



N O S T R U M
HIGH PERFORMANCE



Focus RS HPFP Kit

PRODUCT PART SKU#: H086-1116

WARNING! PLEASE FOLLOW ALL WARNINGS AND INSTRUCTIONS FOUND IN YOUR VEHICLE OWNER'S MANUAL. THE FOLLOWING INSTRUCTIONS MUST BE READ AND FULLY UNDERSTOOD BEFORE BEGINNING INSTALLATION. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN VEHICLE DAMAGE, PERSONAL INJURY OR DEATH. IF THESE INSTRUCTIONS ARE NOT FULLY UNDERSTOOD,

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Required Tools:



1. 3/8" Drive Ratchet
2. 13mm Socket
3. 10mm Socket
4. 8mm Socket
5. 12mm Open End Wrench
6. 17mm Open End Wrench
7. 11/16" Open End Wrench
8. 11/16" Crowfoot
9. Rag
10. 5mm Hex Socket
11. 5mm Allen Wrench
12. Included Pump Alignment Tool
13. Torque Wrench
14. Flathead Screwdriver
15. 5/16" QC Disconnect Tool

Expendables:

1. Clean Engine Oil

1. Disconnect positive battery terminal.	
2. Remove engine cover by gently pulling up at each of the four corners.	
	Figure 1
3. Remove intake air temp sensor in intake tube near air box.	
	Figure 2
4. Disconnect nylon evaporation line wrapping over the intake tube.	
	Figure 3

<p>5. Unstrap the cold air intake tubes from the core support.</p>	
<p>6. Loosen rubber coupler connecting intake in the center of the engine using a socket or flat head screwdriver.</p>	<p>Figure 4</p> 
<p>7. Remove intake mounting nut 10mm and engine cover mount 12mm on left side of the engine.</p>	<p>Figure 5</p> 
	<p>Figure 6</p>

<p>8. Remove Intake mounting nut 10mm on the right side of the engine.</p>	
	<p>Figure 7</p>
<p>9. Remove airbox and right section of intake by lifting the airbox straight up. It is retained by rubber bushings that may require a little force to pop loose. Gently wiggle out the intake from the center rubber coupler. The entire intake and airbox assembly should come out of the car as one piece.</p>	
<p>10. Disconnect the high-pressure pump solenoid connector.</p>	
	<p>Figure 8</p>
<p>11. Remove the electrical connectors mounted to the crash bracket.</p> <p>NOTE: These are difficult to remove the first time. Wiggle the connector back and forth while pulling away from the crash bracket.</p>	

12. Remove the two crash bracket mounting bolts (10mm).



Figures 9a and 9b

13. Remove the crash bracket.

14. Loosen the high-pressure tube nuts, one at the pump and one at the fuel rail, using a 17mm wrench. Be sure to use a rag to catch any excess fuel.

NOTE: The fuel in the pump might be under high pressure and may shoot out when the tube nut at the pump is loosened.

