

H TECHNICAL PROCEDURE

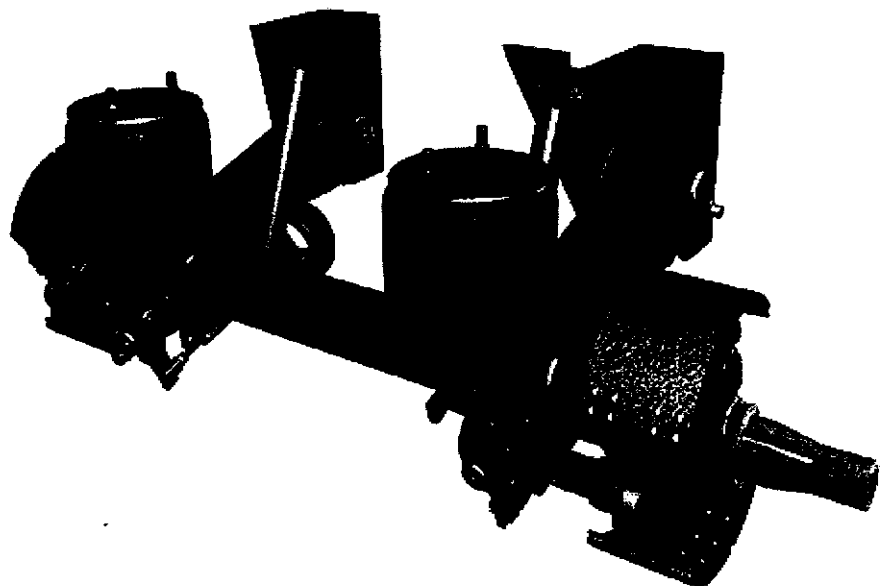
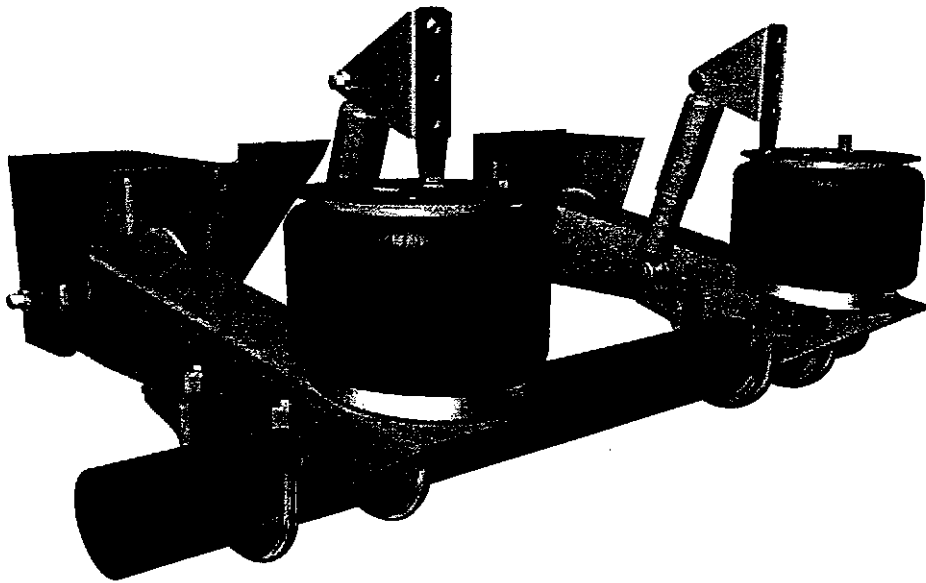
TRAILER SUSPENSION SYSTEMS

SUBJECT: Welding Procedures

LIT NO: L64

DATE: November 2014

REVISION: F



H HENDRICKSON
The World Rides On Us®

TABLE OF CONTENTS

Conventions Applied In This Document.....	3
Explanation of Signal Words	3
Links	3
General Service Notes.....	3
During Service:	3
Important Safety Notices	3
Contacting Hendrickson.....	5
Literature	6
Recommended Welding Practices	7
Welding Parameters	7
Welding Symbols	8
Welding Area Preparations	9
Horizontal Axle Welding Parameters (HT™ Series Suspensions Only).....	9
Suspension Beam And Axle Setup (HT™ Series Suspensions Only).....	10
Weld Pass Size and Placement	13
Axle Weld Hammer Peening	14
Wide Frame Bracket Welding Procedures	15
Air Spring Mounting Plate Welding Procedures.....	18
C-Channel Welding Procedures	21
Frame Bracket Gusset Welding Procedure	22
Y-Beam Bushing Tube Welding	23
Welding Bushing Tube Sleeves	23
Welding Bushing Tube Assemblies.....	24
Welded Collar Welding Procedure	24
Upper Shock Clevis Welding Procedure.....	24
Adjustment Bracket / Upper Chain Bracket Welding Procedure	24
Welding Tank Bracket To Slider Box.....	25
Welding to Galvanized Steel.....	26

CONVENTIONS APPLIED IN THIS DOCUMENT

This section explains the techniques used in this document to convey important information, safety issues, how to contact Hendrickson.

EXPLANATION OF SIGNAL WORDS

Hazard signal words (such as DANGER, WARNING or CAUTION) appear in various locations throughout this publication. Information accented by one of these signal words must be observed at all times. Additional notes are utilized to emphasize areas of procedural importance and provide suggestions for ease of repair. The following definitions comply with ANSI Z535.4 and indicate the use of safety signal words as they appear throughout the publication.

 **DANGER: INDICATES IMMEDIATE HAZARDS WHICH WILL RESULT IN SEVERE PERSONAL INJURY OR DEATH.**

 **WARNING: Indicates hazards or unsafe practices which could result in severe personal injury or death.**

 **CAUTION: Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.**

NOTICE: Indicates hazards or unsafe practices which could result in damage to machine or equipment.

IMPORTANT: An operating procedure, practice or condition that is essential to emphasize.



Safety alert symbol used to indicate a condition exists that may result in personal injury or harm to individuals. It must be applied to DANGER, WARNING and CAUTION statements, which emphasize severity.

LINKS

Links are identified by a dark grey line under the linked text. Internal links allow the reader to jump to a heading, step or page in this document. External links open the website or document referenced.

UNITS

Units are presented Imperial then (metric).

GENERAL SERVICE NOTES

IMPORTANT: Special attention should be paid to the information included in EXPLANATION OF SIGNAL WORDS.

Before you begin:

Read, understand and comply with:

- All instructions and procedures.
- All signal word (CAUTION, WARNING and DANGER) statements to help avoid personal injury or property damage.
- Company's maintenance, service, installation and diagnostic practices.
- Vehicle manufacturer's safety instructions when working on the vehicle.
- Vehicle manufacturer's instructions for recommended practices not described in this manual.
- Local safety regulations.

DURING SERVICE:

- Work must be carried out by trained personnel.
- Sudden release of tensioned springs (e.g. the spring brake part of the brake chamber or the brake return spring) may cause injury.
- Use recommended tools only.
- Before releasing trailer back into service, perform operational checks and test the trailer to make sure brakes are working correctly.

Hendrickson reserves the right to make changes and improvements to its products and publications at any time. Consult the Hendrickson website (www.hendrickson-intl.com) for the latest version of this manual.

IMPORTANT SAFETY NOTICES

Proper installation, maintenance, service and repair is important to the reliable operation of the suspension system. The procedures recommended by Hendrickson and described in this publication are methods of performing inspection, maintenance, service and repair.

The warnings and cautions should be read carefully to help prevent personal injury and to assure that proper methods are used. Improper maintenance, service or repair can cause damage to the vehicle and other property, personal injury, an unsafe operating condition or void the manufacturer's warranty.

Carefully read, understand and follow all safety related information within this publication.

⚠WARNING: DO NOT modify or rework parts.
Use **ONLY** Hendrickson authorized replacement parts. Use of substitute, modified or replacement parts not authorized by Hendrickson may not meet Hendrickson's specifications. It can also result in failure of the part, loss of vehicle control and possible personal injury or property damage. Do not modify parts without written authorization from Hendrickson.

⚠WARNING: Always wear proper eye protection and other required PPE (personal protective equipment) when performing vehicle maintenance, repair or service.

⚠WARNING: Solvent cleaners can be flammable, poisonous and can cause burns. To help avoid serious personal injury, carefully follow the manufacturer's product instructions and guidelines and the following procedures:

- Wear proper eye protection
- Wear clothing that protects your skin
- Work in a well ventilated area
- **DO NOT** use gasoline, or solvents that contain gasoline. Gasoline can explode.
- Hot solution tanks or alkaline solutions must be used correctly. Follow the manufacturer's recommended instructions and guidelines carefully to help prevent personal accident or injury.

⚠CAUTION: Brake linings contain non-asbestos fibers. Wear approved eye protection and respirator when working on or near the brakes to prevent a possible health hazard.

⚠WARNING: Avoid creating dust. Dust from brake pads and/or parts is a possible cancer and lung disease hazard.

- Long term affects of some non-asbestos fibers have not been determined. Current OSHA Regulations cover exposure levels to some components of non-asbestos linings but not all. The following precautions and considerations should be applied when handling these materials:
- Compressed air or dry brushing should never be used for cleaning brake assemblies or work area.
- Hendrickson recommends that workers doing brake work should take steps to minimize exposure to airborne brake lining particles. Proper procedures to reduce exposure include working in well ventilated area, segregation of areas where brake work is done, use of local filtered ventilation systems or use of enclosed cells with filtered vacuums.
- Workers should wash before eating, drinking or smoking; shower after working and should not wear work clothes home. Work clothes should be vacuumed and laundered separately without shaking.
- While Hendrickson does not offer asbestos brake linings, brake linings supplied by others may contain asbestos. Follow shop, local, state and federal safe practices as appropriate.
- Material Safety Data Sheets (MSDS) on this product, as required by OSHA, are available from Hendrickson.



