Well Servicing Tools

Designed tough.



NORRIS

When Experience Counts

Toughness. Integrity. Experience. Those are just some of the qualities it takes to stay the industry leader in the oil patch for decade after decade. And, thanks to generations of dedicated employees, those are the qualities you can count on from your O'Bannon Well Servicing Tools.

We know the importance of getting your wells back on line quickly. So we've designed each tool to be quick and easy to use and extremely effective when it comes to tackling the job at hand.

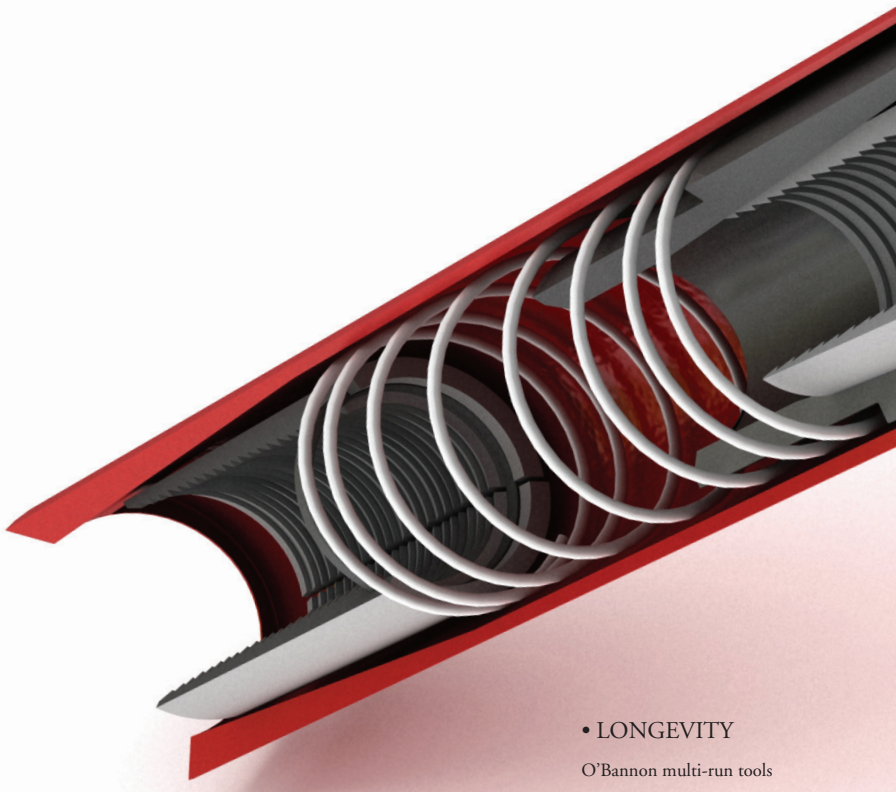
O'Bannon leads the industry with Well-Servicing Tools that are engineered, manufactured and continually improved for your success under stress. In fact, our customers in the field tell us that O'Bannon tools stand out above the rest, thanks to the superior quality, highest caliber materials, innovative designs and field-proven features.

Experience You Can Count On And Call On

At O'Bannon, we know that you need to get moving with the right parts in a hurry and get your well back into production. So we've put together this easy-to-use part selection guide so that you can size up the solution and get the right equipment, fast. However, if you have any questions, or want to double-check any specifications, please feel free to call or e-mail us:

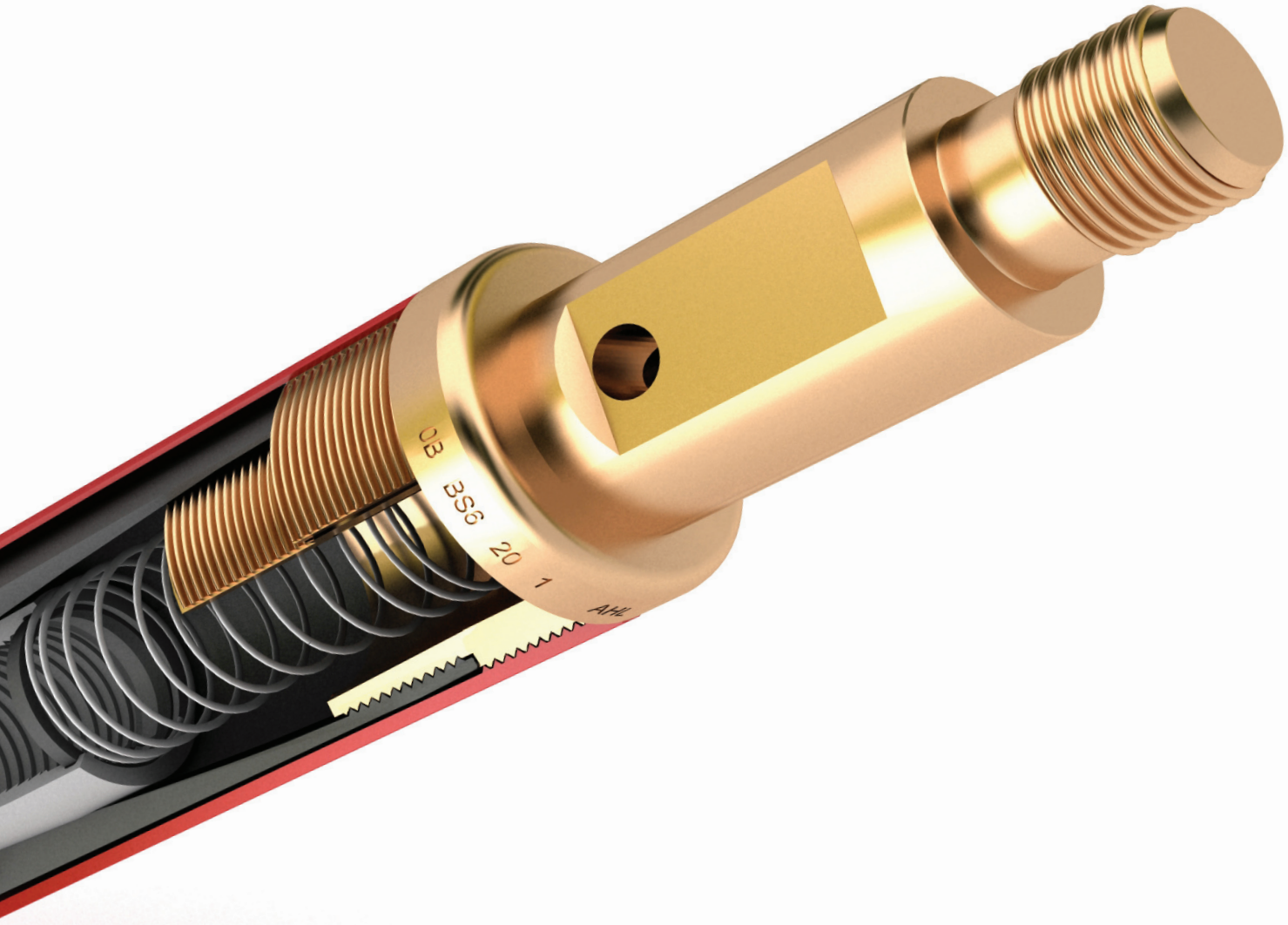
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When your experience comes together with ours, anything is possible.



• LONGEVITY

O'Bannon multi-run tools are designed for extended usage, coming through for you time after time. And our single-run products are engineered to work right the first time.



• QUALITY STANDARDS

O'Bannon Well Servicing Tools have been widely used for decades and have earned customer trust through consistent, effective performance. All rod hooks and elevators are pull tested at loads that meet or exceed their ratings.

• DESIGN

From generations of servicing the oil patch, O'Bannon has experience with just about any break that can happen, and we've come up with just the right equipment to address those situations. Our experience has made us the leader with some of the very best designs in the industry.

• EASE OF USE

When you use O'Bannon Well Servicing Tools, you can be sure we've thought about all the details. There's easy assembly by hand, with the use of a 12" Crescent Wrench and a strap wrench. There's easy release by thumb and finger pressure alone on equipment such as Sucker Rod Elevators. And our Sucker Rod Hooks always come through with easy operation under all conditions or temperature extremes.

