enable to get substantial fuel savings and to further enhance payload capacity and operational flexibility at short runways or at hot and high environments. Expliseat Titanium seats feature only 40 non corrosive material parts per seat, thus reducing their maintenance costs. With an innovative design and the association of carbon fiber and titanium, seats allow passengers to travel comfortably and safely. These non recline seats are fully customizable. Expliseat seats enable high density configuration. For fuller information please refer to “Cabin reconfiguration” modification.

### BENEFITS

#### Operational gains
- Lightweight seats
- Fuel savings (less CO2 per pax)
- Enhanced payload capacity
- Operational flexibility at short runways or at hot and high environment
- Allow high density configuration, e.g. 78 pax configurations in ATR72 aircraft

#### Maintenance gains
- Reduced maintenance costs with non corrosive materials

#### Higher durability (compared to traditional aluminum seats)
- Fully customizable

### SEE ALSO

- Cabin Reconfiguration
- Passenger Seats Replacement Geven Neo-Classic and Neo-Prestige Seats

### APPLICABILITY

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### PRE-REQUISITE

NONE

### PACKAGE CONTENT

- SB Validation & Supply
- Updating of Technical Publications

### WEIGHT CHANGE

Up to - 300 kg (- 661.4 lb) compared to the original ATR ‘600 series’ cabin configuration

### PRICE RANGE

On quote

### ESTIMATED LEAD TIME

On quote

### ESTIMATED MANPOWER

On quote

Subject to a possible specific adaptation to the relevant MSN.
**DESCRIPTION**

Various galley configurations can be fitted to accommodate specific customer needs. Galleys can be fitted with different drawer arrangements. Wet or dry galleys, dimensions from 16” to 28”, can be installed in the rear RH side part of the passenger cabin, and 16” width dry galley can be installed in the rear LH side part of the passenger cabin. In addition to galleys, additional stowage compartment can be fitted under the overhead bins; please refer to the Additional stowage compartment solution.

In addition to standard units and half size trolleys, galleys are designed to accommodate various equipment as Hot jugs, Water heater, Coffee maker or Espresso machine installation, Ovens, USB plug and Ice unit and can be adapted to customer needs:

- Hot jugs
- Ovens
- Water heater
- USB plug (Smart galley only)
- Coffee maker or Espresso machine installation
- Ice unit

**APPLICABILITY**

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**PRICE RANGE**

On quote

**ESTIMATED LEAD TIME**

On quote

**ESTIMATED MANPOWER**

On quote

**PACKAGE CONTENT**

- SB Validation & Supply
- Updating of Technical Publications

**WEIGHT CHANGE**

Variable

**BENEFITS**

**Enhanced passenger service**

**Enhanced flight crew performance**

- Easier and faster service due to the customer standardizing a chosen galley configuration throughout the fleet

**SEE ALSO**

- Additional Stowage Unit
- Cabin Reconfiguration

**APPLICATIONS**

- Enhance passenger service
- Improve flight crew performance

**APPLICATIONS FOR**

- ATR 42
- ATR 72

**APPLICATIONS TO**

- All legacy avionics
- No new avionics suite
- ATR Armonia cabin YES

For information only. Applicability of the modification to each MSN is subject to validation by the ATR Engineering Department.
DESCRIPTION

ATR has developed several solutions in answer to customer requests for extra galley storage capacity in rear cargo compartments.

The Standard Galley storage unit, a dry galley installed in the front part of the rear cargo compartment. This galley has housing capacity for two half-size trolleys and three standard units. Rear cargo compartment is reduced by 1.9 m³ when the galley equipment is in use during flights, and by 0.67 m³ when it is not.

A new solution, called Smart Galley F, is now available, installed at the same location as the Standard Galley storage unit. Galley F is available in different versions:

- F1: single upper shelf (Total 2 S/U storage capacity) + 2 half size trolleys
- F2: dual upper shelf (Total 4 S/U storage capacity) + 2 half size trolleys
- F3: dual upper shelf (Total 3 S/U storage capacity + 1 Water heater) + 2 half size trolleys

This galley is also fully foldable and rear cargo compartment is reduced by 0.06 m³ when the galley is folded and 1.9 m³ when in use during flights.

APPLICABILITY

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PRE-REQUISITE

NONE

BENEFITS

- Enhanced passenger service
- Enhanced flight crew performance

PRICE RANGE

From 6,000 USD

ESTIMATED LEAD TIME

From 4 months

ESTIMATED MANPOWER

50 hours

PACKAGE CONTENT

- SB Validation & Supply
- Updating of Operational and Maintenance Documentation
- Kit supply
- Equipment supply

WEIGHT CHANGE

Standard Galley storage unit:
+ 30 kg without any equipment
F1 Galley: + 7 kg (15.4 lb) without any equipment
F2 Galley: + 13 kg (+ 28.6 lb) without any equipment
F3 Galley: + 50 kg (+ 110 lb) with W/H + tank

SEE ALSO

NONE
**DESCRIPTION**

ATR proposes additional stowage units fitted under the overhead bins and fastened on seat track in cabin. Stowage compartment are fully customizable: inside part can be equipped with various configurations depending on customer requests and needs, and outside part can be customize to fit with cabin harmony. Stowage compartment can be installed equally in RH or LH part of the cabin and dimensions are comprised between 12” and 30”. Stowage can be closed by doors or retaining net with removal transversal bar and curtain. It can be used as coatroom with shelves, converted in baggage stowage or accommodate with 2 half size trolleys and 2 standard units.

Technical studies are undertaken to define which options will best fit customer requirements.

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**APPLICABILITY**

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|                | Armonia cabin | YES |

| PRE-REQUISITE | NONE |

---

**BENEFITS**

**Enhanced passenger service**

- Increased cargo capacity for luggage, coats, etc.

**OPERATIONAL COSTS SAVINGS**  **MAINTENANCE COSTS SAVINGS**  **OPERATIONAL BOOST**  **PASSENGER COMFORT**  **CREW EFFICIENCY**  
-  -  -  ✔  -

**SEE ALSO**

- Cabin Reconfiguration
- Galley Modification
- Cargo Flex
- Secured Stowage in Forward Cargo Compartment

**PACKAGE CONTENT**

- SB Validation & Supply
- Updating of Technical Publications

**PRICE RANGE**  On quote

**ESTIMATED LEAD TIME**  On quote

**ESTIMATED MANPOWER**  On quote

**WEIGHT CHANGE**  Variable

Subject to a possible specific adaptation to the relevant MSN.
CABIN FLOOR - TOTAL FLOOR REINFORCEMENT (400 KG/M²)

DESCRIPTION
This modification increases the maximum vertical load density certified on the floor panels installed under the passenger seats from 200 kg/m² to 400 kg/m².

OPERATIONAL COST SAVINGS
MAINTENANCE COSTS SAVINGS
OPERATIONAL BOOST
PASSENGER COMFORT
CREW EFFICIENCY

BENEFITS
- Floor resistance improved
- Allow embodiment of “Cargo Flex” modification

SEE ALSO
Cargo Flex

PACKAGE CONTENT
- SB Validation & Supply
- Updating of Technical Documentation

WEIGHT CHANGE
+ 9 kg (+ 19.8 lb) for ATR72

PRICE RANGE
From 110,000 USD

ESTIMATED LEAD TIME
4 months

ESTIMATED MANPOWER
100 hours

Subject to a possible specific adaptation to the relevant MSN.

ATR "42-600"

ATR "72-600"

APPLICABILITY
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PRE-REQUISITE
NONE
**DESCRIPTION**

This modification consists in installing 2 or 4 “Class B” containers in the forward area of the ATR 42 or 72. Once provisions are installed, containers can be installed by removing specific seats in the forward area without impacting the rest of the cabin. Each container has a separate smoke detector and a curtain with an integrated net ensuring isolation from smoke. One additional fire extinguisher is installed in the overhead bin, above one of the containers. Containers are equipped with magazine pockets and handles to facilitate container transportation. Containers (aft faces, placards, pockets) and curtains can be customized to customer wishes. Container characteristics:

- Volume: 2.16 m³ (76.4 ft³)
- Transportable mass: 450 kg (density 208 kg/m³)
- Weight: 64.4 kg

**APPLICABILITY**

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**PRE-REQUISITE**

- Floor panels at 400 kg/m²
- Large aft cargo bay with straight partition

**BENEFITS**

- Increased cargo capacity

**PRICE RANGE**

From 250,000 USD for two “Class B” containers configuration

**ESTIMATED LEAD TIME**

10 months

**ESTIMATED MANPOWER**

100 hours

**PACKAGe CONTENT**

- SB Validation & Supply
- Updating of Technical Publications
- Kit supply
- Equipment supply:
  - LH containers
  - RH containers

**WEIGHT CHANGE**

+ 14 kg (+ 31 lb) for two “Class B” containers configuration

**SEE ALSO**

- Cabin floor - Total Floor Reinforcement (400 kg/m²)
PHITEK CABINSTREAM™
IFE WI-FI STREAMING

DESCRIPTION

The modification consists in providing the provisions for Phitek Cabinstream™ IFE Wi-Fi streaming installation in overhead bins. The (Amphenol) Phitek Cabinstream™ IFE Wi-Fi brings high-quality wireless media streaming to personal electronic devices for an uninterrupted and reliable passenger IFE experience. Being battery-powered, this stand-alone, portable content delivery system eliminates expensive aircraft modifications, reducing total cost of ownership while providing the best in-class passenger entertainment.

Cabinstream’s open platform can host a range of IFE services such as multi-user audio and video on-demand, browser-based gaming, electronic publications and on-board shopping. Its open platform allows airlines to customize the look and feel of their IFE service by branding the user interface. Media are broadcast via Wi-Fi IEEE 802.11b standard (2.5 GHz/5.0 GHz) router able to serve the whole passenger cabin and stored on a 1 TB Solid State disk drive supplied on NiMh battery (12 hours autonomy). Cabinstream device weighs less than 6 kg and is qualified to RTCA DO-160 aerospace regulations for Environmental and EMI (ElectroMagnetic Interference).

The modification precisely consists in providing the aircraft with:

- An AFM authorization. Demonstrations have been performed to check T-PED Wi-Fi compatibility with ATR A/C Systems.
- A set of Job Instruction Cards, in order to securely install or uninstall easily (no need of tools) the Wi-Fi device, its battery, its protection and installation.

**NOTE:** The (Amphenol) Phitek Cabinstream™ device is not provided in the modification, and will have to be procured/rented directly to Phitek. Please contact Phitek (phitek.com) for any further details.

PRE-REQUISITE

NONE

APPLICATION

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APPLICABILITY

For information only. Applicability of the modification to each MSN is subject to validation by the ATR Engineering Department.