⚠CAUTION: A mechanic using a service procedure or tool which has not been recommended by Hendrickson must first satisfy himself that neither his safety nor the vehicle's safety will be jeopardized by the method or tool selected. Individuals deviating in any manner from the provided instructions assume all risks of consequential personal injury or damage to equipment.

⚠CAUTION: Brake lining contains non-asbestos fibers. Wear approved eye protection and respirator when working on or near the brakes to prevent a possible health hazard.

NOTICE: When welding to or on the axle, take every caution to prevent bearing damage. When grounding welding equipment to axle, prevent electrical current from passing through the wheel bearings

A connection that places a wheel bearing between the ground cable connection and the weld area can damage the bearing by electric arcing.

CONTACTING HENDRICKSON

Contact Hendrickson Trailer Technical Services for technical assistance as needed. Two contact options are available.

Prior to contacting Technical Services, it will be helpful to have the following information about your Hendrickson suspension available (all that apply):

- Suspension ID Tag information (Refer to Hendrickson Lit. No. L977 Suspension Identification Guide for tag location and details):
 - Suspension model number
 - Suspension serial number
 - Approximate number of suspension miles.
- Vehicle VIN number. Refer to trailer OEM manual for VIN plate location.
 - Trailer Type (van, reefer, flat bed, etc..)
 - Manufacturer
 - VIN (vehicle identification number)
 - In-service date¹
- If applicable, description of the system problem, part number and/or part description of the reported non-functioning part.
 - Date of failure
 - Where applicable: location of problem on suspension / trailer; e.g., road side, front axle, rear axle, curb side rear, etc
 - Symptoms:
 - » Systems, components or function affected by failure.
 - » When does failure occur?
 - » How often do they occur?
 - » Etc..
- What troubleshooting and/or measurements have been performed?
- What service data literature do you have or need?
- Digital photos of suspension and damaged areas.
- Special application approval documentation (if applicable).

¹ If the in-service date is unknown or not available, the vehicle date of manufacture can be substituted.

PHONE

Contact Hendrickson directly in United States and Canada at 866-RIDEAIR (743-3247). From the menu, select:

- Technical Services/Warranty for technical information.
- Other selections include:
 - Aftermarket Sales for replacement parts information and ordering.
 - Original Equipment Sales for parts inquiries and ordering for trailer manufacturers.

EMAIL

For Hendrickson Trailer Technical Services, use the following e-mail address:

htts@hendrickson-intl.com

LITERATURE

If you suspect your version of this or any other Hendrickson manual is not "Up-to-Date", the most current version is free online at:

www.hendrickson-intl.com/literature/

Available Hendrickson documentation can be viewed or downloaded from this site.

All Hendrickson online documentation are PDF files that require Adobe Acrobat Reader to open. This is a free application downloadable from Adobe's home page (<http://get.adobe.com/reader/>).

Other relative literature may include:

NAME	DESCRIPTION
<u>B92</u>	<i>QUIK-ALIGN® Pivot-Connection Fastener Upgrade</i>
<u>L341</u>	<i>INTRAAX® Installation Procedures</i>
<u>L459</u>	<i>Checking Trailer Ride Height</i>
<u>L577</u>	<i>HT™ Series Installation Procedures</i>
<u>L579</u>	<i>Alignment Procedures</i>
<u>L583</u>	<i>Comprehensive Warranty Statement</i>
<u>L1073</u>	<i>Primary Suspension Information</i> (includes list of installation drawings)
<u>L1074</u>	<i>Slider Suspension Information</i> (includes list of installation drawings)
<u>T19003</u>	CAUTION - Welding to Galvanized Steel
<u>TMC</u>	<i>Technology & Maintenance Council</i> is produced by the American Trucking Association ATA Councils (www.truckline.com). This document defines recommended practices (RP) for transportation equipment.
<u>RP 708</u>	<i>Trailer Axle Alignment</i>

Table 1: Literature



RECOMMENDED WELDING PRACTICES

⚠ WARNING: If these procedures and specifications are not followed, damage to the axle or suspension could result. The resulting axle or suspension damage could cause an accident, property damage, and/or serious injury.

WELDING PARAMETERS

NOTE: A welder qualified in 2G position per <http://www.aws.org/catalogs/> "Performance Qualification" must perform the welding.

1. Suspension components and their mating parts must be at a minimum temperature of 60°F (15.5°C) and must be free from moisture, dirt, scale, paint and grease.

NOTE: Preheating the axle connection at the axle and suspension seat may be recommended and/or required by the axle manufacturer. Consult axle manufacturer for their axle preheating specifications and the applicable effect on their warranty coverage.

2. It is recommended that all axle to suspension trailing arm welds be hammer peened. See AXLE WELD HAMMER PEENING on page 14.
3. All welds must be performed in a flat or horizontal position.
4. Achieve spray arc transfer with the following welding parameters:

NOTE: Any deviation from these welding parameters must be approved by Hendrickson Trailer Suspension Systems in writing.

SMAW

AWS E-7018 (Oven Dried)

- 0.125 diameter
120-140 Amps D.C.
DCRP
- 0.156 diameter
120-160 Amps D.C.
DCRP

GMAW - Spray Transfer

Standard Wire: AWS ER-70S-6

- 0.045 diameter
(i.e., L-56 or NS-115)

Optional Wire: AWS ER-70S-3

- 0.045 diameter
(i.e., L-50 or NS-101)

Voltage: 26-30 Volts DCRP

Current: 275-325 Amps

Wire Feed Speed: 380-420 IPM

Electrode Extension: 3/4 inch - 1 inch

Gas: 85% Argon 15% CO₂
at 30 to 35 CFH

WELDING SYMBOLS

Shown below in Figure 1, are the welding symbols typically found on Hendrickson suspension products.

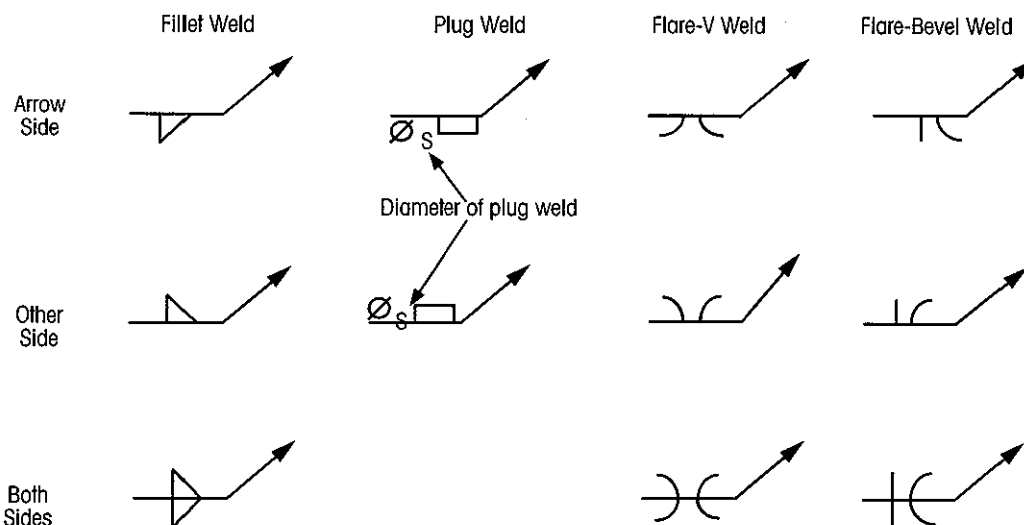
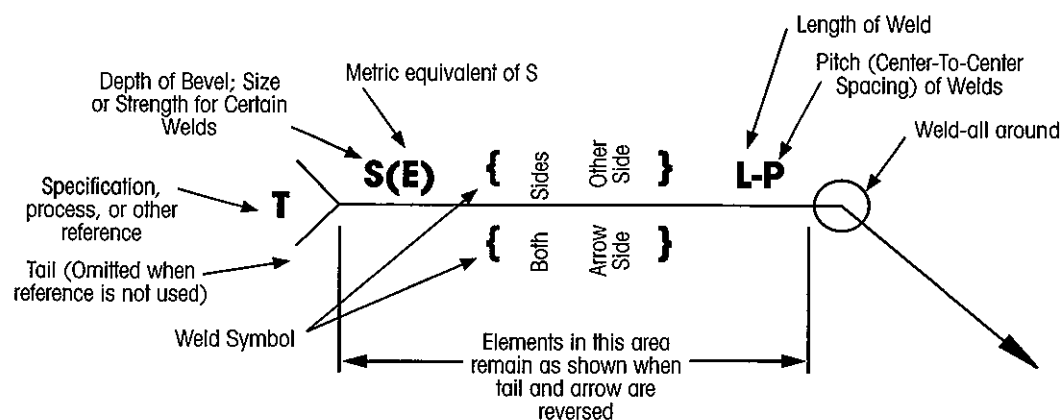


Figure 1: *Welding Symbols*

WELDING AREA PREPARATIONS

1. **Remove** all surface coat, dirt and rust in touch-up/repair location.
2. Thoroughly **clean** the area. Using a clean cloth, **hand-wipe surface** to remove any residue from previous step.

The repair surface area shall be clean, dry and free of all contamination, e.g. oil, grease, pre-existing coating.

