



# Federal Aviation Administration

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## Memorandum

Date: October 25, 2017

To: George Blair, Manager, Quality Control and Investigations (A), AFB-440.

From: **JAMES E GARDNER**  
James Gardner, Deputy Director, Air Carrier Safety Assurance, AFC-2A

Prepared by: Patricia A. Keck, 817-222-5254

Subject: ACTION: Report of Investigation of Whistleblower Complaint Number WB17582, Southwest Airlines, Inc.

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Digitally signed by JAMES E GARDNER  
Date: 2017.10.25 13:38:17 -05'00'

This memorandum is in response to the Whistleblower Protection Program (WBPP), complaint number EWB17582, AFS-10 memorandum dated April 10, 2017. The complaint referenced above was submitted to the Federal Aviation Administration (FAA) under the WBPP, Title 49, United States Code (49 U.S.C.) Section 42121. Your office requested this region conduct an investigation of these complaints for possible safety violations, or non-compliance with FAA orders, regulations, or standards.

The attached Report of Investigation documents actions taken during the investigation of the referenced complaint. A violation or non-compliance of FAA orders, regulations, or standards was substantiated. A copy of the report and all supporting documentation was provided to the Southwest Airlines Certificate Management Office (SWA CMO) and they have opened PTRS # SW29201703601 to document the actions taken in this case. The SWA CMO Point of Contact for this matter is Supervisory Primary Maintenance Inspector Robert Blissett. Please address questions regarding the conduct of the investigation to Aviation Safety Inspector (ASI) Robert Laurion or ASI Mathew Crabtree, AFS-370.

Attachment  
Report of Investigation

**Report of Investigation  
Whistleblower Complaint  
EWB17582**

Involving  
Southwest Airlines Co. (SWAA304A)  
an approved Air Carrier  
with domestic and flag operations.

Prepared by:

Robert J. Laurion  
&  
Matthew W. Crabtree

Whistleblower Complaint Number EWB17582

September 2017

Technical Aircraft Maintenance Branch  
AFS-370  
Manager: Kenneth J. Reilly

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## SECTION 1

### Investigation Overview

An AFS-10 Executive Officer memorandum dated April 10, 2017, assigned Whistleblower Complaint EWB17582 for investigation to the Southwest Region, Flight Standards Division ASW-200. The Southwest Region Whistleblower Protection Program Coordinator forwarded the complaint to the Southwest Region Technical Support Branch – Air Carrier ASW-240 for investigation. The investigation was assigned to Robert J. Laurion of ASW-240 on April 12, 2017. On April 17, 2017, (b) (7)(C) from the Southwest Certificate Management Office (SWA CMO) assisted until the complainant's attorney objected to his participation because (b) (7)(C) is actively assigned to the Southwest Airlines Certificate Management Office; his participation ended on May 9, 2017. On May 8, 2017, Matthew Crabtree of ASW-240 was requested to assist with the investigation. On August 19, 2017, the FAA officially disbanded regions within Flight Standards to include the Technical Support Branch ASW-240. On August 20, 2017, following the action to disband the regions, the Inspectors assigned to EWB17582 were assigned to the Technical Aircraft Maintenance Branch AFS-370 within the Aircraft Maintenance Division AFS-300.

Whistleblower Complaint EWB17582 contained an AIR21 Complaint submitted by five separate complainants (Nino DiMaggio, Matt Flynn, Gene Painter, Robert Tompkins, and Mark Zabransky) represented by the law firm, Seham, Seham, Meltz and Petersen, LLP. The complaint involves Southwest Airlines, Co. located (headquartered) at 2702 Love Field Drive, Dallas, Texas 75235-1611. Southwest Airlines Co. is an approved Air Carrier (SWAA304A) with domestic and flag operations. The AIR21 Complaint was later amended (First Amended Complaint) adding an additional complainant (Michael Mullins) to the original AIR21 Complaint associated with EWB17582. Due to the content of the additional complaints brought by the new complainant, all complaints were combined and conducted as one investigation.

The AFS-10 memorandum assigning the investigation to the Southwest Region requested investigation and comment on each of the following alleged issues, as well as, any other safety items contained in the complaint:

- Contrary to 14 CFR 119.65(d)(3), pressure to not document discrepancies.
- Improper maintenance sign-off. Example: Required gear swing not completed.
- Operation of an unairworthy aircraft.

Review of the complaint, as amended, resulted in identifying 14 items contained in the complaint requiring investigation. The 14 items investigated are contained within 12 Complaint Allegations within Section 3 of this report.

The investigation included interviews with appropriate management personnel, Aircraft Maintenance Technicians (AMT), employees of Southwest Airlines, as well as, a detailed review of applicable regulations, company policies and procedures, historical maintenance documents, and in some instances the physical inspection of aircraft. Section 3 of this report reflects the results of the subject investigation by ASW-240.

The following individuals were interviewed as part of the investigation into the alleged complaints:

Nino DiMaggio April 24, 2017, at the Southwest Airlines Certificate Management Office (SWA CMO)

(b) (7)(C) April 26, 2017, at Southwest Airlines, Dallas Love Field

(b) (7)(C) April 26, 2017 and again on May 3, 2017, at Southwest Airlines

Mark Zabransky April 27, 2017, at SWA CMO

(b) (7)(C) May 3, 2017, at Southwest Airlines

(b) (7)(C) May 9, 2017, at Denver Airport

(b) (7)(C) June 21, 2017, at Southwest Airlines

(b) (7)(C) June 21, 2017, at Southwest Airlines

(b) (7)(C) June 21, 2017, at Southwest Airlines

(b) (7)(C) June 21, 2017, at Southwest Airlines

(b) (7)(C) July 11, 2017, at Southwest Airlines

(b) (7)(C) July 11, 2017, at Southwest Airlines

(b) (7)(C) July 14, 2017, at Southwest Airlines

(b) (7)(C) July 14, 2017, at Southwest Airlines

(b) (7)(C) July 14, 2017, at Southwest Airlines

(b) (7)(C) July 14, 2017, at Southwest Airlines

(b) (7)(C) July 17, 2017, at Southwest Airlines

(b) (7)(C) July 17, 2017, at Southwest Airlines

(b) (7)(C) July 17, 2017, at Southwest Airlines

(b) (7)(C) July 19, 2017, at Southwest Airlines

(b) (7)(C) July 19, 2017, at Southwest Airlines

(b) (7)(C) July 20, 2017, at Southwest Airlines

Nino DiMaggio June 29, 2017, at FAA Irving facility

Michael Mullins June 29, 2017, at FAA Irving facility

(b) (7)(C) August 29, 2017, via Skype (DAL – PHX)

(b) (7)(C) August 30, 2017, at Southwest Airlines

### Reference

FAA Order 8900.1, Volume 11 Flight Standards Programs, Chapter 3, Whistleblower Protection Program (Air Carrier), Section 2 Responsibilities and Procedures, 11-123 Investigation Procedures, Paragraph C.

### Data Sources Utilized

- Review of FAA data systems including Safety Performance Analysis System (SPAS); Including but not limited to: Air Operator Profile, Operations Safety System (OPSS) and Air Station Profile.
- Flight Standards Information Management System (FSIMS) and documents, orders and references within.
- Review of the associated Boeing Aircraft Maintenance Manual (AMM).

- Review of the associated Boeing Illustrated Parts Catalog (IPC).
- Requests for information from the Air Carrier (Southwest Airlines Co.).
- Requests through FSDO to Air Agency.
- Requests through and from the Certificate Management Office (CMO).
- Requests from employees, AMTs and complainants including via attorney.
- On-site and through electronic media.
- Cell phone images taken and provided by Aviation Maintenance Technicians (AMT).

## SECTION 2

### Investigation Areas of Concern

RESPONSIBLE ORGANIZATION:                      **Southwest Airlines Co. (SWAA)**

AREAS OF CONCERN:

- Contrary to 14 CFR 119.65(d)(3), pressure to not document discrepancies.
- Improper maintenance sign-off. Example: Required gear swing not completed.
- Operation of an unairworthy aircraft.

SUBJECT CATEGORY:                                      800 Maintenance

DATE/LOCATION:    Various dates within the allegations identified in the whistleblower complaint, Dallas, Texas 75235

**Area of Concern:** Contrary to 14 CFR 119.65(d)(3), pressure to not document discrepancies.

Title 14 Code of Federal Regulations (14 CFR) § 119.65(d)(3), states;

(d) The individuals who serve in the positions required or approved under paragraph (a) or (b) of this section and *anyone in a position to exercise control over operations conducted under the operating certificate must—*

*(3) Discharge their duties to meet applicable legal requirements and to maintain safe operations.*

Docket SE-19019, dated September 22, 2011, contains a ruling made by Administrative Law Judge Patrick G. Geraghty in finding a violation of 14 CFR §119.65(d)(3). In the Judge's Findings of Facts and Conclusions of Law, the Judge addresses the phrase "exercise control over operations" and refers to Section 1.1 of the Code of Federal Regulations. The Judge refers to the definition of the term "operate" with respect to aircraft to mean "use, cause to use or authorize to use" an aircraft for the purpose of air navigation and the term "operational control" with respect to flight to mean "the exercise of authority over initiating, conducting or terminating a flight." The Judge indicates the phrase "exercise control over operations" to mean exercise control over use, cause to use or authorize to use an aircraft; or authority over initiating, conducting or terminating a flight. The Judge addresses the phrase "meet applicable legal requirements" and refers to the Federal Aviation Regulations (FAR) indicating there must be a finding of a violation of another applicable FAR caused by the individual in order to not meet legal requirements. The judge addresses the phrase "maintain safe operations" by referring to the operation of the aircraft in an unairworthy condition.

In order to prove a violation of 14 CFR § 119.65(d)(3) in relation to this complaint, there must be



evidence proving the individuals alleged in the complaint were in a position to exercise control over operations related to use, cause to use or authorized to use an aircraft; or authority over initiating, conducting or terminating a flight. The evidence must show the control over operations were conducted under Southwest Airlines operating certificate and operations specifications. There must be evidence the individual in discharging their duties failed to meet an applicable Federal Aviation Regulation or failed to maintain safe operations by causing an aircraft to be operate in an unairworthy condition.

Review of the AIR21 Complaint, as amended, identified the following items within the complaint allege “*pressure*” by individuals in positions to exercise control over operations conducted by Southwest Airlines.

Item 11 of the Complaint, alleges (b) (7)(C) approached Complainant Nino DiMaggio and demanded why Complainant Mullins had not signed off the final safety walk through card for the aircraft, stating all the work had been completed, there was no need to look at the aircraft and Complainant Mullins should sign the card. When Complainant DiMaggio refused stating the card had to be followed, (b) (7)(C) angrily marched off. (See Section 3 Investigation, Complaint Allegation #1)

Item 12 of the Complaint, alleges pressure for reporting loose passenger seats. (See Section 3 Investigation, Complaint Allegation #1)

Item 13 of the Complaint, alleges a (b) (7)(C) contacted Complainant DiMaggio’s direct supervisor to question the discrepancy reports of holes in cargo bin floor panels found on three separate occasions during a walk through inspection. (See Section 3 Investigation, Complaint Allegation #1)

Item 14 of the Complaint, alleges (b) (7)(C) known as (b) responded angrily to the delaminated flap damage pointed out by Complainant Rob Tompkins, asking “What are you doing looking at that?” (b) (7)(C) sent an email to the entire maintenance division complaining Tompkins should not have found the damage. (See Section 3 Investigation Complaint Allegation #2)

Item 15 of the Complaint, alleges (b) (7)(C) threaten and intimidated (b) (7)(C) when he brought to (b) (7)(C) attention a finding of a nose landing gear leaking hydraulic fluid. (b) (7)(C) is stated as saying “you’re completely wrong,” “I’m going to speak to your supervisor,” “this isn’t the last that you’re going to hear of this,” and that (b) (7)(C) was a “horrible inspector.” (See Section 3 Investigation, Complaint Allegation #3)

Item 17 of the Complaint, alleges (b) (7)(C) criticized Complainant Matt Flynn for reporting maintenance discrepancies. (See Section 3 Investigation, Complaint Allegation #5)

Item 27 of the Complaint, alleges (b) (7)(C) reacted with

hostility to Complainant Mike Mullins report of rudder balance weight corrosion, accusing Complainant Mullins of deliberately reporting the corrosion immediately prior to flight in order to disrupt operations.

(See Sections 3 Investigation, Complaint Allegation #8)

Item 28 of the Complaint, alleges (b) (7)(C) reacted with hostility to Complainant Mullins reports of maintenance discrepancies, declined Complainant Mullins offers to show (b) (7)(C) the discrepancies and that (b) (7)(C) sarcastically suggested maintenance workers should stop working and a “brand new wing” be ordered.

(See Section 3 Investigation, Complaint Allegation #9)

Item 30 of the Complaint, alleges (b) (7)(C) responded in a hostile manner to Complainant Mullins and demanded to know how Complainant Mullins came to be in a position to detect the discrepancy of corrosion on the rudder weight and the wobbling back and forth of four connecting bolts.

(See Section 3 Investigation, Complaint Allegation #11)

**Area of Concern:** Improper maintenance sign-off. Example: Required gear swing not completed.

Review of the AIR21 Complaint, as amended, identified the following items within the complaint alleges improper maintenance sign-off.

Item 11 of the Complaint, alleges Complainant Nino Di Maggio was asked by (b) (7) and (b) (7)(C) to sign off the final safety walk through card without performing the inspection.

(See Section 3 Investigation, Complaint Allegation #1)

Item 16 of the Complaint, alleges a main landing gear actuator was changed without swinging the gear to facilitate an operations check to confirm proper retraction.

(See Section 3 Investigation, Complaint Allegation #4)

Item 25 of the Complaint, alleges a part intended to be installed on the aircraft was for another aircraft and circumvented the required parts process by switching serviceable tag and by preparing certification documents in an attempt to legalize the part fabrication process.

(See Section 3 Investigation, Complaint Allegation #6)

Item 26 of the Complaint, alleges a non-routine card was signed-off by (b) (7)(C) in order to obscure the necessity for an inspection involving the removal of a trunnion pin.

(See Section 3 Investigation, Complaint Allegation #7)

Item 29 of the Complaint, alleges installation of shims fabricated off premises by a vender that had not complied with the mandatory vender process.

(See Section 3 Investigation, Complaint Allegation #10)

**Area of Concern:** Operation of an unairworthy aircraft.

Review of the AIR21 Complaint, as amended, identified the following items within the complaint allege operation of an unairworthy aircraft.

Item 16 of the Complaint, alleges neither the maintenance work nor the required inspection work could be completed without swinging the gear.

(See Section 3 Investigation, Complaint Allegation #4)

Item 26 of the Complaint, alleges a trunnion pin was not removed for further inspection as a result of the initial detection of corrosion.

(See Section 3 Investigation, Complaint Allegation #7)

Item 31 of the Complaint, alleges aircraft ready for departure had a 4-foot pry bar.

(See Section 3 Investigation, Complaint Allegation #12)

**SECTION 3**  
**Investigation**

**COMPLAINT ALLEGATION # 1**

*Items 11, 12 & 13 as presented within the Amended Complaint*

**Item 11 of the Complaint**

**Allegations:** Complainant Nino Di Maggio was asked by (b) (7) and (b) (7)(C) to sign off the final safety walk through card without performing the inspection.

(b) (7)(C) approached Complainant Nino DiMaggio and demanded why Complainant Mullins had not signed off the final safety walk through card for the aircraft, stating all the work had been completed, there was no need to look at the aircraft and Complainant Mullins should sign the card. When Complainant DiMaggio refused stating the card had to be followed, (b) (7)(C) angrily marched off.

**Response:** A violation or non-compliance of an FAA Order, Regulation, or Standard was not substantiated.

*Investigation:* The complaint indicates a Post Dock card was issued toward the end of 2011.

Review of Southwest Airlines maintenance program found that there are two Post Dock cards dating back to 2011.

- Task card MT #312-00-20, Post Dock – General Walk Around Safety Inspection SPV/HGR Visits
- Task card 712-00-20, Post Dock – General Walk Around Safety Inspection SPV/HGR Visits

The first task card MT #312-00-20 applies to the Boeing 737 Classic 300 and 500 series aircraft and the second task card applies to the Boeing 737NG 700 and 800 series aircraft. The purpose of both of these cards is to require a general walk around to ensure all interior and exterior areas are free from debris, tools and hardware that might accumulate during maintenance visits. The tasks are not a re-inspection of aircraft interior or exterior areas, but rather a final general visual safety check to make sure all access plates and panels are installed, safety locks and pins are removed and to check for any items inadvertently left on the aircraft after the completion of the maintenance visit. The cards require the generation of a non-routine card for any discrepancy found.

According to the complaint, shortly after issuance of the Post Dock card, (b) (7)(C) approached Complainant DiMaggio concerning a recently completed C Check and asked him to sign-off the final safety walk through card in the computer.

When interviewed, Complainant Lead Quality Control (QC) Inspector Nino DiMaggio could not

remember the names of the (b) (7). When shown copies of the Post Dock cards, the Complainant believed it was the MT #312-00-20 card that he was asked to sign. The Complainant could not remember the specific N number of the aircraft at the time nor could he remember the specific date of this occurrence, but thinks it was in the September – October 2011 timeframe.

