



# WIRELINER PRODUCT CATALOG



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## NOTES

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## SECTION A: LOCKS

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# LOCKS AND LANDING NIPPLE SPECIFICATIONS

B & T R / RN LANDING NIPPLES AND LOCKS																
TUBING								USED FOR HEAVY TUBING WEIGHTS						LOCK MAN- DREL ID		
SIZE		WEIGHT		ID		DRIFT		R PROFILE		RN PROFILE		NO-GO ID				
in	mm	lb/ft	kg/m	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	
1.660	42.16	3.02	4.50	1.278	32.46	1.184	30.07	1.125	28.58	1.125	28.58	1.012	25.70			
1.900	48.26	3.64	5.42	1.500	38.10	1.406	35.71	1.375	34.93	1.375	34.93	1.250	31.75	0.62	15.75	
2.375	60.33	5.30	7.89	1.939	49.25	1.845	46.86	1.781	45.24	1.781	45.24	1.640	41.66	0.88	22.35	
		5.95	8.86	1.867	47.42	1.773	45.03									
		6.20	9.23	1.853	47.07	1.759	44.68	1.710	43.43	1.710	43.43	1.560	39.62	0.75	19.05	
		7.70	11.47	1.703	43.26	1.609	40.87	1.500	38.10	1.500	38.10	1.345	34.16	0.62	15.75	
2.875	73.03	7.90	11.77	2.323	59.00	2.229	56.62	2.188	55.58	2.188	55.58	2.010	51.05	1.12	28.45	
		8.70	12.96	2.259	57.38	2.165	54.99									
		8.90	13.26	2.243	56.97	2.149	54.58	2.125	53.98	2.125	53.98	1.937	49.20			
		9.50	14.15	2.196	55.75	2.101	53.37									
		10.40	15.49	2.151	54.64	2.057	52.25	2.000	50.80	2.000	50.80	1.881	47.78	0.88	22.35	
		11.00	16.38	2.065	52.45	1.971	50.06									
11.65	17.35	1.995	50.67	1.901	48.29	1.875	47.63	1.875	47.63	1.716	43.59					
3.500	89.90	12.95	19.29	2.750	69.85	2.625	66.68	2.562	65.07	2.562	65.07	2.329	59.16	1.38	35.05	
		15.80	23.53	2.548	64.72	2.423	61.54	2.313	58.75	2.313	58.75	2.131	54.13	1.12	28.45	
		16.70	24.87	2.480	62.99	2.355	59.82									
		17.05	25.40	2.440	61.98	2.315	58.80	2.188	55.58	2.188	55.58	2.010	51.05			
4.000	101.60	11.60	17.28	3.428	87.07	3.303	83.90	3.250	82.55	3.250	82.55	3.088	78.44	1.94	49.28	
		13.40	19.96	3.340	84.84	3.215	81.66	3.125	79.38	3.125	79.38	2.907	73.84			
4.500	114.30	12.75	18.99	3.958	100.53	3.833	97.36	3.813	96.85	3.813	96.85	3.725	94.62	2.12	53.85	
		13.50	20.11	3.920	99.57	3.795	96.39									
		15.50	23.09	3.826	97.18	3.701	94.01	3.688	93.68	3.688	93.68	3.456	87.78	2.38	60.45	
		16.90	24.17	3.754	95.35	3.629	92.18									
		19.20	28.60	3.640	92.46	3.515	89.28	3.437	87.30	3.437	87.30	3.260	82.80	1.94	49.28	
5.000	127.00	15.00	22.34	4.408	111.96	4.283	108.79	4.125	104.78	4.125	104.78	3.913	99.39	2.75	69.85	
		18.00	26.81	4.276	108.61	4.151	105.44	4.000	101.60	4.000	101.60	3.748	95.20	2.38	60.45	
5.500	139.70	17.00	25.32	4.892	124.26	4.767	121.08									
		20.00	29.79	4.778	121.36	4.653	118.19	4.562	115.87	4.562	115.87	4.455	113.16	2.85	72.39	
		23.00	34.26	4.670	118.62	4.545	115.44	4.313	109.55	4.313	109.55	3.987	101.27	2.62	66.55	
6.000	152.40	15.00	22.34	5.524	140.31	5.399	137.13									
		18.00	26.81	5.424	137.77	5.299	134.59	5.250	133.35	5.250	133.35	5.020	127.51	3.50	88.90	
6.625	168.28	24.00	35.75	5.921	150.39	5.796	147.22									
		28.00	41.71	5.791	147.09	5.666	143.92	5.625	142.88	5.625	142.88	5.500	139.70	3.50	88.90	
7.000	177.80	17.00	25.32	6.538	166.07	6.431	163.35									
		20.00	29.79	6.456	163.98	6.331	160.81									
		23.00	34.26	6.366	161.70	6.241	158.52	5.962	151.43	5.962	151.43					
		26.00	38.73	6.276	159.41	6.151	156.24					5.750	146.05	3.75	95.25	
		29.00	43.20	6.184	157.07	6.059	153.90									
		32.00	47.66	6.094	154.79	6.969	177.01									
35.00	52.13	6.004	152.50	5.879	149.33	5.875	149.23	5.875	149.23							
8.625	219.08	36.00	53.62	7.825	198.76	7.700	195.58	7.450	189.23	7.450	189.23	7.325	186.06			
								7.250	184.15	7.250	184.15	7.125	180.98	5.250	133.35	
								7.050	179.07	7.050	179.07	6.925	175.90			

All Specification Tables contain approximated dimensions and should be used for reference only.



# LOCKS AND LANDING NIPPLE SPECIFICATIONS

B & T X / XN LANDING NIPPLES AND LOCKS															
TUBING								USED FOR STANDARD TUBING WEIGHTS						LOCK MAN- DREL ID	
								X PROFILE		XN PROFILE					
SIZE		WEIGHT		ID		DRIFT		SEAL BORE		SEAL BORE		NO-GO ID		LOCK MAN- DREL ID	
in	mm	lb/ft	kg/m	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
1.050	26.67	1.20	1.79	0.824	20.93	0.730	18.54								
1.315	33.40	1.80	2.68	1.049	26.64	0.955	24.26								
1.660	42.16	2.30	3.43	1.380	35.05	1.286	32.66	1.250	31.75	1.250	31.75	1.135	28.83	0.62	15.75
		2.40	3.57												
1.900	48.26	2.40	3.57	1.660	42.16	1.516	38.51	1.500	38.10	1.500	38.10	1.448	36.78	0.75	19.05
		2.76	4.11	1.610	40.89										
		2.90	4.32												
2.063	52.40	3.25	4.84	1.751	44.48	1.657	42.09	1.625	41.28	1.625	41.28	1.536	39.01	0.75	19.05
2.375	60.33	4.60	6.85	1.995	50.67	1.901	48.29	1.875	47.63	1.875	47.63	1.791	45.49	1.00	25.40
		4.70	7.00												
2.875	73.03	6.40	9.53	2.441	62.00	2.347	59.61	2.313	58.75	2.313	58.75	2.205	56.01	1.38	35.05
		6.50	9.68												
3.500	88.90	9.30	13.85	2.992	76.00	2.867	72.82	2.813	71.45	2.813	71.45	2.666	67.72	1.75	44.45
		10.30	15.34	2.992	74.22	2.797	71.04	2.750	69.85	2.750	69.85	2.635	66.93	1.75	44.45
4.000	101.60	11.00	16.38	3.476	89.29	3.351	85.12	3.313	84.15	3.313	84.15	3.135	79.63	2.12	53.85
4.500	114.30	12.75	18.99	3.958	100.53	3.833	97.36	3.813	96.85	3.813	96.85	3.725	94.62	2.62	66.55
5.000	127.00	13.00	19.36	4.494	114.15	4.369	110.97	4.313	109.55	4.313	109.55	3.987	101.27	2.62	66.55
5.500	139.70	17.00	25.32	4.892	124.26	4.767	121.08	4.562	115.87	4.562	115.87	4.455	113.16	3.12	79.25

All Specification Tables contain approximated dimensions and should be used for reference only.

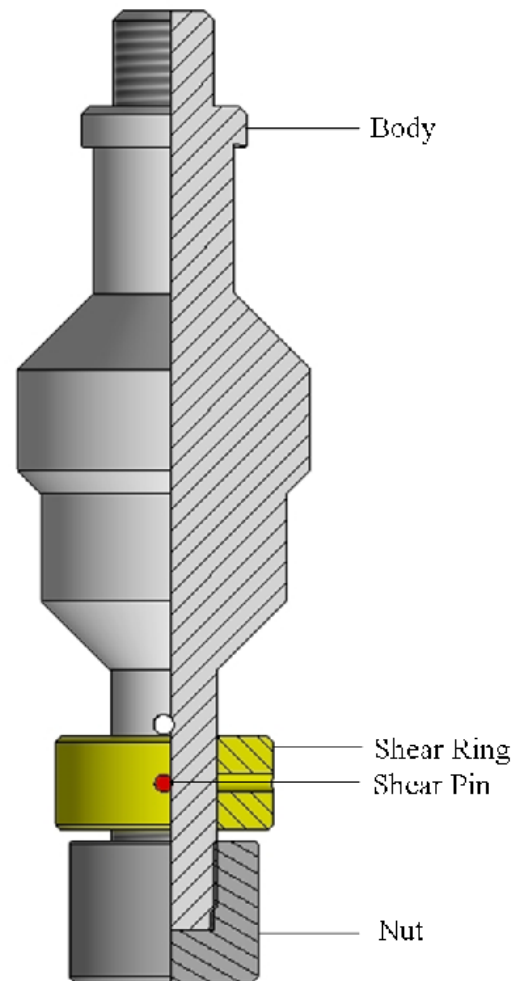


## B & T CHECK SET TOOL

### ASSEMBLY DESCRIPTION

The B & T Check Set Tool is used to insure that the B & T X Locks (page A17) and B & T R Locks (page A9) have been properly set in the appropriate Landing Nipple (page B1). Once the B & T Check Set Tool has been successfully run with either a B & T X or B & T R Lock, its Shear Pin will be sheared.

If the Shear Pin in the B & T Check Set Tool is sheared, then the lock has been properly set into the corresponding Landing Nipple (page B1).







## B & T R CHECK SET TOOL

SPECIFICATIONS				
	1.710	1.781	1.875	2.000
Fishneck	1.375	1.375	1.375	1.375
Maximum O.D.	1.558	1.705	1.750	1.921
Connection	15/16"-10	15/16"-10	15/16"-10	15/16"-10
Shear Pin	1/8" X 3/4"	1/8" X 3/4"	1/8" X 7/8"	1/8" X 7/8"

SPECIFICATIONS				
	2.125	2.188	2.313	2.562
Fishneck	1.375	1.375	1.375	1.750
Maximum O.D.	2.029	2.160	2.160	2.450
Connection	15/16"-10	15/16"-10	15/16"-10	1-1/16"-10
Shear Pin	3/16" X 1-1/8"	3/16" X 1-1/8"	3/16" X 1-1/2"	3/16" X 1-1/2"

SPECIFICATIONS				
	2.750	2.813	3.437	3.688
Fishneck	1.750	1.750	1.750	1.750
Maximum O.D.	2.661	2.715	3.332	3.577
Connection	1-1/16"-10	1-1/16"-10	1-1/16"-10	1-1/16"-10
Shear Pin	3/16" X 1-1/2"	3/16" X 1-1/2"	3/16" X 2-1/8"	1/4" X 2-1/2"

SPECIFICATIONS				
	4.125	4.313	4.562	
Fishneck	1.750	1.750	2.313	
Maximum O.D.	3.920	4.194	4.375	
Connection	1-1/16"-10	1-1/16"-10	1-1/16"-10	
Shear Pin	1/4" X 2-7/8"	1/4" X 2-3/4"	5/16" X 3"	

All Specification Tables contain approximated dimensions and should be used for reference only.



## B & T X CHECK SET TOOL

SPECIFICATIONS				
	1.250	1.500	1.625	1.875
Fishneck	1.188	1.188	1.375	1.375
Maximum O.D.	1.162	1.450	1.526	1.750
Connections	15/16"-10	15/16"-10	15/16"-10	15/16"-10
Shear Pin	1/8" X 5/8"	1/8" X 3/4"	1/8" X 3/4"	1/8" X 1"

SPECIFICATIONS				
	2.313	2.750	2.813	3.313
Fishneck	1.375	1.375	1.375	1.750
Maximum O.D.	2.160	2.160	2.160	2.450
Connections	15/16"-10	15/16"-10	15/16"-10	1-1/16"-10
Shear Pin	3/16" X 1-1/2"	3/16" X 1-1/8"	3/16" X 1-1/2"	3/16" X 1-1/2"

SPECIFICATIONS				
	3.813	4.313	4.562	
Fishneck	1.750	1.750	2.313	
Maximum O.D.	3.625	4.102	4.375	
Connections	1-1/16"-10	1-1/16"-10	1-1/16"-10	
Shear Pin	1/4" X 2-3/4"	1/4" X 2-3/4"	1/4" X 3-5/16"	

All Specification Tables contain approximated dimensions and should be used for reference only.

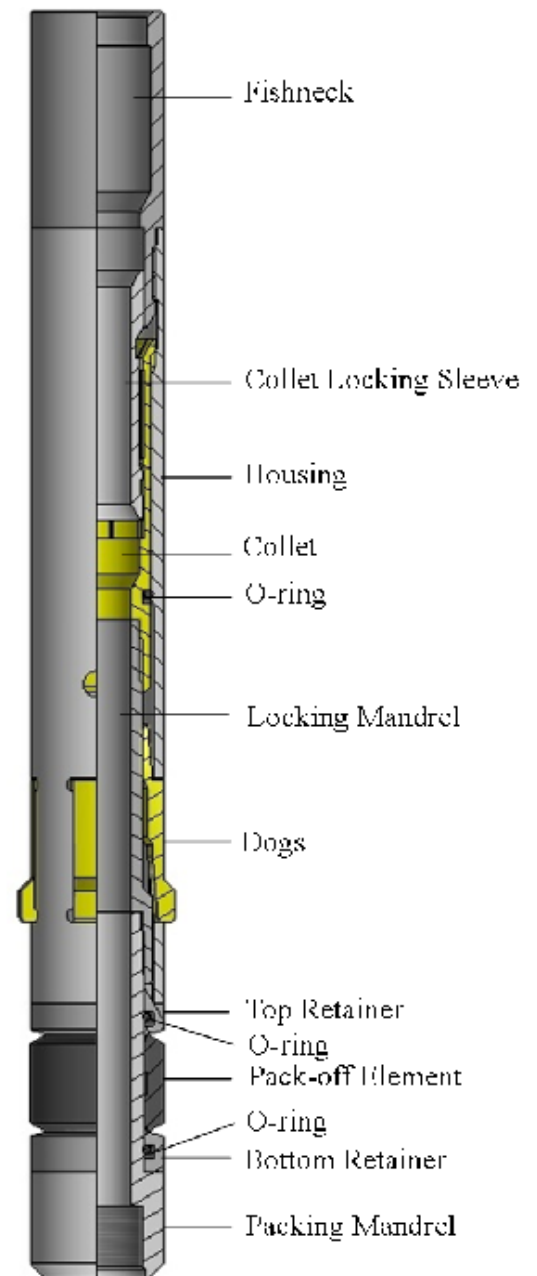


## B & T D LOCK

### ASSEMBLY DESCRIPTION

The B & T D Lock is used to land and lock in any collar recess of A.P.I. collared tubing. Once the Pack-off Element has been mechanically locked in the set position, pressure can be held from above and below. It can be used with pump thru plugs, positive plugs, safety valves, standing valves, and packoffs.

Pack-off elements are available in a full range of rubber material to meet well-specific conditions. The standard material is NBR. Consult the Elastomer Chart (page U7) to see all possible compounds.





## B & T D LOCK

SPECIFICATIONS			
	2.000	2.500	3.000
Fishneck	1.375	1.813	1.313
Maximum O.D.	1.840	1.813	2.313
Minimum I.D.	0.938	1.375	1.750
Connections	1-5/16"-18	1-21/32"-14	2-1/8"-12
Running Tool	DRTBT-02000-01	DRTBT-02500-01	DRTBT-03000-01
Pulling Tool	GSPT-02000-01	GSPT-02500-01	GSPT-03000-01

All Specification Tables contain approximated dimensions and should be used for reference only.



## B & T R / RN LOCK

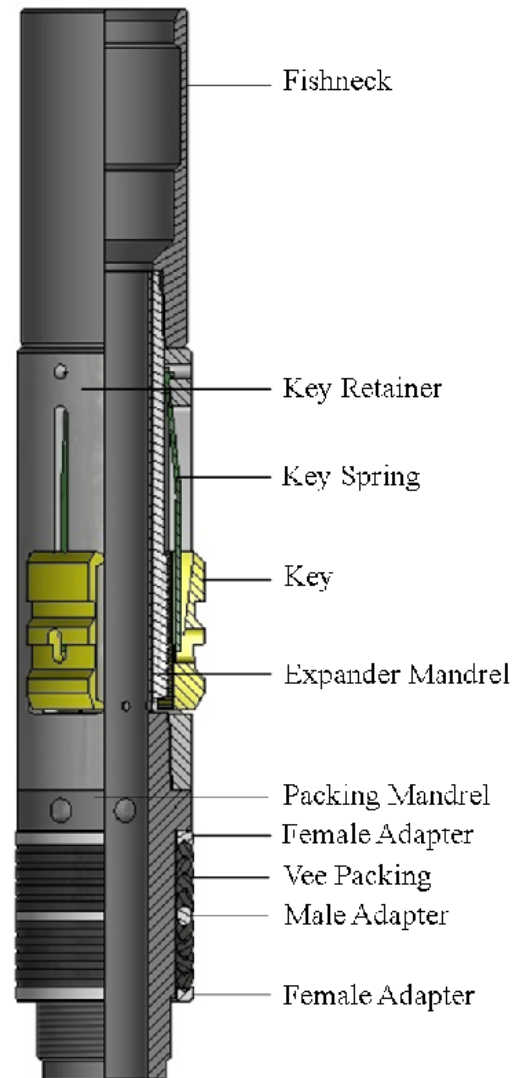
### ASSEMBLY DESCRIPTION

The B & T R Lock is a selective lock that can be installed in R Landing Nipples (page B4). It is used in heavier weight tubing due to higher well pressure. The B & T R / RN Lock's Packing Mandrel allows it to hold pressure from either above or below and its Keys engage a profile in the R Landing Nipple.

The B & T RN Lock is the No-Go version of the B & T R Lock. The Keys have an angled shoulder, designed to fit into the bore restriction of the RN Landing Nipple (page B5).

All B & T R / RN Locks come standard in 9 Chrome. Other materials are available on request.

Assemblies with different packing configurations are available; however due to different material densities packing will not always have the same stack height. When ordering redresses with non-standard packing, please call to ensure that you order the correct number of pieces.





## B & T R / RN LOCK

SPECIFICATIONS				
	1.710	1.781	1.875	2.000
Fishneck	1.188	1.375	1.375	1.375
Minimum I.D.	0.750	0.875	0.875	0.875
Connections	1-1/8"-16	1-3/8"-14	1-3/8"-14	1-3/8"-14
Running Tool	RLRT-01710-01	RLRT-01781-01	RLRT-01875-01	RLRT-02000-01
Pulling Tool	GSPT-01500-01	GSPT-02000-01	GSPT-02000-01	GSPT-02000-01

SPECIFICATIONS				
	2.125	2.188	2.313	2.562
Fishneck	1.375	1.750	1.750	1.813
Minimum I.D.	0.875	1.125	1.125	1.375
Connections	1-3/8"-14	1-3/4"-12	1-3/4"-12	2"-12 SLB
Running Tool	RLRT-02125-01	RLRT-02188-01	RLRT-02313-01	RLRT-02562-01
Pulling Tool	GSPT-02000-01	GSPT-02500-01	GSPT-02500-01	GSPT-02500-01

SPECIFICATIONS				
	2.750	2.813	3.437	3.688
Fishneck	2.313	2.313	2.625	3.125
Minimum I.D.	1.500	1.500	1.940	2.375
Connections	2-1/4"-12 SLB	2-1/4"-12 SLB	2-3/4"-12 SLB	3-1/16"-12 SLB
Running Tool	RLRT-02750-18	RLRT-02813-01	RLRT-03437-18	RLRT-03688-01
Pulling Tool	GSPT-03000-01	GSPT-03000-01	GSPT-03500-01	GSPT-04000-01

SPECIFICATIONS				
	4.125	4.313	4.562	
Fishneck	3.125	3.125	4.000	
Minimum I.D.	2.750	2.620	2.850	
Connections	3-1/4"-12 SLB	4-1/16"-8 SLB	4"-12 SLB	
Running Tool	RLRT-04125-01	RLRT-04313-01	RLRT-04562-18	
Pulling Tool	GSPT-04000-01	GSPT-04000-01	GSPT-05000-01	

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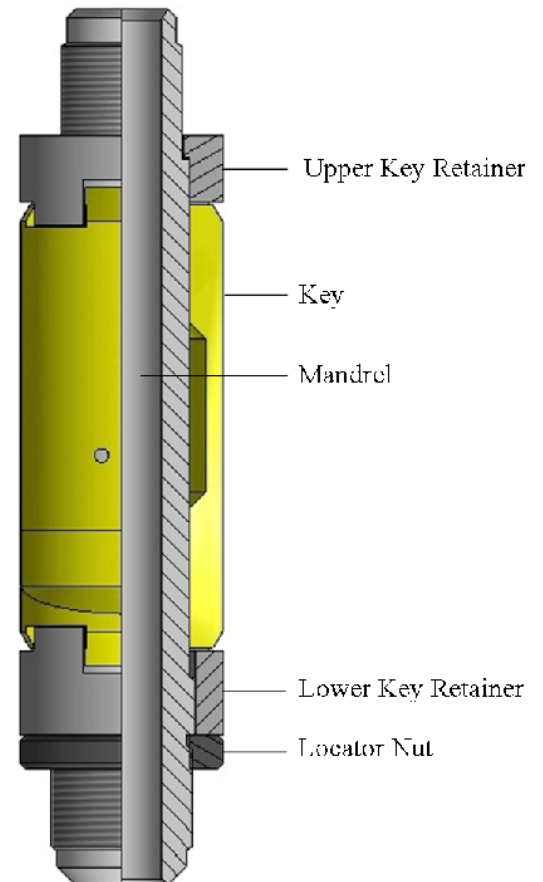


## B & T S LOCATOR

### ASSEMBLY DESCRIPTION

The B & T S Locator is made up to the bottom of the B & T S Lock (page A13) to set in B & T S Landing Nipples. By changing the position of the Keys, the operator may set the lock in one of five different nipples in the tubing string. The spring loaded Keys locate the corresponding Landing Nipple and prevent the lock from traveling out of the bottom of that nipple. Once this is accomplished, the lock would hold pressure from below.

Please specify what position Keys are required when ordering.





## B & T S LOCATOR

SPECIFICATIONS		
	1.875	2.313
Maximum O.D. (Keys Retracted)	1.813	2.203
Minimum I.D.	0.703	0.875
Top Connection	1-1/8"-12	1-11/32"-14
Bottom Connection	1-3/16"-14	1-9/16"-12

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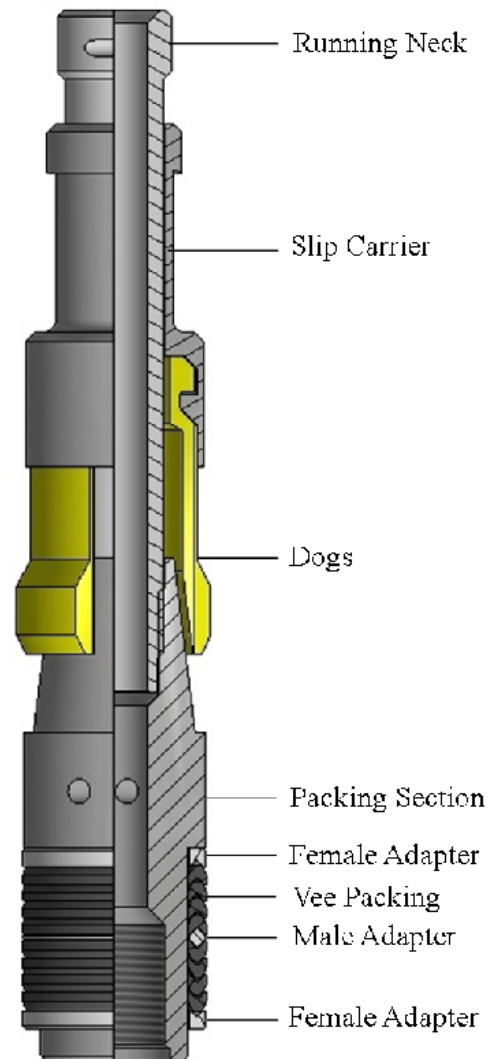


## B & T S LOCK

### ASSEMBLY DESCRIPTION

The B & T S Lock is used in conjunction with the B & T S Locator (page A11) to lock into the polished seal bore of the B & T S Landing Nipple. It can withstand pressure from above and below. It can be used with pump thru plugs, positive plugs, standing valves, and safety valves.

The standard material for the B & T S Lock is stainless steel. Consult the Vee Rings (page U8) to ensure that the proper packing is ordered.





## B & T S LOCK

SPECIFICATIONS				
	1.250	1.500	1.625	1.875
Fishneck	1.000	1.187	1.188	1.375
Minimum I.D.	0.468	0.562	0.562	0.688
Connections	11/16"-16	7/8"-14	7/8"-14	1-1/8"-12
Running Tool	JRTBT-01250-01	JRTBT-01500-01	JRTBT-01500-01	JRTBT-02000-01
Pulling Tool	RSPT-01250-01 JUSBT-01250-01	RSPT-01500-01 JUSBT-01500-01	RSPT-01500-01 JUSBT-01500-01	RSPT-02000-01 JUSBT-02000-01

SPECIFICATIONS				
	2.313	2.875	3.813	
Fishneck	1.750	2.313	3.125	
Minimum I.D.	0.875	1.500	2.250	
Connections	1-11/32"-14	1-7/8"-12	2-3/4"-12	
Running Tool	JRTBT-02500-01	JRTBT-03000-01	JRTBT-04000-01	
Pulling Tool	RSPT-02500-01 JUSBT-02500-01	RSPT-03000-01 JUSBT-03000-01	RSPT-04000-01 JUSBT-04000-01	

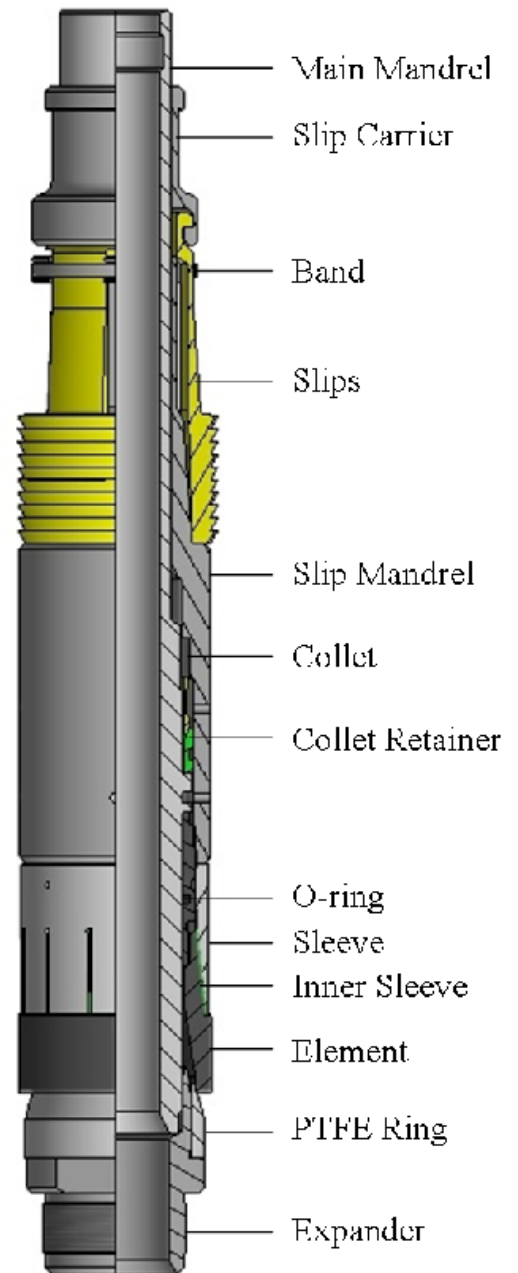
All Specification Tables contain approximated dimensions and should be used for reference only.



## B & T W LOCK

### ASSEMBLY DESCRIPTION

The B & T W Lock is used in wells that are not equipped with Landing Nipples (page B1) during completion. They are attached to the wall of the tubing and during the running procedure, its Element is expanded to seal against the tubing wall. It can only hold a differential pressure from below.





## B & T W LOCK

SPECIFICATIONS			
	1.500	1.750	2.000
Fishneck	1.188	1.188	1.375
Maximum O.D. (Slips Expanded)	1.703	1.820	2.078
Maximum O.D. (Slips Retracted)	1.480	1.590	1.859
Minimum I.D.	0.562	0.562	0.562
Connections	7/8"-14	7/8"-14	1-9/16"-12
Roll Pin	1/8" X 1/4"	1/8" X 1/4"	1/8" X 3/8"
Shear Pin	1/8" X 5/16"	1/8" X 5/16"	3/16" X 1/2"
Running Tool	RBPT-01500-01	RBPT-01500-01	RBPT-02500-01
Pulling Tool	JUCBT-01500-01	JUCBT-01500-01	JUCBT-02500-01

SPECIFICATIONS			
	2.500	3.000	4.000
Fishneck	1.750	2.313	3.125
Maximum O.D. (Slips Expanded)	2.540	3.075	3.510
Maximum O.D. (Slips Retracted)	2.300	2.844	3.275
Minimum I.D.	0.891	1.375	1.750
Connections	2"-12	2"-12	2-7/8"-12
Roll Pin	1/8" X 1/2"	1/8" X 1/2"	1/8" X 1-1/2"
Shear Pin	3/16" X 1/2"	3/16" X 1/2"	3/16" X 1/2"
Running Tool	RBPT-02500-01	RBPT-03000-01	RBPT-04000-01
Pulling Tool	JUCBT-02500-01	JUCBT-03000-01	JUCBT-04000-01

All Specification Tables contain approximated dimensions and should be used for reference only.

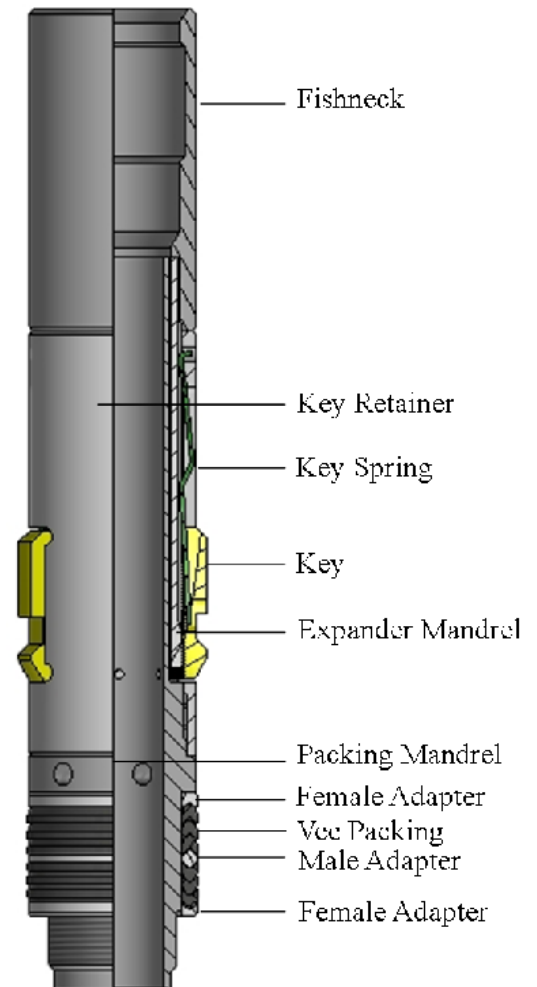


## B & T X / XN LOCK

### ASSEMBLY DESCRIPTION

The B & T X Lock is a selective lock that can be installed in X Landing Nipples (page B6). It is used in standard weight tubing. This lock uses Keys to engage a profile in the Landing Nipple and an integrated Packing Mandrel that allows it to hold pressure from either above or below. This lock can be used in conjunction with pump thru plugs, positive plugs, safety valves, and standing valves.

The B & T XN Lock is the No-Go version of the B & T X Lock. The Keys have an angled shoulder, designed to fit into the bore restriction of the XN Landing Nipple (page B7).





## B & T X / XN LOCK

SPECIFICATIONS				
	1.250	1.500	1.625	1.875
Fishneck	0.875	1.625	1.625	1.375
Minimum I.D.	0.620	0.750	0.750	1.000
Connections	7/8"-20	1-1/8"-16	1-1/8"-16	1-3/8"-16
Running Tool	XLRT-01250-01	XLRT-01500-01	XLRT-01625-01	XLRT-01875-01
Pulling Tool	GSPT-01250-01	GSPT-01500-01	GSPT-01500-01	GSPT-02000-01

SPECIFICATIONS				
	2.313	2.750	2.813	3.313
Fishneck	1.813	2.313	2.313	2.625
Minimum I.D.	1.375	1.750	1.750	2.125
Connections	1-3/4"-12	2-1/4"-12 SLB	2-1/4"-12	2-3/4"-12 SLB
Running Tool	XLRT-02313-01	XLRT-02750-01	XLRT-02813-01	XLRT-03313-18
Pulling Tool	GSPT-02500-01	GSPT-03000-01	GSPT-03000-01	GSPT-03500-18

SPECIFICATIONS				
	3.813	4.313	4.562	
Fishneck	3.125	3.125	4.000	
Minimum I.D.	2.625	2.625	3.125	
Connections	3-1/16"-12 SLB	3-1/4"-12 SLB	4"-12 SLB	
Running Tool	XLRT-03813-18	XLRT-04313-18	XLRT-04562-18	
Pulling Tool	GSPT-04000-18	GSPT-04000-18	GSPT-05000-18	

All Specification Tables contain approximated dimensions and should be used for reference only.



## SECTION B: LANDING NIPPLES

LOCKS AND LANDING NIPPLE SPECIFICATIONS.....	B2	B & T X LANDING NIPPLE.....	B6
B & T R LANDING NIPPLE.....	B4	B & T XN LANDING NIPPLE.....	B7
B & T RN LANDING NIPPLE.....	B5		



# LOCKS AND LANDING NIPPLE SPECIFICATIONS

B & T R / RN LANDING NIPPLES AND LOCKS																
TUBING								USED FOR HEAVY TUBING WEIGHTS						LOCK MAN- DREL ID		
SIZE		WEIGHT		ID		DRIFT		R PROFILE		RN PROFILE		NO-GO ID				
in	mm	lb/ft	kg/m	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	
1.660	42.16	3.02	4.50	1.278	32.46	1.184	30.07	1.125	28.58	1.125	28.58	1.012	25.70			
1.900	48.26	3.64	5.42	1.500	38.10	1.406	35.71	1.375	34.93	1.375	34.93	1.250	31.75	0.62	15.75	
2.375	60.33	5.30	7.89	1.939	49.25	1.845	46.86	1.781	45.24	1.781	45.24	1.640	41.66	0.88	22.35	
		5.95	8.86	1.867	47.42	1.773	45.03									
		6.20	9.23	1.853	47.07	1.759	44.68	1.710	43.43	1.710	43.43	1.560	39.62	0.75	19.05	
		7.70	11.47	1.703	43.26	1.609	40.87	1.500	38.10	1.500	38.10	1.345	34.16	0.62	15.75	
2.875	73.03	7.90	11.77	2.323	59.00	2.229	56.62	2.188	55.58	2.188	55.58	2.010	51.05	1.12	28.45	
		8.70	12.96	2.259	57.38	2.165	54.99									
		8.90	13.26	2.243	56.97	2.149	54.58	2.125	53.98	2.125	53.98	1.937	49.20			
		9.50	14.15	2.196	55.75	2.101	53.37	2.000	50.80	2.000	50.80	1.881	47.78	0.88	22.35	
		10.40	15.49	2.151	54.64	2.057	52.25									
		11.00	16.38	2.065	52.45	1.971	50.06									
		11.65	17.35	1.995	50.67	1.901	48.29	1.875	47.63	1.875	47.63	1.716	43.59			
3.500	89.90	12.95	19.29	2.750	69.85	2.625	66.68	2.562	65.07	2.562	65.07	2.329	59.16	1.38	35.05	
		15.80	23.53	2.548	64.72	2.423	61.54	2.313	58.75	2.313	58.75	2.131	54.13	1.12	28.45	
		16.70	24.87	2.480	62.99	2.355	59.82									
		17.05	25.40	2.440	61.98	2.315	58.80	2.188	55.58	2.188	55.58	2.010	51.05			
4.000	101.60	11.60	17.28	3.428	87.07	3.303	83.90	3.250	82.55	3.250	82.55	3.088	78.44	1.94	49.28	
		13.40	19.96	3.340	84.84	3.215	81.66	3.125	79.38	3.125	79.38	2.907	73.84			
4.500	114.30	12.75	18.99	3.958	100.53	3.833	97.36	3.813	96.85	3.813	96.85	3.725	94.62	2.12	53.85	
		13.50	20.11	3.920	99.57	3.795	96.39									
		15.50	23.09	3.826	97.18	3.701	94.01	3.688	93.68	3.688	93.68	3.456	87.78	2.38	60.45	
		16.90	24.17	3.754	95.35	3.629	92.18									
		19.20	28.60	3.640	92.46	3.515	89.28	3.437	87.30	3.437	87.30	3.260	82.80	1.94	49.28	
5.000	127.00	15.00	22.34	4.408	111.96	4.283	108.79	4.125	104.78	4.125	104.78	3.913	99.39	2.75	69.85	
		18.00	26.81	4.276	108.61	4.151	105.44	4.000	101.60	4.000	101.60	3.748	95.20	2.38	60.45	
5.500	139.70	17.00	25.32	4.892	124.26	4.767	121.08									
		20.00	29.79	4.778	121.36	4.653	118.19	4.562	115.87	4.562	115.87	4.455	113.16	2.85	72.39	
		23.00	34.26	4.670	118.62	4.545	115.44	4.313	109.55	4.313	109.55	3.987	101.27	2.62	66.55	
6.000	152.40	15.00	22.34	5.524	140.31	5.399	137.13									
		18.00	26.81	5.424	137.77	5.299	134.59	5.250	133.35	5.250	133.35	5.020	127.51	3.50	88.90	
6.625	168.28	24.00	35.75	5.921	150.39	5.796	147.22									
		28.00	41.71	5.791	147.09	5.666	143.92	5.625	142.88	5.625	142.88	5.500	139.70	3.50	88.90	
7.000	177.80	17.00	25.32	6.538	166.07	6.431	163.35									
		20.00	29.79	6.456	163.98	6.331	160.81									
		23.00	34.26	6.366	161.70	6.241	158.52	5.962	151.43	5.962	151.43					
		26.00	38.73	6.276	159.41	6.151	156.24					5.750	146.05	3.75	95.25	
		29.00	43.20	6.184	157.07	6.059	153.90									
		32.00	47.66	6.094	154.79	5.969	151.01									
8.625	219.08	36.00	53.62	7.825	198.76	7.700	195.58	5.875	149.23	5.875	149.23					
								7.450	189.23	7.450	189.23	7.325	186.06			
								7.250	184.15	7.250	184.15	7.125	180.98	5.250	133.35	
								7.050	179.07	7.050	179.07	6.925	175.90			

All Specification Tables contain approximated dimensions and should be used for reference only.





# LOCKS AND LANDING NIPPLE SPECIFICATIONS

B & T X / XN LANDING NIPPLES AND LOCKS															
TUBING								USED FOR STANDARD TUBING WEIGHTS						LOCK MAN- DREL ID	
								X PROFILE		XN PROFILE					
SIZE		WEIGHT		ID		DRIFT		SEAL BORE		SEAL BORE		NO-GO ID			
in	mm	lb/ft	kg/m	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
1.050	26.67	1.20	1.79	0.824	20.93	0.730	18.54								
1.315	33.40	1.80	2.68	1.049	26.64	0.955	24.26								
1.660	42.16	2.30	3.43	1.380	35.05	1.286	32.66	1.250	31.75	1.250	31.75	1.135	28.83	0.62	15.75
		2.40	3.57												
1.900	48.26	2.40	3.57	1.660	42.16	1.516	38.51	1.500	38.10	1.500	38.10	1.448	36.78	0.75	19.05
		2.76	4.11	1.610	40.89										
		2.90	4.32												
2.063	52.40	3.25	4.84	1.751	44.48	1.657	42.09	1.625	41.28	1.625	41.28	1.536	39.01	0.75	19.05
2.375	60.33	4.60	6.85	1.995	50.67	1.901	48.29	1.875	47.63	1.875	47.63	1.791	45.49	1.00	25.40
		4.70	7.00												
2.875	73.03	6.40	9.53	2.441	62.00	2.347	59.61	2.313	58.75	2.313	58.75	2.205	56.01	1.38	35.05
		6.50	9.68												
3.500	88.90	9.30	13.85	2.992	76.00	2.867	72.82	2.813	71.45	2.813	71.45	2.666	67.72	1.75	44.45
		10.30	15.34	2.992	74.22	2.797	71.04	2.750	69.85	2.750	69.85	2.635	66.93	1.75	44.45
4.000	101.60	11.00	16.38	3.476	89.29	3.351	85.12	3.313	84.15	3.313	84.15	3.135	79.63	2.12	53.85
4.500	114.30	12.75	18.99	3.958	100.53	3.833	97.36	3.813	96.85	3.813	96.85	3.725	94.62	2.62	66.55
5.000	127.00	13.00	19.36	4.494	114.15	4.369	110.97	4.313	109.55	4.313	109.55	3.987	101.27	2.62	66.55
5.500	139.70	17.00	25.32	4.892	124.26	4.767	121.08	4.562	115.87	4.562	115.87	4.455	113.16	3.12	79.25

All Specification Tables contain approximated dimensions and should be used for reference only.



## B & T R LANDING NIPPLE

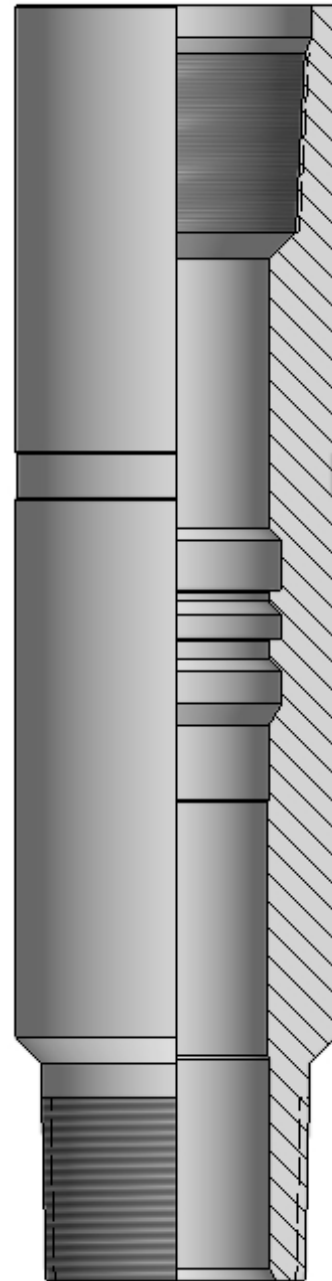
### ASSEMBLY DESCRIPTION

The B & T R Landing Nipples are used to land, lock, and seal B & T R Locks (page A9) with attached flow control devices in the production tubing string. The internal profile includes a selective profile, a locking recess, and a polished bore.

The R Landing Nipple can either have Pin X Pin connections, or Box X Pin connections, based upon customer requirements. Standard and premium connections are also available.

B & T has R Landing Nipples in 4140 L80 and 9 Chrome materials in stock, however other materials are available upon request.

B & T can customize its R Landing Nipple to fit to any customer specified seal bore or Plug (page C1) customization.





## B & T RN LANDING NIPPLE

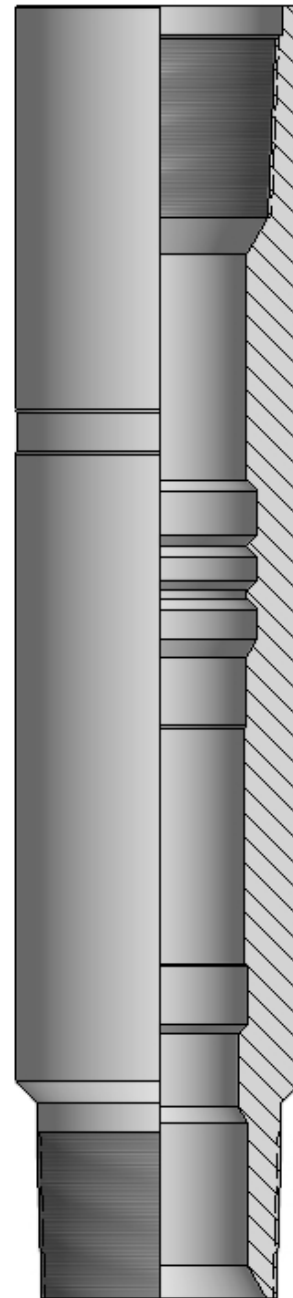
### ASSEMBLY DESCRIPTION

The B & T RN Landing Nipples include a lower No-Go shoulder, which engages the No-Go of the B & T RN Lock (page A9). The internal profile includes a selective profile, a locking recess, and a polished bore. It is normally used as the lowest Landing Nipple in a compilation.

The B & T RN Landing Nipple can either have Pin X Pin connections, or Box X Pin connections, based upon customer requirements. Standard and premium connections are also available.

B & T has RN Landing Nipples in 4140 L80 and 9 Chrome materials in stock, however other materials are available upon request.

B & T can customize its RN Landing Nipple to fit to any customer specified seal bore or Plug (page C1) customization.





## B & T X LANDING NIPPLE

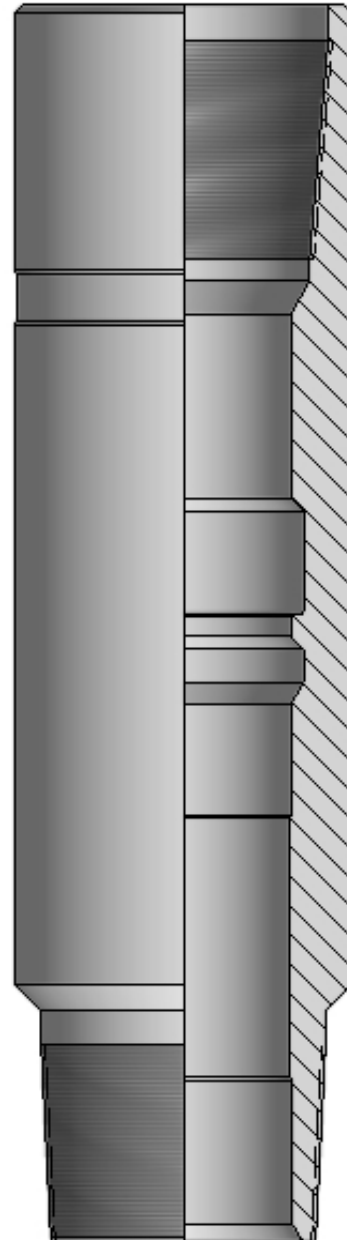
### ASSEMBLY DESCRIPTION

The B & T X Landing Nipples are fully selective nipples used to land, lock, and seal B & T X Locks (page A17) with attached flow control devices in the production tubing string. The internal profile includes a selective profile, a locking recess, and a polished bore.

The B & T X Landing Nipple can either have Pin X Pin connections, or Box X Pin connections, based upon customer requirements. Standard and premium connections are also available.

B & T has X Landing Nipples in 4140 L80 and 9 Chrome materials in stock, however other materials are available upon request.

B & T can customize its X Landing Nipple to fit to any customer specified seal bore or Plug (page C1) customization.





## B & T XN LANDING NIPPLE

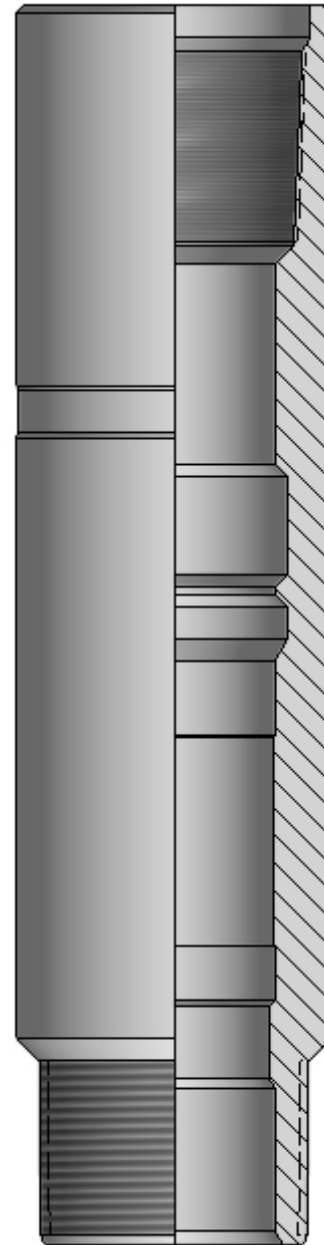
### ASSEMBLY DESCRIPTION

The B & T XN Landing Nipples include a lower No-Go shoulder, which engages the No-Go of the B & T XN Lock (page A17), a locking recess, and a polished bore. It is normally used as the lowest landing nipple in a compilation.

The B & T XN Landing Nipple can either have Pin X Pin connections, or Box X Pin connections, based upon customer requirements. Standard and premium connections are also available.

B & T has XN Landing Nipples in 4140 L80 and 9 Chrome materials in stock, however other materials are available upon request.

B & T can customize its XN Landing Nipple to fit to any customer specified seal bore or Plug (page C1) customization.





## NOTES

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### QUICK EMAILS

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Odessa, Texas Office:  
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## SECTION C: PLUGS

B & T C PLUG .....	C2	B & T PX PLUG.....	C14
B & T D PLUG .....	C4	B & T R PLUG .....	C16
DD BRIDGE PLUG.....	C6	B & T X PLUG .....	C18
DUAL-FLAPPER PUMP THRU PLUG.....	C8	B & T XR PUMP THRU PLUG.....	C20
B & T PN PLUG.....	C10	B & T XR PUMP THRU PLUG (TYPE T).....	C22
B & T PR PLUG .....	C12		

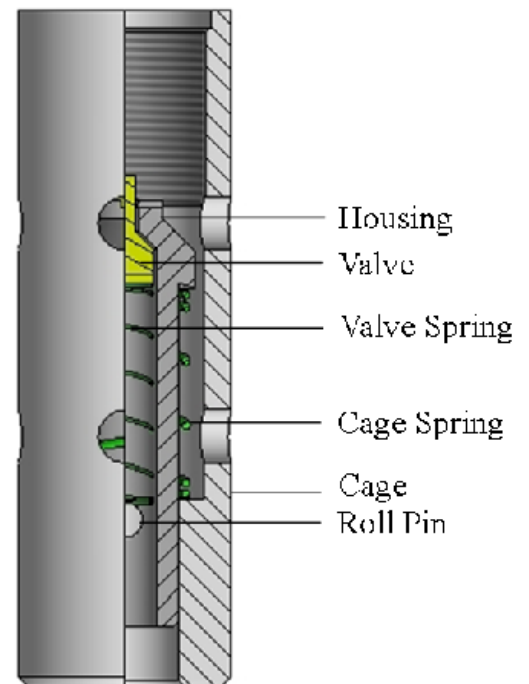


## B & T C PLUG

### ASSEMBLY DESCRIPTION

The B & T C Plug is an equalizing assembly that is used in conjunction with various subsurface controls such as Locks (page A1) and tubing mandrels. The C Equalizing Plug holds pressure from below only and can be used as a pump thru plug.

An equalizing Prong (page M1) will push the C Equalizing Plug's Valve off seat, which will allow pressure equalization.







## B & T C PLUG

SPECIFICATIONS			
	1.500	2.000	2.500
Connections	7/8"-14	1-3/16"-14	1-9/16"-12
Flow Area (in <sup>2</sup> )	0.0035	0.0075	0.0075
Roll Pin	1/8" X 1/2"	1/4" X 3/4"	1/4" X 7/8"

All Specification Tables contain approximated dimensions and should be used for reference only.



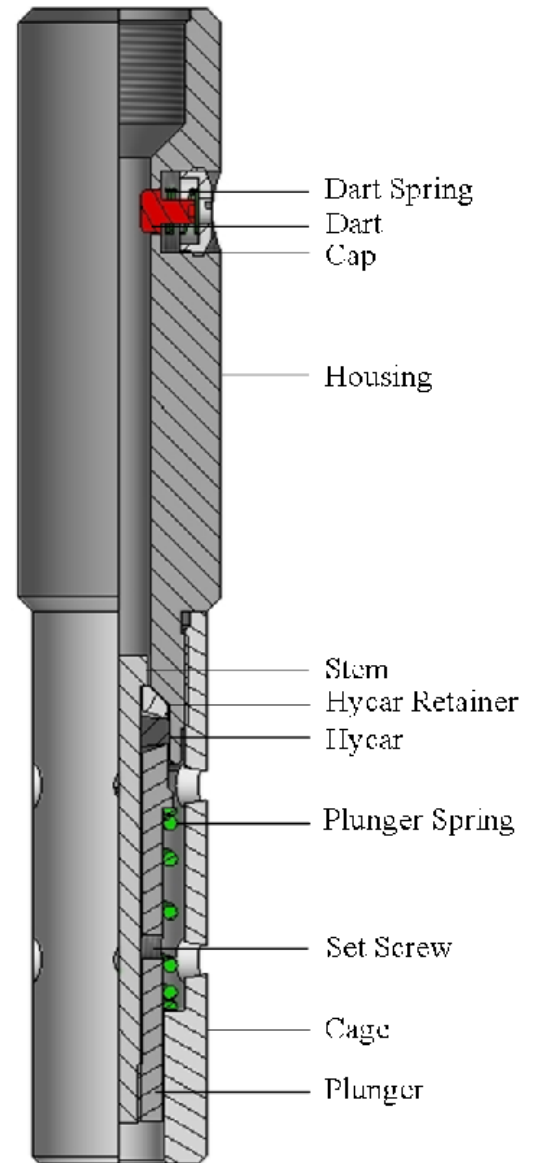
## B & T D PLUG

### ASSEMBLY DESCRIPTION

The B & T D Plug is an equalizing assembly that is used in conjunction with various subsurface controls such as Locks (page A1) and Tubing Mandrels.

The D Plug holds pressure from below only and can be used as a pump thru plug.

An equalizing Prong (page M1) will push the plug off seat which will then allow pressure equalization.





## B & T D PLUG

SPECIFICATIONS			
	2.000	2.500	3.000
Maximum O.D.	1.750	2.125	2.620
Connections	1-3/16"-14	1-9/16"-12	1-9/16"-12
I.D. Bore	0.531	0.719	1.316

All Specification Tables contain approximated dimensions and should be used for reference only.

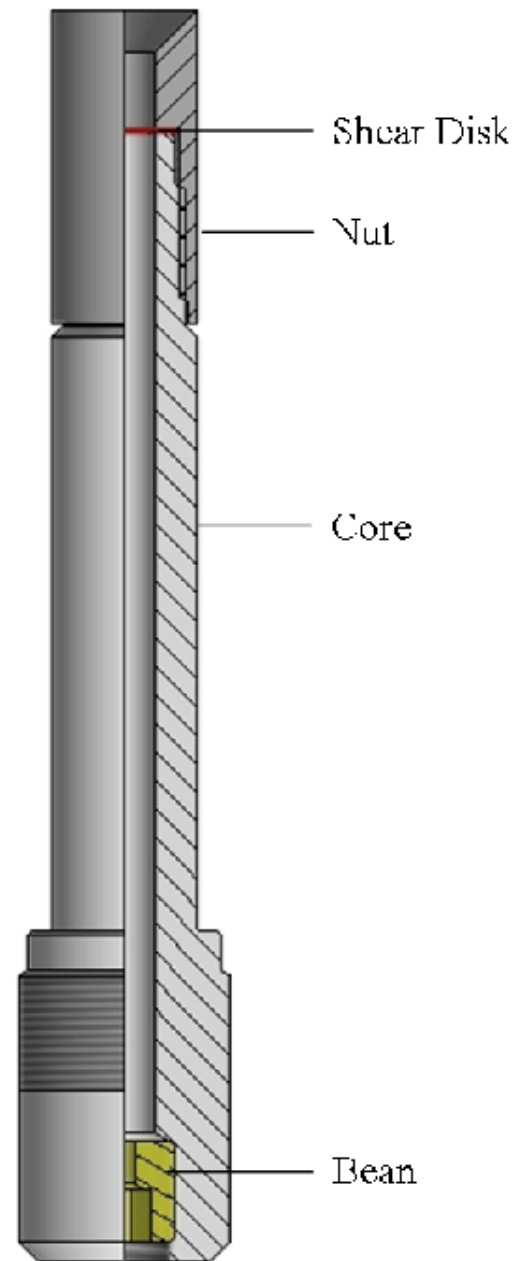


## DD BRIDGE PLUG

### ASSEMBLY DESCRIPTION

The B & T DD Bridge Plug is an equalizing assembly used in conjunction with a B & T D Lock (page A7). The DD Bridge Plug holds pressure from above and below.

An equalizing Prong (page M1) is used to shear the disc allowing pressure equalization.





## DD BRIDGE PLUG

SPECIFICATIONS			
	2.000	2.500	3.000
Connections	1-5/16"-18	1-21/32"-14	2-1/8"-12

All Specification Tables contain approximated dimensions and should be used for reference only.

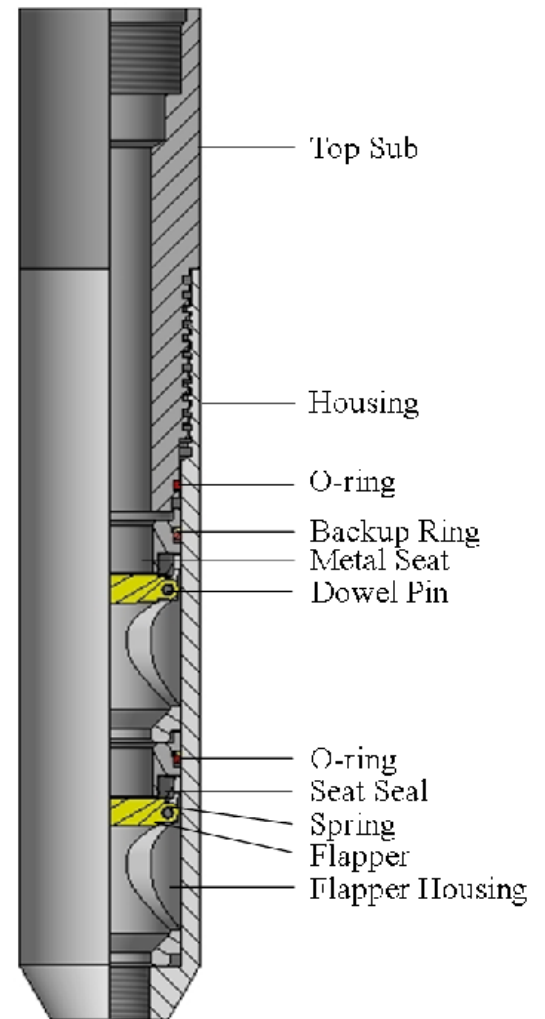


# DUAL-FLAPPER PUMP THRU PLUG

## ASSEMBLY DESCRIPTION

The B & T Dual-Flapper Pump Thru Plug is used to prevent pressure from pushing up through the assembly. This tool can be used in conjunction with a B & T R Lock (page A9) or a B & T X Lock (page A17).

An equalizing Prong (page M1) is used to knock the collet of the XX or RR Equalizing Sub off seat, which will then allow pressure equalization.





## DUAL-FLAPPER PUMP THRU PLUG

SPECIFICATIONS				
	1.500	1.710	1.875	2.313
Fishneck	1.330	1.490	1.740	2.130
Top Connection	1-1/8"-16	1-1/8"-16	1-3/8"-14	1-3/4"-12
Bottom Connection	3/8" NPT	3/8" NPT	1/2" NPT	3/4" NPT

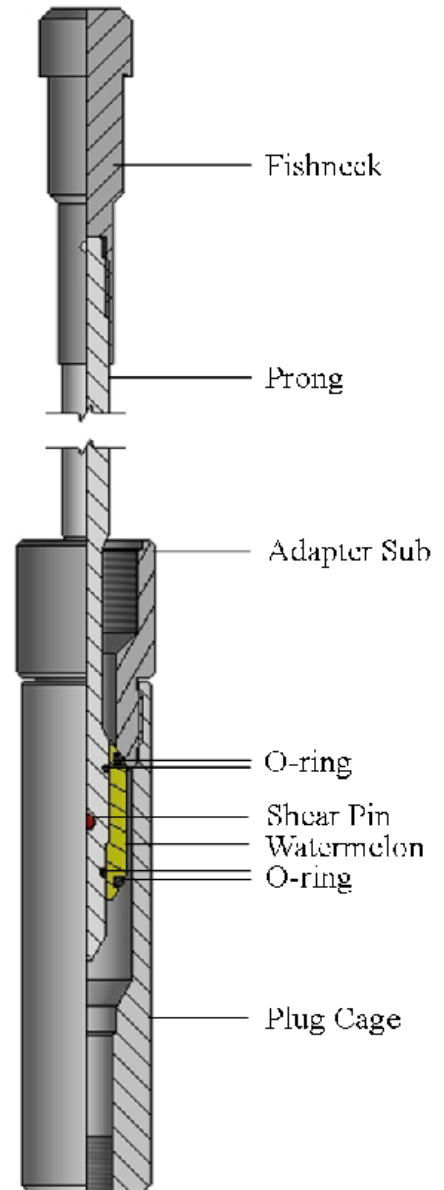
All Specification Tables contain approximated dimensions and should be used for reference only.



## B & T PN PLUG

### ASSEMBLY DESCRIPTION

The B & T PN Plug is an equalizing assembly used in conjunction with B & T S Locks (page A13) to hold pressure from above and below. When the Prong is pulled, pressure is equalized.







## B & T PN PLUG

SPECIFICATIONS			
	2.000	2.500	3.000
Fishneck	1.000	1.000	1.750
Maximum O.D.	1.500	2.000	2.500
Top Connection	1-3/16"-14	1-9/16"-12	2"-12
Bottom Connection	3/8" NPT	3/8" NPT	3/8" NPT
Shear Pin	3/16" x 7/8"	3/16" X 7/8"	3/16" X 7/8"
Pulling Tool	JDCBT-01375-01	JDCBT-01375-01	JDCBT-01375-01

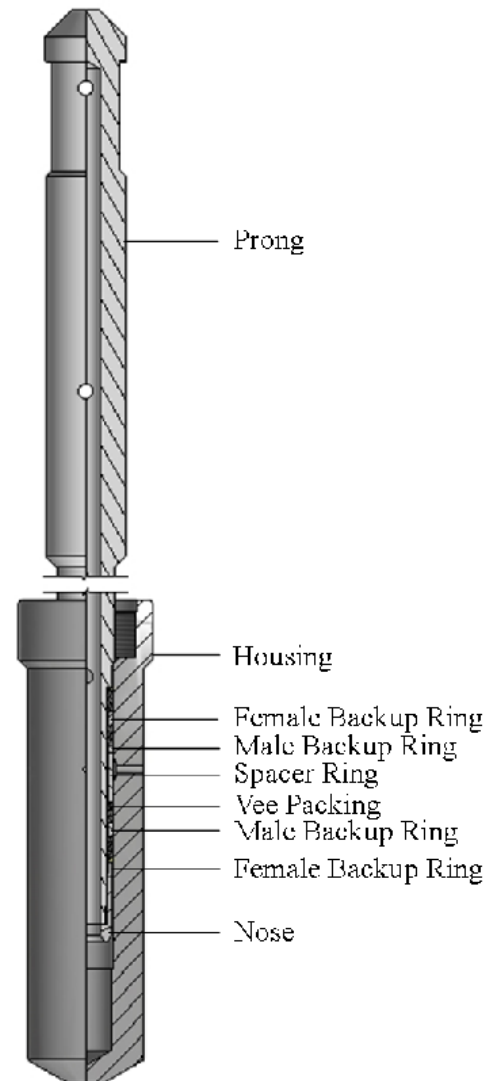
All Specification Tables contain approximated dimensions and should be used for reference only.



## B & T PR PLUG

### ASSEMBLY DESCRIPTION

The B & T PR Plug is a positive plug used with B & T R Locks (page A9). The B & T PR Plug holds pressure from above and below. When the Prong is pulled, pressure is equalized.





## B & T PR PLUG

SPECIFICATIONS				
	1.710	1.781	1.875	2.125
Fishneck	1.187	1.187	1.187	1.187
No-Go O.D.	1.700	1.770	1.865	2.115
Connections	1-1/8"-16	1-3/8"-14	1-3/8"-14	1-3/8"-14
Running/Pulling Tool	JDCBT-01500-01 SBPT-01500-01	JDCBT-01500-01 SBPT-01500-01	JDCBT-01500-01 SBPT-01500-01	JDCBT-01500-01 SBPT-01500-01

SPECIFICATIONS				
	2.188	2.313	2.562	2.750
Fishneck	1.375	1.375	1.375	1.375
No-Go O.D.	2.175	2.300	2.550	2.740
Connections	1-3/4"-12	1-3/4"-12	2"-12	2-1/2"-12
Running/Pulling Tool	JDCBT-02000-01 SBPT-02000-01	JDCBT-02000-01 SBPT-02000-01	JDCBT-02000-01 SBPT-02000-01	JDCBT-02000-01 SBPT-02000-01

SPECIFICATIONS				
	2.813	2.875	3.437	3.688
Fishneck	1.375	1.375	1.750	1.375
No-Go O.D.	2.803	2.866	3.425	3.670
Connections	2-1/4"-12	2-1/4"-12	2-3/4"-12	3-1/16"-12
Running/Pulling Tool	JDCBT-02000-01 SBPT-02000-01	JDCBT-02000-01 SBPT-02000-01	JDCBT-02500-01 SBPT-02500-01	JDCBT-02000-01 SBPT-02000-01

SPECIFICATIONS				
	3.813	4.125	4.562	
Fishneck	2.313	2.313	2.313	
No-Go O.D.	3.805	4.120	4.550	
Connections	3-1/16"-12	3-1/4"-12	3-3/4"-12	
Running/Pulling Tool	JDCBT-03000-01 SBPT-03000-01	JDCBT-03000-01 SBPT-03000-01	JDCBT-03000-01 SBPT-03000-01	

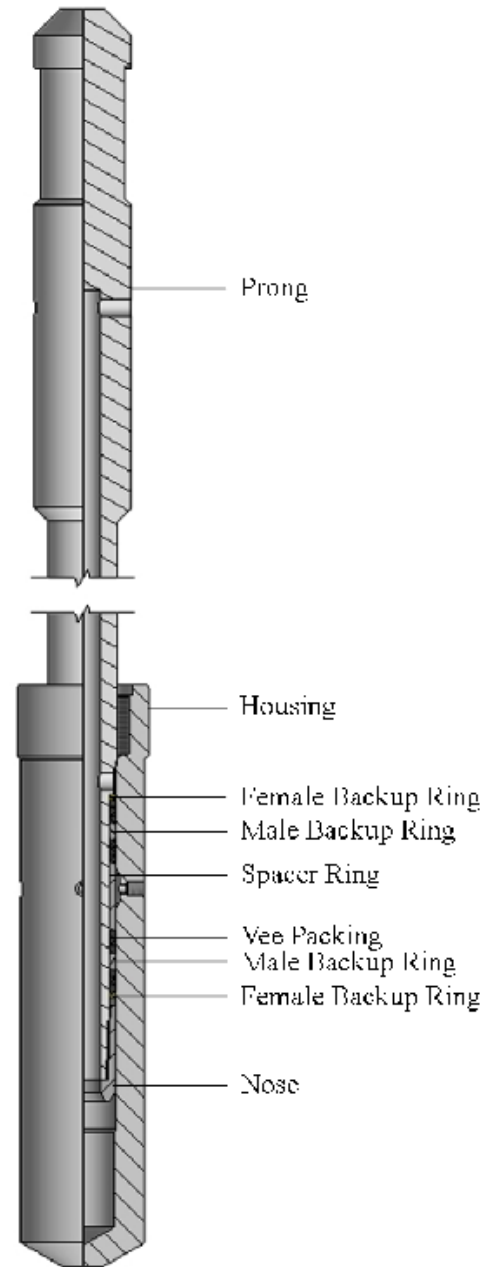
All Specification Tables contain approximated dimensions and should be used for reference only.



## B & T PX PLUG

### ASSEMBLY DESCRIPTION

The B & T PX Plug is a positive plug used with a B & T X Lock (page A17). It can be used to test tubing or plug tubing for repairs or replacements. Pulling the Prong from the assembly achieves equalization.





## B & T PX PLUG

SPECIFICATIONS				
	1.500	1.625	1.875	2.313
Fishneck	1.000	1.000	1.375	1.375
No-Go O.D.	1.490	1.615	1.865	2.300
Connections	1-1/8"-16	1-1/8"-16	1-3/8"-14	1-3/4"-12

SPECIFICATIONS				
	2.750	2.813	2.875	3.313
Fishneck	1.375	1.375	1.375	1.375
No-Go O.D.	2.740	2.800	2.870	3.307
Connections	2-1/4"-12 SLB	2-1/4"-12 SLB	2-1/4"-12 SLB	2-3/4"-12 SLB

SPECIFICATIONS				
	3.813	4.313	4.562	
Fishneck	2.313	3.125	3.125	
No-Go O.D.	3.805	4.307	4.556	
Connections	3-1/16"-12 SLB	3-1/4"-12 SLB	3-3/4"-12 SLB	

All Specification Tables contain approximated dimensions and should be used for reference only.

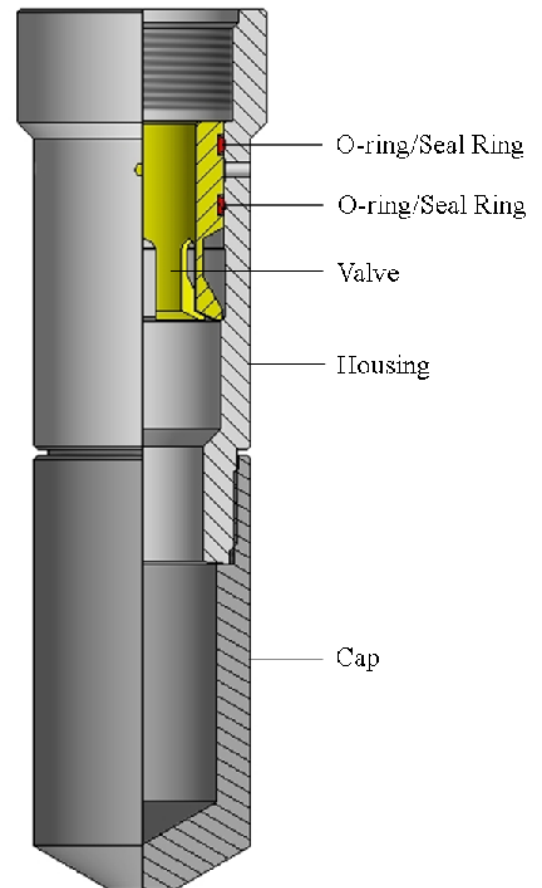


## B & T R PLUG

### ASSEMBLY DESCRIPTION

The B & T R Plug is a positive plug used in conjunction with the B & T R Lock (page A9) to hold pressure from above and below. This plug can be used to test tubing or to plug tubing while doing repairs to surface equipment.

An equalizing Prong (page M1) is used to knock the collet off seat of the B & T RR Equalizing Sub which allows pressure equalization.