**HORIZONTAL AXLE WELDING
PARAMETERS (HT™ SERIES
SUSPENSIONS ONLY)**

All axle welds must be performed in a horizontal or flat position.

NOTE: The following welding procedures are for horizontal (2F) positioning only.

IMPORTANT: Preheating the axle connection at the axle and suspension seat may be recommended and/or required by the axle manufacturer. Consult the axle manufacturer for their axle preheating specifications and the applicable effect on their warranty coverage.

SUSPENSION BEAM AND AXLE SETUP (HT™ SERIES SUSPENSIONS ONLY)

1. Use the Hendrickson HT axle locating fixture to **properly position** the suspension beams.
2. Use a clamping device to **secure** the centered axle onto the positioned beams.

NOTE: For complete axle locating fixture details, if a Hendrickson HT axle locating fixture is used, refer to the section titled "USING THE HT™ SERIES FIXTURE" in Hendrickson publication L577 HT/HS/HK Installation Procedures available at www.hendrickson-intl.com.

If an axle locating fixture is not used, for complete axle and suspension beam positioning details, refer to the section titled "AXLE INSTALLATION WITHOUT FIXTURING" in Hendrickson publication L577 HT/HS/HK Installation Procedures available at www.hendrickson-intl.com.

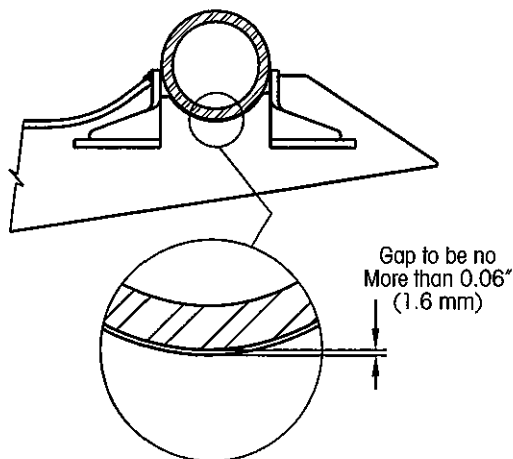


Figure 2: Axle seat gap

IMPORTANT: At least one side of each axle seat radius must be tight against the axle. Any resulting gap must be no more than $\frac{1}{16}$ inch (1.6 mm), Figure 2.

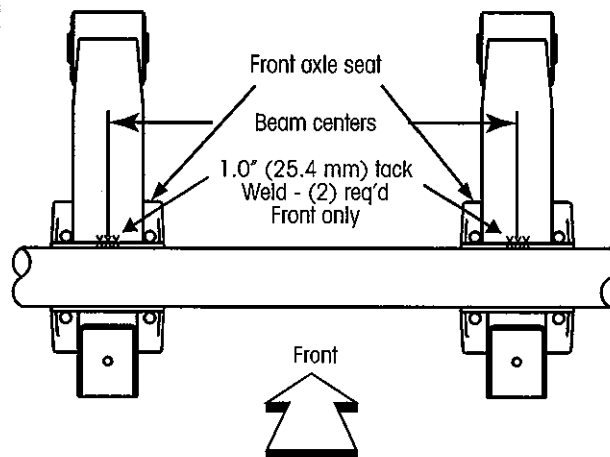


Figure 3: Locations of tack weld

3. Place a 1 inch (25.4 mm) long **tack weld** on the front axle seat in the center of each suspension beam/axle connection, one tack weld is required per suspension beam, Figure 3.

WELD PASS LENGTH AND POSITION

Figure 4 shows the length and position of the axle weld. All weld passes are to be performed as shown.

IMPORTANT: The weld length is dependent on the type of suspension being installed. When installing the HT190T, HT190U, HT230, HT250T, HT250US, HT250YS, HT300 and HT300US use left figure. When installing the HT250U and HT300YB, use right figure.

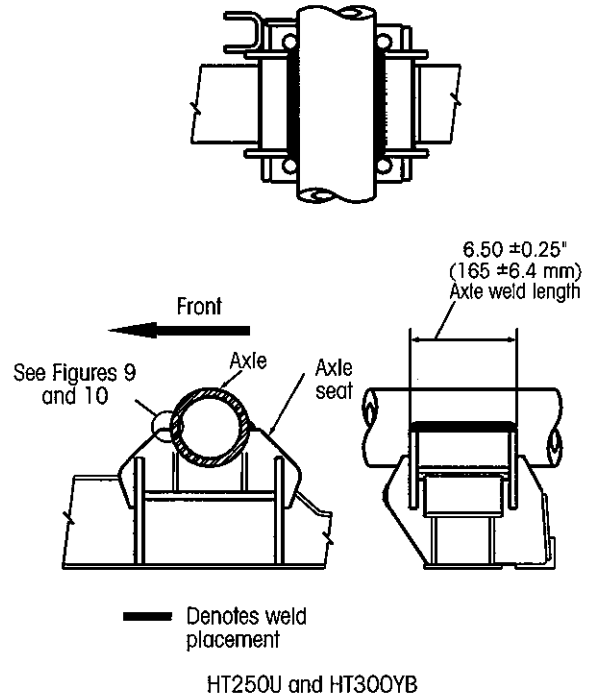
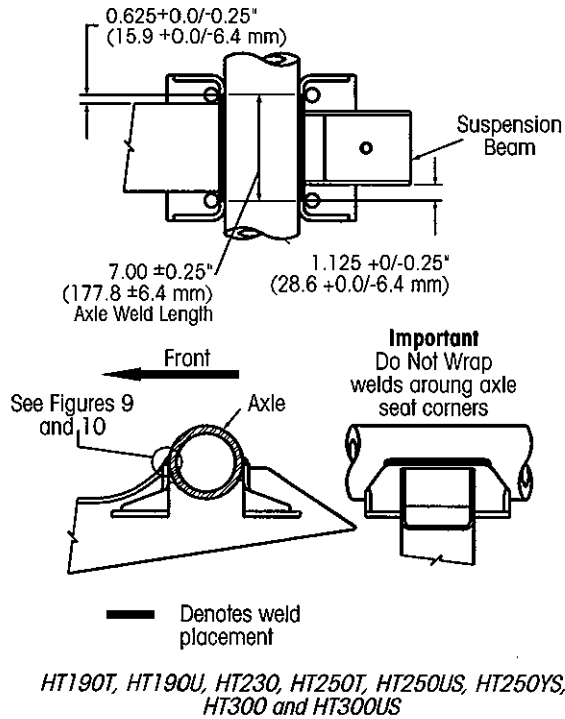


Figure 4: Axle weld pass length and position.

WELD DIRECTION AND SEQUENCING

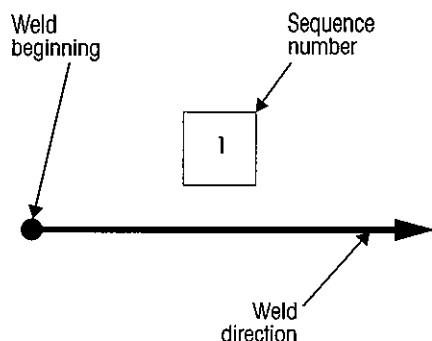


Figure 5: *Weld Instructions legend*

NOTE: The following instructions for direction and sequence must be followed when applying the weld, Figure 5.

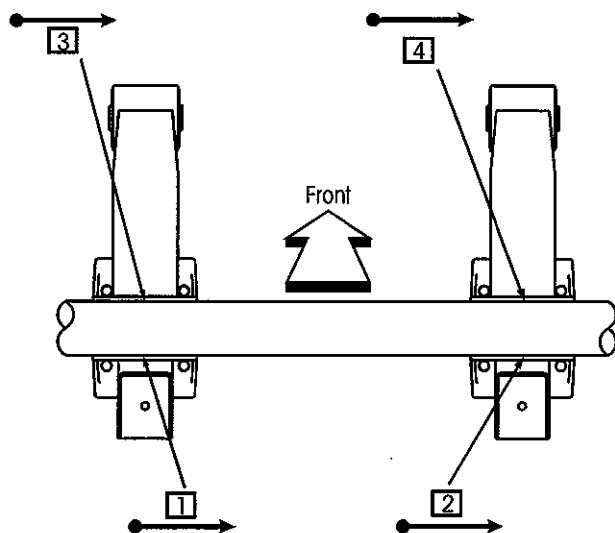


Figure 6: *Root pass sequence*

1. Beginning on the rear side of the axle/seat connection, place **four single root pass welds**, Figure 6.

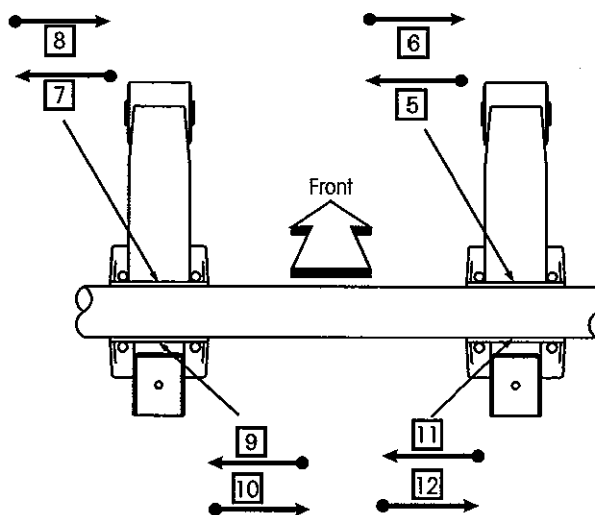


Figure 7: *Second and third pass weld sequences*

2. Continue with the second and third weld passes after all four root passes, Figure 7.

⚠CAUTION: Avoid all cold laps and undercuts. Fill all craters. Clean the weld between each pass. If these steps are not followed, failure may occur with the axle-to-suspension connection.

