



Product Support Bulletin 2022-004

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Maintenance of Way ~ Work Equipment Bulletin

DATE: April 8, 2022

SUBJECT: TRIPP HD Main Frame Reinforcement

RATING: **DIRECTIVE**
(Action is required)

ALERT
(Potential Problem)

INFORMATION
(Action is optional)

PRODUCT IMPROVEMENT
(Enhance Product)

MACHINE MODEL(S): TRIPP HD & T4 HD and TPX

SERIAL NUMBER(S): S/N 760700 – 760791DNVC & S/N 761000 – 7610029 and S/N 6300003 – 630008

SUMMARY: It has been discovered on a few of the TRIPP HD & TPX frames that some cracking has appeared on the main tube of either the LH side or RH side or both sides. This can be found where the upper and lower gussets (on the rear edge) connect the crossmembers to the main frame tubes at the rear of the machine. The cracking can be found in the area below the hydraulic tank and cab area. See Figure 1. This picture is showing where a crack developed and was gouged out to highlight the affected area more clearly.

OPERATIONAL

IMPACT: This cracking has the potential to break where the tube and gusset meet. If that breaks or splits at this junction point, it will require the machine to be pulled out of service.

ACTION: To start with, the area where the upper and lower gussets end on the main tube will need to be inspected thoroughly. This may require removing any grease or dirt deposits around it. Note: If any cracking is found upon inspection, it will need to be repaired first. This Bulletin includes a set of instructions on how to first repair the cracks and then how to install additional extension gussets in the affected area. Note: The installation of the gussets is required even if no cracking is found in the main tube.

WARRANTY: One universal gusset is designed to work in this application. See Figure 2. The repair will require 8 of these gussets or one Kit per machine. The Kit P/N is R20220330-01 and will come with the same instructions in this bulletin. This Kit will be supplied at no charge. Nordco will need the machine s/n at the time of requesting the Kit. Please contact Nordco Technical support at 1-800-445-9258 to request the kits.

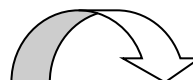




Figure 1

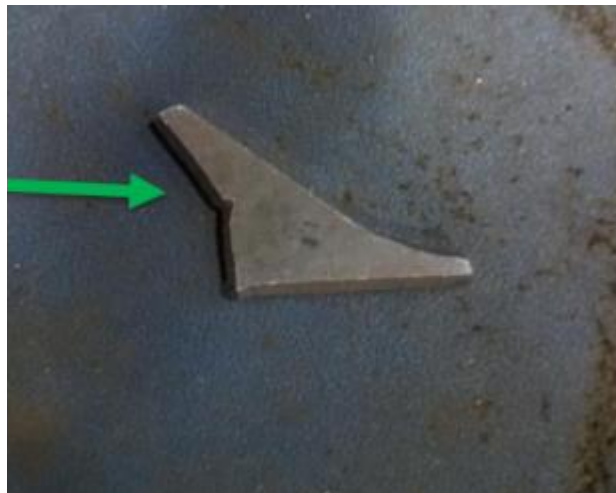
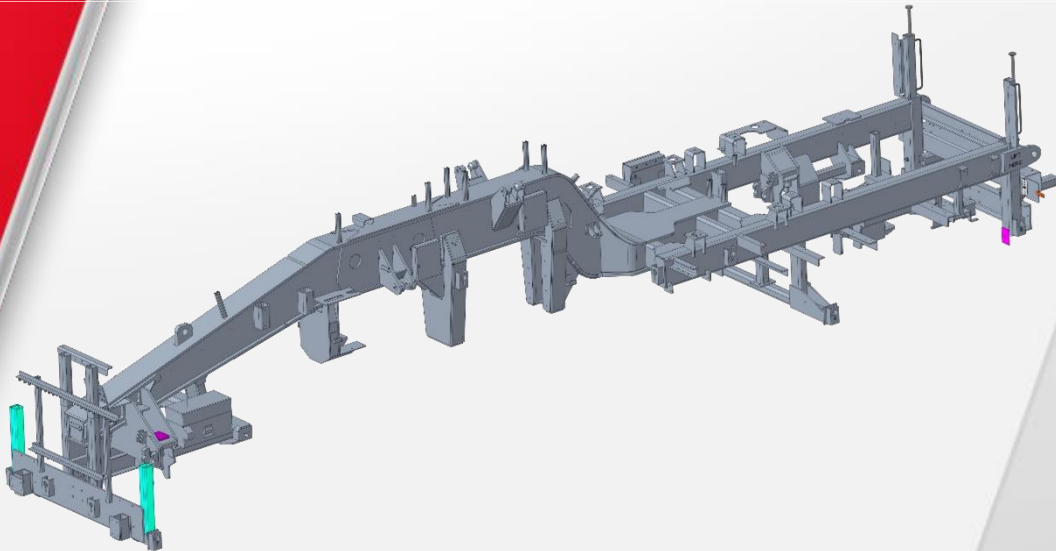


Figure 2

TRIPP HD Frame Field Fix Instructions

MARCH 2022
Rev 2

Frame Repair Components:
Nordco P/N: RY9014
Qty: 8 (Per TRIPP HD)
KIT: R20220330-01



PRIOR TO REPAIR

- Follow all required safety procedures outlined by the rail and operator's manual.
- These may include but are not limited to...
 - Lockout/tag out
 - Disconnect battery
 - Disconnect engine controller
 - Isolate any hydraulics as needed
 - Isolate accumulator

IMPORTANT

- Read this instruction set thoroughly and follow all instructions for preparation, welding and finishing per this instruction set to ensure a quality long lasting repair
- Suggested weld repair method & material (Prioritized)
 1. Wire Feed (MIG) – 70ksi Strength Wire
 2. Stick (SMAW) – 6010 Electrode
 3. Stick (SMAW) – 7018 Electrode

CRITICAL

- Weld prep & full slag clean up if stick welding between passes is imperative for a quality repair
- Grinding the welds after completion to blend and smooth all weld transitions is imperative to distribute forces (stresses) evenly and prevent initial cracking or crack reoccurrences.

