



## FISHING BUMPER SUBS

### Overview

One of the most common tools used for any kind of fishing job is the bumper sub. The tool's design allows full torque and unrestricted fluid circulation at all times. The Fishing Bumper Sub can bump up or down to engage or disengage overshots or spears, or be used as a feed-off tool in milling or cutting operations. Other typical operations include releasing stuck drill pipe, drill collars, tubing, test tools, and safety joints. The fishing bumper sub can be used in conjunction with an overshot or spear.

### Construction

This simple tool consists of five major components: a top sub, knocker, middle body, mandrel, and a mandrel body. All components are manufactured from high quality, heat-treated alloy steels.

The mandrel's hexagon shape allows it to slide in and out of the mandrel body's matching shape to transmit downhole torque. The standard stroke length of 20 inches is suitable for most purposes, although longer stroke lengths of 30, 36, 42, 48, and 60 inches are available.

A knocker seal ring, seal protector ring, and non-extrusion ring are provided on a standard knocker. Chevron packing knocker assemblies are available upon request and are recommended for extensive circulation through the fishing bumper sub.

### Operation

The Fishing Bumper Sub is typically run directly above the spear, overshot, screw-in sub, or safety joint. When lift load is applied, the bumper sub will slide open until the knocker hits the mandrel body. Slacking weight off the workstring to the fishing bumper sub will cause the mandrel body to slide back down the mandrel until the bottom shoulder of the mandrel body hits the top shoulder of the mandrel.

### To Apply a Downward Blow

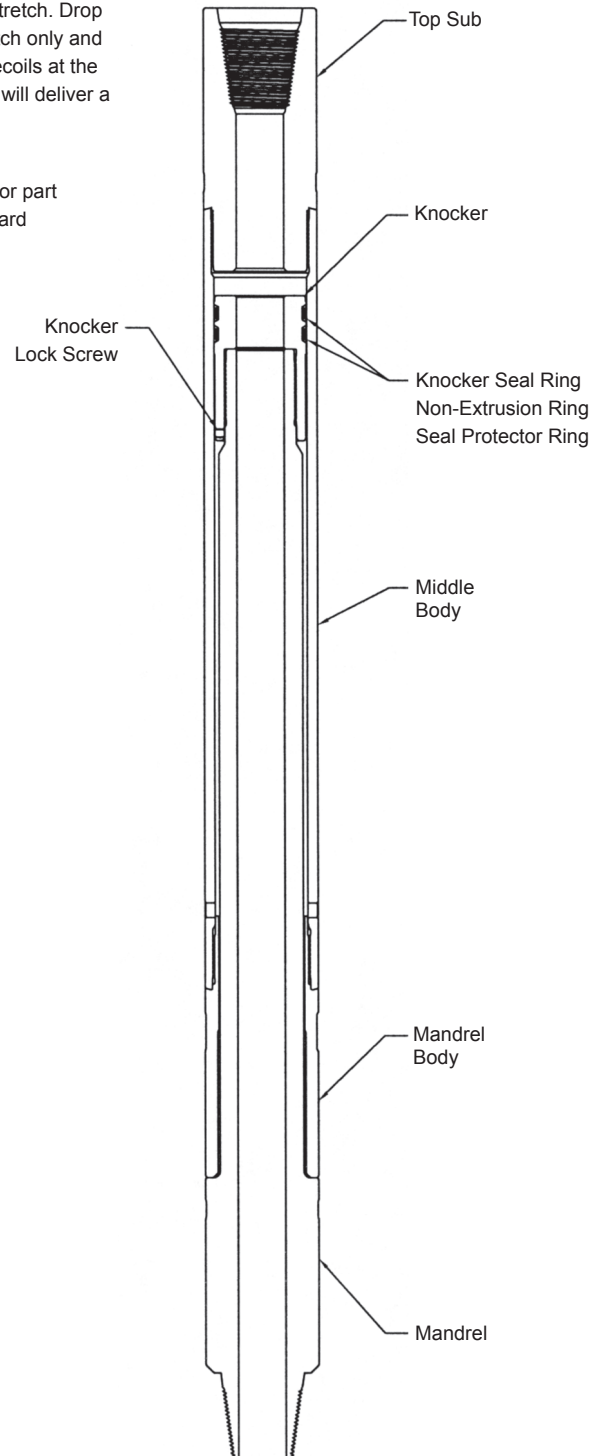
At the surface, mark the pipe to indicate the open and closed positions of the fishing bumper sub. Raise the fishing string to open the bumper sub and allow for extra string stretch. Sharply drop the string and stop with the brake approximately four to six inches above the closed position of the bumper sub to deliver a sharp downward blow. To deliver a solid downward blow, drop the full weight of the fishing string without braking.

### To Apply an Upward Blow

At the surface, mark the pipe to indicate the open and closed positions of the fishing bumper sub. Raise the fishing string to open the bumper sub and allow for additional string stretch. Drop the string by the amount of the stretch only and stop it with the brake. As the pipe recoils at the bottom of the hole, the bumper sub will deliver a sharp upward blow.

