

## High Pressure Type L Packer Casing Patches

### HIGH PRESSURE TYPE L PACKER TYPE CASING PATCHES

#### Overview

High Pressure Type L Packer Type Casing Patches are designed to engage and seal off a properly prepared casing string. The Casing Patch design leaves the operator with a casing string that has a full-bore internal diameter. High Pressure Type L Packer Type Casing Patches will not restrict the bore of the casing and are available in popular casing sizes from 4-1/2 to 13-5/8 inches OD. Larger size Casing Patches are available upon request.

The High Pressure Type L Packer Type Casing Patches are available in 7,000, 10,000, and 12,000 psi working pressure ratings. All are designed to seal both internal and external pressure. We also manufacture a High Pressure Casing Patch that is rated at 15,000 psi working pressure. Lower and higher pressure Casing Patches of this design are available upon request.

High Pressure Type L Packer Type Casing Patches are available with or without five-foot extension subs.

#### Construction

The tool is very similar in design and construction to the Series 150 Overshot. A Top Sub, Bowl, and Guide make up the outer components of the assembly. A Basket Mill Control Packer, Basket Grapple, four Type L Packers, Packer Protector, and Shear Pins are components inside the assembly. 4140 alloy steel is used in the manufacture of the major load bearing components. The Type L Packers are made of a blend of hydrogenated nitrile (HBNR) material that is compatible for service with most drilling and completion fluids, and is resistant to gas invasion and abrasion. They are rated at 275 °F (dry, with no circulation) and at 325 °F (with partial circulation).

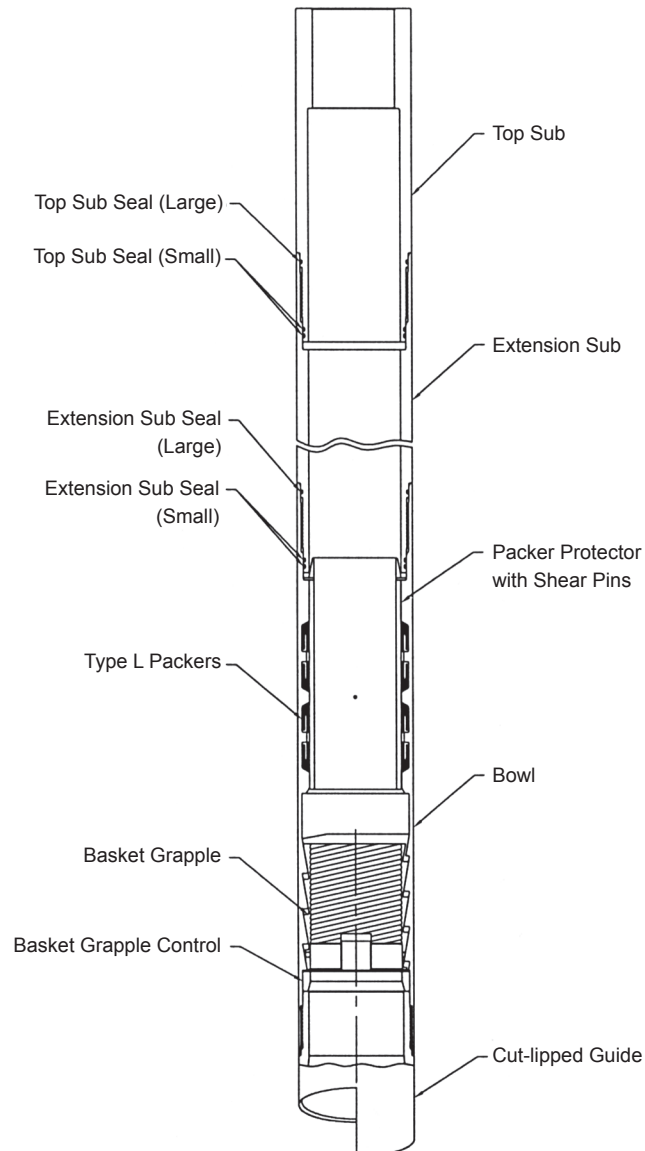
#### Operation

Proper preparation of the casing to be patched is important to the success of the Logan High Pressure Type L Packer Type Casing Patch. The casing should be washed over to remove scale and splits and the pipe sized for a uniform sealing surface.

