FLIGHT ASCEND ONLINE VALUES USER GUIDE

The following definitions of aircraft and engine values and related topics is to support the dataset, which is available from Flight Ascend Consultancy through Flight Ascend Online Values.

Flight Ascend Consultancy believes it is important that values are always considered in conjunction with their definitions in order to avoid misinterpretations.

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SUMMARY DESCRIPTION OF VALUATION MODULES

The following modules are available through Flight Ascend Online Values [V1]:

FLEET VALUES

The Fleet Values module provides a summary, by aircraft type & variant, of the numbers of aircraft in an operator's fleet and their total Market and Base Values.

GENERIC AIRCRAFT VALUATION

The Generic Aircraft Valuation is applicable where the user does not know either the Serial Number or Registration of the individual aircraft, but requires a Value and Lease Rate opinion and can select various options which will allow the 'building' of the aircraft type, variant, year of build and specification combination.

SPECIFIC AIRCRAFT VALUATION

The Specific Aircraft Valuation is applicable where the user knows either the Serial Number or Registration of the individual aircraft and wants Value and Lease Rate opinions for that specific aircraft.

AIRCRAFT PORTFOLIOS

The Aircraft Portfolio module provides online access to your own self-selected portfolio of specific aircraft, allowing you unlimited access to Value and Lease Rate opinion. If you also subscribe to Flight Fleets Analyzer database, you will also be able to gain access to a wide range of additional information about the aircraft.

ENGINE PORTFOLIOS

The Engine Portfolio module provides online access to your own self-selected portfolio of specific engines allowing you access to Market and Base Value opinions.

GENERIC ENGINE VALUATION

Ascend cannot track specific individual engines by their serial number but a generic valuation of the particular engine type and variant can be made. Value and Lease Rate opinion can be accessed by selecting the engine type, variant and specification combination (for example with QEC).

AIRCRAFT VALUATION TERMINOLOGY & DEFINITIONS

Flight Ascend Consultancy believes it is important that values are always considered in conjunction with their definitions in order to avoid misinterpretations.

DESCRIPTION OF DISPLAYED AIRCRAFT VALUES

The aircraft values displayed in Flight Ascend Online Values are divided into Current Values and Forecast Values:

CURRENT VALUES

These represent the Flight Ascend Consultancy's opinion of current (today's) values and lease rates and are effective as at the date the query is made. The value opinions provided by accessing Flight Ascend Online Values are the Current Market Value, Current Base Value, Current Market Lease Rate and Current Base Lease Rate.

FORECAST VALUES

The Forecast (also called Future or Residual) Values represent the Flight Ascend Consultancy opinion as at the date the query is made.

Forecast Values are given to the Base Value and Soft Market definitions as standard, assuming both Half-Life and Full-Life scenarios, with the user able to select the following options:

- Sustained Annual Inflation Rate of between 0% and 3%
- Forecast Horizon – typically up to 25 years ahead, although if values fall to very low levels, a shorter horizon may be available, with values effectively remaining at low or scrap levels.
- Exclude Soft Market (un-tick the box)
- Exclude Full-Life Values (un-tick the box)

Forecast Lease Rates are given to the Base definition.

AIRCRAFT VALUE ASSUMPTIONS

The basis of all the values is built on the combination of an aircraft manufacturer, type and variant, year of build and a generic (or "baseline") specification which is comprised of one engine manufacturer, type & variant and Maximum Take-Off Weight (MTOW) combination.

Commercial airliners are valued in typical airline configurations (e.g. passenger or freighter aircraft, Combi, Quick Change). Aircraft in business/corporate/VIP or specialist configurations will have different values to those displayed. The user may contact Flight Ascend Consultancy for a more detailed desktop valuation of such aircraft.

Purpose-built business jets and specific corporate/VIP versions of airliners (e.g. Airbus A318 ACJ, Boeing BBJ1) are valued assuming they are typically equipped in terms of their interior and specification. Business jets are often on an hourly engine maintenance programme and the values assume the aircraft is on such a programme if it is standard for that type.

It should also be noted that any damage history on a business jet will usually impact its value – Flight Ascend Online Values cannot take this into account but the user may contact Flight Ascend Consultancy for a more detailed desktop valuation of such aircraft.

All values are intended to reflect what might be expected from the result of an “arms length, single sale” transaction, for cash or equivalent consideration, conducted in an orderly manner (for which we consider a period of up to 12 months to come to fruition to be reasonable) between a “willing buyer” and “willing seller” and with the aircraft free of any lease or charge.

We also assume that the aircraft is free of any onerous restrictions in respect of its ownership and title documentation. The values are therefore not intended to reflect any sale encumbered with a lease or in a distress/forced sale scenario.

We assume that every aircraft is a typical example of its type, model and age, is generally in good condition, with no damage history and all Airworthiness Directives (ADs) and significant Service Bulletins (SBs) complied with. We also assume it has a full and complete set of technical records and documentation, in English.

Other assumptions applicable to the values include:

- The airframe manufacturer (or type certificate holder) will continue to support the aircraft effectively.
- The engine manufacturer will continue to support the engines effectively.
- The aircraft’s design and construction is such that, given typical utilization and reasonable care and attention, it will not incur undue maintenance and overhaul costs in comparison with other aircraft of similar class and age.

- All significant Service Bulletins and Airworthiness Directives are complied with.
- No new national noise legislation or other legislation will come into force, which could adversely affect the aircraft and therefore its value, based on the operating characteristics, age or other criteria.
- The aircraft under consideration is a typical example maintained in good condition and used in typical operations with an average utilization and sector length as might be expected for the class of aircraft.
- The aircraft will not suffer any accidents, the result of which would adversely affect its future value.

AIRCRAFT MAINTENANCE STATUS TERMINOLOGY

"Half-Life"

"Half-Life" (HL) - sometimes also known as half-time) is a standard appraisal industry term to indicate that no value adjustment has been made for the actual maintenance status of the aircraft. It thus enables a comparison to be made between values of aircraft of different types and ages using a common denominator. It does not indicate that the aircraft is half-way through its useful life.

Half-life assumes that the airframe, engines, landing gear and all major components are half-way between major overhauls and that any life-limited component (for example a cycle limited engine disk) has used up half of its life. The values for new or nearly new aircraft are given assuming a "half-life or better" status, which is explained as follows:

"Full-Life"

The "Full-Life" (FL) Value of an aircraft assumes the following maintenance status:

- Airframe is fresh from its Heavy Check (often referred to as the D Check)
- Engines are fresh from a performance-restoration shop visit
- All engine Life Limited Parts (LLPs) have zero life used
- Landing gear is fresh from overhaul.

All other maintenance parameters are assumed to be at "half-life" (i.e. no adjustment for maintenance has been made)

The Values Of New Aircraft – Half-Life Or Better

It is important to recognise that the Flight Ascend "half-life" values represent our opinion of the value of a used aircraft. This is not problematic when looking at older aircraft (where the Flight Ascend "half-life" value is a half-life value), but with newer aircraft, a few issues potentially arise.