### When ordering, please specify:

- (1) Name and number of assembly or part
- (2) Connections, if other than standard
- (3) Stroke length
- (4) O.D., if other than standard



## Fishing Bumper Subs

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<b>CONNECTION</b>		1-13/16	1-1/4	2-3/8	2-3/8	2-3/8	2-3/8	2-3/8
		WFJ	API Reg	EUE	API Reg	API IF	API IF	EUE
<b>OUTSIDE DIAMETER (INCHES)</b>		1-13/16	2-1/4	3-1/8	3-5/32	3-3/8	3-3/4	3-3/4
<b>INSIDE DIAMETER (INCHES)</b>		3/8	1/2	1-17/32	1	1	1-1/2	1-7/8
<b>STROKE (INCHES)</b>		20	20	20	20	20	20	20
<b>COMPLETE ASSEMBLY</b>		<b>604-181</b>	<b>604-225</b>	<b>604-313</b>	<b>604-315</b>	<b>604-338</b>	<b>604-375</b>	<b>604-376</b>
	Bowen No.	10120	18785	42592	10105	10190	39887	39893
<b>TOP SUB</b>		<b>AF1000</b>	<b>AF1001</b>	<b>AF10015</b>	<b>AF1002</b>	<b>AF10025</b>	<b>AF1003</b>	<b>AF1004</b>
	Bowen No.	10121	18786	42593	10106	10191	39888	39894
<b>MANDREL BODY</b>		<b>AF2000</b>	<b>AF2001</b>	<b>AF20015</b>	<b>AF2002</b>	<b>AF20025</b>	<b>AF2003</b>	<b>AF2004</b>
	Bowen No.	10123	18788	42596	10108	10193	39890	39896
<b>MIDDLE BODY 20" STROKE</b>		<b>AF3000-20</b>	<b>AF3001-20</b>	<b>AF30015-20</b>	<b>AF3002-20</b>	<b>AF30025-20</b>	<b>AF3003-20</b>	<b>AF3004-20</b>
	Bowen No.	10122	18787	42594	10107	10192	39889	39895
<b>MANDREL 20" STROKE</b>		<b>AF4000-20</b>	<b>AF4001-20</b>	<b>AF40015-20</b>	<b>AF4002-20</b>	<b>AF40025-20</b>	<b>AF4003-20</b>	<b>AF4004-20</b>
	Bowen No.	10125	18789	42597	10110	10194	39891	39897
<b>KNOCKER</b>		<b>AF5000</b>	<b>AF5001</b>	<b>AF50015</b>	<b>AF5002</b>	<b>AF50025</b>	<b>AF5003</b>	<b>AF5004</b>
	Bowen No.	10126	18790	42595	10111	10195	39892	39898
<b>NON-EXTRUSION RING</b>		<b>L385-22</b>	<b>L385-27</b>	<b>L216-34</b>	<b>L387-6</b>	<b>L385-35</b>	<b>L216-38</b>	<b>L216-38</b>
	Bowen No.	385-22	385-27	216-34	387-6	385-35	216-38	216-38
	No. Req'd	4	4	4	4	4	4	4
<b>SEAL PROTECTOR RING</b>		<b>L386-22</b>	<b>L386-27</b>	<b>L227-34</b>	<b>L388-6</b>	<b>L386-35</b>	<b>L227-38</b>	<b>L227-38</b>
	Bowen No.	386-22	386-27	227-34	388-6	386-35	227-38	227-38
	No. Req'd	4	4	4	4	4	4	4
<b>KNOCKER SEAL RING</b>		<b>568-217</b>	<b>568-222</b>	<b>568-331</b>	<b>568-228</b>	<b>568-332</b>	<b>568-335</b>	<b>568-335</b>
	Bowen No.	568217	568222	568331	568228	568332	568335	568335
	No. Req'd	2	2	2	2	2	2	2
<b>KNOCKER LOCK SCREW</b>		...	...	<b>AF6001</b>	<b>AF6000</b>	<b>AF6000</b>	<b>AF6000</b>	<b>AF6001</b>
	Bowen No.	...	...	54775	48879	48879	48879	54775

#### Special Notes:

(1) Standard stroke for Bumper Subs is 20". Only the Mandrel and Middle Body need to be ordered to convert a standard 20" stroke assembly to one of greater stroke length. All other parts interchange for a given size. When a long stroke assembly is ordered by assembly number, the entire tool is ordered. To convert, order only the Mandrel and Middle Body by part number.

#### When ordering, please specify:

- (1) Name and number of assembly or part
- (2) Connections, if other than standard
- (3) Stroke length
- (4) O.D., if other than standard

#### Recommended Spare Parts:

- (1) 8 Non-Extrusion Rings
- (2) 8 Seal Protector Rings
- (3) 16 Knocker Seals



## Fishing Bumper Subs

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CONNECTION	1-13/16	1-1/4	2-3/8	2-3/8	2-3/8	2-3/8	2-3/8
	WFJ	API Reg	EUE	API Reg	API IF	API IF	EUE
OUTSIDE DIAMETER (INCHES)	1-13/16	2-1/4	3-1/8	3-5/32	3-3/8	3-3/4	3-3/4
INSIDE DIAMETER (INCHES)	3/8	1/2	1-17/32	1	1	1-1/2	1-7/8