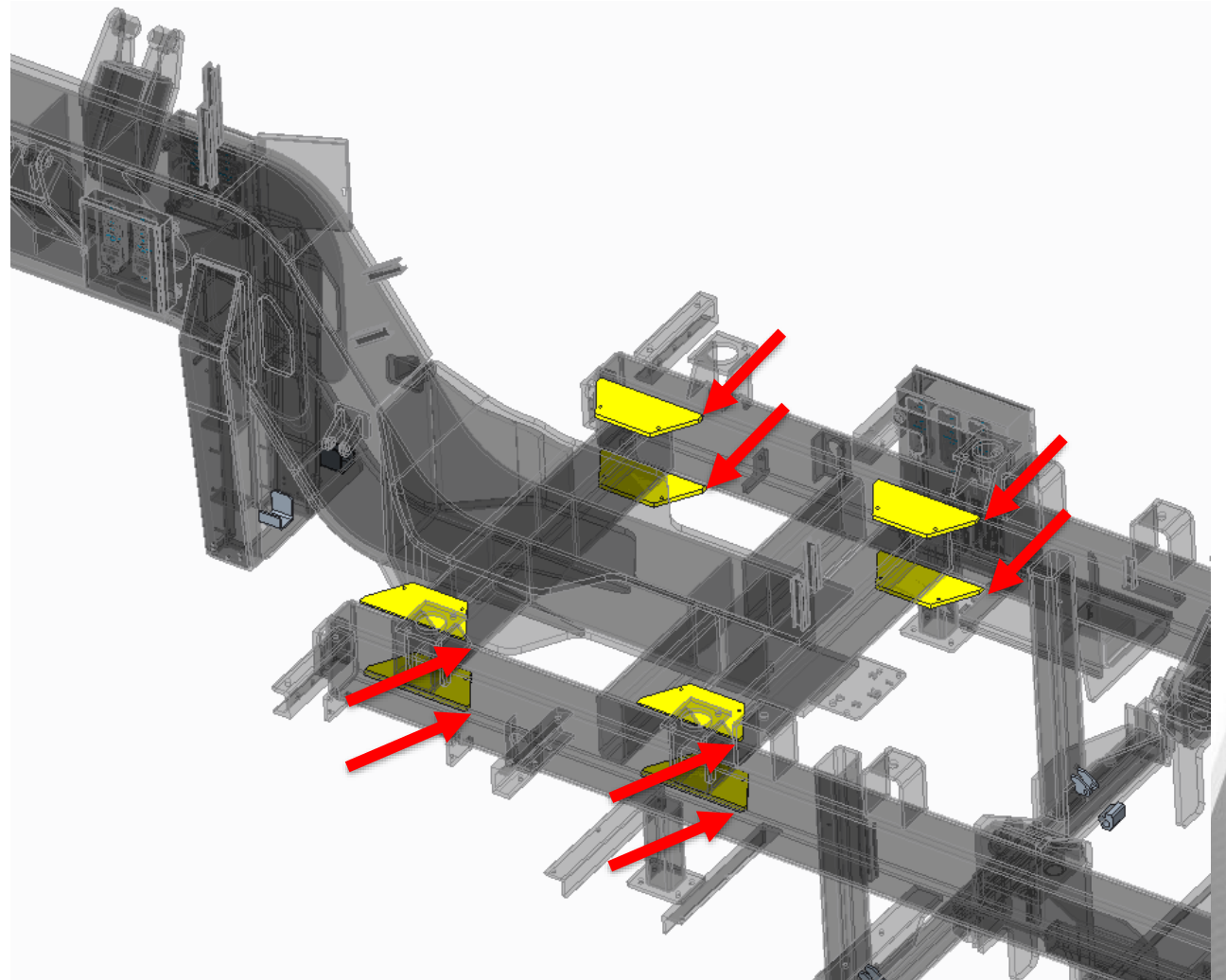
Objective: Weld support gussets to rear side of trapezoid plates (8 total).



BEFORE

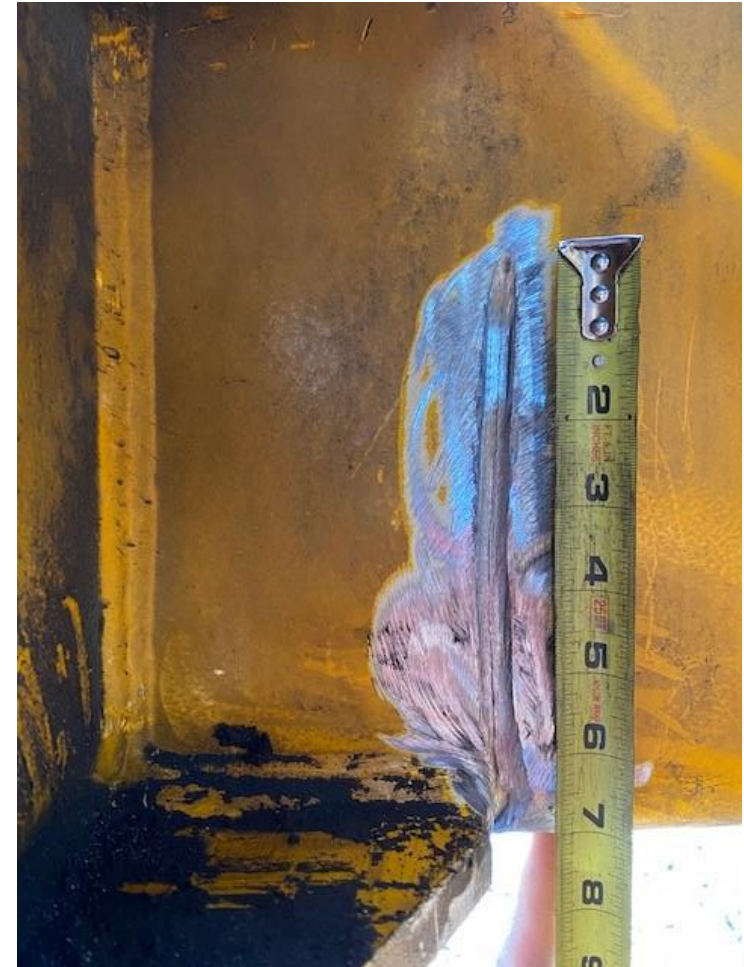


AFTER



CRACK REPAIR IN EXISTING FRAME TUBE

- Crack prep
 - To aid in finding the end of the crack first remove paint and use mag particle or dye penetrant testing
 - Assuming crack is through the entire wall, grind close to the inner wall. Wall thickness is 1/2", a grind depth of 3/8" to 7/16" is optimal
 - Grind 1/4" past the end of the crack as determined from the testing
 - Do not grind a large gap as it will need to be filled back up
- Taper side walls as needed to ensure a good weld
- Recommended to use 6010 stick electrodes for the root weld
- Remaining filler weld can be done with wire (MIG) **min 70 ksi**
- After weld is complete, grind weld so it is flush with the outside of the tube
- After grind, polish area with flapper wheel