However we cannot supply the Flight Ascend “half-life” value as “full-life value on delivery” because if it is being sold as a used aircraft there would be:

- Hours and cycles used up on all items; even if for a few months, with modern day high utilisation trends, this is significant. e.g. aircraft could be used for demos / tours prior to delivery
- Possible bridging / transition check costs for moving to a new operator
- Re-painting costs and possible reconfiguration costs, which in theory would be a factor priced into “used” deals. This is particularly relevant on the widebody types where interior “branding” is so important.
- Engines switched post delivery as operators manage overhauls

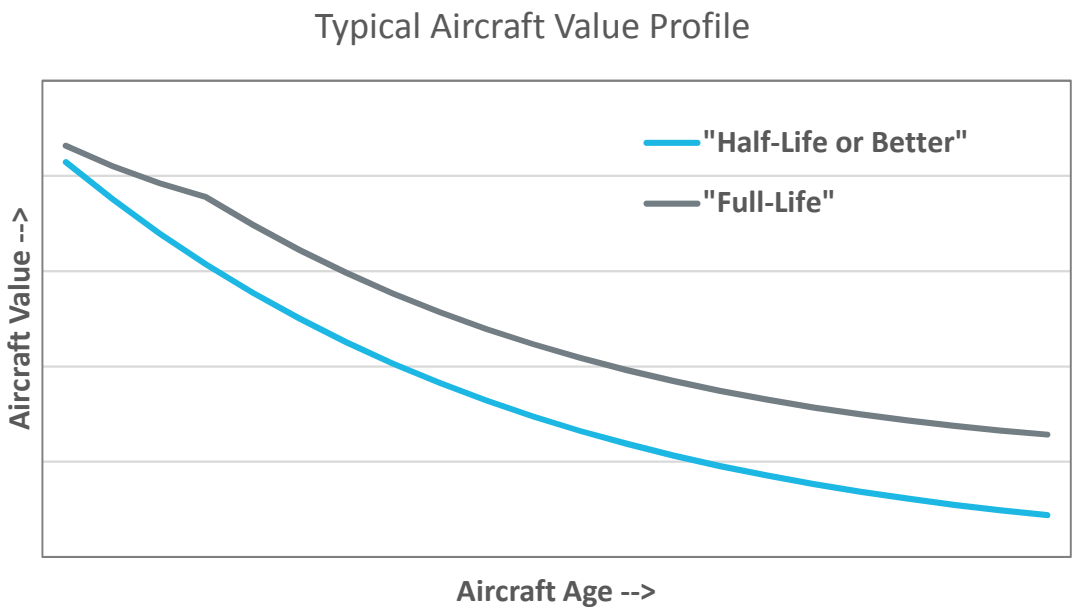
For instance, if an Airbus A320, built and delivered in January, is re-sold on the open market as a used aircraft in September of that same year, we cannot attribute it with “full-life” condition because it has been operating for 9 months already. Through Flight Ascend Online Values, we cannot differentiate between January and December deliveries, although clearly by year end, a January delivered aircraft would have used up maintenance time and consequently have a lower value.

Therefore Flight Ascend uses a “half-life or better” definition, which seeks to give credit for new or nearly new but which can never replace the more traditional appraisal. Obviously, assuming half-life only would short-change new aircraft.

The chart below illustrates graphically the relationship between Flight Ascend “half-life or better” values and “full-life” values. In the early years, Flight Ascend “half-life or better” values endeavour to reflect above half-life but are only representative of aircraft built in that year and can never replace the accuracy of adjustments made by an aircraft appraiser through a “desktop” valuation when considering individual aircraft (taking into account early/late month of build, utilisation and maintenance condition).

It is not easy to come up with a simple adjustment percentage or dollar amount given all of these possible differences, but we assume that Flight Ascend “half-life” values for aircraft less than 1 year old are within 12.5% of the total overhaul costs for engines, airframe and other major components, and we believe that this is a reasonably realistic assumption.

These too can only be viewed as guidelines and cannot be used categorically. In a soft market, it is arguable whether this maintenance factor would apply if new aircraft are readily available from the manufacturer. Of course, in “bull” markets with tight supply, this is not an issue.



AIRCRAFT VALUE AND LEASE RATE DEFINITIONS

Current Market Value (MV)

In Flight Ascend Consultancy's considered opinion the Market Value represents that which the aircraft could best achieve under the market conditions existing at the given point in time and therefore takes into account, as part of our market valuation procedure, a review of market activity and known transaction data involving the subject aircraft type around that time. It additionally considers the perceived demand for the type, its availability on the market, and further takes account of the expressed views of informed industry sources.

Under this scenario, the value is intended to reflect what might be expected from the result of an “arms length, single sale” transaction, for cash or equivalent consideration, conducted in an orderly manner (for which we consider a period of up to 12 months to come to fruition to be reasonable) between a “willing buyer and willing seller”, with the aircraft free of any lease or charge. We also assume that the aircraft is free of any onerous restrictions in respect of its ownership and title documentation.

A Market Value is referred to as a Current Market Value (CMV) if it is effective as at today. Aircraft Current Market Values are presented according to “Half-Life” and “Full-Life” definitions, as described above and are in effect a “spot price.”

Market Values are the lifeblood of appraisal and analysis work. The Market Value of an aircraft reflects the value that the aircraft could command as a "real sale" between two parties given the macroeconomic conditions existing at the point of time in question. Market Values are opinions, which combine qualitative and

quantitative data with the knowledge base and skills of the Flight Ascend Consultancy team.

Under the definition of Market Value, market circumstances are the variable factor in the equation, or to be more precise the appraiser's perception of market circumstances is the variable factor.

The most important factor in our determination of Market Values is the prices at which other aircraft are transacting, or being made available. Through the Flight Fleets Analyzer database, we are aware of almost all sales transactions involving commercial and business jet aircraft. Despite the lack of transparency in the marketplace and the increase in confidentiality clauses which restrict the supply of data into the public domain. We aim to capture as much information as possible. Each year we publish a summary of the number and breakdown of transactions and other relevant data points captured during the previous year.

Once we are aware of the pricing associated with a single transaction, we evaluate it with respect to the specifics of the deal if known (financing structures, reasons for the transaction, maintenance status and specification of the particular aircraft etc.)

In light of this information we will be constantly reassessing the values of aircraft on both a horizontal (competing types) and vertical (different vintages) basis.

We also review our values when we perceive that there are changes in the supply of, and/or demand for the aircraft, even though no actual transactions may have taken place. Our perceptions change due to a variety of reasons, which include operator announcements concerning fleet plans covering both new additions and fleet rollovers, changes in the regulatory environment, macroeconomic developments and other factors affecting the transportation sector. In most respects we try to reflect in our current value opinions the expectations of the marketplace.

We maintain relationships with informed and respected players in the marketplace, including: manufacturers, financiers, airlines, lessors, and regulatory authorities.

