

PREVOST

Instruction Sheet

IS-99092A

INSTALLATION GUIDE FOR A CERTIFIED 20000 LBS CAPACITY TRAILER COUPLING DEVICE

Revision A :

Information added concerning the positioning of engine cradle

MATERIAL

Use kit #410804 to modify XL-40, XLII-40 XL-45E and XLII-45E vehicles. This kit includes the following parts :

Part No.	Description	Qty
011629	Mechanical tubing 7/8 OD	2
012029P	Engine cradle	1
172536	Reinforcement bracket	2
172539	Reinforcement bracket	2
410778	Coupling device	1
5001051	Screw, cap, M16 x 160 G8.8 PT	2
5001150	Washer, flat, 17 x 30 x 3	18
500446	Washer, flat, 0.531 x 1.25 x 0.125	4
500776	Screw, cap, M16 x 110 G8.8	2
500781	Nut, hex, M16 x 2.0	16
500811	Nut, hex, M12 x 1.75	4
500818	Screw cap, M16 x 50 G8.8	6
502544	Screw cap, M16 x 40 G8.8	4
502545	Screw cap, M16 x 80 G8.8	2
502731	Screw cap, M12 x 40 G8.8	4
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Use kit #410805 to modify XL-45 and XLII-45 vehicles. This kit includes the following parts :

Part No.	Description	Qty
011629	Mechanical tubing 7/8 OD	2
012029P	Engine cradle	1
410778	Coupling device	1
5001051	Screw, cap, M16 x 160 G8.8 PT	2
5001150	Washer, flat, 17 x 30 x 3	18
500446	Washer, flat, 0.531 x 1.25 x 0.125	4
500781	Nut, hex, M16 x 2.0	16
500811	Nut, hex, M12 x 1.75	4
500818	Screw cap, M16 x 50 G8.8	8
502544	Screw cap, M16 x 40 G8.8	4
502545	Screw cap, M16 x 80 G8.8	2
502731	Screw cap, M12 x 40 G8.8	4
Is-99092	Instruction Sheet	1
Fi-99092	Feuille d'instructions	1

Use kit #410806 to modify H3-45 VIP vehicles. This kit includes the following parts :

Part No.	Description	Qty
011629	Mechanical tubing 7/8 OD	2
012029P	Engine cradle	1
172538	Reinforcement bracket	2
410778	Coupling device	1
5001051	Screw, cap, M16 x 160 G8.8 PT	2
5001150	Washer, flat, 17 x 30 x 3	18
500446	Washer, flat, 0.531 x 1.25 x 0.125	4
500781	Nut, hex, M16 x 2.0	16
500811	Nut, hex, M12 x 1.75	4
500818	Screw cap, M16 x 50 G8.8	8
502544	Screw cap, M16 x 40 G8.8	4
502545	Screw cap, M16 x 80 G8.8	2
502731	Screw cap, M12 x 40 G8.8	4
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PROCEDURE

Warning : Park vehicle safely, apply parking brake, stop engine and set battery master switch(es) to the OFF position prior to working on the vehicle.

1. Dismantle the rear bumper as explained in the Maintenance Manual, section 18 under paragraph "Rear Bumper Removal and Installation".
2. Partially drain the coolant system as explained in the Maintenance Manual, section 05, under "Draining Cooling System".
3. Remove the lower radiator coolant hose as well as the coolant system filter and elbow joint.
4. Detach anything connected to the engine cradle (hoses, wires, etc).
5. Detach the transmission oil cooler (if equipped) from its bracket and hang it from the turbocharger intake duct using a strap.
6. Remove the six engine cradle retaining bolts (see figure 1). Note the location of any shims between the cradle and the frame side rail, for reassembly.
7. Remove the 4 engine retaining bolts (refer to figure 1).
8. Raise the vehicle.
9. Install the special engine support (Detroit Diesel special tool) on the engine.
10. Remove the 8 bolts securing the engine rubber insulators (see figure 1).