BENEFITS

- Stream in-flight entertainment services direct to passengers’ own devices allowed
- Cabin product differentiation by offering content streaming to passengers (movies, music, touristic information, news, inflight magazine, passenger surveys, etc.)
- Ease of content configuration and publishing
- Ease of flight deployment and retrieval
- Replaceable battery during turn-around time and rapid charging
- Ease of operation by cabin crew through cabin crew app
- Boost airline revenues
- No electrical connection with aircraft, allowing an easy retrofit installation

PRICE RANGE

From 2,500 USD

ESTIMATED LEAD TIME

5 weeks

ESTIMATED MANPOWER

1 hour

PACKAGE CONTENT

- SB Validation & Supply
- Updating of Operational Documentation

WEIGHT CHANGE

For information device weight less than 6 kg

OPERATIONAL COSTS SAVINGS

- 

MAINTENANCE COSTS SAVINGS

- 

OPERATIONAL BOOST

- 

PASSENGER COMFORT

- ✔

CREW EFFICIENCY

- 

SEE ALSO

NONE
# NURSING TABLE IN THE LAVATORY

## Description

The modification consists in installing a nursing table in the lavatory, together with the related placard stickers.

Main features:
- Dimensions: 41cm (depth) x 65cm (width)
- Table upper face is 97 cm (38") above floor level
- Designed for children up to 11kg

## Benefits

- Improved passenger comfort and services

## Package Content

- SB Validation & Supply
- Updating of Technical Documentation

## Weight Change

+ 4 kg (+ 8.8 lb)

## See Also

NONE

---

## Applicability

<table>
<thead>
<tr>
<th>AIRCRAFT MODELS</th>
<th>AVIONICS</th>
<th>CABIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATR 42</td>
<td>Legacy avionics</td>
<td>Original cabin</td>
</tr>
<tr>
<td>ATR 72</td>
<td>New avionics suite</td>
<td>New-look cabin</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Armonia cabin</td>
</tr>
</tbody>
</table>

Subject to a possible specific adaptation to the relevant MSN.

## Price Range

From 6,000 USD

## Estimated Lead Time

3 months

## Estimated Manpower

15 hours
SECONd STAND-ALONE EMERGENCY LOCATOR TRANSMITTER (ELT)

DESCRIPTION
The modification provides a 3-frequency stand-alone portable Emergency Locator Transmitter ELT “ADT 406 S”, located in the passenger cabin. It uses the emergency frequency 406 MHz in order to be easily identified by COPAS-SARSAT satellites. It also transmits a 121.5 MHz and 243 MHz signal to facilitate the final approach of the distress scene.

This ELT can be triggered manually or automatically by means of a water sensor. It is compliant to the latest EU/OPS and ICAO recommendations. The equipment can be installed in a doghouse or in an overhead bin, depending on the aircraft interior configuration.

BENEFITS
- Compliance with the latest EU/OPS and ICAO recommendations
- Easy maintenance and installation
- Compact, lightweight and stand-alone
- No false activation induced by EMI

SEE ALSO
NONE

PACKAGE CONTENT
- SB Validation & Supply
- Updating of Technical Publications
- Kit supply
- Equipment supply:
  - ELT
  - ELT bag

WEIGHT CHANGE
+2 kg (+4.4 lb)

APPLICABILITY

<table>
<thead>
<tr>
<th>AIRCRAFT MODELS</th>
<th>AVIONICS</th>
<th>CABIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATR 42</td>
<td>ALL</td>
<td>Legacy avionics NO</td>
</tr>
<tr>
<td>ATR 72</td>
<td>ALL</td>
<td>New avionics suite NO</td>
</tr>
</tbody>
</table>

PRE-REQUISITE
NONE

PRICE RANGE
From 15,000 USD

ESTIMATED LEAD TIME
3 months

ESTIMATED MANPOWER
2 hours

Subject to a possible specific adaptation to the relevant MSN.
DESCRIPTION
The modification consists in replacing the basic cabin flashlights by flashlights equipped with a battery charge indicator. On each flashlight, an electronic maintenance circuit with LED indicator confirms that the equipment is always ready for use by monitoring battery voltage and continuity through the lamps. Flashlight is automatically activated when removed from the retention bracket and deactivated when re-installed.

APPLICABILITY
For information only. Applicability of the modification to each MSN is subject to validation by the ATR Engineering Department.

<table>
<thead>
<tr>
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<th>AVIONICS</th>
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<td>New-look cabin</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Armonia cabin</td>
</tr>
</tbody>
</table>

PRE-REQUISITE
NONE

BENEFITS
Time maintenance gain
- Maintenance check limited to visual control of the indicator

OPERATIONAL COSTS SAVINGS | MAINTENANCE COSTS SAVINGS | OPERATIONAL BOOST | PASSENGER COMFORT | CREW EFFICIENCY
- | - | - | - | -

PACKAGE CONTENT
- SB Validation & Supply
- Updating of Technical publications
- Kit supply
- Equipment supply (except particular conditions agreed through commercial offer)

WEIGHT CHANGE
None

PRICE RANGE
From 8,000 USD

ESTIMATED LEAD TIME
2 months

ESTIMATED MANPOWER
1 hour

Subject to a possible specific adaptation to the relevant MSN.
**DESCRIPTION**

This modification consists in relocating the tail strut from the tail cone to the cabin. The tail strut is stored in a dedicated stowage, installed on the RH side of the rear attendant seat.

Example of installation on aircraft model 72-212A

---

**APPLICABILITY**

<table>
<thead>
<tr>
<th>AIRCRAFT MODELS</th>
<th>AVIONICS</th>
<th>CABIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATR 42</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>ATR 72 72-102 / 72-202 72-212 / 72-212A</td>
<td>Legacy avionics NO</td>
<td>Original cabin YES</td>
</tr>
<tr>
<td></td>
<td>New avionics suite NO</td>
<td>New-look cabin YES</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Armonia cabin YES</td>
</tr>
</tbody>
</table>

**PRE-REQUISITE**

Rear attendant seat compatible. Specific analysis to be done for aircraft equipped with “Original” cabin.

---

**PRICE RANGE**

From 8,000 USD

---

**ESTIMATED LEAD TIME**

3 months

---

**ESTIMATED MANPOWER**

1 hour

Subject to a possible specific adaptation to the relevant MSN.

---

**BENEFITS**

- Enhanced flight crew performance: easier and faster access to the tail strut.

![Open position](open-position.jpg)

![Closed position](closed-position.jpg)

**SEE ALSO**

NONE

---

**PACKAGE CONTENT**

- SB Validation & Supply
- Updating of Technical publications
- Kit supply

---

**WEIGHT CHANGE**

None

---

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### BENEFITS
- Quick change for Medevac Operations

### DESCRIPTION
This modification consists in installing a modified rear LH bulkhead that allows the loading of stretchers using the passenger door. The central part is folded down during loading and unloading. Stretcher is installed in the last three left-hand rows of the ATR aircraft cabin. The stretcher (BUCHER 16g NGS) is not provided and shall be purchased separately by the buyer. Stretcher installation should be installed with a STC (Supplemental Type Certificate) from BUCHER that has to be recognized for validation by local Airworthiness Authority.

**NOTE:** The LOPA must be compatible: please ask ATR for the compatibility with existing LOPA.

### APPLICABILITY
<table>
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<tr>
<th>AIRCRAFT MODELS</th>
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<th>CABIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATR 42 42-400/42-500</td>
<td>Legacy avionics (NO)</td>
<td>Original cabin (NO)</td>
</tr>
<tr>
<td>ATR 72 72-102/72-202/72-212/72-212A</td>
<td>New avionics suite (NO)</td>
<td>New-look cabin (YES)</td>
</tr>
<tr>
<td></td>
<td>Armonia cabin (YES)</td>
<td></td>
</tr>
</tbody>
</table>

**PRE-REQUISITE**
- No galley or stowage installed at the rear left-hand side of the cabin
- “Quick release option for breakover” on the last 3 LH pax seats
- May require seat pitch adjustment

### SEE ALSO
NONE

### PACKAGE CONTENT
- SB Validation & Supply
- Updating of Technical Publications
- Kit supply

### WEIGHT CHANGE
+ 2.2 kg (+ 4.8 lb) for modified rear LH bulkhead

### PRICE RANGE
From 10,000 USD

### ESTIMATED LEAD TIME
4 months

### ESTIMATED MANPOWER
20 hours

Subject to a possible specific adaptation to the relevant MSN.
SECURED STOWAGE IN FORWARD CARGO COMPARTMENT

DESCRIPTION

Accomplishment of this modification consists in installing a secured stowage in the forward cargo compartment on the left hand side. The stowage area is inaccessible during the flight. This stowage enables secured transport of special object (weapons, highly-value items).

Two different stowages are available; the characteristics of the stowage are:

<table>
<thead>
<tr>
<th>Width (mm)</th>
<th>Depth (mm)</th>
<th>Height (mm)</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>416</td>
<td>613</td>
<td>478</td>
<td>50 kg (110 lb)</td>
</tr>
<tr>
<td>515</td>
<td>360</td>
<td>500</td>
<td>70 kg (154 lb)</td>
</tr>
</tbody>
</table>

BENEFITS

- Secured transport of special object (ex.: weapon, highly-value items, etc.)

SEE ALSO

NONE

PACKAGE CONTENT

- SB Validation & Supply
- Updating of Operational and Maintenance Documentation
- Kit supply
- Equipment supply:
  - Stowage compartment

WEIGHT CHANGE

+ 15 kg (+ 33 lb)

PRICE RANGE

From 43,000 USD equipment included

ESTIMATED LEAD TIME

6 months

ESTIMATED MANPOWER

10 hours

APPLICABILITY

For information only. Applicability of the modification to each MSN is subject to validation by the ATR Engineering Department.

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<td>ATR 42</td>
<td>Legacy avionics</td>
<td>NO Original cabin</td>
</tr>
<tr>
<td>ATR 72</td>
<td>New avionics suite</td>
<td>NO New-look cabin</td>
</tr>
</tbody>
</table>

PRE-REQUISITE

NONE

OPERATIONAL COSTS SAVINGS

MAINTENANCE COSTS SAVINGS

OPERATIONAL BOOST

PASSenger COMFORT

CREW EFFICIENCY

Subject to a possible specific adaptation to the relevant MSN.
DESCRIPTION
During cargo loading and unloading phase customer can damage cargo area floor panels. Cargo floor surface degradation is mainly due to luggage impact during handling, wear and panel leading edge delamination due to action of pushing during handling. In answer to this operational issue ATR proposes a modification which consists in protecting the existing cargo floor panels (in forward and/or rear cargo area) by a non-textile floor addition on upper surface. This additional protection allows to preserve cargo area floor panels and to eliminate the need to replace it.

APPLICABILITY
For information only. Applicability of the modification to each MSN is subject to validation by the ATR Engineering Department.

AIRCRAFT MODELS
- ATR 42: ALL
- ATR 72: ALL

AVIONICS
- Legacy avionics: NO
- New avionics suite: NO

CABIN
- Original cabin: NO
- New-look cabin: YES
- Armonia cabin: YES

PRE-REQUISITE
NONE

BENEFITS
- Floor panels protected

OPERATIONAL COSTS SAVINGS
- MAINTENANCE COSTS SAVINGS
- OPERATIONAL BOOST
- PASSENGER COMFORT
- CREW EFFICIENCY

PACKAGE CONTENT
- SB Validation & Supply
- Updation of Technical Documentation
- Kit supply:
  - Flat rail cover
  - Thresholds

WEIGHT CHANGE
+ 8 kg (+ 17.6 lb) per cargo area

PRICE RANGE
From 10,000 USD for forward cargo compartment

ESTIMATED LEAD TIME
4 months

ESTIMATED MANPOWER
10 hours

SEE ALSO
Cabin floor - Total Floor Reinforcement (400 kg/m²)

ATR UPGRADES SERVICES CATALOGUE - Issue 02
DESCRIPTION
This modification allows the airline to use fuel indicating instruments with graduations units in accordance with its operational regulations: lb or kg. This evolution only consists in replacing equipment on aircraft for all versions, except for the “-600 series” aircraft on which a simple pin-programming application only is required.

