

Vehicle Collision Experts (VECO Experts)



Post Repair Inspections and Other Repair Issues



The right repair- every car every time.



Proper OEM Repairs - Required

1. Safety items (Seat Belts Tests drives Airbags)
2. Weld Tests (often times many tests and different welders)
3. Corrosion protection
4. ADAS resets
5. Electronic Resets
6. Battery disconnect
7. Bolt Torque
8. Scanning
9. OEM information and research
10. Pre measuring vehicle

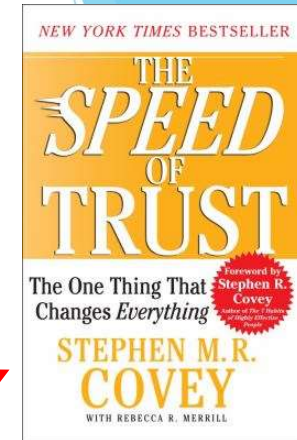
VECO Experts 10 Step Repair Process

1. Vehicle Scanning
2. Procedure at time of estimate
3. Procedures to technician (including sublet)
4. Procedures followed
5. Proper welds and attachment (Rivets, bonding etc)
6. Proper corrosion protection
7. Proper use of QC sheet
8. Proper refinish
9. Proper use of intake SOP
10. Proper vehicle protection



Post Repair Inspections - How it Starts:

1. Something major wrong
2. Something minor wrong
3. Car does not drive the same
4. Car does not look right
5. “Speed of trust” not established - book by Stephen M.R. Covey
6. Taken back to shop and not handled properly or told they cannot find or see the problem.
7. Customer is “One of those customers”
8. Customer goes to trade car in and it is looked at by dealer
9. Customer contacts a diminished value inspector for an inspection
10. Customer goes in for an oil change and the view from the underside is not pretty
11. Customer’s neighbor, friend, etc. looks at is and picks it apart
12. Performance / Calibration / dash lights



What They Look For - (Anything)

- Color match
- Panel gaps
- Seam Sealer
- Corrosion protection
- Welds
- OEM followed
- File documented (everything done on final whether charged for or not)
- Test welds
- Clamp marks
- Operation of all items
- Customer complaint - whether legitimate or not
- Frame print outs, scan print outs, alignment print outs
- Dash lights
- Overspray
- Mismatched fasteners / missing fasteners

Tools used



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6/23/2020

7

Scanning:



And About the File (Bullet Proof File)

- Pictures, pictures, pictures, and more pictures
- Conversation and action notes
- Repair methodology - not just sectioning (battery disconnect, resets, h/l aim etc.
- In process notes, pictures and methods
- Supplement or additional sheets
- Print outs - Frame, Scans, Alignment
- Sublet invoices
- Products used (tell tale of fraud or improper repair (WTP on a FCA vehicle inserts on Toyotas etc.))
- Weld tests
- Pre, post, in process and completion pictures
- Can file stand on it's own - "Bullet Proof File"

Example of how it goes



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Original shop DRP Estimate: \$4150.81

Original completed repair amount: \$6351.58

Customer not happy and shop re-repaired under warranty, customer still not happy - stopped by another shop in town. Items noted and insurance company called. Insurance inspected and determined it would cost \$1700.00 to re-repair (per repairing shop)

Re-Repair shop estimate of vehicle: \$5029.45

----- Right to Appraisal Invoked -----

Original Re-repair estimate from independent appraiser:
\$4210.80

Seems Pretty Simple with \$800 difference - right????

Independent Appraiser Estimate Remarks

Remarks

Upon arrival shop had already disassembled vehicle for inspection.

1. However, inspection was unable to confirm need or reason for removal of front and back glass, thus to address for repairs, both items will be as per industry standards to 'rope molding or mask glass.

2. Teardown did allow for through inspection of replaced and repaired structure parts. Inspection uncovered the Rt fender apron was only 'roughed out' leaving obvious kinks and buckle from incomplete repair.

