

Creating Innovative Solutions



Canuck Completions specializes in developing and sourcing today's most innovative and reliable downhole oil tools. The company strives to be the very best as a service and downhole tool provider. Incorporating a flexible approach to solving downhole challenges Canuck Completions will consistently meet the needs of its customers. The company is dedicated to unsurpassed quality, customer satisfaction, and continual improvement. With over 60 years of combined experience, the Canuck Completions name is rapidly penetrating domestic and foreign markets.

Canuck Completions is a downhole tool and service provider. Based in Canada, the company is fast becoming sought after internationally due to its consistent success and flexible solution strategy. The company's experience extends over a wide range of well environments and can engineer and execute the most challenging well completion, be it in cased or an open hole applications.

Canuck Completions is distinct as a downhole tool provider in that the company prides it's self in specifically addressing the needs of each unique well in order to optimize production potential. The company does this by implementing, innovating or building the right tool for the job.

Staffed with some of industry's best completions personnel, Canuck Completions is a company who is able to create a solution for any downhole challenge in an efficient and professional manner. The company is driven by successful completions and total customer satisfaction. As a service provider, Canuck Completions strives to be the very best downhole tool company on the market when it comes to service, quality and safety.

Creating Innovative Solutions



QUALITY ASSURANCE

Canuck Completions Ltd. is committed to continuous improvement in quality and productivity. Quality is defined by customer requirements and expectations. Our goal is to provide high quality, consistent products and superior services that anticipate and meet or exceed the requirements of our customers. All products meet with API Standards.

At Canuck Completions Ltd, we are constantly searching for ways to improve areas for you, our valued customer. Ultimately, our goal is your complete satisfaction.

Canuck Completions objective is to fulfill all the expectations of our clients and constantly improve our services through training and developing new technology in our field to bring our customer the top quality completion products available on the market today at the best price.

MISSION STATEMENT

The mission of Canuck Completions Ltd is to develop on a long-term basis its activities and to extend services by respecting all positive codes of profession and business ethics, to meet demands of the Oilfield Market, to strengthen the existing position on foreign markets, to win new markets, to attain the highest level of quality recognized worldwide, efficiency, and at the same time to apply the highest standards of service, quality control and occupational and environmental protection.



HEALTH AND SAFETY POLICY

Canuck Completions Ltd management at every level considers the Health and Safety of every employee to be of extreme importance. Toward this ideal and with a safe workplace as one of our main goals, every employee, supervisor, and manager is committed to support our HSE Program. Injury prevention and the maintaining of a safe and healthy working environment for all employees benefit Canuck Completions Ltd and all who work for and with Canuck Completions Ltd.

Every employee of the company is responsible for personal safety and the safety of fellow workers. The responsibility begins with the company President, and continues through each level of management to each and every employee to include the newest employee. This responsibility cannot be delegated or otherwise set aside.

It is the position of Canuck Completions Ltd management that the company's safety policies and procedures will, as a minimum, comply with all federal, provincial and local regulations applicable to employee safety. In other countries where Canuck Completions operates, the company will likewise comply with regulatory directives that improve and enhance employee safety.

The HSE Program calls for the participation of all employees working toward an environment in which every job or task is performed in the safest practical manner by a well-trained workforce using the proper equipment. The benefits of such efforts are numerous and obvious.



"PermaBore" Permanent Production Packer

The "PermaBore" has been developed with a complete line of accessory products. The accessory products allow for anchoring the tubing to the permanent packer by utilizing an anchor type seal assembly. Locator type seal assemblies, that positively locate sealing units within the packer's sealing bore and prevent downward movement, allow the tubing to be landed in compression or to be spaced out to allow both elongation and contraction of the tubing string. The locator seal assembly is available in any length to accommodate anticipated tubing movements.

Features:

- A reliable 10,000 psi (69,000 KpA) at 350oF (175oC)pack off as standard.
- All seal bore diameters are machined and burnish finished.
- Maximum diameter seal bore available in a high performance permanent packer.
- Setting accomplished either on tubing (hydraulically) or wireline.
- A complete line of accessories are available to meet any application.

Operation:

Packer can be set on electric wireline or on tubing with a hydraulic setting tool.

Permanent Packers



Anchor Seal Assembly

An Anchor Seal Assembly can be used as an alternative to set-down weight to prevent seal movement or when it is desired to land the tubing in tension.

Operation:

The Anchor Seal Assembly is run on the production tubing string. Setdown weight will cause the anchor's thread latch to engage the corresponding threads in the top of the packer. Once engaged, the anchor and tubing are securely locked in place. Any tubing contraction will cause a tensile load to be applied to the tubing string. Care must be taken to ensure tensile forces developed will not part the tubing whenever an anchor is used. To release the anchor it must be rotated to the right 10-12 turns at the packer.



Locator Seal Assembly

The Locator Seal Assembly is the simplest packer seal system. It is run in the well on the production tubing string until its no-go shoulder "locates" on the top of the packer. This positions one or more seal stacks in the packer's seal bore and establishes a seal between the packer and tubing.

Operation:

When a Locator Seal Assembly is landed on a packer the tubing is left in compression to compensate for any contraction of the tubing during treating operations. It is not always possible or desirable to slack off sufficient weight, particularly in deep deviated wells, to compensate for contraction. In such cases, additional length must be added to the packer's seal bore using seal bore extensions and to locator tubing seal assemblies using a combination of spacer tubes and additional seal units.

Production Accessories

Rocky Mountain House, AB, Canada.



"Roughneck" Production Packer

The "Roughneck" Retrievable Production Packer effectively meets several requirements for zone isolation, injection, pumping and production. The Roughneck" can be set by compression or with tension thus making it ideal for shallow and deep wells.

Features:

- Can be set with tension for use in shallow wells.
- No tension or compression required to hold the tool in place after set.
- Right-hand set, right-hand release or can be run left-hand set, right-hand release.
- Safety release.
- By-pass opens before hold down is released.
- By-pass valve below upper slips which allows debris to be washed away from the slips when the valve is opened.

Operation:

As the tubing is rotated to the right and lowered during setting, the lower cone of the Roughneck contacts the lower slips, which are held in position by the drag blocks. The lower cone expands the lower slips into contact with the casing. Continued lowering of the tubing closes the by-pass valve and mover the upper slips down to contact the upper cone. Further downward movement of the tubing compresses the follower spring and moves the shoulder on the inner mandrel into contact with the upper cone. Weight set on the packer is transmitted through the mandrel shoulder, into the cone and directly into the packing elements. As the cone moves down, the follower spring forces the upper slips down to follow the cone and remain in contact with the casing. The J-pins are automatically rotated into the set position of the J-body during setting. Rubber compression is retained by the upper and lower slips, and the tubing may be left in tension, compression or neutral.

To release set down 2,000 lb. weight on the packer and rotate 1/4 turn to the right, then pick up while holding right hand torque. The bypass will open, the slip system will release and the element will relax, allowing the packer to be removed from the well.