## B & T R PLUG

SPECIFICATIONS				
	1.710	1.781	1.875	2.000
No-Go O.D.	1.700	1.770	1.865	1.990
Connection	1-1/8"-16	1-3/8"-14	1-3/8"-14	1-3/8"-14

SPECIFICATIONS				
	2.125	2.188	2.313	2.562
No-Go O.D.	2.115	2.175	2.300	2.550
Connection	1-3/8"-14	1-3/4"-12	1-3/4"-12	2"-12

SPECIFICATIONS				
	2.750	2.813	3.437	3.688
No-Go O.D.	2.740	2.803	3.425	3.670
Connection	2-1/4"-12 SLB	2-1/4"-12 SLB	2-3/4"-12 SLB	2-3/16"-12 SLB

SPECIFICATIONS				
	3.813			
No-Go O.D.	3.805			
Connection	3-1/16"-12 SLB			

All Specification Tables contain approximated dimensions and should be used for reference only.

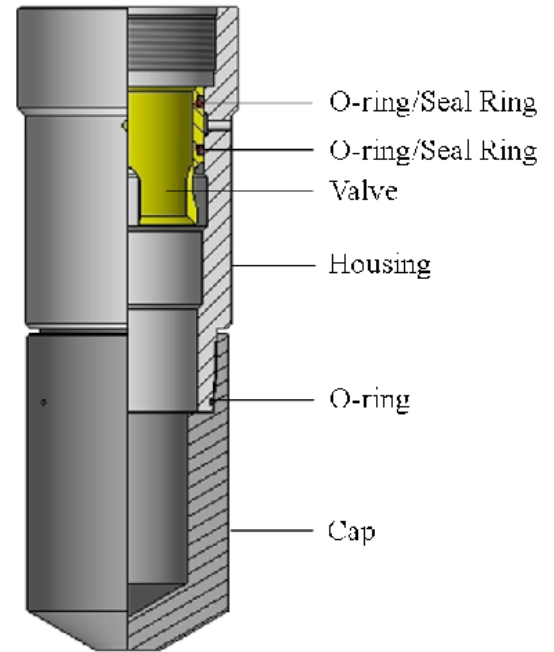


## B & T X PLUG

### ASSEMBLY DESCRIPTION

The B & T X Plug is a positive plug used in conjunction with the B & T X Lock (page A17) to hold pressure from above and below. This plug can be used to test tubing or to plug tubing while doing repairs to surface equipment.

An equalizing Prong (page M1) is used to knock the collet off seat of the XX Equalizing Sub which allows pressure equalization.







## B & T X PLUG

SPECIFICATIONS			
	1.500	1.625	1.875
No-Go O.D.	1.490	1.615	1.865
Connection	1-1/8"-16	1-1/8"-16	1-3/8"-14

SPECIFICATIONS			
	2.313	2.750	2.813
No-Go O.D.	2.300	2.740	2.800
Connection	1-3/4"-12	2-1/4"-12 SLB	2-1/4"-12 SLB

SPECIFICATIONS			
	3.313	3.813	4.562
No-Go O.D.	3.300	3.800	4.552
Connection	2-3/4"-12 SLB	3-1/16"-12 SLB	4"-12 SLB

All Specification Tables contain approximated dimensions and should be used for reference only.

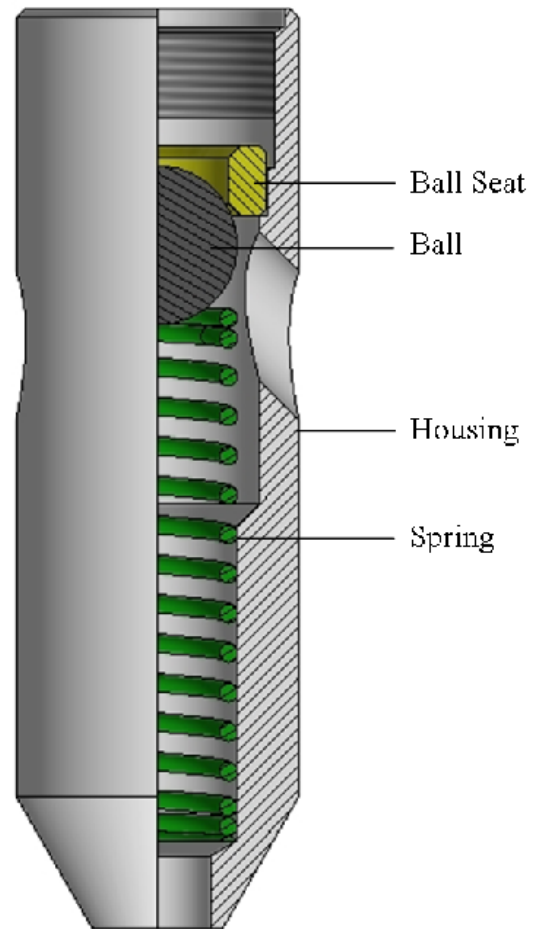


## B & T XR PUMP THRU PLUG

### ASSEMBLY DESCRIPTION

The B & T XR Pump Thru Plug is a Ball, Seat, and Spring style pump thru plug. It is used in conjunction with Locks (page A1) and other equalizing devices. The B & T XR Pump Thru Plug holds pressure from below.

An equalizing Prong (page M1) is used to knock the collet of the XX or RR Equalizing Sub off seat which then allows pressure equalization.





## B & T XR PUMP THRU PLUG

SPECIFICATIONS				
	1.500	2.000	2.500	3.000
Maximum O.D.	1.325	1.750	2.000	2.750
Connection	1-1/8"-16	1-3/8"-14	1-3/4"-12	2-1/4"-12

All Specification Tables contain approximated dimensions and should be used for reference only.

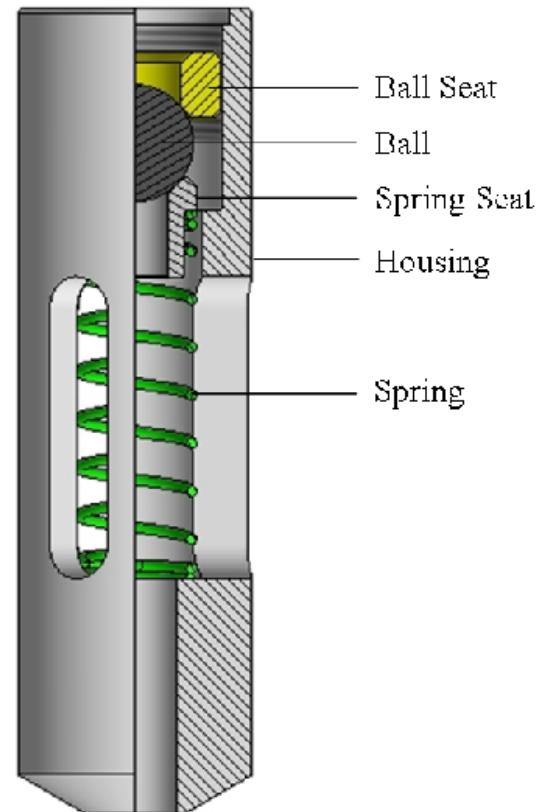


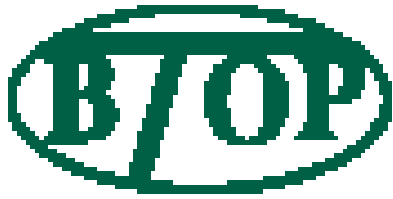
## B & T XR PUMP THRU PLUG (TYPE T)

### ASSEMBLY DESCRIPTION

The B & T XR Pump Thru Plug is a Ball, Seat, and Spring style pump thru plug. It is used in conjunction with Locks (page A1) and other equalizing devices. The B & T XR Pump Thru Plug holds pressure from below.

An equalizing Prong (page M1) is used to knock the collet of the XX or RR Equalizing Sub off seat which then allows pressure equalization.





## B & T XR PUMP THRU PLUG (TYPE T)

SPECIFICATIONS				
	1.500	2.000	2.500	3.000
Maximum O.D.	1.325	1.750	2.000	2.750
Connection	1-1/8"-16	1-3/8"-14	1-3/4"-12	2-1/4"-12

All Specification Tables contain approximated dimensions and should be used for reference only.



## NOTES

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### QUICK EMAILS

Broussard, Louisiana Office:  
Anchorage, Alaska Office:  
Alvin, Texas Office:  
Odessa, Texas Office:  
Sales Manager:  
Shipping Manager:  
Quality Control Manager:

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Matt Conley  
Jason Durham  
Robert Scheef  
Randy English  
Matt Merritt  
Jeremy Feucht

russell.shirley@btoilfield.com  
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robert.scheef@btoilfield.com  
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**ODESSA, TEXAS**  
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**ANCHORAGE, ALASKA**  
(907) 272-7817



## SECTION D: DOWNHOLE PACKOFF EQUIPMENT

A TUBING STOP.....	D2	F COLLAR STOP RUNNING TOOL.....	D7
A-1 TUBING STOP.....	D3	G PACKOFF.....	D9
AD2 TUBING STOP.....	D4	G STOP ANCHOR.....	D11
F COLLAR STOP.....	D5		



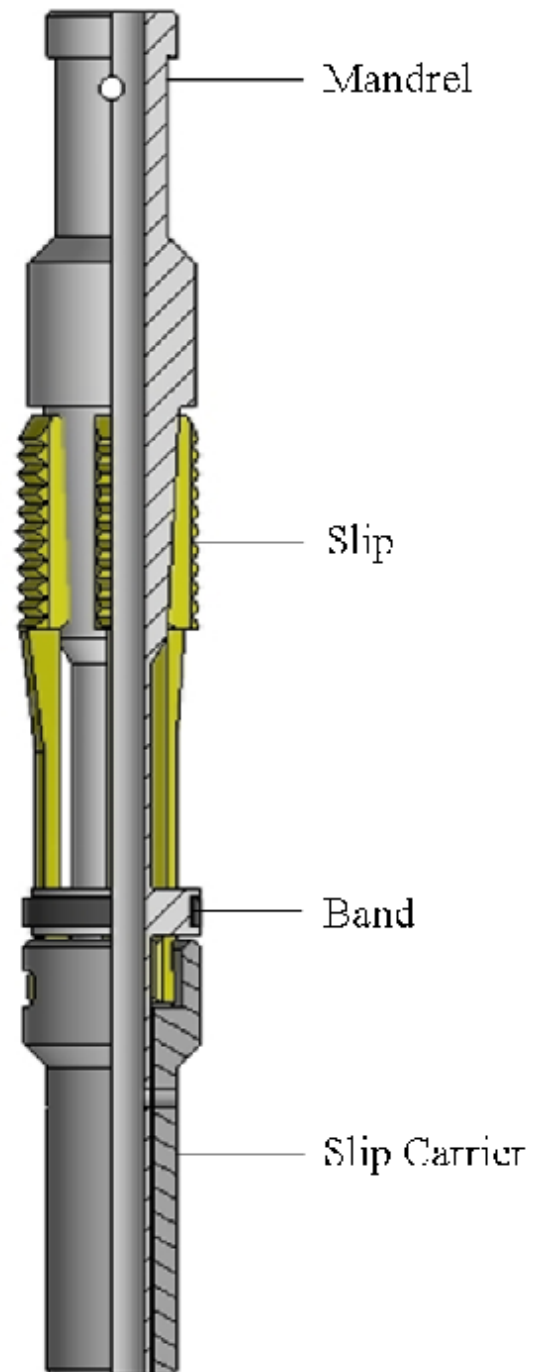
## A TUBING STOP

### ASSEMBLY DESCRIPTION

The B & T A Tubing Stop is designed for use in integral joint tubing strings where a coupling recess is not available. It is used primarily as an anchoring device in packoff applications.

B & T also manufactures the JD Pulling Tool (page J13) to both run and pull the A Tubing Stops.

Please specify the size and weight of the tubing when ordering the A Tubing Stop.







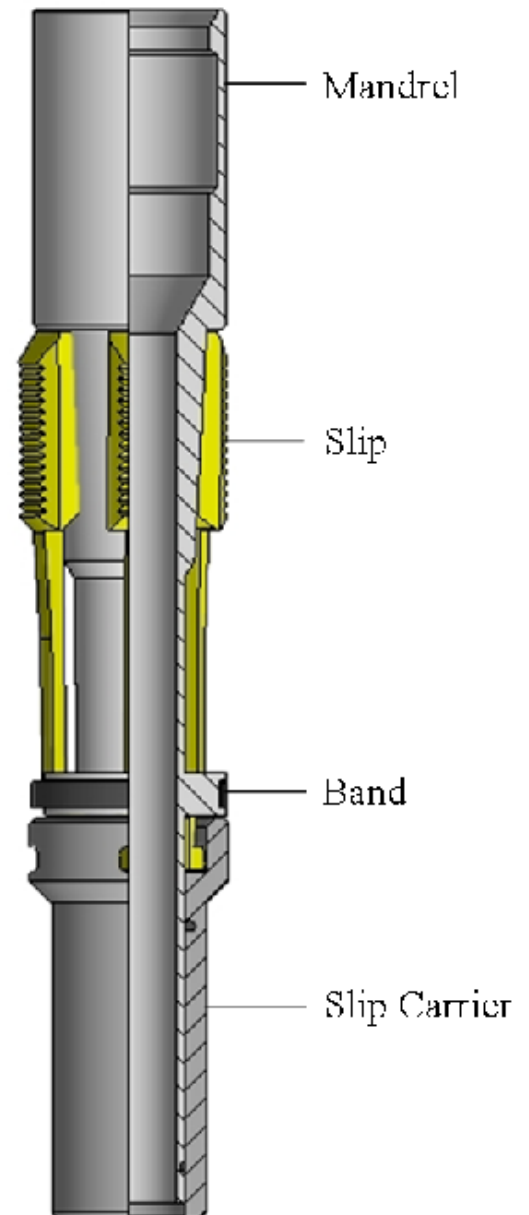
## A-1 TUBING STOP

### ASSEMBLY DESCRIPTION

The B & T A-1 Tubing Stop is similar to the A Tubing Stop (page D2), except the A-1 Tubing Stop has an internal fishneck.

B & T also manufactures the GS Pulling Tool (page J9) to both run and pull the A-1 Tubing Stops.

Please specify the size and weight of the tubing when ordering the A-1 Tubing Stop.





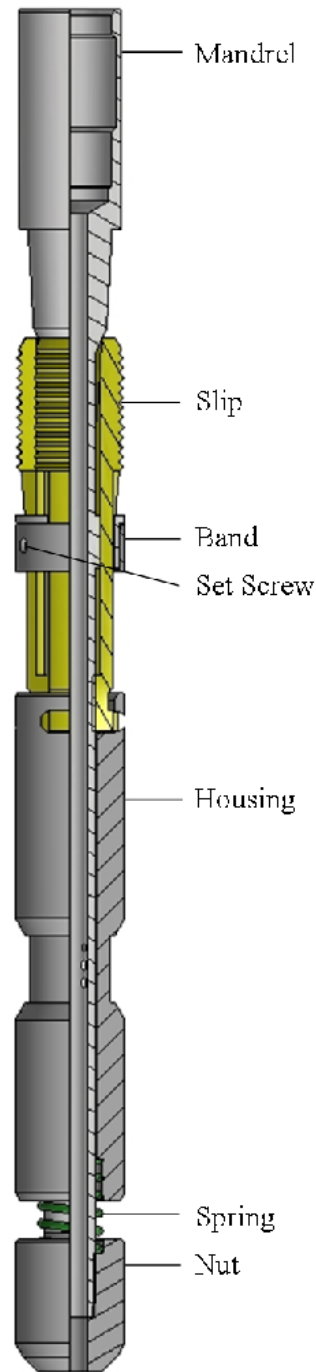
## AD2 TUBING STOP

### ASSEMBLY DESCRIPTION

The B & T AD2 Tubing Stop is a spring loaded tubing stop designed for use in integral joint tubing strings where a coupling recess is not available. It is used primarily as an anchoring device in packoff applications.

B & T also manufactures the JD Pulling Tool (page J13) to both run and pull the AD2 Tubing Stops.

Please specify the size and weight of the tubing when ordering the AD2 Tubing Stop.



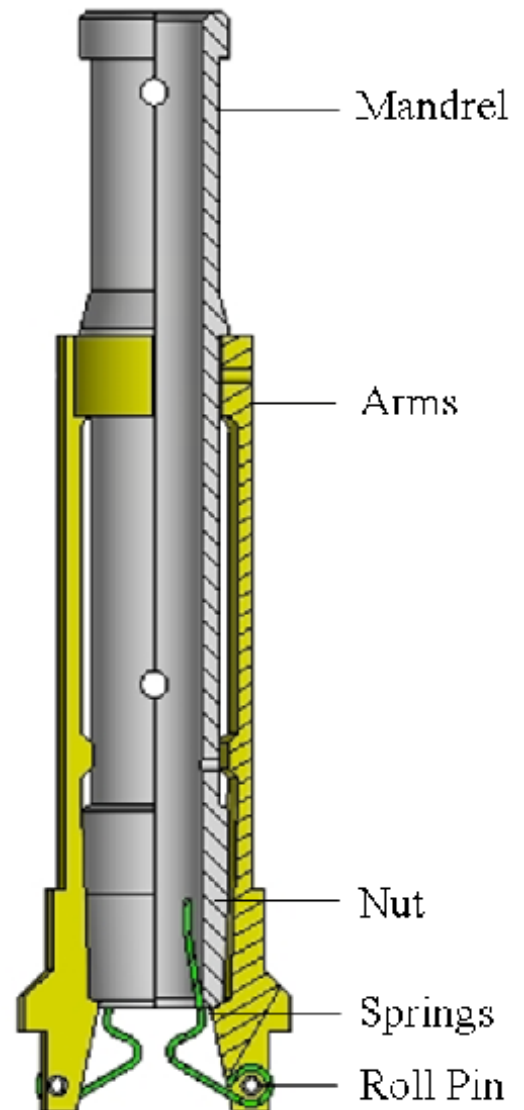


## F COLLAR STOP

### ASSEMBLY DESCRIPTION

The B & T F Collar Stop locates in the recess of A.P.I. upset and non-upset tubing. The stop is lowered to the required depth, and then lifted upward. This motion will trip the latch springs, and the arms will then engage the collar recess. Jarring downward locks the arms into place.

B & T also manufactures special F Collar Stops with threaded ends to connect to different pieces of tool string.





## F COLLAR STOP

SPECIFICATIONS			
	2.000	2.500	3.000
Fishneck	1.375	1.750	2.313
Minimum I.D.	0.875	1.125	1.688
Pulling Tool	JDCBT-02000-01	JDCBT-02500-01	JDCBT-03000-01

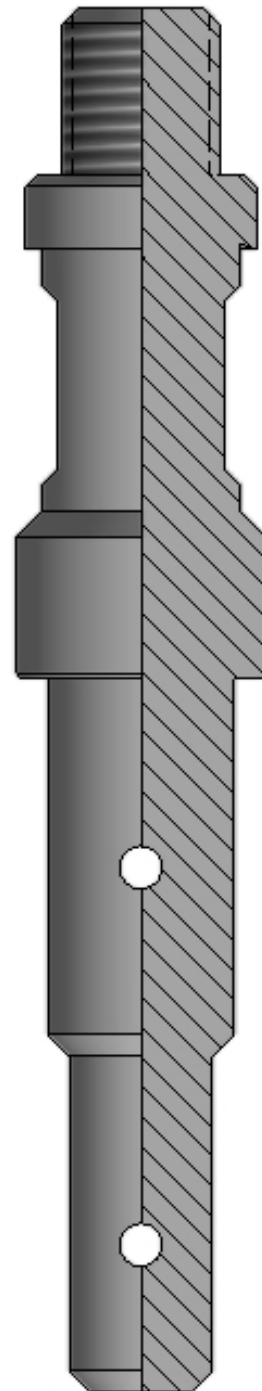
All Specification Tables contain approximated dimensions and should be used for reference only.



## F COLLAR STOP RUNNING TOOL

### ASSEMBLY DESCRIPTION

The B & T F Collar Stop Running Tool is used to set the F Collar Stop (page D5).





## F COLLAR STOP RUNNING TOOL

SPECIFICATIONS			
	2.000	2.500	3.000
Fishneck	1.375	1.375	1.750
Maximum O.D.	1.500	1.500	2.000
Connection	15/16"-10	15/16"-10	15/16"-10
Steel Pin	1/4" X 1-3/16"	1/4" X 1-1/2"	1/4" X 2"

All Specification Tables contain approximated dimensions and should be used for reference only.



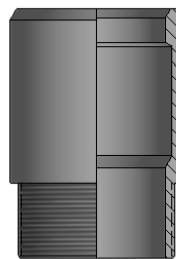
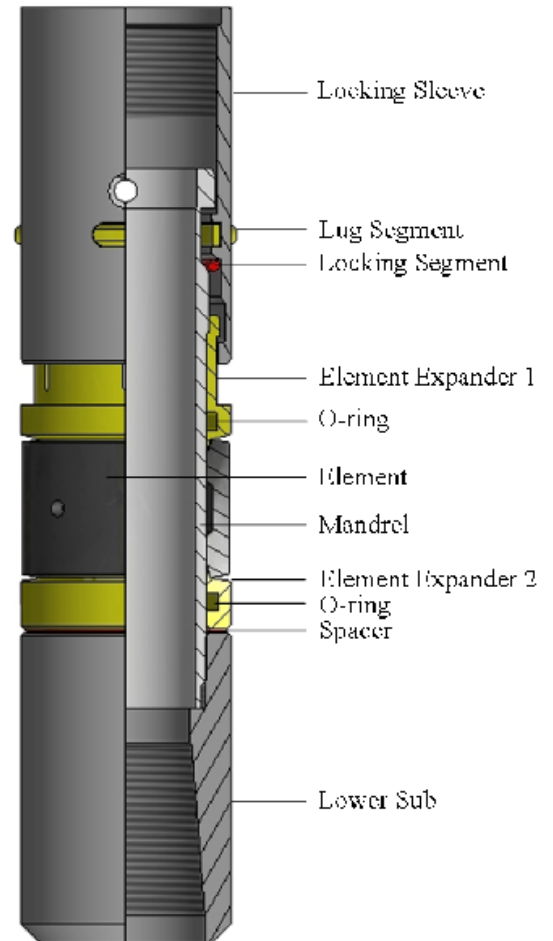
# G PACKOFF

## ASSEMBLY DESCRIPTION

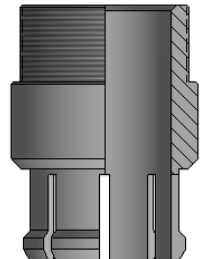
The B & T G Packoff is used to seal off holes in the tubing. The G Stop Anchor (page D11) can be used to keep the G Packoff in the locked position.

The G Packoff can be used as a plug during well completion where Landing Nipples (page B1) were not installed.

B & T manufactures both the Upper Assembly Fishneck and the Lower Assembly Collet for the G Packoff. These are shown below the main assembly respectively.



Upper Assembly  
Fishneck



Lower Assembly  
Collet



## G PACKOFF

SPECIFICATIONS		
	2.000	2.500
Fishneck	1.375	1.813
Maximum O.D.	1.840	2.275
Minimum I.D.	1.063	1.500
Upper Connection	1-5/8"-12	2-1/16"-12
Lower Connection	1"-10	1-1/2"-10

All Specification Tables contain approximated dimensions and should be used for reference only.

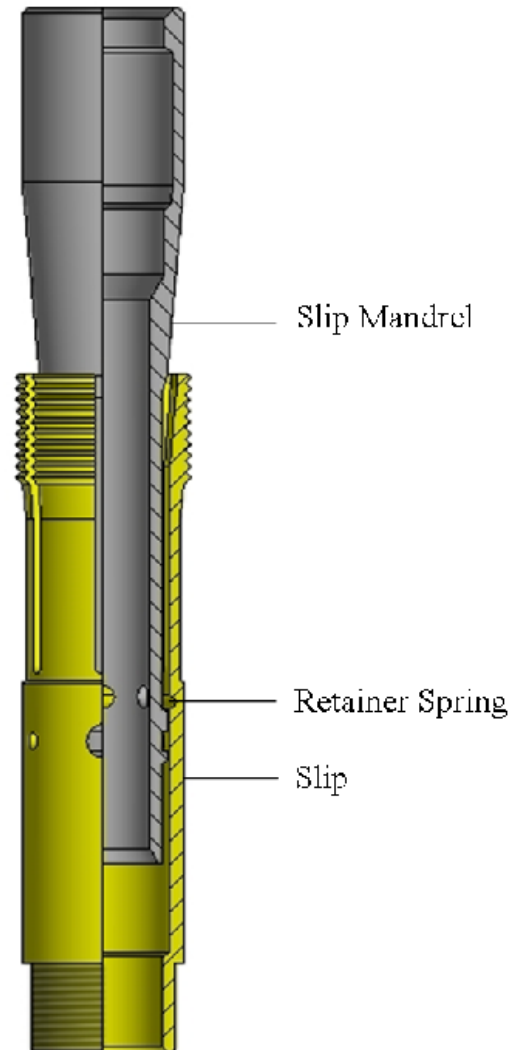




## G STOP ANCHOR

### ASSEMBLY DESCRIPTION

The B & T G Stop Anchor is used with the G Packoff (page D9) to pack off holes in the tubing. A Bull Plug Nose is also available for the entire assembly.





## G STOP ANCHOR

SPECIFICATIONS			
	2.000	2.500	3.000
Fishneck	1.375	1.813	2.150
Maximum O.D.	1.820	2.266	2.720
Minimum I.D.	1.063	1.500	1.750
Connections	1-5/8"-12	2-1/16"-12	2-1/2"-12
Shear Pin	0.250	0.250	0.250

All Specification Tables contain approximated dimensions and should be used for reference only.



## SECTION E: SURFACE EQUIPMENT

COUNTER WHEEL .....	E2	STUFFING BOX / STAFF ASSEMBLY .....	E9
HAY PULLEY .....	E3	STUFFING BOX GLAND .....	E10
HYDRAULIC PACKING NUT .....	E4	STUFFING BOX PACKING .....	E11
MEASURING HEAD ASSEMBLY .....	E5	TREE CONNECTION .....	E13
PRESSURE WHEEL .....	E6	VEEDER ROOT COUNTER .....	E14
QUICK UNION .....	E7	WIRELINE CLAMP .....	E15
RIGHT-ANGLE DRIVE .....	E8		



## COUNTER WHEEL

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### ASSEMBLY DESCRIPTION

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The Counter Wheel is a replacement part for the Measuring Head Assembly (page E5). Line sizes can be specified from 0.092" to 0.125".



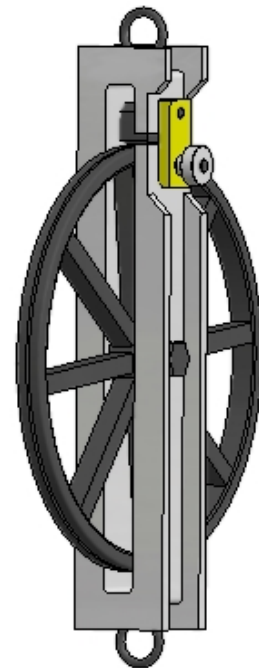


## HAY PULLEY

### ASSEMBLY DESCRIPTION

The Hay Pulley is used to alter the position of the wireline from the perpendicular position to horizontal position with the wireline unit from the Stuffing Box and Staff Assemblies (page E9). It reduces the friction in the lubricator string.

The image to the right is the 7" Hay Pulley, and the image to the bottom right is the 12" and 16" Hay Pulley.





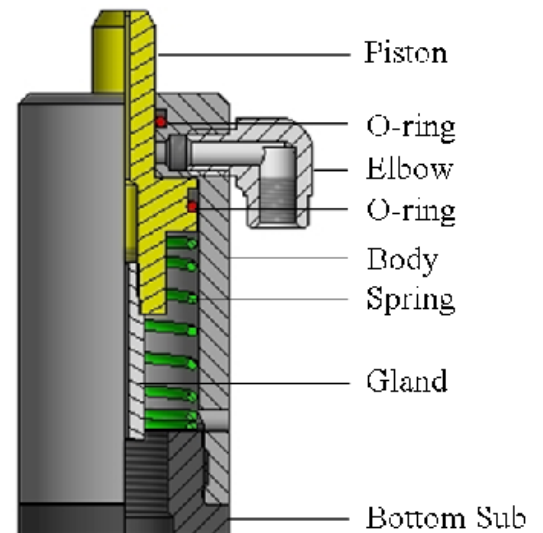
## HYDRAULIC PACKING NUT

### ASSEMBLY DESCRIPTION

The Hydraulic Packing Nut allows the remote operation of the Packing Nut Assembly, for convenience and safety.

In addition to the model pictured, B & T also provides different Stuffing Box Glands (page E10), including the set screw and the screw-in types.

The Hydraulic Packing Nut is available for most line sizes, so the customer must specify which line size is required.



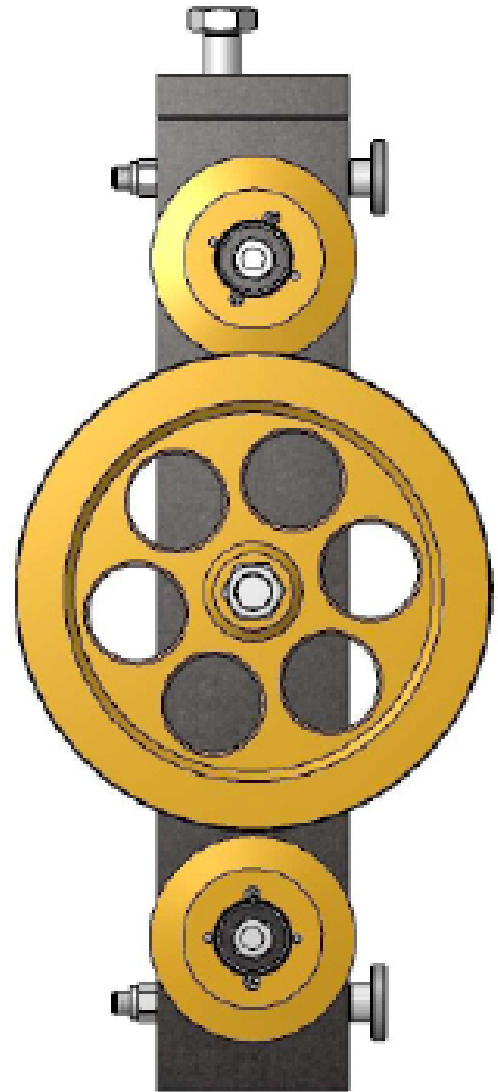


## MEASURING HEAD ASSEMBLY

### ASSEMBLY DESCRIPTION

The Measuring Head Assembly is used to measure wire sizes ranging from 0.092" to 0.125", and can be adapted for cable drive or direct drive.

B & T manufactures the 8" and 16" assemblies, as well as all of the replacement parts for any size Measuring Head Assembly.





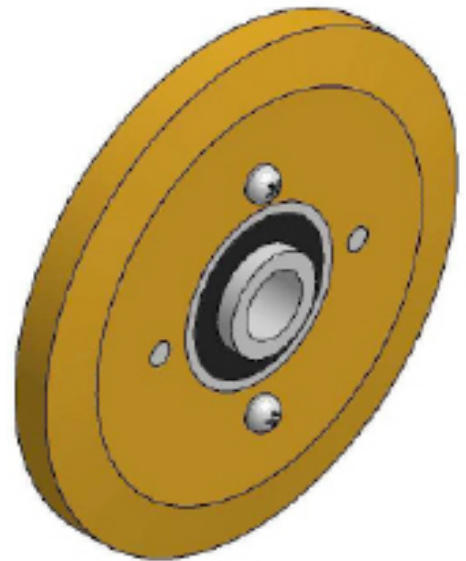
## PRESSURE WHEEL

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### ASSEMBLY DESCRIPTION

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The Pressure Wheel is a replacement part for the Measuring Head Assembly (page E5). Line sizes are available from 0.092" to 0.125".







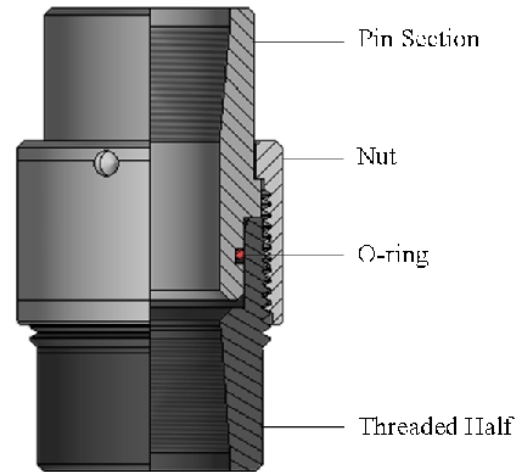
## QUICK UNION

### ASSEMBLY DESCRIPTION

Quick Unions are used along with Pup Joints to form the Lubricator Assembly. Pressure is maintained by the O-Ring (page R3).

B & T manufactures a wide range of Quick Unions, and can create specific sizes upon customer specification.

B & T can also supply Pup Joints.





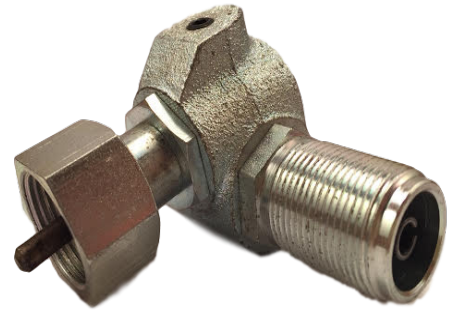
## RIGHT-ANGLE DRIVE

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### ASSEMBLY DESCRIPTION

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A Right-Angle Drive allows the operator to separate the Veeder Root Counter (page E14) from the Measuring Head Assembly (page E5). The Right-Angle Drive can also be used to change the ratio between the Measuring Head Assembly (page E5) and the Veeder Root Counter (page E14).



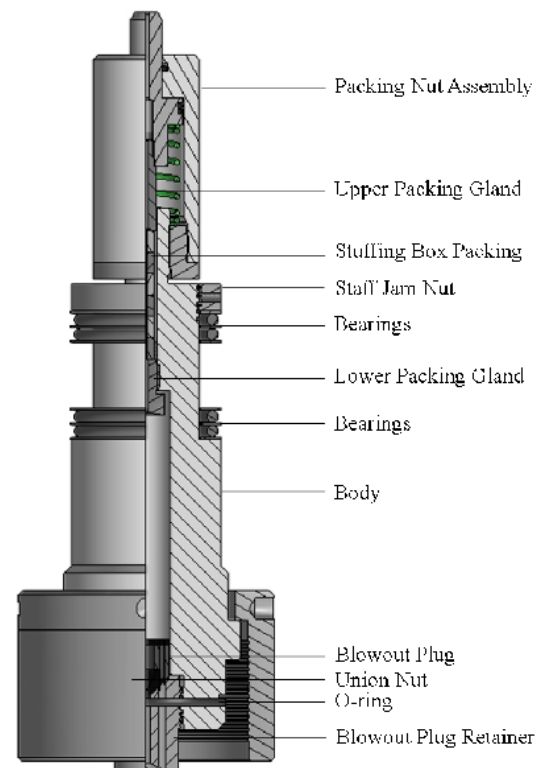
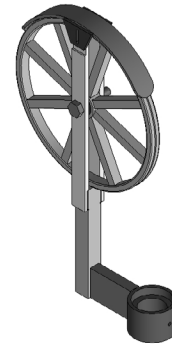


# STUFFING BOX / STAFF ASSEMBLY

## ASSEMBLY DESCRIPTION

B & T can also provide Stuffing Box Assemblies (manual or 5000-10000 psi hydraulic), as well as the entire Staff Assembly. B & T can customize the Staff Assembly to customer specifications, including any type of Stuffing Box Packing (page E11), any type of Stuffing Box Glands (page E10), and the Sheave Wheel size of your choice.

The Stuffing Box Assemblies come in multiple different connections, so the customer should specify what type of connections are required.



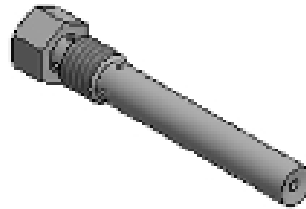


# STUFFING BOX GLAND

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Lower Gland



Lower Gland - Linear



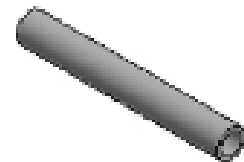
Painted Hex Head Gland



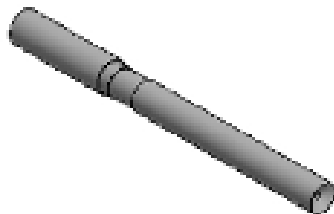
Upper Gland - Set Screw Type



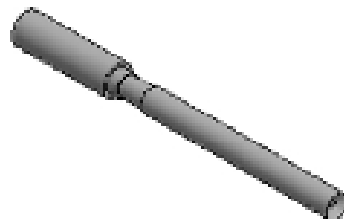
Upper Gland - Thread Type



Flow Tube Insert



.437 Large OD  
Hydraulic Packing Nut Sleeve



.357 Small OD  
Hydraulic Packing Nut Sleeve



Hydralox Upper Gland



## STUFFING BOX PACKING

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### ASSEMBLY DESCRIPTION

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B & T provides many types of Stuffing Box Packing, as well as blowout plugs, both in standard and Viton material.





## STUFFING BOX PACKING

SPECIFICATIONS		
Material	Part Number	Temperature Service
70 Durometer-Nitrile	SBBT-4NR	-20° to 275° F
90 Durometer-Nitrile	SBBT-4MNR	-20° to 275° F
Neoprene-Cotton/Duck	SBBT-Blue	-20° to 275° F
Neoprene-Cotton/Duck	SBBT-Black	-20° to 275° F
Urethane	SBBT-Tan	-20° to 165° F
Urethane	SBBT-Red	-20° to 165° F
HSN	SBBT-HSN	-20° to 275° F
NBR/Fabric	SBBT-Crown	-20° to 275° F
Viton	SBBT-Viton	0° to 400° F
NBR	SBBT-6GR	-20° to 275° F
HSN/Fabric	SBBT-CROWN-HSN	-20° to 300° F
PEEK	SBBT-PEEK	-20° to 600° F

All Specification Tables contain approximated dimensions and should be used for reference only.



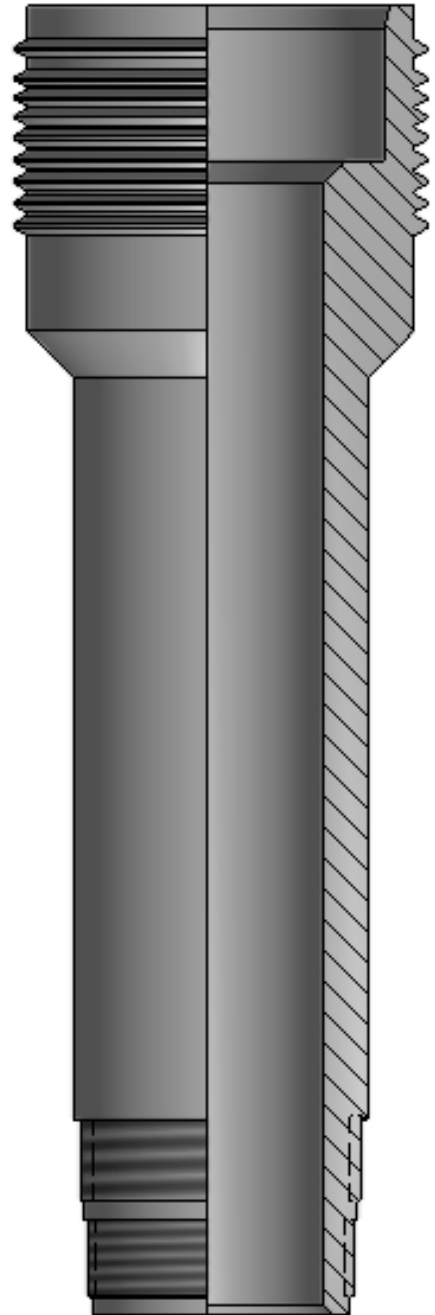
## TREE CONNECTION

### ASSEMBLY DESCRIPTION

Tree Connections are used to connect the bottom of the wireline valve to the connection at the top of the tree.

B & T manufactures a wide range of Tree Connection sizes upon customer specification.

B & T will also build special crossovers for pipe threads, including but not limited to EUE connections for Landing Nipples (page B1).





## VEEDER ROOT COUNTER

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### ASSEMBLY DESCRIPTION

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The Veeder Root Counter is attached to the Measuring Head Assembly (page E5) or it can be adapted through a remote cable. It calculates the depth of the tool string during wireline operations, as the wire is lowered downhole.

The Veeder Root Counter is available with readings in meters or feet to accommodate customer specifications.

B & T also repairs used Veeder Root Counters.







## WIRELINE CLAMP

---

### ASSEMBLY DESCRIPTION

---

The Wireline Clamp is designed for use with bare wire. The clamp can be used to manually work the wire or to “clamp” it during other applications. B & T offers a standard clamp as well as a heavy duty version for braided lines.





## NOTES

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### QUICK EMAILS

Broussard, Louisiana Office:  
Anchorage, Alaska Office:  
Alvin, Texas Office:  
Odessa, Texas Office:  
Sales Manager:  
Shipping Manager:  
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## SECTION F: FISHING TOOLS

CENTER SPEAR.....	F2	WIRELINE FINDER.....	F8
PARAFFIN SCRATCHER.....	F4	WIRELINE GRAB.....	F10
RARE EARTH MAGNET.....	F6	WIRELINE RETRIEVER.....	F11

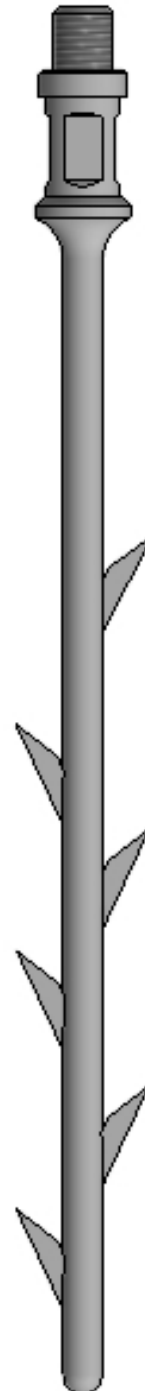


## CENTER SPEAR

### ASSEMBLY DESCRIPTION

The Center Spear is used to help remove slickline snarls stuck in the tubing. It is driven into the tangle to loosen it up for wire removal. It is often used with the B & T Wireline Finder (page F8).

The Center Spear should only be used when the specific job can not be performed with at least a two-pronged B & T Wireline Grab (page F10). The reason for this restriction is that once a Center Spear has the wireline wrapped around it, it cannot be released until it is pulled to the surface.





## CENTER SPEAR

SPECIFICATIONS				
	2.000	2.500	3.000	4.000
Fishneck	1.188	1.188	1.375	1.750
Connection	15/16"-10	15/16"-10	1-1/16"-10	1-1/16"-10
Length	22.000	22.000	22.000	22.000

All Specification Tables contain approximated dimensions and should be used for reference only.



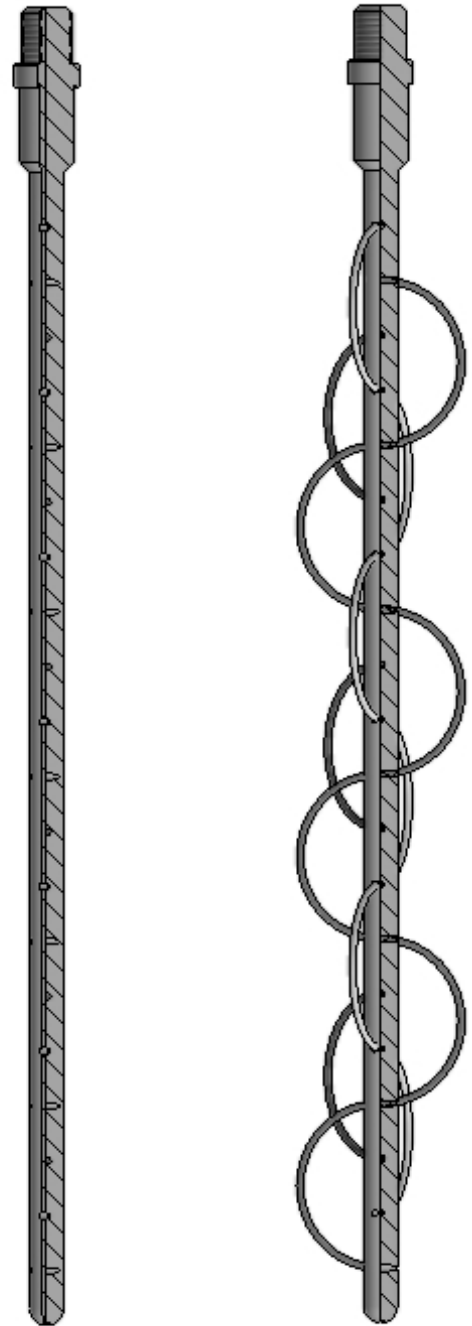
## PARAFFIN SCRATCHER

### ASSEMBLY DESCRIPTION

The Paraffin Scratcher is designed to dislodge paraffin, scale, and debris from the I.D. of the tubing. This is accomplished by threading pieces of wireline through a number of spirally drilled holes along its 5/8" diameter body and running it up and down inside the tubing.

The left assembly has each of the individual holes being filled with wire and secured with grub screws.

The right assembly shows the wireline strands being continuously run through the tool.





## PARAFFIN SCRATCHER

SPECIFICATIONS				
	2.000	2.500	3.000	4.000
Fishneck	1.188	1.188	1.375	1.750
Connection	15/16"-10	15/16"-10	1-1/16"-10	1-1/16"-10
Thru Holes	(20) 0.125" Holes Separated 1" apart Rotated 60°	(20) 0.125" Holes Separated 1" apart Rotated 60°	(20) 0.125" Holes Separated 1" apart Rotated 60°	(20) 0.125" Holes Separated 1" apart Rotated 60°

All Specification Tables contain approximated dimensions and should be used for reference only.

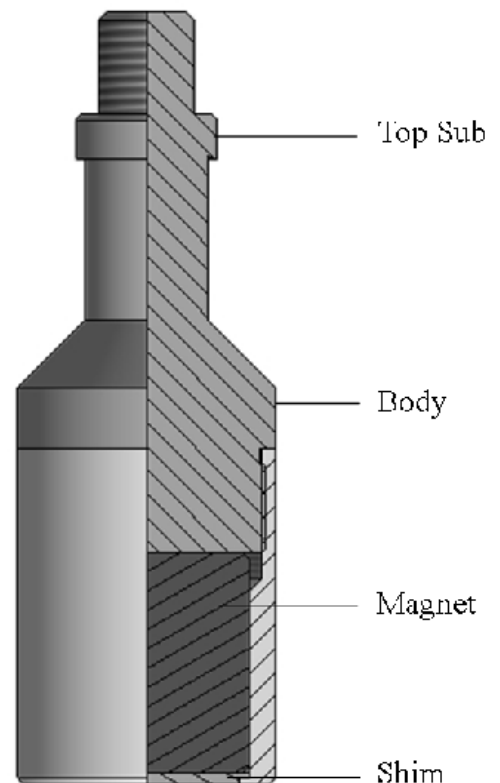


## RARE EARTH MAGNET

### ASSEMBLY DESCRIPTION

The Rare Earth Magnet is used to remove metal particles from the tubing, which may impede normal wireline operations and prevent recording tools from functioning properly.

B & T is able to produce a wide variety of Rare Earth Magnets in order to meet customer requirements and specifications.



**WARNING:** Very powerful magnets are enclosed within the tool, and care should be taken to prevent damage to electronic equipment, and any materials in your shop.





## RARE EARTH MAGNET

SPECIFICATIONS				
	1.000	1.500	1.750	2.000
Fishneck	0.875	1.188	1.375	1.375
Connection	5/8"-11	15/16"-10	15/16"-10	15/16"-10

SPECIFICATIONS				
	2.250	2.500	2.750	3.000
Fishneck	1.375	1.375	1.750	1.750
Connection	15/16"-10	15/16"-10	1-1/16"-10	1-1/16"-10

SPECIFICATIONS				
	3.250	3.500	3.750	4.000
Fishneck	1.750	1.750	1.750	1.750
Connection	1-1/16"-10	1-1/16"-10	1-1/16"-10	1-1/16"-10

All Specification Tables contain approximated dimensions and should be used for reference only.

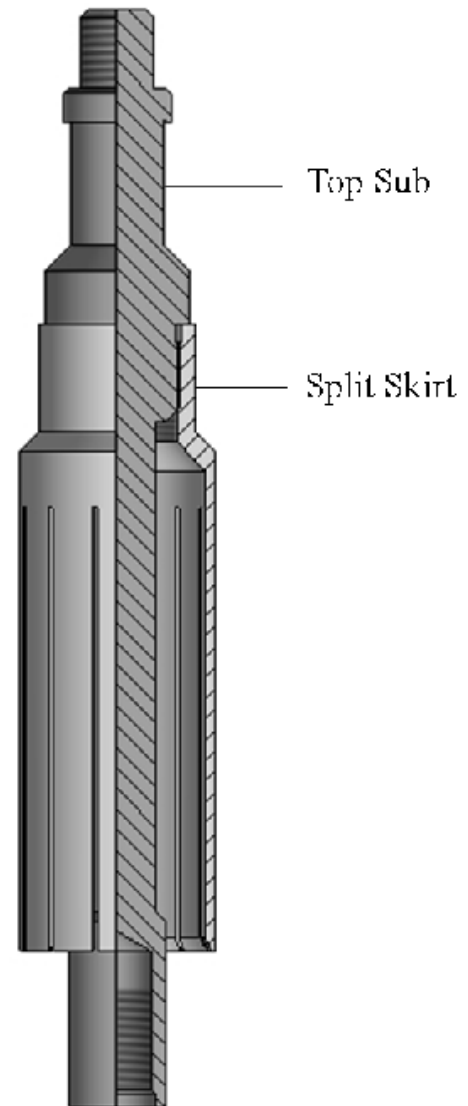


## WIRELINE FINDER

### ASSEMBLY DESCRIPTION

The Wireline Finder is used to bend or ball the uppermost part of the wire so that retrieving applications may be used. There are internal threads at the base of the Top Sub that allow a Center Spear (page F2), or Wireline Grab (page F10) to be utilized.

B & T is able to produce a wide variety of Split Skirt O.D. sizes in order to meet customer requirements and specifications.





## WIRELINER FINDER

SPECIFICATIONS				
	2.000	2.500	3.000	4.000
Fishneck	1.375	1.375	1.375	1.750
Connections	15/16"-10	15/16"-10	15/16"-10	1-1/16"-10

All Specification Tables contain approximated dimensions and should be used for reference only.



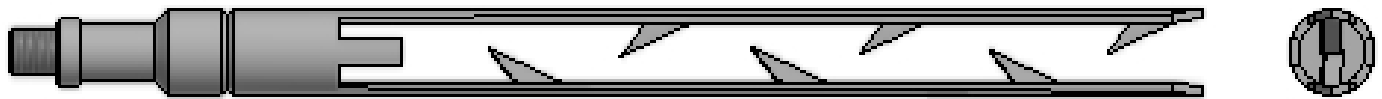
## WIRELINE GRAB

### ASSEMBLY DESCRIPTION

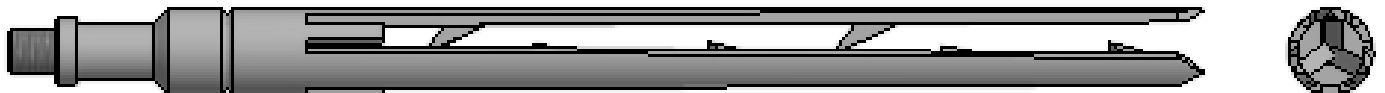
The Wireline Grab is used to remove damaged wire from the tubing during fishing. This allows the prongs of the Wireline Grab to hook onto the wire. The Wireline Grab is normally run with a dummy Rope Socket (page G23).

The customer should specify the following when ordering:

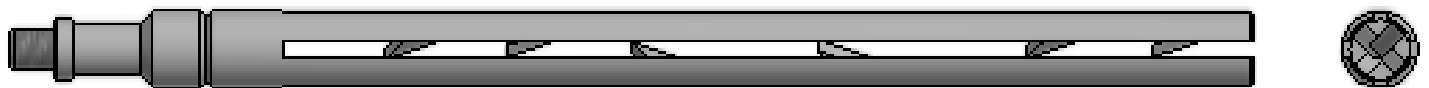
- \*The maximum O.D. of the Wireline Grab or the minimum I.D. of the tubing
- \*The number of prongs required
- \*The connection thread type



### 2 PRONG WIRELINE GRAB



### 3 PRONG WIRELINE GRAB



### 4 PRONG WIRELINE GRAB

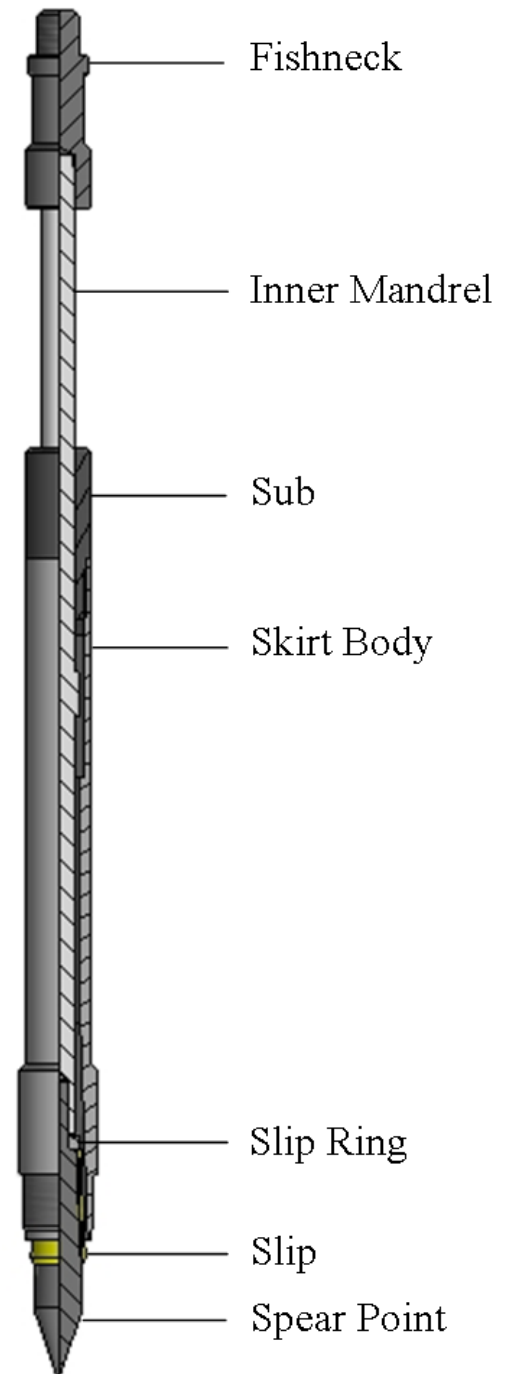


## WIRELINE RETRIEVER

### ASSEMBLY DESCRIPTION

The Wireline Retriever is designed to retrieve broken or cut slickline from the tubing. It locates and balls the broken wire with the Skirt Body. Pulling up on the Wireline Retriever traps the broken line within the tool with the use of the wedges.

B & T is able to produce a wide variety of Skirt Body O.D. sizes in order to exceed customer requirements and specifications.





## WIRELINER RETRIEVER

SPECIFICATIONS				
	2.000	2.500	3.000	4.000
Fishneck	1.375	1.375	1.375	1.750
Connection	15/16"-10	15/16"-10	15/16"-10	1-1/16"-10

All Specification Tables contain approximated dimensions and should be used for reference only.



## SECTION G: TOOL STRING

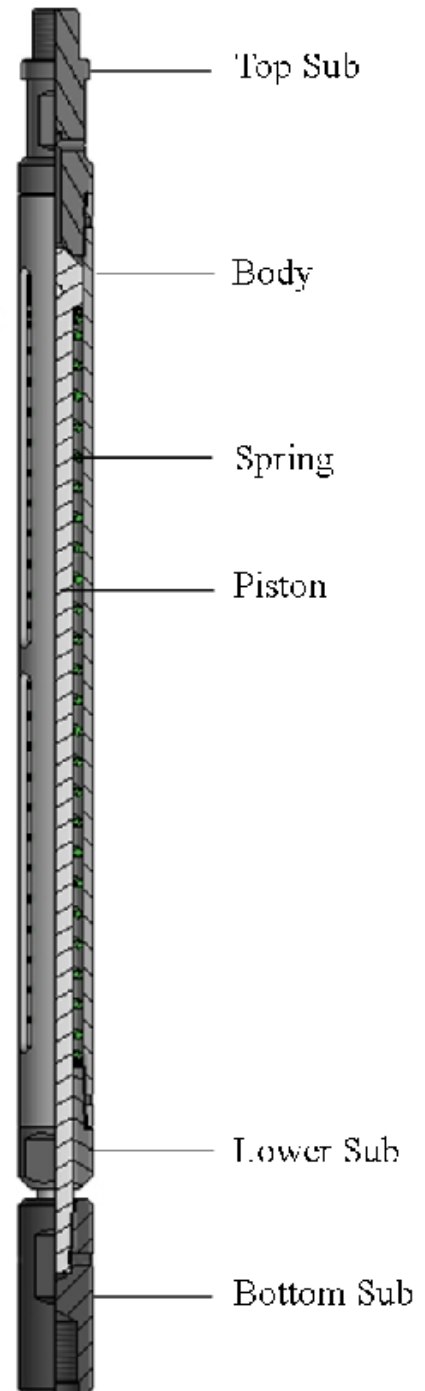
ACCELERATOR .....	G2	QUICK LOCK.....	G22
ALUMINUM DUMMY.....	G4	ROPE SOCKET (MULTI-STRAND).....	G23
ANTI-BLOW UP TOOL.....	G6	ROPE SOCKET (NO-KNOT).....	G25
BOW SPRING CENTRALIZER.....	G8	ROPE SOCKET (SINGLE-STRAND).....	G27
CROSSOVER.....	G10	SHOCK ABSORBER .....	G29
GO DEVIL.....	G11	STEM .....	G31
KNUCKLE JAR.....	G12	STEM (LEADED).....	G34
KNUCKLE JOINT.....	G14	STEM (ROLLER) .....	G37
LINK JAR.....	G16	SWIVEL JOINT .....	G39
MECHANICAL PERFORATOR.....	G18	TUBULAR JAR .....	G41
NIPPLE LOCATOR.....	G20		



# ACCELERATOR

## ASSEMBLY DESCRIPTION

The Accelerator is used to provide spring-loaded jarring action, usually at a surface level. It stores its energy for when an overpull occurs. This will make the assembly accelerate upward to where the point of impact was, thus increasing the amount of force being generated. It may also act as a shock absorber for when assemblies are being used at shallow depths.







## ACCELERATOR

SPECIFICATIONS			
	1.250	1.500	1.750
Fishneck	1.187	1.375	1.750
Connections	15/16"-10	15/16"-10	1-1/16"-10

SPECIFICATIONS			
	1.875	2.125	2.500
Fishneck	1.375	1.750	2.313
Connections	1-1/16"-10	1-1/16"-10	1-1/16"-10

All Specification Tables contain approximated dimensions and should be used for reference only.

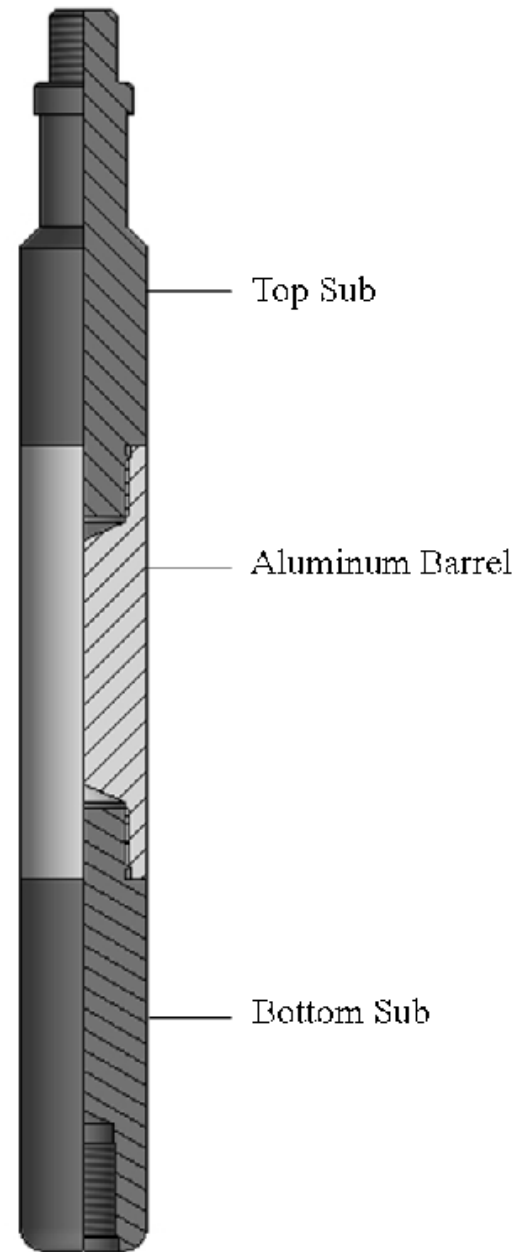


## ALUMINUM DUMMY

### ASSEMBLY DESCRIPTION

An Aluminum Dummy can be used to ensure downhole clearance or can be used as a spacer in a wireline tool string assembly.

B & T's Aluminum Dummy can be customized to any length in order to meet customer requirements and specifications





## ALUMINUM DUMMY

SPECIFICATIONS				
	1.500	1.687	1.750	2.000
Fishneck	1.375	1.375	1.375	1.750
Connections	15/16"-10	15/16"-10	15/16"-10	15/16"-10

SPECIFICATIONS				
	2.125	2.250	2.500	2.750
Fishneck	1.750	1.750	1.750	1.750
Connections	15/16"-10	1-1/16"-10	1-1/16"-10	1-1/16"-10

SPECIFICATIONS				
	3.375	4.000		
Fishneck	2.313	2.313		
Connections	1-1/16"-10	1-1/16"-10		

All Specification Tables contain approximated dimensions and should be used for reference only.

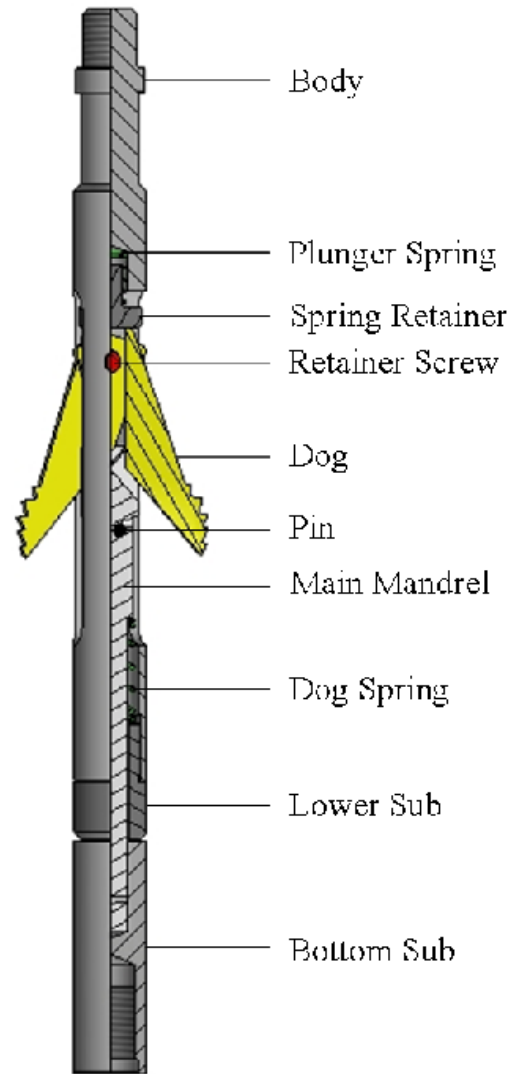


## ANTI-BLOW UP TOOL

### ASSEMBLY DESCRIPTION

The Anti-Blow Up Tool is installed in the tool string above the B.H.P. equipment. The weight of the B.H.P. equipment will keep the dogs retracted.

If a sudden surge of pressure were to occur below the tool string, the memory pressure gauges and other equipment would move upward, releasing the Dogs outward. The Dogs would then engage the inner tubing wall, thereby preventing the tool string from being blown up the tubing.





## ANTI-BLOW UP TOOL

SPECIFICATIONS		
	1.250	1.500
Fishneck	1.187	1.375
Connections	15/16"-10	15/16"-10

All Specification Tables contain approximated dimensions and should be used for reference only.

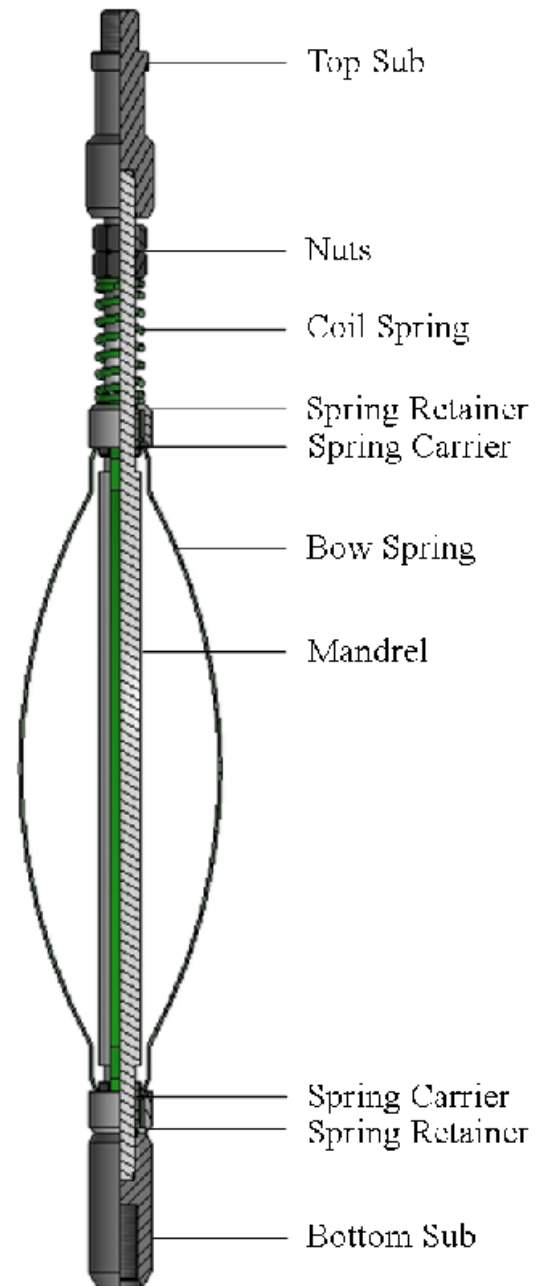


## BOW SPRING CENTRALIZER

### ASSEMBLY DESCRIPTION

Through the use of an adjustable nut, the Bow Spring Centralizer can adjust to any O.D. ranging from 1.500" to 7.500" O.D. It is used to keep the tool string located in the center of the tubing.

The Bow Spring Centralizer contracts to fit through 2.313" Landing Nipples (page B1).





## BOW SPRING CENTRALIZER

SPECIFICATIONS	
	Standard
Fishneck	1.375
Connections	15/16"-10

All Specification Tables contain approximated dimensions and should be used for reference only.



## CROSSOVER

### ASSEMBLY DESCRIPTION

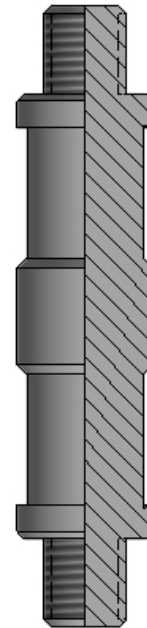
The B & T Crossover is used to connect two tool string items together when the items do not have similar connection styles or sizes. B & T Crossovers have a central body, with one of the following variations of its top and lower sub:

- Pin to Box
- Box to Box
- Pin to Pin

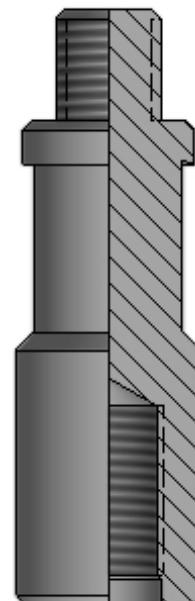
Crossovers may have but are not limited to having the following connections:

- 1-1/2", 1-7/8", 2-1/2", and 2-1/8" QLS
- 5/8", 15/16", 1-1/16", and 1-9/16" Sucker Rod
- Drain Rod connections
- Amerada connections

Pin X Pin Crossover



Pin X Box Crossover







## GO DEVIL

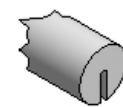
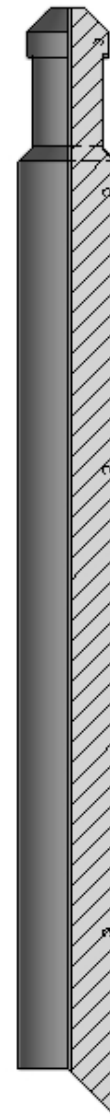
### ASSEMBLY DESCRIPTION

The Go Devil is dropped to cut the wireline at the Rope Socket (page G23) when the tool string becomes stuck. B & T manufactures three types of Go Devils in order to accommodate to customer's tubing specifications.

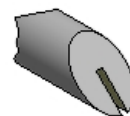
The Mule Shoe style is used when there is liquid present to slow the Go Devil as it descends. This style can also utilize sliding sleeves to keep the tool centered in the tubing.

The Deer Foot style is used when there is only gas present. The Deer Foot style is manufactured to remain in the center of the tubing, even after striking and releasing the Rope Socket.

The Flat Bottom style is used when there is sand or a large amount of debris present so as to drastically reduce the speed of the Go Devil as it descends.



Flat Bottom



Mule Shoe



Deer Foot

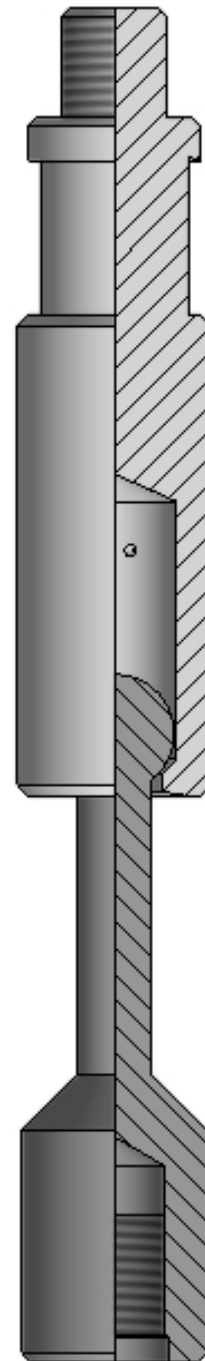


## KNUCKLE JAR

### ASSEMBLY DESCRIPTION

The Knuckle Jar provides a range of motion that helps to make the connections between the assemblies in the tool string significantly more flexible.

Knuckle Jars can be used for light jarring.





## KNUCKLE JAR

SPECIFICATIONS			
	1.250	1.500	1.750
Fishneck	1.188	1.750	1.750
Connections	15/16"-10	15/16"-10	1-1/16"-10

SPECIFICATIONS			
	1.875	1.875	2.125
Fishneck	1.750	1.750	1.750
Connections	1-1/16"-10	1-1/16"-10	1-1/16"-10

All Specification Tables contain approximated dimensions and should be used for reference only.

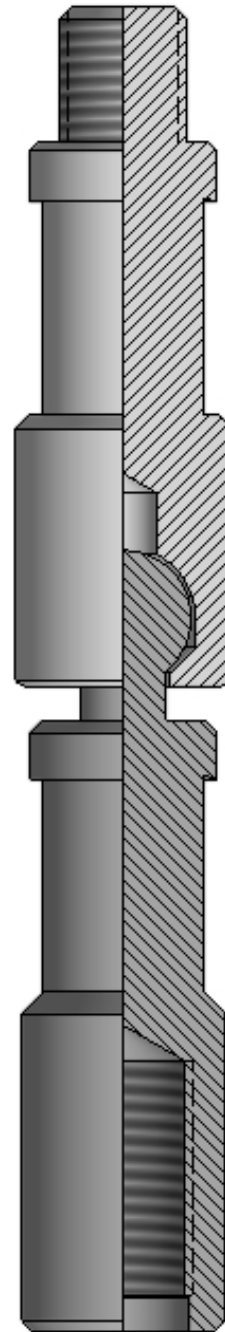


## KNUCKLE JOINT

### ASSEMBLY DESCRIPTION

The Knuckle Joint is designed for applications where tool string rotation or deflection is required. It is most useful in fishing applications to properly locate the fishneck.