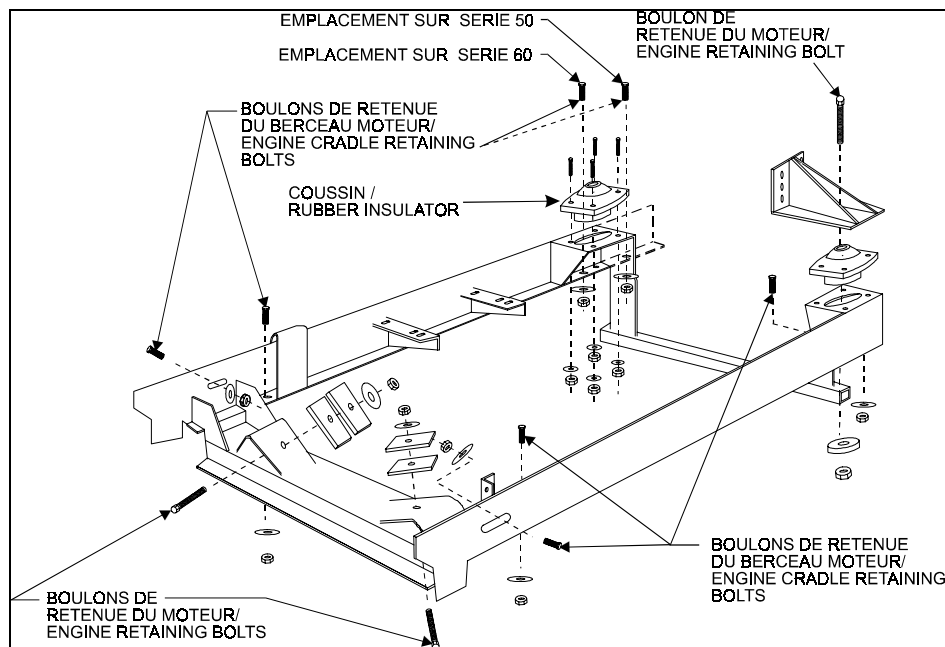


FIGURE 1: ENGINE CRADLE, ALL VEHICLES

11. Cut away the transverse rail on the cradle (located below the transmission).
12. Slowly lower the vehicle until the Detroit Diesel special engine support raises the engine about 3 inches (7 cm).
13. Slide the engine cradle out from under the engine.
14. Weld the reinforcement brackets to the frame (does not apply to XL-45 and XLII-45 vehicles). Grind to bare metal all surfaces to be welded. Follow the welding precautions described in the Maintenance Manual, section 1, under "Welding". For H3-45 VIP vehicles, refer to figure 4. For XL-40, XL-45E, XLII-40 et XLII-45E, weld the reinforcement bracket #172536 at the extremity of the engine cradle beds as per figures 2 & 3. Refer to figures 2 & 3 for the positioning of reinforcement bracket #172539.

For the same vehicles (XL-40, XL-45E, XLII-40 et XLII-45E), it is necessary to relocate the drilling in the vertical wall of the rear frame rails. To do so, fill the existing holes with welding and drill a 11/16" (17mm) diameter hole as per figure 2.