Retrievable Packers

Rocky Mountain House, AB, Canada.



SPECIFICATION GUIDE ROUGHNECK PACKER

CSG OD	CSG WGT	CSG MIN ID	CSG MAX ID	PACKER OD	PACKER ID
2 7/8	6.4-6.5	2.441	2.441	2.25	.63
3 1/2	7.7-10.2	2.992	3.068	2.781	1.25
3 1/2	12.95	2.75	2.75	2.562	1.00
4	9.5-11	3.476	3.548	3.250	1.50
4	12.95	3.340	3.340	3.187	1.50
4 1/2	18.8	3.640	3.640	3.437	1.50
4 1/2	15.1	3.826	3.826	3.656	1.94
4 1/2	15.1-16.9	3.740	3.826	3.594	1.50
4 1/2	9.5-13.5	3.920	4.090	3.750	1.94
4 1/2	15.1	3.826	3.826	3.641	1.94
5	11.5-15	4.408	4.560	4.125	1.94
5	18-20.8	4.156	4.276	4.000	1.94
5 1/2	14-20	4.778	5.044	4.625	2.00
5 ½	15.5-17	4.892	4.95	4.625	2.38
5 1/2	20-23	4.670	4.778	4.500	2.00
5 1/2	13-14	5.012	5.044	4.813	2.38
5 1/2	20-23	4.670	4.778	4.500	2.38
6	17-20	5.352	5.450	5.188	2.38
6	14-16	5.50	5.552	5.188	2.38
6 5/8	24-32	5.675	5.920	5.50	2.50
6 5/8	32-34.5	5.575	5.675	5.312	2.50
6 5/8	17-24	5.921	6.135	5.750	2.50
6 5/8	20-24	5.921	6.049	5.750	3.00
6 5/8	20	6.049	6.049	5.812	3.00
7	26-32	6.094	6.276	5.875	2.50
7	29-35	6.004	6.184	5.812	2.50
7	17-26	6.276	6.538	6.062	2.50
7	26-32	6.094	6.276	5.875	3.00
7	17-26	6.276	6.538	6.125	3.00
7 5/8	24-29.7	6.875	7.025	6.672	2.50
7 5/8	33.7-39	6.625	6.765	6.453	2.50
7 5/8	33.7-39	6.625	6.765	6.453	3.00
7 5/8	24-29.7	6.875	7.025	6.672	3.00
8 5/8	28-40	7.725	8.017	7.50	4.00
8 5/8	24-40	7.725	8.097	7.50	2.50
8 5/8	44-49	7.511	7.625	7.312	2.50
8 5/8	28-40	7.725	8.017	7.500	3.00
9 5/8	43.5-53.5	8.535	8.755	8.250	4.00
9 5/8	32.3-43.5	8.755	9.001	8.500	4.00
10 3/4	32.75-45.5	9.560	10.192	9.700	4.00
10 3/4	45.5-51	9.85	9.95	9.312	4.00



SPECIFICATION GUIDE ROUGHNECK PACKER

10 3/4	51-65.7	9.560	9.850	9.312	4.00
11 3/4	42-65.0	10.682	11.084	10.438	4.00
13 3/8	54.5-77	12.275	12.615	12.00	4.00
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Canuck "Roughneck" Wireline Set Retrievable Packer

The Roughneck packer provides time saving wireline setting and one trip tubing retrieval features, together with the versatility of a multi-purpose packer. The Roughneck packer may be used for a production packer or a retrievable bridge plug with several options and accessories available. The Roughneck packer can be installed into the well with an isolation plug in the on/off profile. This allows complete zonal isolation while preventing debris from entering the packer bore.

Features:

- Wireline setting save time and provides accurate placement.
- Wireline plug can be installed in on/off profile before setting the packer.
- Maximum compression of slip spring when packer is set assures slip engagement during pressure reversals.
- Rotational release virtually eliminates accidental release.
- Bypass opens before upper slips release.
- One trip tubing retrievable with on/off tool.
- 7,500 psi or 10,000 psi pressure rated tools available.
- Variety of accessories available including standard profile nipples and frac nipples.
- Full opening provided even for heavy weight 4 1/2" casing packers.

Operation:

Before releasing the Roughneck packer, the on/off tool may be latched and unlatched as needed to permit circulation. Only one trip with the tubing is required since the on/off tool, that seals and latches onto the packer, is utilized to release and retrieve the packer. The packer is released by pulling slight tension and rotating tubing nine turns to the tool.

Retrievable Packers

Rocky Mountain House, AB, Canada.



SPECIFICATION GUIDE WIRELINE SET ROUGHNECK PACKER

CSG OD	CSG WGT	CSG MIN ID	CSG MAX ID	PACKER OD	PACKER ID
2 7/8	6.4-6.5	2.441	2.441	2.25	.63
3 1/2	7.7-10.2	2.992	3.068	2.781	1.25
3 1/2	12.95	2.75	2.75	2.562	1.00
4	9.5-11	3.476	3.548	3.250	1.50
4	12.95	3.340	3.340	3.187	1.50
4 1/2	18.8	3.640	3.640	3.437	1.50
4 1/2	15.1	3.826	3.826	3.656	1.94
4 1/2	15.1-16.9	3.740	3.826	3.594	1.50
4 1/2	9.5-13.5	3.920	4.090	3.750	1.94
4 1/2	15.1	3.826	3.826	3.641	1.94
5	11.5-15	4.408	4.560	4.125	1.94
5	18-20.8	4.156	4.276	4.000	1.94
5 1/2	14-20	4.778	5.044	4.625	2.00
5 1/2	15.5-17	4.892	4.95	4.625	2.38
5 1/2	20-23	4.670	4.778	4.500	2.00
5 1/2	13-14	5.012	5.044	4.813	2.38
5 1/2	20-23	4.670	4.778	4.500	2.38
6	17-20	5.352	5.450	5.188	2.38
6	14-16	5.50	5.552	5.188	2.38
6 5/8	24-32	5.675	5.920	5.50	2.50
6 5/8	32-34.5	5.575	5.675	5.312	2.50
6 5/8	17-24	5.921	6.135	5.750	2.50
6 5/8	20-24	5.921	6.049	5.750	3.00
6 5/8	20	6.049	6.049	5.812	3.00
7	26-32	6.094	6.276	5.875	2.50
7	29-35	6.004	6.184	5.812	2.50
7	17-26	6.276	6.538	6.062	2.50
7	26-32	6.094	6.276	5.875	3.00
7	17-26	6.276	6.538	6.125	3.00
7 5/8	24-29.7	6.875	7.025	6.672	2.50
7 5/8	33.7-39	6.625	6.765	6.453	2.50
7 5/8	33.7-39	6.625	6.765	6.453	3.00
7 5/8	24-29.7	6.875	7.025	6.672	3.00
8 5/8	28-40	7.725	8.017	7.50	4.00
8 5/8	24-40	7.725	8.097	7.50	2.50
8 5/8	44-49	7.511	7.625	7.312	2.50
8 5/8	28-40	7.725	8.017	7.500	3.00
9 5/8	43.5-53.5	8.535	8.755	8.250	4.00
9 5/8	32.3-43.5	8.755	9.001	8.500	4.00
10 3/4	32.75-45.5	9.560	10.192	9.700	4.00
10 3/4	45.5-51	9.85	9.95	9.312	4.00