• ENGINEERING AND MANUFACTURING

O'Bannon Well Servicing Tools are manufactured by a name you've trusted for years: Norris. So you can expect careful engineering and accurate machining. The Norris manufacturing plants use state-of-the-art CNC lathes that maintain precise tolerances and expert heat-treating to develop the required characteristics of strength and hardness.

How it Works

Getting it Done. A Quick Look at The O'Bannon Tools at Work.

THE O'BANNON TOOLS

Sometimes they bite, sometimes they envelope the broken part, sometimes they splice a rod together for continued use. Every O'Bannon Well Servicing Tool tackles the job at hand in a unique way. Here's a handy Field Guide to how they get it done and keep your well servicing operation moving forward.



Type B Socket

How it works:

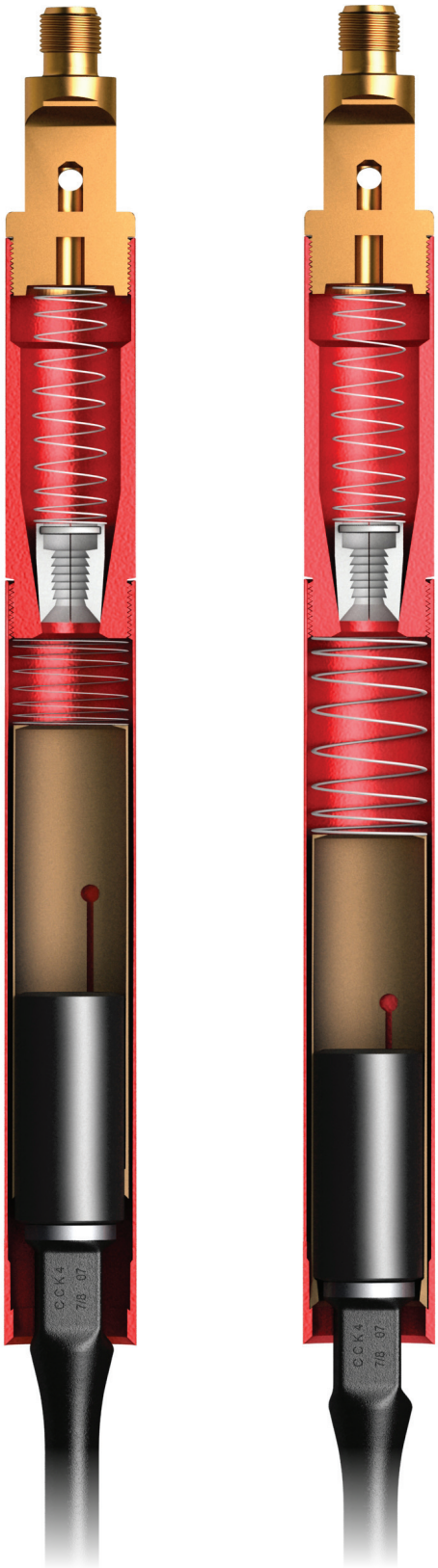
The catch is gripped by spring-loaded, hard wickered (toothed) slips. Simple rod body breaks are engaged in the upper slips which work in the inner bowl (F); other catches are made by similar slips positioned at the lower end of the outer bowl (B).

Overshot Socket

How it works:

The O'Bannon Overshot Socket employs a lower slip unit which opens as it passes over the coupling, then closes below the coupling to hold the rod string in a firm mechanical grip.
A conventional set of wickered slips in the upper portion of the socket catches rod body breaks in the normal manner.

NOTICE: Using the oversize Overshot Socket to fish standard couplings in tubing will likely result in bowl damage.



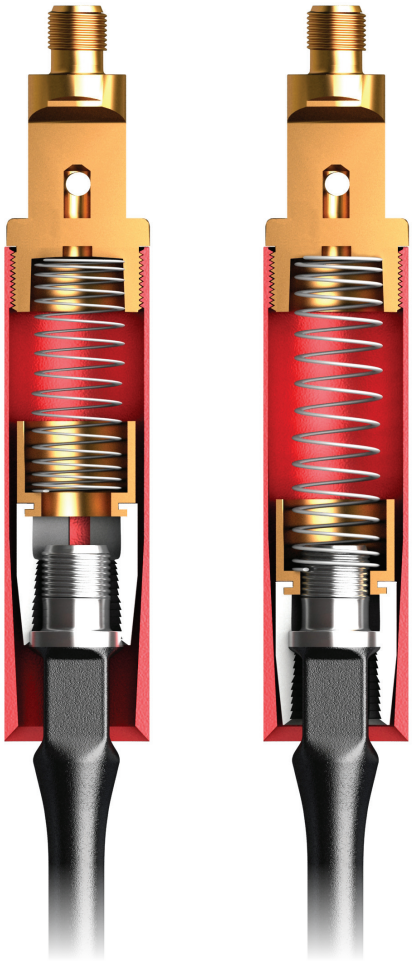
How it Works



Horn Socket

How it works:

O'Bannon Horn Sockets have a lower bowl with integral hard wickered slips built into the lower bowl. When the socket is lowered onto the catch and rotated to the right, the wickered lower bowl of the O'Bannon Horn Socket can be threaded securely on a Class T coupling. Rod body breaks are caught with conventional wickered (toothed) slips in the upper bowl.



Big Boy Socket

How it works:

The catch is gripped by spring-loaded, hard wickered (toothed) slips. API Class T couplings, pin shoulders, pin threads and polished rod breaks are engaged in the wickered slips which work in the bowl.



Baby Red Socket

How it works:

The catch is gripped by spring-loaded, hard wickered (toothed) slips. Simple rod body breaks are engaged in the wickered slips which work in the bowl.

Baby Red Sockets used as rod splicer

To use the Baby Red Socket as a rod splicer, please order the parts listed in “F” to substitute for “A”.

O'Bannon Toolbox

We Put More Into Every Tool So You Can Get More Out of Every Well.

THE O'BANNON TOOLBOX

When experience counts, O'Bannon Sockets in your toolbox will help you get the job done right the first time.

Application By Socket/Tubing Size

Application	Baby Red Socket		Big Boy Socket			Horn Socket				Overshot Socket							Type B Socket			
			Regular		Oversize					Regular				Oversize			Regular			Oversize
	2-3/8" Tubing	2-7/8" Tubing	2-3/8" Tubing	2-7/8" Tubing	2-7/8" Tubing	1-1/4" Tubing	1-1/2" Tubing	2-1/16" Tubing	2-3/8" Tubing	2-1/16" Tubing	2-3/8" Tubing	2-7/8" Tubing	3-1/2" Tubing	2-3/8" Tubing	2-7/8" Tubing	3-1/2" Tubing	2-3/8" Tubing	2-7/8" Tubing	3-1/2" Tubing	2-7/8" Tubing
Class SM (Spraymetal) Coupling	---	---	---	---	---	---	---	---	---	●	●	●	●	●	●	●	---	---	---	---
Class T (Regular) Coupling	---	---	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Pin Shoulder	---	---	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Pin Thread	---	---	●	●	●	●	●	●	●	---	---	---	---	---	---	---	●	●	●	●
Polished Rod (Non-Spraymetal)	---	---	●	●	●	●	●	●	●	---	---	---	---	---	---	---	●	●	●	●
Rod Body	●	●	---	---	---	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Rod Splice	●	●	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Valve Rod	●	●	---	---	---	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Valve Rod Guide	---	---	●	●	●	---	●	●	●	●	●	●	●	●	●	●	●	●	●	●

Sucker Rod Sockets

Type B Socket

The O'Bannon Type B Socket is the reliable, economical answer to fishing jobs involving rod body breaks, pin shoulders or threads, Class T couplings and polished rods. Certain larger catches cannot be made with standard size sockets so the 2-1/2" Oversize Type B Socket is available as a special purpose, single-run tool.