3. In addition the radiator support was not refinished completely, leaving the undersides exposed with only OE primer e-coating. Refinish will require removal of cooling system and other bolted items to access support to complete refinish.

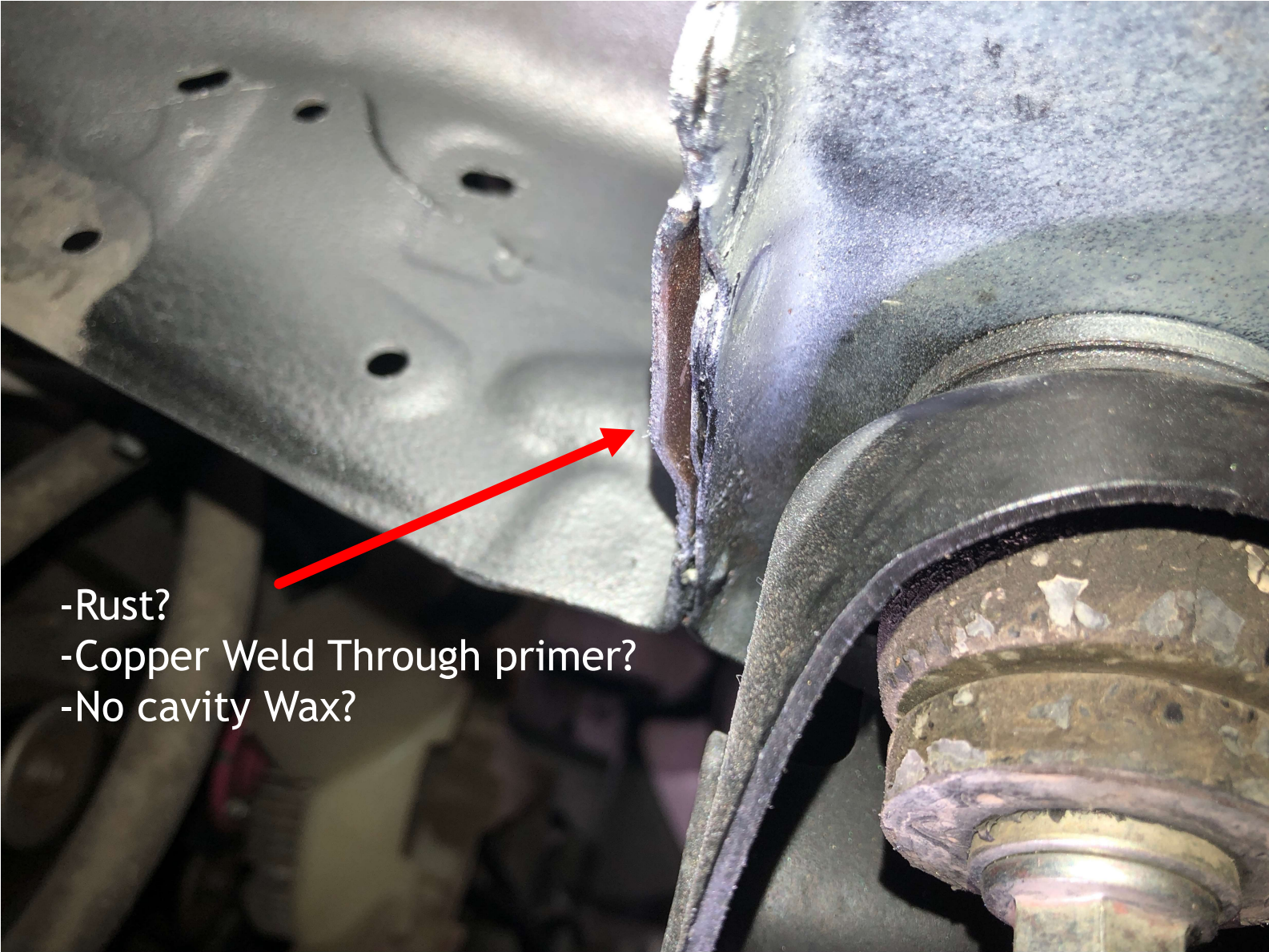
4. The new OE hood panel was refinished without applying seam sealer. Removal of hood is needed to access the underside seams, prep surface for adhesion, and application of seam sealer products. Effected area to repair should be limited to underside of hood.

