



Safety Joints

OVERVIEW

Logan Safety Joints — Drill Pipe, Tubing, Washover, and Type J — allow quick release from drilling, fishing, testing washover or tubing strings should they become stuck. The simple design of these Safety Joints has no release ring, which allows for quick disengagement of the tool. They leave a minimum of pipe in the hole thus reducing the problems of fishing or sidetracking.

The Logan Type J Safety Joint provides a release option from tools such as taper taps or die collars that are normally non-releasable. It also provides a way to connect or disconnect fishing string and stuck fish.

Logan Safety Joints are available in a full range of types, sizes, and lengths.

USES

Logan Safety Joints are used in a drilling, fishing, tubing, washover, or testing string whenever a releasing safety connection is needed.

CONSTRUCTION

Logan Drill Pipe, Tubing, and Washover Safety Joints are a simple, two-piece, four-seal design that permits easy disassembly for cleaning and lubrication.

These Safety Joints consist of an upper pin section, a lower box section and four seals. The upper pin section has a box connection up for connecting to the tool joint and a male coarse thread down for connection to the box section.

The pin section is grooved at the top and bottom to accommodate the O-ring type seals above and below the threads to seal the Safety Joint from both internal and external fluid pressures. Both seals are rated for high pressure operation and are capable of withstanding

up to 1,000 psi in continuous service. The seals are rated for all normal pump pressures in continuous service. The 6SHFLD10,000 psi working pressure Course Thread Safety Joints are available upon request.

The box section has a female coarse thread matching the male thread of the pin section and has a tool joint pin connection down for connecting to the pipe.

The coarse thread design of the pin and box sections allows speed and ease of engagement. When the Safety Joint is made up tightly, the joining coarse threads grip each other securely, pulling the surfaces into complete contact and transform the Safety Joint into a rigid unit. Once in the string the Safety Joint is resistant to vibration, heavy loads and left- or right-hand torque. The coarse thread design will not permit the safety joint to loosen or wedge during operation. The Safety Joint's design allows the transmission of torque in the left- or right-hand direction.

The Safety Joint will disengage with simple left-hand rotation between 20% – 40% of the tool's right-hand make-up torque.

Drill Pipe Safety Joints

The Logan Drill Pipe Safety Joint is made up of a box section and a pin section. The outer and inner diameters of the Logan Drill Pipe Safety Joint match the standard outer and inner diameters of the corresponding drill pipe tool joint connection.

Each Drill Pipe Safety Joint is designed to withstand internal and external pressures through the use of O-ring seals above and below the threads.

Logan Drill Pipe Safety Joints come in a variety of popular sizes for drill pipe strings.

Tubing Safety Joints

The Logan Tubing Safety Joint is made up of a box section and a pin section. The outside diameter of Logan Tubing Safety Joints are the same as the tubing coupling O.D. and an inside diameter that matches the I.D. of the tubing connection. O-ring seals positioned above and below the threads allow the Tubing Safety Joint to withstand internal and external pressures.

Logan Tubing Safety Joints come in a variety of popular sizes for tubing strings.

Washover Safety Joints

The Logan Washover Safety Joint is made up of a drill pipe box section and a washover string pin section. This allows the Safety Joint to be run between the washover pipe and the drill string. The outside diameter of the Washover Safety Joint matches the O.D. of the washover pipe.

O-ring seals positioned above and below the threads allow the Washover Safety Joint to withstand internal and external pressures.

Logan Washover Safety Joints come in a variety of popular sizes for drill pipe strings.

Type J Safety Joints

This simple two-piece construction made of heat-treated alloy steel allows easy make-up and release. Special shear screws securely fasten the tool to prevent accidental unlatching before the fish is engaged.

OPERATION

Examine the pin section to ensure that the top and bottom seals are properly installed in the grooves and are in good condition. Thoroughly lubricate the threads in the pin and the box sections. Make up the pin and box sections by hand.

Position the Safety Joint at the desired point in the string:

- (a) In drilling string, position the Safety Joint far enough above the drill collars to avoid compression loading and to avoid sticky or heaving formations.
- (b) In fishing string, position the Safety Joint immediately above the fishing tool and below any accessory tool such as a jar or bumper sub.
- (c) In tubing strings, position the Safety Joint immediately above the tubing catcher or production packer.
- (d) In washover strings, position the Safety Joint between the drill pipe and the washover string.
- (e) In drill stem testing strings, the Safety Joint is usually located above the packer and test tool but below any accessory tool such as a jar or bumper sub.

