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Details of Filing

Document Lodged: Affidavit - Form 59 - Rule 29.02(1)
File Number: NSD714/2020
File Title: WELLS FARGO TRUST COMPANY, NATIONAL ASSOCIATION (AS OWNER TRUSTEE) & ANOR v VB LEASECO PTY LTD (ADMINISTRATORS APPOINTED) ACN 134 268 741 & ORS
Registry: NEW SOUTH WALES REGISTRY - FEDERAL COURT OF AUSTRALIA



Sia Lagos

Dated: 9/07/2020 4:40:25 PM AEST

Registrar

Important Information

As required by the Court's Rules, this Notice has been inserted as the first page of the document which has been accepted for electronic filing. It is now taken to be part of that document for the purposes of the proceeding in the Court and contains important information for all parties to that proceeding. It must be included in the document served on each of those parties.

The date and time of lodgment also shown above are the date and time that the document was received by the Court. Under the Court's Rules the date of filing of the document is the day it was lodged (if that is a business day for the Registry which accepts it and the document was received by 4.30 pm local time at that Registry) or otherwise the next working day for that Registry.



Affidavit

No. NSD 714 of 2020

Federal Court of Australia
District Registry: NSW
Division: General

Wells Fargo Trust Company, National Association (as owner trustee) and others named in schedule 1

Applicants

VB Leaseco Pty Ltd (Administrators Appointed) ACN 134 268 741 and others named in schedule 1

Respondents

Affidavit of: **Garry Failer**
Address: 4700 Lyons Technology Parkway, Coconut Creek, Florida, 33073, United States of America
Occupation: Senior Vice President of Materials & Services and Chief Technical Officer
Date: 8 July 2020

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Filed on behalf of (name & role of party) Applicants
Prepared by (name of person/lawyer) Noel McCoy
Law firm (if applicable) Norton Rose Fulbright Australia
Tel +61 2 9330 8000 Fax _____
Email noel.mccoy@nortonrosefulbright.com Ref 4015052
Address for service Level 5, 60 Martin Place, Sydney, NSW 2000 Email: noel.mccoy@nortonrosefulbright.com
(include state and postcode)

[Version 3 form approved 02/05/2019]

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I, **Garry Failler** of, 4700 Lyons Technology Parkway, Coconut Creek, Florida, 33073, United States of America, Senior Vice President of Materials & Services and Chief Technical Officer, Willis Lease Finance Corporations duly affirm as follows:

Introduction

- 1 I am Senior Vice President of Materials & Services and Chief Technical Officer of the second applicant, Willis Lease Finance Corporation (**Willis**).
- 2 I am based at Willis' facility located at 4700 Lyons Technology Parkway, Coconut Creek, Florida, United States of America where Willis stores its engines, operates a workshop for engine repairs (but not overhauls) maintains its stock of spare and replacement parts and is also its company headquarters which provides office facilities for approximately 70 people.
- 3 I make this affidavit from my own knowledge except where otherwise indicated. Where I make this affidavit from facts outside my personal knowledge, I am informed by the source stated and believe those facts to be true.
- 4 I am authorised to make this affidavit on behalf of the applicants.
- 5 Exhibited to me at the time of swearing this affidavit is a bundle of documents marked "Exhibit GF-1" (**Exhibit GF-1**).
- 6 I make this affidavit in support of an application for orders in respect of property:
 - (a) leased by VB Leaseco Pty Ltd (Administrators Appointed) ACN 134 268 741 (**VB Leaseco**) from Wells Fargo Trust Company, National Association (**Wells Fargo**);
 - (b) sub-leased by VB Leaseco to Virgin Australia Airlines Pty Ltd (Administrators Appointed) ACN 090 670 965 (**Virgin Australia**).
- 7 In this affidavit, I give evidence about:
 - (a) the CFM International Engine, Model CFM56-7B24 aircraft engines with serial numbers 888473, 897193, 896999 and 894902 (**Engines**);

- (b) the quick engine change units corresponding to each of the Engines (**QECs**);
- (c) the engine stands corresponding to each of the Engines (**Engine Stands**);
- (d) the records corresponding to each of the Engines, including engine condition monitoring (**ECM**) data,

(collectively, **the Equipment**).

Qualifications and experience

- 8 I have been Senior Vice President of Materials & Services and Chief Technical Officer at Willis for almost 3 years, and in that role:
- (a) I have responsibility for our worldwide technical team, Willis Asset Management Team (Wales, UK), Willis Aeronautical Services, Inc. after-market parts business, our aircraft maintenance, storage and teardown facilities in UK and Spain, our two engine repair shops in Florida and UK, facilities and health and safety and logistics. Approximately 130 out of 230 of Willis' staff report to me.
 - (b) I report to Brian Hole, the President of Willis.
- 9 I hold diplomas in both mechanical and aeronautical engineering from the Southern Alberta Institute of Technology, Calgary Canada and have held various engineering roles in the aviation industry for 39 years. At Annexure GF-1 is my resume current as at 2017 describing my qualifications and experience.

Engines

- 10 Each of the Engines is a CFM56-7B24/3 model aircraft engine, which is used on Boeing 737-700, 737-800 and 737-900 aircraft and has a jet propulsion with at least 24,200 pounds of thrust.
- 11 Based on the communications that I and Willis staff reporting to me, I understand that the Engines are still attached to aircraft ("on wing") as follows:
- (a) Engine 896999 is attached to airframe with registration VH-VOT at Melbourne Airport;
 - (b) Engine 897193 is attached to airframe with registration VH-VUA at Melbourne Airport;

- (c) Engine 888473 is attached to airframe with registration VH-VOY in Melbourne Airport; and
- (d) Engine 894902 is attached to airframe with registration VH-VUT in Adelaide Airport.

QECs

- 12 The QECs constitute certain components that are attached to the external part of the Engine to make it operable, including, tubes, ducts, wire harnesses, brackets, fuel/hydraulic/pneumatic hardware, pneumatic valves, sensors, switches, transmitters, and other components described in Appendix A of each of the Aircraft Engine Lease Agreements.
- 13 The QEC that Willis provided with these engines are in the 'neutral' configuration meaning the customer uses additional components which it supplies in order to complete installation on the particular airframe it is using. At the time the Engines are removed from aircraft, each of the non-Willis owned items must be removed from the Engines.
- 14 The removal of those components is usually undertaken at the same time as the engine is taken down and placed into Willis' engine stand and wrapped appropriately to ready them for shipment. If it is proposed that the non-Willis owned items will be removed at that time, Willis' usual practice is to have a representative (either an employee or local contractor) present to supervise the removal before the engine is shipped to Florida.
- 15 Alternatively, in the past some customers have returned engines to Willis to our facility in Florida with the customer's components still attached to the engine. In those cases, we have undertaken the removal of the non-Willis owned equipment and returned that equipment to the customer at their expense.

Engine Stands

- 16 An aircraft engine stand is a static metal structure used to secure an aircraft engine for transportation. It is necessary to use stands during the transportation of engines in order to adhere to the manufacturer's requirements for transportation. A copy of the manufacturer's guide to transportation of CFM engines is at Annexure GF-2 which describes the structure and operation of the Engine Stands.
- 17 Any failure to adhere to the manufacturer's requirements can have very serious consequences for engine operability and safety.

- 18 If an engine has not been transported according to the manufacturer's requirements, it is necessary for Willis to conduct an inspection of the bearings as these can be jarred in transportation (causing what is known as "Brinelling") and potentially fail and in turn cause the engines to fail.
- 19 An inspection for the condition of the bearings can only be undertaken by disassembling the engine. In my experience, that type of inspection is likely to cost approximately USD\$100,000 to \$200,000 (including transportation, disassembly, inspection, reassembly and test). However, this amount can increase significantly as additional repairs may be required when the engine is opened up as exposed parts of the engine will be subject to inspection. The engine might be out of service for approximately two to three months during this process. Willis does not overhaul engines in our Coconut Creek, Florida facility, and accordingly, it would be necessary to pay for transportation of the engine to another facility.
- 20 In my experience, it is a standard requirement of aircraft engine leases to require the transportation of engines in accordance with the manufacturer's guide to transportation.
- 21 A failure to comply with the manufacturer's requirements can be a failure to comply with FAA regulatory requirements.
- 22 I note from the email from Gordon Chan dated 3 July 2020 at 3:48pm that the Engine Stands for two of the Engines have been located at Delta DTO which I understand to mean their facility in Atlanta, Georgia.
- 23 Willis leases its engines with engine stands that it owns and maintains. Willis' leasing terms require the return of the same engine stands leased to a customer. This means Willis is able to keep track of the condition of its engine stands and is not given an older or inferior stand which may require significant maintenance/repairs and which would inhibit Willis' ability to use the stand again to transport an engine to the next customer.

Engine records

- 24 After the Engines are removed from "on wing" of the aircraft, or at a minimum, after cessation of operation (post ferry flight if any) certain documents will need to be generated by Virgin Australia, without which the Engines are inoperable and of minimal commercial value.
- 25 Examples of the types of documents Willis requires at the conclusion of a lease are:

- (a) History Statement which indicates certain maintenance activities performed during the lease;
- (b) Non-Incident Statement indicates that an occurrence associated with the operation of an aircraft, which affects or could affect the safety of operations (such as exposure to fire, severe heat, severe stress, exposure to salt water) has not occurred;
- (c) Combination Statement;
- (d) Life Limited Part (LLP) Status which indicates the status of engine components described as cycle limited parts within the engine that must be replaced at pre-determined intervals or number of cycles (being one take off and landing). It is a safety requirement that an LLP cannot be used beyond the number of prescribed cycles and must be discarded. The utility (and therefore commercial value) of the engine is affected if any of the LLP are approaching replacement date, because replacement requires the whole engine to be taken off wing and opened up. For that reason it is essential for Willis to review the LLP Status documents at the conclusion of a lease;
- (e) Airworthiness Directive (AD) status which indicates the status of tasks required or regulated by the US Federal Aviation Administration or other regulatory authorities, such as inspection or parts replacement that must be accomplished at pre-determined intervals;
- (f) ECM Data provides critical engine performance information, including both take off and cruise performance and mechanical parameters, during certain periods of the lease;
- (g) Oil Consumption data which indicates the amount of oil consumed by an engine and is therefore an indicator of a possible internal mechanical breakdown;
- (h) Preservation Documentation which indicates the method and process for maintaining an engine when it is not in operation for extended periods of time.
- (i) On-wing maintenance task cards;
- (j) Pilot Reports/Tech Log Pages;

- (k) Service Bulletin (SB) work cards which are a written instruction from the engine manufacturer that outlines action that should be taken on an engine including inspections, parts rework or parts replacement;
 - (l) Component certificates for replacement parts which certifies the serviceability and operational airworthiness of replacement parts.
- 26 According to the regulatory requirements of the European Union Aviation Safety Agency (**EASA**) and the United States Federal Aviation Administration (**FAA**), upon redelivery, it is necessary for Virgin Australia to affix what are known as “serviceable tags”.
- 27 These serviceability tags indicate that a part is serviceable and airworthy, including that all maintenance tasks related to the return of the Equipment (including, without limitation, Equipment testing, inspections, MPD tasks, preservation tasks, Equipment repairs, Airworthiness Directives accomplished, Service Bulletins accomplished, and any other associated tasks) have been completed. The serviceable tags should also be accompanied by the following documents:
- (a) either a completed FAA Form 8130-3 (marked approved for Return to Service in accordance with 14 CFR 43.9 and Release to Service in accordance with EASA Part 145.A.50) an example of which is at Annexure GF-3; or
 - (b) alternatively, EASA Form One (marked approved for Release to Service in accordance with EASA Part 145.A.50 and Return to Service in accordance with 14 CRF 43.9) an example of which is at Annexure GF-4; and
 - (c) an FAA Form 337 an example of which is at Annexure GF-5.
- 28 As at the time of swearing this affidavit, I have not nor am I aware that since 16 June 2020 any Willis staff have received any Engine records of the kind described above. Shortly before affirming this affidavit my technical team has been provided with access to a data room by the administrators. I am not yet aware of the information that is available on the data room at this point in time.
- 29 While most of these records should already exist, these records are required to be updated and provided to Willis at the conclusion of the lease. For that reason, Willis typically waits until the Engine is about to be returned to collect the records. Conversely, if we were to obtain what records might be available while the lease is ongoing, our technical records personnel would have to go back to the operator for updates on most of these documents at time of removal. To avoid that duplication, Willis’ usual practice is

to wait for the documents to be provided at the end of the lease and after the last operation of the engine.

- 30 It is standard procedure to deal with an individual at the airline who will provide all of the appropriate documentation that Willis requires as set out in the lease agreement.
- 31 I have been informed that the administrators are continuing to maintain the Equipment – Mr Chan says in his email of 3 July 2019 at 3:48pm that “Virgin is continuing to adhere to its statutory and regulatory maintenance obligations in relation to the Willis engines.”.
- 32 I am relying on the information provided and representations made by the administrators in respect of the maintenance carried out on the Engines. I have not been provided with specific information as to how maintenance is being carried out, what particular procedures are being implemented to maintain the Engines while not in use, nor the date from which those procedures were implemented.