WELD PASS SIZE AND PLACEMENT

NOTE: All axle seat connections require three weld passes. Figure 8 shows the location and size of each weld. All passes are to be performed as shown.

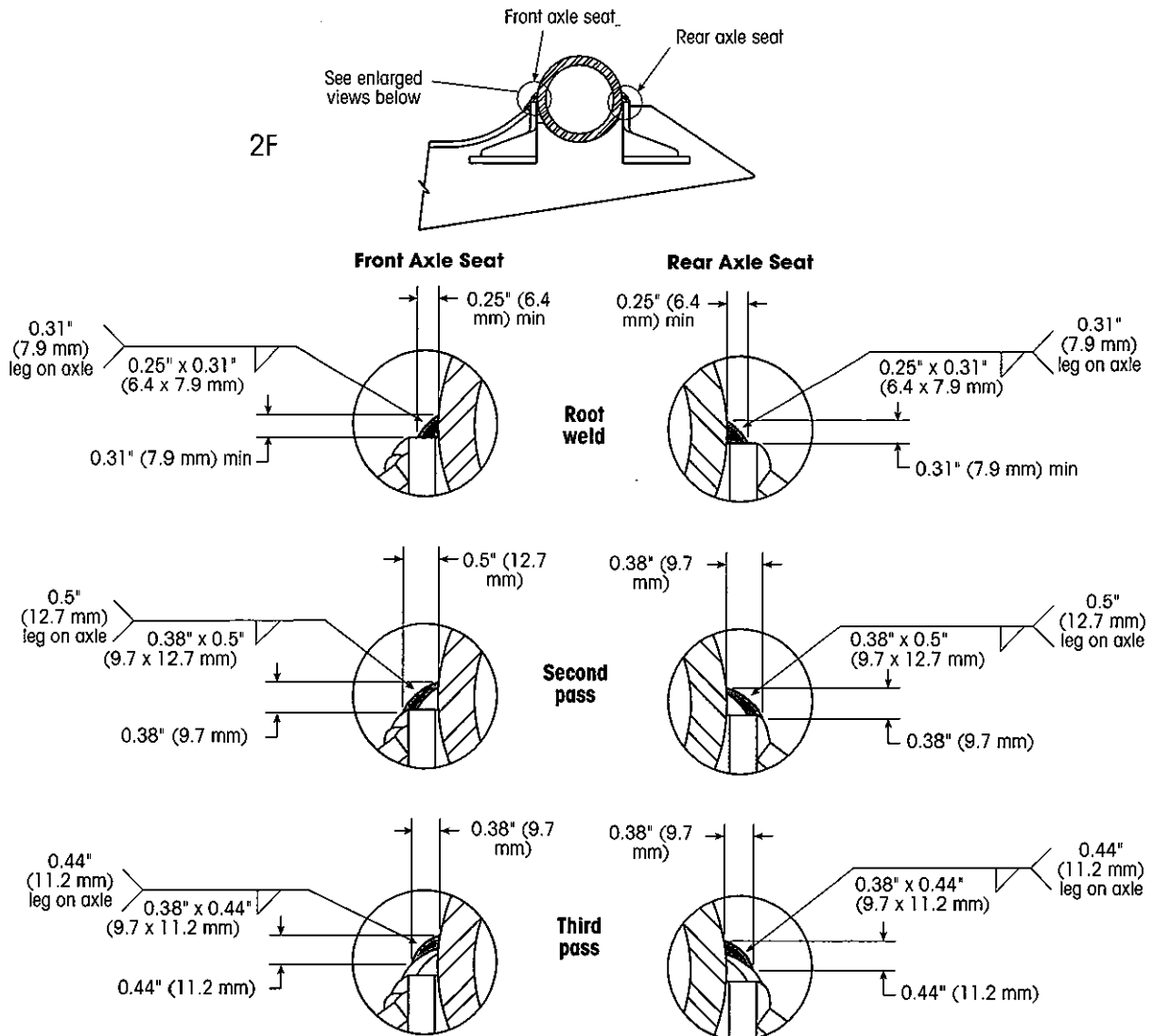


Figure 8: Axle weld passes — all HT™ Series suspensions

AXLE WELD HAMMER PEENING

Hammer peening after welding relieves the thermal stresses as a result of welding.

Allow final weld to cool down to less than 400°F (204°C) before continuing.

Visually inspect the final for defects prior to peening.

Peening process shall target a peening depth of 0.03" (0.76 mm). The target diameter of peening dimples shall be 0.10" (2.54 mm).

It is recommended that peening shall be done using a pneumatic hammer. The radius of the peening tool shall be approximately 0.188" (4.78 mm).

NOTICE: Use of needle scaler or needle hammer for peening shall not be acceptable.

After peening, there shall be no divots or craters and the surface shall be dimpled, resembling that of an orange peel, [Figure 9](#).

Beam to Axle Weld, peen the toe of the weld only.

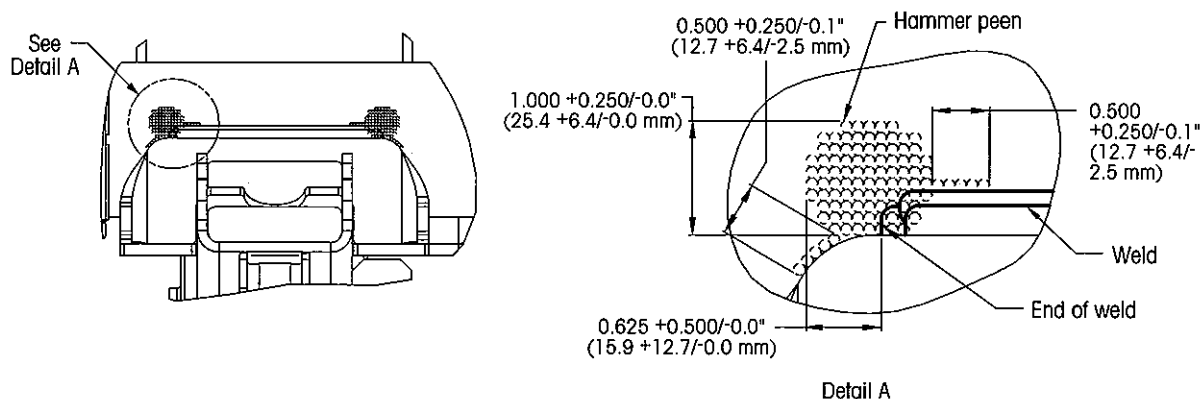


Figure 9: Beam to axle weld peening details

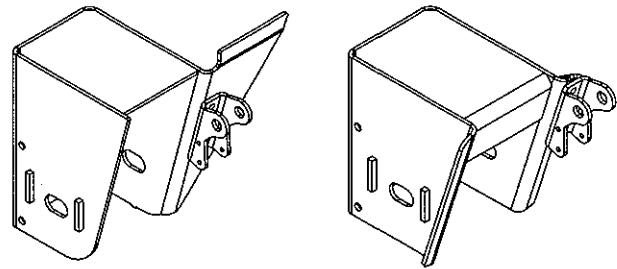
WIDE FRAME BRACKET WELDING PROCEDURES

NOTE: For narrow frame bracket details, refer to applicable suspension installation instructions and/or drawings listed in [L1073](#) and at www.hendrickson-intl.com/literature.

Figure 10, Figure 11, Figure 12, Figure 13, Figure 14 and Figure 15 illustrate frame bracket welding procedures. Weld the frame brackets to the trailer frame using the parameters given in [RECOMMENDED WELDING PRACTICES](#) on page 7.

The following figures are examples of typical suspension installations. Reference specific suspension drawings for actual installation details. The procedures illustrated may need to be adapted due to varying trailer designs.

WELD-ON FRAME BRACKETS



Wide Winged

Wide Wingless

Figure 10: Typical weld-on frame brackets

NOTE: Unless otherwise noted, all welds are to be $\frac{1}{4}$ inch (6.4 mm) minimum. For more details, refer to applicable suspension installation instructions and/or drawings listed in [L1073](#) and at www.hendrickson-intl.com/literature.

IMPORTANT: Starting and stopping points should be **no closer than $\frac{1}{2}$ inch (12.7 mm)** from the mating edge of the suspension component and the trailer frame and/or the cross members.

NOTE: It is the responsibility of the suspension installer and the vehicle designer to provide both adequate vehicle frame design and the proper securing method for the suspension system.