The complaint indicates Complainant DiMaggio refused to sign off the card on the grounds that no one had done the required inspection or even prepared the aircraft, in order that the required inspection could be performed.

When interviewed, Complainant Lead QC Inspector DiMaggio indicated that in order for him to do the inspection, the aircraft required the flaps and spoilers to be placed in certain positions. The Complainant did state the card had been signed-off by maintenance in the computer. The card at the time wasn't printed out as part of the C Check package in order to be completed, but was signed-off in the computer in the FACT block. Complainant DiMaggio stated he printed out the card to use in doing the inspection.

The complaint indicates (b) (7)(C) approached Complainant DiMaggio and demanded why he had not signed off the aircraft. Complainant DiMaggio provided the same explanation that he had provided to the (b) (7). The complaint indicates (b) (7)(C) stated that all the work had been completed and there was no need to look at the aircraft and that Complainant DiMaggio should sign for the card. The complaint indicates Complainant DiMaggio again refused and said that the card had to be followed. When Complainant DiMaggio continued to decline to sign-off the aircraft, (b) (7)(C) angrily marched off.

When interviewed, Complainant DiMaggio stated there were no witnesses to his conversation with (b) (7)(C).

The complaint indicates that twenty minutes after this encounter, the (b) (7) reported to Complainant DiMaggio that the aircraft had been configured to permit his inspection. The complaint indicated Complainant DiMaggio proceeded with the inspection during which he discovered an engine fire bottle pressure test regulator set had been left in the main landing gear wheel well. The complaint indicates Complainant DiMaggio brought the test regulator set into (b) (7) and placed it on his desk, and said "here, this had been left in your wheel well."

When interviewed, Complainant DiMaggio stated the Post Dock card MT #312-00-20, item 6.I, required a check of the left wheel well and it was during that check that he discovered the engine fire bottle pressure test regulator set sitting on a ledge in the wheel well. The unit was disconnected and everything in the aircraft was properly reconnected and satisfactory. Complainant DiMaggio stated the use of the engine fire bottle pressure test regulator set was used as part of the C Check that had been completed and signed off. When asked if Complainant generated a non-routine for the discrepancy of finding the engine fire bottle pressure test regulator set in the left wheel well, Complainant DiMaggio stated that he did not generate a non-routine.



Post Dock card MT#312-00-20 and Post Dock card 712-00-20 both state under General Notes to generate a non-routine card for any discrepancy found and then states the purpose of the card, as previously stated above.

When interviewed, Complainant DiMaggio felt at the time that a non-routine card did not apply to that type of finding, only to aircraft discrepancies. Complainant DiMaggio doesn't know what happened after he gave the equipment to (b) (7)(C). Complainant stated he signed for completing the Post Dock card in the computer in the FACT block just like the (b) (7). The Complainant doesn't remember if the printed copy was signed, but didn't think so because it was not part of the printed C Check package.

(b) (7)(C) was interviewed concerning the Post Dock cards. When interviewed, he stated he doesn't remember anyone refusing to sign a Post Dock card. He stated he would never ask someone to sign-off a Post Dock card prior to completion of the card.

(b) (7)(C) doesn't remember an issue involving an engine fire bottle pressure test regulator set being left in a wheel well of an aircraft.

*Conclusion:* Complainant DiMaggio stated he performed the inspection before signing off the final safety walk through card. Complainant DiMaggio's accomplishment of the card led to finding of an engine fire bottle pressure test regulator set sitting on a ledge in the left main landing gear wheel well. Due to the age of the event and lack of a specific date and aircraft number, the FAA was unable to search for and find specific records applicable to this specific event. Due to the lack of specific records applicable to this event, the FAA is unable to determine what action, if any, was taken as a result of the test set being found in left main landing gear wheel well. Due to the lack of specific records, the FAA was not able to specifically question (b) (7)(C) about this particular event and confirm if any action was taken related to the finding. Due to the lack of witnesses, the FAA is unable to confirm the actions of (b) (7)(C) related to this event.

Concerning Complainant DiMaggio stating he did not generate a non-routine card for the engine fire bottle pressure test regulator set finding as required by the card, does not in and of itself prove a non-compliance due to the lack of other substantiating evidence such date, aircraft involved, witnesses to the finding, etc. Due to the age of the event, any non-compliance is considered stale. Therefore, no non-compliance type of action can be taken. Complainant DiMaggio was advised of the purpose of the card and the requirement to document any discrepancies. Personnel leaving a tool or test set on an aircraft after the maintenance is completed would be considered a discrepancy and the FAA would expect the company to deal with that type of discrepancy appropriately.

## **Item 12 of the Complaint**

**Allegation:** Loose passenger seat assemblies.

**Response:** A violation or non-compliance of an FAA Order, Regulation, or Standard was not substantiated.

**Investigation:** The complaint indicates that between 2012 and 2016, Complainant DiMaggio found loose passenger seat assemblies on several occasions. The complaint indicates Complainant DiMaggio reported the maintenance discrepancy for each of these finds via a non-routine card.

When interviewed, Complainant Lead Quality Control (QC) Inspector Nino DiMaggio stated the findings were on three separate occasions. Complainant DiMaggio was unable to provide specific dates for each of the three findings nor could he provide specific information on the aircraft. Complainant believed one of the aircraft was a Boeing 737NG aircraft, either a 700 series or an 800 series aircraft, but wasn't sure which series. Complainant DiMaggio stated the Post Dock Task 712-00-20, item 2.A.(6), required a check of the passenger seats and floor area under the seats. When the Complainant was asked how he found the seats to be loose, he stated he had grabbed the seats in order to bend down and look under them and noticed the row of seats he had grabbed were loose. Complainant DiMaggio stated he wrote non-routines for each of the three occasions he found seats loose, but doesn't know what happened to the seats after he wrote up the discrepancies. Complainant DiMaggio stated that once he documents discrepancies on non-routines, they get handed over to Maintenance for action. Complainant DiMaggio is not aware of any of the loose seats not being fixed by Maintenance.

**Conclusion:** Due to the age of the events and lack of specific dates and aircraft numbers, the FAA was unable to search for and find specific records applicable to each of these seat assembly events. Due to the lack of specific records applicable to these events, the FAA is unable to confirm the actions taken related to each of the seat assembly events.

### **Item 13 of the Complaint**

**Allegation:** A (b) (7)(C) Complainant DiMaggio's (b) (7)(C) to question the discrepancy reports of holes in cargo bin floor panels found on three separate occasions during a walk through inspection.

**Response:** A violation or non-compliance of an FAA Order, Regulation, or Standard was not substantiated.

**Investigation:** The complaint indicates that at three separate points in 2015 and 2016, Complainant DiMaggio found holes in the cargo bin floor panel during his walkthrough inspection.

When interviewed, Complainant Lead Quality Control (QC) Inspector Nino DiMaggio was unable to provide specific dates as to when he found holes in the cargo bin floor panels. Complainant DiMaggio was unable to provide specific aircraft identification. Complainant DiMaggio thinks one of the aircraft was a Boeing 737 Classic 300 or 500 series aircraft and one was a Boeing 737NG 700 or 800 series aircraft. Complainant DiMaggio thinks that on the classic it was a forward panel in the aft cargo compartment that had a hole large enough to stick his hand through along the trailing edge of the panel. Complainant DiMaggio thinks that on the

737NG it was the forward cargo compartment where he found part of an aft panel edge, where the screws go, eroded causing the edge not to be secure, to where he could lift it up by hand.

The complaint indicates that in all three cases, the damage was beyond the limits permitted in the applicable maintenance manual, and the panel was changed after Complainant DiMaggio reported the discrepancies via a non-routine card.

When interviewed, Complainant DiMaggio stated that for the 737NG aircraft, Post Dock Task 712-00-20, item B. (5) and (6), requires a check of the forward cargo compartment and the aft cargo compartment. Complainant DiMaggio stated he generated non-routine cards, but doesn't remember the specifics of the non-routine cards that were generated by him. Complainant DiMaggio is not aware of any of the cargo compartment discrepancies not being fixed by Maintenance.

The complaint indicates that each time, a (b) (7)(C) contacted the Complainant's (b) (7)(C) to question Complainant DiMaggio about the discrepancy report.

When interviewed, Complainant DiMaggio stated the (b) (7)(C), the Complainant's (b) (7)(C) and his previous (b) (7)(C).

When interviewed, Complainant's (b) (7)(C) stated he was a (b) (7)(C). (b) (7)(C) was asked if (b) (7)(C) have questioned write-ups and he indicated (b) (7)(C). (b) (7)(C) indicated (b) (7)(C) has a strong personality and sometimes there would be a dispute over a discrepancy. (b) (7)(C) does not remember any disputed discrepancies dealing with cargo compartments. He is not aware of any discrepancy not being written up or not corrected by Maintenance. (b) (7)(C) stated he has never been told to not have inspectors write things up. (b) (7)(C) stated he has not and would not tell an inspector not to write something up. (b) (7)(C) stated he would not criticize anyone for findings and would never tell anyone to ignore findings.

When interviewed, Complainant's (b) (7)(C) stated he has heard (b) (7)(C) argue with inspectors concerning discrepancies. In the incidents he is aware of, (b) (7)(C) has questioned certain write-ups. The issues were based on the accuracy of write-ups. He himself has had discrepancies rewritten as a result. He indicated (b) (7)(C) was found to be right in questioning the discrepancies and has not seen (b) (7)(C) not cause a legitimate discrepancy from being written-up. He is not aware of an actual discrepancy not being written up. He is not aware of anything not being corrected when written up.

When interviewed, (b) (7)(C) stated he doesn't recall any tension concerning Post Dock card. (b) (7)(C) doesn't know of anyone being criticized for writing up discrepancies. (b) (7)(C) stated he has never told someone not to write up a



discrepancy, but has questioned the scope of write-ups based on the type of check. He does not know of anyone not writing anything up that should have been written up.

*Conclusion:* Due to the lack of specific dates and aircraft numbers, the FAA was unable to search for and find specific records applicable to each of these specific cargo bin floor panel events. Due to the lack of specific records applicable to these specific events, the FAA is unable to confirm the actions taken related to each of the specific cargo bin floor panels. Due to the lack of specific records, the FAA was unable to specifically question (b) (7)(C) on the cargo bin events in question and confirm (b) (7)(C) actions related to these cargo bin events. The FAA has confirmed with (b) (7)(C) that he has questioned the scope of write-ups. However, there is no evidence (b) (7)(C) questioning has led to a discrepancy not being written up.

## COMPLAINT ALLEGATION # 2

### *Item 14 as presented within the Amended Complaint*

#### Item 14 of the Complaint

**Allegation:** (b) (7)(C) responded angrily to the delaminated flap damage pointed out by Complainant Rob Tompkins, asking "What are you doing looking at that?" (b) (7)(C) sent an email to the entire maintenance division complaining Tompkins should not have found the damage.

**Response:** A violation or non-compliance of an FAA Order, Regulation, or Standard was not substantiated.

*Investigation:* The complaint indicates that on or about December 10, 2016, Complainant Inspector Rob Tompkins was completing a walkthrough of a Boeing 737-700 aircraft, known as aircraft 296, when he noticed a delaminated flap with damage that measured roughly 23 inches high and 8 inches across. Attachment D of the complaint is a copy of a picture showing the extent of the area of the delamination.

Review of Operations Specifications D085 found aircraft 296 to be N296WN, a Boeing 737-7H4.

Review of maintenance records found a Non Routine Card D157274 dated December 10, 2016, applicable to aircraft 296 with the defect of right inboard main flap lower outboard skin delaminated entered by employee number 73064 Robert Tompkins. The review also found Post Dock Task 712-00-02, dated December 9, 2016, for aircraft 296.

It was confirmed through email with Complainant Tompkins, the Post Dock Task and Non-Routine Card D157274 are two of the documents associated with the complaint. According to Complainant Tompkins, Post Dock MT #712-00-20, item 2.C.(2), required a check of the wings exterior with flaps lowered and spoilers raised, to verify that all safety locks are removed and that

there are no rags, tooling or loose hardware in the flaps. According to Complainant Tompkins, it was during the process of checking the spoiler well, he noticed the skin bubbled on the flap surface and investigated the cause of the bubbling.

The complaint indicates Complainant Tompkins pointed out the damage to the (b) (7)(C) and to a (b) (7)(C).

When interviewed, (b) (7)(C) confirmed Complainant Tompkins had pointed out the delamination damage to him. (b) (7)(C) stated the delamination was a noticeable bubble to the right hand inboard flap wedge lower skin on the underside and there was separation along the trailing edge. (b) (7)(C) stated that Complainant Tompkins was concerned that the late discovery of the discrepancy would cause a delay.

According to the complaint, (b) (7)(C) responded angrily asking "what are you doing looking at that?" The complaint indicates (b) (7)(C) sent an email to the entire maintenance division complaining that Complainant Tompkins should not have found the damage.

Complainant Tompkins does not have a copy of the email nor did he indicate who may have a copy of the email.

When interviewed, (b) (7)(C) stated he had not seen any email issued out to the Maintenance Division complaining of the flap delamination issue. (b) (7)(C) had heard rumors of possible questioning or comments related to the discrepancy finding, but did not have any direct knowledge.

When interviewed, (b) (7)(C) stated the delaminated flap discrepancy was brought to his attention by an inspector doing a post walk around. (b) (7)(C) stated the underside of the flap wedge had noticeable bubbling. (b) (7)(C) stated the inspector felt bad because of the finding. (b) (7)(C) stated he had the aircraft brought inside the hangar, contacted the composite shop about a possible repair, but it was determined the flap wedge could not be repaired so they ended up replacing the delaminated flap wedge with one from another out of service aircraft. (b) (7)(C) stated he was not aware of anyone complaining, criticizing or questioning the finding nor did he. (b) (7)(C) stated the only email he sent was an out-of-service email to inform proper management officials the aircraft was going to be out-of-service and why, which indicated a right hand inboard lower flap wedge skin delamination. The (b) (7)(C) stated he had a mechanic grid out the area of delamination (Complaint Attachment D).

Review of maintenance records found a Non-Routine Card indicating the right hand inboard flap trailing edge wedge was robbed from N932WN for aircraft 296.

The complaint indicates (b) (7)(C) confronted Complainant Tompkins (b) (7)(C).

It was determined there is no one by the name (b) (7)(C), but a (b) (7)(C). When interviewed, (b) (7)(C) stated he had spoken to Inspector Tompkins who had found the flap delamination discrepancy. (b) (7)(C) stated he did not see the delamination directly on or off the aircraft, but was shown a picture on a phone of the delaminated flap still on the aircraft and that the delamination was noticeable. (b) (7)(C) stated (b) (7)(C) want him to inquire as to the timing of the finding. (b) (7)(C) stated Inspector Tompkins who found the delamination told him he had just gotten on shift and that he found the delaminated flap while doing the walk around Post Dock card. (b) (7)(C) stated he informed (b) (7)(C) of the information told to him and that was the end of it. Nothing further happened and he is not aware of any complaint or criticism concerning the finding, nor did he complain or criticize the inspector for the finding. (b) (7)(C) stated he was not aware of any email being sent complaining of the flap issue.

**Conclusion:** Records show aircraft 296 had a delaminated right inboard flap wedge and the delaminated flap wedge was replaced with a serviceable wedge from aircraft 932. (b) (7)(C) and (b) (7)(C) were shown the delaminated flap wedge and both individuals stated the delamination was noticeable. (b) (7)(C) spoke to Complainant Rob Tompkins about the timing of the finding. The finding was the result of Complainant Tompkins performing the Post Dock MT #712-00-20 card, item 2.C.(2), requiring a check of the wings exterior with flaps lowered and spoilers raised. (b) (7)(C) stated he passed the information on to (b) (7)(C). (b) (7)(C) stated he sent an email to inform management that the aircraft would be out of service due to the flap delamination finding. The FAA was unable to verify the contents of the email. Due to the lack of witnesses, the FAA was unable to confirm the interactions between (b) (7)(C) and Complainant Rob Tompkins.

### COMPLAINT ALLEGATION # 3

#### *Item 15 as presented within the Amended Complaint*

#### **Item 15 of the Complaint**

**Allegation:** (b) (7)(C) threaten and intimidated (b) (7)(C) when he brought to (b) (7)(C) attention a finding of a nose landing gear leaking hydraulic fluid. (b) (7)(C) is stated as saying "you're completely wrong," "I'm going to speak to your supervisor," "this isn't the last that you're going to hear of this," and that (b) (7)(C) was a "horrible inspector."

**Response:** A violation or non-compliance of an FAA Order, Regulation, or Standard was not substantiated.

**Investigation:** The complaint indicates that in 2014, (b) (7)(C) was completing a walkthrough inspection when he noticed the nose

landing gear was leaking hydraulic fluid, resulting in a puddle approximately two feet across. According to the complaint, when (b) (7)(C) brought the leak to the attention of (b) (7)(C), (b) (7)(C) proceeded to threaten and intimidate (b) (7)(C) stating, *inter alia*, “you’re completely wrong,” “I’m going to speak to your supervisor,” and “this isn’t the last that you’re going to hear of this.” According to the complaint, when (b) (7)(C) resisted (b) (7)(C) threats, (b) (7)(C) told (b) (7)(C) that he was a “horrible inspector” and pressured him by asking him to come in early and inspect the plane without documentation. The complaint indicates AMTs confirmed the leak and changed the actuator as required by the applicable maintenance manual.

