

TransDigm Group (NYSE: TDG)



Unique aerospace parts manufacturer

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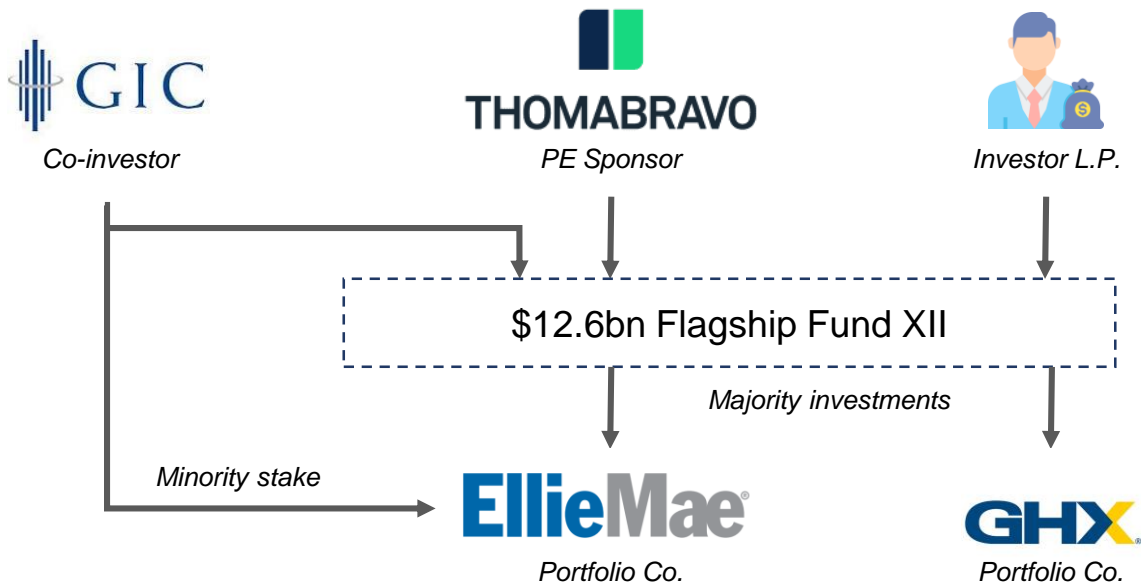
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ELI5: Private Equity (I)

PE funds are built around these two objectives: Return 15-20% + over a period of 3-5 years

Structure of PE sponsors & funds



ELI5: Private Equity (II)

Post-acquisition, PE funds have to unlock value



Classic PE Fund Playbook:

1. Buy company
2. Increase sales
3. Reduce costs
4. Align management
5. (Load up debt &) pay themselves
6. Sell company



A public “PE mimic” that specializes in aircraft parts manufacturers

Company Overview



Company Overview

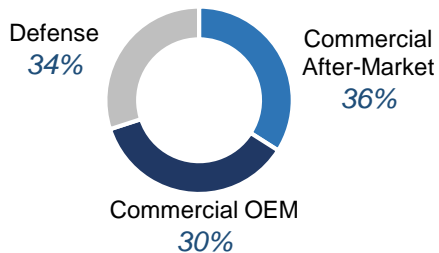
- TransDigm Group is an aircraft manufacturer and supplier, focused on the manufacturing, design, and sale of proprietary aircraft components and systems for commercial and military aircraft
- The company is the industry leader in this industry, and in 2018 generated over **\$3.8 Billion** dollars in Net Revenue from operations
- The company was founded in 1993, and has acquired **57+ businesses**, with **over 40** of them being since their **IPO in 2006**

Customers

- The company's OEM customers are **Airbus, Boeing, Lockheed Martin, Textron, Bombardier**
- For the company's after-market products they sell to the worlds largest 20 airlines, encompassing **>50% of RPM's**



FY 2018 Pro Forma Revenues



Expanding Global Footprint



Company Overview



Commercial Aviation - Original Equipment Manufacturing

- A large portion of the company's annual net revenues are attributable to their **Original Equipment Manufacturing (OEM)** divisions
- The main consumers for this segment are large airline manufacturers like Boeing
- TransDigm focuses on manufacturing proprietary niche parts at a cheap price
- TransDigm would acquire other companies to create a **"local monopoly"** on the unique part to give pricing power
- The margins on these sales are lower than on after-market sales
- The company generated a total of **\$1.72 Billion dollars** from this division in 2018

Ignition Systems and Engine Sensors	Pumps	Valves	Motors, Actuators and Controls	Water Faucets and Systems	Quick Disconnects, Couplings and Rods	Batteries, Chargers and Power Conditioning	Aircraft Hardware and Cockpit Security Systems	Engineered Composites, Elastomers and Laminants	Audio Systems	Lighting and Instrumentation	Safety Restraints and Parachutes	Lifting Devices and Cargo Handling Systems

Company Overview



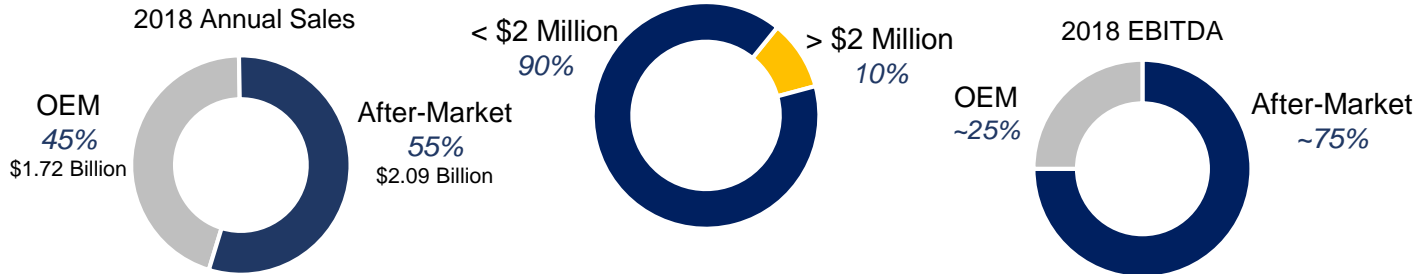
After-Market Product Portfolio

- The company's parts are designed for original equipment aircraft, with the company having over \$2.09 Billion sales attributable to their after-market presence
- TransDigm generates a sizable portion of their Net Sales Revenues from its exposure to after-market products, accounting for over **55% of Annual Revenues**
- These after-market sales yield a significantly higher EBITDA, accounting for over **75% of the company reported 2018 EBITDA**
- The company makes most of these after-market sales on small <\$2 million parts, which represent over 90% of the company's total after market

- American Airlines
- Delta Airlines
- United Continental
- Emirates Airlines
- Air France/KLM
- China Southern Airlines
- Southwest Airlines
- British Airways/Iberia
- Air China
- China Eastern Airlines
- Lufthansa
- Ryanair
- Qatar Airways
- Turkish Airlines
- Qantas
- LATAM Air
- Cathay Pacific
- Air Canada
- Singapore Airlines
- Etihad

**+50%
Worldwide
RPM's**

Total 2017 Commercial Aftermarket Worldwide Revenue by Annual Sales



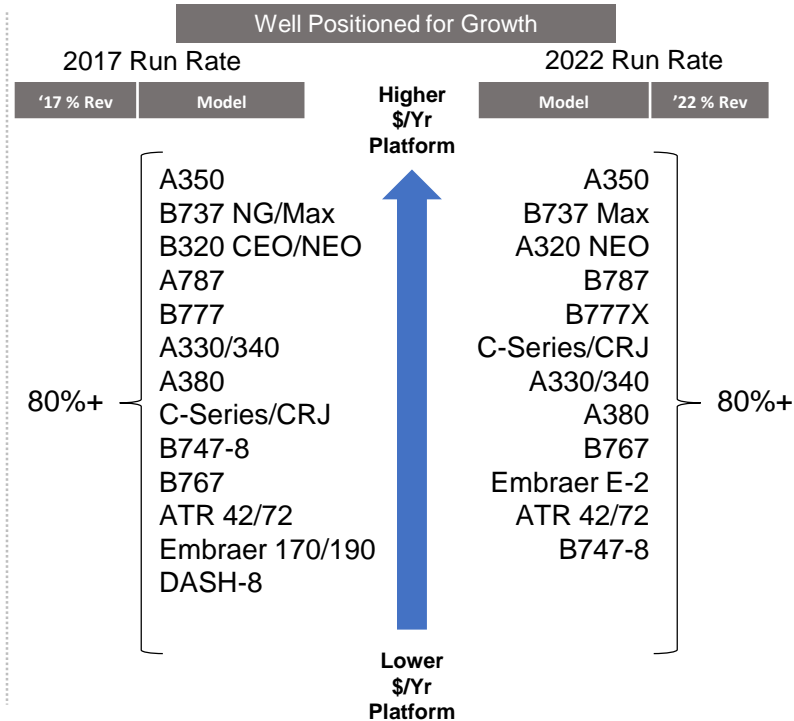
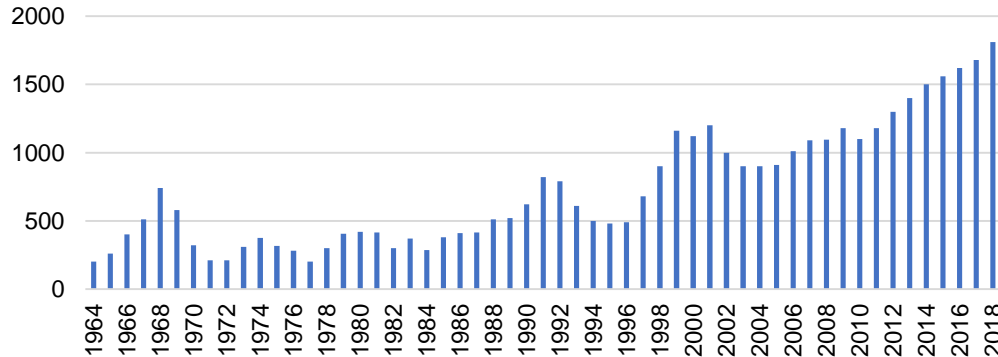
Industry Overview