ITEMS NEEDED TO COMPLETE REPAIR

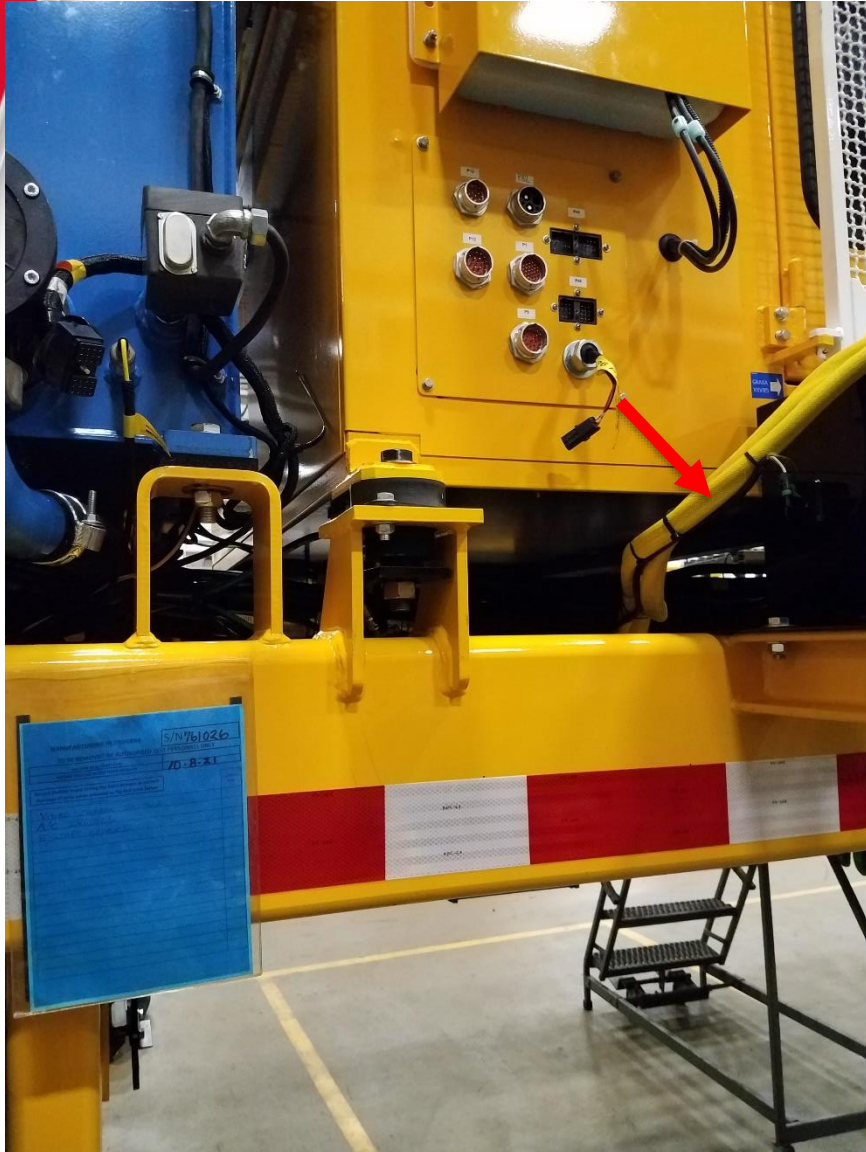
- Cable ties/ratchet straps
- 4" Disk Angle Grinder & 2" Disk Die Grinder
- 8x Gusset Plates (Nordco P/N: RY9014)
- Wire (MIG) Welder ; else stick (SMAW) welder
 - .045 Flux Core Dual Shield Wire; **minimum 70ksi yield** Frame paint
- Assorted tools to loosen bolts and hose fittings
- Primer (white or gray suggested)
- Paint (Federal Yellow)

Suggested

- Machine jacks (update is easier to do in a shop or with machine jacked)

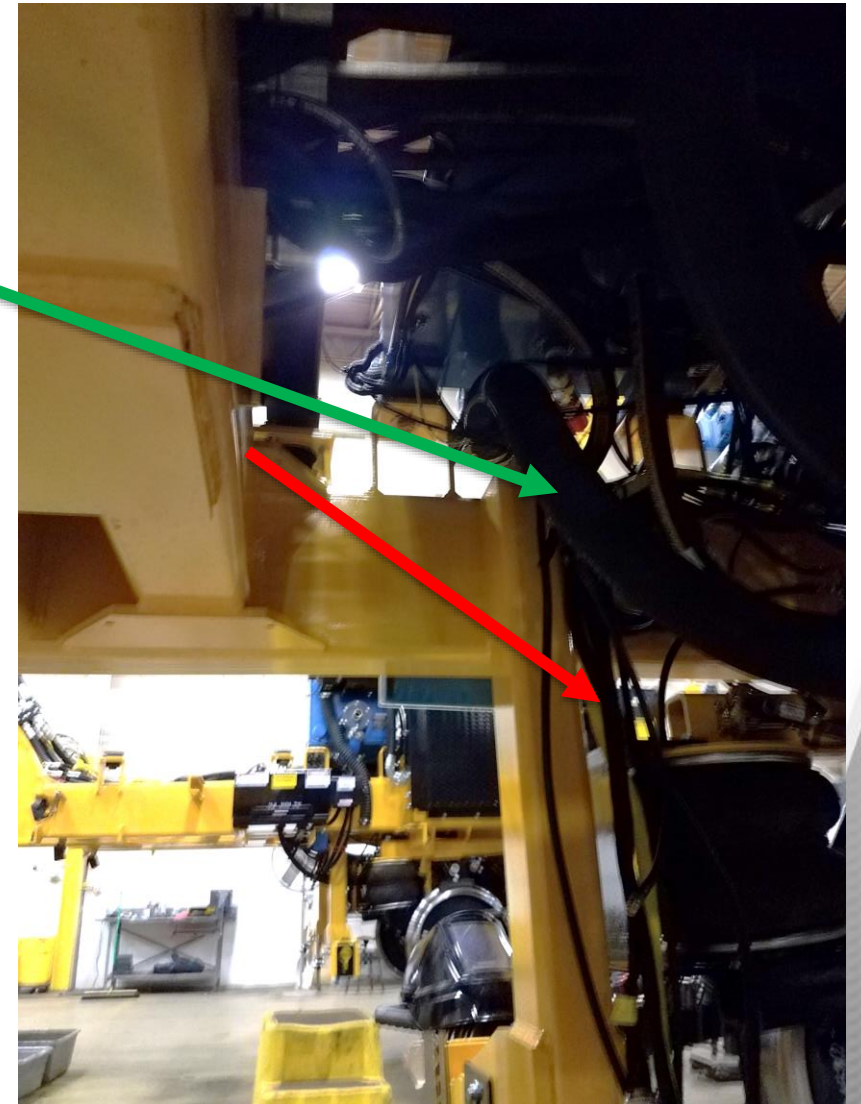


1. Move lights, cab harnesses and air lines.



Tie back suction hose to gain more space. (We used ratchet strap here).

Loosening the suction hose fittings at both ends and turning & tightening to move the hose out of the way works too.