Sworn by the deponent
 at Coconut Creek, Florida, United States of
 America on 8 July 2020
 Before me:

)
)
)
)
)

Garry Failler

 Signature of deponent

Signature of witness
 Safiyya Khan, solicitor

*This document was signed
 and witnessed over audio
 visual link in accordance
 with clause 2 of Schedule
 1 to the Electronic Transactions
 Regulation 2017 (NSW)*

Schedule 1

No. NSD 714 of 2020

Federal Court of Australia
District Registry: New South Wales
Division: General

Applicants

Second Applicant: **Willis Lease Finance Corporation**

Respondents

Second Respondent: **Virgin Australia Airlines Pty Ltd (Administrators
Appointed) ACN 090 670 965**

Third Respondent: **Vaughan Neil Strawbridge, John Lethbridge Greig,
Salvatore Algeri & Richard John Hughes (in their
capacity as voluntary administrators of the First and
Second Respondents)**

Date: 8 July 2020

Annexure Certificate

No. NSD 714 of 2020

Federal Court of Australia
District Registry: New South Wales
Division: General

Wells Fargo Trust Company, National Association (as owner trustee) and others named in schedule 1

Applicants

VB Leaseco Pty Ltd (Administrators Appointed) ACN 134 268 741 and others named in schedule 1

Respondents

Annexure GF-1

This is the annexure referred to as **GF-1** in the affidavit of Garry Failler, affirmed 8 July 2020.

Before me:



Signature of witness

SAFIYYA KHAN

Australian Legal Practitioner within the meaning of the Legal Profession Uniform Law (NSW)

Filed on behalf of (name & role of party)	Applicants		
Prepared by (name of person/lawyer)	Noel McCoy		
Law firm (if applicable)	Norton Rose Fulbright Australia		
Tel	+61 2 9330 8000	Fax	+61 2 9330 8111
Email	vittorio.casamento@nortonrosefulbright.com	Ref	4015052
Address for service	Level 5, 60 Martin Place, Sydney NSW 2000		
(include state and postcode)	Email: vittorio.casamento@nortonrosefulbright.com		

GARRY FAILLER

16897 NW 16th Street, Pembroke Pines, Florida 33028

Ph: (954)415-5530

garryfailer@gmail.com

Qualifications for Executive-Level Management

Proven aviation executive offering more than 30 years of experience in the industry, progressing from technical operations to executive-level and C Suite management posts. Extensive experience in commercial aircraft leasing, airline operations, aircraft design and aircraft & engine MRO operations. Able to accurately forecast budgets and costs to provide for effective operations as well as business growth. Excellent communications skills and strong P&L experience. Significant experience with regulatory authorities. Extensive understanding of SOX compliance requirements. Citizen of both Canada and the United States.

CAREER HISTORY

AeroTurbine Inc./AerCap Holdings

Chief Operating Officer /Chief Technical Officer

2008 - present

Chief Operating Officer for AeroTurbine, an aviation solutions aftermarket company which is 100% wholly-owned by AerCap Holdings. Responsible for the company's operations worldwide including facilities in the U.S., London and Singapore. Operational responsibilities include engine & aircraft disassembly, warehousing, logistics, EH&S, quality, shipping & receiving, IT, facilities management as well as the company's engine and airframe MRO's. Grew business from \$150M in revenue to over \$500M in 6 years. Also responsible for our in-house commercial aircraft heavy maintenance operations (separate P&L) in Goodyear, Arizona (Phoenix) comprised of 390 employees.

Served as Chief Technical Officer for parent company AerCap Holdings in Amsterdam for 14 months in 2011 – 2012. In this capacity, responsible for all technical aspects of a fleet of 350 commercial lease aircraft including aircraft transitions, lease returns, contract negotiations, purchasing, new aircraft configuration, new engine and airframe selections as well as MRO activities. As a company Director and executive, was a member of the Group Executive Committee at the AerCap Holdings level which set the direction for all divisions/subsidiaries of the company worldwide. Reported directly to the CEO.

AeroThrust Corp.

Executive Vice President – Operations & Engineering

2004 - 2008

Reported directly to the President and responsible for all aspects of the company's engine Maintenance, Repair and Overhaul operations including operational budgets, product quality and contract negotiations. Aided in union negotiations (IAMAW). Improved processes and introduced new product lines into the MRO business. Grew the business significantly and secured several new airline customers worldwide. Responsible manager for the FAA/EASA repair station.

Air Canada

Vice President—Engine Maintenance

2001-2004

Reported directly to the President & CEO of Air Canada Technical Services regarding all aspects of engine maintenance operations and the division's \$300M budget. Served on the executive committee, providing business direction of other technical services and maintenance operations that affected as many as 8,500 employees and a fleet of 250 aircraft. Other technical services included aircraft heavy maintenance and aircraft component MRO's within the company. Assumed role of Six Sigma Master Black Belt. Managed all third-party customer engine MRO work. Oversight of environmental, Health & Safety programs as well as airworthiness compliance issues.

- ⊙ Aided in establishing Air Canada Technical Services as a wholly owned subsidiary of Air Canada and a full-service MRO provider.
- ⊙ Developed a plan that will substantially increase MRO third-party work over a five-year period.
- ⊙ Effectively controlled costs to operate within the \$1B Technical Services budget.
- ⊙ Expanded engine and APU product lines, introducing full repair and overhaul capabilities for four major engine types.

General Manager—Engine Maintenance Centre

1999-2001

Directed the allocation of a \$300M budget and 950 personnel in an engine maintenance facility which repaired and overhauled company-owned and third-party customer engines. Policed all aspects of health and safety. Developed and enhanced labor, corporate and customer relationships.

- ⊙ Reduced engine turn times 50% over two years.
- ⊙ Increased productivity 30% while decreasing power plant unit costs.
- ⊙ Drastically improved labor relations, creating self-directed work teams and establishing the most respected rapport between the industry union (IAMAW) and Air Canada.
- ⊙ Accelerated third-party revenues to over \$100M after driving the expansion of the customer base.

Manager, Propulsion Engineering & Quality

1997-1999

Managed 100 employees engaged in activities related to engine and APU quality, safety, documentation, and engineering. Assigned as the "Core Delegate—Propulsion" by Transport Canada. Ensured compliance with regulations.

- ⊙ Established an advanced work-planning system that predicted cost and material requirements within 2% of the actual budget.
- ⊙ Reorganized the propulsion engineering division, introducing Repair Development Engineering positions that reduced the cost of engine overhauls.

Bombardier Aerospace

Group Leader—Propulsion Systems Engineering

1992-1997

Provided leadership to the CRJ700 Regional Jet design and integration teams in relation to aircraft fuel, propulsion, nacelle, fire detection/extinguishing, and APU systems. Coordinated design efforts with the flight sciences, aerodynamics, structural design, customer support, reliability and maintainability, and core engineering departments. Provided customer service globally, performing onsite visits and in-house redesign activities. Coordinated aircraft flying test bed efforts.

- © Composed the technical requirement documents for the CRJ-700 propulsion, APU, and aircraft fuel systems.
- © Drove the successful, on-time delivery of engines and APUs for scheduled aircraft flight tests.

Canadian Airlines International

Propulsion Engineer

1981-1992

Ensured the airworthiness and reliability of power plants installed in company aircraft. Assumed "Delegated Authority" from Transport Canada. Planned, troubleshot, workscooped, modified, and incorporated project efforts in relation to internal departments and outside repair agencies. Prepared annual operating budgets. Worked independently in Toronto (main hub) in support of the company headquarters in Vancouver.

- © Achieved the lowest operating cost in the industry for the CF6-50 engine.
- © Developed workscope specifications for all company engines and APUs, enhancing reliability and lowering costs. Structured and negotiated overhaul agreements with external MRO providers.
- © Nominated by the executive vice president of the parent company PWA and received a "Top-Flight" award for supporting aircraft and engine sales.

EDUCATION

Southern Alberta Institute of Technology

Engineering Diploma in Aeronautical Engineering
Engineering Diploma in Mechanical Engineering
Extensive miscellaneous Management and Technical training

PROFESSIONAL DEVELOPMENT

Significant experience on a variety of engines and airframes including the B747, B767, B737, A300, A310, A320 family, A330, A340, DC9, Bombardier Regional Jet, PW4000, JT9D, JT8D, RR Trent 700, CF6-50/80, CFM56 family, CF34, and several APU models.

Annexure Certificate

No. NSD 714 of 2020

Federal Court of Australia
District Registry: New South Wales
Division: General

Wells Fargo Trust Company, National Association (as owner trustee) and others named in schedule 1

Applicants

VB Leaseco Pty Ltd (Administrators Appointed) ACN 134 268 741 and others named in schedule 1

Respondents

Annexure GF-2

This is the annexure referred to as **GF-2** in the affidavit of Garry Failler, affirmed 8 July 2020.

Before me:



Signature of witness

SAFIYA KHAN

Australian Legal Practitioner within the meaning of the Legal Profession Uniform Law (NSW)

Filed on behalf of (name & role of party)	Applicants		
Prepared by (name of person/lawyer)	Noel McCoy		
Law firm (if applicable)	Norton Rose Fulbright Australia		
Tel	+61 2 9330 8000	Fax	+61 2 9330 8111
Email	vittorio.casamento@nortonrosefulbright.com	Ref	4015052
Address for service	Level 5, 60 Martin Place, Sydney NSW 2000		
(include state and postcode)	Email: vittorio.casamento@nortonrosefulbright.com		



The Power of Flight

CFM56 Engines TRANSPORTATION GUIDE

February 2016

Product Support Engineering

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Introduction



Introduction

The purpose of CFM56 Engines Transportation Guide is:

- To help customers to properly transport their engines
- To gather CFM recommendations for engine shipment:
 - CFM Engine shipment requirements
 - CFM Engine Shipment Best practices
 - CFM Approved Shipping stands references and dimensions
- To provide guidance to CFM customers:
 - To clarify transportation recommendations
 - To help understanding of shipping stand use
 - To protect engines during shipment
 - To choose the most suitable way to transport engines
 - To plan adequate tools acquisitions
 - To aware of potential improper transportation consequences



Introduction

Non-respect of CFM recommendations leads to Improper Transportation Issues, which:

- Involve Airlines, Shops, Engine Lessors, Carriers, Insurances, OEM,...
- May have an adverse impact:
 - On main engine bearings due to Brinelling effect
 - On fuel and oil external pipes, brackets, controls and accessories due to stress and deformation
- May lead to:
 - Engine unserviceability
 - Costly consequences on operations
 - Spare engine needs
 - Unscheduled maintenance activities
 - High cost corrective actions

Follow CFM recommendations
to avoid high cost corrective actions

Introduction



CFM56 Engines Transportation Guide is based on:

- CFM transportation knowledge and experience:
 - All CFM56 ESM 72-00-00 – STORAGE Tasks
 - CESM 004 – Optimizing Bearing Care
 - October 2004 Fleet Highlites Article
- Aircraft Manufacturers and Shipping Stand Manufacturers manuals:
 - Boeing 737CL series/CFM56-3 Aircraft Maintenance Manual
 - Boeing 737NG series/CFM56-7B Aircraft Maintenance Manual
 - Airbus A320 series/CFM56-5A and CFM56-5B Aircraft Maintenance Manual
 - Airbus A340 series/CFM56-5C Aircraft Maintenance Manual
 - Applicable Shipping Stand Manufacturer Documentation

Use this booklet as a guide.
Always refer to the applicable CFM, Aircraft manufacturer and Shipping Stand manufacturer documentation.

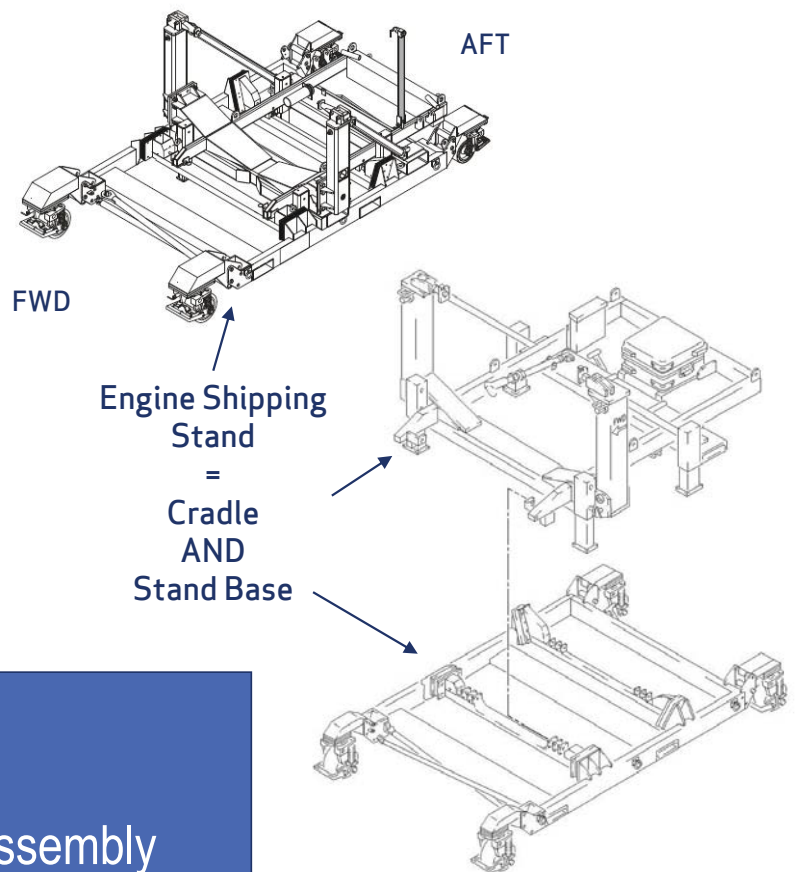


1 - Shipping Stand Main Features

1 - Shipping Stand Main Features

Engine shipping stands :