Increasing Demand of OEM in Commercial Transport

- When looking at OEM deliveries to commercial transport companies, we can see a strong 15+ year growth, showing an increasing demand for OEM parts
- This overall has provided manufacturers like TransDigm positive industrial tailwinds, as the increasing complexity increases the likelihood of part failure
- Also, looking forward in 2022, new Boeing and Airbus Aircrafts provide the OEM design and manufacturing industry a predictable and high growth rate

Commercial Transport - Total Deliveries (1964-2018)



Industry Overview

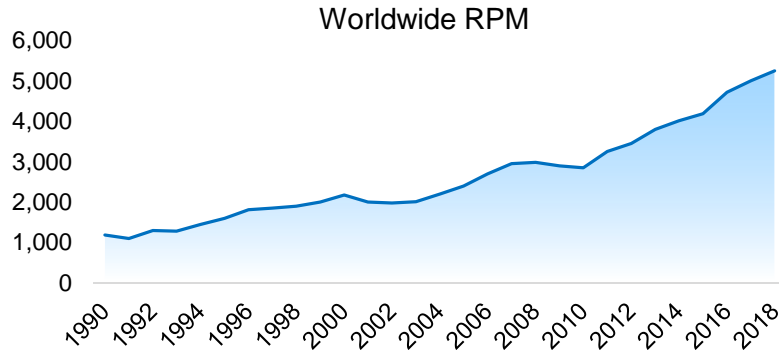


Positive Airline Industry Tailwinds

- There are several positive tailwinds providing the overall aviation industry higher than originally expected growth over the past few years, which has provided stronger overall demand for newer and more modern aircrafts, thus increasing demand for OEM manufacturing
- Two key indicators and drivers of the airline industry are Revenue Passenger Mile (RPM) and overall airline traffic growth
- Both indicators have been positive over recent years, and analysts expect these tailwinds to hold steady looking forwards

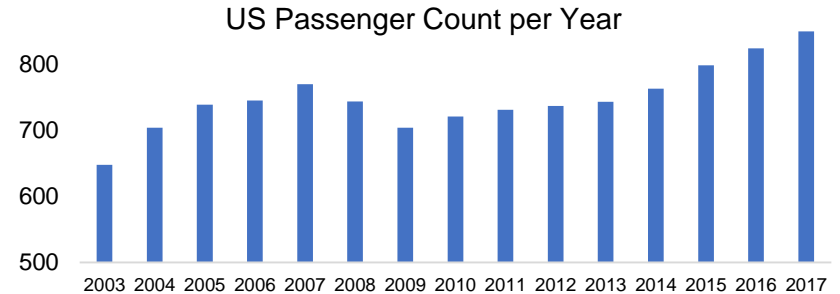
Worldwide RPM Growth

- A revenue passenger mile (RPM) is a transportation industry metric that shows the number of miles traveled by paying passengers
- Over the Past ~30 Years, CAGR of **5.5%**



Steady Traffic Growth

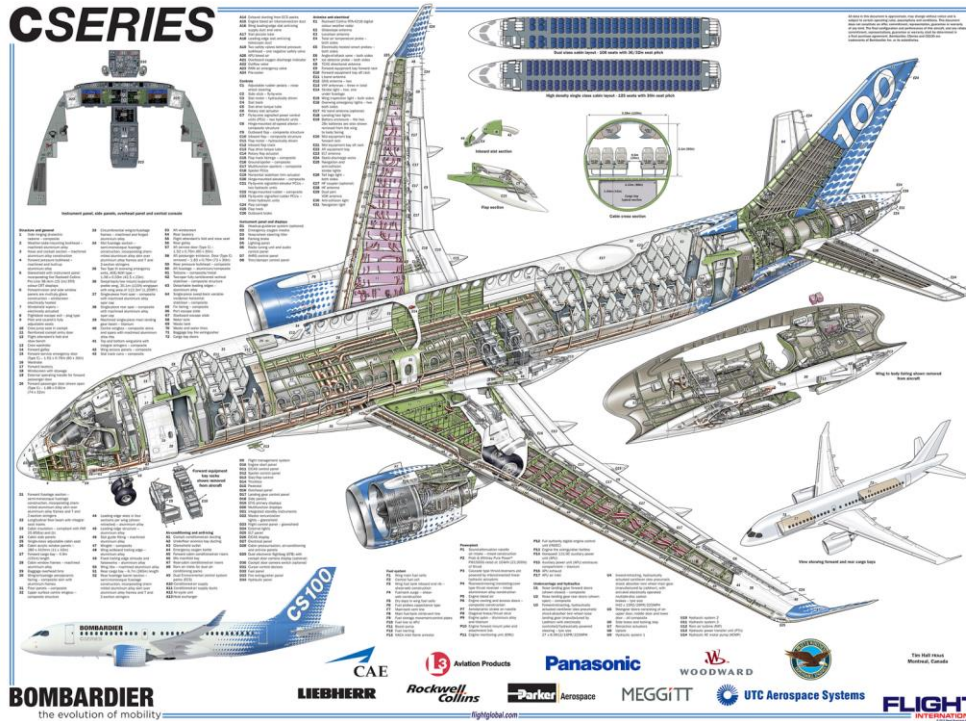
- When looking at the airline industry, it makes sense to look at the total Airline Traffic / Trips annually
- In the US alone there has been strong growth over the past 5 years, and passenger traffic has maintained steady over the past 10-15 years



OEM sales: a \$1.7b “razor blade & handle” business

Almost all proprietary components designed & manufactured by one of TransDigm’s businesses

C SERIES



OEM: 1.2 – 3.0 million unique components

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GROUP INC.

~2% of total (1-2 million) parts in aircraft

OEM



Parts assembled by all major A&D contractors



End-markets

OEM sales: a \$1.7b “razor blade & handle” business



TransDigm as sole-source manufacturer in many unique parts

Business Group Profile



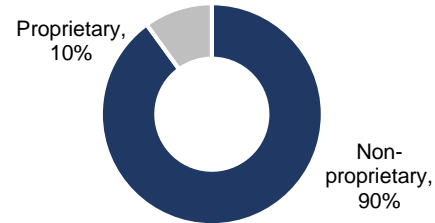
Aerosonic LLC located in Clearwater, Florida is dedicated to the design and manufacture of highly engineered air data sensors for military and commercial aerospace applications. Aerosonic has tremendous experience with air data products and has been producing them for over 85 years.

Business Group Profile



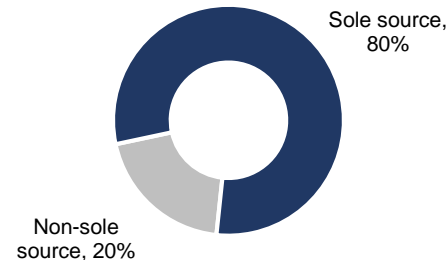
MarathonNorco Aerospace Inc. has successfully served commercial and military aviation markets with reliable, cost-effective electrical power and mechanical structure products for more than 70 years. MarathonNorco Aerospace designs and manufactures Nickel-cadmium batteries and chargers, engine nacelle hold-open rods and a range of mechanical couplings and connectors.