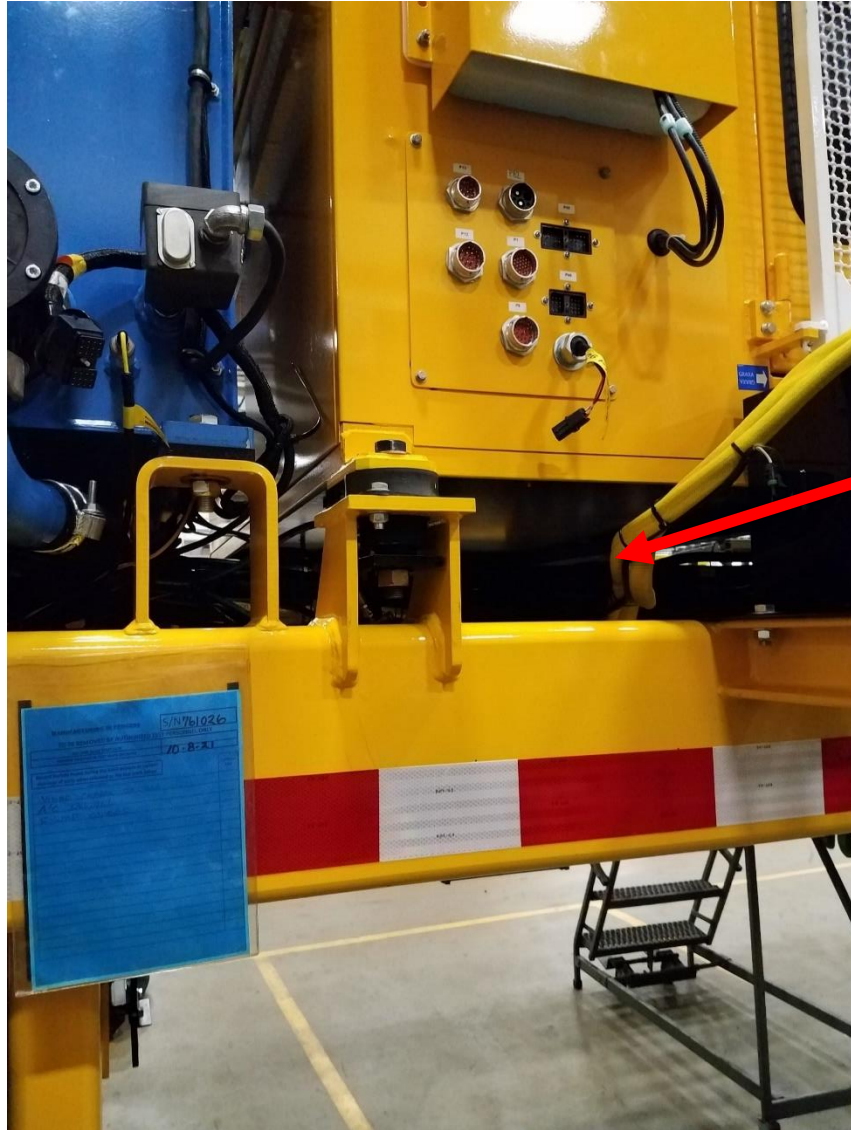


2. Move lights, cab harnesses and air lines.



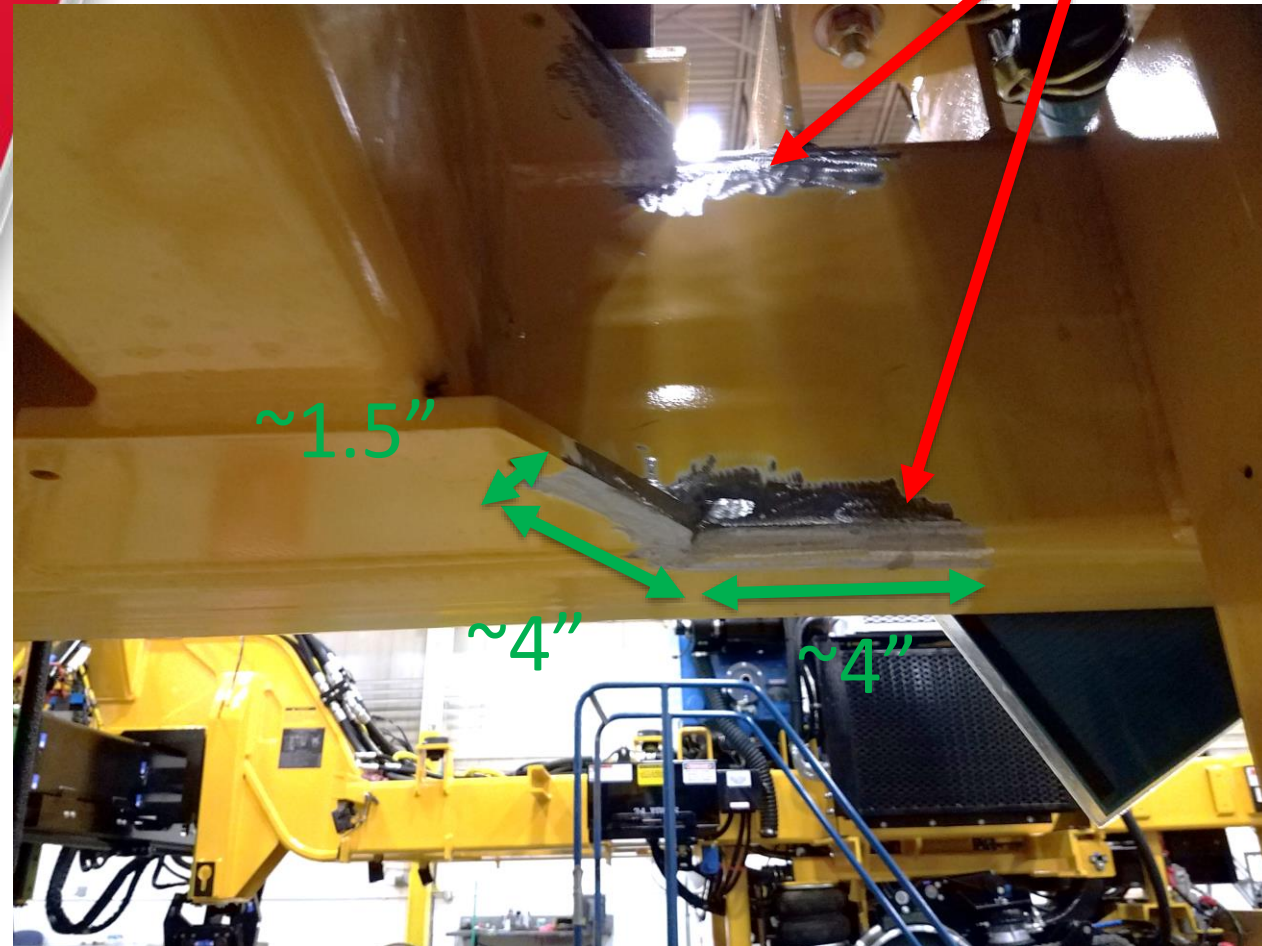
Unfasten forward lights and P-Clips. Move lights and harness to a protected position.