5. Inspection uncovered Rt outer aperture pillar at lower edge was incorrectly repaired leaving evidence of damage. Correction will require 'clear coating of undamaged panels Rt roof rail, and Rt Cab corner. The blending of undamaged panels was on the original repair estimate, but was not followed through. The clear coat was abruptly stopped midpoint of rear door with attempts to feather smooth. The cab corner was not addressed, along with necessary RI of adjacent componets. An apparent second attempt to repair of the pillar, and blends resulted in a heavy hard line inside of the aperture jamb, and rough overspray buildup inside door jamb above center pillar. Spot refinishing of pillar opening with full clear needed to restore to preloss.

6. Review of Supplement of Record3 verified the R&I of the Rear bumper, Bed Assy, and Rt Side step were not performed.

Pretty straight forward right?

Let's look a little bit further



- Rust?
- Copper Weld Through primer?
- No cavity Wax?



No Seam Sealer
No Cavity Wax





Full tear down and analysis done, shop estimate \$8354.22.

Independent appraiser disagreed - wrote another estimate of: \$4705.80.

Independent appraiser stated that taking the car apart did not need to be done because Copper Weld through primer is an acceptable alternative to Zinc. Further hood could simply be seam sealed over the new paint.

Now is time to pull in the evidence!

Questions asked of the independent appraiser:

Q: You are saying it is OK to ignore the OEM and fix the car with Copper?

A: It does not say you can't and it is industry standard to use copper.

Q: Where did you get your information from?

A: An I-CAR Instructor told me that both work and I talked to Copper rep and he said it was good.

Q: So an I-CAR Instructor trumps the OEM?

A: No answer

Q: So you are saying it is OK to fix the vehicle how ever a shop wants and can ignore the OEM?

A: No Answer

CRIB # 181 WELDING SPECIFICATIONS & SUBSTITUTIONS

FOR THE COLLISION REPAIR PROFESSIONAL

WELDING SPECIFICATIONS & SUBSTITUTIONS

| | |
|----------|------------------------------|
| MODELS: | ALL TOYOTA, LEXUS, and SCION |
| SECTION: | Body Component Replacement |
| DATE: | DECEMBER 2011 |

Welding specifications for body components are published in model-specific Collision Damage Repair Manuals for all Toyota, Lexus, and Scion vehicles. Welded component installation may require a combination of welding methods including:

- STRSW (Squeeze-Type Resistant Spot Welds)
- GMAW/MIG (Gas Metal Arc/Metal Inert Gas - Welding)
- Arc Brazing (Brazing)

The STRSW method best replicates factory attachment methods, and when performed correctly, offers the following advantages over GMAW/MIG plug welding:

- Equipment is readily available in most markets
- Comparable to factory welding methods and appearance
- Does not produce ultra violet radiation
- Reduces heat effect zones and corrosive hot spots
- Reduces the emission of metal grinding particles when finishing
- Reduces the emission of stray sparks
- Reduces airborne contamination from burnt coatings

STRSW may be substituted for GMAW/MIG plug welds, however, STRSW substitutions should match factory weld size, strength and appearance.

Appearance alone does not validate the strength of a weld. Weld strength must be validated by tuning the welder and performing destructive testing. Tuning the welder and destructive tests must be performed on metal of the same thickness and composition as that of the component being replaced.