Screw the tool joint pin of the Safety Joint into the joint box of the pipe. Make it up like an ordinary tool joint. With one tong on the box section and another tong on the pin section, make up the Safety Joint to the same degree of tightness as the other tool joints in the string. Screw the pin end of the next stand of pipe into the box of the Safety Joint. Make it up like an ordinary tool joint connection. Run the pipe into the well.

To Release a Drill Pipe, Tubing, or Washover Safety Joint in the Hole

1. Rotate the string to the left at 40% of the tool's right-hand make-up torque to break the connection. Rotate one (1) turn in straight or shallow holes and two (2) or three (3) turns in deep or crooked holes.

2. Pick up on the drill string until 500 to 1,000 lbs. remains on the Safety Joint. If too much weight is left sitting on the Safety Joint, the shoulder of the box section could be damaged when the tool disengages.
3. Rotate the string to the left until 40% of the tool's right-hand make-up torque is applied.
4. Pick up on the string slowly while rotating to the left to unscrew the Safety Joint. The coarse threads will lift the pipe approximately 1/2" to 1-1/2" (depending on the size of the Safety Joint) for each revolution of the string.
5. Care should be taken to keep a little weight on the Safety Joint as the tool is unscrewed as recommended in step 2 above. The operator will see a weight decrease as the Safety Joint separates.

To Re-engage a Drill Pipe, Tubing, or Washover Safety Joint in the Hole

Lower the string into the hole until the pin section contacts the box section.

Apply approximately 1,000 lbs. of weight and rotate the string slowly to the right. An increase in torque will indicate that the Safety Joint has reengaged.

To Release a Type J Safety Joint

Once the fish is engaged, a tension load is applied to the string to shear the shear screws. After the screws have been sheared and the tension released, slight left-hand torque is applied to the string while it is elevated. The lugs will shift into the release slots and the two halves of the safety joint will separate.

To Re-engage a Type J Safety Joint

Slowly rotate the string to the right. Lower the string until the lugs on the top half engage the J-slots in the lower half. Stop rotation. Maintain right-hand torque on the lowered string until the joint is fully engaged. The joint will remain engaged until it is released. The lugs on the top half of the Logan Type J Safety Joint are secured when they engage with the J-slots on the bottom half.

MAINTENANCE

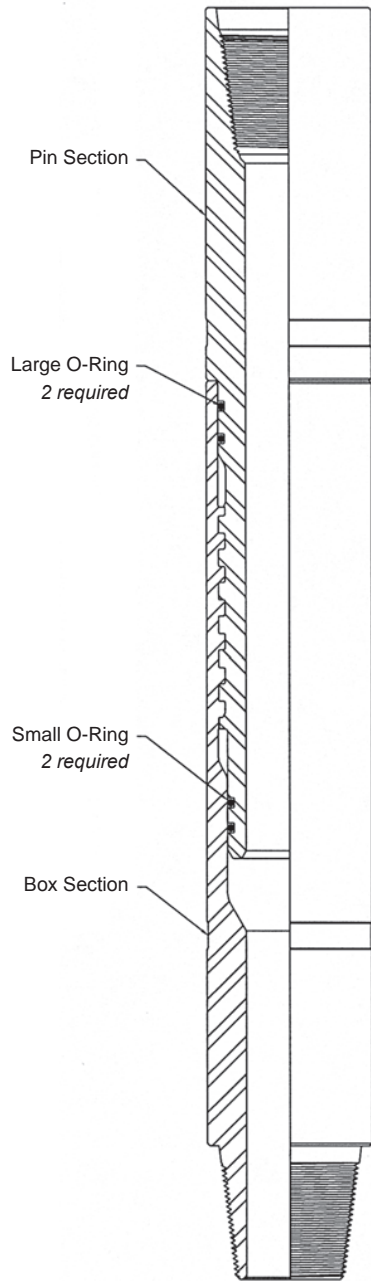
To prolong the life of the tool and guard against misruns, the Logan Safety Joint should be disassembled after use, thoroughly cleaned, lubricated, and serviced before storing.

Whenever the Safety Joint is used in continuous operation, such as in a drilling string, it is recommended that it be disassembled at least once a week.