Sole Source procurement



Items are unique and can be filled *only* by one of TransDigm's groups

Proprietary Purchase



TransDigm has the exclusive rights to manufacture and sell these parts

Aftermarket sales: expanding margins

Ever play with a LEGO set?



What should I do if I lost several pieces of a LEGO set?

[Answer](#) [Follow · 6](#) [Request](#)



Except all aircraft parts experience wear and tear, and are

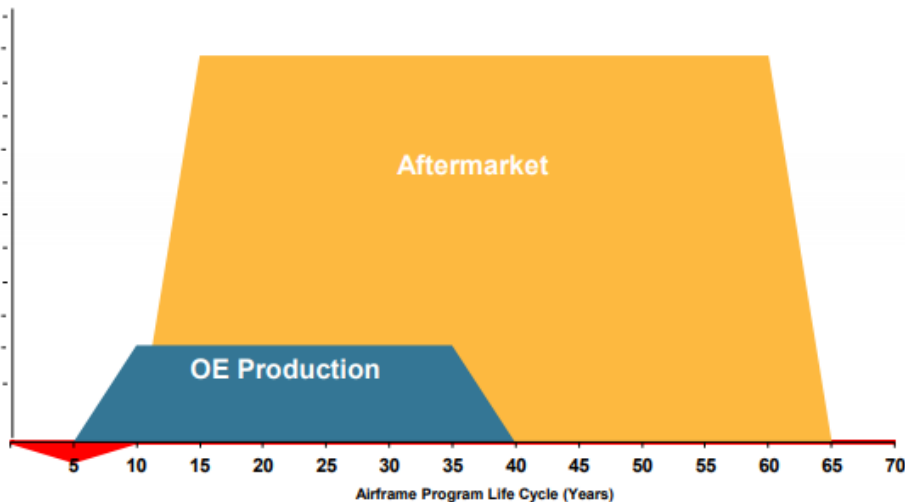
- Infrequently manufactured
- Usually out of stock
- Volume is low
- Mission critical
- Pre parts cost is also low

Aftermarket sales: \$2.1b of low volume, high margin spare parts

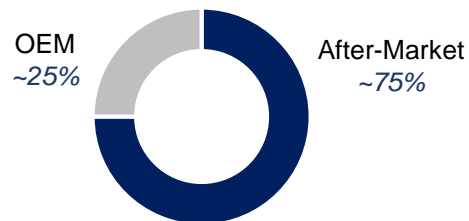
Powerful aftermarket pricing power makes up for low volume

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Profitability %



2018 EBITDA-as-defined Margins



AmSafe Passenger Restraints



Large OEM volumes: Seatbelt airbag system is standard equipment on over 85 percent of the world's gen. aviation aircraft



Aftermarket seat belt volumes are less than 1% of OEM volumes. But priced 5-6x of original.

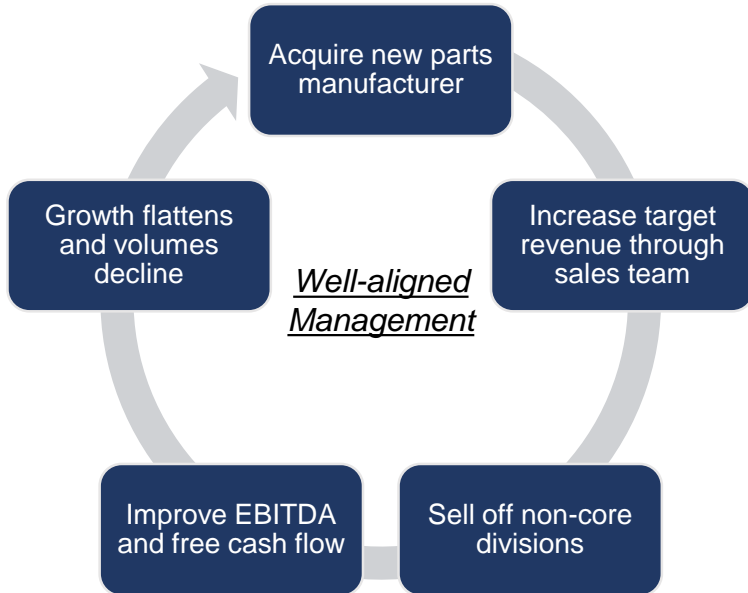
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GROUP INC.

Thesis: Incredible business with regulatory moats

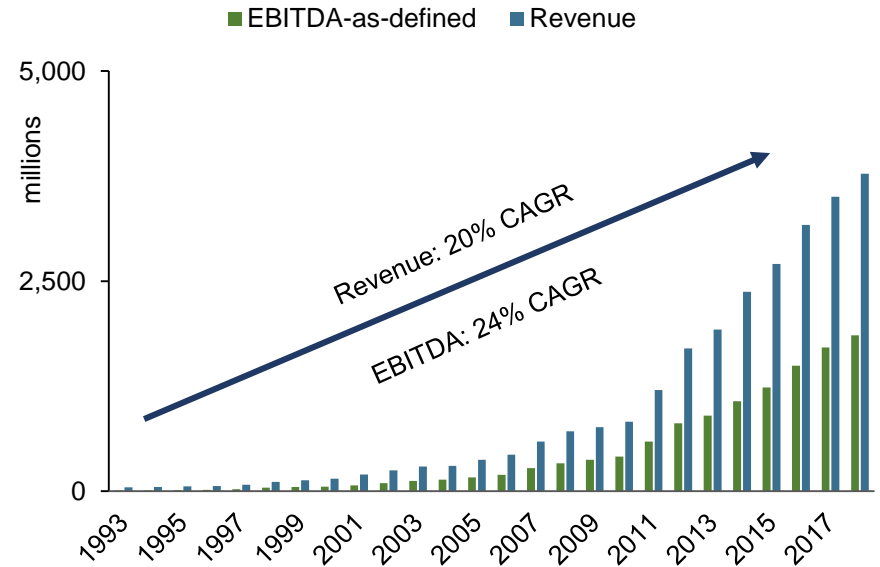
TransDigm is stuck in a growth loop. There are worse things to be stuck in.