An email was sent through (b) (7)(C) to have (b) (7)(C) provide us with any specifics he may have concerning his complaint, such as;

- The specific date in 2014 he found the nose landing gear leaking hydraulic fluid?
- The N number, series of aircraft that had the hydraulic leak?
- Any witnesses to the allegation that; (b) (7)(C) proceeded to threaten and intimidate (b) (7)(C)?” If so, can he provide the names of those witnesses?

The response received stated that (b) (7)(C) preferred to have no further participation in the investigation.

When interviewed, (b) (7)(C) remembers a nose leak with issues, but doesn’t remember if it was back in 2014. (b) (7)(C) stated that he has never told someone not to write something up, nor has he threatened or intimidated anyone, nor told anyone they were a horrible inspector. When asked why anyone would say that about him, (b) (7)(C) stated he is pretty hard and not nice and expects them to do work. (b) (7)(C) stated he has had discussions with Inspectors over their scope. When asked what he means by scope, (b) (7)(C) stated he looks into what they were doing when the aircraft is in check and they are finding things that were not part of the check or after the check was completed. (b) (7)(C) stated the Post Dock check is for safety tools, rags, whatever, not to re-do the check. Not supposed to do another complete check when it is a safety check. When asked whether mechanics or inspectors get offended when he questions them, (b) (7)(C) stated yes and that he would too if someone was questioning what he was doing. When asked if he has confronted anyone that has gone outside the scope, (b) (7)(C) just stated we never refuse to do the work or the condition they found and that he always answers any questions they may have. (b) (7)(C) stated they sometime have heated discussions on all subjects, discrepancies, could be anything, it is the environment, people get excited voices get loud. (b) (7)(C) stated he has not heard of or witnessed anyone not write something up that should have been written up.

**Conclusion:** Due to the age of the event and lack of a specific date and aircraft number, the FAA was unable to search for and find specific records applicable to this event. The complaint indicates AMTs confirmed the leak and changed the actuator as required by the applicable maintenance manual. Due to the lack of specific records, the FAA is unable to confirm the action taken in addressing the nose landing gear hydraulic leak. Due to the lack of specific records, the FAA was not able to specifically question (b) (7)(C) about this particular



event finding. While (b) (7)(C) stated he questions Inspectors concerning the scope of their findings, the FAA is unable to confirm the specific actions of (b) (7)(C) related to this event due to the lack of records and witnesses. There is no evidence (b) (7)(C) questioning has led to a discrepancy not being written up.

#### COMPLAINT ALLEGATION # 4

##### *Item 16 as presented within the Amended Complaint*

##### **Item 16 of the Complaint**

**Allegation:** Main landing gear actuator was changed without swinging the gear to facilitate an operations check to confirm proper retraction. Neither the maintenance work nor the required inspection work could be completed without swinging the gear.

The following allegations were made during an interview with the Complainant Mark Zabransky.

- The manual required the jacking and swinging of the gear when jacks are available at a maintenance station. **(See Aircraft on Jacks verses Aircraft on the Ground without Jacks)**
- The aircraft needed to be jacked and an operational test of the gear needed to be performed due to Aircraft Health Management (AHM) data discrepancies. **(See Aircraft Health Management (AHM) Data)**
- Southwest Airlines access of the Boeing AHM data was illegal. **(See Aircraft Health Management (AHM) Data)**
- A restrictor/check valve installed backwards was the cause of the AHM data and pilot discrepancies. **(See In-Flight MLG Discrepancies verses AHM Data)**

A previous complaint investigated by the Dallas/Fort Worth Certificate Management Office (DFW CMO) from (b) (7)(C) alleged the Required Inspection Items (RII) policy procedures manual required the aircraft to be jacked and a functional or operational check of the actuator be performed, by retracting and extending the gear. **(See RII Rigging/Adjustment verses Installation)**

**Response: A violation or non-compliance of an FAA Order, Regulation, or Standard was not substantiated.**

**Investigation:** The complaint indicates that on or about September 21, 2016, Complainant Lead Quality Control (QC) Inspector Mark Zabransky was approached by (b) (7)(C) and (b) (7)(C) whom had informed Complainant the Supervisors wanted to change a main landing gear actuator without swinging the gear to facilitate an operations check, including confirming proper retraction. The complaint indicates Complainant Zabransky supported the AMTs in maintaining the position that neither the maintenance work nor required inspection work could be completed without swinging the gear.

The complaint indicates Complainant Zabransky was challenged by (b) (7)(C) and (b) (7)(C) when Complainant was preparing to punch out for the day. The complaint indicates Complainant Zabransky repeated his position that neither the maintenance work nor the inspection could be completed without swinging the gear. Subsequently, (b) (7)(C) signed off the mechanic's portion and (b) (7)(C) signed off the inspection portion asserting the retraction check was not required. )

Review of records found Non Routine Card (NRC) Multi-Step Attachment A1028084 date September 21, 2016, involving aircraft 7843, related to replacement of a right main landing gear retract actuator.

Operations Specifications D085 identifies aircraft 7843 as N7843A, a Boeing 737-752 aircraft.

The NRC Attachment A1028084 indicates a right hand main landing gear retract actuator was replaced in accordance with Aircraft Maintenance Manual (AMM) 32-32-11. The NRC Attachment also indicates the Alternate Method was performed to bleed the main gear actuator with the aircraft on ground without jacks in accordance with AMM 32-32-11 Step J. The INSP blocks of the NRC Attachment contained Stamp D21 Mark Zabransky, who marked the accomplishment of the required inspection (RII) for the replacement of the actuator and for the actuator bleeding using the Alternate Method.

Review of AMM 32-32-11 found it to contain Task 32-32-11-400-801 Installation of the Actuator Assembly for the Main Gear. The Task contains procedures for installing the actuator, along with two separate procedures for bleeding the Main Gear Actuator Assembly after installation. Step 3.I, Main Gear Actuator Assembly – Bleeding (Airplane on Jacks) and Step 3.J, Main Gear Actuator Assembly – Bleeding (Airplane on Ground without Jacks) - Alternate Method.

- Step 3.I, Airplane on Jacks method indicates the main gear are jacked with the nose gear remaining on the ground and pinned as indicated in the Warning. The Step 3.I procedure refers to gear operation using the Main Landing Gear Operational Test Task 32-32-00-710-801. After completion of the test, the hydraulic connections to the actuator are examined for no leaks.
- Step 3.J, Alternate Method with the aircraft on ground requires downlock pins to be installed in all three gears to allow the override button to the gear handle to be pushed and the control lever for the landing gear to be moved from the down position to the up position and to the down position three times with the lever held in each position for three seconds before the control lever is moved to the subsequent position. After completion of these actions, the hydraulic connections to the actuator are examined for no leaks.

### **RII Rigging/Adjustment verses Installation**

The NRC Attachment A1028084 contained an Item entry stating; *"Perform retraction test of main landing gear. Operational test. Task 32-32-00-710-801 to satisfy MPM requirements for a M.L.G. actuation change."*

An interview with (b) (7)(C) by the DFW CMO indicates the RII for an actuator change says to perform swing check for rigging and adjustment.

When interviewed, (b) (7)(C) stated he was made aware of the landing gear issue by Lead QC Inspector Zabransky and (b) (7)(C). (b) (7)(C) also indicated the QC Inspectors were uncomfortable "signing off" the NRC Attachment Item due to the RII policy procedures manual indicating Rigging/Adjustment, which indicated the need to jack the aircraft and perform a functional or operational check of the actuator.

(b) (7)(C) interview indicated he filed an Aviation Safety Action Program (ASAP) report and that according to (b) (7)(C), the results of the ASAP report were to remove the requirement to swing the gear from the RII inspection of the retraction actuator.

The Maintenance Procedures Manual (MPM) 10.03.04.01 titled Required Inspection Items List, lists under ATA 32 the Nose and Main Landing Gear Retract Actuators and has the Rigging/Adjustment and Installation columns marked with an "X". The "X" signifies that when doing an installation of a main landing gear retract actuator, the RII actions for Installation apply. The "X" under Rigging/Adjustment signifies that when doing rigging/adjustment of the main landing gear involving a main landing gear retract actuator, the RII actions for Rigging/Adjustment apply.

MPM 10.03.03 titled Required Inspection (RII) Procedure, refers to Installation as; "Inspection conducted during the installation of the main assembly attach points. Special emphasis, as applicable, should also be placed on safeties, torques, and operational and leak checks when required." The MPM refers to Rigging/Adjustment as; "The inspection of the rigging, mechanical adjustments, tension, security of installation, measurement, and functional or operational checks accomplished during the repair or replacement of a Required Inspection Item to ensure technical documentation/manual specifications are met.

*Conclusion:* Review of AMM Task 32-32-11-400-801 Installation of the Actuator Assembly for the Main Gear, found it not to contain procedures nor does it refer to procedures for rigging and adjustment of the main landing gear; therefore, the Rigging/Adjustment actions don't apply, just the Installation actions. As of March 23, 2017, Southwest Airlines has since clarified the requirements involving landing gear actuators by revising 10.3.04.01 titled Required Inspection Items List, removing the "X" from Rigging/Adjustment for ATA 32, Nose and Main Actuator.

### **Aircraft on Jacks verses Airplane on Ground without Jacks**

The NRC Attachment A1028084 has a Resolution block entry stating; "*Retraction test not required per Step J (Alternate Method) per MM 32-32-11-400-801 ref TSR 201606225.*" The AMT block contained (b) (7)(C) and the INSP block contained (b) (7)(C).

When interviewed, Complainant Zabransky stated the aircraft had come in before to have the

actuator change, but did not get accomplished at that time. Complainant stated the manual required the jacking and swinging of the gear when jacks are available at a maintenance station. Complainant stated the actuator change was done at the line (gate) when it was accomplished on September 21, 2016.

When interviewed, (b) (7)(C) stated the actuator was replaced on the line (gate). (b) (7)(C) stated they did not have easy access to the hangar and there was no room in the hangar to bring the aircraft over. The inspectors were unhappy with just doing the alternate method and felt the aircraft should be jacked, because that is how they always did it at the hangar and the inspectors don't really work the line. (b) (7)(C) stated he signed the AMT block because the mechanics were shaken up by all the discussions going on with Inspection. (b) (7)(C) felt he was correct and would take the heat for it if it was not.

An interview with (b) (7)(C) by the DFW CMO indicates that (b) (7)(C) stated you are not supposed to do the alternate method when the primary method is doable.

When interviewed, (b) (7)(C) also indicated the aircraft came in earlier to have the actuator changed prior to September 21, 2016. (b) (7)(C) stated he heard Maintenance and Inspection personnel at the time wouldn't change the actuator without doing a gear swing. (b) (7)(C) stated the actuator was change at the line (gate) when it was accomplished on September 21, 2016. However, he felt the aircraft should have been brought to the hangar and wanted to perform the gear swing to err on the side of safety. (b) (7)(C) believes the aircraft manual is a "grey area" when it comes to the Alternate Method. He believes that in following the actuator installation procedures Step I doesn't say to go to Step J and it doesn't state to disregard Step I.

Review of TSR 201606225, which was referenced in the Resolution block of NRC Attachment A1028084, found it dated September 7, 2016, and asking the question; "Is A Gear Swing Ever required if the Alternate Method is Used and A/C Jacks are available? (I.e., At a Main Base, Dallas etc.)" The response provided on September 7, 2016, was; "Within 737-NG AMM Task 32-32-11-400-801, unless explicitly directed not to use a certain procedure in a driving SWA document, Engineering concurs that both procedures found in steps 3.I. (on jacks) and 3.J. (ALTERNATE – without jacks) are acceptable methods to bleed the hydraulic systems after installation of a new MLG Actuator Assembly. Only one procedure needs to be completed. After it has been determined which procedure will be used, the steps should be followed as written. For clarification; if the procedure given by step 3.J. (ALTERNATE – without jacks) is chosen to be accomplished, the movement of the control lever multiple times through the cycle takes the place of a physical gear swing. No gear swing will be required."

When interviewed, (b) (7)(C) stated the actuator was replaced at the line (gate). (b) (7)(C) was made aware when he came into work in the morning that QC Inspectors were going back and forth on whether the aircraft required a gear swing. (b) (7)(C) spoke to (b) (7)(C) who thought the gear needed to be swung. (b) (7)(C) stated he reviewed the AMM and told them to go by manual. According



to (b) (7)(C) the aircraft didn't need to be jacked in doing the Alternate Method. (b) (7)(C) talked to (b) (7)(C) and (b) (7)(C). (b) (7)(C) stated he didn't see anybody get into an argument or see anybody being pressured to do something they didn't want to do.

When interviewed, (b) (7)(C) stated the actuator was replaced on the line (gate). (b) (7)(C) was made aware of the concern about doing a gear swing from (b) (7)(C), (b) (7)(C) and (b) (7)(C). It was (b) (7)(C) understanding that two Inspectors and an AMT were taking the stand that a gear swing needed to be performed on the aircraft. (b) (7)(C) was aware of some discussion concerning Required Inspection Item (RII) around rigging and adjustment. (b) (7)(C) wanted to do the gear swing based on the practice of jacking an aircraft (7) when an aircraft is in the hangar. (b) (7)(C) and (b) (7)(C) both agreed a gear swing was not required in performing the Alternate Method. (b) (7)(C) stated normally replacement of an actuator is done while the aircraft is in maintenance at a hangar. When an aircraft has an actuator replaced in the hangar, it is standard practice to jack the aircraft and swing the gear. Since the aircraft was at the gate when the aircraft had the actuator replace, the Alternate Method could be used in place of jacking the aircraft and swinging the gear. (b) (7)(C) stated (b) (7)(C) brought up the question of the availability of jacks. (b) (7)(C) stated jacks are not available at the gate and it is not appropriate to jack an aircraft at the gate. He stated there is not a requirement to tow or taxi an aircraft to the hangar to replace an actuator or to have it jacked to swing the gear after actuator replacement when there is an Alternate Method that can be performed when jacks are not available. (b) (7)(C) stated he was aware (b) (7)(C) was not comfortable signing for not accomplishing a gear swing, so (b) (7)(C) told (b) (7)(C) what to write in the Resolution block and enter his (b) (7)(C). (b) (7)(C) stated he did not try to get anyone to sign off and that is why he had his employee number entered because he felt confident with the action. (b) (7)(C) stated no one was pressured to do something they did not want to do and while there were professional differences nobody was threaten.

*Conclusion:* Review of AMM Task 32-32-11-400-801 Installation of the Actuator Assembly for the Main Gear, found that while the bleeding method with the airplane on jacks requires main landing gear operation using the Main Landing Gear Operational Test Task 32-32-00-710-801, there is no requirement to use the operational test task in complying with the Alternate Method. Since the aircraft had the actuator replaced at the gate, where jacks are not available, such as at the gate, the Alternate Method applies. If it was mandatory to jack the aircraft and perform a gear swing after a main landing gear retract actuator replacement, there would be no Alternate Method in the manual.

#### **Aircraft Health Management (AHM) Data**

When interviewed, Complainant Zabransky alleged the aircraft needed to be jacked and an operational test of the gear needed to be performed due to the AHM data discrepancies showing the right main landing gear being slow to retract. Complainant Zabransky also alleged Southwest

Airlines access of the Boeing AHM data was illegal, in that, Southwest Airlines does not have a contract with Boeing. Complainant Zabransky alleged FAA Inspector Shawn Martin informed him of the illegal use by Southwest Airlines. Later in the interview Complainant Zabransky stated he wasn't sure who told him about the illegal access to the Boeing data.

Review of records found a Work Release Work Card SA-M 652A dated September 21, 2016, for aircraft 7843, related to replacement of a right hand main landing gear actuator. The document states; *"Due to AHM Data. Replace Right Main Landing Gear Actuator. No Gear Swing Required."*

The AHM data referred to in the SA-M 652A is Aircraft Health Management data. According to Boeing, Airplane Health Management provides data and insight to substantially reduce the frequency and cost of technical schedule interruptions. The program collects real-time in-flight data and converts it to actionable information for use by ground based engineering and maintenance staff. The program is accessible through MyBoeingFleet.com web portal as an optional annual subscription service provided by Boeing based on the level of support selected by an operator. The program provides customizable alerts so an airline can be notified of airplane conditions and events of interest to them. The custom alerting and analysis module gives airline prognostic and diagnostic capabilities so an airline can adopt a more proactive approach to maintenance. Custom alerts on a wide variety of airplane systems and components enable an airline to address conditions or performance issues before they become unscheduled maintenance events. AHM prognostic capabilities provide a means to identify precursors to potential flight deck faults. AHM diagnostic capabilities communicate and diagnose in-flight faults with the airplane still in route to make real time operational decisions regarding maintenance to mitigate the issue. The program allows the operator's engineering and maintenance staff to fix in-flight faults, defer decisions, or recommend action.

Southwest Airlines MPM was found to only contain information on the Aircraft Health Management under MPM 03.06.09.03 AHM Program Manager Job Responsibility and Authority. The MPM does not contain any policy and procedures on how Southwest Airlines utilizes and implements the program.

