

Z TYPE ENERGIZERS

Overview

The Logan Z Type Energizer is run in conjunction with a Logan Z Type Fishing Jar of the same size. Its function is to supply intensified impact during the jarring operation. Each size of Logan Z Type Energizer is designed to match a corresponding size of Logan Z Type Fishing Jar. The Z Type Energizer is essentially a fluid spring, which stores energy when a strain is pulled on the fishing string. When the strain is removed by the free stroke of the fishing jar, the stored energy is released, accelerating the collars upward until a blow of high impact is struck. The tool absorbs much of the jarring shock from the rebounding string to protect tools and string from damage.

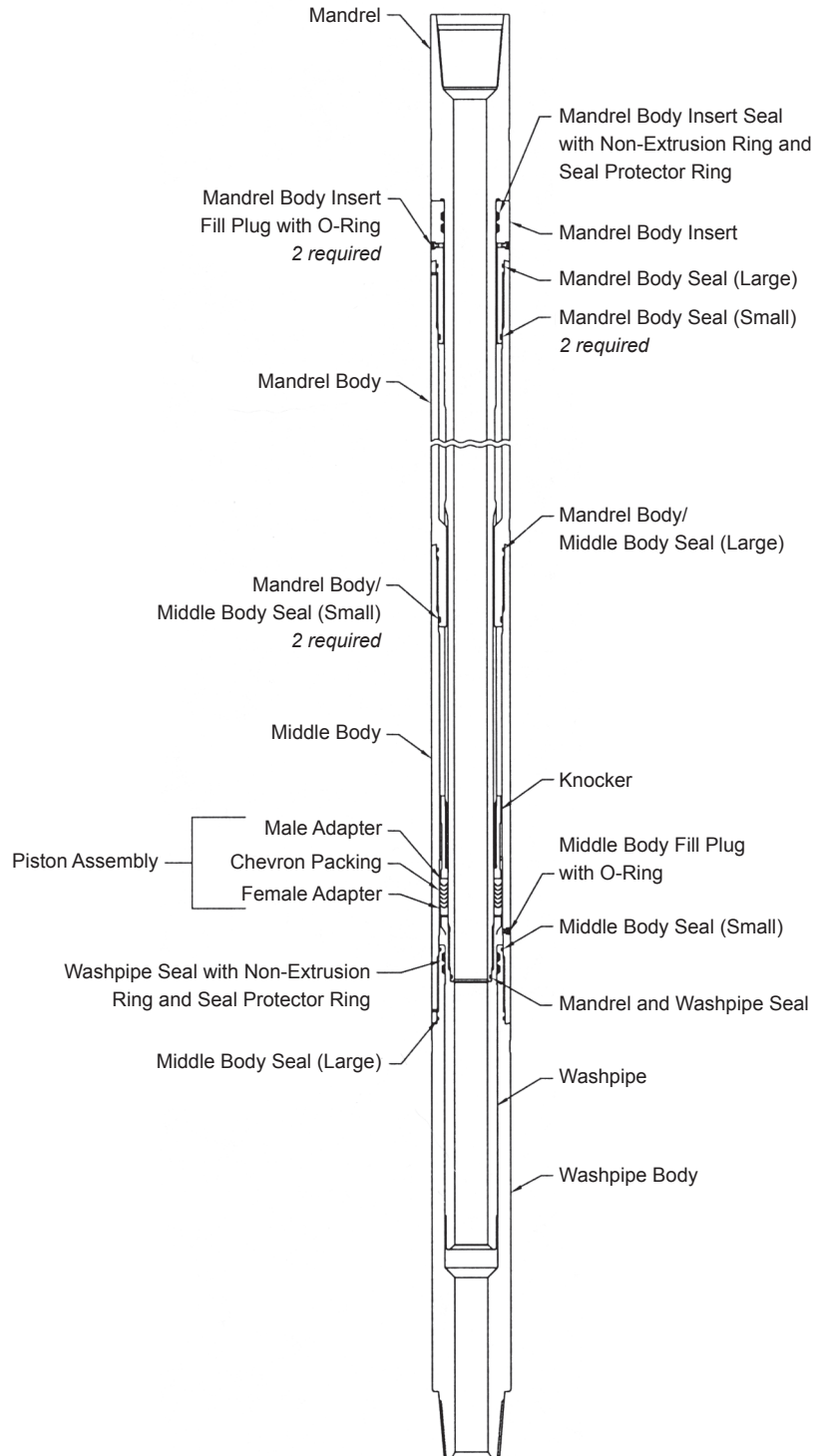
Operation

Operation of the Logan Z Type Energizer is simple to use and requires only a straight pull at a speed determined by the job. It is completely safe to assemble since no high pressure pre-loading is required.