- Are designed for shipment of:
 - « Bare » engines
 - « Quick Engine Change » (QEC) engines
- Are an assembly of:
 - A Cradle on which the engine is installed
 - A Stand Base on which the cradle is installed
 - A “Shock Absorbers” interface between Cradle and Stand Base



Engine Shipping Stand
=
« Cradle AND Stand Base » assembly



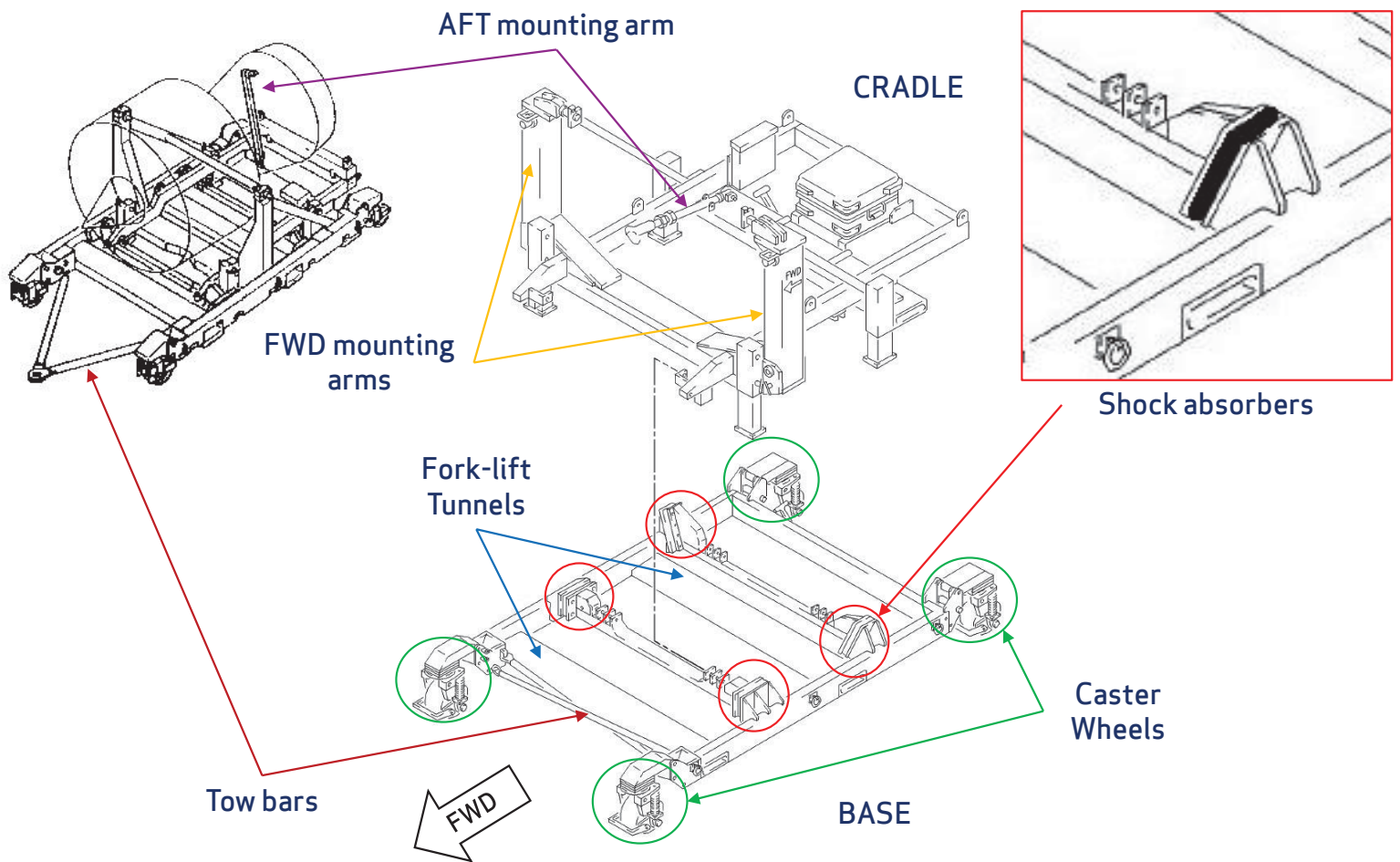
1 - Shipping Stand Main Features

All CFM qualified engine shipping stands are featured with the following main items:

- On the Stand Base:
 - Shock absorbers
 - « Air & Truck » tiedown rings
 - Fork-lift tunnels
 - Caster wheels
 - Tow Bars
- On the Engine Cradle:
 - « Air Only » tiedown rings
 - Forward Engine Mounting arms
 - AFT Engine mounting arm

Location of main features may change from one shipping stand to another.
Refer to the Shipping Stand Manufacturer Documentation.

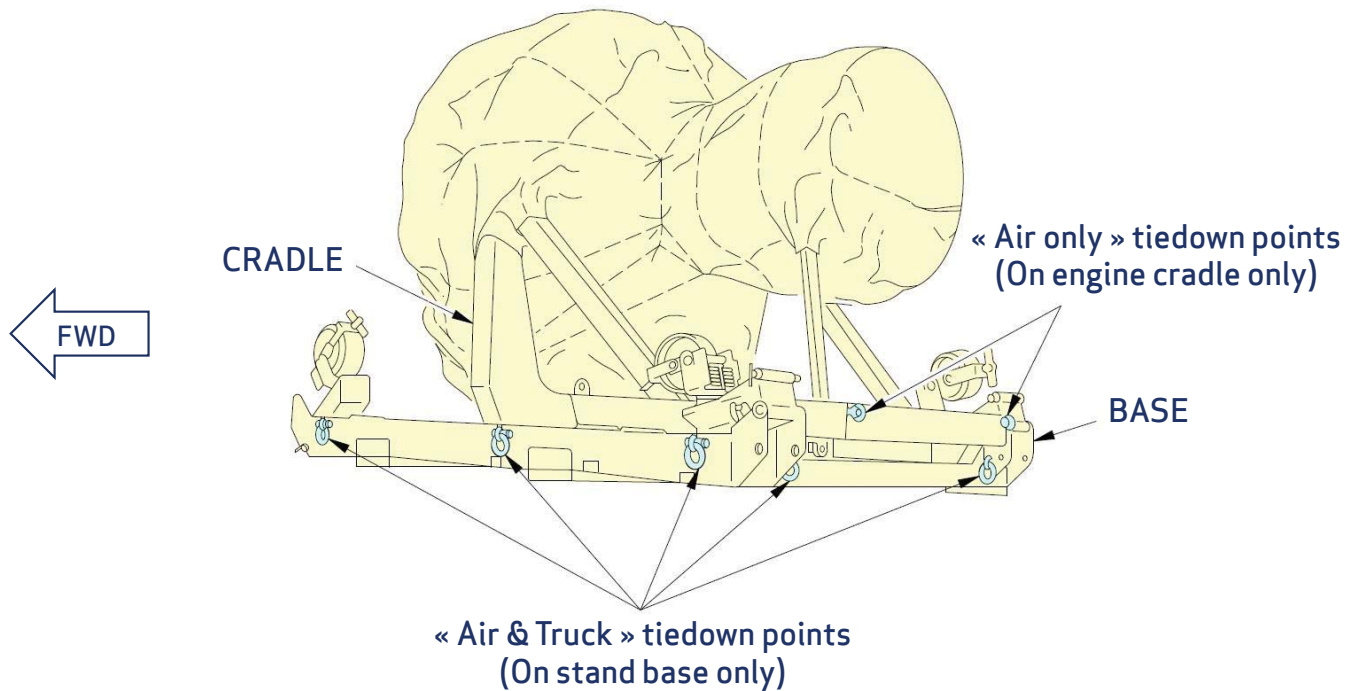
1 - Shipping Stand Main Features





1 - Shipping Stand Main Features

Shipping Stand Tiedown points:



Stand Base Tiedown rings = Air & Truck transportation
Engine Cradle Tiedown rings = Air transportation ONLY



1 - Shipping Stand Main Features

Engine shipping stands requirements :

- **CFM Qualification :**
 - All shipping stands referenced in this document have successfully passed tests and are compliant with CFM requirements
- **On-Wing installation Capability:**
 - All Shipping stands referenced in this document are designed for On-Wing Bootstrap Installation procedure
 - The On-Wing installation procedure is the Aircraft manufacturer responsibility and is described in the applicable AMM
- **Shipping Stands condition:**
 - All Shipping stands referenced in this document may be used for CFM56 engines transportation provided that they are operated and maintained according to the applicable Shipping Stand Manufacturer Documentation

For Shipping stand operations and maintenance instructions, refer to Shipping Stand Manufacturer Documentation.



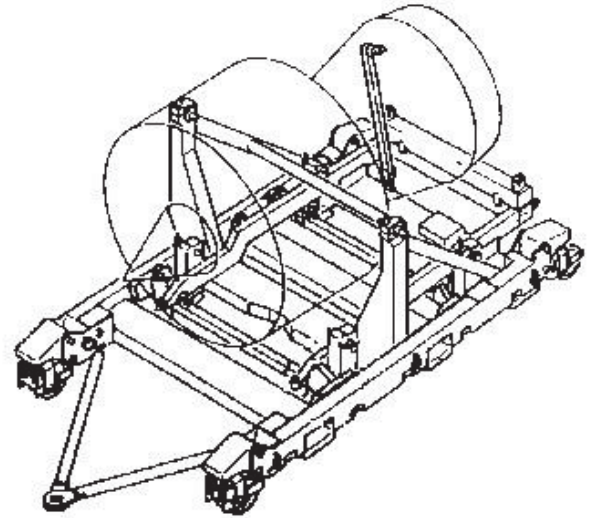
2 - In-Plant Transportation Specifications



2 - In-Plant Transportation Specifications

Engines installed on Shipping stands may be towed in facilities and inner access roads with the below conditions:

- Shipping stand conditions during towing:
 - Only stand base tow bars must be used
 - Spring-type casters or pneumatic tyres must be used
 - The 4 swivel locks of the casters must be released
 - Cradle must be free of attaching device, to keep the full efficiency of shock absorbers
- Engine towing operations conditions:
 - Maximum towing speed is 3 mph (5 km/h)
 - Towing must be performed on a smooth and horizontal surface
 - When necessary or after towing, caster braking system must be used to prevent movement of the assembly



For towing operations, refer to Shipping Stand Manufacturer Documentation.



3 - Road Transportation Specifications



3 - Road Transportation Specifications

Roads and Highways transportation has to be compliant with the following:

- General requirements
- Vehicle suspension requirements
- Engine Cradle requirements
- Shipping stand base tiedown requirements

These requirements are detailed in the next pages.

All these requirements prevent damage to the engine due to shock and vibration loads during transportation.

3 - Road Transportation Specifications



General requirements:

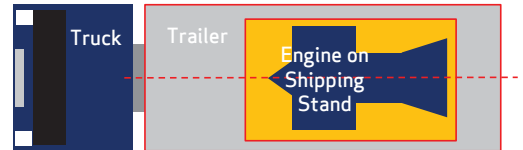
- Engine must be installed on a shipping stand (Cradle and Base)
- The « engine and shipping stand » assembly may be shipped in a Tractor and trailer truck, or a wagon-bed truck
- The « engine and shipping stand » assembly must be installed lengthwise and must not protrude from the vehicle bed
- Caster wheels and tow bars must be locked in storage position
- Engine must be protected against environment



Tractor and trailer truck



Wagon-bed truck



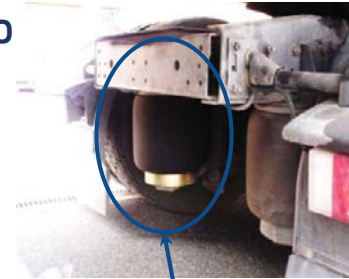
Shipping stand installed lengthwise and not protruding

3 - Road Transportation Specifications



Vehicle Suspension requirements:

- Must ensure a natural frequency range filtration from 7 to 10 Hz of the “engine and shipping stand” assembly
- Highly recommended suspensions type:
 - “Air ride” (Pneumatic)
 - “Hydraulic with Nitrogen Accumulators” (Hydropneumatic)
- Vehicle restrictions depending on suspensions type used:
 - Pneumatic: no restriction
 - Hydropneumatic: Maximum speed limit is 25mph (40km/h)
- Suspensions disposition on vehicle:
 - 1 engine shipped on a trailer: trailer axles must be pneumatically suspended
 - 2 or more engines shipped on a trailer: all axles must be pneumatically suspended
 - 1 or more engines shipped on a wagon-bed truck: all axles must be pneumatically suspended



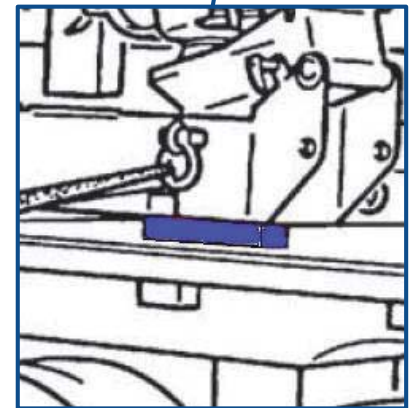
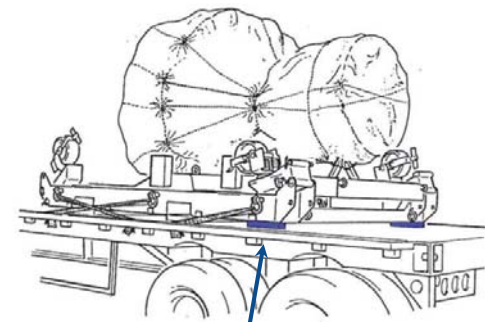
Gas accumulator example of an « Air ride » (pneumatic) suspension

3 - Road Transportation Specifications



Engine Cradle requirements:

- Engine must be installed and secured on the cradle
- The cradle must be installed on the stand base via shock absorbers
- The cradle must be free of any attaching device to keep full efficiency of shock absorbers:
 - “Air Only” tiedown points must not be used
 - No strap (or chain) installed over the cradle
 - Cover installed on the engine must not be tied down to the truck bed or the base of the Shipping Stand
 - Shock absorbers must be free to move
- Clearance between engine cradle and trailer bed:
 - Minimum clearance: 2 in. (51 mm) to avoid cradle to trailer bed contact during shock absorbers run
 - If necessary, Wooden shims may be put in place between Stand Base and trailer bed



Wooden shims between Stand Base and Trailer bed



3 - Road Transportation Specifications

Shipping Stand Base tiedown requirements (1/5):

- Shipping Stand configuration:
 - Only the Base of the shipping stand must be attached to the trailer
 - Cradle and engine must not be attached neither to the trailer nor to the Base
- Shipping Stand Base features to be used for attachment to the trailer:
 - « Air & Truck » Tiedown points
 - Forklift tunnels (Alternative only)
- Shipping stand base must be attached to the trailer using 1 of the 2 following devices only:
 - Straps attached to « Air & Truck » Tiedown points.
 - Note: Use of chains within « Air & Truck » Tiedown points can cause damage to the shipping stand
 - Chains installed through Forklift tunnels (Alternative Only)

Engine and Cradle must stay free of attaching device.
Only the Stand Base must be attached to the trailer.