### 30" STROKE

<b>COMPLETE ASSEMBLY</b>	<b>604-181</b>	<b>604-225</b>	<b>604-313</b>	<b>604-315</b>	<b>604-338</b>	<b>604-375</b>	<b>604-376</b>
Bowen No.	29523	29529	46881	29535	29538	46863	46866
<b>MANDREL</b>	<b>AF4000-30</b>	<b>AF4001-30</b>	<b>AF40015-30</b>	<b>AF4002-30</b>	<b>AF40025-30</b>	<b>AF4003-30</b>	<b>AF4004-30</b>
Bowen No.	29524	29530	46882	29536	29539	46864	46867
<b>MIDDLE BODY</b>	<b>AF3000-30</b>	<b>AF3001-30</b>	<b>AF30015-30</b>	<b>AF3002-30</b>	<b>AF30025-30</b>	<b>AF3003-30</b>	<b>AF3004-30</b>
Bowen No.	29525	29531	46883	29537	29540	46865	46868

### 36" STROKE

<b>COMPLETE ASSEMBLY</b>	<b>604-181</b>	<b>604-225</b>	<b>604-313</b>	<b>604-315</b>	<b>604-338</b>	<b>604-375</b>	<b>604-376</b>
Bowen No.	29574	29580	49608	29586	29589	46890	46893
<b>MANDREL</b>	<b>AF4000-36</b>	<b>AF4001-36</b>	<b>AF40015-36</b>	<b>AF4002-36</b>	<b>AF40025-36</b>	<b>AF4003-36</b>	<b>AF4004-36</b>
Bowen No.	29575	29581	46909	29587	29590	46891	46894
<b>MIDDLE BODY</b>	<b>AF3000-36</b>	<b>AF3001-36</b>	<b>AF30015-36</b>	<b>AF3002-36</b>	<b>AF30025-36</b>	<b>AF3003-36</b>	<b>AF3004-36</b>
Bowen No.	29576	29582	46910	29588	29591	46892	46895

### 42" STROKE

<b>COMPLETE ASSEMBLY</b>	<b>604-181</b>	<b>604-225</b>	<b>604-313</b>	<b>604-315</b>	<b>604-338</b>	<b>604-375</b>	<b>604-376</b>
Bowen No.	29619	29625	46935	16933	29643	46917	46920
<b>MANDREL</b>	<b>AF4000-42</b>	<b>AF4001-42</b>	<b>AF40015-42</b>	<b>AF4002-42</b>	<b>AF40025-42</b>	<b>AF4003-42</b>	<b>AF4004-42</b>
Bowen No.	29620	29626	46936	16935	26944	46918	46921
<b>MIDDLE BODY</b>	<b>AF3000-42</b>	<b>AF3001-42</b>	<b>AF30015-42</b>	<b>AF3002-42</b>	<b>AF30025-42</b>	<b>AF3003-42</b>	<b>AF3004-42</b>
Bowen No.	29621	29627	46937	16934	26945	46919	46922

#### Special Notes:

(1) Standard stroke for Bumper Subs is 20". Only the Mandrel and Middle Body need to be ordered to convert a standard 20" stroke assembly to one of greater stroke length. All other parts interchange for a given size. When a long stroke assembly is ordered by assembly number, the entire tool is ordered. To convert, order only the Mandrel and Middle Body by part number.

#### When ordering, please specify:

- (1) Name and number of assembly or part
- (2) Connections, if other than standard
- (3) Stroke length
- (4) O.D., if other than standard

#### Recommended Spare Parts:

- (1) 8 Non-Extrusion Rings
- (2) 8 Seal Protector Rings
- (3) 16 Knocker Seals

**FISHING BUMPER SUBS**

<b>CONNECTION</b>	1-13/16 WFJ	1-1/4 API Reg	2-3/8 EUE	2-3/8 API Reg	2-3/8 API IF	2-3/8 API IF	2-3/8 EUE
<b>OUTSIDE DIAMETER (INCHES)</b>	1-13/16	2-1/4	3-1/8	3-5/32	3-3/8	3-3/4	3-3/4
<b>INSIDE DIAMETER (INCHES)</b>	3/8	1/2	1-17/32	1	1	1-1/2	1-7/8

**48" STROKE**

<b>COMPLETE ASSEMBLY</b>	<b>Logan Part No.</b> 604-181 Bowen No. 29682	604-225 29688	604-313 46962	604-315 16936	604-338 29694	604-375 46944	604-376 46947
<b>MANDREL</b>	<b>Logan Part No.</b> AF4000-48 Bowen No. 29683	AF4001-48 29689	AF40015-48 46963	AF4002-48 16938	AF40025-48 29695	AF4003-48 46945	AF4004-48 46948
<b>MIDDLE BODY</b>	<b>Logan Part No.</b> AF3000-48 Bowen No. 29684	AF3001-48 29690	AF30015-48 46964	AF3002-48 16937	AF30025-48 29696	AF3003-48 46946	AF3004-48 46949

