FTAI Aviation

Financial Engineering and Accounting Manipulation in the MRO Business

January 15, 2025

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How FTAI Materially Manipulates Its Financials

We believe:

- FTAI is exaggerating the size of its aftermarket aerospace business
- Misleading investors by presenting whole engine sales as individual module sales
- Inflating Aerospace Products’ EBITDA margins by means of over-depreciation in the leasing segment
- Engaging in channel stuffing
- Facing fundamental headwinds

FTAI Materially Manipulates Its Financials

Muddy Waters is short FTAI Aviation Ltd. (FTAI US) because its financial reporting is highly misleading. We believe revenue from true maintenance and individual off-the-rack module sales are materially lower than reported. FTAI, in our view, is misleading investors by reporting one-time engine sales as Maintenance Repair & Overhaul (MRO) revenue in its Aerospace Products (AP) segment. It appears that FTAI's AP revenue growth story is due to trading whole engines (i.e., asset sales). We estimate ~80% of FTAI's Aerospace Products adjusted EBITDA is gains on sale, which we believe is largely from selling whole engines. The goal of these misrepresentations appears to be to generate a valuation materially greater than that of a leasing business. Fortress sold significant stock in a May 2024 secondary offering on the back of FTAI's misleading narrative.

FTAI claims that the average Aerospace Products transaction is two modules.[1] We disagree. We think ~70% to 80% of module sales are whole engine sales. To exaggerate the size of its MRO business, reportedly FTAI deceptively counts each whole engine sale as a sale of three separate modules. As of Q3 2024, FTAI no longer discloses how many modules it sells per quarter. We believe this omission helps FTAI preserve its aerospace aftermarket story. Ultimately, in our view, Aerospace Products is simply a dressed-up leasing business. Substantially all leasing companies trade assets; and, given its inherent cyclicality, engine trading income is highly volatile. We see nothing durable or proprietary about trading engines.

Evidence suggests that FTAI stuffed the channel through questionable aircraft sales in 2023.

Our analysis finds that FTAI's current EBITDA margin run-rate is not sustainable. FTAI's outlier EBITDA margins appear to be due to an accounting game FTAI plays whereby it depreciates engines in its Leasing segment, even when engines are not on lease (merely when they are ready for use). Then it transfers the depreciated engines to AP Inventory. FTAI's AP Inventory has been largely comprised of depreciated Leasing Equipment, which results in considerable margin outperformance compared to peers. FTAI generates EBITDA margins that are ~10 percentage points higher than peers, including Boeing (~18% EBIT margin)[2] and GE Commercial Engines and Services (~27% EBITDA margin), each of which have considerably greater scale. This mirage benefits selling insiders.

[1] FTAI Aviation Q1 2024 Earnings Call April 26, 2024. Per FTAI's CEO: "So, but on average, the average transaction averages out to two modules per transaction." [2] FTAI's Aerospace Products reports minimal D&A allowing for this comparison.

Approximately One-Third of Aerospace Product's YTD 2024 Revenue Appears to Really Be Whole Engine Sales – Not Module Swaps

MW engaged an industry expert with 20+ years of experience, who is also a former FTAI executive, to canvass the major aerospace asset traders to determine the magnitude of FTAI's whole engine sales. **The research findings are below:**

- FTAI has likely sold ~70 whole engines through the first nine months of 2024, which are counted as three modules per engine, and likely account for ~80% of reported module sales (i.e. ~210 reported module sales are actually ~70 whole engines):

  "FTAI is roughly selling 22 CFM[-56] engines (i.e., Narrowbody engines) a quarter. They've sold 82 to date [2024], and they still have some closing before the end of the year... I called all the major [traders], all the big guys... I'm averaging around that 22 a quarter."[1]

- FTAI is currently actively marketing 10-12 whole engines:

  "It looks like they're gonna sell around 90 for the year [2024], maybe a couple more than that...They're marketing a whole bunch right now to try to get some year-end sales in…I know right now they are trying to sell 10 or 12 engines…they could get [to]100 engines this year." [1]

- FTAI apparently did not perform significant repairs or upgrades of these engines:

  "They've not really had a lot of touch work done by FTAI..."[1]

- Whole engine sales are getting done as exchanges or swaps:

  "They're doing a lot of the deals as exchanges, which makes sense. They're selling a good engine and taking in an unserviceable engine…They're selling three modules and taking in three modules." [1]

  "I've got the 10-Q right now…they've got one narrowbody [engine] sale all year… and actually the [true] number is closer to the purchase numbers...they could be recording the [engine] exchanges as purchases (ie. Engine being received in the exchange is disclosed as a purchase)." [1]

[1] Consultant A.

~80% of Aerospace Products EBITDA Is Gain on Sale Which Supports Our View of the Materiality of Whole Engine Sales

FTAI's new Q3 2024 disclosure, discussed infra, implicitly acknowledges its AP segment (the MRO) performs limited repair and maintenance work on the engine assets sold.[1]

After normalizing for Leasing gain on sale, ~80% of Aerospace Product's Adj. EBITDA is gain on sale.

Percentage of GAAP Gain on Sale Derived from AP Adj. EBITDA	Q1 2024	Q2 2024	Q3 2024	YTD 2024
Total gains on sale, per cash flow statement	58.1	88.0	98.3	244
Less: gains on sale booked to Leasing, per FTAI's supplement	(6.7)	(13.5)	(14.2)	(34)
Total AP gain on sale	51.4	74.5	84.1	210
Total adj EBITDA, AP, as reported	70.3	91.2	101.8	263
AP gain on sale / AP reported adj EBITDA	**73%**	**82%**	**83%**	**80%**

Source: Company filings, MW. Units: $ in millions, unless otherwise noted. Note: Module sales could also generate gains on sale, per GAAP accounting.

[1] See slides 22 to 27 for further detail.

FTAI is Deliberately Inflating the Profitability of Aerospace Products

FTAI depreciates engines in Leasing to boost Aerospace Products' margin. High depreciation rates in the Leasing segment help AP report lower COGS. Because AP realizes lower COGS, it reports a materially higher gross margin than it would otherwise. We believe this explains the significant difference in EBITDA margin between FTAI and its peers. A major FTAI MRO competitor remarked about FTAI's margin profile:

> ***"Something to think about when you're studying them is, kind of, why are their margins so high, and my theory is that their [Aerospace Products] asset base is at [the] depreciated book value and that's the cost that gets baked into their margins."***[1]

Adj. EBITDA Margins – FTAI vs Peers	
Heico	~26%
SARO Engine Services	~13%
Lufthansa Technik[1]	18%
MTU Aero[2]	17%
GE Commercial Engines & Services[3]	27%
Boeing Global Services[4]	18%
Average	**~20%**
FTAI AP, Adj EBITDA, YTD-2024	**~36%**
FTAI AP, Adj. EBITDA margin commentary	**30% - 40%**
Source: Company filings except as noted	

[1] MRO Competitor.

Notes to table: [1] Excludes intercompany revenue. [2] 2024E EBITDA margin per S&PCapIQ. [3] 2023 GE CES figures =(5600 CES op profit + ~800 D&A) / 23,900 = 27% EBITDA margin. [4] EBIT margin – FTAI's Aerospace Products reports minimal D&A allowing for this comparison. Per sell side re Boeing Global Services: "The engineering modification and maintenance business acts as an internal MRO shop servicing Boeing and other aircraft needs. We estimate that this represents about 37.5% of total BGS revenue."

FTAI Appears to Have Stuffed the Channel to Inflate YE 2023 Numbers

- In the final days of December 2023, FTAI sold two on-lease in-service aircraft, as described below by Cirium for a promissory note to an intermediary.
- Title seems to have been conveyed to the intermediary, Aerolease. But Aerolease did not pay FTAI for the assets (conveying title was likely a prerequisite to booking the related revenue).[1]
- Aerolease reportedly also did not novate the leases per the lessee.[1]
- We understand Aerolease may have received a commission for acting as a “placeholder” buyer.[1]
- The assets were reportedly transferred to Aerolease for ~$16m but could have been worth ~$20m, potentially leaving some room for an Aerolease commission.[1]
- FTAI received a promissory note for this sale (FTAI had a promissory note balance of $102.3m at year-end 2023).[2]
- Looking for a bonafide buyer, FTAI marketed the assets in 2024.[1]
- When the assets were sold nearly seven months later to a bonafide buyer, FTAI received payment on the promissory note. At the same time, the leases with the lessee was novated to the buyer.[1]
- Given the June 2024 transaction was not disclosed in FTAI’s 2024 asset sales schedule, we believe it was recorded in Q4 2023 results.
- See slide 38 to 47 for the supporting documentation.

July 7th, 2024. Per Cirium (in its public communications):[3]

Setna iO purchased two A320s on lease with **GlobalX** from **FTAI Aviation**.

[1] Consultant A. Aerolease corporate website here. [2] FTAI 2023 10-K pg 63. [3] Link to Cirium communications.

Our Consultant, A Former FTAI Executive, Relays How the MRO Was Born of a Financial Engineering Scheme

Our consultant explained that FTAI was a traditional leasing platform that was valued on a P/B basis. Management saw an opportunity by changing the narrative to aerospace. Management perceived that if FTAI were considered to be an MRO, it would trade on a multiple of EBITDA.