COLLISION REPAIR INFORMATION

FOR THE COLLISION REPAIR PROFESSIONAL

| | | |
|----------|-------------------------------------------|----------------|
| TITLE: | CORROSION PREVENTION FOR COLLISION REPAIR | |
| SECTION: | EXTERIOR | BULLETIN # 186 |
| MODELS: | ALL TOYOTA, LEXUS, and SCION MODELS | |
| DATE: | SEPTEMBER 2013 | PAGE 1 OF 2 |

Corrosion Prevention for Collision Repair

- Adherence to established Corrosion Prevention processes is very important during collision repairs. For example, insufficient application of corrosion preventative compounds (i.e. anti-chipping coatings, seam sealer, anti-rust agents, etc.) may contribute to the development of rust, reduction in vehicle value and other customer satisfaction concerns. In certain cases, the development and progression of rust may also affect vehicle operational components. This bulletin is intended to raise awareness and reduce the occurrence of corrosion resulting from collision repairs.

Bolt-On Component Replacement and Corrosion Prevention:

- Anti-Chipping Primer applied under top coats to the leading edge of hoods and fenders, Anti-Chipping PVC and Urethane coatings also applied under top coats to lower panel exposures, Seam Sealer applied to panel flange seams; and Anti-Rust Agent (Cavity Wax) applied to interior portions of hoods doors and hatches are all specified for bolt-on body components in model-specific Repair Manuals for Collision Damage.

Weld-On Component Replacement and Corrosion Prevention:

- Zinc-Rich Weld-Through Primer applied to the mating flanges of weld sites prior to welding is designed to coat bare metal at Squeeze-Type Resistant Spot Weld (STRSW) locations thereby reducing the potential of corrosive hot-spots (accelerated rusting) at the weld flanges.
- Gas Metal Arc/Metal Inert Gas (GMAW/MIG) Welding temperatures burn and vaporize Zinc-Rich Weld-Through Primer at plug and continuous weld locations and cause the granular structure of the steel to expand. These circumstances can lead to corrosive hot-spots if left untreated. Therefore, it is recommended to substitute factory-type STRSW for GMAW/MIG where applicable as outlined in CRIB #181 Welding Specifications and Substitutions.
- Frame Component Repair and Replacement does not require Zinc-Rich Weld-Through Primer however, does require cleaning of the Heat Affect Zone (HAZ) inside and out and application of corrosion prevention coatings after the repair or component replacement. Repaired and welded frame areas require application of a two-component DTM (Direct To Metal) or Epoxy Primer and single-stage topcoats to match the OE frame finish.

**PLEASE ROUTE THIS BULLETIN TO YOUR COLLISION REPAIR CENTER
MANAGER AND COLLISION REPAIR TECHNICIANS**



CP
COLLISION PROS
TOYOTA

Dedicated to Promoting Quality Collision Repair of Toyota, Lexus and Scion vehicles

A Wealth of Experience
Meet Toyota's Collision Repair & Refinish Trainers

Toyota's Innovative New Approach to Estimating
Toyota Recommended Repair Procedures

Use Genuine Toyota and Lexus Parts
For Safety, Vehicle Longevity and Customer Satisfaction

Eric Mendoza, Collision Repair & Refinish Training Administrator

When using weld-through primers, keep in mind that zinc-based primers are a more suitable material to use than copper-based primers.

→ **DID YOU KNOW:** To properly use weld-through primer, thoroughly clean surfaces with a suitable wax and grease remover.

How to Fight Rust

THE WINTER MONTHS CAN BE HARSH—PROPER CORROSION PROTECTION CAN HELP GUARD YOUR CLIENTS' VEHICLES.
Winter brine—the mixture of magnesium and calcium chloride used on the roads in colder climates—can be particularly damaging and harsh on a vehicle. Even if you don't live in a cold climate, inadequate use of corrosion protection measures can contribute to the development of rust. During collision repair, incorporating corrosion protection measures like using weld-through primer, epoxy primer, seam sealer and cavity wax is an important part of helping to protect against the elements and ensure the long life of the vehicle you are working on.

