



**BRIDGE PLUGS – CEMENT
RETAINERS & ACCESSORIES**

**Model “K-1” Cement Retainer
(Mechanical Set)**

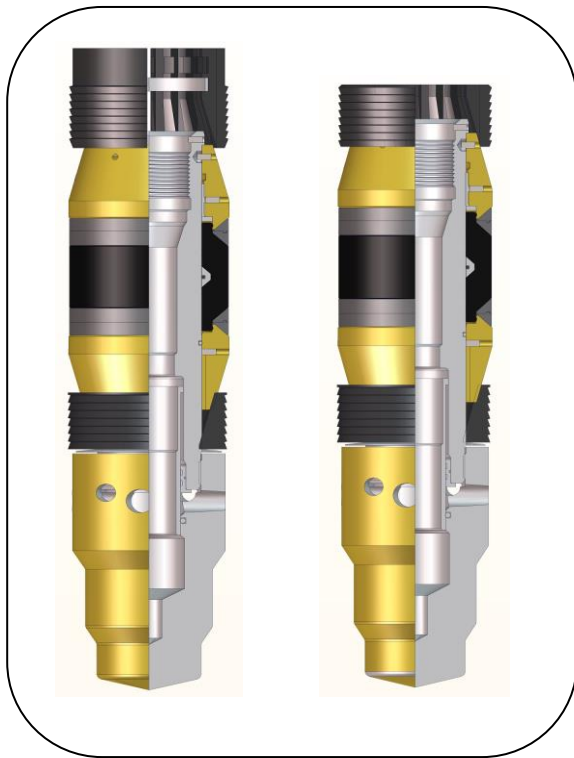
Product No.: BI 400-21

(Wireline Set)

Product No.: BI 400-23

This drillable Cement Retainer continues to be the best tool available for single-interval squeeze, batch, or block squeeze cementing.

The Model K-1 Cement Retainer is constructed of components subject to stringent material specifications and quality control procedures. It provides the optimum strength and drillability combination. The model K-1 Cement Retainer’s two way valve is controlled from the surface: no springs to cock or stick. Just pick up to close; set down to open. Maximum clearance for fast running plus improved drillability and pressure ratings make it the right choice.



Model K – 1
Mechanical Set
Cement Retainer
Product No.: BI 400-21

Model K - 1
Wireline Set
Cement Retainer
Product No.: BI 400-23

Performance features:

Tubing or electric line set: Can be set by mechanical methods on tubing or drill pipe, or run and set on electric line. Faster, safer run-in. Run - in speed is up to the operator. Locked construction design and larger clearance make this possible.

Tests tubing: Tubing can be tested before squeezing by picking up to close the valve and applying pressure.

Holds final squeeze pressure: The automatic closing of the valve when picking up, or removal of stinger, ensures holding the squeeze under final pressure as cement is circulated out

Isolates squeeze from hydrostatic pressure: Keeping hydrostatic pressure off the zone just squeezed is important, especially for cementing low-fluid-level wells in batch-squeeze operations. This unique valve guarantees an effective seal.

Fast drill out: New material specifications developed especially for the K-1 Cement Retainers result in faster drill out.

PRESSURE RATING (Above & Below)

1AA-5AA	10,000 psi
6AA	8,000 psi
6BB	5,000 psi
7AA	5,000 psi
8AA	4,000 psi
8BB	3,000 psi
9AA	3,000 psi

Note: Temperature Rating upto 400° F

NOTE:

The temperature rating is governed by the hardness of Elastomer (Packing Element)

- For continuous temperature rating of 400°F use 90 hard Packing Element
- For temperature rating up to 300°F use standard 70 hard Packing Element
- Packing element in premium grades of elastomer for severe environments are also provided on request.

Model "N-1" Bridge Plug

Product No.: BI 401-22 (Mechanical Set)

Product No.: BI 401-20 (Wire Line set)

The Model N-1 runs and sets on Wireline or Tubing/Drill Pipe. It also incorporates the seal element lock to allow faster, safer run-in. Its materials are also subject to the same stringent specifications and quality control procedures as the Model K-1 Cement Retainer, providing improved drillability and higher pressure ratings.



