

# Aviation Warranty Solutions Limited

## Harish Shah MA Founder and Director

- A specialist with over 35 years experience in warranty/ guarantee recovery .
- Educated with a Master of Arts in Management Studies
- In depth knowledge of contract negotiations and administration of all aircraft warranty and guarantee related matters



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## Discussion Topics

- The processing of warranty claims is not as straightforward as it might appear.

*In early operation, engine failures will typically be looked after by OEMs at nominated repair stations.*

- When engine warranty expires, parts warranty comes into play.

*How do such warranties work?*

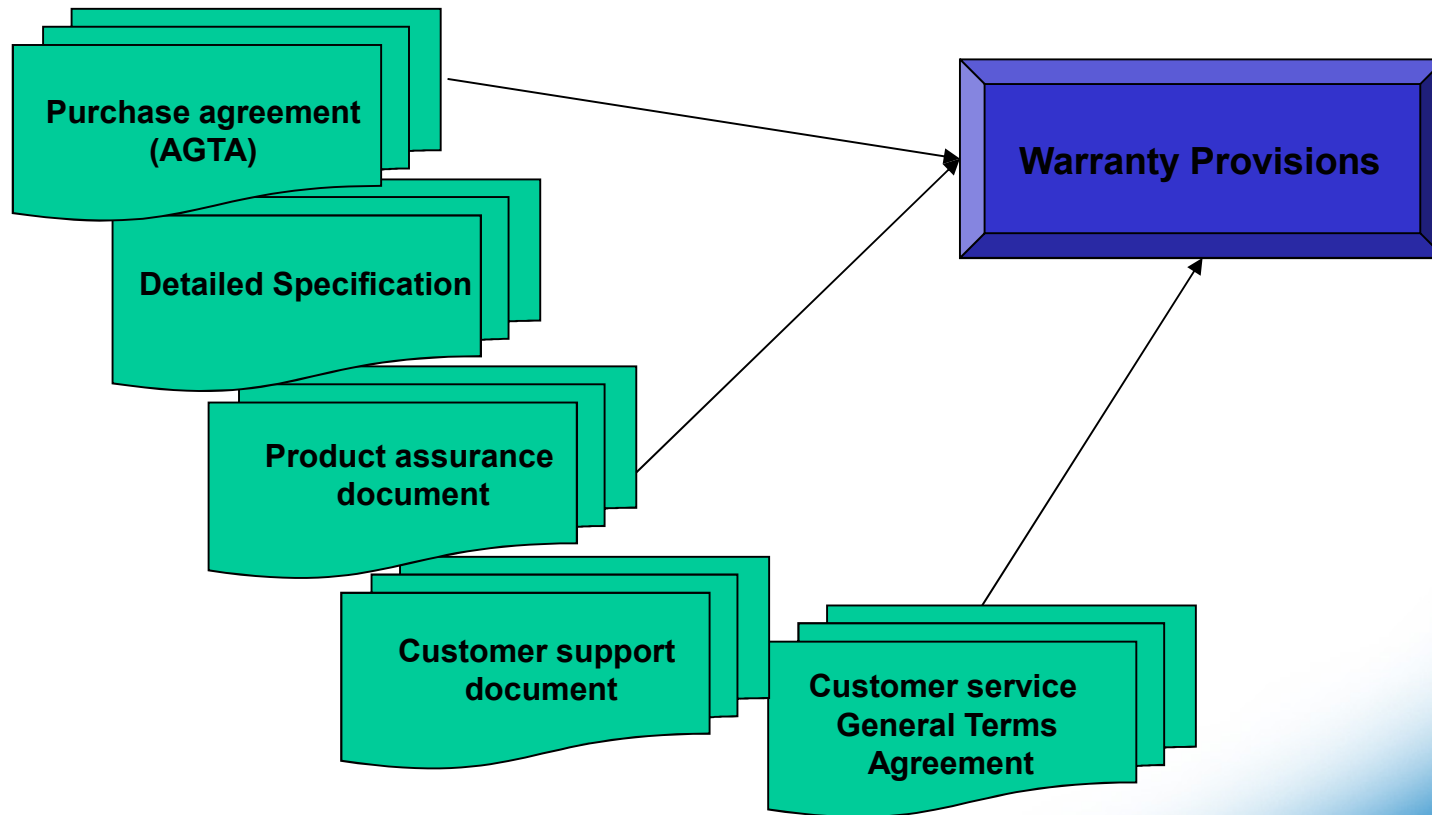
*Are they merely issued against parts failures or do they come into play for other reasons?*