**60" STROKE**

<b>COMPLETE ASSEMBLY</b>	<b>Logan Part No.</b> 604-181 Bowen No. 29748	604-225 29754	604-313 46989	604-315 29760	604-338 29763	604-375 46971	604-376 46974
<b>MANDREL</b>	<b>Logan Part No.</b> AF4000-60 Bowen No. 29749	AF4001-60 29755	AF40015-60 46990	AF4002-60 29761	AF40025-60 29764	AF4003-60 46972	AF4004-60 46975
<b>MIDDLE BODY</b>	<b>Logan Part No.</b> AF3000-60 Bowen No. 29750	AF3001-60 29756	AF30015-60 46991	AF3002-60 29762	AF30025-60 29765	AF3003-60 46973	AF3004-60 46976

*Special Notes:*

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**When ordering, please specify:**

- (1) Name and number of assembly or part
- (2) Connections, if other than standard
- (3) Stroke length
- (4) O.D., if other than standard

**Recommended Spare Parts:**

- (1) 8 Non-Extrusion Rings
- (2) 8 Seal Protector Rings
- (3) 16 Knocker Seals

## FISHING BUMPER SUBS

<b>CONNECTION</b>		2-7/8 API Reg	2-7/8 API IF	2-7/8 EUE	3-1/2 API IF	3-1/2 API IF	4-1/2 API FH	4-1/2 API IF
<b>OUTSIDE DIAMETER (INCHES)</b>		3-3/4	4-1/4	4-1/2	4-3/4	4-3/4	6	6-1/4
<b>INSIDE DIAMETER (INCHES)</b>		1-1/4	1-15/16	2-3/8	2	1-1/2	2	2-1/4
<b>STROKE (INCHES)</b>		20	20	20	20	20	20	20
<b>COMPLETE ASSEMBLY</b>	<b>Logan Part No.</b>	<b>604-377</b>	<b>604-425</b>	<b>604-450</b>	<b>604-475</b>	<b>604-476</b>	<b>604-600</b>	<b>604-625</b>
	<b>Bowen No.</b>	10090	41824	36794	39905	10225	10135	10257
<b>TOP SUB</b>	<b>Logan Part No.</b>	<b>AF1005</b>	<b>AF1006</b>	<b>AF1007</b>	<b>AF1008</b>	<b>AF10085</b>	<b>AF1009</b>	<b>AF1010</b>
	<b>Bowen No.</b>	10091	41825	36795	39906	10226	10136	1025
<b>MANDREL BODY</b>	<b>Logan Part No.</b>	<b>AF2005</b>	<b>AF2006</b>	<b>AF2007</b>	<b>AF2008</b>	<b>AF20085</b>	<b>AF2009</b>	<b>AF2010</b>
	<b>Bowen No.</b>	10093	10158	36797	39908	10228	10138	10267
<b>MIDDLE BODY</b> <i>(20-inch stroke)</i>	<b>Logan Part No.</b>	<b>AF3005-20</b>	<b>AF3006-20</b>	<b>AF3007-20</b>	<b>AF3008-20</b>	<b>AF30085-20</b>	<b>AF3009-20</b>	<b>AF3010-20</b>
	<b>Bowen No.</b>	10092	10157	36796	39907	10227	10137	10262
<b>MANDREL</b> <i>(20-inch stroke)</i>	<b>Logan Part No.</b>	<b>AF4005-20</b>	<b>AF4006-20</b>	<b>AF4007-20</b>	<b>AF4008-20</b>	<b>AF40085-20</b>	<b>AF4009-20</b>	<b>AF4010-20</b>
	<b>Bowen No.</b>	10095	41828	36798	39909	10229	10140	10268
<b>KNOCKER</b>	<b>Logan Part No.</b>	<b>AF5005</b>	<b>AF5006</b>	<b>AF5007</b>	<b>AF5008</b>	<b>AF50085</b>	<b>AF5009</b>	<b>AF5010</b>
	<b>Bowen No.</b>	10096	41829	36799	39910	10230	10141	10250
<b>NON-EXTRUSION RING</b>	<b>Logan Part No.</b>	<b>L385-37</b>	<b>L385-41</b>	<b>L216-44.5</b>	<b>L385-44</b>	<b>L385-44</b>	<b>L385-52</b>	<b>L385-54</b>
	<b>Bowen No.</b>	385-37	385-41	216-44.5	385-44	385-44	385-52	385-54
	<b>No. Req'd</b>	4	4	4	4	4	4	4
<b>SEAL PROTECTOR RING</b>	<b>Logan Part No.</b>	<b>L386-37</b>	<b>L386-41</b>	<b>L227-44.5</b>	<b>L386-44</b>	<b>L386-44</b>	<b>L386-52</b>	<b>L386-54</b>
	<b>Bowen No.</b>	386-37	386-41	227-44.5	386-44	386-44	386-52	386-54
	<b>No. Req'd</b>	4	4	4	4	4	4	4
<b>KNOCKER SEAL RING</b>	<b>Logan Part No.</b>	<b>568-334</b>	<b>568-338</b>	<b>568-341</b>	<b>568-341</b>	<b>568-341</b>	<b>568-349</b>	<b>568-427</b>
	<b>Bowen No.</b>	568334	568338	568341	568341	568341	568349	568427
	<b>No. Req'd</b>	2	2	2	2	2	2	2
<b>KNOCKER LOCK SCREW</b>	<b>Logan Part No.</b>	<b>AF6002</b>	<b>AF6000</b>	<b>AF6000</b>	<b>AF6000</b>	<b>AF6002</b>	<b>AF6003</b>	<b>AF6003</b>
	<b>Bowen No.</b>	54769	48879	48879	48879	54769	43305	43305

