WORK PROCEDURE

for distributors and service points

WP1120A

ADDRESSEES	:	ABC Customer Care and Parts Source
VEHICLE TYPE	:	TDX25US
CONFIGURATION GROUP	:	10.38 Body and body accessories - Body structure
DOCUMENT TYPE	:	**Fix-on-fail**
DATE	:	October 19th, 2020
SUBJECT	:	**To reinforce structure of trailing axle module**

INTRODUCTION:

This procedure has been released to assist in successfully reinforce the connection between the diagonals and horizontal tube in the trailing axle module (refer to figure 1).

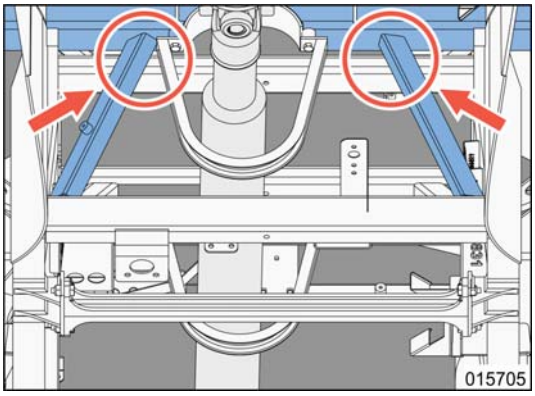

Figure 1: Location of affected frame work connection (accessible from underneath the vehicle)

PARTS:

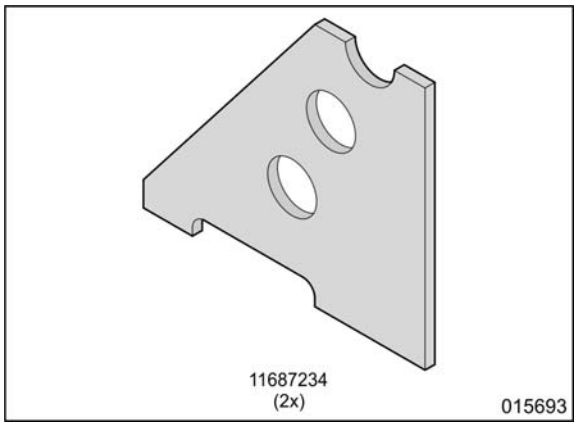

Figure 2

VH reference	Description	Qty*
11687234	Reinforcement bracket	2

* Quantity suited for one vehicle

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JOB QUALIFICATION:

The welding job should be executed by a qualified and experienced welder.

JOB TIME/JOB CODE:

5 hours/021120N

PREPARATIONS:

- Park the coach on a level-surfaced service pit.
- Apply the parking brake and shut down the traction system.
- Switch off all systems and turn off the battery master switch.
- Put a “DO NOT OPERATE” tag on the instrument panel.
- Remove necessary road wheels to gain access to affected areas.
- **Read the entire procedure before beginning to work.**

WARNING!

Observe safe shop practices at all times.

WELDING DATA:

Table: Welding data for stainless steel (according to AWS A 5.9-93 ER 309LSi)
• Welding wire section: 1.0 mm (0.039 inch) • Welding wire feed speed: 2.9-8.4 m/min (115-330 inch/min) • Current: 80-190 Amps • Welding gas: 88% Argon + 10% Helium + 2% CO2

SHOP PRACTICE AND SAFETY RULES:

Welding safety rules:

- The following information pertaining to welding should be read before beginning any such procedure. The prohibitions and requirements contained herein must be followed during such procedure.
- Welding must be done only by a qualified and experienced person. It is the responsibility of the welder to make sure that his/her personal safety equipment and the welding equipment he/she is using are in a condition that will not endanger his/her health and safety or the health and safety of others.
- Adequate ground contact and barriers must be positioned as required to protect components (wiring, air-lines, hydraulic lines, fuel lines etc.) from damage due to heat, contact by weld spatter, arcing or other potentially damaging events associated with welding.
- The following precautions must be taken to protect the vehicle’s electronic equipment:
  - Disconnect the 24V-system batteries (disconnect ground cable first, reconnect ground cable last).
  - Disconnect the wiring harness connectors from all electronic control units (ECU’s).
  - Disconnect the wiring harness connectors from all multiplex nodes.
  - For any other electronic equipment (radio, video, ICE…) refer to the OEM prescriptions.
  - Position the welding machine ground clamp as close as possible to the work and make sure the clamp makes perfect contact with the chassis frame.
  - Make certain the welder is properly grounded.
- Never look at the arc unless wearing a suitable helmet or face shield.

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- Wear protective clothing and gloves.
- Do not permit bystanders, unless they are wearing protective gear.
- Never weld while standing in water or on damp ground.
- Have adequate ventilation.
- Do not adjust machine settings while the machine is under load.
- Keep cables tight in the sockets.
- Do not touch hot metal.
- Do not allow the welding rod/wire to touch anything but the work.
- Make sure there is nothing flammable near the working area.
- Always have a fire extinguisher of the correct type available.