- What happens if in-service parts lives are reduced?
- What happens if parts are continually scrapped after just one period in service?
- What is the process of making such claims?



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## Primary Contractual Documents



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## **Additional Warranty Information may be found in the following documents:**

- Letter Agreements to the Purchase Agreement. (Side letters)
- Delivery Exception and Commitment Letters
- Service Bulletins and Service Letters
- Program Letters
- Campaign Changes



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## Nature of warranty

Each warranted part shall be free from defects:

- in material
- in workmanship
- in design, having regard to the state of the art at the date of design
- arising from failure to conform to the specification

## The standard warranty does not apply to:

- Performance, estimates, approximations or design aims
- All standard parts
- All consumable material, as well as raw or bulk material



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***Warranty coverage is negotiated by direct contracts with the relevant suppliers.***

## **Engine Manufacturers**

- **Engine Manufacturer's normally provide new parts warranty of between 12 to 18 Months and hours limitations between 1000 and 3000.**

*Remedies usually cover the cost of the failed part or FOC repair but not the removal and refit labour or transportation unless negotiated prior to purchase.*

- **Engine Manufacturers also provide comprehensive Performance Guarantees spanning over several years that provide protection for an Operators fleet of engines normally covering :**

*Unscheduled Engine Shop Visit rates, In Flight Shutdowns*

*Engine Surges, Fuel Flow, Engine Caused Delays and Remote Site Engine removals*

**Performance Guarantee Remedies are normally in the form of cash compensation providing the reporting terms contained within the contract has been met.**



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***Warranty coverage is negotiated by direct contracts with the relevant suppliers.***

## Engine Repair Shops

→ Engine Repair Shops provide Warranty Terms that are typically:

*18 months from delivery and 12 Months from Installation and  
between 1000 hrs and 3000 hrs of Operation.*

→ **They do not normally provide** Performance Guarantees that protect an Operators Fleet of Engines.

*Remedies typically cover the transportation costs and the Fix.*

*On wing removal or refit labour for the failed part is **not normally covered.***



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## What to ensure during negotiations

- Ensure warranty terms are clear, set time limits and conditions for acceptance of claims and closure of the items. Make sure that if Claims are not responded to within the set time then claim must be deemed accepted.
- Transfer of warranty rights must be in place within a certain timeframe and acknowledged by the manufacturer/ repair shop
- Permission and full authority to negotiate all warranty / guarantee matters with the manufacturers and vendors is granted.





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## Component/Spare part

**Coverage is by means of preliminary negotiations with each vendor/ supplier.**

The terms of contract are provided in a variety of ways:

*On the reverse of the purchase order/ invoice*

*Second-hand or used parts warranty terms are fragmented with no industry set conditions in place.*

*It is un-clear as to what warranty terms are offered or the administration conditions for the failed parts not purchased directly from the OEM.*

***PMA parts warranty** and guarantees are also unclear and normally these parts will negate all existing engine warranties and are excluded within leased engines or company policies unless OEM approved and authorised.*



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## Components/Spare Parts

### Life Limited Parts

The warranty for the major parts are normally contained within the new engine purchase agreements and primary parts such as:

*Fan Disc, LPC Drum, HPC 3 to 8 Drum, HPC 9 to 12 Drum, HP Turbine Stage 1 and 2 Disks, HP Turbine Spacer Disc, HP Turbine Stage1 Front rotating air seal, LP Turbine Stage 3-7 Discs, LP Turbine Stage 3-7 Rotating Air seals, Shafts*

The terms are usually 20,000 hrs or 15,000 cycles.