3 - Road Transportation Specifications

Shipping Stand Base tiedown requirements (2/5):

- Recommended methods: Straps attached to « Air & Truck » Tiedown points (See Methods 1 & 2):
 - Use 4 straps as a minimum. Whenever possible, the use of 6, 8 or 10 straps is recommended.
 - Attach straps to « Air & Truck » tiedown points on Stand Base
 - Pull them diagonally accross the trailer bed
 - Secure straps to the anchoring points on the trailer bed
- Alternative method: Chains installed through Forklift tunnels (See Method 3):
 - Only to be used if Recommended methods (Methods 1 & 2) are not applicable
 - Pull chains through forward and afterward Forklift tunnels of the Stand Base
 - Secure chains to the anchoring points on the trailer bed

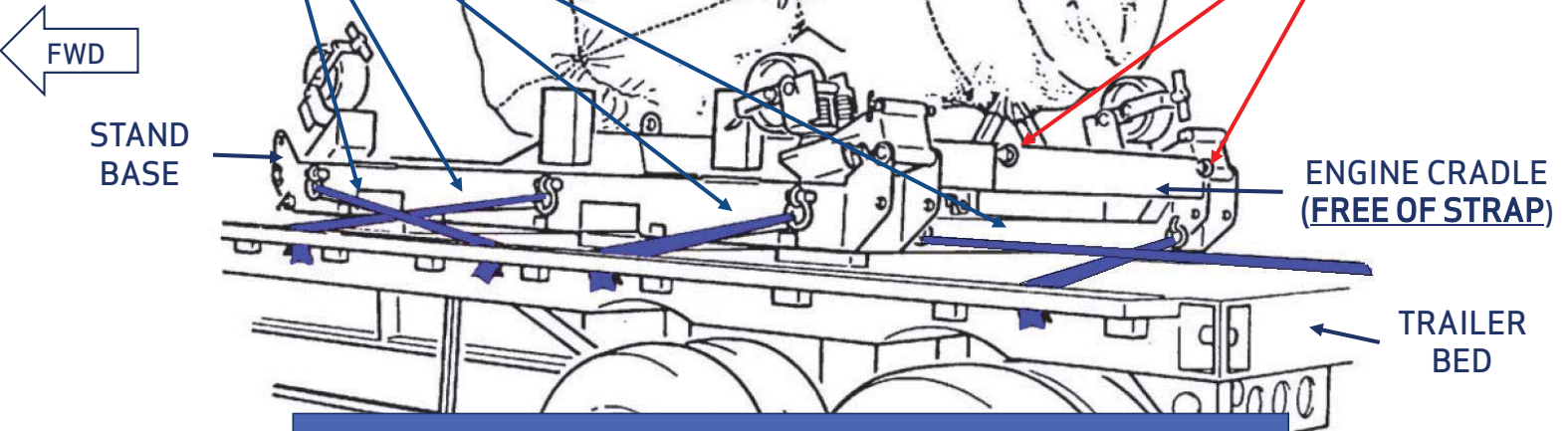
3 - Road Transportation Specifications



Shipping Stand Base tiedown requirements (3/5):
Method 1 (Recommended): 8 to 10 straps attached to
« Air & Truck » tiedown points

8 to 10 straps attached to
« Air & Truck » Tiedown points

« Air only » tiedown points
(On engine cradle only)
FORBIDDEN



CFM best recommended method.



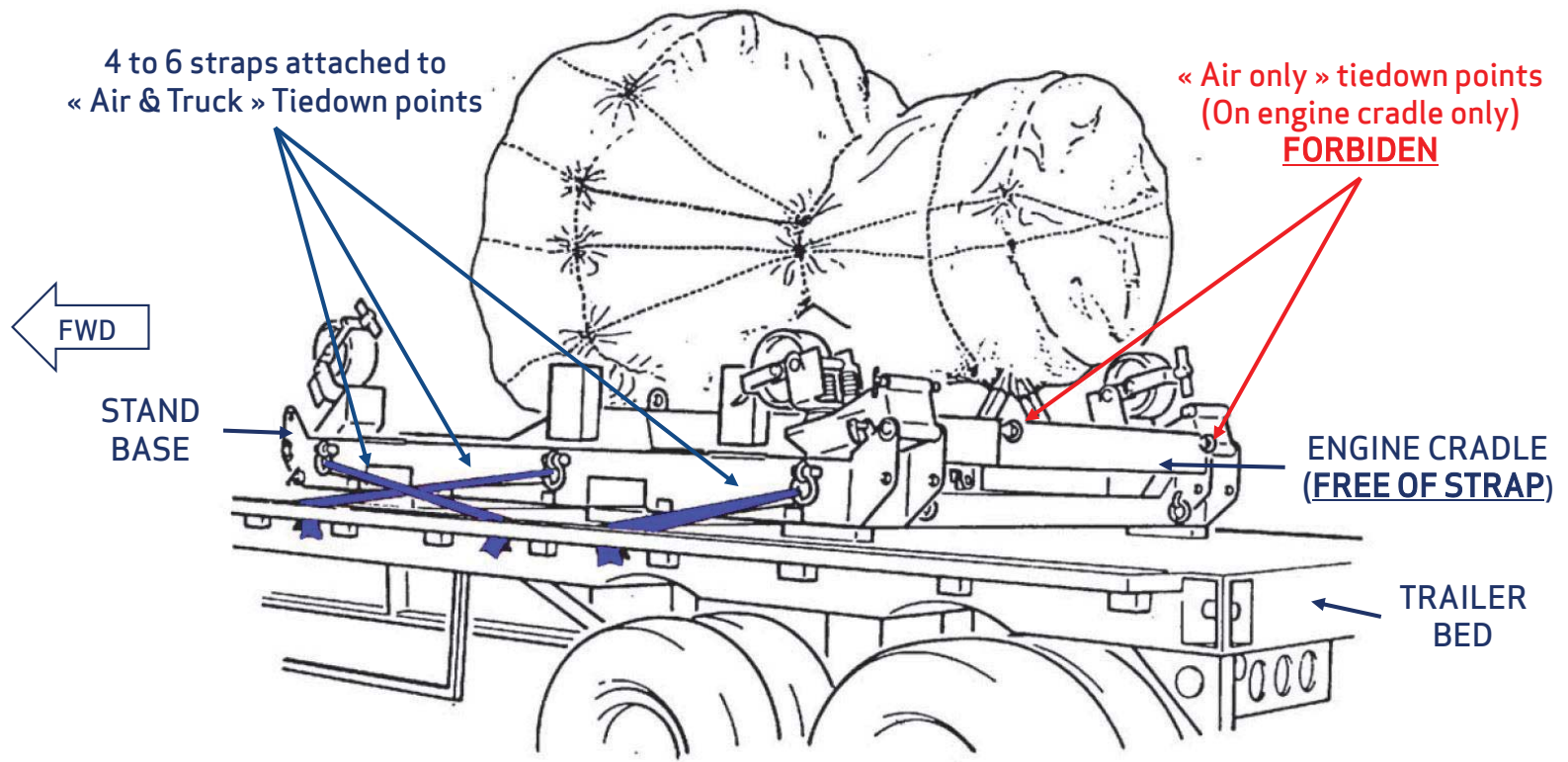
3 - Road Transportation Specifications

Shipping Stand Base tiedown requirements (4/5):

Method 2 (Recommended): 4 to 6 straps attached to « Air & Truck » tiedown points

4 to 6 straps attached to « Air & Truck » Tiedown points

« Air only » tiedown points (On engine cradle only) **FORBIDDEN**

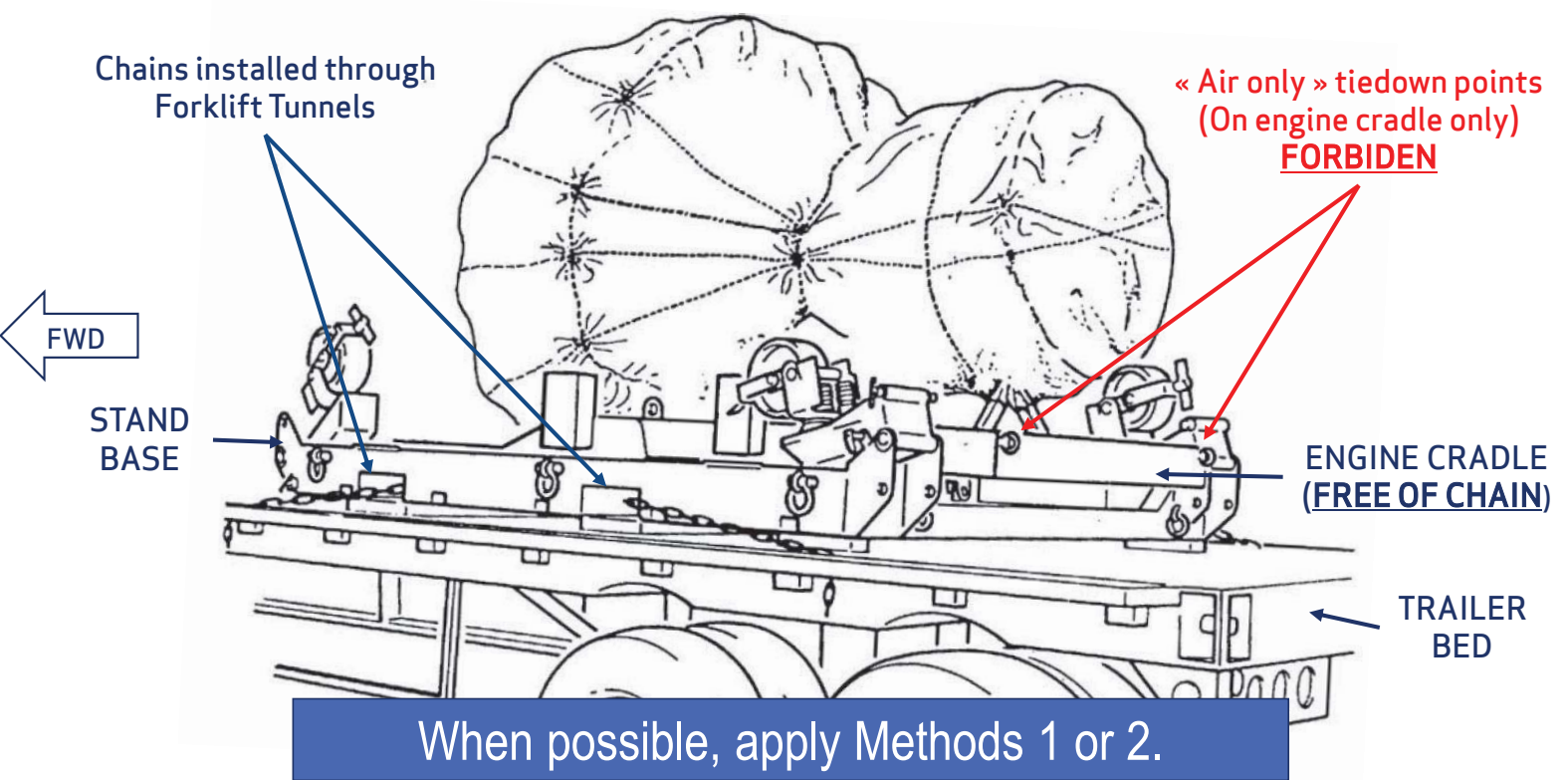


3 - Road Transportation Specifications



Shipping Stand Base tiedown requirements (5/5):

Method 3 (Alternative, when Methods 1 and 2 are not possible):
Chains installed through Forklift Tunnels





4 - Water Transportation Specifications



4 - Water Transportation Specifications

- « Engine and shipping stand » assembly must be installed on a Tractor and trailer truck or a wagon-bed truck, parked on-board a Ferry Boat
- Road Transportation requirements must be followed
- Trailer and truck suspensions must be active during all the travel
- Engine must be protected against environment
- Engine exposure to salty air must not exceed 8 days, including loading and unloading sequences



Road Transportation Specifications are concurrent requirement with Water Transportation.



