

## LEAD SEAL CEMENTING CASING PATCHES

### Overview

The Logan Lead Seal Cementing Casing Patch forms a permanent sealed connection between two strings of casing and cements them together in a single operation. In addition to utilizing the field proven, compression-type lead seals of the Logan Lead Seal Tubing and Casing Patch, the Logan Lead Seal Cementing Casing Patch incorporates a valve system that allows the patch and running string to be cemented in place immediately after the lead seals have been compressed.

Lead Seal Cementing Casing Patches are available in popular casing sizes ranging from 2-3/8 to 13-3/8 inches. H<sub>2</sub>S service is available upon request.

### Construction

The seal assembly is manufactured from pure, unalloyed, fully annealed lead that is particularly suited for use in wells that contain fluids or gases harmful to rubber or synthetic packers.

### Assembly

After assembly, the lead seal cementing casing patch is made up to the bottom of the running string.

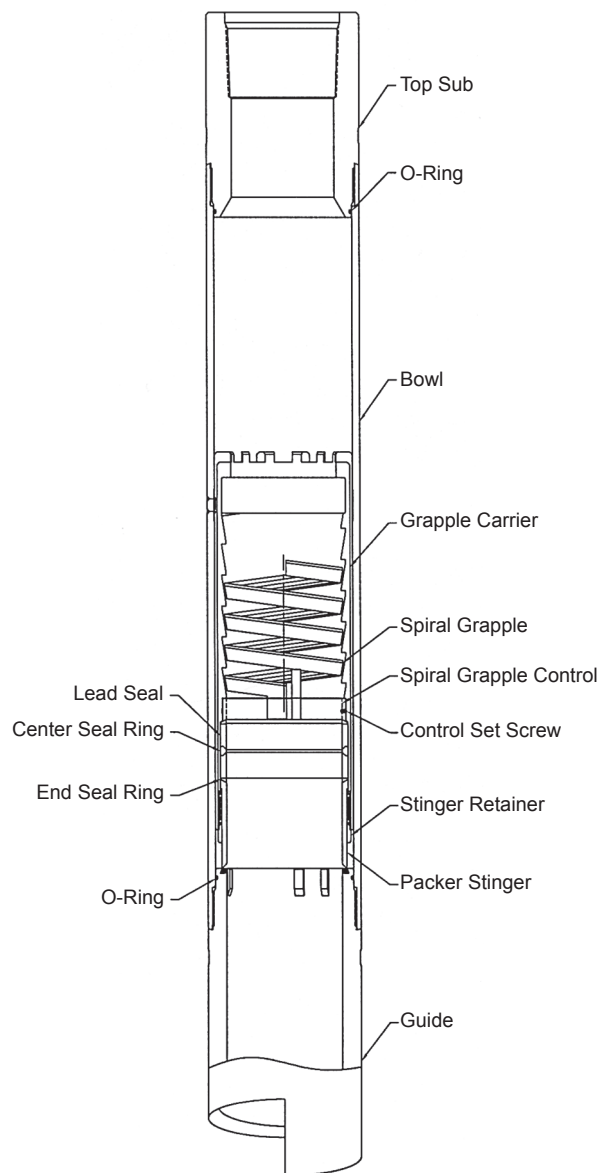
### Operation

Properly cut and remove the damaged portion of casing from the hole. Prepare the top of the downhole casing for engagement and pack-off. Roll the casing if necessary to assure proper diameter and roundness.

Lower the string to the top of the prepared fish. Slowly rotate over the fish and apply an upward setting load. This will move the grapple and grapple carrier down and compress the lead seals against the guide to form the initial seal. Lower the running string to telescope the grapple carrier and stinger upward in the outer body to open the valve between the integral lead seal and the stinger. Immediately pump cement downhole. Cement will exit through the valve in the patch, placing cement around the outside of the patch and casing. After cement has been pumped, an upward load should be applied and maintained to the running string while the cement hardens.