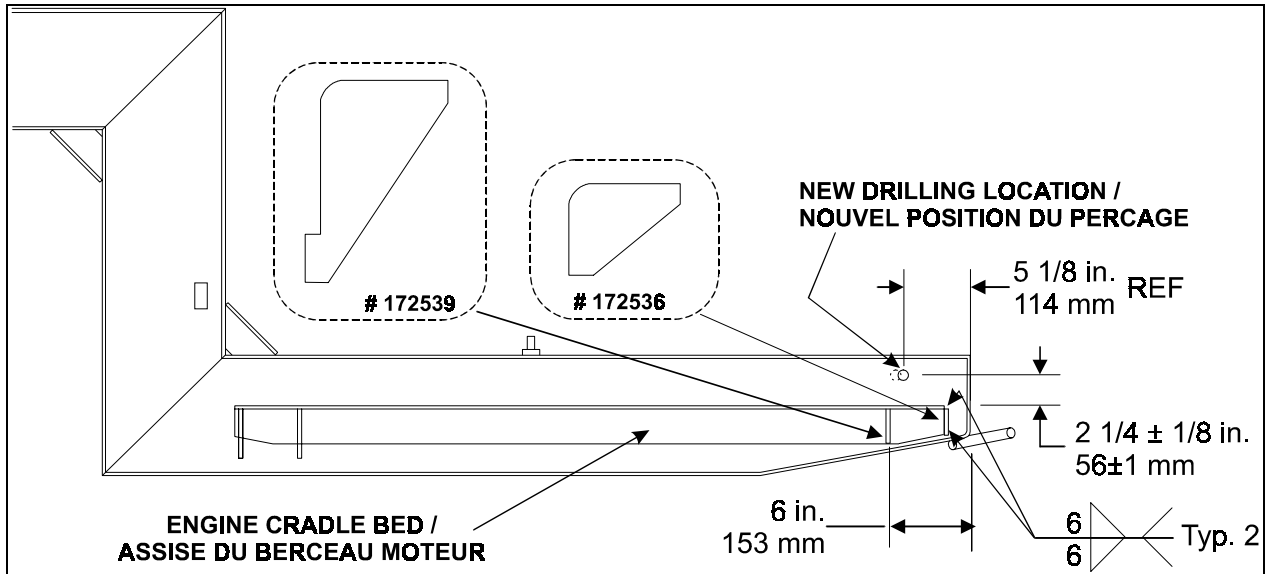


FIGURE 2 : WELDING REINFORCEMENT BRACKETS ON XL-40, XL-45E, XLII-40 AND XLII-45E ENGINE CRADLE BED (SAME FOR BOTH SIDES)