The Logan Z Type Energizer can transmit full torque in either direction at all times while maintaining full circulation throughout the tool.

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) Outside diameter, if other than standard



Z TYPE ENERGIZERS

TOOL JOINT CONNECTION	Per Order	1-13/16 WFJ	1-1/4 API Reg	2-3/8 PH6 5.9# HYD	2-3/8 API Reg	2-3/8 API IF	2-3/8 EUE	
OUTSIDE DIAMETER (INCHES)	1-5/8	1-13/16	2-1/4	2-29/32	3-1/8	3-3/4	3-3/4	
INSIDE DIAMETER (INCHES)	1/4	5/16	3/8	1	1	1-1/2	1-7/8	
JARS USED WITH	70822	74723	54020	68010	52504	52528	52497	
TOTAL STROKE TO SOLID (INCHES)	6	6	6	12-3/4	8-3/4	7-7/8	7-5/8	
COMPLETE ASSEMBLY	Logan Part No.	606-000	606-001	606-002	606-003	606-004	606-005	606-006
	Bowen No.	70957	64460	50640	68262	55867	55747	50660
TOP SUB	Logan Part No.	AG3000	AG3001	...	AG3003	...	AG3007	AG3008
	Bowen No.	70823	21156	...	68015	...	37412	20156
MANDREL	Logan Part No.	AH3000	AH3001	AH3002	AH3003	AH3004	AH3005	AH3006
	Bowen No.	70959	64461	50641	68267	55869	55749	50661
PISTON ASSEMBLY	Logan Part No.	...	27000-018	27000-019	27000-020	27000-021	27000-022	27000-023
	Bowen No.	...	64455	64317	68268	64234	64211	64330
MANDREL BODY INSERT	Logan Part No.	AH4000	AH4001	AH4002	AH4003	AH4004	AH4005	AH4005
	Bowen No.	71254	50634	50642	68266	50650	50283	50283
MANDREL BODY EXTENSION	Logan Part No.	...	...	...	AH5003	...	...	...
	Bowen No.	...	...	...	68265	...	...	...
MANDREL BODY	Logan Part No.	AH6000	AH6001	AH6002	AH6003	AH6004	AH6006	AH6006
	Bowen No.	70958	50635	50643	68264	50651	50284	50284
MIDDLE BODY	Logan Part No.	AH7000	AH7001	AH7002	AH7003	AH7004	AH7005	AH7005
	Bowen No.	70960	50636	50644	68263	55870	55748	55748
WASHPIPE BODY	Logan Part No.	AG7000	AG7001	AG7002	AG7003	AG7005	AG7007	AG7008
	Bowen No.	70829	21151	18776	68011	38064	37407	20151
KNOCKER	Logan Part No.	...	...	AG8002	...	AG8005	...	...
	Bowen No.	...	...	18781	...	38060	...	...
WASHPIPE	Logan Part No.	AG9000	AG9001	AG9002	AG9003	AG9005	AG9007	AG9008
	Bowen No.	70828	21154	18779	68016	42738	37410	20154
MANDREL BODY INSERT FILL PLUG	Logan Part No.	AG10000	AG10000	AG10002	AG10000	AG10002	AG10002	AG10002
	Bowen No.	617	617	329	617	329	329	329
	No. Req'd	2	2	2	2	2	2	2
MIDDLE BODY FILL PLUG	Logan Part No.	AG10004	AG10004	AG10000	AG10004	AG10000	AG10000	AG10000
	Bowen No.	10641	10641	617	10641	617	617	617