The properly assembled Casing Patch should be lowered to the top of the fish. Slow rotation combined with slow lowering is important to the operation of the assembly. Once the fish has entered the Casing Patch, slowly slack off the rotation until the Packer Protector bottoms

out against the shoulder in the Top Sub and the casing is fully engaged in the patch. Apply a tensile load to the Casing Patch to set the grapple. The slips should then be set on the running string.

To test the patch, slowly engage the mud pumps so as not to slug the packers with excessive pressure. Then bring the pressure up to the desired test pressure.



High Pressure Type L Packer Type Casing Patch for 7K, 10K, and 12K Assemblies

#### When ordering, please specify:

- (1) Complete assembly or part number
- (2) Size and type of connection
- (3) With or without five-foot extensions

## High Pressure Type L Packer Casing Patches

### HIGH PRESSURE TYPE L PACKER TYPE CASING PATCHES — 7,000 PSI

O.D. CASING		4-1/2	5	5-1/2	7	7-5/8	9-5/8	9-7/8
O.D. PATCH		5-3/4	6-1/4	6-13/16	8-3/8	9	11-1/4	11-9/16
<b>COMPLETE ASSEMBLY</b>		<b>509-709</b>	<b>509-710</b>	<b>509-700</b>	<b>509-711</b>	<b>509-714</b>	*	<b>509-703</b>
<b>TOP SUB</b>		<b>ZL1005</b>	<b>LP1010</b>	<b>LP1000</b>	<b>LP1011</b>	<b>LP1014</b>	*	<b>LP1003</b>
<b>TOP SUB SEAL</b>		<b>568-248</b>	<b>568-252</b>	<b>568-257</b>	<b>568-263</b>	<b>568-265</b>	<b>568-274</b>	<b>568-274</b>
<b>(SMALL)</b>	No. Req'd	2	2	2	2	2	2	2
<b>TOP SUB SEAL</b>		<b>568-251</b>	<b>568-254</b>	<b>568-257</b>	<b>568-265</b>	<b>568-266</b>	<b>568-274</b>	<b>568-275</b>
<b>(LARGE)</b>	No. Req'd	1	1	1	1	1	1	1
<b>BOWL</b>		<b>ZL2005</b>	<b>LP2010</b>	<b>LP2000</b>	<b>LP2011</b>	<b>LP2014</b>	*	<b>LP2003</b>
<b>GUIDE</b>		<b>Z7005</b>	<b>LP3010</b>	<b>LP3000</b>	<b>Z7011</b>	<b>Z7012</b>	*	<b>LP3003</b>
<b>SHEAR PINS</b>		<b>AC14002</b>	<b>AC14002</b>	<b>AC14002</b>	<b>AC14002</b>	<b>AC14002</b>	<b>AC14002</b>	<b>AC14002</b>
	No. Req'd	2	2	2	2	2	2	2
<b>TYPE L PACKER</b>		<b>AT6009</b>	<b>AT6010</b>	<b>AT6000</b>	<b>AT6001</b>	<b>AT6014</b>	<b>AT6002</b>	<b>AT6003</b>
	No. Req'd	4	4	4	4	4	4	4
<b>PACKER PROTECTOR</b>		<b>ZL3005</b>	<b>ZL3006</b>	<b>AT7000</b>	<b>ZL3011</b>	<b>AT7014</b>	*	<b>AT7003</b>
<b>GRAPPLE CONTROL</b>		<b>Z6005</b>	<b>ZL6006</b>	<b>AT10000</b>	<b>Z6011</b>	<b>Z6012</b>	*	<b>AT10003</b>
<b>GRAPPLE</b>		<b>Z5005</b>	<b>ZL5006</b>	<b>AT11000</b>	<b>Z5011</b>	<b>AT11014</b>	*	<b>AT11003</b>