Contact with FAA Inspector Shawn Martin confirmed that he did not inform Mark Zabransky Southwest Airlines use of the Boeing AHM data was illegal. In fact, FAA Inspector Martin wasn't aware of Southwest Airlines use of the Boeing AHM until he had contracted Mark Zabransky. FAA Inspector Martin contacted Mark Zabransky after FAA Inspector Laurion inquired with FAA Inspector Martin what "AHM" means as contained in Work Release Work Card SA-M 652A date September 21, 2016, for aircraft 7843. FAA Inspector Martin had been investigating a complaint made by (b) (7)(C) related to the MLG retract actuator replacement on aircraft 7843. It was Mark Zabransky who informed FAA Inspector Martin about his understanding of AHM.

According to the (b) (7)(C), Southwest Airlines initially contracted with Boeing in 2013 to gain access to the AHM program through the MyBoeingFleet.com web portal. The original contract was for three years to allow Southwest Airlines to review and see

the benefits of the program. When the contract ended, Southwest has been allowed by Boeing to continue their access to use the program on an annual basis while they are in negotiations with Boeing on future benefits and services concerning the program.

The Boeing AHM data provided for the right main landing gear on aircraft N7843A, had been showing a right main gear exceedance of approximately one to four seconds past the preset retract alert exceedance limit of 9 seconds. The AHM program is set to send an alert if a gear takes more than 9 seconds to retract. The retract Alert first appeared November 21, 2015, when Southwest Airlines first operated the aircraft and continued for each flight until November 18, 2016.

According to the [REDACTED], it wasn't until August 7, 2016, that Southwest personnel responsible for reviewing AHM data for Southwest Airlines elected to recommend replacing the right main landing gear retract actuator by generating the Work Release Work Card SA-M 652A. The recommendation to replace the retract actuator was made due to the fact there were no pilot write-ups at any time related to main landing gear retraction prior to the actuator change and based on operating experience determined the retract actuator was the most likely cause of the 9 second exceedance limit.

A review of records for aircraft N7843A found no pilot reports involving the main landing gear from November 21, 2015, to September 21, 2016, the date of retract actuator replacement. The alert notifications provided by the AHM fall under the programs prognostic capabilities.

The Fault Isolation Manual (FIM) Introduction section indicates the FIM is used to isolate and correct observed faults, cabin faults and maintenance messages from built in test features of systems or individual components. The FIM for Boeing 737-700 aircraft contains Task 32-32 Task 804 Right (Left) Main Landing Gear Slow to Retract or Extend – Fault Isolation. The Task lists the main gear actuator as a possible cause. The Task also contains procedures for doing an initial evaluation by doing the operational test for the main landing gear referencing AMM Task 32-32-00-710-801 Main Landing Gear Operational Test. If the gear extends or retracts very slowly, then do the Fault Isolation Procedure. If extension/retraction times are acceptable, then do the steps to complete the task, which puts the aircraft back to its usual condition. The FIM Task was not recommended for accomplishment by the Southwest personnel responsible for reviewing the AHM data in issuing the Work Release Work Card SA-M 652A, due to the fact there were no pilot reports.

After replacement of the right main landing gear retract actuator on September 21, 2016, the AHM data continued to show the right gear exceeding the set limit of 9 seconds by 1 to 4 seconds. Southwest Airlines personnel responsible for reviewing AHM data made no further recommendation concerning the continued alert notifications.

According to the AHM Manager, everyone within Southwest Airlines has access to the program. However, interviewing maintenance and inspection personnel found they had very little if any knowledge concerning the program.

*Conclusion:* The Airplane Health Management program is an optional annual subscription service provided by Boeing based on the level of support selected by an operator. Airplane Health Management is not a required program. Southwest Airlines can stop using the program at any time. The program provides customizable alerts so an airline can be notified of airplane conditions and events of interest to them. The program allows an operator to choose which systems and components they want to monitor and allows them to set the exceedance levels for those systems and components. In fact, the events of September 21, 2017, would have never occurred had Southwest Airlines not elected to use the program and their AHM personnel not chosen to recommend an action to address the retraction alert notifications.

The alert notifications are not treated as in-flight faults. Unless there are corresponding pilot reports the data generated by the aircraft is considered prognostic data and not diagnostic data used in troubleshooting reported observed faults. The FIM is a document used to troubleshoot observed aircraft faults. There were no observed aircraft faults so the FIM was not recommended for use. It would have been beneficial had the FIM Task been recommended and the initial evaluation been applied to determine the validity of the AHM data prior to replacing the retract actuator. Because the AHM alert notifications fell under the programs prognostic capabilities, the operator can use the AHM program to determine if actuator replacement eliminated the alert notifications. In this case Southwest Airlines AHM personnel made no further recommendation to address the alert notifications after retract actuator replacement.

### **In-Flight MLG Discrepancies verses AHM Data**

When interviewed, Complainant Zabransky alleged the discrepancies that occurred in November were related to the discrepancy of the right main landing gear being slow to retract and that the problem was due to a restrictor/check valve that was found installed backwards. Complainant Zabransky believes the valve was installed backward back in November 2015, when Southwest received the aircraft.

Records show that starting on November 14, 2016, the gear was written up three times in three days. In the first write-up on Aircraft Logbook page 0376648, the flight crew indicates that on approach when landing gear lever was put in down position, the aircraft yawed significantly and left main gear light was noticeably slow to turn green. It went green, as did other lights and no further issue. The Resolution block indicates the gear pins were installed and the aircraft was ok to continue per Minimum Equipment List 32-16-01.

The aircraft was then flown to Orlando (MCO) as Flight 8502. In Orlando, a SA-M 1073 record was generated indicating the Fault Isolation Manual (FIM) Task 32-32-804 was performed, the left downlock actuator was replaced and leak checked, and the left and right gear operated together through the gear swing in reference to AMM 32-32-00 and TSR 201607739.

TSR 201607739 was generated to ask Engineering if it was acceptable to use the electric motor driven pump (EMDP) for the signoff since this was a deploy time frame and all three gear extended within the 13 seconds per the AMM. The answer was that Engineering had no objection to using the EMDP if the landing gear is within the 13 second requirement. The TSR

refers to AMM Task 32-32-00-710-802 MLG Test and AMM Task 32-32-51-400-801 MLG Downlock Actuator Installation.

FIM Task 32-32-804 addresses Main Landing Gear Slow to Retract or Extend. The FIM lists as one of the possible causes a main gear downlock actuator. The FIM has you do the operational test for the main landing gear AMM Task 32-32-00-710-801. The FIM contains a Note stating; "Slow gear operation is normal when only using the electric motor driven pumps for hydraulic power if more than one landing gear are operated together."

AMM Task 32-32-00-710-802 MLG Test – Component Replacement and AMM Task 32-32-51-400-801 MLG Downlock Actuator Installation, both refer to Hydraulic System A or B Pressurization Task 29-11-00-860-801, which refers to procedures for using the EMDP.

AMM 32-32-00, Main Gear Extension and Retraction – Adjustment/Test, General, states in paragraph C the EMDP can be used for the component replacement test. When you use the EMDP operate only one landing gear at a time. The EMDP provides a hydraulic flow rate of approximately 6 gpm. This lower rate causes slower landing gear operation, especially if you operate more than one gear at the same time. Do not use the EMDP to measure extension/retraction times. Paragraph D states the component replacement test is satisfactory in most cases after replacing a landing gear structural or system component. If you are troubleshooting slow landing gear extension, it is recommended to do the operational test.

AMM Task 32-32-00-710-801, Main Landing Gear Operational Test, contains a Note stating; "Do not use the electric motor driven pump (EMDP) to measure extension/retraction times."

According to Boeing they do not publish the definitions for Notes. However, they provided the following as their definition.

- Note – A note provides additional information to help a mechanic in the performance of the related task, step, or action.
  - A note cannot be used to convey a warning, caution, action step, or alter what the mechanic will do in the related step.
  - The mechanic must be able to complete the step or action if the note is removed.

While the TSR indicates the gear extended within thirteen seconds, the SA-M 1073 was signed off indicating left and right gear were found to operate together through gear swing referencing AMM 32-32-00 and TSR 201607739. It does not mention meeting AMM Task 32-32-00-710-801, Main Landing Gear Operational Test extension/retraction times.

On the next Flight 2978 from Orlando (MCO) to Pittsburg (PIT) conducted on November 15, 2016, the flight crew reported in Aircraft Logbook 0376650 that when the landing gear was lowered on approach the aircraft yawed significantly. The left main gear extended more slowly than right gear. The left main showed green/down and locked 5 seconds after right main showed green.

During the flight to Pittsburg, the AHM data showed the right main gear retraction alerting two

seconds past the 9 second set limit.

Aircraft Logbook page 0376552 and SA-M 106 Ferry Permit shows the aircraft was then flown on a Ferry Permit from Pittsburg (PIT) to Midway (MDW) with the gear down. Flight information indicates the aircraft operated as Flight 8700.

Aircraft Logbook page 0376554 shows that while at Midway the right main gear transfer cylinder was replaced in accordance with AMM 32-32-71 on November 16, 2016, with no help.

Aircraft Logbook page 0376650 shows the left main landing gear retract actuator assembly was then replaced with the gear swung on jacks and the operational and leak check good per AMM 32-32-11 and Functional Check Flight (FCF).

Aircraft Logbook page 0376555 shows that on November 17, 2016, a FCF was performed at Midway and the aircraft passed the check flight. Flight information indicates the aircraft operated as Flight 8750.

During the Functional Check Flight, the AHM data showed the right main gear retraction alerting two seconds past the set limit.

Flight information shows the aircraft then flew three revenue flights. Flight 389 Midway (MDW) to Albany (ALB), Flight 1092 Albany (ALB) to Las Vegas (LAS), and Flight 1093 Las Vegas (LAS) to Dallas (DAL).

On the flight into Dallas the flight crew reported on Aircraft Logbook page 0376556 that on landing gear retraction right main gear is 2-3 seconds behind other two. On extension, the left main gear light shows locked green 3-4 seconds after the nose and right gear. This was the first time a flight crew reported slow retraction of the right main gear.

The AHM data for the flight to Dallas showed the right main gear retraction alerting two seconds past the set 9 second limit.

Non Routine Card D156960, Non Routine Card Multi-Step Attachment A1028213 and Non Routine Card D156962 shows Dallas Maintenance replaced the left main landing gear transfer cylinder, the left and right main landing gear flow regulators, and reinstalled a right restrictor/check valve correctly that was found installed backwards. When the aircraft was returned to service, there were no other pilot reports and the AHM program no longer produced an alert notification for the right main gear retraction exceedance time.

AMM MLG Extension and Retraction – Functional Description, states under Extension the landing gear selector valve supplies down pressure when the landing gear lever moves to the down position. Down pressure goes to the transfer cylinder. This sets the piston in the transfer cylinder to move to the up side. This gives a time delay to let the uplock actuator unlock the uplock mechanism. The restrictor/check valve controls the transfer cylinder rate. The AMM Figure 1 illustration shows the restrictor/check valve installed on the down pressure side of the



transfer cylinder and the main gear actuator.

The Illustrated Part Catalog (IPC) shows the main landing gear restrictor/check valve is connected to a tee that connects to the transfer cylinder.

- Appendix A, Figure 5: Images of restrictor/check valve, tee connector, transfer cylinder with the flow placard in the background.

Boeing states that if the right MLG restrictor/check valve is installed upside down, the right MLG down pressure will build up faster and the up lock and down lock actuators will retract quicker. With the increase in flow rate to the right MLG transfer cylinder, the right MLG will extend fast.

Interviewed the following personnel involved in performing maintenance and inspection of the MLG in Dallas on aircraft 7843.

- (b) (7)(C), (b) (7)(C), who created and signed the Defect entry on Non Routine Card D156960 and Non Routine Card Multi-Step Attachment A1028213 to facilitate the initial jacking of the aircraft. Who created and signed the Defect entry on Non Routine Card D156962 to remove and replace the left and right flow regulators.
- (b) (7)(C), (b) (7)(C), who signed the Resolution block of Non Routine Card D156962 replacing of the left and right MLG flow regulators.
- (b) (7)(C), (b) (7)(C), who signed the Multi-Step Attachment A1028213 for replacement of the left transfer cylinder and signed the Non Routine Card D156960 Resolution block and Multi-Step Attachment in finding the right MLG restrictor/check valve installed backwards and reinstalled correctly, and signed the final gear swing.
- (b) (7)(C), (b) (7)(C), who stamped as RII for the replacement of the left transfer cylinder, the reinstallation of the restrictor/check valve, and the final gear swing.

None of the personnel interviewed were involved with the aircraft from start to finish. None of the personnel knew if the left MLG extended within or outside of the 13 second extension requirement in performing a gear swing in troubleshooting the gear, or the retraction and extension time of the right MLG. Extension and retraction time results were not recorded in troubleshooting the MLG. The interviewees indicated when the gear was being swung they could hear a loud noise indicating a hydraulic flow restriction. None of the interviewees witnessed all or the same gear swings. (b) (7)(C) was the only one who express hearing an excessively loud sound the gear was making when he witnessed a gear swing. It was (b) (7)(C) who discover the restrictor/check valve installed backwards.

According to (b) (7)(C), the flow regulators had already been replaced when he got involved in troubleshooting the MLG. (b) (7)(C) stated he was directed to replace the left transfer cylinder by a (b) (7)(C). After the left transfer cylinder replacement, (b) (7)(C)

stated during the gear swing there was a very loud, excessively loud sound with the gear. (b) (7)(C) stated he inspected the left MLG components first and everything looked good. He then inspected the right MLG components and noticed the hard lines to the restrictor/check valve and tee connector looked bent down. He then saw the flow direction placard and noticed the tee connector with restrictor was upside down. He stated he doesn't know who could have done it or when it was done.

(b) (7)(C) stated he physically replaced the left and right flow regulators and indicated he did not have to touch the restrictor/check valve to remove the flow regulators.

The Illustrated Part Catalog (IPC) shows the main landing gear flow regulator mounted below the transfer cylinder and has separate hard lines connected to the flow regulator then what are connected to the transfer cylinder and restrictor/check valve.

Review of records for the components removed in Dallas found both flow regulators were overhauled as indicated on the 8130-3 tags. The Teardown and Failure Analysis Report for the right flow regulator serial number 4201 indicates no significant observations. The Teardown and Failure Analysis Report for the left flow regulator serial number 4210 indicates end cap needed to be replaced. The left transfer cylinder serial number 4122 Teardown Report indicates the item 1 cylinder was cut/torn, but serviceable and passed functional test. The 8130-3 tag for the cylinder indicates the Transfer cylinder was inspected/tested.

*Conclusion:* The three flight crew reports address a MLG extension problem. It wasn't until the third flight from Las Vegas to Dallas that the flight crew reported the right main gear retraction was 2-3 seconds behind the other two gears.

According to Boeing, a restrictor/check valve installed backwards affects MLG extension, which would cause the right MLG to extend fast. The AHM alerts were providing information concerning retraction.

The only other component replaced on the right MLG just prior to the AHM alert notification no longer appearing was the flow regulator serial number 4201. The Teardown and Failure Analysis Report and 8130-3 tag for flow regulator serial number 4201 indicates the regulator was overhauled, but no significant observations. It is inconclusive if the right flow regulator affected the right MLG retraction, but could be a likely the cause of the right MLG retraction alert notification.

It is unlikely the restrictor/check valve was installed backwards back in November 2015 when Southwest Airlines took possession of the aircraft, due to the restrictor/check valve affecting the down pressure extension side of the right main landing gear. This self-induced problem would cause the right MLG to extend faster than the left MLG resulting in pilot reports similar to the ones generated in November of 2016. There have been no pilot reports related to MLG extension until November 14, 2016.

As to when the restrictor/check valve could have been installed backwards, it could have been



installed backwards at Midway during replacement of the right main gear transfer cylinder. The AMM MLG Extension and Retraction – Functional Description, indicates the restrictor/check valve controls the transfer cylinder rate. The AMM Figure 1 illustration shows the restrictor/check valve installed on the down pressure side to the transfer cylinder and the main gear actuator. The IPC shows the restrictor/check valve is connected to a tee that connects to the transfer cylinder. However, it is unlikely it was installed backwards at Midway, in that, an operational test of the gear was conducted on jacks and a Functional Check Flight was performed at Midway and the aircraft passed both the operational test and check flight. The aircraft flew a revenue flight from Midway to Albany, then to Las Vegas without any issues. It was on the Las Vegas to Dallas flight that the crew reported that on extension the left main gear light shows locked green 3-4 seconds after the nose and right gear.

The restrictor/check valve could have been installed backwards while performing maintenance in Dallas and was caught when the aircraft would not pass a prior swing prior. With various maintenance personnel working on the aircraft there is insufficient evidence to prove when and who could have installed the restrictor/check valve backwards.

## **COMPLAINT ALLEGATION # 5**

### *Item 17 as presented within the Amended Complaint*

#### **Item 17 of the Complaint**

**Allegation:** (b) (7)(C) criticized Complainant Matt Flynn for reporting maintenance discrepancies.

**Response:** A violation or non-compliance of an FAA Order, Regulation, or Standard was not substantiated.

**Investigation:** The complaint indicates Complainant QC Inspector Matt Flynn has been criticized by management representatives, including (b) (7)(C) for reporting maintenance discrepancies requiring repairs, including hydraulic leaks, erosion, and fuselage cracks.