To do so FTAI first undertook seemingly cosmetic changes by bolting on limited maintenance and repair capabilities and picking up spare parts and feedstock on the market. It entered into a basic MRO contract with Lockheed and marketed it as the Module Factory.

FTAI then entered a consignment agreement with AAR and called it the USM business (used serviceable material - 2nd hand parts).

Last, it bought LLP (life limited parts – spare parts) on the market for feedstock.[1]

[1] Consultant A.

Industry Insiders Question FTAI's MRO Narrative

According to one of FTAI's key counterparties, FTAI is still essentially a leasing company with an MRO overlay:

> Source H: "It's fundamentally, in my opinion, an engine leasing company."[1]

Our consultant, a former FTAI Executive, expressed skepticism about FTAI's ability to profitably operate the former Lockheed Martin facility, called the Module Factory:

> Consultant A: "Air Canada owned that shop. Aveos owned that shop. Lockheed Martin owned that shop. And it was always a big struggle. And if you look at Lockheed, that engine shop before Covid was dying, it was dead."[2]

Our consultant related a recent anecdote about industry bankers who also question FTAI's reporting:

> Consultant A: "I'm out last night with the guys from [Bulge Bracket] Bank, everyone is asking questions, like then, and the statements are 'none of this makes sense.' And when you really do a deep dive… you can see that, it doesn't make sense."[2]

[1] Source H. [2] Consultant A.

A Substantial Portion of Aerospace Products' Revenue Is Whole Engine Sales

We Believe FTAI Is Selling Whole Engines and Telling Investors it Sold Three Modules. This Helps FTAI Sell Investors on an Aerospace Aftermarket Story.

Evidence Whole Engine Sales Are Material

CFM56 engines are commonly thought of as containing three modules: the Fan, the Core, and the Low-Pressure Turbine (LPT). FTAI also reports CFM56 engines as being in three modules.[1]

FTAI's GAAP financials indicate that whole engine sales are a material contributor to FTAI's AP segment:

- FTAI's revenue and EBITDA per employee are significant outliers vs peers (~3x and ~7x, higher, respectively).
- FTAI generates about ~$2m in GAAP revenue per module sold, compared to the sticker price a customer would pay for an off-the-rack module (~$700k - ~$1.5m).

We spoke with a former senior FTAI executive who believes that ~80% of the reported module swaps are actually whole engine sales.

We engaged another former FTAI executive to canvass the major aftermarket traders in the industry.

- His research determined that approximately 1/3 of FTAI's YTD 2024 Aerospace Products revenue consisted of misreported whole engine sales largely executed via engine exchanges.
- Another industry expert echoed a similar sentiment.

New language in the Q3 2024 10-Q explicitly states that whole engines are now a component of Inventory, highlighting the materiality of whole engines to Aerospace Products.[3]

[1] FTAI Aviation Investor's Day Presentation June 7, 2023., Q1 2024 Earnings Call April 26, 2024, CEO: "Three modules is a whole engine." Et alia. [3] FTAI Aviation 10-Q Q3 2024, Pg. 12

FTAI's Metrics Indicate that Aerospace Products Primarily Sells Whole Engines

FTAI's per employee revenue and EBITDA is ~3x and ~7x higher, respectively, than peers. The most plausible explanation is that FTAI's business is primarily trading whole engines, which is far less labor intensive than an MRO business. The EBITDA outperformance also seems to be due to FTAI over-depreciating engines in Leasing before selling them in Aerospace Products (see slide 28 to 37 for further detail on this).

Estimating Revenue, and EBITDA, per Employee - FTAI vs Peers	Revenue Per Employee	Adj. EBITDA Per Employee
MTU Aero MRO Segment[1]	973	104
SARO Engineering Services[2]	736	95
SARO Component Repair Services[2]	285	69
VSEC[3]	717	95
AAR[4]	407	43
Average	**624**	**81**
FTAI Aerospace Products[4] (employee count = 560 as confirmed by FTAI)	**1,757**	**627**

Units: US$ in thousands. Source: Company filings. FTAI employee count vetted with FTAI IR.

[1] Per MTU reported employee figures, Rev and EBITDA estimated by annualizing H1-2024 for MTU Aero's MRO segment. [2] Source: Sell-Side report. [3] VSEC FY2023 figures, VSEC is an MRO specialist, employee counts includes all employees. [4] AAR FY2024 (YE 5/31/24) figures, employee counts includes all employees, EBITDA is adj. EBITDA. [5] FTAI Revenue and Adj. EBITDA estimated by annualizing Q3 2024 results. Revenue and EBITDA are for Aerospace Products only, whereas employee count includes all business segments.

FTAI's Revenue Per Module Shows that Aerospace Products Is Primarily Trading Whole Engines

FTAI's GAAP revenue per reported module is ~$2m per module. However, FTAI only charges ~$700k to ~$1.5m per module (see Appendix). We believe this discrepancy illustrates that FTAI is categorizing revenue from whole engine sales as module sales.

Estimating FTAI's Revenue Per Module Sold	Q3 2023	Q4 2023	Q1 2024	Q2 2024	Q3 2024
Reported number of modules sold	41	61	72	82	95[3]
Aerospace Products revenue, as reported	**107**[2]	**159**	**189**	**245**	**304**
Less: V-2500 revenue, MW estimate[1]	0.0	-20	-20	-20	-20
Less: USM revenue, MW estimate[1]	-35	-49	-47	-61	-76
Total Est. CFM-56 module revenue	**72**	**90**	**122**	**164**	**208**
Aerospace Products revenue per module	**1.8**	**1.5**	**1.7**	**2.0**	**2.2**

[1] Estimates vetted from conversations / models with sell side Analysts. [2] This is the number FTAI reported before the V-2500 reclassification, so we used this figure and assigned zero value to the V-2500 revenue in this period. FTAI appears to have begun reporting V-2500 revenue in Q4 2023. [3] FTAI, as of Q3 2024, does not disclose the number of modules sold; 95 is an MW estimate.

Counting Whole Engine Sales as Modules Sales Was FTAI's Modus Operandi, According to a Former Senior Employee

A former FTAI executive explained that while he worked for the company it sold whole engines but reported such transactions as the sale of three modules:

> "And here's the other thing you have to be very cautious about… when they sell an engine, they're not selling an engine. They're selling [three] modules. So the, The Module Factory numbers are much higher than what real [customer demand for the Factory] is." [1]

Later in the same discussion:

> MW: "How do we know that is still happening at the moment?"
>
> Consultant**:** **"**Well, I'm no longer there. But I could tell you **that was the line of thought when I was there***…*so what I'm suggesting is that that is still happening…there would be more of those modules [that] would be attributed to engine sales than to true module swaps."[1]

[1] Consultant A.

Note: FTAI and most industry experts consider a CFM56 engine to be a three-module engine (Fan, Core, LPT). Consultant A counts the HPT as an additional module, bringing his total to four; we standardized the figure above.

The Misrepresentation of Engine Sales Is Material

Another former FTAI executive echoed the same sentiment:

Source C: “I think they sell between 60 and 80 engines a year and they report 95% into the Aerospace business.”[1]

Later in the same conversation, MW asked Source C about the YTD 2024 reported module sales

MW: “What portion of the business that they're doing do you think would be real individual module sales and whole engine exchanges counted as three modules?...”

Source C: **"...I think it's 80/20, right. So, I think they do 80 [whole] engine sales a year that they count as modules."**[1]

[1] Source C, former Senior FTAI executive.

An Industry Expert's Skepticism of FTAI's Module Sale Numbers Corroborates Our Analysis [1]

MW: "Do you think the 82 number [FTAI's reported module sales in Q2-2024] is not really sensible?"

Expert: "I was at a [CFM International] lessor conference with my CEO and we actually asked for a show of hands. This was two years ago. Has anybody in this room bought a standalone module? **And no one raised their hand.** So, I just don't believe that there's 82 standalone modules being sold. And if you tell me that that comprises, they sold 20 standalone modules in the quarter and **the rest are three times the engines they sold**, okay, I don't, that's not bad."[1]

[1] Source E, former CFM & GE senior engineer.

FTAI's Inventory Disclosure in its 10-Q Now Includes Aircraft Engines, Which We See as a CYA Disclosure

- FTAI's 10-Q **Q2 2024** definition of Inventory makes <u>no mention</u> of stand-alone aircraft engines:

  "We hold aircraft engine modules, spare parts and used material inventory…"[1]

- FTAI's 10-Q **Q3 2024** definition of Inventory newly adds stand-alone aircraft engines:

  "We hold **aircraft engines**, engine modules, spare parts and used material inventory…"[2]

- We suspect this language changed because whole engines make up a material portion of inventory and Aerospace Products' revenue.

- We note that when analysts previously asked about whole engines sales and their share among reported CFM56 module sales, management's replies were evasive.[3]

[1] FTAI Aviation 10-Q Q2 2024, Pg. 12. [2] FTAI Aviation 10-Q Q3 2024, Pg. 12 (emphasis added). [3] FTAI Aviation Q1 2024 Earnings Call April 26, 2024.