### When ordering, please specify:

- (1) Name and number of assembly or part
- (2) Casing O.D.
- (3) Size and type of connection



# LOGAN GENERAL CATALOG

OIL TOOLS

## LEAD SEAL CEMENTING CASING PATCHES

O.D. CASING		2-3/8	2-7/8	3-1/2	4	4-1/2	5	5-1/2
O.D. PATCH		4-1/8	4-5/8	5-1/4	5-3/4	6-1/2	6-3/4	7-7/16
<b>COMPLETE ASSEMBLY</b>	Logan Part No.	505-413	505-463	505-525	505-575	505-650	505-675	505-744
	Bowen No.	40514	41209	41210	40596	40619	40649	38179
<b>TOP SUB</b>	Logan Part No.	AB12000	AB12001	AB12016	AB12002	AB12003	AB12004	AB12005
	Bowen No.	41092	41098	41104	41110	41116	41122	38415
<b>BOWL</b>	Logan Part No.	AB1000	AB1001	AB1016	AB1002	AB1003	AB1004	AB1005
	Bowen No.	41093	41099	41105	41111	41117	41123	38416
<b>GRAPPLE CARRIER</b>	Logan Part No.	AB2000	AB2001	AB2016	AB2002	AB2003	AB2004	AB2005
	Bowen No.	41095	41101	41107	41113	41119	41125	38417
<b>GRAPPLE</b>	Logan Part No.	AA3000	AA3001	AB3016	AA3002	AA3003	AA3004	AA3005
	Bowen No.	17261	16143	26528	22403	13273	13283	12318
<b>GRAPPLE CONTROL</b>	Logan Part No.	AA4000	AA4001	AB4016	AA4002	AA4003	AA4004	AA4005
	Bowen No.	17262	16144	26529	22404	13274	13284	12319
<b>GUIDE</b>	Logan Part No.	AB5000	AB5001	AB5016	AB5002	AB5003	AB5004	AB5005
	Bowen No.	41094	41100	41106	41112	41118	41124	38421
<b>LEAD SEAL</b>	Logan Part No.	AA6000	AA6001	AB6016	AA6002	AA6003	AA6004	AA6005
	Bowen No.	17264	16146	26531	22406	13276	13286	12324
	No. Req'd	2	2	2	2	2	2	2
<b>END SEAL RING</b>	Logan Part No.	AA7000	AA7001	AB7016	AA7002	AA7003	AA7004	AA7005
	Bowen No.	17265	16147	26532	22407	13277	13287	12322
	No. Req'd	2	2	2	2	2	2	2
<b>CENTER SEAL RING</b>	Logan Part No.	AA8000	AA8001	AB8016	AA8002	AA8003	AA8004	AA8005
	Bowen No.	17266	16148	26533	22408	13278	13288	12323
<b>PACKER STINGER</b>	Logan Part No.	AB10000	AB10001	AB10016	AB10002	AB10003	AB10004	AB10005
	Bowen No.	41096	41102	41108	41114	41120	41126	38420
<b>STINGER RETAINER</b>	Logan Part No.	AB11000	AB11001	AB11016	AB11002	AB11003	AB11004	AB11005
	Bowen No.	41097	41103	41109	41115	41121	41127	38419
<b>CONTROL SET SCREW</b>	Logan Part No.	AA9000	AA9000	AA9000	AA9000	AA9000	AA9000	AA9000
	Bowen No.	12329	12329	12329	12329	12329	12329	12329
	No. Req'd	2	2	2	2	2	2	2
<b>BOWL SEAL</b>	Logan Part No.	568-237	568-240	568-246	568-250	568-255	568-258	568-260
	Bowen No.	30-15	30-18	30-24	30-28	30-33	30-36	30-38
	No. Req'd	2	2	2	2	2	2	2

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*Special Notes:*

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## LEAD SEAL CEMENTING CASING PATCHES