WELD-THROUGH PRIMER
Weld-through primers are an important corrosion protection measure. When using weld-through primers, keep in mind that zinc-based primers are a more suitable material to use on Toyota, Lexus and Scion vehicles than copper-based primers. This is because these vehicles are manufactured using a zinc galvanizing process, and zinc primer bonds to the metal of the vehicles better. Zinc also seems more resistant to corrosion than other types of weld-through

primers, such as those made with copper. To properly use weld-through primer, thoroughly clean surfaces with a suitable wax and grease remover. Then, coat any bare metal areas that are going to be joined together but won't be accessible after welding with weld-through primer.

ADDITIONAL WELD-THROUGH PRIMER TIPS

- Ensure there is a thin, even coating of weld-through primer and that it is not clumpy or overly thick in some areas.
- Allow the weld-through primer to completely dry before you begin the welding process. This gives the zinc the opportunity to properly bond to the material.
- Some weld-through primers aren't solvent resistant and can be washed away during the cleaning process as the vehicle is prepped for primer and paint coatings. Test products beforehand to make sure they are compatible.

CORROSION PROTECTION TIPS

- Electro-deposition primer—also referred to as e-coat—is an excellent corrosion protection material and should be left intact whenever possible.
- Vehicle-specific seam sealer specifications are given in the Repair Manuals for Collision Damage.
- Clean the heat-affected zones around welds to remove burned or loose material and coat with epoxy primer and cavity wax if applicable.

For additional information about corrosion protection, see Collision Repair Information Bulletin (CRIB) #186, Corrosion Prevention for Collision Repair.

When using weld-through primers, keep in mind that zinc-based primers are a more suitable material to use than copper-based primers.

29
Cu
Copper
63.546

30
Zn
Zinc
65.38

Collision Pros 8

Total amount written for the proper repair of the vehicle and other costs awarded:

| | |
|------------|-------------|
| Re-repair: | \$10,197.77 |
| Storage: | \$ 1,430.00 |
| Rental: | \$ 2,430.00 |

| | |
|---------------------|--------------------|
| Total award: | \$14,057.77 |
|---------------------|--------------------|

Scenario:

- Vehicle damaged and towed to shop
- Shop repaired vehicle
- Owner complained of a vibration at about 50
- Sent tires out to balance
- Vibration still present
- Sent to another shop, shop pulled frame and said it was done
- Vibration still present
- Sent to another shop - inspected shop did some minor repairs
- Vibration still present
- Sent to another shop - shop inspected and refused to do any repairs
- Vehicle owner hires atty and invokes appraisal clause hires appraiser
- Insurance company hires me.





Result:

- Bumper brackets bent to fit bent frame
- Core support moved to compensate for bent frame
- Sheet metal maxed out to compensate for bent frame
- Rocker panel required a replacement due to not following OEM
- Frame twisted and listed to replace frame
- Vibration issue never addressed
- **Vehicle declared a total loss.**

And another one-





Initial Complaint

1. Interior cargo net hook was not brown, it was black (from technician tool Box because he could not find) and hatch lift shock was weak. Shop said that they would get her a new hook and ordered it and told her that the lift gate shock was not related.

Had an injury from the 8K repair and had an attorney. Attorney suggested Diminished value and that is when we got involved. Customer is a claimant.



Reputable shop - said they would take care of it.

- Shop said vehicle was properly repaired now.
- Shop created a monster, customer found more stuff
- Shop did a re-repair
- Customer found more stuff
- Shop did re-repair.
- Customer gave up and started bad mouthing shop on Google, Yelp Etc....
- Rains came and customer noticed trunk was full of water.
- Taken to a water leak shop and taken apart
- Seam sealer leaking - water in between seams - complete structural re-repair.





Resolution (not complete yet)

- I told shop to buy the car - shop refused (not smart)
- Shop garage keepers got involved
- Original insurance company involved
- Insurance Commissioner notified Attorney General advised
- Vehicle owner's insurance stepping in to help out (to avoid bad faith)
- Car has been in the shop taken apart for 8 months
- Customer claiming loss of use for last 8 months
- Depending on outcome, will likely result in a CPA violation claim
- Depending on outcome Insurance will get hit with Bad faith and treble damages.
- Shop removed from DRP Program - from the customers insurance company even though they were not involved and did not refer shop.