After FTAI Stopped Disclosing Module Sales, Management Still Pushes the Module Narrative

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Q2 2024[1]

- Q2'24 Total Revenue growth of 164.5% versus Q2 2023
- 82 modules sold in Q2 2024
- Consistently generating Adj. EBITDA margins of between 30% - 40%
- 06/30 Engine parts inventory of $373.3mm to support backlog

Q3 2024[2]

- Q3'24 Total Revenue growth of 155.7% versus Q3 2023
- Annual Shop Visit Capacity for 1,350 CFM56 Modules
- Consistently generating Adj. EBITDA margins of between 30% - 40%
- 09/30 Engine parts inventory of $491.0mm to support backlog

[1] FTAI Aviation Earnings Supplement Q2 2024, Pg. 9. [2] FTAI Aviation Earnings Supplement Q3 2024, Pg. 9.

On the Q3 2024 Call, FTAI's CEO Refused to Disclose Module Sales

Question**:**

"If I can maybe just ask a quick follow-up. Are you guys able to share with us kind of the number of CFM56 modules you've sold during the quarter and just sort of provide an update on that side?"[1]

Joe Adams, CEO:

"No, we've stopped providing that level of detail. We think it's commercially not a great idea. And so we think we give enough information without that."[1]

When MW asked a former FTAI executive about this disclosure change, the Former said:

"That makes no sense. There is no competition."[2]

[1] FTAI Aviation Earnings Call October 31, 2024. [2] Source C.

New Cash Flow Statement Disclosure Supports our View of the Materiality of Whole Engine Sales

The New Disclosure Added in Q3 2024 Implicitly Acknowledges that FTAI's Aerospace Products Segment—the MRO—Performs Limited Repair and Maintenance Work on the Engine Assets Sold

FTAI in Q3 2024 Introduced a New Cash Flow Disclosure That Implies Aerospace Products Generally Adds Little Value to Assets Sold

In FTAI's Q3 2024 10-Q, management introduced this disclosure for the first time (see Appendix for full excerpt):

> "When the costs to manufacture the assets are greater than (predominant to) the estimated value transferred from Leasing equipment into inventory, the related cash receipt has been recorded as an inflow in net cash (used in) provided by operating activities."[1]

An investor spoke with FTAI. FTAI confirmed that the new language indicates that the test to report Aerospace Products income on the Operating or Investing side of the Cash Flow Statement is determined by the amount of capitalized costs to the assets while held in Inventory.

[1] FTAI Q3-2024 10-Q pg 13.

Gain on Sale of Assets Cash Flow Further Explained

For FTAI to realize AP EBITDA through cash flows from operating activities (CFO) it must invest 101% of the book value of Inventory after the inventory is transferred from Leasing Equipment.

For example, if FTAI Transfers $100 book value of assets from Leasing Equipment to Inventory, when it must subsequently capitalize $101 to Inventory (total $201 of Inventory) for that Inventory to be later recorded as a cash inflow in CFO when sold (because $101 capitalized to Inventory is > $100 of transferred from Leasing Equipment).

The Cash Flow Adjustment to Gain on Sale of Assets Supports Our View that Aerospace Products Is Likely Comprised Principally of Whole Engine Sales

In the YTD 2024 period, FTAI adjusted lower its Cash flows from Operating activities by ~$244m for gains on sale of assets.

This therefore implies that FTAI has performed limited work on these assets, when viewed in conjunction with the above new disclosure.

CONSOLIDATED STATEMENTS OF CASH FLOWS		
	Nine Months Ended September 30, 2024	2023
Cash flows from operating activities:		
Net (loss) income	$ (93,766)	$ 125,457
Adjustments to reconcile net (loss) income to net cash (used in) provided by operating activities:		
Equity in losses of unconsolidated entities	1,799	1,669
Gain on sale of assets	**(244,353)**	**(110,511)**

~80% of FTAI's Aerospace Products' EBITDA Is Gains on Asset Sales

MUDDY WATERS RESEARCH

As illustrated below, after normalizing for Leasing Gains on Sale, ~80% of AP's EBITDA has been reclassed to the Investing section and seemingly is largely whole engine sales:

Percentage of GAAP Gain on Sale Derived from AP Adj. EBITDA	Q1 2024	Q2 2024	Q3 2024	YTD 2024
Total gains on sale, per cash flow statement	58.1	88.0	98.3	244
Less: gains on sale booked to Leasing, per FTAI's supplement	(6.7)	(13.5)	(14.2)	(34)
Total Aerospace Products gain on sale	51.4	74.5	84.1	210
Total adj EBITDA, Aerospace Products, as reported	70.3	91.2	101.8	263
AP gain on sale / AP reported adj EBITDA	**73%**	**82%**	**83%**	**80%**

Source: Company filings, MW. Units: $ in millions, unless otherwise noted. Note: Module sales could also generate gains on sale, per GAAP accounting.

Aerospace Products Is a Dressed-Up Leasing Business

- As we show, the primary function of Aerospace Products appears to be to sell or exchange whole engines (not individual modules).
- Substantially all leasing companies sell, trade, and exchange, engines / aircraft.
- We believe as little as 20% of Aerospace Products volume is true module-swapping work.
- Despite FTAI's 2026 guidance for improved FCF, which investors require in an aerospace aftermarket business, FTAI's financial profile looks like that of other leasing businesses.
- We believe FTAI's profile will continue to mirror that of a leasing business.
- Generally, leasing companies **trade on a P/BV and/or a P/E basis,**[1] and have the following features:
  - Highly capital intensive
  - Cyclical
  - Volatile earnings
  - Low growth
  - Subpar ROIC

[1] Per JPM's coverage of Aercap, May 8, 2024: "Accordingly, our YE24 equity price target is lifted to $105, predicated on a blend of 1.1x BV and 10x forward P/E."

FTAI Depreciates Engines in Leasing to Exaggerate the Profits in Its MRO Business

FTAI's Leasing Segment Assumes a Material Portion of Aerospace Products' COGS, Which Explains the ~1,000bps Discrepancy in EBITDA Margins Vs Peers

FTAI's Accounting Is Organized to Misleadingly Boost Aerospace Products' Margins

MUDDY WATERS RESEARCH

AP acquires a used engine, capitalizing the full cost to Leasing Equipment even if FTAI purchases an unserviceable engine always intended for the MRO[1]

Engines are depreciated when ready for lease, even if not on lease, which is recorded in Leasing Equipment

Engines are moved via noncash balance sheet transfers to Inventory. FTAI has wide latitude to estimate residual values, giving it the benefit of potentially moving equipment to Inventory with artificially low carrying values

AP sells, or exchanges, whole engine/ splits into modules in Inventory, realizing the COGS of equipment that was depreciated in Leasing prior to being transferred to AP Inventory

Analysts value FTAI using a ~20x multiple for FTAI's Aerospace Products business

[1] Per FTAI IR and accounting, all intact engines (serviceable or unserviceable) are recorded in Leasing Equipment, at inception, in line with the guidance it has received from their Auditor.

FTAI's EBITDA Margins Are a Direct Result of Its Misleading Accounting

- FTAI's AP EBITDA margins (~30% - 40%) are not representative of economic reality because ~70% of AP's COGS originated in the Leasing segment and, we believe, benefit from depreciation while held in Leasing.
- Aerospace Products incurs COGS from the engines it sells on the basis of Inventory carrying values. Because its Inventory has largely come from depreciated Leasing Equipment, FTAI incurs materially lower Aerospace COGS than do its MRO peers.
- FTAI also has considerable subjectivity to calculate engine residual values, which can cause material differences in the values of assets FTAI transfers from Leasing to Inventory.
- This has the consequence of inflating FTAI's EBITDA margins, which are **~ten percentage points higher than peers.**
- FTAI has also moved Inventory back to Leasing, which could be an effort to again benefit from Leasing depreciation.

Note: See Appendix where FTAI notes ~80% of shop visit costs are materials, which suggests that there is opportunity for meaningful depreciation while held in Leasing Equipment.

FTAI Benefits from Owning Used Engines with Short Useful Lives that are Depreciated Even When Off-Lease

- We estimate FTAI's current carrying value per narrowbody engine in the leasing portfolio to be ~$3.2m (vs $10m+ for a like-new engine).
- FTAI's depreciation policy in Leasing reflects the shorter useful lives of the company's engines.
  - Mere months of off-lease depreciation, which would have no impact on the actual useful life of engine, has the potential to meaningfully impact carrying value.
- FTAI's assets are **depreciable even when off-lease**, per a September 2023 FTAI SEC Comment Letter:[1]
  - "For both aircraft and engines, depreciation begins when the asset is initially placed into service, which generally coincides with the date when the asset is ready for its intended use. Depreciation continues whether leased or not, until the asset is permanently removed from service."[1]
- FTAI's depreciation practice may not differ from that of other leasing companies; however, most leasing peers do not own/operate a large MRO that relies, in large part, on its related leasing segment for raw material. Thus, we believe its peers do not exploit this accounting trick to materially boost EBITDA margins.
- A peer who does depreciate engines based on usage is ATSG US.[2]

Useful Lives of Engines FTAI vs Peers[3]	
FTAI	2-6 years
Willis Lease Finance	15 years
AAR Corp[4]	3-10 years
AerCap	20 years

[1] **Link to SEC Comment Letter**. [2] ATSG's 2023 10-K: "Assets are typically depreciated on a straight-line basis except for certain engines which are depreciated based on their usage levels during the period." ATSG is an aircraft leasing and air cargo transportation service company. [3] Per most recent annual report. [4] AAR useful life includes "equipment, furniture, and fixtures, and capitalized software."