5 - Air Transportation Specifications



5 - Air Transportation Specifications

Air Shipment on Shipping Stand assembly (Recommended):

- Engine must be transported in a cargo aircraft on a Shipping Stand assembly as follows:
 - Engine installed and secured on engine Cradle
 - Engine Cradle installed on Stand Base, via Shock Absorbers
 - « Engine and Shipping Stand » assembly installed on a Standard Air Cargo Pallet : 125 x 88 x 2 in. (3175 x 2235.2 x 51 mm)
- Shipping Stand tiedown on Standard Air Cargo Pallet:
 - Use only « Air & Truck » tiedown points on Stand Base
 - Use 4, 6, 8 or 10 straps from « Air & Truck » tiedown points to pallet fitting points
- Shipping Stand configuration requirements for Air Shipment:
 - Ensure a 2 in. (51 mm) minimum clearance between Cradle and pallet, using wooden shims if necessary
 - Caster Wheels and Tow Bars must be locked in storage position

CFM recommends air shipment on Shipping Stand assembly



5 - Air Transportation Specifications

Air Shipment on Cradle Only (Alternative only):

- Engine may be transported in a Cargo aircraft on a Cradle without Stand Base, provided that:
 - Aircraft Accessibility is not possible to the Engine and Shipping Stand Assembly installed on a Standard Air Cargo Pallet
 - AND Aircraft Accessibility is possible to the Engine and Cradle Assembly installed on a Standard Air Cargo Pallet
 - AND Cradle has been designed for Engine Air Shipment on Cradle without Stand Base
- Cradle tiedown on Standard Air Cargo Pallet:
 - Use « Air Only » tiedown points on Cradle
 - Use 4, 6, 8 or 10 straps from « Air Only» tiedown points to pallet fitting points

When Aircraft cargo bay is accessible,
prefer to use the « Air Shipment on Shipping Stand » procedure.



5 - Air Transportation Specifications

Aircraft Accessibility for Engine and Shipping Stand Assembly (For information only):

- **Examples of accessible aircraft for Engine and Shipping Stand Assembly (but not limited to):**
 - Airbus: A300F, A310F
 - Antonov AN-12, AN-124
 - Boeing: B707, B720, B727, B737, B747F, B767F, B777F
 - Douglas and McDonnell-Douglas: DC-9F, DC-10, MD-11F
 - Ilyushin: IL-76
 - Lockheed: L-100, C-130
 - Transall: C160

For final aircraft accessibility aptitude,
Always refer to Cargo Aircraft Manufacturer or Cargo Aircraft Operator.



6 - Rail Transportation Specifications

6 - Rail Transportation Specifications



Engine Shipment by train is forbidden:

- Engine Shipping Stands are not qualified to protect engines during shipment by train
- « Engine on Shipping Stand » assembly installed on a trailer bed parked on a train is not qualified
- If an engine has been shipped by train, contact CFM Customer Support Center in order to get CFM recommendations

Do not transport a CFM56 engine by train



7 – Engine Shipping Environment Protections



7 – Engine Shipping Environment Protections

Engine must be protected against environment:

- Engine Shipping conditions expose the engine to the environment:
 - Moisture, water ingestion and weather conditions
 - Sand, dust and foreign objects ingestion
- Environment may have an adverse impact on the engine hardware:
 - Corrosion on engine Bearing parts which may lead to spalling/failure
 - Sand and dust ingestion, which may lead to engine damage
- CFM recommendations as described in the next pages:
 - To follow Preservation/Storage tasks requirements
 - To put an adequate Shipping Cover all over the engine

During engine transportation, comply with Preservation/Storage tasks and put adequate cover all over the engine.



7 – Engine Shipping Environment Protections

Engine Preservation/Storage requirements during shipment:

- Protection of engine hardware:
 - Oil wetted parts, including Bearings
 - Fuel wetted parts
 - Engine Gaspath hardware
- Several Preservation/Storage tasks adapted to each duration:
 - Short periods: up to 30 days
 - Long periods: up to 90 days (Boeing & Airbus AMM only), up to 365 days
- CFM mostly recommends to follow Preservation/Storage tasks for long period because:
 - It deals with Oil wetted parts protection (and Fuel wetted parts if 365 days preservation procedure applied)
 - It gives the best protection for Gaspath (Desiccant Bags, Vapor Barrier Film)
 - It prevents any delay that may occur during Transportation

Long period preservation tasks are recommended

7 – Engine Shipping Environment Protections



Engine Shipping Covers (1/2):

- Covers CFM requirements:
 - To be waterproof
 - To be installed over the whole engine
 - To be « tight-fitted » to the engine
 - Must not be attached in any manner to the trailer bed or to the base of the Shipping Stand
- CFM covers are specifically designed:
 - To adapt to Bare engines or QEC'd engines installed on Shipping Stands
 - To avoid water retention (for last versions)
 - To provide easy access to inlet and exhausts for desiccant bags and humidity indicator inspection
 - To be removable without need of sharp/cutting tools
 - To be fully re-usable

CFM56 engines must be covered during shipment

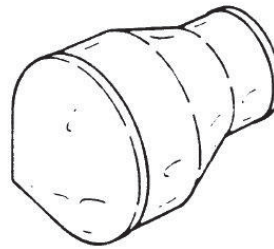
7 – Engine Shipping Environment Protections



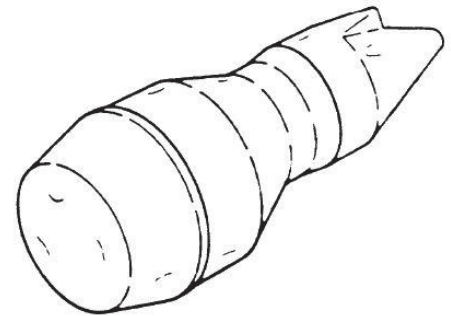
Engine Shipping Covers (2/2):

CFM Shipping Covers		
Engine Model	Engine Configuration	
	Bare	QEC'd
CFM56-2C	856A1280P01	856A1192P01
CFM56-3	856A3595G02	856A3505G01
CFM56-5A	856A2782G01	856A2782G02
CFM56-5B	856A2930G01 (*)	856A2930G02
	856A2930G03	
	856A2930G04	
CFM56-5C	856A2330G01	856A2330G02
CFM56-7B	856A3700G01 (*)	856A3700G02
	856A3700G03	
	856A3700G04	

NOTE 1:
PART NUMBERS FOLLOWED BY "(*)" ARE NOT PROCURABLE.



CFM Shipping Cover for Bare engine



CFM Shipping Cover for QEC'd engine



8 - Improper Transportation Disposition

8 - Improper Transportation Disposition



- Improper Transportation is defined as non-compliance with AMM/ESM procedures
- It may have an adverse impact:
 - On main engine bearings
 - On fuel and oil external pipes, brackets, controls and accessories

In case of Improper Transportation,
Contact CFM



8 - Improper Transportation Disposition

- Minimum information to provide to CFM:
 - CFM56 engine model and ESN
 - Description of the deviation with general and detailed pictures of the improper transportation issue and evidences
 - Shipping Stand model: Base P/N and Cradle P/N
 - Shipping Stand Shock Absorbers status
 - Truck and trailer suspension type: “Air ride” (Pneumatic) or not.
 - Shipping Stand attachment pictures (must be sufficient to determine attachment configuration, tie-down points used, straps or chains position)
 - Engine improperly transported going to airline for return to service or going to shop visit ?
 - If going to Shop Visit : workscope to be applied on the engine

The more detailed the information is,
the more appropriate CFM recommendations will be.



9 – AMM & ESM Chapters References



9 – AMM & ESM Chapters References

Most of transportation recommendations detailed previously come from:

- AMM and ESM:
 - CFM56-3 – Engine Shop Manual
 - CFM56-5A – Engine Shop Manual
 - CFM56-5B – Engine Shop Manual
 - CFM56-5C – Engine Shop Manual
 - CFM56-7B – Engine Shop Manual
 - Boeing 737CL series/CFM56-3 Aircraft Maintenance Manual
 - Boeing 737NG series/CFM56-7B Aircraft Maintenance Manual
 - Airbus A320 series/CFM56-5A and CFM56-5B Aircraft Maintenance Manual
 - Airbus A340 series/CFM56-5C Aircraft Maintenance Manual
- More specifically:
 - Engine Transportation Chapters
 - Engine Removal and Installation from/on Aircraft Chapters
 - Engine Preservation Chapters

9 – AMM & ESM Chapters References



Engine Transportation Chapters:

TRANSPORTATION OF THE ENGINE		
Engine Model	AMM	ESM
CFM56-3	71-00-04/201 POWERPLANT - MAINTENANCE PRACTICES (ENGINE TRANSPORTATION)	72-00-00 - ENGINE - GENERAL - STORAGE 002
CFM56-5A	N/A	72-00-00 - ENGINE - GENERAL - STORAGE
CFM56-5B	N/A	72-00-00 - ENGINE - GENERAL - STORAGE
CFM56-5C	N/A	72-00-00 - ENGINE - GENERAL - STORAGE
CFM56-7B	71-00-04/201 POWERPLANT - MAINTENANCE PRACTICES (ENGINE TRANSPORTATION)	72-00-00 - ENGINE - GENERAL - STORAGE 002

9 – AMM & ESM Chapters References



Engine Removal and Installation from/on Aircraft Chapters:

REMOVAL AND INSTALLATION OF THE ENGINE FROM THE AIRCRAFT		
Engine Model	AMM	ESM
CFM56-3	71-00-02/401 POWERPLANT - REMOVAL/INSTALLATION	N/A
CFM56-5A	71-00-00 PB401 - POWERPLANT - GENERAL - DEACTIVATION/REACTIVATION	N/A
CFM56-5B	71-00-00 PB401 - POWERPLANT - GENERAL - DEACTIVATION/REACTIVATION	N/A
CFM56-5C	71-00-00 PB401 - POWERPLANT - GENERAL - DEACTIVATION/REACTIVATION	N/A
CFM56-7B	71-00-02/401 POWERPLANT - REMOVAL/INSTALLATION	N/A

9 – AMM & ESM Chapters References



Engine Preservation Chapters:

PRESERVATION OF THE ENGINE		
Engine Model	AMM	ESM
CFM56-3	71-00-03/201 POWERPLANT - MAINTENANCE PRACTICES (PRESERVATION AND DEPRESERVATION)	72-00-00 - ENGINE - GENERAL - STORAGE 001
CFM56-5A	72-00-00 PB301 - ENGINE - GENERAL - SERVICING	72-00-00 - ENGINE - GENERAL - STORAGE
CFM56-5B	72-00-00 PB301 - ENGINE - GENERAL - SERVICING	72-00-00 - ENGINE - GENERAL - STORAGE
CFM56-5C	72-00-00 PB301 - ENGINE - GENERAL - SERVICING	72-00-00 - ENGINE - GENERAL - STORAGE
CFM56-7B	71-00-03/201 POWERPLANT - MAINTENANCE PRACTICES (PRESERVATION AND DEPRESERVATION)	72-00-00 - ENGINE - GENERAL - STORAGE 001



10 – List of CFM approved Shipping Stands



10 – List of CFM approved Shipping Stands

- Shipping Stands listed in the next pages:
 - Meet all the CFM Tool Design Office requirements
 - Have passed all the tests required by CFM Tool Design Office
 - Have been submitted to CFM Tool Design Office approval
 - Have been certified compliant with CFM requirements
- CFM Tool Design Office requirements for shipping stands have been specifically given in order to protect the engine during shipment
- In case of engine shipment with a shipping stand not approved, CFM is not able to provide technical support.

For CFM56 engine shipment,
Use CFM approved Shipping Stands

10 – List of CFM approved Shipping Stands



CFM APPROVED SHIPPING STANDS MANUFACTURERS OVERVIEW						
	CFM56-2C	CFM56-3	CFM56-5A	CFM56-5B	CFM56-5C	CFM56-7B
AGSE LLC		X	X	X	X	X
C&F Millier Ltd. (*)		X	X		X	
CFM	X					
Dedienne Aerospace			X	X		X
Frank Brown & Son Ltd.		X	X	X	X	X
Stanley Aviation		X	X	X	X	X
NOTE 1: MANUFACTURERS FOLLOWED BY "(*)" ARE NOT IN THE SHIPPING STAND BUSINESS ANYMORE						

10 – List of CFM approved Shipping Stands



AGSE LLC			
	Shipping Stand	Cradle	Base
CFM56-2C	N/A	N/A	N/A
CFM56-3	(Cradle + Base P/N)	AM1802	AM2563
CFM56-5A	(Cradle + Base P/N)	AM2088	AM2563
	(Cradle + Base P/N)	AM2718	
	(Cradle + Base P/N)	E208-G01	
CFM56-5B	(Cradle + Base P/N)	AM2718	AM2563
	(Cradle + Base P/N)	E208-G01	
CFM56-5C	(Cradle + Base P/N)	AM2387	AM2563
CFM56-7B	(Cradle + Base P/N)	AM2811	AM2563
C&F Millier Ltd.			
	Shipping Stand	Cradle	Base
CFM56-2C	N/A	N/A	N/A
CFM56-3	(Cradle + Base P/N)	CFD 1157 (*)	CFD 1237 (*)
CFM56-5A	(Cradle + Base P/N)	CFD 1208 (*)	CFD 1237 (*)
CFM56-5B	N/A	N/A	N/A
CFM56-5C	(Cradle + Base P/N)	CFD 1400-00 (*)	CFD 1400-02 (*)
CFM56-7B	N/A	N/A	N/A
NOTE 1: C&F MILLIER LTD. IS NOT IN THE SHIPPING STANDS BUSINESS ANYMORE.			
NOTE 2: PART NUMBER FOLLOWED BY "(*)" ARE NOT PROCURABLE ANYMORE.			