The Knuckle Joint provides a range of motion that helps to make the connections between the tool string and the running or pulling tools significantly more flexible. If one or more Knuckle Joints are utilized, it will allow for Kickover Tools (page P1) to explore side pocket areas.





## KNUCKLE JOINT

SPECIFICATIONS				
	.750	1.000	1.250	1.500
Fishneck	0.750	1.000	1.188	1.375
Connections	1/2"-13	5/8"-11	15/16"-10	15/16"-10

SPECIFICATIONS				
	1.750	1.875	2.125	2.500
Fishneck	1.750	1.750	1.750	2.313
Connections	1-1/16"-10	1-1/16"-10	1-1/16"-10	1-9/16"-10

All Specification Tables contain approximated dimensions and should be used for reference only.



## LINK JAR

### ASSEMBLY DESCRIPTION

The Link Jar provides extra weight in order to increase the impact needed to operate certain wireline tools. The intensity is dependent upon the weight of the Stem (page G31) above it, the stroke of the jar, the density and viscosity of the well fluid, and the well pressure.





## LINK JAR

SPECIFICATIONS				
	.750	1.000	1.250	1.500
Fishneck	0.750	1.000	1.188	1.375
Connections	1/2"-13	5/8"-11	15/16"-10	15/16"-10

SPECIFICATIONS				
	1.750	1.875	2.125	2.500
Fishneck	1.750	1.750	1.750	2.313
Connections	1-1/16"-10	1-1/16"-10	1-1/16"-10	1-9/16"-10

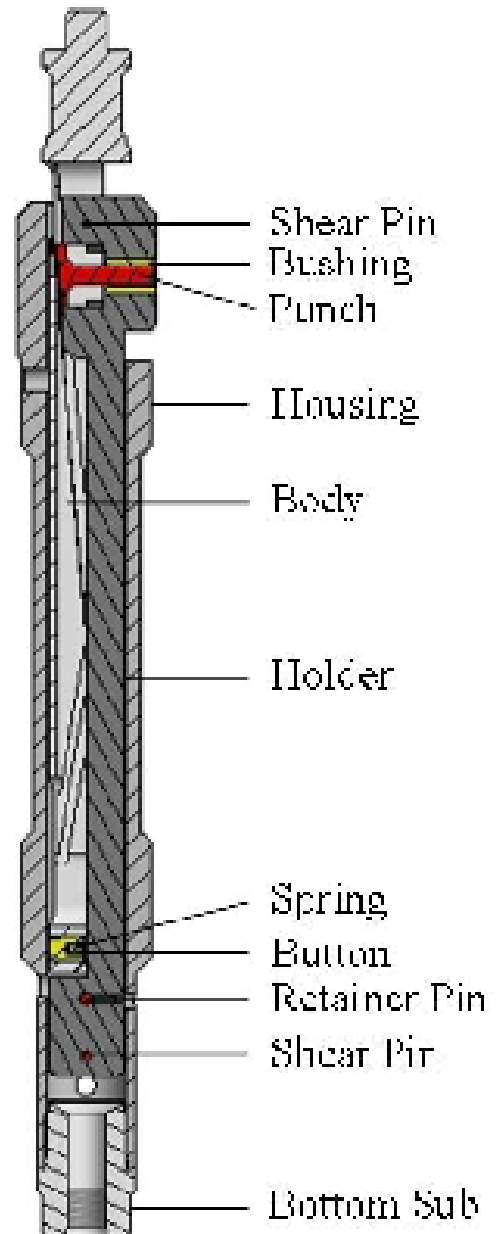
All Specification Tables contain approximated dimensions and should be used for reference only.



# MECHANICAL PERFORATOR

## ASSEMBLY DESCRIPTION

The B & T Mechanical Perforators have reduced costs and reduced rig times by eliminating explosives and other equipment. It is also much simpler to use.







## MECHANICAL PERFORATOR

SPECIFICATIONS			
	1.250	2.500	2.000
Fishneck	1.000	1.375	1.375
Connections	5/8"-11	15/16"-10	15/16"-10

SPECIFICATIONS			
	3.000	4.000	4.000
Fishneck	1.750	1.750	1.750
Connections	1-1/16"-10	1-1/16"-10	1-1/16"-10

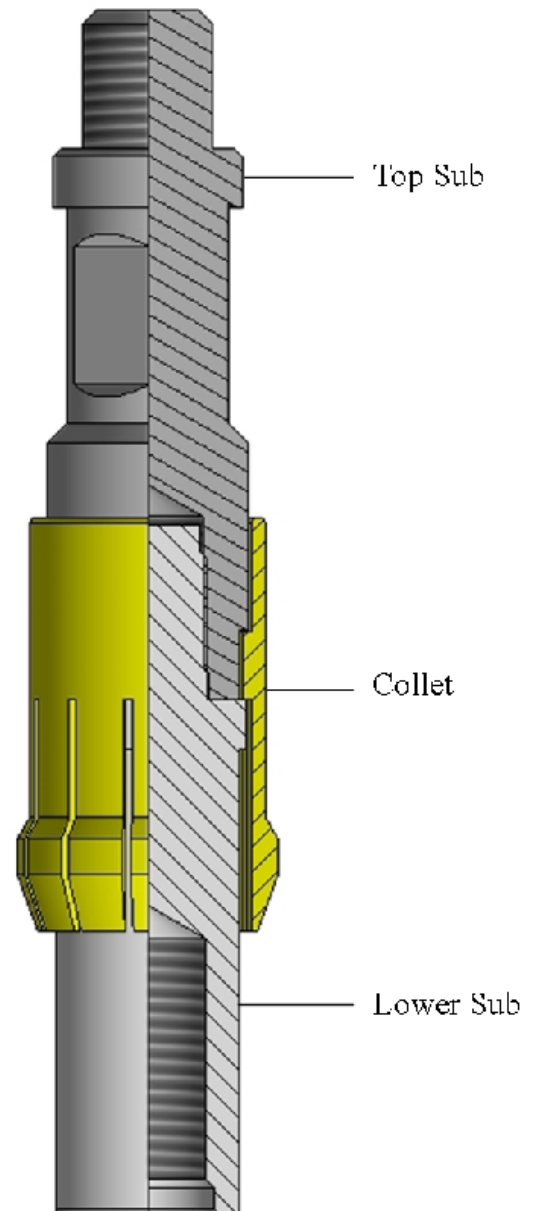
All Specification Tables contain approximated dimensions and should be used for reference only.



## NIPPLE LOCATOR

### ASSEMBLY DESCRIPTION

The Nipple Locator indicates where the Landing Nipple (page B1) is located downhole. The Collet of the Nipple Locator is stopped at the restriction and must be tapped through the restriction, thereby indicating the true depth of the nipple.





## NIPPLE LOCATOR

SPECIFICATIONS			
	1.875	2.188	2.313
Fishneck	1.375	1.375	1.375
Connections	15/16"-10	15/16"-10	15/16"-10

SPECIFICATIONS			
	2.750	2.813	
Fishneck	1.375	1.375	
Connections	15/16"-10	15/16"-10	

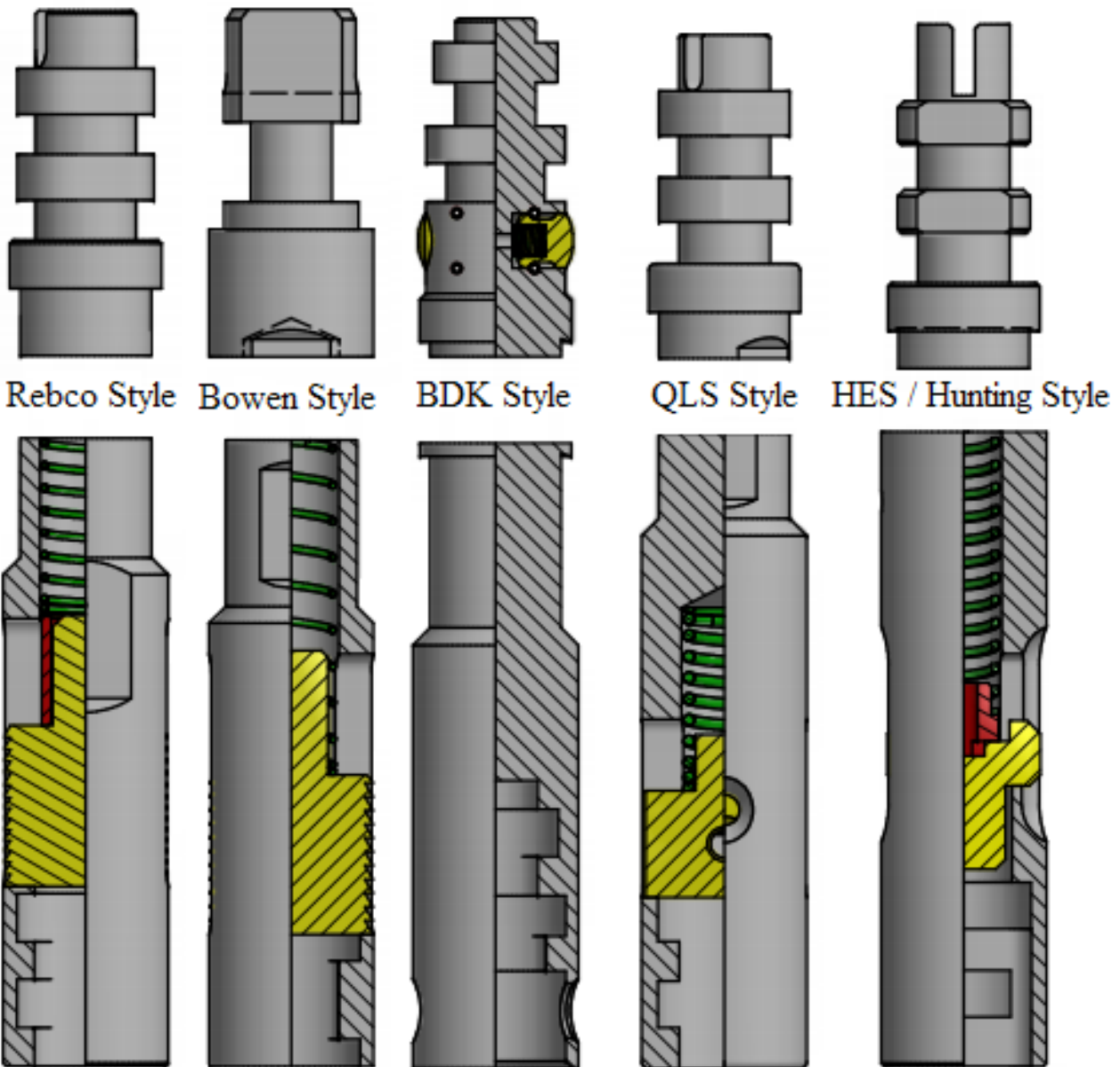
All Specification Tables contain approximated dimensions and should be used for reference only.



# QUICK LOCK

## ASSEMBLY DESCRIPTION

The Quick Lock is designed to provide a fast and safe means of changing over tools. B & T provides a wide range of different style connections. Some connections may be able to remove the need for wrenches when assembling or disassembling tools.

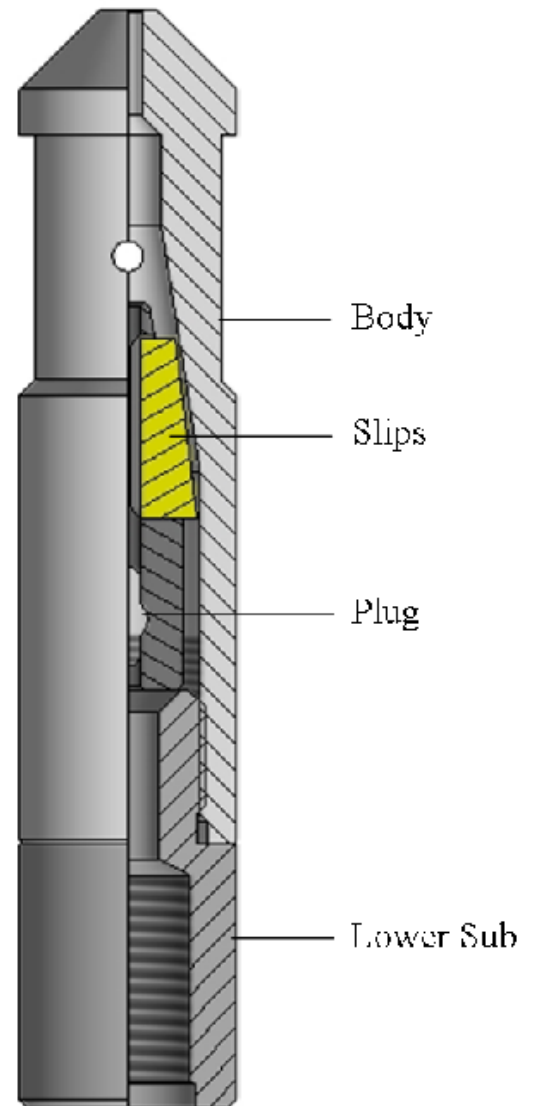




## ROPE SOCKET (MULTI-STRAND)

### ASSEMBLY DESCRIPTION

The Multi-Strand Rope Socket is used to attach multi-strand lines with the wireline tool string. This slip-type Rope Socket is used with small lines up to 7/32". Each rope socket is able to maintain a specific weight, proportional to the nominal size. In the event that the tool string becomes stuck, the Slips will break the wireline, allowing it to then be pulled up.





## ROPE SOCKET (MULTI-STRAND)

SPECIFICATIONS			
	1.250	1.500	1.875
Connection	15/16"-10	15/16"-10	1-1/16"-10

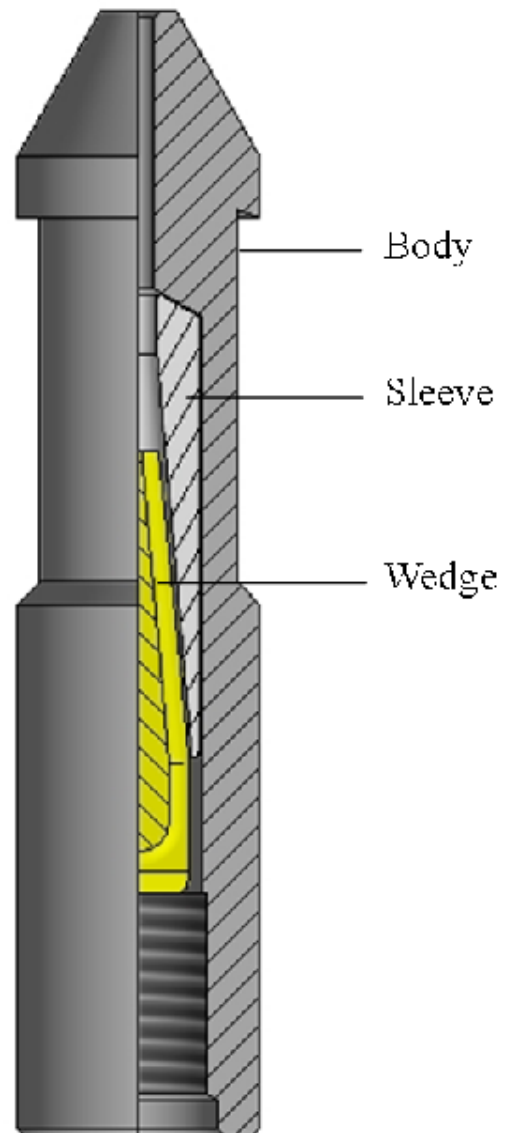
All Specification Tables contain approximated dimensions and should be used for reference only.



## ROPE SOCKET (NO-KNOT)

### ASSEMBLY DESCRIPTION

The No-Knot Rope Socket is used to connect the wireline to the wireline tool string. The line is run through the Body and Sleeve, with the line set in the groove of the Wedge. The line is set when the Wedge is pulled tightly into the Sleeve.





## ROPE SOCKET (NO-KNOT)

SPECIFICATIONS			
	1.250	1.500	1.750
Fishneck	1.188	1.375	1.750
Connection	15/16"-10	15/16"-10	1-1/16"-10

SPECIFICATIONS			
	1.875	2.125	2.500
Fishneck	1.750	1.750	2.313
Connection	1-1/16"-10	1-1/16"-10	1-9/16"-10

All Specification Tables contain approximated dimensions and should be used for reference only.

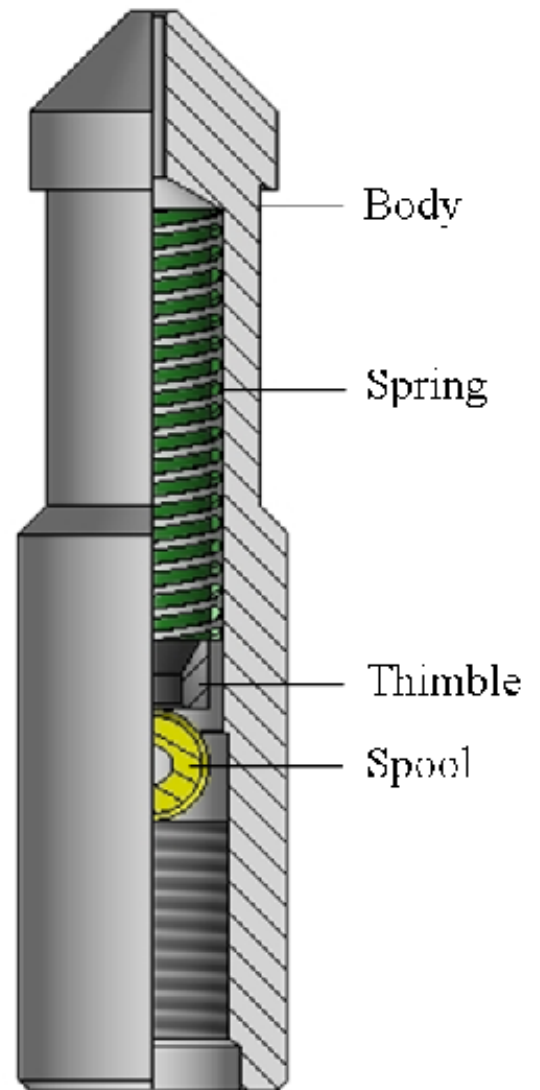




## ROPE SOCKET (SINGLE-STRAND)

### ASSEMBLY DESCRIPTION

The Single-Strand Rope Socket is used to attach single strand wireline with the wireline tool string. It is recommended for use with wireline string sizes ranging from 0.072" to 0.125".





## ROPE SOCKET (SINGLE-STRAND)

SPECIFICATIONS			
	0.750	0.875	1.000
Fishneck	0.688	0.750	1.000
Connection	1/2"-13	1/2"-13	5/8"-11

SPECIFICATIONS			
	1.250	1.500	1.750
Fishneck	1.188	1.375	1.750
Connection	15/16"-10	15/16"-10	1-1/16"-10

SPECIFICATIONS			
	1.875	2.125	2.500
Fishneck	1.750	1.750	2.313
Connection	1-1/16"-10	1-1/16"-10	1-9/16"-10

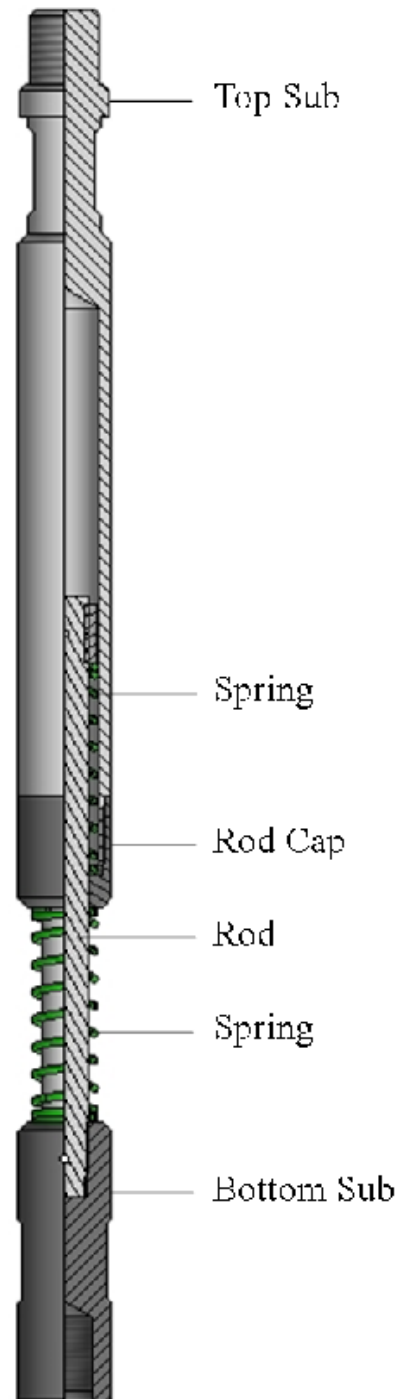
All Specification Tables contain approximated dimensions and should be used for reference only.



## SHOCK ABSORBER

### ASSEMBLY DESCRIPTION

The Shock Absorber is used to protect sensitive recording equipment from various jarring actions. The Shock Absorber has two separate Springs which receive both upward and downward jarring shock. The lower Spring is much heavier as it will be holding the weight of the tool string.





## SHOCK ABSORBER

SPECIFICATIONS			
	0.750	1.000	1.250
Fishneck	0.750	0.875	1.188
Connection	5/8"-11	5/8"-11	15/16"-10

SPECIFICATIONS			
	1.500	1.750	1.875
Fishneck	1.375	1.750	1.750
Connection	15/16"-10	15/16"-10	1-1/16"-10

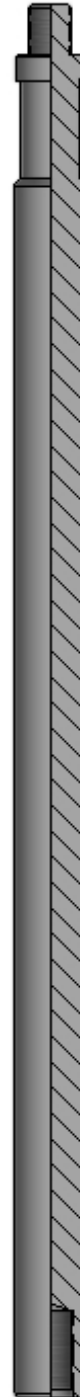
All Specification Tables contain approximated dimensions and should be used for reference only.



## STEM

### ASSEMBLY DESCRIPTION

Stem is used to add weight to the tool string to counteract upward well bore pressure. This allows easy descent of the tool string. It is also used to increase the jarring effect of Link Jars (page G16) and Tubular Jars (page G41). Tungsten Stem is available upon customer request, and will add significantly more weight per square inch.





# STEM

SPECIFICATIONS			
0.500			
Length	2'	3'	5'
Fishneck	0.500	0.500	0.500
Connections	3/8"-16	3/8"-16	3/8"-16
Weight	0.670	2.000	3.350

SPECIFICATIONS			
0.750			
Length	2'	3'	5'
Fishneck	0.625	0.625	0.625
Connections	1/2"-13	1/2"-13	1/2"-13
Weight	3.000	2.000	3.350

SPECIFICATIONS			
1.000			
Length	2'	3'	5'
Fishneck	0.875	0.875	0.875
Connections	5/8"-11	5/8"-11	5/8"-11
Weight	5.300	7.800	12.000

SPECIFICATIONS			
1.250			
Length	2'	3'	5'
Fishneck	1.188	1.188	1.188
Connections	15/16"-10	15/16"-10	15/16"-10
Weight	7.800	12.000	20.400

All Specification Tables contain approximated dimensions and should be used for reference only.



# STEM

SPECIFICATIONS			
1.500			
Length	2'	3'	5'
Fishneck	1.375	1.375	1.375
Connections	15/16"-10	15/16"-10	15/16"-10
Weight	11.000	17.000	29.200

SPECIFICATIONS			
1.750			
Length	2'	3'	5'
Fishneck	1.750	1.750	1.750
Connections	1-1/16"-10	1-1/16"-10	1-1/16"-10
Weight	17.500	26.800	46.000

SPECIFICATIONS			
2.125			
Length	2'	3'	5'
Fishneck	1.750	1.750	1.750
Connections	1-1/16"-10	1-1/16"-10	1-1/16"-10
Weight	24.100	36.200	53.400

SPECIFICATIONS			
2.500			
Length	2'	3'	5'
Fishneck	2.313	2.313	2.313
Connections	1-9/16"-10	1-9/16"-10	1-9/16"-10
Weight	33.400	50.100	83.500

All Specification Tables contain approximated dimensions and should be used for reference only.

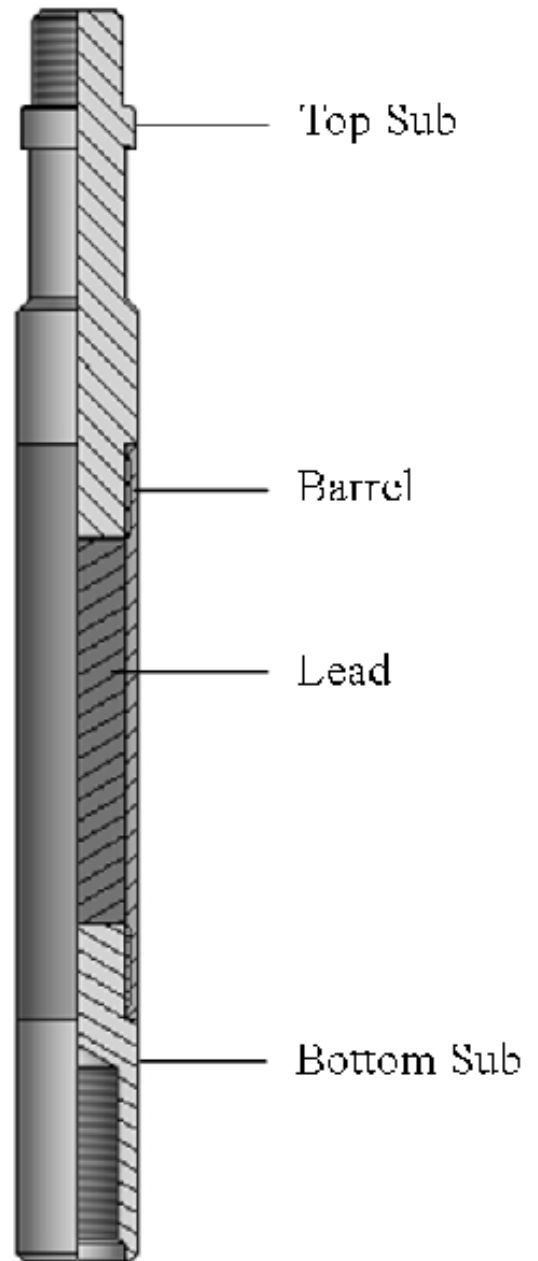


## STEM (LEADED)

### ASSEMBLY DESCRIPTION

Stem is used to add weight to the tool string to counteract upward well bore pressure. This allows easy descent of the tool string. It is also used to increase the jarring effect of Link Jars (page G16) and Tubular Jars (page G41).

A Leaded Stem adds more weight per piece than the standard Stem (page G31) due to the increased density of the lead Core.







## STEM (LEADED)

SPECIFICATIONS			
1.250			
Length	2'	3'	5'
Fishneck	1.188	1.188	1.188
Connections	15/16"-10	15/16"-10	15/16"-10

SPECIFICATIONS			
1.500			
Length	2'	3'	5'
Fishneck	1.375	1.375	1.375
Connections	15/16"-10	15/16"-10	15/16"-10

SPECIFICATIONS			
1.750			
Length	3'	4'	5'
Fishneck	1.375	1.375	1.375
Connections	1 1/16"-10	1-1/16"-10	1-1/16"-10

SPECIFICATIONS			
1.875			
Length	2'	3'	5'
Fishneck	1.750	1.750	1.750
Connections	1-1/16"-10	1-1/16"-10	1-1/16"-10

All Specification Tables contain approximated dimensions and should be used for reference only.



## STEM (LEADED)

SPECIFICATIONS			
2.125			
Length	2'	3'	5'
Fishneck	1.375	1.375	1.375
Connections	15/16"-10	15/16"-10	15/16"-10

SPECIFICATIONS			
2.250			
Length	2'	3'	5'
Fishneck	1.750	1.750	1.750
Connections	1-1/16"-10	1-1/16"-10	1-1/16"-10

SPECIFICATIONS			
2.500			
Length	2'	3'	5'
Fishneck	2.313	2.313	2.313
Connections	1-9/16"-10	1-9/16"-10	1-9/16"-10

All Specification Tables contain approximated dimensions and should be used for reference only.



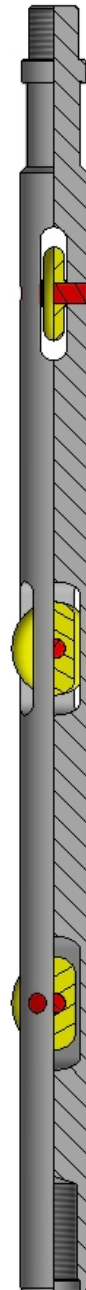
## STEM (ROLLER)

### ASSEMBLY DESCRIPTION

A Roller Stem is used to provide extra weight to the wireline tool string. In addition the rollers allow the assembly to move easier through deviated tubing.

The rollers also reduce the amount of friction and heat that standard Stem (page G31), and Leaded Stem (page G34) will generate. B & T can also manufacture rollers of different sizes for each of the different sizes of Stem.

The most common lengths of Roller Stem are 2', 3', and 5' but B & T is also able to produce any length Stem as to meet customer requirements.





## STEM (ROLLER)

SPECIFICATIONS			
	1.250	1.500	1.750
Fishneck	1.188	1.375	1.750
Connections	15/16"-10	15/16"-10	1-1/16"-10

SPECIFICATIONS			
	1.875	2.125	2.250
Fishneck	1.750	1.750	2.313
Connections	1-1/16"-10	1-1/16"-10	1-9/16"-10

All Specification Tables contain approximated dimensions and should be used for reference only.

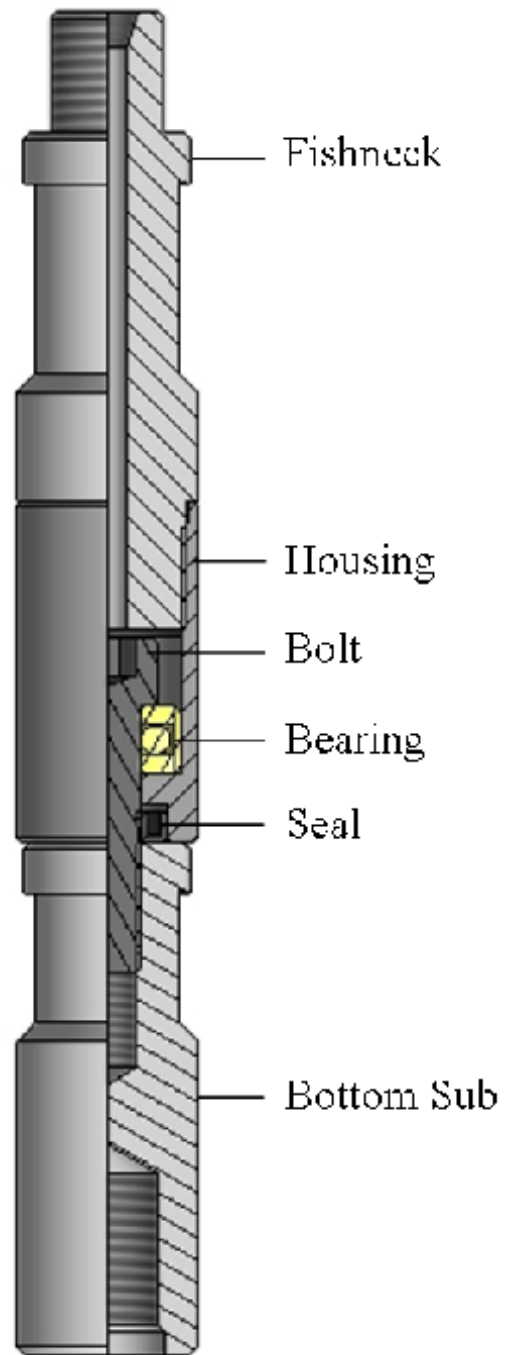


## SWIVEL JOINT

### ASSEMBLY DESCRIPTION

The Swivel Joint is designed to assist in the changing of components in the wireline tool string. The swivel design allows the operator to change out long sections of the tool string without having to rotate them.

The Swivel Joint also allows the tool string to spin and rotate downhole to prevent line twists. Ultimately this will reduce the tool string's chances of being damaged.





## SWIVEL JOINT

SPECIFICATIONS			
	1.250	1.500	1.750
Fishneck	1.188	1.375	1.750
Connections	15/16"-10	15/16"-10	1-1/16"-10

SPECIFICATIONS			
	1.875	2.125	2.500
Fishneck	1.750	1.750	2.313
Connections	1-1/16"-10	1-1/16"-10	1-9/16"-10

All Specification Tables contain approximated dimensions and should be used for reference only.



## TUBULAR JAR

### ASSEMBLY DESCRIPTION

The Tubular Jar performs the same function as the Link Jar (page G16), but the holes in the body of the Tubular Jar allow fluid bypass. This gives Tubular Jars an advantage compared to Link Jars (page G16), because where a Link Jar might lock up or buckle at full stroke in a tubing with debris, a Tubular Jar could allow the debris to pass through it and still manage to jar the tool string.

By allowing fluids to flow through the holes in the body of the Tubular Jar, the harmful effects of the debris in the well fluid and even faults in the wire on jarring impact is significantly reduced.





## TUBULAR JAR

SPECIFICATIONS				
	0.750	1.000	1.250	1.500
Fishneck	0.750	1.000	1.188	1.375
Connections	1/2"-13	5/8"-11	15/16"-10	15/16"-10

SPECIFICATIONS				
	1.750	1.875	2.125	2.500
Fishneck	1.750	1.750	1.750	2.313
Connections	1-1/16"-10	1-1/16"-10	1-1/16"-10	1-9/16"-10

All Specification Tables contain approximated dimensions and should be used for reference only.





B & T is able to turn down each of the tools in this section to any specific O.D. as well as provide each tool with customer specific fishneck and thread connections. If the thread connections are not specified, B & T will use threads common with wireline standards as specified in the tables on the following page.

## SECTION H: TOOL STRING SUPPLEMENTAL EQUIPMENT

COMMON TOOL SIZES CHART .....	H2	RING GAUGE .....	H7
2 STEP CHISEL .....	H3	STAR DRILL.....	H8
BLIND BOX.....	H4	TUBING CENTRALIZER.....	H9
BROACHES .....	H5	TUBING SWEDGE .....	H10
IMPRESSION BLOCK .....	H6		



## COMMON TOOL SIZES CHART

SPECIFICATIONS				
	0.750	.875	1.250	1.500
Fishneck	0.688	0.688	1.188	1.375
Connections	1/2"-13	1/2"-13	15/16"-10	15/16"-10

SPECIFICATIONS				
	1.750	1.845	1.875	2.000
Fishneck	1.750	1.750	1.750	1.750
Connections	1-1/16"-10	1-1/16"-10	1-1/16"-10	1-1/16"-10

SPECIFICATIONS				
	2.250	2.500	2.750	3.000
Fishneck	1.750	1.750	1.750	1.750
Connections	1-1/16"-10	1-1/16"-10	1-1/16"-10	1-1/16"-10

SPECIFICATIONS				
	3.500	3.750	4.000	
Fishneck	2.313	2.313	2.313	
Connections	1-1/16"-10	1-1/16"-10	1-1/16"-10	

All Specification Tables contain approximated dimensions and should be used for reference only.



## 2 STEP CHISEL

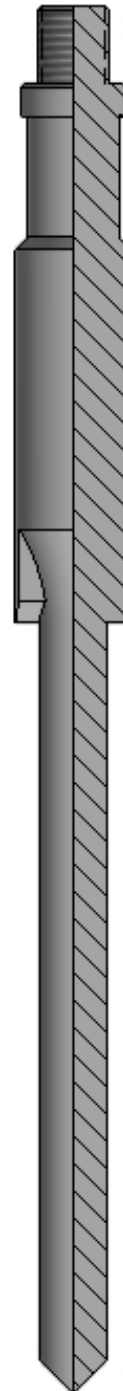
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### ASSEMBLY DESCRIPTION

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The 2 Step Chisel is used to clear large masses of scale and built up debris downhole.

Please refer to the Common Tool Sizes Chart (page H2) when ordering so as to best clarify which fishneck and thread connections are required.



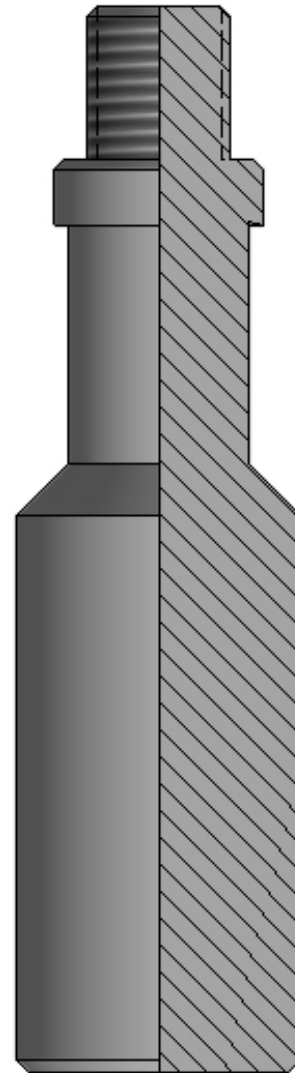


## BLIND BOX

### ASSEMBLY DESCRIPTION

The Blind Box is a single piece tool designed to deliver “blows”, much like a hammer, to downhole debris. The B & T Blind Box can also be used to break the wireline at the Rope Socket (page G23), which then allows for the wire to be retrieved.

Please refer to the Common Tool Sizes Chart (page H2) when ordering so as to best clarify which fishneck and thread connections are required.



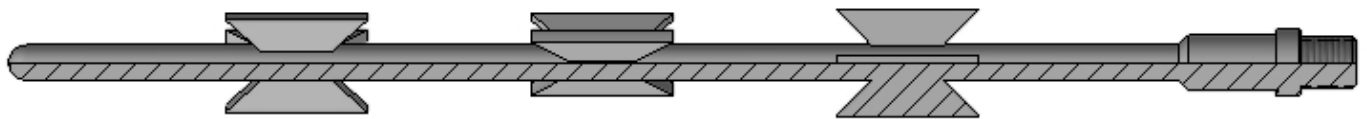


## BROACHES

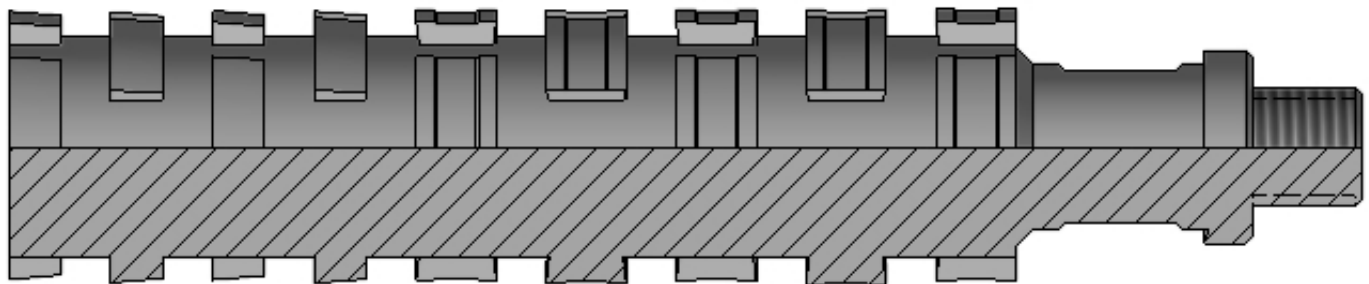
### ASSEMBLY DESCRIPTION

Tubing Broaches are heavy durable tools that are used to remove tubing restrictions in the well bore. Depending on the type of material in the tubing well, different broach styles may be recommended.

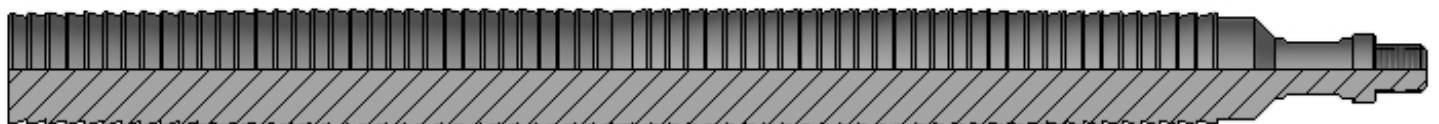
Please refer to the Common Tool Sizes Charts (page H2) when ordering so as to best clarify which fishneck and thread connections are required.



Paddle Broach



Pineapple Broach



Tubing Broach

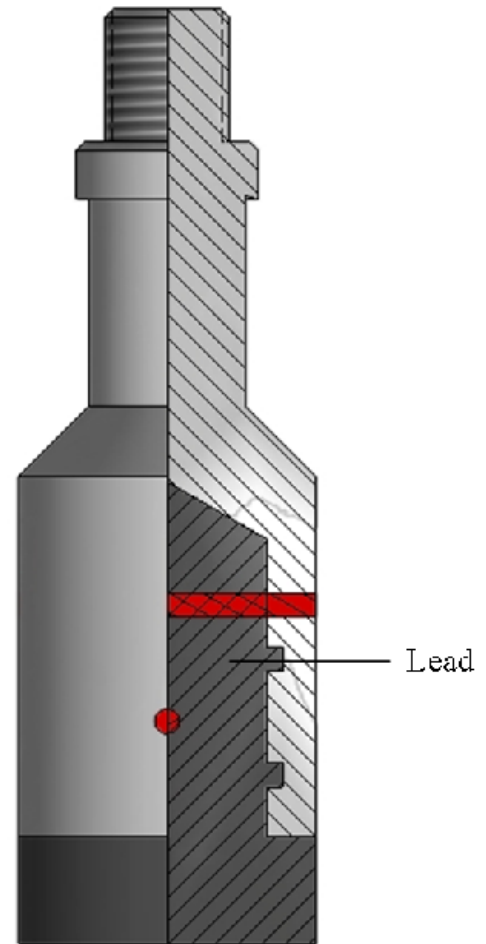


## IMPRESSION BLOCK

### ASSEMBLY DESCRIPTION

The Impression Block is a steel housing with a lead core. It is used to make an impression of the size, shape, and position of an object to be fished. The soft bottom of the block will be able to take a sample of the unknown object so that the operator is able to accurately select the next fishing equipment, which increases efficiency and safety.

Please refer to the Common Tool Sizes Charts (page H2) when ordering so as to best clarify which fishneck and thread connections are required.





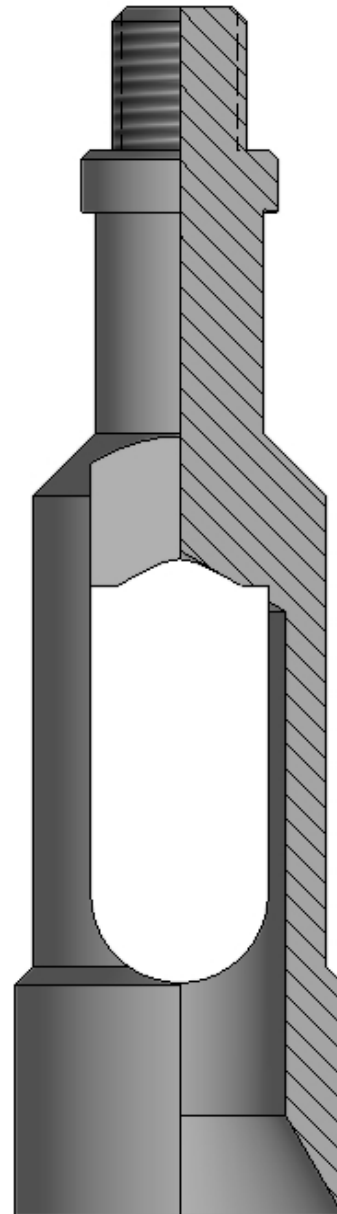
## RING GAUGE

### ASSEMBLY DESCRIPTION

The Ring Gauge can be used to calibrate tubing and locate Landing Nipples (page B1). Its main purpose is to remove paraffin wax and other deposits from the tubing wall.

The middle section of the Ring Gauge has large windows that allow fluid to pass through the tool. The lower section of the Ring Gauge has a lip that the tool uses for scraping against the sides of the tubing.

Please refer to the Common Tool Sizes Chart (page H2) when ordering so as to best clarify which fishneck and thread connections are required.



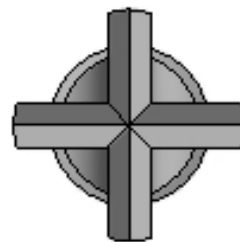
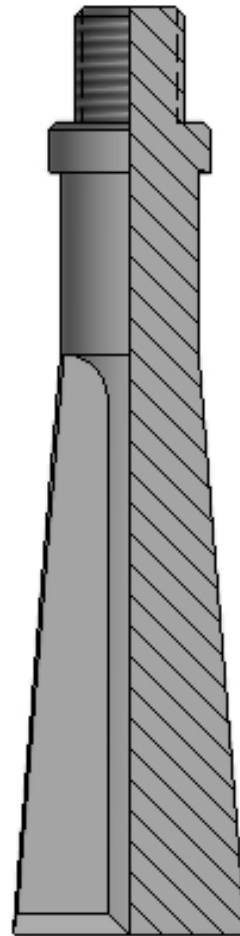


## STAR DRILL

### ASSEMBLY DESCRIPTION

Star Drills are used to clean up excess deposits within the well. When used in conjunction with a B & T Broach (page H5), the Star Drill is able to accurately determine that the tubing is clear of debris and deposits.

Please refer to the Common Tool Sizes Chart (page H2) when ordering so as to best clarify which fishneck and thread connections are required.





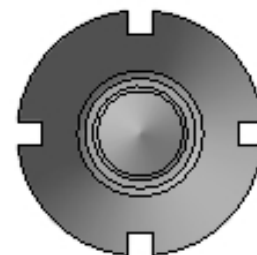
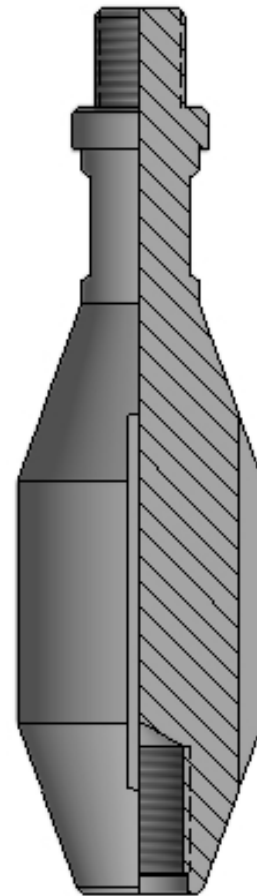


## TUBING CENTRALIZER

### ASSEMBLY DESCRIPTION

The Tubing Centralizer is used to help keep the tool string in the center of the tubing. The diameter is machined near the tubing drift specifications. Fluid bypass slots are machined to assist the tool string downhole. This tool is placed above the pulling or running assemblies so that when the tool string is lowered, it will be centered within the tubing.

Please refer to the Common Tool Sizes Chart (page H2) when ordering so as to best clarify which fishneck and thread connections are required.



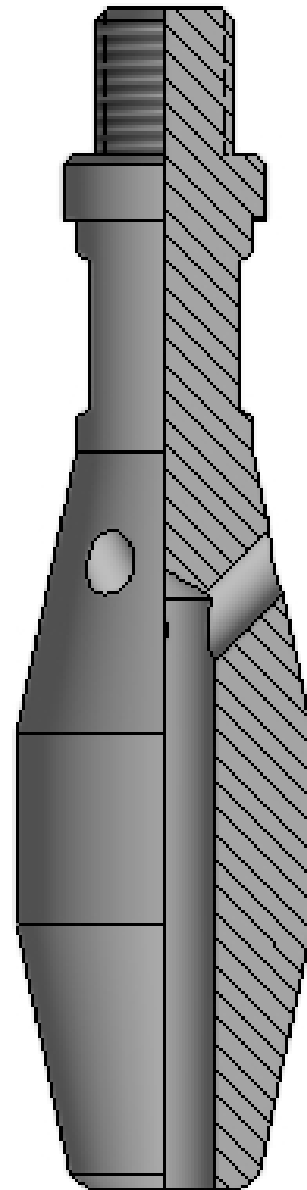


## TUBING SWEDGE

### ASSEMBLY DESCRIPTION

The Tubing Swedge is used to forcibly straighten irregular tubing deficiencies. Tubing Swedges are also used to remove other obstructions within the tubing string, through the use of its angled fluid ports.

Please refer to the Common Tool Sizes Chart (page H2) when ordering so as to best clarify which fishneck and thread connections are required.





## SECTION I: RUNNING TOOLS

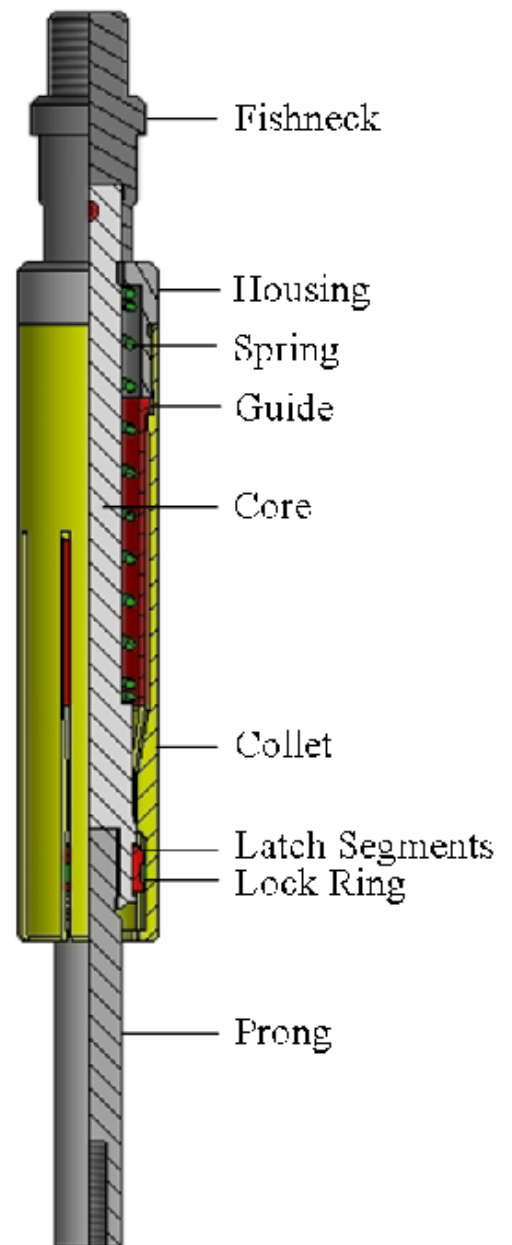
BR SOFT RELEASE RUNNING TOOL.....	I2	JC-3 RUNNING TOOL .....	I18
C-1 RUNNING TOOL .....	I4	JK RUNNING TOOL .....	I20
D RUNNING TOOL .....	I6	B & T R-LINE RUNNING TOOL .....	I22
DB RUNNING TOOL .....	I8	B & T RX RUNNING TOOL.....	I25
G STOP RUNNING TOOL .....	I10	B & T RXN RUNNING TOOL.....	I27
GA-2 RUNNING TOOL.....	I12	W RUNNING TOOL .....	I29
J LATCH SOFT RELEASE .....	I14	B & T X-LINE RUNNING TOOL.....	I31
J RUNNING TOOL .....	I16		



# BR SOFT RELEASE RUNNING TOOL

## ASSEMBLY DESCRIPTION

The B & T BR Soft Release Running Tool sets bottom hole gauges, or other pressure instruments.





## BR SOFT RELEASE RUNNING TOOL

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SPECIFICATIONS	
	1.500
Fishneck	1.188
Connections	15/16"-10

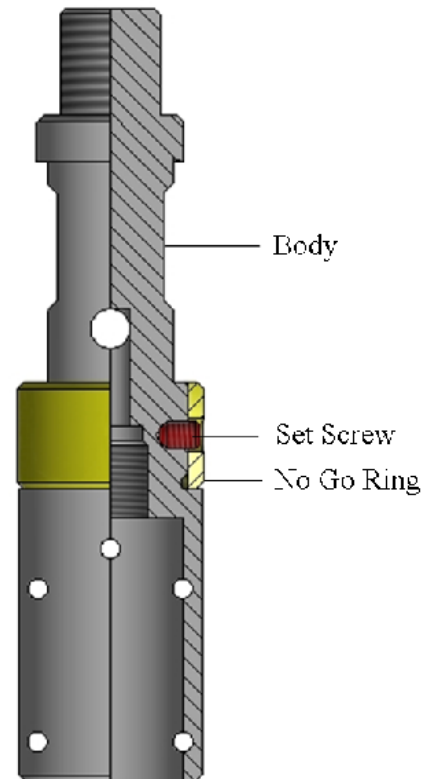
All Specification Tables contain approximated dimensions and should be used for reference only.



## C-1 RUNNING TOOL

### ASSEMBLY DESCRIPTION

The C-1 Running Tool is designed for use with most Baker Style Equipment (page N1).





## C-1 RUNNING TOOL

SPECIFICATIONS			
	1.500	1.750	2.000
Fishneck	1.188	1.188	1.375
Connections	15/16"-10	15/16"-10	15/16"-10

SPECIFICATIONS			
	2.500	3.000	4.000
Fishneck	1.750	2.313	3.125
Connections	15/16"-10	1-1/16"-10	1-1/16"-10

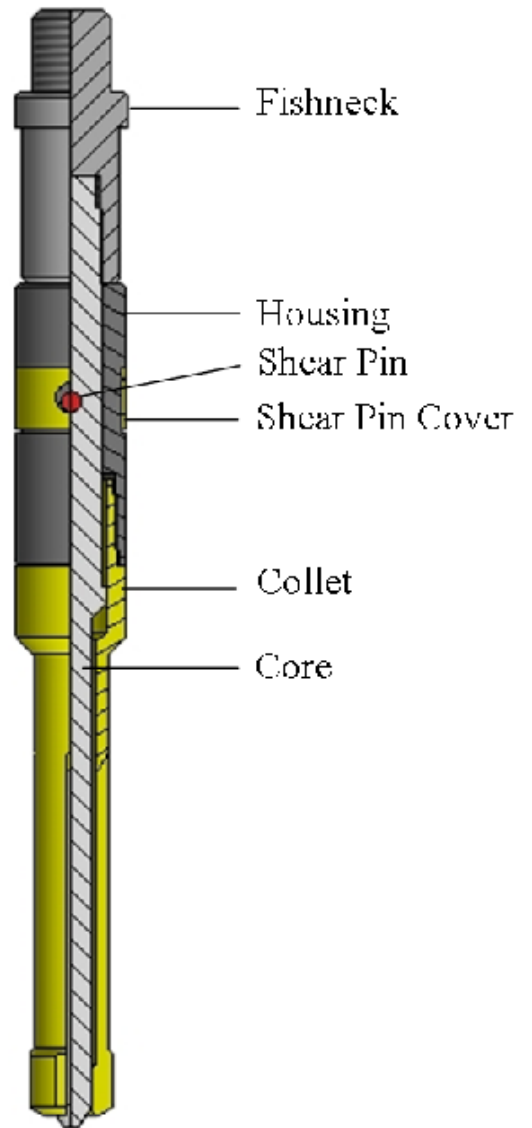
All Specification Tables contain approximated dimensions and should be used for reference only.



## D RUNNING TOOL

### ASSEMBLY DESCRIPTION

The B & T D Running Tool is used to set the D Lock (page A7) and DD Bridge Plug (page C6).







## D RUNNING TOOL

SPECIFICATIONS			
	2.000	2.500	3.000
Fishneck	1.375	1.750	1.750
Maximum O.D.	1.340	1.750	2.125
Connections	15/16"-10	15/16"-10	15/16"-10
Made Up Length	12.500	12.906	12.875
Shear Pin	1/4" X 1-3/16"	1/4" X 1-5/8"	1/4" X 2"
Set Screw	1/4"-20 X 1/4"	1/4"-20 X 1/4"	1/4"-20 X 1/4"

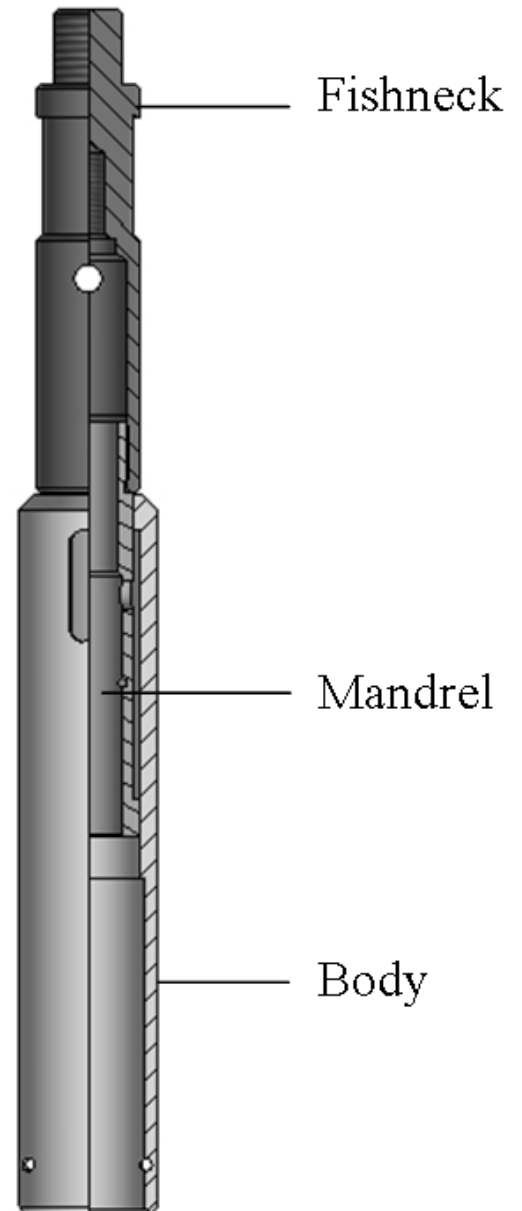
All Specification Tables contain approximated dimensions and should be used for reference only.



## DB RUNNING TOOL

### ASSEMBLY DESCRIPTION

The DB Running Tool is very similar to the B & T D Running Tool (page I6). It is able to run the same equipment, and additionally it can also run an A Blanking Plug.





## DB RUNNING TOOL

SPECIFICATIONS		
	2.000	2.500
Fishneck	1.375	1.375
Maximum O.D.	1.859	2.296
Connections	15/16"-10	15/16"-10
Made Up Length (Opened)	18.468	15.813
Made Up Length (Closed)	15.218	14.250
Shear Pin	3/16" X 1-3/4"	3/16" X 2-1/4"

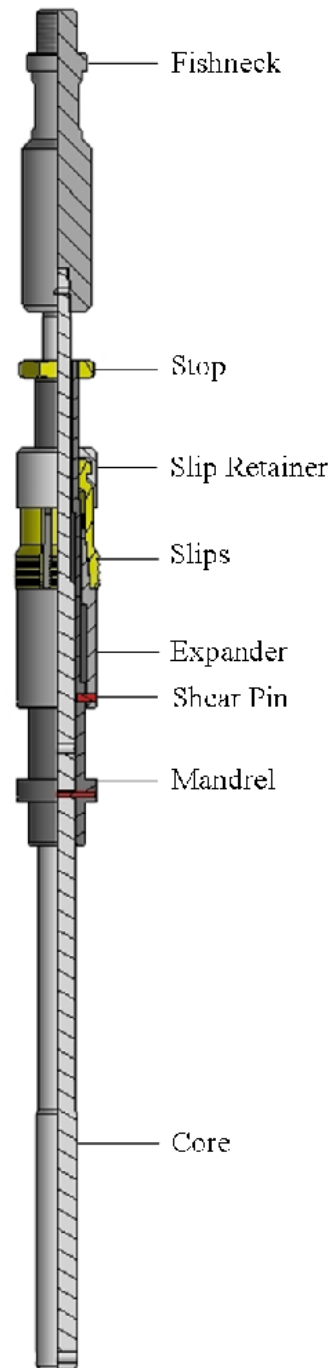
All Specification Tables contain approximated dimensions and should be used for reference only.



## G STOP RUNNING TOOL

### ASSEMBLY DESCRIPTION

The G Stop Running Tool is used to set G Stop Anchors (page D11).





## G STOP RUNNING TOOL

SPECIFICATIONS			
	2.000	2.500	3.000
Fishneck	1.375	1.375	1.750
Connections	15/16"-10	15/16"-10	1-1/16"-10
Shear Pin	1/8" X 1-13/16"	1/8" X 2-3/16"	3/16" X 2-11/16"
Set Screw	1/4"-20 X 5/16"	3/8"-16 X 1/2"	3/8"-16 X 1/2"

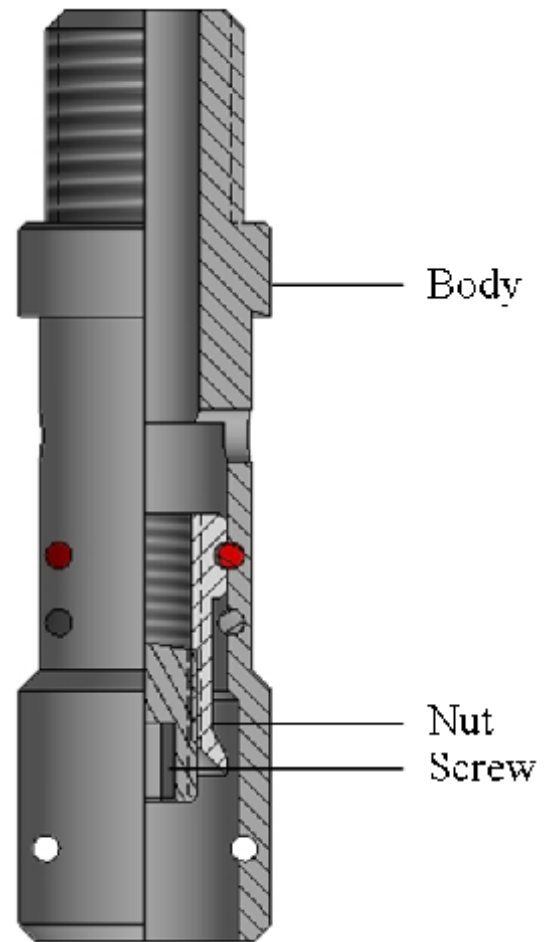
All Specification Tables contain approximated dimensions and should be used for reference only.



## GA-2 RUNNING TOOL

### ASSEMBLY DESCRIPTION

The GA-2 Running Tool is used to set 1" bottom latch valves. The B & T GA-2 Running Tool can be used with the L Kickover Tool (page P4) or K Kickover Tool (page P2).





## GA-2 RUNNING TOOL

SPECIFICATIONS	
	Standard
Fishneck	1.188
Connections	15/16"-10
Length	3.375
Roll Pins	1/8" X 7/8"
Shear Pins	1/8" X 7/8"

All Specification Tables contain approximated dimensions and should be used for reference only.

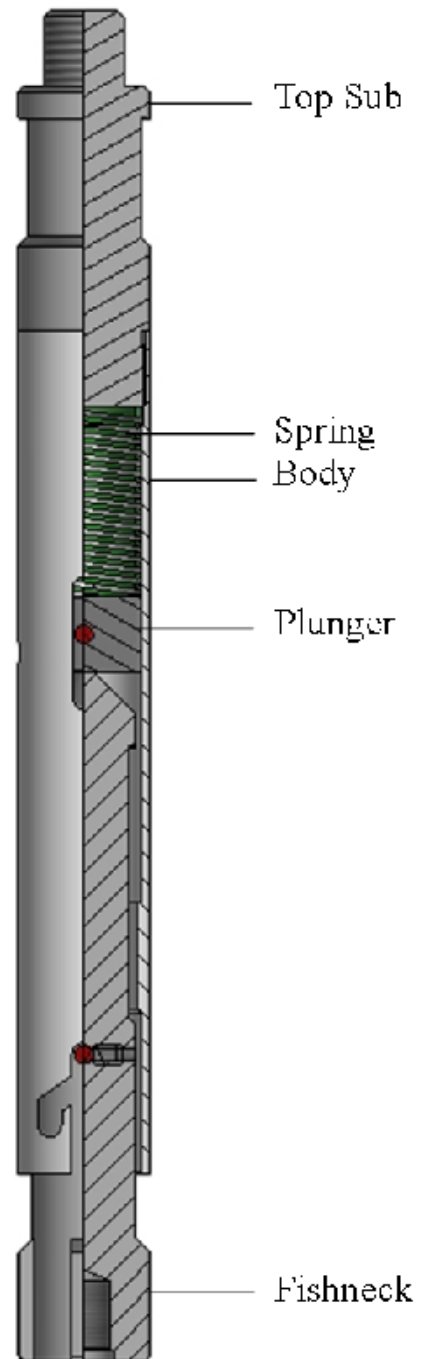


## J LATCH SOFT RELEASE

### ASSEMBLY DESCRIPTION

The J Latch Soft Release is used to set Bottom Hole Pressure Gauges.

The J Head is released by the weight of the tool string. The J Fishneck is left downhole with the Bottom Hole Pressure Gauges for retrieval at a later date.







## J LATCH SOFT RELEASE

SPECIFICATIONS		
	1.500	1.750
Fishneck	1.375	1.750
Connections	15/16"-10	1-1/16"-10

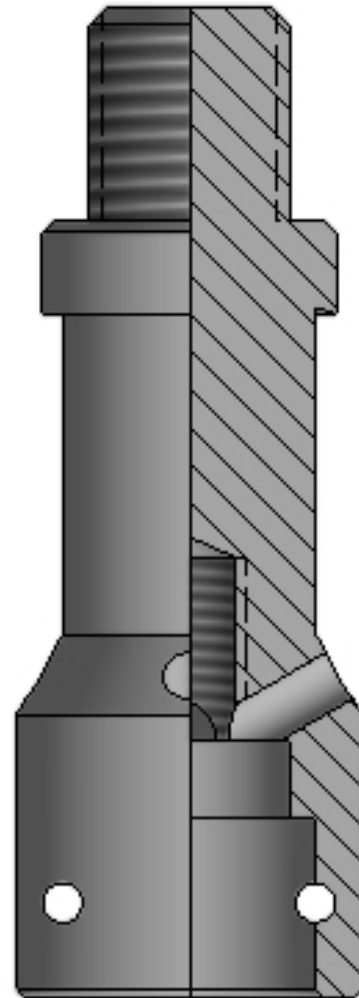
All Specification Tables contain approximated dimensions and should be used for reference only.



## J RUNNING TOOL

### ASSEMBLY DESCRIPTION

The J Running Tool is used to set B & T S Locks (page A13).





## J RUNNING TOOL

SPECIFICATIONS			
	1.250	1.500	2.000
Fishneck	1.000	1.188	1.375
Maximum O.D.	1.125	1.420	1.625
Pin Connection	5/8"-11	15/16"-10	15/16"-10
Bottom Connection	3/8"-16	3/8"-16	1/2"-13
Length	2.375	3.500	3.688
Shear Pins	1/8" X 1-1/16"	1/8" X 1-3/8"	3/16" X 2-1/16"

SPECIFICATIONS			
	2.500	3.000	4.000
Fishneck	1.375	2.313	2.313
Maximum O.D.	2.125	2.500	3.500
Pin Connection	15/16"-10	1-1/16"-10	1-1/16"-10
Bottom Connection	1/2"-13	5/8"-11	1-1/4"-12
Length	3.688	4.625	5.063
Shear Pins	3/16" X 2-1/16"	3/16" X 2-1/16"	3/16" X 3-7/16"

All Specification Tables contain approximated dimensions and should be used for reference only.



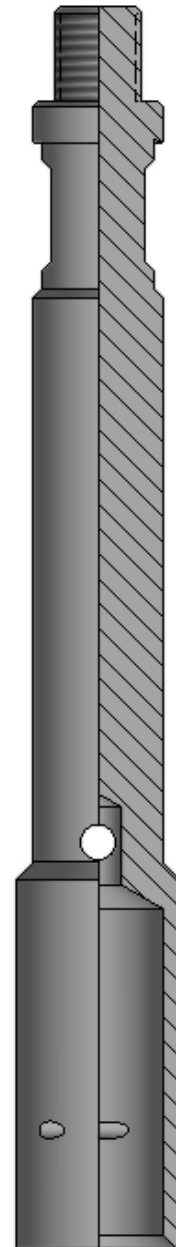
## JC-3 RUNNING TOOL

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### ASSEMBLY DESCRIPTION

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The JC-3 Running Tool is used to run the R or RA Latch in the appropriate MM Mandrel.





## JC-3 RUNNING TOOL

SPECIFICATIONS		
	Standard	Extended
Fishneck	1.375	1.375
Maximum O.D.	1.750	1.750
Connections	15/16"-10	15/16"-10
Length	6.188	12.000
Shear Pin	3/16" X 1-5/8"	3/16" X 1-5/8"

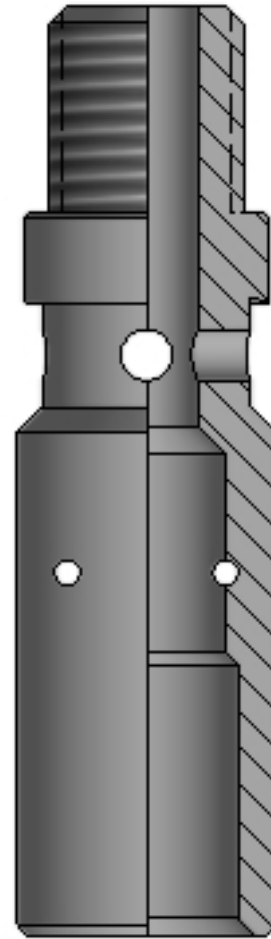
All Specification Tables contain approximated dimensions and should be used for reference only.



## JK RUNNING TOOL

### ASSEMBLY DESCRIPTION

The JK Running Tool, is used with a Kickover Tool (page P1) to install the BK and BK-2 Latches in side pocket mandrels.





## JK RUNNING TOOL

SPECIFICATIONS	
	Standard
Fishneck	1.188
Maximum O.D.	1.300
Connections	15/16"-10
Length	3.550
Shear Pin	1/8" X 1-1/8"

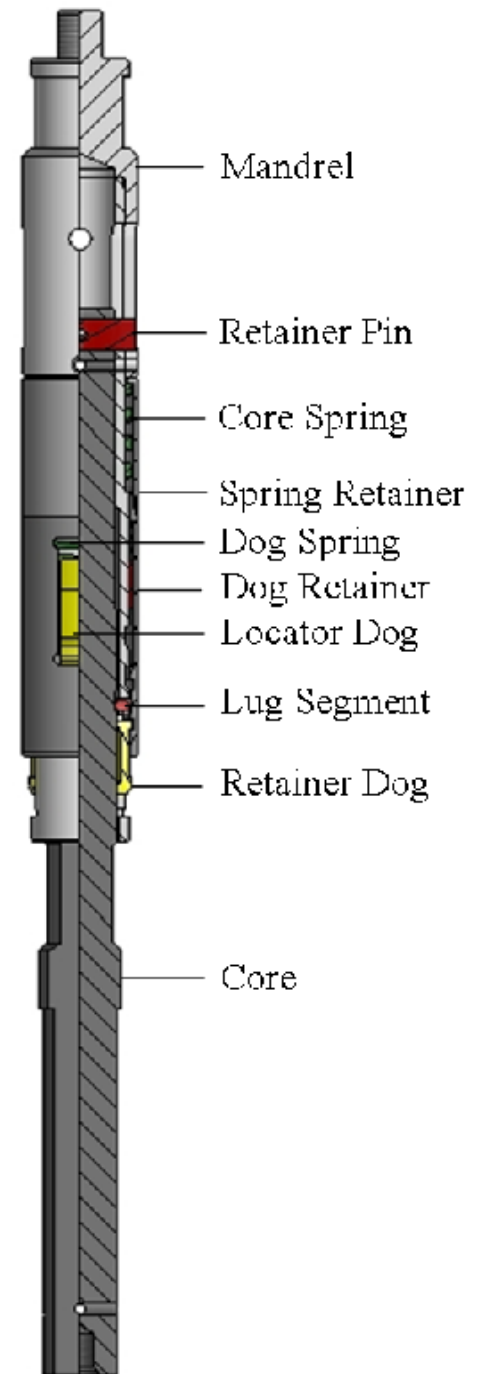
All Specification Tables contain approximated dimensions and should be used for reference only.



