747-400/-400ER Freighters

- 64.44 m (211 ft 5 in )
- 22.17 m (72 ft 9 in)
- 11.00 m (36 ft 1 in)
- 70.66 m (231 ft 10 in)
- 19.40 m (63 ft 8 in)
• Revenue payload = structural payload MZFW - (OEW + tare)
• [ ] = average density, kg/m³, for total volume excluding bulk

* Boeing Assessment
** Restricted loadability
747-400/-400ER Freighter
Servicing arrangement, open ramp operation

*Lower lobe loader sequenced from aft compartment to forward compartment

F  Fuel
D  Demineralized water
T  Toilet
AC  Air-conditioning
E  Electrical power
AS  Air start

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May 2010
747-400/-400ER Freighter
Nose door adds tremendous value
747-400 Freighter
Main deck cargo arrangements

(2) 96 x 125-in x 8-ft contoured pallets at 15.3 m³ and 17.2 m³ (540 ft³ and 607 ft³)
(5) 96 x 125-in x 8-ft pallets at 17.4 m³ (613 ft³)
(23) 96 x 125-in x 10-ft contoured pallets at 21.2 m³ (750 ft³)

Total 607.7 m³ 21,462 ft³

(30) 96 x 125-in pallet positions

(2) 88 x 125-in x 8-ft contoured pallets at 13.9 m³ and 15.7 m³ (493 ft³ and 554 ft³)
(5) 88 x 125-in x 8-ft pallets at 15.9 m³ (560 ft³)
(23) 88 x 125-in x 10-ft contoured pallets at 19.3 m³ (680 ft³)

Total 553 m³ 19,487 ft³

(30) 88 x 125-in pallet positions
747-400/-400ER Freighter
Nose door loading

(29) 10-ft (3-m) containers

(13) 20-ft (6-m) intermodal containers
(5) 10-ft (3-m) containers

Random intermix, 10-, 20-, 30-, and 40-ft (3-, 6-, 9-, and 12-m) loads
Side cargo door loading 6-meter (20-foot) container
747-400/-400ER Freighter
Upper deck arrangement

Crew service door
Stowage
Double seat (BFE), three places
Windows, six places

Closet
Curtain
Flight deck

Lav
Emergency equipment

Bunk 30 x 78 in
(76.2 x 198.0 cm)

Bunk 76.2 x 198.0 cm
(30 x 78 in)

Bifold door
Counter

STA 384

Bunk

STA 631.5

50.8 x 198.0 cm
(20 x 78 in)
Door*
747-400/-400ER Freighter
Upper deck ladder operation

- Ladder extended
- Retracting
- Ladder stowed

Main deck
Upper deck
Additional 10-foot-high cargo capacity

6.8 m³ (240 ft³) more cargo volume than the 747-200

2.4-m-high (8-ft-high) cargo

3-m-high (10-ft-high) cargo

two additional positions

3-m-high (10-ft-high) cargo (747-200 Freighter)
747-400/-400ER Freighter
Additional main deck pallet

More than 15.1-m³ (534-ft³) volume increase (one additional pallet)

*Position 2A can be a full container (uncontoured) when loaded through the side cargo door.
The 747-400 Freighters have 21.9 m³ (774 ft³) more main deck volume and up to 11.9 m³ (420 ft³) more lower hold volume than the 747-200 Freighter.
### Running load capability, kg/cm (lb/in)

<table>
<thead>
<tr>
<th>Section</th>
<th>kg/cm</th>
<th>lb/in</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main deck</td>
<td>15 (85)</td>
<td>30 (170)</td>
</tr>
<tr>
<td>Wing</td>
<td>21 (116)</td>
<td>52 (290)</td>
</tr>
<tr>
<td>Lower hold</td>
<td>14 (78)</td>
<td></td>
</tr>
<tr>
<td>Combined</td>
<td>6 (36)</td>
<td></td>
</tr>
</tbody>
</table>

### Main load per 96- x 125-in unit load device, lb (kg)

<table>
<thead>
<tr>
<th>Section</th>
<th>lb</th>
<th>kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main deck</td>
<td>3,720 (8,200)</td>
<td>4,808 (10,600)</td>
</tr>
<tr>
<td>Wing</td>
<td>8,210 (18,100)</td>
<td>4,808 (10,600)</td>
</tr>
<tr>
<td>Lower hold</td>
<td>2,041 (4,500)</td>
<td></td>
</tr>
</tbody>
</table>
747-400/-400ER Freighter
Unmatched freight flexibility
747-400/-400ER Freighters
Cross section