The TransDigm Growth Loop



Rollup Strategy: Discipline and Scale

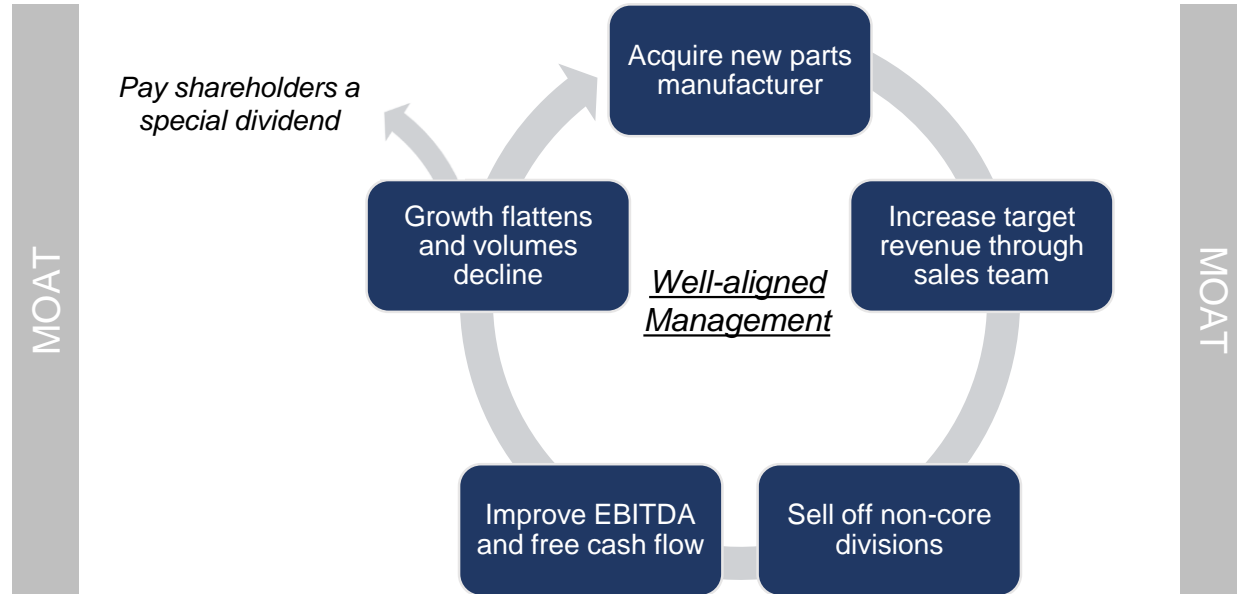


Thesis: Incredible business with regulatory moats



But you shouldn't buy this, not at this price

The TransDigm Growth Loop



TransDigm protected by huge regulatory moat



Getting parts FAA-certified is costly



Advisory Circular

AC 21-12C – Application for US Airworthiness. 2. To submit an application for a special airworthiness certificate in the restricted category, you should mark the “Special Airworthiness Certificate” box, the “Restricted” box, and the applicable operation(s). If an applicable operation is not listed, you should mark the “Other” box and provide a description of the operation in the blank space. 3 The following references may be useful when making an application of special airworthiness in the restricted category. (aa) Refer to 14 CFR § 21.185(a) for restricted category aircraft manufactured under a PC or TC only. (bb) Refer to 14 CFR § 21.185(b) for other aircraft (surplus U.S. military aircraft or an aircraft previously type certificated in another category). (cc) Refer to 14 CFR § 21.185(c) for import aircraft type certificated and produced under the authority of another country with which the United States has a bilateral agreement. (dd) Refer to FAA Order 8130.2 for procedures about restricted airworthiness certification. (f) Experimental Category. Special airworthiness certification in the experimental category is given for aircraft with purposes defined in 14 CFR § 21.191, Experimental certificates. To submit an application for a special airworthiness certificate in the experimental category, you should mark the “Special Airworthiness Certificate” box, the “Experimental” box, and the applicable operation(s) to be conducted. Unmanned aircraft can be issued certificates for the purposes of research and development, crew training, or market survey. When making an application for an unmanned aircraft, in addition to marking the “Special Airworthiness” and “Experimental” boxes, you should mark the “Unmanned Aircraft” box. You should then mark one or more of the three listed operations boxes. The following references may be useful when making an application of special airworthiness in the experimental category. 1 Refer to 14 CFR § 21.191(a) for operations in research and development. 2 Refer to 14 CFR § 21.191(b) for operations to show compliance with regulations. 3 Refer to 14 CFR § 21.191(c) for operations related to crew training. 4 Refer to 14 CFR § 21.191(e) for operations related to exhibition. 5 Refer to 14 CFR § 21.191(e) for operations related to air racing. 6 Refer to 14 CFR § 21.191(f) for operations related to market surveys. 7 Refer to 14 CFR § 21.191(g) for operations related to amateur-built aircraft. 9/7/2012 AC 21–12C 11 8 Refer to 14 CFR § 21.191(h) for operations related to kit-built aircraft (primary category aircraft assembled without the supervision and quality control of a PC holder). 9 Refer to 14 CFR § 21.191(i) for operations related to experimental LSAs. 10 Refer to FAA Order 8130.34, Airworthiness Certification of Unmanned Aircraft Systems and Optionally Piloted Aircraft. (g) Special Flight Permit. Special flight permits are given for aircraft that may not currently meet applicable airworthiness requirements but are capable of safe flight. For a special flight permit, you should mark the “Special Airworthiness Certificate” box, the “Special Flight Permit” box, and the applicable operation to be conducted. Unmanned aircraft may be issued special flight permits for production flight testing. The following regulations may be useful reference when applying for a special flight permit. 1 Refer to 14 CFR § 21.197(a)(1) if you are flying an aircraft to a base where repairs, alterations, or maintenance are to be performed, or to a point of storage. 2 Refer to 14 CFR § 21.197(a)(2) for aircraft delivery or exports. 3 Refer to 14 CFR § 21.197(a)(3) for production flight testing of new aircraft. 4 Refer to 14 CFR § 21.197(a)(4) for evacuating aircraft from areas of impending danger. 5 Refer to 14 CFR § 21.197(a)(5) for customer demonstration flights in new aircraft that have completed production testing. 6 Refer to 14 CFR § 21.197(b) for operations of an aircraft weighing more than the maximum certificated takeoff weight. (3) Item C, Multiple Airworthiness Certificate. Certificates can be issued to an applicant in the restricted category and one or more other categories except the primary category (refer to 14 CFR § 21.187, Issue of multiple airworthiness certificates, for additional information and requirements). For application of multiple airworthiness certificates, you should mark the “Multiple Airworthiness Certificate” box. Based upon your application, you should mark, when applicable, the “Standard Airworthiness” box with the appropriate categories and/or the “Special Airworthiness” box with the appropriate categories. On the application, you should mark only the aircraft airworthiness certificates you are requesting to hold. c. Section III, Owner’s Certification. 14 CFR part 47, Aircraft Registration, details the requirements to register aircraft. (1) Item A, Registered Owner. (a) Name. You should use the name as exactly shown on the aircraft registration certificate. 9/7/2012 AC 21–12C 12 (b) Address. You should use the address as exactly shown on the aircraft registration certificate. (c) If Dealer, Check Here. This block should be marked if the aircraft is registered under a dealer’s aircraft registration certificate. (2) Item B, Aircraft Certification Basis. In this section, you will be asked about the aircraft specifications, airworthiness directives (AD), aircraft listing (if applicable), and supplemental TCs (STC). If your application is for multiple airworthiness certificates, the certification basis for each requested certificate should be entered. You should mark all boxes that apply to your application and complete the requested data in each block as it applies: (a) Aircraft Specification or Type Certificate Data Sheet. When you mark this box and complete the block, you are indicating the aircraft has a TC or aircraft specification, or complies with a consensus standard. 1 For aircraft with TCs, you should enter the TC number (for example, “AB123”). When revisions exist, you should use the TC number plus “Rev” and the revision number (for example, “AB123 Rev 1”). The revision number is the version found on page 1 of the aircraft’s TCDS. 2 For a new aircraft or model where the TCDS or specification has been approved but not yet published, you should enter the date of approval in month/day/year format, the TC number, and the word “Preliminary” (for example, “01/02/2010 AB123 Preliminary”). 3 A special airworthiness certificate in the light-sport category or the experimental category operating light-sport requires a statement of compliance to a design consensus standard. You should mark the box and enter the applicable consensus standard for design and performance. You will find this information on the aircraft’s FAA Form 8130-15. An example of an American Society for Testing and Materials design and performance standard for LSAs is “F2245-04”, where “F2245” refers to the consensus standard and “-04” represents the current accepted version. 4 For a special airworthiness certificate in the experimental category (except experimental operating light-sport), you should leave the box unmarked and enter “N/A” in the block. 5 You should enter “N/A” in the block if you are an LSA manufacturer who has produced a first article aircraft for research and development flight testing. Before the box can be marked and the consensus standard entered in the block, the manufacturer must demonstrate compliance to the respective design and performance consensus standard. Usually when an LSA manufacturer is performing research and development, it is to demonstrate compliance to the standard. First article aircraft should not have an FAA Form 8130-15. Once flight tests show compliance to the design and performance consensus standards as well as all other applicable consensus standards, the manufacturer can create an FAA Form 8130-15 for the aircraft. When an LSA has an FAA Form 8130-15, the box should be marked and the design and performance standard entered in the block.

Owner-operator management team



Extremely well-aligned incentives

Capital Allocation



Nick Howley
Executive Chairman
Ownership: \$500mm

Operations



Kevin Stein
President and CEO
Ownership: \$100mm

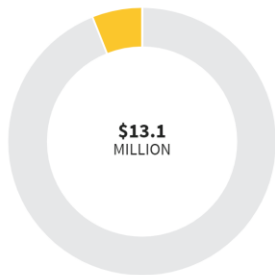
Director and executive officer ownership: \$2bn (c.10% of outstanding shares)

Owner-operator management team (cont.)