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TOOL JOINT CONNECTION	Per Order	1-13/16 WFJ	1-1/4 API Reg	2-3/8 PH6 5.9# HYD	2-3/8 API Reg	2-3/8 API IF	2-3/8 EUE	
OUTSIDE DIAMETER (INCHES)	1-5/8	1-13/16	2-1/4	2-29/32	3-1/8	3-3/4	3-3/4	
INSIDE DIAMETER (INCHES)	1/4	5/16	3/8	1	1	1-1/2	1-7/8	
JARS USED WITH	70822	74723	54020	68010	52504	52528	52497	
TOTAL STROKE TO SOLID (INCHES)	6	6	6	12-3/4	8-3/4	7-7/8	7-5/8	
COMPLETE ASSEMBLY	Logan Part No.	606-000	606-001	606-002	606-003	606-004	606-005	606-006
	Bowen No.	70957	64460	50640	68262	55867	55747	50660
MANDREL BODY INSERT	Logan Part No.	L8-024	...	L56542	...	...	...	...
NON-EXTRUSION RING	Bowen No.	8-024	...	56542	...	...	...	...
MIDDLE BODY INSERT	Logan Part No.	568-024	L8-027	L227-27.25	...	...	...	...
SEAL RING	Bowen No.	568-024	8-027	227-27.25	...	...	...	...
	No. Req'd	2	2	2	...	...	...	...
MANDREL & WASHPIPE	Logan Part No.	L365-16	L365-17	L365-24	L365-30.5	L365-32	L365-36	L365-36
NON-EXTRUSION RING	Bowen No.	365-16	365-17	365-24	365-30.5	365-32	365-36	365-36
	No. Req'd	8	8	8	8	8	8	8
MANDREL & WASHPIPE	Logan Part No.	L375-16	L375-17	L375-24	L375-30.5	L375-32	L375-36	L375-36
SEAL PROTECTOR RING	Bowen No.	375-16	375-17	375-24	375-30.5	375-32	375-36	375-36
	No. Req'd	8	8	8	8	8	8	8

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TOOL JOINT CONNECTION	Per Order	1-13/16 WFJ	1-1/4 API Reg	2-3/8 PH6 5.9# HYD	2-3/8 API Reg	2-3/8 API IF	2-3/8 EUE	
OUTSIDE DIAMETER (INCHES)	1-5/8	1-13/16	2-1/4	2-29/32	3-1/8	3-3/4	3-3/4	
INSIDE DIAMETER (INCHES)	1/4	5/16	3/8	1	1	1-1/2	1-7/8	
JARS USED WITH	70822	74723	54020	68010	52504	52528	52497	
TOTAL STROKE TO SOLID (INCHES)	6	6	6	12-3/4	8-3/4	7-7/8	7-5/8	
COMPLETE ASSEMBLY	Logan Part No.	606-000	606-001	606-002	606-003	606-004	606-005	606-006
	Bowen No.	70957	64460	50640	68262	55867	55747	50660

OPTIONAL

MANDREL BODY	Logan Part No.	AG1000-16	AG1000-17	AG1000-24	AG1000-30.5	AG1000-32	AG1000-36	AG1000-36
SETTING TOOL	Bowen No.	22709-16	22709-17	22709-24	22709-30.5	22709-32	22709-36	22709-36
PISTON ASSEMBLY	Logan Part No.	...	27000-018	27000-019	27000-020	27000-021	27000-022	27000-023
<i>Consists of:</i>	Bowen No.	...	64455	64317	68268	64234	64211	64330
UPPER ADAPTER	Logan Part No.	...	AH12001	AH12002	AH12003	AH12004	AH12005	AH12006
	Bowen No.	...	64456	64318	68270	64236	64213	64331
PACKING	Logan Part No.	...	AH13001	AH13002	AH13003	AH13004	AH13005	AH13006
	Bowen No.	...	64458	64320	68271	64237	64214	64333
LOWER ADAPTER	Logan Part No.	...	AH14001	AH14002	AH14003	AH14004	AH14005	AH14006
	Bowen No.	...	64457	64319	68269	64235	64212	64332
CONE	Logan Part No.	AH15000	...	...	...	...	...	...
	Bowen No.	77514	...	...	...	...	...	...
BY-PASS BODY	Logan Part No.	AH16000	...	...	...	...	...	...
	Bowen No.	77513	...	...	...	...	...	...
SEAL BODY	Logan Part No.	AH17000
	Bowen No.	77515
O-RING SEAL	Logan Part No.	L2-019
	Bowen No.	2-019