Main deck side cargo door (LH)
Width: 3.4 m (134 in)
Height: 3.1 m (123 in)

Cargo door (RH)
Forward and aft doors
Height: 1.7 m (66 in)

LD-1, LD-3, LD-6, LD-9
LD-1, LD-3, LD-6, LD-9
747-400/-400ER Freighter
747-400/-400ER Freighter
3 meter (10 foot) cargo capability
747-400/-400ER Freighter
Nose cargo door

Top of rollers

Normal excursion
505-cm (199-in) lightweight aft CG
472-cm (186-in) heavyweight fwd CG

Ground line

381 cm (150 in)
318 cm (125 in)
267 cm (105 in)
249 cm (98 in)
196 cm (77 in)
356 cm (140 in)

30 cm (12 in)
747-400/-400ER Freighter
Lower hold cargo arrangements

Pallets and containers total volume
117.8 m³ (4,163 ft³)

(9) 88 x 108-in (2.2 x 2.7-m) pallets
83.3 m³ (2,943 ft³)

4 LD-1 containers
19.8 m³ (700 ft³)

(9) 88 x 125-in (2.2 x 3.1-m) pallets
96.6 m³ (3,411 ft³)

Bulk volume
14.7 m³ (520 ft³)

Pallets and containers total volume (LD-1)
131.1 m³ (4,631 ft³)

Bulk volume
14.7 m³ (520 ft³)

Pallets and containers total volume (LD-1)
131.1 m³ (4,631 ft³)

Bulk volume
14.7 m³ (520 ft³)
747-400/-400ER Freighter
Lower hold cargo arrangements

Pallets and containers total volume
130.3 m³ (4,605 ft³)

(9) 96 x 125-in (2.4 x 3.2-m) pallets
105.7 m³ (3,735 ft³)

2 LD-1 containers
9.9 m³ (350 ft³)

Bulk volume
14.7 m³ (520 ft³)

All containers total volume
LD-1: 173.3 m³ (6,120 ft³)
LD-3: 157.9 m³ (5,576 ft³)

16 LD-1 containers
79.3 m³ (2,800 ft³)
747-400/-400ER Freighter
Lower hold volume arrangements

747-400F/ERF

Forward lower hold

Pallets and Containers
Total Volume
115.7 m³ (4,085 ft³)

(5) 96-in x 125-in pallets
58.8 m³ (2,075 ft³)

All Containers
Total Volume
158.6 m³ (5,600 ft³)

(16) LD-1/LD-3 containers
79.3 m³ (2,800 ft³)

Aft lower hold

Wing box
Wheel well

(4) 96-in x 125-in pallets + (2) LD-1/LD-3 containers
56.9 m³ (2,010 ft³)

(16) LD-1/LD-3 containers
79.3 m³ (2,800 ft³)

*Bulk cargo = 23.6 m³ (520 ft³).

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747-400/-400ER Freighter
Lower hold loading versatility

96-in pallets, 11.8 m³ (415 ft³) volume
LD-1, 4.9 m³ (175 ft³) volume

<table>
<thead>
<tr>
<th>Volume</th>
<th>58.8 m³ (2,075 ft³)</th>
<th>66.8 m³ (2,360 ft³)</th>
<th>65.0 m³ (2,295 ft³)</th>
<th>73.1 m³ (2,580 ft³)</th>
<th>81.1 m³ (2,865 ft³)</th>
<th>79.3 m³ (2,800 ft³)</th>
</tr>
</thead>
</table>

88-in pallets, 10.7 m³ (379 ft³) volume
LD-1, 4.9 m³ (175 ft³) volume

<table>
<thead>
<tr>
<th>Volume</th>
<th>63.6 m³ (2,245 ft³)</th>
<th>62.8 m³ (2,216 ft³)</th>
<th>71.8 m³ (2,537 ft³)</th>
<th>71.0 m³ (2,508 ft³)</th>
<th>80.1 m³ (2,829 ft³)</th>
<th>79.3 m³ (2,800 ft³)</th>
</tr>
</thead>
</table>
747-400/-400ER Freighter
Cargo door arrangement

- Bulk cargo compartment door (STA 2007)
  - Dimensions: 112 cm x 119 cm (44 in x 47 in)

- Aft lower cargo compartment door (STA 1865)
  - Dimensions: 264 cm x 168 cm (104 in x 66 in)

- Side cargo door (STA 1850)
  - Dimensions: 340 cm x 168 cm (134 in x 66 in)

- Forward lower cargo compartment door (STA 615)
  - Dimensions: 264 cm x 168 cm (104 in x 66 in)