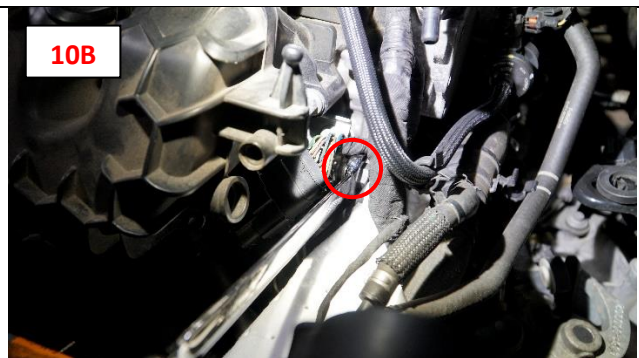





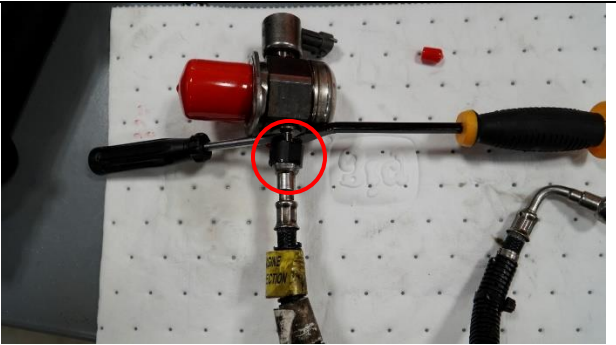
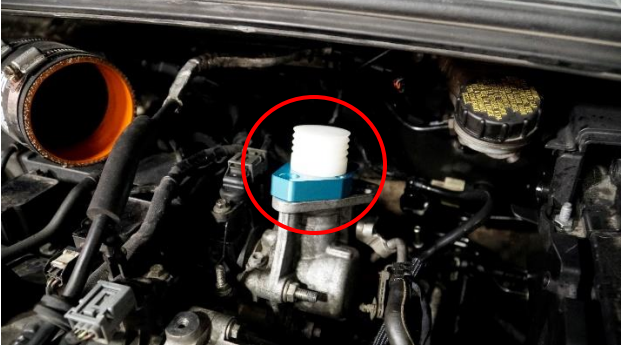







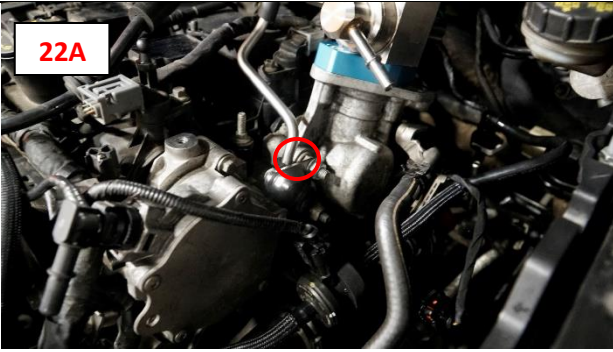
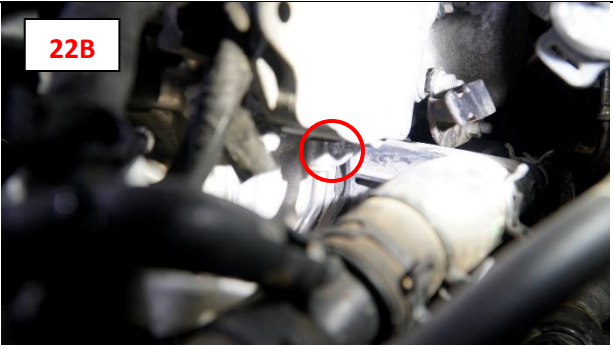
Figure 10a and 10b


<p>15. Remove the evaporation hose from bracket for clearance to the lower high pressure tube bracket. Pulling up and toward the headlights of the car will pop the top of the rubber over the bracket. Once this has been done the part will slide off easily.</p>	
	<p>Figure 11</p>
<p>16. Remove the upper (13mm) and lower (8mm) brackets holding on high-pressure tube to the cylinder head.</p> <p>NOTE: The lower bracket is located under the vacuum pump and is very difficult to see. You can find the bracket by tracing the high-pressure line with your fingers.</p>	<div data-bbox="839 634 1458 972"> <p>12A</p>  </div> <div data-bbox="839 993 1458 1339"> <p>12B</p>  </div>
	<p>Figure 12a and 12b</p>
<p>17. Remove the high-pressure tube by gently rotating it while pulling up on pump side. The tube will come out without excessive force. Do not attempt to force the tube as this may bend it or break components surrounding it.</p>	

<p>18. Disconnect the low-pressure feed line from the main low-pressure line using a 5/16" quick connect disconnect tool.</p>	
	<p>Figure 13</p>
<p>19. Remove the two 8mm high-pressure pump mounting bolts by alternating between each bolt so that the pump comes out as straight as possible. (Only one bolt is pictured. The other is on the opposite side of the pump)</p>	
	<p>Figure 14</p>
<p>20. Remove the pump and low-pressure line from the car.</p>	
<p>21. Disconnect the low-pressure feed line from the high-pressure fuel pump by pushing the black plastic piece evenly back onto the low-pressure line using two flathead screwdrivers and pulling the low-pressure line away from the pump.</p>	
	<p>Figure 15</p>
<p>22. Apply a small amount of engine oil to the seal on the Nostrum HP fuel Pump flange.</p>	

