

## Type A Packer Type Tubing Patches

### TYPE A PACKER TYPE TUBING PATCHES

#### Overview

This Type A Packer Type Tubing Patch is used to repair a section of damaged tubing without having to remove the entire string from the hole to replace it. This external catch tool is designed to engage a previously prepared fish, pack it off, and become a permanent part of the tubing string. Positive engagement and seal-off in either direction provides a permanent, rigid connection that will remain leakproof for years, yet is easily removable if the need arises.

The Type A Packer Type Tubing Patches will not restrict the bore of the tubing and are available in popular tubing sizes from 2-3/8 through 3-1/2 inches O.D.

#### Construction

The simple design of the Type A Packer Type Tubing Patch is composed of five outside parts and four internal parts. The simple design of the Type A Packer Type Tubing Patch matches its simple operation.

#### Operation

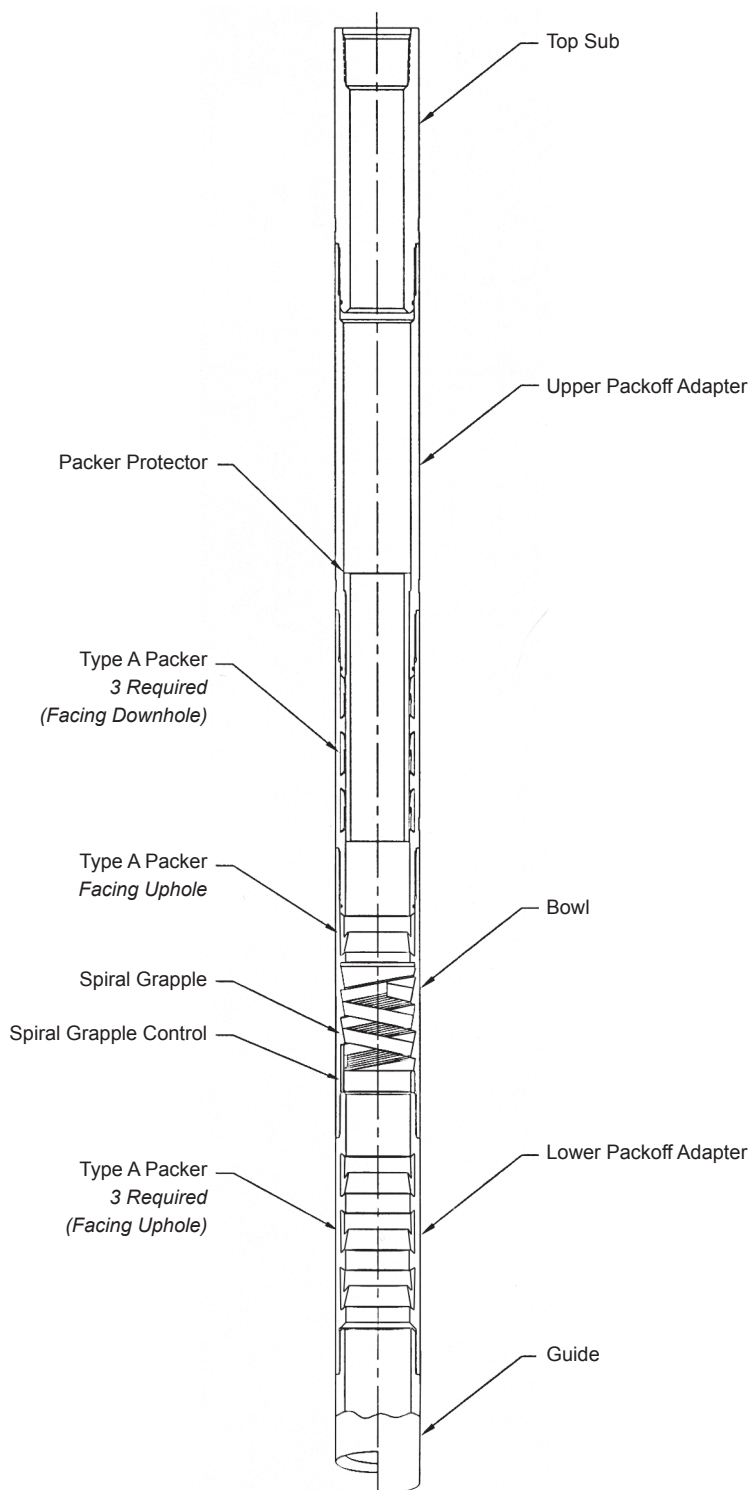
Prepare the upper end of the fish prior to running the Tubing Patch. Lower the tool into the hole until the depth of the fish is reached. Rotate the running string slowly to the right as it is slowly lowered. Combined slow rotation and lowering is important to the proper operation of the tool and should be continued until the fish has entered the tool. Watch the rig weight indicator to determine when the tool has reached the lower end of the top sub. Complete engagement can be assured by allowing the Tubing Patch to support 10,000 to 15,000 lbs. of weight. Pick up the running string to remove the weight from the Tubing Patch while letting the torque slacken from the running string.