BENEFITS
● Compliance with operational requirements

SEE ALSO
Standby Altimeter - Millibars/Inches of Mercury Indication

PACKAGE CONTENT
● SB Validation & Supply
● Updating of Technical publications
● Equipment supply (except for -600 series, pin-programming only)

WEIGHT CHANGE
None

APPLICABILITY
For information only. Applicability of the modification to each MSN is subject to validation by the ATR Engineering Department.

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<td>ATR 72</td>
<td>ALL, New avionics suite</td>
<td>New-look cabin</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Armonia cabin</td>
</tr>
</tbody>
</table>

PRE-REQUISITE
NONE

PRICE RANGE
From 5,000 USD (equipment excluded)  
From 46,000 USD (equipment included)

ESTIMATED LEAD TIME
2 months

ESTIMATED MANPOWER
-600 series A/C: 2 hours  
Other A/C: 4 hours

Subject to a possible specific adaptation to the relevant MSN.
DESCRIPTION
In order to be compliant with regulatory requirements (FAA and EASA) this modification consists in replacing the existing Solid State Flight Data Recorder (SSFDR) with 30 day Underwater Locator Beacon (ULB) by a SSFDR with 90 day ULB. This modification is done through the application of L3 Communication VSB N° FA 2100FDR SB024.

BENEFITS
• Compliance with Local Regulatory Requirements

<table>
<thead>
<tr>
<th>OPERATIONAL COSTS SAVINGS</th>
<th>MAINTENANCE COSTS SAVINGS</th>
<th>OPERATIONAL BOOST</th>
<th>PASSENGER COMFORT</th>
<th>CREW EFFICIENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
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</tr>
</tbody>
</table>

SEE ALSO
NONE

PACKAGE CONTENT
• SB Supply
• Technical Publication updating

WEIGHT CHANGE
Negligible (<1 kg (2.2 lb))

PRICE RANGE
Free Of Charge

ESTIMATED LEAD TIME
None

ESTIMATED MANPOWER
1 hour

Subject to a possible specific adaptation to the relevant MSN.
**DESCRIPTION**

This modification consists in the activation of the Wireless Extension For ACMS (WEFA) function. On aircraft not equipped with Multi-Purpose Computer (MPC) WEFA ready this option includes the MPC upgrade. The WEFA system allows a wireless transmission of aircraft data (Quick Access Record, Digital ACMS Record, MPC reports, MCDU hard copies) stored on the ACMS (Aircraft Condition Monitoring System) to an airline server. Data is recorded during flight and automatically transmitted when aircraft in on ground.

**APPLICABILITY**

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<td>ATR 42 ALL</td>
<td>Legacy avionics YES</td>
<td>Original cabin NO</td>
</tr>
<tr>
<td>ATR 72 ALL</td>
<td>New avionics suite YES</td>
<td>New-look cabin NO</td>
</tr>
<tr>
<td>ATR 72 Armonia cabin NO</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For information only. Applicability of the modification to each MSN is subject to validation by the ATR Engineering Department.

**PRICE RANGE**

- From 4,500 USD without equipment
- From 26,400 USD including MPC upgrade and memory card

**ESTIMATED LEAD TIME**

2 months

**ESTIMATED MANPOWER**

7 hours

Subject to a possible specific adaptation to the relevant MSN.

**BENEFITS**

- Time gain due to automatic data download
- Continuous flight data monitoring
- Anticipation of maintenance tasks

**PACKAGE CONTENT**

- SB Validation & Supply
- Updating of Technical publications
- Kit supply
- For GMA customer: PCMCIA card and MPC upgrade

**WEIGHT CHANGE**

+ 0.18 kg (+ 0.4 lb)

**SEE ALSO**

NONE

**WEFA FUNCTION ACTIVATION**
**ENHANCED NAS SOFTWARE**

**STANDARD 3**

**DESCRIPTION**

The application of the Standard 3 New Avionics Suite software allows benefiting from improved features:

- **Anticipated ILS & LPV capture**
  ILS LOC and LPV capture are anticipated (using FMS data) so that capture at high speeds, high interception angle, close to threshold is more efficient.

- **Auto-Pilot domain extension**
  Auto Pilot can be engaged above the max bank angle (27° in high bank conditions; 15° in low bank conditions). Ultimately, the Auto Pilot can be engaged up to 45° (in high bank conditions) or 30° (in low bank conditions). This feature aims at bringing the aircraft back to the authorized domain (+/-27° in high bank conditions; +/-15° in low bank conditions).

- **High speed protection**
  STD2 was certified for VNAV PATH and VNAV VS modes in CLEAN & FLAP 15° configurations. STD3 is extended to PITCH HOLD, VS & ALT* modes.

- **Low speed protection**
  Implemented for PITCH HOLD, VNAV ALT*, ALT* and VS modes in CLEAN, FLAP 15° & FLAP 25° (ATR42) configurations.

- **Temporary flight plan display on the ND**
  As soon as a temporary flight plan is created, it is displayed on ND (Navigation Display) simultaneously with the ACTIVE, allowing checking TMPY revisions before activation.

- **Engine-Out Standard Instrument Departure (EOSID)**
  A TMPY FPLN (temporary flight plan) is automatically created and displayed on Navigation Display upon detection of engine-out or engine fire during departure. Upon crew execution, EOSID is automatically flown.

  This new avionics standard also allows the embodiment of new options:

  - **RNP AR 0.3/0.3**
    This function allows an aircraft to fly in a corridor of +/- 0.3 NM for departure and missed approach with high accuracy and obstacles protection.

  - **Synthetic Vision System (SVS)**
    On the Display Units #1 & #5, the artificial horizon is replaced by a virtual picture of the terrain, which data is loaded in a resident compact flash.

  - **Electronic Checklist customization**
    Provide capability for Airlines to customize a subset of the Normal ECL, to be used in addition to those defined by ATR.

  - **Company Routes**
    Provide capability for ATR to order customized NDB (Navigation Data Base) including their company routes. During the packing/distribution process within Thales, a consistency check is performed between CORTE (Company Route) and applicable AIRAC (Aeronautical Information Regulation And Control) NDB cycle.

  Others options which developments are still in progress. Loading of the Standard 3 software is only possible with Thales PMAT Software Suite standard V4.

  **APPLICABILITY**

<table>
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</tr>
</thead>
<tbody>
<tr>
<td>ATR 42 42-500</td>
<td>Legacy avionics</td>
<td>NO</td>
</tr>
<tr>
<td>ATR 72 72-212A</td>
<td>New avionics suite</td>
<td>YES</td>
</tr>
</tbody>
</table>

  **PRE-REQUISITE**

  - NES Software Standard 2.1
  - MPC DMU software P/N L04451-1006 and FDAU software P/N L04450-1002

  **BENEFITS**

  - Improvement of crew efficiency and comfort.
  - Capability for implementation of new options allowing flight routes optimizations and operational costs savings.

  **OPERATIONAL COSTS SAVINGS**

  **MAINTENANCE COSTS SAVINGS**

  **OPERATIONAL BOOST**

  **PASSENGER COMFORT**

  **CREW EFFICIENCY**

  **PACKAGE CONTENT**

  - SB Validation & Supply
  - Updating of Technical publications
  - Equipment supply (software)

  **PRICE RANGE**

  From 22,000 USD

  **ESTIMATED LEAD TIME**

  8 weeks

  **ESTIMATED MANPOWER**

  1 hour

  Subject to a possible specific adaptation to the relevant MSN.
**DESCRIPTION**

This modification consists in replacing landing gear wheels and/or brakes. Depending on customer needs (extreme cold conditions for example) and preferences wheels and brakes from different manufacturer can be installed.

- MEGGITT
- GOODRICH (ATR 42)
- SAFRAN LANDING SYSTEM
- MICHELIN (Nose wheel)

**MIXABILITY:** Main wheels and brakes of different manufacturers might not be mixable. However, it is possible to have the main landing gear and the nose landing gear equipped with parts from different manufacturers.

**APPLICABILITY**

<table>
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<td>ATR 72</td>
<td>New avionics suite</td>
<td>New-look cabin</td>
</tr>
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</table>

**PRE-REQUISITE:** NONE

**APPLICATIONS**

- Enlargement of the Environmental Envelope to -45°C
- Extension of the Environmental Envelope to -54°C

**BENEFITS**

**Maintenance gains**

- Optimized maintenance, provisioning, logistics and inventory costs due to fleet commonality and single-type spares

<table>
<thead>
<tr>
<th>OPERATIONAL COSTS SAVINGS</th>
<th>MAINTENANCE COSTS SAVINGS</th>
<th>OPERATIONAL BOOST</th>
<th>PASSENGER COMFORT</th>
<th>CREW EFFICIENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>✓</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**PACKAGE CONTENT**

- SB Validation & Supply
- Updating of Technical Publications
- Equipment supply (not included)

**WEIGHT CHANGE**

From -8 kg to +8 kg (+17.6 lb)

**PRICE RANGE**

From 500 USD equipment not included

**ESTIMATED LEAD TIME**

5 weeks

**ESTIMATED MANPOWER**

4 hours per landing gear

Subject to a possible specific adaptation to the relevant MSN.
ANTI-COLLISION LIGHTS
COLOR REPLACEMENT

DESCRIPTION
In accordance with customer operational requirements, this modification allows to modify the anti-collision lights installation from white to red or red to white. This color change is applicable both on aircraft equipped with halogen or LED lights.

NOTE: A dedicated study must be carried out for oldest aircraft, to confirm the applicability and the possible way of retrofit.

BENEFITS
• Compliance with operational requirements.

SEE ALSO
- Anti-collision Lights With LED Technology
- Anti-collision Light Protection

PACKAGE CONTENT
• SB Validation & Supply
• Updating of Technical publications
• Kit supply (for halogen system only)
• Equipment supply

WEIGHT CHANGE
• LED system: none
• Halogen system: white to red: + 1.4 kg (+ 3 lb) red to white: none

APPLICABILITY
<table>
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<tr>
<td></td>
<td></td>
<td>Armonia cabin</td>
</tr>
</tbody>
</table>

PRE-REQUISITE
Specific study should be carried through for oldest aircraft to determine if additional Service Bulletins have to be applied

PRICE RANGE
From 6,500 USD to 15,000 USD depending on the aircraft configuration

ESTIMATED LEAD TIME
3 months

ESTIMATED MANPOWER
From 4 hours (LED) to 60 hours (White to Red halogen)
Subject to a possible specific adaptation to the relevant MSN.
DESCRIPTION

The evolution consists in replacing the current halogen anti-collision lights by anti-collision lights using LED technology. New equipment is not interchangeable with the old one, and partial installation is not allowed: embodiment of this modification implies the replacement of the two lights (belly fairing and rudder lights). This evolution of technology is applicable both on aircraft equipped with white or red anti-collision lights.