Model N-1
Mechanical Set
Bridge Plug
Product No.: BI 401-22

Model N-1
Wireline Set
Bridge Plug
Product No.: BI 401-20

Model "KL" Control Unit

Product No.: BI 430-61

Model "B" Snap Latch Stinger Sub

Product No.: BI 400-92

Model "K-1" Snap Latch Setting Tool

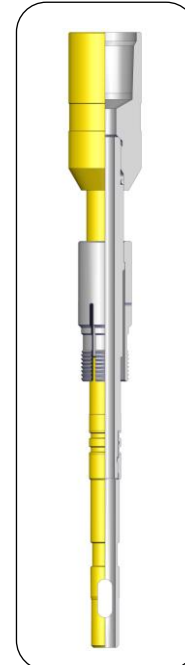
Product No.: BI 400-69

The Model B Snap Latch Stinger Sub is used with Model K-1 Wireline Set Cement Retainers. It features a snap-in, snap-out-type latch that provides a surface indication of the stinger being landed in the cement retainer (giving assurance that the sleeve valve is open) or the Stinger Sub being removed from the Cement Retainer (and the sleeve valve closed).

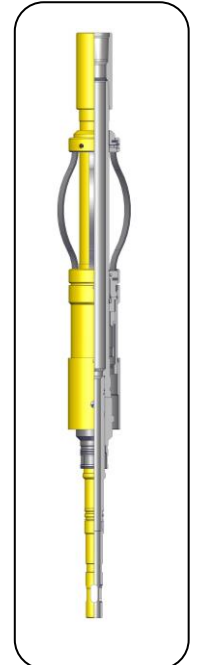
A Model KL Control Unit is made up above the Stinger Sub and provides a centring device for entering the retainer bore.



Model KL
Control Unit
Product No.:
BI 430-61



Model B
Snap Latch
Stinger Sub
Product
No.:



Model K-1
Snap Latch
Setting Tool
Product No.:
BI 400-69

CEMENT RETAINERS AND BRIDGE PLUGS						
Casing		Size	Bore (Inch.)	Maximum O.D. (Inch.)	Range of Casing I.D. for Running	
O.D. (Inch.)	Weight (Lbs.) T & C				Minimum (Inch.)	Maximum (Inch.)
4-1/2	9.5-16.6	1AA	1.345	3.593	3.826	4.090
5	11.5-18	1BB		3.937	4.154	4.560
5-1/2	13-23	2AA		4.312	4.580	5.044
6	14-26	2BB	2.000	4.937	5.140	5.552
6	10.5-12	3AA		5.375	5.595	6.135
6-5/8	17-34					
7	32-38					
7	17-35	3BB		5.687	6.004	6.538
7-5/8	20-39	4AA		6.312	6.560	7.125
8-5/8	24-49	5AA		7.125	7.511	8.097
9-5/8	32.3-58.4	6AA		8.125	8.435	9.063
10-3/4	60.7-81	6BB		9.000	9.250	9.660
10-3/4	32.75-60.7	7AA		9.437	9.660	10.192
11-3/4	38-60	8AA		10.437	10.772	11.150
13-3/8	77-102	8BB		11.562	11.633	12.464
13-3/8	48-72	9AA	12.000	12.175	12.715	

SETTING TOOLS								
Cement Retainer & Bridge Plug Size	"K-1" Setting Tool (Product No.: BI 400-69)	Wireline Setting Tools						
		Release Stud Size (Inch.)	WLAK For Bridge Plug Prod. No. BI 438-24 For Cement Retainer (Product No.: BI 438-19)	"E-4" W.L.P.S.A. (Product No.: BI 437-02)	Stinger Sub (Product No.: BI 400-92)	"KI" Control Unit (Product No.: BI 430-61)		
						Tool	Drag Spring	
1AA 1BB	1AA-1BB	7/8	1AA	10	1AA-2BB	43	10	
2AA	2AA		1BB-2AA	20		3AA-9AA	45	20
2BB	2BB		2BB				30	
3AA	3AA	1	3AA-3BB		20		3AA-9AA	47
3BB	3BB			30				
4AA	4AA			49		40		
5AA	5AA		6AA	6AA	6BB	53	51	50
6AA	6AA							
6BB	6BB							
7AA	7AA		8AA	8AA	8BB	55	50	
8AA	8AA							
8BB	8BB							
9AA	9AA	9AA						