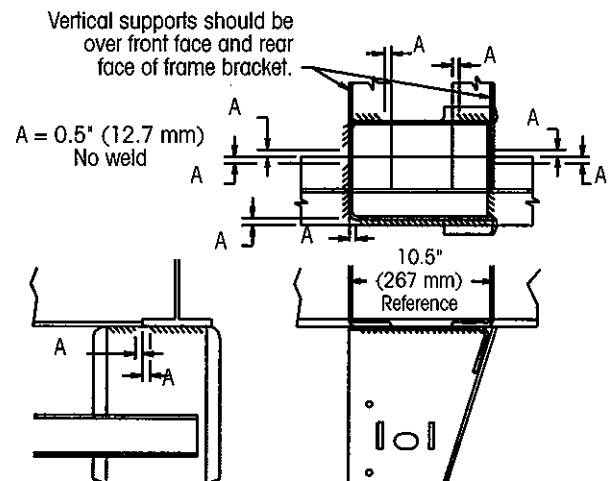


Figure 11: Typical wingless frame bracket attachment

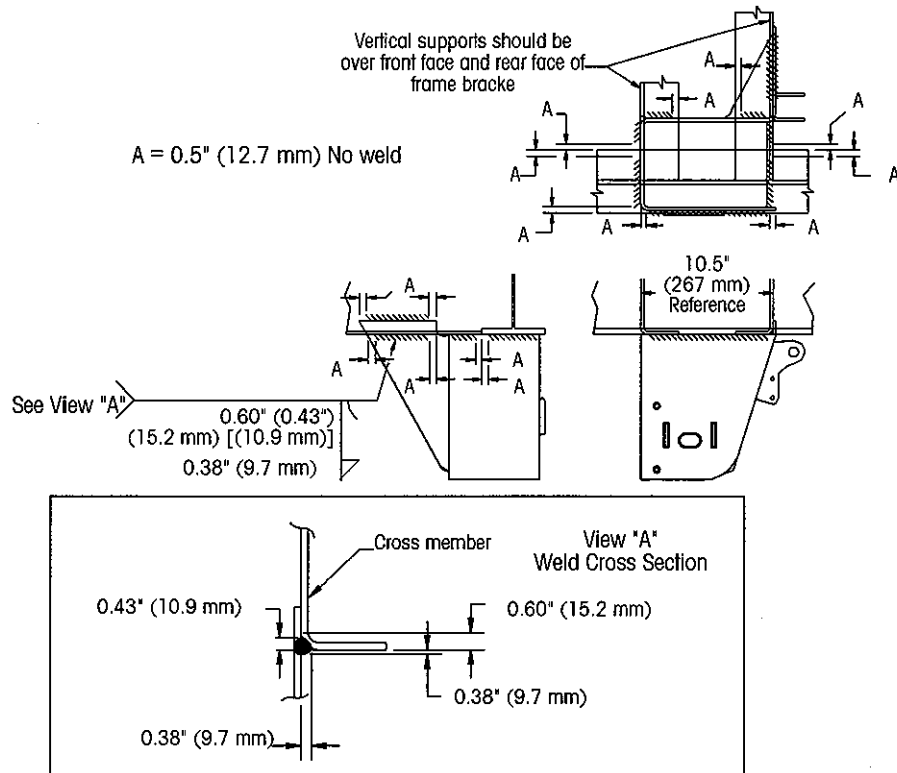


Figure 12: Typical winged frame bracket attachment

NOTE: The suspension installer has the responsibility to determine the proper welding parameters for the materials being used. For specifications of the suspension component material, refer to CONTACTING HENDRICKSON on page 5.

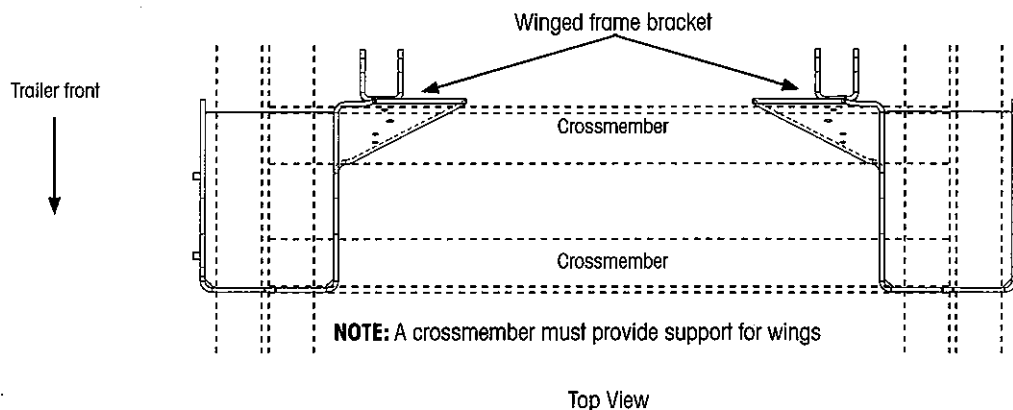
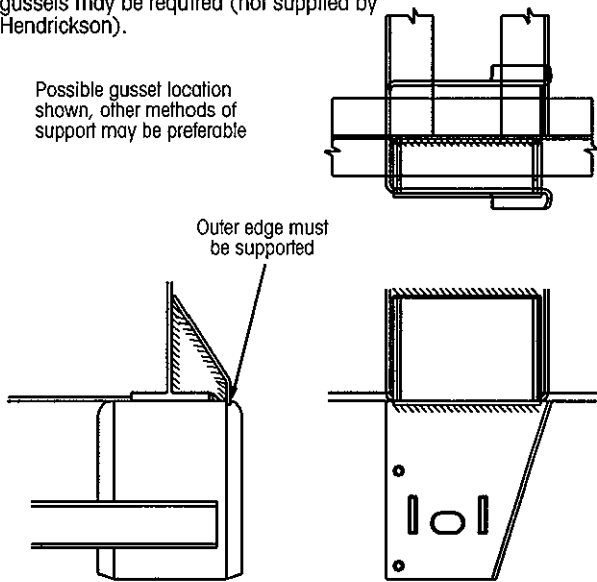


Figure 13: Frame bracket installation for QUIK-ALIGN® models with winged frame brackets.

If location is such that the outer face of frame bracket is not adequately supported, additional gussets may be required (not supplied by Hendrickson).

Possible gusset location shown, other methods of support may be preferable



Additional support needs to be provided when frame brackets extend beyond the trailer frame rail more than 1/2 inch (12.7 mm). In this case, the OEM must provide additional support. Contact Hendrickson Engineering for details. For more details, refer to applicable suspension installation instructions and/or drawings listed in L1073 and at www.hendrickson-intl.com/literature.

Figure 14: Extreme offset frame bracket attachment; winged or wingless

Vertical supports should be over front face and rear face of frame bracket.

Approximate bolt locations

Gussets must be used to distribute loads from front corners of frame bracket into bolts (not supplied by Hendrickson).

Gap to be no more than 0.12" (3.0 mm). Use restraints if necessary

0.5" (12.7 mm)
No weld

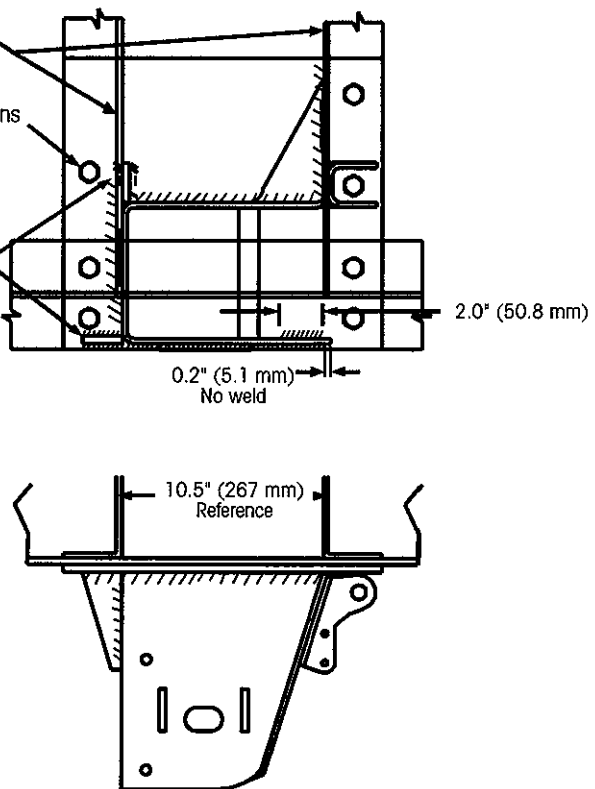
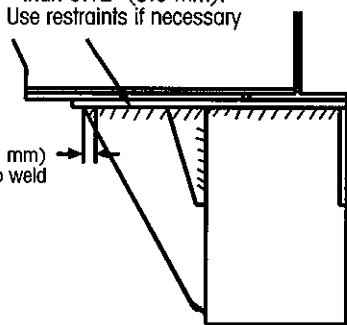


Figure 15: Frame bracket-to-mounting plate attachment (customer supplies bolt-on plate and gussets)

AIR SPRING MOUNTING PLATE WELDING PROCEDURES

Weld these components to the trailer frame using the parameters given in WELDING PARAMETERS on page 7. For more details, refer to applicable suspension installation instructions and/or drawings listed in L1073 and at www.hendrickson-intl.com/literature.

NOTICE: DO NOT ATTACH air spring mounting plate or air spring to **BOTH** the trailer main rail and trailer crossmember. Air spring mounting is not designed to resist movement between the trailer crossmember and frame rail.

Roughly 60% of upper air spring plate should be supported. If the air spring mounting plate is inboard of the frame rail, additional support gussets may be required.