~70% of FTAI's Aerospace Products' COGS Originated in Leasing Where They Could Have Been Depreciated

When these assets are depreciated before being transferred to Inventory, the Leasing segment bears these costs instead of Aerospace Products.[1]

As disclosed, the inception of Aerospace Products to-date ($ in millions, unless otherwise noted)	
Transfers from Leasing Equipment to Inventory (2021 – Q3-2024)	**581**
Aerospace Products COGS (2021 – Q3-2024)	**861**
Transferred Inventory / Aerospace Products COGS	**~68%**

[1] As stated infra, per FTAI IR and accounting, all intact engines (serviceable or unserviceable) are recorded in Leasing Equipment, at inception, in line with the Auditor's guidance.

Residual Value Subjectivity Offers FTAI More Opportunities to Accelerate Depreciation of Assets While Held in Leasing

The residual values of FTAI's engines seem considerably more subjective than for its peers.[1] Slight differences in residual values and useful lives can meaningfully impact carrying values of Leasing Equipment and thus the transfer-in values to Inventory (see Appendix). This could help FTAI transfer leasing equipment to Inventory at arbitrarily low costs. Recall, a lower carrying value for Inventory results in lower COGS and consequently a higher gross margin for Aerospace Products.

Below: From FTAI's 10-K 2023, Pg. 48.

Asset	Range of Estimated Useful Lives	Residual Value Estimates
Aircraft	25 years from date of manufacture	Generally not to exceed 15% of manufacturer's list price when new
Aircraft engines	**2 - 6 years, based on maintenance adjusted service life**	**Sum of engine core salvage value plus the estimated fair value of life limited parts**
Aviation tooling and equipment	3 - 6 years from date of purchase	Scrap value at end of useful life

A former senior FTAI employee noted: "They can assign different values to different modules.... They may be assigning a really low book value to modules to show, like, a 35% EBITDA margin on that module, and a really high book value to the part, [spare parts for consumption not resale] because, you know, they don't need to make money on parts. They don't get the valuation for the company out of it, right?"[2]

[1] FTAI's 10-K 2023, Pg. 48. Also see the Appendix for the comparable disclosure for WLFC US, which provides a quantifiable precise engine residual value. [2] Source C.

FTAI's Misleading Accounting Results in a ~1,000bps Margin Difference Between FTAI and Peers

MUDDY WATERS RESEARCH

FTAI's Aerospace Products EBITDA margins are inflated because hundreds of millions of cash costs are incurred by the Leasing segment rather than in Aerospace Products.

Adj.EBITDA Margins – FTAI vs Peers	
Heico	~26%
SARO Engine Services	~13%
Lufthansa Technik[1]	18%
MTU Aero[2]	17%
GE Commercial Engines & Services[3]	27%
Boeing Global Services[4]	18%
Average	~20%
FTAI AP, Adj. EBITDA margin, YTD-2024	~36%
FTAI AP, Adj. EBITDA margin commentary	30% - 40%
Source: Company filings except as noted	

Notes to table: [1] Excludes intercompany revenue. [2] 2024E EBITDA margin per S&PCapIQ. [3] 2023 GE CES figures =(5600 CES op profit + ~800 D&A) / 23,900 = ~27% EBITDA margin. [4] EBIT margin – FTAI's Aerospace Products reports minimal D&A allowing for this comparison. Per sell side re Boeing Global Services: "The engineering modification and maintenance business acts as an internal MRO shop servicing Boeing and other aircraft needs. We estimate that this represents about 37.5% of total BGS revenue."

If FTAI's Accounting Weren't Misleading, Its Leasing Equipment Capex Would Be Aerospace Products' COGS

- Recall, being on lease is not a prerequisite to taking depreciation.
- Leasing Equipment capex is a significant cost (see below).[1]

	2023	2022	2021
Cash flows from investing activities:			
Investment in unconsolidated entities	(19,500)	(7,344)	(54,655)
Principal collections on finance leases	3,638	2,227	7,387
Principal collections on notes receivable	4,875	—	—
Acquisition of business, net of cash acquired	(29,632)	(3,819)	(627,090)
Acquisition of leasing equipment	**(749,780)**	**(638,329)**	**(572,624)**
Acquisition of property, plant and equipment	(6,148)	(144,196)	(157,332)
Acquisition of lease intangibles	(20,964)	(31,127)	(24,017)
Investment in convertible promissory notes	—	—	(10,000)
Investment in promissory notes	(11,500)	—	—
Purchase deposit for acquisitions	(23,937)	(6,671)	(13,658)
Proceeds from sale of leasing equipment	477,886	408,937	158,927
Proceeds from sale of property, plant and equipment	—	5,289	4,494
Proceeds for deposit on sale of aircraft and engine	1,413	3,780	600
Return of purchase deposits	300	—	1,010
Net cash used in investing activities	$ (373,349)	$ (411,253)	$ (1,286,958)

[1] FTAI 2023 10-K Pg. 57.

Note: Per FTAI IR prior year cash flow statements include FIP US numbers for the 2022 and 2021 years; however, FIP US reported a negligible amount of leasing capex in prior years.

Aerospace Products Is Not Capital Lite

By the time FTAI's Aerospace Products sells an engine/module, its carrying value could have been reduced to an artificially low level because the magnitude of depreciation is subject to a high degree of management discretion.

The capital assets allocated to Aerospace Products are minimal, given that total depreciation & amortization was **~$3.2m and ~$300k** in the YTD 2024 and 2023 periods, respectively. This gives the misleading appearance of a capital liteness to FTAI's AP's business. In fact, the company has simply allocated the costs to Leasing.

Consultant: "But then, you know, to really get the numbers where they are, this is where… to use your phrase, that sleight of hand comes in—is that, you know when, when you're selling an engine, are you selling an engine or are you selling four modules? And if you start booking engine sales as module sales, and... then also you have assets that have been in the leasing portfolio for quite some time; so, you can, you can, you know, depreciate those down, and you can really boost the numbers on the aerospace side to show the strength on the aerospace to really get that valuation, and really kind of you're robbing Peter to pay Paul internally. You're kind of taking the money way out of the leasing sector and putting that into the aerospace sector and spinning it that way."[1]

[1] Consultant A and former FTAI executive

FTAI Appears to Move Inventory Back Into Leasing, Further Gaming Carrying Values. Recall, Assets are Depreciated Even When Off-Lease

Below is an excerpt from FTAI's Q2 2024 10-Q which reports supplemental disclosure for non-cash activities. Balance sheet non-cash transfers from inventory to leasing are highlighted in red.

FTAI Aviation 10-Q Q2 2024, Pg. 10.

Supplemental disclosure of non-cash investing and financing activities:				
Transfers from leasing equipment to inventory	$	70,897	$	(8,421)
Transfers from inventory to leasing equipment		**(98,192)**		**73,329**
Sale on and issuance of promissory notes		37,367		12,538
Acquisition of leasing equipment in accrued expenses		(17,975)		(3,100)
Purchase deposits reclassified to leasing equipment		(12,108)		(6,371)
Settled security deposits		(4,077)		(2,406)
Settled maintenance deposits		(24,536)		(11,532)

Former FTAI executive: "So that inventory, let's say it's got high book value. [I'm assuming] they'll just call the leasing team and put this engine back on lease, and then we'll just get some depreciation of the year, run it down, and then we'll transfer it back to Aerospace Products... Because, you know, you like, oh shit, if I'm not gonna make, you know, 35% margin on that module, it's really going to affect my numbers or my valuation. So I'll pop it back to leasing for three months, find a customer, put it on wing for six months a year, two years, whatever the life is. And then, you know, comes off wing, which is to the same circus again."[1]

[1] Source C.

FTAI Could Be Stuffing the Channel

In the Final Days of December, FTAI Seemingly Parked Aircraft With an Intermediary to Record Questionable Revenue

FTAI May Have Used a Questionable Buyer to Record the Sale of Two Aircraft in December 2023

- In December 2023, FTAI apparently sold two on-lease in-service aircraft to a buyer that apparently was not a bonafide purchaser.
  - We understand that FTAI sold these assets to an intermediary (a "placeholder"[1] buyer), Aerolease, that had no intention of registering and using the assets.[1]
- While title may have transferred to Aerolease, FTAI did not receive payment.
- Instead, FTAI received a promissory note, allowing it book the related revenue.
- Our Consultant reported that:
  - Aerolease did not novate the lease with the lessee, Global Crossing Airlines.[1]
  - The cash related to the note was only collected by FTAI when a bonafide buyer purchased these assets in June 2024 (detailed on the following slides).[1]
  - The airframe and engine were written up and sold separately.[1]
- The assets were reportedly transferred to Aerolease for ~$16m but could have been worth ~$20m, potentially leaving some margin for Aerolease to capture a commission.[1]
- We believe this was done just before year end 2023 to inflate Q4 and full year 2023 numbers.