- Entry service door
  - Dimensions: 107 cm x 193 cm (42 in x 76 in)

- Side cargo door

- Crew service door

- Nose cargo door

- Nose cargo door

- 8- x 8-ft container
  - Position 1A
  - 96- x 125-in pallet

- 340 cm (134 in)
- 264 cm (104 in)
- 123 in (312 cm)
- 119 cm (47 in)

- 356 cm (140 in)
- 264 cm (104 in)
- 196 cm (77 in)
- 249 cm (98 in)

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May 2010
747-400/-400ER Freighter
Lower cargo compartment door

Rear view

Approximately 3 m (10 ft) to ground

Right-hand side view

264 cm (104 in)
168 cm (66 in)
Clear opening

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May 2010
747-400/-400ER Freighter
Lower hold capability

Containers and pallets

Basic

1,588-kg (3,500-lb) MGW
4.5 m³ (159 ft³)
(LD-3)

1,588-kg (3,500-lb) MGW
4.9 m³ (175 ft³)
(LD-1)

4,627-kg (10,200-lb) MGW*
10.8 m³ (381 ft³)
(LD-9)

3,175-kg (7,000-lb) MGW*
9.1 m³ (322 ft³)
(LD-6)

5,035-kg (11,100-lb) MGW*
11.8 m³ (415 ft³)

4,627-kg (10,200-lb) MGW*
10.5 m³ (372 ft³)

* Maximum gross weights shown are based on lower hold running load capability, 21 kg/cm (116 lb/in), subject to overall airframe structural limits.
Typical mission rules.

*MZFW decreases linearly from 288,030 kg (635,000 lb) to 276,690 kg (610,000 lb) as MTOW increases from 367,863 kg (811,000 lb) to 394,625 kg (870,000 lb).
Payload, 1,000 kg (1,000 lb)

General Electric engines

- Typical mission rules.
- MZFW decreases linearly from 288,030 kg (635,000 lb) to 276,690 kg (610,000 lb) as MTOW increases from 367,863 kg (811,000 lb) to 394,625 kg (870,000 lb).

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May 2010
747-400 Freighter
Payload-range capability

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

Pratt & Whitney engines

- 288,030-kg (635,000-lb) MZFW
- 276,690-kg (610,000-lb) MZFW
- 362,870-kg (800,000-lb) MTOW
- 396,890-kg (875,000-lb) MTOW

Volume limit payload

Optional MZFW/MLW*

Fuel capacity
L (U.S. gal)
204,350 (53,985)

Range, 1,000 nmi (1,000 km)

(0) 1 2 3 4 5 6 7 8 9 10
(0) (2) (4) (6) (8) (10) (12) (14) (16) (18)

(0) 50 100 150 200 250 300

(0) 20 40 60 80 100 120 140

- Typical mission rules.
- MZFW decreases linearly from 288,030 kg (635,000 lb) to 276,690 kg (610,000 lb) as MTOW increases from 367,863 kg (811,000 lb) to 394,625 kg (870,000 lb).
747-400ER Freighter
Payload-range capability

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

- 288,030-kg (635,000-lb) MZFW
- 277,140-kg (611,000-lb) MZFW
- Optional MZFW/MLW*
- 412,770-kg (910,000-lb) MTOW

Volume limit payload

Range, 1,000 nmi (1,000 km)

Fuel capacity 203,520 (53,785)

*Typical mission rules.
MZFW decreases linearly from 288,030 kg (635,000 lb) to 277,140 kg (611,000 lb) as MTOW increases from 367,863 kg (811,000 lb) to 412,760 kg (910,000 lb).
747-400ER Freighter
Payload-range capability

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

Pratt & Whitney engines

- 288,030-kg (635,000-lb) MZFW
- 277,140-kg (611,000-lb) MZFW
- Volume limit payload

Range, 1,000 nmi (1,000 km)

- 412,770-kg (9,10,000-lb) MTOW
- Fuel capacity
  - 204,350 (53,985 L (U.S. gal))

Optional MZFW/MLW*

Fuel capacity

* MZFW decreases linearly from 288,030 kg (635,000 lb) to 277,140 kg (611,000 lb) as MTOW increases from 367,863 kg (811,000 lb) to 412,760 kg (910,000 lb).