An email was sent through Complainant Flynn's attorney to have Complainant Flynn provide us with any specifics he may have concerning his complaint, such as;

- The specific discrepancy he was criticized for by (b) (7)(C)?
- The date?
- The N number of the aircraft?
- Witnesses, etc.?

Did not receive a response from Complainant Flynn.

Informed by Southwest Airlines there is no Supervisor by the name of (b) (7)(C), but a

(b) (7)(C) .

When interviewed, (b) (7)(C) indicated there have been aircraft discrepancies written-up in performing the Post Dock task cards. (b) (7)(C) stated he has questioned how employees found the discrepancies. (b) (7)(C) stated he has given feedback on write-ups if they went above the scope of the Post Dock card. Does not think anyone has not written something up because of a difference of opinion. (b) (7)(C) feels that some employees could assume a difference of opinion or argument as intimidation. (b) (7)(C) stated he has not criticized employees for writing items up. He has not told anyone not to write anything up and if it is written up, we take care of the write-up. (b) (7)(C) does not know of any discrepancies not being taken care of.

An interview with (b) (7)(C), he indicated (b) (7)(C) issues are related to what the discrepancy should be tied too. (b) (7)(C) stated that he has never heard (b) (7)(C) asked someone to not write something up.

*Conclusion:* Due to the lack of a specific date and aircraft number, the FAA is unable to search for and find specific records applicable to this complaint. Due to the lack of specific records applicable to this complaint, the FAA is unable to specifically question (b) (7)(C) about a particular event or confirm the actions of (b) (7)(C) concerning a particular event. While (b) (7)(C) stated he questions employees concerning the scope of their findings, the FAA is unable to confirm the specific actions of (b) (7)(C) related to these events due to the lack of records and witnesses. There is no evidence (b) (7)(C) questioning has led to a discrepancy not being written up.

## COMPLAINT ALLEGATION # 6

### *Item 25 as presented within the Amended Complaint*

#### **Item 25 of the Complaint**

**Allegation:** A part intended to be installed on the aircraft was for another aircraft and circumvented the required parts process by switching serviceable tag and by preparing certification documents in an attempt to legalize the part fabrication process.

**Response:** A violation or non-compliance of an FAA Order, Regulation, or Standard was not substantiated.

*Investigation:* The complaint indicates that in 2015 Complainant Mullins was assigned to Receiving Inspection where he received an Aircraft On Ground (AOG) vender processed part for Bay 2. The complaint indicates Complainant Mullins discovered the part Southwest Airlines intended to install on the aircraft was an illegal part and there had been an attempt to cover up the illegality of the process by switching a serviceable tag, which Complainant Mullins had prepared for another part to the illegal part. The complaint indicates Southwest Airlines also engaged in efforts to cover up its violation of procedures by preparing certification documents in an

improper attempted to legalize a fabrication process that had already been completed. The complaint indicates Complainant Mullins complained about the conduct to (b) (7)(C), (b) (7)(C) and (b) (7)(C). (b) (7)(C) subsequently conceded the required parts process had been circumvented.

When interviewed, Complainant Quality Control (QC) Inspector Mullins stated the part in question was a lower left hand stabilizer bent angle used for the lower stabilizer skin. Complainant Mullins stated the process circumvented was the SA-M 1057 documented vender fabrication process called out for in the Maintenance Procedures Manual. Complainant Mullins stated he had gone through all records in 2015 and was unable to obtain any documents. Complainant Mullins stated the bent angle part in question had been processed by Advantage Aviation following the SA-M 1057 process for a different aircraft. The excess part for that aircraft was to have been discarded and not retained by the company. It was this excess part the company was trying to use that had not gone through the part fabrication process for the aircraft they were trying to install it on. Complainant Mullins does not remember the aircraft number or the specific date in 2015. Complainant Mullins stated a fact finding had been accomplished by (b) (7)(C). Complainant Mullins stated the part in question was not installed on the aircraft, but instead a different part that had gone through the process was installed on the aircraft.

MPM 18.04.01, Revised 9-17-2015, states in paragraph 4 and 5 that for fabricated repair and modified, new or existing parts being worked on wing by venders do not require a SA-M 1057 to be initiated as long as documentation of the process performed is captured by other means. Parts that are repair-scheme specific and sent out for vender processes use a SA-M 1057 to request the required process.

When interviewed, (b) (7)(C) stated he created the SA-M 1057 traveler process for fabricated parts. (b) (7)(C) stated he remembers there had initially been issues with following the SA-M 1057 traveler process. (b) (7)(C) stated he doesn't remember a specific fact finding being accomplished related to a bent angle part fabrication. (b) (7)(C) stated he does about 15 to 25 various fact findings a year.

When interviewed, (b) (7)(C) stated he remembers a fabricated part process not being followed back in 2015 related to a bent angle. (b) (7)(C) stated when a part is fabricated it is fabricated in a set for a specific aircraft using the SA-M 1057 part fabrication tracking process. When one of the two fabricated parts is installed on the specific aircraft the other part is to be destroyed. (b) (7)(C) stated the part that was to be destroyed did not get destroyed. (b) (7)(C) who was a new supervisor somehow acquired the part that was to have been destroyed. (b) (7)(C) stated when the issue with the part was brought to (b) (7)(C) attention the part in question was destroyed and a new set of parts were fabricated following the SA-M 1057 process for installation on the aircraft. A fact finding was accomplished and (b) (7)(C) was given a letter for not following the vender fabricated part process. (b) (7)(C) stated (b) (7)(C) was not directed by anyone to circumvent the process.

MPM 18.04.01, paragraph 8, states spare, duplicate, and/or unused parts must be scrapped in accordance with the Southwest Airlines Material Stores Scape Part Procedure after the specific repair is accomplished. No stocking of these parts is authorized unless submitted for approval under the Owner Produced Parts Program.

Review of the company letter provided to (b) (7)(C) by the company revealed the aircraft in question was 266 and the part issue occurred around January 17, 2015.

Operations Specification D085 indicates aircraft 266 is N266WN, a Boeing 737-7H4.

When interviewed, (b) (7)(C) stated the aircraft needed a bent angle part for a rib repair and that a mechanic had brought to his attention that there was an extra bent angle part from another aircraft. (b) (7)(C) stated he thought they could use it since it had gone through the heat treated process. (b) (7)(C) stated it was brought to his attention the part from the other aircraft could not be used for this aircraft. (b) (7)(C) stated a request for a new bent angle part was made and the part from the other aircraft that was not used and was taken to be disposed of. (b) (7)(C) stated there was not an attempt to cover this up by switching serviceable tags. No one had directed him to not follow the process he just did not understand the process that needed to be followed. (b) (7)(C) stated he thinks they changed the parts traveler to state that if you don't use a fabricated part it is to be disposed of. (b) (7)(C) stated he did have a conversation with Mike Mullins and informed Mr. Mullins it was him.

Review of records for aircraft 266 found two SA-M 1057 completed for heat treat of 1 each bent angles for aircraft 266. The SA-M 1057 under General Notes states the Lead AMT or Supervisor is responsible for ensuring the SA-M 1057 is entered on the aircraft tally, obtaining the Repair Order, completing the Vender Process Request portion of the SA-M 1057 and ensuring proper documentation and references (e.g., EA, SRM, DWG) are provided for parts being sent out for additional work. Inspection is responsible for verifying proper repair data is utilized during the repair. When a SA-M 1057 is utilized, Inspection is responsible for verifying the Initial Fabrication and/or Vender Processes Requested sections are accomplished prior to parts being sent out for additional work. Both SA-M 1057 forms indicate that each angle required heat treat. The SA-M 1057 form does not contain a statement to dispose of unused parts.

Review of MPM 38.205 containing the SA-M 1057 form revised as of 11-17-2016 now contains instructions documenting on the form the requested quantity of parts, the quantity of parts used in accordance with repair instructions, and quantity of parts not used in final repair. The form also now contains instructions stating all parts not used in final repair must be mutilated.

**Conclusion:** Complainant Mullins in performing Inspection responsibilities identified and prevented a fabricated bent angle processed for another aircraft from being installed on aircraft 266. (b) (7)(C) was made aware of the SA-M 1057 requirement that he was not aware of at the time. As indicated by Complainant Mullins and (b) (7)(C), records show new angles for aircraft 266 were processed for heat treat utilizing the SA-M 1057 Part Process Traveler. The aircraft was maintained using one of the bent angles processed using the



SA-M 1057 form for aircraft 266. The SA-M 1057 form has since been revised to clearly document the quantity of parts requested, the quantity of parts not used in final repair, and that parts not used must be mutilated to prevent their use. Each of these entries requires an AMT and Inspector sign-off.

**COMPLAINT ALLEGATION # 7**  
*Item 26 as presented within the Amended Complaint*

**Item 26 of the Complaint**

**Allegation:** A non-routine card was signed-off by Production (b) (7)(C) in order to obscure the necessity for an inspection involving the removal of a trunnion pin.

Missing chrome plating required the removal of the forward trunnion pin in order to check for further damage or corrosion.

**Response:** A violation or non-compliance of an FAA Order, Regulation, or Standard was not substantiated.

*Investigation:* The complaint indicates that on September 18, 2016, aircraft 787 required an inspection check for missing chrome or damage to the forward and aft trunnion pins of the main landing gear. The complaint indicates a task card and non-routine card indicate there was missing chrome in the identified area.

Operations Specification D085 indicates aircraft 787 is N787SA, a Boeing 737-7H4.

Review of records for aircraft 787 found a SA-M 203 Special Items #2 task card dated September 18, 2016, addressing inspection of the Main Landing Gear (MLG) forward and aft trunnion pin assemblies. Review of the card found the card marked to indicate signs of corrosion or chrome plating damage at the right MLG forward and/or aft trunnion pin locations with Aircraft Maintenance Technician (AMT) block signed by (b) (7)(C) and the Inspection block signed by (b) (7)(C). The task card records the creation of Non Routine Card D172189 related to the right main landing gear forward trunnion with the AMT block signed by (b) (7)(C) and the (b) (7)(C). However, part of the card for indicating "yes" or "no" in answering the question; are signs of corrosion and/or chrome plating damage identified on the right MLG forward trunnion assembly and the aft trunnion assembly, were both marked by the same (b) (7)(C) and then lined out related to the question of corrosion and/or chrome plating damage. The final decision was hand written in indicating "yes" for the forward trunnion assembly and indicating "no" for the aft trunnion assembly by the same (b) (7)(C). Hand written in was "See NRC D172189" with (b) (7)(C).

Review of Non Routine Card D172189 found it to state the right main landing gear forward trunnion pin has small area of missing chrome on the upper surface with the AMT block signed

by (b) (7)(C).

When interviewed, (b) (7)(C) stated he works the midnight shift and found the missing chrome himself. (b) (7)(C) stated he took two pictures of the area with the borescope. (b) (7)(C) stated he took the pictures to show what the area looked like. He stated he conferred with (b) (7)(C) who said he saw the same thing. (b) (7)(C) stated he filled out the SA-M 203 Special Items #2 task card wrong the first time, which is why the "yes" and "no" were stamped the way they were on the card. (b) (7)(C) stated it was not because he was indecisive concerning the chrome plating finding. (b) (7)(C) stated the finding was turned over to the day shift to address. (b) (7)(C) provide 2 pictures from his phone of the finding. (7)

- Appendix A, Figure 1: Images of the trunnion pin showing the finding.

SA-M 203 Special Items #2 task card, page 7 of 16, item 3.A, requires a general visual inspection of the right MLG at the forward and aft trunnion pins in accordance with Figure 4. Figure 4 (Sheet 2 of 2), Step 1, Note (a), requires an inspection of the forward and aft trunnion pin locations before any cleaning for evidence of corrosion. After inspection for corrosion, Step 2, Note (b), requires cleaning to remove grease and debris from the forward and aft trunnion pin assembly areas by using a clean cloth and solvent.

When interviewed, (b) (7)(C) stated he cleaned the area with rags and may have used alcohol, but doesn't really remember. (b) (7)(C) could not point out on the card where it says to clean. (b) (7)(C) stated (b) (7)(C) was the one that actually saw the damage. (b) (7)(C) stated (b) (7)(C) brought it to his attention and he agreed with (b) (7)(C) there was something there. (b) (7)(C) stated he could not honestly tell if there was chrome damage, but there was something there. (b) (7)(C) stated the finding was turned over to the day shift to address.

When interviewed, (b) (7)(C) stated he was on midnight shift at the time and visually saw the discrepancy brought to his attention by (b) (7)(C). (b) (7)(C) stated he got involved in signing the SA-M 203 Special Items #2 task card, item C, D and E due to errors in marking those items by (b) (7)(C). (b) (7)(C) stated his involvement ended after signing item C, D, and E of the card.

The complaint indicates that applicable remedial standards require the removal of the trunnion pin in order to check for further damage or corrosion. The complaint indicates none of the AMTs would sign-off on the work performed and the non-routine card and package were signed off by the (b) (7)(C).

Review of the Special Item #2 task card found it to state that if there are signs of chrome plating damage on the right MLG forward trunnion assembly to accomplish Part 3. Part 3 has you remove the forward trunnion pin assembly and do a detailed inspection and if damage to the chrome is found replace the forward trunnion pin assembly as necessary. Part 3 of the task card was found as "NA" (not applicable) with the (b) (7)(C).

and the (b) (7)(C).

NRC D172189 Resolution block states the forward trunnion pin was cleaned and re-inspected with no evidence of missing chrome found in accordance with Special Item 11915-32. The trunnion pin was lubricated in accordance with Aircraft Maintenance Manual 12-21-11. The AMT block was signed by (b) (7)(C) and the (b) (7)(C).

When interviewed, (b) (7)(C) stated the finding was turned over to the day shift. (b) (7)(C) stated he was shown a picture of the finding. (b) (7)(C) stated it wasn't rust or corrosion and did look like chrome was missing. (b) (7)(C) stated he had directed mechanics to have the area cleaned before removal of the pin to be sure the finding was actually missing chrome. (b) (7)(C) stated he does not remember who had actually cleaned the right forward trunnion pin. (b) (7)(C) stated he had pulled pins in the past only to find what a mechanic thought was a discrepancy was not a discrepancy and wanted to make sure before they pulled the forward trunnion pin. After the cleaning, the finding was no longer present. (b) (7)(C) stated he made the decision to take it upon himself to make the Non Routine Card Resolution entry and signed the AMT block because what was being seen in the picture looked like missing chrome was now no longer present. (b) (7)(C) stated he felt confident what had been seen was not missing chrome, but something else. (b) (7)(C) stated Part 3 no longer applied and signed accordingly.

When interviewed, (b) (7)(C) stated he was made temporary Lead at the time. (b) (7)(C) was told by (b) (7)(C) that they couldn't find the missing chrome that was being shown in a picture. (b) (7)(C) stated he was shown the picture taken by (b) (7)(C). (b) (7)(C) stated he accomplished a borescope inspection on the trunnion pin and he too could not find the missing chrome that he was shown in the picture. (b) (7)(C) contacted (b) (7)(C) at home to make sure they were looking at the correct aircraft and trunnion pin. (b) (7)(C) stated (b) (7)(C) confirmed to him that they were looking at the correct aircraft and trunnion pin. (b) (7)(C) stated he did inform (b) (7)(C) that what he had taken a picture of was no longer present on the trunnion pin. (b) (7)(C) stated the trunnion pin and area was very clean when he did an inspection of the area. (b) (7)(C) stated he tried to take a picture with the borescope, but the battery died. (b) (7)(C) stated he took a picture with his phone, but was unable to find any pictures from that particular trunnion pin.

When interviewed, (b) (7)(C) stated (b) (7)(C) inform him he had seen his picture that he had taken, and the discrepancy was not present. (b) (7)(C) does not know why what he saw as missing chrome was no longer present.

The complaint indicates the visible corrosion was removed in order to obscure the necessity for removal and further inspection.

NRC D172189 Defect block indicates a small area of missing chrome and does not indicate



corrosion.

When interviewed, (b) (7)(C) stated there were no signs of corrosion.

When interviewed, (b) (7)(C) indicated there wasn't any rust or corrosion.

When interviewed, (b) (7)(C) stated he did not see any evidence of grinding or polishing. (b) (7)(C) stated he thinks what appears to be missing chrome is a flake of impacted or imbedded grease.

The complaint indicates (b) (7)(C) complained about the procedure to several management representatives. The complaint indicates representatives assured (b) (7)(C) the aircraft would be ferried to the Phoenix maintenance station, that the trunnion pin would be removed and replaced, and the necessary examination afforded by the removal of the trunnion pin would take place. The complaint indicates the aircraft continued to operate in revenue service and the area of corrosion was not checked again until an inspection in Phoenix on September 30, 2016. The complaint indicates the work card in Phoenix was marked as showing no damage and the full inspection required by the initial detection of corrosion, which required the removal of the trunnion pin never took place.