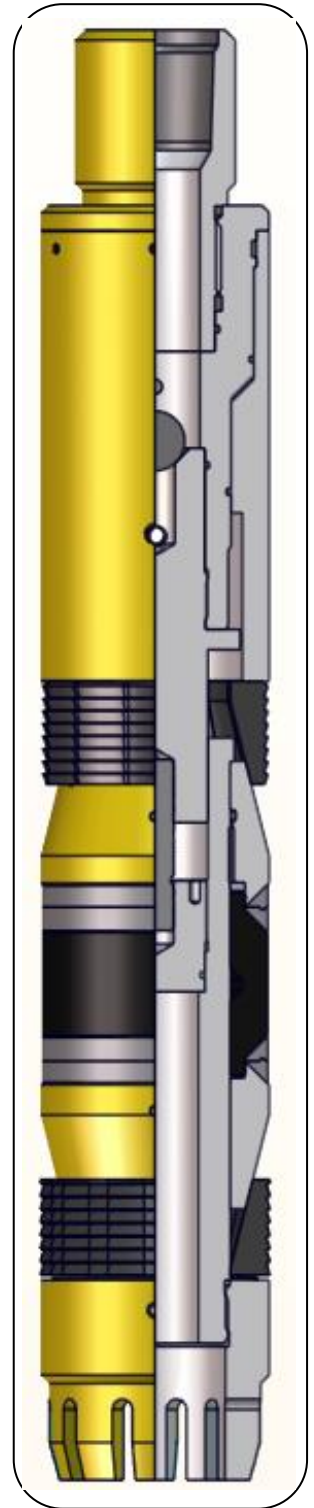
Model "HN-1" Bridge Plug

Product No.: BI 401-23 (Hydraulically Actuated and Mechanically Set)

The BOTIL HN-1 Bridge Plug is hydraulically actuated and mechanically set. Compact tool can withstand high pressure and is designed for easy drill out. It can be used in zone isolation for squeeze cementing, fracturing, plug and abandonment either temporary or permanent.

Specification Guide Model "HN-1" BRIDGE PLUG
(Product No.: BI 401-23)

Casing		Setting Range		Plug Max. OD (Inch.)	Shear Force (lbs.)	Top Connection	Ball OD (Inch.)	Pressure Differential (psi)
OD (Inch.)	Weight (ppf) T & C	Min. ID (Inch.)	Max. OD (Inch.)					
4-1/2	9.5-15.1	3.826	4.090	3.593	33,000	2-3/8 EUE	1-1/2	10,000
5	11.5-20.8	4.154	4.560	3.937	33,000	2-3/8 EUE	1-1/2	10,000
5-1/2	13.0-23.0	4.580	5.044	4.312	33,000	2-3/8 EUE	1-1/2	10,000
7	17.0-35.0	6.004	6.538	5.687	55,000	2-7/8 EUE	1-3/4	10,000
7-5/8	20.0-39.0	6.625	7.125	6.312	55,000	2-7/8 EUE	1-3/4	10,000
9-5/8	29.3-58.4	8.435	9.063	8.125	55,000	2-7/8 EUE 3-1/2 IF	2	8,000
13-3/8	48.0-80.7	12.175	12.715	11.880	55,000	2-7/8 EUE 4-1/2 IF	2 2 11/64	3,000