10 – List of CFM approved Shipping Stands



CFM			
	Shipping Stand	Cradle	Base
CFM56-2C	(Cradle + Base P/N)	856A1201G06	856A1202G04
CFM56-3	N/A	N/A	N/A
CFM56-5A	N/A	N/A	N/A
CFM56-5B	N/A	N/A	N/A
CFM56-5C	N/A	N/A	N/A
CFM56-7B	N/A	N/A	N/A

Dedienne Aerospace			
	Shipping Stand	Cradle	Base
CFM56-2C	N/A	N/A	N/A
CFM56-3	N/A	N/A	N/A
CFM56-5A	D71STA00004G03 (*)	D71CRA00004G03 (*)	D71TRO00005G01
	D71STA00004G08	D71CRA00004G09	
CFM56-5B	D71STA00004G03 (*)	D71CRA00004G03 (*)	D71TRO00005G01
	D71STA00004G08	D71CRA00004G09	
CFM56-5C	N/A	N/A	N/A
CFM56-7B	D71STA00005G02	D71CRA00005G02	D71TRO00005G03
NOTE 1: PART NUMBERS FOLLOWED BY "(*)" ARE NOT PROCURABLE ANYMORE.			

10 – List of CFM approved Shipping Stands



Frank Brown & Son Ltd.			
	Shipping Stand	Cradle	Base
CFM56-2C	N/A	N/A	N/A
CFM56-3	(Cradle + Base P/N)	FB 70.0001	FB 70.0002
CFM56-5A	(Cradle + Base P/N)	FB 70010-1	FB 70010-2
CFM56-5B	(Cradle + Base P/N)	FB 70-010-1B	FB 70-077-200
CFM56-5C	(Cradle + Base P/N)	FB 70020-100	FB 70020-200
CFM56-7B	(Cradle + Base P/N)	FB70077-100	FB70077-200

Stanley Aviation			
	Shipping Stand	Cradle	Base
CFM56-2C	N/A	N/A	N/A
CFM56-3	(Cradle + Base P/N)	110702	110701
CFM56-5A	(Cradle + Base P/N)	111502-1	111515-1
CFM56-5B	(Cradle + Base P/N)	111502-1	111515-1
CFM56-5C	(Cradle + Base P/N)	111602	111515
CFM56-7B	(Cradle + Base P/N)	114702-1	114701-1



11 - Shipping Stands Dimensions

11 - Shipping Stands Dimensions



Shipping Stand (Base and Cradle) dimensions for CFM56-2C									
Characteristics			HEIGHT	WIDTH	LENGTH	LENGTH	WEIGHT	WEIGHT	WEIGHT
Engine Shipping Stand Model			with engine	with engine	with bare engine	with QEC engine	Stand Only	with bare engine	with QEC engine
BASE AND CRADLE									
Manufacturer: <i>Shipping Stand</i>									
CFMI	<i>Cradle</i>	856A1201G06	99	90	133	209	2 447	7 081	7 692
	<i>Base</i>	856A1202G04	(2515)	(2286)	(3378)	(5309)	(1110)	(3212)	(3489)
Engine Cradle dimensions for CFM56-2C									
Characteristics			HEIGHT	WIDTH	LENGTH	LENGTH	WEIGHT	WEIGHT	WEIGHT
Engine Cradle Model			with engine	with engine	with bare engine	with QEC engine	Cradle Only	with bare engine	with QEC engine
CRADLE ONLY									
Manufacturer:									
CFMI	<i>Cradle</i>	856A1201G06	97	86	129	209	1 049	5 683	6 294
			(2464)	(2184)	(3277)	(5309)	(476)	(2578)	(2855)
NOTE 1:									
DIMENSIONS ARE GIVEN IN INCHES WITH MILLIMETERS IN PARENTHESES.									
WEIGHTS ARE GIVEN IN POUNDS WITH KILOGRAMMES IN PARENTHESES.									
NOTE 2:									
HEIGHT INCLUDES STANDARD PALLET 2 INCHES THICK.									

11 - Shipping Stands Dimensions



Shipping Stands (Base and Cradle) dimensions for CFM56-3									
Characteristics			HEIGHT	WIDTH	LENGTH	LENGTH	WEIGHT	WEIGHT	WEIGHT
Engine Shipping Stand Model			with engine	with engine	with bare engine	with QEC engine	Stand Only	with bare engine	with QEC engine
BASE AND CRADLE									
Manufacturer: <i>Shipping Stand</i>									
AGSE	<i>Cradle</i>	AM1802	96	99	172	201	4 409	8 685	10 109
	<i>Base</i>	AM2563	(2438)	(2515)	(4369)	(5105)	(2000)	(3939)	(4585)
Manufacturer: <i>Shipping Stand</i>									
C&F Millier Ltd.	<i>Cradle</i>	CFD 1157 (*)	88	97	172	192	4 813	9 089	10 513
	<i>Base</i>	CFD 1237 (*)	(2235)	(2464)	(4369)	(4877)	(2183)	(4123)	(4769)
Manufacturer: <i>Shipping Stand</i>									
Frank Brown & Son	<i>Cradle</i>	FB 70.0001	79	97	132	192	4 497	8 773	10 197
	<i>Base</i>	FB 70.0002	(2007)	(2464)	(3353)	(4877)	(2040)	(3979)	(4625)
Manufacturer: <i>Shipping Stand</i>									
Stanley	<i>Cradle</i>	110702	93	98	125	192	3 550	7 826	9 250
	<i>Base</i>	110701	(2362)	(2489)	(3175)	(4877)	(1610)	(3550)	(4196)
<p>NOTE 1: DIMENSIONS ARE GIVEN IN INCHES WITH MILLIMETERS IN PARENTHESES. WEIGHTS ARE GIVEN IN POUNDS WITH KILOGRAMMES IN PARENTHESES.</p> <p>NOTE 2: HEIGHT INCLUDES STANDARD PALLET 2 INCHES THICK.</p> <p>NOTE 3: PART NUMBERS FOLLOWED BY "(*)" ARE NOT PROCURABLE ANYMORE.</p>									

11 - Shipping Stands Dimensions



Cradles dimensions for CFM56-3								
Characteristics	HEIGHT with engine	WIDTH with engine	LENGTH with bare engine	LENGTH with QEC engine	WEIGHT Cradle Only	WEIGHT with bare engine	WEIGHT with QEC engine	
Engine Cradle Model								
CRADLE ONLY								
Manufacturer: AGSE <i>Cradle</i> AM1802	92 (2337)	96 (2438)	132 (3353)	192 (4877)	1 232 (559)	5 508 (2498)	6 932 (3144)	
Manufacturer: C&F Millier <i>Cradle</i> Ltd. CFD 1157 (*)	76 (1930)	97 (2464)	137 (3480)	192 (4877)	1 174 (533)	5 450 (2472)	6 874 (3118)	
Manufacturer: Frank Brown <i>Cradle</i> & Son FB 70.0001	76 (1930)	97 (2464)	113 (2870)	192 (4877)	1 697 (770)	5 973 (2709)	7 397 (3355)	
Manufacturer: Stanley <i>Cradle</i> 110702	Shipment on Stanley's cradle is not possible without the base.							
<p>NOTE 1: DIMENSIONS ARE GIVEN IN INCHES WITH MILLIMETERS IN PARENTHESES. WEIGHTS ARE GIVEN IN POUNDS WITH KILOGRAMMES IN PARENTHESES.</p> <p>NOTE 2: HEIGHT INCLUDES STANDARD PALLET 2 INCHES THICK.</p> <p>NOTE 3: PART NUMBERS FOLLOWED BY "(*)" ARE NOT PROCURABLE ANYMORE.</p>								

11 - Shipping Stands Dimensions



Shipping Stands (Base and Cradle) dimensions for CFM56-5A (1/2)									
Characteristics			HEIGHT	WIDTH	LENGTH	LENGTH	WEIGHT	WEIGHT	WEIGHT
Engine Shipping Stand Model			with engine	with engine	with bare engine	with QEC engine	Stand Only	with bare engine	with QEC engine
BASE AND CRADLE									
Manufacturer: <i>Shipping Stand</i>									
AGSE	<i>Cradle</i>	AM2088	96	96	155	201	4 231	9 088	9 847
	<i>Base</i>	AM2563	(2438)	(2438)	(3937)	(5105)	(1919)	(4122)	(4467)
Manufacturer: <i>Shipping Stand</i>									
AGSE	<i>Cradle</i>	AM2718	101	99	157	201	4 385	9 242	10 001
	<i>Base</i>	AM2563	(2563)	(2515)	(3988)	(5099)	(1989)	(4192)	(4536)
Manufacturer: <i>Shipping Stand</i>									
AGSE	<i>Cradle</i>	E208-G01	101	99	153	201	5 803	10 660	11 419
	<i>Base</i>	AM2563	(2566)	(2515)	(3874)	(5099)	(2632)	(4835)	(5180)
Manufacturer: <i>Shipping Stand</i>									
C&F Millier Ltd.	<i>Cradle</i>	CFD 1208 (*)	88	97	172	201	4 813	9 670	10 429
	<i>Base</i>	CFD 1237 (*)	(2235)	(2464)	(4369)	(5099)	(2183)	(4386)	(4731)
<p>NOTE 1: DIMENSIONS ARE GIVEN IN INCHES WITH MILLIMETERS IN PARENTHESES. WEIGHTS ARE GIVEN IN POUNDS WITH KILOGRAMMES IN PARENTHESES.</p> <p>NOTE 2: HEIGHT INCLUDES STANDARD PALLET 2 INCHES THICK.</p> <p>NOTE 3: PART NUMBERS FOLLOWED BY "(*)" ARE NOT PROCURABLE ANYMORE.</p>									

11 - Shipping Stands Dimensions



Shipping Stands (Base and Cradle) dimensions for CFM56-5A (2/2)								
Characteristics		HEIGHT	WIDTH	LENGTH	LENGTH	WEIGHT	WEIGHT	WEIGHT
Engine Shipping Stand Model		with engine	with engine	with bare engine	with QEC engine	Stand Only	with bare engine	with QEC engine
BASE AND CRADLE								
Manufacturer: <i>Shipping Stand</i>	D71STA00004G03 (*)							
Dedienne <i>Cradle</i>	D71CRA00004G03 (*)	98	96	168	201	5 247	10 104	10 863
Aerospace <i>Base</i>	D71TRO00005G01	(2489)	(2438)	(4267)	(5105)	(2380)	(4583)	(4927)
Manufacturer: <i>Shipping Stand</i>	D71STA00004G08							
Dedienne <i>Cradle</i>	D71CRA00004G09	98	96	168	201	5 247	10 104	10 863
Aerospace <i>Base</i>	D71TRO00005G01	(2489)	(2438)	(4267)	(5105)	(2380)	(4583)	(4927)
Manufacturer: <i>Shipping Stand</i>								
Frank Brown <i>Cradle</i>	FB 70010-1	79	97	132	201	4 497	9 354	10 113
& Son <i>Base</i>	FB 70010-2	(2007)	(2464)	(3353)	(5099)	(2040)	(4243)	(4587)
Manufacturer: <i>Shipping Stand</i>								
Stanley <i>Cradle</i>	111502-1	93	98	125	201	3 550	8 407	9 166
<i>Base</i>	111515-1	(2362)	(2489)	(3175)	(5099)	(1610)	(3813)	(4158)
<p>NOTE 1: DIMENSIONS ARE GIVEN IN INCHES WITH MILLIMETERS IN PARENTHESES. WEIGHTS ARE GIVEN IN POUNDS WITH KILOGRAMMES IN PARENTHESES.</p> <p>NOTE 2: HEIGHT INCLUDES STANDARD PALLET 2 INCHES THICK.</p> <p>NOTE 3: PART NUMBERS FOLLOWED BY "(*)" ARE NOT PROCURABLE ANYMORE.</p>								

11 - Shipping Stands Dimensions



Cradles dimensions for CFM56-5A (1/2)									
Characteristics			HEIGHT	WIDTH	LENGTH	LENGTH	WEIGHT	WEIGHT	WEIGHT
Engine Cradle Model			with engine	with engine	with bare engine	with QEC engine	Cradle Only	with bare engine	with QEC engine
CRADLE ONLY									
Manufacturer:									
AGSE	<i>Cradle</i>	AM2088	92 (2337)	96 (2438)	132 (3353)	201 (5099)	1 631 (740)	6 488 (2943)	7 247 (3287)
Manufacturer:									
AGSE	<i>Cradle</i>	AM2718	107 (2712)	97 (2451)	116 (2943)	201 (5099)	1 784 (809)	6 641 (3012)	7 400 (3357)
Manufacturer:									
AGSE	<i>Cradle</i>	E208-G01	105 (2674)	96 (2438)	116 (2943)	201 (5099)	3 201 (1452)	8 058 (3655)	8 817 (3999)
Manufacturer:									
C&F Millier Ltd.	<i>Cradle</i>	CFD 1208 (*)	76 (1930)	96 (2438)	115 (2921)	201 (5099)	2 176 (987)	7 033 (3190)	7 792 (3534)
<p>NOTE 1: DIMENSIONS ARE GIVEN IN INCHES WITH MILLIMETERS IN PARENTHESES. WEIGHTS ARE GIVEN IN POUNDS WITH KILOGRAMMES IN PARENTHESES.</p> <p>NOTE 2: HEIGHT INCLUDES STANDARD PALLET 2 INCHES THICK.</p> <p>NOTE 3: PART NUMBERS FOLLOWED BY "(*)" ARE NOT PROCURABLE ANYMORE.</p>									