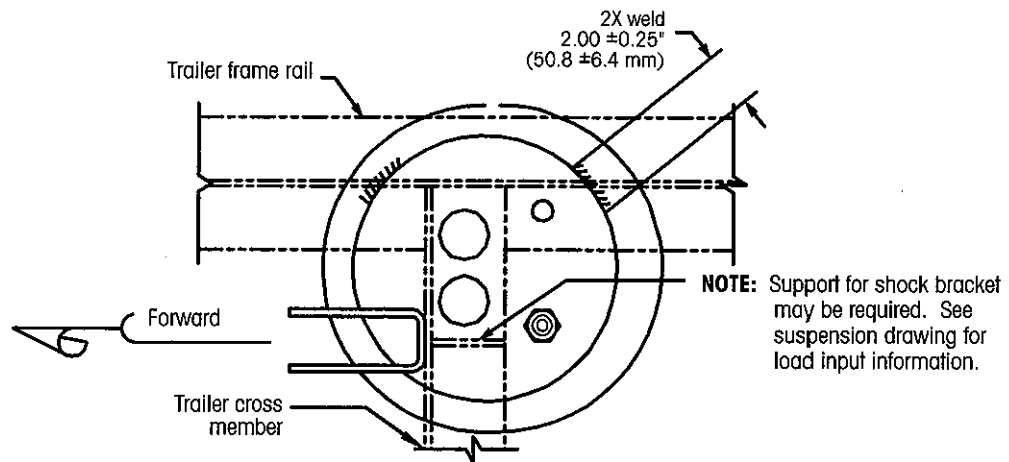


Figure 16: Typical air spring mounting plate attachment

Roughly 60% of upper air spring plate should be supported. If the air spring mounting plate is inboard of the frame rail, additional support gussets may be required.

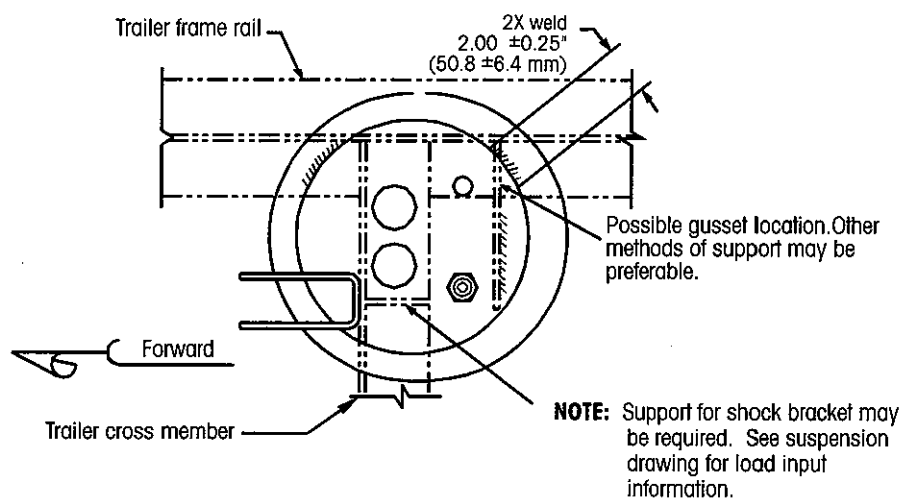


Figure 17: Severe offset attachment

If the rear portion of the spacer is inboard of the frame rail, additional support gussets may be required.

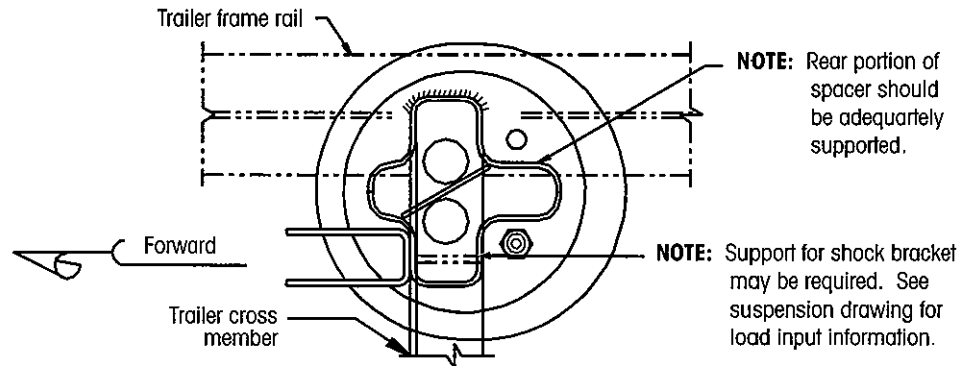


Figure 18: Typical air spring mounting plate with spacer attachment

If the rear portion of the spacer is inboard of the frame rail, additional support gussets may be required.

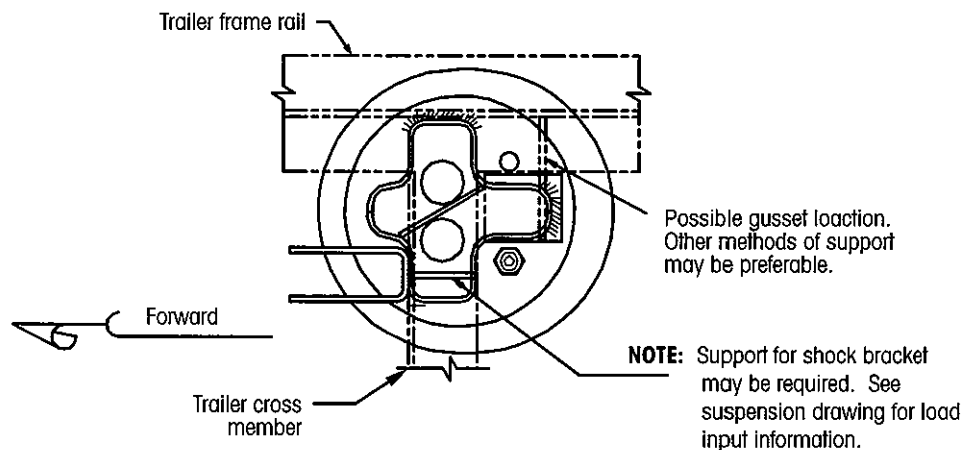


Figure 19: Severe offset with spacer attachment

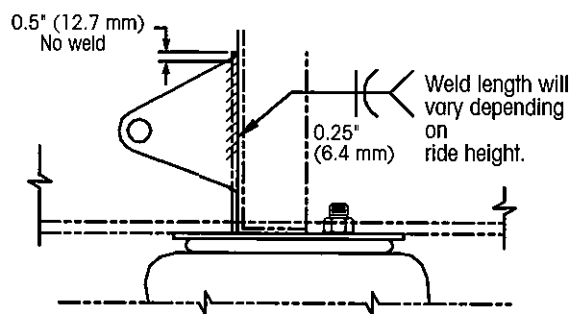


Figure 20: Shock clevis attachment without spacer

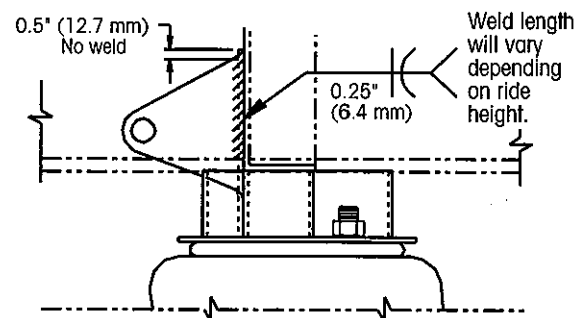


Figure 21: Shock clevis attachment with spacer

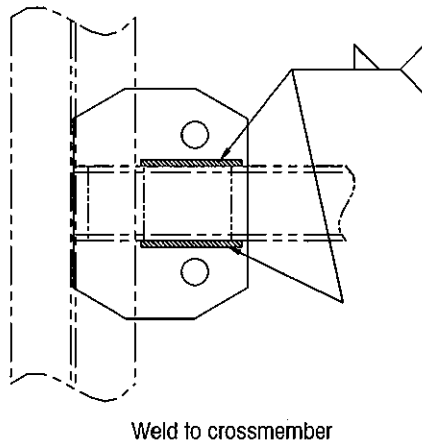
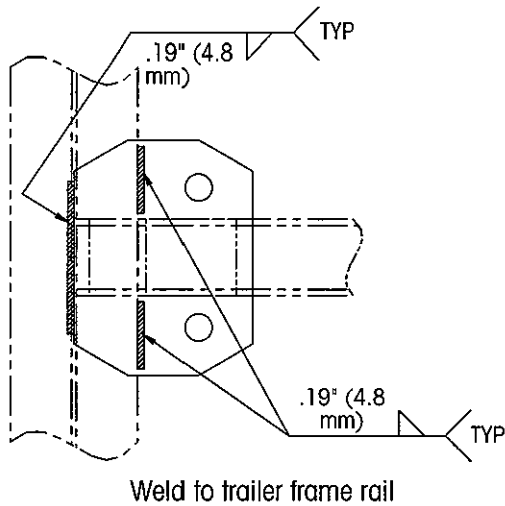


Figure 22: Air spring weld-on mounting plate

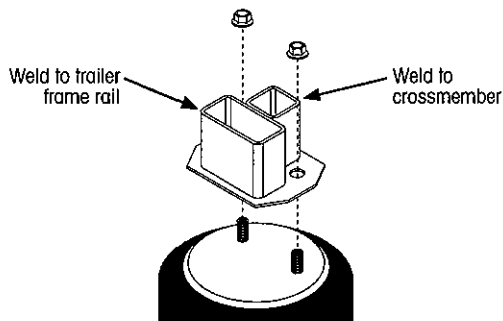


Figure 23: Air spring weld-on mounting plate.

1. **Tack weld** mounting plates (Figure 22 or Figure 23) into place.
2. **Recheck** position and adjust as needed.

