Freighter Conversions
Are they good investments?

Aircraft Leasing and Finance Seminar
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FORTUNE AVIATION SERVICES

Questions for Discussion

- Why consider a conversion investment?
- What ingredients are necessary for a successful investment?
- When should a lessor consider a freighter conversion?
- Is now a good time to invest?

Why would a lessor spend $ millions to do this to their aircraft?

Air Cargo Economics Favor Converted Aircraft

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- Freighter fleet is predominantly used aircraft
  - Three of every four future freighters will be a conversion
  - Air freight economics often drive operators to lowest capex options (747-400F vs 747-400P2F)
  - New freighters prevail only when technology yields tangible economic benefit (fuel burn, payload, reliability) (747-8F)
- Freight demand more stable & faster growing than pax
  - 1,400+ freighters need replacement over the next 20 years
  - 2,000 additional units needed to meet growth (+1% per annum than pax growth)

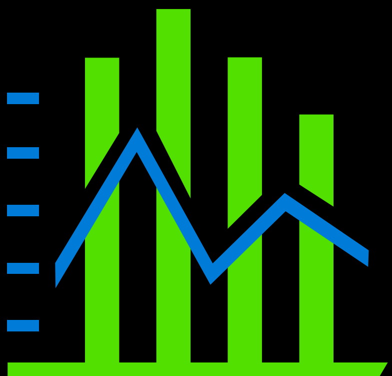
Boeing forecasts 2,600+ conversions over next 20 years

Conversions can be good investments

- Pax residuals approach scrap at 20-30 years
- Freighter residuals reach scrap in 30-40 years
- Good freighter types become candidates at 12-18 years at about the time their appeal in the pax market is declining

Extends Useful Life

Conversions can be good investments



Freighter values are more stable than pax

- Cargo demand correlates with economic growth
- Freight operators typically last in and first out of downturn
- Operator-to-operator bridging costs are minimal

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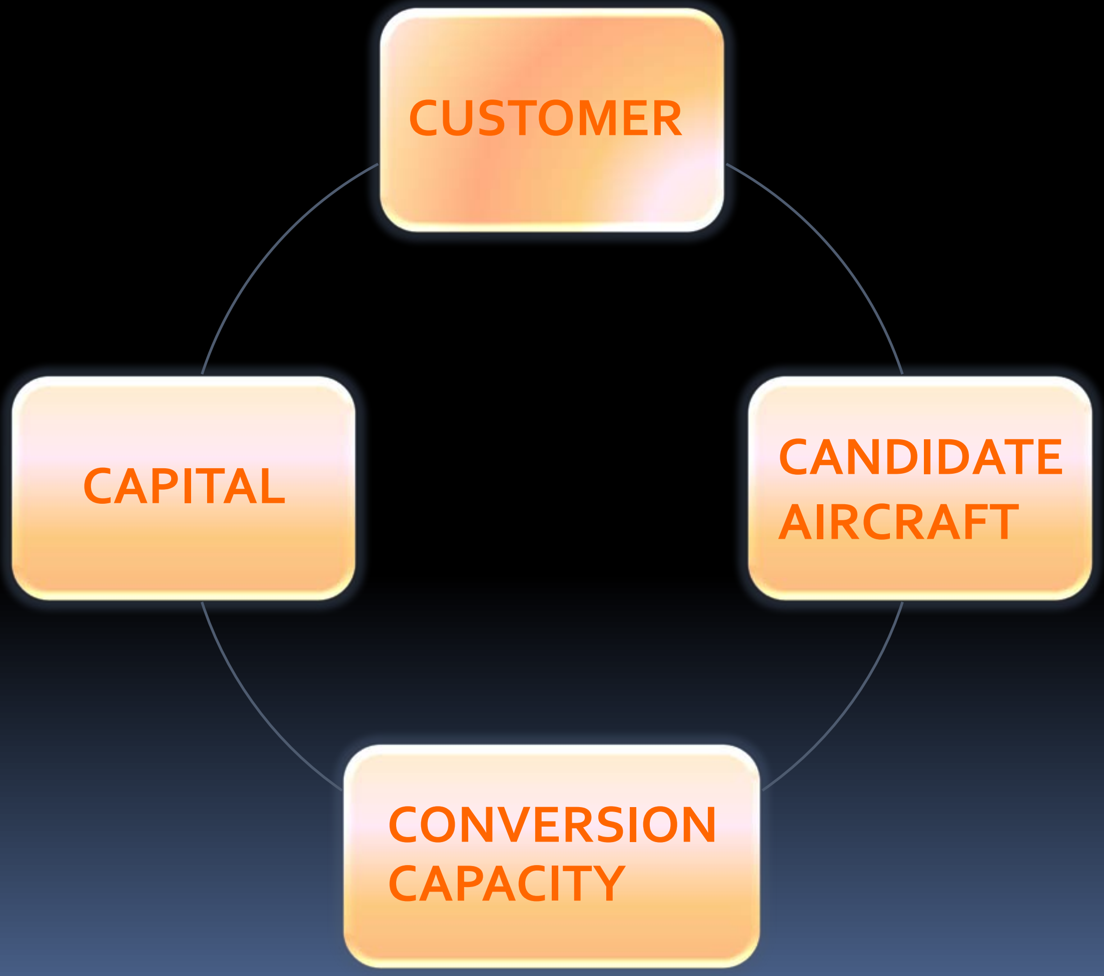
Ingredients for a Successful Conversion Investment



