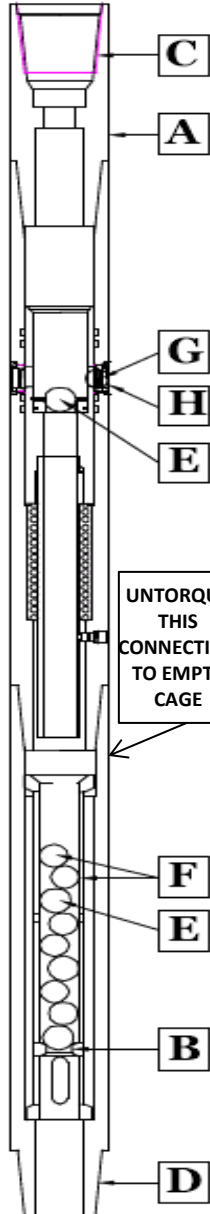




1 11/16" O.D.
3 PORT

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



- SERIAL #
- A - TOOL O.D.
- B - TOOL I.D.
- FLOW AREA THROUGH TOOL (E)
- C - BOX CONNECTION
- D - PIN CONNECTION
- E - ACTIVATION BALL/# TO ACTIVATE
- DIAMETER / MATERIAL
- SHEARING PRESSURE
- F - DEACTIVATION BALL/# TO DEACT.
- DIAMETER / MATERIAL
- G - LOCKING BALL/# TO LOCK OPEN
- DIAMETER / MATERIAL
- SHEARING PRESSURE
- H - SIZE OF PORT
- NUMBER OF PORTS
- TFA WHEN TOOL IS OPEN
- NUMBER OF CYCLES
- OVERALL LENGTH
- WEIGHT
- TENSILE STRENGTH MAIN BODY
- TENSILE STRENGTH CONNECTION
- TORSIONAL STRENGTH MAIN BODY
- TORSIONAL STRENGTH CONNECTION
- MAKE UP TORQUE

SERIAL #	
A - TOOL O.D.	1.69"
B - TOOL I.D.	5/16"
FLOW AREA THROUGH TOOL (E)	0.13 SQ.IN.
C - BOX CONNECTION	1.00 AMMT
D - PIN CONNECTION	1.00 AMMT
E - ACTIVATION BALL/# TO ACTIVATE	1
DIAMETER / MATERIAL	13/32" / Torlon
SHEARING PRESSURE	
F - DEACTIVATION BALL/# TO DEACT.	3
DIAMETER / MATERIAL	3/8" / Steel
G - LOCKING BALL/# TO LOCK OPEN	1
DIAMETER / MATERIAL	5/16" / Torlon
SHEARING PRESSURE	
H - SIZE OF PORT	0.31"
NUMBER OF PORTS	3
TFA WHEN TOOL IS OPEN	0.22 SQ.IN.
NUMBER OF CYCLES	6
OVERALL LENGTH	3 FT
WEIGHT	20 LBS
TENSILE STRENGTH MAIN BODY	100,000 LBS
TENSILE STRENGTH CONNECTION	TBD
TORSIONAL STRENGTH MAIN BODY	3,425 FT/LBS
TORSIONAL STRENGTH CONNECTION	TBD
MAKE UP TORQUE	400 FT/LBS

NOTES

- * **NO THRU DRIFT WHEN BALLS ARE IN TOOL**
- * Tool is rated to operate in temp up to 420 degrees F
- * Internal Connection Make Up Torque = 400 FT/LBS

Maximum Flow Rate after Activation is 1.5 BPM

COMPLETED BY _____

DATE _____

169TP-2014

Preliminary