

## 1. Protective Bumper Frame Replacement




Prior to beginning ensure you have a clean and dry workspace. Lay out required tools from spares kit and have paper towels available. It is a good idea to have a container to keep fasteners in as they are removed. Read through the instructions fully prior to beginning and make sure you understand what they are asking you to do.




Tools Required	Time to complete	Level of Difficulty
<ul style="list-style-type: none"> <li>#2 Phillips Screwdriver</li> </ul>	<ul style="list-style-type: none"> <li>2 minutes</li> </ul>	<ul style="list-style-type: none"> <li>Easy</li> </ul>





**Prior to working on LBV make sure the power is off and the umbilical is DISCONNECTED.**





### Removal

	<p><b><u>Step 1</u></b></p> <p>Make sure all power is off and disconnected from the LBV vehicle.</p>
	<p><b><u>Step 2</u></b></p> <p>Remove 4 M6x10 Phillips pan head screws securing bumper frame to starboard side of LBV.</p>
	<p><b><u>Step 3</u></b></p> <p>Turn LBV around and remove the 4 M6x10 Phillips pan head screws securing bumper frame to port side of LBV.</p>

	<p><b><u>Step 4</u></b></p> <p>Pull bumper frame forward and lift front end clearing protective shell.</p>
	<p><b><u>Step 5</u></b></p> <p>With front end still raised slide bumper frame backwards.</p>
	<p><b><u>Step 6</u></b></p> <p>Remove bumper frame from LBV and set aside.</p>

## **Installation**

	<p><b><u>Step 1</u></b></p> <p>Set LBV on a flat surface right side up.</p>
	<p><b><u>Step 2</u></b></p> <p>Slide bumper frame from rear of vehicle forward with the front portion of the frame raised.</p>

	<p><b><u>Step 3</u></b></p> <p>Lower the bumper frame watching to not hit protective shell.</p>
	<p><b><u>Step 4</u></b></p> <p>Align mounting holes.</p>
	<p><b><u>Step 5</u></b></p> <p>Insert and tighten 4 M6x10 Phillips pan head screws securing bumper frame to port side of LBV.</p>
	<p><b><u>Step 6</u></b></p> <p>Turn LBV around and insert and tighten 4 M6x10 Phillips pan head screws securing bumper frame to starboard side of LBV.</p>