3. Cover exposed or nearby harness and hoses with welding blanket.

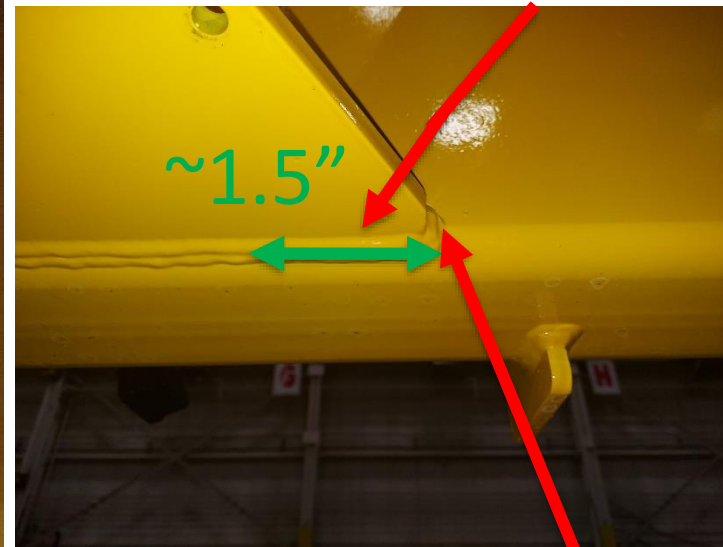


4. Grind and prep for weld.

Grind both sides.



Gouge existing weld seam to make blending easier later.



Clear weld from outside corner.



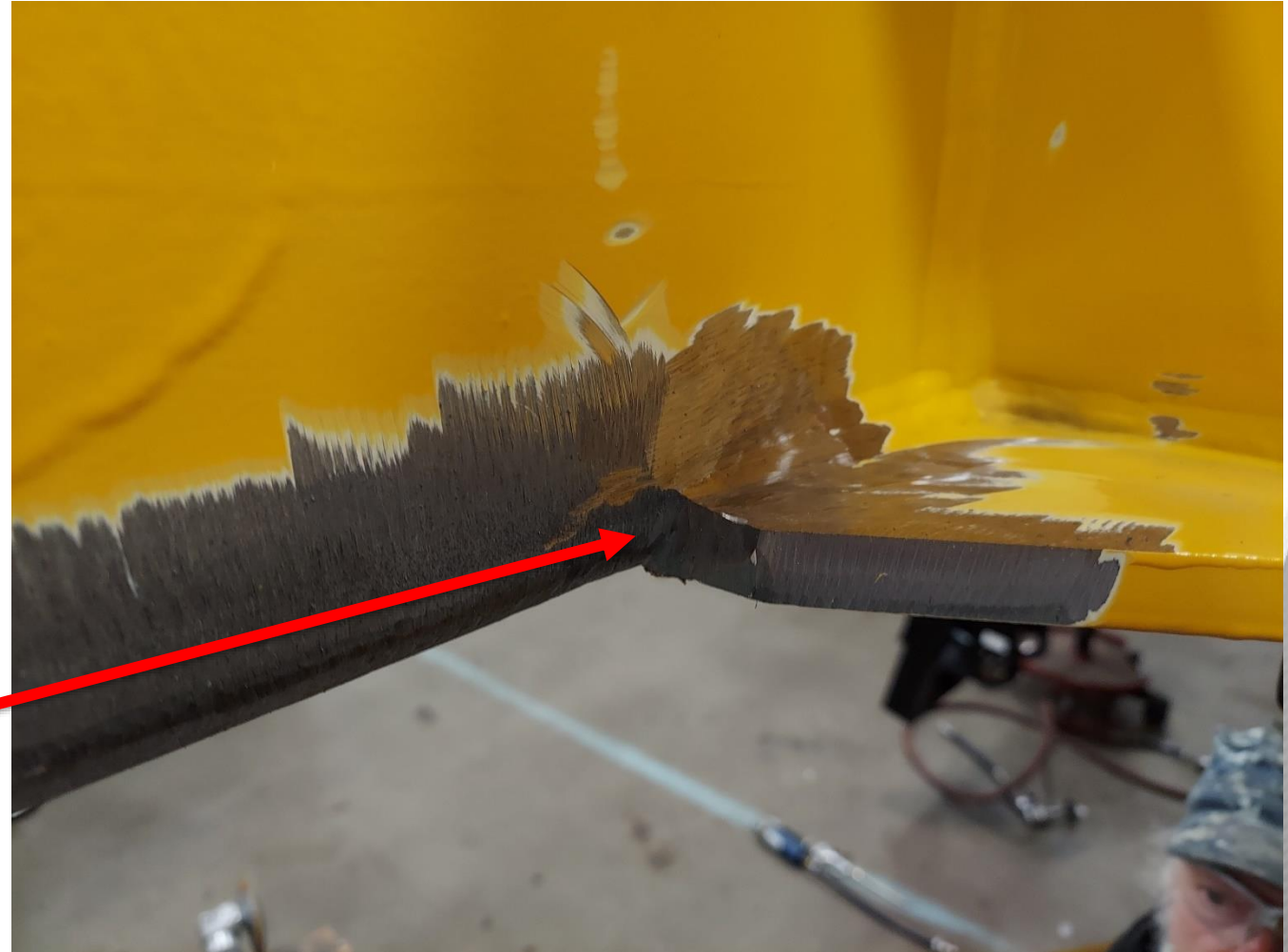
5. PREP WORK

- Remove paint in area shown
- Ensure area is free of dirt/grease/debris prior to weld

IMPORTANT

- Suggested weld repair method & material (Prioritized)
 1. Wire Feed (MIG) – 70ksi Strength Wire
 2. Stick (SMAW) – 6010 Electrode
 3. Stick (SMAW) – 7018 Electrode

Existing weld may need
To be ground down to ensure
Gusset fit



6. GUSSET FITMENT

Tack weld is place. Gusset (3/8" thick) should be centered on trapezoidal plate (5/8" thick)



7. WELD

- Weld minimum of one pass on one side of gusset plate
- Prior to welding opposite side, backgouge opposite side of gusset. **See end of document for backgouge instructions**
- After backgouge fully weld both sides of plate
- At the tips of the gussets, weld fillet 1" long.