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TOOL JOINT CONNECTION	Per Order	1-13/16 WFJ	1-1/4 API Reg	2-3/8 PH6 5.9# HYD	2-3/8 API Reg	2-3/8 API IF	2-3/8 EUE	
OUTSIDE DIAMETER (INCHES)	1-5/8	1-13/16	2-1/4	2-29/32	3-1/8	3-3/4	3-3/4	
INSIDE DIAMETER (INCHES)	1/4	5/16	3/8	1	1	1-1/2	1-7/8	
JARS USED WITH	70822	74723	54020	68010	52504	52528	52497	
TOTAL STROKE TO SOLID (INCHES)	6	6	6	12-3/4	8-3/4	7-7/8	7-5/8	
COMPLETE ASSEMBLY	Logan Part No.	606-000	606-001	606-002	606-003	606-004	606-005	606-006
	Bowen No.	70957	64460	50640	68262	55867	55747	50660
O-RING PACKING SET	Logan Part No.	27000-034	27000-035	27000-036	27000-037	27000-038	27000-039	27000-040
<i>Consists of:</i>	Bowen No.	70961	50638	50835	68272	55873	55816	55497
WASHPIPE SEAL	Logan Part No.	568-211	568-115	568-210	568-224	568-220	568-224	568-227
	Bowen No.	568211	568115	568210	568224	568220	568224	568227
MANDREL & WASHPIPE SEAL	Logan Part No.	568-015	568-212	568-219	568-328	568-329	568-333	568-333
	Bowen No.	568015	568212	568219	568328	568329	568333	568333
	No. Req'd	1	2	4	5	4	4	3
MANDREL BODY & MIDDLE BODY SEAL - LARGE	Logan Part No.	568-016	568-219	568-224	568-036	568-231	568-235	568-235
	Bowen No.	568016	568219	568224	568036	568231	568235	568235
	No. Req'd	3	3	3	4	3	3	3
MANDREL BODY & MIDDLE BODY SEAL - SMALL	Logan Part No.	568-214	568-027	568-222	568-035	568-228	568-233	568-233
	Bowen No.	568214	568027	568222	568035	568228	568233	568233
	No. Req'd	3	3	3	8	5	5	5
MANDREL BODY INSERT FILL PLUG SEAL	Logan Part No.	568-001	...	568-006	568-005	568-006	568-006	568-006
	Bowen No.	568001	...	568006	568005	568006	568006	568006
	No. Req'd	2	...	2	2	2	2	2
MIDDLE BODY FILL PLUG SEAL	Logan Part No.	...	568-005	568-005	...	568-005	568-005	568-005
	Bowen No.	...	568005	568005	...	568005	568005	568005
SERVICE KIT	Logan Part No.	26000-054	26000-055	26000-055	26000-055	26000-055	26000-055	26000-055
	Bowen No.	21279	55403	55403	55403	55403	55403	55403
ENERGIZER FLUID	Logan Part No.	50529-A	50529-B	50529-C	50529-D	50529-E		
	Bowen No.	50529-A	50529-B	50529-C	50529-D	50529		
		1 Gallon	2 Gallons	5 Gallons	30 Gallons	55 Gallons		