### Remedies

Pro rata-Parts and labour credit for Repair/ replacement, expendables and transportation of the part



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## Components/Spare Parts

### Repetitive Failures

Unlike the airframe parts that contain guarantees such as Mean Time Between Repair (MTBR) and Component Reliability Programs set by the manufacturers, the Engine components do not have such a program/guarantees in place.

You have to rely on your Engine Monitoring Team to identify trends and set reliability status of the engine parts and alert the warranty administration of a part that is continually failing within a set in-service period in order to post the intention to claim whilst the engineering identifies the cause often in liaison with the OEM.

**This will enable the warranty to recover the actual costs incurred.**



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## Warranty Conditions

### Administrative time limits

Claim submission. Within the authorized contractual delay (90 days is generally acceptable).

Claim determination. Currently, claims are usually settled within 30 days.

Operators should retain failed parts (60 days minimum) for possible inspection.

### Aircraft on Ground (AOG)

Warranty settlement cannot be made available for an AOG delivery as an on-the-spot remedy is in contradiction to the spirit of the warranty procedures.

Therefore no AOG are usually delivered FOC.

A warranty claim should be filed after the fact and within the time limits.



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## Warranty Conditions

### Free of Charge (FOC) classification and Industry Support

Responsibility in a production error or design defect.

Service Bulletins issued to correct design defects becoming apparent within the warranty period and items that are clearly unsuitable in operation (not fit for their intended use) are the main candidates for this classification.

### Mandatory Service Bulletins

There is no relationship between FOC statement and Mandatory classification.



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## Warranty Processing Tools

- Ensure that the Spares purchasing agreements and component repair records are available to Warranty Administration within your organisation.
- Ensure access to technical documents and /or on-line sites is made available.
- Provide access to third party maintenance organisations who maintain your fleet if not accomplished in-house
- If Warranty is contracted out, ensure that the MRO/Agent reports credit and claims status and conduct regular audits for efficiency of claims