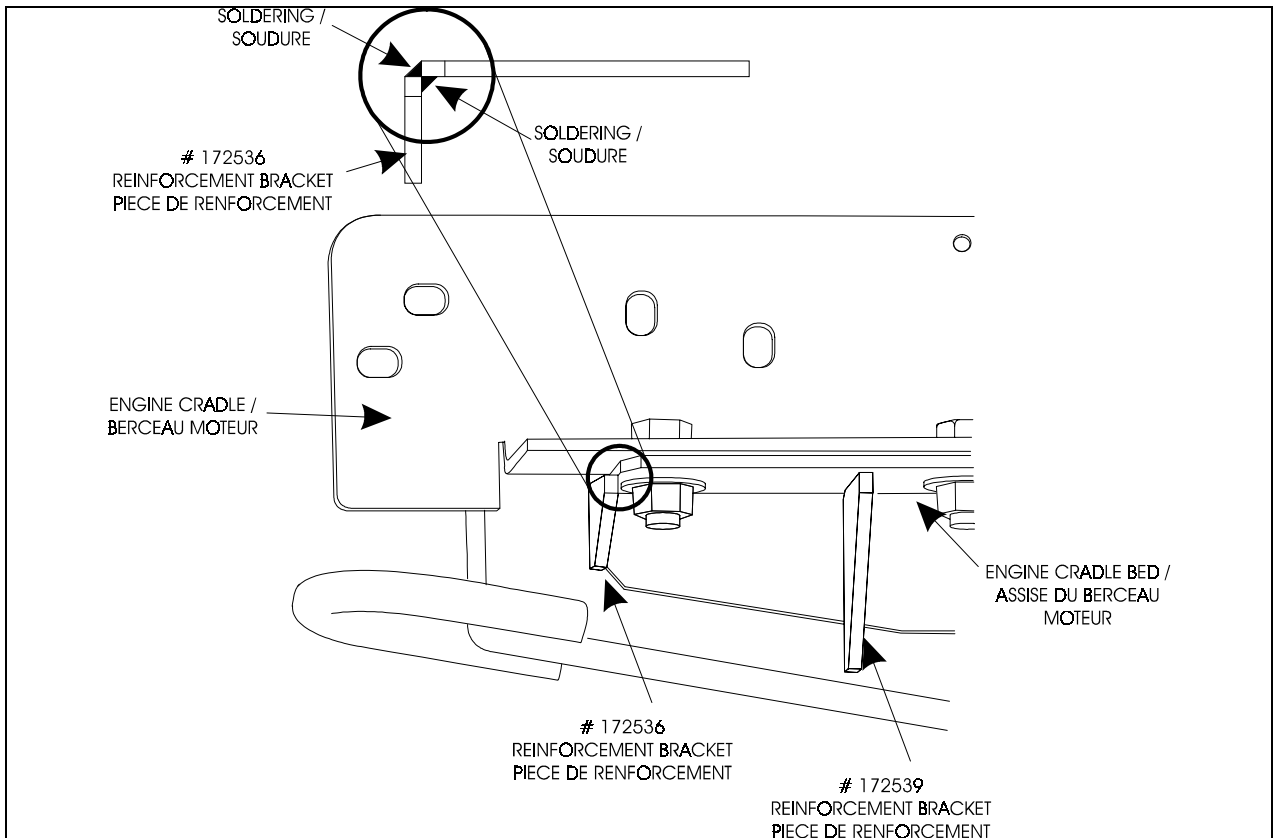


FIGURE 3 : ENGINE CRADLE, BED AND REINFORCEMENT BRACKET ON XL-40, XL-45E, XLII-40 AND XLII-45E

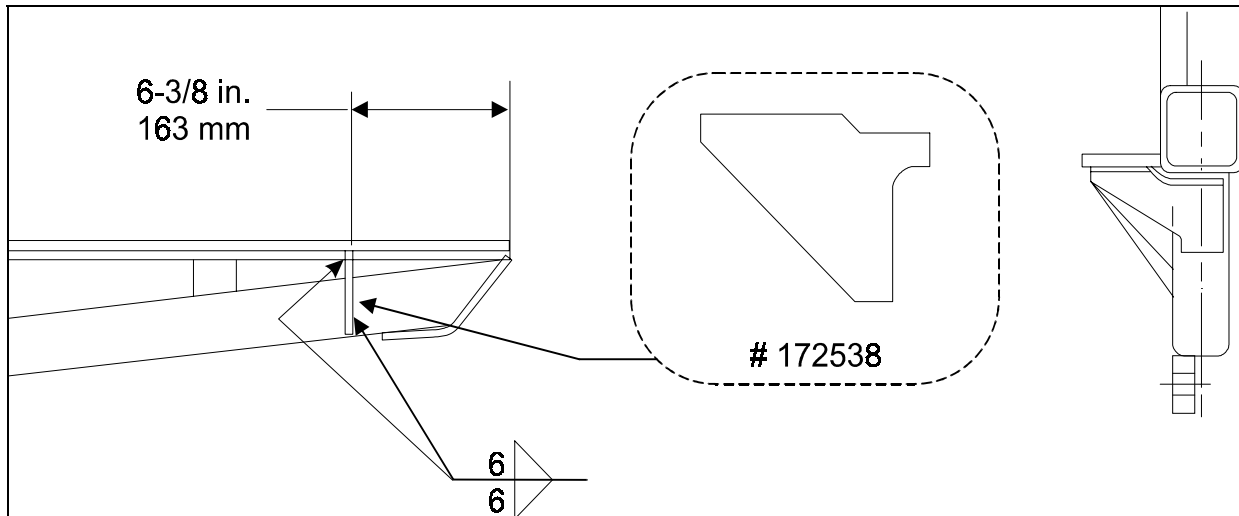


FIGURE 4 : WELDING OF REINFORCEMENT BRACKETS ON H3-45 VIP ENGINE CRADLE BED (SAME FOR BOTH SIDES)

15. Apply primer, paint and undercoating to all exposed metallic surfaces.
16. Slide in the new engine cradle and adjust using shims if necessary. In order to find the right positioning of the engine cradle, bolt in place using the horizontal bolts in first (see figure 6). Refer to figures 5, 6 & 7 for hardware identification and for the proper tightening torque. Some bolting holes on the engine cradle may not align with those in the engine cradle beds. In that case, drill holes in the beds, not the engine cradle.

Note: The location of the bolting holes on the engine cradle was engineered to provide the most strength.

17. Reinstall the engine onto the new cradle and bolt in place. Respect the tightening torque shown in figure 7. Remove the Detroit Diesel special engine support.