[1]Consultant A. Aerolease corporate website here.

In June 2024 Two Major Aerospace Databases Picked Up This Transaction Between Setna iO, the Subsequent Bonafide Buyer, and FTAI

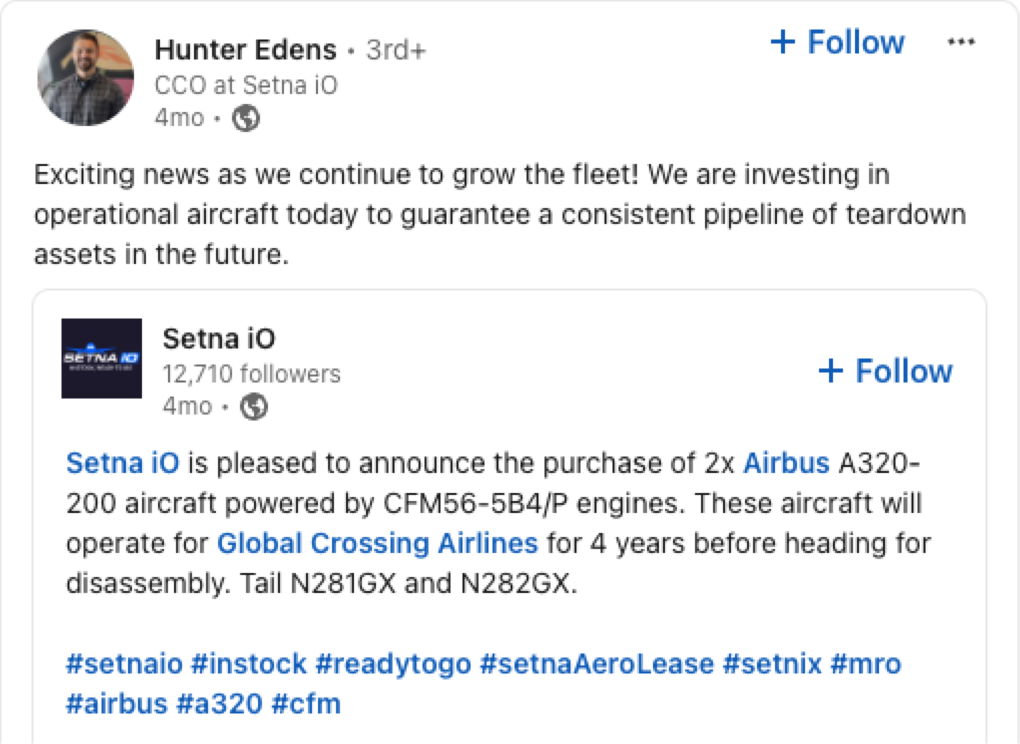
If FTAI had really sold these two on-lease aircraft in 2023, how could FTAI sell them again to Setna iO in June 2024?

Per Cirium (in its public communications)[1]:

Setna iO purchased two A320s on lease with **GlobalX** from **FTAI Aviation**.

In addition to Cirium, MW confirmed the existence and counterparties of this transaction with another leading aerospace database provider.

Approx date: June 2024[2]



Hunter Edens • 3rd+
CCO at Setna iO
4mo •
+ Follow

Exciting news as we continue to grow the fleet! We are investing in operational aircraft today to guarantee a consistent pipeline of teardown assets in the future.

Setna iO
12,710 followers
4mo •
+ Follow

Setna iO is pleased to announce the purchase of 2x Airbus A320-200 aircraft powered by CFM56-5B4/P engines. These aircraft will operate for Global Crossing Airlines for 4 years before heading for disassembly. Tail N281GX and N282GX.

#setnaio #instock #readytogo #setnaAeroLease #setnix #mro #airbus #a320 #cfm

[1] Link to Cirium communications. [2] Link to Linkedin Post. Despite the same surname, we do not believe that Hunter Edens is related to Wes Edens, Founder of Fortress.

Here is the Title Conveyance, as Filed with the FAA, Between Setna iO's Trustee and UMB Bank

- The FAA registry shows the tail numbers of the two A320s Setna acquired in June 2024: N282GX & N281GX.

- The seller was UMB Bank as Trustee. Note the conveyance for N282GX & N281GX are recorded together under the 282GX tail number (top right of document).

Below: From FAA Registry, Document #LJ032867.

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
CROSS-REFERENCE—RECORDATION

RECORDED CONVEYANCE FILED IN:
NNUM: 282GX
SERIAL NUM: 2851
MFR: AIRBUS
MODEL: A320-214
AIR CARRIER:

This form is to be used in cases where a conveyance covers several aircraft and engines, propellers, or locations. File original of this form with the recorded conveyance and a copy in each aircraft folder involved.

TYPE OF CONVEYANCE AIRCRAFT SECURITY AGREEMENT	DATE EXECUTED JUNE 26, 2024
FROM UMB BANK N A TRUSTEE	DOCUMENT NO. LJ032867
TO OR ASSIGNED TO VALLEY NATIONAL BANK	DATE RECORDED JUL 11, 2024

THE FOLLOWING COLLATERAL IS COVERED BY THE CONVEYANCE:

Total Aircraft: 2	Total Engines: 4	Total Props:	Total Spare Parts:

N282GX N281GX

CFMIN CFM56-5B4/P 577710 CFMIN CFM56-5B4/P 577712

CFMIN CFM56-5B4/P 577660 CFMIN CFM56-5B4/P 577662

REGAR-23R (08/09)

FTAI Used UMB Bank as its Trustee, Suggesting It Could Have Conveyed Title to Setna in June 2024

See the following pages for evidence of the 2023 agreement where FTAI conveys title of N282GX to UMB Bank as Trustee.

We see that FTAI financed the asset (U.S. Registration/Tail No. N282GX) through JP Morgan which, in turn, established a trusteeship through UMB Bank.

Recall, per the FAA registry, the conveyance for tail N282GX is combined with tail N281GX.

2023 FAA Documents State FTAI is the Borrower and UMB Bank is the Trustee

Per the 2023 Financing Agreement filed with FAA, Document ID ARE015236786.

Execution Versions

FAA AIRCRAFT MORTGAGE AND LEASE SECURITY ASSIGNMENT (MSN 2851)

Trustee UMB Bank

THIS FAA AIRCRAFT MORTGAGE AND LEASE SECURITY ASSIGNMENT (MSN 2851) (this "**Agreement**") dated as of September 7, 2023, is made by and between **UMB BANK, N.A.,** not in its individual capacity but solely as owner trustee, as the Grantor (the "**Grantor**"), and **JPMORGAN CHASE BANK, N.A.**, as the Administrative Agent (the "**Administrative Agent**") under the Aircraft Mortgage and Security Agreement (as amended, restated, supplemented or otherwise modified from time to time, the "**Aircraft Mortgage**"), dated as of May 22, 2020, among the Grantors named on the signature pages thereto and the Additional Grantors who become grantors thereunder in accordance with the terms thereto, as the grantors and the Administrative Agent. Capitalized terms used and not defined herein are used as defined in Appendix A hereto.

W I T N E S S E T H:

Borrower FTAI

WHEREAS, Fortress Transportation and Infrastructure Investors LLC, as the borrower (the "**Borrower**"), the Administrative Agent and the lenders from time to time identified therein (the "**Lenders**") have entered into the Second Amended and Restated Credit Agreement, dated as of September 20, 2022 (the "**Credit Agreement**"), pursuant to which the Lenders have made the Loans to the Borrower.

WHEREAS, the Grantor, pursuant to a Grantor Supplement dated April 28, 2023, among it and the Administrative Agent, acceded to the terms, provisions, conditions and covenants of the Aircraft Mortgage in order to secure the Obligations.

WHEREAS, the Grantor, pursuant to a Collateral Supplement dated on the date hereof, has agreed to secure the Obligations by granting to the Administrative Agent for the benefit of the Secured Parties a Lien on its interest in the Airframe and Engines described in Schedule I hereto (collectively, the "Aircraft") and by granting to the Administrative Agent a Lien on and security interest in its rights under the lease agreement described in Schedule I hereto (the "Assigned Lease") and on certain other property and rights relating thereto.

NOW, THEREFORE, in order to secure the prompt payment and performance of all the Obligations, the Grantor and the Administrative Agent hereby agree as follows:

JW025807 Conveyance Recorded Oct/09/2023 09:45 AM FAA

3.5 Notices.

All notices, requests, demands or other communications required hereunder or given pursuant hereto shall be in writing unless otherwise expressly provided to the following specified address or to such other address as either party may from time to time hereafter designate to the other party in writing:

If to the Grantor:

UMB Bank, N.A., not in its individual capacity but solely as owner trustee
6440 S. Millrock Drive
Suite 400
Salt Lake City, UT 84121

with a copy to:

Execution Versions

WWTAI AirOpCo 1 Bermuda Ltd.
c/o FIG LLC
415 West 13th Street
7th Floor
New York, NY 10014
Attention: Aviation Team
Email: aviation@fortress.com

If to the Administrative Agent:

JPMorgan Chase Bank, N.A.
500 Stanton Christiana Road
NCC5 / 1st Floor
Newark, Delaware 19713
Attention: Loan and Agency Services Group
E-mail: marsea.medori@chase.com

3.6 Administrative Agent.

The Administrative Agent shall be afforded all of the rights, protections, immunities and indemnities set forth in the Aircraft Mortgage as if such rights, protections, immunities and indemnities were specifically set forth herein.