## B & T R-LINE RUNNING TOOL

### ASSEMBLY DESCRIPTION

The B & T R-Line Running Tool is used to run, locate, and set subsurface devices in corresponding selective or No-Go Landing Nipples, such as the B & T R Landing Nipple (page B4) or the B & T RN Landing Nipple (page B5).







## B & T R-LINE RUNNING TOOL

SPECIFICATIONS				
	1.710	1.781	1.875	2.000
Fishneck	1.188	1.375	1.375	1.375
Maximum O.D. (Dogs Retracted)	1.640	1.750	1.750	1.938
Maximum O.D. (Dogs Expanded)	1.760	1.828	1.937	2.063
Pin Connection	15/16"-10	15/16"-10	15/16"-10	15/16"-10
Bottom Connection	3/8"-16	1/2"-13	1/2"-13	1/2"-13
Length	30.063	29.313	29.313	29.313

SPECIFICATIONS				
	2.125	2.188	2.313	2.562
Fishneck	1.375	1.750	1.750	1.750
Maximum O.D. (Dogs Retracted)	2.063	2.175	2.175	2.500
Maximum O.D. (Dogs Expanded)	2.165	2.297	2.359	2.671
Pin Connection	15/16"-10	15/16"-10	15/16"-10	15/16"-10
Bottom Connection	1/2"-13	5/8"-11	5/8"-11	5/8"-11
Length	29.313	29.313	29.313	30.250

All Specification Tables contain approximated dimensions and should be used for reference only.



## B & T R-LINE RUNNING TOOL

SPECIFICATIONS				
	2.750	2.813	2.875	3.313
Fishneck	2.313	2.313	2.313	2.313
Maximum O.D. (Dogs Retracted)	2.690	2.690	2.840	3.250
Pin Connection	1-1/16"-10	1-1/16"-10	1-1/16"-10	1-1/16"-10
Bottom Connection	3/4"-10	3/4"-10	3/4"-10	1-7/8"-12
Length	32.000	32.000	32.000	32.406

SPECIFICATIONS				
	3.437	3.688	3.813	4.000
Fishneck	2.313	2.313	2.313	2.313
Maximum O.D. (Dogs Retracted)	3.410	3.610	3.750	3.940
Pin Connection	1-1/16"-10	1-1/16"-10	1-1/16"-10	1-1/16"-10
Bottom Connection	1-7/8"-12	1-7/8"-12	1-7/8"-12	1-7/8"-12
Length	33.800	31.671	33.800	33.800

SPECIFICATIONS				
	4.125	4.313	4.562	4.750
Fishneck	2.313	2.313	3.125	3.125
Maximum O.D. (Dogs Retracted)	3.940	4.280	4.500	4.690
Pin Connection	1-1/16"-10	1-1/16"-10	1-1/16"-10	1-1/16"-10
Bottom Connection	2-1/8"-12	2-1/8"-12	2-3/16"-12	2-1/2"-10
Length	33.800	33.800	33.800	33.800

All Specification Tables contain approximated dimensions and should be used for reference only.

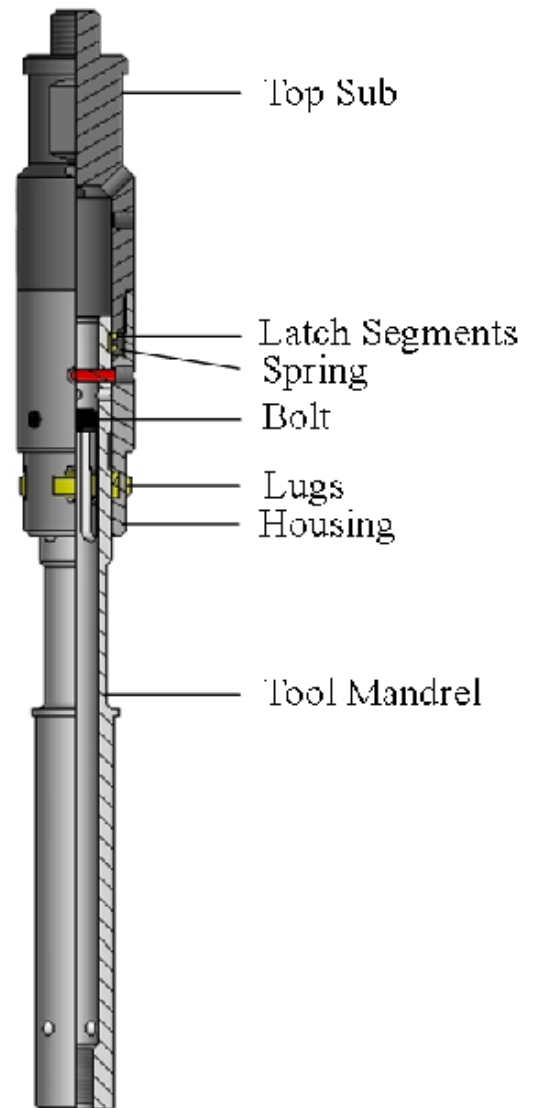


## B & T RX RUNNING TOOL

### ASSEMBLY DESCRIPTION

The B & T RX Running Tool is used to set B & T R / RN Locks (page A9) and B & T X / XN Locks (page A17) in their respective Landing Nipples (page B1). The B & T RX Running Tool is able to deploy the locks with their keys maintained in whichever position the operator requires.

The shear pin in the B & T RX Running Tool allows the operator to accurately determine that the lock has been properly set in the top of the Landing Nipple.





## B & T RX RUNNING TOOL

SPECIFICATIONS				
B & T R / RN Locks				
	2.750	3.688	3.813	4.313
Fishneck	2.313	2.313	2.313	2.313
Pin Connection	1-1/16"-10	1-1/16"-10	1-1/16"-10	1-1/16"-10
Bottom Connection	1-1/4"-12	1-7/8"-12	2-1/8"-12	2-1/8"-12
Length	24.200	24.700	24.700	24.700

SPECIFICATIONS				
B & T X / XN Locks				
	2.875	3.688	3.813	4.000
Fishneck	2.310	3.125	3.125	3.125
Pin Connection	1-1/16"-10	1-1/16"-10	1-1/16"-10	1-1/16"-10
Bottom Connection	1-1/4"-12	1-7/8"-12	1-5/8"-12	1-7/8"-12
Length	24.200	24.700	24.700	24.700

SPECIFICATIONS				
B & T X / XN Locks				
	4.125			
Fishneck	3.125			
Pin Connection	1-1/16"-10			
Bottom Connection	2-1/8"-12			
Length	24.700			

All Specification Tables contain approximated dimensions and should be used for reference only.



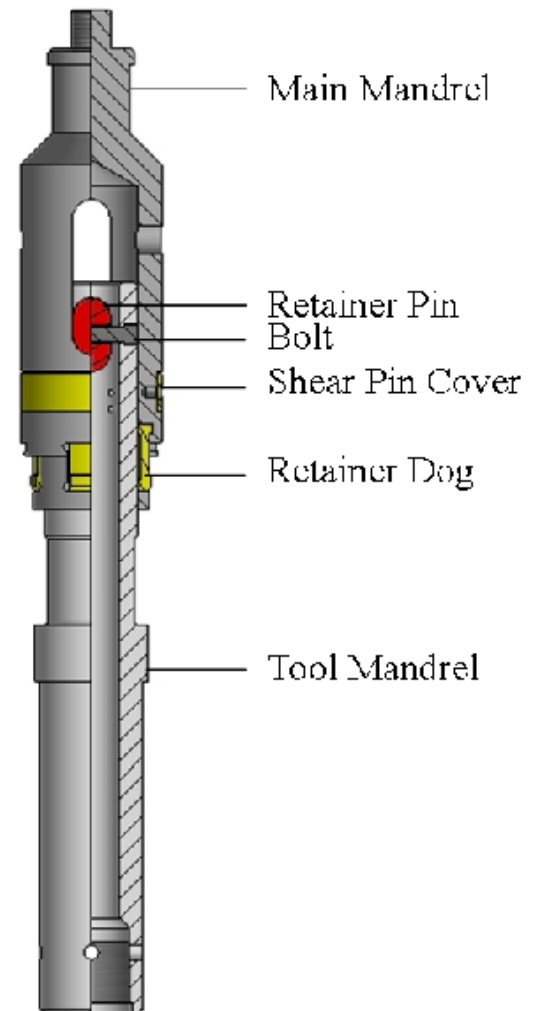
## B & T RXN RUNNING TOOL

### ASSEMBLY DESCRIPTION

The B & T RXN Running Tool is used to set B & T R / RN Locks (page A9) and B & T X / XN Locks (page A17) in their respective Landing Nipples (page B1). The B & T RXN Running Tool is able to deploy the locks with their Keys maintained in whichever position the operator requires.

The Shear Pin in the B & T RXN Running Tool allows the operator to accurately determine that the lock has been properly set in the top of the Landing Nipple.

The B & T RXN Running Tool is very similar to the RX Running Tool (page I25), except that the RXN Running Tool utilizes Retainer Dogs rather than Lug Segments to attach to the lock.





## B & T RXN RUNNING TOOL

SPECIFICATIONS	
	4.125
Fishneck	3.125
Pin Connection	1-1/16"-10
Bottom Connection	2-1/8"-12
Length	24.700

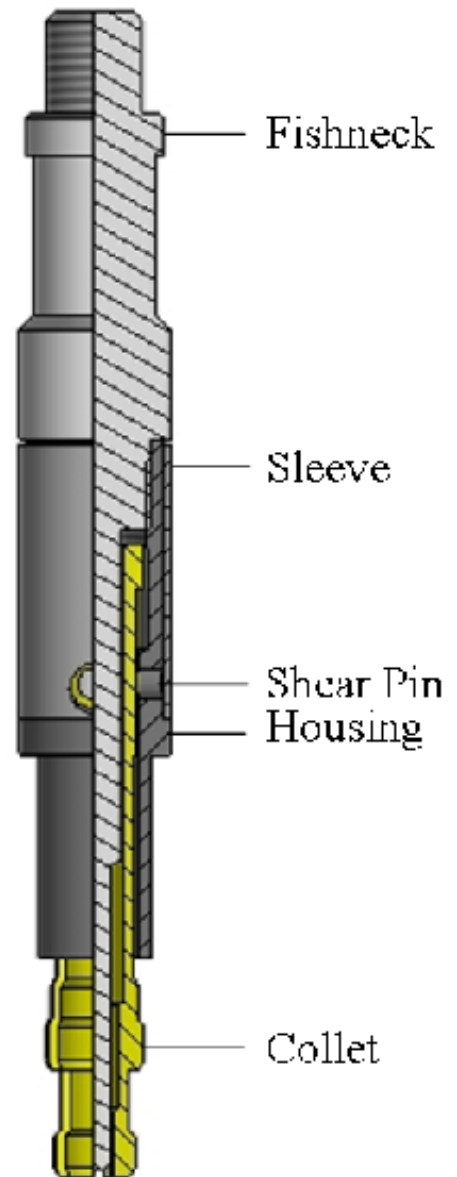
All Specification Tables contain approximated dimensions and should be used for reference only.



## W RUNNING TOOL

### ASSEMBLY DESCRIPTION

The W Running Tool is designed to install B, C, and W Locks (page A15).





## W RUNNING TOOL

SPECIFICATIONS			
	1.500	2.000	2.500
Fishneck	1.188	1.375	1.375
Maximum O.D.	1.375	1.500	1.500
Pin Connection	15/16"-10	15/16"-10	15/16"-10
Length	9.343	10.438	10.438
Shear Pins	1/4" X 3/8"	5/16" X 3/8"	5/16" X 3/8"
Engages	0.688	1.000	1.000

SPECIFICATIONS			
	3.000	3.500	4.000
Fishneck	1.750	2.313	2.313
Maximum O.D.	2.250	1.500	2.750
Pin Connection	1-1/16"-10	1-1/16"-10	1-1/16"-10
Length	10.000	10.000	9.750
Shear Pins	5/16" X 1/2"	5/16" X 3/8"	5/16" X 5/8"
Engages	1.500	1.000	1.906

All Specification Tables contain approximated dimensions and should be used for reference only.

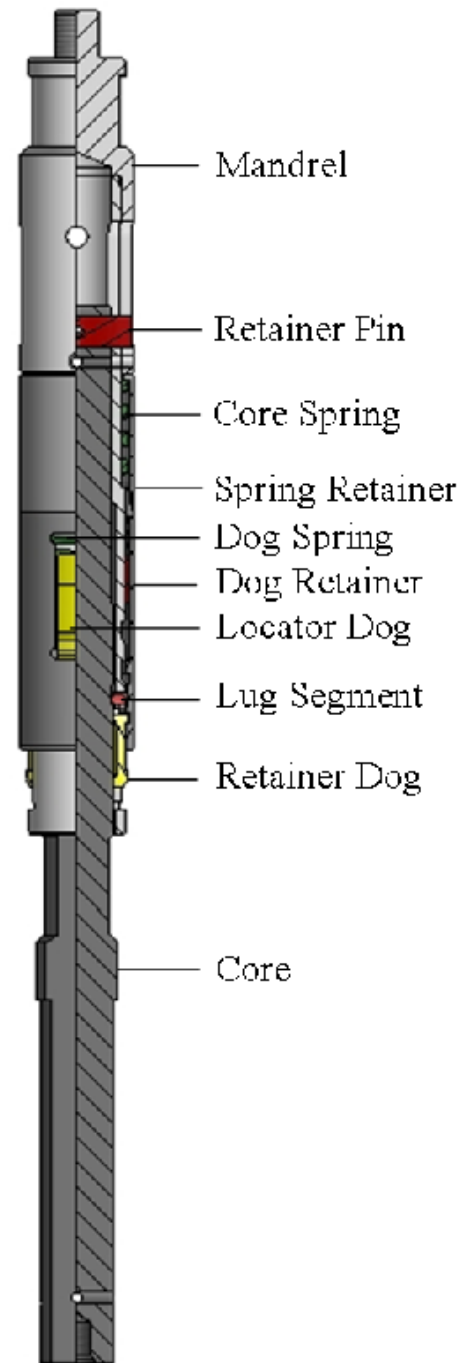




## B & T X-LINE RUNNING TOOL

### ASSEMBLY DESCRIPTION

The B & T X-Line Running Tool is used to run, locate, and set subsurface devices in corresponding selective or No-Go Landing Nipples, such as the B & T X Landing Nipple (page B6), or the B & T XN Landing Nipple (page B7).





## B & T X-LINE RUNNING TOOL

SPECIFICATIONS				
	1.250	1.500	1.625	1.875
Fishneck	1.000	1.188	1.188	1.375
Maximum O.D. (Dogs Retracted)	1.160"	1.410	1.593	2.718
Maximum O.D. (Dogs Expanded)		1.562	1.672	2.843
Pin Connection	5/8"-11	15/16"-10	15/16"-10	15/16"-10
Bottom Connection	3/8"-16	3/8"-16	3/8"-16	1/2"-13
Length	29.400	30.063	30.063	29.313
Shear Pin		3/16" X 1-1/8"	3/16" X 1-1/8"	1/4" X 2-1/2"

SPECIFICATIONS				
	2.313	2.750	2.813	2.875
Fishneck	1.750	2.313	2.313	2.313
Maximum O.D. (Dogs Retracted)	2.175	2.718	2.718	2.844
Maximum O.D. (Dogs Expanded)	2.359	2.843	2.906	2.938
Pin Connection	15/16"-10	1-1/16"-10	1-1/16"-10	1-1/16"-10
Bottom Connection	5/8"-11	3/4"-10	3/4"-10	3/4"-10
Length	30.250	31.000	31.000	31.000
Shear Pin	1/4" X 1-7/8"	1/4" X 2-1/2"	1/4" X 2-1/2"	1/4" X 2-1/2"

All Specification Tables contain approximated dimensions and should be used for reference only.



## B & T X-LINE RUNNING TOOL

SPECIFICATIONS				
	3.313	3.688	3.813	4.313
Fishneck	2.313	2.313	2.313	2.313
Maximum O.D. (Dogs Retracted)	3.250	3.610	3.750	4.28
Maximum O.D. (Dogs Expanded)	3.406	3.750	3.890	
Pin Connection	1-1/16"-10	1-1/16"-10	1-1/16"-10	1-1/16"-10
Bottom Connection	1-3/8"-12	2-1/8"-12	2-1/8"-12	2-1/8"-12
Made Up Length	32.406	33.406	32.375	33.38
Shear Pin	1/4" X 2-7/8"	1/4" X 3"	1/4" X 3-1/4"	

All Specification Tables contain approximated dimensions and should be used for reference only.



## NOTES

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### QUICK EMAILS

Broussard, Louisiana Office:  
Anchorage, Alaska Office:  
Alvin, Texas Office:  
Odessa, Texas Office:  
Sales Manager:  
Shipping Manager:  
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## SECTION J: PULLING TOOLS

BELL GUIDE .....	J2	NON-RELEASEABLE OVERSHOT .....	J19
BULL DOG SPEAR .....	J3	PRS PULLING TOOL .....	J21
GG FISHING SOCKET .....	J5	R PULLING TOOL .....	J23
GR ADAPTER .....	J7	RELEASEABLE OVERSHOT .....	J25
GS PULLING TOOL .....	J9	RELEASING TOOL .....	J27
HEAVY-DUTY PULLING TOOL .....	J11	REPINNING TOOL .....	J28
JD PULLING TOOL .....	J13	S PULLING TOOL .....	J29
JU PULLING TOOL .....	J15	SSJ PULLING TOOL .....	J31
MULTIFUNCTIONAL PULLING TOOL .....	J17		



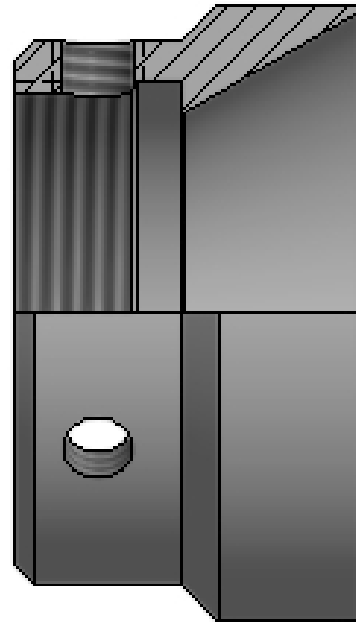
## BELL GUIDE

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### ASSEMBLY DESCRIPTION

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A Bell Guide is used in conjunction with a pulling tool to direct the pulling tool towards the desired fishneck in a wide well opening. This removes the need for a Tubing Centralizer (page H9), and can be a much cheaper way of centering the assembly within the tubing.





## BULL DOG SPEAR

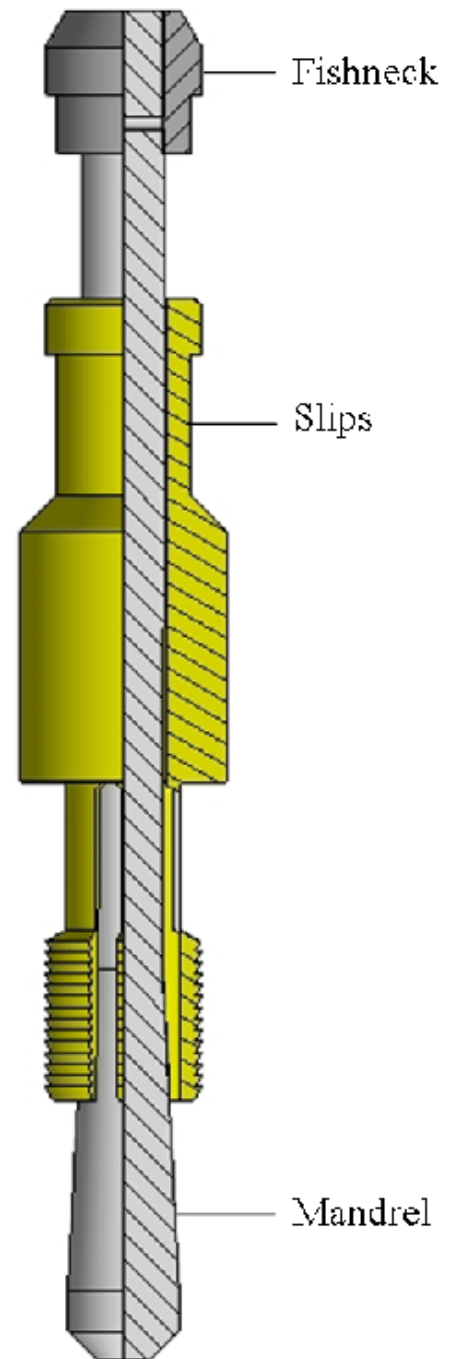
### ASSEMBLY DESCRIPTION

The Bull Dog Spear is designed to pull tools as a last resort situation. The tool is designed to get inside of an I.D. and the slips will expand to latch onto the wall in order to pull out the desired tool.

Please specify the following when ordering the Bull Dog Spear:

- \*The Minimum I.D. of the targeted assembly

- \*The well conditions and limitations so as to prevent the Bull Dog Spear from being unable to locate the target properly





## BULL DOG SPEAR

SPECIFICATIONS			
	2.000	2.500	3.000
Fishneck	1.375	1.750	1.750
Connections	3/4"-16	1"-14	1-1/4"-12

SPECIFICATIONS			
	3.437	4.000	
Fishneck	2.313	3.125	
Connections	1-13/16"-12	2-5/16"-16	

All Specification Tables contain approximated dimensions and should be used for reference only.

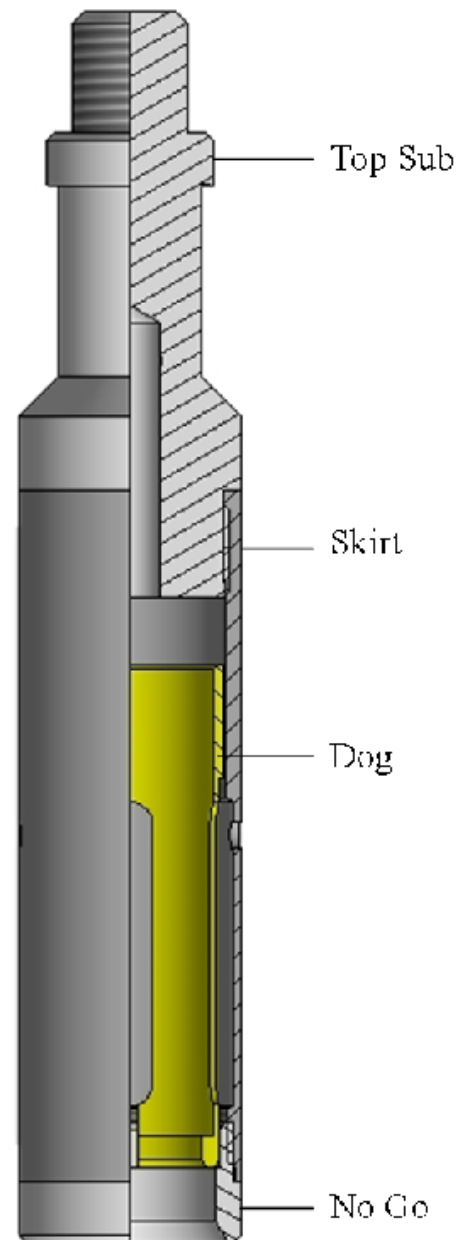




## GG FISHING SOCKET

### ASSEMBLY DESCRIPTION

The GG Fishing Socket is a non-releasable pulling tool.





## GG FISHING SOCKET

SPECIFICATIONS			
	1-1/2" X 7/8"	2" X 3/4"	2" X 7/8"
Fishneck	1.375	1.375	1.375
Connections	15/16"-10	15/16"-10	15/16"-10

SPECIFICATIONS			
	2" X 1"	2" X 1-3/16"	2" X 1-3/8"
Fishneck	1.375	1.375	1.375
Connections	15/16"-10	15/16"-10	15/16"-10

All Specification Tables contain approximated dimensions and should be used for reference only.

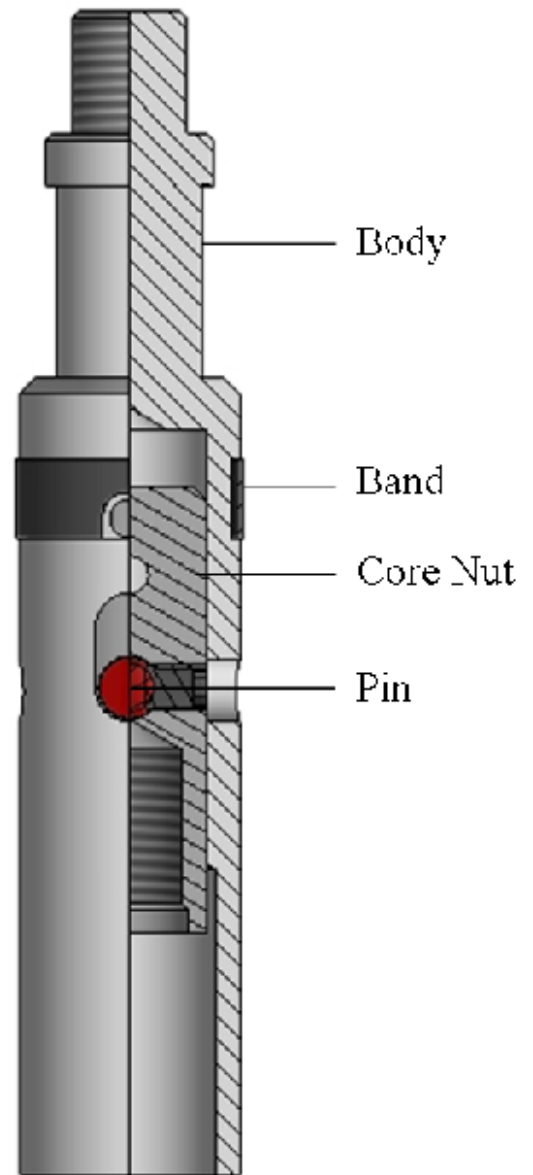


## GR ADAPTER

### ASSEMBLY DESCRIPTION

The GR Adapter is used in conjunction with the GS Pulling Tool (page J9) to convert it into a jar up to release type tool.

The shear pin of the GS Pulling Tool must be removed after the GR Adapter is installed in the assembly.





## GR ADAPTER

SPECIFICATIONS			
	1.500	2.000	2.500
Fishneck	1.188	1.375	1.375
Maximum O.D.	1.460	1.813	2.125
Connections	15/16"-10	15/16"-10	15/16"-10
Shear Pin	1/4" X 1-5/16"	5/16" X 1-11/16"	5/16" X 2"
Length	8.375	8.375	8.875

SPECIFICATIONS			
	3.000	4.000	5.000
Fishneck	2.313	2.313	3.125
Maximum O.D.	2.725	2.725	4.000
Connections	1-1/16"-10	1-1/16"-10	1-1/16"-10
Shear Pin	3/8" X 2-1/2"	3/8" X 2-1/2"	5/16" X 3-13/16"
Length	9.313	9.313	10.750

All Specification Tables contain approximated dimensions and should be used for reference only.



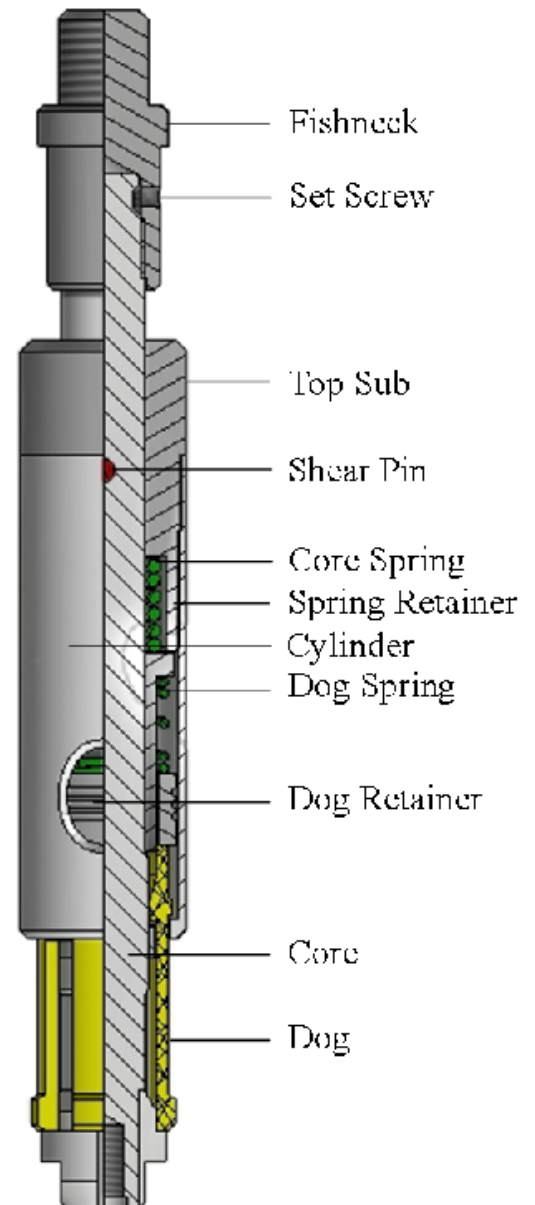
## GS PULLING TOOL

### ASSEMBLY DESCRIPTION

The GS Pulling Tool is used to latch internal fishnecks on B & T equipment that requires being sheared down before being pulled.

The GS Pulling Tool is a shear down assembly, but the addition of a GR Adapter (page J7) converts the GS Pulling Tool into a shear up assembly.

A GRL version with an extended Core nose is available and required to pull D Locks (page A7).





## GS PULLING TOOL

SPECIFICATIONS			
	1.250	1.500	2.000
Fishneck	1.000	1.188	1.375
Maximum O.D.	1.150	1.469	1.750
Pin Connection	5/8"-11	15/16"-10	15/16"-10
Bottom Connection	3/8"-16	1/2"-13	1/2"-13
Shear Pin	3/16" X 1"	3/16" X 1-7/32"	1/4" X 1-39/64"
Fishneck Engages	0.882	1.062	1.375
Reach	0.790	1.219	1.203
Length	7.937	10.750	11.625
Set Screw	1/4"-20 X 1/4"	1/4"-20 X 1/4"	1/4"-20 X 1/4"

SPECIFICATIONS			
	2.500	3.000	3.500
Fishneck	1.750	2.313	2.313
Maximum O.D.	2.160	2.719	3.100
Pin Connection	1-1/16"-10	1-1/16"-10	1-1/16"-10
Bottom Connection	5/8"-11	5/8"-11	1-3/8"-12
Shear Pin	1/4" X 1-31/32"	1/4" X 2-31/64"	5/16" X 2-23/32"
Fishneck Engages	1.812	2.313	2.625
Reach	1.203	1.219	1.250
Length	11.875	12.125	12.375
Set Screw	1/4"-20 X 1/4"	1/4"-20 X 5/16"	1/4"-20 X 5/16"

SPECIFICATIONS			
	4.000	5.000	7.000
Fishneck	2.313	3.125	3.125
Maximum O.D.	3.625	4.500	5.820
Pin Connection	1-1/16"-10	1-1/16"-10	1-1/16"-10
Bottom Connection	2-1/8"-12	2-1/2"-10	3-5/8"-10
Shear Pin	5/16" X 3-23/64"	5/16" X 4-1/4"	3/8" X 5-1/16"
Fishneck Engages	3.125	4.000	5.250
Reach	1.203	1.250	1.985
Length	11.375	17.500	21.000
Set Screw	1/4"-20 X 5/16"	1/4"-20 X 3/8"	1/2"-13 X 3/8"

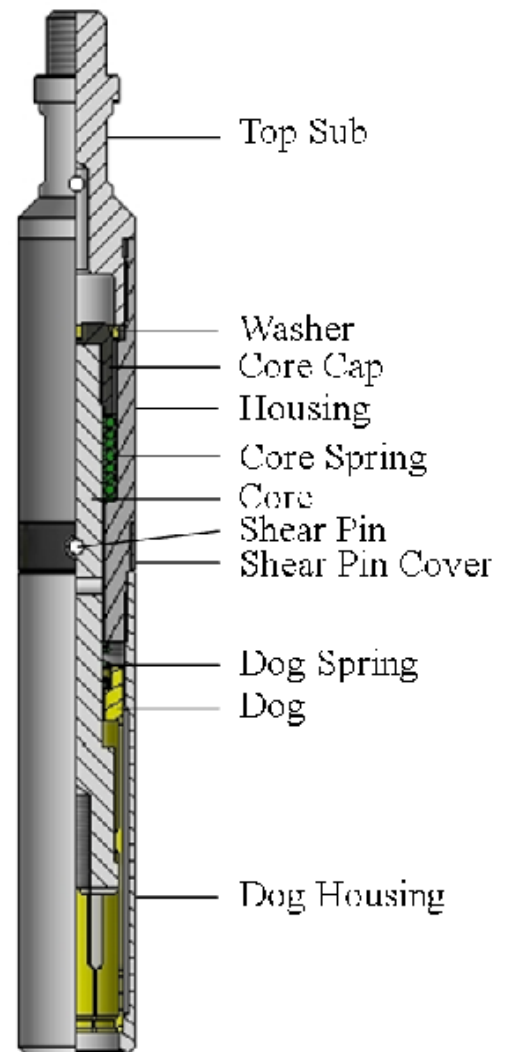
All Specification Tables contain approximated dimensions and should be used for reference only.



## HEAVY-DUTY PULLING TOOL

### ASSEMBLY DESCRIPTION

The B & T Heavy-Duty Pulling Tool is a collet style pulling tool designed to latch and retrieve wireline tools where heavy jarring is required. The Heavy-Duty Pulling Tool is extremely durable and allows a full 360 degrees of engagement with the target fishneck.





## HEAVY-DUTY PULLING TOOL

SPECIFICATIONS			
	1.250	1.625	2.000
Fishneck	1.187	1.187	1.375
Maximum O.D.	1.280	1.625	1.875
Pin Connection	15/16"-10	15/16"-10	15/16"-10
Bottom Connection	1/4"-20	1/2"-13	1/2"-13
Shear Pin	3/16"	3/16"	5/16"
Fishneck Engages	0.900	1.250	1.375
Length	14.650	16.680	16.700

SPECIFICATIONS			
	2.500	3.000	3.250
Fishneck	1.750	2.313	2.313
Maximum O.D.	2.300	2.800	2.800
Pin Connection	1-1/16"-10	1-1/16"-10	1-1/16"-10
Bottom Connection	1/2"-13	5/8"-11	5/8"-11
Shear Pin	5/16"	5/16"	5/16"
Fishneck Engages	1.750	2.313	2.313
Length	16.700	18.710	18.710

All Specification Tables contain approximated dimensions and should be used for reference only.





## JD PULLING TOOL

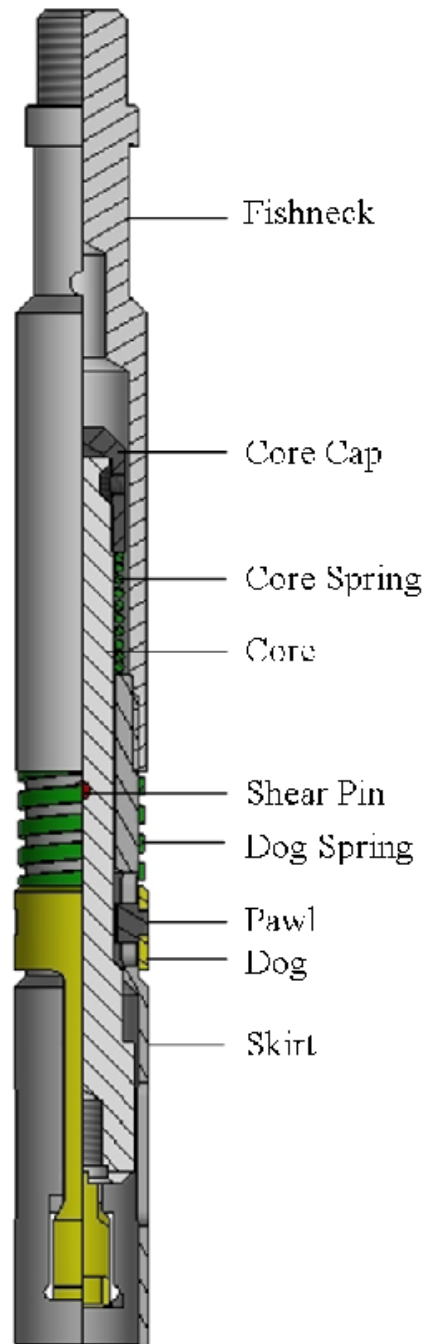
### ASSEMBLY DESCRIPTION

The JD Pulling Tool is the jar down version of the J Pulling Tool series. It can accommodate different Cores to change the reach of the tool during operation.

\*The C Core is the longest Core, but it has the shortest reach.

\*The S Core has a medium length, and a medium reach.

\*The L Core is a short Core with the longest reach.





## JD PULLING TOOL

SPECIFICATIONS				
	1.250	1.375	1.500	1.625
Fishneck	1.188	1.188	1.188	1.188
Maximum O.D.	1.290	1.375	1.422	1.625
Pin Connection	15/16"-10	15/16"-10	15/16"-10	15/16"-10
Bottom Connection	1/4"-20	1/4"-20	1/2"-13	1/2"-13
Shear Pin	3/16" X 1-9/64"	3/16" X 1-9/64"	3/16" X 1-11/64"	3/16" X 1-11/64"
Fishneck Engages	0.875	1.000	1.187	1.187
C Core Reach	1.906	1.813	1.093	1.031
S Core Reach	2.656	2.562	1.843	2.281
Length	12.906	13.000	13.063	13.000

SPECIFICATIONS				
	2.000	2.500	3.000	4.000
Fishneck	1.375	1.375	1.750	2.313
Maximum O.D.	1.859	2.250	2.796	3.750
Pin Connection	15/16"-10	15/16"-10	1-1/16"-10	1-1/16"-10
Bottom Connection	1/2"-13	1/2"-30	5/8"-11	1-1/4"-12
Shear Pin	5/16" X 1-31/64"	5/16" X 1-27/32"	3/8" X 2-11/32"	3/8" X 3-19/64"
Fishneck Engages	1.375	1.750	2.313	3.125
C Core Reach	1.437	1.265	1.643	2.313
S Core Reach	2.281	2.391	2.297	3.375
Length	14.391	14.765	15.000	19.093

All Specification Tables contain approximated dimensions and should be used for reference only.



## JU PULLING TOOL

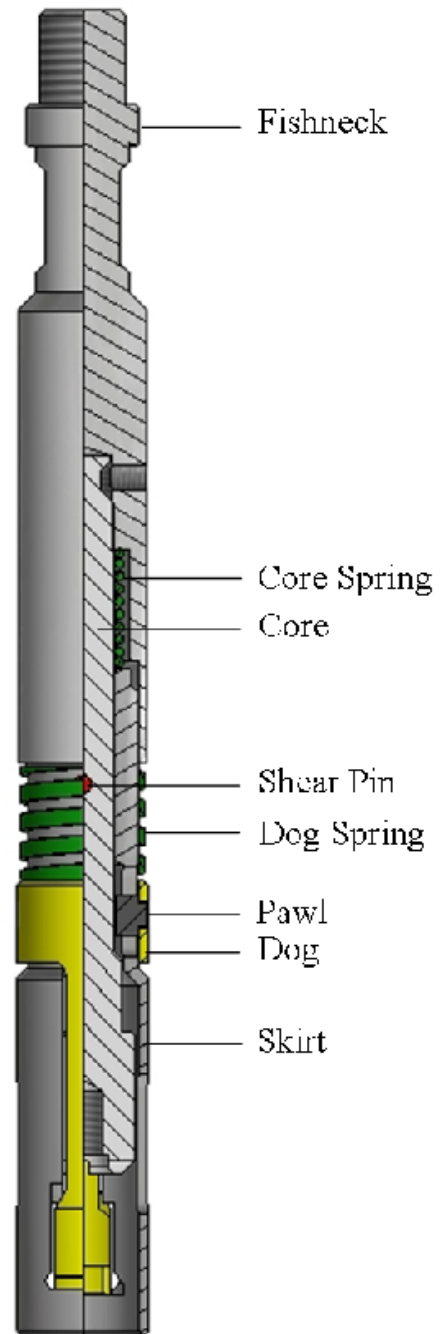
### ASSEMBLY DESCRIPTION

The JU Pulling Tool is the jar up version in the J Pulling Tool series. It can accommodate different Cores to change the reach of the tool during operation.

\*The C Core is the longest Core, but it has the shortest reach.

\*The S Core has a medium length, and a medium reach.

\*The L Core is a short Core with the longest reach.





## JU PULLING TOOL

SPECIFICATIONS				
	1.250	1.375	1.500	1.625
Fishneck	1.188	1.188	1.188	1.188
Maximum O.D.	1.290	1.375	1.422	1.625
Pin Connection	15/16"-10	15/16"-110	15/16"-10	15/16"-10
Bottom Connection	1/4"-20	1/4"-20	1/2"-13	1/2"-13
Shear Pin	3/16" X 1-9/64"	3/16" X 1-9/64"	3/16" X 1-11/64"	3/16" X 1-11/64"
Fishneck Engages	0.875	1.000	1.187	1.187
C Core Reach	1.937	1.000	1.093	1.093
S Core Reach	2.688	2.625	1.843	1.843
Length	12.906	12.281	13.000	12.938

SPECIFICATIONS				
	2.000	2.500	3.000	4.000
Fishneck	1.375	1.375	1.750	2.313
Maximum O.D.	1.859"	2.250	2.797	3.750
Pin Connection	15/16"-10	15/16"-10	1-1/16"-10	1-1/16"-10
Bottom Connection	1/2"-13	1/2"-13	5/8"-11	1-1/4"-12
Shear Pin	5/16" X 1-31/64"	5/16" X 1-27/32"	3/8" X 2-21/64"	3/8" X 3-19/64"
Fishneck Engages	1.375	1.750	2.313	3.125
C Core Reach	1.437	1.312	1.437	3.375
S Core Reach	2.125	2.188	2.125	2.313
Length	14.328	14.750	14.750	19.062

All Specification Tables contain approximated dimensions and should be used for reference only.

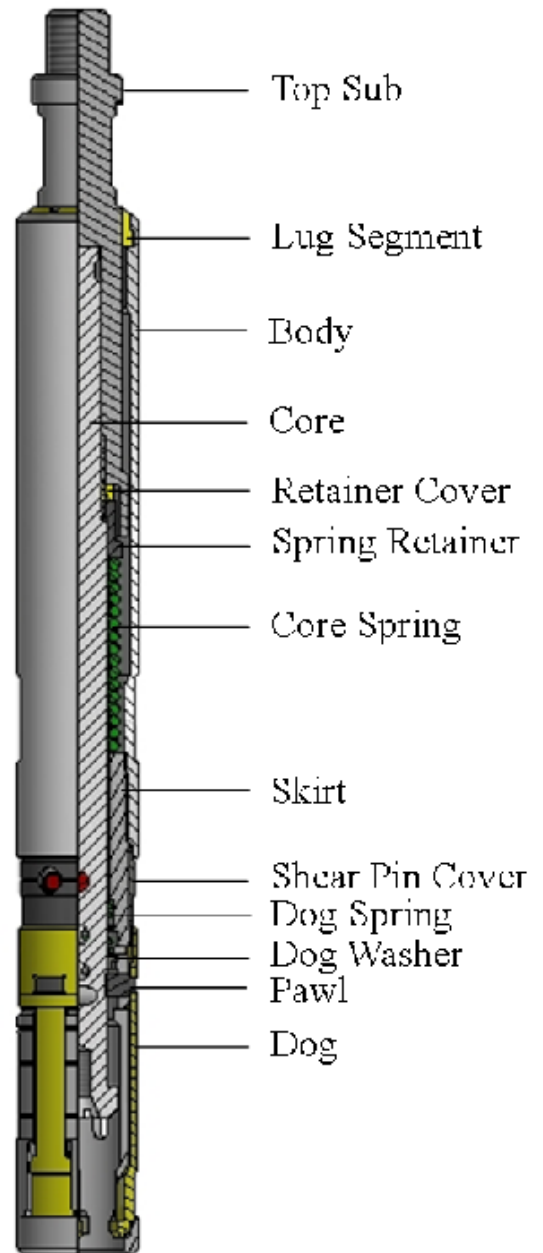


# MULTIFUNCTIONAL PULLING TOOL

## ASSEMBLY DESCRIPTION

The B & T Multifunctional Pulling Tool combines the functionality of both shear up and shear down tools. This tool can switch between shear up and shear down modes without the need of accessory parts. It can replace each of the following B & T Tools: JD Pulling Tools (page J13), JU Pulling Tools (page J15), R Pulling Tools (page J23), and S Pulling Tools (page J29).

The Core of the Multifunctional Pulling Tool is able to be pinned in different locations on the tool so as to provide different reaches and assembly lengths. The shear pin is even able to be changed out without disassembling the Multifunctional Pulling Tool.





## MULTIFUNCTIONAL PULLING TOOL

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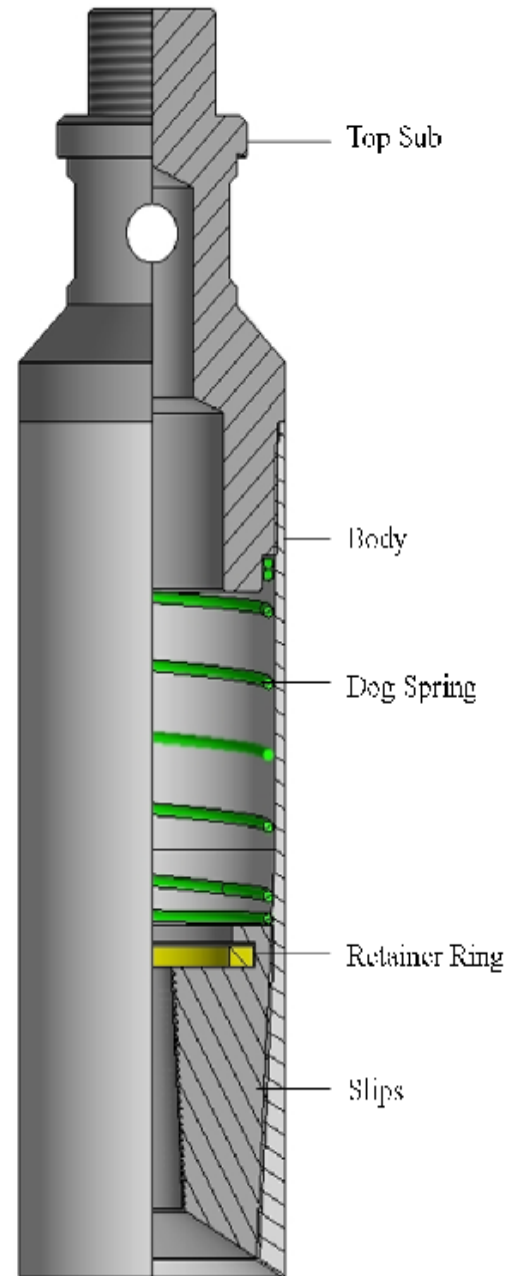
SPECIFICATIONS				
	1.250	2.000	2.500	3.000
Fishneck	1.187	1.375	1.375	1.750
Maximum O.D.	1.290	1.860	2.250	2.800
Connections	15/16"-10	15/16"-10	15/16"-10	1-1/16"-10
Length	16.750	22.450	23.610	23.750



# NON-RELEASEABLE OVERSHOT

## ASSEMBLY DESCRIPTION

B & T's Non-Releaseable Overshot is used to retrieve assemblies that either lack a fishneck or have a broken or damaged fishneck. The Non-Releaseable Overshot latches around the targeted assembly to provide a new fishneck.





## NON-RELEASEABLE OVERSHOT

SPECIFICATIONS			
	1.500	1.750	2.250
Fishneck	1.375	1.375	1.375
Connections	15/16"-10	15/16"-10	15/16"-10

SPECIFICATIONS			
	2.625	3.800	
Fishneck	1.750	2.313	
Connections	1-1/16"-10	1-3/16"-10	

All Specification Tables contain approximated dimensions and should be used for reference only.

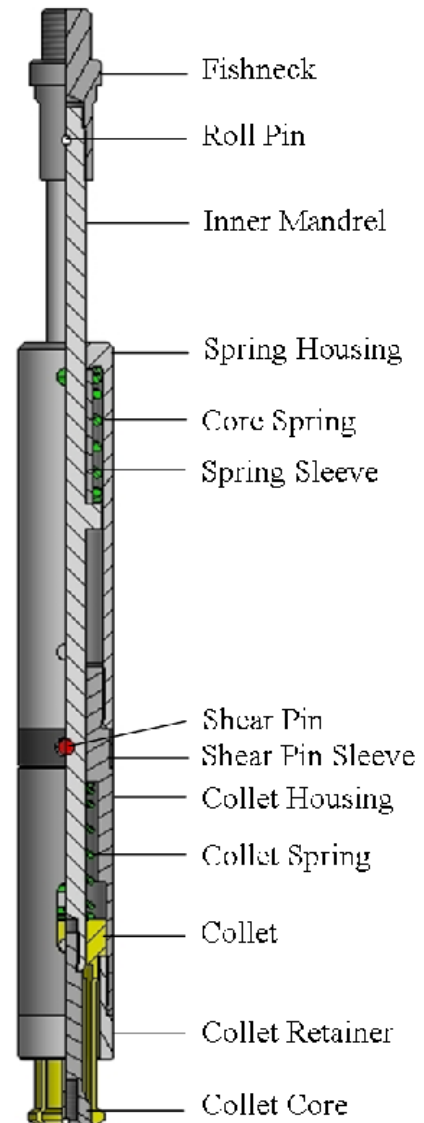




## PRS PULLING TOOL

### ASSEMBLY DESCRIPTION

The PRS Pulling Tool is a shear releasing tool used in pulling subsurface devices which have internal fishnecks. The PRS Pulling Tool can be configured to shear up or down depending upon the pulling operations.





## PRS PULLING TOOL

SPECIFICATIONS			
	2.000	2.500	4.000
Fishneck	1.375	1.375	2.313
Maximum O.D.	1.820	1.820	3.500
Connections	15/16"-10	15/16"-10	1-1/16"-10

All Specification Tables contain approximated dimensions and should be used for reference only.



## R PULLING TOOL

### ASSEMBLY DESCRIPTION

The B & T R Pulling Tool is a shear up releasing tool designed to pull equipment with an external fishneck.

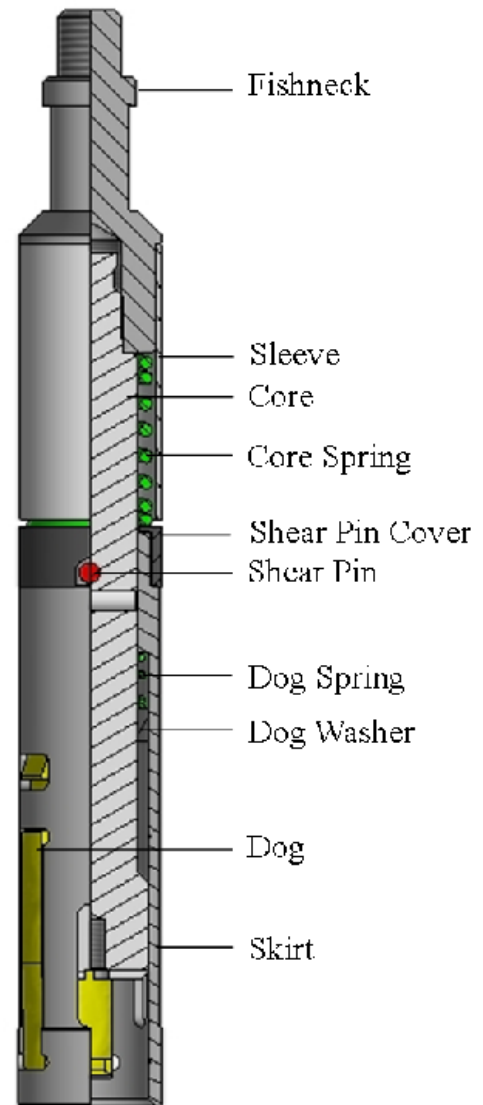
The following Cores are available for the R Pulling Tool:

\*The B Core is a long Core, and offers a short reach.

\*The S Core is a medium length, and offers a medium reach.

\*The J Core is a short Core, and offers a long reach.

\*The Q Core is unique in that it latches onto male connectors, and is a very short Core.





## R PULLING TOOL

SPECIFICATIONS				
	1.000	1.250	1.500	2.000
Fishneck	0.750	1.000	1.188	1.375
Maximum O.D.	0.970	1.220	1.425	1.770
Connections	5/8"-11	5/8"-11	15/16"-10	15/16"-10
B Core Reach	1.328	1.218	1.265	1.219
J Core Reach		2.125	2.547	2.547
S Core Reach	1.000	1.843	1.797	1.984

SPECIFICATIONS				
	2.500	3.000	4.000	
Fishneck	1.375	2.313	2.313	
Maximum O.D.	2.170	2.720	3.660	
Connections	15/16"-10	1-1/16"-10	1-1/16"-10	
B Core Reach	1.203	1.297	1.490	
J Core Reach	2.547	2.609	2.720	
S Core Reach	1.984	2.190	2.240	

All Specification Tables contain approximated dimensions and should be used for reference only.

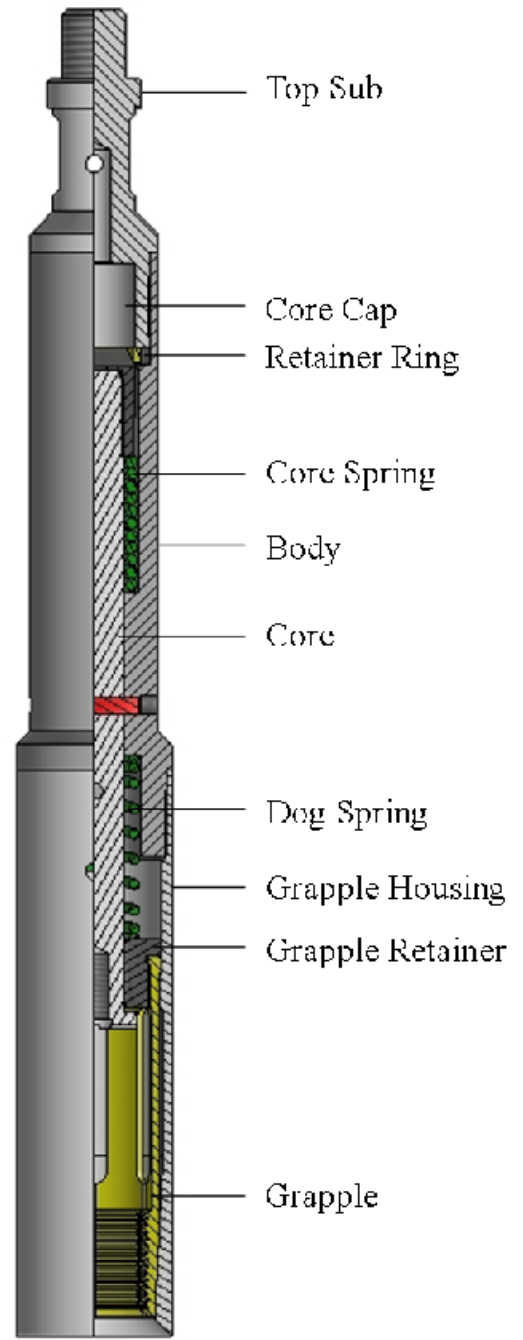


## RELEASEABLE OVERSHOT

### ASSEMBLY DESCRIPTION

B & T's Releaseable Overshot is used to retrieve tools that have no fishneck, or if the tool's fishneck is damaged. This assembly has multiple Cores that are able to change the length of the assembly, thus granting varying reaches.

If a device cannot be recovered, jarring the assembly down will shear the releasing pin, thus allowing the B & T Releaseable Overshot to release the targeted assembly.





## RELEASEABLE OVERSHOT

SPECIFICATIONS			
	2.000	2.500	3.000
Fishneck	1.375	1.375	1.750
Maximum O.D.	1.850	2.250	2.625
Connections	15/16"-10	15/16"-10	1-1/16"-10

SPECIFICATIONS			
	3.500	4.000	
Fishneck	2.313	2.313	
Maximum O.D.	3.250	3.800	
Connections	1-1/16"-10	1-9/16"-10	

All Specification Tables contain approximated dimensions and should be used for reference only.



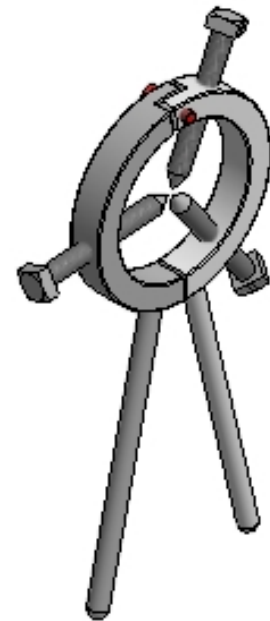
## RELEASING TOOL

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### ASSEMBLY DESCRIPTION

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The Releasing Tool is used to release the fishneck from the skirt on the B & T R Pulling Tool (page J23) and the B & T S Pulling Tool (page J29).





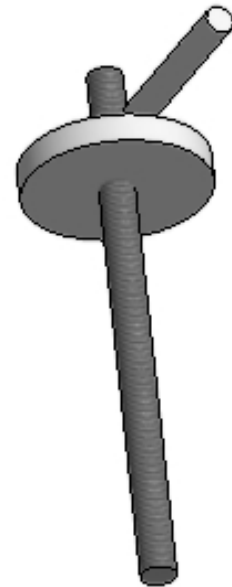
## REPINNING TOOL

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### ASSEMBLY DESCRIPTION

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The Repinning Tool is used to put Shear Pins into B & T Running Tools (page I1) and Pulling Tools (page J1).







## S PULLING TOOL

### ASSEMBLY DESCRIPTION

The B & T S Pulling Tool is a shear down tool used to latch and pull tools that have external fishnecks. The S Pulling Tool is especially useful for running various equipment that land against a positive No-Go.

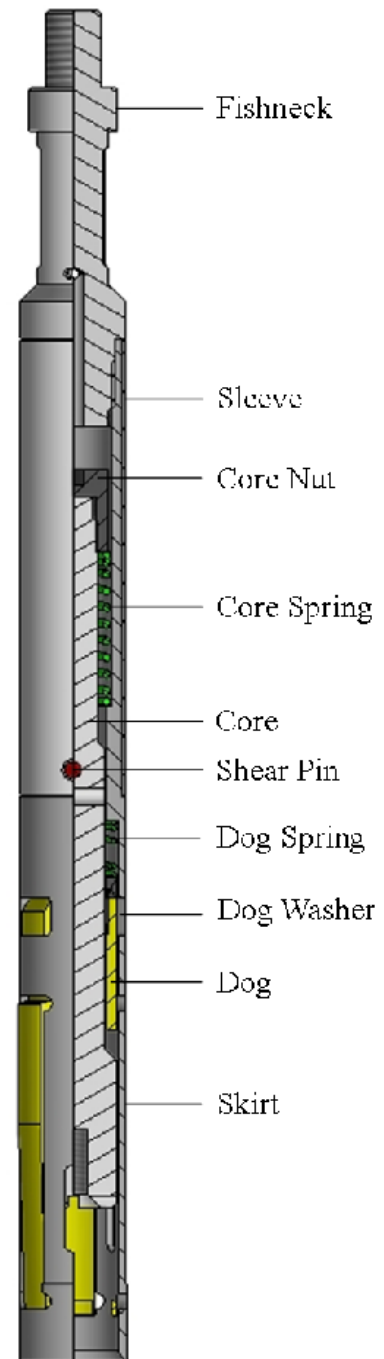
The following Cores are available for the S Pulling Tool:

\*The B Core is very long Core, and offers a short reach.

\*The S Core is a medium length, and offers a medium reach.

\*The M Core is used primarily in Gas-Lift operations.

\*The J Core is also available upon special request.





## S PULLING TOOL

SPECIFICATIONS				
	1.000	1.250	1.500	2.000
Fishneck	0.683	1.000	1.188	1.375
Connections	5/8"-11	5/8"-11	15/16"-10	15/16"-10
B Core Reach	1.000	1.280	1.297	1.219
S Core Reach			1.780	2.031

SPECIFICATIONS				
	2.500	3.000	4.000	
Fishneck	1.375	2.313	2.313	
Connections	1-1/16"-10	1-1/16"-10	1-1/16"-10	
B Core Reach	1.281	1.500	1.500	
S Core Reach	2.000	2.210	2.210	

All Specification Tables contain approximated dimensions and should be used for reference only.

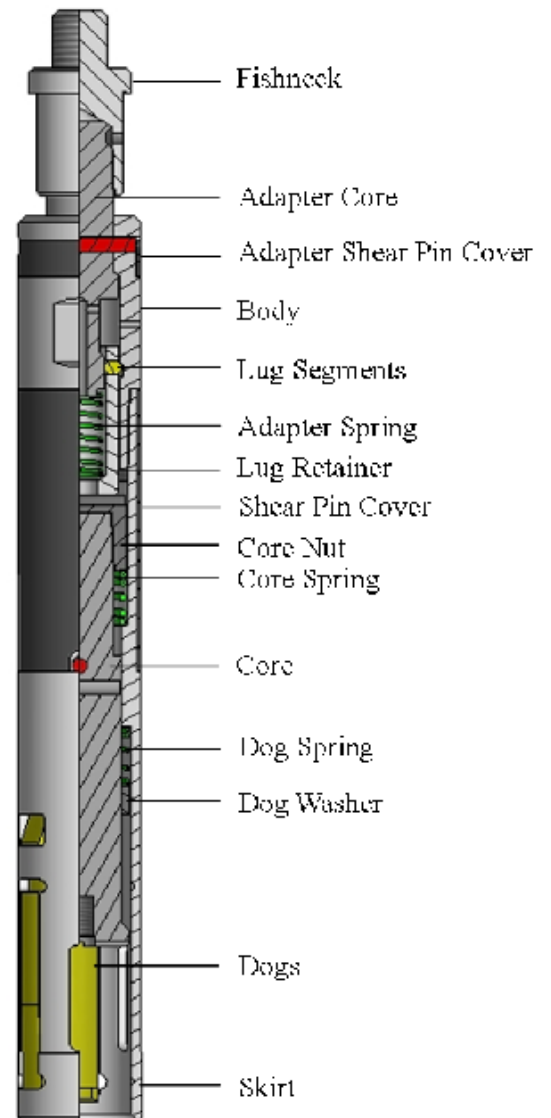


# SSJ PULLING TOOL

## ASSEMBLY DESCRIPTION

The SSJ Pulling Tool releases targeted assemblies by either jarring down on its Core or Skirt. This is a flexible way for an operator to pull assemblies, because it means that an assembly can be pulled without having to manipulate the Cores.

The SSJ Pulling Tool is primarily used to pull B & T X Selective Test Tool (page O8).





## SSJ PULLING TOOL

SPECIFICATIONS			
	2.000	2.500	3.000
Fishneck	1.375	1.750	2.313
Maximum O.D.	1.765	2.175	2.740
Connections	15/16"-10	15/16"-10	1-1/16"-10

All Specification Tables contain approximated dimensions and should be used for reference only.



## SECTION K: SHIFTING TOOLS

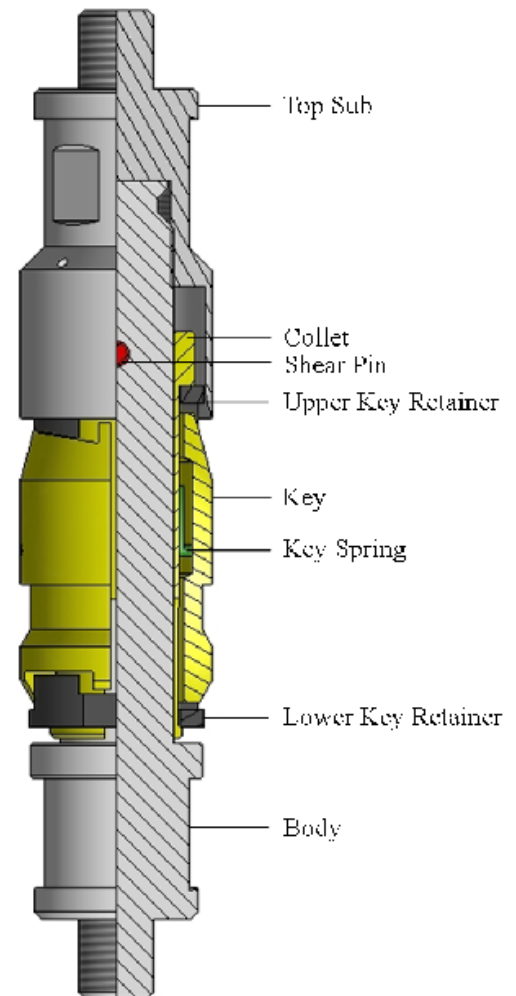
B SHIFTING TOOL .....	K2	BO SHIFTING TOOL .....	K4
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## B SHIFTING TOOL

### ASSEMBLY DESCRIPTION

The B & T B Shifting Tool is designed to selectively locate and shift most sliding sleeves. The keys engage the mandrel's inner sleeve, and depending upon the direction the tool is run, the sleeve is shifted up or down. The B Shifting Tool is designed to release only after the sleeve reaches its fully open or closed position.





## B SHIFTING TOOL

SPECIFICATIONS			
	1.500	1.625	1.710
Fishneck	1.188	1.188	1.188
Connections	15/16"-10	15/16"-10	15/16"-10

SPECIFICATIONS			
	1.781	1.875	2.125
Fishneck	1.375	1.375	1.375
Connections	15/16"-10	15/16"-10	15/16"-10

SPECIFICATIONS			
	2.188	2.313	2.562
Fishneck	1.750	1.750	1.750
Connections	15/16"-10	15/16"-10	15/16"-10

SPECIFICATIONS			
	2.750	2.813	3.313
Fishneck	2.313	2.313	2.313
Connections	1-1/16"-10	1-1/16"-10	1-1/16"-10

SPECIFICATIONS			
	3.437	3.688	3.813
Fishneck	2.313	3.125	3.125
Connections	1-1/16"-10	1-1/16"-10	1-1/16"-10

SPECIFICATIONS			
	4.313	4.562	
Fishneck	3.125	3.125	
Connections	1-1/16"-10	1-1/16"-10	

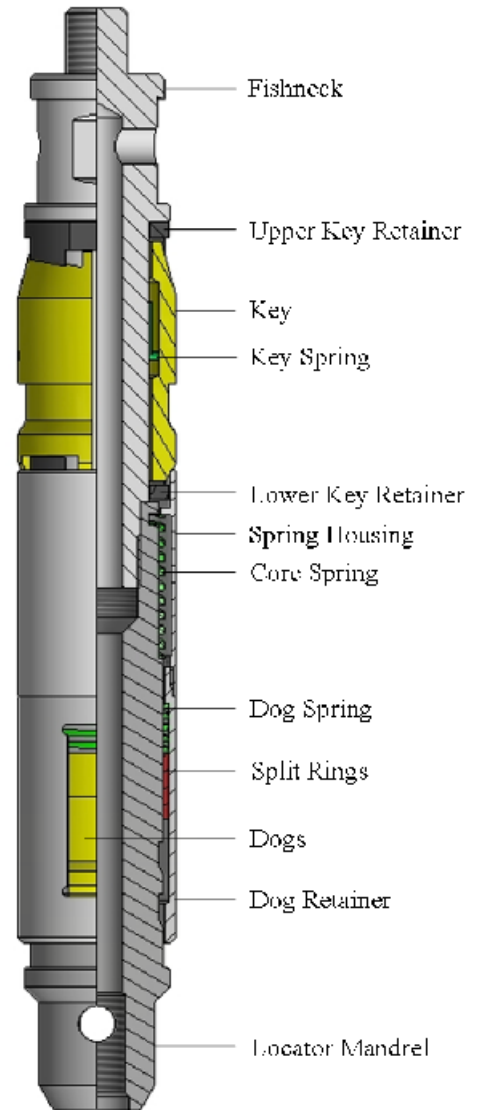
All Specification Tables contain approximated dimensions and should be used for reference only.



## BO SHIFTING TOOL

### ASSEMBLY DESCRIPTION

B & T's BO Shifting Tool is designed to locate and shift sliding side doors to the down position. The tool is made selective by the lower half, which is designed to function like a B & T X-Line Running Tool (page I31).







## BO SHIFTING TOOL

SPECIFICATIONS				
	1.500	1.625	1.781	1.875
Fishneck	1.188	1.188	1.375	1.375
Connection	15/16"-10	15/16"-10	15/16"-10	15/16"-10

SPECIFICATIONS				
	2.125	2.188	2.313	2.562
Fishneck	1.750	1.750	1.750	1.750
Connection	15/16"-10	15/16"-10	15/16"-10	15/16"-10

SPECIFICATIONS				
	2.750	2.813	3.437	3.688
Fishneck	2.313	2.313	2.313	2.313
Connection	1-1/16"-10	1-1/16"-10	1-1/16"-10	1-1/16"-10

SPECIFICATIONS				
	3.750	3.813	4.562	
Fishneck	2.313	2.313	3.125	
Connection	1-1/16"-10	1-1/16"-10	1-1/16"-10	

All Specification Tables contain approximated dimensions and should be used for reference only.



## NOTES

---

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## SECTION L: BAILERS

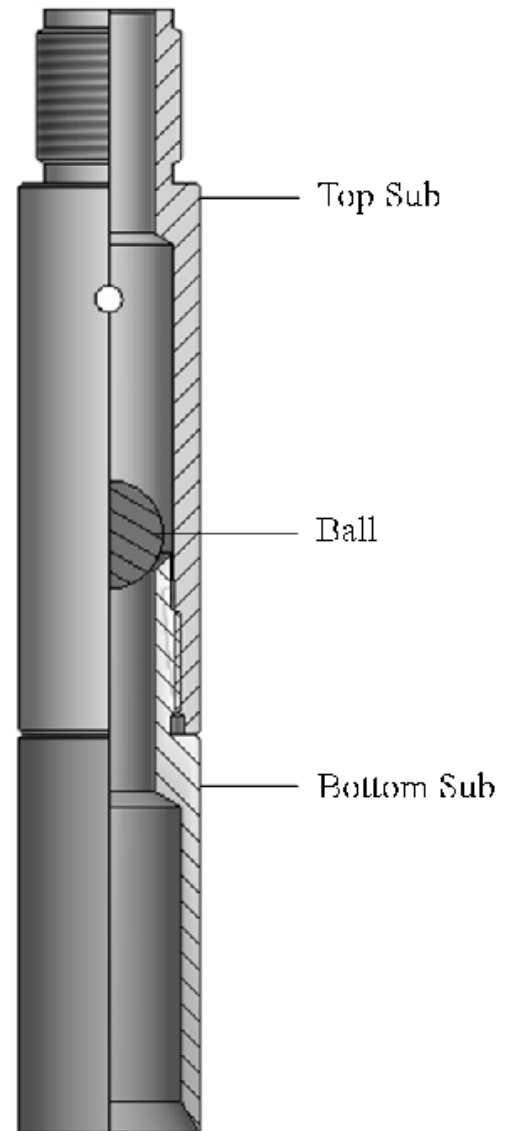
2 PIECE BALL BOTTOM .....	L2	MAXWELL-STYLE BAILER .....	L10
DRIVE-DOWN BAILER .....	L4	SAMPLE BAILER.....	L12
DUMP BAILER .....	L6	SAND BAILER / PUMP BAILER .....	L14
HYDROSTATIC BAILER .....	L8	TUBING END LOCATOR.....	L16



## 2 PIECE BALL BOTTOM

### ASSEMBLY DESCRIPTION

The 2 Piece Ball Bottom is an alternative to the normal style Ball Bottom used with traditional bailers. It can only be used on coarse thread bailers.