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## Warranty Administration

**To ensure timely processing of claims you must have the following information available.**

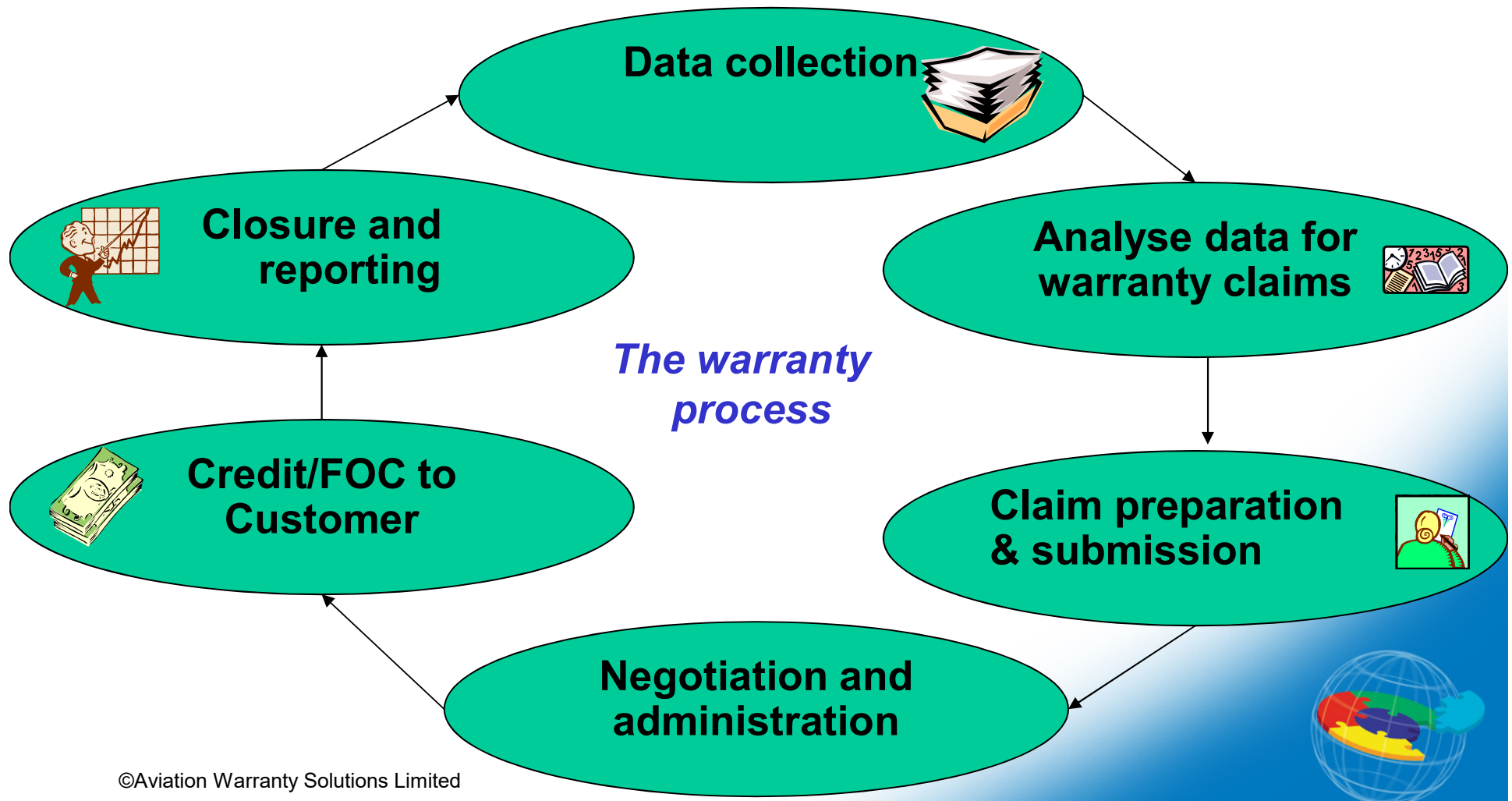
- *Part no and serial no of the part.*
- *Part no and serial no of the engine to which the part is fitted.*
- *Date fitted, Hours and cycles since fitment.*
- *When the part was purchased and the order no as well the invoice.*
- *Warranty clause contained within the purchase agreement.*
- *Availability of the part if an expendable part.*

**In some cases *All damaged parts are to be confirmed by the suppliers or OEM representative for verification prior to Actual scrapping.***

- *Submit claim within the time period set in the agreement.*
- *Ensure claim is followed up on a regular basis for closure.*