Grinding safety rules:

Grinders can be dangerous. When improperly used, they are responsible for many serious and lasting injuries to the eyes, hands, face and body. Therefore you must always observe the following safety rules:

- Always wear eye protection (safety goggles, face shield). Wear leather gloves.
- Adequate barriers must be positioned as required to protect components (glass, wiring, airlines, hydraulic lines, fuel lines, drive shaft etc.) from damage by grinding sparks.
- Before doing any grinding on the coach, thoroughly clean the affected area.
- Keep abrasive discs tight, clean and true.
- Allow grinder to reach full rpm before using.
- Do not put aside the grinder until the wheel has completely stopped revolving.
- Never strike a grinding wheel while revolving. It may shatter and explode.
- Do not grind in the presence of explosive vapors (gasoline, paint thinner, batteries…).
- Before installing a new grinding disc, disconnect the electric mains or air supply line.
- When installing a new disc make certain:
  It is designed for the rpm of the grinder.
  It has the correct size.
  It is properly fixed.
- Never remove the grinding disc guard.

Aftertreatment:

Coat the reinforcing parts and bare metal with primer + undercoating. Allow to dry.

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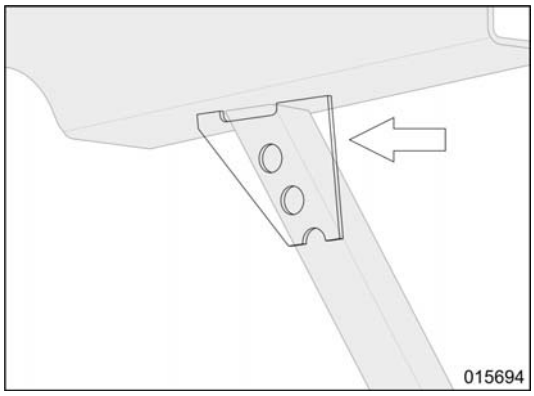
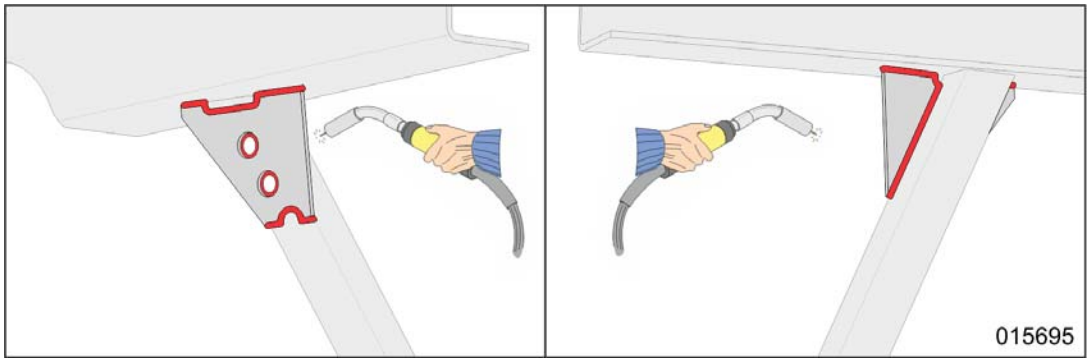
PROCEDURE:

1	Read the welding safety rules.
2	Using an angle grinder, remove all undercoating and paint to provide a proper surface for welding the reinforcements.
3	Position barriers to protect floor and other components from damage due to heat.
4	Trial fit the first reinforcement bracket 11687234.  **Figure 3**
5	Tack weld the reinforcement bracket in place.
6	Seam weld reinforcement bracket 11687234 as indicated in figure 4. Adapt the proper techniques to avoid distortion. Welds should be approximately 3/16 inch wide. *NOTE: Avoid convex fillet welds! Concave fillet welds are preferable because they create less tension in the weld toe.*  **Figure 4: Welding of reinforcement bracket (left: front view, right: rear view)**
7	Repeat steps 4 up to and including 6 for the second reinforcement bracket.
8	Allow welds to cool.
9	Coat the reinforcement brackets and the bare metal with black chassis paint. Allow to dry.
10	Finish coating the repair with undercoating. Allow to dry
11	Register through the registration button located behind Work Procedure WP1120 on the Van Hool customer portal. Write the text “WP1120 completed” in the field “Remark”.

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DISCLAIMER:

The procedures contained herein are not exclusive. Van Hool cannot possibly know, evaluate, or advise the transportation industry of all conceivable ways in which a procedure may be undertaken or of the possible consequences of each such procedure. Other procedures may be as good, or better, depending upon the particular circumstances involved.
Each carrier who uses the procedures herein must first satisfy itself thoroughly that neither the safety of its employees or agents, nor the safety or usefulness of any products, will be jeopardized by any procedure selected.

INFORMATION HANDLING:

Important supplements and modifications of technical information not yet included in the manual are communicated by means of Service Bulletins.

VAN HOOL CUSTOMER PORTAL:

Consult the Van Hool customer portal for the latest service documentation. Beside the maintenance manual, you will also find the operating manual and the spare parts catalogue of your
vehicle on the customer portal. The customer portal is accessible through www.vanhool.be, and only with a code (password) from Van Hool. If you do not have a password yet, request it by using the link on the Van Hool website.