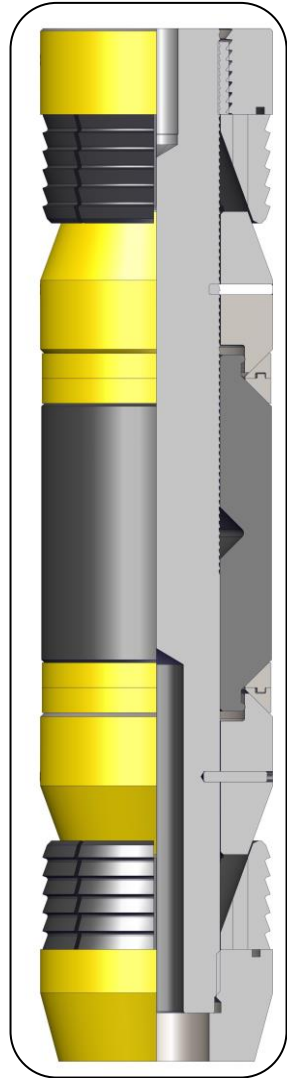


Model HN-1
Bridge Plug
Product No.: BI 401-23

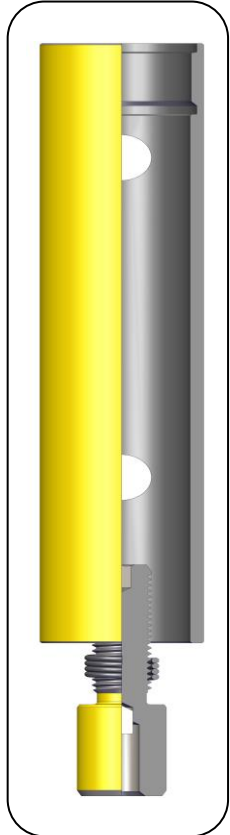
Model “N-2” Bridge Plug & ADAPTER KITS
Product No.: BI 401-25, 438-25

These bridge plugs, designed for use in tubing- less completions, incorporate the same solid ring slips and a swab proof packing element system with positive anti-extrusion back-up rings as used in the conventional bridge plugs.

The bridge plug is made-up to the appropriate size and model Wireline pressure setting assembly and wire line adapter kit (refer to Specification Guide) and run to setting depth. When the pressure setting assembly is actuated the tension mandrel in the adapter kit moves upward, pulling the body of the bridge plug up with the respect to the setting sleeve, thereby setting and packing-off the bridge plug. Continued upward movement then shears the Release Stud, leaving the wireline pressure setting assembly and adapter kit free to be retrieved from the well.



Model N-2
 Bridge Plug
 Product No.: BI 401-25



Adapter Kit
 Product No.: BI 438-25

Specification Guide BRIDGE PLUG (Product No.: BI 401-25)						
Casing		Bridge Plugs			Adapter Kit Product No. & Size	Wireline Pressure Setting Assembly
OD (Inch.)	Weight (Lbs.) T & C	Size (Inch.)	Max. OD (Inch.)	Model		
2-7/8	7.9-10.7	27	1.968	N-3	27-30	Size 10
	6.4-6.5	28	2.220			
3-1/2	6.4-15.68	30	2.195	N-2	35-40	
	5.75-10.3	35	2.765			
4	14.8-19.0			40	3.14	
4-1/2	26.5					
4	5.6-14					
4-1/2	17.7-24.6					

MODEL "BFCP" COMPOSITE FRAC PLUG

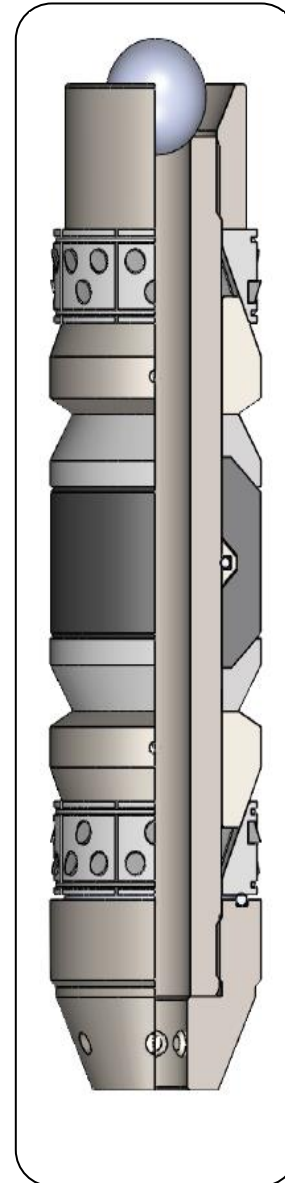
Product No.: BI 401-26

The BOTIL Composite Frac Plug is designed to be used for temporary zone isolation during stage Frac operation in horizontal and vertical wells. The composites used in construction allows for short drill time and ease of operation.