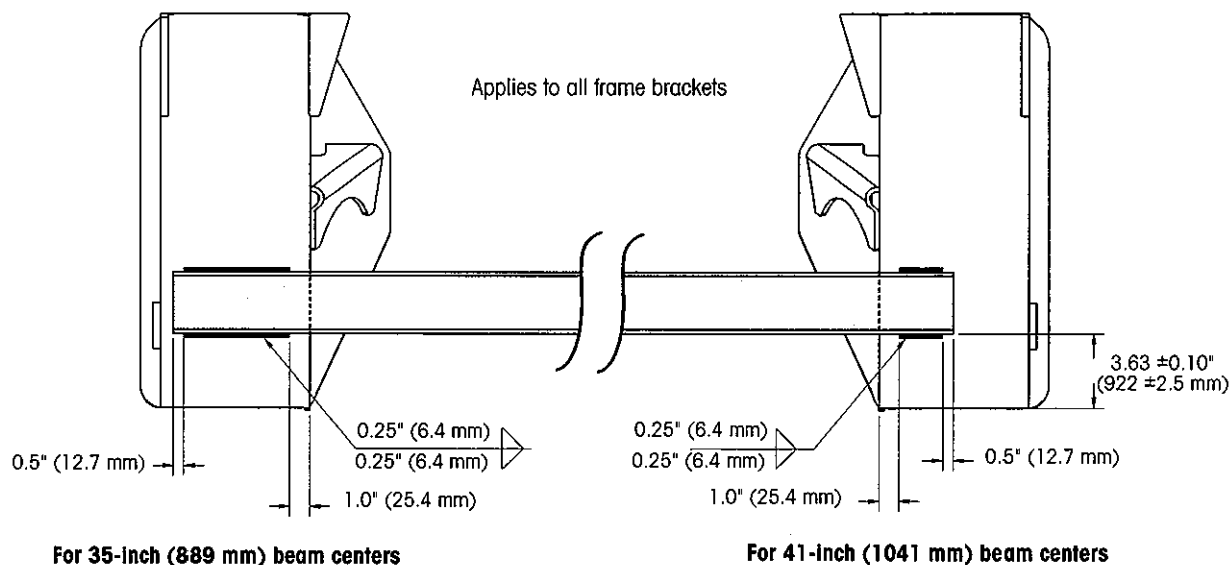
IMPORTANT: Refer to RECOMMENDED WELDING PRACTICES on page 7.

3. **Weld** mounting plate with spacer to trailer frame and cross member. Refer to Figure 22 and installation drawings for details.

C-CHANNEL WELDING PROCEDURES

Hendrickson has a variety of frame bracket reinforcements. Hendrickson engineering should be contacted to review any application.

When a C-channel is required, attach it to the frame brackets as shown in [Figure 24](#). Refer to [RECOMMENDED WELDING PRACTICES](#) on page 7 for complete welding details. For more details, refer to applicable suspension installation instructions and/or drawings listed in [L1073](#) and at www.hendrickson-intl.com/literature.



(All dimensions in inches unless noted otherwise)

— Denotes weld placement

Figure 24: *Typical C-channel attachment*



FRAME BRACKET GUSSET WELDING PROCEDURE

When frame bracket gussets are required, attach them as shown in Figure 25. Refer to RECOMMENDED

WELDING PRACTICES on page 7 for complete welding details. For more details, refer to applicable suspension installation instructions and/or drawings listed in **L1073** and at www.hendrickson-intl.com/literature.

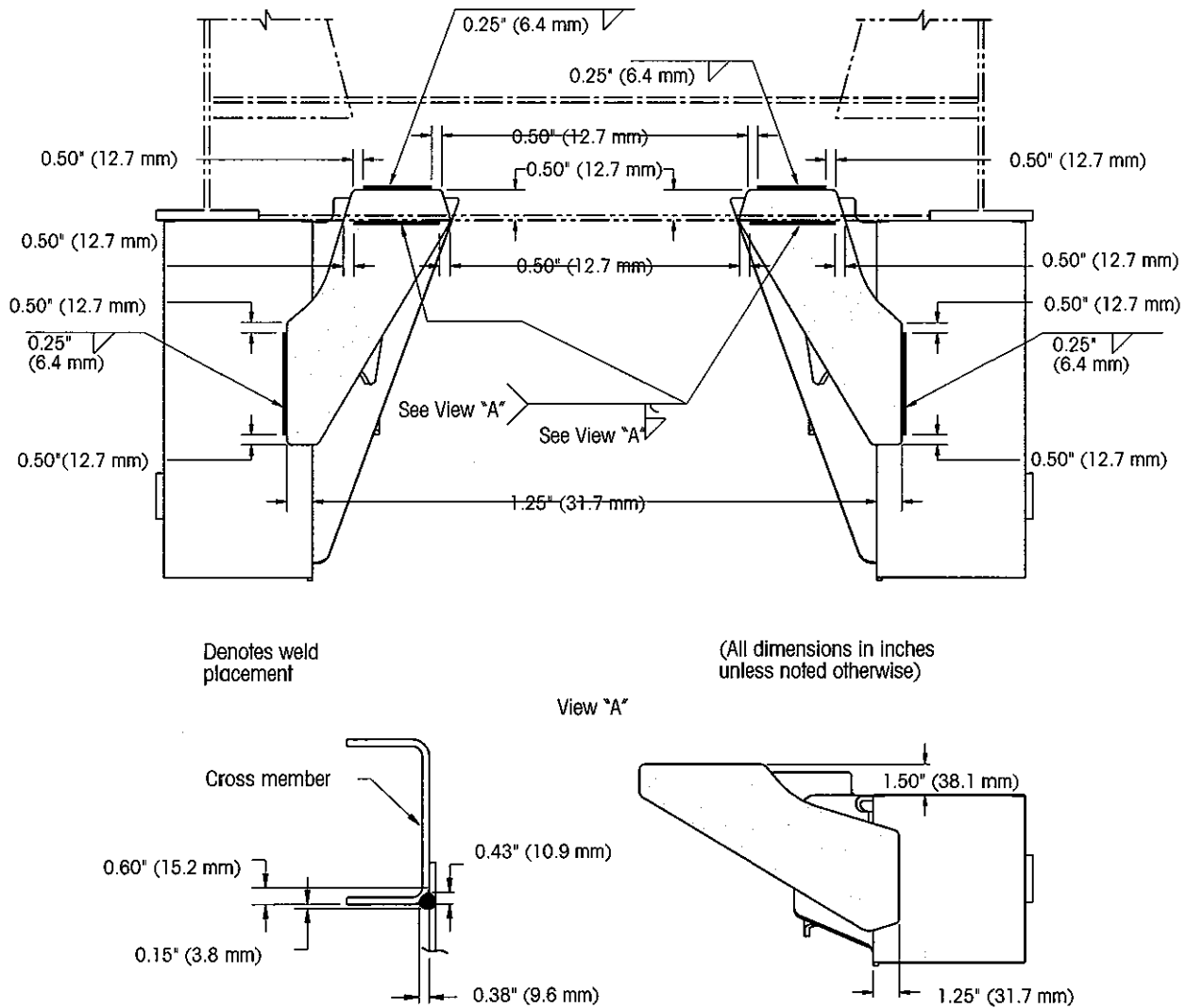


Figure 25: *Frame bracket gusset attachment*

Y-BEAM BUSHING TUBE WELDING

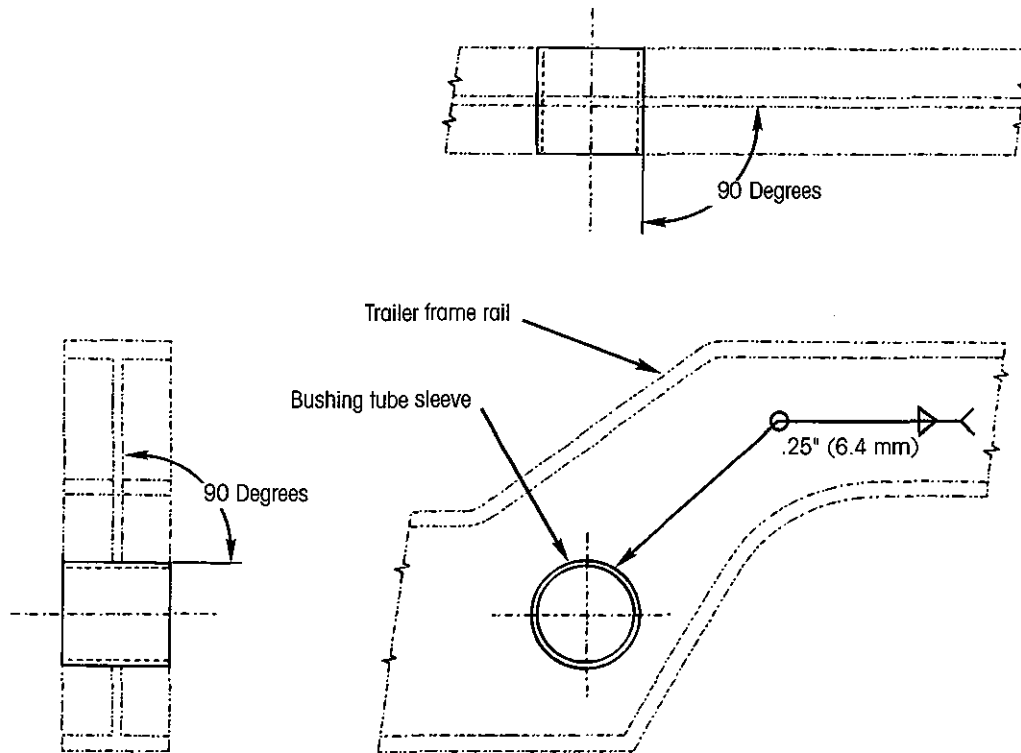


Figure 26: *Bushing tube sleeve installation*

WELDING BUSHING TUBE SLEEVES

1. **Weld** the complete circumference of both sides of each bushing tube and sleeve to the web of the trailer frame.

