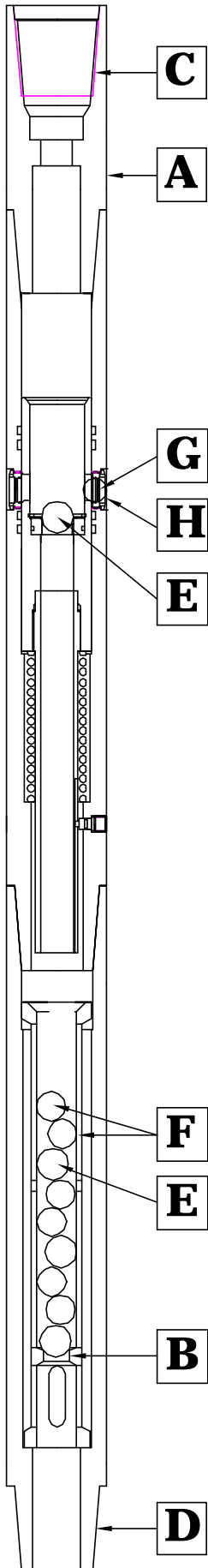


**1 11/16" PBL BALL LOCK BYPASS SYSTEM  
TECHNICAL SHEET**



<b>SERIAL #</b>	_____	*NOR169BP001
<b>A-TOOL O.D.</b>	_____	1.69"
<b>B-TOOL I.D. (DRIFT)</b>	_____	5/16"
<b>FLOW AREA THROUGH TOOL</b>	_____	0.13 sq/in
<b>C-BOX CONNECTION</b>	_____	1.00 AMMT
<b>D-PIN CONNECTION</b>	_____	1.00 AMMT
<b>E-ACTIVATION BALL/# TO ACTIVATE:</b>	_____	<b>1</b>
<b>DIAMETER</b>	_____	13/32"
<b>MATERIAL</b>	_____	<b>Torlon</b>
<b>SHEARING PRESSURE</b>	_____	3400 PSI
<b>F-DEACTIVATION BALL/# TO DEACT.:</b>	_____	<b>2</b>
<b>DIAMETER</b>	_____	3/8"
<b>MATERIAL</b>	_____	<b>Steel</b>
<b>G-LOCKING BALL/# TO LOCK OPEN:</b>	_____	<b>1</b>
<b>DIAMETER</b>	_____	5/16"
<b>MATERIAL</b>	_____	<b>Torlon</b>
<b>SHEARING PRESSURE</b>	_____	2300 PSI
<b>H-SIZE OF PORT</b>	_____	<b>0.31"</b>
<b>NUMBER OF PORTS</b>	_____	<b>2</b>
<b>TFA WHEN TOOL IS OPEN</b>	_____	<b>0.14 sq/in</b>
<b>NUMBER OF CYCLES</b>	_____	8
<b>OVERALL LENGTH</b>	_____	3 ft
<b>WEIGHT</b>	_____	20 lbs
<b>TENSILE STRENGTH</b>	_____	100,000 lbs
<b>TORSIONAL STRENGTH</b>	_____	3,425 ft/lbs
<b>MAKE UP TORQUE</b>	_____	400 ft/lbs

**NOTES:**

**NO DRIFT WHEN BALLS ARE IN TOOL.**

**\* Tool is rated to operate in temp. up to 420 degrees Fahrenheit.**

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**PRELIMINARY 09/01/2011**