Type B Socket

Item	Qty.	Description	Catalog Number			
			Regular			Oversize
			2-3/8" Tubing	2-7/8" Tubing	3-1/2" Tubing	2-7/8" Tubing
Fig. I	---	**Type B Socket**	BS11-20	BS11-25	BS11-30	SS20-25
		Outside Diameter	1-29/32"	2-11/32"	2-7/8"	2-11/32"
A	1	**Top**	BS6-20	BS6-25	BS6-30	BS6-25
		Size Pin Furnished	1-1/16"	1-1/16"	1-3/16"	1-3/16"
B	1	**Bowl, Outer**	BS5-20	BS5-25	BS5-30	SS5-25
C	1	**Spring, Upper**	BS7-20	BS7-25	BS7-30	BS7-25
D	---	**Ring, Spring**	BS14-20	BS14-25	BS14-30	BS14-25
E	1	**Slips, Upper (with Spring Ring) For:**				
		7/16" thru 5/8" diameters	BS15-20	BS15-25	---	BS15-25
		5/8" thru 3/4" diameters	BS3-20 •	BS3-25	BS3-30	BS3-25
		3/4" thru 7/8" diameters	BS12-20	BS12-25 •	BS12-30	BS12-25 •
		7/8" thru 1" diameters	---	BS19-25	BS19-30 •	BS19-25
F	1	**Bowl, Inner**	BS4-20	BS4-25	BS4-30	BS4-25
G	1	**Spring, Lower**	BS2-20	BS2-25	BS2-30	BS2-25
H	---	**Ring, Retainer**	BS13 -20	BS13-25	BS13-30	BS13-25
I	1	**Slips, Lower (with Retainer Ring) For:**				
		7/8" and 1" Pins	BS8-20	BS8-25	---	---
		1-1/16" Pins	BS16-20	BS16-25	BS16-30	---
		1-3/16" Pins	---	BS20-25	BS20-30	---
		1-1/8" thru 1-3/8" diameters	BS9-20	BS9-25	BS9-30	---
		1-3/8" thru 1-1/2" diameters	BS1-20 •	---	---	---
		1-3/8" thru 1-5/8" diameters	---	BS1-25 •	---	---
		1-1/2" thru 1-15/16 diameters	---	---	BS1-30 •	---
		1-5/8" thru 1-13/16" diameters	---	---	---	SS1-25 •

• Standard parts will be shipped unless otherwise specified.

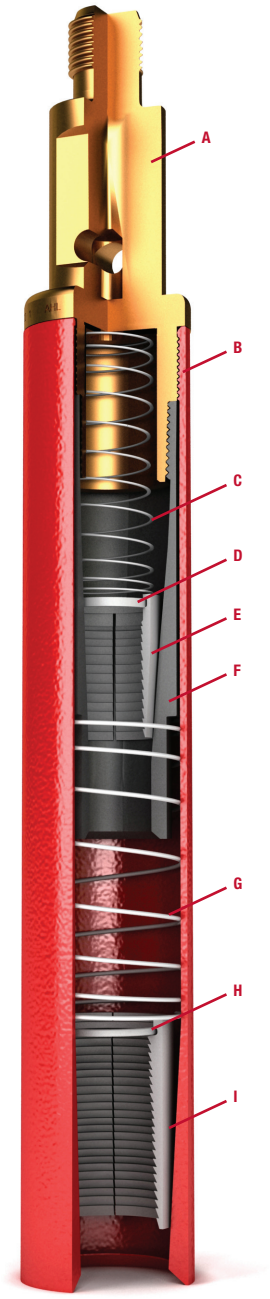


Fig. I

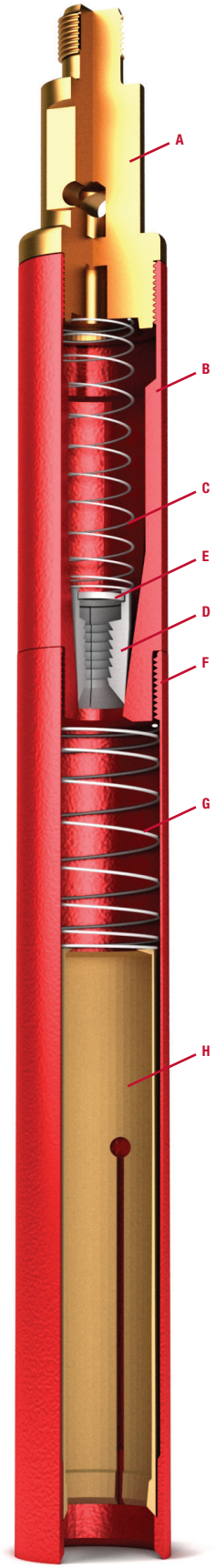


Fig. II

Overshot Socket

Spraymetal couplings which resist capture by ordinary wickered (toothed) slips can be successfully retrieved with O'Bannon Overshot Sockets. Regular sockets cannot make certain larger catches so O'Bannon Oversize Overshot Sockets are available in the three larger sizes as special purpose, single-run tools.

Overshot Socket									
Item	Qty.	Description	Catalog Number						
			Regular				Oversize		
			2-1/16" Tubing	2-3/8" Tubing	2-7/8" Tubing	3-1/2" Tubing	2-3/8" Tubing	2-7/8" Tubing	3-1/2" Tubing
Fig. II	---	**Combination Socket (Complete)**	CH21-175	CH21-20	CH21-25	CH21-30	OS21-20	OS21-25	OS21-30
		Coupling Socket[1]	CH11-175	CH11-20	CH11-25	CH11-30	OS11-20	OS11-25	OS11-30
		Outside Diameter	1-21/32"	1-29/32"	2-11/32"	2-7/8"	1-29/32"	2-11/32"	2-7/8"
A	1	**Top**	HS1-175	CH3-20	CH3-25	CH3-30	OS3-20	OS3-25	OS3-30
		Size Pin Furnished	1-1/16"	1-1/16"	1-1/16"	1-3/16"	1-1/16"	1-1/16"	1-3/16"
B	1	**Bowl, Upper**	HS5-175	CH5-20	CH5-25	CH5-30	OS5-20	OS5-25	OS5-30
C	1	**Spring, Upper**	BS7-20	BS7-20	BS7-30	CH6-30	BS7-20	BS7-30	CH6-30
D	1	**Slips, Upper (with Spring Ring) For:**							
		7/16" thru 5/8" diameters	BS15-20	BS15-20	BS15-25	---	BS15-20	BS15-25	---
		5/8" thru 3/4" diameters	BS3-20 •	BS3-20 •	BS3-25	BS3-30	BS3-20 •	BS3-25	BS3-30
		3/4" thru 7/8" diameters	---	BS12-20	BS12-25	BS12-30	BS12-20	BS12-25 •	BS12-30
		7/8" thru 1" diameters	---	---	BS19-25 •	BS19-30 •	---	BS19-25	BS19-30 •
		1" thru 1-1/8" diameters	---	---	---	BS21-30	---	---	BS21-30
E	---	**Ring, Spring**	BS14-20	BS14-20	BS14-25	BS14-30	BS14-20	BS14-25	BS14-30
F	1	**Bowl, Lower**	CH2-175	CH2-20	CH2-25	CH2-30	OS2-20	OS2-25	OS2-30
G	1	**Spring, Lower**	BS7-25	BS2-20	BS2-25	BS2-30	BS2-20	BS2-25	BS2-30
H	1	**Slip Unit For:**							
		1" O.D. Coupling	CH4S-175	---	---	---	---	---	---
		1-1/4" O.D. Coupling	CH4T-175 •	CH4T-20	CH4T-25	---	OS4T-20	---	---
		1-3/8" O.D. Coupling	---	CH4A-20	CH4A-25	CH4A-25	OS4A-20	---	---
		1-7/16" O.D. Coupling	---	CH4B-20	CH4B-25	---	OS4B-20	---	---
		1-1/2" O.D. Coupling	---	CH4C-20 •	CH4C-25	CH4C-30	OS4C-20	OS4C-25	---
		1-9/16" O.D. Coupling	---	CH4D-20	CH4D-25	CH4D-30	OS4D-20	OS4D-25	---
		1-5/8" O.D. Coupling	---	---	CH4E-25	CH4E-30	OS4E-20 •	OS4E-25	OS4E-30
		1-11/16" O.D. Coupling	---	---	CH4F-25	CH4F-30	---	OS4F-25	---
		1-3/4" O.D. Coupling	---	---	CH4G-25	CH4G-30	---	OS4G-25	OS4G-30
		1-13/16" O.D. Coupling	---	---	CH4H-25 •	CH4H-30	---	OS4H-25	OS4H-30
		1-7/8" O.D. Coupling	---	---	---	CH4J-30	---	OS4J-25	OS4J-30
		1-15/16" O.D. Coupling	---	---	---	CH4K-30	---	OS4K-25	OS4K-30
		2" O.D. Coupling	---	---	---	CH4L-30	---	OS4L-25 •	OS4L-30
		2-1/16" O.D. Coupling	---	---	---	CH4M-30	---	---	OS4M-30
		2-3/16" O.D. Coupling	---	---	---	CH4P-30 •	---	---	OS4P-30 •
		2-1/4" O.D. Coupling	---	---	---	---	---	---	OS4Q-30
		2-3/8" O.D. Coupling	---	---	---	---	---	---	OS4R-30

[1]Coupling sockets do not include items B, C, D and E.
• Standard parts will be shipped unless otherwise specified.