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Z TYPE ENERGIZERS

TOOL JOINT CONNECTION		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
OUTSIDE DIAMETER (INCHES)		3-3/4	4-1/4	4-1/2	4-3/4	4-3/4	6	6-1/4 & 6-1/2
INSIDE DIAMETER (INCHES)		1-1/4	1-15/16	2-3/8	1-1/2	2	2	2-1/4
JARS USED WITH		52506	52502	52653	52530	52500	52498	52544
TOTAL STROKE TO SOLID (INCHES)		8-1/4	8-5/8	10-3/8	8-7/8	10-1/8	8-5/8	13
COMPLETE ASSEMBLY	Logan Part No.	606-007	606-008	606-009	606-010	606-011	606-012	606-013
	Bowen No.	55895	55664	50708	50700	55812	55860	55905
TOP SUB	Logan Part No.	...	...	...	...	...	...	...
	Bowen No.	...	...	...	...	...	...	...
MANDREL	Logan Part No.	AH3007	AH3008	AH3009	AH3010	AH3011	AH3012	AH3013
	Bowen No.	55897	55769	50709	50701	55817	55862	55908
PISTON ASSEMBLY	Logan Part No.	27000-024	27000-025	27000-026	27000-027	27000-028	27000-029	27000-030
	Bowen No.	64248	64206	64340	64995	64264	64268	64272
MANDREL BODY INSERT	Logan Part No.	AH4008	AH4009	AH4010	AH4011	AH4012	AH4013	AH4014
	Bowen No.	50591	49412	50710	50702	49394	49635	50598
MANDREL BODY EXTENSION	Logan Part No.	...	...	...	...	...	...	...
	Bowen No.	...	...	...	...	...	...	...
MANDREL BODY	Logan Part No.	AH6007	AH6008	AH6009	AH6010	AH6011	AH6012	AH6013
	Bowen No.	50589	50371	50711	50703	50374	49634	50597
MIDDLE BODY	Logan Part No.	AH7007	AH7008	AH7009	AH7010	AH7011	AH7012	AH7013
	Bowen No.	55898	55660	50712	50704	55814	55863	55920
WASHPIPE BODY	Logan Part No.	AG7006	AG7009	AG7010	AG7011	AG7012	AG7013	AG7014
	Bowen No.	38045	44487	35854	25961	38111	14711	12371
KNOCKER	Logan Part No.	AG8006	AH9008	AG8010	AG8011	AG8012	AG8013	AG8014
	Bowen No.	38049	51185	35857	25966	38116	14717	12377
WASHPIPE	Logan Part No.	AG9006	AG9009	AH10009	AG9011	AG9012	AG9013	AH10013
	Bowen No.	38046	44488	64344	25964	38114	14714	55907
MANDREL BODY INSERT FILL PLUG	Logan Part No.	AG10002	AG10002	AG10002	AG10002	AG10002	AG10003	AG10003
	Bowen No.	329	329	329	329	329	508	508
	No. Req'd	2	2	2	2	2	2	2
MIDDLE BODY FILL PLUG	Logan Part No.	AG10000	AG10000	AG10000	AG10002	AG10000	AG10002	AG10002
	Bowen No.	617	617	617	329	617	329	329

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LOGAN GENERAL CATALOG

OIL TOOLS

Z TYPE ENERGIZERS

TOOL JOINT CONNECTION		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
OUTSIDE DIAMETER (INCHES)		3-3/4	4-1/4	4-1/2	4-3/4	4-3/4	6	6-1/4 & 6-1/2
INSIDE DIAMETER (INCHES)		1-1/4	1-15/16	2-3/8	1-1/2	2	2	2-1/4
JARS USED WITH		52506	52502	52653	52530	52500	52498	52544
TOTAL STROKE TO SOLID (INCHES)		8-1/4	8-5/8	10-3/8	8-7/8	10-1/8	8-5/8	13
COMPLETE ASSEMBLY	Logan Part No.	606-007	606-008	606-009	606-010	606-011	606-012	606-013
	Bowen No.	55895	55664	50708	50700	55812	55860	55905
MANDREL BODY INSERT	Logan Part No.	...	...	...	...	...	...	...
NON-EXTRUSION RING	Bowen No.	...	...	...	...	...	...	...
MIDDLE BODY INSERT	Logan Part No.	...	...	...	...	...	...	...
SEAL RING	Bowen No.	...	...	...	...	...	...	...
	No. Req'd	...	...	...	...	...	...	...
MANDREL & WASHPIPE	Logan Part No.	L365-35	L365-40	L365-42	L365-40	L365-41	L453	L365-48
NON-EXTRUSION RING	Bowen No.	365-35	365-40	365-42	365-40	365-41	453	365-48
	No. Req'd	8	8	8	8	8	8	8
MANDREL & WASHPIPE	Logan Part No.	L375-35	L375-40	L375-42	L375-40	L375-41	L449	L375-48
SEAL PROTECTOR RING	Bowen No.	375-35	375-40	375-42	375-40	375-41	449	375-48
	No. Req'd	8	8	8	8	8	8	8