These relationships, as well as the diverse background of our analysts, enables us to decipher meaningful information from whatever aviation related event and thus re-evaluate our opinions accordingly.

Base Value (BV)

Current and forecast values are provided to the "balanced market" Base Value definition, as Flight Ascend Consultancy cannot accurately predict the course of the economic and aviation cycles and hence any "Market Value" at a point in the future.

For longer-term owners and investors, the focus is on the underlying value of the asset over the longer-term, i.e. the "balanced market" Base Value interpretation favoured by analysts and appraisers.

The International Society of Transport Aircraft Trading (ISTAT) defines "Base Value" as follows:

Base Value *is the appraiser's opinion of the underlying economic value of an aircraft in an open, unrestricted, stable market environment with a reasonable balance of supply and demand, and assumes full consideration of its "highest and best use". An aircraft's Base Value is founded on the historical trend of values and in the projection of value trends and presumes an arm's-length, cash transaction between willing, able and knowledgeable parties, acting prudently, with an absence of duress and with a reasonable period of time available for marketing.*

This "Base Value" is perhaps the value that most closely reflects the theory that the current value of an aircraft is a function of its future earning potential. At Flight Ascend Consultancy, we believe that historical Market Values reflect the expectations of an aircraft's earning potential and need to be incorporated into any analysis of its future value. However, history should always be used as a guide and not as a definitive rule; historical trends need to be combined with the appraiser's perception of the current market as well as expected future earning power and market developments.

Note that as aircraft become older, their values will tend to reach a point where age is immaterial and all aircraft of whatever vintage have the same low 'half-life' value, with the main differentiator between different specific aircraft being the value in their maintenance status.

Soft Market Value

Forecast Values can also be given using the Soft Market scenario.

The **"Soft"** Market scenario is where the world's principal traffic generating regions are in the middle of a recession or a period of economic stagnation, which historically have a negative impact on aircraft values. This is when airlines experience low growth or even traffic reductions, make losses, cut their fleets and staff or reduce fleet growth plans. The market becomes imbalanced, with supply outstripping demand, resulting in more parked aircraft and lower utilisation rates, which in turn, increase aircraft availability.

The Soft Market forecast is derived from the Base Value forecast. Please consider that Base Values are theoretical in nature.

It should be noted that in certain circumstances, some Market Values can fall to levels below where the Soft Market Value is forecast to be in the short term. In such cases, [notes] will appear in the Future Values table. If the Market Value is at such a depressed level, we believe that in the short term, the Current Market Value will be the best guide to where the short-term future values will lie, with the potential for further decreases.

Current Market Lease Rate (MLR)

A Monthly Market Lease Rate is given under Current Values.

When Flight Ascend Consultancy refers to operating lease rates, this is specifically a "net dry operating lease" rate. One useful definition of an operating lease is as follows:

"The lease of an aircraft whereby the lessor takes all of the risks and rewards of ownership, and the lessee takes all of the risks and rewards of operation."

By a "dry" lease, we mean that the lessor provides only the aircraft to the lessee, thereby excluding the crew, maintenance and insurance provisioning, which would typically constitute a wet lease. In return, the lessee pays the lessor a contracted sum (the lease rate) at specified intervals over a given period (the lease term). In lease discussions, the payment interval is usually per month or quarter, with lease terms of up to 12 years.

A "net" lease means that irrespective of other costs incurred – for example, the aircraft being grounded, withholding tax etc. ¬– the lessee pays the contracted amount to the lessor.

Therefore, a "net dry lease" is the provision of only the aircraft, with the lease rate payable regardless of other costs incurred.

Fundamentally, the Lease Rate is a payment whereby a present value is amortised to a residual value, at a certain discounted rate, over a certain term. The discounted rate should reflect the risks faced by the lessor, principally: the credit-worthiness of the lessee, the interest rate environment and the desired return of the lessor. However, the supply of and demand for the asset at that point in time will also significantly affect the rate.

The given Lease Rates do not include any provision for maintenance reserves.

Like Market Values, Market Lease Rates assume that both parties in the transaction are willing, knowledgeable and acting at "arm's length".

Flight Ascend Consultancy's Market Lease Rate opinions are quoted on the basis of the following assumptions:

- 5 year operating lease
- Fixed payments made monthly, in advance
- Residual value at end of each lease period is in line with Ascend Base Values at given junctures
- Operating with an airline of reasonable credit risk (akin to the lowest investment grade rating)

Base Lease Rate (BLR)

A Monthly Base Lease Rate is given under Current Values and Forecast Values.

While we can observe and evaluate past and present transactions as well as market conditions to provide an estimate of historical and Current Market Lease Rates, we use a different methodology – the Lease Rate Factor (LRF) curve – to forecast lease rates.

The LRF curve methodology is derived from historical transactions that occurred in all previous market conditions and is unlike "what-if" type analysis. However, do note that the LRF methodology forecasts "average" Lease Rates for the "average" aircraft.

Flight Ascend Consultancy has developed a series of Lease Rate Factor curves, which relate the ratio of Market Lease Rate to Market Value with the age of the aircraft. These curves are developed from historical transaction data and group together aircraft with similar "missions".

When appropriate, we compare the specific aircraft type / variant or occasionally, individual aircraft, with its Group curve and build in appropriate modifiers, which may include specific fleets, specifications and other factors.

This resulting Lease Rate Factor Curve is used, in conjunction with our forecast Base Values, to derive forecast lease rates.

Flight Ascend Consultancy's Base Lease Rate opinions are quoted on the basis of the following assumptions (the same as for Market Lease Rates):

- 5 year operating lease
- Fixed payments made monthly, in advance
- Residual value at end of each lease period is in line with Ascend Base Values at given junctures
- Operating with an airline of reasonable credit risk, (akin to the lowest investment grade rating)

Creditworthiness is debatable, given the poor investment grade standing of airlines. The lessors often mitigate the risk of this creditworthiness with substantial deposits or guarantees from stronger partners. Nevertheless, our opinions endeavour to reflect rates appropriate to an airline that is viewed as being a "notch or two" below investment grade.

The forecast Base Lease Rate is given in nominal terms.

Flight Ascend Consultancy's Lease Rate forecasts assume a Base scenario – a stable market environment with a reasonable balance of supply and demand – as it is not possible to accurately forecast the prevailing market conditions at a future point in time.

When the market is "soft", Flight Ascend Consultancy believes that the tendency is to go for shorter-term deals, stepped or floating rates, with the lessor trying to avoid locking in "below market deals". Alternatively, the lessor could pursue longer-term deals with better credits.

In a strong market, some of the other factors that are used in determining lease rates may change or become more important – such as new aircraft pricing, interest rates and airline credit ratings etc. In a strong market, those with good creditworthiness may find themselves paying the lease rates that those with reasonable credit ratings were paying under Base market conditions.

The given Lease Rates do not include any provision for maintenance reserves.

