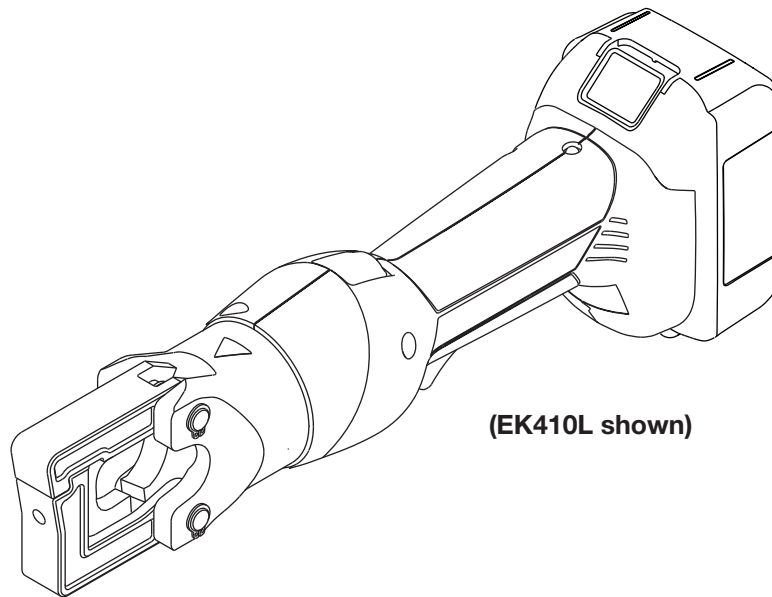


# SERVICE MANUAL



## **GATOR®** **Battery-powered** **In-line Tools**



**Read and understand** all of the instructions and safety information in this manual before operating or servicing this tool.

Register this product at [www.greenlee.com](http://www.greenlee.com)

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## Safety

Safety is essential in the use and maintenance of Greenlee tools and equipment. This manual and any markings on the tool provide information for avoiding hazards and unsafe practices related to the use of this tool. Observe all of the safety information provided.

## Purpose of this Manual

This manual is intended to familiarize authorized Greenlee service personnel with the service parts for the Greenlee Battery-powered In-line Tools listed on this page.

Keep this manual available to all personnel.

Replacement manuals are available upon request at no charge at [www.greenlee.com](http://www.greenlee.com).

## Other Publications

### Operation Manuals

- EK210L      52047664
- EK410L      52047663
- EK622L      52047665
- EK628L      52047662
- ETS8L       52047672
- ETS12L      52047671
- ES32L       52047668
- ES32FL      52056590
- ES20L       52056893
- ESG25L      52056894
- LS50L       52056896



**Do not discard this product or throw away!**

For recycling information, go to [www.greenlee.com](http://www.greenlee.com).

All specifications are nominal and may change as design improvements occur. Greenlee Textron Inc. shall not be liable for damages resulting from misapplication or misuse of its products. GATOR is a registered trademark of Greenlee Textron Inc.

# ***KEEP THIS MANUAL***

## IMPORTANT SAFETY INFORMATION



### SAFETY ALERT SYMBOL

This symbol is used to call your attention to hazards or unsafe practices which could result in an injury or property damage. The signal word, defined below, indicates the severity of the hazard. The message after the signal word provides information for preventing or avoiding the hazard.

#### **⚠ DANGER**

Immediate hazards which, if not avoided, **WILL** result in severe injury or death.

#### **⚠ WARNING**

Hazards which, if not avoided, **COULD** result in severe injury or death.

#### **⚠ CAUTION**

Hazards or unsafe practices which, if not avoided, **MAY** result in injury or property damage.



#### **⚠ WARNING**

Skin injection hazard:

Do not use hands to check for oil leaks. Oil under pressure easily punctures skin. If injured, seek medical attention immediately to remove oil.

Failure to observe this warning could result in serious injury, gangrene, or death.



#### **⚠ WARNING**

Do not use solvents or flammable liquids to clean the tool body. Solvents or flammable liquids could ignite and cause serious injury or property damage.

#### **⚠ WARNING**

Do not dispose of batteries in a fire. They will vent fumes and may explode.

Failure to observe this warning could result in severe injury from harmful fumes or burns from flying debris.



#### **⚠ WARNING**

Read and understand all of the instructions and safety information in this manual before operating or servicing this tool. Refer also to the Operation Manual, which is listed under "Other Publications."

Failure to observe this warning could result in severe injury or death.

#### **⚠ CAUTION**

Do not perform any service or maintenance other than as described in this manual. Injury or damage to the tool may result.

Failure to observe this precaution may result in injury and property damage.



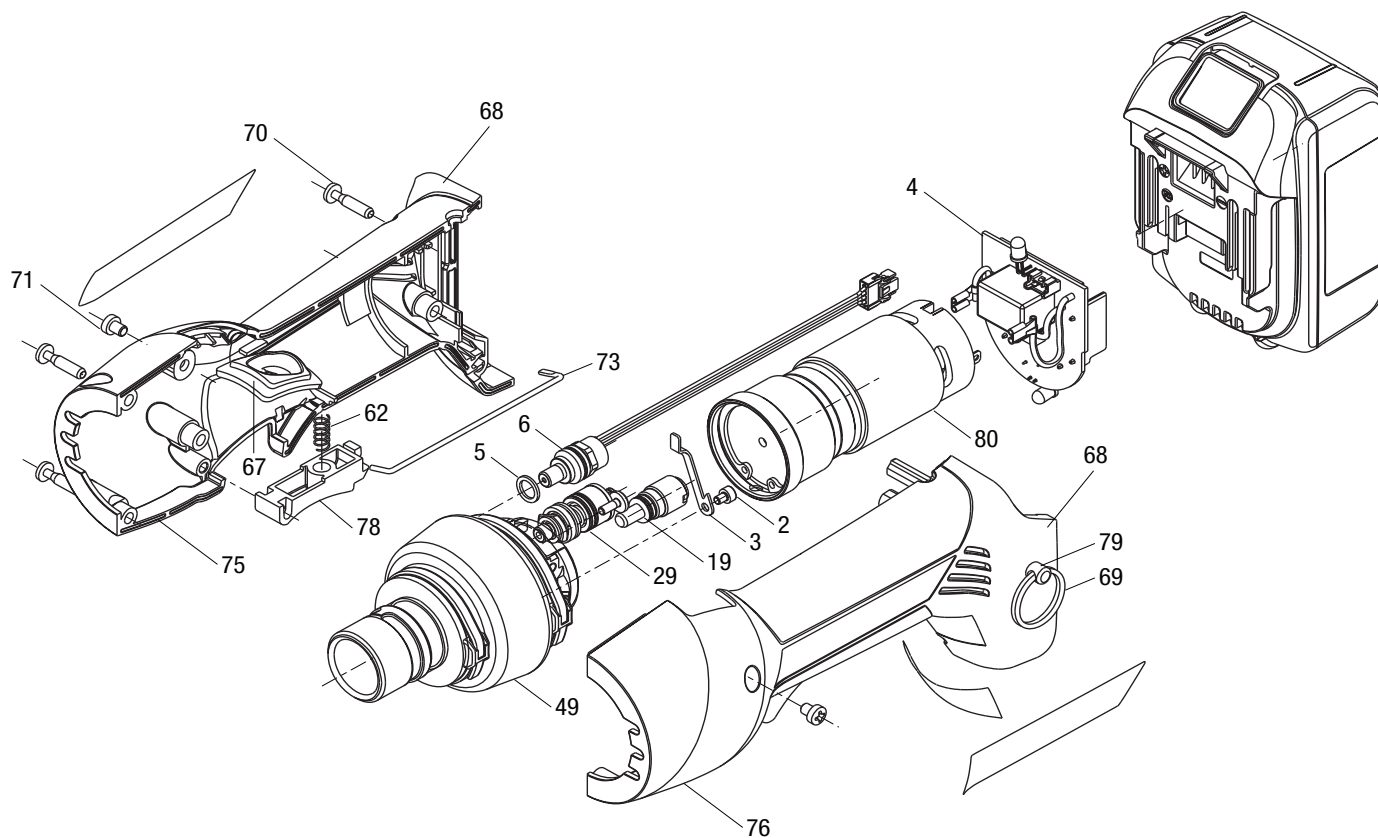
#### **⚠ WARNING**

Wear eye protection when operating or servicing this tool.

