



# TECHNICAL BULLETIN APTB-03/08 R1

## 6.0L Engine Stand Pipe and Snubber Valve Assemblies

**Stand Pipes** – The connection between the high pressure oil branch pipe and the high pressure oil rail for each cylinder head is provided by a stand pipe. The table below lists part numbers and details, including o-ring seal part numbers and quantities (large, medium, and small diameter seal references – relative to each other – are included for visual identification), for the three stand pipe configurations used in 6.0L engines (the stand pipe used in 2003 ¼ models is normally left in place, therefore no seals are listed):

Stand Pipe Assembly			
Model Year	2003 ¼	2004 ¼	2005 ¼ – 2006 ¼
Ford Part Number	3C3Z-9A332-AA	NLA, use 5C3Z-9A332-A	5C3Z-9A332-A
Configuration	One piece	Two piece — stand pipe and rear supply port plug	One piece assembly sealed with internal o-ring — stand pipe and rear supply port plug
Snubber Valve Location	Fitting in rail inlet	Stand pipe	Rear supply port plug
Seal Part Numbers and Quantity (new stand pipes come equipped with seals)			
• W301386 (Large ø)	N/A	1	1
• W301390 (Medium ø)	N/A	1	1
• W302209 (Small ø)	N/A	1	2
			

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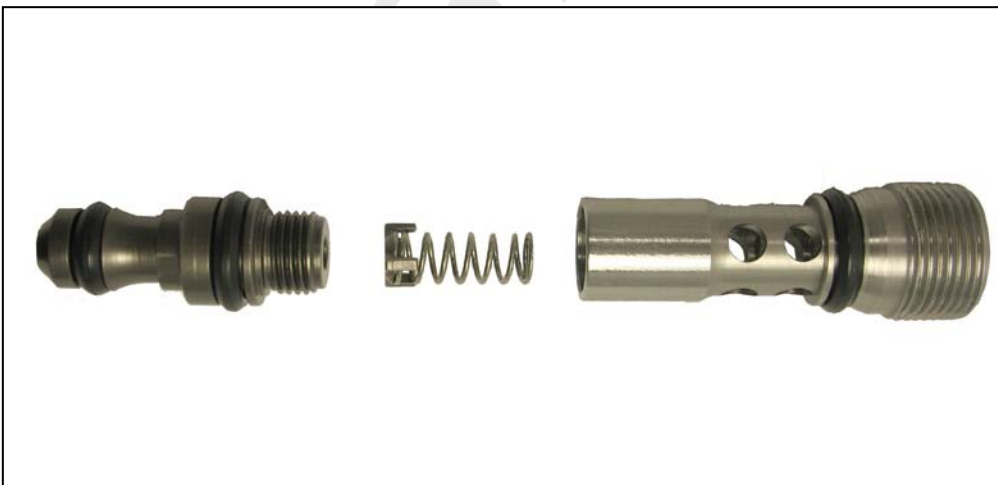
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**Front Port Plugs** – While we're on the subject of stand pipes and related parts, although it's usually not necessary to remove the front port plug from 2004 ¼ through 2006 ¼ rails, the plug part number and its seals are listed below:

Front Port Plug	
Model Year	2004 ¼ - 2006 ¼
Ford Part Number	W302195
Seal Part Numbers and Quantity (new plugs come equipped with seals)	
• W301386 (Large ø)	1
• W301390 (Medium ø)	1
	

**Snubber Valves** - All three stand pipe configurations use a snubber valve in the high pressure oil circuit to limit high pressure disturbance or feedback from the injector (in Ford literature, these valves are described as check valves, but since they allow high pressure oil to flow unimpeded in one direction, and force the oil to flow through an orifice in the other direction, in fuel injection terms, they're snubbers). As shown in the photo below of the valve in a 2005 ¼ – 2006 ¼ rear supply port plug (part of 5C3Z-9A332-A stand pipe/valve assembly), the assembly includes a spring, along with a powder metal snubber plate with three integral tabs to guide the plate in its bore and limit its travel.



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**Snubber Valve Failure** – We've found pieces of broken off snubber valve tabs (attached to a magnet in the photo below) in the high pressure oil inlet area of 6.0L injectors, which resulted in misfire complaints. After finding at least one broken tab, you need to determine if any other tabs are broken, and if they are, that they're all accounted for. We suggest that you disassemble the valves from both cylinder heads to determine how many tabs are broken off. If all tabs are not found in the injector(s), it is suggested that you remove the rail end plugs and flush the rail to locate them.  
Note: to replace valves on 2004 ¼ – 2006 ¼ models, you will need to buy the complete stand pipe/valve assembly: 5C3Z-9A332-A.



**Snubber Valve Malfunction** – Debris in the snubber valve area can also lead to a driveability complaint. The non-ferrous piece shown in the photo below (it appears to be a plastic fragment of the frame of the IPR valve screen or the high pressure oil reservoir filter) was found in the snubber valve assembly of an engine that was being diagnosed for a flutter/vibration complaint on one bank. The position of the debris, wedged between the snubber plate and its bore, had no effect on the flow of high pressure oil inlet into the rail, but prevented, or reduced, the snubber effect of the valve when ICP was reduced. Although no codes were present to lead the technician directly to this malfunction, in hindsight, we suspect that IPR duty cycle would show high variation at constant RPM.



R1: Corrected stand pipe and front plug seal part numbers (large  $\varnothing$  and medium  $\varnothing$  seal part numbers were reversed)

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