GENERIC AIRCRAFT VALUATION GUIDE

The Generic Aircraft Valuation is applicable where the user does not know either the Serial Number or Registration of the individual aircraft, but wants to get a value opinion of a certain aircraft type, variant, age and specification combination. The basis of all the values is built on the combination of an aircraft manufacturer, type and variant, year of build, and a generic (or "baseline") specification which is comprised of one engine manufacturer, type & variant and Maximum Take-Off Weight (MTOW) combination, this is considered to be the standard configuration for the aircraft type / variant, e.g. Airbus A320-200, Year of Build 2005, CFM56-5B4/P engines and an MTOW of 162,040lb.

When carrying out a valuation as a Generic Aircraft, the user has the ability to select the desired 'specification adjuster' values (i.e. Type, Variant, engine manufacturer, MTOW and other major specification options that in our opinion can influence the value).

In a Generic Aircraft Valuation the following Aircraft Details can be selected and are displayed:

- Aircraft Manufacturer – Original Airframe Manufacturer.
- Aircraft Type.
- Aircraft Variant – the value variant assignment by Flight Ascend Consultancy to this aircraft variant (note we may combine several aircraft variants, e.g. CRJ-200ER and -200LR into one value variant where we consider them to have similar values, the specification adjusters can be used to take account of each variant’s differences).
- Year of Build – Flight Ascend Consultancy always takes the first flight date of the specific aircraft as the year of build, where known, to reflect the fact that it has been completed and the airframe starts ageing from this point. This is because aircraft can be built in one year and not be delivered until the next or later years.
- MTOW - Maximum Take-Off Weight in pounds (lb) - available options taken from the Flight Fleets Analyzer database; the system automatically shows the MTOW assumed for the value of a generic aircraft.
- Engine - available options taken from the Flight Fleets Analyzer database; by default, the system shows the baseline Engine Type and Variant assumed for the value of a baseline-spec aircraft.
- Specification Adjusters – as currently recorded in the Flight Ascend Values database for this type and variant. These are major optional items such as winglets, overhead crew rests, heads-up display, which will add value (and in some cases detract from value).

The selected parameters appear on the values screen.

See Valuation Terminology and Definitions for details on the displayed values.

SPECIFIC AIRCRAFT VALUATION GUIDE

The Specific Aircraft Valuation is applicable where the user knows either the Serial Number or Registration of the individual aircraft.

The basis of all the values is built on the combination of an aircraft manufacturer, type and variant, year of build, and a generic (or "baseline") specification which is comprised of one engine manufacturer, type & variant and Maximum Take-Off Weight (MTOW) combination, this is considered to be the standard configuration for the aircraft type / variant, e.g. Airbus A320-200, Year of Build 2005, CFM56-5B4/P engines and an MTOW of 162,040lb.

For a Specific Aircraft Valuation the values are then adjusted to reflect the known MTOW and Engine of the aircraft as recorded in the Flight Fleets Analyzer database at the time of valuation, plus any additional specification adjusters (Winglets, forward airstairs, etc) as defined in the Flight Ascend Values database.

In a Specific Aircraft Valuation the user must enter either a Serial Number or Registration of the individual aircraft and the following Aircraft Details are displayed:

- Registration Number – allocated by the relevant civil aviation authority of each country to this specific aircraft; this can change if sold or leased into another country or be re-registered in its current country.
- Serial Number – the identity given by the manufacturer to this particular airframe, which will remain with the airframe through its life. Also known as Manufacturer Serial Number (MSN).
- Aircraft Manufacturer – Original Airframe Manufacturer.
- Aircraft Type.
- Aircraft Variant – the value variant assignment by Ascend to this aircraft variant (note we may combine several aircraft variants, e.g. CRJ-200ER and -200LR into one value variant where we consider them to have similar values, the specification adjusters can be used to take account of each variant's differences).
- Minor Variant – the specific variant of this type (for example Boeing's variants include a customer code, e.g. 737-890).
- Year of Build – Ascend always takes the roll-out or first flight date of the specific aircraft as the year of build, where known, to reflect the fact that it has been completed and the airframe starts ageing from this point. This is because aircraft can be built in one year and not be delivered until the next or later years.
- Engine Manufacturer.
- Engine Type.
- Engine Variant.
- MTOW - Maximum Take-Off Weight in pounds (lb) taken from the Flight Fleets Analyzer database.
- Specification Details – as currently recorded in the Flight Ascend Values database. These are major optional items such as winglets, overhead crew rests, or heads-up display, which will add value (or in some cases detract from value).

- Airframe Hours – as reported by the manufacturer or operator and recorded in the Flight Fleets Analyzer database.
- Airframe Cycles – as reported by the manufacturer or operator.
- Utilisation Date – effective date of the airframe hours/cycles.
- Current Operator – the entity which Flight Fleets Analyzer database shows as operating the aircraft (note that it may actually be flown by another airline if on wet-lease).
- Current Owner - the entity which Flight Fleets Analyzer database shows as owning the aircraft, note that ownership details are often kept confidential and aircraft can also be on mortgages or financial structures which cannot be shown.
- Current Manager – the entity which Flight Fleets Analyzer database shows as managing the aircraft, for example an operating lessor may manage the aircraft on behalf of a financial owner.

See Valuation Terminology and Definitions for details on the displayed values.

FLEET VALUES GUIDE

The Fleet Values module gives a summary, by aircraft type & variant, of the numbers of aircraft in the fleet of an operator or owner and their total Market and Base Values.

The user can enter the name in the box or use the drop-down menu.

FLEET VALUES - DESCRIPTION OF DISPLAYED DATA

Fleet data is taken from the Flight Fleets Analzyer database and reflects the most recent data that Ascend has compiled.

Data displayed is as follows:

- Manufacturer – Original Airframe Manufacturer
- Aircraft Type
- Aircraft Variant – the value variant assignment by Ascend to this aircraft variant (note that several aircraft variants may be combined into one value variant)

For Total Fleet (sum of the Owned and Leased Fleet), Owned Fleet and Leased Fleet, data is displayed as follows:

- Fleet Number – number of aircraft currently in service or storage with the operator or owner (excludes any aircraft leased out).
- Average Age – in years, based on Year of Build for each aircraft.
- Base Value (BV) – sum of Base Values of each aircraft (see above for definition).
- Market Value (MV) – sum of Market Values of each aircraft (see above for definition).

Owned Fleet is defined including aircraft which are not known to be on operating lease or managed by an operating lessor. This will include aircraft owned by the operator or on some form of financing, financial lease, mortgage etc.

Leased Fleet is defined as those aircraft known to be on an operating lease or managed by an operating lessor.

The fleet of a lessor will reflect its owned fleet and not any additional aircraft managed for another entity.

Note that Ascend may not necessarily be aware of the exact ownership status of every aircraft so the split between owned and leased should always be used as an indicative guide. All Values are effective as at the date of the query and are subject to change.

See Valuation Terminology and Definitions for details on the displayed values.