11 - Shipping Stands Dimensions



Cradles dimensions for CFM56-5A (2/2)								
Characteristics	HEIGHT with engine	WIDTH with engine	LENGTH with bare engine	LENGTH with QEC engine	WEIGHT Cradle Only	WEIGHT with bare engine	WEIGHT with QEC engine	
Engine Cradle Model								
CRADLE ONLY								
Manufacturer: Dedienne Cradle Aerospace	D71CRA00004G03 (*)	96 (2438)	96 (2438)	116 (2946)	201 (5105)	2 866 (1300)	7 723 (3503)	8 482 (3847)
Manufacturer: Dedienne Cradle Aerospace	D71CRA00004G09	96 (2438)	96 (2438)	116 (2946)	201 (5105)	2 866 (1300)	7 723 (3503)	8 482 (3847)
Manufacturer: Frank Brown Cradle & Son	FB 70010-1	92 (2337)	98 (2489)	116 (2946)	201 (5099)	2 050 (930)	6 907 (3133)	7 666 (3477)
Manufacturer: Stanley Cradle	111502-1	Shipment on Stanley's cradle is not possible without the base.						
<p>NOTE 1: DIMENSIONS ARE GIVEN IN INCHES WITH MILLIMETERS IN PARENTHESES. WEIGHTS ARE GIVEN IN POUNDS WITH KILOGRAMMES IN PARENTHESES.</p> <p>NOTE 2: HEIGHT INCLUDES STANDARD PALLET 2 INCHES THICK.</p> <p>NOTE 3: PART NUMBERS FOLLOWED BY "(*)" ARE NOT PROCURABLE ANYMORE.</p>								

11 - Shipping Stands Dimensions



Shipping Stands (Base and Cradle) dimensions for CFM56-5B (1/2)									
Characteristics			HEIGHT	WIDTH	LENGTH	LENGTH	WEIGHT	WEIGHT	WEIGHT
Engine Shipping Stand Model			with engine	with engine	with bare engine	with QEC engine	Stand Only	with bare engine	with QEC engine
BASE AND CRADLE									
Manufacturer: <i>Shipping Stand</i>									
AGSE	<i>Cradle</i>	AM2718	101	99	157	201	4 384	9 841	10 634
	<i>Base</i>	AM2563	(2563)	(2515)	(3988)	(5099)	(1989)	(4464)	(4824)
Manufacturer: <i>Shipping Stand</i>									
AGSE	<i>Cradle</i>	E208-G01	101	99	153	201	5 803	11 260	12 053
	<i>Base</i>	AM2563	(2566)	(2515)	(3874)	(5099)	(2632)	(5107)	(5467)
Manufacturer: <i>Shipping Stand</i>									
Dedienne	<i>Cradle</i>	D71STA00004G03 (*)	98	96	168	201	5 247	10 704	11 497
Aerospace	<i>Base</i>	D71CRA00004G03 (*)	(2489)	(2438)	(4267)	(5105)	(2380)	(4855)	(5215)
		D71TRO00005G01							
Manufacturer: <i>Shipping Stand</i>									
Dedienne	<i>Cradle</i>	D71STA00004G08	98	96	168	201	5 247	10 704	11 497
Aerospace	<i>Base</i>	D71CRA00004G09	(2489)	(2438)	(4267)	(5105)	(2380)	(4855)	(5215)
		D71TRO00005G01							
<p>NOTE 1: DIMENSIONS ARE GIVEN IN INCHES WITH MILLIMETERS IN PARENTHESES. WEIGHTS ARE GIVEN IN POUNDS WITH KILOGRAMMES IN PARENTHESES.</p> <p>NOTE 2: HEIGHT INCLUDES STANDARD PALLET 2 INCHES THICK.</p> <p>NOTE 3: PART NUMBERS FOLLOWED BY "(*)" ARE NOT PROCURABLE ANYMORE.</p>									

11 - Shipping Stands Dimensions



Shipping Stands (Base and Cradle) dimensions for CFM56-5B (2/2)

Characteristics		HEIGHT	WIDTH	LENGTH	LENGTH	WEIGHT	WEIGHT	WEIGHT
Engine Shipping Stand Model		with engine	with engine	with bare engine	with QEC engine	Stand Only	with bare engine	with QEC engine
BASE AND CRADLE								
Manufacturer: <i>Shipping Stand</i>								
Frank Brown & Son	<i>Cradle</i>	FB 70-010-1B	93	98	181	201	4 810	10 267
	<i>Base</i>	FB 70-077-200	(2362)	(2489)	(4597)	(5099)	(2182)	(4657)
			(5017)					
Manufacturer: <i>Shipping Stand</i>								
Stanley	<i>Cradle</i>	111502-1	95	98	142	201	5 520	10 977
	<i>Base</i>	111515-1	(2413)	(2489)	(3607)	(5099)	(2504)	(4979)
			(5339)					
NOTE 1: DIMENSIONS ARE GIVEN IN INCHES WITH MILLIMETERS IN PARENTHESES. WEIGHTS ARE GIVEN IN POUNDS WITH KILOGRAMMES IN PARENTHESES.								
NOTE 2: HEIGHT INCLUDES STANDARD PALLET 2 INCHES THICK.								

11 - Shipping Stands Dimensions



Cradles dimensions for CFM56-5B (1/2)									
Characteristics		HEIGHT	WIDTH	LENGTH	LENGTH	WEIGHT	WEIGHT	WEIGHT	
Engine Cradle Model		with engine	with engine	with bare engine	with QEC engine	Cradle Only	with bare engine	with QEC engine	
CRADLE ONLY									
Manufacturer:									
AGSE	<i>Cradle</i>	AM2718	107 (2712)	97 (2451)	116 (2943)	201 (5099)	1 784 (809)	7 241 (3284)	8 034 (3644)
Manufacturer:									
AGSE	<i>Cradle</i>	E208-G01	105 (2674)	96 (2438)	116 (2943)	201 (5099)	3 201 (1452)	8 658 (3927)	9 451 (4287)
Manufacturer:									
Dedienne Aerospace	<i>Cradle</i>	D71CRA00004G03 (*)	96 (2438)	96 (2438)	116 (2946)	201 (5105)	2 866 (1300)	8 323 (3775)	9 116 (4135)
Manufacturer:									
Dedienne Aerospace	<i>Cradle</i>	D71CRA00004G09	96 (2438)	96 (2438)	116 (2946)	201 (5105)	2 866 (1300)	8 323 (3775)	9 116 (4135)
NOTE 1: DIMENSIONS ARE GIVEN IN INCHES WITH MILLIMETERS IN PARENTHESES. WEIGHTS ARE GIVEN IN POUNDS WITH KILOGRAMMES IN PARENTHESES.									
NOTE 2: HEIGHT INCLUDES STANDARD PALLET 2 INCHES THICK.									
NOTE 3: PART NUMBERS FOLLOWED BY "(*)" ARE NOT PROCURABLE ANYMORE.									

11 - Shipping Stands Dimensions



Cradles dimensions for CFM56-5B (2/2)

Characteristics		HEIGHT	WIDTH	LENGTH	LENGTH	WEIGHT	WEIGHT	WEIGHT
Engine Cradle Model		with engine	with engine	with bare engine	with QEC engine	Cradle Only	with bare engine	with QEC engine
CRADLE ONLY								
Manufacturer:								
Frank Brown & Son Cradle	FB 70-010-1B	86 (2184)	98 (2489)	116 (2946)	198 (5029)	2 033 (922)	7 490 (3397)	8 283 (3757)
Manufacturer:		Shipment on Stanley's cradle is not possible without the base.						
Stanley Cradle	111502-1							
NOTE 1: DIMENSIONS ARE GIVEN IN INCHES WITH MILLIMETERS IN PARENTHESES. WEIGHTS ARE GIVEN IN POUNDS WITH KILOGRAMMES IN PARENTHESES.								
NOTE 2: HEIGHT INCLUDES STANDARD PALLET 2 INCHES THICK.								

11 - Shipping Stands Dimensions



Shipping Stands (Base and Cradle) dimensions for CFM56-5C									
Characteristics			HEIGHT	WIDTH	LENGTH	LENGTH	WEIGHT	WEIGHT	WEIGHT
Engine Shipping Stand Model			with engine	with engine	with bare engine	with QEC engine	Stand Only	with bare engine	with QEC engine
BASE AND CRADLE									
Manufacturer: <i>Shipping Stand</i>									
AGSE	<i>Cradle</i>	AM2387	96	96	155	224	4 750	10 475	12 250
	<i>Base</i>	AM2563	(2438)	(2438)	(3937)	(5690)	(2155)	(4751)	(5557)
Manufacturer: <i>Shipping Stand</i>									
C&F Millier Ltd.	<i>Cradle</i>	CFD 1400-00 (*)	118	96	133	224	6 498	12 223	13 998
	<i>Base</i>	CFD 1400-02 (*)	(2997)	(2438)	(3378)	(5690)	(2947)	(5544)	(6349)
Manufacturer: <i>Shipping Stand</i>									
Frank Brown & Son	<i>Cradle</i>	FB 70020-100	114	102	181	224	4 912	10 637	12 412
	<i>Base</i>	FB 70020-200	(2896)	(2591)	(4597)	(5690)	(2228)	(4825)	(5630)
Manufacturer: <i>Shipping Stand</i>									
Stanley	<i>Cradle</i>	111602	107	98	172	224	4 450	10 175	11 950
	<i>Base</i>	111515	(2718)	(2489)	(4369)	(5690)	(2018)	(4615)	(5420)
<p>NOTE 1: DIMENSIONS ARE GIVEN IN INCHES WITH MILLIMETERS IN PARENTHESES. WEIGHTS ARE GIVEN IN POUNDS WITH KILOGRAMMES IN PARENTHESES.</p> <p>NOTE 2: HEIGHT INCLUDES STANDARD PALLET 2 INCHES THICK.</p> <p>NOTE 3: PART NUMBERS FOLLOWED BY "(*)" ARE NOT PROCURABLE ANYMORE.</p>									

11 - Shipping Stands Dimensions



Cradles dimensions for CFM56-5C								
Characteristics		HEIGHT with engine	WIDTH with engine	LENGTH with bare engine	LENGTH with QEC engine	WEIGHT Cradle Only	WEIGHT with bare engine	WEIGHT with QEC engine
Engine Cradle Model								
CRADLE ONLY								
Manufacturer: AGSE <i>Cradle</i>	AM2387	92 (2337)	96 (2438)	132 (3353)	224 (5690)	2 150 (975)	7 875 (3572)	9 650 (4377)
Manufacturer: C&F Millier Ltd. <i>Cradle</i>	CFD 1400-00 (*)	106 (2692)	96 (2438)	133 (3378)	224 (5690)	3 200 (1451)	8 925 (4048)	10 700 (4853)
Manufacturer: Frank Brown & Son <i>Cradle</i>	FB 70020-100	103 (2616)	102 (2591)	123 (3124)	224 (5690)	2 115 (959)	7 840 (3556)	9 615 (4361)
Manufacturer: Stanley <i>Cradle</i>	111602	Shipment on Stanley's cradle is not possible without the base.						
<p>NOTE 1: DIMENSIONS ARE GIVEN IN INCHES WITH MILLIMETERS IN PARENTHESES. WEIGHTS ARE GIVEN IN POUNDS WITH KILOGRAMMES IN PARENTHESES.</p> <p>NOTE 2: HEIGHT INCLUDES STANDARD PALLET 2 INCHES THICK.</p> <p>NOTE 3: PART NUMBERS FOLLOWED BY "(*)" ARE NOT PROCURABLE ANYMORE.</p>								

11 - Shipping Stands Dimensions



Shipping Stands (Base and Cradle) dimensions for CFM56-7B

Engine Shipping Stand Model		Characteristics	HEIGHT with engine	WIDTH with engine	LENGTH with bare engine	LENGTH with QEC engine	WEIGHT Stand Only	WEIGHT with bare engine	WEIGHT with QEC engine
BASE AND CRADLE									
Manufacturer: <i>Shipping Stand</i>									
AGSE	<i>Cradle</i>	AM2811	96	99	171	201	4 420	9 573	10 848
	<i>Base</i>	AM2563	(2438)	(2515)	(4343)	(5105)	(2005)	(4342)	(4921)
Manufacturer: <i>Shipping Stand</i>		D71STA00005G02							
Dedienne	<i>Cradle</i>	D71CRA00005G02	94	99	194	207	4 828	9 981	11 256
Aerospace	<i>Base</i>	D71TRO00005G03	(2388)	(2515)	(4928)	(5258)	(2190)	(4527)	(5106)
Manufacturer: <i>Shipping Stand</i>									
Frank Brown & Son	<i>Cradle</i>	FB70077-100	89	96	143	236	4 799	9 952	11 227
	<i>Base</i>	FB70077-200	(2261)	(2438)	(3632)	(5994)	(2177)	(4514)	(5092)
Manufacturer: <i>Shipping Stand</i>									
Stanley	<i>Cradle</i>	114702-1	87	98	128	207	3 918	9 071	10 346
	<i>Base</i>	114701-1	(2210)	(2489)	(3251)	(5258)	(1777)	(4115)	(4693)
NOTE 1:									
DIMENSIONS ARE GIVEN IN INCHES WITH MILLIMETERS IN PARENTHESES.									
WEIGHTS ARE GIVEN IN POUNDS WITH KILOGRAMMES IN PARENTHESES.									
NOTE 2:									
HEIGHT INCLUDES STANDARD PALLET 2 INCHES THICK.									