8. WELD GRINDING

CRITICAL

- All welds must be ground and tapered between gusset plate and main frame



9. FINISH GRIND AND DRESSING

- After initial grind
- Break all sharp edges
- Smooth entire area with flap disk

CRITICAL

- **Grinding the welds after completion to blend and smooth all weld transitions is imperative to distribute forces (stresses) evenly ensuring a long last repair and prevent initial cracking or crack reoccurrences.**



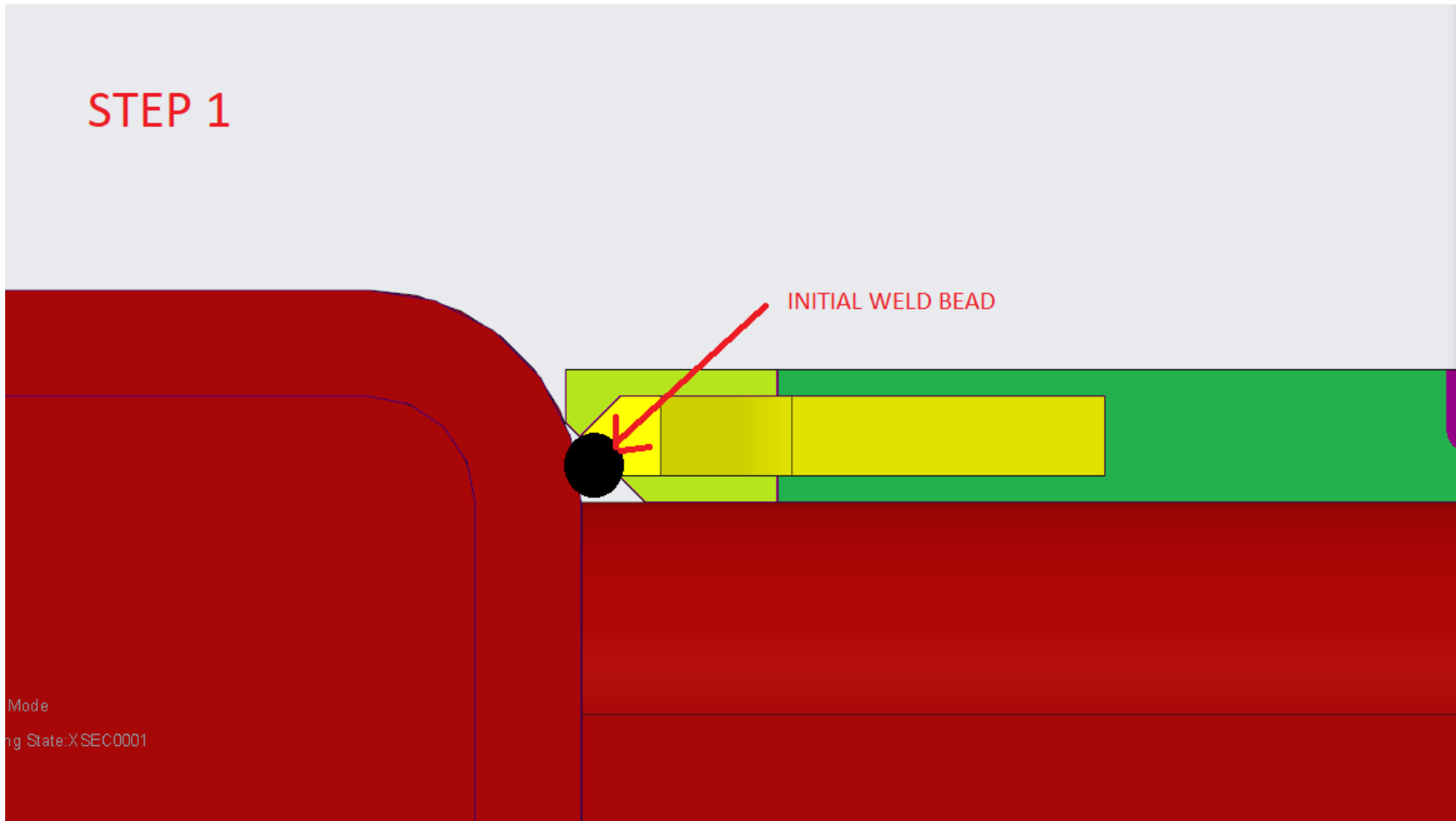
10. PAINT REPAIRED AREAS

Suggested:

- Wipe clean all unpainted surfaces to remove debris and oils.
- Prime coat all exposed metal surfaces
- Top coat all primed surfaces with **Federal Yellow** colored paint