Review of records for aircraft 787 found the aircraft was schedule into Phoenix for a Maintenance Visit 2 on or about September 30, 2016. During that visit a Special Item #2 task card was accomplished in Phoenix. The task card indicates the right main landing gear forward and aft trunnion pin locations and the visible surfaces of the forward and aft trunnion pin assemblies were inspected for signs of corrosion and/or chrome plating damage. The task card was signed indicating no signs of corrosion or chrome plating damage.

Interview with (b) (7)(C) determined the issue of the trunnion pin was brought to his attention by (b) (7)(C) and (b) (7)(C). (b) (7)(C) stated he saw a picture of the discrepancy on a phone due to the plane already being gone. (b) (7)(C) told them the plane was due in Phoenix for inspection and would see if they see anything. (b) (7)(C) moved on, but (b) (7)(C) wouldn't leave alone. (b) (7)(C) directed Phoenix to take a look. (b) (7)(C) stated (b) (7)(C) looked at the pin when aircraft came through Dallas later.

When interviewed, Complaint Mullins stated he was made aware of the trunnion pin issue through (b) (7)(C). Complainant Mullins stated he got involved because (b) (7)(C) was ridiculed for his finding. Someone had put a piece of tape on the dry erase board and put chrome repair kit.

- Appendix A, Figure 3: Image of hazing note left for (b) (7)(C). Image provide by Mr. Michael Mullins.

When interviewed, (b) (7)(C) stated the plane showed up in Dallas and he inspected the right forward trunnion pin to confirm for himself what he had seen was no longer



present. (b) (7)(C) stated he was satisfied what he had seen was gone and there was no damage. (b) (7)(C) provided two pictures he took on October 3, 2016, showing what he had seen was no longer present.

- Appendix A, Figure 2: Images taken by (b) (7)(C) demonstrating no missing chrome.

**Conclusion:** (b) (7)(C) stated he cleaned the area with rags, but wasn't definitive on his use of alcohol. (b) (7)(C) found the discrepancy and brought it to (b) (7)(C) attention. Pictures provided by (b) (7)(C) show what appears to look like missing chrome plating. The discrepancy of right main landing gear forward trunnion pin has small area of missing chrome on upper surface is documented on a non-routine card and turned over to the day shift. (b) (7)(C) decides to have the right main landing gear forward trunnion pin area cleaned again before removal of the pin to be sure the finding is actually missing chrome. (b) (7)(C) stated he had pulled pins in the past only to find what a mechanic thought was a discrepancy was not a discrepancy and wanted to make sure before they pulled the forward trunnion pin. After the cleaning, what had been seen was no longer present. The lack of the finding was confirmed by (b) (7)(C), who had conferred with (b) (7)(C) about his finding. An inspection of the right main landing gear forward trunnion in Phoenix confirmed there was no signs of chrome plating damage. (b) (7)(C) picture taken on October 3, 2016, confirms there is no missing chrome and does not show any evidence of grinding or polishing. As a result of the re-cleaning, the finding of what appeared to be missing chrome was no longer present; therefore, Part 3 of the card was no longer applicable. The sign off on Non Routine Card D172189 by (b) (7)(C) was determined to be appropriate.

## COMPLAINT ALLEGATION # 8

### *Item 27 as presented within the Amended Complaint*

#### **Item 27 of the Complaint**

**Allegation:** (b) (7)(C) reacted with hostility to Complainant Mullins report of rudder balance weight corrosion, accusing Complainant Mullins of deliberately reporting the corrosion immediately prior to flight in order to disrupt operations.

**Response:** A violation or non-compliance of an FAA Order, Regulation, or Standard was not substantiated.

**Investigation:** The complaint indicates that in early 2017, Complainant Mullins was involved in a vertical leading edge removal and installation. During the course of the installation inspection, Complainant Mullins discovered the rudder balance weight had corrosion and reported the discrepancy.

When interviewed, Complainant Mullins stated he believes the vertical leading edge replacement that resulted in the rudder weight corrosion findings was accomplished on December 12, 2016 or

February 6, 2017. Complaint Mullins was unable to provide an aircraft number, but indicated he may be able to provide the non-routine card for the rudder weight. Complaint Mullins did not provide any names of individuals that witnessed (b) (7)(C) interaction with him.

A picture of SA-M 112 Non Routine Card D157281 was provided by Complainant Mullins via email and shows a rudder weight corroded defect signed by employee number 58072 Michael Mullins. The Resolution block of Non Routine Card shows replacement of the rudder counter balance weight. The rudder weight replacement was accomplished on aircraft 768 on December 12, 2016, and made reference to G404382.

Operations Specification D085 indicates aircraft 768 is N768SW, a Boeing 737-7H4.

Review of records related to reference G404382 found that on November 30, 2016, the defect "vertical fin leading edge HF antenna worn through several plies of material" was documented in Phoenix. A temporary repair was accomplished and required a repetitive inspection every seven days and permanent repair or replacement within 30 days. A repetitive inspection was accomplished on December 5, 2016, at Los Angeles. On December 12, 2016, the vertical fin leading edge was replaced in Dallas with the Inspector block signed by employee number 58072 Michael Mullins.

The complaint indicates (b) (7)(C) reacted with hostility to Complainant Mullin's rudder weight corroded report, accusing Complainant Mullins of deliberately reporting the corrosion immediately prior to flight in order to disrupt operations.

When interviewed, (b) (7)(C) vaguely remembers the issue of the corroded rudder weight being brought to his attention. Learned of the finding by turnover of another supervisor. (b) (7)(C) stated the corroded rudder weight was found on final installation of the vertical leading edge. (b) (7)(C) stated he did inquire with QC Inspector Mullins on why the corroded rudder weight was not found before installation of the leading edge. (b) (7)(C) stated he didn't accuse anyone of deliberately reporting the corrosion immediately prior to flight. (b) (7)(C) stated he didn't feel the reported finding was deliberately delayed on purpose. (b) (7)(C) stated he was not hostile to anyone.

*Conclusion:* Records show the corroded rudder weight was replaced on the aircraft. While (b) (7)(C) stated he inquired with Complaint Mullins concerning the finding, the FAA is unable to confirm the specific actions of (b) (7)(C) due to the lack of witnesses. There is no evidence (b) (7)(C) questioning led to a discrepancy not being written up.

**COMPLAINT ALLEGATION # 9**  
*Item 28 as presented within the Amended Complaint*

**Item 28 of the Complaint**

**Allegation:** (b) (7)(C) reacted with hostility to Complainant Mullins reports of maintenance discrepancies, declined Complainant Mullins offers to show (b) (7)(C) the discrepancies and that (b) (7)(C) sarcastically suggested maintenance workers should stop working and a “brand new wing” be ordered.

**Response:** A violation or non-compliance of an FAA Order, Regulation, or Standard was not substantiated.

*Investigation:* The complaint indicates that on April 17, 2017, Complainant Mullins was assigned to an inspection of a wing for aircraft 626. Complainant Mullins detected an actuator leaking fluid, a flap track with rust coming out of the skin, a web board worn through 50 percent of the material, a worn casting on the inboard spoiler panel and a lock on a Krueger flap installed backwards.

Operations Specifications D085 indicates aircraft 626 is N626SW, a B-737-3H4.

A records review found no aircraft records related to the issues identified by Complainant Mullins in relation to aircraft 626 for the month of April.

When interviewed, Complainant Mullins was informed no records could be found for aircraft 626 for the defects he identified in the complaint. Complainant Mullins stated he had documented the discrepancies on non-routine cards. Complainant Mullins stated it was the #6 spoiler actuator leaking hydraulic fluid, the #8 flap track that had the rust, and the #5 ground spoiler with worn castings. Complainant Mullins stated all discrepancies were corrected by Maintenance.

When interviewed, (b) (7)(C) stated he remembered the issue surrounding the #8 flap track. (b) (7)(C) stated the #6 spoiler actuator was leaking and it was replaced, the web board for the inboard section of the aileron was removed and a new web board was fabricated and installed per the SRM, and the worn ground spoiler bushings were replaced.

(b) (7)(C) stated he doesn't recall the Krueger pin issue. (b) (7)(C) was informed non routine cards could not be found related to these issues on aircraft 626. (b) (7)(C) stated non routines had been created and would locate and email them to the FAA.

As a result of the interview with (b) (7)(C), it was determined the aircraft was 607 and not aircraft 626 as alleged in the complaint. (b) (7)(C) provided records on the following discrepancies via email.

- #8 flap track with rust
- Worn web panel
- Worn inboard ground spoiler bushings

Operations Specifications D085 indicates aircraft 607 is N607SW, a B-737-3H4.

Review of the records provided by (b) (7)(C) show they were created by Complainant Mullins employee number 58072, dated April 18, 2017. The records show the discrepancies were corrected by Maintenance.

Once the correct aircraft number was obtained, review of records for aircraft 607 found the following two other non-routines generated by QC Inspector Mullins employee number 58072, dated April 18, 2017, that were corrected by Maintenance.

- right hand inboard Krueger flap actuator casting gouged from keeper.
- #6 spoiler actuator leaking out of shaft.

While the complaint indicates a lock on a Krueger flap had been installed backwards, the non-routine found addressing a Krueger flap does not mention the keeper or lock being installed backwards just that the casting gauged from keeper.

The complaint indicates (b) (7)(C) reacted with hostility to Complainant Mullins reported discrepancies declining Complainant Mullins offers to show (b) (7)(C) the discrepancies.

When interviewed, Complaint Mullins did not provide names of any witnesses to (b) (7)(C) actions.

When interviewed, (b) (7)(C) stated QC Inspector Mullins did ask him to look at the discrepancies. (b) (7)(C) stated he saw no need to see the discrepancies and told QC Inspector Mullins to write up the discrepancies and they will fix. (b) (7)(C) stated he did attempt to inform QC Inspector Mullins there was no rust on the #8 flap track when pulled and was a build-up of dynal, dirt and grease. (b) (7)(C) stated QC Inspector Mullins made (b) (7)(C) sign off as removed light surface corrosion within allowable limits per SRM.

When interviewed on the #8 flap track, (b) (7)(C) stated it was hard to say if there was actual rust. It was orange, dynal and sealant. There was no pitting. Did not see any evidence of rust on the aircraft between the flap tracks. Maybe on the bolts, coating on bolts was coming off. Possible rust, wasn't obvious. (b) (7)(C) stated he spoke to QC Inspector Mullins because he was not sure how to address. (b) (7)(C) stated the entry of cleaned and removed rust was how QC Inspector Mullins told him to sign it off. (b) (7)(C) stated he agreed and made the entry as indicated in the non-routine. (b) (7)(C) stated he did not discuss with (b) (7)(C), just with QC Inspector Mullins. (b) (7)(C) did state he saw QC Inspector Mullins and (b) (7)(C) talking about shims. There was nothing



irregular, no arguing, just a discussion. (b) (7)(C) stated he has no idea what the final discussion was, just that Inspector Mullins was not satisfied with them because they did not have parts tag.

The complaint indicates (b) (7)(C) sarcastically suggested maintenance workers should stop working and a brand new wing be ordered.

(b) (7)(C) stated the wing had a lot of issues and needed a complete spoiler and flap rigging. (b) (7)(C) stated because of all of the issues he jokingly made a comment to his crew in the break room that he ordered a new wing. (b) (7)(C) stated QC Inspector Mullins wasn't there when he jokingly made the comment.

When interviewed, (b) (7)(C) stated he did not hear (b) (7)(C) state that workers should stop working and a brand new wing be ordered. (b) (7)(C) stated he has not seen QC Inspector Mullins or (b) (7)(C) go toe to toe or argue. (b) (7)(C) stated (b) (7)(C) gets along with everyone; he is a nice guy.

*Conclusion:* Records confirm the discrepancies detected by Complainant Mullins were corrected by Maintenance. (b) (7)(C) confirmed he declined Complainant Mullins offer to show him the discrepancies. (b) (7)(C) declining to see the discrepancies did not prevent Complainant Mullins from documenting the discrepancies. (b) (7)(C) stated he made a joke about ordering a new wing to his crew due to the amount of work needing to be accomplished concerning the wing. The FAA was unable to confirm (b) (7)(C) acted in a hostile manner toward Complainant Mullins. There's no evidence (b) (7)(C) actions led to a discrepancy not being written up.

## COMPLAINT ALLEGATION # 10

### *Item 29 as presented within the Amended Complaint*

#### **Item 29 of the Complaint**

**Allegation:** Installation of shims fabricated off premises by a vender that had not complied with the mandatory vender process.

**Response:** A violation or non-compliance of an FAA Order, Regulation, or Standard was not substantiated.

*Investigation:* According to the complaint on April 18, 2017, Complainant Mullins was assigned to an inspection of the wing for aircraft 626.

Operations Specifications D085 identifies aircraft 626 as N626SW, a Boeing 737-3H4.

The complaint indicates the aircraft required the installation of a new shim after pulling two flap tracks. The complaint indicates Southwest Airlines did not have a shim in stock. The complaint

indicates Southwest Airlines proceeded with the installation of a part fabricated off premises by a vender that had not complied with the mandatory vender process.

Review of Aircraft Maintenance Manual (AMM) Task 27-51-40-004-001, Outboard Flap Track Removal, Procedure D(1)(5)(f), states that if you will install the same flap track, and the tapered shim is not damaged, retain for installation of the track. If the tapered shim is damaged or missing, make a replacement tapered shim (Reference Outboard Flap Track Installation, TASK 27-51-49-404-006).

Review of AMM Task 27-51-49-404-006, Outboard Flap Track Installation, found the following under Procedure:

- F (2), states that if the shim is damaged install a new tapered shim by removing the damaged tapered shim, and measure the thickness. The new replacement shim must have the same thickness as the removed shim. Fabricate the tapered shim from 2024-T351 Aluminum Alloy Plate, AMS-QQ-A-250/12. The thickness at all points along the aft edge of the shim must not be less than 0.03 inch. Apply a chemical conversion coating, C00064 (Type 2, Class A) to all surfaces of the shim. Apply one layer of BMS 10-11, Type 1 primer, C00259 to all surfaces of the shim.
- F (3), states that if installing a new or overhauled track with a different aft attach pad thickness than the track that was removed, do these steps to determine the thickness of and to install a new tapered shim. Procedure F (3)(11) also states to make from 2024-T351 Aluminum Alloy Plate, AMS-QQ-A-250/12. The thickness at all points along the aft edge of the shim must not be less than 0.03 inch. Apply a chemical conversion coating, C00064 (Type 2, Class A) to all surfaces of the shim. Apply one layer of BMS 10-11, Type 1 primer, C00259 to all surfaces of the shim.

When interviewed, Complainant Mullins stated the #7 and #8 flap tracks were removed from the aircraft. Complainant Mullins stated a SA-M 1057 was not completed for the fabricated shims. Complainant Mullins stated a second submittal following the vender process was accomplished for the fabricated shims that were installed on the aircraft. Complainant Mullins stated the vender was Advantage Aviation. Complainant Mullins was informed no records for the flap tracks or shims could be found for aircraft 626. Complainant Mullins stated he had generated a non-routine for the #8 flap track.

Southwest Airlines Maintenance Procedures Manual (MPM) 18.04, states the SA-M 1057 Parts Process Traveler is used to request, track, and document processes and services on repair parts, new and existing parts that require modifications, machining, welding, heat treating, plating, and milling at vender facilities.

MPM 18.04.03 states in paragraph 2 the Lead/Supervisor is responsible for ensuring the SA-M 1057 is entered on the aircraft tally, obtaining the Repair Order, completing the Vender Process Request portion of the SA-M 1057 and references (e.g., EA, SRM DWG) are provided for parts being sent out for additional work. Paragraph 3 states Inspection is responsible for verifying proper repair data are being used during the repair. When a SA-M 1057 is being used, Inspection is responsible for verifying the Initial Fabrication and the Vender Process Request are



accomplished prior to parts being sent out for additional work.

The complaint indicates Complainant Mullins was in direct communication with (b) (7)(C) demanding the vender process be complied with and not attempt to circumvent the process.

When interviewed, (b) (7)(C) stated he had failed to follow the vender process related to the fabricated shims. (b) (7)(C) stated at that time he had never done the vender process requiring completion of traveler SA-M 1057.

MPM 18.04.01 paragraph 4 and 5 state that for fabricated repair and modified, new or existing parts being worked on wing by venders do not require a SA-M 1057 to be initiated as long as documentation of the process performed is captured by other means as stated in the paragraph 4. Parts that are repair-scheme specific and sent out for vender processes use a SA-M 1057 to request the required process.

(b) (7)(C) stated QC Inspector Mullins pointed out the requirement to follow the SA-M 1057 vender process for the fabricated shims. (b) (7)(C) stated when he found out the SA-M 1075 vender process needed to be followed for the shims he refused possession of the initial fabricated shims and they were taken by someone else and locked up to prevent their use until scrapped. (b) (7)(C) stated a new request for fabricated shims was accomplished by (b) (7)(C) and were processed by Advantage Aviation.

During the interview with (b) (7)(C), it was determined the aircraft in question was 607 and not aircraft 626. (b) (7)(C) provided records showing the #7 and #8 flap tracks were removed from aircraft 607.

Operations Specifications D085 identifies aircraft 607 as N607SW, a Boeing 737-3H4.

Review of the records for aircraft 607 found a non-routine card for the replacement of the #7 flap track and the #8 flap track, both generated on April 18, 2017. The #8 flap track non-routine card was generated by employee # 58072 Mike Mullins.