If it becomes necessary to remove the tubing patch, bump down to release the grapple and slowly raise the string while rotating to the right. Continue rotation until the patch has cleared the tubing and lift from hole.

Ordinary corrosion does not affect the Tubing Patch and it may be released years after its initial setting. However, if the Tubing Patch has been cemented in place and cement has invaded the internal working parts, the patch may not release. In such cases, the patch can be milled away or by cutting the string below the patch for removal.

#### When ordering, please specify:

- (1) Name and number of assembly or part
- (2) Size and weight of tubing



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O.D. TUBING	2-3/8	2-7/8	3-1/2
O.D. PATCH	3-1/8	3-5/8	4-11/16
<b>COMPLETE ASSEMBLY</b>	<b>503-002</b>	<b>503-003</b>	<b>503-004</b>
Bowen No.	...	...	...
<b>TOP SUB</b>	<b>Z1002</b>	<b>Z1003</b>	<b>Z10035</b>
Bowen No.	...	36295	...
<b>TOP SUB SEAL</b>	<b>568-143</b>	<b>568-233</b>	<b>568241</b>
Bowen No.	568143	568233	568241
<b>BOWL</b>	<b>Z2002</b>	<b>Z2003</b>	<b>Z20035</b>
Bowen No.	...	36827	...
<b>BOWL SEAL</b>	<b>568-146</b>	<b>568-235</b>	<b>568-241</b>
Bowen No.	568146	568235	568241
No. Req'd	2	1	1
<b>PACKER PROTECTOR</b>	<b>Z3002</b>	<b>Z3003</b>	<b>Z30035</b>
Bowen No.	...	36296	...
<b>PACKER</b>	<b>A4001</b>	<b>A4005</b>	<b>A4019</b>
Bowen No.	9309	8550	...
No. Req'd	7	7	7
<b>GRAPPLE</b>	<b>A5001</b>	<b>A5005</b>	<b>A5019</b>
Bowen No.	9307	9272	6662
<b>GRAPPLE CONTROL</b>	<b>A6001</b>	<b>A6005</b>	<b>A6019</b>
Bowen No.	9308	9273	6674
<b>GUIDE</b>	<b>A3001</b>	<b>A3005</b>	<b>A3019</b>
Bowen No.	9312	9275	6667
<b>UPPER PACK-OFF ADAPTER</b>	<b>Z9002</b>	<b>Z9003</b>	<b>Z90035</b>
Bowen No.	...	36297	...
<b>LOWER PACK-OFF ADAPTER</b>	<b>Z10002</b>	<b>Z10003</b>	<b>Z100035</b>
Bowen No.	...	36298	...
<b>PACK-OFF ADAPTER EXTENSION</b>	<b>Z11002</b>	...	<b>Z110035</b>
Bowen No.	...	...	...

Note: H<sub>2</sub>S casing patches available upon request.

#### When ordering, please specify:

- (1) Complete assembly or part number
- (2) Size and type of connection