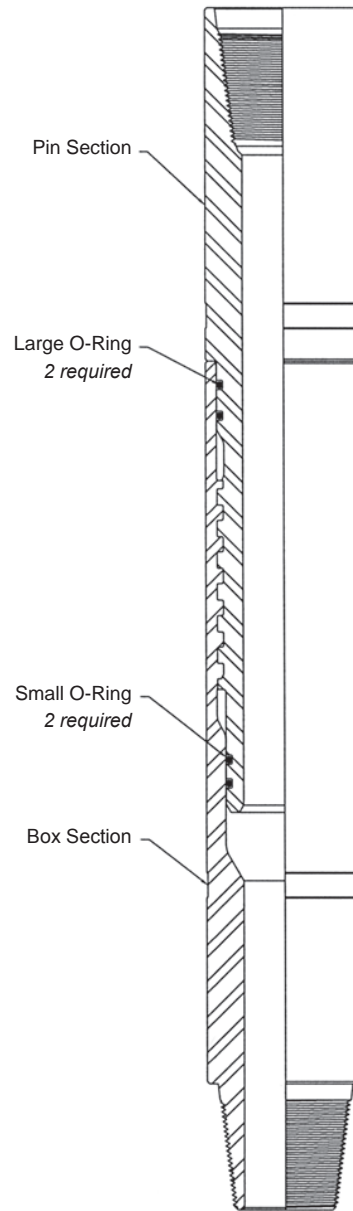
1. Dismantle the Safety Joint. The pin and box sections may be unscrewed by hand if they are not tightly engaged. If the two sections are tightly engaged, place a tong wrench on each section and unscrew the pin section from the box section.

NOTE: Protect the tool joint pin connection before dismantling.

2. Thoroughly clean each section.
3. Replace the large seals (top) and the small seals (bottom).
4. Thoroughly lubricate the threads of the pin and box sections. Make up the pin and box sections by hand.
5. Reassemble the Safety Joint.
6. Paint or lubricate all exterior surfaces to prevent rust or corrosion.

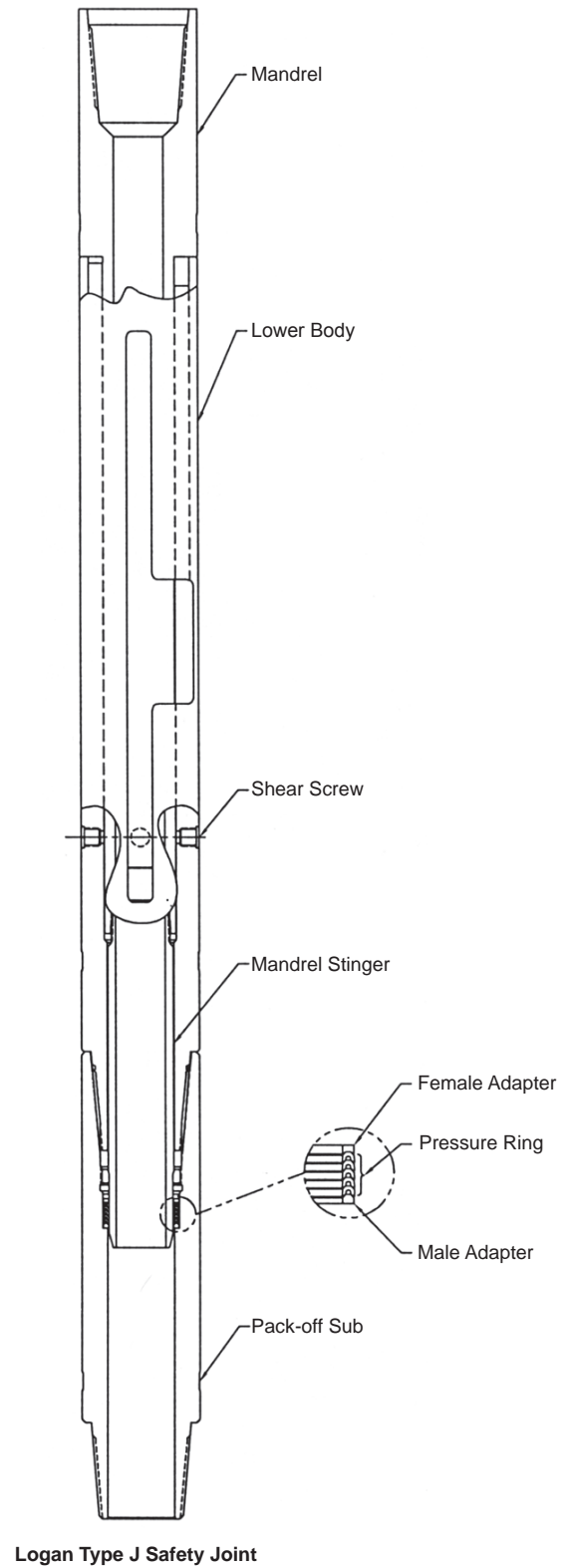
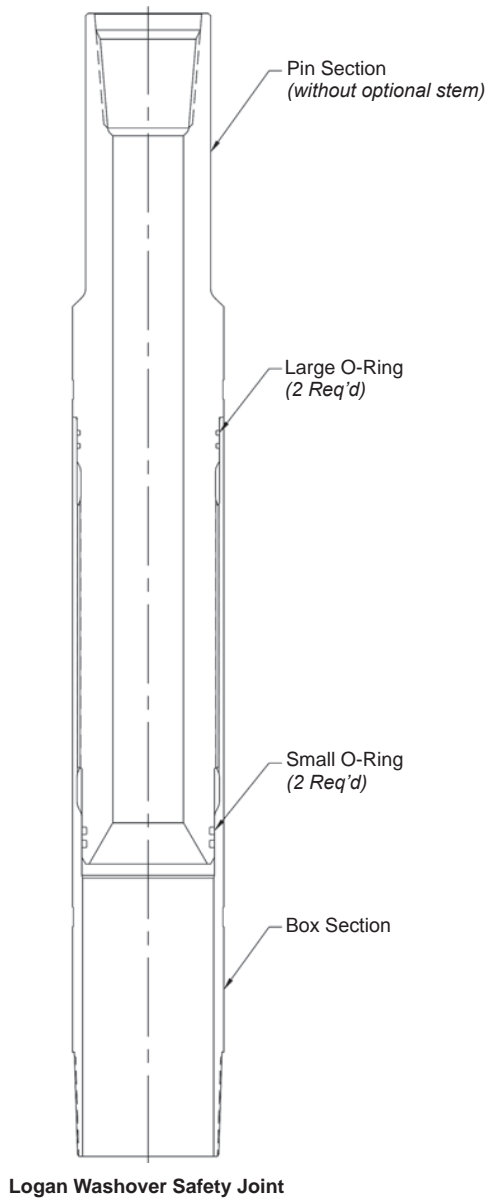