Extremely well-aligned incentives

Executive Chairman
TRANSDIGM GROUP INC

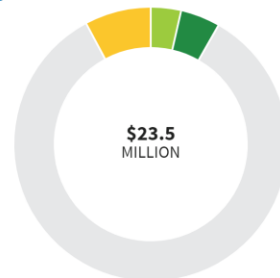


Fiscal Year Ended in 2018

View local and national averages for salaries



President and Chief Executive Officer
TRANSDIGM GROUP INC

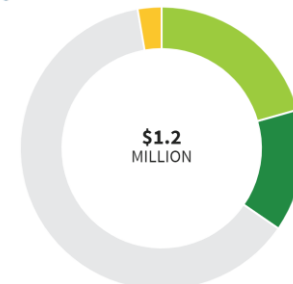


Fiscal Year Ended in 2018

View local and national averages for salaries

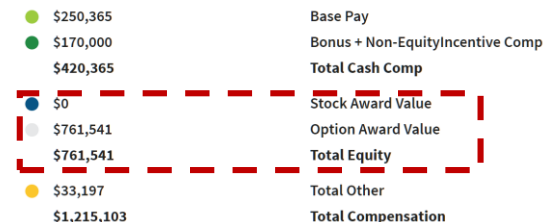


Chief Financial Officer
TRANSDIGM GROUP INC



Fiscal Year Ended in 2018

View local and national averages for salaries



Most of the management are paid by stock-based compensation, aligning incentives

Step 1: Acquiring new businesses

Step 2: Increasing revenue through sales, channel relationships and value-based pricing

Step 3: Improved business operations and cost structure through robust integration

Step 4: Generating amazing shareholder return and cash flows

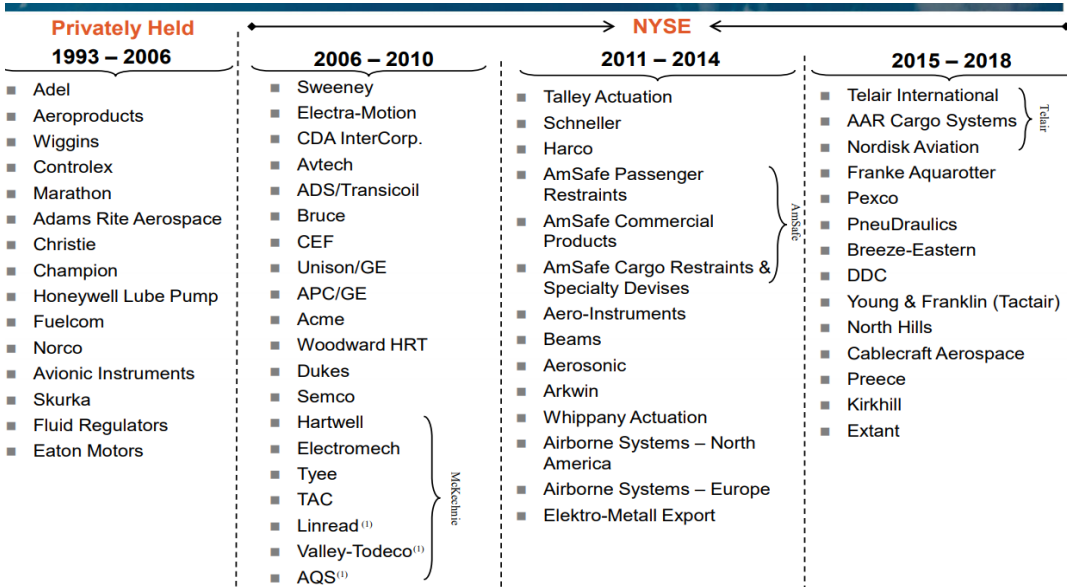
Step 5: Do it again

Ongoing Transformative Acquisitions: ESL

Valuation and Risks

Step 1: Acquiring new businesses

Highly focused acquisition strategies on companies with high aftermarket exposure and proprietary parts



They are looking for

- **Aerospace Products**
- **Proprietary engineered products**
- **Sole source producer**
- **Significant aftermarket content**

They are NOT looking for

- **Diversification**
- **Market Share**
- **Capacity**
- **Synergies**

Mainly focused on PE, family-owned or strategic-owned private companies

Step 1: Acquiring new businesses

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Ongoing Transformative Acquisitions: ESL

Valuation and Risks

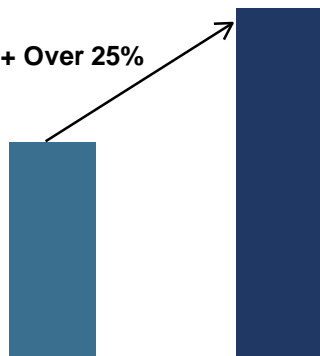
Step 2: Increasing revenue (1) - increasing OEM content



\$ / Shipset Growth Over Prior Platforms – “Same Store Basis”

Boeing 787

+ Over 25%



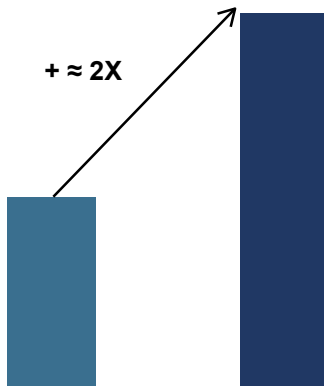
Prior Platforms

B787

- Composite Components
- Audio System/Software
- Interior Thermo Plastics
- Nacelle & Other Latches
- Numerous Others

A350

+ ≈ 2X



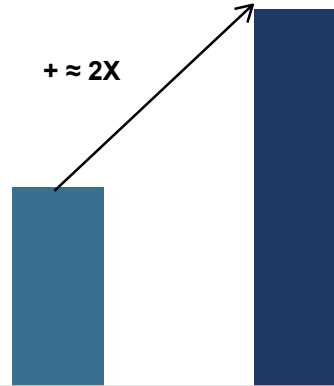
Prior Platforms

A350

- Onboard Cargo System
- Cockpit Security System
- Cabin/APU Electrical System
- Decorative Laminates
- Numerous Others

C-Series (A220)

+ ≈ 2X



Prior Platforms

C-Series

- Air System Valving
- Nacelle & Other Latches
- Composite Components
- Decorative Laminates
- Numerous Others

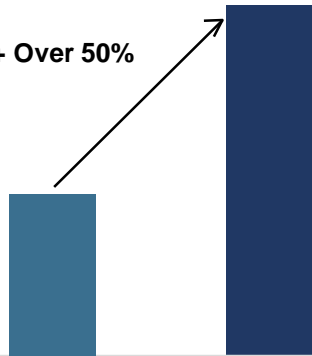
Step 2: Increasing revenue (1) - increasing OEM content



\$ / Shipset Growth Over Prior Platforms – “Same Store Basis”

JSF

+ Over 50%



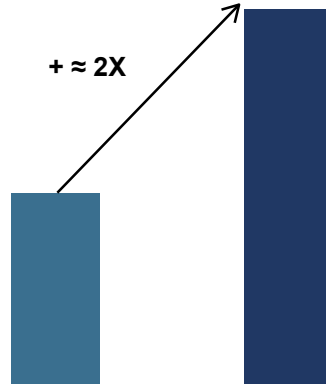
Prior Platforms

JSF

- Hydraulic Actuators/Valves
- Engine Clamps
- Data Management Processing Boards/Software
- Electric Motors and Elastomers
- Numerous Others

A400M

+ ≈ 2X



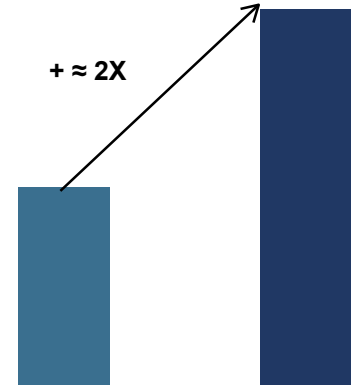
Prior Platforms

A400M

- Cargo Loading System
- Composite Components
- Winch/Retrieval System
- Main Barrier Nets
- Numerous Others

KC46 Tanker

+ ≈ 2X



Prior Platforms

KC46 Tanker

- Refueling Connectors
- Main Deck Barrier Nets
- Nacelle & Other Latches
- Ram Air Actuator
- Numerous Others

Step 2: Increasing revenue (1) - increasing OEM content



Aligned interests with OEM manufacturers to boost its content on the new programs