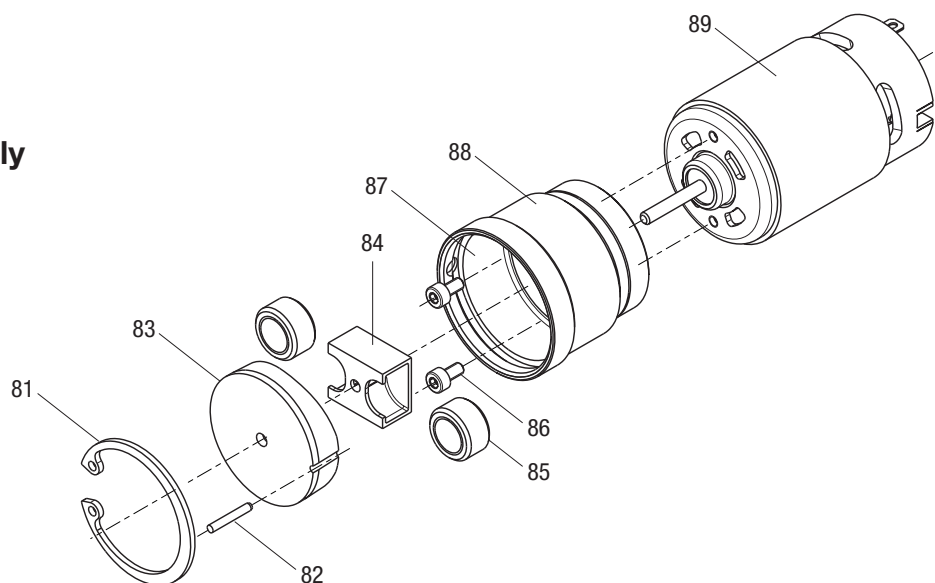
Failure to wear eye protection could result in serious eye injury from flying debris or hydraulic oil.