Ingredients for Success

CUSTOMER

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- 200+ Cargo Operators Worldwide
- Highly bifurcated market
  - 40% of aircraft operated by just three express operators

    FedEx UPS DHL
  - 70% of operators have fleets of five or less
  - Remainder are flag carriers (Korean/JAL/Lufthansa etc) or cargo only airlines (Cargolux/Atlas/Heavylift etc)
- Global economic downturn has virtually eliminated demand
  - Market recovery expected in 2010
  - Limited market to replace economically obsolescent aircraft

Ingredients for Success

CONVERSION CAPACITY

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- Most popular types have two or more competitors
- Highly competitive boom to bust business
- Non-OEM conversions no longer a stigma
- Additional cost factors must be considered
  - Cargo loading system
  - Weight upgrades
  - Courier seats/galley

No surprise - an over abundance of capacity exists for all types

Ingredients for Success

CAPITAL

- Freighter conversions are non-conventional investments
- Raising debt is difficult and expensive
  - Sufficient debt needed to meet investment hurdle rate
  - Conversion process temporarily renders asset un-airworthy – alternative collateral may be required
  - Conversion requires 2-4 months downtime with no lease income available to service debt
- Equity investors also seek higher returns due to risk
  - Typical investor requires 15-20% IRR unleveraged
  - Strength of post-conversion lessee is critical
  - Exit strategies and contingencies more complex than in conventional lease deal

Equity is available for the right investments, but debt is very challenging

Ingredients for Success

CANDIDATE AIRCRAFT

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Popularity in a pax role may not translate to cargo

- Technical requirements differ

  Cross section   Operating weights   Lower door size

  Payload   Range   Volume/weight ratio

- Fleet Characteristics are also important

  Fleet Size   Number of operators   Number of Engine variants

  Ownership/financing

Examples of unsuccessful or marginal freighter candidates

L1011   MD80   A340

Ingredients for Success

CANDIDATE AIRCRAFT

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Aircraft must be bought or written down to viable price point