SPECIFICATION GUIDE WIRELINE SET ROUGHNECK PACKER

10 3/4	51-65.7	9.560	9.850	9.312	4.00
11 3/4	42-65.0	10.682	11.084	10.438	4.00
13 3/8	54.5-77	12.275	12.615	12.00	4.00
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Model "CD-1" Tension Packer

The CD-1 Tension Packer is a compact, economical, retrievable packer. Primarily used in waterflood applications, this packer can also be used for production and/or treating operations. It is used where a set-down packer is impractical. Since the CD-1 is tension set, it is ideally suited for shallow wells where set-down weight is not available.

Features:

- Utilizes rugged rocker type slips.
- Bore through the packer mandrel is larger than drift.
- Simple, low cost packer for fluid injection.
- Three release methods insure retrievable.
- Uses proven one-piece packing element.
- Alternative shear release.

Operation:

Run packer to desired setting depth, making the last movement downward. Rotate the tubing to the left one-quarter turn at the tool. Then, pick up and pack-off.

Release:

Lower the tubing at least one foot (0.31 m) more than is needed to remove applied tension so that the J-pin will move fully to the top of the J-slot. Rotate the tubing to the right one-quarter turn at the packer so slips will now be in the running position. Packer can be moved to a new position and reset or it can be retrieved. As an alternate release method, this packer has shear rings designed to part at tensions ranging from 20,000 to 60,000 lbs. The cone, packing element and guide drop down and are carried out of the hole by the bottom sub.

Retrievable Packers

Rocky Mountain House, AB, Canada.



MULTI SET PRODUCTION INJECTION PACKER

The Inflatable Multi-Set Production-Injection Packer is used for isolating zones in open-hole or in casing. The tool is re-settable and may be used for testing, treating, production, or injection of several zones with each trip into the well. This tool is designed for long-term downhole production or injection applications.

The Inflatable Multi-Set Production-Injection Packer may be used in vertical, deviated, or horizontal wells. No rotation is required to set the packer, however right-hand rotation is required to unset the packer.

There are several options available for re-setting multi-set packers.

These include:

- Re-set Darts along with a perforated plug catcher are used when pumping or testing must take place through the tool.
- An expendable ball may be used.
- A standing valve may be used.
- A Wireline plug may be used.
- A solid Pumpout plug or bull plug may be used when no pumping or testing through the packer is required.

Inflatable packers elements for these tools are 1.67 m. (66 Inches) in length. High strength aircraft cable is used to provide good expansion characteristics in washed out or irregular well bores. Cable reinforcement allows these inflatable packer elements to return very close to the original run-in diameter while providing high differential pressure capabilities. The Packer elements are designed in such a way that bulging due to high differential pressure is less likely to occur. Due to superior bonding between the cable and rubber these elements lose less rubber down hole.

Open Hole Packers

Rocky Mountain House, AB, Canada.

APPLICATIONS

Water Shut-off

Multi-Set packers may be used for short-term or long-term production to block water encroachment zones in a well. As the life of a well increases, water coning may occur. Also, water production may start occurring from fractures or channels. Inflatable packers provide an effective seal in open hole or in casing, to block this unwanted water production.

Production

Multi-Set Inflatable Packers are also very effective for production applications. The packer serves two purposes when used for these applications. Firstly, the inflatable packer element provides a very effective seal in open hole or in casing. Secondly, the element anchors solidly in open hole or in casing, to prevent tubing rotation or reciprocation at the tool.

Injection

Multi-Set Inflatable Packers may be used for injection of fluids in disposal wells. A large internal bore is provided through the tool. For long term disposal applications it is very important that materials used in manufacturing these tools, are able to resist highly corrosive environments typically associated with disposal wells.

Testing

Multi-Set Inflatable Packers may be used for testing zones in open hole or in casing. Zones may be isolated to determine oil, gas, or water production from certain sections. Testing of each zone will determine which fluid is produced from that section. Also, testing will determine flow rates the zone. Electronic Pressure-Temperature Recorders as well as Shut-In Tools, may be used with the system to provide additional subsurface data from zones being tested.

Treating

Multi-Set Inflatable Packers may be used for treating zones in open hole or in casing. Typical treatments performed through the tool would be fracturing, acidizing, polymer injection for water shut-off, and acid washes.

For treating applications, a circulating valve is used above the tool. This valve is opened to allow treatment fluid to be pumped from surface, to the tool. Once the treatment fluid is spotted to the tool, the circulating valve is closed, and treatment fluid is then injected to the zone located below the packer.

Squeeze Cementing

Multi-Set Inflatable Packers may be used for squeeze cementing zones in open hole or in casing. These packers provide greater clearance for running tools into a well where there are restrictions such as casing patches. In addition, the long seal section provided with an inflatable element is more effective in older wells where casing may be partially corroded. These packers are particularly effective for squeeze cementing required to abandon old wells.

Open Hole Packers

Rocky Mountain House, AB, Canada.

For squeeze cementing applications, a circulating valve is used above the tool. This valve is opened to allow cement to be circulated from surface, to the tool. Once the cement is spotted at the tool, the circulating valve is closed, and cement is then squeezed into the zone located below the packer.

Pressure Testing Casing Patches

Multi-Set Inflatable Packers are very effective for testing casing patches. Run-in diameter is reduced when a casing patch is set. An inflatable packer is designed with a reduced Outer Diameter (O.D.), which makes it possible to pass through a casing patch.

Open Hole Packers

Rocky Mountain House, AB, Canada.





RE-SETTABLE INFLATE TEST & TREAT SYSTEM

Canuck Completions. is pleased to introduce the newly developed Re-Settable Inflate Test and Treat System (RITTS). The RITTS is designed for treating, testing, or injecting of single or multiple intervals in a well-bore without the requirement of tripping between operations. The system can be operated via a single packer or a straddle packer configuration. Full bore capabilities permit maximum pumping rates with reduced horsepower requirements.

Results: Less Rig Time....Less Horsepower....Less Cost!

The RITTS Packer system is used for isolating zones in open-hole or in casing. This tool is designed for long-term downhole production or injection applications, or short term stimulation. The RITTS Packer system may be used in vertical, deviated, or horizontal wells. No rotation is required to set the packer or release the packer.

Inflatable packer elements for this tools are 1.67 m. (66 Inches) in length. High strength aircraft cable is used to provide good expansion characteristics in washed out or irregular well bores. Cable reinforcement allows these inflatable packer elements to return very close to the original run-in diameter while providing high differential pressure capabilities. The Packer elements are designed in such a way that bulging due to high differential pressure is less likely to occur. Due to superior bonding between the cable and rubber these elements lose less rubber down hole.