O.D. CASING		5-3/4	6	6-5/8	7	7-5/8	8-5/8	9-5/8
O.D. PATCH		7-3/4	8	8-5/8	9-1/8	9-7/8	11-1/8	11-15/16
<b>COMPLETE ASSEMBLY</b>	Logan Part No.	<b>505-775</b>	<b>505-800</b>	<b>505-863</b>	<b>505-913</b>	<b>505-988</b>	<b>505-1113</b>	<b>505-1194</b>
	Bowen No.	41088	40679	40858	40859	40869	41004	41085
<b>TOP SUB</b>	Logan Part No.	<b>AB12006</b>	<b>AB12007</b>	<b>AB12008</b>	<b>AB12009</b>	<b>AB12010</b>	<b>AB12011</b>	<b>AB12012</b>
	Bowen No.	41128	41134	41140	41146	41152	41158	41164
<b>BOWL</b>	Logan Part No.	<b>AB1006</b>	<b>AB1007</b>	<b>AB1008</b>	<b>AB1009</b>	<b>AB1010</b>	<b>AB1011</b>	<b>AB1012</b>
	Bowen No.	41129	41135	41141	41147	41153	41159	41165
<b>GRAPPLE CARRIER</b>	Logan Part No.	<b>AB2006</b>	<b>AB2007</b>	<b>AB2008</b>	<b>AB2009</b>	<b>AB2010</b>	<b>AB2011</b>	<b>AB2012</b>
	Bowen No.	41131	41137	41143	41149	41155	41161	41167
<b>GRAPPLE</b>	Logan Part No.	<b>AA3006</b>	<b>AA3007</b>	<b>AA3008</b>	<b>AA3009</b>	<b>AA3010</b>	<b>AA3011</b>	<b>AA3012</b>
	Bowen No.	22413	13293	13303	12503	13073	13313	12478
<b>GRAPPLE CONTROL</b>	Logan Part No.	<b>AA4006</b>	<b>AA4007</b>	<b>AA4008</b>	<b>AA4009</b>	<b>AA4010</b>	<b>AA4011</b>	<b>AA4012</b>
	Bowen No.	22414	13294	13304	12504	13074	13314	12479
<b>GUIDE</b>	Logan Part No.	<b>AB5006</b>	<b>AB5007</b>	<b>AB5008</b>	<b>AB5009</b>	<b>AB5010</b>	<b>AB5011</b>	<b>AB5012</b>
	Bowen No.	41130	41136	41142	41148	41154	41160	41166
<b>LEAD SEAL</b>	Logan Part No.	<b>AA6006</b>	<b>AA6007</b>	<b>AA6008</b>	<b>AA6009</b>	<b>AA6010</b>	<b>AA6011</b>	<b>AA6012</b>
	Bowen No.	22416	13296	13306	12506	13076	13316	12481
	No. Req'd	2	2	2	2	2	2	2
<b>END SEAL RING</b>	Logan Part No.	<b>AA7006</b>	<b>AA7007</b>	<b>AA7008</b>	<b>AA7009</b>	<b>AA7010</b>	<b>AA7011</b>	<b>AA7012</b>
	Bowen No.	22417	13297	13307	28656	13077	13317	12482
	No. Req'd	2	2	2	2	2	2	2
<b>CENTER SEAL RING</b>	Logan Part No.	<b>AA8006</b>	<b>AA8007</b>	<b>AA8008</b>	<b>AA8009</b>	<b>AA8010</b>	<b>AA8011</b>	<b>AA8012</b>
	Bowen No.	22418	13298	13308	12508	13078	13318	12483
<b>PACKER STINGER</b>	Logan Part No.	<b>AB10006</b>	<b>AB10007</b>	<b>AB10008</b>	<b>AB10009</b>	<b>AB10010</b>	<b>AB10011</b>	<b>AB10012</b>
	Bowen No.	41132	41138	41144	41150	41156	41162	41168
<b>STINGER RETAINER</b>	Logan Part No.	<b>AB11006</b>	<b>AB11007</b>	<b>AB11008</b>	<b>AB11009</b>	<b>AB11010</b>	<b>AB11011</b>	<b>AB11012</b>
	Bowen No.	41133	41139	41145	41151	41157	41163	41169
<b>CONTROL SET SCREW</b>	Logan Part No.	<b>AA9000</b>	<b>AA9000</b>	<b>AA9000</b>	<b>AA9000</b>	<b>AA9000</b>	<b>AA9001</b>	<b>P12003</b>
	Bowen No.	12329	12329	12329	12329	12329	12484	12484
	No. Req'd	2	2	2	2	2	2	2
<b>BOWL SEAL</b>	Logan Part No.	<b>568-262</b>	<b>568-263</b>	<b>568-265</b>	<b>568-267</b>	<b>568-270</b>	<b>568-449</b>	<b>568-450</b>
	Bowen No.	30-40	30-41	30-43	30-45	30-48	27-76	27-77
	No. Req'd	2	2	2	2	2	2	2