*Note: Keep all decals clean and legible, and replace when necessary.*

## Main Illustrations—All Tools

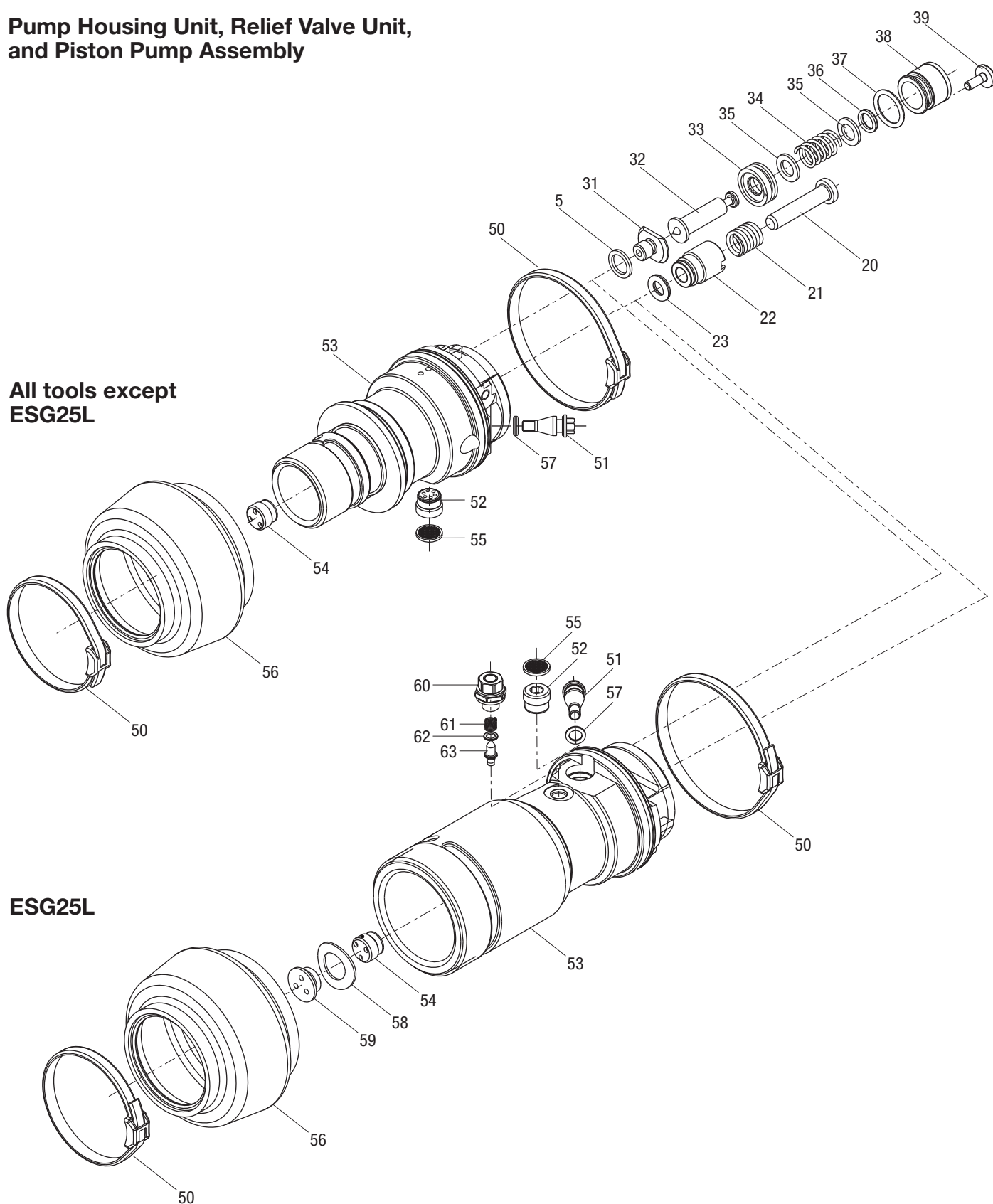


## Motor Assembly



## Main Illustrations—All Tools (cont'd)

### Pump Housing Unit, Relief Valve Unit, and Piston Pump Assembly



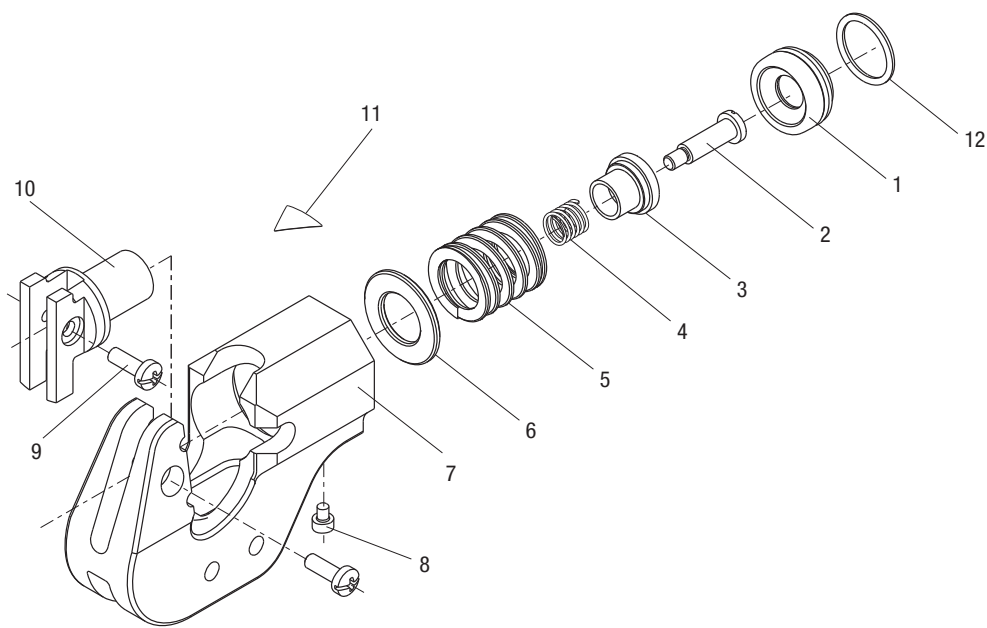
## Main Parts List—All Tools

| Key | Part No. | Description                                                                                 | Qty | Key | Part No. | Description                                               | Qty |
|-----|----------|---------------------------------------------------------------------------------------------|-----|-----|----------|-----------------------------------------------------------|-----|
|     | 52055860 | Relief lever kit (includes 2, 3)                                                            |     | 50  | 52055861 | Clamp, 10 pack.....                                       | 1   |
| 2   |          | Screw .....                                                                                 | 1   | 50* |          | Clamp.....                                                | 2   |
| 3   |          | Relief valve lever .....                                                                    | 1   | 51  |          | Screw .....                                               | 1   |
| 4   | 52055033 | Control board (EK210L).....                                                                 | 1   | 52  |          | Threaded bushing .....                                    | 1   |
|     | 52055032 | Control board (EK410L).....                                                                 | 1   | 53  |          | Pump block .....                                          | 1   |
|     | 52056014 | Control board (EK622L).....                                                                 | 1   | 54  |          | Threaded bushing .....                                    | 1   |
|     | 52056510 | Control board (EK628L).....                                                                 | 1   | 55  |          | Screen .....                                              | 1   |
|     | 52055031 | Control board (ETS8L, ETS12L,<br>ES32L, ES32FL, ES20L, ESG25L).....                         | 1   | 56  | 52049296 | Reservoir .....                                           | 1   |
|     | 52056949 | Control board (LS50L) .....                                                                 | 1   | 57* |          | O-ring .....                                              | 1   |
| 5*  |          | Seal .....                                                                                  | 2   | 58  |          | Washer .....                                              | 1   |
| 6   | 52049205 | Sensor (EK210L, EK410L,<br>EK622L, EK628L) .....                                            | 1   | 59  |          | Threaded bushing .....                                    | 1   |
|     | 50121839 | Screw (ETS8L, ETS12L, ES32L,<br>ES32FL, ES20L, ESG25L, LS50L).....                          | 1   | 60  |          | Valve seat .....                                          | 1   |
| 19  | 50018990 | Piston pump assembly<br>(includes 20–23) .....                                              | 1   | 61  |          | Spring.....                                               | 1   |
| 20  |          | Piston pump.....                                                                            | 1   | 62  |          | Washer .....                                              | 1   |
| 21  |          | Spring.....                                                                                 | 1   | 63  |          | Needle valve.....                                         | 1   |
| 22  | 50019309 | Piston pump housing .....                                                                   | 1   | 68  | 52054797 | Housing unit (includes 69–79)<br>(all except ETS8L) ..... | 1   |
| 23* |          | Piston seal.....                                                                            | 1   |     | 52055081 | Housing unit (includes 70–78) (ETS8L).....                | 1   |
| 29  | 50018922 | Relief valve unit (includes 31–39)<br>(all except EK622L, ESG25L)<br>ETS12L, LS50L).....    | 1   | 69  |          | Ring (ETS8L).....                                         | 1   |
|     | 52054799 | Relief valve unit (includes 31–39)<br>(EK622L, ESG25L, ETS12L, LS50L).....                  | 1   | 70  |          | Screw .....                                               | 4   |
| 31  | 50019554 | Valve seat .....                                                                            | 1   | 71  |          | Screw .....                                               | 2   |
| 32  |          | Needle valve.....                                                                           | 1   | 72  |          | Compression spring, DA5.5 x L14.0 .....                   | 1   |
| 33  |          | Plunger .....                                                                               | 1   | 73  |          | Trigger link.....                                         | 1   |
| 34  |          | Spring.....                                                                                 | 1   | 75  |          | Housing half .....                                        | 1   |
| 35  |          | Lock washer (all except EK622L,<br>ESG25L, ETS12L, LS50L) .....                             | 2   | 76  |          | Housing half .....                                        | 1   |
|     |          | Lock washer (EK622L, ESG25L,<br>ETS12L, LS50L).....                                         | 6   | 77  |          | Relief valve button.....                                  | 1   |
| 36* |          | O-ring .....                                                                                | 1   | 78  |          | Trigger cover .....                                       | 1   |
| 37* |          | O-ring .....                                                                                | 1   | 79  |          | Stud (ETS8L) .....                                        | 1   |
| 38  |          | Pressure relief.....                                                                        | 1   | 80  | 52048132 | Motor assembly (includes 81–89) .....                     | 1   |
| 39  |          | Screw .....                                                                                 | 1   | 81  |          | Retaining ring .....                                      | 1   |
| 49  | 52048120 | Pump housing unit (includes 50–57)<br>(EK210L, EK628L, ETS8L,<br>ES32L, ES32FL, ES20L)..... | 1   | 82  | 50019589 | Pin .....                                                 | 1   |
|     | 52054796 | Pump housing unit (includes 50–57)<br>(EK410L, ETS12L) .....                                | 1   | 83  |          | Motor cap.....                                            | 1   |
|     | 52054795 | Pump housing unit (includes 50–57)<br>(EK622L).....                                         | 1   | 84  |          | Disc housing.....                                         | 1   |
|     | 52057116 | Pump housing unit (includes 50–63)<br>(ESG25L) .....                                        | 1   | 85  |          | Disc .....                                                | 2   |
|     | 52056935 | Pump housing unit (includes 50–57)<br>(LS50L)                                               |     | 86  |          | Screw .....                                               | 2   |
|     |          |                                                                                             |     | 87  |          | Gear lube, 1.5 g.....                                     | 1   |
|     |          |                                                                                             |     | 88  |          | Motor adapter .....                                       | 1   |
|     |          |                                                                                             |     | 89  |          | Electric motor .....                                      | 1   |

## Main Parts List—All Tools (cont'd)

| Key | Part No. | Description                        | Qty | Key | Part No. | Description                                                              | Qty |
|-----|----------|------------------------------------|-----|-----|----------|--------------------------------------------------------------------------|-----|
|     | 52054837 | Decal kit, crimper .....           | 1   |     | 52047649 | Connector compatibility decal (EK410L)                                   |     |
|     | 52054838 | Decal kit, cutter .....            | 1   |     | 52047648 | Connector compatibility decal (EK622L)                                   |     |
|     | 52047632 | Identification decal (EK210L)..... | 1   |     | 52047647 | Connector compatibility decal (EK628L)                                   |     |
|     | 52047631 | Identification decal (EK410L)..... | 1   | *   | 50047957 | Seal kit (includes items marked with an asterisk, bushings not included) |     |
|     | 52047633 | Identification decal (EK622L)..... | 1   |     | 52049190 | 18 V battery 1.5 Ah                                                      |     |
|     | 52047630 | Identification decal (EK628L)..... | 1   |     | 52049189 | 18 V battery 3.0 Ah                                                      |     |
|     | 52047642 | Identification decal (ETS8L).....  | 1   |     | 52049201 | 18 V charger 120 VAC                                                     |     |
|     | 52047641 | Identification decal (ETS12L)..... | 1   |     | 52049202 | 18 V charger 230 VAC                                                     |     |
|     | 52047637 | Identification decal (ES32L).....  | 1   |     | 52049204 | 18 V charger 12 VDC                                                      |     |
|     | 52056588 | Identification decal (ES32FL)..... | 1   |     | 52047087 | 18 V corded adapter 120 VAC                                              |     |
|     | 52056913 | Identification decal (ES20L).....  | 1   |     | 52047088 | 18 V corded adapter 230 VAC                                              |     |
|     | 52056914 | Identification decal (ESG25L)..... | 1   |     | 52054992 | Li (18 V) to NiCd, NiMH (12 V) charger adapter                           |     |
|     | 52056916 | Identification decal (LS50L).....  | 1   |     | 52057878 | Biodegradable hydraulic fluid                                            |     |
|     | 50048074 | Carrying strap                     |     |     |          |                                                                          |     |
|     | 52055055 | Carrying case                      |     |     |          |                                                                          |     |
|     | 52057023 | Carrying case (LS50L)              |     |     |          |                                                                          |     |

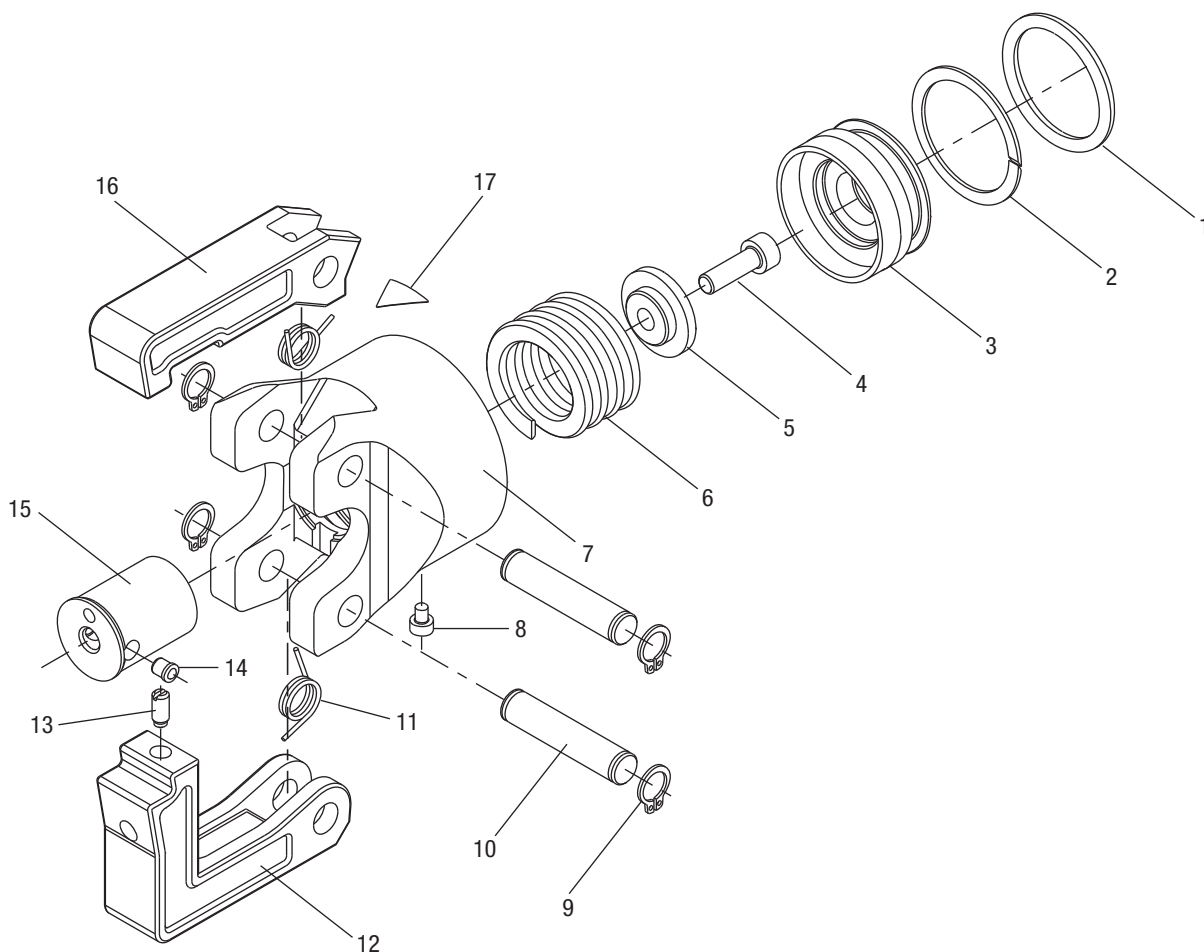
## Head and Ram Illustration and Parts List—EK210L



| Key | Part No. | Description                          | Qty |
|-----|----------|--------------------------------------|-----|
| 1   | 50120050 | Bushing with seal .....              | 1   |
|     | 52055862 | Die holder kit (includes 2–6, 9, 10) |     |
| 2   |          | Shoulder bolt.....                   | 1   |
| 3   |          | Cap.....                             | 1   |
| 4   |          | Compression spring.....              | 1   |
| 5   |          | Compression spring.....              | 1   |
| 6   |          | Washer .....                         | 1   |

| Key | Part No. | Description                               | Qty |
|-----|----------|-------------------------------------------|-----|
| 7   | 52055011 | Crimping head.....                        | 1   |
| 8   | 50019295 | Screw .....                               | 1   |
| 9   | 50019716 | Screw .....                               | 2   |
| 10  |          | Die holder .....                          | 1   |
| 11  | 50019708 | Pinch hazard decal.....                   | 1   |
| 12* |          | Seal bushing (included in 50047957) ..... | 1   |