3.7 Execution in Counterparts.

This Agreement may be executed in any number of counterparts, each of which shall be an original, with the same effect as if the signatures were upon the same instrument.

[Remainder of page intentionally left blank]

The 2023 FAA Documents Also Provide Evidence of the Lease to Global Crossing Airlines

The excerpt at right is per Financing Agreement filed with FAA, Document ID ARE015236786.

A 2021 PR notes Global Crossing leased two A320s aircraft from FTAI in November 2021.[1]

The Global Crossing – FTAI lease as filed with the SEC also notes that UMB Bank was the lessor.[2]

Execution Versions

SCHEDULE I

FAA AIRCRAFT MORTGAGE AND LEASE SECURITY ASSIGNMENT

MORTGAGE COLLATERAL

"**Airframe**" means one (1) Airbus model A320-214 (shown on the IR as AIRBUS model A320) aircraft bearing manufacturer's serial number 2851 and U.S. Registration No. N282GX).

"**Engines**" means two (2) CFM International, Inc. model CFM56-5B4/P (shown on the IR as CFM model CFM56-5B) aircraft engines bearing manufacturer's serial numbers 577710 and 577712 (each of which engines has 550 or more rated takeoff horsepower or the equivalent thereof).

"**Assigned Lease**" means the following:

Aircraft Lease Agreement dated as of November 5, 2021 between UMB Bank, National Association, as owner trustee, as lessor, and Global Crossing Airlines, Inc., as lessee, which was recorded by the Federal Aviation Administration on February 8, 2022 and assigned Conveyance No. LE017568, as supplemented by the following described instrument:

Instrument	Date of Instrument	FAA Recording Date	FAA Conveyance No.
Certificate of Acceptance	11/13/21	02/08/22	LE017568

[1] Global Crossing Airlines 2021 PR available here. [2] FTAI – Global Crossing lease available here.

Setna Takes Title in June 2024 to Two In-Service Aircraft

Here is evidence of the agreement between Setna and Valley National Bank.

In 2024, the two aircraft sold with two CFM56-5B engines each were still on-lease to Global Crossing.

EXECUTION VERSION

AIRCRAFT SECURITY AGREEMENT

dated as of June 26, 2024

between

SETNA AERO LEASE 1, LLC

AND EACH PERSON THAT BECOMES PARTY HERETO BY EXECUTING A SECURITY AGREEMENT SUPPLEMENT

as Mortgagors

and

VALLEY NATIONAL BANK, as Security Trustee
as Mortgagee

IN RESPECT OF
TWO AIRBUS A320-214 AIRCRAFT WITH TWO CFM56-5B4/P MODEL ENGINES EACH
EACH ON LEASE TO GLOBAL CROSSING AIRLINES, INC.

FTAI's 2024 Aviation Assets Schedule Shows the Setna Sales Must Have Been Booked in 2023, Which Is Highly Questionable

Aviation Assets - Held in Leasing Equipment	Widebody	Narrowbody	Total
Aircraft			
Assets at January 1, 2024	5	91	96
Purchases	—	27	27
Sales	—	**(1)**	**(1)**
Transfers	—	(26)	(26)
Assets at September 30, 2024	5	91	96
Engines			
Assets at January 1, 2024	32	235	267
Purchases	4	86	90
Sales	(9)	**(1)**	(10)
Transfers	—	(50)	(50)
Assets at September 30, 2024	27	270	297

FTAI 10-Q Q3 2024, Pg 40. Note: Disclosure here excludes the sale of Airframes.

FTAI Seemingly Used an Intermediary to Boost Year-End 2023 Results through Questionable Sales

- Our Consultant concluded, after **reportedly speaking with a well-placed individual at Aerolease,** that FTAI transferred these assets in the final days of December 2023 to boost Q4 2023 numbers.[1]
- Even though title may have transferred, FTAI did not receive cash payment and instead received a promissory note, which allowed it to book the related revenue.
- FTAI appears to have still been the lessor, as our Consultant also reported that FTAI did not novate the leases to Aerolease.[1]
- FTAI had a $102.3m note receivable on its books at Dec 31 2023,[2] implying there could have been other similar transactions, given this transaction appears to have been worth only ~$20 million.
- Aerolease seemingly had no intention of using these assets (industry databases do not see Aerolease registering the assets with the FAA – our Consultant[1] said the intermediary was "**acting as a placeholder**" until a real buyer was interested).
- FTAI appears to have been responsible for finding a bonafide purchaser in 2024.

[1] Consultant A. Aerolease corporate website here. [2] FTAI 2023 10-K pg 63.

EBITDA Margins Are Falling Even Faster Than Reported Numbers Suggest

Aerospace Products Suffers from Fundamental Headwinds That Should Be a Cause for Concern Even in the Absence of Accounting Games

Aerospace Products Is Facing Fundamental Headwinds

Reported EBITDA margins dropped by 200bps YoY in Q3 2024; however, FTAI's ~20% gross margin Used Serviceable Material (USM / spare parts) business has declined from 25% to 15% of total Aerospace Products EBITDA.[1] A lower proportion of USM revenue should be a tailwind for margins, but core-module margins have declined by ~600bps Q3 2024 vs H1 2024 after normalizing for the USM business. We believe this is evidence that the fundamentals of core Aerospace Products have deteriorated.

Less than half of Aerospace Products' inventory was ever actually on lease,[2] implying that the business is reliant on the secondary market for Inventory. Before COVID, FTAI was paying ~$4.5m, on average for an ~half-life engine (CFM56-7B), with ~48 months of flight time.[3] During COVID the same engine fell to ~$2.5m per engine, and today the same engine is worth ~$7m.[3]

[1] FTAI Aviation Q1 2024 Earnings Call April 26, 2024, CEO: "On USM, it's been -- we've indicated in the past that we -- it was roughly previously about ***25% of EBITDA from Aerospace Products, but as we have ramped up the MRE business that percentage is going down to where it less than 15%*** of EBITDA at this point. And we'll continue as a percentage to decline because that's not a high-growth business. So hopefully, that helps." [2] Investor call with FTAI IR, October 2024. [3] Consultant A.

Margins are Inflecting Lower, Despite What Should Be a Significant USM Tailwind

MUDDY WATERS RESEARCH

We estimate that net of USM, FTAI's module business is currently delivering EBITDA margins ~600bps lower than in H1 2024. In Q3 2024, Aerospace Products added ~$60m of revenue QoQ at a ~20% EBITDA margin.

$ millions, unless otherwise noted	H1 2023	H1 2024	Q3 2024
USM at 15% of EBITDA in F24 vs 25% in Past, Per Mgmt. Commentary (see Appendix for conf. call excerpt)	25%	15%	15%
Total Aerospace Products Adj EBITDA	62[2]	162	102
USM EBITDA (=25% or 15% of total AP EBITDA)	16	24	15
MRO-Module EBITDA (=Total AP EBITDA less USM EBITDA)	47	137	87
USM EBITDA Margins, MW Estimate[1]	20%	20%	20%
Implied USM Revenue (=USM EBITDA / Est. USM EBITDA margin of 20%)	78	121	75
MRO-Module Revenue	100	313	229
Implied MRO-Module EBITDA Margin	**47%**	**44%**	**38%**

[1] Margin estimate vetted with former employees, industry experts, and the sell side. Above totals may not add due to rounding.
[2] H1-2023 Adj. EBITDA number is as FTAI reported in FY 2024.

FTAI Is Becoming Increasingly Dependent on the More Expensive Secondary Market for Its Engines

As FTAI's IR recently informed an investor, FTAI must buy engines in this market. Despite ~70% of AP's COGS originating in Leasing, less than half were ever on lease.

> **Investor:** "Of the ~500m that was transferred from Leasing to Inventory, what portion was ever on lease?"
>
> **IR:** "Less than half."[1]

Engine values have seen significant price increases recently, which will be a headwind Aerospace Products. As one industry expert told us:

> "And to put it in perspective too, by the way, in the past year and a half, the prices for both serviceable and unserviceable engines, particularly **CFM, has skyrocketed. Like I would say 40% to 50%**."[2]

[1] Investor call with FTAI IR, October 2024. [2] Source E.

FTAI Management Claims to be Immune From a Significant Supply-Demand Shift in the Market. But if This Were True, Why Would EBITDA Margins Be Falling So Quickly?

Investor: "Given the macro situation for CFM-56 7B [prices] have gone up quite a bit, like some say on the order of 30 to 50 percent, is that something that could flow through Products margin? How should I model the cost of engines flowing through the business?"

IR: "The key thing to note is the difference between the market in general and FTAI when it comes to procuring engines, the market is just pricing serviceable green time engines...We specifically go out to look for opportunities to find unserviceable engines, at significant discounts and then repairing that and then obviously then reselling it to market with green time…when you do note that 30 to 50 increase in the market rate, that **isn't reflective** of what the unserviceable market looks like."