NOTE: Bushing tube sleeve does not contain TRI-FUNCTIONAL® bushing.

2. **Install** additional support braces (gussets) to the bushing tube sleeves, [Figure 26](#). These braces are customer supplied and should resist all fore, aft and vertical loading of the bushing tube sleeve. For more details, refer to applicable suspension installation instructions and/or drawings listed in [L1073](#) and at www.hendrickson-intl.com/literature.

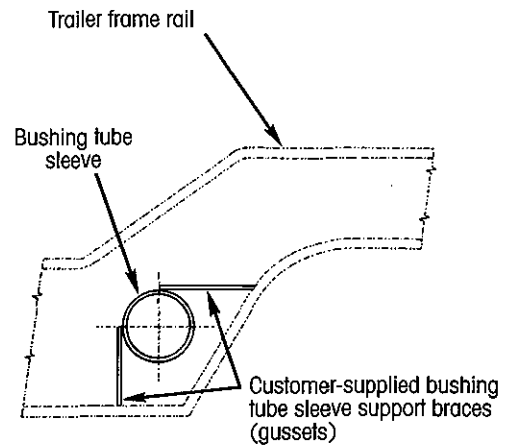


Figure 27: *Bushing tube sleeve support brace installation*

WELDING BUSHING TUBE ASSEMBLIES

⚠CAUTION: Allow adequate cooling between welds to prevent excessive heating of the TRI-FUNCTIONAL® bushing!

Weld the bushing tube assemblies to their respective bushing tube sleeves by using four 1/2 inch (12.7 mm) long welds equally spaced around perimeter, on both sides, Figure 27.

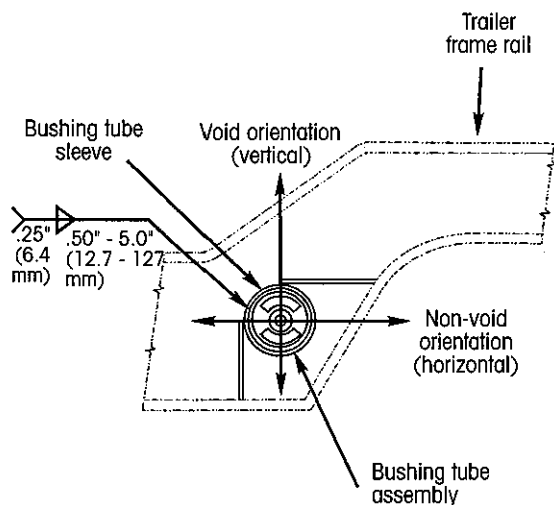


Figure 28: Bushing tube assembly position

WELDED COLLAR WELDING PROCEDURE

Refer to L579 Alignment Procedures for alignment procedure details.

UPPER SHOCK CLEVIS WELDING PROCEDURE

(INTRAAX® SUSPENSION ONLY, WITH REAR MOUNTED SHOCK OPTION)

When rear mounted shocks are used on an INTRAAX suspension, attach the upper shock clevis to the trailer frame as shown on installation drawing D-25153.

ADJUSTMENT BRACKET / UPPER CHAIN BRACKET WELDING PROCEDURE

(INTRAAX® SUSPENSION ONLY, WITH REBOUND LIMITER OPTION)

When rebound limiters are used on an INTRAAX suspension, attach the adjustment bracket (AAL models) or the upper chain bracket (AAEDT models) to the trailer frame as shown on installation drawing D-25321.

WELDING TANK BRACKET TO SLIDER BOX

All tank brackets welded to the slider box structure must be done so using a window weld as shown in Figure 29. This applies to either the installation of a tank bracket to the slider or the repair of the tank

bracket weld to the slider. Butt or plug welding is not allowed and may cause cracks in the slider box structural components.

Any welds on the slider must first be approved by Hendrickson.

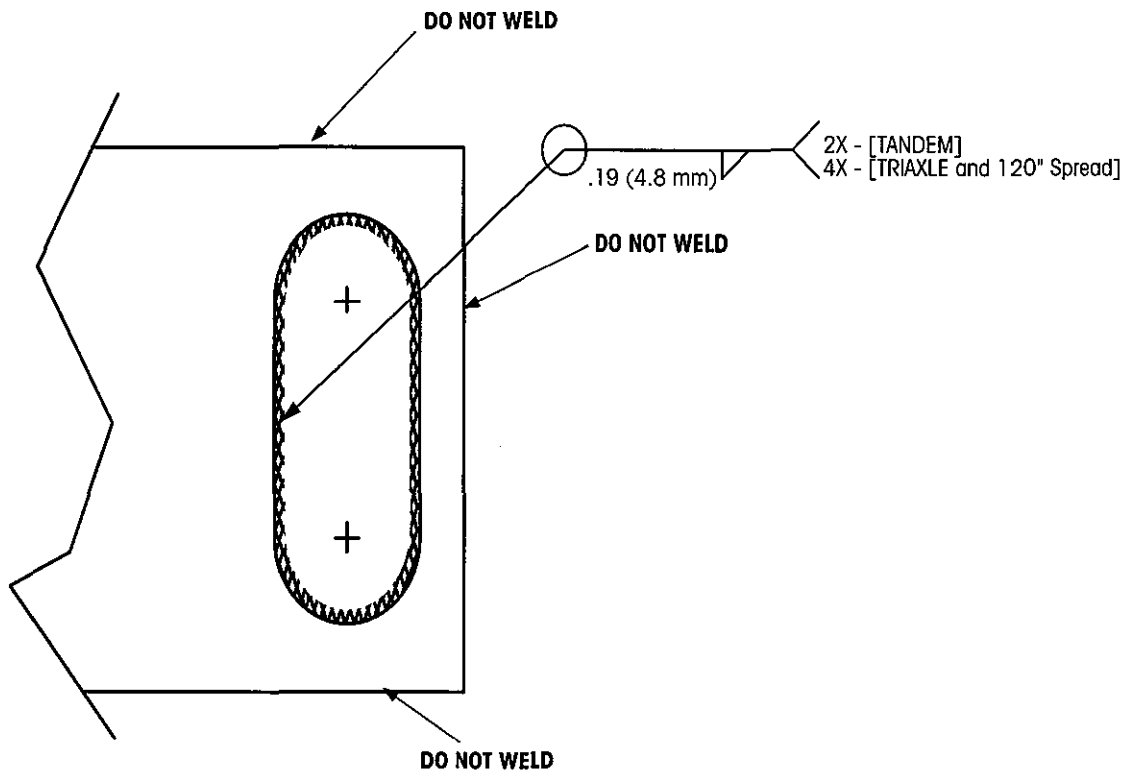


Figure 29:

WELDING TO GALVANIZED STEEL

Some or all steel components on a suspension may be galvanized. Occasionally **authorized** additions or repairs may require welding to galvanized coated steel. When this occurs, additional cautions and considerations are applicable, different from welding to plain steel.

⚠WARNING: According to OSHA - "Zinc is used in large quantities in the manufacture of brass, galvanized metals, and various other alloys. Inhalation of zinc oxide fumes can occur when welding or cutting on zinc-coated metals. Exposure to these fumes is known to cause metal fume fever. Symptoms of metal fume fever are very similar to those of common influenza. They include fever (rarely exceeding 102° F), chills, nausea, dryness of the throat, cough, fatigue, and general weakness and aching of the head and body. The victim may sweat profusely for a few hours, after which the body temperature begins to return to normal. The symptoms of metal fume fever have rarely, if ever, lasted beyond 24 hours."

⚠CAUTION: Appropriate PPE (Personal Protective Equipment) should be used while working with galvanize coatings, e.g. eye, face, hand, foot and respirator protection. Repairs on galvanized coatings should be conducted in accordance with ASTM A780M *Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings*.

⚠CAUTION: All safety precautions should be taken during all cleaning and repair stages.

1. **Remove** all galvanized coating in touch-up/repair location.
2. Thoroughly **clean** the area:
 - A. Using a clean cloth, hand-wipe surface to remove any residue from previous step.
 - B. The repair surface area shall be clean, dry and free of all contamination, e.g. oil, grease, pre-existing coating.

3. **Weld** required components according to ASTM A780M.
4. **Paint** cleaned and/or repaired areas using zinc rich primer that meets the requirements of ASTM A780 (97% zinc in dry film).
 - A. Before brushing or spray application, make sure paint is thoroughly stirred or shaken.
 - B. Allow paint to cure as per paint supplier's recommended practice.
5. **Measure** dry film thickness.

NOTE: The thickness of coating should be at least equal to the galvanized layer. Zinc rich primer will give a dull, flat appearance, different than a bright shiny galvanized layer. The performance of the paint is comparable to galvanized steel.

6. The primer needs to be top coated with a galvanizing **paint** meeting ASTM A780 specifications. This will provide protection and give similar appearance to galvanized steel.

[illegible]

Call your trailer dealer or Hendrickson at **866.RIDEAIR (743.3247)** for additional information.



www.hendrickson-intl.com

TRAILER COMMERCIAL VEHICLE SYSTEMS

2070 Industrial Place SE
Canton, OH 44707-2641 USA
866.RIDEAIR (743.3247)
330.489.0045 • Fax 800.696.4416

Hendrickson Canada

250 Chrysler Drive, Unit #3
Brampton, ON Canada L6S 6B6
800.668.5360
905.789.1030 • Fax 905.789.1033

Hendrickson Mexicana

Circuito El Marqués Sur #29
Parque Industrial El Marqués
Pob. El Colorado, Municipio El Marqués,
Querétaro, México C.P. 76246
+52 (442) 296.3600 • Fax +52 (442) 296.3601