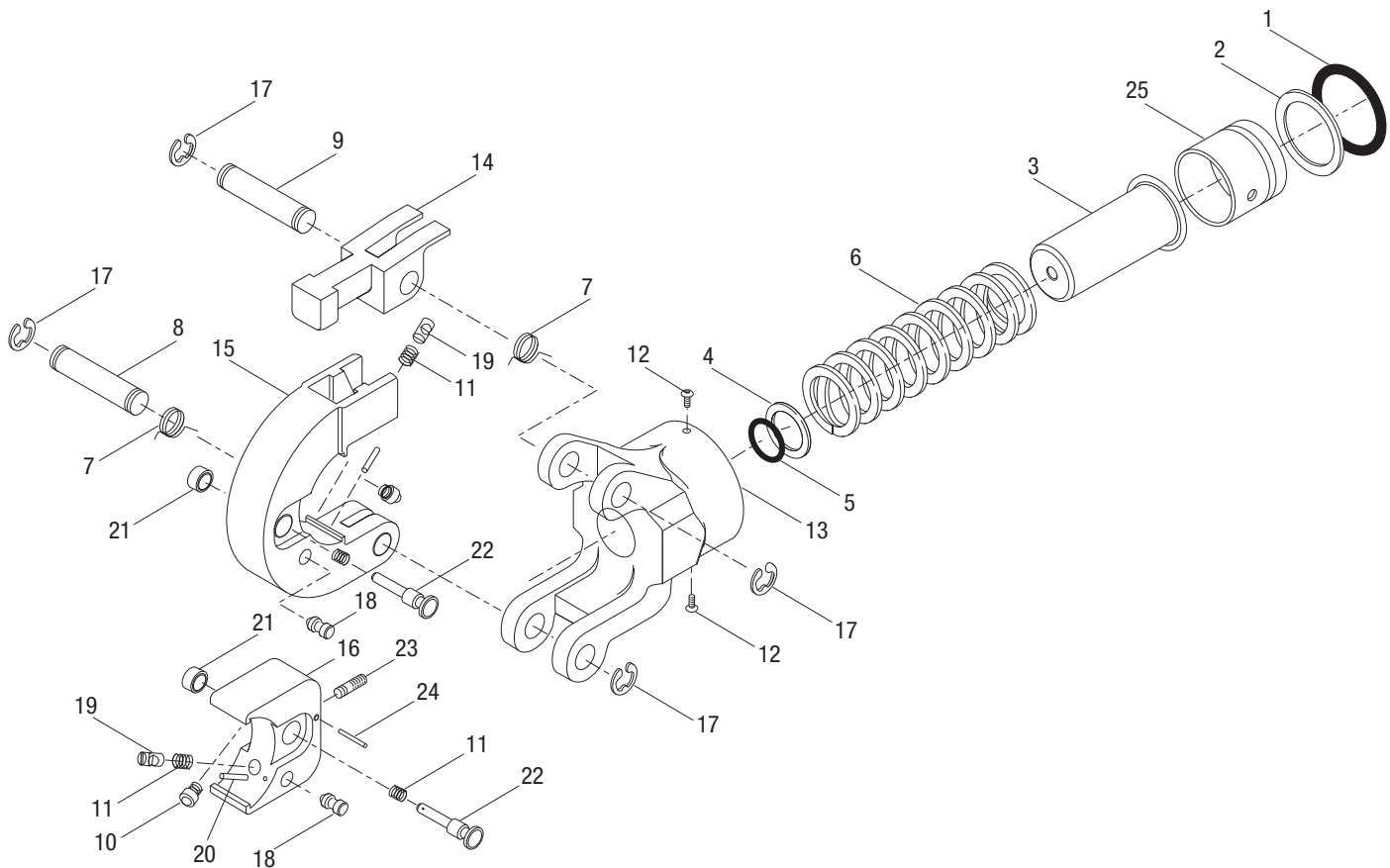
## Head and Ram Illustration and Parts List—EK410L



| Key | Part No. | Description                                        | Qty |
|-----|----------|----------------------------------------------------|-----|
| 1*  |          | O-ring (included in 50047957) .....                | 1   |
| 2*  |          | Piston backup ring<br>(included in 50047957) ..... | 1   |
| 3   | 50019082 | Bushing .....                                      | 1   |
|     | 50018981 | <b>Head unit</b> (includes 4–16)                   |     |
|     | 52055863 | Ram kit (includes 4–6, 14, 15)                     |     |
| 4   |          | Shoulder bolt.....                                 | 1   |
| 5   |          | Disc .....                                         | 1   |
| 6   |          | Spring.....                                        | 1   |
| 7   | 50019180 | Fixed head.....                                    | 1   |

| Key | Part No. | Description                          | Qty |
|-----|----------|--------------------------------------|-----|
|     | 52055864 | Hardware kit (includes 8–11, 13, 14) |     |
| 8   |          | Screw .....                          | 1   |
| 9   |          | Retaining ring .....                 | 4   |
| 10  |          | Pin .....                            | 2   |
| 11  |          | Spring.....                          | 2   |
|     | 52040994 | Head and latch kit (includes 12, 16) |     |
| 12  |          | Movable head.....                    | 1   |
| 13  |          | Screw .....                          | 1   |
| 14  |          | Pin .....                            | 1   |
| 15  |          | Ram adapter.....                     | 1   |
| 16  |          | Latch head .....                     | 1   |
| 17  | 50019708 | Pinch hazard decal.....              | 1   |

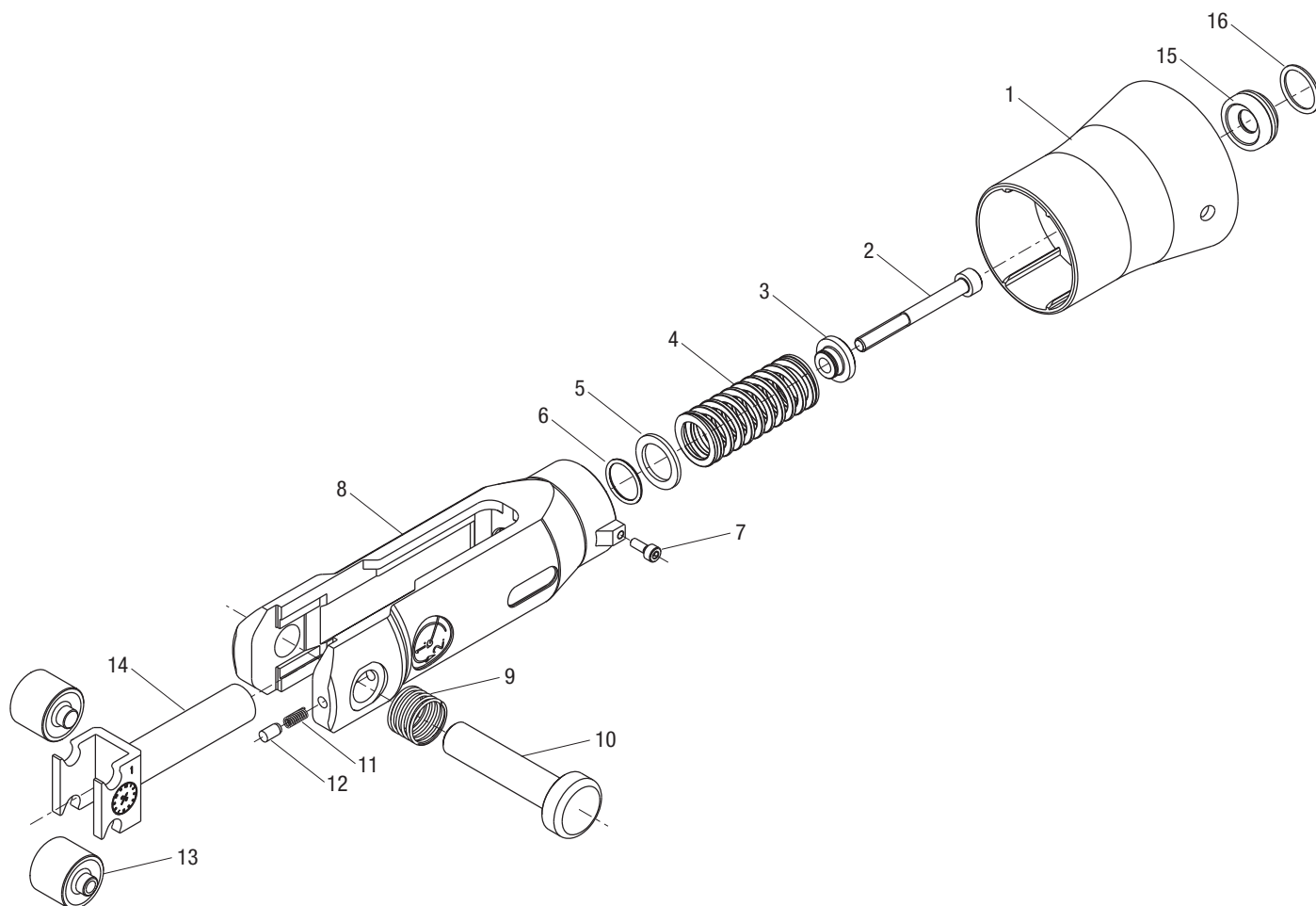
## Head and Ram Illustration and Parts List—EK622L