## 2 PIECE BALL BOTTOM

SPECIFICATIONS				
	1.000	1.250	1.500	1.625
Fishneck	1.000	1.188	1.375	1.375
Connection	5/8"-11	15/16"-10	15/16"-10	15/16"-10

SPECIFICATIONS				
	1.750	2.000	2.250	2.500
Fishneck	1.750	1.750	1.750	1.750
Connection	1-1/16"-10	1-1/16"-10	1-1/16"-10	1-1/16"-10

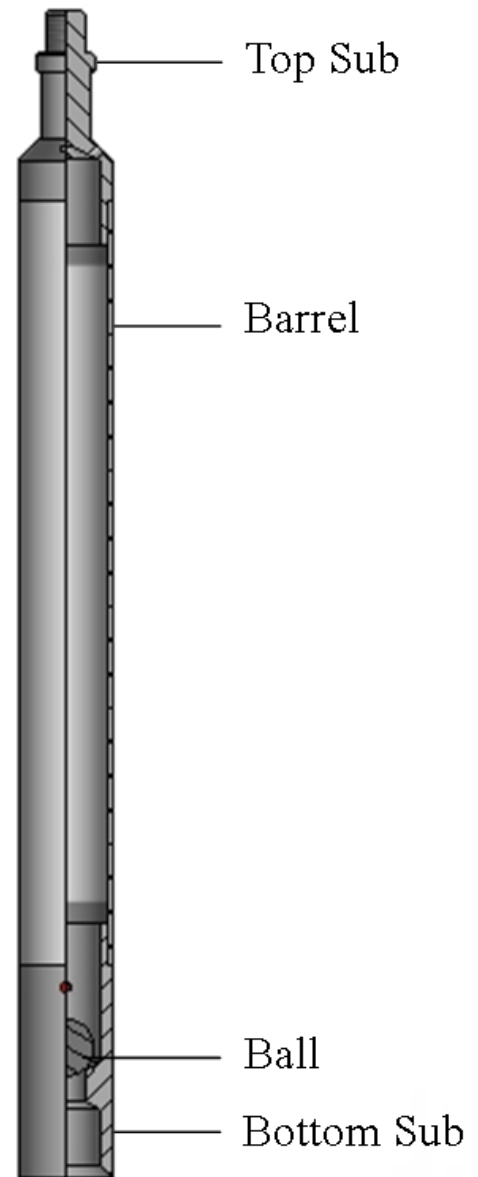
All Specification Tables contain approximated dimensions and should be used for reference only.



## DRIVE-DOWN BAILER

### ASSEMBLY DESCRIPTION

Drive-Down Bailers are simple tools consisting of a Top Sub, Barrel, and either a Ball Bottom or Flapper Bottom. They are used to bail mud and shale by being lowered into the shale, or debris. This fills the Barrel with the target debris. The Drive-Down Bailer is then pulled to extract the debris out of the well bore.





## DRIVE-DOWN BAILER

SPECIFICATIONS				
	1.000	1.250	1.500	1.625
Fishneck	1.000	1.188	1.375	1.375
Connection	5/8"-11	15/16"-10	15/16"-10	15/16"-10

SPECIFICATIONS				
	1.750	2.000	2.250	2.500
Fishneck	1.750	1.750	1.750	1.750
Connection	1-1/16"-10	1-1/16"-10	1-1/16"-10	1-1/16"-10

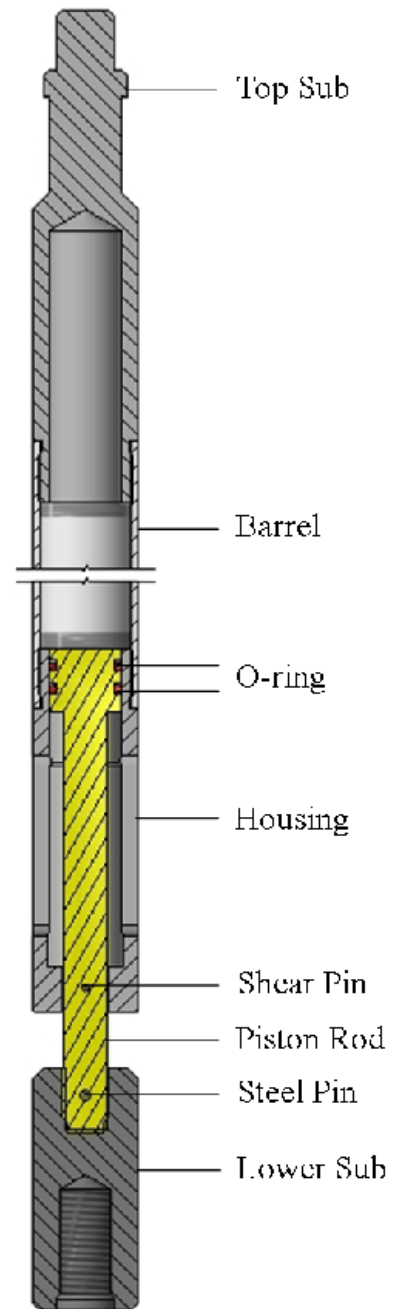
All Specification Tables contain approximated dimensions and should be used for reference only.



## DUMP BAILER

### ASSEMBLY DESCRIPTION

A Dump Bailer is used to place small amounts of cement slurry, or similar material in a well bore. The Dump Bailer holds the contents in the Barrel. When the Dump Bailer is jarred, the Shear Pin is sheared, which then turns a plunger. The plunger then shears a rupture disk and the barrel releases the contents into the well bore.







## DUMP BAILER

SPECIFICATIONS			
	1.625	1.750	2.250
Fishneck	1.375	1.750	1.750
Connection	1-1/16"-10	1-1/16"-10	1-1/16"-10

SPECIFICATIONS			
	2.875	3.250	
Fishneck	1.750	2.313	
Connection	1-1/16"-10	1-1/16"-10	

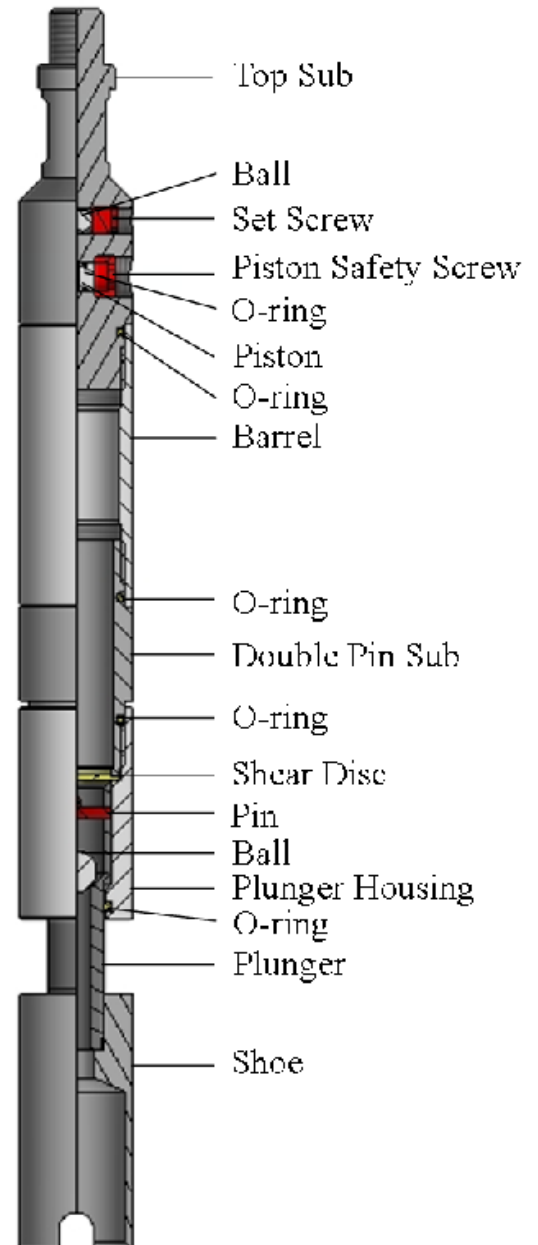
All Specification Tables contain approximated dimensions and should be used for reference only.



# HYDROSTATIC BAILER

## ASSEMBLY DESCRIPTION

The Hydrostatic Bailer is designed to be used when a pump action bailer fails to remove the sand or debris surrounding a subsurface device. The Hydrostatic Bailer consists of a chamber that has been loaded and sealed at atmospheric pressure. When the bailer reaches the top of the sand, downward jarring shears a pin, causing bottom hole pressure to surge into the chamber, forcing the bailer piston upward. When pressure in the chamber equalizes the memory pressure gauge or other equipment, a ball check closes to retain the sand and debris in the chamber.





## HYDROSTATIC BAILER

SPECIFICATIONS			
	1.250	1.375	1.500
Fishneck	1.188	1.188	1.375
Connection	15/16"-10	15/16"-10	15/16"-10

SPECIFICATIONS			
	1.625	1.750	2.000
Fishneck	1.375	1.375	1.375
Connection	15/16"-10	15/16"-10	15/16"-10

SPECIFICATIONS			
	2.188	2.500	2.750
Fishneck	1.375	1.750	1.750
Connection	15/16"-10	1-1/16"-10	1-1/16"-10

SPECIFICATIONS			
	3.000	4.000	
Fishneck	1.750	2.313	
Connection	1-1/16"-10	1-1/16"-10	

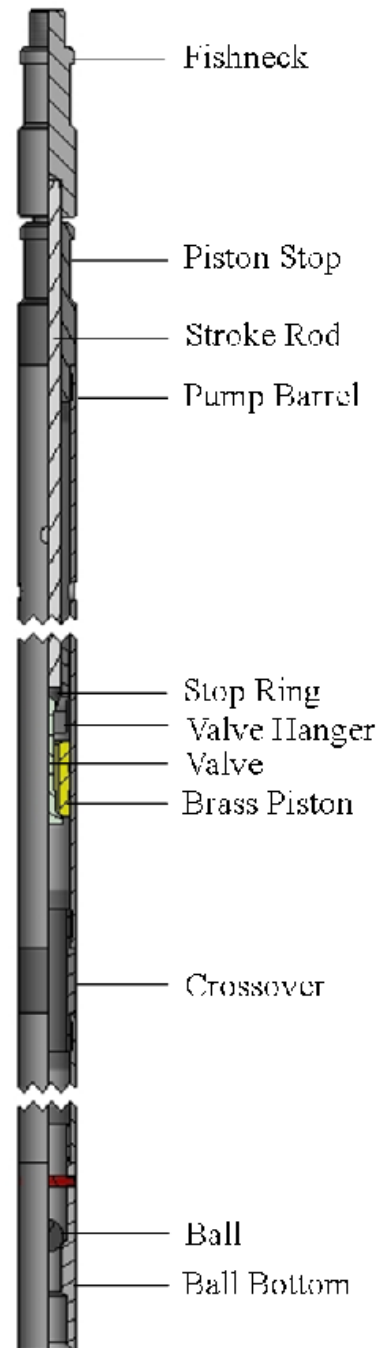
All Specification Tables contain approximated dimensions and should be used for reference only.



## MAXWELL-STYLE BAILER

### ASSEMBLY DESCRIPTION

The Maxwell-Style Bailer is a pump action bailer designed to remove debris and sand in the tubing string through using upward jarring motion. B & T has different lengths of Pump Barrels as well as load barrels to suit different bailing needs. The Maxwell-Style Bailer utilizes a Brass Piston component to bail the debris and sand from the well bore.





## MAXWELL-STYLE BAILER

SPECIFICATIONS				
	0.750	1.000	1.250	1.500
Fishneck	0.688	1.000	1.188	1.188
Connections	5/8"-11	5/8"-11	15/16"-10	15/16"-10

SPECIFICATIONS				
	1.625	1.750	2.000	2.250
Fishneck	1.375	1.375	1.375	1.375
Connections	15/16"-10	15/16"-10	15/16"-10	15/16"-10

SPECIFICATIONS				
	2.500	2.625	2.750	3.000
Fishneck	1.750	1.750	1.750	1.750
Connections	1-1/16"-10	1-1/16"-10	1-1/16"-10	1-1/16"-10

SPECIFICATIONS				
	3.125	3.250	3.750	
Fishneck	1.750	1.750	1.750	
Connections	1-1/16"-10	1-1/16"-10	1-1/16"-10	

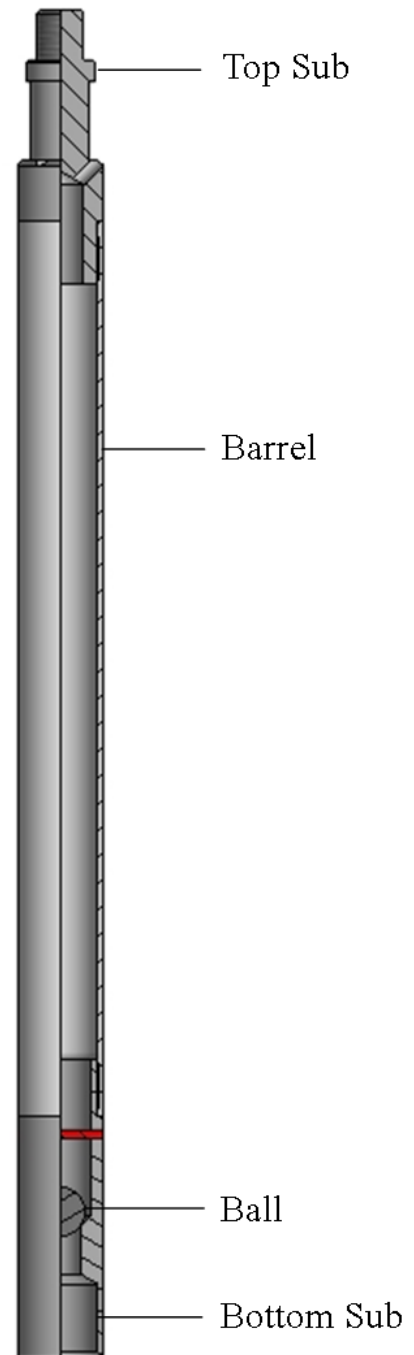
All Specification Tables contain approximated dimensions and should be used for reference only.



## SAMPLE BAILER

### ASSEMBLY DESCRIPTION

The Sample Bailer functions the same way as a Drive-Down Bailer (page L4) with a much shorter barrel (typically 18"). It is commonly attached to a Tubing End Locator (page L16) to take samples from the well bottom. It is able to retrieve large samples by opening the Flapper or Ball Bottom sub, allowing the mixture to enter the barrel. The Sample Bailer then closes as it is drawn back to the surface.





## SAMPLE BAILER

SPECIFICATIONS				
	1.000	1.250	1.500	1.750
Fishneck	1.000	1.188	1.188	1.375
Connection	5/8"-11	15/16"-10	15/16"-10	15/16"-10

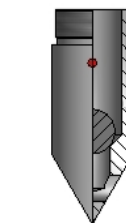
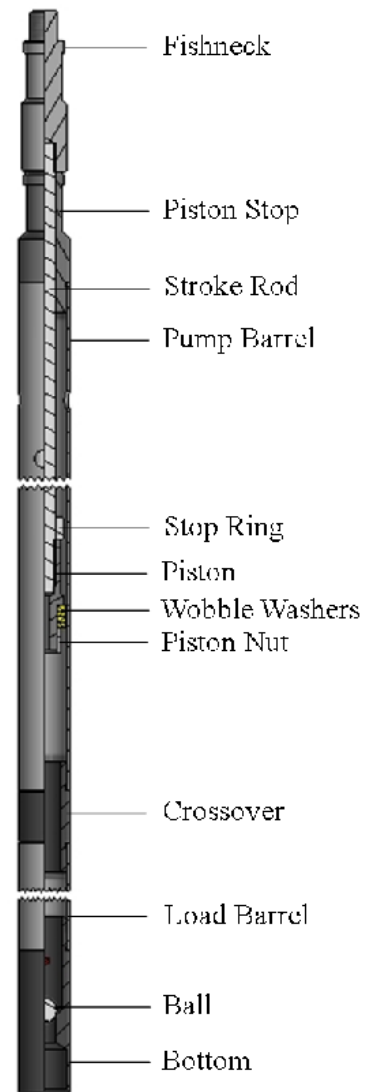
All Specification Tables contain approximated dimensions and should be used for reference only.



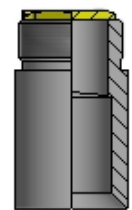
# SAND BAILER / PUMP BAILER

## ASSEMBLY DESCRIPTION

The Sand Bailer / Pump Bailer is a 2 piece pump action bailer, designed to remove sand and small debris in the tubing string through the upward stroking motion of the pump section. Debris is sucked into the Load Barrel as the assembly is jarred up. The main distinguishing component of the Sand Bailer / Pump Bailer is its Wobble Washer.



Chisel Bottom



Flapper Bottom





## SAND BAILER / PUMP BAILER

SPECIFICATIONS				
	1.000	1.250	1.375	1.500
Fishneck	0.875	1.188	1.188	1.188
Connection	5/8"-11	15/16"-10	15/16"-10	15/16"-10

SPECIFICATIONS				
	1.625	1.750	2.000	2.125
Fishneck	1.375	1.375	1.375	1.375
Connection	15/16"-10	15/16"-10	15/16"-10	15/16"-10

SPECIFICATIONS				
	2.250	2.500	3.000	3.250
Fishneck	1.375	1.750	1.750	1.750
Connection	15/16"-10	1-1/16"-10	1-1/16"-10	1-1/16"-10

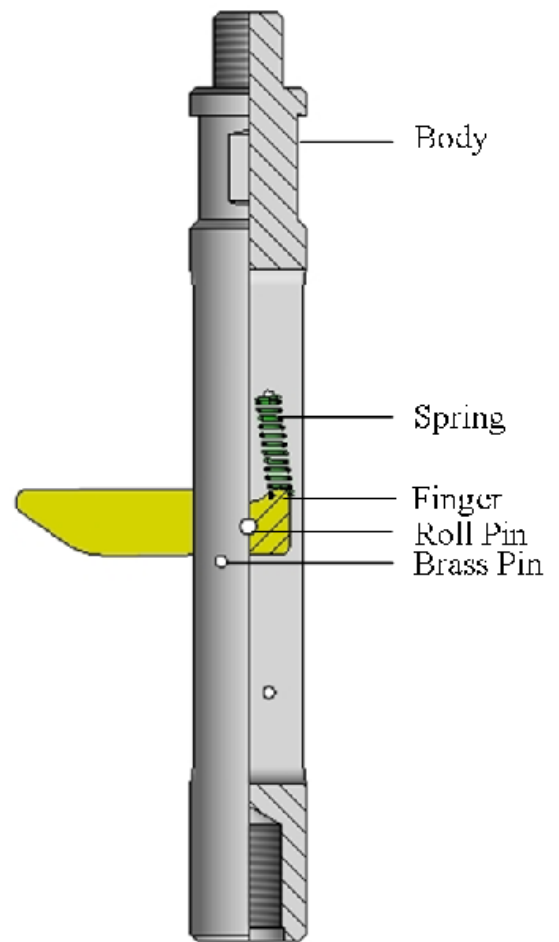
All Specification Tables contain approximated dimensions and should be used for reference only.



## TUBING END LOCATOR

### ASSEMBLY DESCRIPTION

The Tubing End Locator is used to determine the depth of the tubing using a spring-loaded Finger. The Finger catches the end of the tubing when pulled upward, registering as a reading on the weight indicator. Shear the pin by jarring upward on the assembly, and the Finger should retract back inside the tool so that retrieval is possible.





## TUBING END LOCATOR

SPECIFICATIONS			
	1.250	1.500	1.750
Fishneck	1.188	1.188	1.375
Connections	15/16"-10	15/16"-10	15/16"-10
Length	10.625	10.625	10.438
Shear Pin	3/16" X 1-1/4"	3/16" X 1-1/4"	3/16" X 1-3/4"

SPECIFICATIONS			
	2.000	2.500	3.000
Fishneck	1.375	1.375	1.375
Connections	15/16"-10	15/16"-10	15/16"-10
Length	10.438	10.438	10.438
Shear Pin	3/16" X 1-3/4"	3/16" X 1-3/4"	3/16" X 1-3/4"

All Specification Tables contain approximated dimensions and should be used for reference only.



## NOTES

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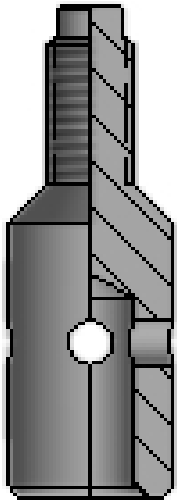
## SECTION M: PRONGS

PRONG SPECIFICATIONS .....M2



## PRONG SPECIFICATIONS

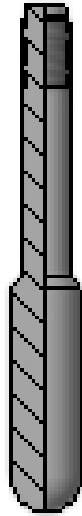
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B & T DK  
Running Prong



B & T DK  
Pulling Prong



B & T  
P Prong



B & T R/  
B & T X  
Running  
Prong



B & T R/  
B & T X  
Pulling  
Prong



## PRONG SPECIFICATIONS

SPECIFICATIONS						
Nominal Size	Mandrel	Equalizing Sub	Prong	O.D.	Length	Thread
2.000	S	B	P-100	1/2"	21-3/8"	1/2"-13
		D	P-100	1/2"	21-3/8"	1/2"-13
		H	P-479	21/32"	21-3/8"	1/2"-13
	T	B	P-100	1/2"	21-3/8"	1/2"-13
		D	P-100	1/2"	21-3/8"	1/2"-13
		H	P-479	21/32"	21-3/8"	1/2"-13
	B	B	P-102	1/2"	20-3/4"	1/2"-13
		D	P-102	1/2"	20-3/4"	1/2"-13
		H	P-474	21/32"	19-3/16"	1/2"-13
	W	B	P-501	1/2"	22-7/8"	1/2"-13
		D	P-501	1/2"	22-7/8"	1/2"-13
		H	P-474	21/32"	19-3/16"	1/2"-13
	N	B	P-146	1/2"	16-7/8"	1/2"-13
		D	P-146	1/2"	16-7/8"	1/2"-13
		H	P-479	1/2"	16-7/8"	1/2"-13
	X	B Running	P-100	1/2"	9-5/8"	1/2"-13
		D Running	P-100	1/2"	9-5/8"	1/2"-13
		B Pulling	P-100	1/2"	16-1/2"	1/2"-13
		D Pulling	P-100	1/2"	16-1/2"	1/2"-13
		H Running	P-479	21/32"	9-5/8"	1/2"-13
		H Pulling	P-479	21/32"	16-1/2"	1/2"-13
	D-Collar Lock	B	P-100	1/2"	17-1/2"	1/2"-13
		D	P-100	1/2"	17-1/2"	1/2"-13
		H	P-479	21/32"	17-1/2"	1/2"-13

All Specification Tables contain approximated dimensions and should be used for reference only.



## PRONG SPECIFICATIONS

SPECIFICATIONS						
Nominal Size	Mandrel	Equalizing Sub	Prong	O.D.	Length	Thread
2.500	S	B	P-242	11/16"	22-1/2"	1/2"-13
		D	P-242	11/16"	22-1/2"	1/2"-13
		H	P-145	27/32"	22-1/2"	1/2"-13
	T	B	P-242	11/16"	22-1/2"	1/2"-13
		D	P-242	11/16"	22-1/2"	1/2"-13
		H	P-145	27/32"	22-1/2"	1/2"-13
	B	B	P-104	11/16"	21-5/8"	1/2"-13
		D	P-104	11/16"	21-5/8"	1/2"-13
		H	P-150	27/32"	20-3/8"	1/2"-13
	W	B	P-242	11/16"	21-1/2"	1/2"-13
		D	P-242	11/16"	21-1/2"	1/2"-13
		H	P-480	27/32"	21-3/4"	1/2"-13
	N	B	P-610	11/16"	15-1/4"	1/2"-13
		D	P-610	11/16"	15-1/4"	1/2"-13
		H	P-400	27/32"	14-3/32"	1/2"-13
	X	B Running	P-242	11/16"	7-1/2"	5/8"-11
		D Running	P-242	11/16"	7-1/2"	5/8"-11
		B Pulling	P-242	11/16"	17-1/2"	5/8"-11
		D Pulling	P-242	11/16"	17-1/2"	5/8"-11
		H Running	P-480	27/32"	7-1/2"	5/8"-11
		H Pulling	P-480	27/32"	17-1/2"	5/8"-11
	D-Collar Lock	B	P-242	11/16"	20"	1/2"-13
		D	P-242	11/16"	20"	1/2"-13
		H	P-480	27/32"	20"	1/2"-13

All Specification Tables contain approximated dimensions and should be used for reference only.





## PRONG SPECIFICATIONS

SPECIFICATIONS						
Nominal Size	Mandrel	Equalizing Sub	Prong	O.D.	Length	Thread
3.000	S	B	P-141	1-1/8"	23-3/8"	5/8"-11
		D	P-141	1-1/8"	23-3/8"	5/8"-11
		H	P-481	1-15/32"	22-3/8"	5/8"-11
	T	B	P-141	1-1/8"	23-3/8"	5/8"-11
		D	P-141	1-1/8"	23-3/8"	5/8"-11
		H	P-481	1-15/32"	22-3/8"	5/8"-11
	B	B	P-148	1-1/8"	21-13/16"	5/8"-11
		D	P-148	1-1/8"	21-13/16"	5/8"-11
		H	P-476	1-1/8"	21-13/16"	5/8"-11
	W	B	P-141	1-1/8"	23-3/8"	5/8"-11
		D	P-141	1-1/8"	23-3/8"	5/8"-11
		H	P-481	1-15/32"	23-3/8"	5/8"-11
	N	B	P-141	1-1/8"	15"	5/8"-11
		D	P-141	1-1/8"	15"	5/8"-11
		H	P-572	1-15/32"	15"	5/8"-11
	X	B Running	P-141	1-1/8"	8"	3/4"-10
		D Running	P-141	1-1/8"	8"	3/4"-10
		B Pulling	P-141	1-1/8"	19"	5/8"-11
		D Pulling	P-141	1-1/8"	19"	5/8"-11
		H Running	P-572	1-15/32"	8"	3/4"-10
		H Pulling	P-572	1-15/32"	19"	5/8"-11
	D-Collar Lock	B	P-141	1-1/8"	19"	5/8"-11
		D	P-141	1-1/8"	19"	5/8"-11
		H	P-572	1-15/32"	19"	5/8"-11

All Specification Tables contain approximated dimensions and should be used for reference only.



## NOTES

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### QUICK EMAILS

Broussard, Louisiana Office:  
Anchorage, Alaska Office:  
Alvin, Texas Office:  
Odessa, Texas Office:  
Sales Manager:  
Shipping Manager:  
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**ANCHORAGE, ALASKA**  
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## SECTION N: BAKER STYLE EQUIPMENT

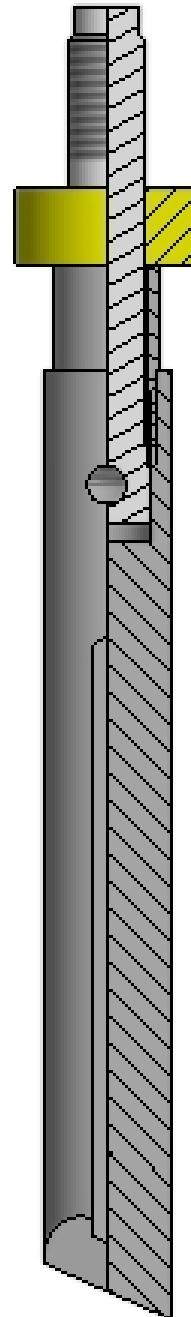
A PROBE .....	N2	M / F LOCK .....	N23
A PRONG .....	N4	N-1 PROBE.....	N25
A SHANK .....	N6	N-1 SHANK.....	N27
B PROBE .....	N8	RB-2 EQUALIZING CHECK VALVE .....	N29
D-2 SHIFTING TOOL.....	N10	RZB BOMB HANGER .....	N31
FB-2 EQUALIZING CHECK VALVE.....	N12	RZG BLANKING PLUG .....	N33
FSB BOMB HANGER .....	N14	S LOCK (TYPE B).....	N35
FSG BLANKING PLUG.....	N16	W LOCK (TYPE B) .....	N37
FWB BOMB HANGER.....	N18	Z LOCK.....	N40
FWG BLANKING PLUG .....	N20		



## A PROBE

### ASSEMBLY DESCRIPTION

The A Probe is a wireline manipulated device that is used to retract the four locking dogs on a B & T S Lock (page N35) in order to remove it from a B & T S Landing Nipple.





## A PROBE

SPECIFICATIONS			
	1.500	2.000	2.500
Maximum O.D.	0.724	0.832	1.137
Pin Connection	3/8"-16	1/2"-13	1/2"-13
Bottom Connection	7/16"-14	1/2"-13	1/2"-13
Length	7.469	9.063	9.063

SPECIFICATIONS			
	3.000	4.500	
Maximum O.D.	1.387	2.031	
Pin Connection	5/8"-11	1-1/4"-12	
Bottom Connection	5/8"-11	5/8"-11	
Length	10.656	12.438	

All Specification Tables contain approximated dimensions and should be used for reference only.



## A PRONG

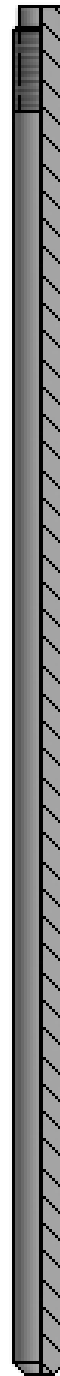
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### ASSEMBLY DESCRIPTION

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The A Prong is used to set and pull various Baker Style Equipment (page N1), especially flow control equipment.

Please specify the length required when ordering the A Prong, as B & T manufactures A Prongs to meet customer requirements.





## A PRONG

SPECIFICATIONS			
	2.000	2.500	3.000
Maximum O.D.	0.500	0.500	0.625
Connection	1/2"-13	1/2"-13	5/8"-11

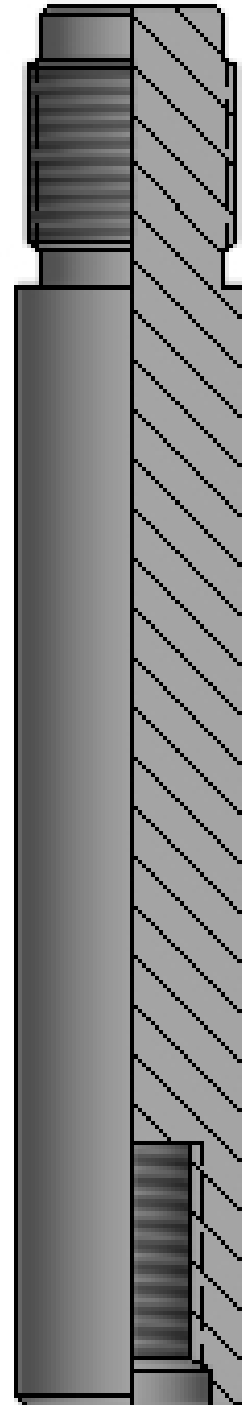


## A SHANK

### ASSEMBLY DESCRIPTION

The A Shank can be run by the C-1 Running Tool (page I5) or any other internally threaded running tool. It is used to collapse the downward facing dogs on selective B & T S Locks (page N35), B & T W Locks (page N37), and B & T Z Locks (page N40).

The A Shank may also be used as a connection between the running tool and an A Prong (page N4).







## A SHANK

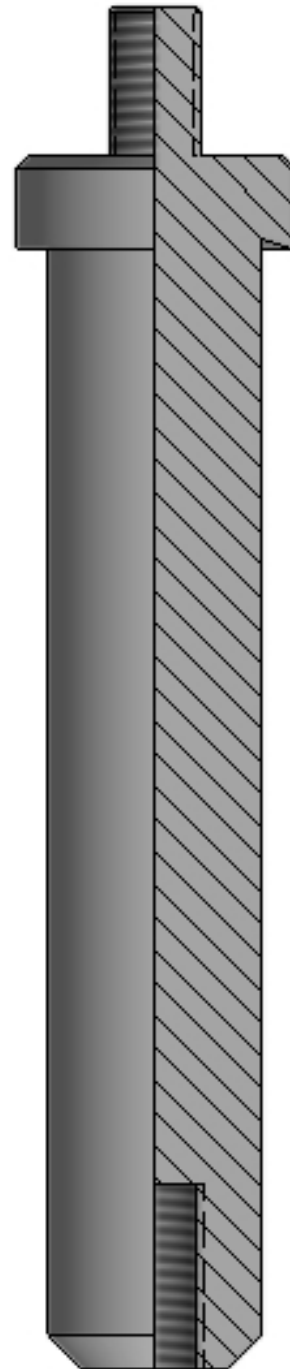
SPECIFICATIONS				
	1.500	2.000	2.500	3.000
Maximum O.D.	0.698	0.832	1.161	1.411
Pin Connection	5/8"-11	3/4"-16	1"-14	1"-14
Bottom Connection	7/16"-14	1/2"-13	1/2"-13	5/8"-11
Length	4.750	5.000	4.688	5.313



## B PROBE

### ASSEMBLY DESCRIPTION

The B Probe is a wireline manipulated device that is used to close the two locking dogs on a B & T W Lock (page N37) or B & T Z Lock (page N40) in order to remove it from the Landing Nipple (page B1).





## B PROBE

SPECIFICATIONS			
	1.250	1.500	2.000
Maximum O.D.	0.496	0.698	0.832
Pin Connection	3/8"-16	1/2"-13	1/2"-13
Bottom Connection	1/4"-20	7/16"-14	1/2"-13
Overall Length	6.281	6.281	7.094

SPECIFICATIONS			
	2.500	3.000	4.500
Maximum O.D.	1.137	1.387	2.031
Pin Connection	1/2"-13	5/8"-11	1-1/4"-12
Bottom Thread	1/2"-13	5/8"-11	5/8"-11
Overall Length	7.219	7.750	8.500

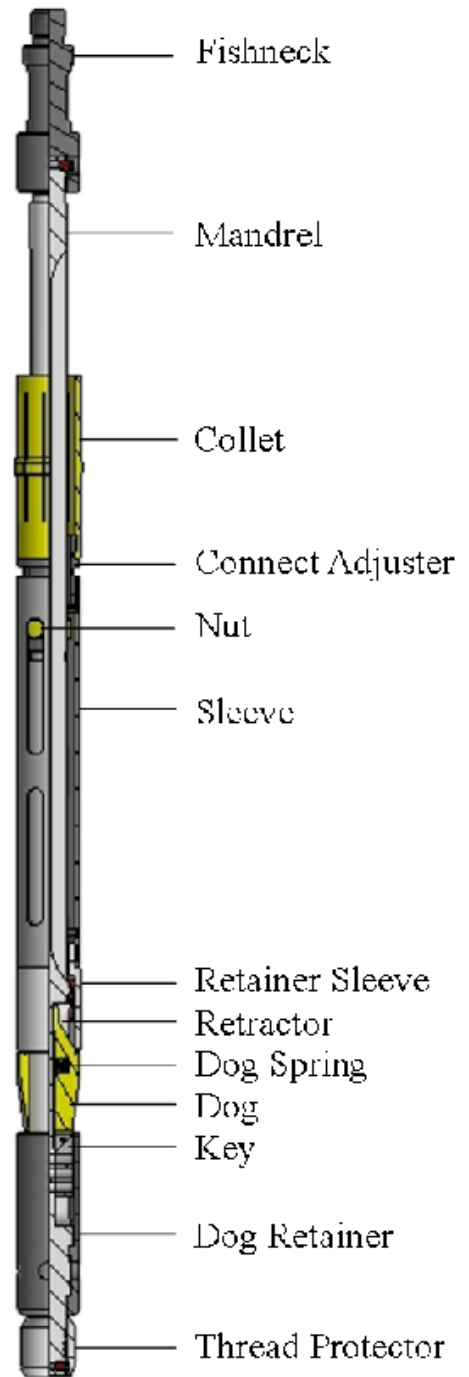
All Specification Tables contain approximated dimensions and should be used for reference only.



## D-2 SHIFTING TOOL

### ASSEMBLY DESCRIPTION

The D-2 Shifting Tool is used to provide a safe, selective, and controlled method of opening and closing TL Circulating Sleeves.





## D-2 SHIFTING TOOL

SPECIFICATIONS			
	1.780	1.810	1.870
Fishneck	1.375	1.375	1.375
Collet Diameter	1.807	1.843	1.906
Length	38.250	38.250	38.250

SPECIFICATIONS			
	2.250	2.310	2.750
Fishneck	1.750	1.750	2.313
Collet Diameter	2.281	2.343	2.781
Length	39.375	39.375	39.437

SPECIFICATIONS			
	2.810	3.680	3.810
Fishneck	2.313	2.313	2.313
Collet Diameter	2.843	3.743	3.867
Length	39.437	43.000	43.000

All Specification Tables contain approximated dimensions and should be used for reference only.



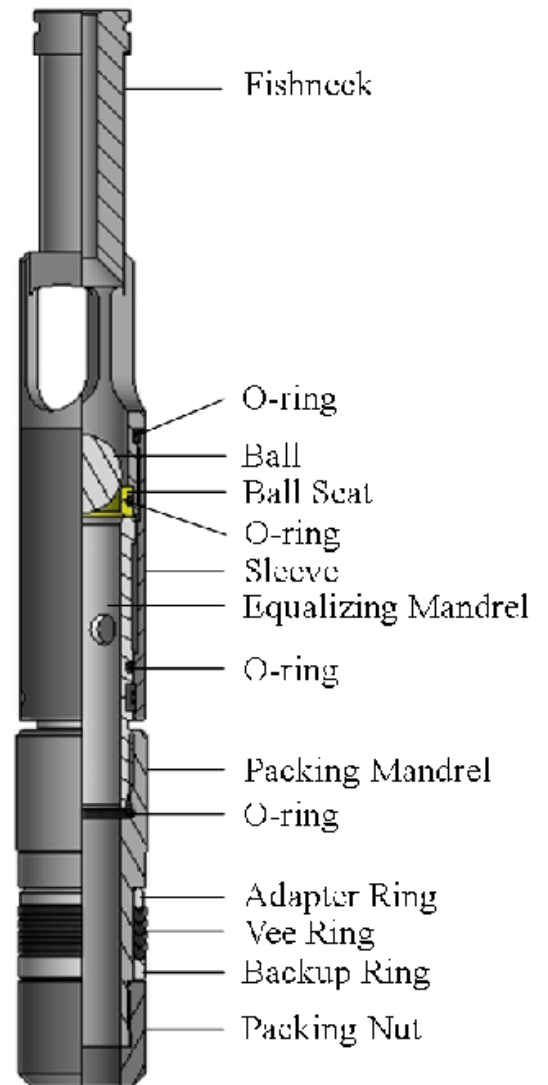
## FB-2 EQUALIZING CHECK VALVE

### ASSEMBLY DESCRIPTION

The FB-2 Equalizing Check Valve prevents fluid flow from above the tool, yet still allows fluid flow from below the tool. The FB-2 Equalizing Check Valve will sit in the No-Go of a TF profile, which prevents downward movement.

A B & T S Pulling Tool (page J29) or a JD Pulling Tool (page J13) can be used to pull and set the FB-2 Equalizing Check Valve.

A B & T C-1 Running Tool (page I4) or a JD Pulling Tool (page J13) can be used to run and set the tool.





## FB-2 EQUALIZING CHECK VALVE

SPECIFICATIONS				
	1.780	1.810	1.870	2.250
Fishneck	1.375	1.375	1.375	1.750
No-Go O.D.	1.802	1.865	1.906	2.302
Length	15.680	15.680	15.680	17.370
Running Tool	C1RT-02000-01	C1RT-02000-01	C1RT-02000-01	C1RT-02500-01
Pulling Tool	SBPT-02000-01 JDCBT-02000-01	SBPT-02000-01 JDCBT-02000-01	SBPT-02000-01 JDCBT-02000-01	SBPT-02500-01 JDCBT-02500-01

SPECIFICATIONS				
	2.310	2.560	2.750	2.810
Fishneck	1.750	2.313	2.313	2.313
No-Go O.D.	2.365	2.550	2.802	2.865
Length	17.370	18.375	18.810	18.810
Running Tool	C1RT-02500-01	C1RT-02500-01	C1RT-03000-01	C1RT-03000-01
Pulling Tool	SBPT-02500-01 JDCBT-02500-01	SBPT-02500-01 JDCBT-02500-01	SBPT-03000-01 JDCBT-03000-01	SBPT-03000-01 JDCBT-03000-01

SPECIFICATIONS				
	3.688	3.750	3.813	4.125
Fishneck	3.125	3.125	3.125	3.125
No-Go O.D.	3.740	3.802	3.875	4.187
Length	18.750	18.750	18.750	17.430
Running Tool	C1RT-04000-01	C1RT-04000-01	C1RT-04000-01	C1RT-04000-01
Pulling Tool	SBPT-04000-01 JDCBT-04000-01	SBPT-04000-01 JDCBT-04000-01	SBPT-04000-01 JDCBT-04000-01	SBPT-04000-01 JDCBT-04000-01

All Specification Tables contain approximated dimensions and should be used for reference only.



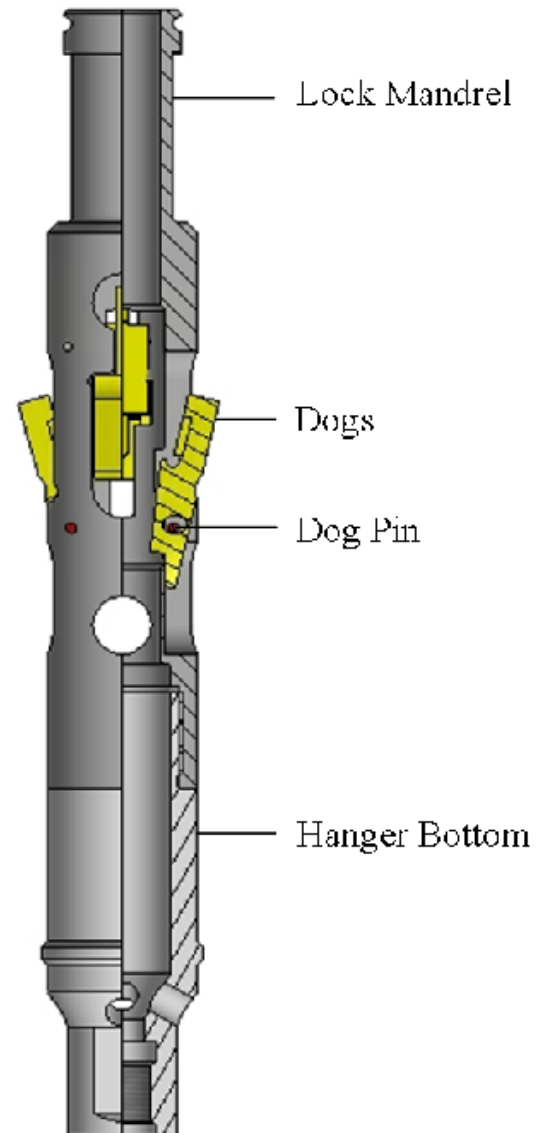
## FSB BOMB HANGER

### ASSEMBLY DESCRIPTION

The FSB Bomb Hanger performs the same functions as the FWB Bomb Hanger (page N18), utilizing a B & T S Lock (page N35).

A B & T S Pulling Tool (page J29) or a JD Pulling Tool (page J13) can be used to pull and set the FSB Bomb Hanger.

A B & T C-1 Running Tool (page I4) or a JD Pulling Tool (page J13) can be used to run and set the tool.







## FSB BOMB HANGER

SPECIFICATIONS				
	1.780	1.810	1.875	2.250
Fishneck	1.375	1.375	1.375	1.750
Maximum O.D.	1.771	1.802	1.865	2.240
Length	13.136	13.136	13.136	14.207
Running Tool	C1RT-02000-01	C1RT-02000-01	C1RT-02000-01	C1RT-02500-01
Pulling Tool	SBPT-02000-01 JDCBT-02000-01	SBPT-02000-01 JDCBT-02000-01	SBPT-02000-01 JDCBT-02000-01	SBPT-02500-01 JDCBT-02500-01

SPECIFICATIONS				
	2.310	2.750	2.810	
Fishneck	1.750	2.313	2.313	
Maximum O.D.	2.302	2.740	2.802	
Length	14.207	14.627	14.627	
Running Tool	C1RT-02500-01	C1RT-03000-01	C1RT-03000-01	
Pulling Tool	SBPT-02500-01 JDCBT-02500-01	SBPT-03000-01 JDCBT-03000-01	SBPT-03000-01 JDCBT-03000-01	

All Specification Tables contain approximated dimensions and should be used for reference only.



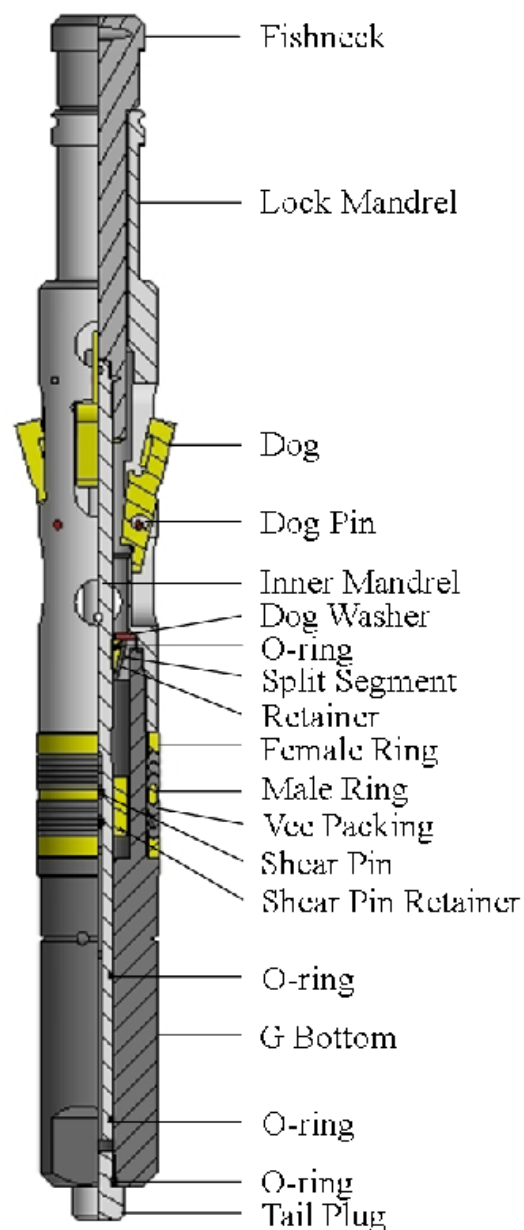
## FSG BLANKING PLUG

### ASSEMBLY DESCRIPTION

The FSG Blanking Plug allows fluid to by-pass through the side ports when running in the well. It contains 2 sets of Dogs, one set in the upward position, and one set in the downward position, to lock in place against pressure.

A B & T S Pulling Tool (page J29) or a JD Pulling Tool (page J13) can be used to pull and set the FSG Blanking Plug.

A B & T C-1 Running Tool (page I4) or a JD Pulling Tool (page J13) can be used to run and set the tool.





## FSG BLANKING PLUG

SPECIFICATIONS				
	1.500	1.780	1.810	1.870
Fishneck	1.188	1.375	1.375	1.375
Maximum O.D.	1.490	1.771	1.802	1.865
Length	14.600	17.220	17.220	17.220
Running Tool	C1RT-01500-01	C1RT-02000-01	C1RT-02000-01	C1RT-02000-01
Pulling Tool	SBPT-01500-01	SBPT-02000-01	SBPT-02000-01	SBPT-02000-01
Pulling Prong	BBPO-01500-01	BBPO-02000-01	BBPO-02000-01	BBPO-02000-01

SPECIFICATIONS				
	2.250	2.310	2.750	2.810
Fishneck	1.750	1.750	2.313	2.313
Maximum O.D.	2.240	2.302	2.740	2.802
Length	17.759	17.759	18.906	18.906
Running Tool	C1RT-02500-01	C1RT-02500-01	C1RT-03000-01	C1RT-03000-01
Pulling Tool	SBPT-02500-01	SBPT-02500-01	SBPT-03000-01	SBPT-03000-01
Pulling Prong	BBPO-02500-01	BBPO-02500-01	BBPO-03000-01	BBPO-03000-01

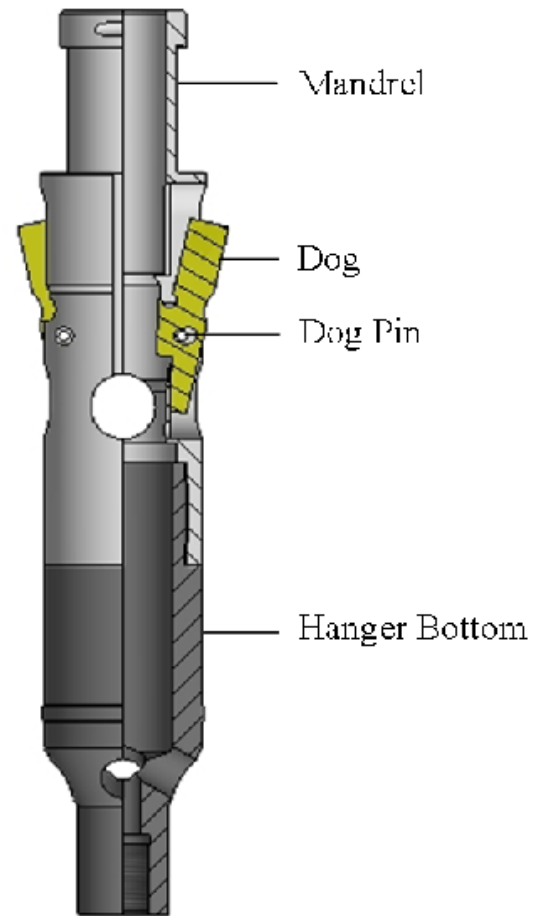
All Specification Tables contain approximated dimensions and should be used for reference only.



## FWB BOMB HANGER

### ASSEMBLY DESCRIPTION

The FWB Bomb Hanger is used to land and lock downhole measuring instruments in TF Profiles.





## FWB BOMB HANGER

SPECIFICATIONS				
	1.500	1.780	1.810	1.870
Fishneck	1.188	1.375	1.375	1.375
No-Go O.D.	1.490	1.802	1.865	1.906
Length	11.516	11.516	11.516	11.516
Running Tool	C1RT-01500-01	C1RT-02000-01	C1RT-02000-01	C1RT-02000-01
Pulling Tool	SBPT-01500-01	SBPT-02000-01	SBPT-02000-01	SBPT-02000-01
Pulling Prong	BBPO-01500-04	BBPO-02000-04	BBPO-02000-04	BBPO-02000-04

SPECIFICATIONS				
	2.250	2.310	2.560	2.750
Fishneck	1.750	1.750	1.750	2.313
No-Go O.D.	2.302	2.365	2.625	2.802
Length	12.517	12.517	13.320	12.407
Running Tool	C1RT-02500-01	C1RT-02500-01	C1RT-02500-01	C1RT-03000-01
Pulling Tool	SBPT-02500-01	SBPT-02500-01	SBPT-02500-01	SBPT-03000-01
Pulling Prong	BBPO-02000-04	BBPO-02500-04	BBPO-02560-04	BBPO-03000-04

SPECIFICATIONS				
	2.810	3.688	3.750	3.810
Fishneck	2.313	3.125	3.125	3.125
No-Go O.D.	2.865	3.740	3.802	3.864
Length	12.407	14.102	14.102	14.102
Running Tool	C1RT-03000-01	C1RT-04000-01	C1RT-04000-01	C1RT-04000-01
Pulling Tool	SBPT-03000-01	SBPT-04000-01	SBPT-04000-01	SBPT-04000-01
Pulling Prong	BBPO-03000-04	BBPO-04000-04	BBPO-04000-04	BBPO-04000-04

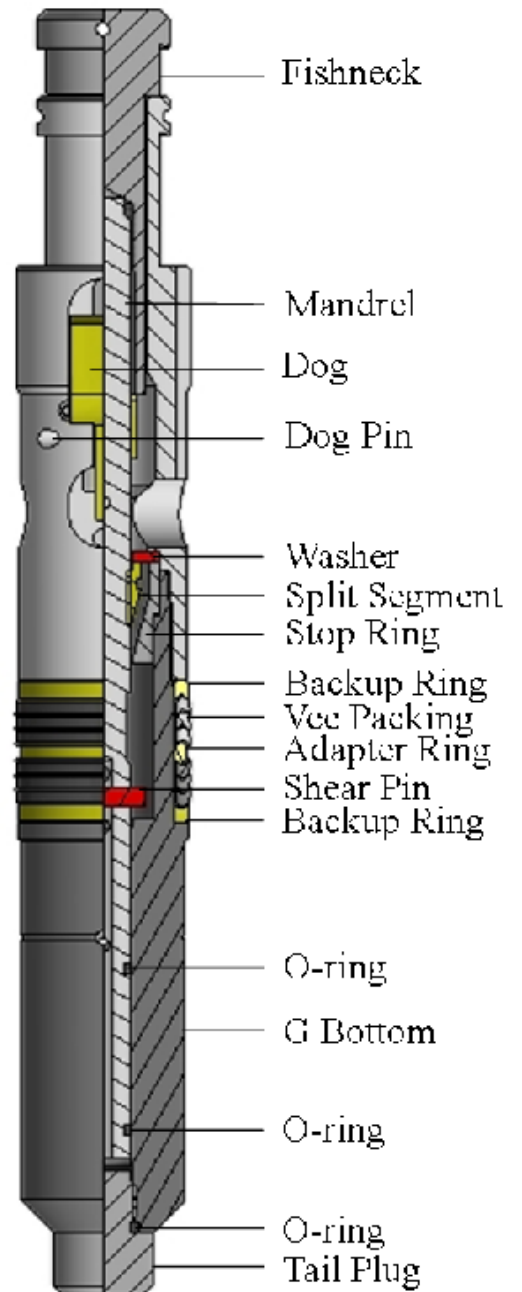
All Specification Tables contain approximated dimensions and should be used for reference only.



# FWG BLANKING PLUG

## ASSEMBLY DESCRIPTION

The FWG Blanking Plug will be set and locked in the F Profile. Once it has been properly locked it will allow fluid to bypass through its side ports. This will allow pressure to be held in either direction. The FWG Blanking Plug can be equalized and pulled with standard wireline tools.





## FWG BLANKING PLUG

SPECIFICATIONS				
	1.430	1.500	1.560	1.620
Fishneck	1.188	1.188	1.188	1.188
No-Go O.D.	1.490	1.550	1.615	1.675
Lock O.D.	1.375	1.375	1.375	1.375
Length	14.690	14.500	14.500	15.600
Running Tool	C1RT-01500-01	C1RT-01500-01	C1RT-01500-01	C1RT-01500-01
Pulling Tool	SBPT-01500-01	SBPT-01500-01	SBPT-01500-01	SBPT-01500-01
Pulling Prong	BBPO-01500-04	BBPO-01500-04	BBPO-01500-04	BBPO-01500-04

SPECIFICATIONS				
	1.780	1.810	1.870	2.250
Fishneck	1.375	1.375	1.375	1.750
No-Go O.D.	1.865	1.865	1.906	2.302
Lock O.D.	1.703	1.703	1.703	2.156
Length	15.600	15.600	15.600	16.060
Running Tool	C1RT-02000-01	C1RT-02000-01	C1RT-02000-01	C1RT-02500-01
Pulling Tool	SBPT-02000-01	SBPT-02000-01	SBPT-02000-01	SBPT-02500-01
Pulling Prong	BBPO-02000-04	BBPO-02000-04	BBPO-02000-04	BBPO-02000-04

All Specification Tables contain approximated dimensions and should be used for reference only.



## FWG BLANKING PLUG

SPECIFICATIONS				
	2.310	2.560	2.750	2.810
Fishneck	1.750	1.750	2.313	2.313
No-Go O.D.	2.365	2.625	2.802	2.865
Lock O.D.	2.156	2.437	2.656	2.656
Length	16.060	16.600	17.710	17.710
Running Tool	C1RT-02500-01	C1RT-02500-01	C1RT-03000-01	C1RT-03000-01
Pulling Tool	SBPT-02500-01	SBPT-02500-01	SBPT-03000-01	SBPT-03000-01
Pulling Prong	BBPO-02500-04	BBPO-02500-04	BBPO-03000-04	BBPO-03000-04

SPECIFICATIONS				
	3.688	3.750	3.810	
Fishneck	3.125	3.125	3.125	
No-Go O.D.	3.740	3.802	3.862	
Lock O.D.	2.750	2.750	2.780	
Length	19.250	19.250	19.250	
Running Tool	C1RT-04000-01	C1RT-04000-01	C1RT-04000-01	
Pulling Tool	SBPT-04000-01	SBPT-04000-01	SBPT-04000-01	
Pulling Prong	BBPO-04000-04	BBPO-04000-04	BBPO-04000-04	

All Specification Tables contain approximated dimensions and should be used for reference only.





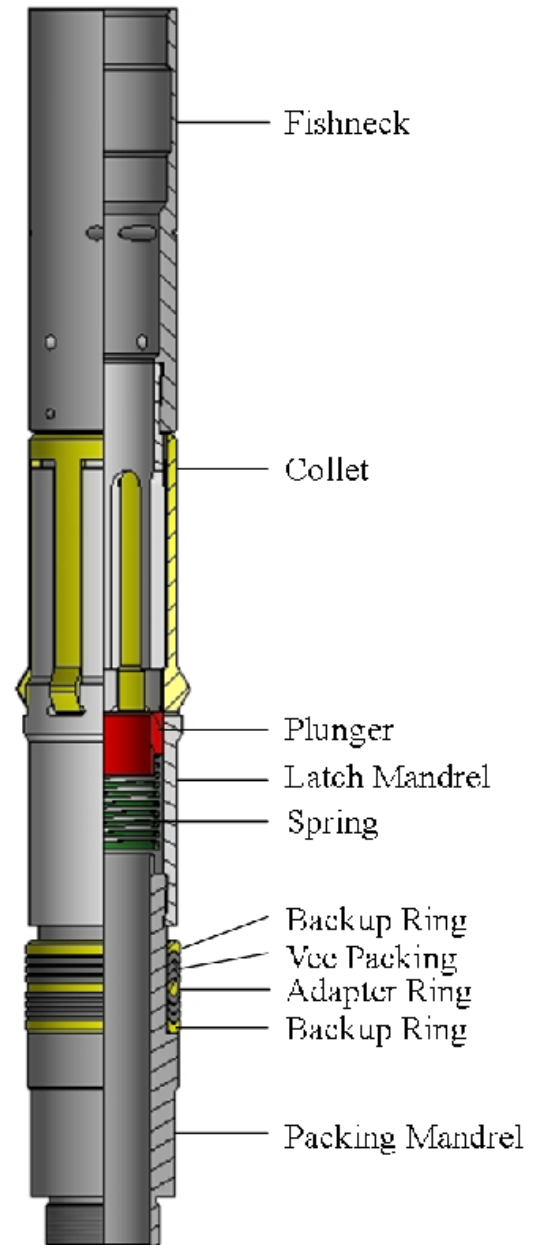
## M / F LOCK

### ASSEMBLY DESCRIPTION

The F Lock with packing gland is a top No-Go lock used in TF type profiles. The F Lock has a No-Go shoulder to prevent downward movement and collet type locking fingers to prevent upward movement.

The I.D. of the lock has relatively smooth, uninterrupted flow path and is excellent for high volume completions.

When the packing gland and packing unit assembly is made up, the item becomes an M Lock.





## M / F LOCK

SPECIFICATIONS				
	2.750	2.810	3.688	3.810
Fishneck	2.310	2.310	3.120	3.120
No-Go O.D.	2.802	2.872	3.737	3.835
Lock O.D.	2.715	2.715	3.625	3.625
Latch I.D.	1.850	1.850	2.750	2.750
Overall Length	23.125	23.125	23.125	23.125
Lock Ring I.D.	1.750	1.750	2.625	2.625
Packing I.D.	1.500	1.500	2.625	2.625

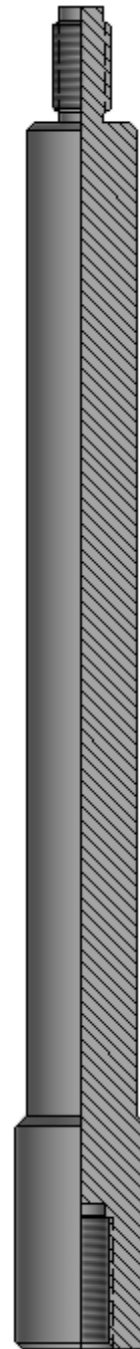
All Specification Tables contain approximated dimensions and should be used for reference only.



## N-1 PROBE

### ASSEMBLY DESCRIPTION

The N-1 Probe is used to pull and retrieve Baker Style Equipment (page N1), specifically the N, G, L, or R Locks (page A9).





## N-1 PROBE

SPECIFICATIONS		
	2.000	2.500
Maximum O.D.	0.938	1.235
Connections	1/2"-13	1/2"-13
Length	11.500	11.188

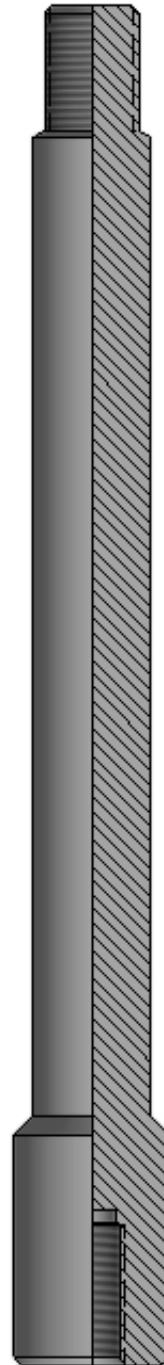
All Specification Tables contain approximated dimensions and should be used for reference only.



## N-1 SHANK

### ASSEMBLY DESCRIPTION

The N-1 Shank is used to run and set Baker Style Equipment (page N1), specifically the N, G, L, or R Locks (page A9).





## N-1 SHANK

SPECIFICATIONS		
	2.000	2.500
Maximum O.D.	0.938	1.235
Pin Connection	3/4"-16	1"-14
Box Connection	1/2"-13	1/2"-13
Overall Length	10.875	10.813

All Specification Tables contain approximated dimensions and should be used for reference only.



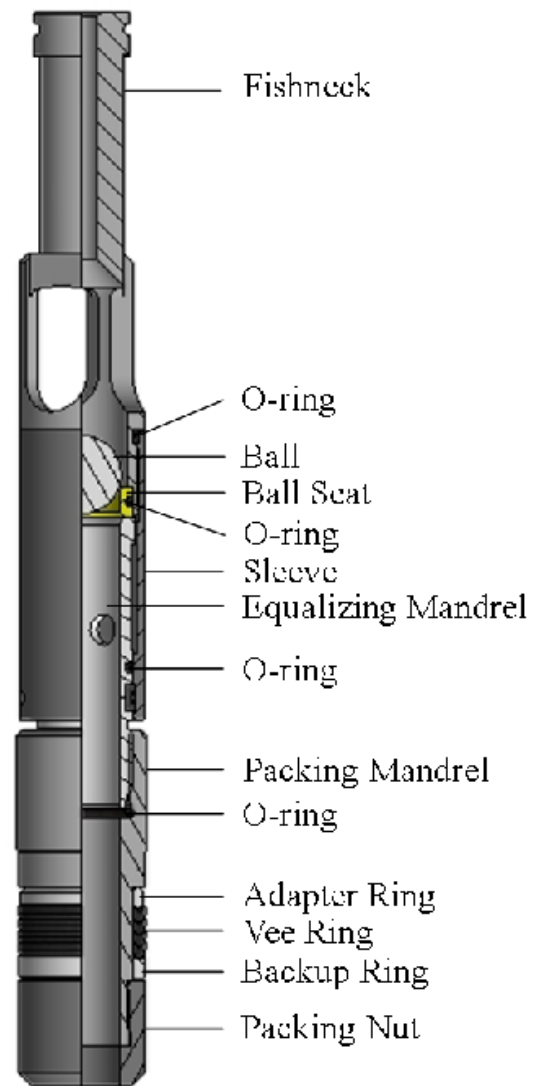
## RB-2 EQUALIZING CHECK VALVE

### ASSEMBLY DESCRIPTION

The RB-2 Equalizing Check Valve is similar to the FB-2 Equalizing Check Valve (page N12). The RB-2 Packing Mandrel does not have a No-Go. The O.D. of the mandrel sits in the profile.

A B & T S Pulling Tool (page J29) or a JD Pulling Tool (page J13) can be used to pull and set the RB-2 Equalizing Check Valve.

A B & T C-1 Running Tool (page I4) or a JD Pulling Tool (page J13) can be used to run and set the tool.





## RB-2 EQUALIZING CHECK VALVE

SPECIFICATIONS				
	1.780	1.810	1.870	2.250
Fishneck	1.375	1.375	1.375	1.750
No-Go O.D.	1.771	1.802	1.865	2.240
Length	15.680	15.680	15.680	17.375
Running Tool	C1RT-02000-01	C1RT-02000-01	C1RT-02000-01	C1RT-02500-01
Pulling Tool	SBPT-02000-01 JDCBT-02000-01	SBPT-02000-01 JDCBT-02000-01	SBPT-02000-01 JDCBT-02000-01	SBPT-02500-01 JDCBT-02500-01

SPECIFICATIONS				
	2.310	2.560	2.750	2.810
Fishneck	1.750	2.313	2.313	2.313
No-Go O.D.	2.302	2.550	2.740	2.802
Length	17.375	18.375	18.813	18.813
Running Tool	C1RT-02500-01	C1RT-02500-01	C1RT-03000-01	C1RT-03000-01
Pulling Tool	SBPT-02500-01 JDCBT-02500-01	SBPT-02500-01 JDCBT-02500-01	SBPT-03000-01 JDCBT-03000-01	SBPT-03000-01 JDCBT-03000-01

SPECIFICATIONS				
	3.688	3.750	3.810	
Fishneck	3.125	3.125	3.125	
No-Go O.D.	3.678	3.740	3.802	
Length	18.500	18.620	18.660	
Running Tool	C1RT-04000-01	C1RT-04000-01	C1RT-04000-01	
Pulling Tool	SBPT-04000-01 JDCBT-04000-01	SBPT-04000-01 JDCBT-04000-01	SBPT-04000-01 JDCBT-04000-01	

All Specification Tables contain approximated dimensions and should be used for reference only.

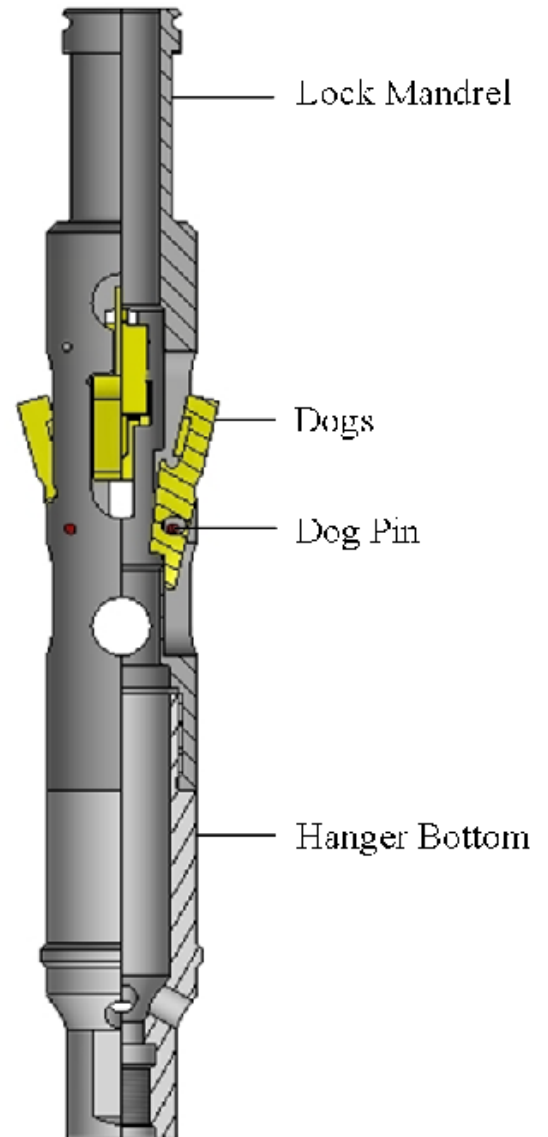




## RZB BOMB HANGER

### ASSEMBLY DESCRIPTION

The RZB Bomb Hanger works in similar fashion to the FSB Bomb Hanger (page N14), utilizing a Z Lock (page N40).





## RZB BOMB HANGER

SPECIFICATIONS				
	1.500	1.780	1.810	1.870
Fishneck	1.188	1.375	1.375	1.375
No-Go O.D.	1.490	1.802	1.865	1.906
Length	11.516	11.516	11.516	11.516
Running Tool	C1RT-01500-01	C1RT-02000-01	C1RT-02000-01	C1RT-02000-01
Pulling Tool	SBPT-01500-01	SBPT-02000-01	SBPT-02000-01	SBPT-02000-01
Pulling Prong	BBPO-01500-04	BBPO-02000-04	BBPO-02000-04	BBPO-02000-04

SPECIFICATIONS				
	2.250	2.310	2.560	2.750
Fishneck	1.750	1.750	1.750	2.313
No-Go O.D.	2.302	2.365	2.625	2.802
Length	12.517	12.517	13.320	12.407
Running Tool	C1RT-02500-01	C1RT-02500-01	C1RT-02500-01	C1RT-03000-01
Pulling Tool	SBPT-02500-01	SBPT-02500-01	SBPT-02500-01	SBPT-03000-01
Pulling Prong	BBPO-02000-04	BBPO-02500-04	BBPO-02560-04	BBPO-03000-04

SPECIFICATIONS				
	2.810	3.688	3.750	3.810
Fishneck	2.313	3.125	3.125	3.125
No-Go O.D.	2.865	3.740	3.802	3.864
Length	13.093	14.102	14.102	14.102
Running Tool	C1RT-03000-01	C1RT-04000-01	C1RT-04000-01	C1RT-04000-01
Pulling Tool	SBPT-03000-01	SBPT-04000-01	SBPT-04000-01	SBPT-04000-01
Pulling Prong	BBPO-03000-04	BBPO-04000-04	BBPO-04000-04	BBPO-04000-04

All Specification Tables contain approximated dimensions and should be used for reference only.

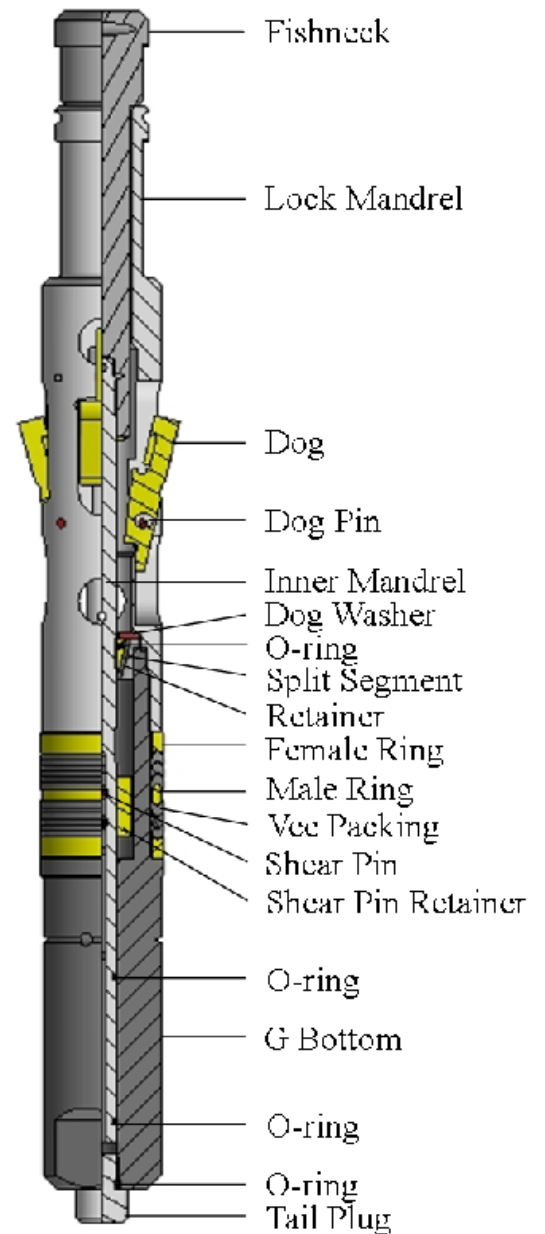


## RZG BLANKING PLUG

### ASSEMBLY DESCRIPTION

The RZG Blanking Plug works in the same way as the FWG Blanking Plug (page N20) however the RZG Blanking Plug does not feature a No-Go on the lock. Instead, the No-Go is located on the G Bottom.