APPLICATIONS

Testing

Re-Settable Inflate Test and Treat System may be used for testing zones in open hole or in casing. Zones may be isolated to determine oil, gas, or water production from certain sections. Testing of each zone will determine which fluid is produced from that section. Also, testing will determine flow rates the zone. Electronic Pressure-Temperature Recorders as well as Shut-In Tools, may be used with the system to provide additional subsurface data from zones being tested.

Treating

The system may be used for treating zones in open hole or in casing. Typical treatments performed through the tool would be fracturing, acidizing, polymer injection for water shut-off.

Injection

The RITTS Packer system may be used for injection of fluids in disposal wells. A large internal bore is provided through the tool. For long term disposal applications it is very important that materials used in manufacturing these tools, are able to resist highly corrosive environments typically associated with disposal wells.

For treating applications, a circulating valve is used above the tool. This valve is opened to allow treatment fluid to be pumped from surface, to the tool. Once the treatment fluid is spotted to the tool, the circulating valve is closed, and treatment fluid is then injected to the zone located below the packer.

OPERATIONAL SEQUENCE

As the RITTS tool is being run into the hole the tool auto-fills due to the large unrestricted bore through the tool which also permits circulation through the tool. Run in position ensures that the packer element remains equalized preventing premature inflation of the packer element.

During the inflation sequence a reset dart or ball is launched from surface and pumped onto the seat. Fluid is then blocked to the annulus and through the packer I.D. Fluid is then diverted through concentric passages to the inflation channels of the packer element. It is then permissible to increase pressure in even increments allowing the packer element to fully inflate properly. Once the desired differential pressure is reached within the element pressure must be held for 10 minutes to allow the packer element to fully square off.

During the inflation pressure lock-in sequence weight is slacked off onto the tool by shifting the lug mandrel blocks the inflation channels trapping the pressure in the element. Shifting the lug mandrel also blocks ports from the I.D. of the tool to the annulus.

Once packer seat is verified tubing pressure can be increased to the pre-determined pressure to shear the ball seat or the reset dart. In the case of the re-set dart the dart shears allowing the collets to collapse and pass fully through the tool landing in the dart sub catcher on the bottom of the tool. Fluid is then able to flow through the large unrestricted bore of the tool to below the packer.

Once testing or treating has been finished weight is picked up off the string to begin the deflation sequence. The packer element inflation channels and annulus ports are opened allowing the packer to equalize and deflate close to its original run-in diameter. The tool is now back to its original run-in position ready to be moved to another interval. Additional darts may be pumped from surface providing multiple setting in one trip into the well.

RUNNING PROCEDURES

Setting the Multi-Set Packer

• Run in hole to setting depth at moderate speed. Avoid any sudden stops.

• Take additional care in open hole.

• On depth, establish up weights and down weights. The pipe may be circulated or filled, as required.

• Insert the re-set dart into the string. Circulate to depth at 2 bbls./min. and reducing to ¼ bbl./min when within 3-5 bbls of the tool.

• Apply 1200 PSI differential pressure at the packer to inflate the element, and hold pressure for 5 minutes.

• Slack off 5000 pounds weight on the tool to shift the inflate mandrel closed and to check packer setting. Once packer setting is confirmed, pressure may be applied in the annulus to check for casing leaks.

• If pressure testing must be performed through the drillstring or tubing, apply pressure of 1800 PSI in the string to shear out the re-set dart. Note three shears screws are required in the re-set dart (each shear screw is rated at 600 PSI). The re-set dart will land into the plug catcher sub run below the packer.

• Proceed with pressure testing.

Unsetting and Re-setting the Packer

• To unset the packer, apply an upward pull of 2000 to 5000 pounds to the tool. Wait 15 minutes to allow the packer to deflate.

• Position the packer at the next setting depth.

• Insert the re-set dart into the string. Circulate to depth at 2 bbls./min. and reducing to ¼ bbl./min when within 3-5 bbls of the tool.

• Apply 1200 PSI differential pressure at the packer to inflate the element, and hold pressure for 5 minutes.

• Slack off 5000 pounds weight on the tool to shift the inflate mandrel closed and to check packer setting. Once packer setting is confirmed, pressure may be applied in the annulus to check for casing leaks.

• If pressure testing must be performed through the drillstring or tubing, apply pressure of 1800 PSI in the string to shear out the re-set dart. Note three shears screws are required in the re-set dart (each shear screw is rated at 600 PSI). The re-set dart will land into the plug catcher sub run below the packer.

Proceed with pressure testing.

Retrieving the Packer

• To unset the packer, apply an upward pull of 2000 to 5000 pounds to the tool. Wait 15 minutes to allow the packer to deflate.

• Pull out of the hole.

Benefits of the RITTS system include:

- Highly durable elements, 66 inches in length, with aircraft cable reinforcement, to ensure maximum isolation capabilities in the Open Hole, and to the return the element back to original run in diameter.
- Multiple setting, so a number of intervals may be stimulated in the same trip.
- High differential pressure rating for maximum stimulation pressures.
- No tubing rotation required to function the tools making the system very user friendly in deviated well conditions.
- Treatment fluid can be spotted to the tools.
- Ability to test an interval before stimulation, to compare zone production before and after stimulation, and can be used to isolate open hole sections to find pay zones.
- Small packer O.D's to allow tools to be ran in restricted I.D. wellbores.





10K Cast Iron Bridge Plug

The 10K Cast Iron Bridge Plug is a fully drillable, high performance permanent bridge plug suitable for zone abandonment or temporary suspension. It will safely handle working differential pressure of up to 10,000 psi (68 950 kPa).

The 10K Cast Iron Bridge Plug is designed for speed and safety while running on wireline, and for strength and durability after setting. High performance and reliability are not compromised in any way.

Features:

- Compact for ease in running wireline set.
- Slips securely set in hardness through P-110.
- One piece slips eliminates premature setting.
- Pressure rated to 10,000psi (68 950 kPa) at 400oF (204 oC)
- Drillable cast iron, open body construction.
- Ratchet ring holds plug in set position.

5K Cast Iron Bridge Plug PLETIONS

The 5K Cast Iron Bridge Plug is used for lower pressure requirements in abandonment and lower pressure (less than 5,000 psi (34 475 kPa)) zone isolation, the 5K is an economical alternative.

Always spot sand or cement on top of bridge plug before continuing operations up hole.

Features:

- Compact for ease in running wireline set.
- Slips securely set in hardness through P-110.
- One piece slips eliminates premature setting.
- Pressure rated to 5,000 psi (34,475 kPa) at 250oF (121oC).
- Packing element one piece design.
- Drillable cast iron, open body construction with a release ring for easy drill-out.