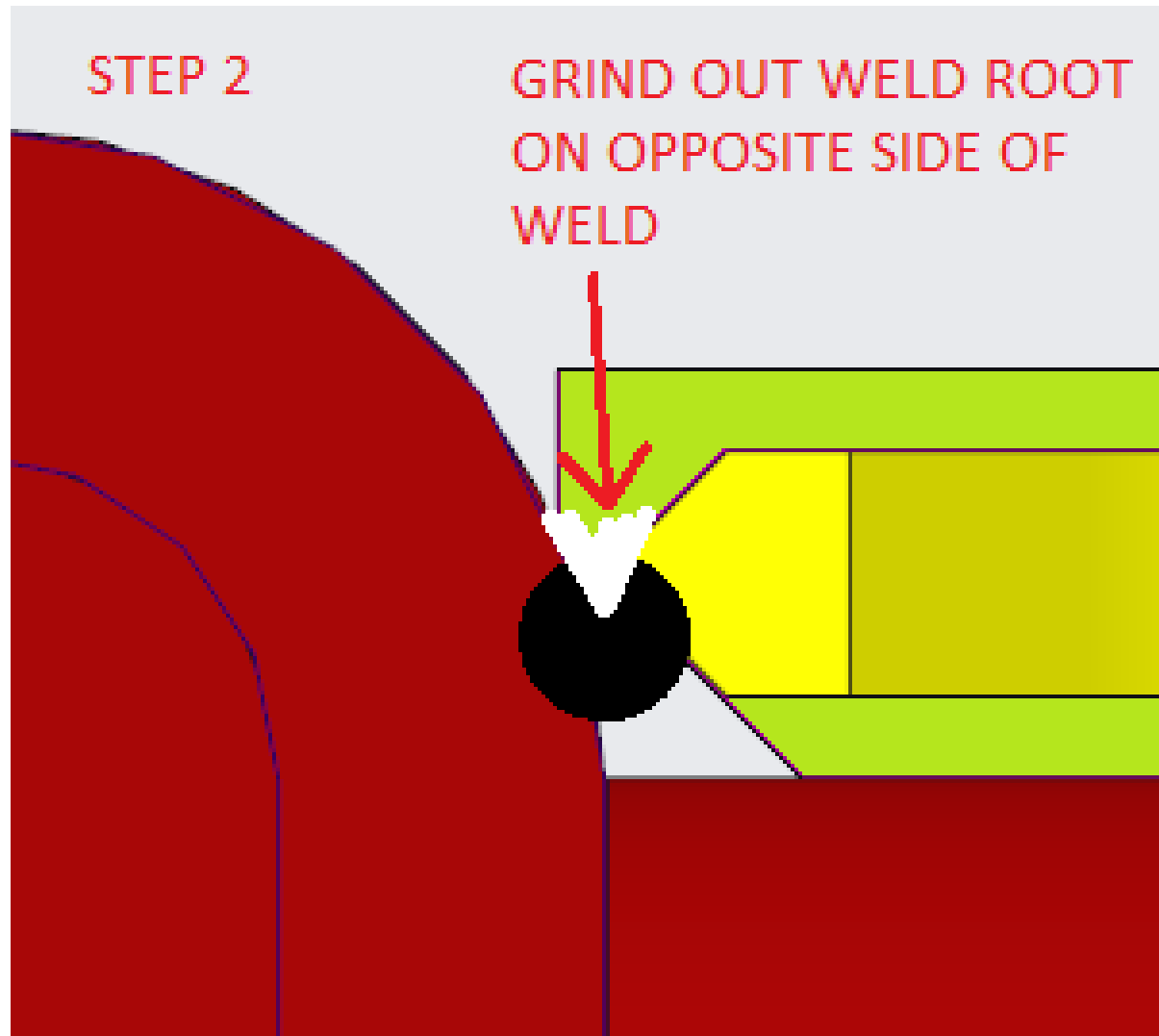


REFERENCE INFORMATION BACKGOUGE INSTRUCTIONS



REFERENCE INFORMATION

BACKGOUGE INSTRUCTIONS CONT...

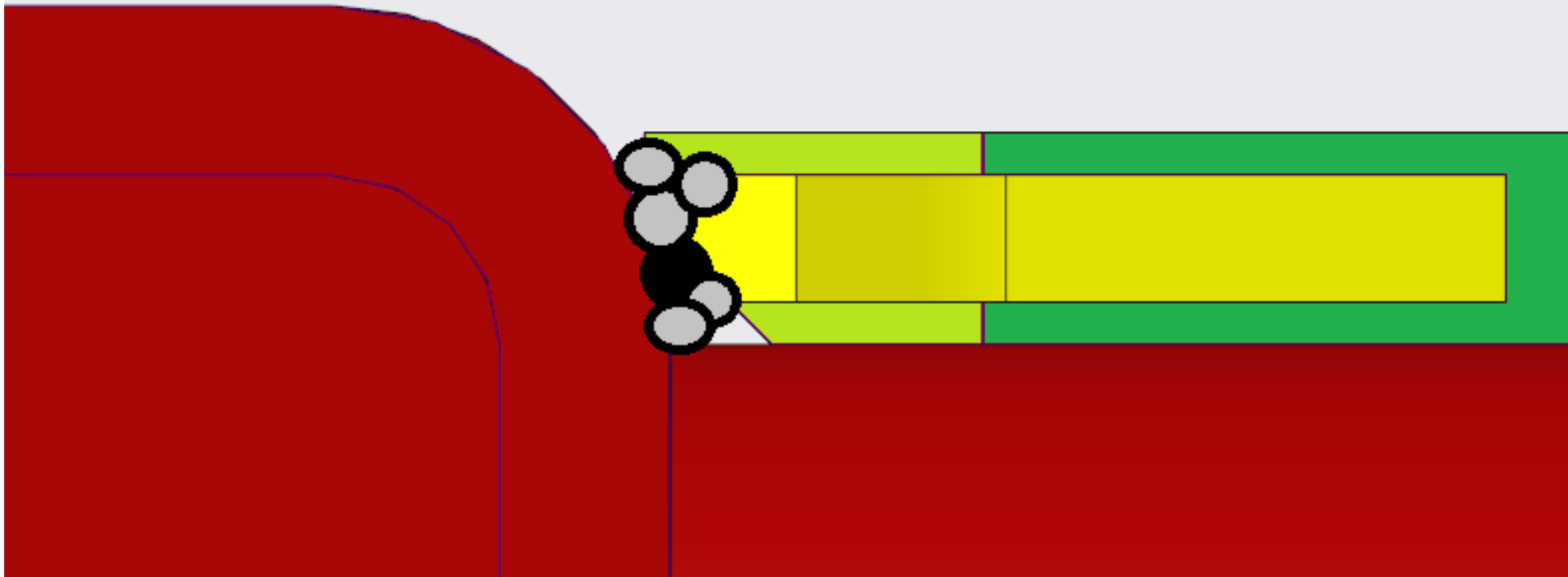


REFERENCE INFORMATION

BACKGOUGE INSTRUCTIONS CONT...