SEE ALSO

- Navigation Lights With LED Technology
- Strobe Lights With LED Technology
- Anti-collision Light Protection

PACKAGE CONTENT

- SB Validation & Supply
- Updating of Technical publications
- Kit supply
- Equipment supply

WEIGHT CHANGE

+ 0.2 kg (+0.44 lb)

APPLICABILITY

<table>
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<td></td>
<td>Armonia cabin NO</td>
<td></td>
</tr>
</tbody>
</table>

PRE-REQUISITE

NONE

APPLICATION

- ATR 42 ALL
- ATR 72 ALL

For information only. Applicability of the modification to each MSN is subject to validation by the ATR Engineering Department.

APPLICABILITY

AIRCRAFT MODELS

- ATR 42
- ATR 72

AVIONICS

- Legacy avionics
- New avionics suite
- Armonia cabin

CABIN

- Original cabin
- New-look cabin

PRE-REQUISITE

NONE

BENEFITS

Maintenance and operational gains

- Long life span
- Reduced maintenance costs
- Low power consumption

PRICE RANGE

From 10,000 USD

ESTIMATED LEAD TIME

2 months

ESTIMATED MANPOWER

5 hours

Subject to a possible specific adaptation to the relevant MSN.
NAVIGATION LIGHTS WITH LED TECHNOLOGY

DESCRIPTION
The evolution consists in replacing the current navigation light equipment by new equipment using LED technology. It concerns the three navigation lights: LH and RH wings and tail cone. Only equipment replacement is required (no electrical or mechanical adaptation needed). Mixability between old and new lights is not allowed.

APPLICATION

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<tr>
<td>Armonia cabin</td>
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PRE-REQUISITE
NONE

APPLICABILITY
For information only. Applicability of the modification to each MSN is subject to validation by the ATR Engineering Department.

Price Range
From 3,000 USD

Estimated Lead Time
2 months

Estimated Manpower
4 hours

Subject to a possible specific adaptation to the relevant MSN.

BENEFITS
Maintenance and operational gains
- Long life span
- Reduced maintenance costs
- Low power consumption

PACKAGE CONTENT
- SB Validation & Supply
- Updating of Technical publications
- Equipment supply

WEIGHT CHANGE
None

SEE ALSO
- Anti-collision Lights With LED Technology
- Strobe Lights With LED Technology

DESCRIPTION
The evolution consists in replacing the current navigation light equipment by new equipment using LED technology. It concerns the three navigation lights: LH and RH wings and tail cone. Only equipment replacement is required (no electrical or mechanical adaptation needed). Mixability between old and new lights is not allowed.

APPLICATION

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PRE-REQUISITE
NONE

APPLICABILITY
For information only. Applicability of the modification to each MSN is subject to validation by the ATR Engineering Department.

Price Range
From 3,000 USD

Estimated Lead Time
2 months

Estimated Manpower
4 hours

Subject to a possible specific adaptation to the relevant MSN.
# Strobe Lights with LED Technology

## Description
The evolution consists in replacing the current strobe light equipment (Power Supply Units and lights) by new equipment using LED technology. It concerns the three strobe lights: LH and RH wings and tail cone. Old and new equipment are not interchangeable and not mixable.

## Benefits

### Maintenance and operational gains
- **Long life span**
- **Reduced maintenance costs**
- **Low power consumption**

<table>
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<tr>
<th>OPERATIONAL COSTS SAVINGS</th>
<th>MAINTENANCE COSTS SAVINGS</th>
<th>OPERATIONAL BOOST</th>
<th>PASSENGER COMFORT</th>
<th>CREW EFFICIENCY</th>
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## See Also
- Anti-collision Lights With LED Technology
- Navigation Lights With LED Technology

## Package Content
- SB Validation & Supply
- Updating of Technical publications
- Kit supply
- Equipment supply

## Weight Change
- - 1.6 kg (- 3.5 lb)

## Price Range
From 12,000 USD

## Estimated Lead Time
2 months

## Estimated Manpower
9 hours

### See Also

- Anti-collision Lights With LED Technology
- Navigation Lights With LED Technology

## Pre-requisite
None

---

### Applicability

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ATR UPGRADES SERVICES CATALOGUE - Issue 02
ANTI-COLLISION AND NAVIGATION LIGHTS POWERED ON BATTERY ON GROUND

**DESCRIPTION**
This modification allows the powering of the anti-collision and navigation lights on batteries when aircraft is on ground. This functionality can be used when engines are not running and external power is not available (e.g. during a/c towing).

**BENEFITS**
- Answer to particular airport regulations that may require to turn-on the NAV lights and/or the anti-collision lights for towing aircraft in night conditions.
- No need to use the “hotel” mode: improvement of the noise, environmental and manpower aspects.

**APPLICABILITY**

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**PRE-REQUISITE**
Aircraft equipped with LED anti-collision and navigation lights

**PRICE RANGE**
From 11,000 USD

**ESTIMATED LEAD TIME**
3 months

**ESTIMATED MANPOWER**
50 hours

**WEIGHT CHANGE**
+ 0.565 kg (+ 1.246 lb)

**PACKAGE CONTENT**
- SB Validation & Supply
- Updating of Technical publications
- Kit supply

**SEE ALSO**
- Anti-collision Lights With LED Technology
- Navigation Lights With LED Technology
EMERGENCY LIGHTING
INSTALLATION OF LED TECHNOLOGY AND PICTOGRAMS

DESCRIPTION
This modification replaces the halogen emergency lighting system by LED lighting system.
Impacted lights are:
- Front emergency exits lights
- Aft door tops lights
- Front and aft partition lights
- Front and aft exits down door lights
- Aisle ceiling emergency lights
- Exterior fuselage flood lights
- Exterior stairs flood light
In addition, the emergency covers are now fitted with pictograms, in replacement of the English or English/Local language indications.

NOTE: For aircraft exploited under FAA regulations, specific pictograms can be installed.

BENEFITS
- Long life span
- Reduced maintenance costs
- Low power consumption
- Universality of the pictograms (no need to replace the covers at transfer aircraft)

SEE ALSO
NONE

PACKAGE CONTENT
- SB Validation & Supply
- Updating of Technical publications
- Kit supply
- Equipment supply

WEIGHT CHANGE
- 0.325 kg (- 0.716 lb)

PRICE RANGE
From 20,000 USD

ESTIMATED LEAD TIME
3 months

ESTIMATED MANPOWER
24 hours

APPLICABILITY
For information only. Applicability of the modification to each MSN is subject to validation by the ATR Engineering Department.

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PRE-REQUISITE
Armonia Cabin

Subject to a possible specific adaptation to the relevant MSN.
**DESCRIPTION**

This modification consists in installing second COLLINS Automatic Direction Finder (ADF) navigation system to improve navigation capability.

For Legacy avionics aircraft:

The ADF is a radio compass system providing the bearing of a selected NDB (Non Directional Beacon).

ADF information is displayed on the RMIs (Radio Magnetic Indicator) and EHSIs (Electronic Horizontal Situation Indicator) for both ADF receivers.

For New Avionics Suite aircraft:

The ADF is an airborne automatic radio compass providing the bearing of the selected NDB (Non Directional Beacon).

ADF bearing pointer symbols and reminders are displayed on both PFD compass (HIS) and Navigation Display. Green is the color associated to the ADF indications (white is for the VOR indications) for both ADF.

**APPLICABILITY**

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**PACKET CONTENT**

- SB Validation & Supply
- Updating of Operational and Maintenance Documentation
- Kit supply
- Equipment supply: ADF2 antenna, ADF2 receiver, ADF control unit

**PRICE RANGE**

From 35,000 USD equipment included

**ESTIMATED LEAD TIME**

4 months

**ESTIMATED MANPOWER**

Legacy Avionics: 280 hours
New Avionics Suite: 70 hours

**BENEFITS**

Backup System

Improve navigation capability

Extended operational envelope

- Operations in smaller airports equipped with conventional navigational aid only

**OPERATIONAL COSTS SAVINGS**

- 

**MAINTENANCE COSTS SAVINGS**

- 

**OPERATIONAL BOOST**

- ✓

**PASSENGER COMFORT**

- 

**CREW EFFICIENCY**

- 

**SEE ALSO**

NONE

**PRICE RANGE**

- 

**ESTIMATED LEAD TIME**

- 

**ESTIMATED MANPOWER**

- 

**WEIGHT CHANGE**

+ 4 kg (+ 8.8 lb)

Subject to a possible specific adaptation to the relevant MSN.
**DESCRIPTION**

The modification consists in installing a second radio altimeter system. The radio altimeter determines the height of the aircraft above the terrain. In normal configuration (when both Radio Altimeters data are valid), Radio Height sent by Radio Altimeter 1 is displayed on Captain side and Radio Height sent by radio Altimeter 2 is displayed on First Officer side. The second radio altimeter is also a pre-requisite for future Clearvision system installation.

**APPLICABILITY**

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For information only. Applicability of the modification to each MSN is subject to validation by the ATR Engineering Department.

**PRE-REQUISITE**

NONE

**PRICE RANGE**

From 60,000 USD equipment included

**ESTIMATED LEAD TIME**

5 months

**ESTIMATED MANPOWER**

40 hours

Subject to a possible specific adaptation to the relevant MSN.

**BENEFITS**

- Compliance with Local Regulatory Requirements
- Backup equipment

**PACKAGE CONTENT**

- SB Validation & Supply
- Updating of Operational and Maintenance Documentation
- Kit supply
- Equipment supply:
  - 2 RA2 antennas
  - RA2 transceiver

**WEIGHT CHANGE**

+ 4.9 kg (+ 10.8 lb)

**SEE ALSO**

NONE
**STANDBY ALTIMETER**
**MILLIBARS/INCHES OF MERCURY INDICATION**

**DESCRIPTION**
This modification consists in replacing the current standby altimeter by a new one graduated either in millibars or in inches of mercury, depending on customer operational requirements.

**NOTE:** On Aircraft equipped with New Avionics Suite the function is integrated in the IESI (Integrated Electronic Standby Equipment). The standby altimeter as stand-alone equipment is not installed.

**APPLICABILITY**

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**PRE-REQUISITE**
NONE

**PRICE RANGE**
From 12,000 USD

**ESTIMATED LEAD TIME**
5 weeks

**ESTIMATED MANPOWER**
1 hour

Subject to a possible specific adaptation to the relevant MSN.

**BENEFITS**
- Compliance with operational requirements.
- Turn back to fleet commonality for second hand aircrafts and lessor aircraft.

**PACKAGE CONTENT**
- SB Validation & Supply
- Updating of Technical publications
- Equipment supply

**SEE ALSO**
- Fuel Equipment - Lb/Kg Indication

**WEIGHT CHANGE**
None
STEEP SLOPE APPROACH CAPABILITY

DESCRIPTION

The steep slope approach capability allows operations on airports surrounded by high obstacles (mountain airports or downtown airports). The principle consists in using special vertical guidance laws for the autopilot and avoiding unjustified “sink rate” warnings (Mode 1 Alert) during approaches in steep slope conditions (Approach slope between 4.5° and 6° in normal conditions). A dedicated pushbutton installed in the flight compartment controls the launching of the guidance laws.