Horn Socket

Designed for fishing in small tubing sizes (1-1/4", 1-1/2" and 2-1/16") where it is not feasible to use Type B or Overshot Sockets.

Horn Socket						
Item	Qty.	Description	Catalog Number			
			1-1/4" Tubing	1-1/2" Tubing	2-1/16" Tubing	2-3/8" Tubing
Fig. III	---	**Horn Socket**	HSN21-125	HSN21-150	HS21-175	HS21-20
		Outside Diameter	1-9/32"	1-33/64"	1-11/16"	1-29/32"
A	1	**Top**	HS1-125	HS1-125	HS1-175	OS3-20
		Size Pin Furnished	15/16"	15/16"	15/16"	1-1/16"
B	1	**Bowl, Upper**	HS5-125	HS5-125	HS5-175	OS5-20
C	1	**Spring**	BS7-125	BS7-125	BS7-20	BS7-20
D	---	**Ring, Spring**	BS14-125	BS14-125	BS14-20	BS14-20
E	1	**Slips, Upper (with Spring Ring) For:**				
		1/2"and 5/8" rods	BS15-125 •	BS15-125 •	---	---
		5/8" and 3/4" rods	---	---	BS3-20 •	BS3-20
		3/4" and 7/8" rods	---	---	---	BS12-20 •
F	1	**Bowl, Lower For:**				
		1" diameters	HS9-125 •	HS9-150	---	---
		1-1/4" thru 1-3/8" diameters	---	HS8-150 •	---	---
		1-3/8" thru 1-1/2" diameters	---	---	HS7-175 •	---
		1-5/8" thru 1-11/16" diameters	---	---	---	HS6-20 •

• Standard parts will be shipped unless otherwise specified.

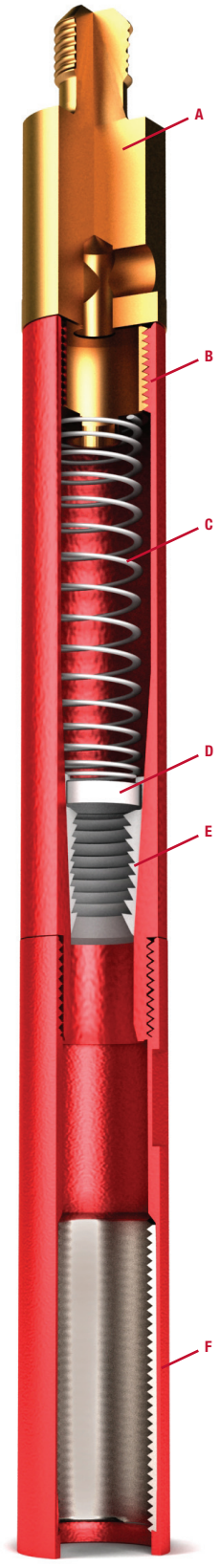


Fig. III

Baby Red Socket

Designed for fishing rod body breaks, the O'Bannon Baby Red Socket is frequently used as a "splicer" and left in the well until the pump must be pulled. The small O.D. of the bowl permits this socket to bypass some areas where paraffin, scale and flattened areas in the tubing offer resistance to regular sockets.

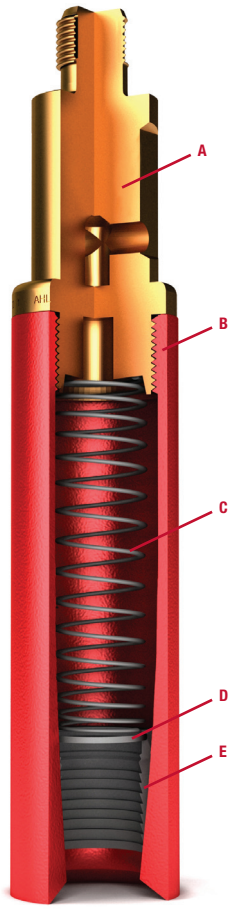


Fig. IV

Baby Red Socket				
Item	Qty.	Description	Catalog Numbers	
			2-3/8" Tubing	2-7/8" Tubing
Fig. IV	---	**Baby Red Socket**	BR11-20	BR11-25
		Outside Diameter	1-3/4"	2-1/8"
A	1	**Top**	BR4-20	BR4-25
		Size Pin Furnished	1-1/16"	1-1/16"
B	1	**Bowl**	BR3-20	BR3-25
C	1	**Spring**	BS7-20	BS7-30
D	1	**Ring, Spring**	BS14-20	BS14-25
E	1	**Slips (with Spring Ring) For:**		
		1/2" Pipe Thread Pins	BR2-20	---
		15/16" Pins	BR2-20	---
		7/16" thru 5/8" diameters	BS15-20	BS15-25
		5/8" thru 3/4" diameters	BS3-20 •	BS3-25
		3/4" thru 7/8" diameters	BS12-20	BS12-25 •
		7/8" thru 1" diameters	---	BS19-25
F	---	**Top, Rod Splicer**	BR507-20	BR507-25

• Standard parts will be shipped unless otherwise specified.

Big Boy Socket

Designed for fishing API Class T couplings, pin shoulders, pin threads and polished rods, the Norris/O'Bannon Big Boy Socket has a short body and single set of slips for economy and ease of use. Regular sockets cannot make certain larger catches so Oversize Big Boy Sockets, with thinner outer bowls and matching slips, are available as special purpose, single-run tools.

Big Boy Socket

Item	Qty.	Description	Catalog Number		
			Regular		Oversize
			2-3/8" Tubing	2-7/8" Tubing	2-7/8" Tubing
Fig. V	---	**Big Boy Socket**	BBS11-20	BBS11-25	BBS20-25
		Outside Diameter	1-29/32"	2-11/32"	2-11/32"
A	1	**Top**	BBS6-20	BBS6-25	BBS6-25
		Size Pin Furnished	1-1/16"	1-1/16"	1-3/16"
B	1	**Bowl**	BBS5-20	BBS5-25	BBS5-25
C	1	**Spring**	BS7-25	BS2-20	BS2-20
D	1	**Slip Stop**	BBS4-20	BBS4-25	BBS4-25
E	1	**Slips For:**			
		7/8" and 1" Pins	BS8-20	BS8-25	---
		1-1/16" Pins	BS16-20	BS16-25	---
		1-3/16" Pins	---	BS20-25	---
		1-1/8" thru 1-3/8" diameters	BS9-20	BS9-25	---
		1-3/8" thru 1-1/2" diameters	BS1-20 •	---	---
		1-3/8" thru 1-5/8" diameters	---	BS1-25 •	---
		1-5/8" thru 1-13/16" diameters	---	---	SS1-25 •

• Standard parts will be shipped with the socket assembly unless otherwise specified.