Bridge Plugs



Canuck Type "DB 5 and 10" Bridge Plug Specification Guide

Ca	sing	Weig	ht Range	Plug		Setting Range (in)		Setting Range (mm)		Set
(in)	(mm)	(lbs./ft.)	(kg/m)	(in)	(mm)	Min.	Max.	Min.	Max.	(au)
2 3/8	60.3	4.0-5.8	5.95-8.62	1.750	44.45	1.78	2.074	45.21	52.68	9,000*
2 7/8	73	6.4-6.5	9.52-9.67	2.220	56.39	2.34	2.525	59.44	64.14	9,000*
3 1/2	88.9	5.75-10.3	8.55-15.32	2.750	69.85	2.867	3.258	72.82	82.75	9,000*
3 1/2	88.9	12.8-15.8	19.04-23.50	2.430	61.72	2.548	2.764	64.72	70.21	9,000*
4	101.6	5.6-14.0	8.33-20.82	3.140	79.76	3.340	3.732	84.84	94.79	20,000
4 1/2	114.3	9.5-15.1	14.14-22.47	3.562	90.47	3.826	4.09	97.18	103.89	33,000
5	127	11.5-20.8	17.11-30.94	3.937	100.00	4.154	4.56	105.51	115.82	33,000
5 1/2	139.7	13.0-23.0	19.34-34.22	4.312	109.52	4.580	5.044	116.33	128.12	33,000
5 3/4	146.1	14.0-25.2	20.82-37.49	4.699	119.35	4.890	5.29	124.21	134.37	33,000
6 5/8	168.3	17.0-32.0	25.30-47.62	5.375	136.53	5.595	6.135	142.11	155.83	50,000
7	177.8	17.0-35.0	25.30-52.08	5.687	144.45	6.000	6.538	152.4	166.07	50,000
7 5/8	193.7	20.0-39.0	29.75-58.03	6.312	160.32	6.625	7.125	168.28	180.98	50,000
8 5/8	219.1	24.0-49.0	35.70-72.91	7.125	180.98	7.310	8.097	185.67	205.66	50,000

Bridge Plugs



Model "CWR" Bridge Plug

The "CWR" combines the advantages of wireline setting with easy and reliable retrievability. It is commonly used for zone or well isolation during fracturing, acidizing, cement squeezing, testing or well head repair operations.

This Bridge Plug may be run and set on wireline using a Baker Wireline Pressure Setting Assembly. It may also be run on tubing or endless tubing using a hydraulic setting tool.

Features:

- Double acting slips securely anchor the bridge plug against pressure differentials from above or below.
- Three element pack off design ensures reliable sealing at high pressures and temperatures.
- Unique equalizing valve design allows any pressure differential to be equalized before the retrieving head is latched onto the plug.
- Differential pressure rating of 10,000 psi (68 950 kPa)..
- Straight on and straight pull to release.

Operation:

The "CWR" is connected to the wireline (or hydraulic) setting tool, run to required setting depth and set.

The "CWR" retrieving tool is used to retrieve the bridge plug. When using the tool on endless tubing, a safety sub must be used in conjunction with the retrieving head.

The retrieving tool is lowered onto the bridge plug while circulating any sand or other debris off the plug. The retrieving head will open the valve, allowing any pressure differential to equalize. Continued downward movement will latch the retrieving head onto the bridge plug - upward motion releases the plug.

The retrieving head may be disconnected from the bridge plug if necessary with approximately 8 to 10 turns of right hand rotation while holding a slight amount of tension.

Retrievable Bridge Plug





Canuck "CWR" Bridge Plug Technical Data

TECHNICAL DATA									
		CASING				GAUGE	RETRIEVING	BAKER	
O.D.	WEI	GHT	Ι.]	D.	PRODUCT NUMBER	O.D.	TOOL	TOOL	
IN/M M	L B / F T	KG/M	IN	ММ		IN/M M	IN/M M	IN/M M	
	13.50	20.1	3.920	99.6					
4 1/2	11.60	17.3	4.000	101.6	1	3.800			
114.3	10.50	15.6	4.052	102.9	10-049-450	96.5			
	9.50	14.1	4.090	103.9	1				
	18.00	26.8	4.276	108.6		4.062			
5	15.00	22.3	4.408	112.0	10-049-500	103.2	10-081-450	#10	
127.0	13.00	19.3	4.494	114.1					
	11.50	17.1	4.560	115.8		4.2.50			
	26.00	38.7	4.548	115.5	10-049-510	108.0			
	23.00	34.2	4.670	118.6					
	20.00	29.8	4.778	121.4		4.500			
	17.00	25.3	4.892	124.3	10-049-550	114.3			
5 1/2	17.00	25.3	4.892	124.3		4.641	1		
159.7	15.50	23.1	4.950	125.7	10-049-560	117.9	10-081-550		
	15.50	23.1	4.950	125.7					
	14.00	20.8	5.012	127.3	10-049-570 4.7	4.728			
	13.00	19.3	5.044	128.1		120.1			
	32.00	47.6	5.675	144.1	10 0 10 6 50	5.560		1	
6 5/8	28.00	41.7	5.791	147.1	10-049-650	141.2			
168.3	24.00	35.7	5.921	150.4					
	20.00	29.8	6.049	153.6		5.658	5.658 143.7		
	38.00	56.6	5.920	150.4	10-049-660	143.7			
	35.00	52.1	6.004	152.5					
	32.00	47.6	6.094	154.8	10 040 700	5.875		1	
7	29.00	43.2	6.184	157.1	10-049-700	149.2			
177.8	26.00	38.7	6.276	159.4	10 040 710	6.023	10 081 700		
	23.00	34.2	6.366	161.7	10-049-710	153.0	153.0	10-081-700	
	20.00	29.8	6.456	164.0	10-049-720	6.230			
	17.00	25.3	6.538	166.1	10-049-720	158.2		#20	
	39.00	58.0	6.625	168.3	10-049-750	6.375			
	33.70	50.2	6.765	171.9	10-049-750	161.9			
7 5/8	29.70	44.2	6.875	174.6			10-081-750		
	26.40	39.3	6.969	177.0	10-049-760	6.625			
	24.00	35.7	7.025	178.4					
	49.00	72.9	7.511	190.8		7.260			
	44.00	65.5	7.625	193.7	10-049-850	184.4			
0 5 0	40.00	59.5	7.725	196.2					
219.1	36.00	53.6	7.825	198.2			10-081-850		
	32.00	47.6	7.921	201.2	10-049-860	7.600			
	28.00	41.7	8.017	203.6		193.0			
	24.00	35.7	8.097	205.7					
	53.50	79.6	8.535	216.8	10-049-950	8.285			
	47.00	69.9	8.681	220.5		210.4			
9 5/8	43.50	64.7	8.755	222.4			10-081-950		
244.5	40.00	59.5	8.835	224.4	10-049-960	-049-960 8.500			
	36.00	53.6	8.921	226.6		215.9			
	32.30	48.1	9.001	228.6					

Retrievable Bridge Plug

Rocky Mountain House, AB, Canada.