That does not happen very often - Right?

« Back

« PREV Article | NEXT Article »



Ohio auto body shop loses appeal of attorney fees, DV over incorrectly repaired Nissan Maxima

By John Huetter on July 17, 2018
Business Practices | Legal | Repair Operations

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An Ohio appellate court on Friday rejected an auto body shop's arguments related to attorney's fees, diminished value and a new trial decision in a \$105,462.59 case involving what a jury found to be an improperly repaired Nissan sedan.

[« Back](#)

[« PREV Article](#) | [NEXT Article »](#)



2016 Ohio Maxima outcome shows risk of rejecting OEM auto body repair procedures

By John Huetter on July 17, 2018

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The Ohio First District Appellate Court last week upheld a more than \$100,000 ruling against an Ohio shop which evidence showed failed to follow OEM repair procedures and performed “all around sloppy work” on a Nissan sedan, according to the original judgment.

Rear body panel, with seam sealer removed.
Indications of rear body panel to trunk floor
mating flange separation (red box).



Schweikert's Sept. 16, 2016, decision on how much Sharon Woods Collision owed Williams noted the plaintiff cited:

- *The evidence showed that repairs to the rear body panel were not performed in a workmanlike manner because: (1) they were not performed according to the manufacturer's specifications because structural bonding adhesive was used where not approved by the manufacturer, Nissan, (2) the welds were extremely poor, not in locations prescribed by Nissan, and the wrong types of welds, and (3) improper corrosion protection was applied.*
- *The evidence showed that repairs to the trunk floor were not performed in a workmanlike manner because: (1) sprayable seam sealer was used instead of brushable, pumpable seam sealer, and (3) the seam sealer was not refinished.*
- *The evidence showed that the repairs were all around sloppy work.*
- *The evidence showed that sloppy, shoddy, and improper repairs to the rear body panel made the vehicle unsafe to drive. (Minor formatting edits.)*

It is just a recommendation - Right?

Alaska Airlines Flight 261

From Wikipedia, the free encyclopedia

Alaska Airlines Flight 261 was a scheduled international passenger flight from Licenciado Gustavo Díaz Ordaz International Airport in Puerto Vallarta, Jalisco, Mexico, to Seattle–Tacoma International Airport in Seattle, Washington, United States, with an intermediate stop at San Francisco International Airport in San Francisco, California.^{[1]:xii} On January 31, 2000, the aircraft operating the route, a McDonnell Douglas MD-83, crashed into the Pacific Ocean about 2.7 miles (4.3 km) north of Anacapa Island, California, after suffering a catastrophic loss of pitch control. The accident killed everyone on board: two pilots, three cabin crew members, and 83 passengers.

The subsequent investigation by the National Transportation Safety Board determined that inadequate maintenance led to excessive wear and eventual failure of a critical flight control system during flight. The probable cause was stated to be "a loss of airplane pitch control resulting from the in-flight failure of the horizontal stabilizer trim system jackscrew assembly's acme nut threads. The thread failure was caused by excessive wear resulting from Alaska Airlines' insufficient lubrication of the jackscrew assembly".^{[1]:xii}

Inadequate lubrication and end play checks [edit]

The investigation then proceeded to examine why scheduled maintenance had failed to adequately lubricate the jackscrew assembly. In interviews with the Alaska Airlines San Francisco International Airport (SFO) mechanic who last performed the lubrication it was revealed that the task took about one hour, whereas the aircraft manufacturer estimated the task should take four hours.^[1] This and other evidence suggested to the NTSB that "the SFO mechanic who was responsible for lubricating the jackscrew assembly in September 1999 did not adequately perform the task".^[1] Laboratory tests indicated that the excessive wear of jackscrew assembly could not have accumulated in just the four-month period between the September 1999 maintenance and the accident flight.^[1] Therefore, the NTSB concluded that "more than just the last lubrication was missed or inadequately performed".^[1]