OPTIONAL

MANDREL BODY	Logan Part No.	AG1000-35	AG1000-40	AG1000-42	AG1000-40	AG1000-41	AG1001	AG1000-48
SETTING TOOL	Bowen No.	22709-35	22709-40	22709-42	22709-40	22709-41	448	22709-48
PISTON ASSEMBLY	Logan Part No.	27000-024	27000-025	27000-026	27000-027	27000-028	27000-029	27000-030
<i>Consists of:</i>	Bowen No.	64248	64206	64340	64995	64264	64268	64272
UPPER ADAPTER	Logan Part No.	AH12007	AH12008	AH12009	AH12010	AH12011	AH12012	AH12013
	Bowen No.	64250	64208	64341	64997	64266	64269	64273
PACKING	Logan Part No.	AH13007	AH13008	AH13009	AH13010	AH13011	AH13012	AH13013
	Bowen No.	64251	64209	64343	64998	64267	64271	64275
LOWER ADAPTER	Logan Part No.	AH14007	AH14008	AH14009	AH14010	AH14011	AH14012	AH14013
	Bowen No.	64249	64207	64342	64996	64265	64270	64274
CONE	Logan Part No.	...	...	...	...	...	...	...
	Bowen No.	...	...	...	...	...	...	...
BY-PASS BODY	Logan Part No.	...	...	...	...	...	...	...
	Bowen No.
SEAL BODY	Logan Part No.
	Bowen No.
O-RING SEAL	Logan Part No.
	Bowen No.

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TOOL JOINT CONNECTION		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
OUTSIDE DIAMETER (INCHES)		3-3/4	4-1/4	4-1/2	4-3/4	4-3/4	6	6-1/4 & 6-1/2
INSIDE DIAMETER (INCHES)		1-1/4	1-15/16	2-3/8	1-1/2	2	2	2-1/4
JARS USED WITH		52506	52502	52653	52530	52500	52498	52544
TOTAL STROKE TO SOLID (INCHES)		8-1/4	8-5/8	10-3/8	8-7/8	10-1/8	8-5/8	13
COMPLETE ASSEMBLY	Logan Part No.	606-007	606-008	606-009	606-010	606-011	606-012	606-013
	Bowen No.	55895	55664	50708	50700	55812	55860	55905
O-RING PACKING SET	Logan Part No.	27000-041	27000-042	27000-043	27000-044	27000-045	27000-046	27000-047
<i>Consists of:</i>	Bowen No.	55902	55666	50840	50841	55815	55866	55919
WASHPIPE SEAL	Logan Part No.	568-222	568-227	568-233	568-228	568-228	568-234	568-232
	Bowen No.	568222	568227	568233	568228	568228	568234	568232
MANDREL & WASHPIPE SEAL	Logan Part No.	568-332	568-327	568339	568-337	568-338	568-344	568-345
	Bowen No.	568332	568327	568339	568337	568338	568344	568345
	No. Req'd	4	4	4	4	4	4	4
MANDREL BODY & MIDDLE BODY SEAL – LARGE	Logan Part No.	568-235	568-239	568-241	568-241	568-241	568-248	568-252
	Bowen No.	568235	568239	568241	568241	568241	568248	568252
	No. Req'd	3	3	3	3	3	3	3
MANDREL BODY & MIDDLE BODY SEAL – SMALL	Logan Part No.	568-233	568-237	568-239	568-239	568-239	568-246	568-250
	Bowen No.	568233	568237	568239	568239	568239	568246	568250
	No. Req'd	5	5	5	5	5	3	5
MANDREL BODY INSERT FILL PLUG SEAL	Logan Part No.	568-006	568-006	568-006	568-006	568-006	568-011	568-011
	Bowen No.	568006	568006	568006	568006	568006	568011	568011
	No. Req'd	2	2	2	2	2	2	2
MIDDLE BODY FILL PLUG SEAL	Logan Part No.	568-005	568-005	568-005	568-006	568-005	568-006	568-006
	Bowen No.	568005	568005	568005	568006	568005	568006	568006
SERVICE KIT	Logan Part No.	26000-055	26000-055	26000-055	26000-055	26000-055	26000-055	26000-055
	Bowen No.	55403	55403	55403	55403	55403	55403	55403