Integrated one-stop sole-source supplier

Integrated supply chain to reduce risks

Highly engineered products with great **quality**

Highly **quality** products to ensure safety

Fair price with **long-term** commitment

Reliable supplies with reasonable price



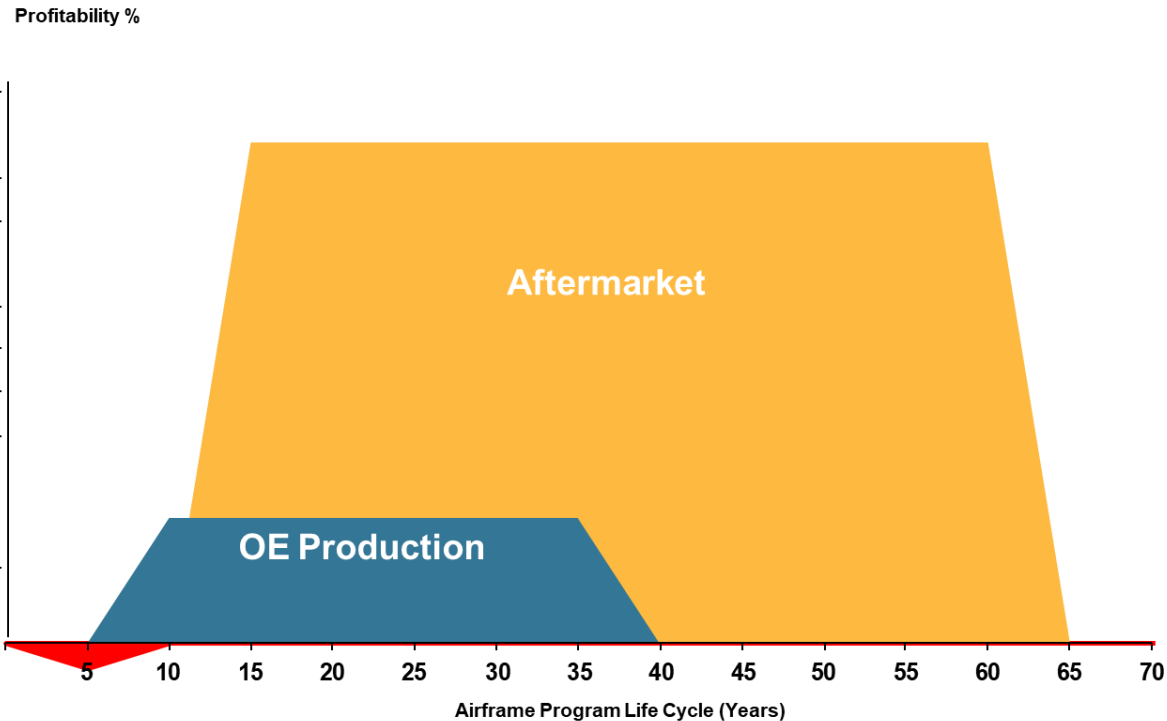
TransDigm Signs PFS Master Deal With Boeing

Michael Bruno | *Aerospace Daily & Defense Report*

Aug 8, 2018

Step 2: Increasing revenue (2) – capturing long-tail in aftermarket

Strong aftermarket position to capture more economics from its customers



Step 2: Increasing revenue (2) – capturing long-tail in aftermarket

Strong aftermarket position to capture more economics from its customers

“The single most important decision in evaluating a business is pricing power”

“If you’ve got the power to raise prices without losing business to a competitor, you’ve got a very good business”.

Company	Part	Pre-Acquisition Price	Post-Acquisition Price	% Price Raise
Aerosonic	Vibration Panel	67.33	271.00	302.50%
Arkwin	Pawl	972.00	1,950.00	100.62%
Harco	Cable Assembly	1,837.03	7,863.60	328.06%
Skurka	Connector	310.00	1,109.85	258.02%
Whippany	Motor Rotor	654.46	5,474.00	736.41%



Pricing increase on selected products

Sole suppliers in many segments



Step 1: Acquiring new businesses

Step 2: Increasing revenue through sales, channel relationships and value-based pricing

Step 3: Improved business operations and cost structure through robust integration

Step 4: Generating amazing shareholder return and cash flows

Step 5: Do it again

Ongoing Transformative Acquisitions: ESL

Valuation and Risks



Step 3: Robust integration

Unique and disciplined integration strategies to ensure successful outcome

Action Items	T+ (Days)	
Present TransDigm, Our Culture and Value Generation Strategy	0 - 15	Business Units
Control Working Capital and Establish Financial Plan	0 - 90	
Evaluate Key Staff Personnel Competency	0 - 30	Clear Metrics
Review OE/AM Contracts and Effect Actions	15 - 45	
Implement Productivity Plan and Production Improvement	0 - 90	
Organize Company into Business Units	30 - 180	Good Incentives
Review New Business Projects – Weed & Focus	30 - 60	
Various HR, Legal & Accounting Reviews/Activities	0 - 120	

Step 3: Robust integration

Unique and disciplined integration strategies to ensure successful outcome

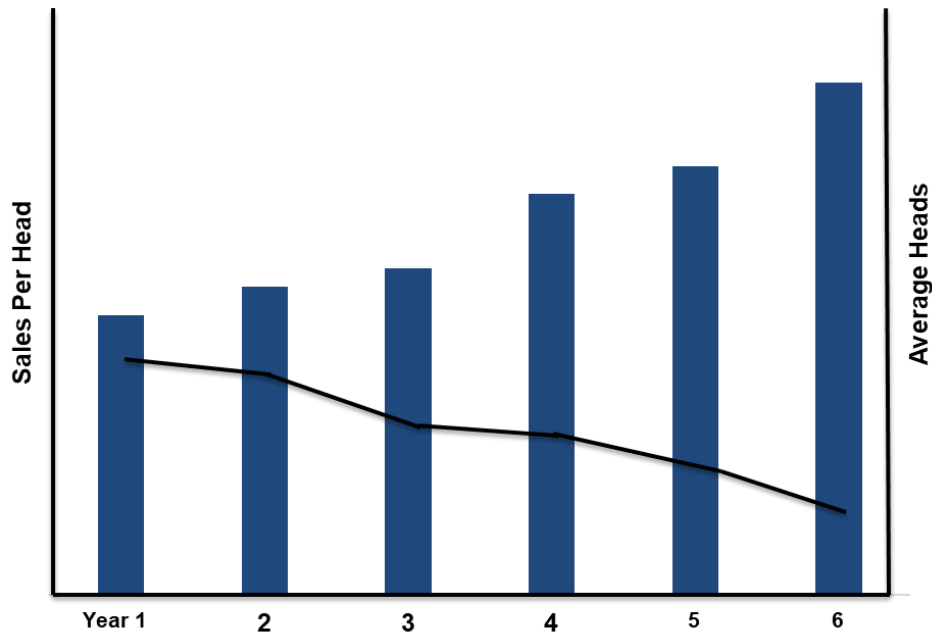


Illustration Purpose

Projects	YTD Plan	YTD Enacted	Plan	FY Forecast
Vendor LTAs/ Resourcing	525	764	700	764
Commodity Hedge	75	44	100	75
Various Purchasing Initiatives	338	444	450	550
Purchasing Savings	938	1252	1,250	1,389
Outsourcing Domestic	47	0	62	62
Offshore Mfg (in-house)	200	200	200	200
Offshore Intercompany	-	0	-	-
Offshore 3rd Party	19	48	25	48
Outsourcing / Offshore Savings	265	248	287	310
RIF/ Plant Consolidation	1,800	1800	1,800	1,800
Compensation Reduction	-	0	-	-
Mfg Projects(Automation)	75	23	100	100
Other Labor Projects	38	50	50	75
Labor Savings	1,913	1873	1,950	1,975
Scrap Reduction	38	0	50	50
Assembly Projects	75	30	100	100
Eng/ Quality Projects	75	187	100	225
Warranty/ Rework/ Repairs	-	0	-	-
Rent/ Utility / Engery Savings	19	0	25	15
Mainten, tooling expensereduction	8	0	10	10
VIP Ideas	113	203	150	200
Other Spending Reduction	470	18	627	500
Other Spending Reduction	797	438	1,062	1,100
Total Productivity Savings	3,912	3,811	4,549	4,774
Productivity as a % of Total Cost	3.3%	3.2%	3.8%	4.0%

Step 1: Acquiring new businesses

Step 2: Increasing revenue through sales, channel relationships and value-based pricing

Step 3: Improved business operations and cost structure through robust integration

Step 4: Generating amazing shareholder return and cash flows

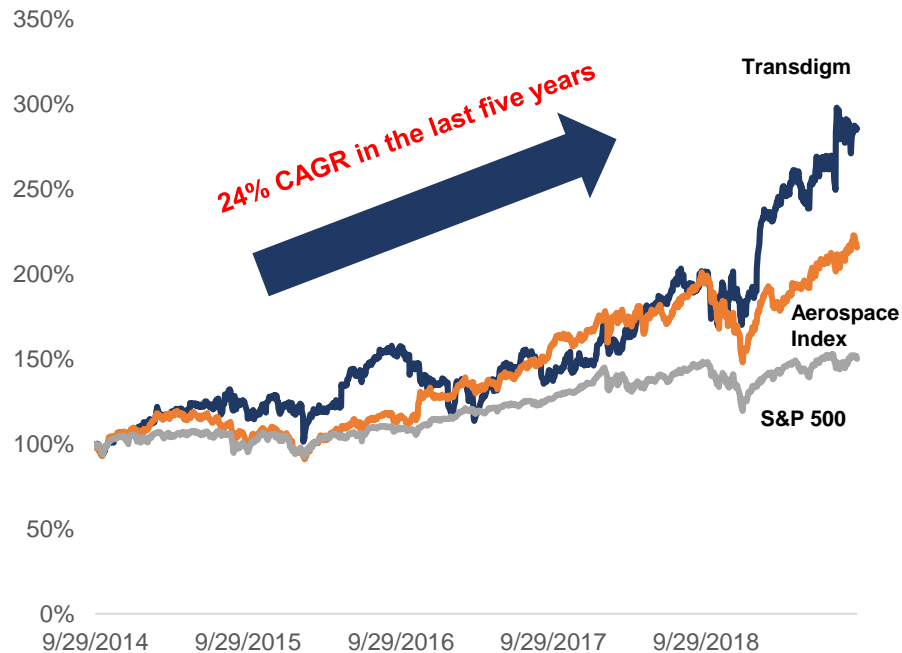
Step 5: Do it again

Ongoing Transformative Acquisitions: ESL

Valuation and Risks

Step 4: Shareholder return

Consistent return to its shareholder in 20 years



Step 1: Acquiring new businesses

Step 2: Increasing revenue through sales, channel relationships and value-based pricing