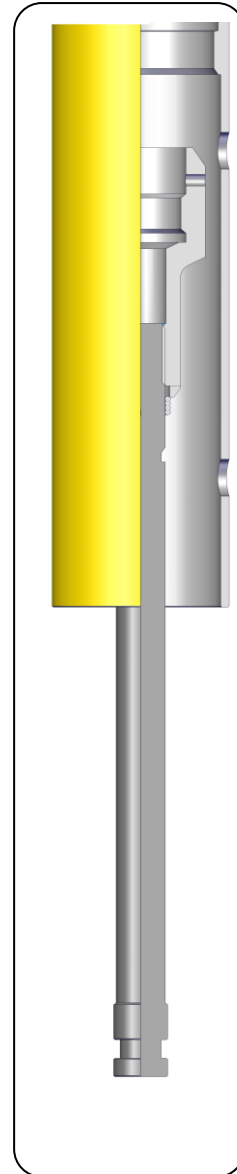
The compact composite plug consists of a large bore body and a ball which is dropped after the plug body is set to complete the plug. Pressure from below is not contained. The ball can subsequently be flowed out and/or the plug body drilled up, knocked to bottom, or remains for production through its large bore.

The composite Frac Plug can operate in temperatures up to 275° F and hold pressure from above up to 8000 psi.

Specification Guide MODEL "BFCP" COMPOSITE FRAC PLUG (Product No.: BI 401-25)					
Casing		Overall Length (Inch.)	Setting Range		Tool O.D. (Inch.)
Size (Inch.)	Weight (Lbs.) T & C		Min I.D. (Inch.)	Max I.D. (Inch.)	
4 1/2"	9.5-16.6	17.00"	3.826	4.090	3.594
5 1/2"	13-23	17.00"	4.580	5.044	4.24



Model BFCP
Composite Frac Plug
Product No.: BI 438-25



Adapter Kit

WIRE-LINE SET RETRIEVABLE BRIDGE PLUG

Product No.: BI 577-32

The BOTIL Wireline Set Retrieable Bridge Plug is a medium performance retrievable bridge plug that combines the advantages of tubing or sand-line retrievability with the advantages of fast, accurate wireline setting. The Bridge Plug is set on wireline by using The Wireline Adapter Kit attached to Pressure Setting Assembly.

Model "BWR" Wire Line Set Retrieable Bridge Plug can alternately be lowered on Tubing and set by application of pressure. This is done by attaching the Bridge Plug to the Wireline Adapter Kit which, in turn is attached to the BOTIL Size 20 Model "BH" Hydraulic Setting Tool.

The Wireline Set Retrieable Bridge Plug can be used for operations such as zone isolation, formation fracturing or acidizing, and surface equipment repair where wireline setting is desirable. This provides a distinct advantage in situations where the plug must be run and retrieved under pressure, as it may be run in and out of the well using a lubricator eliminating the necessity of snubbing tubing or killing the well.

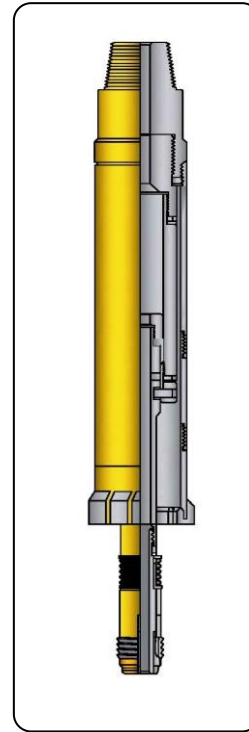


Wireline Set Retrieable
Bridge Plug
Product No.: BI 577-32

Specification Guide									
Casing		Packer Size	Gage Ring OD (Inch.)	Packing Element O.D (Inch.)	Packing Element Spacer OD (Inch.)	Slip Range			
						Preferred		Absolute	
O.D (Inch.)	Weight (Lbs.) T & C					Min (Inch.)	Max (Inch.)	Min (Inch.)	Max (Inch.)
5-1/2"	26	43C	4.250	4.156	4.250	4.408	4.560	4.062	4.582
	20-23	45A2	4.500	4.375	4.500	4.625	4.778	4.437	5.221
	15.5-20	45A4	4.641			4.778	4.950		
	13-15.5	45B	4.781	4.688	4.781	4.950	5.190		
7"	32-35	47A4	5.812	5.500	5.656	5.930	6.135	5.562	6.665
	26-29	47B2	5.968	5.750	5.938	6.136	6.276	6.200	7.303
	23-26	47B4	6.078			6.276	6.366		
	17-20	47C2	6.266	6.125	6.266	6.456	6.578		
9-5/8"	47-53.5	51A2	8.218	7.938	8.218	8.343	8.681	8.125	9.283
	40-47	51A4	8.437			8.681	8.835		
	29.3-36	51B	8.593	8.375	8.593	8.836	9.063		