ENERGIZER FLUID	Logan Part No.	50529-A	50529-B	50529-C	50529-D	50529-E		
	Bowen No.	50529-A	50529-B	50529-C	50529-D	50529		
		1 Gallon	2 Gallons	5 Gallons	30 Gallons	55 Gallons		

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Special Notes:

- (1) *Packing Sets include all seals necessary to dress the tool. Non-Extrusion Rings and Seal Protector Rings are not included, and must be ordered separately.*
- (2) *Service Kit does not include Seal Setting Tools, which must be ordered separately.*

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) Outside diameter, if other than standard

Z TYPE ENERGIZERS

TOOL JOINT CONNECTION		5-1/2 API Reg	6-5/8 API Reg	7-5/8 API Reg				
OUTSIDE DIAMETER (INCHES)		6-3/4	7-3/4 & 8	9				
INSIDE DIAMETER (INCHES)		2-3/8	3-1/16	3-3/4				
JARS USED WITH		52680	52711	66346				
TOTAL STROKE TO SOLID (INCHES)		13	13	13				
COMPLETE ASSEMBLY	Logan Part No.	606-014	606-015	606-016				
	Bowen No.	50720	55910	66372				
TOP SUB	Logan Part No.	...	...	...	
	Bowen No.	...	...	...	
MANDREL	Logan Part No.	AH3014	AH3015	AH3016				
	Bowen No.	50721	50146	66376				
PISTON ASSEMBLY	Logan Part No.	27000-031	27000-032	27000-033				
	Bowen No.	64240	64276	66382				
MANDREL BODY INSERT	Logan Part No.	AH4015	AH4016	AH4017				
	Bowen No.	50722	50149	66380				
MANDREL BODY EXTENSION	Logan Part No.	...	...	...	
	Bowen No.	...	...	...	
MANDREL BODY	Logan Part No.	AH6014	AH6015	AH6016				
	Bowen No.	50723	50147	66377				
MIDDLE BODY	Logan Part No.	AH7014	AH7015	AH7016				
	Bowen No.	50724	55911	66373				
WASHPIPE BODY	Logan Part No.	AG7015	AG7016	AG7017				
	Bowen No.	701	15164	66350				
KNOCKER	Logan Part No.	AG8015	AH9015	AG8017				
	Bowen No.	11134	50150	66348				
WASHPIPE	Logan Part No.	AG9015	AH10015	AG9017				
	Bowen No.	704	55912	66349				
MANDREL BODY INSERT FILL PLUG	Logan Part No.	AG10003	AG10003	AG10003				
	Bowen No.	508	508	508				
	No. Req'd	2	2	2				
MIDDLE BODY FILL PLUG	Logan Part No.	AG10002	AG10002	...				
	Bowen No.	329	329	...				

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- (2) Connections, if other than standard
- (3) Name and number of any desired spares
- (4) Outside diameter, if other than standard

Z TYPE ENERGIZERS

TOOL JOINT CONNECTION		5-1/2 API Reg	6-5/8 API Reg	7-5/8 API Reg				
OUTSIDE DIAMETER (INCHES)		6-3/4	7-3/4 & 8	9				
INSIDE DIAMETER (INCHES)		2-3/8	3-1/16	3-3/4				
JARS USED WITH		52680	52711	66346				
TOTAL STROKE TO SOLID (INCHES)		13	13	13				
COMPLETE ASSEMBLY	Logan Part No.	606-014	606-015	606-016				
	Bowen No.	50720	55910	66372				
MANDREL BODY INSERT	Logan Part No.	...	...	...	
NON-EXTRUSION RING	Bowen No.	...	...	...	
MIDDLE BODY INSERT	Logan Part No.	...	...	...	
SEAL RING	Bowen No.	...	...	...	
	No. Req'd	...	...	...	
MANDREL & WASHPIPE	Logan Part No.	L365-50.75	L365-59	L365-65				
NON-EXTRUSION RING	Bowen No.	708	365-59	365-65				
	No. Req'd	8	8	8				
MANDREL & WASHPIPE	Logan Part No.	L375-50.75	L375-59	L375-65				
SEAL PROTECTOR RING	Bowen No.	709	375-59	375-65				
	No. Req'd	8	8	8				