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### Recommended Spare Parts:

- (1) 8 Non-Extrusion Rings
- (2) 8 Seal Protector Rings
- (3) 16 Knocker Seals

**FISHING BUMPER SUBS**

<b>CONNECTION</b>		2-7/8 API Reg	2-7/8 API IF	2-7/8 EUE	3-1/2 API IF	3-1/2 API IF	4-1/2 API FH	4-1/2 API IF
<b>OUTSIDE DIAMETER (INCHES)</b>		3-3/4	4-1/4	4-1/2	4-3/4	4-3/4	6	6-1/4
<b>INSIDE DIAMETER (INCHES)</b>		1-1/4	1-15/16	2-3/8	2	1-1/2	2	2-1/4
<b>STROKE (INCHES)</b>		20	20	20	20	20	20	20
<b>COMPLETE ASSEMBLY</b>	<b>Logan Part No.</b>	<b>604-377</b>	<b>604-425</b>	<b>604-450</b>	<b>604-475</b>	<b>604-476</b>	<b>604-600</b>	<b>604-625</b>
	<b>Bowen No.</b>	10090	41824	36794	39905	10225	10135	10257

**OPTIONAL ACCESSORIES**

<b>CHEVRON PACKING KNOCKER ASSEMBLY</b>								
<b>COMPLETE ASSEMBLY</b>	<b>Logan Part No.</b>	<b>25000-014</b>	<b>25000-015</b>	<b>25000-016</b>	<b>25000-017</b>	<b>25000-023</b>	<b>25000-018</b>	<b>25000-019</b>
	<b>Bowen No.</b>	30910	59191	62774	59177	81172	50321	62205
<b>KNOCKER</b>	<b>Logan Part No.</b>	<b>AF7000</b>	<b>AF7001</b>	<b>AF7002</b>	<b>AF7003</b>	<b>AF70035</b>	<b>AF7004</b>	<b>AF7005</b>
	<b>Bowen No.</b>	30911	59192	62775	59178	81173	50322	62206
<b>PACKING RING</b>	<b>Logan Part No.</b>	<b>AF8000</b>	<b>AF8001</b>	<b>AF8002</b>	<b>AF8003</b>	<b>AF80035</b>	<b>AF8004</b>	<b>AF8005</b>
	<b>Bowen No.</b>	30912	59193	62776	59179	81174	50323	62207
<b>CENTER RING</b>	<b>Logan Part No.</b>	<b>AF9000</b>	<b>AF9001</b>	<b>AF9002</b>	<b>AF9003</b>	<b>AF90035</b>	<b>AF9004</b>	<b>AF9005</b>
	<b>Bowen No.</b>	30913	59194	62777	59180	81175	50324	62208
<b>CHEVRON PACKING SET</b>	<b>Logan Part No.</b>	<b>AF10000</b>	<b>AF10001</b>	<b>AF10002</b>	<b>AF10003</b>	<b>AF100035</b>	<b>AF10004</b>	<b>AF10005</b>
	<b>Bowen No.</b>	30914	59195	62778	59181	81176	50325	62209
<b>RETAINING RING</b>	<b>Logan Part No.</b>	<b>AF11000</b>	<b>AF11001</b>	<b>AF11002</b>	<b>AF11003</b>	<b>AF110035</b>	<b>AF11004</b>	<b>AF11005</b>
	<b>Bowen No.</b>	19812	59196	59182	59182	81177	50326	13177
<b>PACKING RETAINER</b>	<b>Logan Part No.</b>	<b>AF12000</b>	<b>AF12001</b>	<b>AF12002</b>	<b>AF12003</b>	...	<b>AF12004</b>	<b>AF12005</b>
	<b>Bowen No.</b>	62345	59197	62780	59183	...	50009	62210
	<b>No. Req'd</b>	2	2	2	2	...	2	2

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- (3) Stroke length
- (4) O.D., if other than standard

**Recommended Spare Parts:**

- (1) 8 Non-Extrusion Rings
- (2) 8 Seal Protector Rings
- (3) 16 Klocker Seals

**FISHING BUMPER SUBS**

<b>CONNECTION</b>	2-7/8 API Reg	2-7/8 API IF	2-7/8 EUE	3-1/2 API IF	3-1/2 API IF	4-1/2 API FH	4-1/2 API IF
<b>OUTSIDE DIAMETER (INCHES)</b>	3-3/4	4-1/4	4-1/2	4-3/4	4-3/4	6	6-1/4
<b>INSIDE DIAMETER (INCHES)</b>	1-1/4	1-15/16	2-3/8	2	1-1/2	2	2-1/4