The CT-2 On/Off Overshot was designed to disconnect and connect the tubing string from a double grip production packer that does not require tension or compression to maintain a pack-off. The CT-2 on/off tool applications consist of treating, fracing, testing and production applications. The profile stingers run with the overshot are available in a variety of profile sizes and materials.

- Proven Double Bonded Seal System
- Built for Strength and Durability
- Variety of Profile Nipples
- Left or Right Hand Release
- Available Shear Pinned Up or Down Position

Casing Size	Max. O.D.	Thread Connection
3-1/2	2.75	1.900 NUE
4	3.25	1.900 EUE
4-1/2 - 5	3.75	2-3/8 EUE
5-1/2 - 6- 5/8	4.5	2-3/8 EUE
5-1/2 - 6- 5/8	4.5	2-7/8 EUE
7 - 7-5/8	5.75	2-7/8 EUE
7 - 7-5/8	5.75	3-1/2 EUE
8/5/8	6.5	2-7/8 EUE
8/5/28	6.5	4-1/2 EUE
9/5/8	7.5	2-7/8 EUE
9/5/8	7.5	4-1/2 EUE
10/3/4	8.5	2-7/8 EUE
10/3/4	8.5	4-1/2 EUE



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Selective Acid Tool Assembly

The "SST" is a cup type selective tool specially designed to isolate and selectively acidize pre-determined intervals of perforation. Specially designed Cups, a Retrievable Swabbing Dart and large built in Annular By-Pass make the "SST" east to run and retrieve.

This tool uses heavy duty Casing Packer Cups with an additional Back-Up Cup to assure positive sealing.

Type M Fluid Control Valve can be used with the "SST" for controlling fluid in wells that go on a vacuum.

Accessory equipment shown for use with the "SST" are the Type M Fluid Control Valve, By Pass Valve, SR-2 Packer, and the Mechanical Collar Locator.

Operation:

From top to bottom the tool assembly is usually made up with the By-Pass Valve, Fluid Control Valve Seating Nipple, SR-2 Packer and Selective Stimulation Tool, and the Mechanical Collar Locator. This assembly is run in the well with the By-Pass Valve open and positioned above or below the perforation in blank casing. The By-Pass Valve is closed and the "SST" and tubing are pressure tested. The pressure is bled off and the "SST" is positioned across the first interval to be acidized. If required, a feed rate can be taken at this time and the Fluid Control Valve could be dropped down the tubing.

The By-Pass Valve is now opened and acid is circulated to bottom. After the acid has been circulated down, the By Pass Valve is closed and the required amount of acid is squeezed into the interval.

After acidizing is complete the By-Pass Valve is opened. The tools can be pulled from the well or positioned above the perforation and the spent acid swabbed back before pulling. If the SR-2 Packer was run with the "SST" it is set and the By-Pass Valve is closed before swabbing, so it is not necessary to swab the annulus volume.

Service Tools

Rocky Mountain House, AB, Canada.



Cement Retainer Model CCR

Model "CCR" Wireline Set Sleeve Valve Cement Retainers are used for secondary cementing operations. These drillable retainers set securely in any hardness casing. A ratchet lock ring stores the setting force in the retainer. The one piece packing element and metal back up rings combine for a superior seal. The case hardened, one piece slips virtually eliminate premature setting, yet can be easily drilled out. They are available for 4 1/2" through 20" casing.

- Sets securely in any hardness casing, including premium grades
- Ratchet lock rings secure dynamic setting force
- One piece packing element and rocker action metal back up rings combine for a superior seal
- Compact, easy running
- Can be set directly with Baker wireline setting tools
- Shear studs are Baker style and connect directly to the Baker Adjuster Sub
- These bridge plugs can be run directly on Baker Setting Sleeves and Adjuster Subs
- Crossovers are not required
- Retainer can also be run on mechanical setting tool

Casing	Casing	Setting	Setting Range		
OD	Wt	Min ID	Max ID	OD	
4 1/2	9.5-16.6	3.826	4.090	3.59	
5	11.5-20.8	4.156	4.560	3.93	
5 1/2	13-23	4.580	5.044	4.31	
5 3/4	14-26	4.890	5.290	4.70	
6 5/8	17-32	5.595	6.135	5.37	
7	17-35	6.004	6.538	5.68	
7 5/8	20-39	6.625	7.125	6.31	
8 5/8	24-49	7.511	8.097	7.12	
9 5/8	29.3-58.4	8.435	9.063	8.12	

Production Accessories



10 3/4	32.75-60.7	9.660	10.192	9.43
11 3/4	38-60	10.772	11.150	10.43
11 3/4	60-83	10.192	10.772	9.94
13 3/8	48-80.7	12.175	12.715	11.88
16	65-118	14.576	15.250	14.12
20	94-133	18.730	19.124	18.37



Production Accessories

Rocky Mountain House, AB, Canada.



The Type 'K' Indexing Valve is a high pressure mechanically operated valve used to convert a double grip retrievable packer to a bridge plug. The Type K Indexing Valve design allows pressure to equalize above and below before the packer is released. The running retrieving tool is locked to the valve eliminating accidental seperation.



- Equalizes Pressure Before Packer is Released
- Bonded Seals for Repeated Use Under Pressure
- Safety Dogs Eliminate Accidental Separation
- Auto Jay Retrieving Tool for Easy Connecting
- 10,000 PSI Pressure Rating
- Available in 2 3/8, 2 7/8 and 3 ¹/₂ EUE Connections

Production Accessories

Rocky Mountain House, AB, Canada.



TYPE CX LANDING NIPPLES

The CX Nipple is a selective style landing nipple with a polished seal bore and locking grooved to locate flow control devices. Any number of CX nipples can be run in a production string using the same diameter packing bore. The CX has a locking recess for selective plugs. It is compatible with industry standard wireline equipment. Numerous flow control devices can be installed using a selective style running tool.

The Canuck Completions CX nipple is designed for standard weight tubing and offers maximum versatility and bore size. The CX nipple is available in a variety of materials and coatings to meet the needs of any well condition.

TUBING	OD	SEAL BORE		E NIPPLE OI		
in	mm	in	mm	in	mm	
1.66	42.16	1.250	31.75	1.89	48.00	
1.9	48.26	1.437	36.50	2.13	54.10	
1.9	48.26	1.500	38.10	2.13	54.10	
2.063	52.40	1.625	41.28	2.34	59.44	
2.375	60.33	1.875	47.63	2.71	68.83	
2.875	73.03	2.313	58.75	3.23	82.04	
3.5	88.90	2.750	69.85	4.25	107.95	
3.5	88.90	2.813	71.45	4.25	107.95	
4.5	114.30	3.813	96.85	4.94	125.48	



Production Accessories



TYPE CXN LANDING NIPPLE

CXN is a no go style landing nipple with a polished seal bore area and locking grooves to locate flow control devices. It has a slightly restricted no go ID at the bottom of the nipple to locate on. This restricted id also helps wireline tools from falling to the bottom of the well. The profile is located at the top of the nipple. It is compatible with industry standard wireline equipment and is normally run as the bottom nipple in the production string

The Canuck Completions CXN nipple is designed for standard weight tubing and offers maximum versatility and bore size. The CX nipple is available in a variety of materials and coatings to meet the needs of any well condition.