Logan Drill Pipe Safety Joint



Logan Tubing Safety Joint

Logan Oil Tools reserves the right to change or discontinue designs without notice.



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DRILL PIPE SAFETY JOINTS

CONNECTION SIZE		2-3/8	2-3/8	2-7/8	2-7/8	2-7/8	3-1/2	3-1/2
CONNECTION TYPES		API Reg ACME Reg	API IF API FH HYD IF	API Reg ACME Reg	HYD IF	Int Flush	API Reg	HYD IF
TOOL O.D.		3-1/8	3-3/8	3-3/4	3-7/8	4-1/8	4-1/4	4-1/2
BORE		1	1-3/4	1-1/4	2-1/8	2-1/8	1-1/2	2-9/16
COMPLETE ASSEMBLY	Logan Part No.	601-313	601-338	601-375	601-388	601-413	601-425	601-450
PIN SECTION	Logan Part No.	Y1000	Y1001	Y1002	Y1003	Y1004	Y1005	Y1006
BOX SECTION	Logan Part No.	Y2000	Y2001	Y2002	Y2003	Y2004	Y2005	Y2006
O-RING – SMALL	Logan Part No.	568-325	568-226	568-227	...	568-333	568-333	...
	No. Req'd	2	2	2	...	2	2	...
O-RING – LARGE	Logan Part No.	568-329	568-332	568-333	...	568-337	568-337	...
	No. Req'd	2	2	2	...	2	2	...

DRILL PIPE SAFETY JOINTS

CONNECTION SIZE		3-1/2	3-1/2	3-1/2	4	4	4-1/2	4-1/2
CONNECTION TYPES		API FH	API Reg	API IF	API FH	Int Flush	API Reg	API FH
TOOL O.D.		4-5/8	4-3/4	4-3/4	5-1/4	5-3/4	5-1/2	5-3/4
BORE		2-7/16	1-1/2	2-11/16	2-13/16	3-1/4	2-1/4	3
COMPLETE ASSEMBLY	Logan Part No.	601-463	601-475	601-476	601-525	601-575	601-550	601-575
PIN SECTION	Logan Part No.	Y1007	Y1008	Y1009	Y1010	Y1011	Y1012	Y1013
BOX SECTION	Logan Part No.	Y2007	Y2008	Y2009	Y2010	Y2011	Y2012	Y2013
O-RING – SMALL	Logan Part No.	568-337	...	568-337	...	...	...	568-344
	No. Req'd	2	...	2	...	...	...	2
O-RING – LARGE	Logan Part No.	568-341	...	568-341	...	...	...	568-349
	No. Req'd	2	...	2	...	...	...	2

Logan Oil Tools reserves the right to change or discontinue designs without notice.