**30" STROKE**

<b>COMPLETE ASSEMBLY</b>	<b>Logan Part No.</b> 604-377	604-425	604-450	604-475	604-476	604-600	604-625	
	Bowen No.	29541	46869	46875	46878	29562	16150	20005
<b>MANDREL</b>	<b>Logan Part No.</b> AF4005-30	AF4006-30	AF4007-30	AF4008-30	AF40085-30	AF4009-30	AF4010-30	
	Bowen No.	29542	46870	46876	46879	29563	16151	20007
<b>MIDDLE BODY</b>	<b>Logan Part No.</b> AF3005-30	AF3006-30	AF3007-30	AF3008-30	AF30085-30	AF3009-30	AF3010-30	
	Bowen No.	29543	46871	46877	46880	29564	16152	20006

**36" STROKE**

<b>COMPLETE ASSEMBLY</b>	<b>Logan Part No.</b> 604-377	604-425	604-450	604-475	604-476	604-600	604-625	
	Bowen No.	25180	46896	46902	46905	29604	10147	29610
<b>MANDREL</b>	<b>Logan Part No.</b> AF4005-36	AF4006-36	AF4007-36	AF4008-36	AF40085-36	AF4009-36	AF4010-36	
	Bowen No.	25182	46897	46903	46906	29605	10149	29611
<b>MIDDLE BODY</b>	<b>Logan Part No.</b> AF3005-36	AF3006-36	AF3007-36	AF3008-36	AF30085-36	AF3009-36	AF3010-36	
	Bowen No.	25181	46898	46904	46907	29606	10148	29612

**42" STROKE**

<b>COMPLETE ASSEMBLY</b>	<b>Logan Part No.</b> 604-377	604-425	604-450	604-475	604-476	604-600	604-625	
	Bowen No.	29646	46923	46929	46932	29661	29667	29670
<b>MANDREL</b>	<b>Logan Part No.</b> AF4005-42	AF4006-42	AF4007-42	AF4008-42	AF40085-42	AF4009-42	AF4010-42	
	Bowen No.	29647	46924	46930	46933	29662	29668	29671
<b>MIDDLE BODY</b>	<b>Logan Part No.</b> AF3005-42	AF3006-42	AF3007-42	AF3008-42	AF30085-42	AF3009-42	AF3010-42	
	Bowen No.	29648	46925	46931	46934	29663	29669	29672

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*Special Notes:*

- (1) Standard stroke for Bumper Subs is 20". Only the Mandrel and Middle Body need to be ordered to convert a standard 20" stroke assembly to one of greater stroke length. All other parts interchange for a given size. When a long stroke assembly is ordered by assembly number, the entire tool is ordered. To convert, order only the Mandrel and Middle Body by part number.

**When ordering, please specify:**

- (1) Name and number of assembly or part
- (2) Connections, if other than standard
- (3) Stroke length
- (4) O.D., if other than standard

**Recommended Spare Parts:**

- (1) 8 Non-Extrusion Rings
- (2) 8 Seal Protector Rings
- (3) 16 Knocker Seals



**FISHING BUMPER SUBS**

<b>CONNECTION</b>	2-7/8 API Reg	2-7/8 API IF	2-7/8 EUE	3-1/2 API IF	3-1/2 API IF	4-1/2 API FH	4-1/2 API IF
<b>OUTSIDE DIAMETER (INCHES)</b>	3-3/4	4-1/4	4-1/2	4-3/4	4-3/4	6	6-1/4
<b>INSIDE DIAMETER (INCHES)</b>	1-1/4	1-15/16	2-3/8	2	1-1/2	2	2-1/4

**48" STROKE**

<b>COMPLETE ASSEMBLY</b>	<b>Logan Part No.</b> 604-377	604-425	604-450	604-475	604-476	604-600	604-625	
	Bowen No.	29697	46950	46956	46959	29715	19880	29736
<b>MANDREL</b>	<b>Logan Part No.</b> AF4005-48	AF4006-48	AF4007-48	AF4008-48	AF40085-48	AF4009-48	AF4010-48	
	Bowen No.	29698	46951	46957	46960	29716	19881	29737
<b>MIDDLE BODY</b>	<b>Logan Part No.</b> AF3005-48	AF3006-48	AF3007-48	AF3008-48	AF30085-48	AF3009-48	AF3010-48	
	Bowen No.	29699	46952	46958	46961	29717	19882	29738

**60" STROKE**

<b>COMPLETE ASSEMBLY</b>	<b>Logan Part No.</b> 604-377	604-425	604-450	604-475	604-476	604-600	604-625	
	Bowen No.	29766	46977	46983	46986	29781	29790	25385
<b>MANDREL</b>	<b>Logan Part No.</b> AF4005-60	AF4006-60	AF4007-60	AF4008-60	AF40085-60	AF4009-60	AF4010-60	
	Bowen No.	29767	46978	46984	46987	29782	29791	25387
<b>MIDDLE BODY</b>	<b>Logan Part No.</b> AF3005-60	AF3006-60	AF3007-60	AF3008-60	AF30085-60	AF3009-60	AF3010-60	
	Bowen No.	29768	46979	46985	46988	29786	29792	25386

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**Special Notes:**

- (1) Standard stroke for Bumper Subs is 20". Only the Mandrel and Middle Body need to be ordered to convert a standard 20" stroke assembly to one of greater stroke length. All other parts interchange for a given size. When a long stroke assembly is ordered by assembly number, the entire tool is ordered. To convert, order only the Mandrel and Middle Body by part number.