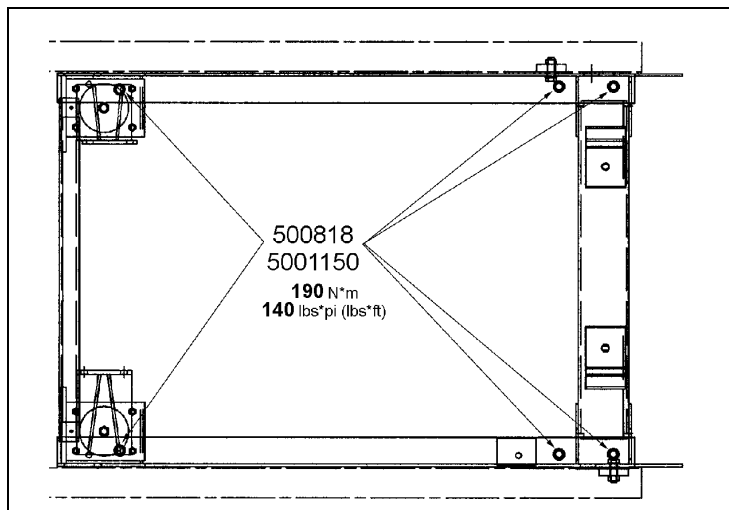


FIGURE 5 : ENGINE CRADLE VERTICAL BOLTS LOCATION

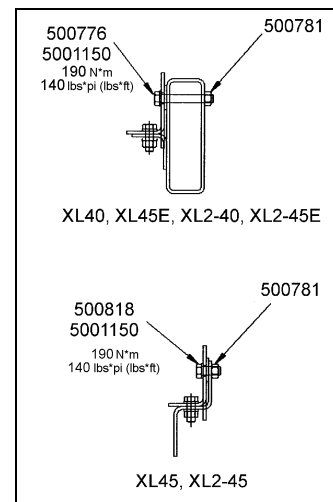


FIGURE 6 : ENGINE CRADLE HORIZONTAL BOLTS

18. Weld in place the transverse rail below the transmission.
19. Install the new coupling device. Refer to figure 8 for hardware identification and proper tightening torque.
20. Install the coolant hose and components. Fill the cooling system as explained in the Maintenance Manual, section 05 under "Filling Cooling System".

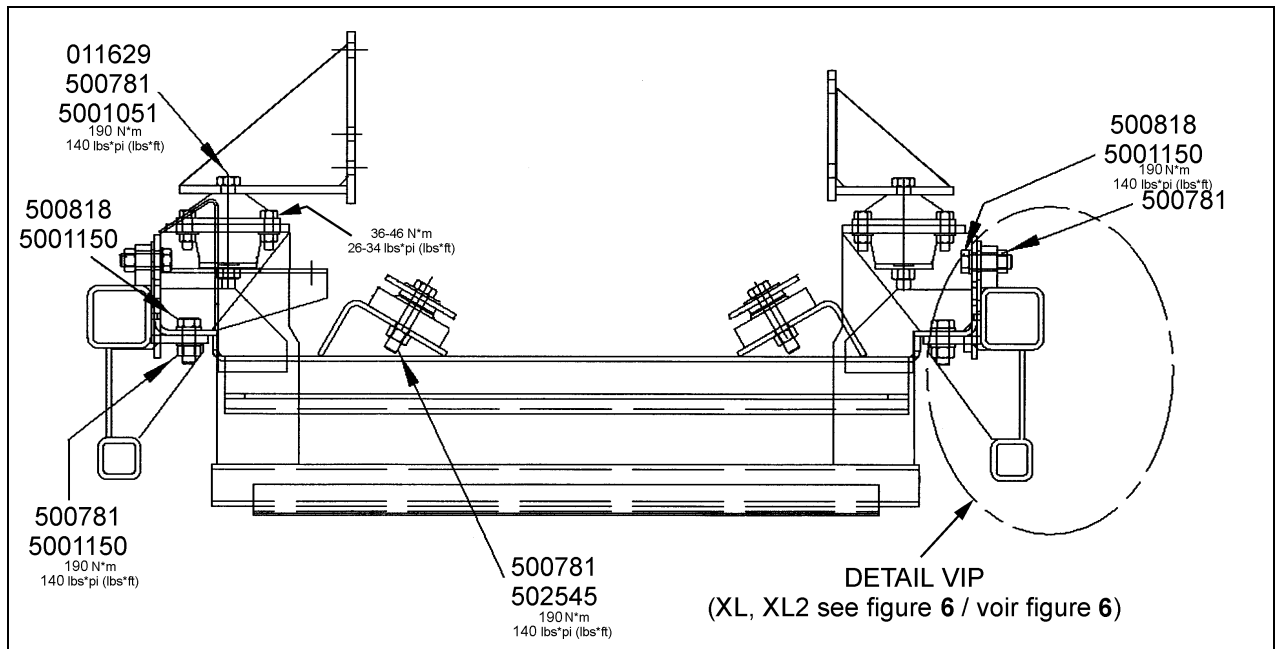


FIGURE 7 : ENGINE CRADLE HARDWARE AND TIGHTENING TORQUES

21. Install the compressor strap damper pulley;
22. Install the transmission oil cooler (if equipped);
23. Attach loose wires and hoses;
24. Proceed to the cutting of the rear bumper according to figures 9 & 10 before installing the rear bumper.