<p>23. Use the included pump alignment tool to center the pump flange onto the stock pump mounting flange.</p>	
	<p>Figure 16</p>
<p>24. Install the two M6 x 16mm (short) bolts included in the kit using a 5mm hex socket and a hand ratchet.</p> <p>NOTE: Snug the bolts but do not tighten and make sure you are still able to rotate the pump alignment tool when both bolts are snug. This ensures that the flange is aligned properly.</p>	
	<p>Figure 17</p>
<p>25. Torque the M6 x 16mm (short) bolts to 17Nm. Ensure the installation tool still rotates then remove the pump alignment tool.</p>	
<p>26. Lubricate the seal on the HP pump just above the spring with clean engine oil.</p>	
<p>27. Place the pump on the flange with the low-pressure fitting pointing toward the front of the car.</p>	
	<p>Figure 18</p>

<p>28. Use the two M6 x 50mm (long) bolts included in the kit to attach the pump to the flange using an Alan wrench. Snug the bolts but do not tighten.</p> <p>NOTE: Depending on the orientation of the camshaft, the bolts to attach the pump may not reach the holes in the flange. If this happens put the car into first gear and push it forward about a foot. This will rotate the camshaft enough to drop the pump closer to the flange.</p>	
	<p>Figure 19</p>
<p>29. Torque the M6 x 50mm (long) bolts to 20Nm using a torque wrench.</p>	
<p>30. Fish the tube through the gap between the HP fuel pump flange and the vacuum pump.</p> <p>NOTE: The tube will fit in this gap with gentle rotation. Do NOT attempt to force the tube if it gets stuck as this could bend the tube or damage coolant lines.</p>	
<p>31. Line up the tube mounting bracket over the stud on the cam box.</p>	
	<p>Figure 20</p>

<p>32. Line up the HP tube with the fittings on the pump and the fuel rail making sure the connections are concentric. Tighten the tube nuts hand tight. This should not require excessive effort. If the tube nut does not easily tighten the HP tube is misaligned and could leak.</p>	
	<p>Figure 21</p>
<p>33. Use the stock 8mm bolt and 13mm nut to attach the tube mounting brackets to the cylinder head and torque to 10Nm.</p>	<div data-bbox="841 617 1450 966">  </div> <div data-bbox="841 989 1450 1337">  </div>
	<p>Figure 22a and 22b</p>
<p>34. Torque the tube nuts to 20Nm using a 11/16" crowfoot wrench.</p>	

<p>35. Reinstall the low-pressure feed line in the car in the same orientation it was removed. The 90-degree fitting should be connected to the stock low-pressure feed line and the straight fitting should be connected to the pump.</p>	
	<p><i>Figure 23</i></p>
<p>36. Attach the low-pressure line to the high-pressure fuel pump.</p>	
<p>37. Reinstall the intake following steps 3-8 in reverse.</p> <p>NOTE: When reinstalling the intake make sure the rubber spacer supplied with the high-pressure tube contacts the intake. If the rubber spacer is not present the high-pressure line could cause severe damage to both the stock and aftermarket intakes.</p>	

Hardware installation is complete.**First Start-Up**

1. Be sure to remove all installation tools and loose items from the engine compartment. Follow good, safe practices when working on your vehicle. Be sure to reassemble all parts and components according to your OE maintenance manual.
2. Key cycle the vehicle into the "Accessory On" position (do not go to Ignition position). The low-pressure fuel pump will activate and the low-pressure side of the pump will pressurize. Check the high-pressure fuel pump and the low-pressure side for leaks. If ok, proceed to step 3.
3. Key cycle to ignition and let the car attempt several start cycles. Remember that the fuel lines, pump and part of the fuel rail are filled with air, therefore this step is necessary to evacuate that air and get the system charged. If it starts, OK. If it does not, key off the vehicle. Check the high-pressure lines to the fuel rail, to the pump and the pump itself for leaks. If OK, proceed to step 4.
4. Key cycle one more time all the way to ignition. Engine should start-up and idle. If not, proceed with steps 2-4 again.
5. Let the car idle for a few minutes. Check for leaks on low and high-pressure portions again.
6. Installation is complete! **Time for a Tune!!**

NOTE: a fault code may appear at the first key cycle due to the long ignition time or the low pressure in the fuel rail, both due to the air in the fuel system.

This code should self-clear after the OEM defined quantity of key cycles.

NOTE: After driving the car and letting it cool, next day, check for fuel leaks again (from thermal expansion and contraction). Retighten fittings if needed.

For additional technical & software support please contact:

Email: support@nostrumshop.com

Phone: 734-548-8677 (during normal business hours)

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