Records confirmed two SA-M 1057 forms dated April 19, 2017, were processed by (b) (7)(C) for fabrication of shims under Repair Order Number R94865 and R94867. Records show Advance Aviation fabricated the shims on April 19, 2017. Serviceable tags show the shim fabricated under Repair Order Number R94865 was installed with the #7 flap track and the shim fabricated under Repair Order Number R94867 was installed with the #8 flap track both for aircraft 607 on April 20, 2017.

*Conclusion:* Complaint Mullins in preforming Inspection responsibilities identified and prevented fabricated shims from being installed on aircraft 607 that had not been processed using the SA-M 1057 Part Process Traveler. When (b) (7)(C) was made aware of the SA-M 1057 requirement, he refused procession of the fabricated shims and they were confiscated to prevent their use on the aircraft. As indicated by Complainant Mullins and (b) (7)(C),

records show new shims were processed utilizing the SA-M 1057 Part Process Traveler and installed on aircraft 607.

**COMPLAINT ALLEGATION # 11**  
***Item 30 as presented within the Amended Complaint***

**Item 30 of the Complaint**

**Allegation:** (b) (7)(C) responded in a hostile manner to Complainant Mullins and demanded to know how Complainant Mullins came to be in a position to detect the discrepancy of corrosion on the rudder weight and the wobbling back and forth of four connecting bolts.

**Response:** A violation or non-compliance of an FAA Order, Regulation, or Standard was not substantiated.

**Investigation:** The complaint indicates on April 26, 2017, Complainant Mullins was assigned to aircraft 242. In the course of his inspection work, Complainant Mullins discovered there was visible corrosion on the rudder weight and the four connecting bolts were wobbling back and forth.

Operations Specifications D085 shows aircraft 242 as N242WN, a Boeing 737-7H4.

Review of records for aircraft 242 found Non Routine Card D134073 with the Defect block stating the rudder balance weight corroded and loose at all attach points with visible gap between weight and rudder. The Defect block was signed by employee 58072 Michael Mullins. The Resolution block of the Non Routine Card states the rudder was replaced per AMM 27-21-11. The Non Routine Card D134073 generated by Complainant Mullins makes reference to 12202-55.

Reference 12202-55 is Special Item (SI) 12202-55 Horizontal Stabilizer – Rear Spar Upper Chord Inspection. The SI 12202-55 contains inspector Stamp D145, which is Complainant Mullins current stamp.

When interviewed, Complainant Mullins stated he was performing an inspection on the top of the horizontal stabilizer. Complainant Mullins provided video and pictures showing the extent of the damage found with the rudder balance weight.

- Appendix A, Figure 4: Image of the damaged rudder balance weight.

The complaint indicates (b) (7)(C) responded in a hostile manner to Complainant Mullins and demanded to know how he came to be in a position to detect the discrepancy. The nature of the supervisory inquiries indicated to Complaint Mullins was allegedly outside his assigned work area. (b) (7)(C) suggested the plane could operate safely even with the

damage because the 45-pound tungsten rudder weight would fly off cleanly.

When interviewed, Complainant Mullins stated (b) (7)(C) was more condescending than hostile. Complainant Mullins stated when (b) (7)(C) was shown the rudder balance weight damage, (b) (7)(C) gave him a hard time and questioned him on what he was doing looking at the rudder. Complainant Mullins stated (b) (7)(C) witnessed the interaction between (b) (7)(C) and Complainant Mullins.

When interviewed, (b) (7)(C) stated QC Inspector Mike Mullins found the rudder balance weight corrosion and loose attach bolts. (b) (7)(C) stated QC Inspector Mullins asked him to come out and take a look. (b) (7)(C) stated at first he didn't understand what he was looking at concerning the rudder. (b) (7)(C) stated he asked mechanics to move the rudder back and forth that's when he noticed the weight was loose. (b) (7)(C) stated it was pretty bad, you could actually see it move. It was an obvious finding and needed to be replaced. (b) (7)(C) stated he asked QC Inspector Mullins how he found it. QC Inspector Mullins was working SI 12202-55 and completed it. QC Inspector Mullins informed him he found it when he started doing the walk around Post Dock. QC Inspector Mullins stated to him he saw something wrong with the rudder and got closer to get a better look which led to his finding. (b) (7)(C) stated he wasn't hostile to anyone nor did he criticize anyone. (b) (7)(C) stated he did not say anything about being outside scope of the task and did not make the alleged comment.

When interviewed, (b) (7)(C) stated QC Inspector Mike Mullins came to him concerning the rudder weight corrosion issue. (b) (7)(C) stated he saw the damage. It was an obvious problem that could be seen from the ground. The rudder corrosion damage issue was brought to (b) (7)(C) attention by him and Mike Mullins. (b) (7)(C) stated (b) (7)(C) wasn't happy about the finding and questioned him about how it was found and why it wasn't found earlier. (b) (7)(C) stated he explained to (b) (7)(C). (b) (7)(C) stated (b) (7)(C) felt that because the rudder weight damage was obvious it should have been discovered earlier and not during the Post Dock. (b) (7)(C) wasn't sure if QC Inspector Mullins heard the conversation he had with (b) (7)(C). (b) (7)(C) stated he did not witness the interaction between (b) (7)(C) and QC Inspector Mullins. (b) (7)(C) stated he did not hear (b) (7)(C) make a statement the plane could operate safely even with the damage because the rudder weight would fly off cleanly. (b) (7)(C) did not witness (b) (7)(C) criticize or act hostile toward persons involved in the finding.

**Conclusion:** The video and pictures provided by Complainant Mullins shows obvious corrosion damage on the rudder weight and wobbling connecting bolts. The corrosion damage could be seen from the ground. Records show aircraft 242 had its rudder replaced which included the rudder balance weight. (b) (7)(C) stated he did question Complainant Mullins on how he found the rudder weight discrepancy. (b) (7)(C) stated (b) (7)(C) was not happy that the obvious rudder weight discrepancy was not found earlier during the maintenance visit. The FAA was unable to confirm (b) (7)(C) acted in a hostile manner or made

the alleged statement to Complainant Mullins. There is no evidence [REDACTED] questioning led to a discrepancy not being written up.

## **COMPLAINT ALLEGATION # 12**

### ***Item 31 as presented within the Amended Complaint***

#### **Item 31 of the Complaint**

**Allegation:** An aircraft ready for departure had a four-foot pry bar.

**Response:** A violation or non-compliance of an FAA Order, Regulation, or Standard was substantiated.

**Investigation:** The complaint indicates that on April 28, 2017, Southwest Airlines discovered through its monitoring of social media that a passenger was streaming images of an aircraft ready for departure that had a four-foot pry bar that had been used in the 737-700 aircraft's recently completed engine change.

Inquiry with the Southwest Airlines Certificate Management Office (SWA-CMO) determined they opened an investigation to an occurrence report regarding an aircraft N7711N, a Boeing 737-76N, returning to the gate on April 28, 2017. The aircraft was operating as Flight 3457 from Dallas Love Field and returned to the gate after it was discovered a four-foot pry bar was on the right wing after departing the gate.

**Conclusion:** The SWA-CMO has an open Compliance Action, PTRS SW2901703601.

## SECTION 4

### Recommendations and Areas of Concern

The following information is presented by the Federal Aviation Administration (FAA) Investigating Team (FAA Team) as a result of the investigation, observations and analysis of the complaints.

#### Post Dock Cards

The investigation determined the following Complaint Allegations addressed aircraft discrepancies found as a result of accomplishing a Post Dock card.

- Complaint Allegation #1, item 12 - loose passenger seats.
- Complaint Allegation #1, item 13 - holes in cargo floor panels.
- Complaint Allegation #2, item 14 - flap wedge delamination.
- Complaint Allegation #3, item 15 - Nose Landing Gear (NLG) hydraulic leak.
- Complaint Allegation #5, item 17 - hydraulic leaks, erosion, fuselage cracks.
- Complaint Allegation #11, item 30 - corroded and wobbling rudder weight.

The (b) (7)(C) e-mail included as an attachment to the complaint states;

*“the Post Dock card has been abused as a last minute excuse to inspect areas of the aircraft that were not touched during the visit.”*

Review of the Post Dock cards determined the following areas on the aircraft were to be inspected whether the area had maintenance/ inspections conducted or not during a scheduled Maintenance Visit.

- Passenger seats and floor area under the seats.
- Forward and aft cargo compartment.
- Wings Exterior General with flaps and spoilers raised and lowered.
- Nose wheel well.
- Empennage General; example rudder and elevator hinge cutout panels.

Inquiry into how the aircraft discrepancies were discovered by Complainants determined they were easily found in carrying out the purpose of the Post Dock cards to ensure all debris, tools, hardware are removed, and to check for any items inadvertently left on the aircraft after completion of the maintenance visit.

- Loose passenger seats were discovered as a result of grabbing onto a seat in order to bend down and look under them.
- Holes in cargo floors were discovered as a result of looking inside the cargo compartment.
- Flap wedge delamination was discovered as a result of visible bubbling of the skin.



- Aircraft Nose Landing Gear hydraulic leak discovered as a result of puddling of the fluid on the ground.
- Corroded and wobbling rudder weight was discovered as a result of obvious corrosion damage and wobbling of the weight that could be seen from the ground.

Interviews determined managers and supervisors have questioned maintenance and inspection personnel on how they found aircraft discrepancies. The Post Dock cards can and have result in aircraft discrepancies being discovered even in areas not involved with the maintenance being conducted during the Maintenance Visit and prior to the aircraft being released for service. As a result, it creates pressure, tension, and distrust among personnel in addressing the issues or discrepancies due to the potential of a delay or removal the aircraft from service.

It is recommended Southwest Airlines review all non-routine discrepancies generated when accomplishing Post Dock card inspections. Southwest Airlines should determine the type, location, and frequency of the aircraft discrepancies being found when accomplishing the Post Dock cards. Since aircraft discrepancies are found during post dock inspections and to ensure any and all possible discrepancies are captured, SWA could establish a program similar to that of the post dock inspection by conducting a pre-dock inspection. A pre-dock inspection especially covering areas not involved during scheduled maintenance susceptible to damage during operations (i.e., cargo compartment, overhead bins, passenger seats, floor area, etc.) would be beneficial to capture any obvious aircraft discrepancies at the start rather than at the end of the Maintenance Visit. A pre-dock inspection program would avoid the contention mechanics and inspectors have that they may be blamed for last minute aircraft discrepancies in areas they did not work.

#### Aircraft Health Management (AHM) Data

The investigation into item 16 of the complaint (Complaint Allegation #4) determined everyone within Southwest Airlines has access to the Aircraft Health Management (AHM) data program. However, interviews with maintenance and inspection personnel determined managers, supervisors, AMTs and Inspectors had very little if any knowledge about the AHM program and its applicability to the maintenance program. If Southwest Airlines is planning to continue to use the benefits of an AHM Program, Southwest Airlines Maintenance Procedures Manual (MPM) should be revised to include policy and procedures necessary for the proper use of program and the use of its data by maintenance and inspection personnel to assist with understanding how the program is to be utilized within the organization. It is recommended the policy and procedures indicate when AHM data is used as *prognostic data* in identifying precursors to potential faults verses *in-flight fault diagnostic data*. The policy and procedures should include actions Southwest Airlines will take to address prognostic data alert notifications and to address diagnostic data alert notifications. The policy and procedures should state how Southwest Airlines will ensure actions taken based on AHM data are effective in addressing AHM prognostic data and diagnostic data alert notifications. Southwest Airlines should establish standards, practices and provide proper training of Southwest Airlines personnel to avoid issues like those addressed within Complaint Allegation #4.

### Trunnion Pin

The investigation into item 26 of the complaint (Complaint Allegation #7) determined the initial inspection conducted mis-identified missing/ damaged chrome plating on the forward trunnion pin. The anomaly appears to have been a substance which was removable by cleaning and did not demonstrate damage to the pin. Everyone interviewed by the FAA Team that was aware of the initial photo taken and circulated by the cell phone agrees the image appears to show some type of an anomaly on the gear pin (See Appendix A, Figure 1). It also appears the images taken following the event does not demonstrate the same anomaly (See Appendix A, Figure 2).

The image in figure 1 appears to show a defect when in fact it was not. Several factors must be considered when reviewing the image. The lighting conditions to include the surface, the device used to capture the image (cell phone) and the fact that the Inspector who took the image did not explore the anomaly further by specifically cleaning or having an AMT clean the area of concern to investigate further. The reason this is significant is all AMTs, managers and inspectors interviewed during the investigation agreed the image in figure 1 appears to show an anomaly on the trunnion pin. The (b) (7)(C) and Inspector that signed off the corrective action both expressed they saw the cell phone image, but upon further inspection after it was cleaned determined it was not damage to the pin. None of the employees interviewed remembered which AMT actually cleaned the trunnion pin or how it was cleaned; rather that the anomaly was not present after cleaning to include the Inspector and (b) (7)(C) who cleared the discrepancy at Dallas Love Field.

Following the concerns of the Inspector who documented what he believed was a discrepancy and took the cell phone images contained in Appendix A, the aircraft was routed to Phoenix Arizona where the same maintenance task card was accomplished again. The inspection conducted in Phoenix demonstrates no damage or anomaly on the pin. The (b) (7)(C) that initially found, documented and took the pictures agreed the pin he believed had damage did not have damage. (b) (7)(C) physically re-inspected the aircraft upon its return to Dallas Love Field a few weeks after his first inspection and the inspection conducted in Phoenix, and acknowledged the anomaly was no longer present. It appears what (b) (7)(C) witness conducting his inspection was removed with cleaning. It appears the surface of the pin had no damage at the time it was re-inspected by all parties.

A great deal of confusion existed during the interviews on what blocks and instructions within the task card were accomplished as well as the state of the inspection. Employees had a difficult time deciphering who accomplished what and when contributing to the confusion and distrust surrounding this event. The task card arguably is inadequate in that it is not clear in the requirement to accomplishment a specific general visual inspection prior to cleaning the main landing gear, then to clean the main landing gear, and then to accomplish a specific general visual inspection after cleaning the Main Landing Gear (MLG).

No documentation of who accomplished the cleaning following the inspection was recorded. Specifically, who cleaned the pin resulting in the anomaly being removed was not documented and as such the FAA could not interview that employee to question the practice utilized to clean

the area, what the AMT found and their qualification and understanding of the task card.

The borescope equipment was not properly maintained to ensure images taken are captured and retained for use. The initial Inspector involved stated he used a borescope to take pictures of the discrepancy, but doesn't know what happened to the photos on the borescope. The second Inspector involved with the event stated when he went to utilize the borescope the battery died and he did not obtain photos. If he had taken photos of the condition of the trunnion pin he may have been able to share his findings demonstrating the airworthiness state of the pin with the initial Inspector who documented the anomaly and avoid a great deal of confusion and distrust. As a result of the lack of communication and failure to obtain photos during the second inspection clearing the discrepancy the aircraft was routed to Phoenix for a third inspection of the trunnion pin.

There exists a repeating theme throughout the investigation of the use of personal cameras by Inspectors and AMTs. They believe they need to have documented photographic proof of what they discovered with respect to discrepancies. There are many reasons provided for this; the simplest is to support their findings when management questions a finding. Another reason is to support and defend their findings during follow-up formal conversation they call a "*fact finding*", which in most opinions, to include some in management, is a disciplinary action used to intimidate employees rather than focus on possible airworthiness conditions of the fleet.

In the after action review, several appropriate actions could have avoided the concern. Ensuring the AMT and Inspector finding the initial discrepancy were included in all after actions. Better organization of the task card to capture the results of inspection with respect to cleaning and inspection notes on page 16 and clearly documenting what was used to clean the pin area. Maintaining operational equipment (the borescope battery and failure to retain the photos). Better understanding of how to address changing actions/ corrective actions or mistakes on task cards/ non-routine cards and log book entries.

#### Rudder Balance Weight

During the investigation of item 27 of the complaint (Complaint Allegation #8) and item 30 of the complaint (Complaint Allegation #11), the FAA Team became aware of a possible systemic condition with the Southwest Airlines fleet; specifically, the condition of corrosion on rudder weights appeared to be systemic. The FAA Team became aware of five other events (for a total of seven) discovered at Dallas Love Field (DAL) beginning in March 2017. The latest event was documented on July 14, 2017. The FAA Team inquired with the Southwest Airlines Regulatory Affairs Investigator if the carrier was aware of the number of aircraft found with rudder weight corrosion and if the airline was investigating and taking any action. The FAA Team was advised Southwest Airlines was not aware of the issue and had not at that point in our investigation taken any action. On July 17, 2017, the FAA team notified the Certificate Management Office (CMO) of the concern. The FAA Team followed up with Southwest Airlines Regulatory Affairs Investigator and advise him the CMO was made aware of the rudder weight issue. An August 3, 2017, an e-mail which is excerpted below from Southwest Airlines to the FAA Team notified the investigating team Southwest Airlines had elevated our concern following the meeting addressed

above with the Regulatory Affairs Investigator. The concern was elevated to their Manager of Engineering who opened an investigation. The following are the aircraft found at DAL:

- N768SW December 12, 2016, Rudder weight corroded.
- N434WN March 10, 2017, Rudder balance arm mating service for balance arm weight has surface corrosion.
- N242WN April 26, 2017, Rudder Balance weight corroded and loose at all attach points. Visible gap between weight and rudder.
- N288WN June 27, 2017, Rudder balance weight has corrosion on surface.
- N293WN June 11, 2017, Rudder has missing paint and corrosion on balance weight.
- N448WN July 13, 2017, Rudder lower weight is corroded.
- N7732A July 14, 2017, During rudder flight control checks found rudder weight to be corroded and having visible separation on L/H side.