NOTE: The capability provided by the application of this retrofit solution does not constitute approval to conduct steep approach operation. The operator must obtain such authorization from the appropriate authorities. For ATR “42-600” only, the option allows to get a landing performance credit. Refer to the AFM for Limitations and Procedures.

APPLICABILITY

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PRE-REQUISITE

Aircraft equipped with MKVII EGPWS minimum

PRICE RANGE

- NAS A/C: from 50,000 USD
- Legacy A/C: from 10,000 USD

ESTIMATED LEAD TIME

3 months

ESTIMATED MANPOWER

15 hours

BENEFITS

- Operations extended to landlocked airports. No need to use dedicated aircraft to serve certain air routes.
- Operational costs savings
- Maintenance costs savings
- Operational boost
- Passenger comfort
- Crew efficiency

SEE ALSO

- Take-off at RTO (100% power)
- SB Validation & Supply
- Updating of Technical publications
- Kit supply
- From NAS A/C: Equipment supply

PACKAGE CONTENT

- SB Validation & Supply
- Updating of Technical publications
- Kit supply
- From NAS A/C: Equipment supply

WEIGHT CHANGE

< 1kg (2.2 lb)

NOTE:
The capability provided by the application of this retrofit solution does not constitute approval to conduct steep approach operation. The operator must obtain such authorization from the appropriate authorities. For ATR “42-600” only, the option allows to get a landing performance credit. Refer to the AFM for Limitations and Procedures.
WEATHER RADAR REPLACEMENT

DESCRIPTION
The evolution consists in the replacement of weather radar PRIMUS 800 with radar PRIMUS 660 type. This new radar offers superior weather detection thanks to:
- Long-range and high definition ground mapping,
- Rain Echo Attenuation Compensation Technique (REACT),
- 120/60 degree scan,
- 18-inch flat plate antenna. New outstanding proposed options are:
- Ground Mapping (GMAP),
- Target Alert (TGT),
- Advanced BITE (Built-In Test Equipment) and text faults. The installation of this new radar doesn’t require any additional indicator in the cockpit. Weather information is displayed on the aircraft navigation displays (EHSI).

APPLICATION
For information only. Applicability of the modification to each MSN is subject to validation by the ATR Engineering Department.

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PRE-REQUISITE
NONE

BENEFITS
Enhanced pilot performance
- Improved decision making due to better performance of radar system
Maintenance gains
- Higher reliability
Simpler maintenance thanks to BITE (Built-In Test Equipment)
- Operational gains

Space and weight savings

OPERATIONAL COSTS SAVINGS
- MAINTENANCE COSTS SAVINGS
- OPERATIONAL BOOST
- PASSENGER COMFORT
- CREW EFFICIENCY

SEE ALSO
NONE

PACKAGE CONTENT
- SB Validation & Supply
- Upgrading Technical publications
- Kit supply
- Equipment

PRICE RANGE
From 80,000 USD

ESTIMATED LEAD TIME
3 months

ESTIMATED MANPOWER
40 hours

Subject to a possible specific adaptation to the relevant MSN.

APPLICABILITY

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PRE-REQUISITE
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DESCRIPTION

The evolution consists in the replacement of weather radar PRIMUS 800 with radar PRIMUS 660 type. This new radar offers superior weather detection thanks to:
- Long-range and high definition ground mapping,
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- Ground Mapping (GMAP),
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PRE-REQUISITE
NONE

BENEFITS

Enhanced pilot performance
- Improved decision making due to better performance of radar system
Maintenance gains
- Higher reliability
Simpler maintenance thanks to BITE (Built-In Test Equipment)
- Operational gains

Space and weight savings

OPERATIONAL COSTS SAVINGS
- MAINTENANCE COSTS SAVINGS
- OPERATIONAL BOOST
- PASSENGER COMFORT
- CREW EFFICIENCY

SEE ALSO

NONE

PACKAGE CONTENT

- SB Validation & Supply
- Upgrading Technical publications
- Kit supply
- Equipment

PRICE RANGE

From 80,000 USD

ESTIMATED LEAD TIME

3 months

ESTIMATED MANPOWER

40 hours

Subject to a possible specific adaptation to the relevant MSN.

APPLICABILITY

For information only. Applicability of the modification to each MSN is subject to validation by the ATR Engineering Department.

DESCRIPTION

The evolution consists in the replacement of weather radar PRIMUS 800 with radar PRIMUS 660 type. This new radar offers superior weather detection thanks to:
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PRE-REQUISITE
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BENEFITS

Enhanced pilot performance
- Improved decision making due to better performance of radar system
Maintenance gains
- Higher reliability
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- Operational gains

Space and weight savings

OPERATIONAL COSTS SAVINGS
- MAINTENANCE COSTS SAVINGS
- OPERATIONAL BOOST
- PASSENGER COMFORT
- CREW EFFICIENCY

SEE ALSO

NONE

PACKAGE CONTENT

- SB Validation & Supply
- Upgrading Technical publications
- Kit supply
- Equipment

PRICE RANGE

From 80,000 USD

ESTIMATED LEAD TIME

3 months

ESTIMATED MANPOWER

40 hours

Subject to a possible specific adaptation to the relevant MSN.

APPLICABILITY

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DESCRIPTION

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PRE-REQUISITE
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BENEFITS

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Maintenance gains
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Space and weight savings

OPERATIONAL COSTS SAVINGS
- MAINTENANCE COSTS SAVINGS
- OPERATIONAL BOOST
- PASSENGER COMFORT
- CREW EFFICIENCY

SEE ALSO

NONE

PACKAGE CONTENT

- SB Validation & Supply
- Upgrading Technical publications
- Kit supply
- Equipment

PRICE RANGE

From 80,000 USD

ESTIMATED LEAD TIME

3 months

ESTIMATED MANPOWER

40 hours

Subject to a possible specific adaptation to the relevant MSN.

APPLICABILITY

For information only. Applicability of the modification to each MSN is subject to validation by the ATR Engineering Department.
**DESCRIPTION**

The accomplishment of this modification allows validating the aircraft configuration to enable ETOPS operations. ETOPS (Extended Range Twin Engine OperationS) are flights conducted over a route towards airport adequate for emergency landing distant further than one hour flying time at the approved one-engine-inoperative cruise speed (under standard conditions in still air) from an adequate airport.

The accomplishment of this modification requires previous or simultaneous embodiment of engine and aircraft modifications listed in ETOPS Configurations Maintenance and Procedure standards (CMP) document. For fuller information, please refer to ETOPS CMP document available on ATRactive.

**NOTE:** This modification provides the customer with a pre-requisite for local Certification Authority approval, and with additional procedures, limitations and performance charts in the Airplane Flight Manual.

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**APPLICABILITY**

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</tr>
<tr>
<td>ATR 72</td>
<td>New avionics suite</td>
<td>New-look cabin</td>
</tr>
</tbody>
</table>

**PRE-REQUISITE**

Refer to ETOPS CMP document available on the ATRactive portal.

---

**PRICE RANGE**

From 5,000 USD

**ESTIMATED LEAD TIME**

5 weeks

**ESTIMATED MANPOWER**

None

---

**BENEFITS**

**Extended operational envelope**

- Operations on new routes
- Operations on more direct routes

---

**SEE ALSO**

NONE

---

**PACKAGE CONTENT**

- SB Validation & Supply
- Updating of Operational Documentation

---

**WEIGHT CHANGE**

None

---

**APPLICATION**

For information only. Applicability of the modification to each MSN is subject to validation by the ATR Engineering Department.

---

**ATA 34**

NAVIGATION

**ETOPS 120’ CAPABILITY**

- OPERATIONAL COSTS SAVINGS
- MAINTENANCE COSTS SAVINGS
- OPERATIONAL BOOST
- PASSENGER COMFORT
- CREW EFFICIENCY

- - - - -
**DESCRIPTION**

This upgrade solution proposes the installation of Terrain and Traffic Collision Avoidance System (T²CAS) version 7.1. T²CAS computer combines both TAWS (Terrain Awareness Warning System) and TCAS (Traffic alert and Collision Avoidance System) functions into a single unit. The result is a space, weight and power consumption savings, and reinforced situational awareness through greater conflict anticipation and an efficient generation of alarms.

**APPLICATION**

For information only. Applicability of the modification to each MSN is subject to validation by the ATR Engineering Department.

<table>
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<td></td>
<td>Armonia cabin</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PRE-REQUISITE</th>
</tr>
</thead>
<tbody>
<tr>
<td>HT1000 GNSS (for Legacy Avionics aircraft), Rockwell Collins Avionic Suite</td>
</tr>
</tbody>
</table>

**SEE ALSO**

NONE

**PRICE RANGE**

From 265,000 USD for T²CAS installation equipment included

**ESTIMATED LEAD TIME**

5 months

**ESTIMATED MANPOWER**

120 hours

Subject to a possible specific adaptation to the relevant MSN.

**BENEFITS**

**Enhanced pilot performance**
- Reinforced situational awareness through greater conflict anticipation and a systematically efficient generation of alarms

**Operational gains**
- Space, weight and power consumption savings when comparing with using a double LRU system

**Maintenance gains**
- Lower maintenance actions when comparing with using TCAS and TAWS individual computers

**PACKAGE CONTENT**

- SB Validation & Supply
- Updating of Operational and Maintenance Documentation
- Kit supply
- Equipment supply: Directional T²CAS antenna, Omni T²CAS antenna, T²CAS transmitter receiver, APM, Compact flash card APM files ASDB, Compact flash card APM files ACD

**WEIGHT CHANGE**

- 3.3 kg (-7.3 lb)
DESCRIPTION

The modification consists in installing a Honeywell TRIMBLE HT1000 GNSS system coupled to the Auto-pilot and Electronic Flight Instrument System (EFIS). The GNSS HT1000 system is uploaded with the latest software certified for Precision-Area Navigation (P-RNAV) and Required Navigation Performance (RNP APCH) operations. The HT 1000 can be installed in a dual configuration with automatic data synchronization.

BENEFITS

Operational gains
- More direct and better locations for holding patterns due to P-RNAV and RNP APCH capabilities.

Please refer to "P-RNAV with GNSS" and "RNP APPROACH with GNSS" modifications for more information.

CABIN
- Original cabin
- New-look cabin
- Armonia cabin

AVIONICS
- Legacy avionics
- New avionics suite

WEIGHT CHANGE

+ 6.8 kg (+ 15.1 lb)

PRICE RANGE

From 60,000 USD equipment not included

OPERATIONAL COSTS SAVINGS

- - - - -

MAINTENANCE COSTS SAVINGS

- - - - -

OPERATIONAL BOOST

- - - - -

PASSENGER COMFORT

- - - - -

CREW EFFICIENCY

- - - - -

PACKAGE CONTENT

- SB Validation & Supply
- Updating of Operational and Maintenance Documentation
- Kit supply
- Equipment supply (not included): Control panel-EFIS, Antenna-GNSS, MCDU, NPU

APPLICATION

For information only. Applicability of the modification to each MSN is subject to validation by the ATR Engineering Department.