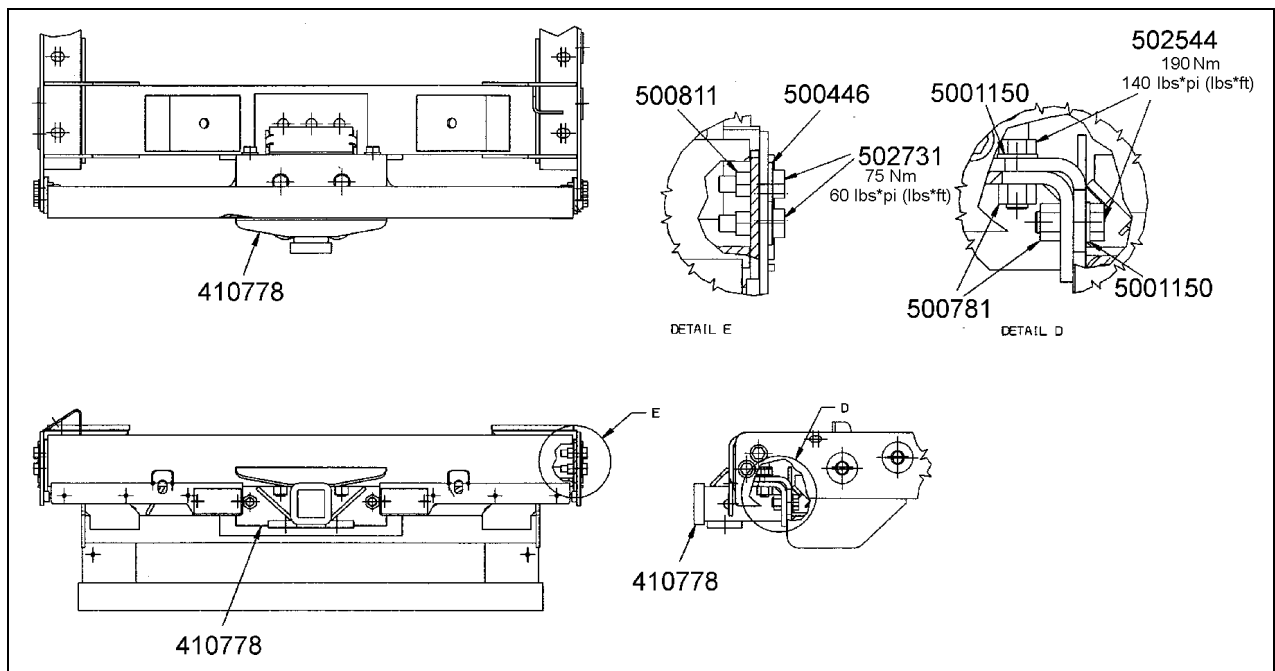


FIGURE 8 : TRAILER COUPLING DEVICE INSTALLATION

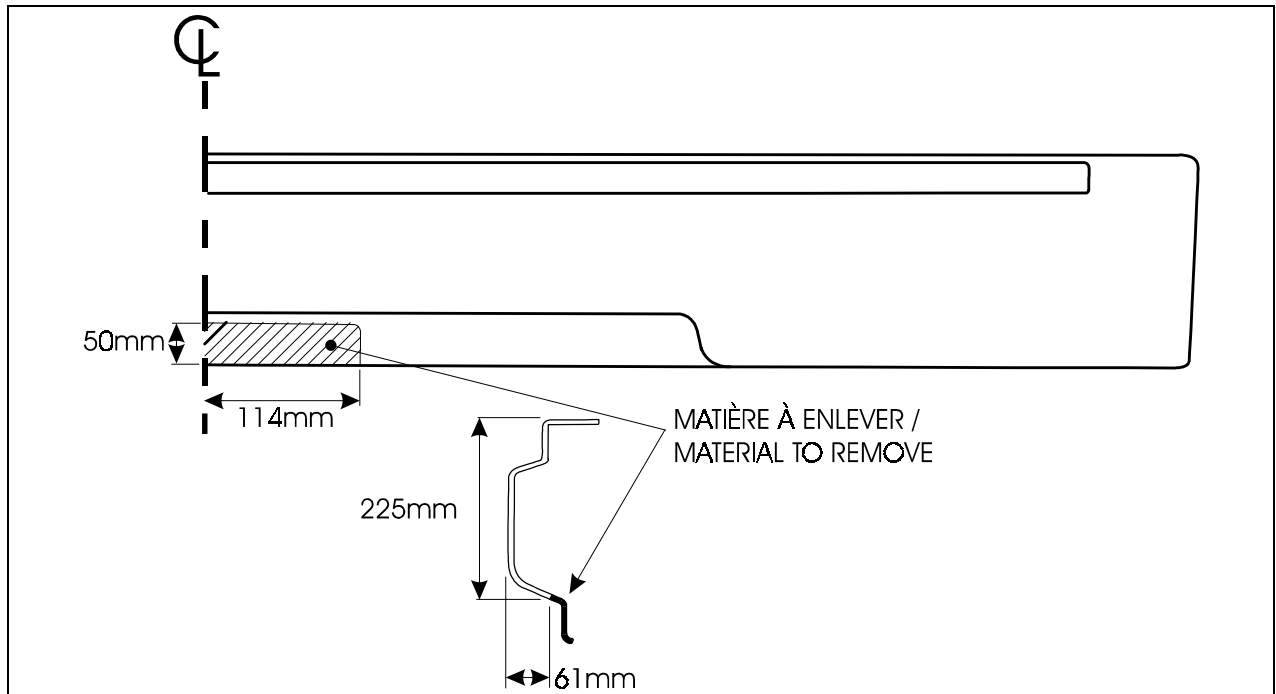


FIGURE 9 : CUTTING OF REAR BUMPER FOR VIP SERIES VEHICLES.