AIRCRAFT PORTFOLIO GUIDE

The Portfolio module provides online access to your own self-selected portfolio of aircraft, for example:

- a bank owned group of aircraft
- a securitized portfolio
- an airline
- a leasing company
- a competitors fleet
- a fleet for sale / on offer
- a fleet of aircraft in which a bank may have a part ownership share or a
- mortgage

The portfolio module is appropriate for any 'investment watchers' who wish to monitor the fleet value of airlines, leasing companies, securitized portfolios etc.

The value of each aircraft in the portfolio(s) that the client wishes to select or set up, changes dynamically over time.

As an online service, clients are able to view and download the portfolio values on an unlimited basis whenever and wherever they want during the subscription period.

The Portfolio option provides Current Market Values, Current Base Values, and Current Market and Base Lease Rates per aircraft. Future Base Value forecasts per aircraft are also provided.

See Valuation Terminology and Definitions for details on the displayed values.
The portfolio summary screen shows a listing of the various portfolios, with the columns showing:

- Portfolio Name
- Number of aircraft in the portfolio
- Half-life Base Value – current total for the portfolio
- Half-Life Market Value – current total for the portfolio
- Full-life Base Value – current total for the portfolio
- Full-Life Market Value – current total for the portfolio
- Totals of the values all portfolios at the bottom of the screen

Individual portfolios can be accessed by clicking on the “$” sign against each named portfolio. The user can then change the view using the pull-down menus at the top:

- Period: Current or Future Values

- Values: Half-Life or Full-Life
- Inflation Rate (for Future Values)
- Forecast Horizon

The Current fleet can be sorted by Operator, Type/Variant, Registration, Serial Number or Deal Number.

Display Information can be selected as Brief (aircraft data from Manufacturer to Registration) or Detail (all aircraft data as shown below). Both will show the same columns of Values.

The displayed data in the Current Portfolio includes:

- Aircraft Manufacturer – Original Airframe Manufacturer
- Aircraft Type
- Aircraft MinVar – the Minor Variant, specific to this individual aircraft (for example Boeing give customer codes, so a 737-800 with a minor variant of - 890 is specific to one customer)
- Serial Number
- Registration Number – as currently recorded in the Flight Fleets Analyzer database
- Operator – as currently recorded in the Flight Fleets Analyzer database; note this may not necessarily be the lessee if it has been sub-leased out; or it may be stored with the lessor appearing in the operator field.
- Build Year – Flight Ascend Consultancy always takes the first flight date of the specific aircraft as the year of build, where known, to reflect the fact that it has been completed and the airframe starts ageing from this point. This is because aircraft can be built in one year and not be delivered until the next or later years.
- MTOW - Maximum Take-Off Weight in pounds (lb) taken from the Flight Fleets Analyzer database
- Engine Type and Variant
- Airframe Hours and Cycles effective As At the given date, taken from the Flight Fleets Analyzer database
- Current Market Half-Life Value
- Current Base Half-Life Value
- Current Market Full-Life Value
- Current Base Full-Life Value
- Current Market Lease Rate
- Current Base Lease Rate
- Totals at the bottom of the screen
- Deal number is input if advised by the user

Note that an upward arrow indicates that the values have been increased during the past 30 days, a downward arrow indicates a decrease in the past 30 days and a horizontal line indicates no change.

The displayed data in the Future Portfolio includes:

- Aircraft Manufacturer – Original Airframe Manufacturer
- Aircraft Type
- Aircraft MinVar – the Minor Variant, specific to this individual aircraft (for example Boeing give customer codes, so a 737-800 with a minor variant of - 890 is specific to one customer)
- Serial Number
- Registration Number – as currently recorded in the Flight Fleets Analyzer database
- Half-Life or Full-Life Values for each year in the selected forecast horizon, as selected from the “Values” pull-down menu.
- The assumed inflation rate can be adjusted using the Inflation Rate pull-down menu at the top of the screen.

Individual aircraft values can be accessed by clicking on the “$” sign against each aircraft in the portfolio.

See Valuation Terminology and Definitions for details on the displayed values.

ENGINE VALUATION TERMINOLOGY & DEFINITIONS

Flight Ascend Consultancy believes it is important that values are always considered in conjunction with their definitions so as to avoid misinterpretations.

DESCRIPTION OF DISPLAYED ENGINE VALUES

The engine values displayed in Flight Ascend Online Values are divided into Current Values and Forecast Values:

Engine Current Values

These represent the Ascend opinion of current (today's) values and are effective as at the date the query is made.

Current Market Values and Current Base Values are provided under four different maintenance status scenarios (see Terminology), as the maintenance status is perhaps the most important factor in the value of the engine: An Engine Lease Rate is also given.

Engine Forecast Base Values

The Forecast (also called Future or Residual) Values represent the Ascend opinion as at the date the query is made.

Forecast Values are given to the Base Value definition.

In our opinion the maintenance status of the engine is a more important driver of its value than the underlying market conditions. Hence we do not provide a value opinion under a Soft Market scenario.

ENGINE VALUE ASSUMPTIONS

All values are intended to reflect what might be expected from the result of an 'arms length, single sale' transaction, for cash or equivalent consideration, conducted in an orderly manner (for which we consider a period of up to 12 months to come to fruition to be reasonable) between a 'willing buyer and willing seller', with the engine free of any lease or charge. We also assume that the engine is free of any onerous restrictions in respect of its ownership and title documentation. The values are therefore not intended to reflect any sale encumbered with a lease or in a distress/forced sale scenario.

We assume that every engine is a typical example of its type, model and age, is generally in good condition, with no damage history and all Airworthiness Directives (ADs) and significant Service Bulletins (SBs) complied with. We also assume it has a full and complete set of technical records and documentation, in

English. It also assumes that each engine is under a maintenance programme of international airworthiness standards approved by a civil aviation authority.

Other assumptions applicable to the values include:

- The engine manufacturer will continue to support the engines effectively.
- The engine's design and construction is such that, given typical utilization and reasonable care and attention, it will not incur undue maintenance and overhaul costs in comparison with other engines of similar class and age.
- No new national noise, environmental legislation or other legislation will come into force which could adversely affect the engine and therefore its value.
- It is also assumed that the engine will suffer no design or material defects or accident, the result of which would adversely affect its future value.

ENGINE MAINTENANCE STATUS TERMINOLOGY

The engine values displayed in Flight Ascend Online Values are given under four maintenance status scenarios:

1. Half-Life

"Half-Life" is a standard appraisal industry term to indicate that no value adjustment has been made for the actual maintenance status of the engine. It thus enables a comparison to be made between values of engines of different types using a common denominator. It does not indicate that the engine is half-way through its useful life.

Half-life assumes that the engine is half-way between a major overhaul (also called a shop-visit) for performance restoration and that its life-limited parts (LLPs – also called engine disks) have used up half of their life.

As an engine is utilized, its performance deteriorates. This results in increased fuel burn, a reduction in the maximum thrust produced, and decreased reliability. Eventually, the engine needs to be subjected to a "shop visit" or "overhaul" to restore its performance (also referred to as "performance restoration"). Sometimes a partial restoration is carried out half way between major overhauls, this is usually known as a "hot section inspection" or HSI.