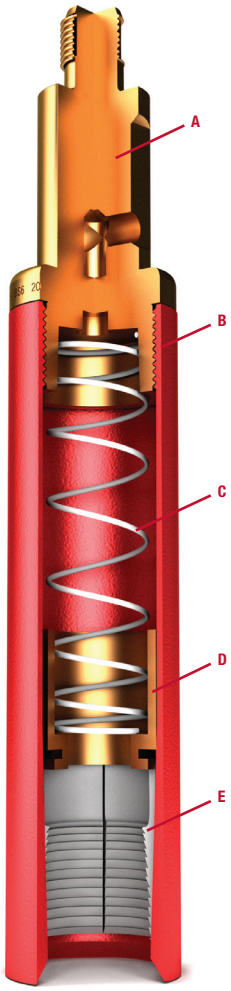


Fig. V

O'Bannon Toolbox

Sucker Rod Elevators



Fig. VI

Solid Body Sucker Rod Elevator				
Item	Qty.	Description	Catalog Number	
			Regular	Deepwell
Fig. VI	---	**O'Bannon Solid Body Steel Sucker Rod Elevator For:**		
		5/8" Steel Sucker Rods	E90	---
		3/4" and 5/8" Steel Sucker Rods	E91	E104
		7/8" and 3/4" Steel Sucker Rods	E92	E105
		1" Steel Sucker Rods	---	E106
		1-1/8" Steel Sucker Rods	---	E107
		1-1/4" Steel Sucker Rods	---	E108
		Norris Drive Rods®		
		1" Drive Rods	---	E106
		1-1/4" Drive Rods	---	E108
		1-1/2" Drive Rods	---	E109
		FRP (Fiberglass) Sucker Rods		
		3/4" FRP Sucker Rods	---	SO
		7/8" FRP Sucker Rods	---	SO
		1" FRP Sucker Rods	---	SO
		1-1/4" FRP Sucker Rods	---	SO
		1-1/4" *Fiberflex* FRP Sucker Rods	---	E116
A	1	**Bail For:**		
		E90, E91 and E92	E2A-16	---
		E104, E105, E106, E107, E108, E109 and E116	---	E2B-19H
B	1	**Body For:**		
		E90	E1A-1	---
		E91	E1A-2	---
		E92	E1A-3	---
		E104	---	E1B-2
		E105	---	E1B-3
		E106	---	E1B-4
		E107	---	E1B-5S
		E108	---	E1B-6N
		E109	---	E1B-9
		E116	---	E1B-6A
C	2	**Latch For:**		
		E90, E91, E92, E104, E105 and E106	E3F	E3F
		E107	---	E3YF
		E108	---	E3Y
		E109 and E116	---	E3Z
D	2	**Lever For:**		
		E90, E91, E92, E104, E105, E106, E107 and E108	E4	E4
		E109 and E116	---	E4X
E	2	**Spring**	E5	E5
F	2	**Ring, Trunnion**	E7	E7
G	4	**Pin, Drive**	E6RP	E6MP
---	1	**Repair Kit For:**		
		E90, E91 and E92 Elevators	ERP-1	---
		E104, E105 and E106 Elevators	---	ERP-2
		E107 Elevators	---	ERP-3
		E108 Elevators	---	ERP-4
		E109 and E116 Elevators	---	ERP-7
		Repair kit includes 2 (each) Latches, Levers, Springs and Trunnion Rings and 4 Drive Pins.		
Specifications			Regular	Deepwell
		Load Rating	15 Tons	25 Tons
		Weight	20 lbs.	29 lbs.
		Bail Diameter	1"	1-1/8"
		Body Width Inside of Bail	5-1/4"	5-1/4"

• SO indicates special order item.

Solid Body Sucker Rod Elevator

O'Bannon Sucker Rod Elevators have been carefully engineered and manufactured to provide maximum rod string protection, wear resistance and ease of handling and operation.

The one-piece body is made of alloy steel, heat-treated for extra strength and wear resistance; the forged bail is stiffened at the bend with an "I" section to prevent binding under maximum loads.

The seat for the rod upset radius is investment cast to produce a precision fit, thus preventing both tilting of the elevator body and local stressing or kinking of the sucker rods.

O'Bannon Solid Body Sucker Rod Elevators can be custom-designed and manufactured to accommodate fiberglass sucker rods. Simply provide the dimensions of the FRP end-fitting to Norris with the purchase order requisition.

Solid Body Special Service Elevator

O'Bannon Solid Body Special Service Elevators have been carefully engineered and manufactured to provide maximum ease of handling and operation for polished rods and small diameter tubing.

Solid Body Special Service Elevator

Item	Qty.	Description	Catalog Number
Fig. VII	---	**O'Bannon Solid Body Elevators For:**	
		Small Diameter Tubing	
		3/4" Upset Tubing and 1" Non-Upset Tubing	E114
		1" Upset Tubing	E115
		Polished Rods	
		1-1/8" Polished Rods	E112
		1-1/4" Polished Rods	E113
		1-1/2" Polished Rods	E115
A	1	**Bail**	E2B-19H
B	1	**Body For:**	
		E112	E1B-5
		E113	E1B-6
		E114	E1B-6P
		E115	E1B-7
C	2	**Latch For:**	
		E112 and E113	E3Y
		E114	E3X
		E115	E3Z
D	2	**Lever For:**	
		E112	E4
		E113, E114 and E115	E4X
E	2	**Spring**	E5
F	2	**Ring, Trunnion**	E7
G	4	**Pin, Drive**	E6MP
---	1	**Repair Kit For:**	
		E112 Elevators	ERP-5
		E113 & 114 Elevators	ERP-6
		E115 Elevators	ERP-7
		Repair Kit includes 2 (each) Latches, Levers, Springs and Trunnion Rings and 4 Drive Pins.	

Specifications	
Load Rating	25 Tons
Weight	29 lbs.
Bail Diameter	1-1/8"
Body Width Inside of Bail	5-1/4"



Fig. VII



Fig. VIII

Plate Type Sucker Rod Elevator

O'Bannon offers a Plate Type Sucker Rod Elevator to provide the well servicing industry with a low cost, high quality tool for working steel rod strings. The elevator uses two field replaceable plates, one on each side, available for each different sucker rod size in the 5/8" to 1" range. This allows a single plate-type sucker rod elevator, with three replaceable plates, to replace three solid-body sucker rod elevators for handling steel sucker rods.

The one-piece body is made of alloy steel, heat treated for extra strength and wear resistance; the forged bail is stiffened at the bend with an "I" section to prevent binding under maximum loads.

Plate Type Sucker Rod Elevator			
Item	**Qty.**	**Description**	**Catalog Number**
Fig. VIII	---	**O'Bannon Plate Type Elevator For:**	
		5/8" through 1" Steel Sucker Rods	E106-PT
A	1	**Bail**	E2B-19H
B	1	**Body**	E1B-PT
C	2	**Latch**	E3F
D	2	**Lever**	E4
E	2	**Spring**	E5
F	2	**Ring, Trunnion**	E7
G	4	**Pin, Drive**	E6MP
H	2	**Plate For:**	
		3/4" and 5/8" Steel Sucker Rods	E8-65
		7/8" and 3/4" Steel Sucker Rods	E8-76
		1" Steel Sucker Rods	E8-88
I	4	**Screw, Plate**	E6PT
		E106-PT Repair Kit	ERP-2
		Repair kit includes 2 (each) Latches, Levers, Springs and Trunnion Rings and 4 Drive Pins.	
Specifications			**Regular**
Load Rating			25 Tons
Weight			29 lbs.
Bail Diameter			1-1/8"
Body Width Inside of Bail			5-1/4"

Frontlock Hook

All O'Bannon Sucker Rod Hooks are designed for maximum safety and ease of operation. The double-latch locking mechanism is strong enough to ward off steel beams, yet as easy to open as your hand. Half concealed in the shank of the hook is a lever, which releases the latch only when the hook is gripped to engage or disengage the elevator bail. A guard, cast as an integral part of the shank, protects this release lever.

The main bearings in all Frontlock Hooks are heavy-duty ball thrust type, fully enclosed to keep out dirt. It is easily lubricated by means of a shielded grease zerk fitting.

Steel alloy castings are heat treated for optimum strength and hardness. Capacity ratings are determined by tensile strength testing. The load rating applied to each tool is based upon API Specification 8C.