Model "BCP-1" Plug Plucker
Product No.: BI 747-12

For milling over permanent Bridge Plugs and/or Cement Retainers and retrieving the milled-out portion from the wellbore. With this tool, Bridge Plugs and Retainers never have to be pushed down hole, allowing high performance Bridge Plugs or Cement Retainers to be safely set above a liner. This Milling Tool will easily mill up even the largest Retainer or Plug, in most cases in one round trip.



Model BCP-1
 Plug Plucker
 Product No.: BI 747-12

Specification Guide for MODEL "BCP-1" PLUG PLUCKER (Product No.: BI 747-12)									
Casing		Bridge Plug or Retainer Size	Plug Plucker						
O.D (Inch.)	Weight (Lbs.) T & C		Shoe Size (Inch.)	Shoe O.D.		Shoe I.D.		Shoe Comm. No.	Size
				Max. (Inch.)	Min. (Inch.)	Max. (Inch.)	Min. (Inch.)		
4-1/2	9.5-16.6	1AA	22	3.618	3.603	2.625	2.531	BI 07-52269-00	1AA
5	11.5-18	1BB	24	3.859	3.828	2.625	2.531	BI 07-52270-00	1BB
5-1/2	13.23	2AA	42	4.515	4.484	3.500	3.437	BI 07-50971-00	2AA
6	14-26	2BB	46	4.890	4.859	3.500	3.437	BI 07-51805-00	2BB
6-5/8	17-34	3AA	82	5.546	5.531	4.187	4.125	BI 07-52276-00	3AA
7	32-38		82	5.765	5.734	4.500	4.250	BI 07-50973-00	3BB
7	17-35	3BB							
7-5/8	20-39	4AA	88	6.300	6.281	4.500	4.250	BI 07-52277-00	4AA
8-5/8	24-49	5AA	126	7.328	7.296	5.375	5.250	BI 07-52290-00	5AA
9-5/8	32.3-58.4	6AA	194	8.328	8.295	6.281	6.250	BI 07-52289-00	6AA
10-3/4	60.7-81	6BB	212	9.031	8.984	7.625	7.500	BI 07-52279-00	6BB
10-3/4	32.75-60.7	7AA	214	9.468	9.406	7.625	7.500	BI 07-52280-00	7AA
11-3/4	38-60	8AA	220	10.406	10.343	8.468	8.406	BI 07-52281-00	8AA
13-3/8	77-102	8BB	230	11.531	11.468	9.843	9.781	BI 07-52282-00	8BB
13-3/8	48-72	9AA	240	12.156	12.093	9.843	9.781	BI 07-52283-00	9AA

Through the use of Milling Tools, Packers can be quickly and safely milled over and retrieve retainer production Packer and/or retrieved from the well.

Because only a very small portion of the Plug, Retainer, or Packer ever needs to be milled out, and the Milling Shoes have been specifically designed to remove only the necessary sections, mill-out time is reduced to the minimum.

Cementing and treating work previously limited by the capabilities of Retrievable Plugs or Packers can be done with high- performance drillable tools, since they can be safely removed following treatment.

Model "BCJ" Packer Milling Tool
Product No.: BI 747-06

The Model BCJ Packer Milling Tool is used to mill over Permanent Packers and to retrieve the milled-out Packers from well.