APPLICABILITY

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<td>YES</td>
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<td>ATR 72</td>
<td>New avionics suite</td>
<td>NO</td>
</tr>
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<td>ATR 72</td>
<td>New-look cabin</td>
<td>NO</td>
</tr>
<tr>
<td>ATR 42 42-300/42-320/42-400/42-500</td>
<td>Armonia cabin</td>
<td>NO</td>
</tr>
</tbody>
</table>

PRE-REQUISITE

Depending on aircraft configuration

SEE ALSO

- RNP Approach With GNSS
- P-RNAV With GNSS
- T²CAS Installation

DESCRIPTION

The modification consists in installing a Honeywell TRIMBLE HT1000 GNSS system coupled to the Auto-pilot and Electronic Flight Instrument System (EFIS). The GNSS HT1000 system is uploaded with the latest software certified for Precision-Area Navigation (P-RNAV) and Required Navigation Performance (RNP APCH) operations. The HT 1000 can be installed in a dual configuration with automatic data synchronization.
**DESCRIPTION**

This modification consists in providing conformity between GNSS and TGL 10 requirements. P-RNAV equipment automatically determines aircraft desired flight path by a series of way points held in a database. It enables to define routes in the terminal airspace which meet the needs of the aircraft operators and the air navigation services provider. This often means shorter, more direct routes with simple connections to the en-route structure.

P-RNAV requires aircraft conformance to a track-keeping accuracy of +/- 1NM for at least 95% of flight time, together with advanced functionality and high integrity navigation databases.

**BENEFITS**

- **Compliance with European requirements**
- **Operational gains**
  - More direct routes with reductions in flight distances and fuel consumption
  - More dual or parallel routes available to accommodate a greater flow of traffic
  - Better locations for holding patterns

<table>
<thead>
<tr>
<th>OPERATIONAL COSTS SAVINGS</th>
<th>MAINTENANCE COSTS SAVINGS</th>
<th>OPERATIONAL BOOST</th>
<th>PASSENGER COMFORT</th>
<th>CREW EFFICIENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**SEE ALSO**

- RNP Approach With GNSS

**PACKAGE CONTENT**

- SB Validation & Supply
- Updating of Operational Publications

**WEIGHT CHANGE**

None

**PRICE RANGE**

Free Of Charge

**ESTIMATED LEAD TIME**

5 weeks

**ESTIMATED MANPOWER**

None

Subject to a possible specific adaptation to the relevant MSN.

**APPLICABILITY**

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<td>New avionics suite</td>
</tr>
</tbody>
</table>

**PRE-REQUISITE**

GNSS HT1000
RNP APPROACH
WITH GNSS

DESCRIPTION

The GNSS HT1000 system, uploaded with -006A software or any later approved versions, and so far certified for P-RNAV operations is also approved for Required Navigation Performance (RNP APCH down to LNAV minima) operations.

LNAV (Lateral Navigation) is a Non-Precision or 2D Approach with Lateral only navigation guidance provided by GNSS and an Aircraft Based Augmentation System (ABAS). Lateral guidance is linear with accuracy to within +/- 0.3 NM parallel to either side of the final approach track.

RNP APCH requires aircraft conformance to a track-keeping accuracy of +/- 1NM during initial, intermediate and missed approach, and +/- 0.3 NM during final approach for at least 95% of flight time.

This modification consists in updating the Aircraft Flight Manual (AFM) in order to authorize RNP APCH operations.

BENEFITS

Compliance with European requirements

Operational gains

- More direct routes with reductions in flight distances and fuel consumption
- More dual or parallel routes to accommodate a greater flow of traffic
- Better locations for holding patterns

APPLICABILITY

For information only. Applicability of the modification to each MSN is subject to validation by the ATR Engineering Department.

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<tr>
<td>Legacy avionics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New avionics suite</td>
<td>NO</td>
<td></td>
</tr>
<tr>
<td>ATR 72</td>
<td>ALL</td>
<td>NO</td>
</tr>
<tr>
<td>ATR 72</td>
<td>ALL</td>
<td>NO</td>
</tr>
</tbody>
</table>

PRE-REQUISITE

Certification of GNSS P-RNAV

PRICE RANGE

Free of charge

ESTIMATED LEAD TIME

5 weeks

ESTIMATED MANPOWER

None

PACKAGE CONTENT

- SB Validation & Supply
- Updating of Operational Publications

WEIGHT CHANGE

None

SEE ALSO

- Single HT1000 GNSS Installation
- P-RNAV With GNSS
ADS-B OUT DO-260

DESCRIPTION

This modification consists in activating the Automatically Dependent Surveillance-Broadcast “ADS-B OUT” DO-260 (RTCA standard) function. ADS-B OUT makes possible the broadcast of aircraft data to other aircraft and to ATC centers, even when there is no ATM radar coverage available. Capabilities of ADS-B OUT DO-260 are listed below:

<table>
<thead>
<tr>
<th>Function/Capability</th>
<th>Available/Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indication of capabilities</td>
<td>Only Show status of TCAS and CDTI</td>
</tr>
<tr>
<td>Mode A</td>
<td>Yes, as a test message (USA only)</td>
</tr>
<tr>
<td>Navigation Uncertainty Category (NUCP)</td>
<td>Yes</td>
</tr>
<tr>
<td>Quality Indicator for Velocity (NUCR)</td>
<td>Yes</td>
</tr>
</tbody>
</table>

APPLICATION

- **AIRCRAFT MODELS**
  - ATR 42: 42-500 (Legacy avionics, NO)
  - ATR 72: 72-212A (New avionics suite, YES)

- **PRE-REQUISITE**
  - New Avionics Suite

FEATURES

- **PRICE RANGE**
  - From 8,000 USD equipment not included

- **ESTIMATED LEAD TIME**
  - 5 weeks

- **ESTIMATED MANPOWER**
  - None

- **APPLICABILITY**
  - ATR 42-500 Legacy avionics
  - ATR 72-212A New avionics suite

- **WEIGHT CHANGE**
  - None

- **BENEFITS**
  - Reduced ground cost infrastructure
  - Increased operational efficiency through aircraft tracking
  - Access to shorter approaches inducing time and fuel savings

- **PACKAGE CONTENT**
  - SB Validation & Supply
  - Updating of Technical Publications

- **SEE ALSO**
  - ADS-B OUT DO-260A
  - ADS-B OUT DO-260B for ATR -600 Series

- **DEPARTMENT**
  - ATR Engineering Department

For information only. Applicability of the modification to each MSN is subject to validation by the ATR Engineering Department.
**DESCRIPTION**

This modification consists in activating the Automatically Dependent Surveillance-Broadcast “ADS-B OUT” DO-260A (RTCA standard) function. ADS-B OUT makes possible the broadcast of aircraft data to other aircraft and to ATC centers, even when there is no ATM radar coverage available. Capabilities of ADS-B OUT DO-260A are listed below:

<table>
<thead>
<tr>
<th>Function/Capability</th>
<th>Available/Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barometric Altitude</td>
<td>Yes, indicate integrity of Barometric altitude</td>
</tr>
<tr>
<td>Integrity Code (NICBARO)</td>
<td>Yes if GPS offset is applied</td>
</tr>
<tr>
<td>GPS offset</td>
<td></td>
</tr>
<tr>
<td>Indication of capabilities</td>
<td>Yes, e.g. Air Reference Velocity, Status of Identity Switch, Target State and Trajectory Change reports</td>
</tr>
<tr>
<td>Intention</td>
<td>Yes, intended altitude and heading</td>
</tr>
<tr>
<td>Length/Width of Aircraft</td>
<td>Yes, provide aircraft size</td>
</tr>
<tr>
<td>Mode A</td>
<td>Yes, as a test message (USA only)</td>
</tr>
<tr>
<td>Navigation Accuracy Category (NACP)</td>
<td>Yes, derived from HFOM and VFOM</td>
</tr>
<tr>
<td>Navigation Uncertainty Category (NUCP)</td>
<td>Yes</td>
</tr>
<tr>
<td>Quality Indicator for Velocity (NUCR)</td>
<td>Yes</td>
</tr>
<tr>
<td>Status of Resolution Advisory</td>
<td>Yes, if Resolution Advisory is or is not active</td>
</tr>
<tr>
<td>Surveillance Integrity Level And Source Integrity Level (SIL)</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**APPLICABILITY**

For information only. Applicability of the modification to each MSN is subject to validation by the ATR Engineering Department.

**PRE-REQUISITE**

ATC mode-S transponder with ADS-B capability

**PRICE RANGE**

From 6,000 USD

**ESTIMATED LEAD TIME**

2 months

**ESTIMATED MANPOWER**

4 hours

Subject to a possible specific adaptation to the relevant MSN.

**APPLICATION**

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<td>ATR 72</td>
<td>Armonia cabin</td>
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</table>

**BENEFITS**

- Reduced ground cost infrastructure
- Increased operational efficiency through aircraft tracking
- Access to shorter approaches inducing time and fuel savings

**SEE ALSO**

- ADS-B OUT DO-260
- ADS-B OUT DO-260B for ATR -600 Series

**PACKAGE CONTENT**

- SB Validation & Supply
- Kit supply
- Updating of Technical Publications

**WEIGHT CHANGE**

None

**ATTENTION**

AIRCRAFT MODELS: ATR 42 and ATR 72

AVIONICS: Legacy avionics and New avionics suite

CABIN: Original cabin, New-look cabin, and Armonia cabin

**ATRA 34**

**NAVIGATION**

**ATR UPGRADES SERVICES CATALOGUE - Issue 02**

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### DESCRIPTION

This modification consists in installing the Automatically Dependent Surveillance-Broadcast “ADS-B Out” DO-260B (RTCA standard) system on pre-NAS series. ADS-B OUT DO-260B makes possible the broadcast of aircraft data to other aircraft and to ATC centers, even where there is no ATM radar coverage available.

The Upgraded Surveillance option is provided through:
- Replacement of existing transponders by 2 new ACSS NXT-600 Transponders
- Installation of 1 additional ACSS NXG-900 GPS + Antenna
- Installation of 1 ADS-B/ATC Fail Annunciator
- Associated ATR Kits.

### BENEFITS

- Compliance with EASA and FAA 2020 mandate
- Reduced ground cost infrastructure (10 times cheaper than equivalent radar system)
- Increased operational efficiency through aircraft tracking
- Access to shorter approaches inducing time and fuel savings
- All pre-NAS models are addressed by ATR Upgrade solution
- Up-to-date technology Transponders (NXT-600) and GPS (NXT-900)
- Updated OEM Maintenance and Operational documentation
- All equipment are supplied in factory new conditions with 48 month warranty period
- Will benefit from the provisions of Vendor Product Support Agreement
- Improved reliability compared to currently fitted ATC transponders

### APPLICABILITY

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</table>

**PRE-REQUISITE**: MPC (Multi-purpose computer)

### PACKAGE CONTENT

- SB Validation & Supply
- Kit supply
- Equipment supply
- Updating of Technical publications

### WEIGHT CHANGE

NONE

### PRICE RANGE

From 140,000 USD

### ESTIMATED LEAD TIME

4 months

### ESTIMATED MANPOWER

120 hours

Subject to a possible specific adaptation to the relevant MSN.
**DESCRIPTION**

The modification consists in installing the Automatically Dependent Surveillance-Broadcast “ADS-B Out” DO-260B (RTCA standard) system on ATR “-600” series. ADS-B out DO-260B makes possible the broadcast of aircraft data to other aircraft and to ATC centers, even where there is no ATM radar coverage available. The option installs and integrates in the avionic suite the ACSS Transponders type NXT (P/N 9006000-55000).