Investor: "Got it. Okay, so that's sort of the **Special Sauce** a little bit."

IR: "Exactly**.**"[1]

[1] FTAI IR call with Investor, October 2024.

An Industry Expert Doesn't Agree With FTAI's Claimed Procurement Advantage

MW: "They say they get run out engines for $1 million even today, because they're the buyer of last resort for the most undesirable maintenance event, etc. engines. Is that reasonable?"

Expert: "That's complete bullshit. Sorry. No way. Not on average. Can they buy some engines that have had bad things happen to them for a million? Yes, but I thought you said that they said on average they're spending a million. Did I hear you wrong?"

MW: "No, you didn't hear me wrong. And that's the number they told me to use for my ROIC calculation..."

Expert: "BS. Complete BS. No way. No way. Absolutely not. Um, I just again, like, uh, between [prior and current employer], I've probably bought more CFM runout engines than Fortress did during that time. And, um, it's just a fact. Like we bought, I bought 200 engines in the past 3 years. The amount of engines we bought for under $2 million, I can count on, like, my two hands.

No way. No way... There is no way they're buying an initial unserviceable engine for a million. That's off by a factor of two... Those are garbage engines. There's like trash. Um, yeah. They're not buying engines at an average of $1 million.

They might be able to buy one and two engines that have had a catastrophic failure, and then you're very high maintenance cost to fix it...You could fly through a flock of birds and wipe out engines, and then occasionally something lets loose inside the engine, and then it's toast. And those engines are generally by definition called BER, which means Beyond Economic Repair."[1]

[1] Source E.

Aerospace Products
Is Capital Intensive

Aerospace Products' Engine Management Service Offerings Require a Fleet of Stand By Replacement CFM56-5B & 7B Engines for its Customers

FTAI Promises Lessees Replacement Engines, Which Implies a Material Portion of Aerospace Products Is Capex Intensive

- As we show in the following slides, FTAI is selling assets that are still in service, suggesting aircraft (ie. Airframes plus two engines) were sold.
- Our research suggests FTAI is selling the airframes, leasing the engines, and **shifting the maintenance income** associated with such leases to the AP segment. [1]
    - FTAI retains title to the engine and, concurrent with the airframe sale, leases the engine to the airframe owner as part of a **Perpetual Power Program.**
- Through the Perpetual Power Program, FTAI promises lessees a serviceable engine through the duration of lease.
    - This removes the burden of shop visits from lessees.
    - This also seems to **enable FTAI to record the revenue in the AP segment.**
- Our research suggests this occurred for nearly all 12 Mavi Gok transactions (detailed on the following slides).
- This means FTAI **needs replacement engines with flying time** on standby to perform these contracts.

[1] Consultant A

FTAI's Revenue Recognition Disclosure Includes a Telling Excerpt Likely Related to the Perpetual Power Program

The Perpetual Power program seems far more akin to a leasing business, as opposed to an aerospace aftermarket business. It is capital intensive to have engines on standby to provide to lessees.

> ***Aerospace Products revenue***—Aerospace Products revenue primarily consists of the transaction price related to the sale of repaired CFM56-7B, CFM56-5B and V2500 engines, engine modules, spare parts and used material inventory, and are accounted for within the scope of ASC 606. Revenue is recognized when a performance obligation is satisfied by transferring control over the related asset to a customer. Revenue is recorded with corresponding costs of sales, presented on a gross basis in the Consolidated Statements of Operations. Shipping costs to deliver assets to customers are included in cost of sales. **Aerospace products revenue also consists of engine management service contracts, where the Company has <u>a stand-ready obligation to provide replacement CFM56-7B and CFM56-5B engines</u> to customers as they become unserviceable during the contract term. The Company recognizes revenue over time using a straight-line attribution method and the costs related to fulfilling the performance obligation are expensed as incurred.**[1]

[1] FTAI 2023 10-K, p. 48, et alia. emphasis added.

There Were At Least 14 Disposals of In-Service Assets in 2024; Many of Which Relate to Perpetual Power Programs

According to an industry-leading database provider, FTAI sold ~14 aircraft in 2024. Flight tracking databases indicate, and our Consultant confirmed that all the below Mavi Gok transactions are Perpetual Power programs.[1]

Event Date	MSN	Aircraft Type	New Owner	Old Owner	Event	New Operator	Old Operator	Flight Status[2]
26-06-2024	2830	A320	**Setna Aero Lease 1 LLC**	**WWTAI AirOpCo 1 Bermuda Ltd**	Purchased - subject to existing lease	**GlobalX**	**GlobalX**	Active
26-06-2024	2851	A320	**Setna Aero Lease 1 LLC**	**WWTAI AirOpCo 1 Bermuda Ltd**	Purchased - subject to existing lease	**GlobalX**	**GlobalX**	Active
22-08-2024	32934	737 NG	**Aventure Aviation**	**WWTAI AirOpCo 1 Bermuda Ltd**	Purchased - parked	**Aventure Aviation**	**FTAI Aviation**	Part-out / airframe only
19-01-2024	28828	737 NG	**Mavi Gok Airlines**	**WWTAI AirOpCo 1 Bermuda Ltd**	Purchased - parked	**Mavi Gok Airlines**	**FTAI Aviation**	Airframe only
19-01-2024	28829	737 NG	**Mavi Gok Airlines**	**WWTAI AirOpCo 1 Bermuda Ltd**	Purchased - parked	**Mavi Gok Airlines**	**FTAI Aviation**	Active
20-03-2024	29248	737 NG	**Mavi Gok Airlines**	**WWTAI AirOpCo 1 Bermuda Ltd**	Purchased - parked	**Mavi Gok Airlines**	**FTAI Aviation**	Active
13-02-2024	29249	737 NG	**Mavi Gok Airlines**	**WWTAI AirOpCo 1 Bermuda Ltd**	Purchased - parked	**Mavi Gok Airlines**	**FTAI Aviation**	Active
05-11-2024	35277	737 NG	**Stratton Aviation**	**WWTAI AirOpCo 1 Bermuda Ltd**	Purchased - parked	**Stratton Aviation**	**FTAI Aviation**	Airframe only
10-07-2024	35378	737 NG	**Aventure Aviation**	**WWTAI AirOpCo 1 Bermuda Ltd**	Purchased - parked	**Aventure Aviation**	**FTAI Aviation**	Airframe only
15-03-2024	30476	737 NG	**Mavi Gok Airlines**	**WWTAI AirOpCo 1 Bermuda Ltd**	Purchased - parked	**Mavi Gok Airlines**	**FTAI Aviation**	In-service, per Source
15-03-2024	30569	737 NG	**Mavi Gok Airlines**	**WWTAI AirOpCo 1 Bermuda Ltd**	Purchased - parked	**Mavi Gok Airlines**	**FTAI Aviation**	Active
13-02-2024	30006	737 NG	**Mavi Gok Airlines**	**WWTAI AirOpCo 1 Bermuda Ltd**	Purchased - parked	**Mavi Gok Airlines**	**FTAI Aviation**	Active
28-06-2024	29878	737 NG	**Aeroitalia**	**WWTAI Airopco BPA Ireland Ltd**	Purchased off lease	**Aeroitalia**	**Aeroitalia**	In-service, per Source
12-03-2024	30178	757	**Mavi Gok Airlines**	**WWTAI Airopco II DAC**	Purchased - subject to existing lease - parked	**Skyline Express Airline**	**Skyline Express Airline**	Airframe only
28-06-2024	29888	737 NG	**Aeroitalia**	**WWTAI Airopco II DAC**	Purchased off lease	**Aeroitalia**	**Aeroitalia**	In-service, per Source
02-04-2024	29923	737 NG	**Mavi Gok Airlines**	**WWTAI Airopco II DAC**	Purchased - parked	**Mavi Gok Airlines**	**FTAI Aviation**	In-service, per Source
12-03-2024	25077	767	**Mavi Gok Airlines**	**WWTAI Airopco II DAC**	Purchased - subject to existing lease - parked	**Skyline Express Airline**	**Skyline Express Airline**	Airframe only
12-03-2024	30159	737 NG	**Mavi Gok Airlines**	**WWTAI Airopco II DAC**	Purchased - subject to existing lease - parked	**Skyline Express Airline**	**Skyline Express Airline**	Airframe only
12-03-2024	28139	767	**Mavi Gok Airlines**	**WWTAI Airopco II DAC**	Purchased - subject to existing lease - parked	**Skyline Express Airline**	**Skyline Express Airline**	Airframe only
15-06-2024	25597	757	**Sky One FZE**	**WWTAI Finance Ltd**	Purchased - parked	**Sky One FZE**	**FTAI Aviation**	Active
15-05-2024	1745	319-112	**AviAM Leasing**	**FTAI Italia DAC**	Purchased - parked	**AviAM Leasing**	**FTAI Aviation**	Airframe only
10-06-2024	1779	319-112	**AviAM Leasing**	**FTAI Italia DAC**	Purchased - parked	**AviAM Leasing**	**FTAI Aviation**	Airframe only
11-03-2024	2074	319-112	**Fly Lili**	**FTAI Italia DAC**	Purchased - parked	**Fly Lili**	**FTAI Aviation**	Engine on-lease with an Engine maintenance contract
30-09-2024	1217	320-200	**Aurick One Ltd**	**FTAI Italia DAC**	Purchased - parked	**Maverick Horizon**	**FTAI Aviation**	In-service, see next slide

[1]Consultant A. [2] Flight status per **Link**, **Link** (insert manufacturer's serial number, MSN), Consultant A. Note: We highlighted the sold aircraft that appear to be still in service.

