EXPERIENCE
AIMED AT THE FUTURE

ANTONOV-178
TRANSPORT
MULTIPURPOSE
AIRCRAFT
Conception and missions

AN-178 is intended to fulfill the following main tasks:

- Transportation of civil-purpose cargoes, IATA and sea containers and pallets, engineering vehicles at regular and charter routes;
- Participation in special and humanitarian missions;
- Aeromedical transportation of sick and injured persons;
- Transportation of troops with light vehicles and armaments;
- Airdropping of paratroops, vehicles, cargoes and maintenance items.

AN-178 is intended to replace AN-12 and C-160 and provides with the following:

- full replacement through dimensions and cargo capacity;
- maximum efficiency owing to superiority by all flight and technical characteristics;
- reduction of operating cost owing to installation of two turbojets instead of four or two turboprops;
- correspondence to all modern requirements and standards due to airborne equipment and avionics of a new generation.

**C-295**  
MPL = 9 t

**C-27J**  
MPL = 11.5 t

**AN-178**  
MPL = 16-18 t

**AN-178 position among transport aircraft**

C-130J-30  
MPL = 20.07 t

ANTONOV®
Floor area:  
- with cargo ramp .......... 58.5 m²  
- without cargo ramp ...... 39 m²

Cabin volume:  
- with cargo ramp .......... 167 m³  
- without cargo ramp ...... 122 m³

**AN-178 cargo compartment dimensions** enable to transport a wide range of general cargoes, including sea containers, military and humanitarian cargoes. The aircraft is equipped with a main landing gear kneeling system intended to simplify loading of the vehicles into the cargo compartment. Due to capabilities of onboard loading complex (option) AN-178 can perform autonomous cargo loading/unloading while additional ground handling equipment is not required.

**Loading/unloading complex includes:**

- 2 electric winches with tractive force of 1000 kgf for loading of non-self-propelled wheeled cargoes;
- roller track equipment ensuring loading and unloading of cargoes, their placing at pallets and in containers;
- 2 overhead cranes with lifting capacity of 8000 kgf (suggested to a customer as an option).

**The aerial delivery system enables to carry out the following:**

- single, groupe and serial airdropping of cargoes, as well as airmission landing;
- transportation of troops and their paradropping through the cargo hatch and fuselage doors in two groups (option) or through the cargo hatch in one group;

AN-178 enables to perform air dropping of monocargoes weighting up to 7.5 t.
EMBEDDED DOOR
with integrated stairs

PRACTICAL RAMP
with kneeling system

POWER PLANT
proven and reliable

LANDING GEAR
for operations on unpaved runways

EMERGENCY HATCH
evacuation of personnel at emergency conditions
Versions and modifications

ANTONOV-178
TRANSPORT MULTIPURPOSE AIRCRAFT

Military airlifter
Civil cargo aircraft
Medical aircraft
Tanker aircraft
Search-rescue aircraft
Special purpose aircraft
Aircraft for purpose in emergency situations

TRANSPORT MISSION
The flight, navigation and radio communication equipment is compliant with current and future ICAO recommendations and EUROCONTROL requirements, including:

- Precise navigation in accordance with RNP-5 and RNP-1;
- Flying in RVSM zones;
- Automated flight planning with navigation database;
- Flights in automatic mode by SID, STAR, APPROACH, MISSED APPROACH standard schemes;
- Terrain Awareness and Warning System;
- Traffic Collision Avoidance System;
- Detection of wind shear;
- Radio communication within 8.33 kHz channel spacing;
- Two-way communication within HF range;
- Recording of the crew members’ conversation during two hours.

Operation envelope

**Operation at runways:**
- aerodromes of I and II Landing Category;
- coefficient of friction $\mu > 0.3$;
- dry runway;
- damp runway;
- wet runway without ditch-water areas or with ditch-water areas up to 10 mm deep at square less than 50% of the runway area;
- hoar-frost-covered runway;
- runway covered with slush up to 15 mm thick;
- runway covered with dry snow not more than 50 mm thick;
- runway covered with wet snow not more than 15 mm thick;
- unpaved runways.

**Limits:**

1. The airfield elevation over the sea level from -300 to 4100 m.
2. The environment air temperature from -45 °C to +45 °C.
3. Wind speed limits:
   - headwind 30 m/s;
   - tailwind 5 m/s;
   - crosswind 30 m/s;
   - while taxiing and towing (from all directions) - 30 m/s;
   - max flight altitude 12,200 m;
   - $M_{\max} = 0.85$. 
During the whole period of aircraft operation ANTONOV Company provides its after-sale support.