STEP 3

FINISH WELDING BOTH SIDES OF
PLATE WITH ADDITIONAL WELD
PASSES, AS NEEDED

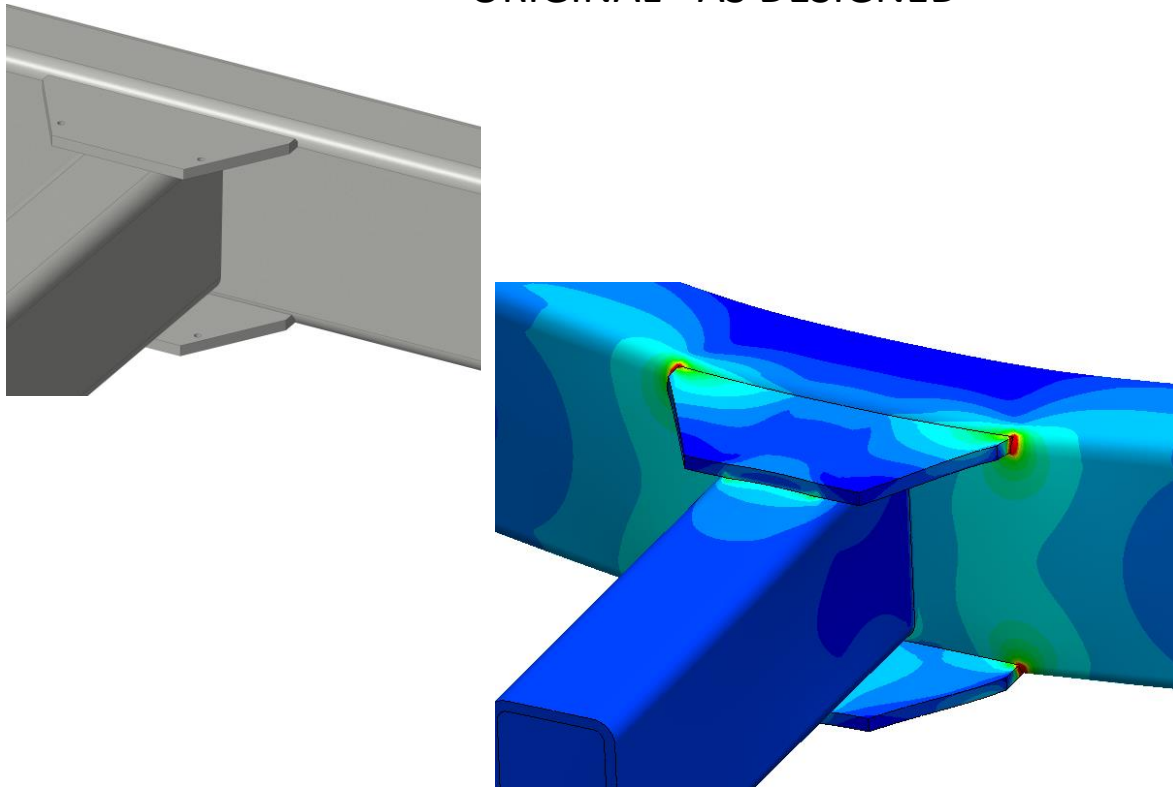


REFERENCE INFORMATION - DOUBLER PLATE

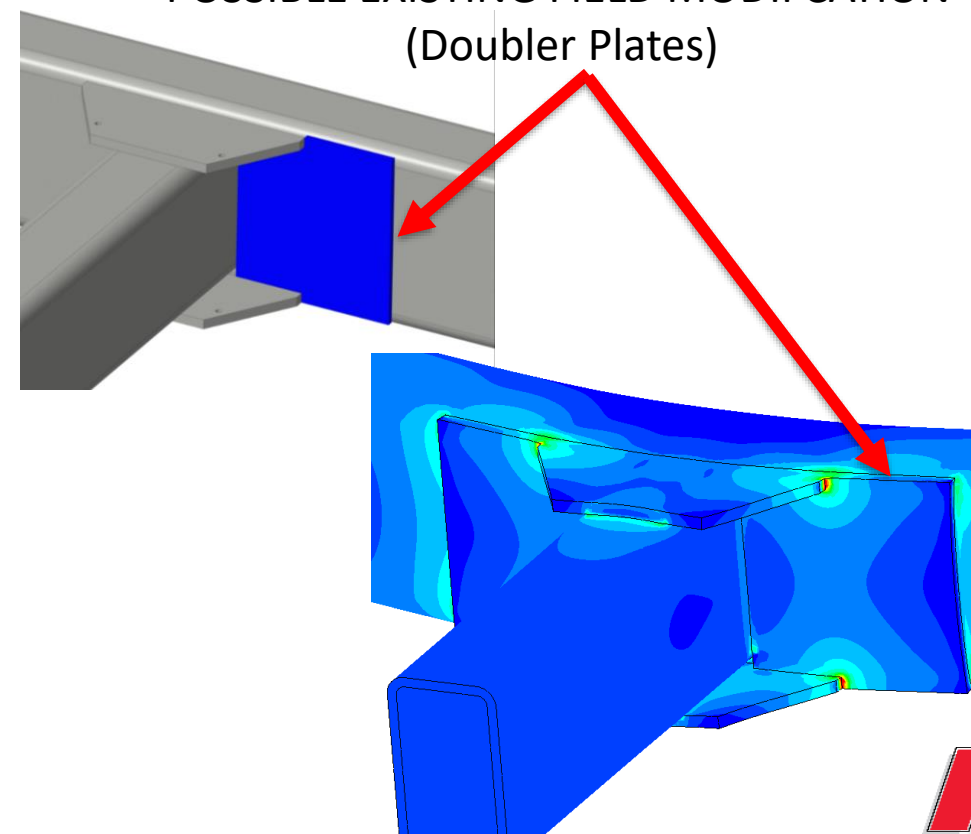
- Adding a plate, while easier, does not resolve the stress concentration issue
- Fatigue life gains, crack initiation, are expected to be minimal even with a 3/8" or thicker plate added in this area.

NOTE: If a plate has already been added and fully welded in from a prior field fix it is encouraged to add the gussets with the outlined process while modifying the gusset geometry optimize fitment.

ORIGINAL - AS DESIGNED



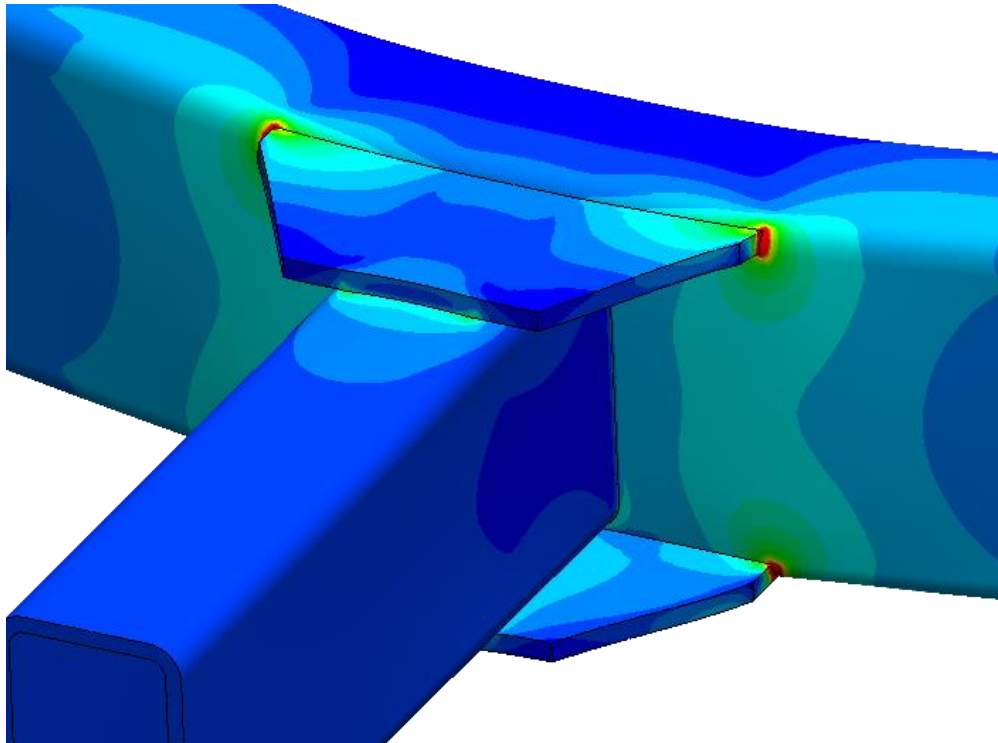
POSSIBLE EXISTING FIELD MODIFICATION
(Doubler Plates)



REFERENCE INFORMATION - DOUBLER PLATE CONT...

- Adding gusset extension (RY9014) reduces stress by ~45% when reworked per the procedure

ORIGINAL DESIGN



IMPROVED DESIGN