| Key | Part No. | Description                               | Qty |
|-----|----------|-------------------------------------------|-----|
| 1*  |          | O-ring (included in 50047957).....        | 1   |
| 2*  |          | Backup ring (included in 50047957).....   | 1   |
| 3   | 52055797 | Ram.....                                  | 1   |
| 4   | 50058371 | Adapter disk.....                         | 1   |
| 5*  |          | O-ring (included in 50047957).....        | 1   |
| 6   | 50058398 | Compression spring.....                   | 1   |
|     | 52055866 | Pin kit (includes 7–9, 17)                |     |
| 7   |          | Spring.....                               | 2   |
| 8   |          | Pin.....                                  | 1   |
| 9   |          | Pin.....                                  | 1   |
|     | 52055867 | Die retainer kit (includes 10, 11, 18–22) |     |
| 10  |          | Die retainer.....                         | 2   |
| 11  |          | Compression spring.....                   | 4   |
| 12  | 50041681 | Screw.....                                | 2   |

| Key | Part No. | Description                      | Qty |
|-----|----------|----------------------------------|-----|
| 13  | 50058304 | Bottom crimp head.....           | 1   |
| 14  | 50121693 | Latch.....                       | 1   |
| 15  | 50121731 | Top die holder.....              | 1   |
| 16  | 50121715 | Bottom die holder.....           | 1   |
| 17  |          | Retaining ring.....              | 4   |
| 18  |          | Die release button.....          | 2   |
| 19  |          | Die retainer.....                | 2   |
| 20  |          | Roll Pin.....                    | 2   |
| 21  |          | Die release button.....          | 2   |
| 22  |          | Locking pin.....                 | 2   |
|     | 52055865 | Die holder kit (includes 23, 24) |     |
| 23  |          | Threaded stud.....               | 1   |
| 24  |          | Pin.....                         | 1   |
| 25  | 52020648 | Piston cup.....                  | 1   |

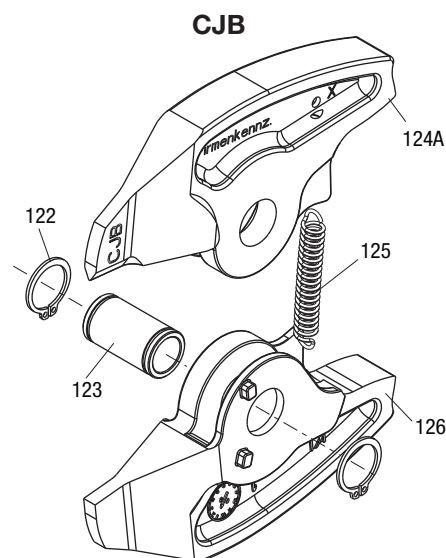
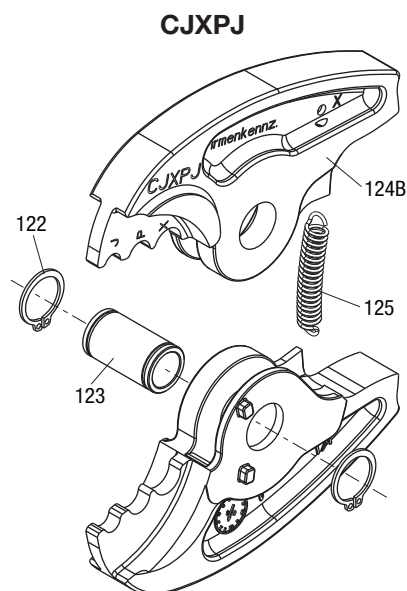
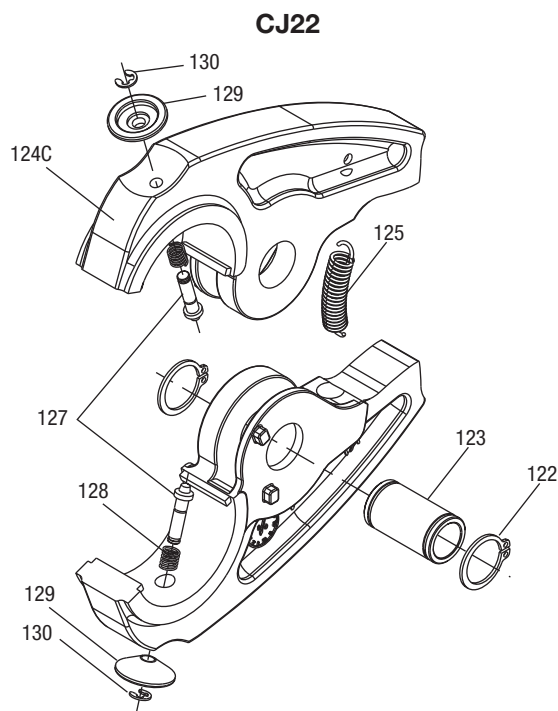
## Ram Illustration and Parts List—EK628L



| Key | Part No. | Description                          | Qty |
|-----|----------|--------------------------------------|-----|
|     | 52048133 | <b>Ram unit</b> (includes 1–14)..... | 1   |
|     | 52057497 | Jaw holder kit (includes 1, 7, 8)    |     |
| 1   | 52049292 | Sheath .....                         | 1   |
|     | 52049399 | Spring kit (includes 2–6)            |     |
| 2   |          | Shoulder bolt.....                   | 1   |
| 3   |          | Disc .....                           | 1   |
| 4   |          | Compression spring .....             | 1   |
| 5   |          | Washer .....                         | 1   |
| 6*  |          | O-ring (included in 50047957).....   | 1   |
| 7   | 52057496 | Screw .....                          | 1   |
| 8   |          | Jaw holder.....                      | 1   |

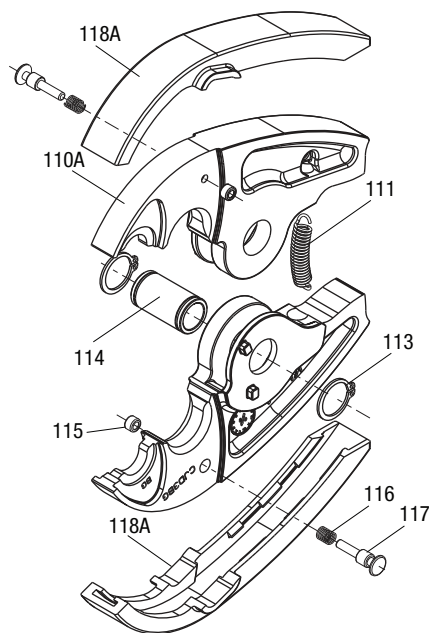
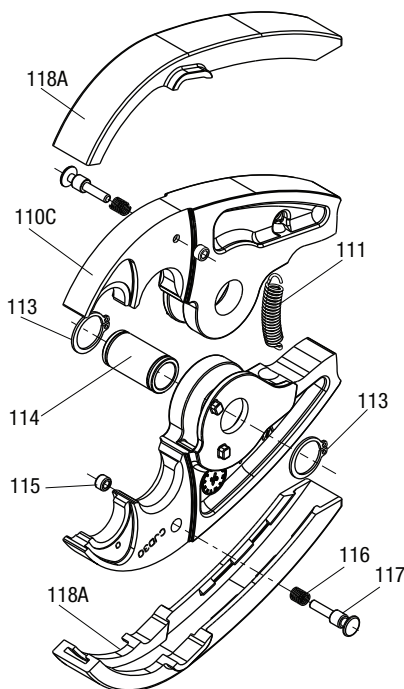
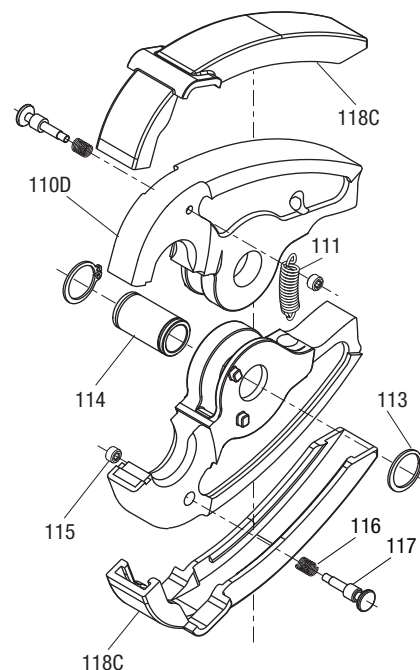
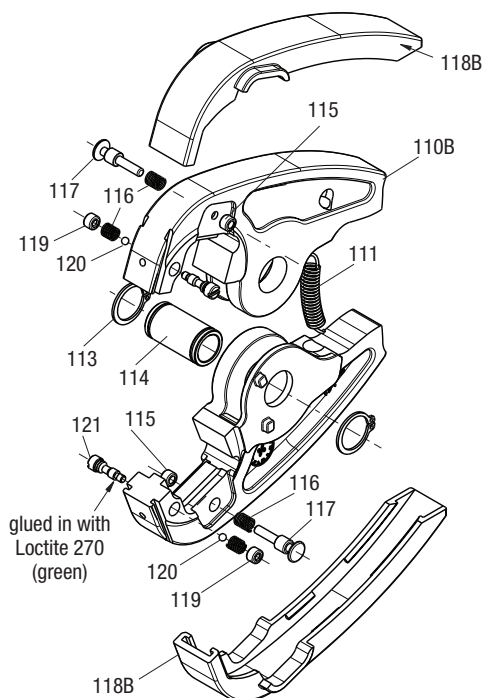
| Key | Part No. | Description                               | Qty |
|-----|----------|-------------------------------------------|-----|
|     | 52049400 | Latch kit (includes 9–12)                 |     |
| 9   |          | Compression spring .....                  | 1   |
| 10  |          | Locking pin.....                          | 1   |
| 11  |          | Compression spring .....                  | 1   |
| 12  |          | Pin .....                                 | 1   |
|     | 52049401 | Roller kit (includes 13, 14)              |     |
| 13  |          | Roller .....                              | 2   |
| 14  |          | Ram .....                                 | 1   |
| 15  | 50120050 | Bushing with seal .....                   | 1   |
| 16* |          | Seal bushing (included in 50047957) ..... | 1   |