Special Notes:

(1) Left-hand connections available upon request.

When ordering, please specify:

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

LOGAN

OIL TOOLS

DRILL PIPE SAFETY JOINTS

CONNECTION SIZE		4-1/2	4-1/2	5-1/2	5-1/2	5-1/2	6-5/8	6-5/8
CONNECTION TYPES		X-HOLE	API IF HYD IF	API Reg	API Reg	API Reg	API Reg	API Reg
TOOL O.D.		6	6-1/8	6-3/4	7	7-3/8	7-3/4	8
BORE		3-1/4	3-3/4	2-3/4	4	4-13/16	3-1/2	5
COMPLETE ASSEMBLY	Logan Part No.	601-600	601-613	601-675	601-700	601-738	601-775	601-800
PIN SECTION	Logan Part No.	Y1014	Y1015	Y1016	Y1017	Y1018	Y1019	Y1020
BOX SECTION	Logan Part No.	Y2014	Y2015	Y2016	Y2017	Y2018	Y2019	Y2020
O-RING – SMALL	Logan Part No.	...	568-347	...	...	...	568-355	568-435
	No. Req'd	...	2	...	...	...	2	2
O-RING – LARGE	Logan Part No.	...	568-429	...	...	...	568-359	568-438
	No. Req'd	...	2	...	...	...	2	2

DRILL PIPE SAFETY JOINTS

CONNECTION SIZE		6-5/8	7-5/8	8-5/8				
CONNECTION TYPES		API IF	API Reg	API Reg				
TOOL O.D.		8-1/2	9	10				
BORE		5-29/32	4	4-3/4				
COMPLETE ASSEMBLY	Logan Part No.	601-850	601-900	601-1000				
PIN SECTION	Logan Part No.	Y1021	Y1022	Y1023				
BOX SECTION	Logan Part No.	Y2021	Y2022	Y2023				
O-RING – SMALL	Logan Part No.	...	568-361	...				
	No. Req'd	...	2	...				
O-RING – LARGE	Logan Part No.	...	568-363	...				
	No. Req'd	...	2	...				

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TUBING SAFETY JOINTS

CONNECTION SIZE		3/4	1	1	1-1/2	2	2-1/2	2-7/8
CONNECTION TYPE		EUE HARDY GRIFFIN	DSS	EUE	CS	EUE	EUE C-100	HYDRIL
TOOL O.D.		1.660	1.590	1-29/32	2-1/8	3-1/16	3-21/32	3-1/2
BORE		.812	.812	1	1-1/2	2	2-7/16	2-3/8
COMPLETE ASSEMBLY	Logan Part No.	602-166	602-159	602-191	602-213	602-306	602-366	602-350
PIN SECTION	Logan Part No.	Y3000	Y3001	Y3002	Y3003	Y3004	Y3005	Y3006
BOX SECTION	Logan Part No.	Y4000	Y4001	Y4002	Y4003	Y4004	Y4005	Y4006
O-RING – SMALL	Logan Part No.	...	...	568-025	568-131	568-138	568-228	...
	No. Req'd	...	...	2	2	2	2	...
O-RING – LARGE	Logan Part No.	...	...	568-128	568-225	568-332	568-336	...
	No. Req'd	...	...	2	2	2	2	...

TUBING SAFETY JOINTS

CONNECTION SIZE		3	3					
CONNECTION TYPE		EUE	EUE					
TOOL O.D.		4-1/2	5					
BORE		3	3					
COMPLETE ASSEMBLY	Logan Part No.	602-450	602-500					
PIN SECTION	Logan Part No.	Y3007	Y3008					
BOX SECTION	Logan Part No.	Y4007	Y4008					
O-RING - SMALL	Logan Part No.	568-152	...					
	No. Req'd	2	...					
O-RING - LARGE	Logan Part No.	568-241	...					
	No. Req'd	2	...					