• Typical mission rules.
# 747-400 Freighter
## Performance summary

### General Electric engines

<table>
<thead>
<tr>
<th>Cargo</th>
<th>MD pallets/LD pallets/LD containers&lt;sup&gt;1&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Engines</strong></td>
<td></td>
</tr>
<tr>
<td>SL standard-day takeoff thrust/flat-rated temperature</td>
<td>lb/°F</td>
</tr>
<tr>
<td>CF6-80C2-B1F</td>
<td>56,500/90</td>
</tr>
<tr>
<td>CF6-80C2-B5F</td>
<td>62,100/86</td>
</tr>
<tr>
<td><strong>Maximum taxi weight</strong></td>
<td>kg (lb)</td>
</tr>
<tr>
<td>Basic</td>
<td>364,230 (803,000)</td>
</tr>
<tr>
<td>Option&lt;sup&gt;2&lt;/sup&gt;</td>
<td>362,870 (800,000)</td>
</tr>
<tr>
<td>Option&lt;sup&gt;3&lt;/sup&gt;</td>
<td>295,740 (652,000)</td>
</tr>
<tr>
<td><strong>Maximum takeoff weight</strong></td>
<td>kg (lb)</td>
</tr>
<tr>
<td>Basic</td>
<td>276,690 (610,000)</td>
</tr>
<tr>
<td>Option&lt;sup&gt;2&lt;/sup&gt;</td>
<td>163,700 (360,900)</td>
</tr>
<tr>
<td>Option&lt;sup&gt;3&lt;/sup&gt;</td>
<td>5,450 (12,010)</td>
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<tr>
<td><strong>Maximum landing weight</strong></td>
<td>kg (lb)</td>
</tr>
<tr>
<td>Basic</td>
<td>203,520 (53,765)</td>
</tr>
<tr>
<td><strong>Max fuel capacity</strong></td>
<td>L (U.S. gal)</td>
</tr>
<tr>
<td>Basic</td>
<td>364,230 (803,000)</td>
</tr>
<tr>
<td>Option&lt;sup&gt;2&lt;/sup&gt;</td>
<td>362,870 (800,000)</td>
</tr>
<tr>
<td>Option&lt;sup&gt;3&lt;/sup&gt;</td>
<td>295,740 (652,000)</td>
</tr>
<tr>
<td><strong>Maximum zero fuel weight</strong></td>
<td>kg (lb)</td>
</tr>
<tr>
<td>Basic</td>
<td>112,990 (249,100)</td>
</tr>
<tr>
<td><strong>Design range (at max. revenue payload)</strong></td>
<td>nmi (km)</td>
</tr>
<tr>
<td>Basic</td>
<td>3,190 (5,910)</td>
</tr>
<tr>
<td><strong>Cruise Mach</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Takeoff field length (SL, 86°F, MTOW)</strong></td>
<td>m (ft)</td>
</tr>
<tr>
<td>Basic</td>
<td>2,820 (9,250)</td>
</tr>
<tr>
<td>Option&lt;sup&gt;2&lt;/sup&gt;</td>
<td>34,600</td>
</tr>
<tr>
<td>Option&lt;sup&gt;3&lt;/sup&gt;</td>
<td>2,195 (7,200)</td>
</tr>
<tr>
<td><strong>Landing field length (MLW)</strong></td>
<td>m (ft)</td>
</tr>
<tr>
<td>Basic</td>
<td>157</td>
</tr>
<tr>
<td><strong>Approach speed (MLW)</strong></td>
<td>kias</td>
</tr>
<tr>
<td>Basic</td>
<td>68,200 (150,360)</td>
</tr>
<tr>
<td><strong>Block fuel data</strong></td>
<td>3,000 nmi</td>
</tr>
<tr>
<td>Basic</td>
<td>68,200 (150,360)</td>
</tr>
</tbody>
</table>

- Typical mission rules.
- <sup>1</sup>96- x 125-in pallets/LD-1 containers.
- <sup>2</sup>Highest available MTOW, only available with 276,690-kg (610,000-lb) MZFW.
- <sup>3</sup>Highest available MZFW, only available with 367,860-kg (811,000-lb) MTOW. Operating restrictions require linear reduction in MTOW with MZFW increase from 276,690 to 288,030-kg (610,000 to 635,000 lb).
- <sup>4</sup>Includes tare weight.
- <sup>5</sup>Maximum landing weight limited.
# 747-400 Freighter
## Performance summary