11 - Shipping Stands Dimensions



Cradles dimensions for CFM56-7B								
Characteristics	HEIGHT with engine	WIDTH with engine	LENGTH with bare engine	LENGTH with QEC engine	WEIGHT Stand Only	WEIGHT with bare engine	WEIGHT with QEC engine	
Engine Cradle Model								
CRADLE ONLY								
Manufacturer: AGSE <i>Cradle</i> AM2811	92 (2337)	96 (2438)	132 (3353)	199 (5055)	1 821 (826)	6 974 (3163)	8 249 (3742)	
Manufacturer: Dedienne Aerospace <i>Cradle</i> D71CRA00005G02	91 (2311)	95 (2413)	105 (2667)	207 (5258)	2 205 (1000)	7 358 (3338)	8 633 (3916)	
Manufacturer: Frank Brown & Son <i>Cradle</i> FB70077-100	85 (2159)	96 (2438)	118 (2997)	207 (5258)	2 000 (907)	7 153 (3245)	8 428 (3823)	
Manufacturer: Stanley <i>Cradle</i> 114702-1	Shipment on Stanley's cradle is not possible without the base.							
NOTE 1: DIMENSIONS ARE GIVEN IN INCHES WITH MILLIMETERS IN PARENTHESES. WEIGHTS ARE GIVEN IN POUNDS WITH KILOGRAMMES IN PARENTHESES.								
NOTE 2: HEIGHT INCLUDES STANDARD PALLET 2 INCHES THICK.								



12 - Shipping Stands Manufacturers Contacts

12 - Shipping Stands Manufacturers Contacts



Name	AGSE LLC	Stanley Aviation
Address	10805 Painter Avenue Santa Fe Springs CA 90670 U.S.A.	
Telephone	+1 562-906-9300	
Fax	+1 562-906-9308	
Website	www.agsecorp.com	www.stanley-aviation.com
Email	agse@agsecorp.com	sales@stanley-aviation.com

Name	Dedienne Aerospace
Address	ZAC de Saint Martin 5 rue Gaye Marie 31300 Toulouse France
Telephone	+33 (0) 5 61 06 77 79
Website	www.dedienne-aero.com
Email	contact@dedienne-aero.com

Name	Frank Brown & Son Ltd.
Address	87 - 105 Wingate Road Luton LU4 8QA United Kingdom
Telephone	+44 (0)1582 597246
Fax	+44 (0)1582 505959
Website	www.frankbrown.co.uk
Email	enquiries@frankbrown.co.uk

Name	CFM S.A.	CFM Inc.
Address	Snecma 2, chemin de Viercy Aérodrome de Villaroche 77019 Montereau-sur-le-Jard France	1 Neumann Way Cincinnati OH 45215 U.S.A.
Telephone	+33 (0) 1 64 14 88 66	+1 513-552-3272
Fax	+33 (0) 1 64 79 85 55	+1 513-552-3329
Website	www.cfmaeroengines.com	
Email	snecma.csc@snecma.fr	geae.aoc@ge.com
		geae.choc@ge.com



13 - CFM Customer Support Contacts

13 - CFM Customer Support Contacts



For any information regarding CFM56 engine transportation, please contact CFM Customer Support:

Name	CFM S.A.	CFM Inc.
Address	Snecma 2, chemin de Viercy Aérodrome de Villaroche 77019 Montereau-sur-le-Jard France	1 Neumann Way Cincinnati OH 45215 U.S.A.
Telephone	+33 (0) 1 64 14 88 66	+1 513-552-3272
Fax	+33 (0) 1 64 79 85 55	+1 513-552-3329
Website	www.cfmaeroengines.com	
Email	snecma.csc@snecma.fr	geae.aoc@ge.com
		geae.choc@ge.com

Annexure Certificate

No. NSD 714 of 2020

Federal Court of Australia
District Registry: New South Wales
Division: General

Wells Fargo Trust Company, National Association (as owner trustee) and others named in schedule 1

Applicants

VB Leaseco Pty Ltd (Administrators Appointed) ACN 134 268 741 and others named in schedule 1

Respondents

Annexure GF-3

This is the annexure referred to as **GF-3** in the affidavit of Garry Failler, affirmed 8 July 2020.

Before me:



Signature of witness
SAFWYA ICHAU

Australian Legal Practitioner within the meaning of the Legal Profession Uniform Law (NSW)

Filed on behalf of (name & role of party)	Applicants
Prepared by (name of person/lawyer)	Noel McCoy
Law firm (if applicable)	Norton Rose Fulbright Australia
Tel	+61 2 9330 8000
Fax	+61 2 9330 8111
Email	vittorio.casamento@nortonrosefulbright.com
Ref	4015052
Address for service	Level 5, 60 Martin Place, Sydney NSW 2000
(include state and postcode)	Email: vittorio.casamento@nortonrosefulbright.com

1. Approving Civil Aviation Authority/Country: FAA/United States		2. AUTHORIZED RELEASE CERTIFICATE FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG			3. Form Tracking Number:	
4. Organization Name and Address:					5. Work Order/Contract/Invoice Number:	
6. Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	11. Status/Work:	
12. Remarks:						
13a. Certifies the items identified above were manufactured in conformity to: <input type="checkbox"/> Approved design data and are in a condition for safe operation. <input type="checkbox"/> Non-approved design data specified in Block 12.			14a. <input type="checkbox"/> 14 CFR 43.9 Return to Service <input type="checkbox"/> Other regulation specified in Block 12 Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.			
13b. Authorized Signature:		13c. Approval/Authorization No.:	14b. Authorized Signature:		14c. Approval/Certificate No.:	
13d. Name (Typed or Printed):		13e. Date (dd/mmm/yyyy):	14d. Name (Typed or Printed):		14e. Date (dd/mmm/yyyy):	
User/Installer Responsibilities						
<p>It is important to understand that the existence of this document alone does not automatically constitute authority to install the aircraft engine/propeller/article.</p> <p>Where the user/installer performs work in accordance with the national regulations of an airworthiness authority different than the airworthiness authority of the country specified in Block 1, it is essential that the user/installer ensures that his/her airworthiness authority accepts aircraft engine(s)/propeller(s)/article(s) from the airworthiness authority of the country specified in Block 1.</p> <p>Statements in Blocks 13a and 14a do not constitute installation certification. In all cases, aircraft maintenance records must contain an installation certification issued in accordance with the national regulations by the user/installer before the aircraft may be flown.</p>						

Annexure Certificate

No. NSD 714 of 2020

Federal Court of Australia
District Registry: New South Wales
Division: General

Wells Fargo Trust Company, National Association (as owner trustee) and others named in schedule 1

Applicants

VB Leaseco Pty Ltd (Administrators Appointed) ACN 134 268 741 and others named in schedule 1

Respondents

Annexure GF-4

This is the annexure referred to as **GF-4** in the affidavit of Garry Failler, affirmed 8 July 2020.

Before me:



Signature of witness

SAFIYYA KHAN

Australian Legal Practitioner within the meaning of the Legal Profession Uniform Law (NSW)

Filed on behalf of (name & role of party)	Applicants		
Prepared by (name of person/lawyer)	Noel McCoy		
Law firm (if applicable)	Norton Rose Fulbright Australia		
Tel	+61 2 9330 8000	Fax	+61 2 9330 8111
Email	vittorio.casamento@nortonrosefulbright.com	Ref	4015052
Address for service	Level 5, 60 Martin Place, Sydney NSW 2000		
(include state and postcode)	Email: vittorio.casamento@nortonrosefulbright.com		

1. Approving Component Authority /Country Swedish Transport Agency / Sweden		2.				3. Form Tracking number	
AUTHORISED RELEASE CERTIFICATE EASA FORM 1						5. Work Order/Contract/Invoice	
4. Organisation Name and Address							
6. Item	7. Description	8. Part No	9. Qty	10. Serial No	11. Status/Work		
12. Remarks							
13.a. Certifies that the items identified above were manufactured in conformity to: <input type="checkbox"/> approved design data and are in a condition for safe operation <input type="checkbox"/> non-approved design data specified in block 12				14.a <input type="checkbox"/> Part-145.A.50 Release to Service <input type="checkbox"/> Other regulation specified in block 12 Certifies that unless otherwise specified in block 12, the work identified in block 11 and described in block 12, was accomplished in accordance with Part-145 and in respect to that work the items are considered ready for release to service.			
13.b. Authorised Signature		13.c. Approval/Authorisation Number		14.b. Authorised Signature		14.c. Certificate/Approval Ref.No.	
13.d. Name		13.e. Date (dd mmm yyyy)		14.d. Name		14.e. Date (dd mmm yyyy)	
USER/INSTALLER RESPONSIBILITIES This certificate does not automatically constitute authority to install the item(s). Where the user/installer performs work in accordance with regulations of an airworthiness authority different than the airworthiness authority specified in block 1, it is essential that the user/installer ensures that his/her airworthiness authority accepts items from the airworthiness authority specified in block 1. Statements in block 13a and 14 a do not constitute installation certification. In all cases aircraft maintenance records must contain an installation certification issued in accordance with the national regulations by the user/installer before the aircraft may be flown.							

Annexure Certificate

No. NSD 714 of 2020

Federal Court of Australia
District Registry: New South Wales
Division: General

Wells Fargo Trust Company, National Association (as owner trustee) and others named in schedule 1

Applicants

VB Leaseco Pty Ltd (Administrators Appointed) ACN 134 268 741 and others named in schedule 1

Respondents

Annexure GF-5

This is the annexure referred to as **GF-5** in the affidavit of Garry Failler, affirmed 8 July 2020.

Before me:



Signature of witness
SARFUYA KHAN

Australian Legal Practitioner within the meaning of the Legal Profession Uniform Law (NSW)

Filed on behalf of (name & role of party)	Applicants
Prepared by (name of person/lawyer)	Noel McCoy
Law firm (if applicable)	Norton Rose Fulbright Australia
Tel	+61 2 9330 8000
Fax	+61 2 9330 8111
Email	vittorio.casamento@nortonrosefulbright.com
Ref	4015052
Address for service	Level 5, 60 Martin Place, Sydney NSW 2000
(include state and postcode)	Email: vittorio.casamento@nortonrosefulbright.com



US Department
of Transportation
Federal Aviation
Administration

MAJOR REPAIR AND ALTERATION (Airframe, Powerplant, Propeller, or Appliance)

OMB No. 2120-0020
Exp: 5/31/2018

Electronic Tracking Number

For FAA Use Only

INSTRUCTIONS: Print or type all entries. See Title 14 CFR §43.9, Part 43 Appendix B, and AC 43.9-1 (or subsequent revision thereof) for instructions and disposition of this form. This report is required by law (49 U.S.C. §44701). Failure to report can result in a civil penalty for each such violation. (49 U.S.C. §46301(a))

1. Aircraft	Nationality and Registration Mark	Serial No.		
	Make	Model	Series	
2. Owner	Name (As shown on registration certificate)		Address (As shown on registration certificate)	
			Address _____	
			City _____	State _____
			Zip _____	Country _____

3. For FAA Use Only

4. Type		5. Unit Identification			
Repair	Alteration	Unit	Make	Model	Serial No.
<input type="checkbox"/>	<input type="checkbox"/>	AIRFRAME	_____	(As described in Item 1 above)	_____
<input type="checkbox"/>	<input type="checkbox"/>	POWERPLANT			
<input type="checkbox"/>	<input type="checkbox"/>	PROPELLER			
<input type="checkbox"/>	<input type="checkbox"/>	APPLIANCE	Type		
			Manufacturer		

6. Conformity Statement

A. Agency's Name and Address		B. Kind of Agency	
Name _____	City _____ State _____ Zip _____ Country _____	<input type="checkbox"/> U. S. Certificated Mechanic	<input type="checkbox"/> Manufacturer
Address _____		<input type="checkbox"/> Foreign Certificated Mechanic	C. Certificate No.
City _____ State _____		<input type="checkbox"/> Certificated Repair Station	
Zip _____ Country _____		<input type="checkbox"/> Certificated Maintenance Organization	

D. I certify that the repair and/or alteration made to the unit(s) identified in item 5 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 43 of the U.S. Federal Aviation Regulations and that the information furnished herein is true and correct to the best of my knowledge.

Extended range fuel per 14 CFR Part 43 App. B <input type="checkbox"/>	Signature/Date of Authorized Individual
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7. Approval for Return to Service

Pursuant to the authority given persons specified below, the unit identified in item 5 was inspected in the manner prescribed by the Administrator of the Federal Aviation Administration and is Approved Rejected

BY	FAA Flt. Standards Inspector	Manufacturer	Maintenance Organization	Persons Approved by Canadian Department of Transport
	FAA Designee	Repair Station	Inspection Authorization	Other (Specify)

Certificate or Designation No.	Signature/Date of Authorized Individual
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NOTICE

Weight and balance or operating limitation changes shall be entered in the appropriate aircraft record. An alteration must be compatible with all previous alterations to assure continued conformity with the applicable airworthiness requirements.

8. Description of Work Accomplished

(If more space is required, attach additional sheets. Identify with aircraft nationality and registration mark and date work completed.)

Nationality and Registration Mark Date

Additional Sheets Are Attached