A periodic maintenance inspection called an "end play check" was used to monitor wear on the jackscrew assembly. The NTSB examined why the last end play check on the accident aircraft in September 1997 did not uncover excessive wear. The investigation found that Alaska Airlines had fabricated tools to be used in the end play check that did not meet the manufacturer's requirements.^[1] Testing revealed that the non-standard tools ("restraining fixtures") used by Alaska Airlines could result in inaccurate measurements, and that it was possible that if accurate measurements had been obtained at the time of the last inspection, these measurements would have indicated the excessive wear and the need to replace the affected components.^[1]

Extension of maintenance intervals [edit]

Between 1985 and 1996, Alaska Airlines progressively increased the period in between both jackscrew lubrication and end play checks with the approval of the Federal Aviation Administration (FAA).^[1] Since each lubrication or end play check subsequently not conducted had represented an opportunity to adequately lubricate the jackscrew or detect excessive wear, the NTSB examined the justification of these extensions. In the case of extended lubrication intervals, the investigation could not determine what information, if any, was presented by Alaska Airlines to the FAA prior to 1996.^[1] Testimony from an FAA inspector regarding an extension granted in 1996 was that Alaska Airlines submitted documentation from McDonnell Douglas as justification for their extension.^[1]

End play checks were conducted during a periodic comprehensive airframe overhaul process called a *C-check*. Testimony from the director of reliability and maintenance programs of Alaska Airlines was that a data analysis package based on the maintenance history of five sample aircraft was submitted to the FAA to justify the extended period between C-checks. Individual maintenance tasks (such as the end play check) were not separately considered in this extension.^[1] The NTSB found that "Alaska Airlines' end play check interval extension should have been, but was not, supported by adequate technical data to demonstrate that the extension would not present a potential hazard".^[1]

Quality Check Points

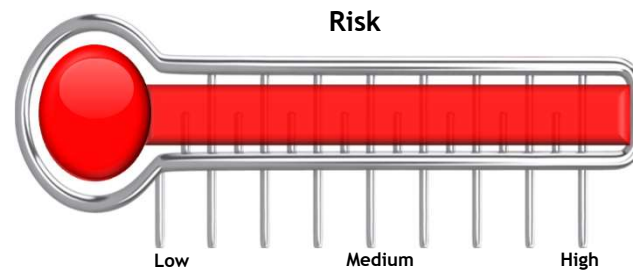
- 1- Pre- health check scan
- 2- Procedure at time of estimate
- 3- Procedures given to technician
- 4- Procedures followed
- 5- Proper welds
- 6- Proper corrosion protection
- 7- Proper use of QC sheet
- 8- Proper refinish
- 9- Proper use of intake SOP
- 10- Proper vehicle protection



What We See

(Big Rocks)

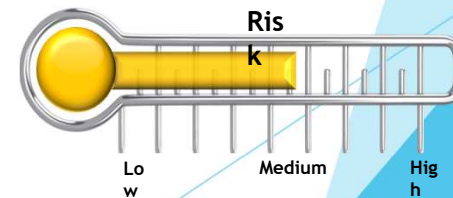
1. Not using QC Sheet/Process as designed
2. 200 amp welders not being used when appropriate
3. Not reviewing OEM procedures and following
4. Cavity Wax not being used enough
5. Weld tests not being done prior to welding and documented
6. Equipment not maintained or inoperable
7. Welder tips on STRSW not dressed and no new in shop



What We See

(medium Rocks)

1. Check in sheets not being done fully (radio codes etc. and listed as done on QC)
2. Incomplete frame measurements
3. Copper WTP instead of Zinc
4. Epoxy paint not present – or being used correctly
5. Vehicle protection not complete (windows, lines, parts in car etc.)
6. Painting under urethane set glass
7. Self etch primer in body department
8. Electronic file not fully documented



The only difference between 2 repairs
is what you decide to do for free.
There is only one way to repair a
vehicle.

Rex Dunn – Gerber Collision

Vehicle Collision Experts (VECO Experts)



Post Repair Inspections and Other Repair Issues