### OPTIONAL

<b>EXTENSION SUB</b>		<b>LPE1009</b>	<b>LPE1010</b>	<b>LPE1000</b>	<b>LPE1011</b>	<b>LPE1014</b>	*	<b>LPE1003</b>
<i>(5 feet long)</i>								
<b>EXTENSION SUB SEAL</b>		<b>568-248</b>	*	<b>568-257</b>	<b>568-263</b>	*	<b>568-274</b>	<b>568-274</b>
<b>(SMALL)</b>	No. Req'd	2	...	2	2	...	2	2
<b>EXTENSION SUB SEAL</b>		<b>568-251</b>	*	<b>568-257</b>	<b>568-265</b>	*	<b>568-274</b>	<b>568-275</b>
<b>(LARGE)</b>	No. Req'd	1	...	1	1	...	1	1

#### Notes:

- (1) H<sub>2</sub>S casing patches available upon request.
- (2) Higher pressure casing patches of this design are available upon request.
- (3) Type C tungsten carbide mill guide available upon request.
- (4) Larger size Casing Patches are available upon request.

#### When ordering, please specify:

- (1) Complete assembly or part number
- (2) Size and type of connection
- (3) With or without five-foot extensions

# High Pressure Type L Packer Casing Patches

HIGH PRESSURE TYPE L PACKER TYPE CASING PATCHES — 7,000 PSI

O.D. CASING		10-3/4	13-3/8	13-5/8	20			
O.D. PATCH		12-5/16	15-1/2	15-3/4	23-1/2			
<b>COMPLETE ASSEMBLY</b>	<b>Logan Part No.</b>	<b>509-704</b>	<b>509-707</b>	<b>509-708</b>	<b>514-520</b>			
<b>TOP SUB</b>	<b>Logan Part No.</b>	<b>LP1004</b>	<b>LP1007</b>	<b>LP1008</b>	<b>BP1025</b>			
<b>TOP SUB SEAL (SMALL)</b>	<b>Logan Part No.</b>	<b>568-275</b>	<b>568-279</b>	<b>568-280</b>	<b>568-390</b>			
	No. Req'd	2	2	2	2			
<b>TOP SUB SEAL (LARGE)</b>	<b>Logan Part No.</b>	<b>568-276</b>	<b>568-280</b>	<b>568-280</b>	<b>568-390</b>			
	No. Req'd	1	1	1	1			
<b>BOWL</b>	<b>Logan Part No.</b>	<b>LP2004</b>	<b>LP2007</b>	<b>LP2008</b>	<b>BP2020</b>			
<b>GUIDE</b>	<b>Logan Part No.</b>	<b>LP3004</b>	<b>LP3007</b>	<b>LP3008</b>	<b>BP3020</b>			
<b>SHEAR PINS</b>	<b>Logan Part No.</b>	<b>AC14002</b>	<b>AC14002</b>	<b>AC14008</b>	<b>AC14008</b>			
	No. Req'd	2	2	2	2			
<b>TYPE L PACKER</b>	<b>Logan Part No.</b>	<b>AT6004</b>	<b>AT6007</b>	<b>AT6008</b>	<b>AT6017</b>			
	No. Req'd	4	4	4	4			
<b>PACKER PROTECTOR</b>	<b>Logan Part No.</b>	<b>AY6004</b>	<b>AT7007</b>	<b>AT7008</b>	<b>BP4020</b>			
<b>GRAPPLE CONTROL</b>	<b>Logan Part No.</b>	<b>AY9004</b>	<b>AT10007</b>	<b>AT10008</b>	<b>BP5020</b>			
<b>GRAPPLE</b>	<b>Logan Part No.</b>	<b>AY10004</b>	<b>AT11007</b>	<b>AT11008</b>	<b>BP6020</b>			