Step 3: Improved business operations and cost structure through robust integration

Step 4: Generating amazing shareholder return and cash flows

Step 5: Do it again

Ongoing Transformative Acquisitions: ESL

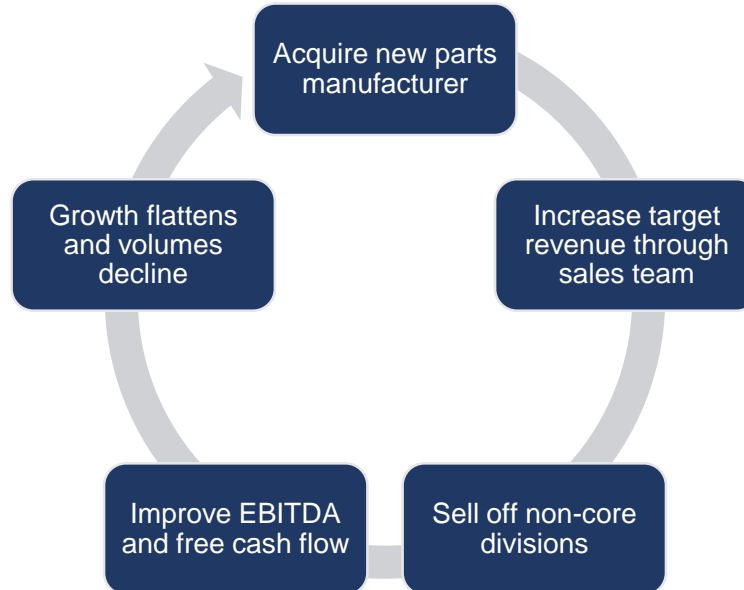
Valuation and Risks

Step 5: Do it again

Growth Loop



The TransDigm Growth Loop



Step 1: Acquiring new businesses

Step 2: Increasing revenue through sales, channel relationships and value-based pricing

Step 3: Improved business operations and cost structure through robust integration

Step 4: Generating amazing shareholder return and cash flows

Step 5: Do it again









Ongoing Transformative Acquisitions: ESL

Valuation and Risks

Ongoing Transformative Acquisitions: ESL

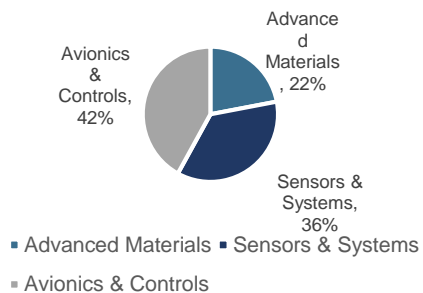


Mismanaged and underappreciated aftermarket players in aerospace industry

Segment	Business Overview	Key Products
Avionics & Controls	<ul style="list-style-type: none"> Manufactures avionics systems, control and communication systems, and interface technologies Products have been integrated into many existing aircraft designs, including every Boeing and Airbus commercial aircraft platform currently in production Products meet critical operational requirements and provide customers with significant technological advantages 	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 5px; text-align: center;"> Avionics Systems  </div> <div style="border: 1px solid black; padding: 5px; text-align: center;"> Control & Communication Systems  </div> <div style="border: 1px solid black; padding: 5px; text-align: center;"> Interface Technologies  </div> </div>
Sensors & Systems	<ul style="list-style-type: none"> Develops and manufactures high-precision temperature, pressure and speed sensors, as well as electrical and fiber optic interconnect systems, electrical power switching, control and data communication devices, and other related systems Comprised of advanced sensors capabilities, connection technologies, and power systems for end markets including commercial and military aircraft, nuclear power, and the rail sector as well as other adjacent markets Principal customers include airlines, airframers, prime aerospace suppliers, jet engine manufacturers, and industrial manufactures 	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 5px; text-align: center;"> Advanced Sensors  </div> <div style="border: 1px solid black; padding: 5px; text-align: center;"> Connection Technologies  </div> <div style="border: 1px solid black; padding: 5px; text-align: center;"> Power Systems  </div> </div>
Advanced Materials	<ul style="list-style-type: none"> Defense technologies for military air and ground end customers and engineered materials for commercial aerospace and nuclear power For military end markets, sole source provider of combustibles and chaff, and a leading producer of countermeasures to the U.S. Government For commercial aerospace, nuclear, and industrial end markets, offering includes high-performance elastomer products, vibration-tolerant clamps, wire management solutions, thermal insulation, and metal fabrication 	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 5px; text-align: center;"> Engineered Materials  </div> <div style="border: 1px solid black; padding: 5px; text-align: center;"> Defense Technologies  </div> </div>

Summary

- Esterline Technologies designs, manufactures and markets highly engineered products and systems to aerospace customers
- Headquarters: Bellevue, WA
- FY2018 Revenue: c. \$2,000mm
- FY2018 EBITDA: c. \$300mm
- Employees: 12,500+



Ongoing Transformative Acquisitions: ESL



Mismanaged and underappreciated aftermarket players in aerospace industry

Aftermarket from ESL Reporting

Spare parts alone made up **approximately 12% of total sales in fiscal 2018**. Retrofit and repair services, which represent 3% of total sales in fiscal 2018, carry higher margins than OEM sales but lower margins than spare parts sales

- 2018 Esterline 10-K

Transdigm's ESL aftermarket exposure

Around 30%

Kirkhill – Pilot Project for ESL Acquisitions

Lab project for a larger and more transformative M&A



Transdigm Turnaround

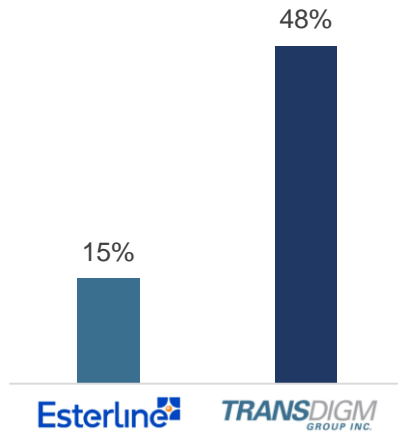
Kirkhill provides a series of mission-critical seals for the Joint Strike Fighter program, and prior to TransDigm ownership, the Kirkhill contribution to the F-35 program was failing our OEM and DoD partners, and Kirkhill as a whole was losing significant money. Today, we have turned the company around, now making a solid profit. We have increased the F-35 **output by almost 400% and have decreased our overdues by greater than 75% for this critical program**, all within a short period of time