All commercial jet and turboprop engines have components installed with an explicitly defined life in cycles (for example 20,000 cycles). Once the part has been utilized to its "Life Limit", it needs to be replaced. It is illegal to operate an engine with one or more LLPs having exceeded their life limits. Intuitively, any life remaining until the part needs to be replaced, has some value.

2. Zero Time Since Overhaul (ZTSO)

The Zero Time Since Overhaul (ZTSO) status means that the engine is fresh (zero time) from a shop visit (i.e. it has been completely refurbished), but the Life Limited Parts (LLPs) are assumed to be in "half-life" status.

3. Full-Life

The "Full-life" status means that the engine is fresh (zero time) from a shop visit (i.e. it has been completely refurbished), and the Life Limited Parts (LLPs) are also in zero-time (i.e. full-life) status, i.e. they have their full certificated limits remaining.

In practice this will rarely be the case (as LLPs have different cycle lives and are replaced at different points in its life cycle), however if the engine is fully funded by maintenance reserves the combination of the potential life remaining on the Life Limited Parts and the time remaining to the next refurbishment, complete with the maintenance reserves previously received means that the engine is effectively in a "Full-life" status.

4. Run-Out

The "Run-Out" status means that the engine has fallen outside its allowed operational parameters (either reaching a limit or its performance has degraded) and requires a shop visit (refurbishment) before it can return to commercial use.

In addition, the value assumes minimal or zero life is remaining on the Life Limited Parts.

The Run-Out value of an engine will closely correlate to the cost of overhauling an engine, or for types that are being phased out, the value of the engine core.

ENGINE VALUATION DEFINITIONS

Market Value (MV)

In Flight Ascend Consultancy's considered opinion the Market Value represents that which the engine could best achieve under the market conditions existing at the given point in time and therefore takes into account, as part of our market valuation procedure, a review of market activity and known transaction data involving the subject engine type around this time. It additionally considers the perceived demand for the type; its availability on the market, and further takes account of the expressed views of informed industry sources.

Under this scenario the value is intended to reflect what might have been expected from the result of an “arms length, single sale” transaction, for cash or equivalent consideration, conducted in an orderly manner (for which we consider a period of up to 12 months to come to fruition to be reasonable) between a “willing buyer and willing seller”, with the engine free of any lease or charge. We also assume that the engine is free of any onerous restrictions in respect of its ownership and title documentation.

A Market Value is referred to as a Current Market Value (CMV) if it is effective as of today.

Market Values are presented to Half-Life, ZTSO, Full-Life and Run Out definitions, as described above.

Market Values are the lifeblood of appraisal and analysis work. The Market Value of an engine reflects the value that the engine could command as a "real sale" between two parties given the macroeconomic conditions existing at the point of time in question. Market Values are judgmental opinions, which combine qualitative and quantitative data with the knowledge base and skills of the Flight Ascend Consultancy team.

Under the definition of Market Value, market circumstances are the variable factor in the equation, or to be more precise the appraiser’s perception of market circumstances is the variable factor.

Base Value (BV)

Forecast values are given to the “balanced market” Base Value definition, as Flight Ascend Consultancy cannot accurately predict the course of the economic and aviation cycles and hence any actual “Market Value” at a point in the future.

Current and Forecast Base Values are presented to Half-Life, ZTSO, Full-Life and Run Out definitions, as described above.

Flight Ascend Consultancy follows the definition of Base Value as given by the International Society of Transport Aircraft Trading (ISTAT):

Base Value *is the appraiser’s opinion of the underlying economic value of an engine in an open, unrestricted, stable market environment with a reasonable balance of supply and demand, and assumes full consideration of its “highest and best use”. An engine’s Base Value is founded on the historical trend of values and in the projection of value trends and presumes an arm’s-length, cash transaction between willing, able and knowledgeable parties, acting prudently, with an absence of duress and with a reasonable period of time available for marketing.*

This “Base Value” is perhaps the value that most closely reflects the theory that the current value of an engine is a function of its future earning potential. At Flight Ascend Consultancy, we believe that historical market values and performance reflect the future expectations of an engine’s earning potential and thus these historical market values need to be incorporated into any analysis of an engine’s future value. However history should always be used as a guide and not as a definitive rule, as historical trends need to be combined with the appraiser's perception of the current market as well as expected future earning power and market developments.

We believe that the focus for longer-term owners and investors should be on the underlying value of the asset over the longer-term, i.e. this “balanced market” Base Value interpretation favoured by analysts and appraisers.

Market Lease Rate (MLR)

A Monthly Market Lease Rate is given for engines under Current Values.

When we discuss Lease Rates we refer to operating lease rates, in particular "net dry operating lease" rates. One of the most useful definitions of an operating lease is as follows:

"The Lease of an asset whereby the Lessor takes all of the risks and rewards of ownership and the Lessee takes all of the risks and rewards of operation."

By a “dry” lease we mean that the Lessor provides the asset to the Lessee for the Lessee to use. In return the Lessee pays the Lessor a contracted sum (the lease rate) at contracted intervals over a given period (the lease term).

A “net” lease means that irrespective of other costs incurred, for example the engine being unserviceable, withholding tax etc., the Lessee pays the contracted amount to the Lessor. Our analysis concentrates on net dry operating leases.

Fundamentally the Lease Rate should be a payment, whereby a present value is amortised to a residual value, at a certain discount rate over a certain term. The discount rate should reflect the risks facing the lessor and the desired return of the lessor. However the supply of and demand for the asset at the point in time will also impact the rate. Most if not all of these factors will vary with each lease and thus, like market values as mentioned earlier, we provide an opinion of a normalised lease rate. This normalisation requires the specifics of each deal and the market conditions at the point in time to be considered before a standardised lease rate can be established. The Lease Rate is paid monthly and does not change over the lease term.

The given Lease Rates do not include any provision for maintenance reserves.

Flight Ascend Consultancy’s Market Lease Rate opinions are quoted on the basis of the following assumptions:

- 5 year operating lease;
- Fixed payments made monthly, in advance;
- Residual value at end of each lease period is in line with Flight Ascend Consultancy Base Values at given junctures
- Operating with an airline of reasonable credit risk (akin to the lowest investment grade rating)

In addition to the longer term leasing of engines, there is an active leasing market involving the use of short term leases. These are normally instigated to cover for engines subject to overhaul or perhaps to replace engines that need to be repaired as a result of say, Foreign Object Damage (FOD). Such deals are normally concluded on an hourly rate or daily basis; please contact Flight Ascend Consultancy for such opinions.

GENERIC ENGINE VALUATION GUIDE

Flight Ascend Consultancy cannot track specific individual engines by their serial number but a generic valuation of the particular engine type and variant can be made.

In theory and practice, all similar engines should have the same utility and scrap value if they are all capable of operating identically, additionally if the status of the life limited parts and the refurbishment is the same in terms of life consumed, their values should be identical. Therefore, we do not distinguish between years of build, but define a "used" engine. Additionally we do not wish to make subjective judgements about how a new engine is going to be utilised so we assume “half-life” and adjust accordingly for guarantee and first run.