<table>
<thead>
<tr>
<th>Cargo</th>
<th>MD pallets/LD pallets/LD containers&lt;sup&gt;1&lt;/sup&gt;</th>
<th>Basic</th>
<th>Option&lt;sup&gt;2&lt;/sup&gt;</th>
<th>Option&lt;sup&gt;3&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Engines</strong></td>
<td></td>
<td>PW4056</td>
<td>PW4062</td>
<td>PW4056</td>
</tr>
<tr>
<td>SL standard-day takeoff thrust/flat-rated temperature</td>
<td>lb/°F</td>
<td>57,100/92</td>
<td>63,300/86</td>
<td>57,100/92</td>
</tr>
<tr>
<td>Maximum taxi weight</td>
<td>kg (lb)</td>
<td>364,230 (803,000)</td>
<td>398,250 (878,000)</td>
<td>369,220 (814,000)</td>
</tr>
<tr>
<td>Maximum takeoff weight</td>
<td>kg (lb)</td>
<td>362,870 (800,000)</td>
<td>396,890 (875,000)</td>
<td>367,870 (811,000)</td>
</tr>
<tr>
<td>Maximum landing weight</td>
<td>kg (lb)</td>
<td>295,740 (652,000)</td>
<td>295,740 (652,000)</td>
<td>302,100 (666,000)</td>
</tr>
<tr>
<td>Maximum zero fuel weight</td>
<td>kg (lb)</td>
<td>276,690 (610,000)</td>
<td>276,690 (610,000)</td>
<td>288,030 (635,000)</td>
</tr>
<tr>
<td>Operating empty weight&lt;sup&gt;4&lt;/sup&gt;</td>
<td>kg (lb)</td>
<td>164,380 (362,400)</td>
<td>164,380 (362,400)</td>
<td>164,380 (362,400)</td>
</tr>
<tr>
<td>Tare weight</td>
<td>kg (lb)</td>
<td>5,450 (12,010)</td>
<td>5,450 (12,010)</td>
<td>5,450 (12,010)</td>
</tr>
<tr>
<td>Fuel capacity</td>
<td>L (U.S. gal)</td>
<td>204,350 (53,985)</td>
<td>204,350 (53,985)</td>
<td>204,350 (53,985)</td>
</tr>
<tr>
<td>Maximum revenue payload</td>
<td>kg (lb)</td>
<td>112,310 (247,600)</td>
<td>112,310 (247,600)</td>
<td>123,650 (272,600)</td>
</tr>
<tr>
<td>Design range (at max. revenue payload)</td>
<td>nmi (km)</td>
<td>3,170 (5,870)</td>
<td>4,450 (8,240)</td>
<td>2,430 (4,500)&lt;sup&gt;5&lt;/sup&gt;</td>
</tr>
<tr>
<td>Cruise Mach</td>
<td></td>
<td>0.845</td>
<td>0.845</td>
<td>0.845</td>
</tr>
<tr>
<td>Takeoff field length (SL, 86°F, MTOW)</td>
<td>m (ft)</td>
<td>2,820 (9,250)</td>
<td>2,985 (9,800)</td>
<td>2,910 (9,550)</td>
</tr>
<tr>
<td>Initial cruise altitude (MTOW, ISA + 10°C)</td>
<td>ft</td>
<td>34,600</td>
<td>34,700</td>
<td>34,300</td>
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<tr>
<td>Landing field length (MLW)</td>
<td>m (ft)</td>
<td>2,165 (7,100)</td>
<td>2,165 (7,100)</td>
<td>2,225 (7,300)</td>
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<tr>
<td>Approach speed (MLW)</td>
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<td>157</td>
<td>157</td>
<td>158</td>
</tr>
<tr>
<td>Block fuel data</td>
<td></td>
<td>68,280 (150,530)</td>
<td>68,280 (150,530)</td>
<td>Not applicable&lt;sup&gt;5&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

- Typical mission rules.
- <sup>1</sup>96- x 125-in pallets/LD-1 containers.
- <sup>2</sup>Highest available MTOW, only available with 276,690-kg (610,000-lb) MZFW.
- <sup>3</sup>Highest available MZFW, only available with 367,860-kg (811,000-lb) MTOW. Operating restrictions require linear reduction in MTOW with MZFW increase from 276,690 to 288,030-kg (610,000 to 635,000 lb).
- <sup>4</sup>Includes tare weight.
- <sup>5</sup>Maximum landing weight limited.
# 747-400 Freighter Performance summary