Model "BCB" Packer Milling Tool
Product No.: BI 747-02

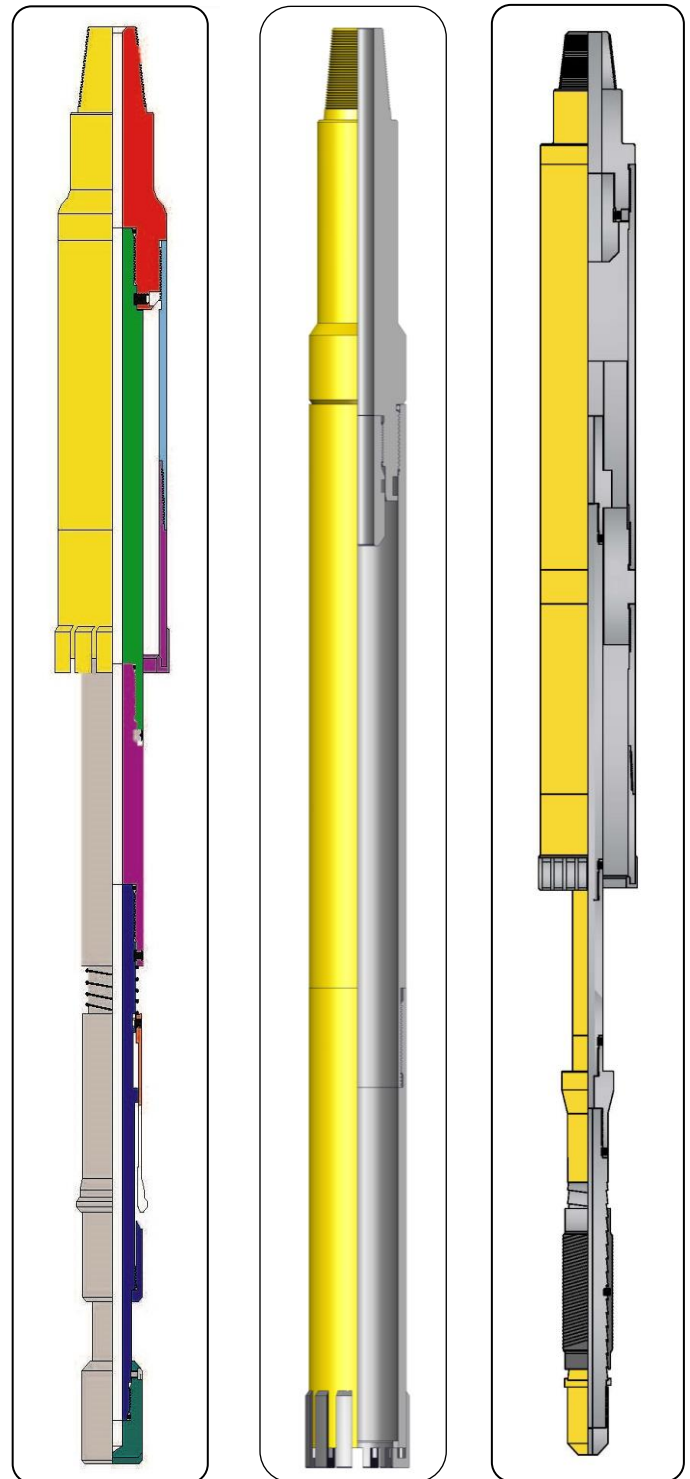
The Model BCB Packer Milling Tool is used to mill over Permanent Packers and to push to bottom of hole. BCB Packer Milling Tool can be converted from BCJ Milling Tool by removing Catch Sleeve, Spring and J-Pin.

Model "BCC" Milling Tool
Product No.: BI 747-03

The Model BCC Milling Tool is used to mill out Permanent Bridge Plugs or Cement Retainers and to push to bottom of hole, or to mill over retrievable-type Packers when conditions exist that render normal retrieving methods impossible.

Model "BCK" Milling Tool
Product No.: BI 747-08

The Model BCK Milling Tool is used to mill over and retrieve Retainer Production Packers with Seal Bore Extensions, Pup Joints, Landing Nipples, and the like, where the Model BCJ Packer Milling Tool is not applicable. The BCK mill includes a spear that is used to latch into and retrieve the body of the Packer after the outside portion of the Packer has been milled up.



Model BCJ
Packer Milling
Tool
Product No.:
BI 747-06

Model BCC
Packer Milling
Tool
Product No.:
BI 747-03

Model BCK
Packer Milling
Tool
Product No.:
BI 747-08