The basis of all the engine values is built on the combination of an engine manufacturer, type and variant, in a “bare” configuration. This will typically be an engine as delivered by the engine manufacturer, with no or little Quick Engine Change (QEC) hardware attached. In order for the engine to be installed on the aircraft, it is necessary to add a Quick Engine Change (QEC) kit.

In a Generic Engine Valuation the following engine details can be selected and displayed:

- Engine Manufacturer
- Engine Type
- Engine Variant
- Specification Adjusters - the user may be given the option to select various configurations, including:

First Run Engine

For engines whose status is between new and its first shop visit for full refurbishment, a “First Run” add-on is made to the engine’s value. This reflects the longer time on wing that is expected of a new engine, as well as the manufacturer warranty that is applicable over the first few years of an engine’s life. This option is only displayed for engines known to be still in production for installation on aircraft.

QECs

The basic engine values in Flight Ascend Online Values assume a “bare” configuration. This will typically be an engine as delivered by the engine manufacturer, without Quick Engine Change (QEC) hardware attached. In order for the engine to be installed on the aircraft, it is necessary to add a QEC kit and other hardware. The definitions of what constitutes a QEC differs between the engine manufacturers and various adjusters include –

The **Full QEC** is assumed to represent an engine ready for installation on the aircraft. This will include the basic engine hardware, all Buyer Furnished Equipment, Quick Engine Change hardware and, depending on the engine model, exhaust nozzle and inlet cowl. This is typically a General Electric Aircraft Engines definition.

A **Neutral QEC** consists of a full QEC engine less several major Line Replaceable Units (LRUs). Please refer to the individual engine's configuration listing for the actual hardware installed.

Do not select both Full and Neutral QEC on the same engine as this will be double-counting.

A **Dressed Engine** (Rolls-Royce definition) comprises a basic Engine plus Electrical System plus Fuel, Oil and Air Systems.

EBU (Engine Build Up Kit) - the IAE definition includes the basic Engine, QEC, Inlet Cowl and Common Nozzle Assembly (CNA); Rolls-Royce engines may have EBUs covering other definitions.

ENGINE PORTFOLIOS GUIDE

The Engine Portfolio module provides online access to your own self-selected portfolio of engines.

The value of each engine in the portfolio(s) that the client wishes to select or set up, changes dynamically over time.

As an online service, clients are able to view and download the portfolio values on an unlimited basis whenever and wherever they want during the subscription period. The Portfolio option provides current market and base values, and current market and base lease rates per aircraft, with future value forecasts accessed through the Specific Engine.

See Valuation Terminology and Definitions for details on the displayed values.

The portfolio summary screen shows a listing of the various portfolios, with the columns showing:

- Portfolio Name
- Last Updated
- Number of engines in the portfolio
- Half-life Base Value – current total for the portfolio
- Half-Life Market Value – current total for the portfolio
- Full-life Base Value – current total for the portfolio

- Full-Life Market Value – current total for the portfolio
- Totals of the values all portfolios at the bottom of the screen

Individual portfolios can be accessed by clicking on the "$" sign against each named portfolio. The user can then choose to view the portfolio by:

- Current or Future Values
- Half-Life or Full-Life Values
- Sustained Inflation Rate (for Future Values)
- Forecast Horizon
- The displayed data in the Current Portfolio includes:
- Engine Manufacturer
- Engine Type
- Engine Variant
- Engine Serial Number (ESN) – if supplied by the client
- Current Market Half-Life Value
- Current Base Half-Life Value
- Current Market Full-Life Value
- Current Base Full-Life Value
- Totals at the bottom of the screen

Note that an upward arrow indicates that the values have been increased during the past 30 days, a downward arrow indicates a decrease in the past 30 days and a horizontal line indicates no change.

See Valuation Terminology and Definitions for details on the displayed values.

Individual engines can be accessed by clicking on the $ sign against each engine in the portfolio.

The displayed data in the **Future Portfolio** includes:

- Engine Manufacturer
- Engine Type
- Engine Variant
- Engine Serial Number (ESN)
- Half-Life or Full-Life Values for each year in the selected forecast horizon.
- The assumed inflation rate can be adjusted using the Inflation Rate pull-down menu at the top of the screen.

AIRCAFT VALUE FORECASTING METHODOLOGY

FORECASTING FUTURE VALUES

To forecast aircraft values, Flight Ascend Consultancy applies an empirical approach using regression analysis with the principal variables for determining values being:

1. the age of the aircraft,
2. economic and market conditions, and
3. the aircraft's position in the production cycle.

We do not believe that including any other variable is of benefit. Problems begin to arise with maintaining independence, a prerequisite for regression analysis.

Our basic Future Value figure is representative of the value the aircraft should achieve with reference to the "normal" depreciation of the underlying asset as well as permanent impairments resulting from shifts in the particular type's supply and demand curves, resulting from either political factors or airlines' strategic decisions.

We do not try to reflect cyclical factors at a particular point but rather we encapsulate the medium/long term trend in cyclical factors.

In order to isolate the underlying trend, our initial step is to eliminate the influence of inflation. Inflation serves to mask the diminution in the intrinsic value of the asset, and thus to observe the decline in the "real" value of the asset, we need to step it out. After we remove the impact of inflation, historically we have found the two most relevant cyclical factors in explaining aircraft values to be year-on- year changes in Real GDP and Real Oil Price. Once we have removed the influence of these factors we can observe the trend and shifts of the underlying asset value and make inferences regarding the future.

Thus our basic Future Value model reflects the historical trend of the asset's value as well as our qualitative judgments regarding the timing and magnitude of future permanent impairments. In order to turn this basic factor into an aircraft value we "add back" the expected future changes in GDP and Oil Price. We source our GDP and Oil Price trends from the Economist Intelligence Unit.

Regression models of this nature are often termed "robust" i.e. they are not very sensitive to dramatic changes. It is also important to bear in mind that there is no guarantee that historical relationships will hold true in the future, however in our considered opinion they still offer the best long term forecasting methodology.

Factors such as the number of aircraft in service, the order backlog, the concept of being a member of a family of aircraft and the quality and quantity of customers, all play a part in determining an aircraft's value. These factors are difficult to

quantify in dollar terms, but we believe they are implicitly represented in the used sales price.

For a type just entering commercial service, we believe the historical sales performance of aircraft from the same generic class which have had a wide acceptance and market, can give a reasonable indication as to the likely value retention of the new type, until such time that the subject aircraft has built up a statistically usable sales transaction base.