**When ordering, please specify:**

- (1) Name and number of assembly or part
- (2) Connections, if other than standard
- (3) Stroke length
- (4) O.D., if other than standard

**Recommended Spare Parts:**

- (1) 8 Non-Extrusion Rings
- (2) 8 Seal Protector Rings
- (3) 16 Knocker Seals

## FISHING BUMPER SUBS

<b>CONNECTION</b>		5-1/2 API Reg	6-5/8 API Reg	7-5/8 API Reg				
<b>OUTSIDE DIAMETER (INCHES)</b>		6-3/4	7-3/4	9				
<b>INSIDE DIAMETER (INCHES)</b>		2-3/4	3-1/2	4				
<b>STROKE (INCHES)</b>		20	20	20				
<b>COMPLETE ASSEMBLY</b>	<b>Logan Part No.</b>	<b>604-675</b>	<b>604-775</b>	<b>604-900</b>				
	<b>Bowen No.</b>	10690	26595	61596				
<b>TOP SUB</b>	<b>Logan Part No.</b>	<b>AF1011</b>	<b>AF1012</b>	<b>AF1013</b>				
	<b>Bowen No.</b>	10691	26596	61597				
<b>MANDREL BODY</b>	<b>Logan Part No.</b>	<b>AF2011</b>	<b>AF2012</b>	<b>AF2013</b>				
	<b>Bowen No.</b>	10693	26598	61599				
<b>MIDDLE BODY</b>	<b>Logan Part No.</b>	<b>AF3011-20</b>	<b>AF3012-20</b>	<b>AF3013-20</b>				
<i>20- inch Stroke</i>	<b>Bowen No.</b>	10692	26597	61598				
<b>MANDREL</b>	<b>Logan Part No.</b>	<b>AF4011-20</b>	<b>AF4012-20</b>	<b>AF4013-20</b>				
<i>20- inch Stroke</i>	<b>Bowen No.</b>	10694	26599	61600				
<b>KNOCKER</b>	<b>Logan Part No.</b>	<b>AF5011</b>	<b>AF5012</b>	<b>AF5013</b>				
	<b>Bowen No.</b>	10695	26594	61601				
<b>NON-EXTRUSION RING</b>	<b>Logan Part No.</b>	<b>L385-58</b>	<b>L385-65</b>	<b>L216-68.5</b>				
	<b>Bowen No.</b>	385-58	385-65	216-68.5				
	<b>No. Req'd</b>	4	4	4				
<b>SEAL PROTECTOR RING</b>	<b>Logan Part No.</b>	<b>L386-58</b>	<b>L386-65</b>	<b>L227-68.5</b>				
	<b>Bowen No.</b>	386-58	386-65	227-68.5				
	<b>No. Req'd</b>	4	4	4				
<b>KNOCKER SEAL RING</b>	<b>Logan Part No.</b>	<b>568-431</b>	<b>568-438</b>	<b>568-441</b>				
	<b>Bowen No.</b>	568431	568438	568441				
	<b>No. Req'd</b>	2	2	2				
<b>KNOCKER LOCK SCREW</b>	<b>Logan Part No.</b>	<b>AF6003</b>	<b>AF6003</b>	<b>AF6004</b>				
	<b>Bowen No.</b>	43305	43305	54770				

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### Special Notes:

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### When ordering, please specify:

- (1) Name and number of assembly or part
- (2) Connections, if other than standard
- (3) Stroke length
- (4) O.D., if other than standard

### Recommended Spare Parts:

- (1) 8 Non-Extrusion Rings
- (2) 8 Seal Protector Rings
- (3) 16 Klocker Seals

**FISHING BUMPER SUBS**

<b>CONNECTION</b>		5-1/2 API Reg	6-5/8 API Reg	7-5/8 API Reg				
<b>OUTSIDE DIAMETER (INCHES)</b>		6-3/4	7-3/4	9				
<b>INSIDE DIAMETER (INCHES)</b>		2-3/4	3-1/2	4				
<b>STROKE (INCHES)</b>		20	20	20				
<b>COMPLETE ASSEMBLY</b>	<b>Logan Part No.</b>	<b>604-675</b>	<b>604-775</b>	<b>604-900</b>				
	<b>Bowen No.</b>	10690	26595	61596				