The RZG Blanking Plug will be set and locked in the F Profile. Once it has been properly locked it will allow fluid to bypass through its side ports. This will allow pressure to be held in either direction. The RZG Blanking Plug can be equalized and pulled with standard wireline tools.





## RZG BLANKING PLUG

SPECIFICATIONS				
	1.500	1.560	1.780	1.810
Fishneck	1.188	1.188	1.375	1.375
No-Go O.D.	1.490	1.552	1.771	1.802
Length	14.690	14.560	15.600	15.600

SPECIFICATIONS				
	1.870	2.250	2.310	2.750
Fishneck	1.375	1.750	1.750	2.313
No-Go O.D.	1.865	2.240	2.240	2.740
Length	15.600	16.600	16.600	16.690

SPECIFICATIONS				
	2.810	3.688	3.750	3.810
Fishneck	2.313	3.125	3.125	3.125
No-Go O.D.	2.802	3.678	3.740	3.802
Length	16.690	19.470	19.470	19.470

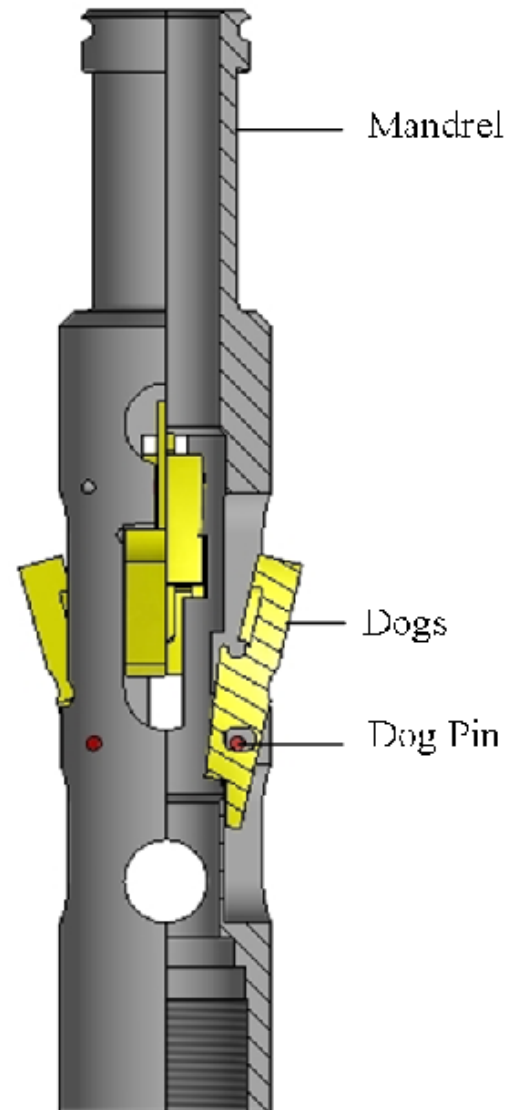
All Specification Tables contain approximated dimensions and should be used for reference only.



## S LOCK (TYPE B)

### ASSEMBLY DESCRIPTION

The B & T S Lock has four locking Dogs. Two of these Dogs face upward and prevent the assembly from moving upward. The other two Dogs face downward and prevent downward movement without needing a No-Go shoulder.





## S LOCK (TYPE B)

SPECIFICATIONS			
	2.375	2.875	3.500
Fishneck	1.375	1.750	2.313
Maximum O.D.	1.750	2.188	2.688
Length	9.125	9.375	10.468
Running Tool	C1RT-02000-01	C1RT-02500-01	C1RT-03000-01
Pulling Tool	SBPT-02000-01	SBPT-02500-01	SBPT-03000-01
Pulling Prong	BBPO-02000-01	BBPO-02500-01	BBPO-03000-01
Running Shank	ASBT-02000-01	ASBT-02500-01	ASBT-03000-01

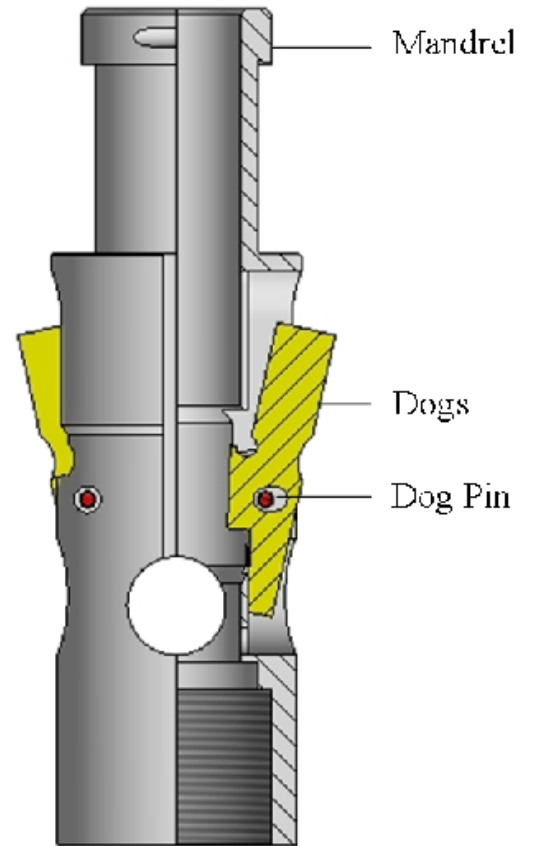
All Specification Tables contain approximated dimensions and should be used for reference only.



## W LOCK (TYPE B)

### ASSEMBLY DESCRIPTION

The B & T W Lock is used with B & T F Landing Nipples. The B & T W Lock has a top No-Go to prevent downward movement. The Dogs on the W Lock are upward facing and prevent the assembly from moving upward.





## W LOCK (TYPE B)

SPECIFICATIONS				
	1.430	1.500	1.625	1.780
Fishneck	1.188	1.188	1.188	1.375
No-Go O.D.	1.490	1.550	1.615	1.802
Lock O.D.	1.416	1.531	1.531	1.750
Length	6.440	6.440	6.440	7.500
Running Tool	C1RT-01500-01	C1RT-01500-01	C1RT-01500-01	C1RT-02000-01
Pulling Tool	SBPT-01500-01	SBPT-01500-01	SBPT-01500-01	SBPT-02000-01
Pulling Probe	BBPO-01500-01	BBPO-01500-01	BBPO-01500-01	BBPO-02000-01

SPECIFICATIONS				
	1.810	1.870	2.250	2.310
Fishneck	1.375	1.375	1.750	1.750
No-Go O.D.	1.865	1.905	2.302	2.365
Lock O.D.	1.750	1.750	2.188	2.188
Length	7.500	7.500	7.690	7.690
Running Tool	C1RT-02000-01	C1RT-02000-01	C1RT-02500-01	C1RT-02500-01
Pulling Tool	SBPT-02000-01	SBPT-02000-01	SBPT-02500-01	SBPT-02500-01
Pulling Probe	BBPO-02000-01	BBPO-02000-01	BBPO-02500-01	BBPO-02500-01

All Specification Tables contain approximated dimensions and should be used for reference only.





## W LOCK (TYPE B)

SPECIFICATIONS			
	2.560	2.750	2.810
Fishneck	1.750	2.313	2.313
No-Go O.D.	2.625	2.802	2.865
Lock O.D.	2.500	2.688	2.688
Length	8.250	8.250	8.250
Running Tool	C1RT-02500-01	C1RT-03000-01	C1RT-03000-01
Pulling Tool	SBPT-02500-01	SBPT-03000-01	SBPT-03000-01
Pulling Probe	BBPO-02560-04	BBPO-03000-01	BBPO-03000-01

SPECIFICATIONS			
	3.688	3.750	3.810
Fishneck	3.125	3.125	3.125
No-Go O.D.	3.740	3.802	3.862
Lock O.D.	3.560	3.560	3.560
Length	9.950	9.950	9.950
Running Tool	C1RT-04000-01	C1RT-04000-01	C1RT-04000-01
Pulling Tool	SBPT-04000-01	SBPT-04000-01	SBPT-04000-01
Pulling Probe	BBPO-04000-01	BBPO-04000-01	BBPO-04000-01

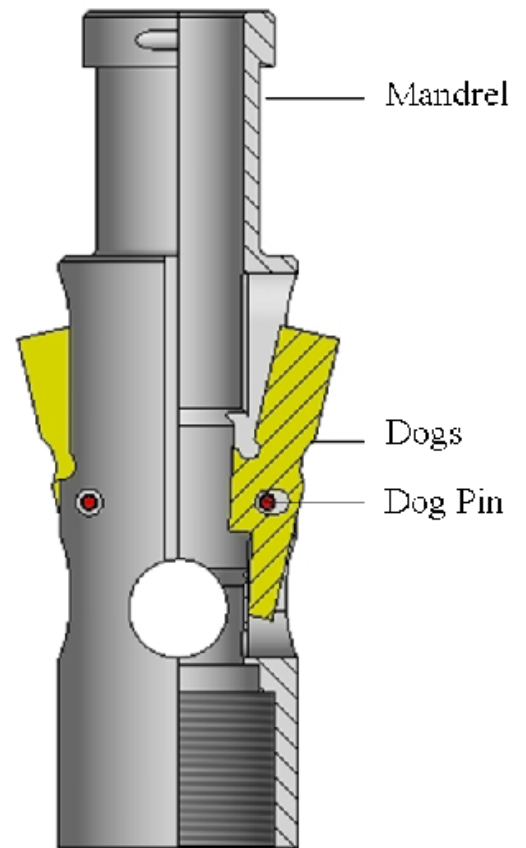
All Specification Tables contain approximated dimensions and should be used for reference only.



## Z LOCK

### ASSEMBLY DESCRIPTION

The B & T Z Lock is used with B & T R Landing Nipples (page B4). The B & T Z Lock has upward facing Dogs to prevent upward movement. The No-Go shoulder is located on the downhole accessory and No-Go's in the bottom No-Go of the B & T R Landing Nipple (page B4) prevent downward movement.





## Z LOCK

SPECIFICATIONS				
	1.780	1.810	1.875	2.250
Fishneck	1.375	1.375	1.375	1.750
Maximum O.D.	1.750	1.750	1.750	2.188
Length	7.500	7.500	7.500	7.690
Running Tool	C1RT-02000-01	C1RT-02000-01	C1RT-02000-01	C1RT-02500-01
Pulling Tool	SBPT-02000-01	SBPT-02000-01	SBPT-02000-01	SBPT-02500-01

SPECIFICATIONS				
	2.310	2.750	2.810	3.680
Fishneck	1.750	2.313	2.313	3.125
Maximum O.D.	2.188	2.688	2.688	3.562
Length	7.690	8.250	8.250	9.930
Running Tool	C1RT-02500-01	C1RT-03000-01	C1RT-03000-01	C1RT-04000-01
Pulling Tool	SBPT-02500-01	SBPT-03000-01	SBPT-03000-01	SBPT-04000-01

SPECIFICATIONS				
	3.750	3.810		
Fishneck	3.125	3.125		
Maximum O.D.	3.562	3.562		
Length	9.930	9.930		
Running Tool	C1RT-04000-01	C1RT-04000-01		
Pulling Tool	SBPT-04000-01	SBPT-04000-01		

All Specification Tables contain approximated dimensions and should be used for reference only.



## NOTES

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## SECTION O: TESTING EQUIPMENT

A STANDING VALVE .....	O2	W CIRCULATING PLUG .....	O6
N TEST TOOL.....	O4	X SELECTIVE TEST TOOL.....	O8

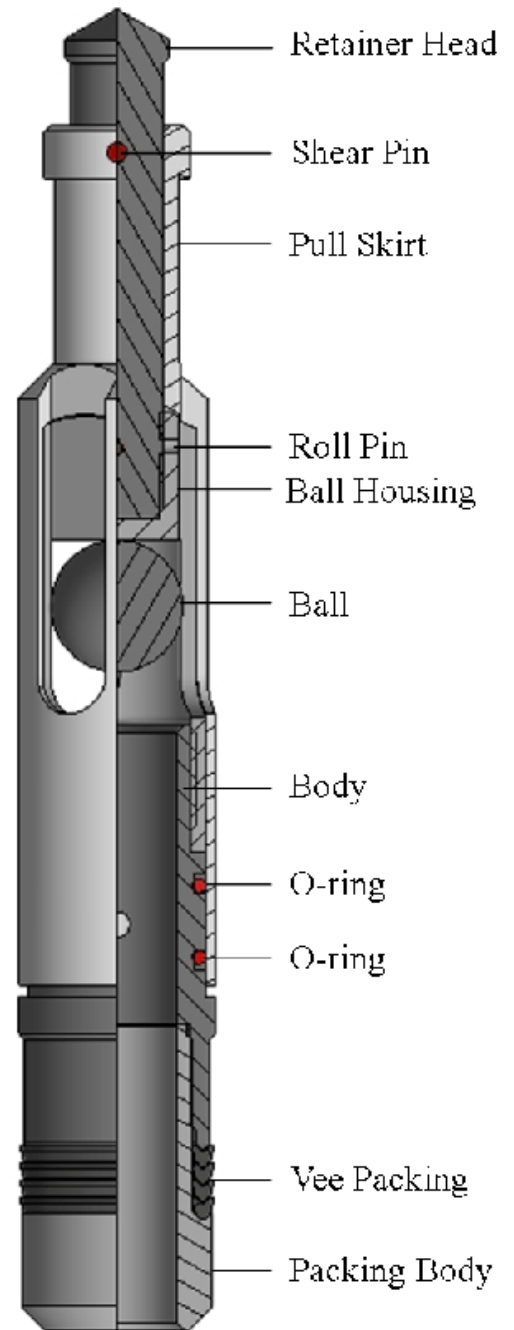


## A STANDING VALVE

### ASSEMBLY DESCRIPTION

The A Standing Valve is a ball and seat style assembly that is used to hold pressure.

The A Standing Valve is for use in gas lift wells in order to contain the fluid in the tubing during an injection cycle.





## A STANDING VALVE

SPECIFICATIONS			
	1.500	2.000	2.500
Fishneck	0.875	1.375	1.375
No-Go O.D.	1.480	1.860	2.295
Length	10.750	12.625	12.875
Shear Pin	3/16" X 7/8"	3/16" X 1-3/8"	3/16" X 1-3/8"
Ball	3/4"	1-1/4"	1-1/2"
Flow Area	0.071	0.233	0.282

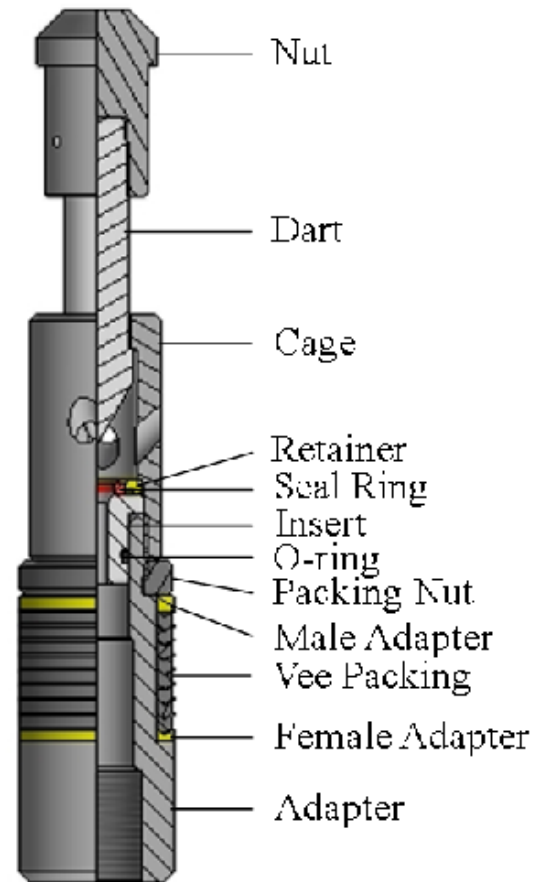
All Specification Tables contain approximated dimensions and should be used for reference only.



## N TEST TOOL

### ASSEMBLY DESCRIPTION

The N Test Tool is used to pressure test the tubing above the Landing Nipple (page B1).







## N TEST TOOL

SPECIFICATIONS			
	2.000	2.500	3.000
Fishneck	1.375	1.375	2.313
Connection	1-1/8"-12	1-11/32"-14	1-7/8"-12
No-Go O.D.	1.865	2.300	2.865
Length	10.281	9.969	11.000
Roll Pin	1/8" X 1-3/16"	1/8" X 1-3/16"	1/8" X 2"

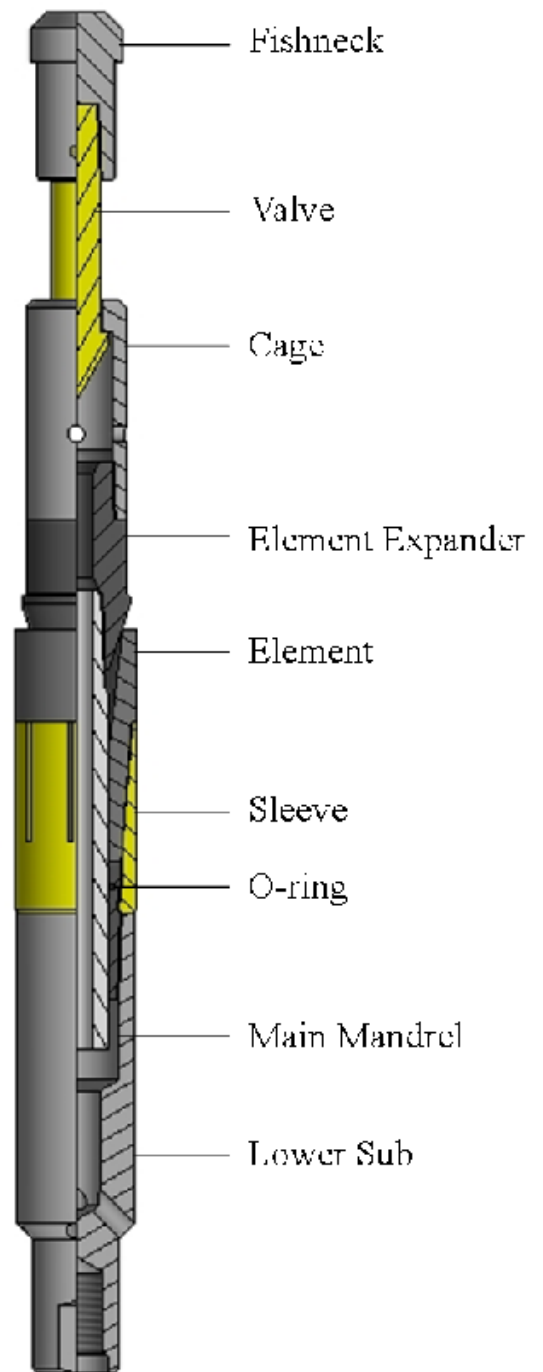
All Specification Tables contain approximated dimensions and should be used for reference only.



## W CIRCULATING PLUG

### ASSEMBLY DESCRIPTION

The W Circulating Plug is a removable check valve that can be installed below a tubing perforation. It may also be used to test tubing from above.





## W CIRCULATING PLUG

SPECIFICATIONS			
	1.750	2.000	2.500
Maximum O.D.	1.547	1.859	2.297
Pulling Flange O.D.	1.000	1.375	1.375

All Specification Tables contain approximated dimensions and should be used for reference only.



## X SELECTIVE TEST TOOL

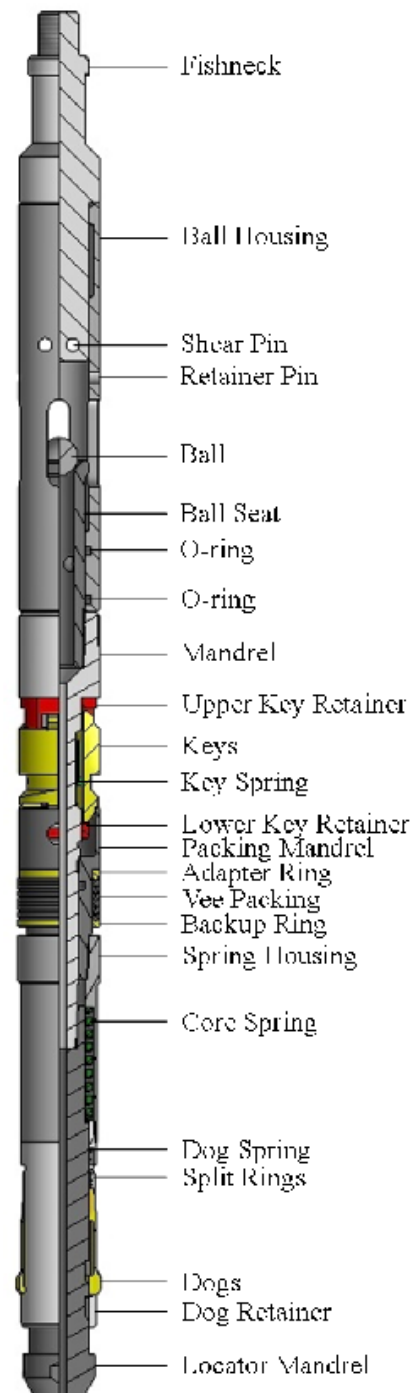
### ASSEMBLY DESCRIPTION

The B & T X Selective Test Tool is used to pressure test the tubing above the Landing Nipple (page B1) in which it is set. The Locator Mandrel on this tool allows the operator the flexibility to locate, land and pressure test the tubing from any desired X Landing Nipple (page B6) within the tubing string.

If it becomes necessary to leave the X Selective Test Tool downhole, upward jarring will shear two pins that connect the Fishneck to the Ball Housing. This will allow the tool string to return to the surface. An internal Fishneck on the Ball Housing of the assembly will allow it to be retrieved with a GS Pulling Tool (page J9).

The X Selective Test Tool tests tubing, locates leaks, or sets hydraulic set packers. When the Keys are retracted in a selective position, the tool is run to a point below the desired Landing Nipple (page B1). Jarring up the X Selective Test Tool will then pick up the Keys to trip to a non-selective position.

Pressure may then be applied from above.





## X SELECTIVE TEST TOOL

SPECIFICATIONS			
	2.000	2.500	3.000
Fishneck	1.375	1.375	1.750
Maximum O.D. (Keys Retracted)	1.870	2.305	2.740
Maximum O.D. (Keys Expanded)	2.194	2.620	3.190
Connections	NONE	1" L.P.	1" L.P.
Length	22.406	24.219	25.984
Roll Pin	1/8" X 1-3/16"	1/8" X 1-3/16"	1/8" X 2"

All Specification Tables contain approximated dimensions and should be used for reference only.



## NOTES

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## SECTION P: KICKOVER TOOLS

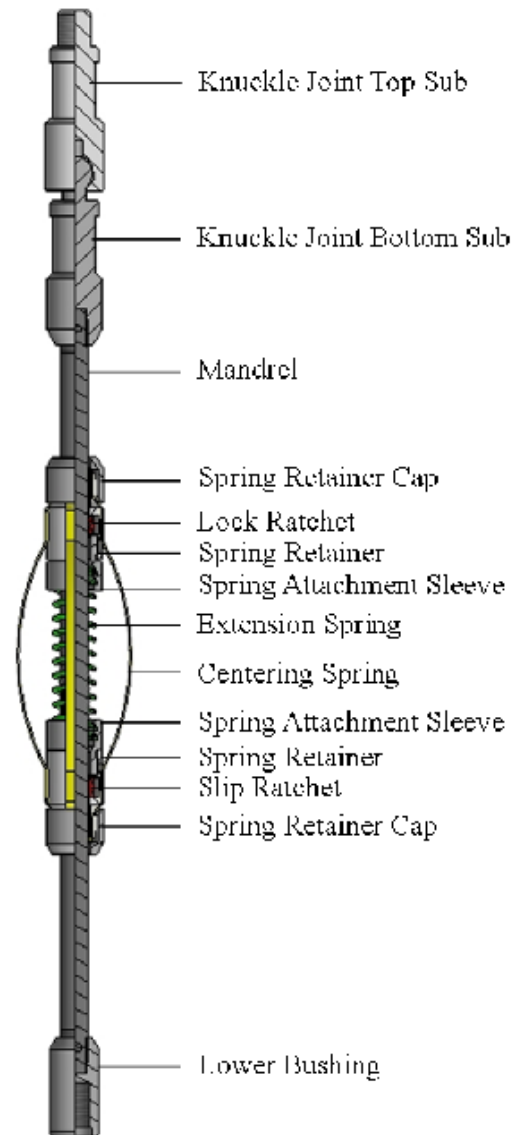
K KICKOVER TOOL.....	P2	OK-5 KICKOVER TOOL .....	P14
L KICKOVER TOOL .....	P4	OK-6 KICKOVER TOOL .....	P16
L2D KICKOVER TOOL .....	P6	OM-1 KICKOVER TOOL.....	P18
MERLA STYLE HDTMP KICKOVER TOOL.....	P8	OM-5 KICKOVER TOOL.....	P20
MERLA STYLE HDTP KICKOVER TOOL .....	P10	R KICKOVER TOOL.....	P22
OK-1 KICKOVER TOOL .....	P12		



# K KICKOVER TOOL

## ASSEMBLY DESCRIPTION

The K Kickover Tool is used in selectively locating 1" O.D. wireline devices in side-pocket mandrels.







## K KICKOVER TOOL

SPECIFICATIONS			
	2.000	2.500	3.000
Fishneck	1.375	1.375	1.375
Maximum O.D.	1.563	1.563	1.563
Connections	15/16"-10	15/16"-10	15/16"-10
Length	28.718	28.718	28.718
Roll Pins	3/16" X 1-3/8"	3/16" X 1-3/8"	3/16" X 1-3/8"

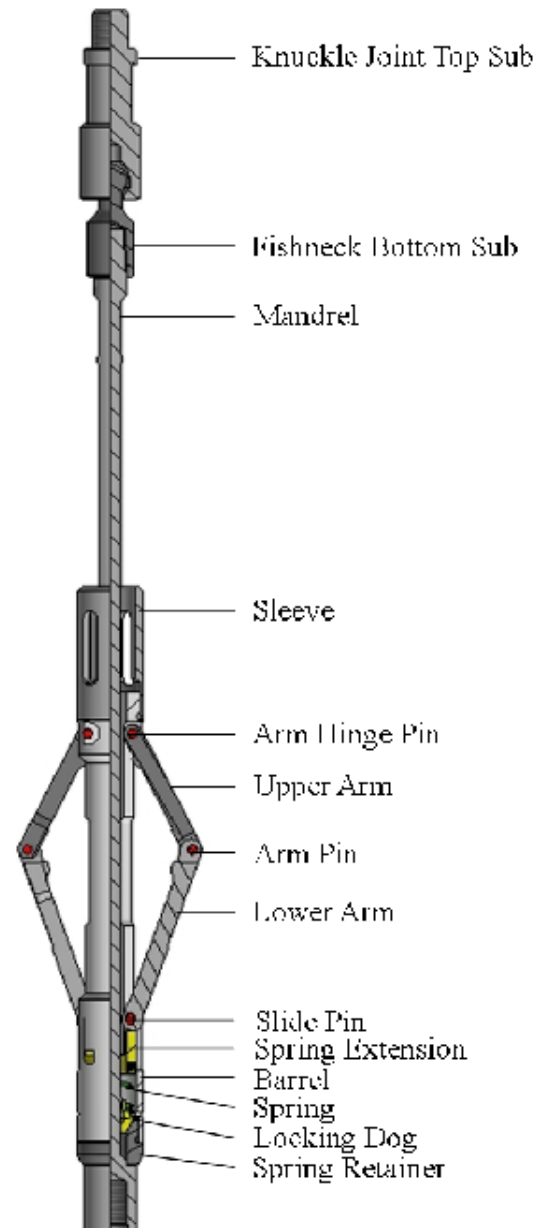
All Specification Tables contain approximated dimensions and should be used for reference only.



## L KICKOVER TOOL

### ASSEMBLY DESCRIPTION

The L Kickover Tool is used in selectively locating 1" and 1.500" O.D. gaslift valves in side-pocket mandrels.





## L KICKOVER TOOL

SPECIFICATIONS		
	2.000	2.500
Fishneck	1.375	1.375
Maximum O.D.	1.563	1.563
Connections	15/16"-10	15/16"-10
Length	28.718	28.718
Roll Pins	3/16" X 1-3/8"	3/16" X 1-3/8"

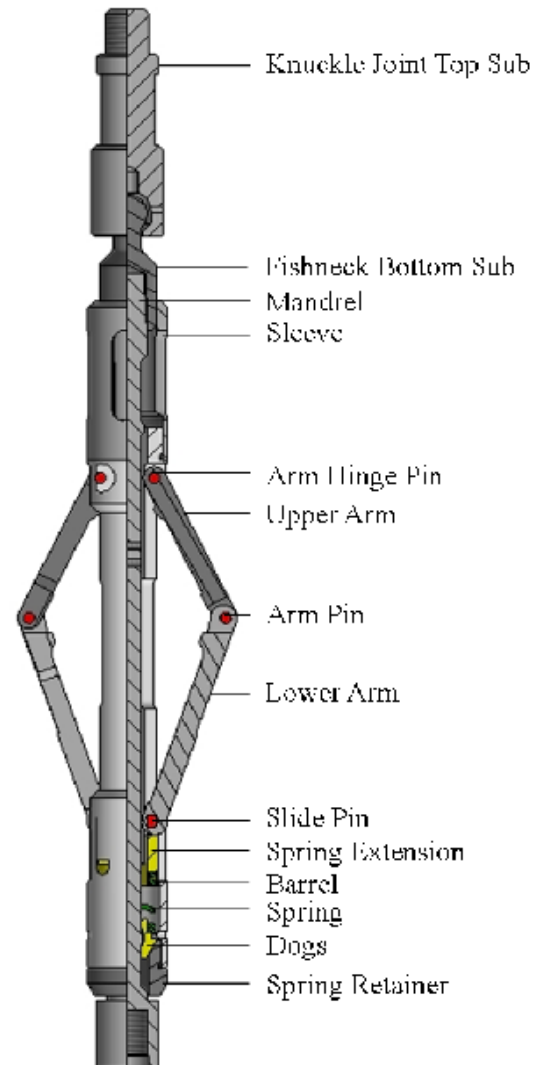
All Specification Tables contain approximated dimensions and should be used for reference only.



## L2D KICKOVER TOOL

### ASSEMBLY DESCRIPTION

The L2D Kickover Tool is used in locating 1" and 1.500" retrievable wireline devices in side-pocket mandrels.





## L2D KICKOVER TOOL

SPECIFICATIONS			
	2.000	2.500	3.000
Fishneck	1.187	1.187	1.187
Maximum O.D.	1.750	1.750	1.750
Connections	15/16"-10	15/16"-10	15/16"-10
Length	20.000	20.000	20.000
Shear Pin	3/16" X 1-1/4"	3/16" X 1-1/4"	3/16" X 1-1/4"

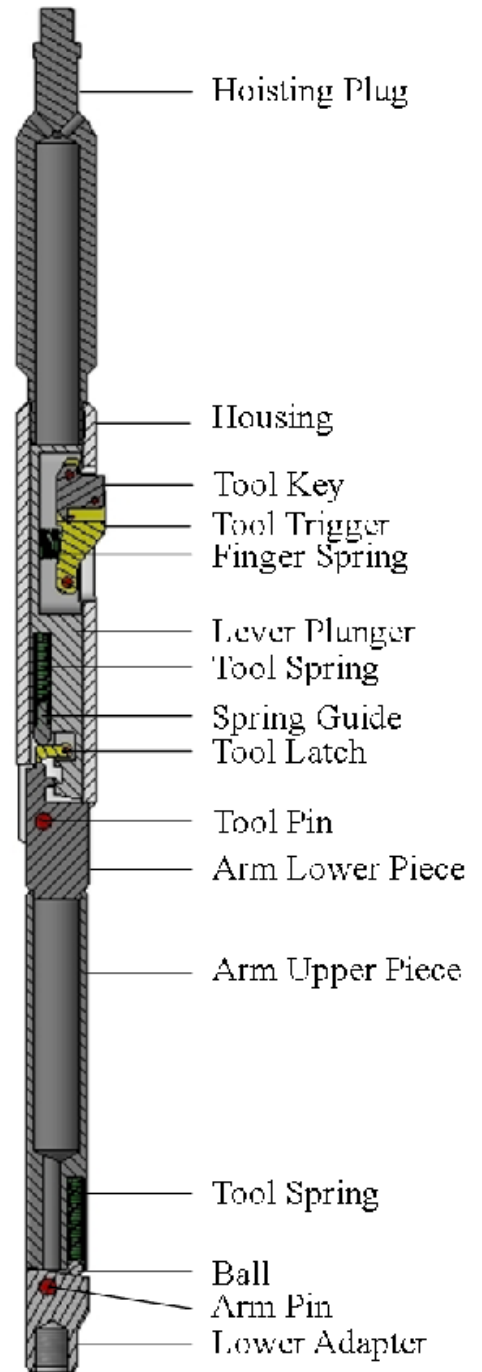
All Specification Tables contain approximated dimensions and should be used for reference only.



# MERLA STYLE HDTMP KICKOVER TOOL

## ASSEMBLY DESCRIPTION

The Merla Style HDTMP Kickover Tool is used to install or retrieve 1" O.D. gas lift valves into side-pocket mandrels.





## MERLA STYLE HDTMP KICKOVER TOOL

SPECIFICATIONS				
	2.000	2.500	3.000	4.500
Fishneck	1.375	1.375	1.375	1.750
Maximum O.D.	1.855	2.280	2.730	3.125
Length	38.000	38.000	40.000	43.000

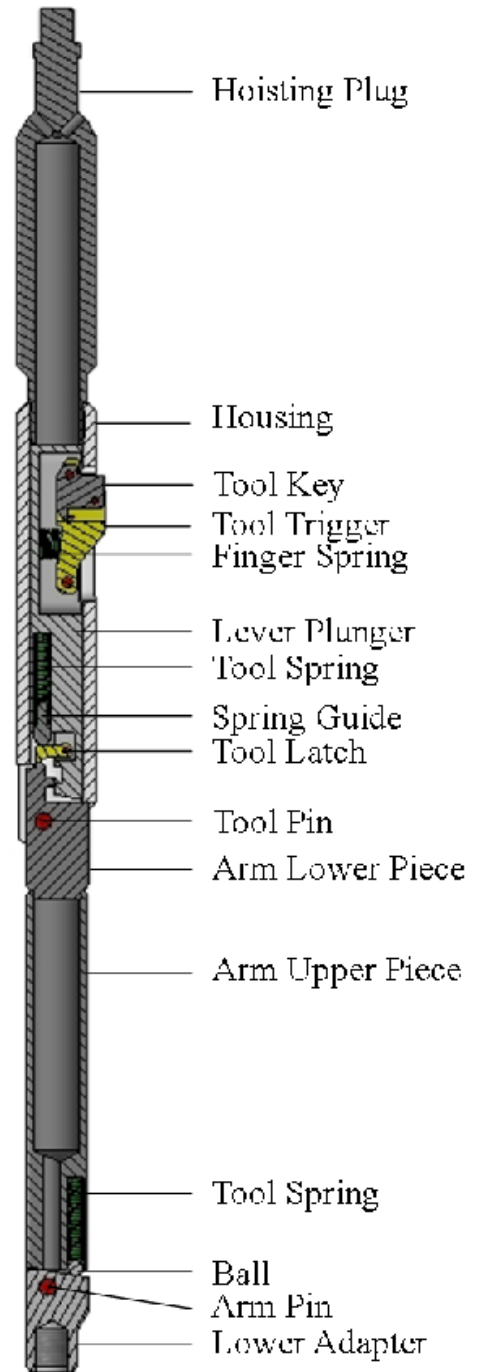
All Specification Tables contain approximated dimensions and should be used for reference only.



# MERLA STYLE HDTP KICKOVER TOOL

## ASSEMBLY DESCRIPTION

The Merla Style HDTP Kickover Tool is used to install or retrieve 1.500" O.D. gas lift valves into side-pocket mandrels.







## MERLA STYLE HDTP KICKOVER TOOL

---

SPECIFICATIONS	
	Standard
Fishneck	2.313
Maximum O.D.	3.725
Length	42.000

All Specification Tables contain approximated dimensions and should be used for reference only.

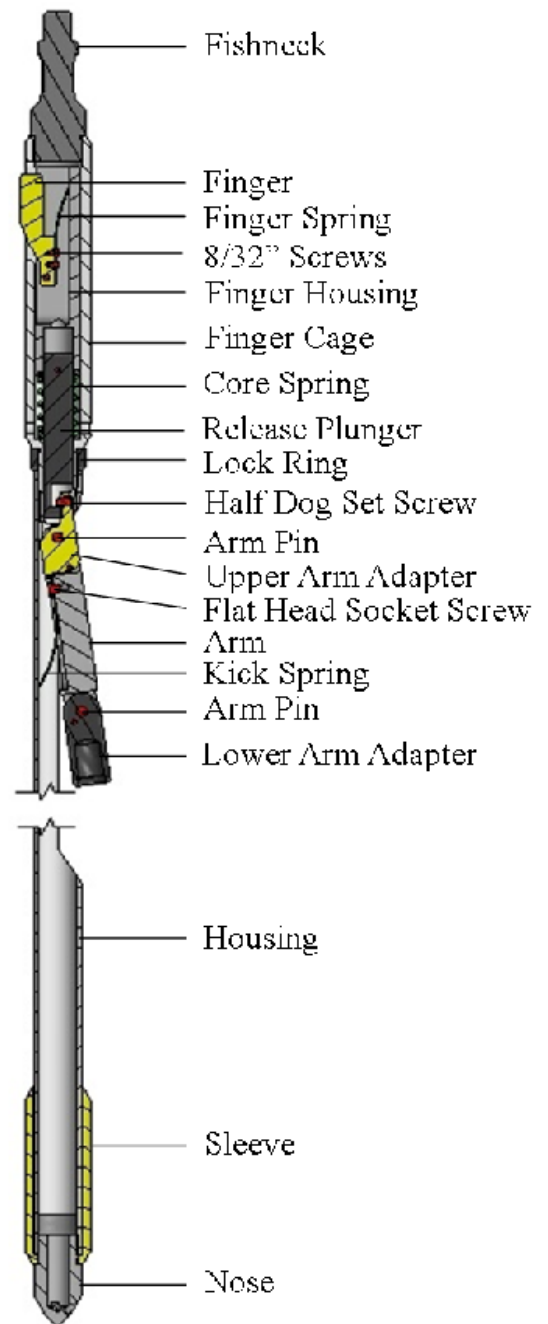


# OK-1 KICKOVER TOOL

## ASSEMBLY DESCRIPTION

The OK-1 Kickover Tool is used in order to install and retrieve 1" O.D. gas lift valves into side-pocket mandrels containing an orienting sleeve.

The OK-1 Kickover Tool must be disassembled in order to be repinned.





## OK-1 KICKOVER TOOL

SPECIFICATIONS				
	2.000	2.500	3.000	4.000
Fishneck	1.375	1.375	1.375	1.375
Maximum O.D.	1.859	2.219	2.718	3.710
Connections	15/16"-10	15/16"-10	15/16"-10	15/16"-10
Length	72.688	72.688	76.500	76.500
Steel Pin- Finger	1/4" X 1-1/2"	1/4" X 1-1/2"	1/4" X 1-1/4"	1/4" X 1-1/4"
Steel Pin- Plunger	3/16" 1-1/2"	3/16" 1-1/2"	3/16" X 2-3/8"	3/16" X 1-7/8"
Brass Pin- Arm Adapter	3/16" X 1-1/4"	3/16" X 1-1/4"	3/16" X 1-1/4"	3/16" X 1-1/4"
Brass Pin- Lower Adapter	3/16" X 1-1/4"	3/16" X 1-1/4"	3/16" X 1-1/4"	3/16" X 1-1/4"

All Specification Tables contain approximated dimensions and should be used for reference only.

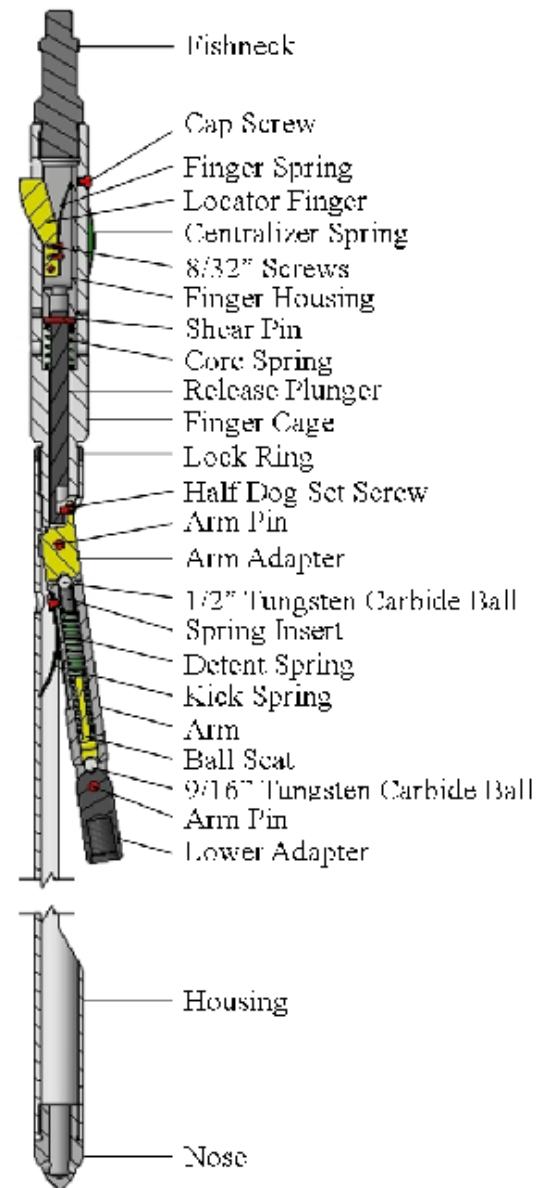


## OK-5 KICKOVER TOOL

### ASSEMBLY DESCRIPTION

The OK-5 Kickover Tool is used in order to install and retrieve 1" O.D. gas lift valves into side-pocket mandrels containing an orienting sleeve.

The OK-5 Kickover Tool is very similar to the OK-1 Kickover Tool (page P12) except that the OK-5 Kickover Tool uses a ball and spring design in order to allow easy redress operations.





## OK-5 KICKOVER TOOL

SPECIFICATIONS				
	2.000	2.500	3.000	4.500
Fishneck	1.375	1.375	1.375	1.375
Maximum O.D.	1.750	2.063	2.500	3.500
Connections	15/16"-10	15/16"-10	15/16"-10	15/16"-10
Length	72.844	72.844	70.031	70.562
Steel Pin- Finger	1/4" X 1-1/8"	1/4" X 1-1/8"	1/4" X 1-3/8"	1/4" X 1"
Steel Pin- Release Plunger	3/16" X 1-1/4"	3/16" X 1-1/4"	3/16" X 1-1/2"	3/16" X 2-1/4"
Set Screw	3/8"-16 X 3/16"	3/8"-16 X 1/4"	3/8"-16 X 1/4"	3/8"-16 X 3/8"

All Specification Tables contain approximated dimensions and should be used for reference only.

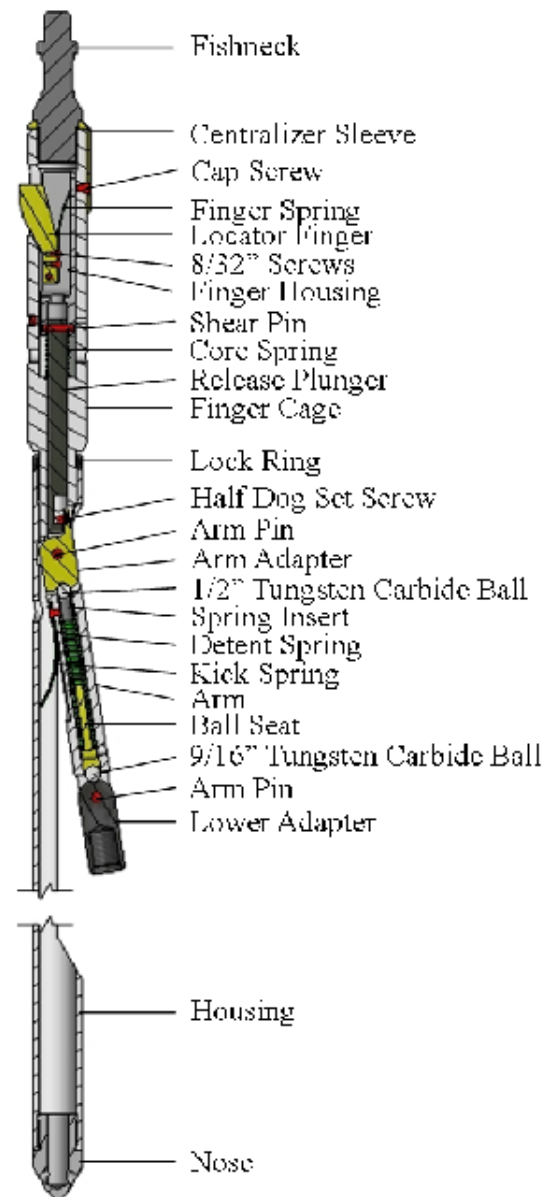


## OK-6 KICKOVER TOOL

### ASSEMBLY DESCRIPTION

The OK-6 Kickover Tool is used in order to install and retrieve 1" O.D. devices into side-pocket mandrels containing an orienting sleeve.

The OK-6 Kickover Tool is very similar to the OK-5 Kickover Tool (page P14) in that both tools use a ball and spring design in order to allow easy redress operations.





## OK-6 KICKOVER TOOL

SPECIFICATIONS			
	2.500	3.000	4.500
Fishneck	1.375	1.375	1.375
Maximum O.D.	2.218	2.727	3.718
Connections	15/16"-10	15/16"-10	15/16"-10
Length	72.938	70.062	70.875
Steel Pin- Finger	1/4" 1-1/8"	1/4" X 1-3/8"	1/4" X 1"
Steel Pin- Release Plunger	3/16" X 1-1/4"	3/16" X 1-1/2"	3/16" X 2-1/4"
Set Screw	3/8"-16 X 1/4"	3/8"-16 X 1/4"	3/8"-16 X 3/8"
Button Head Screw	1/4"-20 X 3/8"	1/4"-20 X 3/8"	1/4"-20 X 3/8"

All Specification Tables contain approximated dimensions and should be used for reference only.



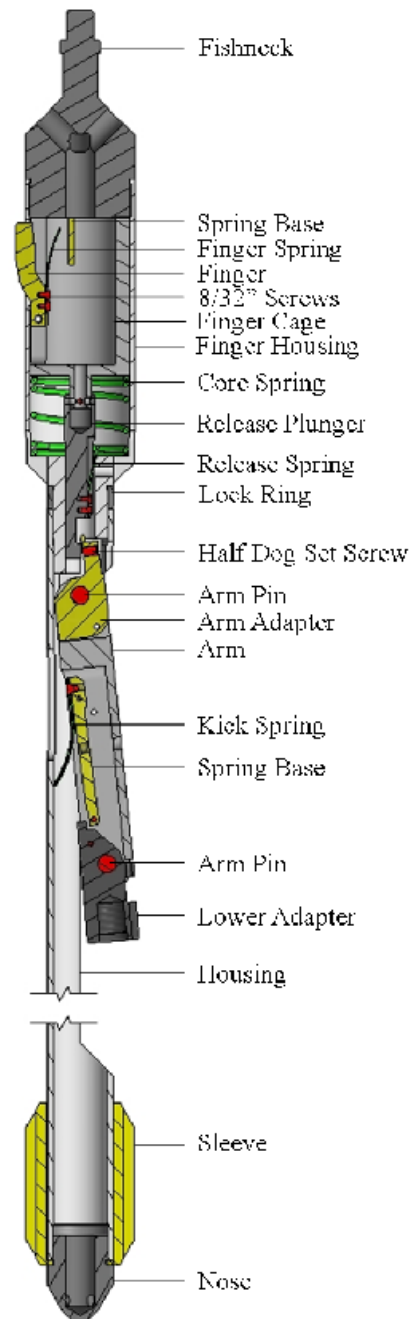
# OM-1 KICKOVER TOOL

## ASSEMBLY DESCRIPTION

The OM-1 Kickover Tool is used in order to install and retrieve 1.500" O.D. devices in side-pocket mandrels containing an orienting sleeve.

The OM-1 Kickover Tool works by placing its Locator Finger into the side-pocket. This is achieved by pulling upward on the tool at the desired depth. If the tool is over-pulled, the springs will become active in order to make the Arm and the attached Running Tools (page I1) or Pulling Tools (page J1) pivot near the side-pocket. The Housing will protect the Running and Pulling Tools that are to be used in the side-pocket applications.

The OM-1 Kickover Tool needs only minimal disassembly in order to be repinned.







## OM-1 KICKOVER TOOL

SPECIFICATIONS				
	2.500	3.000	4.500	5.500
Fishneck	1.375	1.375	1.375	2.313
Maximum O.D.	2.218	2.734	3.710	4.250
Connections	15/16"-10	15/16"-10	15/16"-10	1-9/16"-10
Length	80.563	80.750	80.688	94.688
Steel Pin-Finger	1/4" X 1"	1/4" X 1-7/8"	1/4" X 1-7/8"	5/16" X 1-7/8"
Steel Pin-Spring Hinge	3/16" X 1-3/4"	3/16" X 1-3/4"	3/16" X 1-3/4"	3/16" X 1-3/4"
Steel Pin- Internal Kick Hinge	3/16" X 1-3/4"	3/16" X 1-3/4"	3/16" X 1-3/4"	3/16" X 1-3/4"
Brass Pin- Spring Hinger	3/16" X 1-3/4"	3/16" X 1-3/4"	3/16" X 1-3/4"	3/16" X 1-3/4"
Brass Pin- Arm Adapter	3/16" X 1-3/4"	3/16" X 1-3/4"	3/16" X 1-3/4"	3/16" X 1-3/4"
Brass Pin- Lower Adapter	3/16" X 1-3/4"	3/16" X 1-3/4"	3/16" X 1-3/4"	3/16" X 1-3/4"
Brass Pin- Release Plunger	3/16" X 1-1/16"	3/16" X 1-1/16"	3/16" X 1-1/16"	3/16" X 1-7/8"
Set Screw	1/4"-20 X 1/2"	1/4"-20 X 1/2"	1/4"-20 X 1/2"	1/4"-20 X 1/2"

All Specification Tables contain approximated dimensions and should be used for reference only.



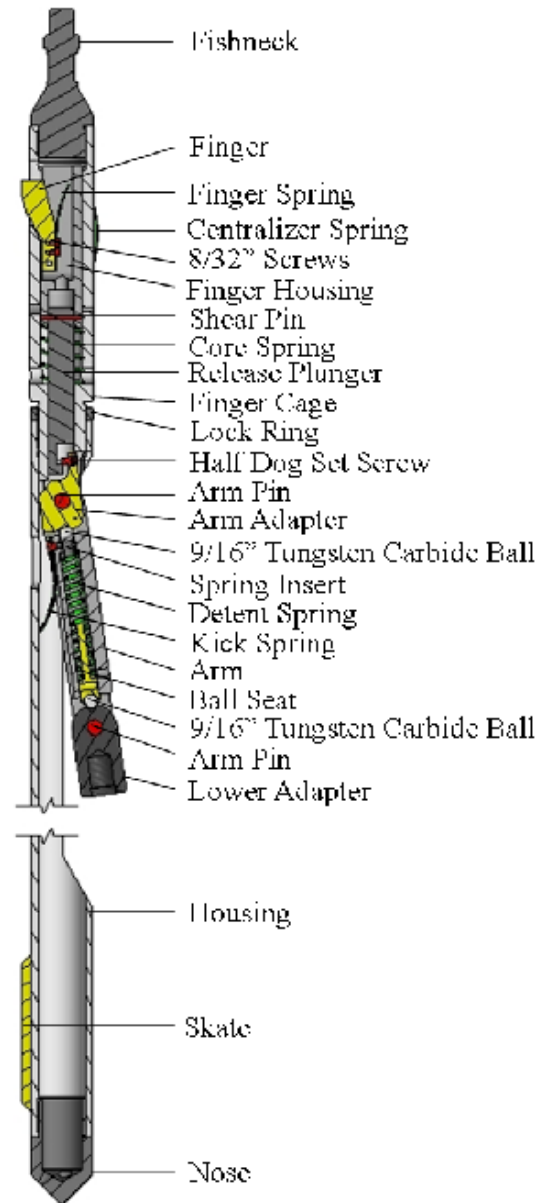
## OM-5 KICKOVER TOOL

### ASSEMBLY DESCRIPTION

The OM-5 Kickover Tool is used in order to install and retrieve 1.500" O.D. devices in side-pocket mandrels containing an orienting sleeve.

The OM-1 Kickover Tool works by placing its Locator Finger into the side-pocket. This is achieved by pulling upward on the tool at the desired depth. If the tool is over-pulled, the springs will become active in order to make the Arm and the attached Running Tools (page I1) or Pulling Tools (page J1) pivot near the side-pocket. The Housing will protect the Running and Pulling Tools that are to be used in the side-pocket applications.

The OM-5 Kickover Tool does not need disassembly in order to be repinned.





## OM-5 KICKOVER TOOL

SPECIFICATIONS		
	2.500	3.000
Fishneck	1.375	1.375
Maximum O.D.	2.250	2.531
Length	93.812	93.812
Steel Shear Pin- Finger	1/4" X 1"	1/4" X 1"
Brass Shear Pin	1/8" X 1-5/8"	1/8" X 1-9/16"
Set Screw	None	3/8"-16 X 3/8"

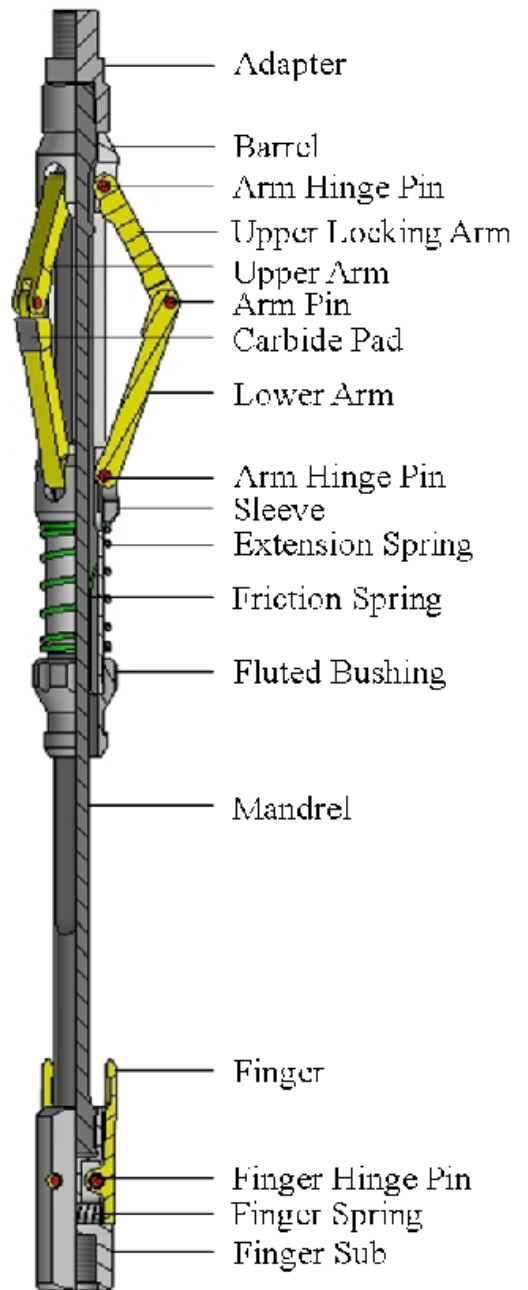
All Specification Tables contain approximated dimensions and should be used for reference only.



## R KICKOVER TOOL

### ASSEMBLY DESCRIPTION

The B & T R Kickover tool is used to install and retrieve 1.500" assemblies in side-pocket mandrels.





## R KICKOVER TOOL

SPECIFICATIONS			
	2.000	2.500	3.000
Fishneck	1.375	1.375	1.375
Maximum O.D. (Opened)	3.813	3.813	5.688
Maximum O.D. (Closed)	1.859	2.281	2.500
Connections	15/16"-10	15/16"-10	15/16"-10
Length	26.125	26.125	29.500
Steel Pin	1-3/16" X 1-3/8"	1-3/16" X 1-3/8"	1-3/16" X 1-3/8"
Steel Pin	1-3/16" X 1-7/16"	1-3/16" X 1-7/16"	1-3/16" X 1-7/16"

All Specification Tables contain approximated dimensions and should be used for reference only.



## NOTES

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## SECTION Q: B.H.P. EQUIPMENT

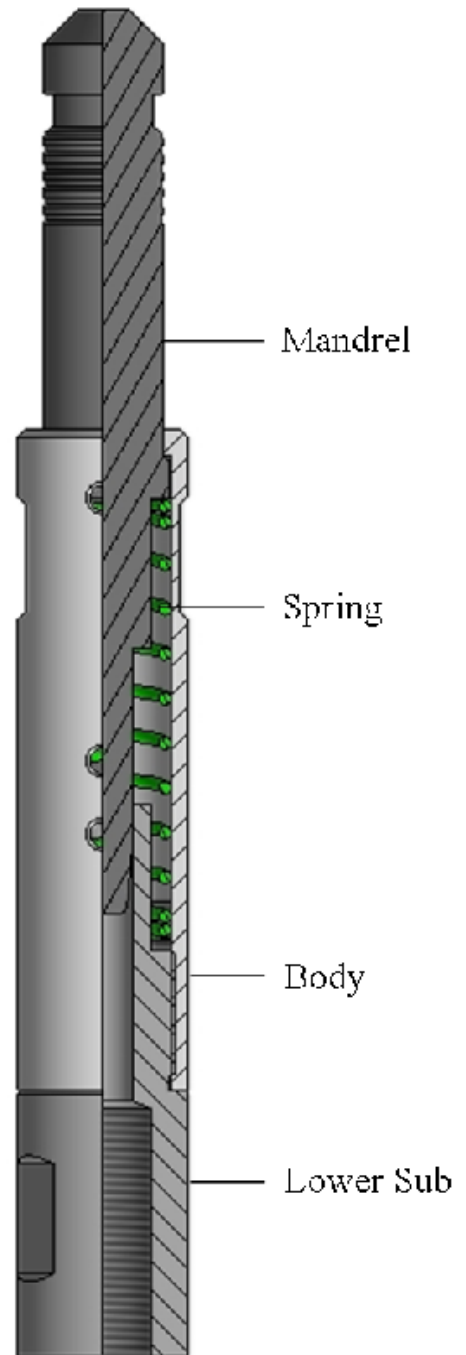
SOFT-RELEASE SUB ..... Q2 | WHISKERED BOMB HANGER..... Q4



## SOFT-RELEASE SUB

### ASSEMBLY DESCRIPTION

The Soft-Release Sub is made up directly to the upper connection of the Wireline Memory Gauge. This tool is required when setting gauges with other pressure gauges as it will absorb the jarring impacts required to fish out released tools.







## SOFT-RELEASE SUB

SPECIFICATIONS	
	1.250
Fishneck	0.875
Connection	3/4"-16
Length	9.813

All Specification Tables contain approximated dimensions and should be used for reference only.

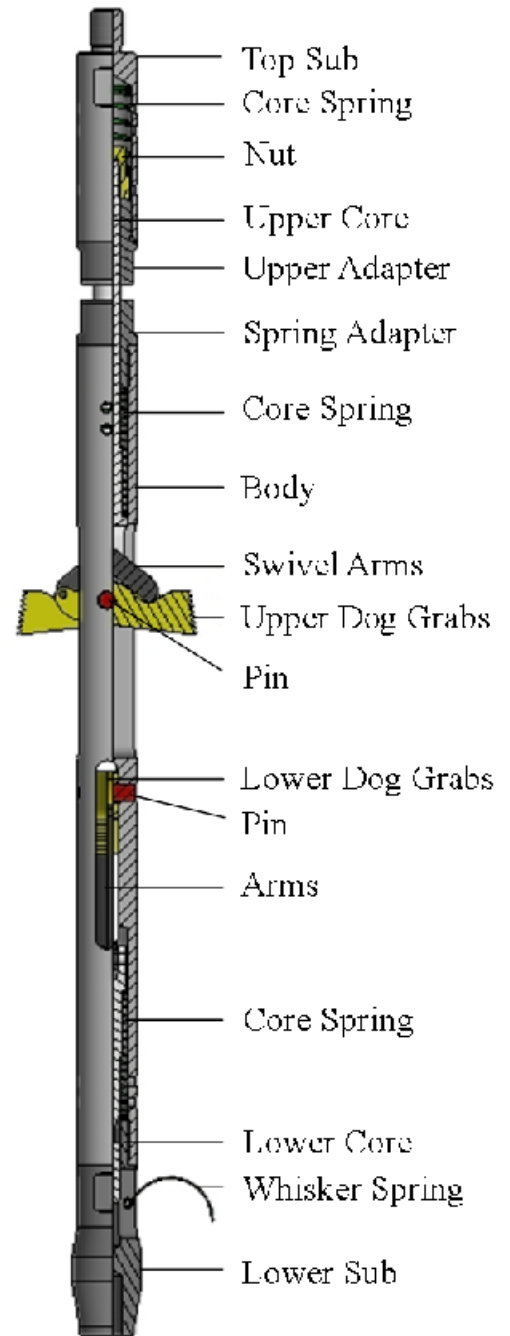


# WHISKERED BOMB HANGER

## ASSEMBLY DESCRIPTION

The Whiskered Bomb Hanger can be used to set downhole pressure gauges. The lower Dogs are held in a retracted position by a spring. As the tool is lowered the spring follows the tubing wall until the tool exits the tubing. This then allows the spring to push the Dogs out and set the Whiskered Bomb Hanger.

Please specify casing size and weight requirements when ordering the Whiskered Bomb Hanger.





## WHISKERED BOMB HANGER

SPECIFICATIONS	
	Standard
Maximum O.D.	1.250
Connections	3/4"-16
Length	12.500

SPECIFICATIONS		
The Whiskered Bomb Hanger is available for the following Tubing Sizes		
4.500" 9.50#	5.000" 11.50#	5.500" 13.00#
4.500" 11.60#	5.000" 13.00#	5.500" 14.00#
4.500" 13.50#	5.000" 15.00#	5.500" 15.50#
4.500" 15.10#	5.000" 18.00#	5.500" 17.00#
		5.500" 20.00#
		5.500" 23.00#

All Specification Tables contain approximated dimensions and should be used for reference only.



## NOTES

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## SECTION R: MISCELLANEOUS EQUIPMENT

NON-EXTRUSION RING.....	R2	WELLHEAD CHOKE EQUIPMENT .....	R5
O’RING.....	R3		



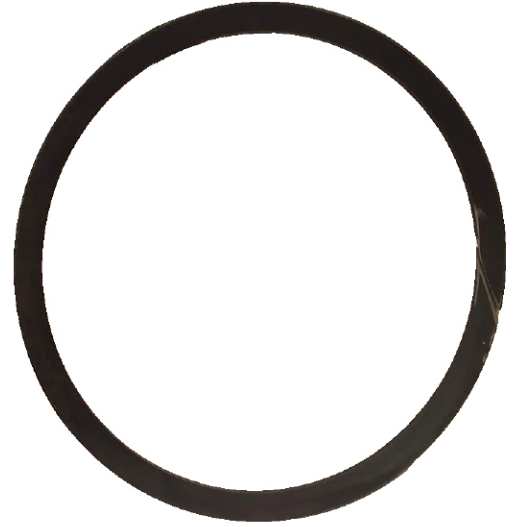
## NON-EXTRUSION RING

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### ASSEMBLY DESCRIPTION

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B & T offers a complete selection of Non-Extrusion Rings for lubricator connections. These can be placed into a notch in an assembly to help the tool maintain integrity, even under extreme pressure spikes.





## O-RING

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### ASSEMBLY DESCRIPTION

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B & T provides many different O-Rings for all types of environments and sealing applications. Our inventory includes, but is not limited to, Nitrile, Viton, H.S.N., Aflas, and Chemraz compounds.

B & T also carries Hytrel Flat and Contoured Backup Rings on request.

B & T also has many custom molded O-Ring, including those for A-4 Packoffs, K-3 Packoffs, Stem Sets, and Ball Valve O-Ring.

The following is just a sample of the different O-Ring that B & T is able to provide, please call for information on specific sizes that may not be listed.





## O-RING

SPECIFICATIONS								
Lubricator O-Ring			Cameron Acme O-Ring			XX Equalizing Subs		
2.500	3.000	4.000	2.000	2.500	3.000	2.000	2.500	3.000
-340 N90	-345 N90	-348 N90	-228 N90	-232 N90	-238 N90	-120 N90	-125 N90	-131 N90

SPECIFICATIONS					
Ball Valve O'Ring					
1.875	2.125	2.313	2.562	2.750	2.813
-325 N90	-327 N90	****	-331 N90	-332 N90	****

All Specification Tables contain approximated dimensions and should be used for reference only.





## WELLHEAD CHOKE EQUIPMENT

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### ASSEMBLY DESCRIPTION

---

Wellhead Chokes are commonly used for production manifolds, wellheads, heaters, critical services, well testing, and well cleanup. B & T also offers accessories for this equipment, including OCT Indicators, Thornhill Craver Indicators, as well as O-Ring (page R3) and packing sets.





## WELLHEAD CHOKE EQUIPMENT

SPECIFICATIONS	
Part Number	Description
1" Gulfco	Gulfco Craver Indicator
1" MSI	1" MSI Indicator
1" National	National Indicator
1" OCT	OCT Choke Indicator
1" OCT Aluminum	OCT Choke Indicator Aluminum
1" Thornhill Craver	Thornhill Craver Indicator
1/2" OCT	OCT Choke Indicator
1/2" OCT Aluminum	OCT Choke Indicator Aluminum
1/2" Thornhill Craver	Thornhill Craver Indicator
2" X 1" CIW	CIW Choke Indicator
2" X 1" CIW Aluminum	CIW Choke Indicator Aluminum
2" X 3/4" CIW	CIW Choke Indicator
3" X 1" CIW	CIW Choke Indicator
3" X 1" CIW Aluminum	CIW Choke Indicator Aluminum
3" X 2" CIW	CIW Choke Indicator
3" X 2" CIW Aluminum	CIW Choke Indicator Aluminum
3/4" Gray	Gray Choke Indicator
3/4" Gray Aluminum	Gray Choke Indicator Aluminum
3/4" Gulfco	Gulfco Craver Indicator
3/4" MSI	MSI Choke Indicator
3/4" MSI Aluminum	MSI Indicator
3/4" OCT	OCT Choke Indicator
3/4" OCT Aluminum	OCT Choke Indicator Aluminum
3/4" TC 15K Unitaper Indicator	Indicator for TC 3/4" 15K
3/4" Thornhill Craver	Thornhill Craver Indicator
3/4" Thornhill Craver Aluminum	Thornhill Craver Indicator Aluminum

All Specification Tables contain approximated dimensions and should be used for reference only.



## WELLHEAD CHOKE EQUIPMENT

SPECIFICATIONS	
Seat Gaskets	
Description	Stainless Steel Option
2" CIW Copper	Yes
3" CIW Copper	Yes
Fisher 667 D	No

SPECIFICATIONS	
Packing Sets	
Part Number	Weight Capacity (Pounds)
OCT-JW-A 10000#	10000
OCT-JW-A 15000#	15000
OCT-N60	
TC-896	
MSI	
OCT-JNA	

SPECIFICATIONS	
Retainer Ring	
Part Number	Stainless Steel Assembly
RR-137	
RR-168	RR-168 SS
RR-175	
RR-181	RR-181 SS
WH-575-S02	
WH-187-S02	
HO-200 SS	HO-200 SS
WHM-0137-S02	WHM-0137-S02SS
WHM-175S02	
WHM-200	

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B & T Oilfield Products makes parts compatible with grease head injection units made by various manufacturers. B & T Oilfield Products is neither affiliated with nor a representative of National Oil Well Varco, NOV ASEP Elmar, Bowen, or Double E. Products are listed by their common OEM names only for ease of identifying component parts.

## SECTION S: SURFACE PACKOFF EQUIPMENT

BELL TYPE PACKOFF .....	S2	MEDIUM BOWEN GREASE HEAD.....	S29
COILED TUBING STRIPPER.....	S7	MINI BOWEN GREASE HEAD .....	S33
ENVIRO TYPE GREASE HEAD .....	S9	SWAB CUP.....	S37
FLOW TUBE.....	S17	TYPE 410 PACKOFF .....	S38
HLWA OPEN HOLE PACKOFF .....	S19	TYPE C PACKOFF.....	S41
HLWB OPEN HOLE PACKOFF.....	S22	TYPE CL PACKOFF .....	S45
LARGE BOWEN GREASE HEAD .....	S25	TYPE MT PACKOFF .....	S49



## BELL TYPE PACKOFF

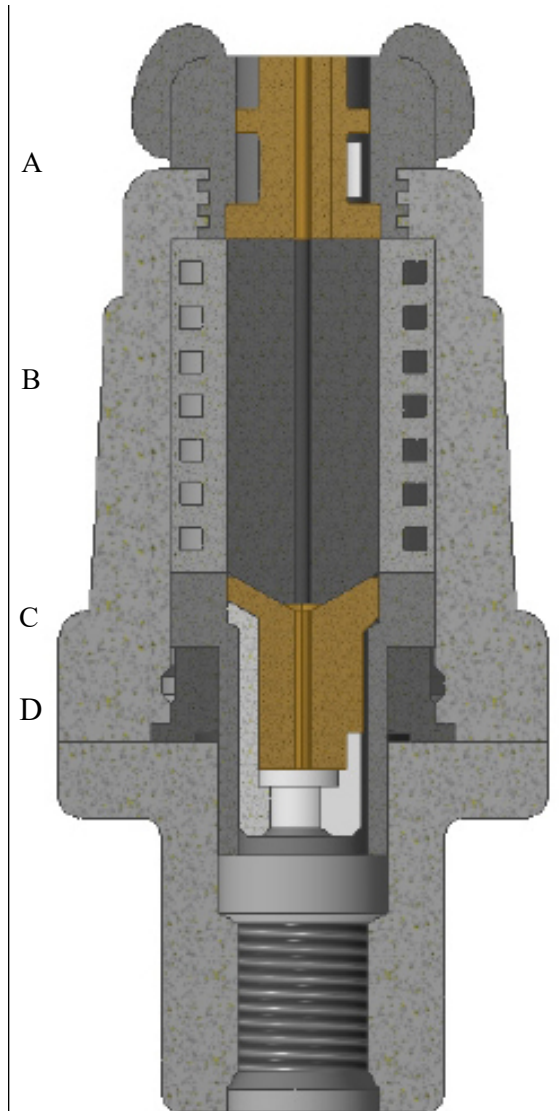
### ASSEMBLY DESCRIPTION

B & T manufactures the following components compatible with the Bell Type Packoff:

- A) OS9S BRASS UPPER BUSHING
- B) OS9S LINE WIPER
- C) OS9S BRASS LOWER BUSHING
- D) OS9S BRASS LOWER BUSHING CAGE

The OS9S Line Wipers are available in the full range of materials offered by B & T. Please consult the Elastomer Chart (page U7) to find the proper compound for your specific application. The standard compound suitable for most applications is SBR/Natural 50.

Upper and lower metals are made from casted brass.