	-AVV-
10 M	
8- A.	
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	-

Tubing OD	Seal Bore	NO GO ID	Nipple OD

in	mm 🧲	in	mm	in	mm	in	Mm
1.66	42.16	1.250	31.75	1.135	28.83	1.89	48.00
1.9	48.26	1.437	36.50	1.401	35.59	2.13	54.10
1.9	48.26	1.500	38.10	1.448	36.78	2.13	54.10
2.063	52.40	1.625	41.28	1.536	39.01	2.34	59.44
2.375	60.33	1.875	47.63	1.791	45.49	2.71	68.83
2.875	73.03	2.313	58.75	2.205	56.01	3.23	82.04
3.5	88.90	2.750	69.85	2.635	66.93	4.25	107.95
3.5	88.90	2.813	71.45	2.698	68.53	4.25	107.95
4.5	114.30	3.813	96.85	3.725	94.62	4.94	125.48

Production Accessories



TYPE CF NIPPLES

The CF is a top no go or selective type landing nipple. Any number of CF nipples that have the same id can be installed into the same production string or nipple bore sizes can be reduced as they are run deeper in the well. This allows the operator to select the nipple at the desired depth and to land any of the numerous flow control devices available.

The Canuck Completions CF nipple is designed for standard weight tubing and offers maximum versatility and bore size. The CF nipple is available in a variety of materials and coatings to meet the needs of any well condition.

	Tubing O.D.	Seal Bore I.D.	Nipple O.D.
--	-------------	----------------	-------------

In.	mm	In.	Mm	In.	Mm
1.66	42.16	1.187	30.15	1.875	47.63
1.66	42.16	1.250	31.75	1.875	47.63
1.9	48.26	1.437	36.50	2.109	53.57
1.9	48.26	1.500	38.10	2.109	53.57
2.063	52.40	1.562	39.67	2.25	57.15
2.063	52.40	1.625	41.28	2.25	57.15
2.375	60.33	1.781	45.24	2.56	65.02
2.375	60.33	1.812	46.02	2.56	65.02
2.375	60.33	1.875	47.63	2.56	65.02
2.875	73.03	2.250	57.15	3.109	78.97
2.875	73.03	2.312	58.72	3.109	78.97
3.5	88.9	2.750	69.85	3.687	93.65
3.5	88.9	2.812	71.42	3.687	93.65
4.5	114.30	3.750	95.25	5.2	132.08
4.5	114.30	3.812	96.82	5.2	132.08

Production Accessories

Rocky Mountain House, AB, Canada.



TYPE CR LANDING NIPPLES

The CR is a no-go full opening hone bore, restricted type landing nipple. It has a restricted no-go ID at the bottom of the nipple to locate on. This slightly restricted ID also helps stop wireline tools from falling to the bottom of the well. The profile or locking recess is located at the top of the nipple. It is compatible with certain families of wireline equipment and is normally run in single installations or as the bottom nipple in a series of selective upper nipples.

The Canuck Completions CR nipple is designed for standard weight tubing and offers maximum versatility and bore size. The CR nipple is available in a variety of materials and coatings to meet the needs of any well condition.

57.15

58.72

69.85

71.42

95.25

96.82



Tubing OD		Seal Bore		No-Go I.D.		Min. O.D.	
In	mm	In	mm	In	mm	In	mm
1.66	42.16	1.187	30.15	1.135	28.83	1.875	47.63
1.9	48.26	1.437	36.50	1.385	35.18	2.109	53.57
1.9	48.26	1.500	38.10	1.447	36.75	2.109	53.57
2.063	52.40	1.562	39.67	1.510	38.35	2.250	57.15
2.063	52.40	1.625	41.28	1.572	39.93	2.250	57.15
2.375	60.33	1.781	45.24	1.728	43.89	2.560	65.02
2.375	60.33	1.812	46.02	1.760	44.70	2.560	65.02
2.375	60.33	1.875	47.63	1.822	46.28	2.560	65.02

2.197

2.259

2.697

2.759

3.700

3.759

ETIONS

55.80

57.38

68.50

70.08

93.98

95.48

Production Accessories

73.03

73.03

88.90

88.90

114.30

114.30

2.250

2.312

2.750

2.812

3.750

3.812

2.875

2.875

3.5

3.5

4.5

4.5

Rocky Mountain House, AB, Canada.

Ph: (403) 844-2800 E-mail: info@CanuckCompletions.com

3.109

3.109

3.687

3.687

5.200

5.200

78.97

78.97

93.65

93.65

132.08

132.08



CXA SLIDING SLEEVE

The Canuck Completions type CXA sliding sleeve is a tubing mounted flow control device which controls the movement of fluids and gases between the casing annulus and the tubing by means of an internal sliding sleeve that is opened and closed by standard wireline procedures.

The CXA sliding sleeve features a CX type profile at its top and a polished bore below the communication ports. The B shifting tool is used to open the sleeve by jarring up and close the sleeve by jarring down. Any number of sliding sleeves may be run in a single string and opened or closed on a single wireline run.

The CXA utilizes chevron type packing seals. These seals are available in Nitril or viton elastomeric material. The Sleeve has a burst and collapse rating equal to that of N80 grade tubing.

Tubing O.D. 💦 🦰		Norm. Size		Seal Bore CX		Tool O.D.	
In	mm 🛀	In	mm	In	mm	In	mm
2 3/8	60.33	1.87	47.50	1.875	47.63	3.060	77.72
2 7/8	73.03	2.31	58.67	2.313	58.75	3.688	93.68
3 1/2	88.90	2.75	69.85	2.750	69.85	4.280	108.71
3 1/2	88.90	2.81	71.37	2.813	71.45	4.280	108.71

Production Accessories



CXD SLIDING SLEEVE

The Canuck Completions type CXD sliding sleeve is a tubing mounted flow control device which controls the movement of fluids and gases between the casing annulus and the tubing by means of an internal sliding sleeve that is opened and closed by standard wireline procedures.

The CXD sliding sleeve features a CX type profile at the top and a polished bore below the communication ports. The B shifting tool is used open the sleeve by jarring down and close the sleeve by jarring up. Any number of sliding sleeves may be run in a single string and opened or closed on a single wireline run.

The CXD utilizes chevron type packing seals. These seals are available in Nitril or Viton elastomeric material. The sleeve has a burst and collapse rating equal to that of N-80 Grade Tubing

Tubing O.D.	Nom Size	Seal Bore CX	Tool O.D.