Evidence of Another Perpetual Power Agreement

- This LinkedIn post from October 2024 indicates an A320 aircraft was sold by FTAI to Maverick Horizon—we understand this was a Perpetual Power agreement.[1]

- Maverick Horizon notes:

  “This aircraft will soon join the fleet…”

Maverick Horizon
934 followers
2mo • Edited •

+ Follow ···

🚀 Maverick Horizon Closes A320 Purchase with FTAI Aviation

We are thrilled to announce that Maverick Horizon has successfully closed another important transaction with our trusted partner, FTAI Aviation, for the purchase of an A320 aircraft, MSN 1217. This aircraft will soon join the fleet of Electra Airways continuing to strengthen our operational capabilities.

We would like to extend our sincere thanks to the entire team at FTAI Aviation for their continued support and exceptional partnership throughout this process. Their professionalism and collaborative spirit are greatly appreciated, and we are proud to have them as a valuable partner of Vector Group.

We look forward to more successful collaborations in the future as we continue to grow together!

Dave Corri Itzik Goren Effi Grunwald Yaşar Ö. ALTUG SOKELI Stacy Kuperus David Moreno Matvey Koloturskiy

#MaverickHorizon #VectorGroup #FTAIAviation

[1]Link to LinkedIn post.

Appendix

Module Swap Costs Start at ~$600k-$700 for a Fan, But Most Are LPTs, Which Will Be in the Low-Mid One Million Range

MUDDY WATERS RESEARCH

Below: From FTAI Investor's Day Presentation June 7, 2023. Pg. 10.

2 FTAI Modular Shop Visit

Engine Induction: Cycles Remaining		Shop Visit Process: Action at Shop	KPIs: Cost	KPIs: TAT	KPIs: Risk	Outgoing Engine: Cycles Remaining	
Fan	0	Module swap for 10k module	$0.60M	3 days	--	Fan	10,000
Core	10,000	Remains assembled, no action	--	--	--	Core	10,000
LPT	5,000	Module swap for 10k module	$1.15M	15 days	--	LPT	10,000
			$1.75M	15 days	--		
			Total Engine				

Added Benefit: *FTAI keeps 5,000FC LPT intact to use in future builds*

FTAI AVIATION

1) *Based on management's current views and estimates, and actual results may vary materially.*
2) *See "Disclaimers" at the beginning of this Presentation for more information on forward looking statements.*

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FTAI's 2023 Module pricing is cited above. Former employees and industry experts we spoke with believe most modules swaps will be for LPTs, followed by fans. Although prices will have come up some from July 2023, they will still be in the low to mid one million range. Fans will be the least expensive. Cores will be the most expensive of the three but are very rare as modules. Prices vary depending on factors such as condition, cycle life remaining, configuration, etc. FTAI's modules tend to be built to 5,000-6,000 or fewer cycles.[1]

[1] Consultant A, Source B, a former Delta executive & an engineer; Source D, a FTAI technical manager; Source E, Source G, a current executive of an FTAI customer; and Source H.

The Full Excerpt of the New Q3-2024 Disclosure [1]

- ***Cash Flow Presentation—*** Included in net cash (used in) provided by operating activities are inflows from the sale of engine modules and parts that were on engines originally purchased and reported as Leasing equipment, net on the Consolidated Balance Sheet. The purchase of the original engine was reported as an outflow in net cash used in investing activities at the time of purchase through the Acquisition of leasing equipment line item.

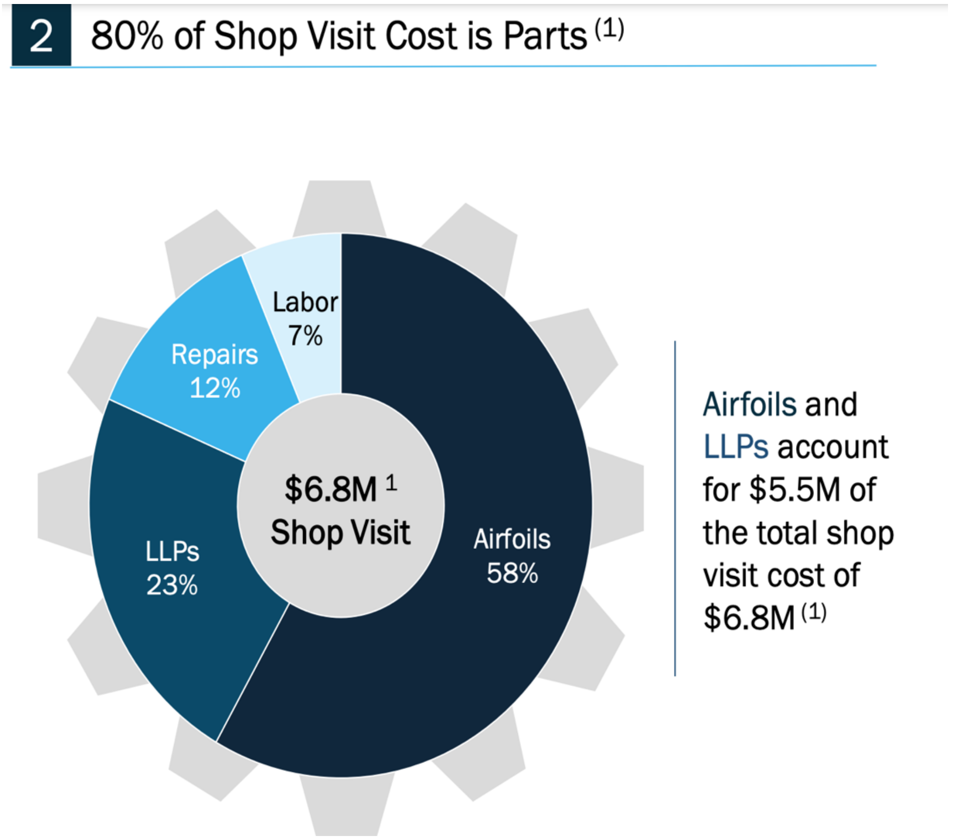
- As part of the Aerospace products business, the Company breaks down generally unserviceable engines with the intent to manufacture modules and parts for creation and sale of new assets. To manufacture the modules and parts and bring them into a salable condition, the Company spends significant costs, often over multiple reporting periods, for new inventory and capitalizable labor (e.g., engineering) that are included in net cash (used in) provided by operating activities as components of the changes in the related working capital accounts.

- <u>Therefore, when the costs to manufacture the assets are greater than (predominant to) the estimated value transferred from Leasing equipment into inventory, the related cash receipt has been recorded as an inflow in net cash (used in) provided by operating activities</u>.

- Additionally, the Company buys inventory from third parties with the intent to use the parts in the manufacturing of the items discussed above, which is reported as an outflow in net cash (used in) provided by operating activities. When rebuilding whole engines for resale, for which the cash inflow upon sale is reported as a cash inflow from investing activities, the Company will transfer modules and parts needed (those purchased from third parties as well as parts from engines previously transferred to inventory from leasing equipment and rebuilt as discussed above) in the rebuild from inventory to leasing equipment.

[1] FTAI Q3-2024 10-Q pg 13. Emphasis added to indicate the excerpt referenced infra.

80% of Industry Shop Visit Costs Are Materials, per FTAI



1) Based on management's current views and estimates, actual results may vary materially

FTAI’s Residual Values Are Highly Subjective

Willis Lease Finance (WLFC US) states explicitly the way residual value is calculated, giving quantitative data instead of a vague “estimated fair value of life limited parts.”

Below: From Willis Lease Finance 10-K 2023, Pg. 25.

“We generally depreciate engines on a straight-line basis over 15 years to a 55% residual value.”

Small Differences in Residual Value and Useful Life Can Have Large Effects on Transfer-In Values to Inventory

$4.5m Engine Purchase	Carrying Values Years 1-5	Assumptions	
T=0	4,500	Useful life	6
T=1	3,875	Residual value	~17%
T =2	3,250	Residual value $	750
T = 3	2,625	Depreciation p.a.	625
T =4	2,000		
T=5	1,375		

$4.5m Engine Purchase	Carrying Values Years 1-5	Assumptions	
T=0	4,500	Useful life	10
T=1	4,095	Residual value	10%
T =2	3,690	Residual value $	450
T = 3	3,285	Depreciation p.a.	405
T =4	2,880		
T=5	2,475		

Note this is an illustrative example. The difference is a ~$1.1m per engine increase in the carrying value of Inventory that will be transferred from Leasing Equipment to Inventory, and eventually the same increase in COGS to hit the income statement. In the YTD 2024 period, FTAI transferred 50 narrowbody engines from Leasing to Inventory.