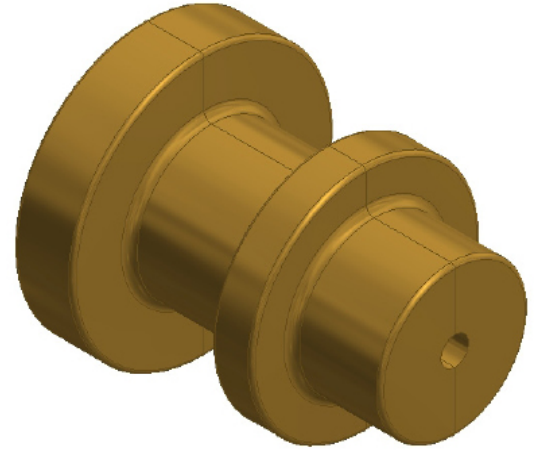




## OS9S BRASS UPPER BUSHING

### ASSEMBLY DESCRIPTION

O.D.            2.000"  
Height         2.460"



### SPECIFICATIONS

#### Bell Type Packoff Part: A

Part Number	Line Size	Material
OSUB-0002-15	3/16"	Casted Brass
OSUB-0003-15	7/32"	Casted Brass
OSUB-0004-15	1/4"	Casted Brass
OSUB-0005-15	9/32"	Casted Brass
OSUB-0006-15	5/16"	Casted Brass
OSUB-0008-15	3/8"	Casted Brass
OSUB-0009-15	7/16"	Casted Brass
OSUB-0010-15	15/32"	Casted Brass
OSUB-0011-15	1/2"	Casted Brass

All Specification Tables contain approximated dimensions and should be used for reference only.



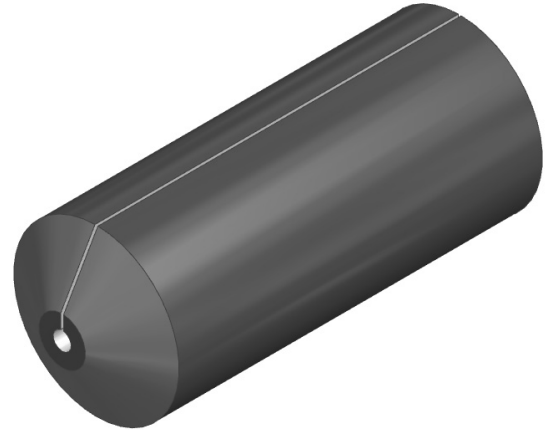
## OS9S LINE WIPER

### ASSEMBLY DESCRIPTION

O.D. 2.000"  
Length 4.800"

Mold # -Line Size-Compound  
**0131-XXXX-XXXX**

When ordering the OS9S Line Wiper use the prefix **0131** and please specify: line size and compound. Example: 3/16" SBR/Natural 50 Duro would be part number **0131-0002-3105**



### SPECIFICATIONS

#### Bell Type Packoff Part: B

Line Size	Line Size Part No.	Compound	SBR/Natural 50 Duro	HNBR 65 Duro	HNBR 80 Duro	FKM 70 Duro	Epichlorohydrin 70 Duro
3/16"	0002		3105	8465	0848	0707	1307
7/32"	0003		3105	8465	0848	0707	1307
1/4"	0004		3105	8465	0848	0707	1307
9/32"	0005		3105	8465	0848	0707	1307
5/16"	0006		3105	8465	0848	0707	1307
3/8"	0008		3105	8465	0848	0707	1307
7/16"	0009		3105	8465	0848	0707	1307
15/32"	0010		3105	8465	0848	0707	1307
1/2"	0011		3105	8465	0848	0707	1307

All Specification Tables contain approximated dimensions and should be used for reference only.

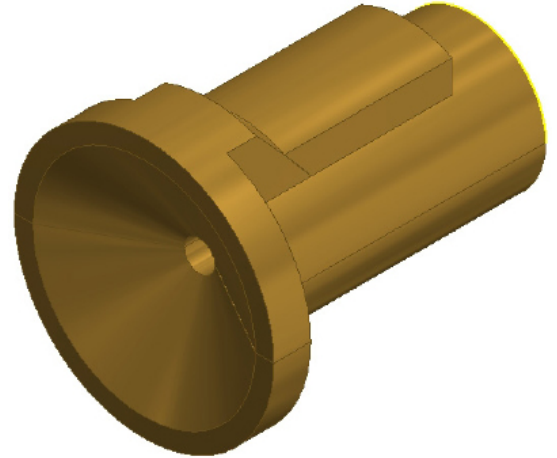




## OS9S BRASS LOWER BUSHING

### ASSEMBLY DESCRIPTION

O.D. 2.000"  
Length 2.560"



### SPECIFICATIONS

#### Bell Type Packoff Part: C

Part Number	Line Size	Material
OSLB-0002-15	3/16"	Casted Brass
OSLB-0003-15	7/32"	Casted Brass
OSLB-0004-15	1/4"	Casted Brass
OSLB-0005-15	9/32"	Casted Brass
OSLB-0006-15	5/16"	Casted Brass
OSLB-0008-15	3/8"	Casted Brass
OSLB-0009-15	7/16"	Casted Brass
OSLB-0010-15	15/32"	Casted Brass
OSLB-0011-15	1/2"	Casted Brass

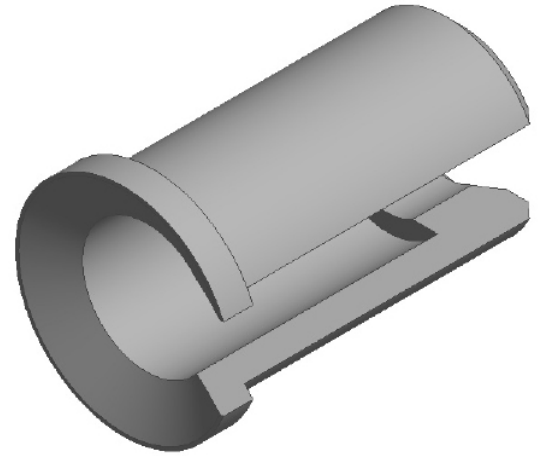
All Specification Tables contain approximated dimensions and should be used for reference only.



# OS9S BRASS LOWER BUSHING CAGE

## ASSEMBLY DESCRIPTION

O.D.            2.000"  
Length         3.125"



## SPECIFICATIONS

Bell Type Packoff Part: D

Part Number	Line Size
OS9S Lower Bushing Cage	1018

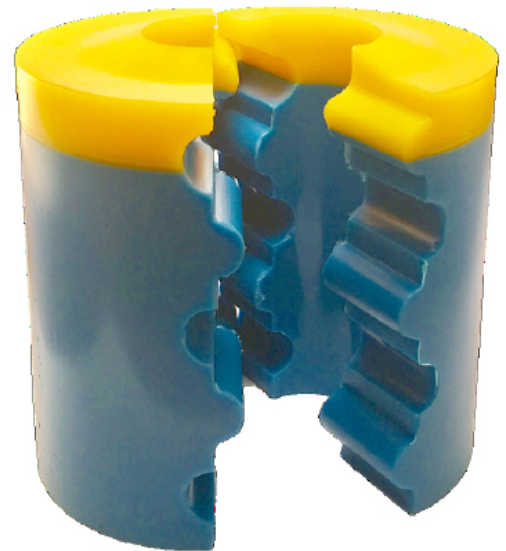
All Specification Tables contain approximated dimensions and should be used for reference only.



## COILED TUBING STRIPPER

### ASSEMBLY DESCRIPTION

B & T provides many Coiled Tubing Stripper products to suit your needs including Red/Green and Yellow/Blue as well as energizers and Non-Extrusion Rings (page R2). B & T also provides Swivel Packing Kits and Face Seals.





## COILED TUBING STRIPPER

SPECIFICATIONS	
Part Number	Description
0848-1971-1	1-1/2" Face Seal
0848-2006-1	2" Facel Seal HSN
1" 3-1/2" CT Stripper YB	1" X 3-1/2" CT Stripper YB
1" X 3-1/2" Non-Extrusion Ring	Teflon Non-Extrusion Ring
1" X 4-1/16" CT Stripper YB	1" X 4-1/16" CT Stripper YB
1-1/2" Swivel Packing Kit -15K	1-1/2" Swivel Packing Kit -15K
1-1/2" X 3-1/16" CT Stripper RG	1-1/2" X 3-1/16" CT Stripper RG
1-1/2" X 3-1/16" Non-Extrusion Ring	Teflon Non-Extrusion Ring
1-1/2" X 3-1/16" X 3/4" TFE Non-Ext	Non-Extrusion Ring
1-1/2" X 3-1/2" CT Stripper YB	1-1/2" X 3-1/2" CT Stripper
1-1/2" X 3-1/2" Non-Extrusion Ring	Teflon Non-Extrusion Ring
1-1/2" X 4" CT Stripper RB	1-1/2" X 4-1/16" CT Stripper RB
1-1/2" X 4" Non-Extrusion Ring	Teflon Non-Extrusion Ring
1-1/2" X 4-1/16" CT Stripper RG	Coil Tubing Stripper 95/80
1-1/2" X 4-1/16" CT Stripper YB	1-1/2" X 4-1/16" CT Stripper YB
1-1/2" X 4-1/16" Non-Extrusion Ring	Teflon Non-Extrusion Ring
1-1/2" X 5-1/2" CT Stripper YB	1-1/2" X 5-1/2" CT Stripper YB
1-1/2" X 5-1/2" Non-Extrusion Ring	Teflon Non-Extrusion Ring
1-1/2" X 5-1/2" X 3/4" TFE Non-Ext	Teflon Non-Extrusion Ring
1-1/4" CT Urethane Pig Balls	1-1/4" CT Urethane Pig Balls
1-1/4" 3-1/16" CT Stripper RG	1-1/4" X 3-1/16" CT Stripper RG
1-1/4" X 3-1/16" Non-Extrusion Ring	Teflon Non-Extrusion Ring
1-1/4" X 3-1/2" CT Stripper RG	1-1/4" X 3-1/2" CT Stripper RG
1-1/4" X 3-1/2" CT Stripper YB	1-1/4" X 3-1/2" CT Stripper
1-1/4" X 3-1/2" Non-Extrusion Ring	Teflon Non-Extrusion Ring
1-1/4" X 4" Non-Extrusion Ring	Teflon Non-Extrusion Ring
1-1/4" X 4-1/16" CT Stripper RG	Coil Tubing Stripper 95/80
1-1/4" X 4-1/16" CT Stripper YB	1-1/4" X 4-1/16" CT Stripper YB
1-1/4" X 4-1/16" Non-Extrusion Ring	Teflon Non-Extrusion Ring

All Specification Tables contain approximated dimensions and should be used for reference only.



## ENVIRO TYPE GREASE HEAD

### ASSEMBLY DESCRIPTION

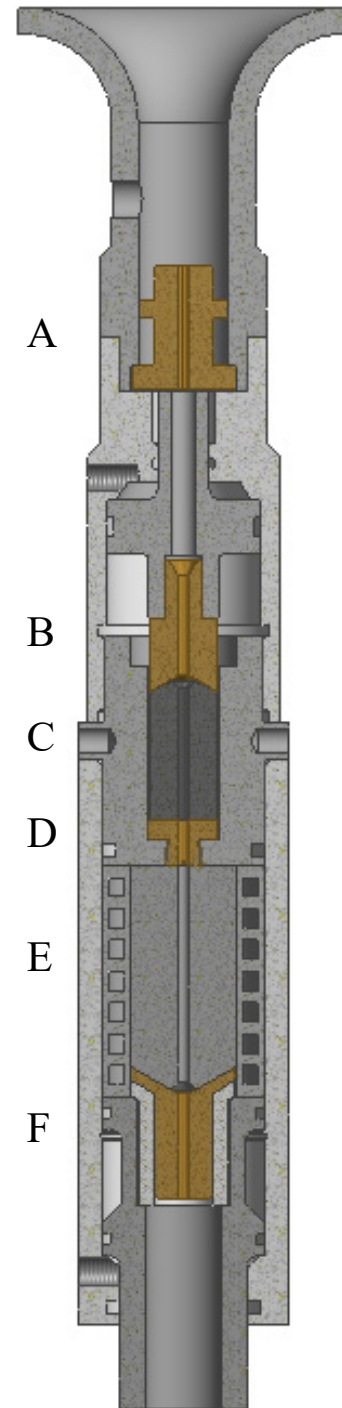
B & T manufactures the following components compatible with the Enviro Type Grease Head:

- A) OS9S BRASS UPPER BUSHING
- B) ENVIRO TYPE UPPER GLAND \*
- C) BOWEN MINI PACKOFF RUBBER
- D) ENVIRO TYPE SPACER
- E) OS9S LINE WIPER
- F) ENVIRO TYPE LOWER GLAND

\*Optional 15K configuration is also available. The 15K Brass Seat (page S12) will replace the Enviro Type Upper Gland.

The Bowen Mini Packoff Rubber and OS9S Line Wiper are available in the full range of materials offered by B & T. Please consult the Elastomer Chart (page U7) to find the proper compound for your specific application. The standard compound suitable for most applications is 70 durometer NBR packoff rubber and a 50 durometer SBR/Natural line wiper rubber.

Brass parts are made of casted brass and brass materials.

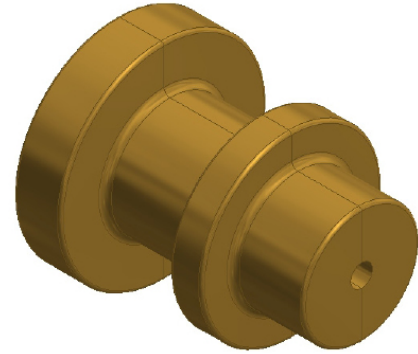




# OS9S BRASS UPPER BUSHING

## ASSEMBLY DESCRIPTION

O.D.            2.000"  
Length         2.460"



## SPECIFICATIONS

### Enviro Type Grease Head Part: A

Part Number	Line Size	Material
OSUB-0002-15	3/16"	Casted Brass
OSUB-0003-15	7/32"	Casted Brass
OSUB-0004-15	1/4"	Casted Brass
OSUB-0005-15	9/32"	Casted Brass
OSUB-0006-15	5/16"	Casted Brass
OSUB-0008-15	3/8"	Casted Brass
OSUB-0009-15	7/16"	Casted Brass
OSUB-0010-15	15/32"	Casted Brass
OSUB-0011-15	1/2"	Casted Brass

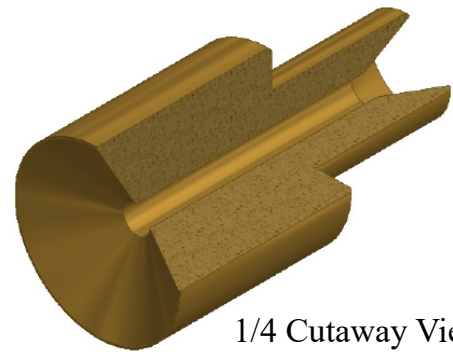
All Specification Tables contain approximated dimensions and should be used for reference only.



# ENVIRO TYPE UPPER GLAND

## ASSEMBLY DESCRIPTION

O.D.            1.370"  
Length          2.585"



1/4 Cutaway View

## SPECIFICATIONS

### Enviro Type Grease Head Part: B

Part Number	Line Size	Material
EHUG-0002-05	3/16"	Brass
EHUG-0003-05	7/32"	Brass
EHUG-0004-05	1/4"	Brass
EHUG-0005-05	9/32"	Brass
EHUG-0006-05	5/16"	Brass
EHUG-0008-05	3/8"	Brass
EHUG-0009-05	7/16"	Brass
EHUG-0010-05	15/32"	Brass
EHUG-0011-05	1/2"	Brass

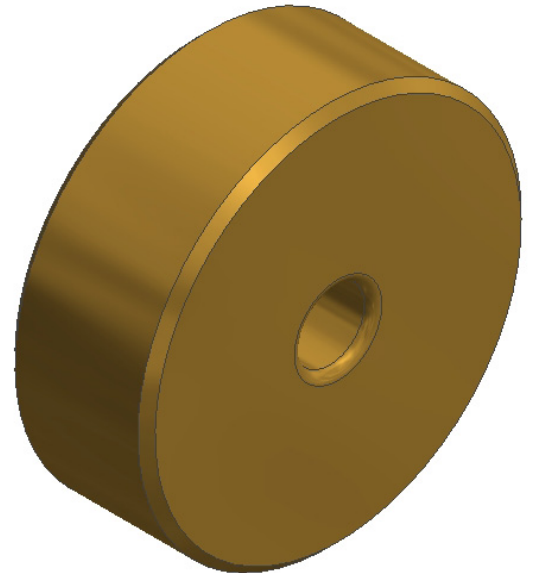
All Specification Tables contain approximated dimensions and should be used for reference only.



# 15K BRASS SEAT

## ASSEMBLY DESCRIPTION

O.D.            2.000"  
Length         2.460"



## SPECIFICATIONS

Enviro Type Grease Head Part: B Alternative

Part Number	Line Size	Material
15KBS-0002-15	3/16"	Brass
15KBS-0003-15	7/32"	Brass
15KBS-0004-15	1/4"	Brass
15KBS-0005-15	9/32"	Brass
15KBS-0006-15	5/16"	Brass
15KBS-0008-15	3/8"	Brass
15KBS-0009-15	7/16"	Brass
15KBS-0010-15	15/32"	Brass
15KBS-0011-15	1/2"	Brass

All Specification Tables contain approximated dimensions and should be used for reference only.





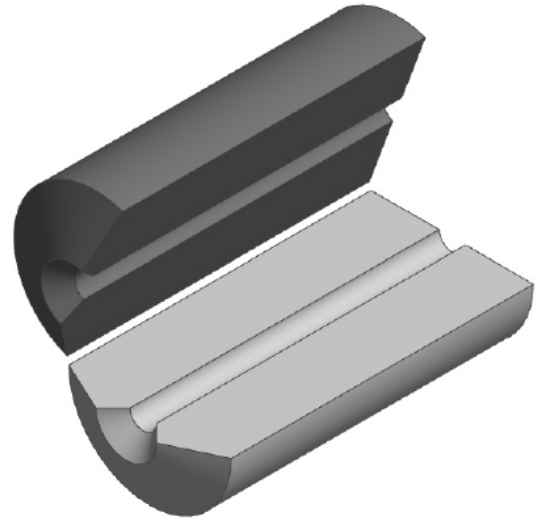
# BOWEN MINI PACKOFF RUBBER

## ASSEMBLY DESCRIPTION

O.D. 1.370"  
Length 2.585"

Mold #-Line Size-Compound  
**0119-XXXX-XXXX**

When ordering the Bowen Mini Packoff Rubber use the prefix **0119** and please specify: line size and compound. Example: 3/16" NBR 70 Duro would be part number **0119-0002-0807**



## SPECIFICATIONS

### Enviro Type Grease Head Part: C

Line Size	Line Size Part No.	Compound	NBR 70 Duro	HNBR 65 Duro	HNBR 80 Duro	FKM 70 Duro	Epichlorohydrin 70 Duro
3/16"	0002		0807	8465	0848	0707	1307
7/32"	0003		0807	8465	0848	0707	1307
1/4"	0004		0807	8465	0848	0707	1307
9/32"	0005		0807	8465	0848	0707	1307
5/16"	0006		0807	8465	0848	0707	1307
0.350"	0007		0807	8465	0848	0707	1307
3/8"	0008		0807	8465	0848	0707	1307
7/16"	0009		0807	8465	0848	0707	1307
15/32"	0010		0807	8465	0848	0707	1307
1/2"	0011		0807	8465	0848	0707	1307
17/32"	0012		0807	8465	0848	0707	1307

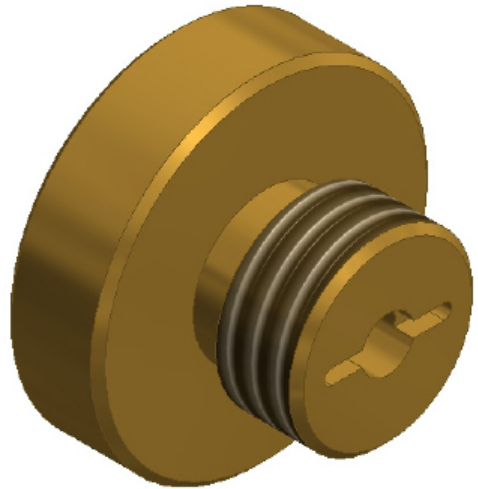
All Specification Tables contain approximated dimensions and should be used for reference only.



## ENVIRO TYPE SPACER

### ASSEMBLY DESCRIPTION

O.D.	1.380"
Height	0.885"



### SPECIFICATIONS

#### Enviro Type Grease Head Part: D

Part Number	Line Size	Material
EHSG-0002-05	3/16"	Brass
EHSG-0003-05	7/32"	Brass
EHSG-0004-05	1/4"	Brass
EHSG-0005-05	9/32"	Brass
EHSG-0006-05	5/16"	Brass
EHSG-0008-05	3/8"	Brass
EHSG-0009-05	7/16"	Brass
EHSG-0010-05	15/32"	Brass
EHSG-0011-05	1/2"	Brass

All Specification Tables contain approximated dimensions and should be used for reference only.



## OS9S LINE WIPER

### ASSEMBLY DESCRIPTION

O.D. 2.000"  
Length 4.800"

Mold #-Line Size-Compound  
**0131-XXXX-XXXX**

When ordering the OS9S Line Wiper use the prefix **0131** and please specify: line size and compound. Example: 3/16" SBR/Natural 50 Duro would be part number **0131-0002-3105**



### SPECIFICATIONS

#### Enviro Type Grease Head Part: E

Line Size	Line Size Part No.	Compound	SBR/Natural 50 Duro	HNBR 65 Duro	HNBR 80 Duro	FKM 70 Duro	Epichlorohydrin 70 Duro
3/16"	0002		3105	8465	0848	0707	1307
7/32"	0003		3105	8465	0848	0707	1307
1/4"	0004		3105	8465	0848	0707	1307
9/32"	0005		3105	8465	0848	0707	1307
5/16"	0006		3105	8465	0848	0707	1307
3/8"	0008		3105	8465	0848	0707	1307
7/16"	0009		3105	8465	0848	0707	1307
15/32"	0010		3105	8465	0848	0707	1307
1/2"	0011		3105	8465	0848	0707	1307

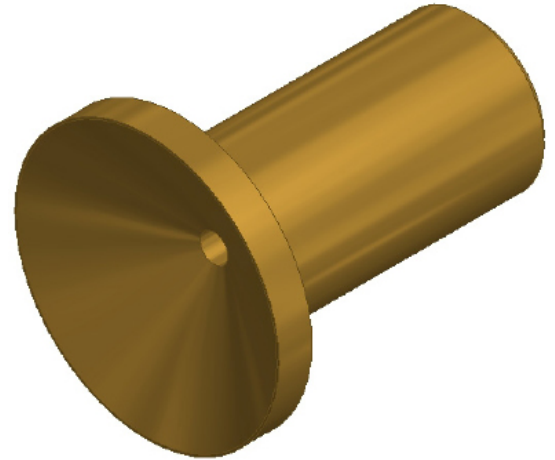
All Specification Tables contain approximated dimensions and should be used for reference only.



## ENVIRO TYPE LOWER GLAND

### ASSEMBLY DESCRIPTION

O.D.	2.050"
Length	2.562"



### SPECIFICATIONS

#### Enviro Type Grease Head Part: F

Part Number	Line Size	Material
EHLG-0002-05	3/16"	Brass
EHLG-0003-05	7/32"	Brass
EHLG-0004-05	1/4"	Brass
EHLG-0005-05	9/32"	Brass
EHLG-0006-05	5/16"	Brass
EHLG-0008-05	3/8"	Brass
EHLG-0009-05	7/16"	Brass
EHLG-0010-05	15/32"	Brass
EHLG-0011-05	1/2"	Brass

All Specification Tables contain approximated dimensions and should be used for reference only.



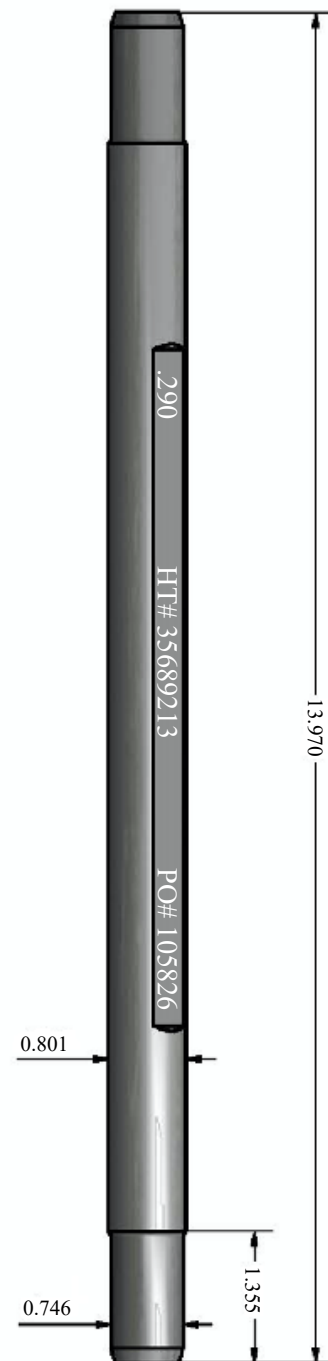
## FLOW TUBE

### ASSEMBLY DESCRIPTION

B & T manufactures some of the highest quality Flow Tubes on the market. Each Flow Tube is precision drilled from 4140 raw stock and maintains tolerances of .002" in every line size. Every tube is measured with certified pin gauges to ensure precision throughout the body, not just at the ends.

Single sided wrench flats are milled and stamped with the line size so the customer will never have to measure or guess the size of a tube, even after repeated use.

As with all B & T parts, full traceability is available for every tube and documentation can be provided if required. Upon customer request each Flow Tube may be treated in a Kolene® nitrocarburization process that adds corrosion and wear resistance.





## FLOW TUBE

SPECIFICATIONS		
0.186"	0.259"	0.298"
0.191"	0.260"	0.312"
0.194"	0.261"	0.314"
0.196"	0.262"	0.315"
0.199"	0.263"	0.316"
0.201"	0.264"	0.318"
0.204"	0.280"	0.320"
0.205"	0.281"	0.321"
0.211"	0.283"	0.322"
0.216"	0.284"	0.323"
0.222"	0.285"	0.324"
0.223"	0.286"	0.325"
0.224"	0.287"	0.326"
0.225"	0.288"	0.328"
0.226"	0.289"	0.330"
0.228"	0.290"	0.332"
0.230"	0.291"	0.334"
0.231"	0.292"	0.335"
0.232"	0.293"	0.337"
0.236"	0.294"	0.338"
0.238"	0.295"	0.349"
0.255"	0.296"	0.384"
0.258"	0.297"	

We currently manufacture the above line sizes but other sizes may be available upon request.

All Specification Tables contain approximated dimensions and should be used for reference only.



## HLWA OPEN HOLE PACKOFF

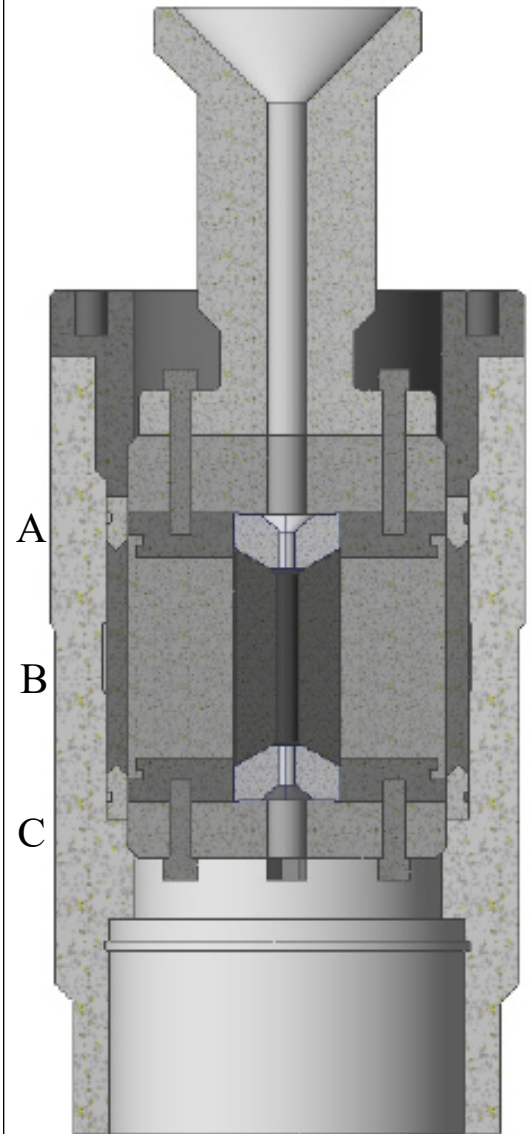
### ASSEMBLY DESCRIPTION

B & T manufactures the following components compatible with the HLWA Open Hole Packoff:

- A) HLWA PTFE
- B) HLWA PACKOFF RUBBER
- C) HLWA PTFE

Upper and Lower HLWA PTFE are sold in numbered, matched sets to ensure true line size and seal. Please note, to order an entire HLWA PTFE redress, you will need (2) complete sets, one upper and one lower.

HLWA Packoff Rubbers are available in the full range of materials offered by B & T. Please consult the Elastomer Chart (page U7) to find the proper compound for your specific application. The standard compound suitable for most applications is NBR 80.





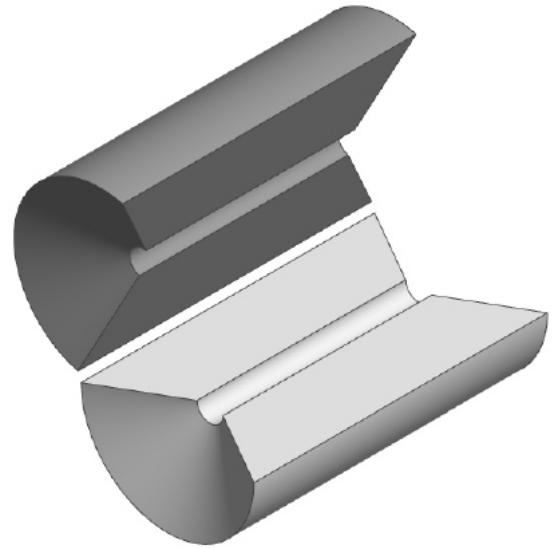
## HLWA PACKOFF RUBBER

### ASSEMBLY DESCRIPTION

O.D.            3.300”  
Length         5.600”

Mold # -Line Size-Compound  
**0340-XXXX-XXXX**

When ordering the HLWA Packoff Rubber use the prefix **0340** and please specify: line size and compound. Example: 3/8” NBR 80 Duro would be part number **0340-0008-0808**.



### SPECIFICATIONS

#### HLWA Open Hole Packoff Parts: A and C

Line Size	Line Size Part No.	Compound	NBR 80 Duro	HNBR 65 Duro	HNBR 80 Duro	FKM 80 Duro	Epichlorohydrin 70 Duro
3/8”	0008		0808	8465	0848	0708	1307
1/2”	0011		0808	8465	0848	0708	1307
9/16”	0013		0808	8465	0848	0708	1307

All Specification Tables contain approximated dimensions and should be used for reference only.

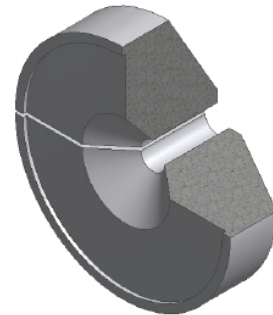




# HLWA PTFE

## ASSEMBLY DESCRIPTION

O.D.            3.375"  
Length         1.480"



1/4 Cutaway View

## SPECIFICATIONS

### HLWA Open Hole Packoff Part: B

Part Number	Line Size	Material
HLAT-0008-14	3/8"	PTFE
HLAT-0011-14	1/2"	PTFE
HLAT-0013-14	9/16"	PTFE

All Specification Tables contain approximated dimensions and should be used for reference only.



## HLWB OPEN HOLE PACKOFF

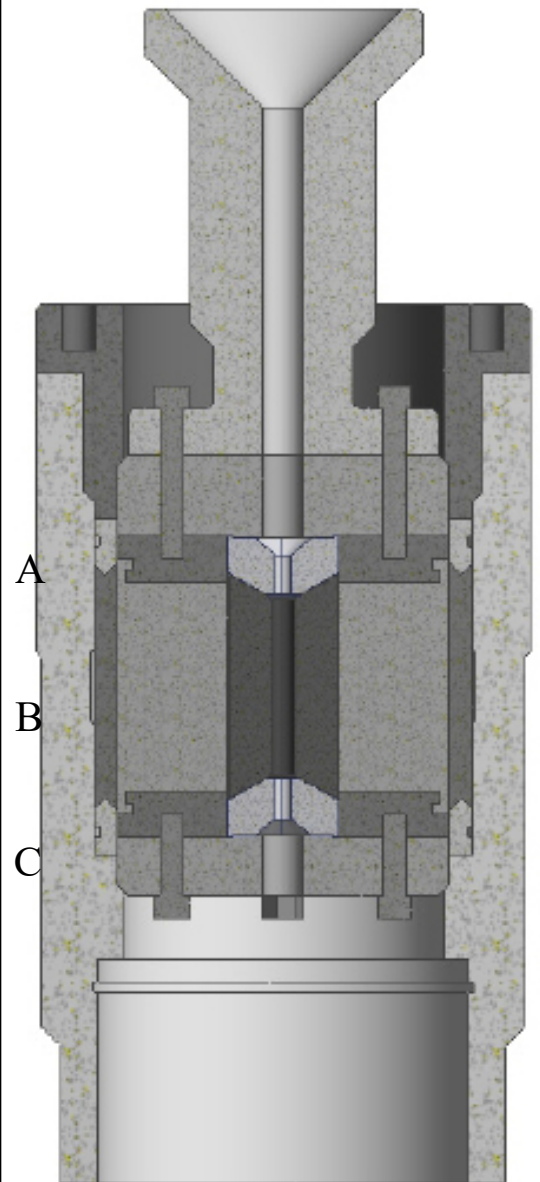
### ASSEMBLY DESCRIPTION

B & T manufactures the following components compatible with the HLWB Open Hole Packoff:

- A) HLWB PTFE
- B) HLWB PACKOFF RUBBER
- C) HLWB PTFE

Upper and Lower HLWB PTFE are sold in numbered, matched sets to ensure true line size and seal. Please note, to order an entire HLWB PTFE redress, you will need (2) complete sets, one upper and one lower.

HLWB Packoff Rubbers are available in the full range of materials offered by B & T. Please consult the Elastomer Chart (page U7) to find the proper compound for your specific application. The standard compound suitable for most applications is NBR 80.





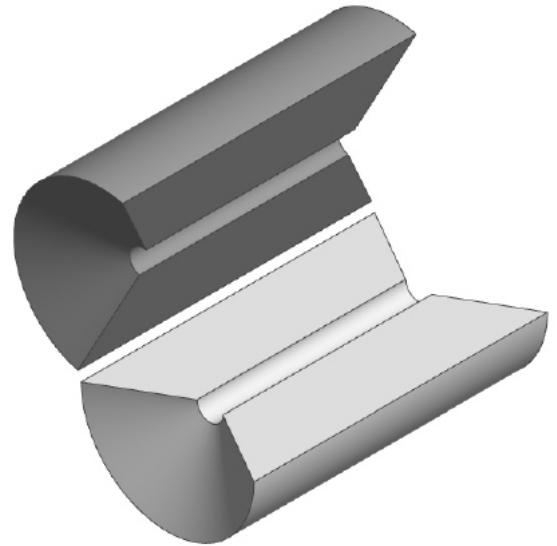
# HLWB PACKOFF RUBBER

## ASSEMBLY DESCRIPTION

O.D.            2.300”  
Length         4.800”

Mold # -Line Size-Compound  
**0028-XXXX-XXXX**

When ordering the HLWB Packoff Rubber use the prefix **0028** and please specify: line size and compound. Example: 3/8” NBR 80 Duro would be part number **0028-0008-0808**



## SPECIFICATIONS

### HLWB Open Hole Packoff Parts: A and C

Line Size	Line Size Part No.	Compound	NBR 80 Duro	HINBR 65 Duro	HINBR 80 Duro	FKM 80 Duro	Epichlorohydrin 70 Duro
3/8”	0008		0808	8465	0848	0708	1307
1/2”	0011		0808	8465	0848	0708	1307
9/16”	0013		0808	8465	0848	0708	1307

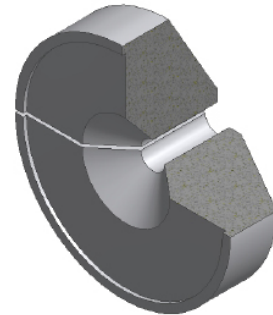
All Specification Tables contain approximated dimensions and should be used for reference only.



## HLWB PTFE

### ASSEMBLY DESCRIPTION

O.D.	2.430"
Length	1.290"



1/4 Cutaway View

### SPECIFICATIONS

#### HLWB Open Hole Packoff Part: B

Part Number	Line Size	Material
HLBT-0008-14	3/8"	PTFE
HLBT-0011-14	1/2"	PTFE
HLBT-0013-14	9/16"	PTFE

All Specification Tables contain approximated dimensions and should be used for reference only.



## LARGE BOWEN GREASE HEAD

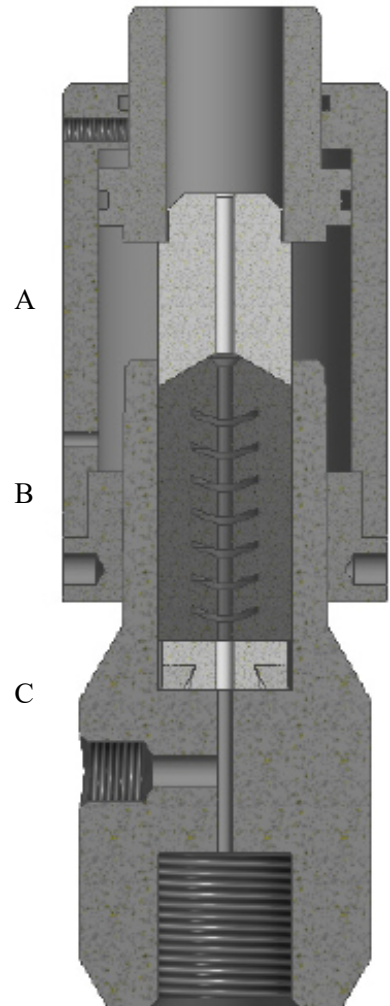
### ASSEMBLY DESCRIPTION

B & T manufactures the following components compatible with the Large Bowen Grease Head:

- A) LARGE BOWEN UPPER BUSHING
- B) LARGE BOWEN LINE WIPER
- C) LARGE BOWEN INTERLOCKING SEAT

Large Bowen Line Wipers are available in the full range of materials offered by B & T. Please consult the Elastomer Chart (page U7) to find the proper compound for your specific application. The standard compound suitable for most applications is NBR 60.

Upper and lower metals are made from casted steel.

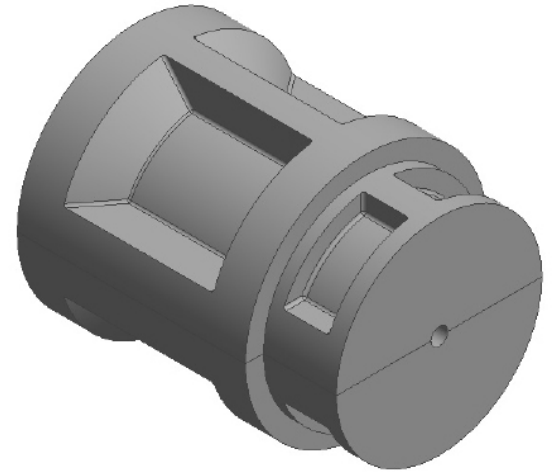




# LARGE BOWEN UPPER BUSHING

## ASSEMBLY DESCRIPTION

O.D.            3.300"  
Length         2.645"



## SPECIFICATIONS

### Large Bowen Grease Head Part: A

Part Number	Line Size	Material
BLUM-0002-10	3/16"	Casted Steel
BLUM-0003-10	7/32"	Casted Steel
BLUM-0004-10	1/4"	Casted Steel
BLUM-0006-10	5/16"	Casted Steel
BLUM-0008-10	3/8"	Casted Steel
BLUM-0018-10	0.390"	Casted Steel
BLUM-0011-10	1/2"	Casted Steel
BLUM-0013-10	9/16"	Casted Steel

All Specification Tables contain approximated dimensions and should be used for reference only.



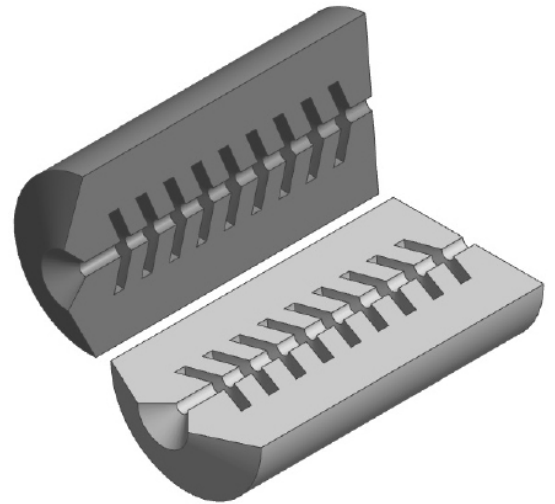
# LARGE BOWEN LINE WIPER

## ASSEMBLY DESCRIPTION

O.D. 2.700"  
Length 5.500"

Mold # -Line Size-Compound  
**0157-XXXX-XXXX**

When ordering the Large Bowen Line Wiper use the prefix **0157** and please specify: line size and compound. Example: 3/16" NBR 60 Duro would be part number **0157-0002-0806**



## SPECIFICATIONS

### Large Bowen Grease Head Part: B

Line Size	Line Size Part No.	Compound	NBR 60 Duro	HNBR 65 Duro	HNBR 70 Duro	FKM 70 Duro	Epichlorohydrin 70 Duro
3/16"	0002		0806	8465	0847	0707	1307
7/32"	0003		0806	8465	0847	0707	1307
1/4"	0004		0806	8465	0847	0707	1307
5/16"	0006		0806	8465	0847	0707	1307
3/8"	0008		0806	8465	0847	0707	1307
0.390"	0018		0806	8465	0847	0707	1307
1/2"	0011		0806	8465	0847	0707	1307
9/16"	0013		0806	8465	0847	0707	1307

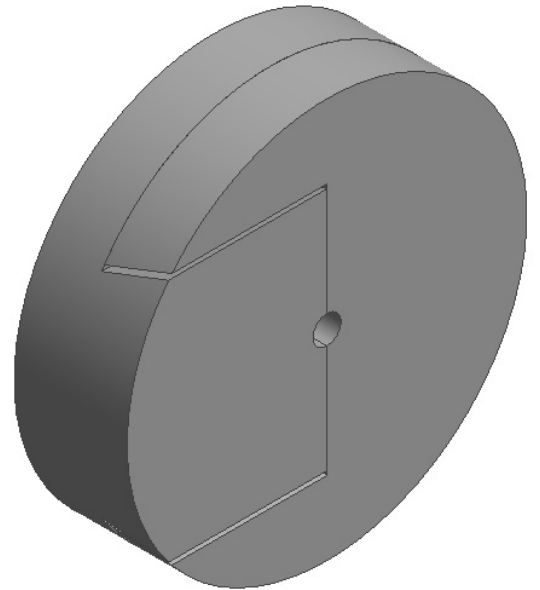
All Specification Tables contain approximated dimensions and should be used for reference only.



# LARGE BOWEN INTERLOCKING SEAT

## ASSEMBLY DESCRIPTION

O.D.            2.656"  
Height         0.750"



## SPECIFICATIONS

### Large Bowen Grease Head Part: C

Part Number	Line Size	Material
BLLM-0002-10	3/16"	Casted Steel
BLLM-0003-10	7/32"	Casted Steel
BLLM-0004-10	1/4"	Casted Steel
BLLM-0006-10	5/16"	Casted Steel
BLLM-0008-10	3/8"	Casted Steel
BLLM-0018-10	0.390"	Casted Steel
BLLM-0011-10	1/2"	Casted Steel
BLLM-0013-10	9/16"	Casted Steel

All Specification Tables contain approximated dimensions and should be used for reference only.





## MEDIUM BOWEN GREASE HEAD

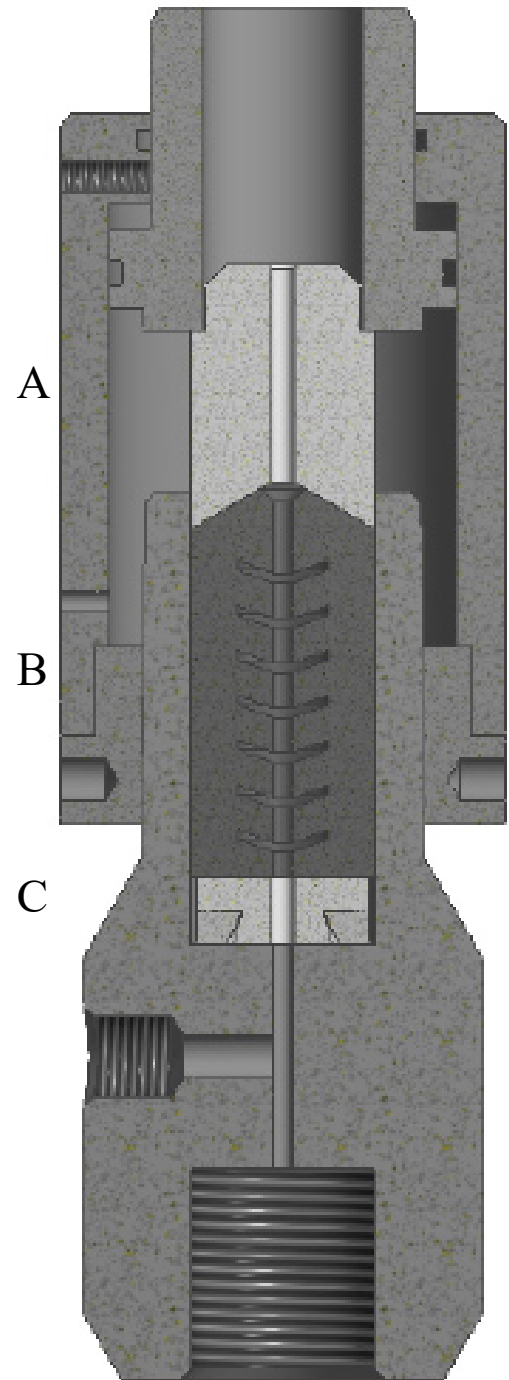
### ASSEMBLY DESCRIPTION

B & T manufactures the following components compatible with the Medium Bowen Grease Head:

- A) MEDIUM BOWEN UPPER BUSHING
- B) MEDIUM BOWEN LINE WIPER
- C) MEDIUM BOWEN INTERLOCKING SEAT

Medium Bowen Line Wipers are available in the full range of materials offered by B & T. Please consult the Elastomer Chart (page U7) to find the proper compound for your specific application. The standard compound suitable for most applications is NBR 60.

Upper and lower metals are made from casted steel.

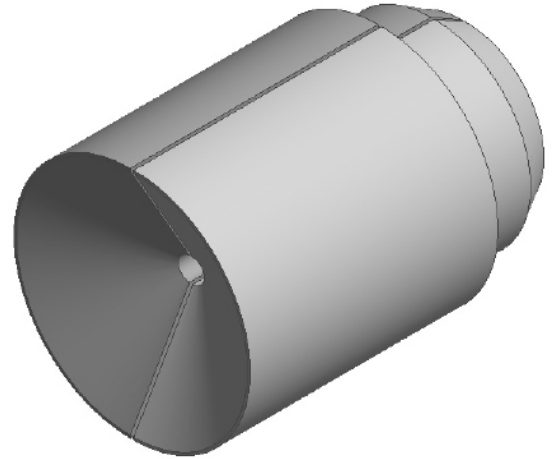




# MEDIUM BOWEN UPPER BUSHING

## ASSEMBLY DESCRIPTION

O.D.            2.100"  
Length         3.000"



## SPECIFICATIONS

### Medium Bowen Grease Head Part: A

Part Number	Line Size	Material
BMUM-0002-10	3/16"	Casted Steel
BMUM-0003-10	7/32"	Casted Steel
BMUM-0004-10	1/4"	Casted Steel
BMUM-0005-10	9/32"	Casted Steel
BMUM-0006-10	5/16"	Casted Steel
BMUM-0008-10	3/8"	Casted Steel
BMUM-0009-10	7/16"	Casted Steel
BMUM-0010-10	15/32"	Casted Steel
BMUM-0011-10	1/2"	Casted Steel
BMUM-0013-10	9/16"	Casted Steel

All Specification Tables contain approximated dimensions and should be used for reference only.



# MEDIUM BOWEN LINE WIPER

## ASSEMBLY DESCRIPTION

O.D.            2.100"  
Length         4.400"

Mold #-Line Size-Compound  
**0156-XXXX-XXXX**

When ordering the Medium Bowen Line Wiper use the prefix **0156** and please specify: line size and compound. Example: 3/16" NBR 60 Duro would be part number **0156-0002-0806**



## SPECIFICATIONS

### Medium Bowen Grease Head Part: B

Line Size	Line Size Part No.	Compound	NBR 60 Duro	HNBR 65 Duro	HNBR 70 Duro	FKM 70 Duro	Epichlorohydrin 70 Duro
3/16"	0002		0806	8465	0847	0707	1307
7/32"	0003		0806	8465	0847	0707	1307
1/4"	0004		0806	8465	0847	0707	1307
9/32"	0005		0806	8465	0847	0707	1307
5/16"	0006		0806	8465	0847	0707	1307
3/8"	0008		0806	8465	0847	0707	1307
7/16"	0009		0806	8465	0847	0707	1307
15/32"	0010		0806	8465	0847	0707	1307
1/2"	0011		0806	8465	0847	0707	1307
9/16"	0013		0806	8465	0847	0707	1307

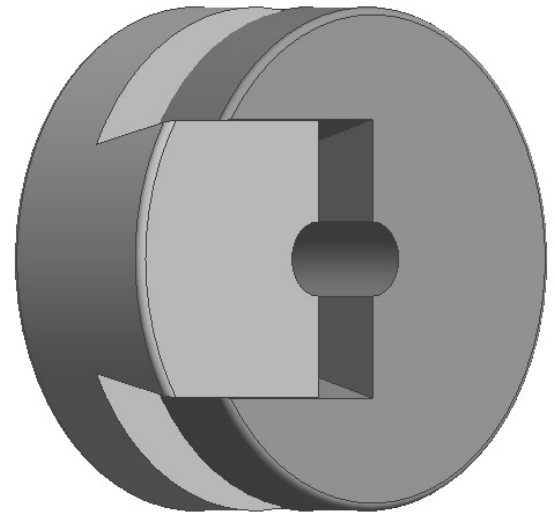
All Specification Tables contain approximated dimensions and should be used for reference only.



# MEDIUM BOWEN INTERLOCKING SEAT

## ASSEMBLY DESCRIPTION

O.D.	2.060"
Height	0.750"



## SPECIFICATIONS

### Medium Bowen Grease Head Part: C

Part Number	Line Size	Material
BMLM-0002-10	3/16"	Casted Steel
BMLM-0003-10	7/32"	Casted Steel
BMLM-0004-10	1/4"	Casted Steel
BMLM-0005-10	9/32"	Casted Steel
BMLM-0006-10	5/16"	Casted Steel
BMLM-0008-10	3/8"	Casted Steel
BMLM-0009-10	7/16"	Casted Steel
BMLM-0010-10	15/32"	Casted Steel
BMLM-0011-10	1/2"	Casted Steel
BMLM-0013-10	9/16"	Casted Steel

All Specification Tables contain approximated dimensions and should be used for reference only.



## MINI BOWEN GREASE HEAD

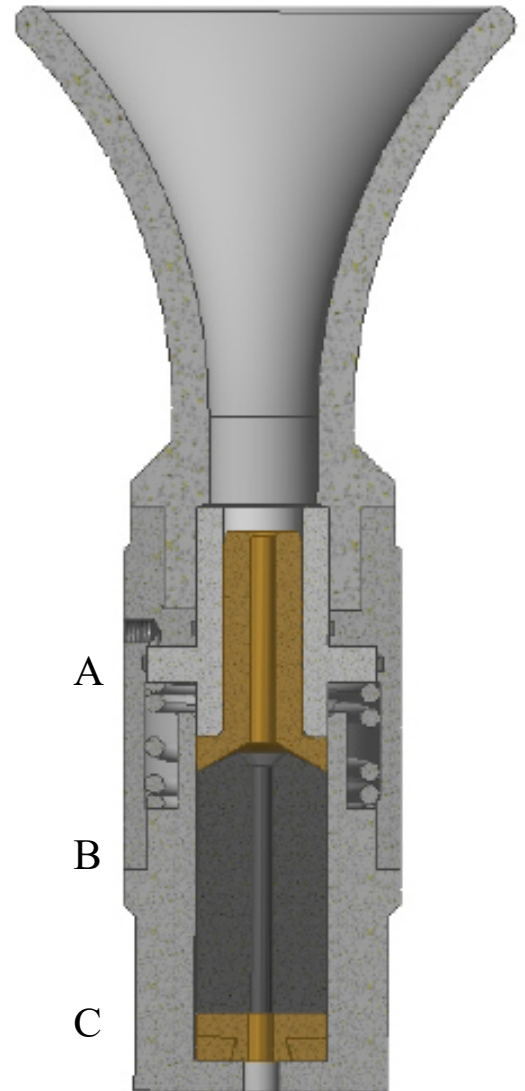
### ASSEMBLY DESCRIPTION

B & T manufactures the following components compatible with the Mini Bowen Grease Head:

- A) MINI BOWEN UPPER BUSHING
- B) MINI BOWEN LINE WIPERS
- C) MINI BOWEN INTERLOCKING SEAT

Mini Bowen Line Wipers are available in the full range of materials offered by B & T. Please consult the Elastomer Chart (page U7) to find the proper compound for your specific application. The standard compound suitable for most applications is NBR 70.

Upper and lower metals are made from brass.

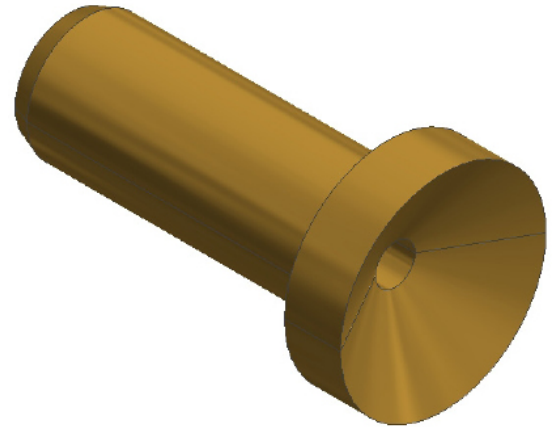




# MINI BOWEN UPPER BUSHING

## ASSEMBLY DESCRIPTION

O.D. 1.375"  
Length 2.500"



## SPECIFICATIONS

### Mini Bowen Grease Head Part: A

Part Number	Line Size	Material
MBUM-0002-05	3/16"	Brass
MBUM-0003-05	7/32"	Brass
MBUM-0004-05	1/4"	Brass
MBUM-0005-05	9/32"	Brass
MBUM-0006-05	5/16"	Brass
MBUM-0007-05	0.350"	Brass
MBUM-0008-05	3/8"	Brass
MBUM-0009-05	7/16"	Brass
MBUM-0010-05	15/32"	Brass
MBUM-0011-05	1/2"	Brass
MBUM-0012-05	17/32"	Brass

All Specification Tables contain approximated dimensions and should be used for reference only.



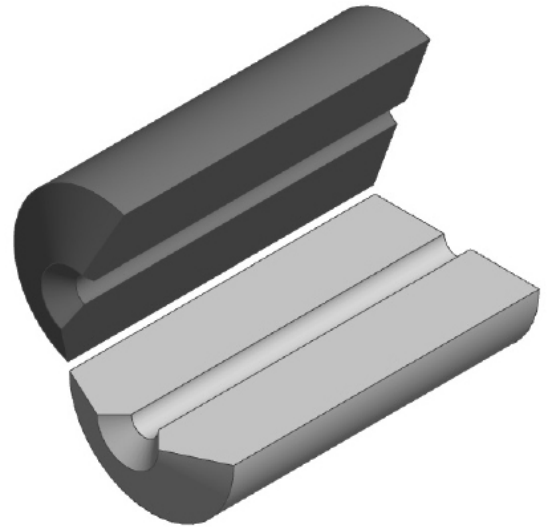
# MINI BOWEN LINE WIPERS

## ASSEMBLY DESCRIPTION

O.D. 1.300"  
Length 2.700"

Mold # -Line Size-Compound  
**0119-XXXX-XXXX**

When ordering the Mini Bowen Line Wipers use the prefix **0119** and please specify: line size and compound. Example: 3/16" NBR 70 Duro would be part number **0119-0002-0807**



## SPECIFICATIONS

### Mini Bowen Grease Head Part: B

Line Size	Line Size Part No.	Compound	NBR 70 Duro	HNBR 65 Duro	HNBR 80 Duro	FKM 70 Duro	Epichlorohydrin 70 Duro
3/16"	0002		0807	8465	0848	0707	1307
7/32"	0003		0807	8465	0848	0707	1307
1/4"	0004		0807	8465	0848	0707	1307
9/32"	0005		0807	8465	0848	0707	1307
5/16"	0006		0807	8465	0848	0707	1307
0.350"	0007		0807	8465	0848	0707	1307
3/8"	0008		0807	8465	0848	0707	1307
7/16"	0009		0807	8465	0848	0707	1307
15/32"	0010		0807	8465	0848	0707	1307
1/2"	0011		0807	8465	0848	0707	1307
17/32"	0012		0807	8465	0848	0707	1307

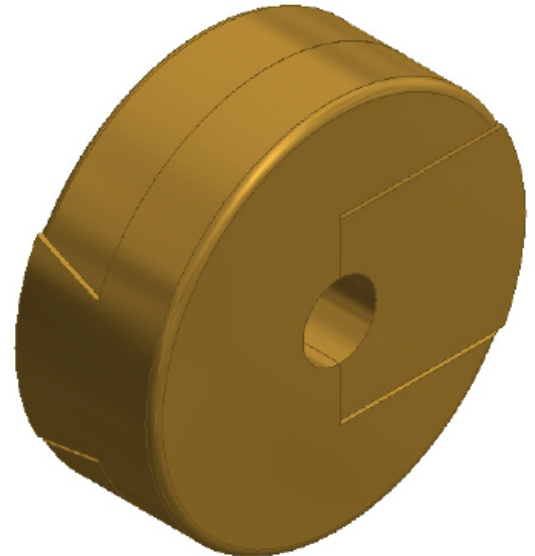
All Specification Tables contain approximated dimensions and should be used for reference only.



# MINI BOWEN INTERLOCKING SEAT

## ASSEMBLY DESCRIPTION

O.D. 1.343"  
Height 0.500"



## SPECIFICATIONS

### Mini Bowen Grease Head Part: C

Part Number	Line Size	Material
MBLM-0002-05	3/16"	Brass
MBLM-0003-05	7/32"	Brass
MBLM-0004-05	1/4"	Brass
MBLM-0005-05	9/32"	Brass
MBLM-0006-05	5/16"	Brass
MBLM-0007-05	0.350"	Brass
MBLM-0008-05	3/8"	Brass
MBLM-0009-05	7/16"	Brass
MBLM-0010-05	15/32"	Brass
MBLM-0011-05	1/2"	Brass
MBLM-0017-05	17/32"	Brass

All Specification Tables contain approximated dimensions and should be used for reference only.





## SWAB CUP

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### ASSEMBLY DESCRIPTION

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B & T offers many different sizes and styles of Swab Cups in order to fulfill customer specifications.





## TYPE 410 PACKOFF

### ASSEMBLY DESCRIPTION

B & T manufactures the following components compatible with the Type 410 Packoff:

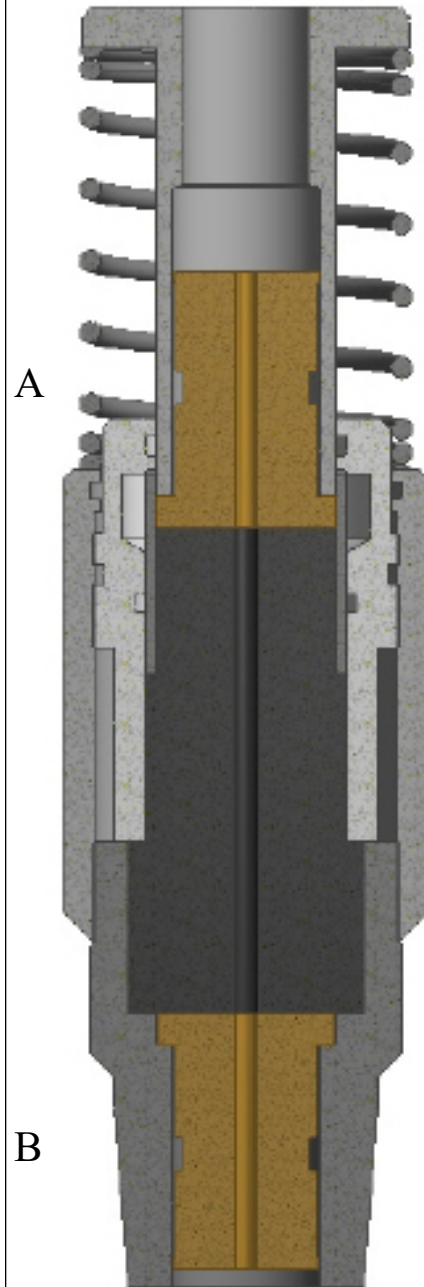
A) TYPE 410 UPPER BRASS

B) TYPE 410 LOWER BRASS

B & T produces Type 410 components from high quality machined brass which gives them superior wear characteristics. Our brass components also cover a range of common line sizes giving the user maximum flexibility while lowering the amount of inventory that must be kept on hand.

Type 410 rubber components are not made by B & T at this time.

PLEASE NOTE: Many parts for the Type C, Type CL, MT, and 410 injection heads are shared between different styles, part numbers are listed for each style to avoid confusion. To check cross compatibility, please see the Cross Compatibility Chart (page U6).

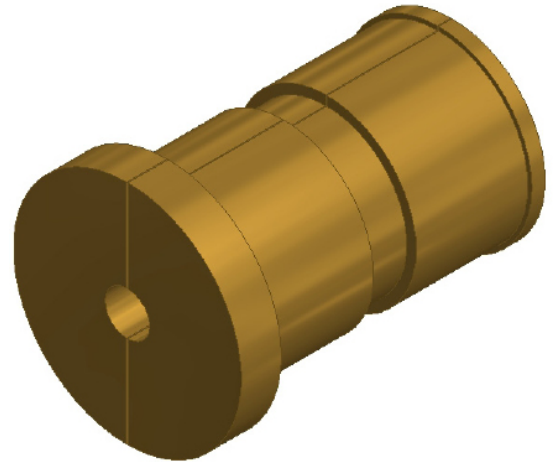




## TYPE 410 UPPER BRASS

### ASSEMBLY DESCRIPTION

O.D.            2.125"  
Length         3.030"



### SPECIFICATIONS

#### Type 410 Part: A

Part Number	Line Size	Material
CUB-0014-05	9/32"-3/8"*	Brass
CUB-0015-05	3/16"-1/4"*	Brass
CUB-0003-05	7/32"	Brass
CUB-0005-05	9/32"	Brass
CUB-0006-05	5/16"	Brass
CUB-0008-05	3/8"	Brass
CUB-0009-05	7/16"	Brass
CUB-0011-05	1/2"	Brass

\*These line size ranges are what are specified by OEM equipment. We also make specific line sizes if your application requires it.

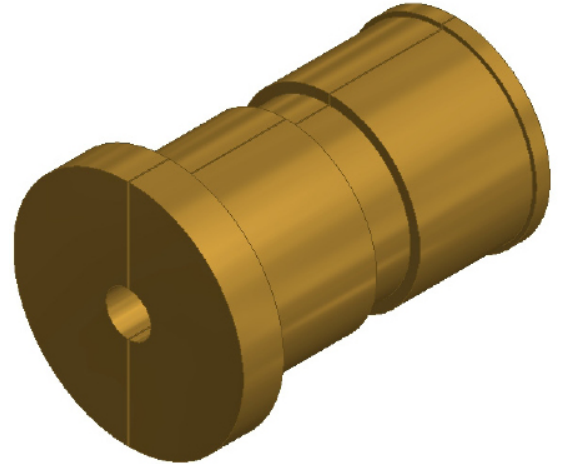
All Specification Tables contain approximated dimensions and should be used for reference only.



## TYPE 410 LOWER BRASS

### ASSEMBLY DESCRIPTION

O.D.	2.125"
Length	3.030"



### SPECIFICATIONS

#### Type 410 Part: B

Part Number	Line Size	Material
CUB-0014-05	9/32"-3/8"*	Brass
CUB-0015-05	3/16"-1/4"*	Brass
CUB-0003-05	7/32"	Brass
CUB-0005-05	9/32"	Brass
CUB-0006-05	5/16"	Brass
CUB-0008-05	3/8"	Brass
CUB-0009-05	7/16"	Brass
CUB-0011-05	1/2"	Brass

\*These line size ranges are what are specified by OEM equipment. We also make specific line sizes if your application requires it.

All Specification Tables contain approximated dimensions and should be used for reference only.



## TYPE C PACKOFF

### ASSEMBLY DESCRIPTION

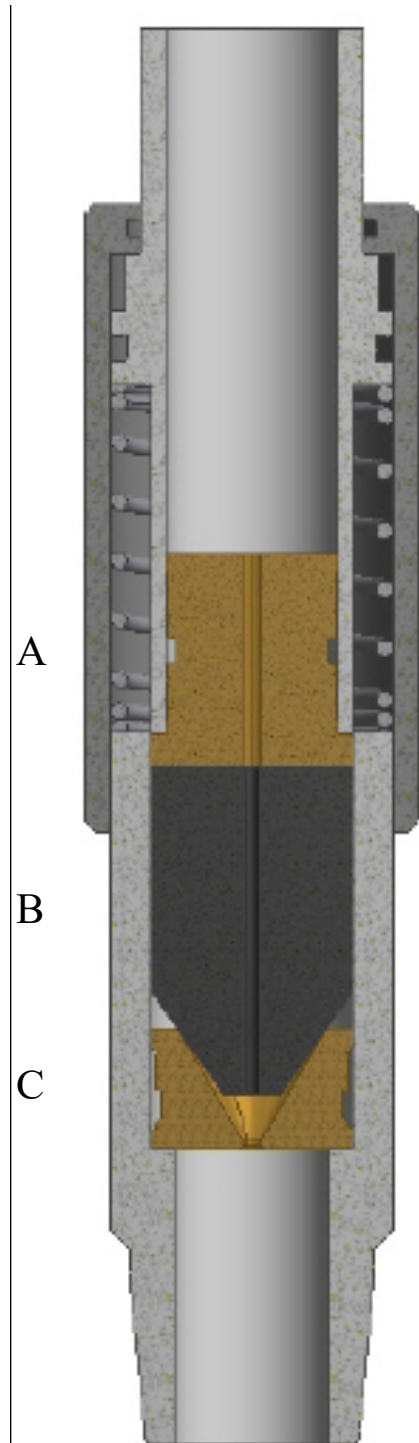
B & T manufactures the following components compatible with the Type C Packoff:

- A) TYPE C UPPER BRASS
- B) TYPE C LINE WIPER
- C) TYPE C LOWER BRASS

B & T produces Type C components from high quality machined brass which gives them superior wear characteristics. Our brass components also cover a range of common line sizes giving the user maximum flexibility while lowering the amount of inventory that must be kept on hand.

The Type C Line Wiper is available in the full range of materials offered by B & T. Please consult the Elastomer Chart (page U7) to find the proper compound for your specific application. The standard compound suitable for most applications is SBR/Natural 50. If a slightly harder rubber is desired with the same chemical characteristics, we recommend the standard NBR 60 material.

PLEASE NOTE: Many parts for the Type C, Type CL, MT, and 410 injection heads are shared between different styles, part numbers are listed for each style to avoid confusion. To check cross compatibility, please see the Cross Compatibility Chart (page U6).

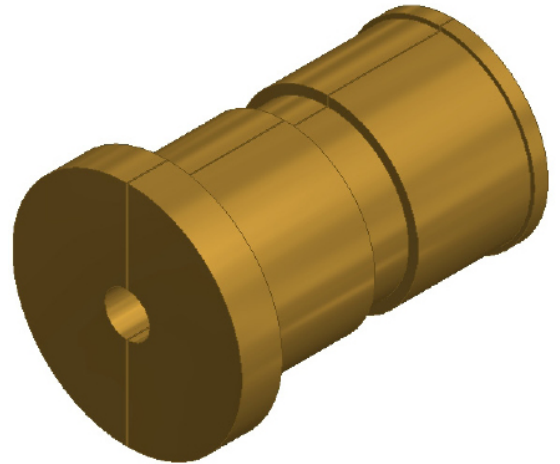




## TYPE C UPPER BRASS

### ASSEMBLY DESCRIPTION

O.D.	2.125"
Length	3.030"



### SPECIFICATIONS

#### Type C Packoff Part: A

Part Number	Line Size	Material
CUB-0014-05	9/32"-3/8"*	Brass
CUB-0015-05	3/16"-1/4"*	Brass
CUB-0003-05	7/32"	Brass
CUB-0005-05	9/32"	Brass
CUB-0006-05	5/16"	Brass
CUB-0008-05	3/8"	Brass
CUB-0009-05	7/16"	Brass
CUB-0011-05	1/2"	Brass

\*These line size ranges are what are specified by OEM equipment. We also make specific line sizes if your application requires it.

All Specification Tables contain approximated dimensions and should be used for reference only.



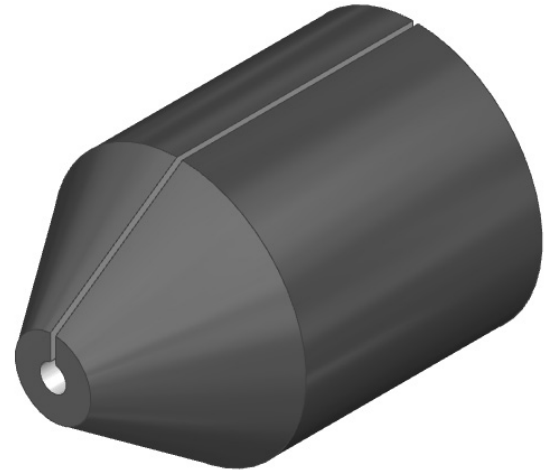
## TYPE C LINE WIPER

### ASSEMBLY DESCRIPTION

O.D.            2.100”  
Length         3.000”

Mold # -Line Size-Compound  
**0346-XXXX-XXXX**

When ordering the Type C Line Wiper use the prefix **0346** and please specify: line size and compound. Example: 3/16” SBR/Natural 50 Duro would be part number **0346-0002-3105**



### SPECIFICATIONS

#### Type C Packoff Part: B

Line Size	Line Size Part No.	Compound	SBR/Natural 50 Duro	NBR 60 Duro	HNBR 65 Duro	HNBR 80 Duro	FKM 70 Duro	Aflas 80 Duro	Epichlorohydrin 70 Duro
3/16”	0002		3105	0806	8465	0848	0707	0408	1307
7/32”	0003		3105	0806	8465	0848	0707	0408	1307
1/4”	0004		3105	0806	8465	0848	0707	0408	1307
9/32”	0005		3105	0806	8465	0848	0707	0408	1307
5/16”	0006		3105	0806	8465	0848	0707	0408	1307
3/8”	0008		3105	0806	8465	0848	0707	0408	1307
7/16”	0009		3105	0806	8465	0848	0707	0408	1307
1/2”	0011		3105	0806	8465	0848	0707	0408	1307

All Specification Tables contain approximated dimensions and should be used for reference only.



## TYPE C LOWER BRASS

### ASSEMBLY DESCRIPTION

O.D.	2.125"
Length	1.550"



### SPECIFICATIONS

#### Type C Packoff Part: C

Part Number	Line Size	Material
CLLB-0014-05	9/32"-3/8"*	Brass
CLLB-0015-05	3/16"-1/4"*	Brass
CLLB-0003-05	7/32"	Brass
CLLB-0005-05	9/32"	Brass
CLLB-0006-05	5/16"	Brass
CLLB-0008-05	3/8"	Brass
CLLB-0009-05	7/16"	Brass
CLLB-0011-05	1/2"	Brass

\*These line size ranges are what are specified by OEM equipment. We also make specific line sizes if your application requires it.

All Specification Tables contain approximated dimensions and should be used for reference only.





