MD-11 Boeing Converted Freighter

The preferred package freighter
MD-11BCF conversion overview

Install Main Deck Pallet-Handling and Smoke-Detector Systems

Replace Passenger Interior and Systems with Freighter Interior

Install Main Deck Cargo Door

Install Cargo Barrier Net and Fittings

Modify Air-Conditioning System for Freighter

Modify Main Deck Floor as Required
MD-11BCF cargo arrangements

**Main Deck ULD loading configuration**

<table>
<thead>
<tr>
<th>Qty</th>
<th>ULD type</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>26</td>
<td>88- x 125-in pallets</td>
<td><strong>14,560 cu. ft.</strong> (412.3 cu. m.)</td>
</tr>
<tr>
<td>26</td>
<td>96- x 125-in pallets</td>
<td><strong>15,718 cu. ft.</strong> (445.1 cu. m.)</td>
</tr>
</tbody>
</table>

**Bulk**

- (132) LD-3 @ 159 = 2,862 cu. ft.
- (158.5 cu. m.)

**Total**

- **4,660 cu. ft.**
- **5,598 cu. ft.**

**Lower Hold**

- (6) 96- x 125-in @ 415 = 2,490 cu. ft.
- (4) 96- x 125-in @ 415 = 1,660 cu. ft.
- (70) 104- x 66-in door

**Bulk 510 cu. ft.**

- (14) LD-3 @ 159 = 2,226 cu. ft.
MD-11BCF main deck cargo flexibility

Large pallet capability

- (3) 96- x 238.5-in pallets
- (20) 88- or 96- x 125-in pallets
  Capacity with 96- x 125-in pallets (5 load profiles)

- (4) 96- x 196-in pallets
- (19) 88- or 96- x 125-in pallets
  Capacity with 96- x 125-in pallets (5 load profiles)
MD-11BCF crew area

Standard front end configuration

- Captain and First Officer Existing
- Right Observer
- Galley
- Lavatory
- Courier Station
- Left Observer (Optional)
- Aft Observer (Optional)
- Coatroom Existing
- 9G Barrier Net
- Existing Lavatory
- Existing Coatroom
- Existing Galley
MD-11BCF Main deck engine transport
MD-11BCF Main deck engine transport

Loadable locations for engine transport device with MD-11, 767, or 747 engines

Loading techniques
MD-11BCF Main deck cargo management

**MD-11F and MD-11BCF**

- **Nonpowered system**
- **Doorway powered rollers (option)**
  - Steerable powered rollers at cargo doorway
  - Master control station
  - Pendant cargo-loading controls
- **Full powered rollers (option)**
  - Steerable powered rollers at cargo doorway and aft omni area
  - Fixed powered rollers throughout remainder of cargo area
  - Master control station
  - Pendant cargo-loading controls
  - Zone loading control stations

- Omni area
- Omni area

- Powered rollers
- Steerable powered rollers
MD-11F and MD-11BCF main deck
Normal cargo door operation employs an independent hydraulic system with pressure supplied by an electrically driven pump.

If electrical power is not available, the cargo door can be operated with a manual hydraulic pump.
MD-11BCF Fwd lower cargo compartment

**Powered roller system**

- Tie-down points (bulk cargo)
- Anti-rollout doorway restraint latch
- Doorway self-retracting lateral/longitudinal powered roller
- Conveyor roller
- Doorway lateral guide
- Centerline conveyor roller
- Slide guide rail
- Longitudinal spring-loaded powered roller
- Centerline lateral restraint latch
- Doorway omni-Directional rollers
- Centerline lateral restraint latch
MD-11BCF Fwd lower cargo compartment