## OPTIONAL

<b>EXTENSION SUB (5 feet long)</b>	<b>Logan Part No.</b>	<b>LPE1004</b>	<b>LPE1007</b>	<b>LPE1008</b>	<b>BPE1020</b>			
<b>EXTENSION SUB SEAL (SMALL)</b>	<b>Logan Part No.</b>	<b>568-275</b>	<b>568-279</b>	<b>568-280</b>	<b>568-390</b>			
	No. Req'd	2	2	2	2			
<b>EXTENSION SUB SEAL (LARGE)</b>	<b>Logan Part No.</b>	<b>568-276</b>	<b>568-280</b>	<b>568-280</b>	<b>568-390</b>			
	No. Req'd	1	1	1	1			

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

### Notes:

- (1) H<sub>2</sub>S casing patches available upon request.
- (2) Higher pressure casing patches of this design are available upon request.
- (3) Type C tungsten carbide mill guide available upon request.
- (4) Larger size Casing Patches are available upon request.

### When ordering, please specify:

- (1) Complete assembly or part number
- (2) Size and type of connection
- (3) With or without five-foot extensions

**HIGH PRESSURE TYPE L PACKER TYPE CASING PATCHES — 10,000 PSI**

<b>O.D. CASING</b>		4-1/2	5-1/2	7	9-5/8	9-7/8	10-3/4	13-3/8
<b>O.D. PATCH</b>		5-7/8	7	8-5/8	11.43	11-3/4	12-3/4	15-5/8
<b>PRESSURE RATING (PSI)</b>		10,000	10,000	10,000	10,000	10,000	10,000	10,000
<b>COMPLETE ASSEMBLY</b>	<b>Logan Part No.</b>	<b>510L-005</b>	<b>510L-007</b>	<b>510L-011</b>	<b>510-963-010</b>	<b>510-1175-010</b>	<b>510-1275-010</b>	<b>510-1338</b>
<b>TOP SUB</b>	<b>Logan Part No.</b>	<b>ZL1005-10</b>	<b>ZL1007-10</b>	<b>ZL1011-10</b>	<b>BT1002-010</b>	<b>BT1003-010</b>	<b>BT2004-010</b>	<b>BT2007-010</b>
<b>TOP SUB SEAL (SMALL)</b>	<b>Logan Part No.</b>	<b>568248-200</b>	<b>568257-200</b>	<b>568263-200</b>	<b>568274-200</b>	<b>568274-400</b>	<b>568275-200</b>	<b>568279-200</b>
	<b>No. Req'd</b>	2	2	2	2	2	2	2
<b>TOP SUB SEAL (LARGE)</b>	<b>Logan Part No.</b>	<b>568251-200</b>	<b>568257-200</b>	<b>568265-200</b>	<b>568274-200</b>	<b>568275-400</b>	<b>568276-200</b>	<b>568280-200</b>
	<b>No. Req'd</b>	1	1	1	1	1	1	1
<b>BOWL</b>	<b>Logan Part No.</b>	<b>ZL2005-10</b>	<b>ZL2007-10-001</b>	<b>ZL2011-10</b>	<b>BT12002-010</b>	<b>BT2003-010</b>	<b>BT11004-010</b>	<b>BT11007-010</b>
<b>GUIDE</b>	<b>Logan Part No.</b>	<b>Z7005-10</b>	<b>ZL3007-10</b>	<b>Z7011-10</b>	<b>BT13002-010</b>	<b>BT3003-010</b>	<b>BT12004-010</b>	<b>BT12007-010</b>
<b>SHEAR PINS</b>	<b>Logan Part No.</b>	<b>AC14002</b>	<b>AC14002</b>	<b>AC14002</b>	<b>AC14008</b>	<b>AC14002</b>	<b>AC14008</b>	<b>AC14000</b>
	<b>No. Req'd</b>	2	2	2	2	2	2	2
<b>TYPE L PACKER</b>	<b>Logan Part No.</b>	<b>AT6009</b>	<b>AT6000</b>	<b>AT6001</b>	<b>AT6002</b>	<b>AT6003</b>	<b>AT6004</b>	<b>AT6007</b>
	<b>No. Req'd</b>	4	4	4	4	4	4	4
<b>PACKER PROTECTOR</b>	<b>Logan Part No.</b>	<b>ZL3005</b>	<b>ZL3007-10</b>	<b>ZL3011</b>	<b>AT7002</b>	<b>AT7003</b>	<b>AY6004-500</b>	<b>AT7007</b>
<b>GRAPPLE CONTROL</b>	<b>Logan Part No.</b>	<b>Z6005 *</b>	<b>ZL6007</b>	<b>Z6011</b>	<b>AT10002</b>	<b>AT10003</b>	<b>AY9004</b>	<b>AT10007</b>
<b>GRAPPLE</b>	<b>Logan Part No.</b>	<b>Z5005</b>	<b>ZL5007</b>	<b>Z5011</b>	<b>AY11002</b>	<b>AT11003</b>	<b>AY10004</b>	<b>AT11007</b>