## TYPE CL PACKOFF

### ASSEMBLY DESCRIPTION

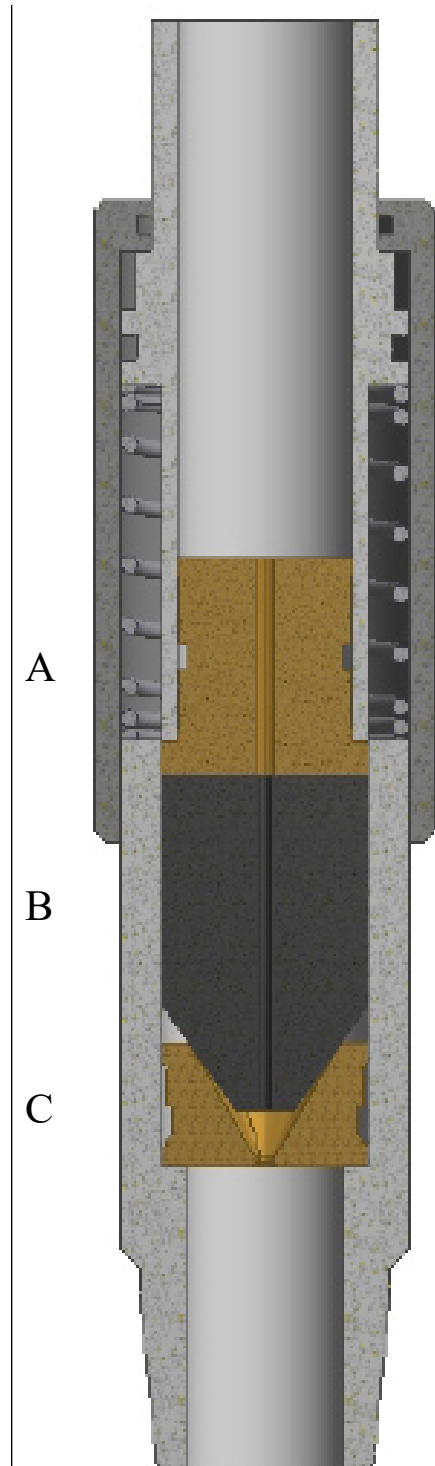
B & T manufactures the following components compatible with the Type CL Packoff:

- A) TYPE CL UPPER BRASS
- B) TYPE CL LINE WIPER RUBBER
- C) TYPE CL LOWER BRASS

B & T produces Type CL components from high quality machined brass which gives them superior wear characteristics. Our brass components also cover a range of common line sizes giving the user maximum flexibility while lowering the amount of inventory that must be kept on hand.

The Type CL Line Wiper Rubber is available in the full range of materials offered by B & T. Please consult the Elastomer Chart (page U7) to find the proper compound for your specific application. The standard compound suitable for most applications is SBR/Natural 50. If a slightly harder rubber is desired with the same chemical characteristics, we recommend the standard NBR 60 material.

PLEASE NOTE: Many parts for the Type C, Type CL, MT, and 410 injection heads are shared between different styles, part numbers are listed for each style to avoid confusion. To check cross compatibility, please see the Cross Compatibility Chart (page U6).

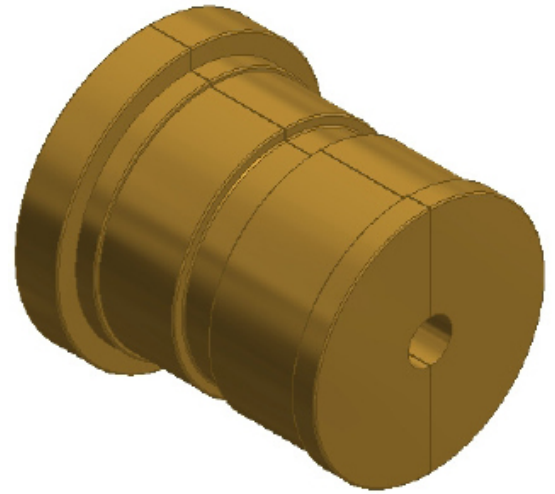




## TYPE CL UPPER BRASS

### ASSEMBLY DESCRIPTION

O.D.	2.555"
Length	2.700"



### SPECIFICATIONS

#### Type CL Part: A

Part Number	Line Size	Material
CLUB-0014-05	9/32"-3/8"*	Brass
CLUB-0015-05	3/16"-1/4"*	Brass
CLUB-0003-05	7/32"	Brass
CLUB-0005-05	9/32"	Brass
CLUB-0006-05	5/16"	Brass
CLUB-0008-05	3/8"	Brass
CLUB-0009-05	7/16"	Brass
CLUB-0011-05	1/2"	Brass

\*These line size ranges are what are specified by OEM equipment. We also make specific line sizes if your application requires it.

All Specification Tables contain approximated dimensions and should be used for reference only.



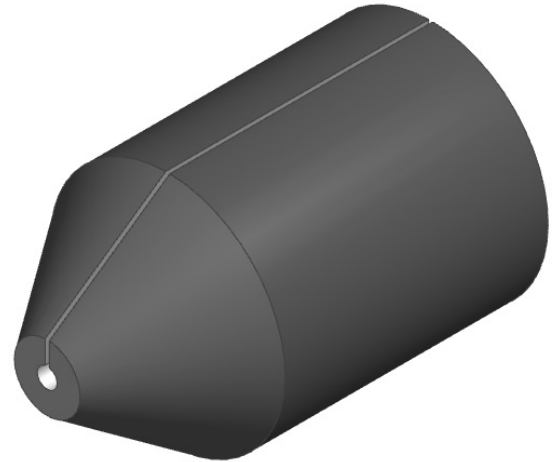
## TYPE CL LINE WIPER RUBBER

### ASSEMBLY DESCRIPTION

O.D. 2.100"  
Length 3.000"

Mold # -Line Size-Compound  
**0347-XXXX-XXXX**

When ordering the Type C Line Wiper Rubber use the prefix **0347** and please specify: line size and compound. Example: 3/16" SBR/Natural 50 Duro would be part number **0347-0002-3105**



### SPECIFICATIONS

#### Type CL Part: B

Line Size	Line Size Part No.	Compound	SBR/Natural 50 Duro	NBR 60 Duro	HNBR 65 Duro	HNBR 70 Duro	FKM 70 Duro	Epichlorohydrin 70 Duro
3/16"	0002		3105	0806	8465	0847	0707	1307
7/32"	0003		3105	0806	8465	0847	0707	1307
1/4"	0004		3105	0806	8465	0847	0707	1307
9/32"	0005		3105	0806	8465	0847	0707	1307
5/16"	0006		3105	0806	8465	0847	0707	1307
3/8"	0008		3105	0806	8465	0847	0707	1307
7/16"	0009		3105	0806	8465	0847	0707	1307
1/2"	0011		3105	0806	8465	0847	0707	1307

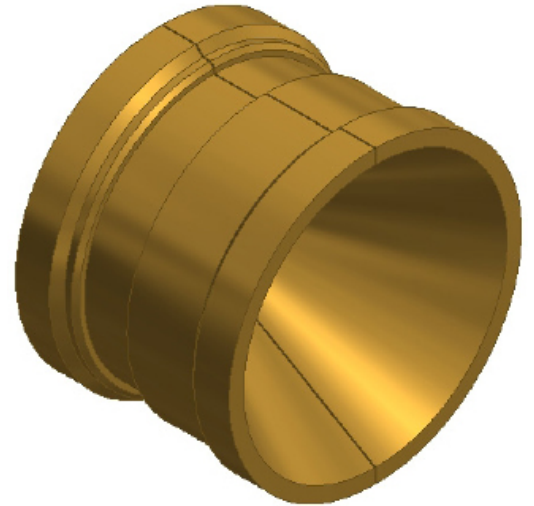
All Specification Tables contain approximated dimensions and should be used for reference only.



## TYPE CL LOWER BRASS

### ASSEMBLY DESCRIPTION

O.D.            2.125"  
Length         1.550"



### SPECIFICATIONS

#### Type CL Part: C

Part Number	Line Size	Material
CLLB-0014-05	9/32"-3/8"*	Brass
CLLB-0015-05	3/16"-1/4"*	Brass
CLLB-0003-05	7/32"	Brass
CLLB-0005-05	9/32"	Brass
CLLB-0006-05	5/16"	Brass
CLLB-0008-05	3/8"	Brass
CLLB-0009-05	7/16"	Brass
CLLB-0011-05	1/2"	Brass

\*These line size ranges are what are specified by OEM equipment. We also make specific line sizes if your application requires it.

All Specification Tables contain approximated dimensions and should be used for reference only.



## TYPE MT PACKOFF

### ASSEMBLY DESCRIPTION

B & T manufactures the following components compatible with the Type MT Packoff:

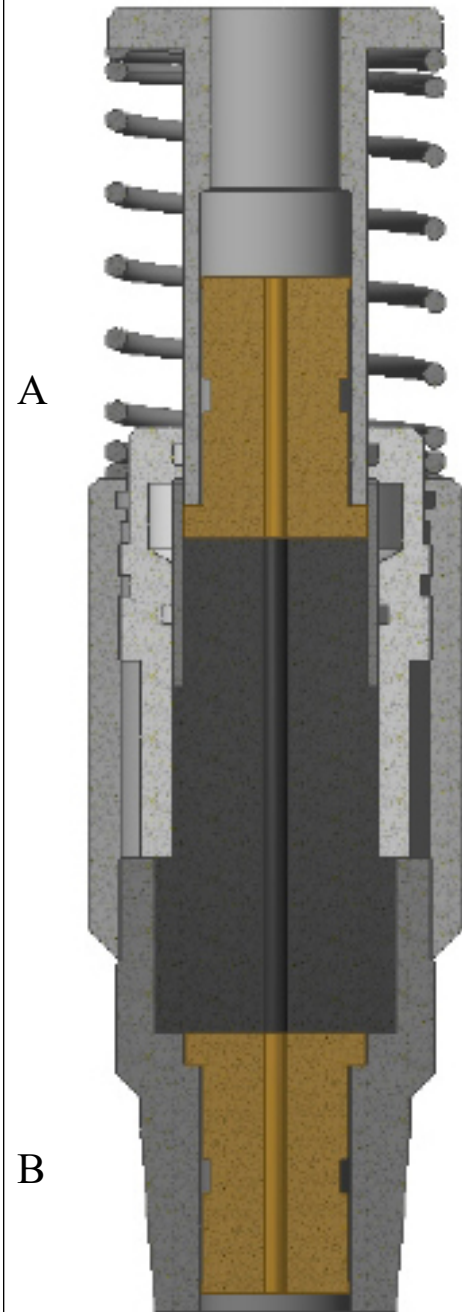
A) TYPE MT UPPER BRASS

B) TYPE MT LOWER BRASS

B & T produces Type MT components from high quality machined brass which gives them superior wear characteristics. Our brass components also cover a range of common line sizes giving the user maximum flexibility while lowering the amount of inventory that must be kept on hand.

Type MT rubber components are not made by B & T at this time.

PLEASE NOTE: Many parts for the Type C, Type CL, MT, and 410 injection heads are shared between different styles, part numbers are listed for each style to avoid confusion. To check cross compatibility, please see the Cross Compatibility Chart (page U6).

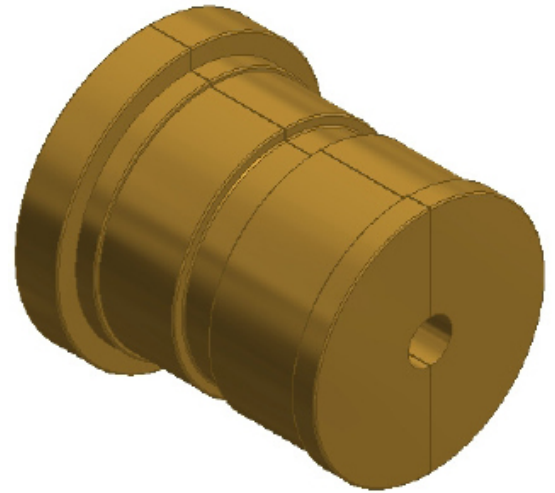




## TYPE MT UPPER BRASS

### ASSEMBLY DESCRIPTION

O.D.            2.555"  
Length         2.700"



### SPECIFICATIONS

#### Type MT Part: A

Part Number	Line Size	Material
CUB-0014-05	9/32"-3/8"*	Brass
CUB-0015-05	3/16"-1/4"*	Brass
CUB-0003-05	7/32"	Brass
CUB-0005-05	9/32"	Brass
CUB-0006-05	5/16"	Brass
CUB-0008-05	3/8"	Brass
CUB-0009-05	7/16"	Brass
CUB-0011-05	1/2"	Brass

\*These line size ranges are what are specified by OEM equipment. We also make specific line sizes if your application requires it.

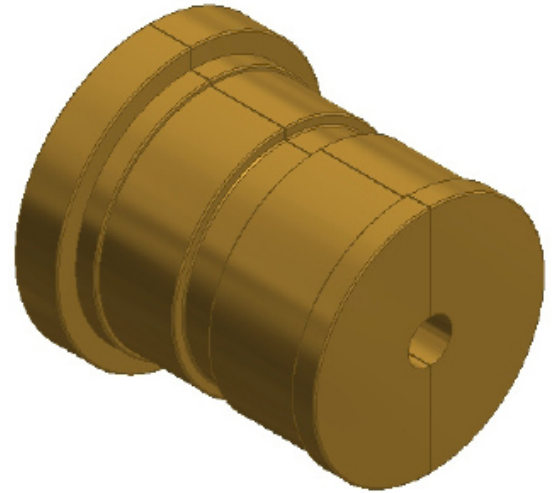
All Specification Tables contain approximated dimensions and should be used for reference only.



## TYPE MT LOWER BRASS

### ASSEMBLY DESCRIPTION

O.D.	2.555"
Length	2.700"



### SPECIFICATIONS

#### Type MT Part: B

Part Number	Line Size	Material
CUB-0014-05	9/32"-3/8"*	Brass
CUB-0015-05	3/16"-1/4"*	Brass
CUB-0003-05	7/32"	Brass
CUB-0005-05	9/32"	Brass
CUB-0006-05	5/16"	Brass
CUB-0008-05	3/8"	Brass
CUB-0009-05	7/16"	Brass
CUB-0011-05	1/2"	Brass

\*These line size ranges are what are specified by OEM equipment. We also make specific line sizes if your application requires it.

All Specification Tables contain approximated dimensions and should be used for reference only.



## NOTES

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### QUICK EMAILS

Broussard, Louisiana Office:  
Anchorage, Alaska Office:  
Alvin, Texas Office:  
Odessa, Texas Office:  
Sales Manager:  
Shipping Manager:  
Quality Control Manager:

Russell Shirley  
Matt Conley  
Jason Durham  
Robert Scheef  
Randy English  
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**BROUSSARD, LOUISIANA**  
(337) 837-5359

**ALVIN, TEXAS**  
(281) 756-8716

**ODESSA, TEXAS**  
(432) 614-4634

**ANCHORAGE, ALASKA**  
(907) 272-7817





## SECTION T: SEALS

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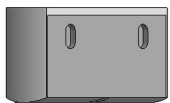


## UNDERSTANDING SEAL STYLES

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In 1979, arctic conditions in Prudhoe Bay, Alaska, were creating sealing problems for the OEM. Bob Conley, owner of B & T, was contacted to see if he had any solutions. Using his experience and knowledge working with aircraft manufacturers, he was able to introduce a cold weather compound that has been successful in sealing B.O.P.s for arctic service. Along with this compound, he also introduced the radius front on slickline B.O.P. seals. Since that time, B & T has produced inner seals with a radius front.

Throughout the years, many styles of B.O.P. seals have emerged. Although the large amount of terminology can become confusing, we have attempted to make finding the seal you need easy. Below you will find a short summary of the different seal styles and on each page are identifying dimensions to help quickly determine which style of seal you need.



Inner Seal (Standard Depth)

Rectangular inner seal used in Slickline, Electric Line, and Coil Tubing Service.



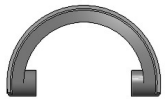
Inner Seal (Deep Depth)

Rectangular inner seal used in Slickline, Electric Line, and Coil Tubing Service but with a deeper depth from front to back and either has a slotted hole or a thru hole.



OUTER SEAL (NO LIP)

For use in new or used equipment with Ram assemblies that are in good working condition.



OUTER SEAL (WITH LIP)

Originally introduced by TOT as their standard outer seal, it has become popular for use in pitted or worn Ram assemblies.

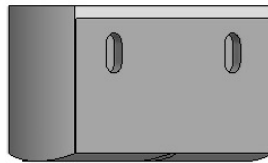


## B.O.P. SEALS

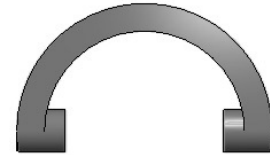
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**Multi-Line Standard**  
**Multi-Line Deep**



**Inner Seal Standard**  
**Inner Seal Deep**



**Outer Seal No Lip**  
**Outer Seal With Lip**

### **Features:**

- Radius-Faced Inner Seal design for positive sealing in all conditions
- Materials selected for high temperature, chemical, or arctic environments
- Multi-strand 10,000psi slickline capacity
- Radiused E-line and tubing slots for maximum sealing ability
- Fits all common wireline B.O.P. equipment



## B.O.P. INNER SEAL (STANDARD 2-1/2")

### ASSEMBLY DESCRIPTION

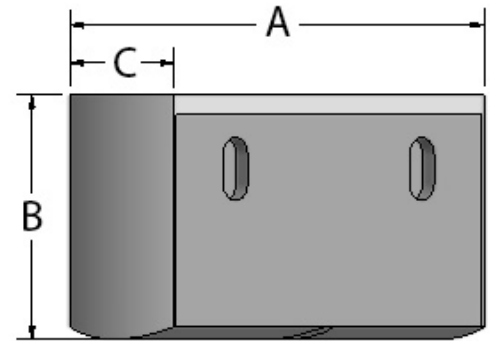
Dimension A 2.980"

Dimension B 1.630"

Dimension C 1.000"

Mold #-Line Size-Compound

1154-XXXX-XXXX



When ordering the Standard 2-1/2" B.O.P. Inner Seal use the prefix **1154** and please specify: line size and compound. Example: 3/16" NBR 80 Duro would be part number **1154-0002-0808**

### SPECIFICATIONS

Line Size	Line Size Part No.	Compound	NBR 80 Duro	HSN 80 Duro	FKM 80 Duro	Epichlorohydrin 80 Duro
Blind	0000		0808	0848	0708	1308
3/16"	0002		0808	0848	0708	1308
7/32"	0003		0808	0848	0708	1308
1/4"	0004		0808	0848	0708	1308
9/32"	0005		0808	0848	0708	1308
5/16"	0006		0808	0848	0708	1308
3/8"	0008		0808	0848	0708	1308
0.390"	0018		0808	0848	0708	1308
7/16"	0009		0808	0848	0708	1308
1/2"	0011		0808	0848	0708	1308

All Specification Tables contain approximated dimensions and should be used for reference only.



## B.O.P. INNER SEAL (STANDARD 3")

### ASSEMBLY DESCRIPTION

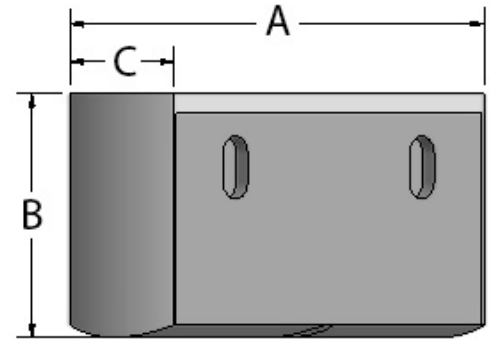
Dimension A 3.480"

Dimension B 1.845"

Dimension C 1.110"

Mold #-Line Size-Compound

1182-XXXX-XXXX



When ordering the Standard 3" B.O.P. Inner Seal use the prefix **1182** and please specify: line size and compound. Example: 3/16" NBR 80 Duro would be part number **1182-0002-0808**

### SPECIFICATIONS

Line Size	Line Size Part No.	Compound	NBR 80 Duro	HSN 80 Duro	FKM 80 Duro	Epichlorohydrin 80 Duro
Blind	0000		0808	0848	0708	1308
3/16"	0002		0808	0848	0708	1308
7/32"	0003		0808	0848	0708	1308
1/4"	0004		0808	0848	0708	1308
9/32"	0005		0808	0848	0708	1308
5/16"	0006		0808	0848	0708	1308
3/8"	0008		0808	0848	0708	1308
0.390"	0018		0808	0848	0708	1308
7/16"	0009		0808	0848	0708	1308
1/2"	0011		0808	0848	0708	1308

All Specification Tables contain approximated dimensions and should be used for reference only.

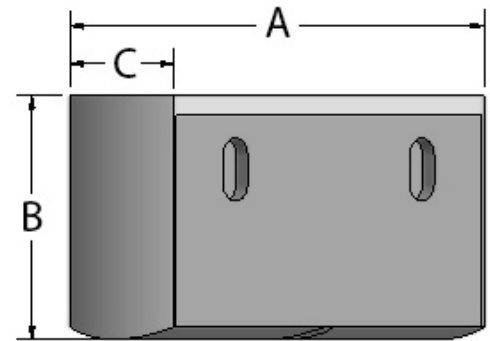


## B.O.P. INNER SEAL (DEEP 4'')

### ASSEMBLY DESCRIPTION

Dimension A 4.980"  
Dimension B 2.370"  
Dimension C 1.370"

Mold #-Line Size-Compound  
1149D-XXXX-XXXX



When ordering the Deep 4" B.O.P. Inner Seal use the prefix **1149D** and please specify: line size and compound. Example: 3/16" NBR 80 Duro would be part number **1149D-0002-0808**

### SPECIFICATIONS

Line Size	Line Size Part No.	Compound	NBR 80 Duro	HSN 80 Duro	FKM 80 Duro	Epichlorohydrin 80 Duro
Blind	0000		0808	0848	0708	1308
3/16"	0002		0808	0848	0708	1308
7/32"	0003		0808	0848	0708	1308
1/4"	0004		0808	0848	0708	1308
9/32"	0005		0808	0848	0708	1308
5/16"	0006		0808	0848	0708	1308
3/8"	0008		0808	0848	0708	1308
0.390"	0018		0808	0848	0708	1308
7/16"	0009		0808	0848	0708	1308
1/2"	0011		0808	0848	0708	1308

All Specification Tables contain approximated dimensions and should be used for reference only.



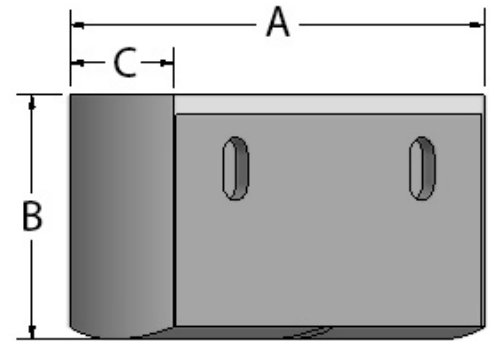
## B.O.P. INNER SEAL (STANDARD 4")

### ASSEMBLY DESCRIPTION

Dimension A 4.980"  
Dimension B 2.055"  
Dimension C 1.370"

Mold #-Line Size-Compound  
1149-XXXX-XXXX

When ordering the Standard 4" B.O.P. Inner Seal use the prefix **1149** and please specify: line size and compound. Example: 3/16" NBR 80 Duro would be part number **1149-0002-0808**



### SPECIFICATIONS

Line Size	Line Size Part No.	Compound	NBR 80 Duro	HSN 80 Duro	FKM 80 Duro	Epichlorohydrin 80 Duro
Blind	0000		0808	0848	0708	1308
3/16"	0002		0808	0848	0708	1308
7/32"	0003		0808	0848	0708	1308
1/4"	0004		0808	0848	0708	1308
9/32"	0005		0808	0848	0708	1308
5/16"	0006		0808	0848	0708	1308
3/8"	0008		0808	0848	0708	1308
0.390"	0018		0808	0848	0708	1308
7/16"	0009		0808	0848	0708	1308
1/2"	0011		0808	0848	0708	1308

All Specification Tables contain approximated dimensions and should be used for reference only.



## B.O.P. INNER SEAL (STANDARD 5")

### ASSEMBLY DESCRIPTION

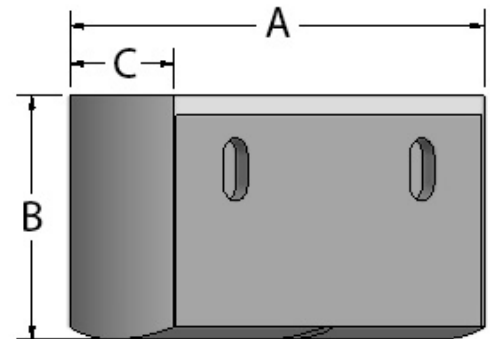
Dimension A 5.980"

Dimension B 2.730"

Dimension C 1.480"

Mold #-Line Size-Compound

1169-XXXX-XXXX



When ordering the Standard 5" B.O.P. Inner Seal use the prefix **1169** and please specify: line size and compound. Example: 3/16" NBR 80 Duro would be part number **1169-0002-0808**

### SPECIFICATIONS

Line Size	Line Size Part No.	Compound	NBR 80 Duro	HSN 80 Duro	FKM 80 Duro	Epichlorohydrin 80 Duro
Blind	0000		0808	0848	0708	1308
3/16"	0002		0808	0848	0708	1308
7/32"	0003		0808	0848	0708	1308
1/4"	0004		0808	0848	0708	1308
9/32"	0005		0808	0848	0708	1308
5/16"	0006		0808	0848	0708	1308
3/8"	0008		0808	0848	0708	1308
0.390"	0018		0808	0848	0708	1308
7/16"	0009		0808	0848	0708	1308
1/2"	0011		0808	0848	0708	1308

All Specification Tables contain approximated dimensions and should be used for reference only.



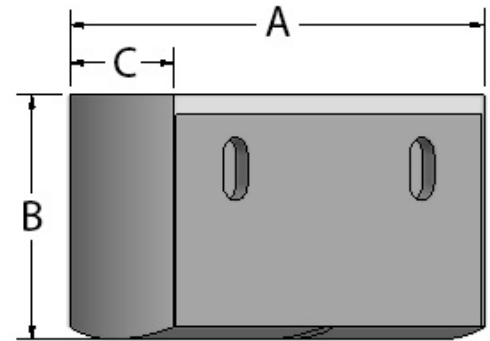


## B.O.P. INNER SEAL (STANDARD 7")

### ASSEMBLY DESCRIPTION

Dimension A 7.000"  
Dimension B 3.725"  
Dimension C 1.610"

Mold #-Line Size-Compound  
1119-XXXX-XXXX



When ordering the Standard 7" B.O.P. Inner Seal use the prefix **1119** and please specify: line size and compound. Example: 3/16" NBR 80 Duro would be part number **1119-0002-0808**

### SPECIFICATIONS

Line Size	Line Size Part No.	Compound	NBR 80 Duro	HSN 80 Duro	FKM 80 Duro	Epichlorohydrin 80 Duro
Blind	0000		0808	0848	0708	1308
3/16"	0002		0808	0848	0708	1308
7/32"	0003		0808	0848	0708	1308
1/4"	0004		0808	0848	0708	1308
9/32"	0005		0808	0848	0708	1308
5/16"	0006		0808	0848	0708	1308
3/8"	0008		0808	0848	0708	1308
0.390"	0018		0808	0848	0708	1308
7/16"	0009		0808	0848	0708	1308
1/2"	0011		0808	0848	0708	1308

All Specification Tables contain approximated dimensions and should be used for reference only.



## B.O.P. INNER SEAL (STANDARD 7-5/8")

### ASSEMBLY DESCRIPTION

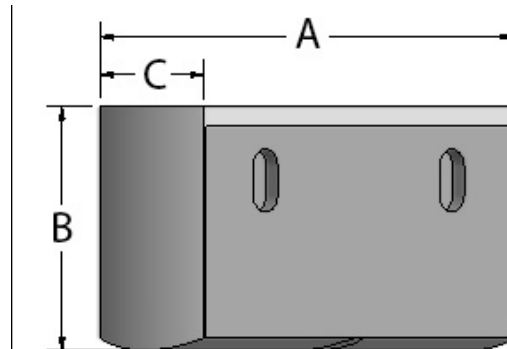
Dimension A 7.875"

Dimension B 3.040"

Dimension C 2.225"

Mold #-Line Size-Compound

1117-XXXX-XXXX



When ordering the Standard 7-5/8" B.O.P. Inner Seal use the prefix **1117** and please specify: line size and compound. Example: 3/16" NBR 80 Duro would be part number **1117-0002-0808**

### SPECIFICATIONS

Line Size	Line Size Part No.	Compound	NBR 80 Duro	HSN 80 Duro	FKM 80 Duro	Epichlorohydrin 80 Duro
Blind	0000		0808	0848	0708	1308
3/16"	0002		0808	0848	0708	1308
7/32"	0003		0808	0848	0708	1308
1/4"	0004		0808	0848	0708	1308
9/32"	0005		0808	0848	0708	1308
5/16"	0006		0808	0848	0708	1308
3/8"	0008		0808	0848	0708	1308
0.390"	0018		0808	0848	0708	1308
7/16"	0009		0808	0848	0708	1308
1/2"	0011		0808	0848	0708	1308

All Specification Tables contain approximated dimensions and should be used for reference only.

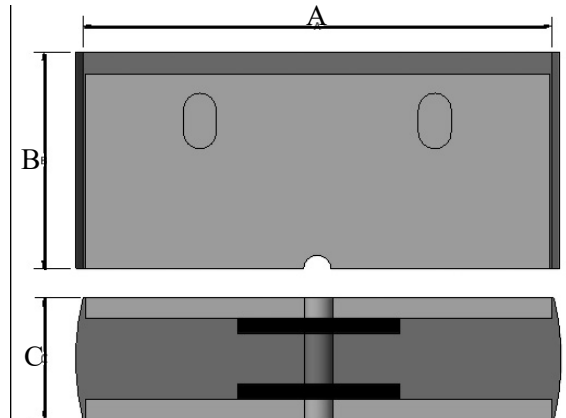


## MULTI-LINE INNER SEAL (DEEP)

### ASSEMBLY DESCRIPTION

Mold #-Line Size-Compound  
1149D-0017-XXXX

When ordering the Deep Multi-Line Inner Seal, use the prefix **1149D** and please specify: line size and compound. Example: 5/16" NBR 80 Duro would be part number **1149D-0017-0808**



### SPECIFICATIONS

B.O.P. Size	Line Size Part No.	Dim. A	Dim. B	Dim. C	Compound	NBR 80 Duro	HSN 80 Duro	FKM 80 Duro	Epichlorohydrin 80 Duro
5/16"	0017	4.980"	2.370"	1.370"		0808	0848	0708	1308

All Specification Tables contain approximated dimensions and should be used for reference only.

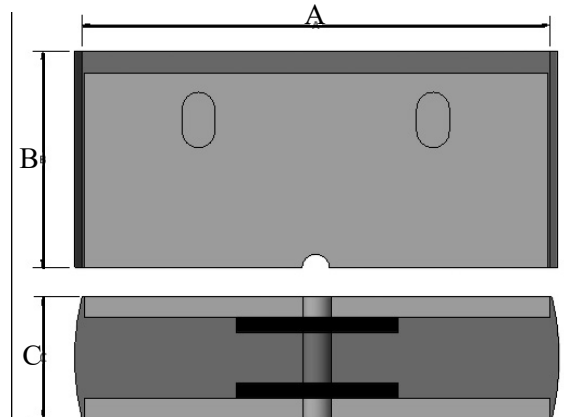


# MULTI-LINE INNER SEAL (STANDARD)

## ASSEMBLY DESCRIPTION

Mold #-Line Size-Compound  
XXXX-0017-XXXX

When ordering the Standard Multi-Line Inner Seal use the **Mold # Part Number that corresponds to the B.O.P. Size needed** and please specify: line size and compound. Example: 2-1/2" B.O.P. 5/16" NBR 80 Duro would be part number **1154-0017-0808**



## SPECIFICATIONS

B.O.P. Size	Mold No. Part No.	Line Size	Line Size Part No.	Dim. A	Dim. B	Dim. C	Compound	NBR 80 Duro	HSN 80 Duro	FKM 80 Duro	Epichlorohydrin 80 Duro
2-1/2"	1154	5/16"	0017	2.980"	1.630"	1.000"		0808	0848	0708	1308
3"	1182	5/16"	0017	3.480"	1.845"	1.110"		0808	0848	0708	1308
4"	1149	5/16"	0017	4.980"	2.055"	1.370"		0808	0848	0708	1308
5"	1169	5/16"	0017	5.980"	2.730"	1.480"		0808	0848	0708	1308
7"	1119	5/16"	0017	7.000"	3.725"	1.610"		0808	0848	0708	1308

All Specification Tables contain approximated dimensions and should be used for reference only.

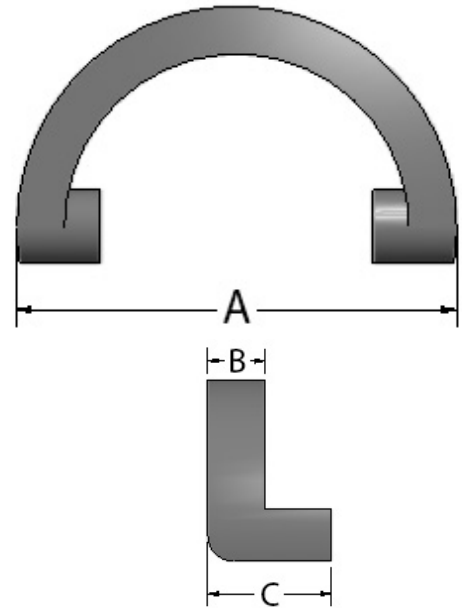


## OUTER SEAL (NO LIP)

### ASSEMBLY DESCRIPTION

Mold #-Line Size-Compound  
XXXX-0000-XXXX

When ordering the Outer Seal with no lip, use the **Mold # Part Number that corresponds to the B.O.P. Size needed** and please specify: line size and compound. Example: 2-1/2" B.O.P. NBR 80 Duro would be part number **1152-0000-0808**



### SPECIFICATIONS

B.O.P. Size	Mold No. Part No.	Line Size Part No.	Dim. A	Dim B.	Dim. C	Compound	NBR 80 Duro	HSN 80 Duro	FKM 80 Duro	Epichlorohydrin 80 Duro
2-1/2"	1152	0000	3.000"	0.545"	1.180"		0808	0848	0708	1308
3"	1180	0000	3.500"	0.750"	1.000"		0808	0848	0708	1308
4"	1147	0000	5.000"	0.875"	1.375" / 2.005"		0808	0848	0708	1308
5"	1170	0000	6.000"	0.875"	1.450"		0808	0848	0708	1308
7"	1121	0000	7.000"	1.130"	2.040"		0808	0848	0708	1308
7-5/8"	1120	0000	7.425"	1.250"	2.700"		0808	0848	0708	1308

All Specification Tables contain approximated dimensions and should be used for reference only.

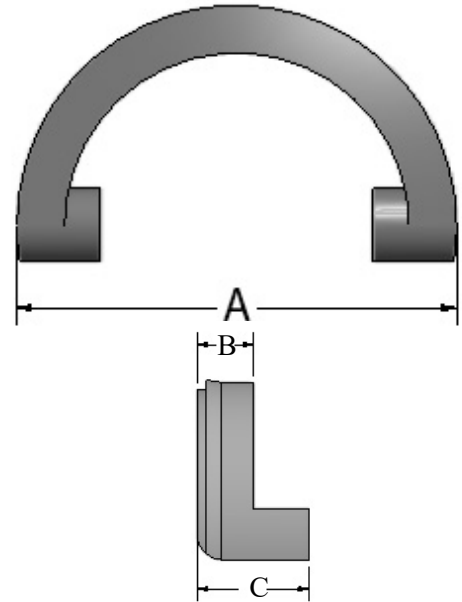


## OUTER SEAL (WITH LIP)

### ASSEMBLY DESCRIPTION

Mold #-Line Size-Compound  
XXXXL-0000-XXXX

When ordering the outer seal with lip use the **Mold # Part Number that corresponds to the B.O.P. Size needed** and please specify: line size and compound.  
Example: 2-1/2" B.O.P. NBR 80 Duro would be part number **1152L-0000-0808**



### SPECIFICATIONS

B.O.P. Size	Mold No. Part No.	Line Size Part No.	Dim. A	Dim B.	Dim. C	Compound	NBR 80 Duro	HSN 80 Duro	FKM 80 Duro	Epichlorohydrin 80 Duro
2-1/2"	1152L	0000	3.000"	0.545"	1.180"		0808	0848	0708	1308
3"	1180L	0000	3.500"	0.750"	1.000"		0808	0848	0708	1308
4"	1147L	0000	5.000"	0.875"	1.375" / 2.005"		0808	0848	0708	1308

All Specification Tables contain approximated dimensions and should be used for reference only.



# UNION SEAL

## ASSEMBLY DESCRIPTION

Mold #-Type-Compound  
XXXX-0100-XXXX

When ordering the Figure 1002 or Figure 1502 Union Seal use the **Mold # Part Number that corresponds to the Size needed** and please specify: type and compound. Example: 1" Union Seal made of Aflas 90 Duro would be part number **0115-0100-0409**



## SPECIFICATIONS

Size	Mold No. Part No.	Type	O.D.	I.D.	Height	Compound	Aflas 90 Duro	HNBR 90 Duro	NBR 90 Duro	FKM 90 Duro	HM 95 Duro
1"	0015	0100	1.625"	1.235	0.375"		0409	0849	0809	0709	795H
2"	0033	0100	2.700"	2.068"	0.500"		0409	0849	0809	0709	795H
3"	0108	0100	4.050"	3.210"	0.500"		0409	0849	0809	0709	795H
4"	0123	0100	5.100"	4.150"	0.500"		0409	0849	0809	0709	795H

Figure 1002 1"  
Figure 1502 2"  
Figure 1002 3"  
Figure 1002 4"

All Specification Tables contain approximated dimensions and should be used for reference only.



# UNION SEAL (BRASS BACKUP)

## ASSEMBLY DESCRIPTION

Mold #-Type-Compound  
XXXX-010B-XXXX

When ordering the Union Seal with Brass Backup use the **Mold # Part Number that corresponds to the Size needed** and please specify: type and compound. Example: 2” Union Seal with Brass Backup made of HNBR 90 Duro would be part number **0354-010B-0849**



## SPECIFICATIONS

Size	Mold No. Part No.	Type	O.D.	I.D.	Height	Compound	HNBR 90 Duro	NBR 90 Duro
2”	0354	010B	2.662”	2.102”	0.500”		0849	0809
3”	0355	010B	3.985”	3.035”	0.500”		0849	0809
4”	0356	010B	4.970”	4.150”	0.500”		0849	0809

All Specification Tables contain approximated dimensions and should be used for reference only.





# UNION SEAL (STAINLESS STEEL BACKUP)

## ASSEMBLY DESCRIPTION

Mold #-Type-Compound  
XXXX-01SS-XXXX

When ordering the Union Seal with Stainless Steel Backup use the **Mold # Part Number that corresponds to the Size needed** and please specify: type and compound. Example: 2” Union Seal with Stainless Steel made of FKM 90 Duro would be part number **0354-01SS-0709**



## SPECIFICATIONS

Size	Mold No. Part No.	Type	O.D.	I.D.	Height	Compound	FKM 90 Duro	Aflas 90 Duro
2”	0354	01SS	2.662”	2.102”	0.500”		0709	0409
3”	0355	01SS	3.985”	3.035”	0.500”		0709	0409
4”	0356	01SS	4.970”	4.150”	0.500”		0709	0409

All Specification Tables contain approximated dimensions and should be used for reference only.



## UNION SEAL (HIGH-PRESSURE)

### ASSEMBLY DESCRIPTION

Mold #-Type-Compound  
0162-01SS-XXXX

When ordering the High-Pressure Union Seal use the prefix **0162** and please specify: type and compound. Example: 2” High-Pressure Union Seal made of FKM 90 Duro would be part number **0162-01SS-0709**



### SPECIFICATIONS

Size	Mold No. Part No.	Type	O.D.	I.D.	Height	Compound	FKM 90 Duro	HNBR 90 Duro	Aflas 90 Duro
2”	0162	01SS	1.825”	1.410	0.375”		0709	0849	0809

All Specification Tables contain approximated dimensions and should be used for reference only.




## SECTION U: REFERENCE


API CERTIFICATIONS .....	U2	ELASTOMER CHART .....	U7
CALCULATIONS NOTES .....	U5	VEE RING .....	U8
CROSS COMPATIBILITY CHART .....	U6		



# API CERTIFICATIONS



American  
Petroleum  
Institute



2015-315

Certificate of Authority to use the Official API Monogram

License Number: **14L-0029** ORIGINAL

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The American Petroleum Institute hereby grants to

B & T OILFIELD PRODUCTS  
117 Spinner Dr.  
Broussard, LA

the right to use the Official API Monogram® on manufactured products under the conditions in the official publications of the American Petroleum Institute entitled API Spec Q1® and **API-14L** and in accordance with the provisions of the License Agreement.

In all cases where the Official API Monogram is applied, the API Monogram shall be used in conjunction with this certificate number: **14L-0029**

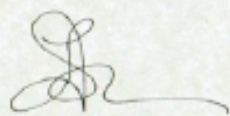
The American Petroleum Institute reserves the right to revoke this authorization to use the Official API Monogram™ for any reason satisfactory to the Board of Directors of the American Petroleum Institute.

The scope of this license includes the following: Lock Mandrels at V3, V2

QMS Exclusions: No Exclusions Identified as Applicable

**Effective Date: FEBRUARY 9, 2016**  
**Expiration Date: MARCH 15, 2019**

To verify the authenticity of this license, go to [www.api.org/compositelist](http://www.api.org/compositelist).

  
Vice President, API Global Industry Services



# Certificate of Registration

**APIQR® REGISTRATION NUMBER  
1059**

*This certifies that the quality management system of*

**B & T OILFIELD PRODUCTS  
117 Spinner Dr.  
Broussard, LA**

*has been assessed by the American Petroleum Institute Quality Registrar (APIQR®) and  
found it to be in conformance with the following standard:*

**ISO 9001:2008**

*The scope of this registration and the approved quality management system applies to the*

**Design and Manufacture of Slickline/Wireline Tools and  
Rubber Products for the Oil and Gas Industry**

*APIQR® approves the organization's justification for excluding:*

**No Exclusions Identified as Applicable**

**Effective Date: MARCH 15, 2016**  
**Expiration Date: SEPTEMBER 15, 2018**  
**Registered Since: MARCH 15, 2010**

*Vice President, API Global Industry Services*

Accredited by Member of  
the International  
Accreditation Forum  
Multilateral Recognition  
Arrangement for Quality  
Management Systems



This certificate is valid for the period specified herein. The registered organization must continually meet all requirements of APIQR's Registration Program and the requirements of the Registration Agreement. Registration is maintained and regularly monitored through annual full system audits. Further clarifications regarding the scope of this certificate and the applicability of ISO 9001 standard requirements may be obtained by consulting the registered organization. This certificate has been issued from APIQR offices located at 1220 L Street, N.W., Washington, D.C. 20004-1076, U.S.A. It is the property of APIQR and must be returned upon request. To verify the authenticity of this certificate, go to [www.apiqr.com/verify](http://www.apiqr.com/verify).



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REGISTRATION NO. Q1-1921

# Certificate of Registration

The American Petroleum Institute certifies that the quality management system of

**B & T OILFIELD PRODUCTS**  
117 Spinner Dr.  
Broussard, LA

has been assessed by the American Petroleum Institute and found to be in conformance with the following:

## API Specification Q1

The scope of this registration and the approved quality management system applies to the:

**Design and Manufacture of Slickline/Wireline Tools and Rubber Products for the Oil and Gas Industry**

API approves the organization's justification for excluding:

**No Exclusions Identified as Applicable**



**Effective Date:** FEBRUARY 9, 2016  
**Expiration Date:** MARCH 15, 2019  
**Registered Since:** JANUARY 21, 2013

Vice President, API Global Industry Services

This certificate is valid for the period specified herein. The registered organization must continuously meet all requirements of API Spec Q1, Specification for Quality Programs for the Petroleum, Petrochemical and Natural Gas Industry, and the requirements of the Registration Agreement. Registration is maintained and regularly monitored through annual full system audits. This certificate has been issued from API offices located at 1220 L Street, N.W., Washington, D.C. 20005-4070, U.S.A. It is the property of API, and must be returned upon request. To verify the authenticity of this certificate, go to [www.api.org/compositeist](http://www.api.org/compositeist).

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# CALCULATIONS NOTES

## STEM FORCE CALCULATIONS

Force = Pressure \* Area

Force - Value needed to exceed using Stem Bar

Pressure - The Wellbore Pressure

Area - The Cross Sectional Area of the Wireline Being Used

SIZE AND CROSS SECTION AREAS	
Wire Size	Cross Section Area
.072"	.0037
.082"	.0053
.092	.0066
.108	.0092
.125	.0123
3/16" or .1875	.027
7/32" or .21875	.037
1/4" or .250	.049
5/16" or .3125	.077

To calculate Stem Weight per foot use this formula:  $(O.D.^2 * 8) * (1/3)$

## PRESSURE CALCULATIONS

$$P_T = P_A + P_H$$

$P_T$  = Total Pressure

$P_A$  = Applied Pressure (WHP or Annulus observed on a Tree Gauge)

$P_H$  = Hydrostatic Pressure (Result of a Fluid Gradient and Depth)

Fg (Fluid Gradient in psi/ft) \* TVD (True Vertical Depth in ft)

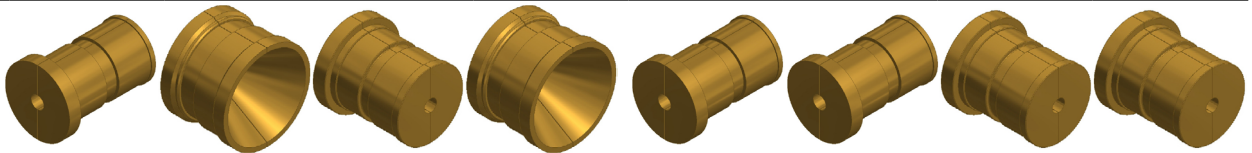
Standard Fluid Gradient Fg (in psi/ft) = lbs / gal \* .052

Refer to Standard Fluid Gradient Tables to determine Fg or the lbs / gal



# CROSS COMPATIBILITY CHART

	Type C Upper	Type C Lower	Type CL Upper	Type CL Lower	Type 410 Upper	Type 410 Lower	Type MT Upper	Type MT Lower
Type C Upper	X				X	X		
Type C Lower		X		X				
Type CL Upper			X				X	X
Type CL Lower		X		X				
Type 410 Upper	X				X	X		
Type 410 Lower	X				X	X		
Type MT Upper			X				X	X
Type MT Lower			X				X	X



This chart assists with finding parts that are used in multiple Oil Saver style injection heads. Parts that are used in more than one type of Oil Saver OEM model are indicated with multiple marks in the corresponding columns. For example, the Type C Upper is used in the Type C Upper, the 410 Upper, and the 410 Lower.





## ELASTOMER CHART

Compound	Hardness	Temperature	Crude H2S	CO2	Inhibitors		Zinc Bromide	KCL CACL	Comments
					Water Base	Oil Base			
A80 *TFE/P	80A	-20 to +400 °F	Yes	No	Yes	Yes	Yes	Yes	Amine, Steam O'Ring
Epichlorohydrin 70 Duro	70A	-40 to +300 °F	No	Yes					
Epichlorohydrin 80 Duro	80A	-40 to +300 °F	No	Yes					
FKM 70 Duro	70A	-20 to +450 °F	Yes	No	No	No	Yes	Yes	No Amine Inhibitors
FKM 75 Duro	75A	-20 to +450 °F	Yes	No	No	No	Yes	Yes	No Amine Inhibitors
FKM 80 Duro	80A	-20 to +450 °F	Yes	No	No	No	Yes	Yes	No Amine Inhibitors
FKM 90 Duro	90A	-20 to +450 °F	Yes	No	No	No	Yes	Yes	No Amine Inhibitors
HNBR 65 Duro	65A	-30 to +325 °F	Yes	Yes					
HNBR 70 Duro	70A	-30 to +325 °F	Yes	Yes					
HNBR 80 Duro	80A	-30 to +325 °F	Yes	Yes					
HNBR 85 Duro	85A	-30 to +325 °F	Yes	Yes					
HNBR 90 Duro	90A	-30 to +325 °F	Yes	Yes					
N60 NBR	60A	-20 to +275 °F	No	Yes	No	Low Conc	Below 150 °F	Yes	General Purpose Rings and O'Ring
N70 NBR	70A	-20 to +275 °F	No	Yes	No	Low Conc	Below 150 °F	Yes	General Purpose Rings and O'Ring
N80 NBR	80A	-20 to +275 °F	No	Yes	No	Low Conc	Below 150 °F	Yes	General Purpose Rings and O'Ring
N90 NBR	90A	-20 to +275 °F	No	Yes	No	Low Conc	Below 150 °F	Yes	General Purpose Rings and O'Ring
SBR 50 Duro	50A	-30 to +225 °F	No	No					

\*CR=Neoprene TFE/P=Aflas

This table is intended as a guide to seal suitability for specific applications. Contact B & T directly for full operating parameters.

Statements and recommendations in this publication are based on our experience and knowledge of typical applications as well as stated or written OEM or manufacturer specifications for these products, and shall not constitute a guarantee or warranty of performance nor a modification or alteration of our standard product warranty which shall be applicable to such products.



## VEE RING

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### ASSEMBLY DESCRIPTION

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B & T carries an extensive assortment of Vee Rings for all applications. We stock all sizes in many different materials, including Neoprene/Kevlar, Moly Teflon, Ryton, and Viton.





## VEE RING

SPECIFICATIONS			
Vee Ring (Camco Style)			
O.D.	Part Number	O.D.	Part Number
ADK	01001-019-04000	1.062"	20004-008-04000
1" Gas lift	01057-005-04000	1.375"	20006-008-04000
1-1/2" Lower	01302-014-04000	3.813"	20065-014-04000
1-1/2" Upper	01302-022-04000	2.810"	20068-011-04000
1" TFE	01304-023-04000	5.500"	20079-036-04000
1.437"	10200-011-04000	5.968"	20565-012-04000
1.810"	10204-013-04000	1.875"	20635-008-04000
2.250"	10208-005-04000	2.310"	20713-003-04000
2.750"	10210-008-04000	2.813"	21120-014-04000
2.875"	10234-009-04000	1" Gas lift	50100-002-04000
2.310"	10242-012-04000	3.625"	50305-010-04000
3.688"	10260-005-04000	2.578"	50335-035-04000
5.937"	10266-001-04000	3.375"	50571-060-04000
5.750"	10269-001-04000	5.375"	50643-004-04000
4.437"	10274-002-04000	4.375"	50657-004-04000
4.125"	10337-020-04000	2.625"	51057-007-04000
2.713"	10349-013-04000	4.625"	51491-030-04000
2.188"	10605-006-04000		

All Specification Tables contain approximated dimensions and should be used for reference only.



## VEE RING

SPECIFICATIONS							
Vee Ring (Baker Style)							
O.D.	I.D.	OEM P/N	Material	O.D.	I.D.	OEM P/N	Material
1.790	1.375	191-007	9800	2.000	1.625	249-540	9800
2.250	1.750	191-100	9800	4.437	3.813	551-339	9800
1.250	0.750	192-104	9800	3.688	3.079	551-512	9800
1.875	1.500	192-400	9800	1.256	0.744	BTV-125-T	Moly-Teflon
1.687	1.187	192-506	9800	1.437	1.063	BTV-143-R	Ryton
1.500	0.937	192-622	9800	1.437	1.063	BTV-143-T	Moly-Teflon
1.375	0.937	192-948	9800	1.500	1.063	BTV-150-T	Moly-Teflon
0.875	0.500	193-456	9800	1.572	1.117	BTV-156-R	Ryton
1.187	0.813	195-174	9800	1.572	1.117	BTV-156-T	Moly-Teflon
1.250	0.813	195-175	9800	1.781	1.437	BTV-178-R	Ryton
1.437	1.063	195-176	9800	1.781	1.437	BTV-178-T	Moly-Teflon
1.500	1.063	195-177	9800	1.813	1.437	BTV-181-R	Ryton
1.562	1.187	195-178	9800	1.813	1.437	BTV-181-T	Moly-Teflon
1.625	1.187	1955-179	9800	1.875	1.437	BTV-187-R	Ryton
1.781	1.437	195-180	9800	1.875	1.437	BTV-187-T	Moly-Teflon
1.813	1.437	195-181	9800	2.131	1.860	BTV-212-T	Moly-Teflon
1.875	1.437	195-182	9800	2.250	1.875	BTV-225-R	Ryton
2.250	1.875	195-183	9800	2.250	1.875	BTV-225-T	Moly-Teflon
2.313	1.875	195-184	9800	2.280	1.875	BTV-228-S	9800
2.750	2.375	195-185	9800	2.280	1.875	BTV-228-T	Moly-Teflon
2.813	2.375	195-186	9800	2.313	1.875	BTV-231-R	Ryton
2.180	1.710	1952	9800	2.313	1.875	BTV-231-T	Moly-Teflon
3.813	3.313	195-516	9800	2.562	2.125	BTV-256-T	Moly-Teflon
4.000	3.625	217-028	9800	2.813	2.375	BTV-281-T	Moly-Teflon
5.953	5.578	217-085	9800	3.133	2.740	BTV-312-T	Moly-Teflon
2.562	2.125	219-816	9800	3.694	3.086	BTV-368-R	Ryton
3.313	2.875	227-218	9800	3.816	3.306	BTV-381-R	Ryton
3.750	3.375	229-730	9800	4.133	3.617	BTV-412-R	Ryton
2.125	1.625	249-538	9800	4.321	3.796	BTV-431-R	Ryton
2.188	1.750	249-539	9800	4.570	4.057	BTV-456-R	Ryton

All Specification Tables contain approximated dimensions and should be used for reference only.



## VEE RING

SPECIFICATIONS							
Vee Ring (Otis Style)							
O.D.	I.D.	OEM P/N	Material	O.D.	I.D.	OEM P/N	Material
0.633	0.440	91V4792	Moly-Teflon	1.515	1.099	91-V-3687	9800
0.715	0.510	91V4008	Ryton	1.536	0.963	91-V-4000	9800
0.719	0.505	91V4007	Moly-Teflon	1.552	0.865	91-V-31	9800
0.794	0.562	91V4323	Ryton	1.559	1.125	91-V-349	9800
0.794	0.562	91V172	Moly-Teflon	1.610	1.184	91-V-346	9800
0.926	0.742	91-V-3308	9800	1.625	1.187	91V4607	Ryton
0.931	0.750	91V3308	9800	1.625	1.187	91V346	9800
0.931	0.750	91V3475	Moly-Teflon	1.625	1.187	91V4608	Moly-Teflon
0.938	0.750	91V4827	Ryton	1.638	1.111	91-V-4499	9800
0.952	0.742	91V4077	Moly-Teflon	1.661	1.088	91-V-4501	9800
1.031	0.717	91-V-3589	9800	1.710	1.270	91V4414	Ryton
1.031	0.713	91V3589	9800	1.710	1.270	91V3378	9800
1.110	0.745	91-V-3313	9800	1.710	1.270	91V4415	Moly-Teflon
1.125	0.750	91V96	Moly-Teflon	1.745	1.200	91-V-1216	472
1.197	0.907	91-V-1281	9800	1.763	1.236	91-V3470	9800
1.245	0.931	91-V-345	9800	1.766	1.187	91-V-33	9800
1.250	0.937	91V345	9800	1.769	1.355	91-V-3870	9800
1.250	0.937	91V4829	Ryton	1.781	1.375	91V304	9800
1.250	0.937	91V3473	Moly-Teflon	1.781	1.375	91V4412	Ryton
1.263	0.925	91-V-3472	9800	1.781	1.375	91V4413	Moly-Teflon
1.375	1.000	91V4514	Moly-Teflon	1.786	1.213	91-V-239	9800
1.375	1.000	91V4513	Ryton	1.786	1.338	91-V-3952	9800
1.375	1.000	91V3325	9800	1.789	1.360	91V4412-A	Ryton
1.388	0.861	91-V-4004	9800	1.875	1.500	91V5264	PEEK
1.496	1.064	91-V-360	9800	1.875	1.500	91V4410	Ryton
1.500	1.125	91V347	9800	1.875	1.500	91V310	9800
1.500	1.125	91V4331	Ryton	1.875	1.500	91V4411	Moly-Teflon
1.500	1.125	91V3618	Moly-Teflon	1.880	1.500	91V3306	9800
1.500	1.063	91V360	9800	1.884	1.488	91-V-144	472
1.506	1.113	91-V-3328	9800	1.888	1.361	91-V-4270	9800
1.513	0.986	91-V-4025	9800	1.911	1.338	91-V-4271	9800
1.513	1.111	91-V-3522	9800	1.911	1.463	91-V-4274	9800



## VEE RING

SPECIFICATIONS							
Vee Ring (Otis Style)							
O.D.	I.D.	OEM P/N	Material	O.D.	I.D.	OEM P/N	Material
2.000	1.250	91V5195	Ryton	2.324	1.865	91-V-370	9800
2.000	1.250	91V5197	Ryton	2.348	1.838	91-V-3699	9800
2.000	1.250	91V5196	Ryton	2.348	1.838	91-V-3700	9800
2.013	1.486	91-V-3558	9800	2.380	1.875	91V3310	9800
2.013	1.361	91-V-3441	9800	2.513	1.986	91-V-3551	9800
2.013	1.611	91-V-3923	9800	2.536	1.963	91-V-3698	9800
2.036	1.463	91-V-3694	9800	2.554	2.233	91-V-3450	9800
2.036	1.338	91-V-3693	9800	2.562	2.250	91V3450	9800
2.036	1.388	91-V-3692	9800	2.562	2.250	91V4400	Moly-Teflon
2.036	1.588	91-V-3921	9800	2.562	2.250	91V4399	Ryton
2.036	1.463	91-V-3695	9800	2.575	2.244	91-V-1175	9800
2.036	1.588	91-V-3922	9800	2.638	2.236	91-V-3940	9800
2.112	1.745	91-V-3451	9800	2.661	2.213	91-V-242	9800
2.125	1.750	91V3451	9800	2.735	1.995	91-V-302	9800
2.125	1.750	91V4405	Moly-Teflon	2.735	2.239	91-V-366	9800
2.125	1.750	91V5270	PEEK	2.742	2.355	91-V-3376	9800
2.125	1.750	91V4404	Ryton	2.750	2.223	91-V-1122	9800
2.139	1.610	91-V-3368	9800	2.750	2.250	91V366	9800
2.161	1.588	91-V-3702	9800	2.750	2.375	91V4396	Ryton
2.177	1.745	91-4-38	9800	2.750	2.375	91V3376	472
2.188	1.750	91V5257	PEEK	2.750	2.375	91V4509	472
2.188	1.750	91V38	9800	2.750	2.375	91V4397	Moly-Teflon
2.188	1.750	91V4403	Ryton	2.763	2.356	91-V-3414	472
2.188	1.750	91V4402	Moly-Teflon	2.786	2.213	91-V-3710	9800
2.235	1.879	91-V-63	9800	2.786	1.963	91-V-3708	9800
2.260	1.550	91V324-T	Moly-Teflon	2.800	2.364	91-V-3390	9800
2.263	1.736	91V3481	9800	2.805	2.355	91-V-1330	9800
2.280	1.855	91V5884	Moly-Teflon	2.813	2.375	91V1330	9800
2.300	1.871	91-V-318	9800	2.813	2.375	91V4395	Moly-Teflon
2.313	1.875	91V318	9800	2.813	2.375	91V4394	Ryton
2.313	1.875	91V4309	Ryton	2.823	2.357	91-V-1359	472
2.313	1.875	91V4308	Moly-Teflon	2.823	2.370	91V4584	Moly-Teflon



## VEE RING

SPECIFICATIONS							
Vee Ring (Otis Style)							
O.D.	I.D.	OEM P/N	Material	O.D.	I.D.	OEM P/N	Material
2.875	2.375	91V4392	Ryton	3.625	3.313	91V3329	Moly-Teflon
2.875	2.375	91V64	9800	3.681	3.087	91-V-3334	9800
2.875	2.375	91V365	9800	3.688	3.093	91V4383	Moly-Teflon
2.875	2.375	91V4393	Moly-Teflon	3.688	3.093	91V4382	Ryton
2.885	2.364	91-V-365	9800	3.688	3.093	91V3334	9800
2.888	2.361	91-V-3371	9800	3.763	3.239	91-V-4022	9800
2.911	2.338	91-V-3712	9800	3.769	2.980	91-V-3489	9800
3.013	2.671	91-V-3813	9800	3.796	3.302	91-V-320	9800
3.013	2.236	91-V-3924	9800	3.813	3.313	91V320	9800
3.013	2.486	91-V-3483	9800	3.813	3.313	91V4381	Moly-Teflon
3.063	2.463	91-V-3716	9800	3.813	3.313	91V4380	Ryton
3.125	2.656	91V4390	Ryton	3.824	3.306	91-V-3430	472
3.125	2.656	91V4391	Moly-Teflon	3.894	3.487	91-V-4123	9800
3.138	2.643	91-V-1265	9800	3.905	3.349	91-V-4117	9800
3.255	2.740	91V84	Moly-Teflon	4.000	3.500	91V4378	Ryton
3.263	2.736	91-V-3488	9800	4.000	3.500	91V4379	Moly-Teflon
3.286	2.713	91-V-3714	9800	4.024	3.474	91-V-3617	9800
3.301	2.868	91-V-3317	9800	4.112	3.619	91-V-3453	9800
3.313	2.875	91V4386	Ryton	4.125	3.625	91V3453	9800
3.313	2.875	91V3317	9800	4.125	3.625	91V375	9800
3.313	2.875	91V4387	Moly-Teflon	4.125	3.625	91V4376	Ryton
3.318	2.873	91-V-3420	9800	4.125	3.625	91V3391	472
3.326	2.863	91-V-1304	9800	4.125	3.625	91V4377	Moly-Teflon
3.437	2.938	91V3406	9800	4.137	3.617	91-V-375	9800
3.437	2.938	91V4385	Moly-Teflon	4.267	3.731	91-V-3492	9800
3.437	2.938	91V4384	Ryton	4.270	3.733	91-V-4546	9800
3.449	2.923	91-V-3406	9800	4.274	3.599	91-V-3973	9800
3.519	2.855	91-V-4492	9800	4.291	3.584	91-V-3975	9800
3.519	2.980	91-V-4097	9800	4.301	3.803	91-V-3432	9800
3.520	3.129	91-V-3446	9800	4.313	3.813	91V4374	Ryton
3.536	2.838	91-V-4494	9800	4.313	3.813	91V4375	Moly-Teflon
3.536	2.963	91-V-1073	9800	4.313	3.813	91V3432	9800



## VEE RING

SPECIFICATIONS							
Vee Ring (Otis Style)							
O.D.	I.D.	OEM P/N	Material	O.D.	I.D.	OEM P/N	Material
4.524	3.724	91-V-3560	9800	5.524	4.725	91-V-3564	9800
4.541	3.709	91-V-3726	9800	5.625	4.990	91V4859	Moly-Teflon
4.546	4.045	91-V-3309	9800	5.763	5.150	91-V-3910	9800
4.562	4.062	91V4372	Ryton	5.875	5.250	91V4364	Moly-Teflon
4.562	4.062	91V4373	Moly-Teflon	5.875	5.250	91V4365	Ryton
4.562	4.062	91V3309	9800	5.963	5.375	91V322	9800
4.749	4.266	91V5066	Ryton	5.963	5.375	91V4362	Ryton
4.753	4.261	91V5067	Moly-Teflon	5.963	5.375	91V4363	Moly-Teflon
4.791	3.959	91-V-3728	9800	5.967	5.369	91-V-322	9800
4.791	3.959	91-V-3727	9800	6.013	5.359	91-V-3628	9800
4.813	4.313	91V4369	Moly-Teflon	6.024	5.350	91-V-4286	9800
4.813	4.313	91V4368	Ryton	6.512	5.743	91-V-3959	9800
4.823	4.308	91V83	Moly-Teflon	6.517	5.729	91-V-3605	9800
4.899	4.350	91-V-4006	9800	6.524	5.725	91-V-3670	9800
5.013	4.236	91-V-3557	9800	7.024	6.225	91-V-3552	9800
5.041	4.218	91-V-3730	9800	7.524	6.725	91-V-3624	9800
5.041	4.208	91-V-3729	9800	8.520	7.979	91-V-5089	9800
5.274	4.725	91-V-5055	9800	8.532	7.717	91-V-3537	9800

All Specification Tables contain approximated dimensions and should be used for reference only.





## LEGAL DISCLAIMER

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# GENERAL TERMS AND CONDITIONS

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The equipment, materials, and services (herein referred to as the “Products”) which are set forth in this publication will be sold by B & T OILFIELD Products , hereinafter called “B & T”, only upon the following terms and conditions of sale:

## I. APPLICABILITY:

(a) None of the Standard Terms and Conditions of Sale herein set forth may be added to, modified, superseded, or otherwise altered, except by a written instrument signed by an officer of B & T and delivered by B & T to Customer. Each shipment received by Customer from B & T shall be deemed to be only upon the terms and conditions herein set forth, except as they may be added to, modified, superseded, or otherwise altered as provided below, notwithstanding any terms and conditions that may be contained in any purchase order or other form of Customer and notwithstanding Customer’s act of accepting or paying for the Products or similar act of Customer.

(b) Any typographical error herein is subject to correction by B & T.

(c) The submission of a quotation by B & T in response to Customer’s request for a quotation does not constitute an expression of acceptance of any term or condition which may have been set forth in Customer’s request. Notwithstanding any prior quotations, correspondence, conversations, purchase orders, or similar instruments relative to the Products, the terms and conditions of sale set forth herein are the only terms and conditions applicable to the sale of Products, and the acceptance of a quotation issued by B & T is expressly limited to the terms of such quotation. The transmittal of a purchase order pursuant to such purchase order agrees with such quotation with respect to the description of the Products to be furnished by B & T as shown on the face thereof, the quantity thereof and the purchase price to be charged therefore. Any additional or different terms or conditions of sale set forth in the purchase order or other communication from Customer are objected to by B & T and shall not be effective or binding unless assented to in writing by an officer of B & T.

(d) Where B & T does not issue either quotation, or a sales confirmation and ships Products pursuant to Customer’s purchase order, or any other form of acknowledgment of the sale, such sale shall be subject to B & T’s Standard Terms and Conditions of Sale as set forth in this document, and condensed version on the back of B & T’s invoice, and Customer shall be deemed to have agreed thereto unless Products are returned to B & T within ten days of date of invoice, upon which the Customer is subject to the restocking charge of 20 percent maximum of the value of the Product(s).

## II. SERVICES:

(a) Services rendered by B & T are only technical or advisory in nature.

(b) B & T does not promise or guarantee results of its services. B & T reserves the right to terminate its services if in its opinion such action is advisable because of conditions pertaining to the service ordered. Customer shall pay B & T its prevailing charges for services performed, regardless of results.

(c) B & T shall not be liable to Customer for damage to or loss of property, whether real or personal, belonging to Customer, arising in any way out of or in connection with B & T’s performance of services rendered.



## GENERAL TERMS AND CONDITIONS (CONT)

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### III. WARRANTY:

(a) B & T makes no warranty, expressed or implied, as to merchantability, fitness, or otherwise, as to merchandise sold, or rented. Any B & T manufactured merchandise will be replaced by B & T upon satisfactory proof of defect received by B & T within one year of delivery of such merchandise to customer; however, B & T's liability in connection therewith shall be limited solely to such replacement, notwithstanding any specification or description in its catalogue, literature or brochures, of materials used in the manufacture of its Products, B & T reserves the right to substitute other materials without notice.

### IV. INDEMNITY:

(a) In the event that B & T manufactures or modifies Products in accordance with plans or specifications furnished by Customer, then Customer shall indemnify and hold B & T harmless from and against all claims and causes of action for damages and expenses of every kind and character asserted against B & T, its agents, servants, and employees, by any firm, person, corporation or other legal entity on account of injury to or death of any person or persons whomsoever, or for damage due or destruction of any personal or real property, or on account of infringement of any patent, design, copyright, or trade name or mark arising out of, directly or indirectly, or in any manner connected with such Products or use of such Products, including all claims and causes of action resulting, either in whole or in part, from B & T's alleged breach or breach of implied or expressed warranty (except as specifically provided herein).

(b) In case of the Products named in its catalogue, literature, or brochures, B & T does not state or implies for its benefit the Products so named, and furthermore does not have any benefit of the alleged misrepresentation or misleading intentionally its customers as to whose Product the contents of the catalogue, literature, and brochures B & T is offering. To the contrary, B & T acknowledges the original manufacturers of the said products and fully respects the quality with which they were made.

### V. PRICES and TERMS OF PAYMENT

(a) Unless otherwise specified in this publication or on a B & T Quotation, sales confirmation, or invoice the prices which are set forth on any such quotation, sales confirmation, or invoice issued by B & T are prices Ex Works, F.O.B. or F.A.S. B & T's location, Broussard, Louisiana, USA.

(b) Prices set forth in any quotation or sales confirmation do not include sales, use, excise, or other taxes or import duties, documentation charges, freight, transfer fees, or similar costs or charges, unless specifically indicated thereon.

(c) Unless otherwise agreed in writing, terms of payment are net cash thirty (30) days following the date of the invoice, which, to the extent possible, will be the date of delivery.

(d) Any amount unpaid at the end of thirty (30) days from the date of invoice shall bear interest at the maximum rate allowed under applicable law, plus reasonable attorney's fees and court costs if collected by an attorney or through court proceedings.



## GENERAL TERMS AND CONDITIONS (CONT)

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### VI. TRANSPORTATION:

- (a) In the absence of specific routing instructions from Customer, B & T shall have the right to select the date of shipment, type of carrier, and the routing of shipment on behalf of and for the account of Customer.
- (b) Unless otherwise previously agreed in writing, all Products are shipped at B & T's option, either Ex Works, F.O.B., or F.A.S. B & T's location in Broussard and acceptance of Products by Customer occurs upon delivery to carrier.
- (c) Customer shall give written notice to B & T of any claim for shortage, error in shipment, or error in charges within thirty (30) days after receipt of Products or such claim shall be deemed waived.
- (d) Customer agrees that B & T shall not be liable for damage to or destruction of Customer's Products occurring while such Products are in the possession of B & T except where such damage or destruction arises from the sole gross negligence of B & T.
- (e) If the Products are sold for export from Broussard, then title to those Products and risk of their loss or damage notwithstanding the preceding transportation terms shall pass to the Customer.

### VII. DELIVERY DATES

- (a) Quoted deliveries are approximate estimates determined at the time of quotation and are subject to revision at the time of order placement due to prior sale. Products in B & T's catalogue are not necessarily available for immediate delivery.
- (b) B & T shall not be held responsible for any delivery or failure to make delivery of all or any part of the Products or nonperformance of services, ordered or requested by Customer as a result of governmental action, strikes, lack of or inability to obtain raw materials, due to act of God or other cause not subject to B & T's control which prevents or hinders the manufacture or delivery of Products or the performance of the services.

### VIII. OTHER TERMS AND CONDITIONS

- (a) All orders accepted are subject to final review at B & T's principal office. Once accepted, orders cannot be canceled by Customer without written approval from B & T. Acceptance of Customer's cancellation will be predicted upon Customer's payment of a cancellation charge to be determined by B & T.
- (b) Prices quoted include standard packaging only. Any special handling or packaging will be subject to additional charges.
- (c) B & T deserves the right to modify the design of any Products without obligation or previous notifications, and B & T is not obligated to so modify Products previously or subsequently sold.
- (d) Any contract arising hereunder shall be construed in accordance with the laws of the United States, and the rights and duties of the Customer and B & T hereunder shall be determined by the laws of the United States in the Courts of Louisiana.
- (e) Should any clause, sentence or part of the Standard Terms and Conditions of Sale be held invalid, such holding shall in no way affect the validity of the remainder, which shall remain in full effect. Failure to enforce any or all of the Standard terms and Conditions of Sale in a particular instance or instances shall not constitute a waiver or preclude subsequent enforcement thereof.



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## NOTES

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