Forecasting is not an exact science and the quantitative approach is balanced by a qualitative element, which uses experience of the “Flight Ascend Consultancy Values Review Board” and could focus upon such items as specifications, engine choice, and legislative issues – essentially factors which can impact values over and above macro considerations

FORECASTING ACCURACY

Flight Ascend Consultancy has always exercised the best practices and used a high level of detail when forecasting. However, the actual aircraft market values (the spot price) inevitably will differ from the forecast values due to the following reasons:

- Inherent volatility in the aircraft market
- Deviation from the Base Scenario market assumptions (e.g. balanced market, soft market)
- Deviation from the Base Scenario transaction assumptions (e.g. distress sale, package sale, maintenance status other than half-life or full-life)
- The subject aircraft differs from the assumed specification

Each of these factors needs to be considered when comparing an actual Market Value with the Future Value forecast. The Base Value as outlined above is the expected value however there is a wide distribution of potential values around this “Mean” value.

ENGINE VALUE FORECASTING METHODOLOGY

Engines are a "derived demand" product in that their greatest value derives from the ability to power an aircraft; therefore we adopt a different approach when valuing engines than when valuing aircraft. In our opinion, there are five factors that impact an engine's values:

1. The value of the Life Limited Parts (LLPs): All engines have components installed with an explicitly defined life (usually in cycles). Once the part has been utilised to its "Life Limit", it needs to be replaced. Intuitively any life remaining until the part needs to be replaced has some value.
2. Time remaining to Shop Visit for Refurbishment: As an engine is utilised, its performance decreases. This results in increased fuel burn and possibly decreased reliability. Eventually the engine will need to be subjected to a Shop Visit to restore its performance. Therefore the closer an engine is to its optimal performance level, the greater its value.
3. Scrap / Carcass value: The metal that the engine is manufactured from and the electronics installed on the engine have an intrinsic value.
4. Guarantee: New engines carry guarantees from the manufacturer and these obviously add value.
5. Utility Value: As well as the value of the physical parts an engine carries a value due to its ability to power an aircraft from point A to B and enables an airline to earn an economic return.

Therefore, in theory and practice, all similar engines should have the same utility and scrap value if they are all capable of operating identically, additionally if the status of the life limited parts and the refurbishment is the same in terms of life consumed, their values should be identical. The only differentiating factor between a new and used engine, is the life consumed and the guarantee. However, not all engines consume life in a similar way, some are used as spare engines and may fly 200 hours a year, whereas others can be used for 4,500 hours per year. Therefore, if a generic engine is to be considered, it is much simpler and objective to assume that the engine is in a “half-life” status with regards to its LLPs and refurbishment.

Therefore we do not distinguish between years of build, but define a "used" engine. Additionally we do not wish to make subjective judgments about how a new engine is going to be utilised so we assume “half-life” and adjust accordingly for guarantee, and first run.

In addition, those “technical factors” are also economic considerations in terms of price inflation, which are important contributors in the determination of an engine's value.

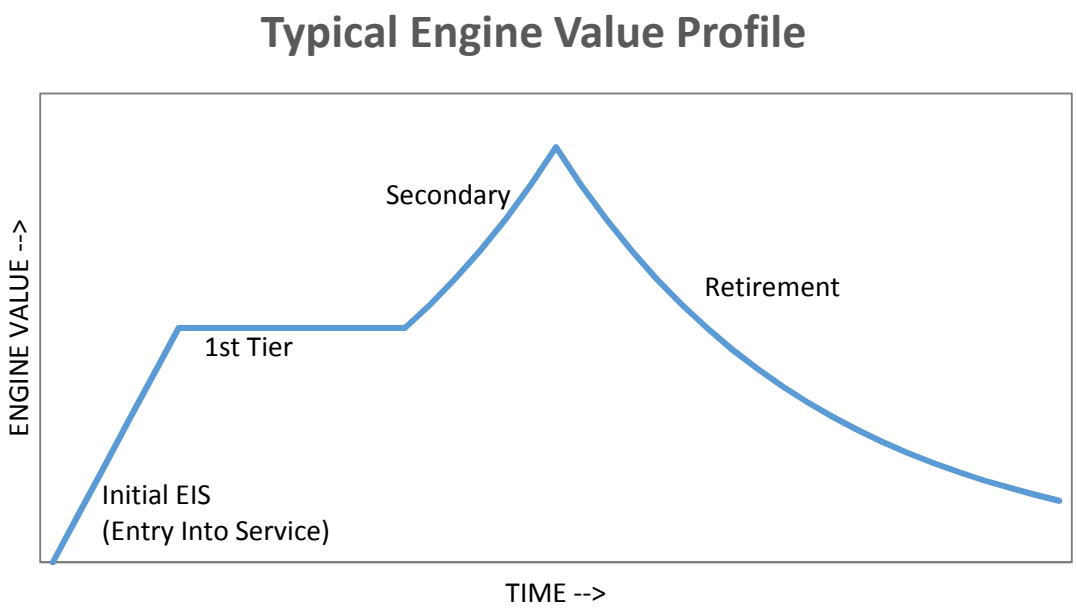
The new list price of an engine and LLPs play a major part, for the former, it is whilst the engine remains in production, whilst for the latter, it remains an issue until the engine is broken for parts at which point demand for new LLPs tends to weaken.

The real cost of an engine overhaul is an important variable in the value, particularly during its early phases of life and we assume that the overhaul cost moves in line with underlying inflation, i.e. no real increase.

A further point to note is that whereas we believe an aircraft depreciates more rapidly during the initial phase of its life and that fleet roll-overs negatively impact values, engines, conversely, tend to hold their value much better during their initial life phase, indeed values of overhauled engines closely correlate to the new list price of a spare engine.

PHASE OF LIFE ANALYSIS

Most industry experts believe that there are 3 or 4 phases to an engine's economic life. The chart on the following page, for which the scales are primarily for illustration, highlights how we believe values broadly trend over the respective periods.



An engine's economic life will span the production period for the aircraft types it supports (typically 15 to 20 years for successful programmes), plus the time the aircraft types are in service (up to 25 years) for a total life of possibly in excess of 40 years, especially if the aircraft proves to be a successful freighter conversion candidate.

Phase 1. The engine begins production and continues in earnest until manufacturers discontinue airframe production. Typically, Tier 1 airlines (e.g. Major / Flag Carriers) continue to build their new fleets, contributing to a growing demand for the engine type. Engine values remain nominally stable, increasing with the cost of new engines and inflation. Fleet build up moderates, limited demand for spares, as most fleet suitably equipped.

Phase 2. Engine production ends before the airframes start being parted out. Typically, Tier 1 airlines begin to sell their fleet to Tier 2 airlines, or into freighter conversions. With the dilution of the fleet, demand for spares and engines will typically increase with the distribution of engines from Tier 1 and Tier 2 airlines, and the values respond accordingly.

Phase 3. The widespread parting out of engines begins. This phase is characterised by a steep decline in engine value. An oversupply results from an increase in available engines (due to parting out of their associated airframes) and a decrease in the airframes they support. Engine value depends on maintenance condition. A zero-time engine will continue to retain value, whereas the value of a run-out engine will decline to the cost of overhauling an engine.

Phase 4. Out of Service.

Customer support

First line customer support is provided by the global Client Services team via email or phone: -

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