



**CANAM**  
pipe & supply

~est. 1990

## Z Type Energizers

### Z TYPE ENERGIZERS

#### Overview

The Z Type Energizer is run in conjunction with a Z Type Fishing Jar of the same size. Its function is to supply intensified impact during the jarring operation. Each size of 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.

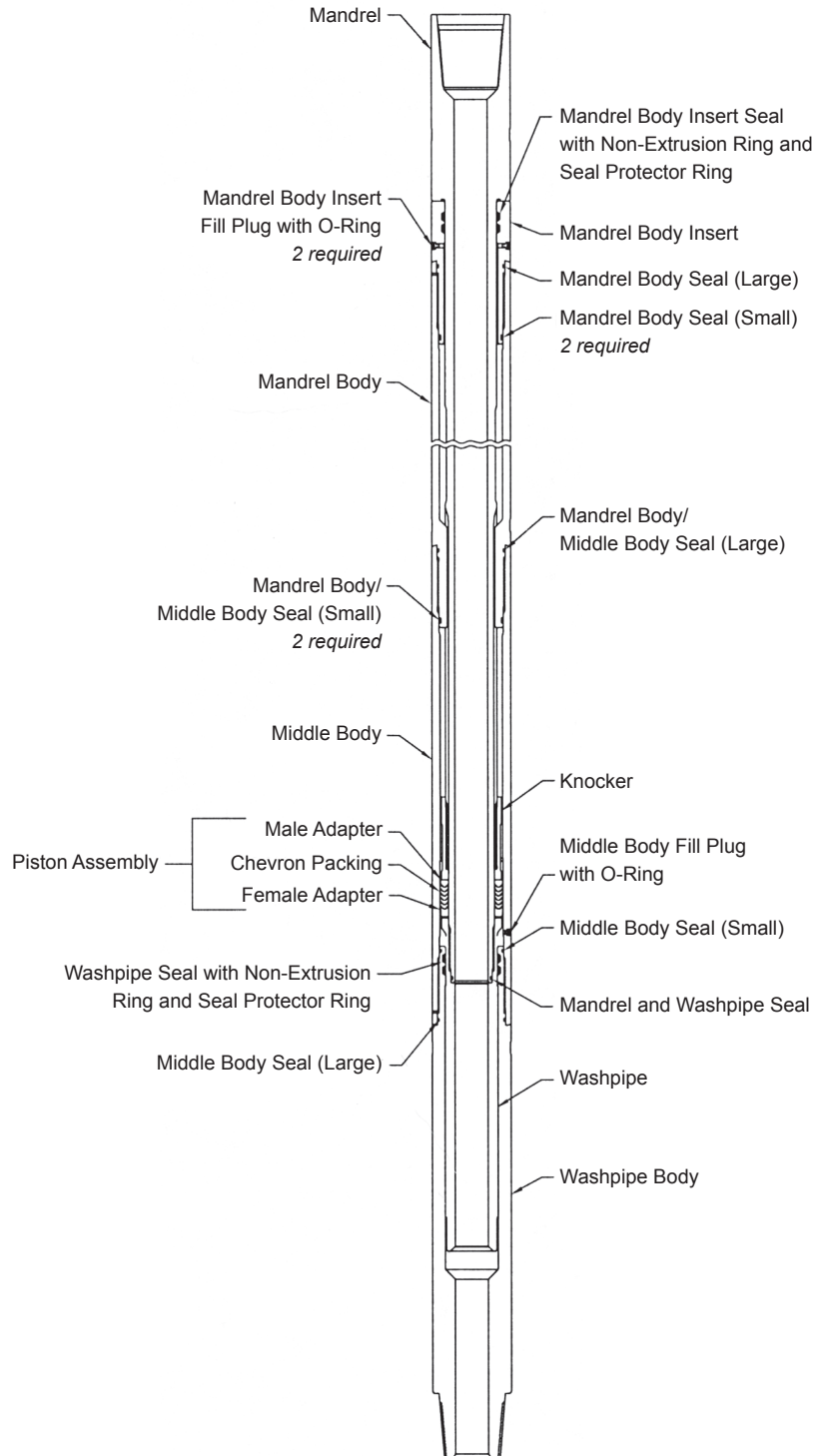
#### Operation

Operation of the 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 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