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<b>O.D. CASING</b>		10-3/4	11-3/4	13-3/8				
<b>O.D. PATCH</b>		13-5/8	14-3/4	16-5/8				
<b>COMPLETE ASSEMBLY</b>	<b>Logan Part No.</b>	<b>505-1363</b>	<b>505-1475</b>	<b>505-1663</b>				
	Bowen No.	41086	41089	41087				
<b>TOP SUB</b>	<b>Logan Part No.</b>	<b>AB12013</b>	<b>AB12014</b>	<b>AB12015</b>				
	Bowen No.	41170	41176	41185				
<b>BOWL</b>	<b>Logan Part No.</b>	<b>AB1013</b>	<b>AB1014</b>	<b>AB1015</b>				
	Bowen No.	41171	41177	41182				
<b>GRAPPLE CARRIER</b>	<b>Logan Part No.</b>	<b>AB2013</b>	<b>AB2014</b>	<b>AB2015</b>				
	Bowen No.	41173	41179	41183				
<b>GRAPPLE</b>	<b>Logan Part No.</b>	<b>AA3013</b>	<b>AA3014</b>	<b>AA3015</b>				
	Bowen No.	13323	20858	18448				
<b>GRAPPLE CONTROL</b>	<b>Logan Part No.</b>	<b>AA4013</b>	<b>AA4014</b>	<b>AA4015</b>				
	Bowen No.	13324	20859	18449				
<b>GUIDE</b>	<b>Logan Part No.</b>	<b>AB5013</b>	<b>AB5014</b>	<b>AB5015</b>				
	Bowen No.	41172	41178	41184				
<b>LEAD SEAL</b>	<b>Logan Part No.</b>	<b>AA6013</b>	<b>AA6014</b>	<b>AA6015</b>				
	Bowen No.	13326	20861	18451				
	No. Req'd	2	2	2				
<b>END SEAL RING</b>	<b>Logan Part No.</b>	<b>AA7013</b>	<b>AA7014</b>	<b>AA7015</b>				
	Bowen No.	13327	20862	18452				
	No. Req'd	2	2	2				
<b>CENTER SEAL RING</b>	<b>Logan Part No.</b>	<b>AA8013</b>	<b>AA8014</b>	<b>AA8015</b>				
	Bowen No.	13328	20863	18453				
<b>PACKER STINGER</b>	<b>Logan Part No.</b>	<b>AB10013</b>	<b>AB10014</b>	<b>AB10015</b>				
	Bowen No.	41174	41180	41186				
<b>STINGER RETAINER</b>	<b>Logan Part No.</b>	<b>AB11013</b>	<b>AB11014</b>	<b>AB11015</b>				
	Bowen No.	41175	41181	41187				
<b>CONTROL SET SCREW</b>	<b>Logan Part No.</b>	<b>AA9001</b>	<b>AA9001</b>	<b>AA9001</b>				
	Bowen No.	12484	12484	12484				
	No. Req'd	2	2	2				
<b>BOWL SEAL</b>	<b>Logan Part No.</b>	<b>568-455</b>	<b>568-453</b>	<b>568-459</b>				
	Bowen No.	27-82	27-80	27-86				
	No. Req'd	2	2	2				

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- (3) Size and type of connection