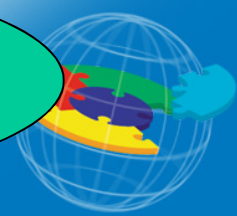
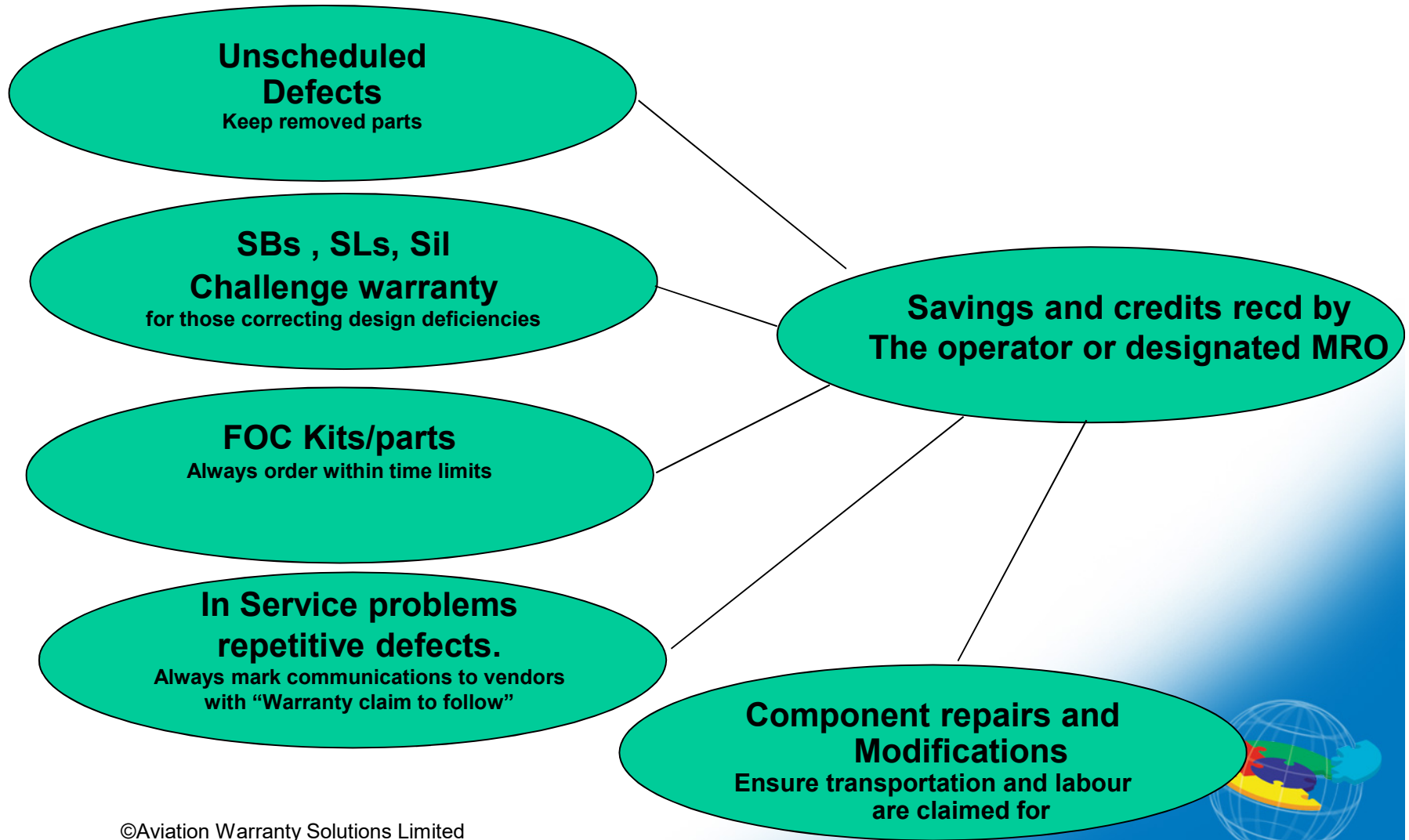


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## Expected Savings

### **Reduced Maintenance Costs And Overheads**

*All costs associated through design deficiencies, material and workmanship errors are pursued and recovered from manufacturers and vendors.*

### **Reduced Component Repair and Overhaul Costs**

*All costs associated with warranty repaired items are recovered through efficient administration of product support agreements.*

### **Reduced Modification and Upgrade Costs**

*By ensuring all F.O.C service bulletins kits and upgrade programmes and chargeable modifications are negotiated with the vendors for price reductions.*



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Thank you for your time and  
attention.

## Contact Details

**Harish Shah**

**Head office 5 Greenhill Avenue, Luton, Bedfordshire, LU2 7DN, UK**

**Tel: 44 (0)1582 511614, Mobile: 44 (0)7779 497773**

**E-Mail: [info@aviationwarranty.com](mailto:info@aviationwarranty.com)**

**Website: [www.aviationwarranty.com](http://www.aviationwarranty.com)**