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

#### 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.

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

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|                                |                |                |                  |                       |                  |                 |                |
|--------------------------------|----------------|----------------|------------------|-----------------------|------------------|-----------------|----------------|
| TOOL JOINT CONNECTION          | Per Order      | 1-13/16 WFJ    | 1-1/4<br>API Reg | 2-3/8 PH6<br>5.9# HYD | 2-3/8<br>API Reg | 2-3/8<br>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          |
| <b>COMPLETE ASSEMBLY</b>       | <b>606-000</b> | <b>606-001</b> | <b>606-002</b>   | <b>606-003</b>        | <b>606-004</b>   | <b>606-005</b>  | <b>606-006</b> |
| Bowen No.                      | 70957          | 64460          | 50640            | 68262                 | 55867            | 55747           | 50660          |

### OPTIONAL

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

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 (2) Service Kit does not include Seal Setting Tools, which must be ordered separately.

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

### ENERGIZER FLUID

|           |                |                |                |                |                |
|-----------|----------------|----------------|----------------|----------------|----------------|
|           | <b>50529-A</b> | <b>50529-B</b> | <b>50529-C</b> | <b>50529-D</b> | <b>50529-E</b> |
| 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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|                                       |                  |                  |                  |                  |                  |                  |                  |
|---------------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| <b>TOOL JOINT CONNECTION</b>          | 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     |
| <b>OUTSIDE DIAMETER (INCHES)</b>      | 3-3/4            | 4-1/4            | 4-1/2            | 4-3/4            | 4-3/4            | 6                | 6-1/4 & 6-1/2    |
| <b>INSIDE DIAMETER (INCHES)</b>       | 1-1/4            | 1-15/16          | 2-3/8            | 1-1/2            | 2                | 2                | 2-1/4            |
| <b>JARS USED WITH</b>                 | 52506            | 52502            | 52653            | 52530            | 52500            | 52498            | 52544            |
| <b>TOTAL STROKE TO SOLID (INCHES)</b> | 8-1/4            | 8-5/8            | 10-3/8           | 8-7/8            | 10-1/8           | 8-5/8            | 13               |
| <b>COMPLETE ASSEMBLY</b>              | <b>606-007</b>   | <b>606-008</b>   | <b>606-009</b>   | <b>606-010</b>   | <b>606-011</b>   | <b>606-012</b>   | <b>606-013</b>   |
| Bowen No.                             | 55895            | 55664            | 50708            | 50700            | 55812            | 55860            | 55905            |
| <b>TOP SUB</b>                        | ...              | ...              | ...              | ...              | ...              | ...              | ...              |
| Bowen No.                             | ...              | ...              | ...              | ...              | ...              | ...              | ...              |
| <b>MANDREL</b>                        | <b>AH3007</b>    | <b>AH3008</b>    | <b>AH3009</b>    | <b>AH3010</b>    | <b>AH3011</b>    | <b>AH3012</b>    | <b>AH3013</b>    |