**OPTIONAL**

<b>EXTENSION SUB (5 feet long)</b>	<b>Logan Part No.</b>	<b>ZLE1005-10</b>	<b>ZLE1007-10</b>	<b>ZLE1011-10</b>	<b>BT3002-010</b>	<b>BTE1003-010</b>	<b>BTE3004-010</b>	<b>BT3007-010</b>
<b>EXTENSION SUB SEAL (SMALL)</b>	<b>Logan Part No.</b>	<b>568248-200</b>	<b>568257-200</b>	<b>568263-200</b>	<b>568274-200</b>	<b>568274-400</b>	<b>568275-200</b>	<b>568279-200</b>
	<b>No. Req'd</b>	2	2	2	2	2	2	2
<b>EXTENSION SUB SEAL (LARGE)</b>	<b>Logan Part No.</b>	<b>568251-200</b>	<b>568257-200</b>	<b>568265-200</b>	<b>568274-200</b>	<b>568275-400</b>	<b>568276-200</b>	<b>568280-200</b>
	<b>No. Req'd</b>	1	1	1	1	1	1	1

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

\* Mill Control Packer instead of Grapple Control

Notes:

- (1) H<sub>2</sub>S casing patches available upon request.
- (2) Higher pressure casing patches of this design are available upon request.
- (3) Other sizes of casing patches are available upon request.
- (4) Casing patches can be made from special materials. Prices and delivery information is available upon request.

When ordering, please specify:

- (1) Complete assembly or part number
- (2) Size and type of connection
- (3) With or without five-foot extensions