## Crimping Jaw Units Illustration and Parts List—EK628L



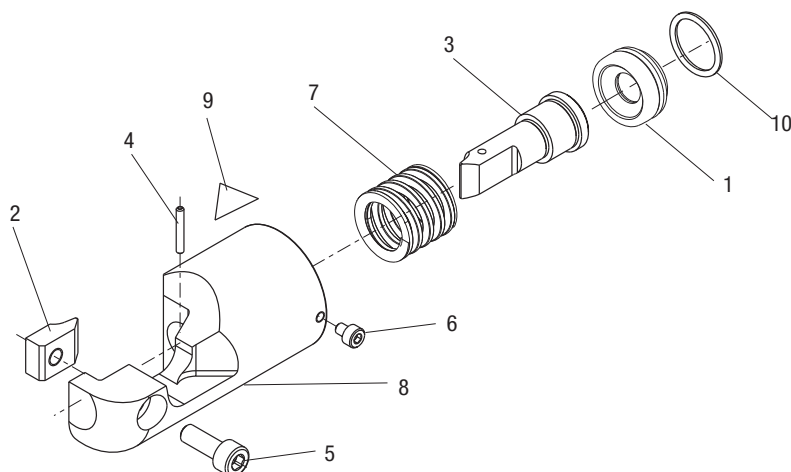
| Key  | Part No. | Description                                                    | Qty |
|------|----------|----------------------------------------------------------------|-----|
|      | 52024683 | <b>CJ22 crimping jaw unit</b> for cUL and UL classified crimps |     |
|      | 52025649 | <b>CJXPJ crimping jaw unit</b><br>(includes 122-125)           |     |
|      | 52025648 | <b>CJB single-use lock cutter</b><br>(includes 122-126)        |     |
|      | 52049402 | Jaw pivot kit (includes 122, 123)                              |     |
| 122  |          | Retaining ring .....                                           | 2   |
| 123  |          | Pivot pin .....                                                | 1   |
| 124A |          | Jaw, sharp—CJB .....                                           | 1   |
| 124B |          | Jaw, CJXPJ .....                                               | 2   |
| 124C |          | Jaw, CJ22.....                                                 | 2   |
| 125  | 52022544 | Extension spring.....                                          | 1   |
| 126  |          | Jaw, flat—CJB.....                                             | 1   |
|      | 52023623 | Die retaining pin kit (includes 127–130)                       |     |
| 127  |          | Die retaining pin .....                                        | 2   |
| 128  |          | Compression spring.....                                        | 2   |
| 129  |          | Release button .....                                           | 2   |
| 130  |          | Retaining ring .....                                           | 2   |

## Illustration and Parts List—Optional Accessories—EK628L

**CJD3BG**

**CJD30**

**CJD3**

**CJK Kearney**


| Key  | Part No. | Description                                                         | Qty |
|------|----------|---------------------------------------------------------------------|-----|
|      | 52027121 | <b>CJD3BG crimping jaw unit</b><br>(includes 110–118)               |     |
|      | 52027122 | <b>CJD30 crimping jaw unit</b><br>(includes 110–118)                |     |
|      | 52024068 | <b>CJD3 crimping jaw unit</b> (includes 110–118)                    |     |
|      | 52020114 | <b>CJK Kearney crimping jaw unit</b><br>(includes 110–118, 119–121) |     |
| 110A |          | Jaw, CJD3BG.....                                                    | 2   |
| 110B |          | Jaw, CJK .....                                                      | 2   |
| 110C |          | Jaw, CJD30 .....                                                    | 2   |
| 110D |          | Jaw, CJD3.....                                                      | 2   |
| 111  | 52022544 | Extension spring.....                                               | 1   |
|      | 52049402 | Jaw pivot kit (includes 113, 114)                                   |     |
| 113  |          | Retaining ring .....                                                | 2   |
| 114  |          | Pin pivot .....                                                     | 1   |
| 115  |          | Bushing .....                                                       | 2   |
| 116  |          | Compression spring .....                                            | 2   |
| 117  |          | Lock adapter .....                                                  | 2   |
| 118A | 52025125 | Jaw covers, CJD30/CJD3BG (set of 2) ....                            | 1   |
| 118B | 52022386 | Jaw covers, CJK (set of 2) .....                                    | 1   |
| 118C | 52021086 | Jaw covers, CJD3 (set of 2) .....                                   | 1   |
| 119  |          | Bushing .....                                                       | 2   |
| 120  |          | Ball, 3 mm .....                                                    | 2   |
| 121  |          | Locking pin.....                                                    | 1   |
|      | 50103750 | Die pin kit, "W"-style dies<br>(includes 115–117)                   |     |
|      | 50105108 | Die pin kit, Kearney-style dies<br>(includes 116, 119–121)          |     |

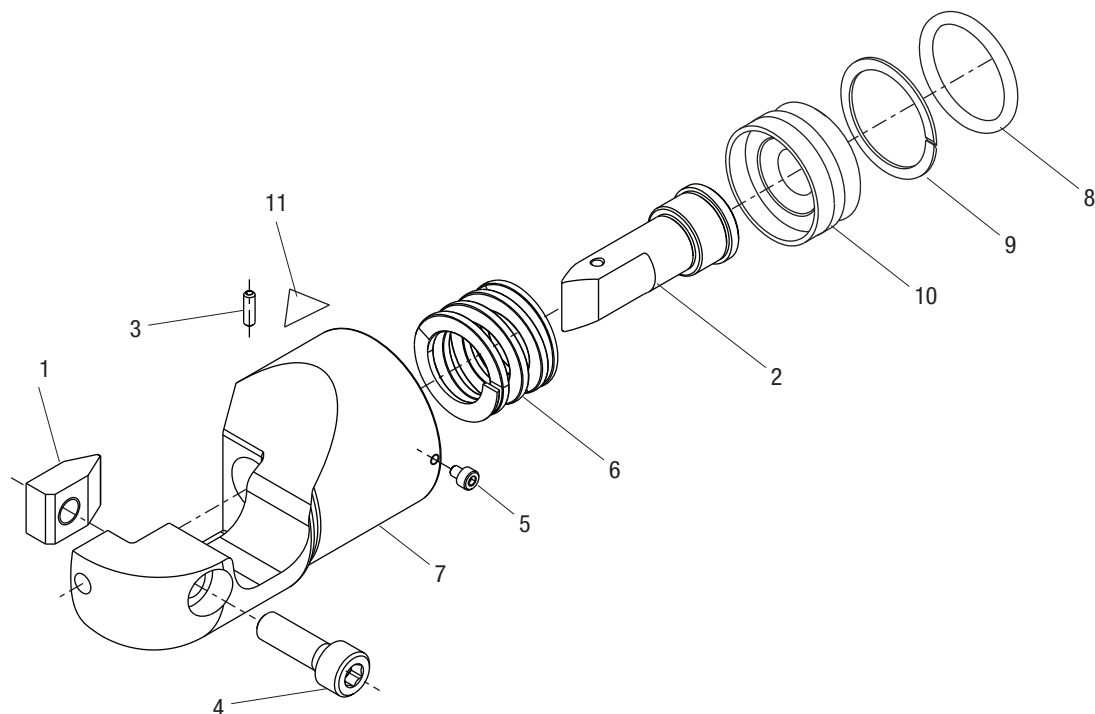
## Head and Ram Illustration and Parts List—ETS8L



| Key | Part No. | Description                           | Qty |
|-----|----------|---------------------------------------|-----|
| 1   | 50120050 | Bushing with seal .....               | 1   |
|     | 52024565 | Cutter blade kit (includes 2–5) ..... | 1   |
| 2   |          | Cutter plate .....                    | 1   |
| 3   |          | Cutting rod .....                     | 1   |
| 4   |          | Spring-type straight pin .....        | 1   |
| 5   |          | Socket head cap screw, m5-14 .....    | 1   |

| Key | Part No. | Description                               | Qty |
|-----|----------|-------------------------------------------|-----|
| 6   | 50019295 | Hex head cap screw, m3x4.....             | 1   |
| 7   | 50019120 | Compression spring.....                   | 1   |
| 8   | 52026760 | Cutter head .....                         | 1   |
| 9   | 52024564 | Pinch hazard decal.....                   | 1   |
| 10* |          | Seal bushing (included in 50047957) ..... | 1   |