In	mm	In	mm	In	mm	In	mm
2 3/8	60.33	1.87	47.50	1.875	47.63	3.060	77.72
2 7/8	73.03	2.31	58.67	2.313	58.75	3.688	93.68
3 1/2	88.90	2.75	69.85	2.750	69.85	4.280	108.71
3 1/2	88.90	2.81	71.27	2.813	71.45	4.280	108.71

Production Accessories



Casing Scraper

The Casing Scraper is used to remove scale, cement sheath, perforating burrs, or any other foreign matter on the inside casing wall in order to provide a smooth clean casing ID for running and setting packers and other sub-surface equipment.

Features:

- One piece body with full 360oF (182oC) casing ID coverage provided by six spring loaded scraper blades.
- Large bypass areas around and between the blades for ease of circulating. Each blade is secured in its own individual pocket and ensures that all thrust and rotational forces are absorbed directly by the one piece body.
- No special tools other than a pipe vise are required to change the blades or springs.
- Leaf type incoloy springs behind each self-sharpening blade, providing maximum usage before repairs or replacement in necessary.
- API regular pin up and box down are normally supplied with the casing scraper, with other connections available if required.

Operation:

The Casing Scraper may be run on tubing or drill pipe and operated equally well when reciprocated vertically or when rotated. Normally rotation is not necessary unless restrictions are encountered. In areas where packers or other tools are to be set, the scraper should be reciprocated through a number of times to ensure the casing is clean and smooth.

Production Accessories

Rocky Mountain House, AB, Canada.

Product Specifications

Product Number	Casing Size	Casing Weight	Blade O.D	Thread
10-010-450	4 1⁄2	6.75-16.60 PPF	4.42	2 3/8 EUE
10-010-500	5"	8.0-21.0 PPF	4.80"	2 3/8 EUE
10-010-550	5 1/2"	9.00-23.00 PPF	5.28"	2 7/8 EUE
10-010-650	6 5/8"	12.00-34.00 PPF	6.34"	2 7/8 EUE
10-010-700	7"	13.0-40.0 PPF	6.72"	2 7/8 EUE
10-010-750	7 5/8"	20.00-45.00 PPF	7.26"	2 7/8 EUE
10-010-850	8 5/8"	20.00-49.00 PPF	8.41"	3 ½ EUE
10-010-950	9 5/8"	32.2-58.0 PPF	9.29"	3 1/2EUE
10-010-100	10 3/4"	32.75-65.70 PPF	10.53"	3 ½ EUE
	COM	PLET	ION	S

Production Accessories



Tubing Anchor / Catcher Model CDB

Model CDB Tubing Anchor/Catchers are used to allow placement of tubing in tension. Vertical tubing movement is prevented which in turn lessens sucker rod tubing wear. Their small OD and large ID permits larger volume production capacities. These fully retrievable tools can be easily adjusted for emergency release by adding or removing shear pins. They are available for 4 1/2" through 7 5/8" casing.

- Sets securely in any hardness casing, including premium grades
- Large bore Small OD
- Right hand release or Emergency shear release
- Easy adjusted release from 5,000 lbs to 60,000 lbs
- Drag blocks rather than drag springs

l	Casing	Casing Wt	Setting Range		Tool	Tool	Threads
	OD		Min ID	Max ID	OD	ID	Box Up Pin Down
	4 1/2	9.5-13.5	3.920	4.090	3.75	1 93	
	5	13.0-18.0	4.276	4.494	4.00	1.55	2-3/8 EU 8 RD
	5 1/2	13.0-23.0	4.670	5.044	4.50	2.00	-
	5 1/2	13.0-23.0	4.670	5.044	4.50		2-7/8" EU 8 RD
	6 5/8 7	17.0-20.0 23.0-38.0	5.920	6.456	5.50	2.37	
	7 7 5/8	17.0-20.0 20.0-39.0	6.413	7.125	5.50		

Production Accessories

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Pump-Out Plug Assembly

is used below a production packer or tailpipe. The assembly holds pressure from below and unseats with a pre-determined amount of tubing pressure. Available in 2 3/8, 2 7/8, And 3 $\frac{1}{2}$ EUE Connections.



Production Accessories

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Tubing Swivel

The Tubing Swivel allows surface connections to remain in place while the work string is rotated and moved vertically. It is primarily used in conjunction with the "SST" to provide a means of operating the by-pass valve while the treating line is connected.

It can also be used to facilitate the operation of other packers, cementing or for light drilling.

Operation:

When using this swivel, it is strongly recommended that the treating line be secured to the Tubing Swivel with a suitable safety chain or cable.

Mechanical Collar Locator

The Mechanical Collar Locator provides a means of precisely locating casing collars while running tubing. It can be made up in the tubing string at any point, orientated to indicate collar locations while running in or coming out.

The spring loaded indexing blocks will slide downward through casing couplings without indication. However, when pulled upward through the casing coupling the shoulder on the indexing block will engage the lower end of each casing joint.

The body of the Mechanical Collar Locator is constructed of high strength alloy steel. The locator blocks are carbonized for long wear.

Production Accessories



Type 'C' Expansion Joint

The Type C Expansion Joint is placed in the Tubing String to allow for pipe contraction or expansion, due to the effects of temperature or pressure. This Expansion Joint is keyed throughout the length of its stroke to allow the transmission of torque through the joint. Expansion Joints come standard with a 3.0m stroke and may be shear pinned throughout their full stroke at one foot intervals.

Type C Expansion Joints are available with several different V-Seal materials to suit almost any application. Manufactured from low alloy steel, in accordance with NACE specification MR-01-75 for H2S service, these Expansion Joints are also available in other materials.

A.P.I. tubing connections are standard on the C Expansion Joints, but all common tubing connections are available if ordered in advance.

Blast Joint

Blast Joint is used to protect the tubing string from the abrasive action of flowing gas or oil when positioned opposite the perforations. It may also be used directly below the well head to protect from the abrasion of doing a hydraulic fracturing operation down the annulus.

Blast Joint is made from high quality alloy steel to ensure maximum abrasion resistance and strength. For H2S service the Blast Joint is available heat treated to between 18 and 22 RC Hardness as per NACE Specification MR-01-75.

Full tubing I.D. is maintained through the Blast Joint with the O.D. the same as tubing couplings. As standard it is available in API tubing connections. Most tubing connections can be supplied, however, I.D./O.D. dimensions may vary depending on the tubing connection and tubing weight.

Blast Joint is available in lengths of .6m(2 ft.), 1.2m(4 ft.), 1.8m(6 ft.), 2.4m(8 ft), 3m(10 ft.) and 6m(20 ft.).

Production Accessories

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SR-222 Coating

SR-222 Coating is a powder coating applied to the disassembled tool and heat treated for maximum bond to the metal surfaces. The coating protects the metal from highly corrosive environments, such as H2S, water injection, etc. giving the tool an extended life downhole.

SR-222 coating can be applied to any tool ran in the wellbore, but is more common with production tools that are being left downhole. Coated tools have to specially ordered.



Production Accessories

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