**BENEFITS**

- Compliance with EASA and FAA 2020 mandate
- Reduced ground cost infrastructure (10 times cheaper than equivalent radar system)
- Increased operational efficiency through aircraft tracking
- Access to shorter approaches inducing time and fuel savings

**APPLICABILITY**

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<tr>
<td>ATR 42</td>
<td>Legacy avionics</td>
<td>Original cabin</td>
</tr>
<tr>
<td></td>
<td>Not yet available</td>
<td></td>
</tr>
<tr>
<td>ATR 72</td>
<td>New avionics suite</td>
<td>New-look cabin</td>
</tr>
<tr>
<td></td>
<td>YES</td>
<td>Armonia cabin</td>
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<tr>
<th>PRE-REQUISITE</th>
</tr>
</thead>
<tbody>
<tr>
<td>• NAS Software Standard 2 or higher</td>
</tr>
<tr>
<td>• MPC DMU software P/N L04451-1004 and FDAU software P/N L04450-1001</td>
</tr>
<tr>
<td>• Second GPS SBAS receiver</td>
</tr>
</tbody>
</table>

**PRICE RANGE**

From 140,000 USD

**ESTIMATED LEAD TIME**

2 months

**ESTIMATED MANPOWER**

30 hours

**PACKAGE CONTENT**

- SB Validation & Supply
- Updating of Technical publications
- Kit supply
- Equipment supply

**WEIGHT CHANGE**

+ 0.5 kg (+ 1.1 lb)

**SEE ALSO**

- ADS-B OUT DO-260
- ADS-B OUT DO-260A

**ATR UPGRADES SERVICES CATALOGUE - Issue 02**
**DESCRIPTION**

This modification consists in the installation of second GPS SBAS receiver, with the following capacities:
- B-RNAV (RNP 5) for en-route phase
- P-RNAV (RNP 1) for terminal area
- RNP APPCH 0.3
- Advisory VNAV (data displayed on MCDU and MFD)
- Performing radio-navigation frequencies auto-tuning
- Computing specific ATR speed references
- GPS primary means navigation & approach
- WAAS (North America)/EGNOS (European) capability (SBAS)
- ADS-B OUT DO-260B

Satellite-based augmentation systems (SBAS) complement existing Global Navigation Satellite Systems (GNSS) and significantly improves GNSS signal in terms of accuracy, integrity, continuity and availability.

**APPLICATION**

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<td>NO Original cabin</td>
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<td>ATR 72</td>
<td>New avionics suite</td>
<td>YES New-look cabin</td>
</tr>
<tr>
<td></td>
<td>Armonia cabin</td>
<td>NO</td>
</tr>
</tbody>
</table>

**PRE-REQUISITE**

SBAS GPS 1

**PRICE RANGE**

From 40,000 USD equipment included

**ESTIMATED LEAD TIME**

4 months

**ESTIMATED MANPOWER**

45 hours

Subject to a possible specific adaptation to the relevant MSN.

**BENEFITS**

- Improved navigation capability

**PACKAGE CONTENT**

- SB Validation & Supply
- Kit Supply
- Updating of Technical Publications
- Equipment supply (included):
  - GPS receiver
  - GPS antenna

**WEIGHT CHANGE**

+ 2.9 kg (+ 6.4 lb)

**SEE ALSO**

- VNAV Function Activation
- ADS-B OUT DO-260B for ATR -600 Series
VNAV FUNCTION ACTIVATION

DESCRIPTION

VNAV (Vertical Navigation) coupled to Autopilot provides a vertical guidance managed by avionics systems. Based on an automatic computation of the descent slope and rate, the aircraft follows a vertical profile and takes into account obstacles.

BENEFITS

- Improve flight safety (Controlled Flight Into Terrain reduction)
- Alleviate crew workload
- Optimize flight plan

OPERATIONAL COSTS SAVINGS

MAINTENANCE COSTS SAVINGS

OPERATIONAL BOOST

PASSENGER COMFORT

CREW EFFICIENCY

SEE ALSO

- LPV Approach Capability
- RNP AR 0.3/1 Capability
- RNP AR 0.3/0.3 Capability

PACKAGE CONTENT

- SB Validation & Supply
- Updating of Technical publications
- Updating of NAS option configuration file

WEIGHT CHANGE

None

PRICE RANGE

From 20,000 USD

ESTIMATED LEAD TIME

6 weeks

ESTIMATED MANPOWER

1 hour

Subject to a possible specific adaptation to the relevant MSN.

APPLICABILITY

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<td>ATR 72 72-212A</td>
<td>Legacy avionics</td>
<td>Original cabin</td>
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<td>New avionics suite</td>
<td>New-look cabin</td>
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</table>

PRE-REQUISITE

- NAS Standard 2 or higher.
- MPC DMU software P/N L04451-1004 and FDAU software P/N L04450-1001
- FGCP equipped with VNAV push-button
**DESCRIPTION**

LPV (Localizer Performance with Vertical guidance) is an approach procedure based on GPS information improved by geostationary satellites, which allows the guidance of the aircraft in lateral & vertical plane without any ground station. Performances are identical to ILS CAT I.

**APPLICABILITY**

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<td>New-look cabin</td>
</tr>
</tbody>
</table>

**PRE-REQUISITE**

- NAS Standard 2 or higher
- MPC DMU software P/N L04451-1004 and FDAU software P/N L04450-1001
- Dual GPS SBAS connected to CAC

**PRICE RANGE**

From 100,000 USD

**ESTIMATED LEAD TIME**

5 weeks

**ESTIMATED MANPOWER**

1 hour

Subject to a possible specific adaptation to the relevant MSN.

**BENEFITS**

- Improve approach capability
- Light training: reduced cost for customers
- Developed where ILS is not in place: small airports, no specific ground infrastructure

**SEE ALSO**

- VNAV Function Activation

**PACKANGE CONTENT**

- SB Validation & Supply
- Updating of Technical publications
- Updating of NAS option configuration file

**WEIGHT CHANGE**

None
### Description
This function allows the aircraft to fly in a curved corridor of +/- 0.3 NM for departure and +/- 1 NM for missed approach with high accuracy and obstacles protection.

### Applicability

<table>
<thead>
<tr>
<th>Aircraft Models</th>
<th>Avionics</th>
<th>Cabin</th>
</tr>
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<tbody>
<tr>
<td>ATR 42 42-500</td>
<td>Legacy avionics</td>
<td>Original cabin NO</td>
</tr>
<tr>
<td>ATR 72 72-212A</td>
<td>New avionics suite</td>
<td>Armonia cabin NO</td>
</tr>
</tbody>
</table>

**Pre-requisite:**
- 2nd GPS SBAS
- NAS Standard 2 or upper
- Electronic check lists V2.1 or upper
- ASDB and ACD files updated to P/N 9200000-04302 and 9200001-06803

For information only. Applicability of the modification to each MSN is subject to validation by the ATR Engineering Department.

### Benefits
- Improve flight path
- Reduce flight time
- Allow secured final approach on airport with difficult terrain & congested airspace

### See Also
- RNP AR 0.3/0.3 Capability

### Package Content
- SB Validation & Supply
- Updating of Technical publications
- Kit supply
- Updating of NAS option configuration file

### Weight Change
None

### Price Range
From 180,000 USD

### Estimated Lead Time
5 weeks

### Estimated Manpower
1 hour

Subject to a possible specific adaptation to the relevant MSN.
### DESCRIPTION

This function allows the aircraft to fly in a curved corridor of +/- 0.3 NM for departure and missed approach with high accuracy and obstacles protection.

**NOTE:** This option requires the installation of new IRS equipment for continuity of aircraft position in case of GPS loss/outage during Missed Approach (and by extension during Departure).

### BENEFITS

- Improve flight path
- Reduce flight time
- Allow secured final approach on airport with difficult terrain & congested airspace

### PACKAGE CONTENT

- SB Validation & Supply
- Updtaing of Technical publications
- Kit supply
- Equipment supply
- Updating of NAS option configuration file

### WEIGHT CHANGE

+13.3 kg (+29.5 lb)

### APPLICABILITY

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</table>

**PRE-REQUISITE**

- 2nd GPS SBAS
- Electronic check lists V21 or upper
- ASOB- and ACD files updated to P/N 9200000-04302 and 9200001-06803
- NAS Standard 3

### PRICE RANGE

From 550,000 USD

### ESTIMATED LEAD TIME

4 months

### ESTIMATED MANPOWER

100 hours

Subject to a possible specific adaptation to the relevant MSN.
**DESCRIPTION**

This upgrade solution consists in Mechanical & Electrical provision for the installation of two iPads (iPad 3/4 or iPad Air 1/2) to be used as EFB class I on both side of the cockpit. Tablet power supplied by a standard USB 2.0 connection (5VDC – 2 A). The cradle internal dimensions are 251 mm x 196 mm x 18 mm or 240 mm x 170 mm x 6 mm (depending of iPad size).

Enhanced I.T applications and services are also proposed to support iPad deployment:
- Single-point Performance Software (SPS) licensing.
- Operatioonal approval assistance (Hardware qualification tests, SPS Operational evaluation reports)

**NOTE:**
- Tablets and tablet casing are not supplied by ATR
- iPad 3/4 cradles are designed to be used with tablets fitted with Otterbox Defender protections.
- ATR can provide a NTO (no technical objection) to the use of 5th and 6th generation iPads 9.7” in the iPad Air 2 cradles.

**APPLICABILITY**

For information only. Applicability of the modification to each MSN is subject to validation by the ATR Engineering Department.

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<tr>
<td></td>
<td></td>
<td>Armonia</td>
</tr>
</tbody>
</table>

| PRE-REQUISITE | NONE |

**SEE ALSO**

NONE

**BENEFITS**

- **Enhanced pilot performance**
  - Improved weight loading factors due to the elimination of flight deck paper
  - Faster and more accurate take-off and landing performance calculations
  - Easier charts updates

- **Operational gains**
  - Apprreciable savings due to elimination of paper output
  - Fewer and shorter delays with easy last-minute adjustments

**PACKAGE CONTENT**

- SB Validation & Supply
- Updating of Maintenance Publications
- Kit Supply
- Equipment supply: Cradle mounting assembly

**WEIGHT CHANGE**

+ 2.8 kg (+ 6.4 lb)

**PRICE RANGE**

From 15,000 USD cradles included. The iPad tablet is not supplied by ATR

**ESTIMATED LEAD TIME**

4 months

**ESTIMATED MANPOWER**

20 hours

Subject to a possible specific adaptation to the relevant MSN.
**ATA 52**

**DOORS**

**CARGO DOOR**

**INTERNAL OPENING MECHANISM**

---

**DESCRIPTION**

Installation of an actuating mechanism, which allows the opening of the front cargo door from inside the aircraft.

---

**APPLICABILITY**

For information only. Applicability of the modification to each MSN is subject to validation by the ATR Engineering Department.