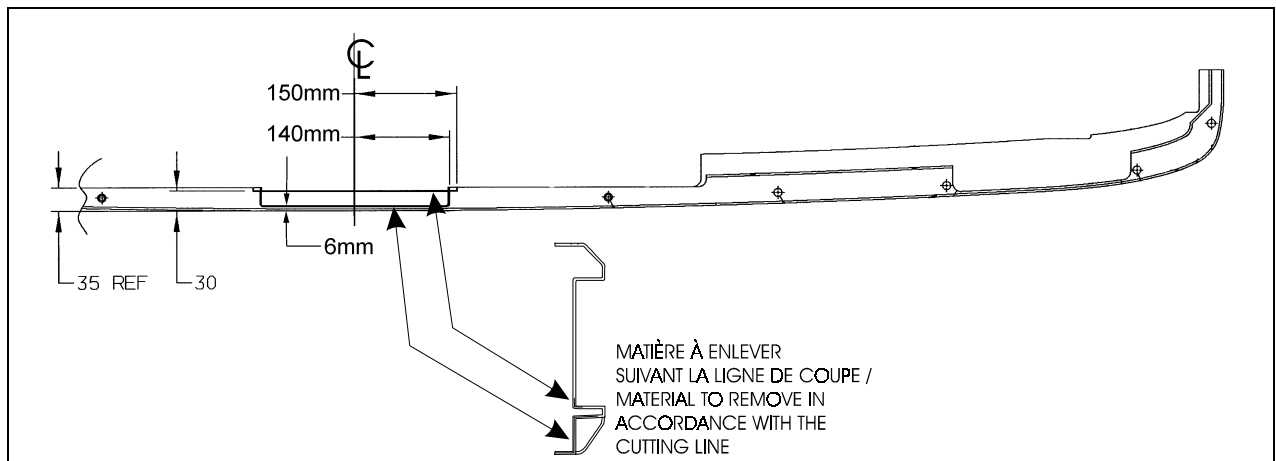


FIGURE 10 : CUTTING OF REAR BUMPER FOR XL2 SERIES VEHICLES. REPRESENTATION OF A LONGITUDINAL SECTION OF THE LOWER HALF OF THE BUMPER.