Provide confidence for the management to acquire Esterline

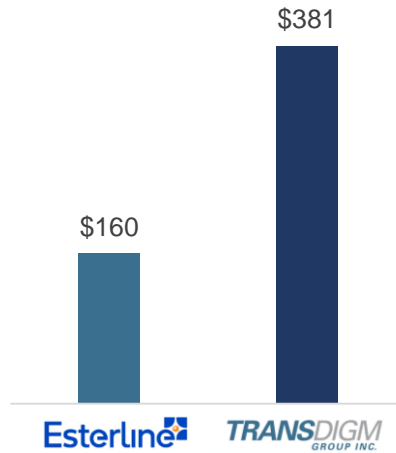
High Growth Potential



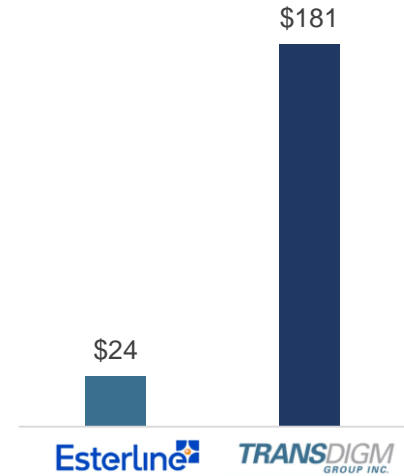
EBITDA Margin



Revenue/Employee



EBITDA/Employee



Valuations



INCOME STATEMENT

Fiscal year	2016A	2017A	2018A	2019P	2020P	2021P	2022P	2023P	2024P
<i>Fiscal year end date</i>	<i>9/30/16</i>	<i>9/30/17</i>	<i>9/30/18</i>	<i>9/30/19</i>	<i>9/30/20</i>	<i>9/30/21</i>	<i>9/30/22</i>	<i>9/30/23</i>	<i>9/30/24</i>
Net Sale	3,171.4	3,504.3	3,811.1	5,525.0	6,957.6	7,305.5	7,670.8	7,977.6	8,296.7
Cost of sales (enter as -)	(1,443.3)	(1,519.7)	(1,633.6)	(2,707.3)	(3,374.4)	(3,506.6)	(3,643.6)	(3,749.5)	(3,858.0)
Gross Profit	1,728.1	1,984.6	2,177.5	2,817.8	3,583.2	3,798.8	4,027.1	4,228.1	4,438.7
Selling, general & administrative (enter as -)	(382.9)	(415.6)	(450.1)	(828.8)	(1,043.6)	(1,022.8)	(997.2)	(957.3)	(995.6)
Amortization of intangible assets	(77.4)	(89.2)	(72.5)	(121.6)	(153.1)	(160.7)	(168.8)	(175.5)	(182.5)
Loss from operation (EBIT)	1,267.8	1,479.8	1,654.9	1,867.5	2,386.5	2,615.4	2,861.2	3,095.3	3,260.6
Interest income	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1
Interest expense (enter as -)	(483.9)	(602.6)	(663.0)	(878.6)	(878.6)	(878.6)	(878.6)	(878.6)	(878.6)
Refinancing costs	(15.8)	(39.8)	(6.4)	(20.7)	(22.3)	(16.5)	(19.8)	(19.5)	(18.6)
Pretax profit	768.1	837.4	985.6	968.2	1,485.6	1,720.4	1,962.9	2,197.3	2,363.5
Taxes (enter expense as -)	(181.7)	(208.9)	(24.0)	(222.7)	(356.6)	(412.9)	(471.1)	(527.3)	(567.2)
Net loss attributable to noncontrolling interests	0.0	(31.7)	(4.5)	0.0	0.0	0.0	0.0	0.0	0.0
Net income	586.4	596.9	957.1	745.5	1,129.1	1,307.5	1,491.8	1,669.9	1,796.2
Non controlling interests	(3.0)	0.0	(25.0)	(25.0)	0.0	0.0	0.0	0.0	0.0
	583.4	596.9	932.1	720.5	1,129.1	1,307.5	1,491.8	1,669.9	1,796.2
Basic shares outstanding	56	56	56	56	56	56	56	56	56
Impact of dilutive securities	0	0	0	0	0	0	0	0	0
Diluted shares outstanding	56	56	56	56	56	56	56	56	56
Basic EPS	\$10.43	\$10.75	\$17.21	\$13.24	\$20.05	\$23.22	\$26.50	\$29.66	\$31.90
EBITDA									
EBIT	1,267.8	1,479.8	1,654.9	1,867.5	2,386.5	2,615.4	2,861.2	3,095.3	3,260.6
D&A	0	51	56	62	193	202	210	219	228
EBITDA	1,267.8	1,530.8	1,711.3	1,929.6	2,579.8	2,817.3	3,071.7	3,314.5	3,488.3
	39.97%	43.68%	44.90%	34.92%	37.08%	38.56%	40.04%	41.55%	42.04%

Valuations



Discounted Cash Flow Model for Transdigm Corporation

General assumptions

Share price as of last close	\$530.66
Latest closing share price date	9/26/2019
Latest basic share count	56.300
Weighted average cost of capital	6.6%

Free cash flow buildup

Fiscal year	2016A	2017A	2018A	2019P	2020P	2021P	2022P	2023P	2024P
Fiscal year end date	9/30/16	9/30/17	9/30/18	9/30/19	9/30/20	9/30/21	9/30/22	9/30/23	9/30/24
EBITDA	1,268	1,531	1,711	1,930	2,580	2,817	3,072	3,314	3,488
EBIT	1,268	1,480	1,655	1,867	2,386	2,615	2,861	3,095	3,261
tax rate	23.7%	24.9%	2.4%	23.0%	24.0%	24.0%	24.0%	24.0%	24.0%
EBIAT (NOPAT)	968	1,111	1,615	1,438	1,814	1,988	2,175	2,352	2,478
Depreciation and amortization				0	51	56	62	193	202
Stock based compensation				0	136	133	130	124	129
Accounts receivable				0	(264)	(64)	(68)	(57)	(59)
Inventory				0	(307)	(69)	(71)	(55)	(56)
Accounts payable				0	82	16	17	13	13
Accrued expenses & def revenues				0	192	59	62	52	54
Other current assets (inc. non-trade receivables)				0	1	1	1	1	1
Other assets				0	0	0	0	0	0
Other non current liabilities				0	0	0	0	0	0
Unlevered CFO				1,438	1,705	2,121	2,308	2,625	2,763
Less: Capital expenditures				0	(174)	(183)	(192)	(199)	(207)
Less: Purchases of intangible assets				0	0	0	0	0	0
Unlevered FCF				1,438	1,531	1,938	2,116	2,426	2,556
% growth				6.48%	26.58%	9.18%	14.62%	5.36%	
Discount factor				1%	101%	201%	301%	401%	501%
Present value of Unlevered FCF				1,437	1,435	1,703	1,744	1,874	1,852

Exit EBITDA multiple approach

Terminal year EBITDA	3,488
Terminal value EBITDA multiple	15.5x
Terminal value	54,069
Present value of terminal value	39,174
Present value of stage 1 cash flows	8,607
Enterprise value	47,781
Implied TV perpetual growth rate	2.1%

Perpetuity approach

Unlevered FCF in last forecast period (t)	2,556
FCF ^{t+1}	2,607
Long term growth rate (g)	2.0%
Terminal value	56,155
Present value of terminal value	40,686
Present value of stage 1 cash flows	8,607
Enterprise value	49,293
Implied TV exit EBITDA multiple	16.1x

Fair value per share

	Perpetuity	EBITDA
Enterprise value	49,293	47,781
Less: Net debt	(15,154)	(15,154)
Less: Trapped cash	0	0
Equity value	34,139	32,627
Diluted shares	55.600	55.600
Equity value per share	\$ 614.01	\$ 586.82
Market premium / (discount) to fair value	(13.6%)	(9.6%)

Valuations



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Discount factor				1%	101%	201%	301%	401%	501%
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Diluted shares	55.600	55.600
Equity value per share	\$ 614.01	\$ 586.82
Market premium / (discount) to fair value	(13.6%)	(9.6%)

Valuations



Cost of capital assumptions

Cost of debt	5.0%
Tax rate	25.0%
After tax cost of debt	3.8%
Risk free rate	1.7%
Beta	1.21
Market risk premium	5.3%
Cost of equity	8.1%

Capital weights

	Amount	% of total
Market value of equity	29,505	66%
Net debt	15,154	34%

Cost of capital (WACC)	6.6%
-------------------------------	-------------

Equity value per share

		Long term growth rate (g):				
		1.1%	1.3%	2.0%	1.7%	1.9%
WACC:	\$614.01					
	8.6%	\$ 280.28	\$ 292.19	\$ 292.19	\$ 318.06	\$ 332.14
	7.6%	\$ 368.94	\$ 385.43	\$ 385.43	\$ 421.74	\$ 441.80
	6.6%	\$ 489.76	\$ 513.76	\$ 513.76	\$ 567.57	\$ 597.87
	5.6%	\$ 664.00	\$ 701.40	\$ 701.40	\$ 787.60	\$ 837.61
	4.6%	\$ 936.91	\$ 1,001.65	\$ 1,001.65	\$ 1,157.53	\$ 1,252.53

Equity value per share

		Exit EBITDA Multiple				
		14.5x	15.5x	16.5x	17.5x	18.5x
WACC:	\$586.82					
	8.7%	\$ 472.22	\$ 513.53	\$ 554.83	\$ 596.13	\$ 637.44
	7.7%	\$ 504.85	\$ 548.11	\$ 591.38	\$ 634.64	\$ 677.90
	6.7%	\$ 539.30	\$ 584.63	\$ 629.97	\$ 675.30	\$ 720.63
	5.7%	\$ 575.69	\$ 623.21	\$ 670.74	\$ 718.26	\$ 765.78
	4.7%	\$ 614.15	\$ 664.00	\$ 713.84	\$ 763.68	\$ 813.52



Regulation, Regulation, Regulation

Industry Slowdown

Overvalued



Appendix A. PMA Process Flowchart

(Note: Numbers in bold refer to chapter and paragraph numbers in this order.)