## Rolls-Royce engines

<table>
<thead>
<tr>
<th>Cargo</th>
<th>MD pallets/LD pallets/LD containers&lt;sup&gt;1&lt;/sup&gt;</th>
<th>Basic</th>
<th>Option&lt;sup&gt;2&lt;/sup&gt;</th>
<th>Option&lt;sup&gt;3&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Engines</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SL standard-day takeoff thrust/flat-rated temperature lb/°F</td>
<td>RB211-524G-T 56,400/86</td>
<td>RB211-524H-T 59,500/86</td>
<td>RB211-524G-T 56,400/86</td>
<td></td>
</tr>
<tr>
<td>Maximum taxi weight kg (lb)</td>
<td>304,230 (803,000)</td>
<td>398,250 (878,000)</td>
<td>369,220 (814,000)</td>
<td></td>
</tr>
<tr>
<td>Maximum takeoff weight kg (lb)</td>
<td>302,870 (800,000)</td>
<td>396,890 (875,000)</td>
<td>367,860 (811,000)</td>
<td></td>
</tr>
<tr>
<td>Maximum landing weight kg (lb)</td>
<td>295,740 (652,000)</td>
<td>295,740 (652,000)</td>
<td>302,090 (666,000)</td>
<td></td>
</tr>
<tr>
<td>Maximum zero fuel weight kg (lb)</td>
<td>276,690 (610,000)</td>
<td>276,690 (610,000)</td>
<td>288,030 (635,000)</td>
<td></td>
</tr>
<tr>
<td>Operating empty weight&lt;sup&gt;4&lt;/sup&gt; kg (lb)</td>
<td>164,520 (362,700)</td>
<td>164,520 (362,700)</td>
<td>164,520 (362,700)</td>
<td></td>
</tr>
<tr>
<td>Tare weight kg (lb)</td>
<td>5,450 (12,010)</td>
<td>5,450 (12,010)</td>
<td>5,450 (12,010)</td>
<td></td>
</tr>
<tr>
<td>Fuel capacity L (U.S. gal)</td>
<td>204,350 (53,985)</td>
<td>204,350 (53,985)</td>
<td>204,350 (53,985)</td>
<td></td>
</tr>
<tr>
<td>Maximum revenue payload kg (lb)</td>
<td>112,170 (247,300)</td>
<td>112,170 (247,300)</td>
<td>123,510 (272,300)</td>
<td></td>
</tr>
<tr>
<td>Design range (at max. revenue payload) nmi (km)</td>
<td>3,110 (5,760)</td>
<td>4,365 (8,080)</td>
<td>2,305 (4,270)&lt;sup&gt;5&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Cruise Mach</td>
<td></td>
<td></td>
<td>0.845</td>
<td>0.845</td>
</tr>
<tr>
<td>Takeoff field length (SL, 86°F, MTOW) m (ft)</td>
<td>2,850 (9,350)</td>
<td>3,290 (10,800)</td>
<td>2,920 (9,600)</td>
<td></td>
</tr>
<tr>
<td>Initial cruise altitude (MTOW, ISA + 10°C) ft</td>
<td>34,600</td>
<td>32,700</td>
<td>34,300</td>
<td></td>
</tr>
<tr>
<td>Landing field length (MLW) m (ft)</td>
<td>2,165 (7,100)</td>
<td>2,165 (7,100)</td>
<td>2,225 (7,300)</td>
<td></td>
</tr>
<tr>
<td>Approach speed (MLW) kias</td>
<td>157</td>
<td>157</td>
<td>158</td>
<td></td>
</tr>
<tr>
<td>Block fuel data 3,000 nmi kg (lb)</td>
<td>69,540 (153,320)</td>
<td>69,540 (153,320)</td>
<td>Not applicable&lt;sup&gt;5&lt;/sup&gt;</td>
<td></td>
</tr>
</tbody>
</table>

- **Typical mission rules.**
- <sup>1</sup>96- x 125-in pallets/LD-1 containers.
- <sup>2</sup>Highest available MTOW, only available with 276,690-kg (610,000-lb) MZFW.
- <sup>3</sup>Highest available MZFW, only available with 367,860-kg (811,000-lb) MTOW. Operating restrictions require linear reduction in MTOW with MZFW increase from 276,690 to 288,030-kg (610,000 to 635,000 lb).
- <sup>4</sup>Includes tare weight.
- <sup>5</sup>Maximum landing weight limited.
# 747-400ER Freighter
## Performance summary