**OPTIONAL ACCESSORIES**

<b>CHEVRON PACKING KNOCKER ASSEMBLY</b>								
<b>COMPLETE ASSEMBLY</b>	<b>Logan Part No.</b>	<b>25000-020</b>	<b>25000-021</b>	...				
	<b>Bowen No.</b>	57013	61103	...				
<b>KNOCKER</b>	<b>Logan Part No.</b>	<b>AF7006</b>	<b>AF7007</b>	...				
	<b>Bowen No.</b>	57014	61104	...				
<b>PACKING RING</b>	<b>Logan Part No.</b>	<b>AF8006</b>	<b>AF8007</b>	...				
	<b>Bowen No.</b>	57015	61105	...				
<b>CENTER RING</b>	<b>Logan Part No.</b>	<b>AF9006</b>	<b>AF9007</b>	...				
	<b>Bowen No.</b>	62374	62378	...				
<b>CHEVRON PACKING SET</b>	<b>Logan Part No.</b>	<b>AF10006</b>	<b>AF10007</b>	...				
	<b>Bowen No.</b>	57016	61106	...				
<b>RETAINING RING</b>	<b>Logan Part No.</b>	<b>AF11006</b>	<b>AF11007</b>	...				
	<b>Bowen No.</b>	57017	59907	...				
<b>PACKING RETAINER</b>	<b>Logan Part No.</b>	<b>AF12006</b>	<b>AF12007</b>	...				
	<b>Bowen No.</b>	62375	62379	...				
	<b>No. Req'd</b>	2	2	...				

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**When ordering, please specify:**

- (1) Name and number of assembly or part
- (2) Connections, if other than standard
- (3) Stroke length
- (4) O.D., if other than standard

**Recommended Spare Parts:**

- (1) 8 Non-Extrusion Rings
- (2) 8 Seal Protector Rings
- (3) 16 Klocker Seals

**FISHING BUMPER SUBS**

<b>CONNECTION</b>	5-1/2 API Reg	6-5/8 API Reg	7-5/8 API Reg				
<b>OUTSIDE DIAMETER (INCHES)</b>	6-3/4	7-3/4	9				
<b>INSIDE DIAMETER (INCHES)</b>	2-3/4	3-1/2	4				

**30" STROKE**

<b>COMPLETE ASSEMBLY</b>	<b>Logan Part No.</b> 604-675	604-775	604-900				
	Bowen No. 14520	29568	70408				
<b>MANDREL</b>	<b>Logan Part No.</b> AF4011-30	AF4012-30	AF4013-30				
	Bowen No. 14522	29569	70410				
<b>MIDDLE BODY</b>	<b>Logan Part No.</b> AF3011-30	AF3012-30	AF3013-30				
	Bowen No. 14521	29570	70409				

**36" STROKE**

<b>COMPLETE ASSEMBLY</b>	<b>Logan Part No.</b> 604-675	604-775	604-900				
	Bowen No. 13590	29616	70411				
<b>MANDREL</b>	<b>Logan Part No.</b> AF4011-36	AF4012-36	AF4013-36				
	Bowen No. 13592	29617	70413				
<b>MIDDLE BODY</b>	<b>Logan Part No.</b> AF3011-36	AF3012-36	AF3013-36				
	Bowen No. 13591	29618	70412				

**42" STROKE**

<b>COMPLETE ASSEMBLY</b>	<b>Logan Part No.</b> 604-675	604-775	604-900				
	Bowen No. 29676	29679	70414				
<b>MANDREL</b>	<b>Logan Part No.</b> AF4011-42	AF4012-42	AF4013-42				
	Bowen No. 29677	29680	70416				
<b>MIDDLE BODY</b>	<b>Logan Part No.</b> AF3011-42	AF3012-42	AF3013-42				
	Bowen No. 29678	29681	70415				

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**Special Notes:**

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**When ordering, please specify:**

- (1) Name and number of assembly or part
- (2) Connections, if other than standard
- (3) Stroke length
- (4) O.D., if other than standard

**Recommended Spare Parts:**

- (1) 8 Non-Extrusion Rings
- (2) 8 Seal Protector Rings
- (3) 16 Klocker Seals

**FISHING BUMPER SUBS**

<b>CONNECTION</b>	5-1/2 API Reg	6-5/8 API Reg	7-5/8 API Reg				
<b>OUTSIDE DIAMETER (INCHES)</b>	6-3/4	7-3/4	9				
<b>INSIDE DIAMETER (INCHES)</b>	2-3/4	3-1/2	4				

**48" STROKE**

<b>COMPLETE ASSEMBLY</b>	<b>Logan Part No.</b> 604-675	604-775	604-900				
	Bowen No.	29742	29745	70417			
<b>MANDREL</b>	<b>Logan Part No.</b> AF4011-48	AF4012-48	AF4013-48				
	Bowen No.	29743	29746	70419			
<b>MIDDLE BODY</b>	<b>Logan Part No.</b> AF3011-48	AF3012-48	AF3013-48				
	Bowen No.	29744	29747	70418			

**60" STROKE**

<b>COMPLETE ASSEMBLY</b>	<b>Logan Part No.</b> 604-675	604-775	604-900				
	Bowen No.	29796	29799	70420			
<b>MANDREL</b>	<b>Logan Part No.</b> AF4011-60	AF4012-60	AF4013-60				
	Bowen No.	29797	29800	70422			
<b>MIDDLE BODY</b>	<b>Logan Part No.</b> AF3011-60	AF3012-60	AF3013-60				
	Bowen No.	29798	29801	70421			

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**When ordering, please specify:**

- (1) Name and number of assembly or part
- (2) Connections, if other than standard
- (3) Stroke length
- (4) O.D., if other than standard

**Recommended Spare Parts:**

- (1) 8 Non-Extrusion Rings
- (2) 8 Seal Protector Rings
- (3) 16 Knocker Seals