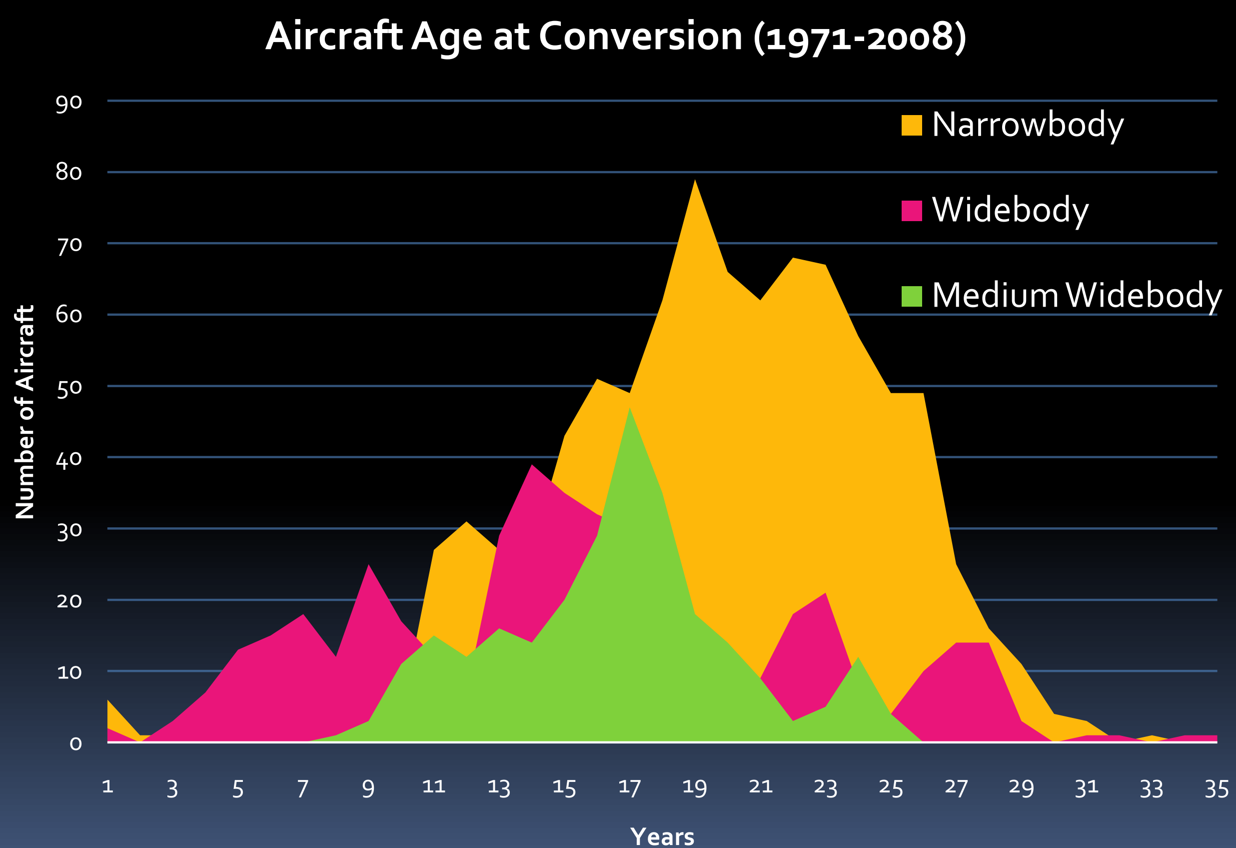
- Air cargo operators need the right aircraft at the lowest possible cost per available tonne mile
- Age, market conditions, competition & availability of replacement aircraft all impact market pricing
- Overpaying for the right aircraft type may yield the same bad result as buying the wrong type at a bargain price

In 2009, the used aircraft market cycle is approaching a point where pricing should support a profitable investment

Ingredients for Success

CANDIDATE AIRCRAFT

Sufficient availability in the "zone of conversion" is needed



Source - Ascend

Candidate Aircraft Types

Narrowbodies

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- Large replacement market
  - 250+ operating 727Fs & ~100 DC-8Fs
- No competition from production aircraft
  - Utilization cannot support high capital cost
- Lower capital & conversion costs
  - Smaller investment
  - High lease rate factor
- Evolving customer base
  - Traditional US centric general freight operators disappearing
  - Integrators now dominate US general freight market
  - Modality shift for lanes of 1,000 NM or less

Candidate Aircraft Types

Narrowbody Types

757

- Operated by three largest integrators (FDX, UPS & DHL)
- Availability improving, but still limited
  - Pax market popularity subsiding in soft market
  - Large, initial FDX acquisition almost complete
- Feedstock prices remain firm
- Good DC-8F replacement & growth option for 727F
- Multiple conversion providers with sufficient capacity

Difficult as a speculative investment, but conversion is an option for existing lessors when pax market is exhausted

Candidate Aircraft Types
Narrowbody Types

737-300 & 400

- Developing markets in China and elsewhere – 73 in service
- Limited US market due to modal shift to road and rail
- Pax values falling rapidly with an abundance of feedstock
- Multiple conversion providers = competitive pricing