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Special Notes:

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When ordering, please specify:

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- (3) Name and number of any desired spares
- (4) O.D., if other than standard.



WASHOVER SAFETY JOINTS

CONNECTION SIZE		4	4-1/2	5	5-1/2	5-3/4	7	7-3/8
CONNECTION TYPE		FJ	FJ	FJ	FJ	FJ	HYDRIL FJ	FJ
TOOL O.D.		4	4-1/2	5-3/8	5-5/8	5-3/4	7-5/16	7-3/8
BORE		1-1/4	1-1/4	2-1/8	2-9/16	2-7/16	3-3/4	3
COMPLETE ASSEMBLY	Logan Part No.	603-400	603-450	603-538	603-563	603-575	603-731	603-738
PIN SECTION WITHOUT STEM	Logan Part No.	Y5000-B	Y5001-B	Y5002-B	Y5003-B	Y5004-B	Y5005-B	Y5006-B
BOX SECTION	Logan Part No.	Y6000	Y6001	Y6002	Y6003	Y6004	Y6005	Y6006
O-RING – SMALL	Logan Part No.	...	...	...	568-244	568-251	...	568-261
	No. Req'd	...	...	...	2	2	...	2
O-RING – LARGE	Logan Part No.	...	...	...	568-248	568-350	...	568-261
	No. Req'd	...	...	...	2	2	...	2

OPTIONAL

PIN SECTION WITH STEM	Logan Part No.	Y5000-A	Y5001-A	Y5002-A	Y5003-A	Y5004-A	Y5005-A	Y5006-A
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WASHOVER SAFETY JOINTS

CONNECTION SIZE		7-5/8	8-1/8	9	9-5/8	10-3/4	11-3/4	
CONNECTION TYPE		FJ	FJ	FJ	FJ	FJ	FJ	
TOOL O.D.		8	8-5/32	9-3/8	10-1/8	11-1/16	11-3/4	
BORE		3-3/4	3-5/32	4		4		
COMPLETE ASSEMBLY	Logan Part No.	603-800	603-816	603-938	603-1013	603-1106	603-1175	
PIN SECTION WITHOUT STEM	Logan Part No.	Y5007-B	Y5008-B	Y5009-B	Y5010-B	Y5011-B	Y5012-B	
BOX SECTION	Logan Part No.	Y6007	Y6008	Y6009	Y6010	Y6011	Y6012	
O-RING – SMALL	Logan Part No.	568-262	568-263	...	...	...	...
	No. Req'd	2	2	...	...	...	...
O-RING – LARGE	Logan Part No.	568-363	568-364	...	...	...	...
	No. Req'd	2	2	...	...	...	...

OPTIONAL

PIN SECTION WITH STEM	Logan Part No.	Y5007-A	Y5008-A	Y5009-A	Y5010-A	Y5011-A	Y5012-A	
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Special Notes:

- (1) Left-hand connections available upon request

When ordering, please specify:

- (1) Name and number of assembly or part
- (2) Connections, if other than standard
- (3) Name and number of any desired spares
- (4) If ordering Pin Section With Stem, specify stem length
- (5) O.D., if other than standard.

LOGAN

OIL TOOLS

TYPE J SAFETY JOINTS

STANDARD TOOL O.D.		4-1/8	4-3/4	6-1/4	7-3/4		
COMPLETE ASSEMBLY	Logan Part No.	610-413	610-475	610-625	610-775		
MANDREL	Logan Part No.	Y7000	Y7001	Y7002	Y7003		
MANDREL STINGER	Logan Part No.	Y8000	Y8001	Y8002	Y8003		
LOWER BODY	Logan Part No.	Y9000	Y9001	Y9002	Y9003		
PACK-OFF SUB	Logan Part No.	Y10000	Y10001	Y10002	Y10003		
GLAND NUT	Logan Part No.	Y11000	Y11001	Y11002	Y11002		
FEMALE ADAPTER	Logan Part No.	SC3131-480	SC2652-480	SC3123-480	SC3433-480		
MALE ADAPTER	Logan Part No.	SC3132-280	SC2652-280	SC3123-280	SC3433-280		
CHEVRON PACKING	Logan Part No.	SC3132-160	SC2652-160	SC3123-160	SC3433-160		
SHEAR SCREW	Logan Part No.	Y12000	Y12000	Y12000	Y12000		
	No. Req'd.	2	2	4	4		
GLAND WRENCH	Logan Part No.	Y13000	Y13001	Y13002	Y13002		

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