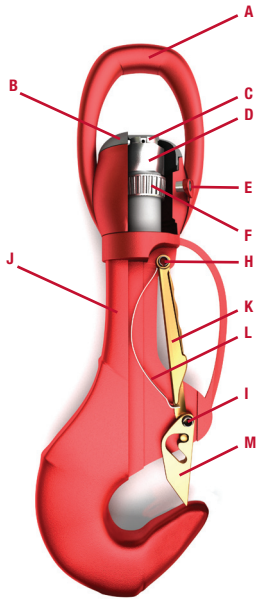


Fig. IX

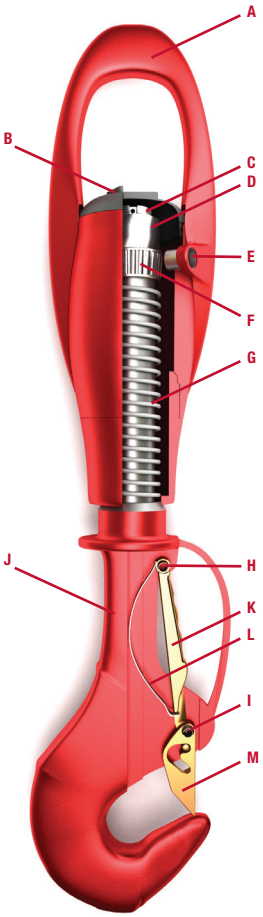


Fig. X

O'Bannon Frontlock Hooks

Item	Qty.	Description	Catalog Number Frontlock Hook Regular Type FH11EGH Fig. IX	Catalog Number Frontlock Hook Spring Type FH12GH Fig. X
A	1	**Bail**	FH2D	FH2C
B	1	**Cap**	FH17	FH17
C	1	**Pin**	FH10	FH10
D	1	**Nut**	FH7	FH7
E	1	**Fitting, Zerk**	FH18	FH18
F	1	**Bearing**	FH6AH	FH6AH
G	1	**Spring Compression**	---	FH14
H	1	**Pin, Lever**	FH8P	FH8P
I	1	**Pin, Latch**	FH8P	FH8P
J	1	**Shank**	FH1AG	FH1BG
K	1	**Lever**	FH4	FH4
L	1	**Spring, Lever**	FH5	FH5
M	1	**Latch**	FH3	FH3
---	1	**Regular Type Frontlock Hook Repair Kit** *Repair kit includes 1 (each) Cap, Pin, Nut, Bearing, Lever Pin, Latch Pin, Lever, Lever Spring and Latch.*	FHERP-1	---
---	1	**Spring Type Frontlock Hook Repair Kit** *Repair kit includes 1 (each) Cap, Pin, Nut, Bearing, Compression Spring, Lever Pin, Latch Pin, Lever, Lever Spring and Latch.*	---	FHERP-2
Specifications			Regular Type	Spring Type
Load Rating			25 Tons	25 Tons
Weight			32 lbs.	48 lbs.
Overall Length			23"	31-1/2"
Net Length			19"	27-1/2"
Spring Travel			---	2-1/2"
Diameter Bail Opening			3-1/2"	3-1/2"
Hook Opening			2"	2"

Accessories

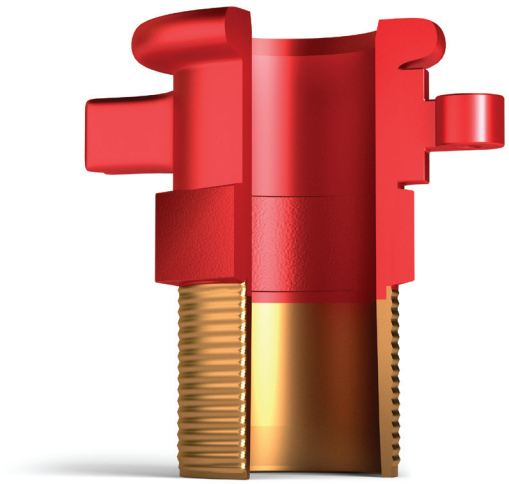


Fig. XI

Hinged Bell Nipple

The O'Bannon Hinged Bell Nipple is designed to be screwed into the pumping tee when the stuffing box is taken off to pull rods. It protects the threads in the pumping tee, guides sucker rods into the tubing and provides a seat for the sucker rod elevators. The O'Bannon Hinged Bell Nipple is non-sparking because it is made out of aluminum bronze.

Hinged Bell Nipple			
Item	Description	Catalog Number	
		2-3/8" Tubing	2-7/8" Tubing
Fig. XI	**Hinged Bell Nipple For:**		
	Upset 8 Rd Thread	BN11D-20	BN11D-25
	Non-Upset 11-1/2 V Thread	BN11A-20	BN11A-25
	8 V Line Pipe Thread	---	BN11E-25



Fig. XII

Polished Rod Top

With this special fitting on the top of the polished rod, the rod string can be lifted without disturbing the beam hanger. Threaded to receive an API pin on either end, it is small enough in the middle to allow for the use of a rod elevator. Made of heat-treated alloy steel with a minimum yield strength of 100,000 psi.

Polished Rod Top			
Item	Description	Stem Diameter	Catalog Number
Fig. XII	**Polished Rod Top For:**		
	5/8" x 3/4" Box	25/32"	RT1
	3/4" x 7/8" Box	7/8"	RT2

Paraffin Knive

O'Bannon Paraffin Knives are manufactured for extra strength and reliability. The free-moving disk allows for quicker penetration and quick seating to remove paraffin as the knife is withdrawn. Disk replacement is easy thanks to our threaded blade.

Paraffin Knife			
Item	**Description**	**Weight**	**Catalog Number**
Fig. XIII	**Paraffin Knife for 2-3/8" Tubing** Complete with 3/4" API Pin	3-3/4 lbs	PK1020-1 1/16
	Paraffin Knife for 2-7/8" Tubing Complete with 3/4" API Pin	4 lbs.	PK1025-1-1/16
	Disk Scraper for 2-3/8" Tubing	1/4 lbs.	PK-920
	Disk Scraper for 2-7/8" Tubing	1/4 lbs.	PK-925



Fig. XIII

Tool Selection Guide

Getting it Right. How to Select The Right O'Bannon Socket.

Do you know what type and size of fishing tool you need? This step-by-step guide will help take the guesswork out of tool selection.

STEP I: Determine the tubing size.

Knowing the exact inner diameter of the tubing sets the stage for the rest of the tool selection process.

STEP 2: Determine the fish.

What's looking up? Examine the piece you removed from the hole. If the failure occurred in the body of a sucker rod, you know you need to fish for a rod body of the same dimension. In the case of a pin failure, you need to determine the size of the rod shoulder left in the hole. In cases when a break has occurred close to the end of a rod, and you are not sure if you are fishing a rod body or coupling, you need to determine the size of both.

STEP 3: Determine the size of the fish.

Refer to the appropriate Fishing Dimension Guide table to determine the size or sizes of the failed piece.

STEP 4: Select the right O'Bannon Socket

Once you know the job to be done and the measurements of the tubing and fish, the Tool Selection Guide will help you select the fishing tool that is right for your situation.

Norris Sucker Rods

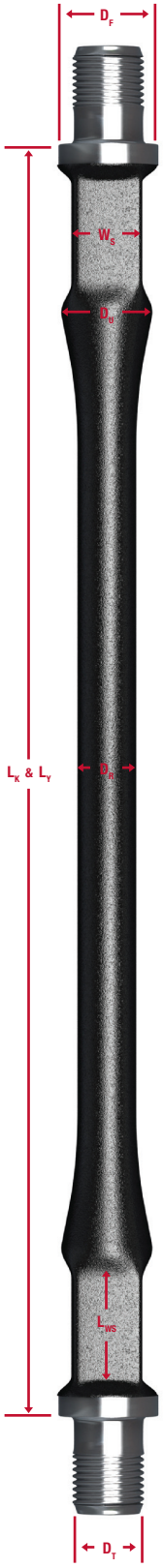
D_R Diameter of Rod Body	D_T Diameter of Thread	D_F Outside Diameter of Pin Shoulder	W_S Width of Wrench Square	L_{WS} Length of Wrench Square[1]	D_U Diameter of Bead	L_K Length of Sucker Rod[2]	L_Y Length of Pony Rod[2]
5/8"	15/16"-10 TPI	1-1/4"	7/8"	1-1/4"	1-7/32"	296" or 356"	20"- 44"- 68"- 92" -116"-140"
3/4"	1-1/16"-10 TPI	1-1/2"	1"	1-1/4"	1-13/32"		
7/8"	1-3/16"-10 TPI	1-5/8"	1"	1-1/4"	1-1/2"		
1"	1-3/8"-10 TPI	2"	1-5/16"	1-1/2"	1-29/32"		
1-1/8"	1-9/16"-10 TPI	2-1/4"	1-1/2"	1-5/8"	2-3/16"		
1-1/4"	1-9/16"-10 TPI	2-1/4"	1-1/2"	1-5/8"	2-3/16"		

[1]Minimum length, exclusive of fillet.
[2]Measured from contact face of pin shoulder to contact face of pin shoulder (±2").