Basing on contract conditions ANTONOV will render the following product support services:

**Design authority follow-on support of aircraft operations:** specialists of the Information Center for Customer Support provide Customer’s representatives with services of round the clock (24/7/365) information and technical support of Customer’s aircraft operations.

**Information support:** Customer’s representatives are provided with authorized remote access to technical publications at the ANTONOV website.

**Logistic support** of the aircraft operated by the Customer by means of supplying the required components, their repair and return to service.

**Training and periodic retraining** of Customer’s flight, engineering and maintenance personnel:
- theoretical training in equipped classes;
- practical training at ANTONOV and Customer’s aircraft;
- flight personnel training at ANTONOV simulators, including D level simulators.

**Maintenance of Customer’s aircraft:**
- on production facilities, approved by Part-145 organization on ANTONOV maintenance;
- within certified service centers;
- at places of aircraft deployment by certified ANTONOV personnel.

**Modifications to Customer’s aircraft** according to service bulletins, developed by ANTONOV Company.

**Reconditioning repair** of Customer’s aircraft by efforts of ANTONOV Company at their home bases or at the location in case of emergency.

**Maintenance program** development of aircraft according to Customer’s requirements.

## Maintenance Structure

<table>
<thead>
<tr>
<th>Check</th>
<th>Time interval</th>
<th>Man-hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Line maintenance</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-flight Check</td>
<td>Before the flight (performing by flight crew)</td>
<td>0,15</td>
</tr>
<tr>
<td>E-Check</td>
<td>48 hours</td>
<td>2,2</td>
</tr>
<tr>
<td>W-Check</td>
<td>Once every 2 weeks</td>
<td>9,5</td>
</tr>
</tbody>
</table>

| **Base (periodic) maintenance**         |                                      |           |
| A-Check   | 750 FH or 6 months             | 55        |
| SA-Check  | 300 cycles or 6 months         | 6         |
| C-Check   | 7500 FH or 36 months           | 100       |
| SC-Check  | 3000 cycles or 36 months       | 250       |
Transportation of personnel

- 90 soldiers
- 70 paratroops
- 48 wounded on stretchers + 15 at the seats
- 8 medical modules and 12 attendants

Loading variants

- Loading of pallets and containers by handling machine
- Loading by forklift
- Loading the turbojet engine by upper handing equipment (option), max. cargo weight up to 8 t
### Transportation of containers and pallets

Four 88" x 125" pallets and 88" x 108" pallet on cargo ramp

Five 88" x 108" pallets

Two 1C containers

Cargo in bulks under a net

<table>
<thead>
<tr>
<th>Carriage</th>
<th>Items</th>
<th>Weight, t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soldiers, pers.</td>
<td>90</td>
<td>10.8</td>
</tr>
<tr>
<td>Paratroopers, pers.</td>
<td>70</td>
<td>8.3</td>
</tr>
<tr>
<td>Wounded at the stretchers + at seats, pers.</td>
<td>48+15</td>
<td>6.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Containers, inch (m)</th>
<th>Items</th>
<th>Weight, t</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>M1</strong> 96” x 96” x 125” (2.438 x 2.438 x 3.175)</td>
<td>4</td>
<td>18.0*</td>
</tr>
<tr>
<td><strong>M2</strong> 96” x 96” x 238.5” (2.438 x 2.438 x 6.058)</td>
<td>2</td>
<td>18.0</td>
</tr>
<tr>
<td><strong>M3</strong> 88” x 96” x 125” (2.235 x 2.438 x 3.175)</td>
<td>4</td>
<td>18.0</td>
</tr>
<tr>
<td><strong>1D</strong> 96” x 96” x 117.8” (2.438 x 2.438 x 2.991)</td>
<td>2</td>
<td>18.0</td>
</tr>
<tr>
<td><strong>1C</strong> 96” x 96” x 238.5” (2.438 x 2.438 x 6.058)</td>
<td>2</td>
<td>18.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pallets, inch (m)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>88” x 108” (2.235 x 2.743)</td>
<td>5</td>
<td>18.0</td>
</tr>
<tr>
<td>88” x 108” (2.235 x 3.175)</td>
<td>4</td>
<td>18.0</td>
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<td>2</td>
<td>18.0</td>
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</table>

* For commercial application max. payload is up to 16 t
Transportation of self-propelled vehicles

EAGLE IV 4x4 + SHERPA 2 4x4

M113A-3 + GAZ 66

KMW F2

HMMWV M1165A1, M1167A1, M1152A1

HMMWV M1165A1 + 3 Fantoms

BARS 8 and BARS 6
Transportation of self-propelled vehicles