# High Pressure Type L Packer Casing Patches

## HIGH PRESSURE TYPE L PACKER TYPE CASING PATCHES — 12,000 PSI

O.D. CASING		5-1/2	9-5/8	9-7/8	10-3/4	11-3/4	13-3/8	13-5/8
O.D. PATCH		7-1/8	11-5/8	11-7/8	12-7/8	14-3/8	15-3/4	16-1/8
PRESSURE RATING (PSI)		12,000	12,000	12,000	12,000	12,000	12,000	12,000
<b>COMPLETE ASSEMBLY</b>	<b>Logan Part No.</b>	<b>512-550-012</b>	<b>512-963-012</b>	<b>507-1188-12K</b>	<b>512-1288-012</b>	<b>507-1438-12K-500</b>	<b>507-1544-012-500</b>	<b>512-1363</b>
<b>TOP SUB</b>	<b>Logan Part No.</b>	<b>AT1000-12</b>	<b>AT1002-012</b>	<b>AY2003-12K</b>	*	<b>AY2006-12K-500</b>	<b>AY2007-012</b>	<b>AT1008-012</b>
<b>TOP SUB SEAL (SMALL)</b>	<b>Logan Part No.</b>	<b>568257-200</b>	<b>568273-200</b>	<b>568274-200</b>	*	<b>568278-200</b>	<b>568279-200</b>	<b>568279-200</b>
	No. Req'd	2	2	2	2	2	2	2
<b>TOP SUB SEAL (LARGE)</b>	<b>Logan Part No.</b>	<b>568257-200</b>	<b>568273-200</b>	<b>568275-200</b>	*	<b>568278-200</b>	<b>568280-200</b>	<b>568280-200</b>
	No. Req'd	1	1	1	1	1	1	1
<b>BOWL</b>	<b>Logan Part No.</b>	<b>AT12000-12</b>	<b>AT12002-012</b>	<b>AY11003-12K-500</b>	*	<b>AY11006-12K-500</b>	<b>AY11007-012-502</b>	<b>AT12008-012</b>
<b>GUIDE</b>	<b>Logan Part No.</b>	<b>AT13000-12</b>	<b>AT13002-012</b>	<b>AY12003-12K-500</b>	*	<b>AY12006-12K-500</b>	<b>AY12007-012-502</b>	<b>AT13008-012</b>
<b>SHEAR PINS</b>	<b>Logan Part No.</b>	<b>AC14002</b>	<b>AC14002</b>	<b>AC14002</b>	*	<b>AC14002</b>	<b>AC14008</b>	<b>AC14008</b>
	No. Req'd	2	2	2	2	2	2	2
<b>TYPE L PACKER</b>	<b>Logan Part No.</b>	<b>AT6000</b>	<b>AT6002</b>	<b>AT6003</b>	<b>AT6004</b>	<b>AT6006</b>	<b>AT6004</b>	<b>AT6008</b>
	No. Req'd	4	4	4	4	4	4	4
<b>PACKER PROTECTOR</b>	<b>Logan Part No.</b>	<b>ZL3007</b>	<b>AT7002</b>	<b>AY6003-500</b>	*	<b>AY6006-12K-500</b>	<b>AY6007-012-502</b>	<b>AT7008</b>
<b>GRAPPLE CONTROL</b>	<b>Logan Part No.</b>	<b>Z6007</b>	<b>AT10002</b>	<b>AY9003-500</b>	*	<b>AY9006-12K-500</b>	<b>AY9007-501</b>	<b>AT10008</b>
<b>GRAPPLE</b>	<b>Logan Part No.</b>	<b>Z5007</b>	<b>AT11002</b>	<b>AY10003</b>	*	<b>AY10006</b>	<b>AY10007-502</b>	<b>AT11008</b>

### OPTIONAL

<b>EXTENSION SUB (5 feet long)</b>	<b>Logan Part No.</b>	<b>AT3000-12</b>	<b>AT3002-012</b>	<b>AY3003-12K-500</b>	*	<b>AY3006-12K-500</b>	<b>AY3007-012-502</b>	<b>AT3008-012</b>
<b>EXTENSION SUB SEAL (SMALL)</b>	<b>Logan Part No.</b>	<b>568257-200</b>	<b>568273-200</b>	<b>568274-200</b>	*	<b>568278-200</b>	<b>568279-200</b>	<b>568279-200</b>
	No. Req'd	2	2	2	2	2	2	2
<b>EXTENSION SUB SEAL (LARGE)</b>	<b>Logan Part No.</b>	<b>568257-200</b>	<b>568273-200</b>	<b>568275-200</b>	*	<b>568278-200</b>	<b>568280-200</b>	<b>568280-200</b>
	No. Req'd	1	1	1	1	1	1	1

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\* Part numbers available upon request

#### Notes:

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#### When ordering, please specify:

- (1) Complete assembly or part number
- (2) Size and type of connection
- (3) With or without five-foot extensions