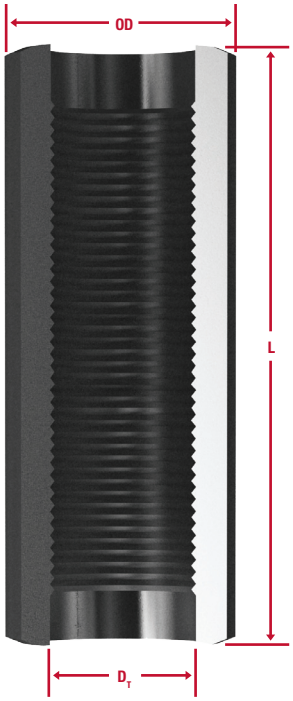
Norris Drive Rods

D_R Diameter of Rod Body	D_T Diameter of Thread	D_F Outside Diameter of Pin Shoulder	W_S Width of Wrench Square	L_{WS} Length of Wrench Square[1]	D_U Diameter of Bead	L_Y Length of Drive Rod[2]
1"	1-3/16"-10 TPI	1-5/8"	1"	1-1/4"	1-1/2"	10"- 20"- 44"- 68"- 92" -116"-140"-296"
1-1/4"	1-3/8"-10 TPI	2"	1-5/16"	1-1/2"	1-29/32"	
1-1/2"	1-9/16"-10 TPI	2-1/4"	1-1/2"	1-5/8"	2-3/16"	

[1]Minimum length, exclusive of fillet.
[2]Measured from contact face of pin shoulder to contact face of pin shoulder (±2").

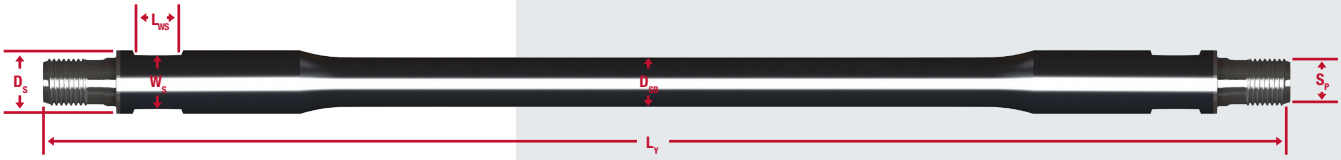


Tool Selection Guide



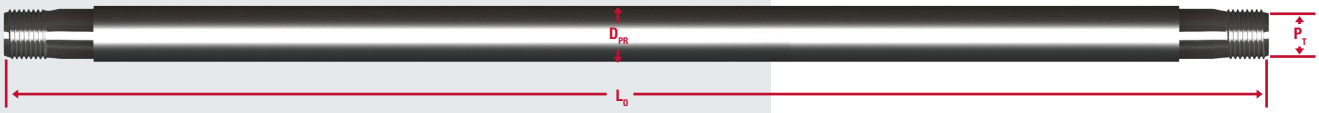
Norris Couplings				
D_R Diameter of Rod Body	OD Outside Diameter		D_T Diameter of Thread	L Length[1]
5/8"	Slimhole	1-1/4"	15/16"-10 TPI	4"
	Fullsize	1-1/2"		
3/4"	Slimhole	1-1/2"	1-1/16"-10 TPI	
	Fullsize	1-5/8"		
	Oversize	1-13/16"		
7/8"	Slimhole	1-5/8"	1-3/16"-10 TPI	
	Fullsize	1-13/16"		
	Oversize	2"		
1"	Slimhole	2"	1-3/8"-10 TPI	
	Fullsize	2-3/16"		
	Oversize	2-3/8"		
1-1/8"	Slimhole	2-1/4"	1-9/16"-10 TPI	4-1/2"
	Fullsize	2-3/8"		

[1]Minimum length measured from the contact shoulder to contact shoulder (+0.062").



Norris Sinker Bars					
D_{SB} Diameter of Rod Body	S_P Diameter of Thread	D_S Outside Diameter of Pin Shoulder	W_S Width of Wrench Flat	L_{WS} Length of Wrench Flat[1]	L_Y Length of Sinker Bar[2]
1-1/4"	15/16"-10 TPI	1-1/4"	1"	1-1/4"	240"- 300"- 360"
1-3/8"	15/16"-10 TPI	1-3/8"	1"	1-1/4"	
1-3/8"	1-1/16"-10 TPI	1-3/8"	1"	1-1/4"	
1-1/2"	1-1/16"-10 TPI	1-1/2"	1-5/16"	1-1/2"	
1-1/2"	1-3/16"-10 TPI	1-1/2"	1-5/16"	1-1/2"	
1-5/8"	1-3/16"-10 TPI	1-5/8"	1-5/16"	1-1/2"	
1-3/4"	1-3/16"-10 TPI	1-3/4"	1-1/2"	1-5/8"	
2"	1-3/8"-10 TPI	2"	1-1/2"	1-5/8"	

[1]Minimum length, exclusive of fillet.
[2]Measured from contact face of pin shoulder to contact face of pin shoulder (±2").



Norris Polished Rods								
D_{PR} Diameter of Rod Body	P_T Diameter of Thread	L_0 Length of Polished Rods[1]						
1-1/8"	15/16"-10 TPI	8'	11'	16'	22'	24'	26'	---
1-1/8"	1-1/16"-10 TPI	8'	11'	16'	22'	24'	26'	---
1-1/4"	1-3/16"-10 TPI	11'	16'	22'	24'	26'	30'	36'
1-1/2"	1-3/8"-10 TPI	16'	22'	24'	26'	30'	36'	---

[1]Measured from outer end of pin to outer end of pin (±2").



Valve Rod Guides	
Tubing Size	OD Fishing Neck
1-1/2" Tubing	1-1/4"
2-1/16" Tubing	1-1/2"
2-3/8" Tubing	1-1/2"
2-7/8" Tubing	1-5/8"
3-1/2" Tubing	1-5/8"

Knowing Your Tools. Additional Information Regarding The O'Bannon Toolbox.

Makeup and Breakout

Precision O'Bannon Sucker Rod Sockets perform an important job and are entitled to proper makeup and breakout procedures in order to guarantee maximum performance. These tools are engineered to be assembled by hand, with the use of a 12" Crescent Wrench on the flat of the top bushing and a strap wrench on the bowl.

Improper makeup can result in damage to bowls, slips, or slip units. Proper makeup procedures should include cleaning and lightly lubricating the threads while maintaining a clean, dry (non-lubricated) contact-face. Care must be taken when freeing the fish from the tool to avoid damage to the socket. The use of pipe wrenches on sucker rod sockets is never recommended.

Storage and Transportation

After each use, O'Bannon Sucker Rod Sockets should be cleaned and protected prior to storage. A thorough cleaning, both internally and externally, helps prevent rust and corrosion.

Each component of the sucker rod socket should be carefully inspected. Damaged parts should be replaced. Thread protectors should be applied to all pins to maintain thread integrity.

Sucker rod sockets should be stored in a box that protects the tools from physical contact with each other, or with other metallic surfaces. A box with individual compartments for each sucker rod socket or component is recommended. O'Bannon Sucker Rod Sockets and their components should never be allowed to "roll" around in a toolbox or in the bed of a truck.