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<tr>
<td>ATR 72</td>
<td>72-102 / 72-202 / 72-212 / 72-212A</td>
<td>NO</td>
</tr>
</tbody>
</table>

**PRICE RANGE**

From 16,000 USD

**ESTIMATED LEAD TIME**

4 months

**ESTIMATED MANPOWER**

80 hours

Subject to a possible specific adaptation to the relevant MSN.

---

**BENEFITS**

- Facilitates the egress of crew in cargo transportation aircraft.

---

**PACKAGE CONTENT**

- SB Validation & Supply
- Updating of Technical publications
- Kit supply

---

**WEIGHT CHANGE**

+ 1.2 kg (+2.7 lb)

---

**SEE ALSO**

NONE

---

**PRICE RANGE**

From 16,000 USD

**ESTIMATED LEAD TIME**

4 months

**ESTIMATED MANPOWER**

80 hours

Subject to a possible specific adaptation to the relevant MSN.
**DESCRIPTION**

Depending on existing aircraft configuration, the following modifications are available to improve the lifting mechanism of the pax/crew door and increase fatigue strength:

- Replacement of the existing aluminum torque tube by a Corrosion Resistant (CRES) torque tube with improved hinge bolt
- Installation of a reinforced counterbalance arm
- Replacement of the existing hook springs by titanium ones (resistant to corrosion) with new attachment system
- Replacement of the existing spring hook levers by levers of increased dimension
- Removal of the damper provision fitting
- Replacement of existing torque hinge bolts by new ones with increased diameter

For more information, please refer to Service Letter ATR42-52-5012 or ATR72-52-6012.

**APPLICABILITY**

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**PRE-REQUISITE**

NONE

**BENEFITS**

**Maintenance gains**

- Increased reliability
- Simplified maintenance

**PRICE RANGE**

From 3,000 USD

**ESTIMATED LEAD TIME**

4 months

**ESTIMATED MANPOWER**

Variable

Subject to a possible specific adaptation to the relevant MSN.
**DESCRIPTION**

The modification consists in installing the following protections:
- MARBILL protection on Main Landing Gear (MLG) fairings,
- Metallic protection on MLG doors,
- Protection under fuselage, forward the MLG belly fairings,
- A protective grid on anti-collision light.

**NOTES:**
- With this option, the ATR “72-212A” MTOW when operating on unpaved runways is limited to 21,500 kg (47,399 lb). Please refer to AFM for relevant limitations.
- For other models than ATR 42-500 and 72-212A, the technical solutions may be slightly different than the one described here above. Additional protection can be proposed.

**APPLICATION**

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</table>

**PRE-REQUISITE**: NONE

---

**BENEFITS**

- Compliance with local regulations
- Extension of the operational envelope
- Maintenance gains (minimized maintenance due to reduction of the damage risks)

**PRICE RANGE**

From 8,000 USD to 50,000 USD depending on aircraft configuration and selected protection level

**ESTIMATED LEAD TIME**

4 months

**ESTIMATED MANPOWER**

From 8 to 80 hours depending on aircraft configuration and selected protection level

**PACKAGE CONTENT**

- SB Validation & Supply
- Updating of Technical publications
- Kit supply
- Marbill coating is not included

**WEIGHT CHANGE**

+ 52 kg (+ 115 lb)

---

**SEE ALSO**

NONE

---

**FUSELAGE PROTECTIONS FOR UNPAVED RUNWAYS**

**ATA 53**

**FUSELAGE**

- Scotch tape
- Marbil coat
- Air intake edge Gompat protection
- FWD fairing edge rubber protection
- Anti-collision light protection

Subject to a possible specific adaptation to the relevant MSN.
DESCRIPTION

The modification consists in installing a protective grid on the belly fairing anti-collision light, to avoid damages from stone projection.

BENEFITS

- Gain on maintenance costs due to reduction of risks of equipment deterioration

**OPERATIONAL COSTS SAVINGS** | **MAINTENANCE COSTS SAVINGS** | **OPERATIONAL BOOST** | **PASSENGER COMFORT** | **CREW EFFICIENCY**
---|---|---|---|---
- | ✓ | - | - | -

SEE ALSO

- Fuselage Protections for Unpaved Runways
- Anti-collision Lights With LED Technology

PACKAGE CONTENT

- SB Validation & Supply
- Updating of Technical publications
- Kit supply

WEIGHT CHANGE

+ 1.5 kg (+ 3.3 lb)

PRICE RANGE

From 7,500 USD

ESTIMATED LEAD TIME

2 months

ESTIMATED MANPOWER

10 hours

APPLICABILITY

For information only. Applicability of the modification to each MSN is subject to validation by the ATR Engineering Department.

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</table>

PRE-REQUISITE

NONE

Subject to a possible specific adaptation to the relevant MSN.
AILERON SPRING TABS
RELOCATION OF DRAINING HOLES
TO AVOID CORROSION

DESCRIPTION

In order to avoid corrosion by accumulation of water in the LH and RH aileron spring tabs, this modification consists in relocating the draining holes.

BENEFITS

Maintenance gains
- Increased corrosion resistance

OPERATIONAL COSTS SAVINGS $ MAINTENANCE COSTS SAVINGS $ OPERATIONAL BOOST $ PASSENGER COMFORT $ CREW EFFICIENCY $
- $ - $ - $ -

SEE ALSO

NONE

PACKAGE CONTENT

- SB Validation & Supply
- Updating of Technical Publications
- Kit supply

WEIGHT CHANGE

None

PRICE RANGE

From 3,000 USD

ESTIMATED LEAD TIME

5 months

ESTIMATED MANPOWER

100 hours

Subject to a possible specific adaptation to the relevant MSN.

APPLICABILITY

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PRE-REQUISITE

NONE

© ATR. All rights reserved. Confidential and proprietary document.
The modification consists in installing a stand-alone permanent propeller Vibration Monitoring System (VMS). VMS allows operators to constantly monitor and fine tune propeller vibration and replaces the previous temporary ground tooling systems used to monitor engine vibration. This equipment, supplied by Meggitt Sensing Systems, removes the need for airlines to organize regular ground testing or put maintenance personnel on revenue flights, therefore improving maintenance efficiency.

Reducing propeller vibration improves the comfort for everyone on board by minimizing vibration and engine noise in the cabin. It also improves the reliability of engine components and of the aircraft as a whole, and ultimately reducing Direct Maintenance Costs.

**DESCRIPTION**

**APPLICABILITY**

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**PRE-REQUISITE**

NONE

**PRICE RANGE**

From 17,000 USD

**ESTIMATED LEAD TIME**

3 months

**ESTIMATED MANPOWER**

40 hours

Subject to a possible specific adaptation to the relevant MSN.
DESCRIPTION

This upgrade solution consists in installing the universal engine harness which is an evolution of the main Quick Engine Change (QEC) harness. The modification achieves full commonality between the ATR42 and ATR72 harnesses; it can equally be implemented on PW127E, F or M engines.

NOTE: This modification requires accomplishment of Service Bulletin P&W N° PW100-72-21763.

APPLICABILITY

For information only. Applicability of the modification to each MSN is subject to validation by the ATR Engineering Department.

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PRE-REQUISITE

Depending on each aircraft configuration. Please contact us.

BENEFITS

Maintenance gains
- Improved reliability due to modified sensor connector torque
- Further optimization of provisioning and logistics costs arising out of fleet commonality and spares requirements for a single type of harness

OPERATIONAL COSTS SAVINGS
- 

MAINTENANCE COSTS SAVINGS
- 

OPERATIONAL BOOST
- 

PASSENGER COMFORT
- 

CREW EFFICIENCY
- 

PRICE RANGE
From 5,000 USD

ESTIMATED LEAD TIME
4 months

ESTIMATED MANPOWER
30 hours

Subject to a possible specific adaptation to the relevant MSN.

PACKAGE CONTENT

- SB Validation & Supply
- Updating of Technical Publications
- Kit Supply

SEE ALSO

NONE

WEIGHT CHANGE

None
ATR 72 ENGINE

ENGINE CONVERSION TO PW127M

DESCRIPTION
This retrofit solution proposes to convert a PW127E or PW127F engine to PW127M engine.
Additional outstanding features of the PW127M engine are:
- 5% more powerful than PW127F
- Hot and high improved performance
- Automatic cycle count
- Universal Engine harness
- Ready-mode for embodying the optional Reserve Take-Off modification
- Ready-mode for embodying the optional Boost modification (ATR72-212A only)

For more information please refer to Pratt & Whitney Service Bulletin N° PW100-72-21757.

APPLICABILITY

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PRE-REQUISITE
- Universal Engine harness
- Other pre-requisites are possible depending on your aircraft configuration: please contact us.

PRE-REQUISITE
- Universal Engine harness
- Other pre-requisites are possible depending on your aircraft configuration: please contact us.

BENEFITS

Maintenance gains
- Automatic cycle count
- Universal Engine Harness

Ready-mode for embodying the optional Reserve Takeoff and Boost modification

More powerful engine allows higher performance

PRICE RANGE
From 3,000 USD

ESTIMATED LEAD TIME
3 months

ESTIMATED MANPOWER
10 hours

PACKAGE CONTENT
- SB Validation & Supply
- Updating of Technical Publications
- Kit supply
- SB P&W (not included)

WEIGHT CHANGE
Negligible (< 1kg (2.2 lb))

SEE ALSO
- Take-off at RTO (100% power)
- Boost Function
- Universal Engine Harness

ATA 72 ENGINE

ENGINE CONVERSION TO PW127M

OPERATIONAL COSTS SAVINGS

MAINTENANCE COSTS SAVINGS

OPERATIONAL BOOST

PASSENGER COMFORT

CREW EFFICIENCY

- - -
**DESCRIPTION**

This modification consists in installing Boost function. Boost function enables better PW127M engine performance in “hot and high” conditions. The modification involves the installation of a BOOST pushbutton so that the pilot can switch between normal and enhanced ratings as required. Boost function allows the engine to be used with the enhanced PW127M thermodynamic ratings: Max Take Off thrust and Max Continuous Thrust rating 4% and up to 4.5% (depending on altitude) higher than PW127F.

Please refer to Aircraft Flight Manual (AFM) for new performance charts, limitations and procedures.

**NOTE:** Refer to AFM and maintenance manual for limitations and procedure.

**APPLICABILITY**

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**PRE-REQUISITE**

- PW127M Engine
- FDAU P/N ED34A350

**BENEFITS**

**Operational gains**

- Increased allowable takeoff and landing weight in airports with weight limitations induced by high altitudes, hot temperatures and/or obstacles

<table>
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<tr>
<th>OPERATIONAL COSTS SAVINGS</th>
<th>MAINTENANCE COSTS SAVINGS</th>
<th>OPERATIONAL BOOST</th>
<th>PASSENGER COMFORT</th>
<th>CREW EFFICIENCY</th>
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**SEE ALSO**

- Engine Conversion to PW127M
- Take-off at RTO (100% power)

**PACKAGE CONTENT**

- SB Validation & Supply
- Updating of Operational and Maintenance Documentation
- Kit supply
- Equipment supply

**PRICE RANGE**

- From 35,000 USD equipment included

**ESTIMATED LEAD TIME**

- 4 months

**ESTIMATED MANPOWER**

- 120 hours

**WEIGHT CHANGE**

+ 1.5 kg (+ 3.3 lb)