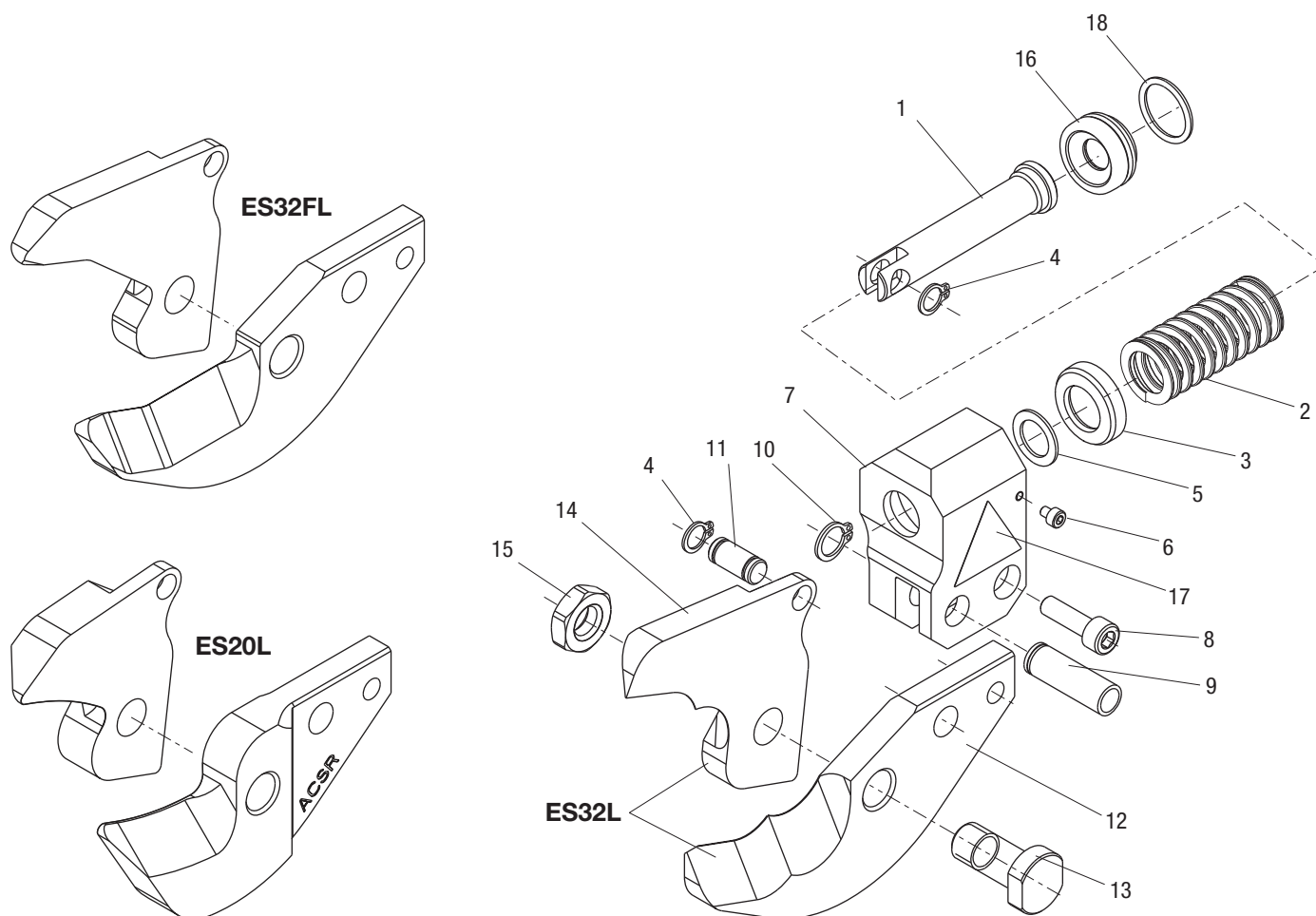
## Head and Ram Illustration and Parts List—ETS12L



| Key | Part No. | Description                          | Qty |
|-----|----------|--------------------------------------|-----|
|     | 52033626 | <b>Head assembly</b> (includes 1–7)  |     |
|     | 52033628 | Cutter blade kit (includes 1–4)..... | 1   |
| 1   |          | Fixed blade.....                     | 1   |
| 2   |          | Movable blade.....                   | 1   |
| 3   |          | Roll pin .....                       | 1   |
| 4   |          | Socket head cap screw.....           | 1   |
| 5   | 50019295 | Hex head cap screw, m3x4.....        | 1   |

| Key | Part No. | Description                                        | Qty |
|-----|----------|----------------------------------------------------|-----|
| 6   | 50019236 | Compression spring .....                           | 1   |
| 7   |          | Cutter head .....                                  | 1   |
| 8*  |          | O-ring (included in 50047957).....                 | 1   |
| 9*  |          | Piston backup ring<br>(included in 50047957) ..... | 1   |
| 10  | 50019082 | Bushing .....                                      | 1   |
| 11  | 52024564 | Pinch hazard decal.....                            | 1   |

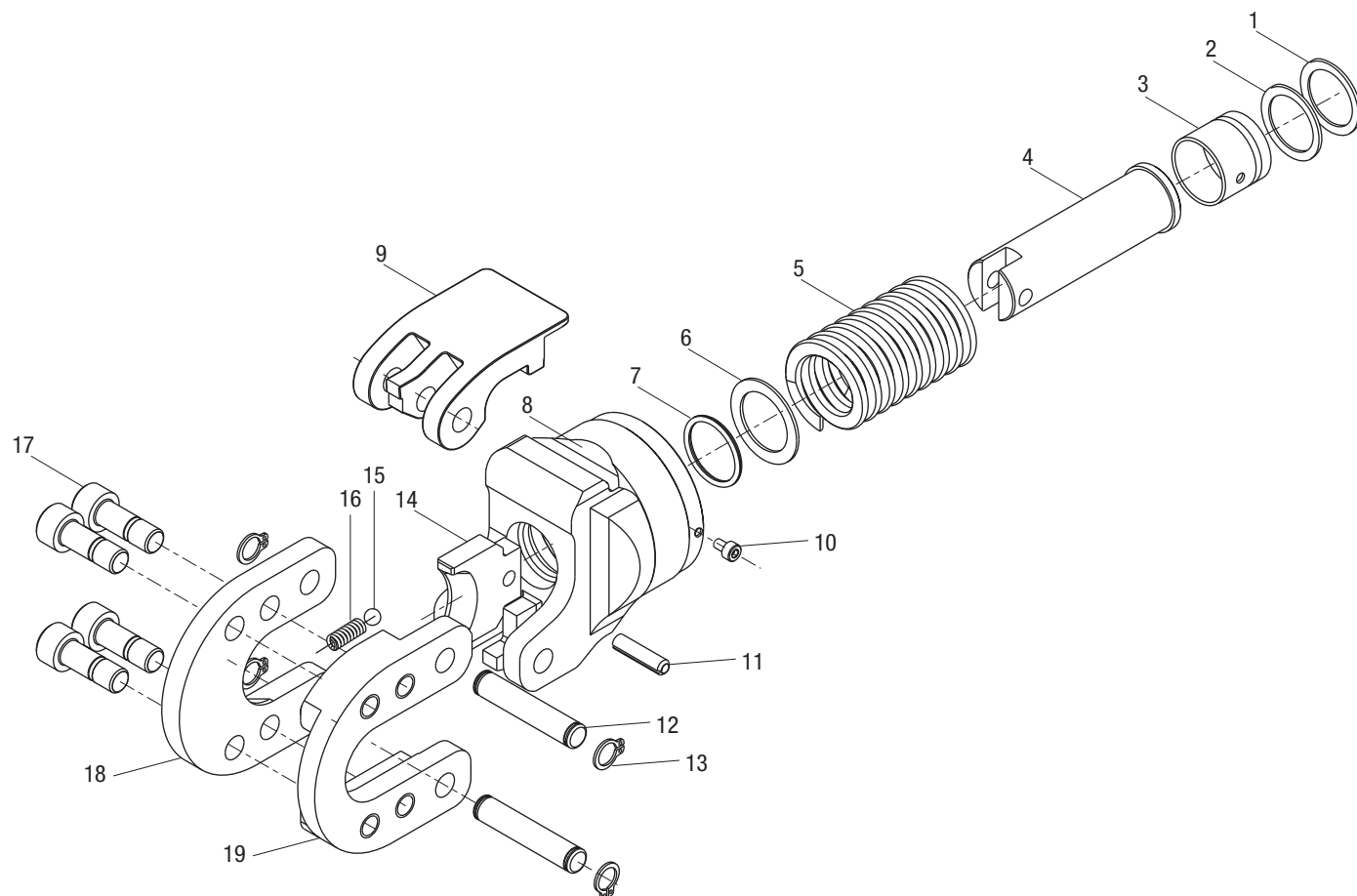
## Head and Ram Illustration and Parts List—ES32L, ES32FL, and ES20L