A320

- OEM conversion program under development
- Aercap is launch customer with an order for thirty conversions
- Good 727 replacement once A320 values reach the right price point

Smaller narrowbodies can be a good speculative conversion investment provided sufficient quantities are considered

Candidate Aircraft Types
Regional Widebodies

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- Fastest growing market segment with 750+ conversions predicted in the next 20 years
- Market has been predominately integrators, but is changing to include general freight carriers such as Lan Chile, Asiana, ANA, JAL
- Additional demand arising from multiple markets:
  - Intra-Asia
  - Domestic China
  - Europe – Africa/Middle East
  - Middle East – Indian Subcontinent
- A300B4F fleet approaching retirement and needs replacing

Candidate Aircraft Types
Regional Widebody Types

A300-600

- Current freighter fleet – 149 including 43 conversions
- Feedstock surplus with 60+ units entering market
  - American Air – 34
  - China Eastern - 7
  - Thai – 17
  - China Southern – 5
- Open conversion capacity with EFW and FSI
- Large operators (FDX & UPS) not adding to their fleets
- Lower capital cost replacement for A300B4F

Lowest cost per tonne mile among regional widebody freighters

Candidate Aircraft Types
Regional Widebody Types

A330

- Airbus has launched the -200 production freighter
  - 65 orders booked with 1st delivery in late '09 and 31 by Dec 10
  - Early speculative orders likely to precede market recovery
  - Speculative buyers account for 75% of backlog
- A330-300P2F provides excellent direct operating economics
  - Pre-1998 aircraft face some weight limitations (~75 aircraft)
  - OEM support necessary for conversion, but not likely during early production of production freighter (2009-12)

By 2013, A330-300 feedstock fleet will be reaching conversion age/price and represent a strong investment opportunity

Candidate Aircraft Types
Regional Widebody Types

767-300ER

- 82 production freighters in service; 33 on order
  - Strong customer base (ANA, DHL, JAL, Lan Chile, UPS)
  - Additional orders constrained by market conditions & conversion option
- Pax feedstock stands at 500+ aircraft
  - Average fleet age -13 years
  - 244 units in conversion zone (11-18 years)
  - Prices have not yet fallen to a level to justify conversion
- Boeing conversion line active with two deliveries to ANA
- IAI certification by end of 2009

Candidate Aircraft Types
Widebodies

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747-400

- 54 conversions completed by IAI and Boeing
  - Dwindling backlog with capacity exceeding demand
  - 14+ units (new build & P2F) in storage due to market conditions
- Feedstock increasing dramatically
  - 390 potential units with an average age of 14 years
  - Several Asian carriers retiring aircraft
  - 25-40 additional units available 2009-11
  - Values declining
- Near term demand for converted aircraft is soft
  - Long haul air freight hit hard by global economic recession
  - Stored units must return to service first
  - Longer term – competition from 747-8F and 777F

Despite strong operating economics, the small pool of customers & high capital cost make 747-400 conversions a high risk investment

Candidate Aircraft Types
Long Range Widebodies

777

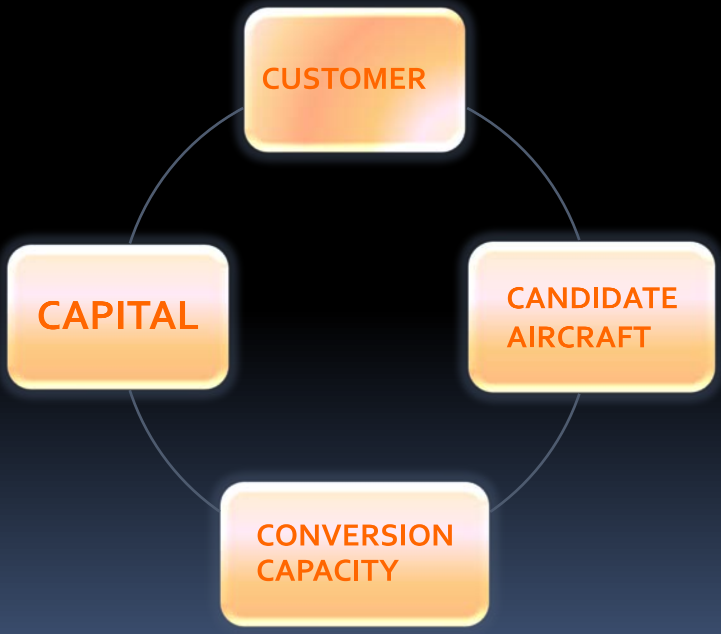
- Excellent operating economics for the -200ER variant
- 68 production units on order with 3 aircraft recently delivered
- Early “A” model aircraft (~86 units) unlikely to achieve acceptable weights
- Feedstock hampered by pax market popularity
  - Oldest -200ERs are currently 12 years
  - Conversion activity not likely prior to 2012
- Conversion engineering likely to be more difficult for non-OEM
  - CATIA design and use of composites reduce design tolerances