| Bowen No.                             | 55897            | 55769            | 50709            | 50701            | 55817            | 55862            | 55908            |
| <b>PISTON ASSEMBLY</b>                | <b>27000-024</b> | <b>27000-025</b> | <b>27000-026</b> | <b>27000-027</b> | <b>27000-028</b> | <b>27000-029</b> | <b>27000-030</b> |
| Bowen No.                             | 64248            | 64206            | 64340            | 64995            | 64264            | 64268            | 64272            |
| <b>MANDREL BODY INSERT</b>            | <b>AH4008</b>    | <b>AH4009</b>    | <b>AH4010</b>    | <b>AH4011</b>    | <b>AH4012</b>    | <b>AH4013</b>    | <b>AH4014</b>    |
| Bowen No.                             | 50591            | 49412            | 50710            | 50702            | 49394            | 49635            | 50598            |
| <b>MANDREL BODY EXTENSION</b>         | ...              | ...              | ...              | ...              | ...              | ...              | ...              |
| Bowen No.                             | ...              | ...              | ...              | ...              | ...              | ...              | ...              |
| <b>MANDREL BODY</b>                   | <b>AH6007</b>    | <b>AH6008</b>    | <b>AH6009</b>    | <b>AH6010</b>    | <b>AH6011</b>    | <b>AH6012</b>    | <b>AH6013</b>    |
| Bowen No.                             | 50589            | 50371            | 50711            | 50703            | 50374            | 49634            | 50597            |
| <b>MIDDLE BODY</b>                    | <b>AH7007</b>    | <b>AH7008</b>    | <b>AH7009</b>    | <b>AH7010</b>    | <b>AH7011</b>    | <b>AH7012</b>    | <b>AH7013</b>    |
| Bowen No.                             | 55898            | 55660            | 50712            | 50704            | 55814            | 55863            | 55920            |
| <b>WASHPIPE BODY</b>                  | <b>AG7006</b>    | <b>AG7009</b>    | <b>AG7010</b>    | <b>AG7011</b>    | <b>AG7012</b>    | <b>AG7013</b>    | <b>AG7014</b>    |
| Bowen No.                             | 38045            | 44487            | 35854            | 25961            | 38111            | 14711            | 12371            |
| <b>KNOCKER</b>                        | <b>AG8006</b>    | <b>AH9008</b>    | <b>AG8010</b>    | <b>AG8011</b>    | <b>AG8012</b>    | <b>AG8013</b>    | <b>AG8014</b>    |
| Bowen No.                             | 38049            | 51185            | 35857            | 25966            | 38116            | 14717            | 12377            |
| <b>WASHPIPE</b>                       | <b>AG9006</b>    | <b>AG9009</b>    | <b>AH10009</b>   | <b>AG9011</b>    | <b>AG9012</b>    | <b>AG9013</b>    | <b>AH10013</b>   |
| Bowen No.                             | 38046            | 44488            | 64344            | 25964            | 38114            | 14714            | 55907            |
| <b>MANDREL BODY INSERT FILL PLUG</b>  | <b>AG10002</b>   | <b>AG10002</b>   | <b>AG10002</b>   | <b>AG10002</b>   | <b>AG10002</b>   | <b>AG10003</b>   | <b>AG10003</b>   |
| Bowen No.                             | 329              | 329              | 329              | 329              | 329              | 508              | 508              |
| No. Req'd                             | 2                | 2                | 2                | 2                | 2                | 2                | 2                |
| <b>MIDDLE BODY FILL PLUG</b>          | <b>AG10000</b>   | <b>AG10000</b>   | <b>AG10000</b>   | <b>AG10002</b>   | <b>AG10000</b>   | <b>AG10002</b>   | <b>AG10002</b>   |
| Bowen No.                             | 617              | 617              | 617              | 329              | 617              | 329              | 329              |