### General Electric engines

<table>
<thead>
<tr>
<th>Cargo</th>
<th>MD pallets/LD pallets/LD containers</th>
<th>Basic</th>
<th>Option²</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Engines</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SL standard-day takeoff thrust/flat-rated temperature</td>
<td>lb/°F</td>
<td>CF6-80C2-B5F 62,100/86</td>
<td>CF6-80C2-B5F 62,100/86</td>
</tr>
<tr>
<td>Maximum taxi weight</td>
<td>kg (lb)</td>
<td>414,130 (913,000)</td>
<td>369,220 (814,000)</td>
</tr>
<tr>
<td>Maximum takeoff weight</td>
<td>kg (lb)</td>
<td>412,770 (910,000)</td>
<td>367,860 (811,000)</td>
</tr>
<tr>
<td>Maximum landing weight</td>
<td>kg (lb)</td>
<td>296,200 (653,000)</td>
<td>302,090 (666,000)</td>
</tr>
<tr>
<td>Maximum zero fuel weight</td>
<td>kg (lb)</td>
<td>277,140 (611,000)</td>
<td>288,030 (635,000)</td>
</tr>
<tr>
<td>Operating empty weight³</td>
<td>kg (lb)</td>
<td>164,020 (361,600)</td>
<td>164,020 (361,600)</td>
</tr>
<tr>
<td>Tare weight</td>
<td>kg (lb)</td>
<td>5,450 (12,010)</td>
<td>5,450 (12,010)</td>
</tr>
<tr>
<td>Fuel capacity</td>
<td>L (U.S. gal)</td>
<td>203,520 (53,765)</td>
<td>203,520 (53,765)</td>
</tr>
<tr>
<td><strong>Maximum revenue payload</strong></td>
<td>kg (lb)</td>
<td>113,130 (249,400)</td>
<td>124,010 (273,400)</td>
</tr>
<tr>
<td>Design range (at max. revenue payload)</td>
<td>nmi (km)</td>
<td>4,980 (9,220)</td>
<td>2,825⁴ (5,230)⁴</td>
</tr>
<tr>
<td>Cruise Mach</td>
<td></td>
<td>0.845</td>
<td>0.845</td>
</tr>
<tr>
<td>Takeoff field length (SL, 86°F, MTOW)</td>
<td>m (ft)</td>
<td>3,340 (10,950)</td>
<td>2,560 (8,400)</td>
</tr>
<tr>
<td>Initial cruise altitude (MTOW, ISA + 10°C)</td>
<td>ft</td>
<td>31,800</td>
<td>34,300</td>
</tr>
<tr>
<td>Landing field length (MLW)</td>
<td>m (ft)</td>
<td>2,180 (7,150)</td>
<td>2,255 (7,400)</td>
</tr>
<tr>
<td>Approach speed (MLW)</td>
<td>kias</td>
<td>157</td>
<td>158</td>
</tr>
<tr>
<td><strong>Block fuel data</strong></td>
<td>3,000 nmi</td>
<td>kg (lb) 68,310 (150,590)</td>
<td>Not applicable⁴</td>
</tr>
</tbody>
</table>

- Typical mission rules.
- ¹96- x 125-in pallets/LD-1 containers.
- ²Highest available MZFW, only available with 367,860-kg (811,000-lb) MTOW. Operating restrictions require linear reduction in MTOW with MZFW increase from 276,690 to 288,030-kg (610,000 to 635,000 lb).
- ³Includes tare weight.
- ⁴Maximum landing weight limited.
**Pratt & Whitney engines**

<table>
<thead>
<tr>
<th>Cargo</th>
<th>MD pallets/LD pallets/LD containers¹</th>
<th>Basic</th>
<th>Option²</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Engines</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SL standard-day takeoff</td>
<td></td>
<td>PW4062</td>
<td>PW4062</td>
</tr>
<tr>
<td>thrust/flat-rated</td>
<td>lb/°F</td>
<td>63,300/86</td>
<td>63,300/86</td>
</tr>
<tr>
<td>temperature</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum taxi weight</td>
<td>kg (lb)</td>
<td>414,130 (913,000)</td>
<td>369,220 (814,000)</td>
</tr>
<tr>
<td>Maximum takeoff weight</td>
<td>kg (lb)</td>
<td>412,770 (910,000)</td>
<td>367,860 (811,000)</td>
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<td>Maximum landing weight</td>
<td>kg (lb)</td>
<td>296,200 (653,000)</td>
<td>302,090 (666,000)</td>
</tr>
<tr>
<td>Maximum zero fuel weight</td>
<td>kg (lb)</td>
<td>277,140 (611,000)</td>
<td>288,030 (635,000)</td>
</tr>
<tr>
<td>Operating empty weight³</td>
<td>kg (lb)</td>
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<td>164,700 (363,100)</td>
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<td>Tare weight</td>
<td>kg (lb)</td>
<td>5,450 (12,010)</td>
<td>5,450 (12,010)</td>
</tr>
<tr>
<td>Fuel capacity</td>
<td>L (U.S. gal)</td>
<td>204,350 (53,985)</td>
<td>204,350 (53,985)</td>
</tr>
<tr>
<td>Maximum revenue payload</td>
<td>kg (lb)</td>
<td>112,450 (247,900)</td>
<td>123,330 (271,900)</td>
</tr>
<tr>
<td>Design range (at max.</td>
<td>nmi (km)</td>
<td>4,985 (9,230)</td>
<td>2,430³ (4,500)³</td>
</tr>
<tr>
<td>revenue payload)</td>
<td></td>
<td>0.845</td>
<td>0.845</td>
</tr>
<tr>
<td>Cruise Mach</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Takeoff field length</td>
<td>m (ft)</td>
<td>3,290 (10,800)</td>
<td>2,540 (8,350)</td>
</tr>
<tr>
<td>(SL, 86°F, MTOW)</td>
<td></td>
<td>31,900</td>
<td>34,300</td>
</tr>
<tr>
<td>Initial cruise altitude</td>
<td>ft</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(MTOW, ISA + 10°C)</td>
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<tr>
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<td>2,195 (7,200)</td>
<td>2,255 (7,400)</td>
</tr>
<tr>
<td>(MLW)</td>
<td></td>
<td>157</td>
<td>158</td>
</tr>
<tr>
<td>Approach speed (MLW)</td>
<td>kias</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Block fuel data</td>
<td></td>
<td>3,000 nmi</td>
<td></td>
</tr>
<tr>
<td>6,000 nmi</td>
<td>kg (lb)</td>
<td>68,380 (150,750)</td>
<td>Not applicable⁴</td>
</tr>
</tbody>
</table>