OPTIONAL

MANDREL BODY SETTING TOOL	Logan Part No.	AG1000-51	AG1000-59	AG1017				
	Bowen No.	22709-51	22709-59	22709-65				
PISTON ASSEMBLY	Logan Part No.	27000-031	27000-032	27000-033				
<i>Consists of:</i>	Bowen No.	64240	64276	66382				
UPPER ADAPTER	Logan Part No.	AH12014	AH12015	AH12016				
	Bowen No.	64242	64277	66378				
PACKING	Logan Part No.	AH13014	AH13015	AH13016				
	Bowen No.	64243	64279	66384				
LOWER ADAPTER	Logan Part No.	AH14014	AH14015	AH14016				
	Bowen No.	64241	64278	66379				
CONE	Logan Part No.	...	...	...	
	Bowen No.	...	...	...	
BY-PASS BODY	Logan Part No.	...	...	...	
	Bowen No.				
SEAL BODY	Logan Part No.				
	Bowen No.				
O-RING SEAL	Logan Part No.				
	Bowen No.				

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When ordering, please specify:

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- (2) Connections, if other than standard
- (3) Name and number of any desired spares
- (4) Outside diameter, if other than standard

Z TYPE ENERGIZERS

TOOL JOINT CONNECTION		5-1/2 API Reg	6-5/8 API Reg	7-5/8 API Reg			
OUTSIDE DIAMETER (INCHES)		6-3/4	7-3/4 & 8	9			
INSIDE DIAMETER (INCHES)		2-3/8	3-1/16	3-3/4			
JARS USED WITH		52680	52711	66346			
TOTAL STROKE TO SOLID (INCHES)		13	13	13			
COMPLETE ASSEMBLY	Logan Part No.	606-014	606-015	606-016			
	Bowen No.	50720	55910	66372			
O-RING PACKING SET	Logan Part No.	27000-048	27000-049	27000-050			
<i>Consists of:</i>	Bowen No.	50842	55921	66383			
WASHPIPE SEAL	Logan Part No.	568-235	568-242	568-246			
	Bowen No.	568235	568242	568246			
MANDREL & WASHPIPE SEAL	Logan Part No.	568-348	568-432	568-438			
	Bowen No.	568348	568432	568438			
	No. Req'd	4	4	4			
MANDREL BODY & MIDDLE BODY SEAL – LARGE	Logan Part No.	568-256	568-261	568-265			
	Bowen No.	568256	568261	568265			
	No. Req'd	3	3	3			
	Price	\$6.90	\$7.00	\$8.25			
MANDREL BODY & MIDDLE BODY SEAL – SMALL	Logan Part No.	568-254	568-259	568-263			
	Bowen No.	568254	568259	568263			
	No. Req'd	5	3	1			
MANDREL BODY INSERT FILL PLUG SEAL	Logan Part No.	568-011	568-011	568-441			
	Bowen No.	568011	568011	568441			
	No. Req'd	2	2	2			
MIDDLE BODY FILL PLUG SEAL	Logan Part No.	568-006	568-006	568-011			
	Bowen No.	568006	568006	568011			
SERVICE KIT	Logan Part No.	26000-055	26000-055	26000-055			
	Bowen No.	55403	55403	55403			

ENERGIZER FLUID	Logan Part No.	50529-A	50529-B	50529-C	50529-D	50529-E	
	Bowen No.	50529-A	50529-B	50529-C	50529-D	50529	
		1 Gallon	2 Gallons	5 Gallons	30 Gallons	55 Gallons	

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- (3) Name and number of any desired spares
- (4) Outside diameter, if other than standard