Although not a near term investment opportunity, 777 likely to overtake 747-400 conversions within five years

Ingredients for Success

All ingredients are required to succeed

Timing & proportionality are key



When Should a Lessor Consider a Conversion Investment

An Aircraft Mid-life Crisis

- Acme Leasing owns a 18 year old regional widebody
- Aircraft leased to pax carrier until mid-2010
- Re-lease possibly, but at 30-40% below current levels
- Engines are half-life, but airframe needs a heavy check
- Acme is financially stable & a long term player

What are the options?

An Aircraft Mid-life Crisis

The Options

1. Re-lease the aircraft
2. Sell the aircraft to a third party
3. Part-out
4. Freighter convert and then lease or sell

An Aircraft Mid-life Crisis
Option 1 Re-lease aircraft

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Best option if these conditions are present:

- Strong pax market for the type exists and/or
- Unproven or unpopular freighter type
- Market recovery underway & continuing for 5+ years
- Lease rentals sufficient to provide economic return using a realistic residual value assumption

Path of least resistance and always the best course provided conditions are met

An Aircraft Mid-life Crisis
Options 2/3 Sell or Part-out

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Best options if these conditions are present:

- Pax market weak and unlikely to recover and/or
- Strong demand & pricing for engine type
- Unproven or unpopular freighter type
- Part-out yields higher return, but takes longer
- Sale quicker, but likely less profitable (or bigger loss)

If these conditions are present <u>but</u> the aircraft is or will be an attractive freighter, further analysis is required

An Aircraft Mid-life Crisis
Option 4 Freighter Conversion

Conversion usually viable only if first 3 options are not and:

- Aircraft type in freighter role is established
- Sufficient and sustained freighter demand
- At least one FAA/EASA certified conversion exists
- Costs and pricing support a profitable investment

If Acme Leasing deems that freighter conversion is the best option , a deeper dive into the air cargo market and conversion economics is warranted

Is Now a Good Time to Invest?

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Maybe . . .

- Feedstock availability improving
- Feedstock prices declining to a level that supports conversion
- Conversion capacity readily available
- Older freighters approaching economic obsolescence

Is Now a Good Time to Invest?

Although . . .

- Air cargo demand falling in a weak economy
- Production backlog & recent conversions more than adequate to meet near term demand
- Credit almost non-existent

Is Now a Good Time to Invest?

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Therefore. . .

- Lessors with ‘09/10 lease expirations should consider conversion option timed to an expected market recovery in 2010/11

But . . .

- Speculative feedstock and conversion slot investment is risky & requires careful scrutiny of aircraft types and timing/strength of demand

Conclusions

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Why invest?

- Extend useful life
- Higher growth market for right aircraft
- Freighter values less volatile over time

What aircraft types should be considered?

- 2010-13 737 Classic 757 A300-600 767-300ER 747-400
- 2013 & beyond A320 A330-300 777

Is now a good time to invest?

- Feedstock improving, but not yet at the right price point
- Right time to lay the groundwork for a 2011 recovery and consider:
  - Conversion as an option for candidate aircraft in your existing fleet
  - Reserving slots timed to improving demand

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Advisory role for freighter equity investors

Aircraft acquisition, lease and sale transactional support

Freighter conversion management

Fleet planning

Technical, operating and economic analysis

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