*Powered roller system*

**Cargo compartment**

**Cargo door/handling system control panel**
# MD-11BCF Performance Summary

## General Electric Engines

<table>
<thead>
<tr>
<th></th>
<th>MD-11BCF CF6-80C2D</th>
<th>MD-11BCF CF6-80C2D Option</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Maximum Taxi Weight</strong></td>
<td>287,124 (633,000)</td>
<td>287,124 (633,000)</td>
</tr>
<tr>
<td><strong>Maximum Takeoff Weight</strong></td>
<td>285,990 (630,500)</td>
<td>285,990 (630,500)</td>
</tr>
<tr>
<td><strong>Maximum Landing Weight</strong></td>
<td>213,869 (471,500)</td>
<td>222,941 (491,500)</td>
</tr>
<tr>
<td><strong>Maximum Zero Fuel Weight</strong></td>
<td>204,706 (451,300)</td>
<td>209,242 (461,300)</td>
</tr>
<tr>
<td><strong>Estimated OEW (including tare)</strong></td>
<td>120,928 (266,600)</td>
<td>120,928 (266,600)</td>
</tr>
<tr>
<td><strong>Tare</strong></td>
<td>4,853 (10,700)</td>
<td>4,853 (10,700)</td>
</tr>
<tr>
<td><strong>Fuel Capacity</strong></td>
<td>146,174 (38,615)</td>
<td>146,174 (38,615)</td>
</tr>
<tr>
<td><strong>Revenue Payload</strong></td>
<td>83,779 (184,700)</td>
<td>88,314 (194,700)</td>
</tr>
<tr>
<td><strong>Design Range</strong></td>
<td>3,971 (7,354)</td>
<td>3,483 (6,451)</td>
</tr>
<tr>
<td><strong>Total Volume</strong></td>
<td>577.0 (20,378)</td>
<td>577.0 (20,378)</td>
</tr>
<tr>
<td><strong>Density</strong></td>
<td>145.2 (9.1)</td>
<td>153.0 (9.6)</td>
</tr>
<tr>
<td><strong>Main Deck Volume (Pallets)</strong></td>
<td>445.1 (15,718)</td>
<td>445.1 (15,718)</td>
</tr>
<tr>
<td>96x125 x96</td>
<td>96x125 x84</td>
<td>96x125 x84</td>
</tr>
<tr>
<td>Quantity</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>Quantity</td>
<td>2</td>
<td>2</td>
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<tr>
<td><strong>Lower Deck Volume</strong></td>
<td>117.5 (4,150)</td>
<td>117.5 (4,150)</td>
</tr>
<tr>
<td>96x125</td>
<td>LD-3</td>
<td>96x125</td>
</tr>
<tr>
<td>Quantity</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Quantity</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Bulk</strong></td>
<td>14.4 (510)</td>
<td>14.4 (510)</td>
</tr>
</tbody>
</table>

- Typical mission rules
- Nominal fuel burn + 4%
### MD-11BCF Performance Summary

**Pratt and Whitney Engines**

<table>
<thead>
<tr>
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<th>MD-11BCF PW4462</th>
<th>MD-11BCF PW4462 Option</th>
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<td><strong>Maximum Taxi Weight</strong></td>
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<td>222,941 (491,500)</td>
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<tr>
<td><strong>Maximum Zero Fuel Weight</strong></td>
<td>204,706 (451,300)</td>
<td>209,242 (461,300)</td>
</tr>
<tr>
<td><strong>Estimated OEW (including tare)</strong></td>
<td>120,784 (266,284)</td>
<td>120,784 (266,284)</td>
</tr>
<tr>
<td><strong>Tare</strong></td>
<td>4,853 (10,700)</td>
<td>4,853 (10,700)</td>
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<tr>
<td><strong>Fuel Capacity</strong></td>
<td>146,174 (38,615)</td>
<td>146,174 (38,615)</td>
</tr>
<tr>
<td><strong>Revenue Payload</strong></td>
<td>83,922 (185,016)</td>
<td>88,458 (195,016)</td>
</tr>
<tr>
<td><strong>Design Range</strong></td>
<td>3,927 (7,272)</td>
<td>3,412 (6,320)</td>
</tr>
<tr>
<td><strong>Total Volume</strong></td>
<td>576.5 (20,358)</td>
<td>576.5 (20,358)</td>
</tr>
<tr>
<td><strong>Density</strong></td>
<td>145.6 (9.1)</td>
<td>153.4 (9.6)</td>
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<td><strong>Main Deck Volume (Pallets)</strong></td>
<td>445.1 (15,718)</td>
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<tr>
<td>96x125 x96</td>
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</tr>
<tr>
<td>96x125 x84</td>
<td>Quantity 2</td>
<td>2</td>
</tr>
<tr>
<td><strong>Lower Deck Volume</strong></td>
<td>117.5 (4,150)</td>
<td>117.5 (4,150)</td>
</tr>
<tr>
<td>96x125</td>
<td>Quantity 10</td>
<td>10</td>
</tr>
<tr>
<td>LD-3</td>
<td>Quantity 0</td>
<td>0</td>
</tr>
<tr>
<td>Bulk</td>
<td>13.9 (490)</td>
<td>13.9 (490)</td>
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- Typical mission rules
- Nominal fuel burn + 4%
MD-11BCF payload-range capability