#### Special Notes:

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(2) Service Kit does not include Seal Setting Tools, which must be ordered separately.

#### 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



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## Z Type Energizers

### Z TYPE ENERGIZERS

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

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

#### Special Notes:

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- (2) Service Kit does not include Seal Setting Tools, which must be ordered separately.

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



## Z Type Energizers

### Z TYPE ENERGIZERS

|                                                    |           |                  |                  |                  |                  |                  |                  |                  |
|----------------------------------------------------|-----------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| <b>TOOL JOINT CONNECTION</b>                       |           | 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     |
| <b>OUTSIDE DIAMETER (INCHES)</b>                   |           | 3-3/4            | 4-1/4            | 4-1/2            | 4-3/4            | 4-3/4            | 6                | 6-1/4 & 6-1/2    |
| <b>INSIDE DIAMETER (INCHES)</b>                    |           | 1-1/4            | 1-15/16          | 2-3/8            | 1-1/2            | 2                | 2                | 2-1/4            |
| <b>JARS USED WITH</b>                              |           | 52506            | 52502            | 52653            | 52530            | 52500            | 52498            | 52544            |
| <b>TOTAL STROKE TO SOLID (INCHES)</b>              |           | 8-1/4            | 8-5/8            | 10-3/8           | 8-7/8            | 10-1/8           | 8-5/8            | 13               |
| <b>COMPLETE ASSEMBLY</b>                           |           | <b>606-007</b>   | <b>606-008</b>   | <b>606-009</b>   | <b>606-010</b>   | <b>606-011</b>   | <b>606-012</b>   | <b>606-013</b>   |
|                                                    | Bowen No. | 55895            | 55664            | 50708            | 50700            | 55812            | 55860            | 55905            |
| <b>O-RING PACKING SET</b>                          |           | <b>27000-041</b> | <b>27000-042</b> | <b>27000-043</b> | <b>27000-044</b> | <b>27000-045</b> | <b>27000-046</b> | <b>27000-047</b> |
| <i>Consists of:</i>                                | Bowen No. | 55902            | 55666            | 50840            | 50841            | 55815            | 55866            | 55919            |
| <b>WASHPipe SEAL</b>                               |           | <b>568-222</b>   | <b>568-227</b>   | <b>568-233</b>   | <b>568-228</b>   | <b>568-228</b>   | <b>568-234</b>   | <b>568-232</b>   |
|                                                    | Bowen No. | 568222           | 568227           | 568233           | 568228           | 568228           | 568234           | 568232           |
| <b>MANDREL &amp; WASHPipe SEAL</b>                 |           | <b>568-332</b>   | <b>568-327</b>   | <b>568-339</b>   | <b>568-337</b>   | <b>568-338</b>   | <b>568-344</b>   | <b>568-345</b>   |
|                                                    | Bowen No. | 568332           | 568327           | 568339           | 568337           | 568338           | 568344           | 568345           |
|                                                    | No. Req'd | 4                | 4                | 4                | 4                | 4                | 4                | 4                |
| <b>MANDREL BODY &amp; MIDDLE BODY SEAL – LARGE</b> |           | <b>568-235</b>   | <b>568-239</b>   | <b>568-241</b>   | <b>568-241</b>   | <b>568-241</b>   | <b>568-248</b>   | <b>568-252</b>   |
|                                                    | Bowen No. | 568235           | 568239           | 568241           | 568241           | 568241           | 568248           | 568252           |
|                                                    | No. Req'd | 3                | 3                | 3                | 3                | 3                | 3                | 3                |
| <b>MANDREL BODY &amp; MIDDLE BODY SEAL – SMALL</b> |           | <b>568-233</b>   | <b>568-237</b>   | <b>568-239</b>   | <b>568-239</b>   | <b>568-239</b>   | <b>568-246</b>   | <b>568-250</b>   |
|                                                    | Bowen No. | 568233           | 568237           | 568239           | 568239           | 568239           | 568246           | 568250           |
|                                                    | No. Req'd | 5                | 5                | 5                | 5                | 5                | 3                | 5                |
| <b>MANDREL BODY INSERT FILL PLUG SEAL</b>          |           | <b>568-006</b>   | <b>568-006</b>   | <b>568-006</b>   | <b>568-006</b>   | <b>568-006</b>   | <b>568-011</b>   | <b>568-011</b>   |
|                                                    | Bowen No. | 568006           | 568006           | 568006           | 568006           | 568006           | 568011           | 568011           |
|                                                    | No. Req'd | 2                | 2                | 2                | 2                | 2                | 2                | 2                |
| <b>MIDDLE BODY FILL PLUG SEAL</b>                  |           | <b>568-005</b>   | <b>568-005</b>   | <b>568-005</b>   | <b>568-006</b>   | <b>568-005</b>   | <b>568-006</b>   | <b>568-006</b>   |
|                                                    | Bowen No. | 568005           | 568005           | 568005           | 568006           | 568005           | 568006           | 568006           |
| <b>SERVICE KIT</b>                                 |           | <b>26000-055</b> | <b>26000-055</b> | <b>26000-055</b> | <b>26000-055</b> | <b>26000-055</b> | <b>26000-055</b> | <b>26000-055</b> |
|                                                    | Bowen No. | 55403            | 55403            | 55403            | 55403            | 55403            | 55403            | 55403            |

|                        |           |                |                |                |                |                |
|------------------------|-----------|----------------|----------------|----------------|----------------|----------------|
| <b>ENERGIZER FLUID</b> |           | <b>50529-A</b> | <b>50529-B</b> | <b>50529-C</b> | <b>50529-D</b> | <b>50529-E</b> |
|                        | 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

### Z TYPE ENERGIZERS

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

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



## Z Type Energizers

### Z TYPE ENERGIZERS

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

### OPTIONAL

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

#### 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



**CANAM**  
pipe & supply

~ est. 1990

## Z Type Energizers

### Z TYPE ENERGIZERS

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

|                        |           |                |                |                |                |                |
|------------------------|-----------|----------------|----------------|----------------|----------------|----------------|
| <b>ENERGIZER FLUID</b> |           | <b>50529-A</b> | <b>50529-B</b> | <b>50529-C</b> | <b>50529-D</b> | <b>50529-E</b> |
|                        | 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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