On August 3, 2017, following a meeting with SWA, the FAA Team requested an update on the progress of the concern; Southwest Airlines provided an e-mail stating:

“Rudder issue update: Currently we (SWA) are having our Reliability pull the data of past occurrence with corrosion of the rudder balance weight. We will use this information when we communicate with Boeing. Our Engineering did some investigation and this is an issue that affects many operators. The solution that Boeing provided back in 2011 does not look like it's taking the issue completely away (it may have lessened the impact but I won't know for sure until we review the Reliability information).

SWA Engineering's plan is to 1) Obtain Reliability data 2) Alert Boeing of issues & start conversations back up with other operators to see if the issue still exists for others (Boeing may provide improved corrosion protection methods and repair instructions or place design changes) 3) Review current maintenance program to determine if additional inspections may be required and incorporate possible changes & recommendations provided by Boeing based on what comes from Step #2.”

On August 29, 2017 following a meeting with SWA, the FAA Team requested an update on the progress of Southwest Airlines Investigation into the concern; they provided the following e-mail update:

Wanted to give you and update where we are in regards to the rudder balance weight issues. Last week Wednesday 8/23/17 we had a meeting here at SWA Tech Ops with Inspectors from the Southwest Airlines Certificate Management Office. The topic of the discussion was centered around the SWA program and how and when this particular component was inspected and at what frequency. Our SWA Engineering and Programs

departments are actively working with Boeing to remedy the best approach to this counter balance weight issue that has been found numerous times recently since Jan 1, 2017.

The inspections so far that been identified for the rudder are specific GVI inspections limited to the rudder itself. The balance weight is not called out specifically to inspect condition or look for corrosion beyond the rudder GVI. Boeing has acknowledged that in late 2008 they investigated the corrosion issue of the balance weights and found that a supplier had not been prepping the weights properly prior to paint re-finishing. This was noted by several other operators. No further action was taken by Boeing beyond this event.

We are continuing to actively access the SWA maintenance program and working with the SWA CMO to come up with the best solution to ensure safety and that our program adequately covers this specific issue and component.

### **After Investigation Summary**

Collaboration between employees and management at Southwest Airlines Co.; specifically, employee participation through group involvement is being impacted as demonstrated in the complaint by various issues as demonstrated and documented in the AIR21 complaint between Quality Control Inspectors, AMTs and all levels of management.

The events outlined within the complaint of perceived hazing, intimidation through formal channels like e-mail and fact finding sessions or informal like that demonstrated within Appendix B, Figure 3; influences the way in which maintenance is accomplished in all forms; documentation, troubleshooting, completion of work, inspections, technical support and training.

The environment at Southwest Airlines; specifically lack of communication, lack of training (AHM program, SA-M 1057 use), perception that airworthiness findings will result in disciplinary actions for all involved to include mid-level managers, if not addressed will impact the value of quality having a direct effect on the status of aircraft airworthiness. The bargaining unit perspective is that management wants to *avoid* documenting discrepancies or take the aircraft out of service. Managements perspective is that the bargaining unit wants to go *beyond* the scope of the task in finding and documenting discrepancies that may or may not impact the operations. This dichotomy has created an environment that if not corrected will have a detrimental impact on the airline and its fleet as addressed below.

On more than one occasion management expressed during interviews with the FAA Team that AMTs and Inspectors should not be finding discrepancies outside the scope of the work they are assigned to perform. The best example is documented within Complaint Allegation 11, item 30 as presented within the amended complaint involving a damaged rudder balance weight. The damage found on the flight control rudder balance weight was substantial. The AMT was conducting inspections on the horizontal stabilizer in close proximity to the rudder when the Inspector noticed visible corrosion damage on the rudder weight. After reporting what he found the individual was questioned as to why and how he came to notice this when he was not

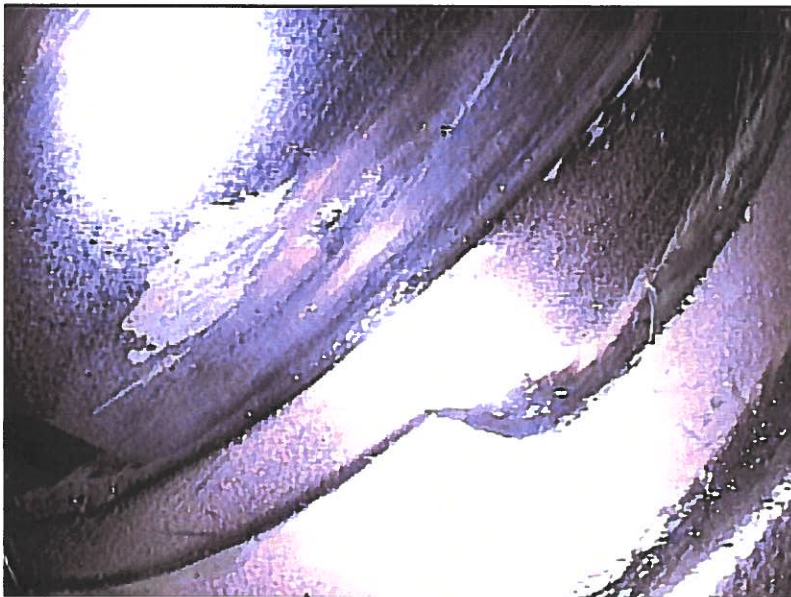
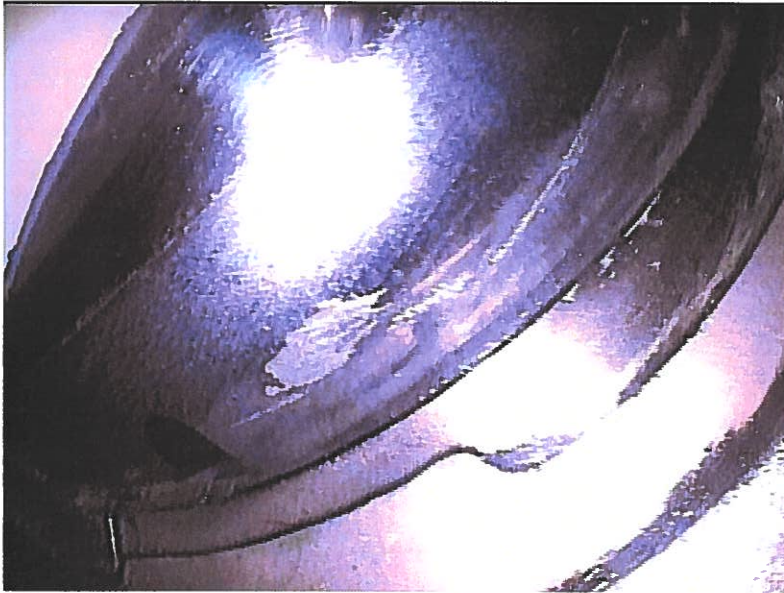


conducting work on the rudder; rather than being praised for finding a serious airworthiness issue. Although the carrier will point out the discrepancy was addressed, the impact to the employees and the overall maintenance organization arguably is impacted by the questioning. As noted above, this event lead to the discovery of a systemic issue with the fleet and now has involvement with the carrier's engineering and the aircraft manufacturer.

The best example with respect to the bargaining unit and their impact is in item 28. Several discrepancies were noted; specifically, the number eight flap track documented on a non-routine (SA-M 112E) for aircraft registration number N607SW. The discrepancy states; "Sub Task: #8 flap track has rust coming from between track and wing and out of the o/b (outboard) attach bold lower side." As the FAA team investigated all the details to include this discrepancy cited; the AMT who conducted the repair and cleared the discrepancy which states; "Cleaned and removed rust from lower side of wing surface per SRM 51-40-02" advised in the interview he did not find rust. The AMT explained to clear the discrepancy he was advised to make the entry as cited above to support the initial discrepancy, "*cleaned and removed rust...*" even though he did not believe rust was present. The AMT expressed concern for retribution if he did not include the statement "*clean and removed rust*" from both Quality Control and the bargaining unit peer group. The influence and overall impact of this message is this type of behavior has a negative impact on team building to improve the effectiveness and performance of the people who work together on a daily basis and the airworthiness of the fleet; ultimately adversely affecting the entire fleet, its program, the moral of the company and the safety of the flying public.

The motivation behind management questioning AMTs and Inspectors when they discover anything outside the scope of a maintenance task and the subsequent use of formal fact finding meetings which management utilizes to formally document an inquiry into airworthiness discrepancies, appears as a tool used to influence a relaxing of standards, to look the other way, or to gain a degree of approval through a leniency of standards. The result of this pattern is a capitulation of airworthiness and a culture of fear and retribution. Some personnel have resorted to photographing their findings (aircraft discrepancies) as a tool to ensure they can prove what they discovered in the event they are questioned by management. The influence being utilized to pressure technicians and question findings influences the programs and reliability tracking of the aircraft both of which have a negative impact on the overall Continuous Airworthiness Maintenance Program (CAMP).

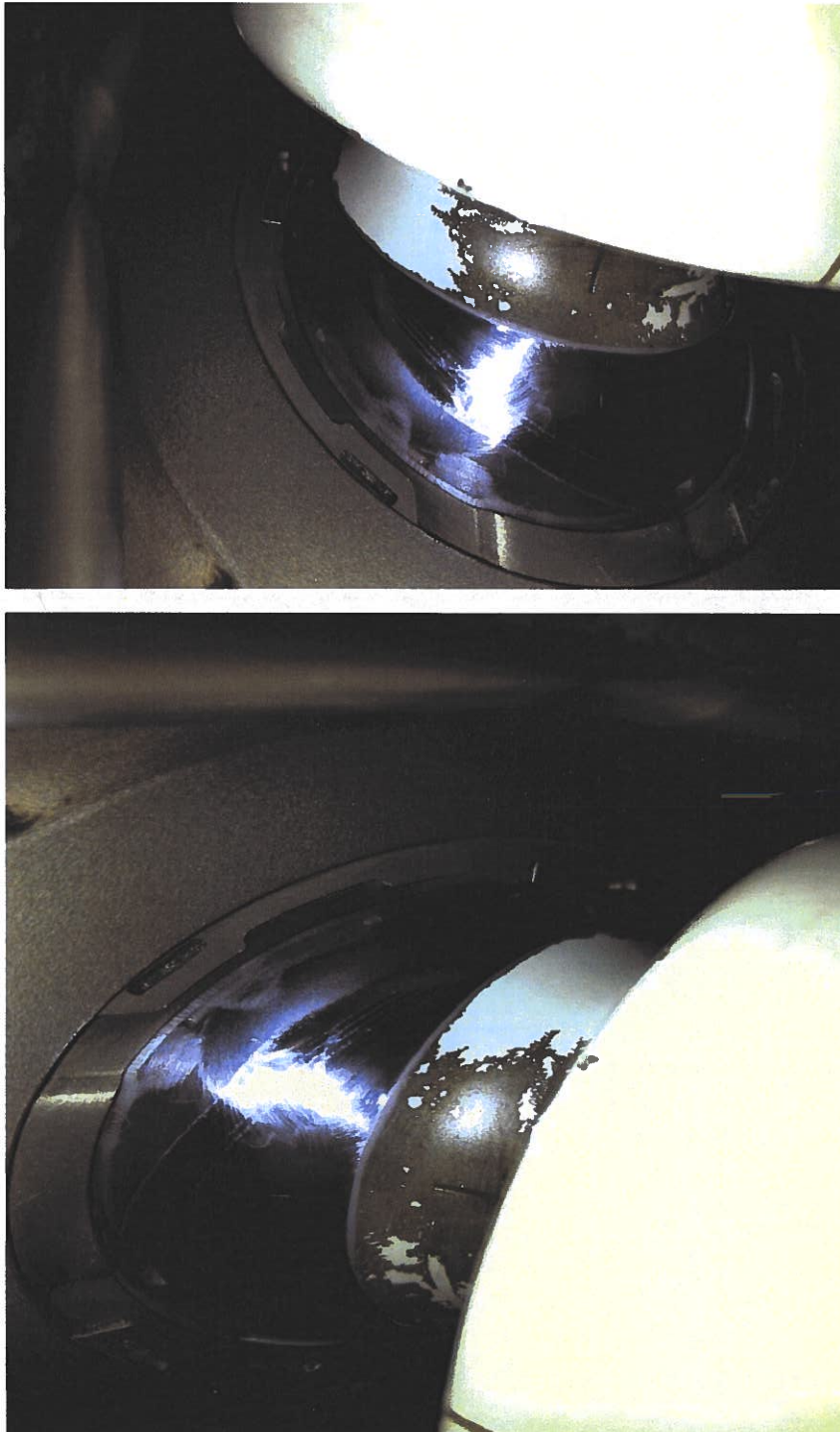
APPENDIX A  
FIGURE 1



Trunnion pin image showing finding.  
N787SA, Serial Number 29812, a Boeing 737-7H4  
(Item 26 within the complaint)

Images taken by (b) (7)(C) and provided on June 21, 2017.

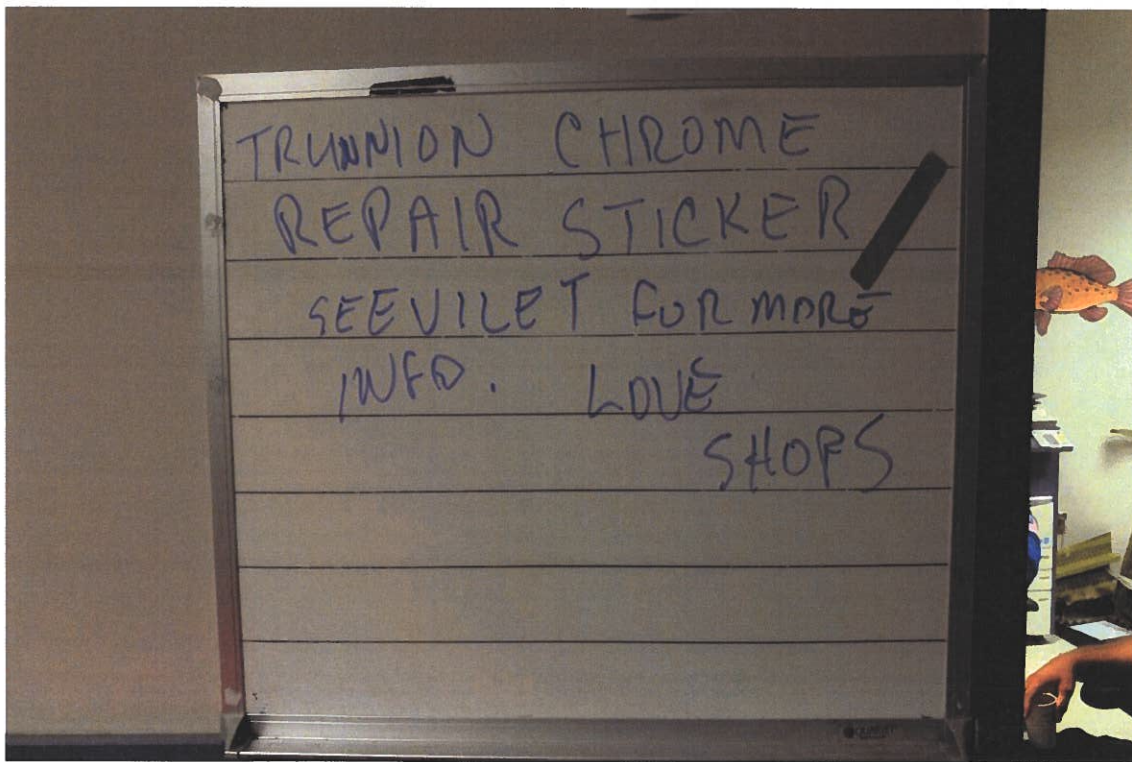
FIGURE 2



Trunnion pin demonstrating no missing chrome.  
N787SA, Serial Number 29812, a Boeing 737-7H4  
(Item 26 within the complaint)

*Images provided by (b) (7)(C) taken on October 3, 2016.*

FIGURE 3



Hazing note left for (b) (7)(C) involving trunnion pin.  
N787SA, Serial Number 29812, a Boeing 737-7H4  
(Item 26 within the complaint)

*Image provided by Mr. Michael Mullins on June 29, 2017.*



FIGURE 4



Rudder Balance Weight Damage  
N242WN, Serial Number 32505, a Boeing 737-7H4  
(Item 30 within the complaint)

*Image provided by Mr. Michael Mullins on June 29, 2017.*



FIGURE 5



Images of restrictor/check valve to tee connection with placard in background. Tee connected to transfer cylinder.

Taken for illustration purposes only related to COMPLAINT ALLEGATION # 4.  
(Item 16 within the complaint)