Following proper storage and transportation procedures will give added years of service on your O'Bannon Sucker Rod Sockets.

Safety

For detailed safety information, please visit www.norrisrods.com/safety.

Tubing Made To API Specifications

Tubing Size		Nominal Weight LBS/FT			Wall Thickness	I.D.	Threaded & Coupled Coupling O.D.				Integral Joint	
Nom. (inches)	O.D. (inches)	T&C Non-Upset	T&C Upset	Integral Joint	(inches)	(inches)	Drift (inches)	Non-Upset (inches)	Upset Reg. (inches)	Upset Spec. (inches)	Drift (inches)	Box O.D. (inches)
3/4	1.05	1.14	1.20	---	0.113	0.824	0.730	1.313	1.660	---	---	---
1	1.315	1.70	1.80	1.72	0.133	1.049	0.955	1.660	1.900	---	0.955	1.550
1-1/4	1.660	---	---	2.10	0.125	1.410	---	---	---	---	1.286	1.880
		2.30	2.40	2.33	0.140	1.380	1.286	2.054	2.200	---	1.286	1.880
1-1/2	1.900	---	---	2.40	0.125	1.650	---	---	---	---	1.516	2.110
		2.75	2.90	2.76	0.145	1.610	1.516	2.200	2.500	---	1.516	2.110
2-1/16	2.063	---	---	3.25	0.156	1.751	---	---	---	---	1.657	2.325
2-3/8	2.375	4.00	---	---	0.167	2.041	1.947	2.875	---	---	---	---
		4.60	4.70	---	0.190	1.995	1.901	2.875	3.063	2.910	---	---
		5.80	5.95	---	0.254	1.867	1.773	2.875	3.063	2.910	---	---
2-7/8	2.875	6.40	6.50	---	0.217	2.441	2.347	3.500	3.668	3.460	---	---
		8.60	8.70	---	0.308	2.259	2.165	3.500	3.668	3.460	---	---
3-1/2	3.500	7.70	---	---	0.216	3.068	2.943	4.250	---	---	---	---
		9.20	9.30	---	0.254	2.992	2.867	4.250	4.500	4.180	---	---
		10.20	---	---	0.289	2.922	2.797	4.250	---	---	---	---
		12.70	12.95	---	0.375	2.750	2.625	4.250	4.500	4.180	---	---
4	4.000	9.50	---	---	0.226	3.548	3.423	4.750	---	---	---	---
		---	11.00	---	0.262	3.476	3.351	---	5.000	---	---	---
4-1/2	4.500	12.60	12.75	---	0.271	3.958	3.833	5.200	5.563	---	---	---

Maximum Recommended Weight Indicator Pull

The following table calculates the maximum rig weight indicator pull on a stuck rod string. The calculations are based on 90% of the minimum yield strength for a steel rod string in "like new" condition. The maximum load should be reached by a straight, steady pull and not a shock load. For a tapered rod string, calculate the total weight in pounds of all rods above the bottom section. Add to this weight the values in the table below for the rod type and size of the bottom section. This is the maximum load that should be pulled on a steel rod string. For a straight steel rod string, the table values are the maximum pull.

Additional Weight Indicator for Steel Sucker Rod String

Size		Load	
inches	(mm)	lbf.	(daN)
Types C30 and K40 Sucker Rods			
5/8	(15,88)	16,560	(7 366)
3/4	(19,05)	23,850	(10 608)
7/8	(22,23)	32,475	(14 445)
1	(25,40)	42,400	(18 860)
1-1/8	(28,58)	53,675	(23 875)
Types D75, D78 and D90 Sucker Rods			
5/8	(15,88)	24,850	(11 053)
3/4	(19,05)	35,780	(15 915)
7/8	(22,23)	48,700	(21 662)
1	(25,40)	63,625	(28 300)
1-1/8	(28,58)	80,500	(35 806)
Types D54 Sucker Rods			
5/8	(15,88)	23,450	(10 430)
3/4	(19,05)	33,750	(15 012)
7/8	(22,23)	46,000	(20 461)
1	(25,40)	60,000	(26 689)
Types 96 and 97 Sucker Rods			
5/8	(15,88)	31,750	(14 123)
3/4	(19,05)	45,725	(20 350)
7/8	(22,23)	62,200	(27 667)
1	(25,40)	81,250	(36 140)
1-1/8	(28,58)	102,880	(45 761)
1-1/4	(31,75)	127,000	(56 490)

Weight of Steel Sucker Rods

Size		Weight	
inches	(mm)	lbs./ft.	(kg/m)
5/8	(15,88)	1.14	(1,58)
3/4	(19,05)	1.62	(2,24)
7/8	(22,23)	2.19	(3,03)
1	(25,40)	2.89	(4,00)
1-1/8	(28,58)	3.68	(5,09)
1-1/4	(31,75)	4.47	(6,18)

Additional Weight Indicator for Steel Drive® Rod String

Size		Load	
inches	(mm)	lbf.	(daN)
Types, 75, 78 & 90 Drive Rods			
1	(25,40)	63,625	(28 300)
1-1/4	(31,75)	99,400	(44 213)
1-1/2	(38,10)	143,000	(63 612)
Types 96 & 97 Drive Rods			
1	(25,40)	81,250	(36 140)
1-1/4	(31,75)	127,000	(56 490)
1-1/2	(38,10)	182,000	(80 957)

Weight of Drive Rods®

Size		Weight	
inches	(mm)	lbs./ft.	(kg/m)
1	(25,40)	2.77	(3,83)
1-1/4	(31,75)	4.34	(6,00)
1-1/2	(38,10)	6.23	(8,61)

Limited Warranty

O'Bannon Well Servicing Tools

Norris, A Dover Fluid Management Company, Tulsa, Oklahoma, (hereinafter called "Norris") warrants its O'Bannon Well Servicing Tools for a period of one (1) year to the original purchaser or user with support of invoice that if any well servicing tool is found defective in material or workmanship, Norris will replace the same well servicing tool or the defective part(s) on the well servicing tool without cost to the original purchaser or user. No other consequential cost or damages shall be the liability of Norris.

The design limitations imposed by the function of well servicing tools frequently result in these devices being subjected to greater stress than any other production tool. Heavy loads imposed by pump unseating and similar operations can damage these tools. That's why we guarantee O'Bannon Well Servicing Tools to be free of material and workmanship defects but we cannot guarantee that the tools will not fail.

Special oversize sucker rod sockets have been developed to handle catches with diameters too large to be fished by regular sockets. Since this requires exceptionally thin bowls, slips and slip units, the risk of tool damage is high. As a result, the oversize sockets are designed as a single use tool and are not covered by this limited warranty or any other warranty.

To the extent Norris provides technical information, advice or service concerning O'Bannon Well Servicing Tools or the use of its well servicing tools, whether with or without charge, such technical assistance shall be advisory only, and Norris shall have no liability for any adverse consequences resulting from any such technical assistance.

This limited warranty does not cover any failure caused by the use of O'Bannon Well Servicing Tools beyond the recommended limits or designs published by Norris, the use of non-genuine original equipment manufacturer (OEM) products or resulting from improper storage, transportation, handling, makeup or breakout, running or pulling, operating or environmental conditions, wear, deterioration or any other misapplication, alteration, abuse, misuse or accident.

Norris will not be responsible or liable in any event for any loss of production, profits, downtime, accidents, or for any other direct, indirect, incidental, special or consequential damages arising from any cause whatsoever.

Any claim by the original purchaser or user under this limited warranty must be submitted, with support of original purchase invoice, in writing to Norris within one (1) year from the date of tender of delivery for O'Bannon Well Servicing Tools.

Should a question of defectiveness of any O'Bannon Well Servicing Tool arise under this limited warranty, the issue shall be submitted to a qualified independent testing laboratory for opinion.

Prices, specifications and recommendations published by Norris are subject to change at any time, without prior notice.

NOTICE

This limited warranty is in lieu of all other warranties, expressed or implied, and of all other obligations or liabilities, contractual or otherwise, either to the original purchaser or user or to any other person, including without limitation the implied warranties of merchantability and fitness for a particular purpose which are hereby expressly disclaimed and waived.

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O'BANNON