| Key | Part No. | Description                                          | Qty |
|-----|----------|------------------------------------------------------|-----|
|     | 50121197 | <b>Head unit assembly, ES32L</b><br>(includes 1–15)  |     |
|     | 52056587 | <b>Head unit assembly, ES32FL</b><br>(includes 1–15) |     |
|     | 52057273 | <b>Head unit assembly, ES20L</b><br>(includes 1–15)  |     |
|     | 52055868 | Ram kit (includes 1–3, 5)                            |     |
| 1   |          | Piston .....                                         | 1   |
| 2   |          | Coil spring .....                                    | 1   |
| 3   |          | Steel washer.....                                    | 1   |
|     | 52055870 | Hardware kit (includes 4, 8–11, 13, 15)              |     |
| 4   |          | Retaining clip.....                                  | 2   |
| 5   |          | Steel washer.....                                    | 1   |
| 6   | 50019295 | Screw .....                                          | 1   |
| 7   | 50120913 | Aluminum head .....                                  | 1   |

| Key | Part No. | Description                               | Qty |
|-----|----------|-------------------------------------------|-----|
| 8   |          | Screw .....                               | 1   |
| 9   |          | Pivot .....                               | 1   |
| 10  |          | Retaining clip.....                       | 1   |
| 11  |          | Pivot .....                               | 1   |
|     | 52055869 | Blade kit, ES32L (includes 12–15)         |     |
|     | 52056589 | Blade kit, ES32FL (includes 12–15)        |     |
|     | 52057271 | Blade kit, ES20L (includes 12–15)         |     |
| 12  |          | Fixed blade.....                          | 1   |
| 13  |          | Pivot bolt.....                           | 1   |
| 14  |          | Movable blade.....                        | 1   |
| 15  |          | Hex nut.....                              | 1   |
| 16  | 50120050 | Bushing with seal .....                   | 1   |
| 17  | 52025832 | Pinch hazard decal.....                   | 1   |
| 18* |          | Seal bushing (included in 50047957) ..... | 1   |

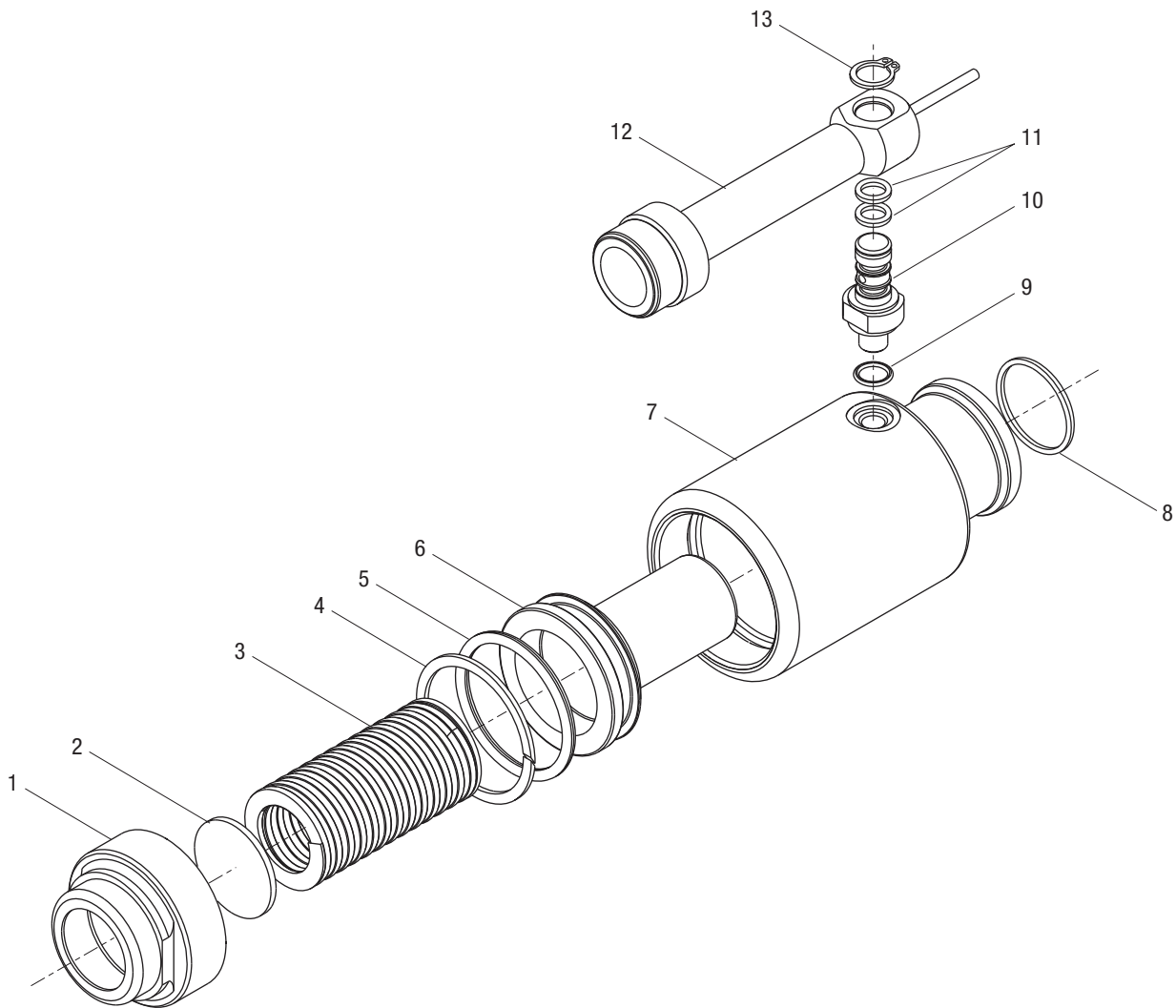
## Head and Ram Illustration and Parts List—ESG25L



| Key | Part No. | Description                             | Qty |
|-----|----------|-----------------------------------------|-----|
|     | 52057103 | <b>Head assembly</b> (includes 1–19)    |     |
| 1*  |          | Backup ring (included in 50047957)..... | 1   |
| 2*  |          | O-ring (included in 50047957).....      | 1   |
| 3   | 52020648 | Piston cup .....                        | 1   |
| 4   | 52057107 | Ram .....                               | 1   |
| 5   |          | Compression spring .....                | 1   |
| 6   |          | Adapter disk.....                       | 1   |
| 7*  |          | O-ring (included in 50047957).....      | 1   |
| 8   | 52057109 | Base .....                              | 1   |
| 9   | 52057108 | Latch .....                             | 1   |

| Key | Part No. | Description         | Qty |
|-----|----------|---------------------|-----|
| 10  | 52057106 | Screw .....         | 1   |
| 11  | 52057111 | Blade pin .....     | 1   |
| 12  | 52057115 | Pivot pin .....     | 2   |
| 13  |          | Retaining clip..... | 4   |
| 14  | 52057105 | Movable blade.....  | 1   |
| 15  | 52057114 | Ball .....          | 1   |
| 16  | 52057113 | Spring.....         | 1   |
| 17  | 52057112 | Screw .....         | 4   |
| 18  | 52057104 | Fixed blade.....    | 1   |
| 19  | 52057110 | Guide plate.....    | 1   |

## Head and Ram Illustration and Parts List—LS50L



| Key | Part No. | Description                                | Qty |
|-----|----------|--------------------------------------------|-----|
|     | 52056948 | <b>Punch head assembly (includes 1–13)</b> |     |
| 1   | 52056937 | End cap .....                              | 1   |
| 2   |          | Spring disc .....                          | 1   |
| 3   | 50058258 | Compression spring .....                   | 1   |
| 4   |          | Backup ring .....                          | 1   |
| 5   |          | Seal .....                                 | 1   |
| 6   | 52056941 | Ram .....                                  | 1   |
| 7   | 52056942 | Ram housing .....                          | 1   |

| Key | Part No. | Description                               | Qty |
|-----|----------|-------------------------------------------|-----|
| 8   |          | Seal .....                                | 1   |
| 9   |          | O-ring .....                              | 1   |
| 10  | 52056945 | Swivel .....                              | 1   |
| 11  |          | Washer .....                              | 2   |
| 12  | 52056947 | Pump block extension.....                 | 1   |
| 13  |          | Retaining ring .....                      | 1   |
|     | 52057708 | Ring kit (includes 2, 4, 5, 8, 9, 11, 13) |     |





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