**General Electric Engines**

Revenue Payload, 1,000 kg (1,000 lb)

- **MD-11BCF**
  - 285,990-kg (630,500-lb) MTOW
  - 209,242-kg (461,300-lb) MZFW
  - 204,706-kg (451,300-lb) MZFW

- Typical mission rules
- 200 nmi alternate

Range, 1,000 nmi (1,000 km)
MD-11BCF payload-range capability

Pratt and Whitney Engines

Revenue Payload, 1,000 kg (1,000 lb)

- Typical mission rules
- 200 nmi alternate

Range, 1,000 nmi (1,000 km)
Range capability from Anchorage

**Revenue Payload**

**MD-11BCF**
- 285,990-kg (630,500-lb) MTOW
- 83,779-kg (184,700-lb) payload

**MD-11BCF Option**
- 285,990-kg (630,500-lb) MTOW
- 84,314-kg (194,700-lb) payload

- GE engines
- Typical mission rules
- 85% annual winds
- Nominal fuel burn + 4%

- Anchorage
- Honolulu
- Tokyo
- Beijing
- Shanghai
- Helsinki
- Reykjavik
- Montreal
- New York
- Miami
- Los Angeles
- Mexico City
- Anchorage
- Honolulu
Range capability from Los Angeles

**Revenue Payload**

**MD-11BCF**
- 285,990-kg (630,500-lb) MTOW
- 83,779-kg (184,700-lb) payload

**MD-11BCF Option**
- 285,990-kg (630,500-lb) MTOW
- 84,314-kg (194,700-lb) payload

- GE engines
- Typical mission rules
- 85% annual winds
- Nominal fuel burn + 4%
Range capability from Tokyo

**Revenue Payload**

**MD-11BCF**
- 285,990-kg (630,500-lb) MTOW
- 83,779-kg (184,700-lb) payload

**MD-11BCF Option**
- 285,990-kg (630,500-lb) MTOW
- 84,314-kg (194,700-lb) payload

- GE engines
- Typical mission rules
- 85% annual winds
- Nominal fuel burn + 4%

Cities included in the range capability from Tokyo:
- Anchorage
- Anchorage
- Beijing
- Beijing
- Chengdu
- Chengdu
- Da
darin
- Da
darin
- Davao
- Davao
- Gu
am
- Gu
am
- Hong Kong
- Hong Kong
- Honolulu
- Honolulu
- Sapporo
- Sapporo
- Shanghai
- Shanghai
- Sh
ganghai
- Sh
ganghai
- Singapore
- Singapore
- Yangon
- Yangon
- Tokyo
- Tokyo
- Port Moresby
- Port Moresby
- Darwin
- Darwin
- Guam
- Guam
Range capability from Hong Kong

Revenue Payload

MD-11BCF
285,990-kg (630,500-lb) MTOW
83,779-kg (184,700-lb) payload

MD-11BCF Option
285,990-kg (630,500-lb) MTOW
84,314-kg (194,700-lb) payload

- GE engines
- Typical mission rules
- 85% annual winds
- Nominal fuel burn + 4%
Range capability from Frankfurt

Revenue Payload

MD-11BCF
285,990-kg (630,500-lb) MTOW
83,779-kg (184,700-lb) payload

MD-11BCF Option
285,990-kg (630,500-lb) MTOW
84,314-kg (194,700-lb) payload

- GE engines
- Typical mission rules
- 85% annual winds
- Nominal fuel burn + 4%
MD-11 Flight Deck