- Typical mission rules.

¹96- x 125-in pallets/LD-1 containers.
²Highest available MZFW, only available with 367,860-kg (811,000-lb) MTOW. Operating restrictions require linear reduction in MTOW with MZFW increase from 276,690 to 288,030-kg (610,000 to 635,000 lb).
³Includes tare weight.
⁴Maximum landing weight limited.
Standard day.
6.7 lb per U.S. gal fuel density.
Nominal performance.

Mission profile

Mission
- Taxi out (9 min)
- Takeoff to 35 ft
- Climb to 1,500 ft and accelerate to 250 kias
- Climb to 10,000 ft at 250 kias
- Accelerate to climb speed
- Cruise
- Descend to 1,500 ft
- Approach and land (5 min)
- Taxi in (5 min from reserves)

Reserves
- 5% flight fuel
- Missed approach
- Economy climb
- LRC
- Economy descent
- Approach and land (5 min)
- 30-min hold at 1,500 ft

Still air range
- Flight time and fuel
- Block time and fuel

200 nmi
747-400/-400ER Freighter
Range capability from New York

Maximum revenue payload*

747-200F
377,842-kg (833,000-lb) MTOW
111-tonne (122-tons) payload

747-400F
396,893-kg (875,000-lb) MTOW
113-tonne (124-tons) payload

747-400ERF
412,770-kg (910,000-lb) MTOW
113-tonne (124-tons) payload

- Typical mission rules.
- 85% annual winds.
- Airways and traffic allowances included.
- Range capability from New York.

* Does not include tare.
747-400/-400ER Freighters

Range capability from Dubai

Maximum revenue payload*

747-200F
377,842-kg (833,000-lb) MTOW
111-tonne (122-tons) payload

747-400F
396,893-kg (875,000-lb) MTOW
113-tonne (124-tons) payload

747-400ERF
412,770-kg (910,000-lb) MTOW
113-tonne (124-tons) payload

* Does not include tare.

- Typical mission rules.
- 85% annual winds.
- Airways and traffic allowances included.
- Range capability from Dubai.
747-400/-400ER Freighter
Range capability from Hong Kong

Maximum revenue payload*

747-200F
377,842-kg (833,000-lb) MTOW
111-tonne (122-tons) payload

747-400F
396,893-kg (875,000-lb) MTOW
113-tonne (124-tons) payload

747-400ERF
412,770-kg (910,000-lb) MTOW
113-tonne (124-tons) payload

* Typical mission rules.
* 85% annual winds.
* Airways and traffic allowances included.
* Range capability from Hong Kong.

* Does not include tare.
747-400/-400ER Freighter
Range capability from London

Maximum revenue payload*

747-200F
377,842-kg (833,000-lb) MTOW
111-tonne (122-tons) payload

747-400F
396,893-kg (875,000-lb) MTOW
113-tonne (124-tons) payload

747-400ERF
412,770-kg (910,000-lb) MTOW
113-tonne (124-tons) payload

• Typical mission rules.
• 85% annual winds.
• Airways and traffic allowances included.
• Range capability from London.

* Does not include tare.