



# Parts Manual

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Model \_\_\_\_\_ Push/Pull \_\_\_\_\_

Serial Number \_\_\_\_\_ 45E-PAS-149 \_\_\_\_\_

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**cascade**<sup>®</sup>

**For Technical Assistance call:** 800-227-2233, Fax: 888-329-8207

**To Order Parts call:** 888-227-2233, Fax: 888-329-0234

**OR**

**Write:** Cascade Corporation, P.O. Box 20187, Portland, OR 97220

**Internet:** [www.cascorp.com](http://www.cascorp.com)

# Publications

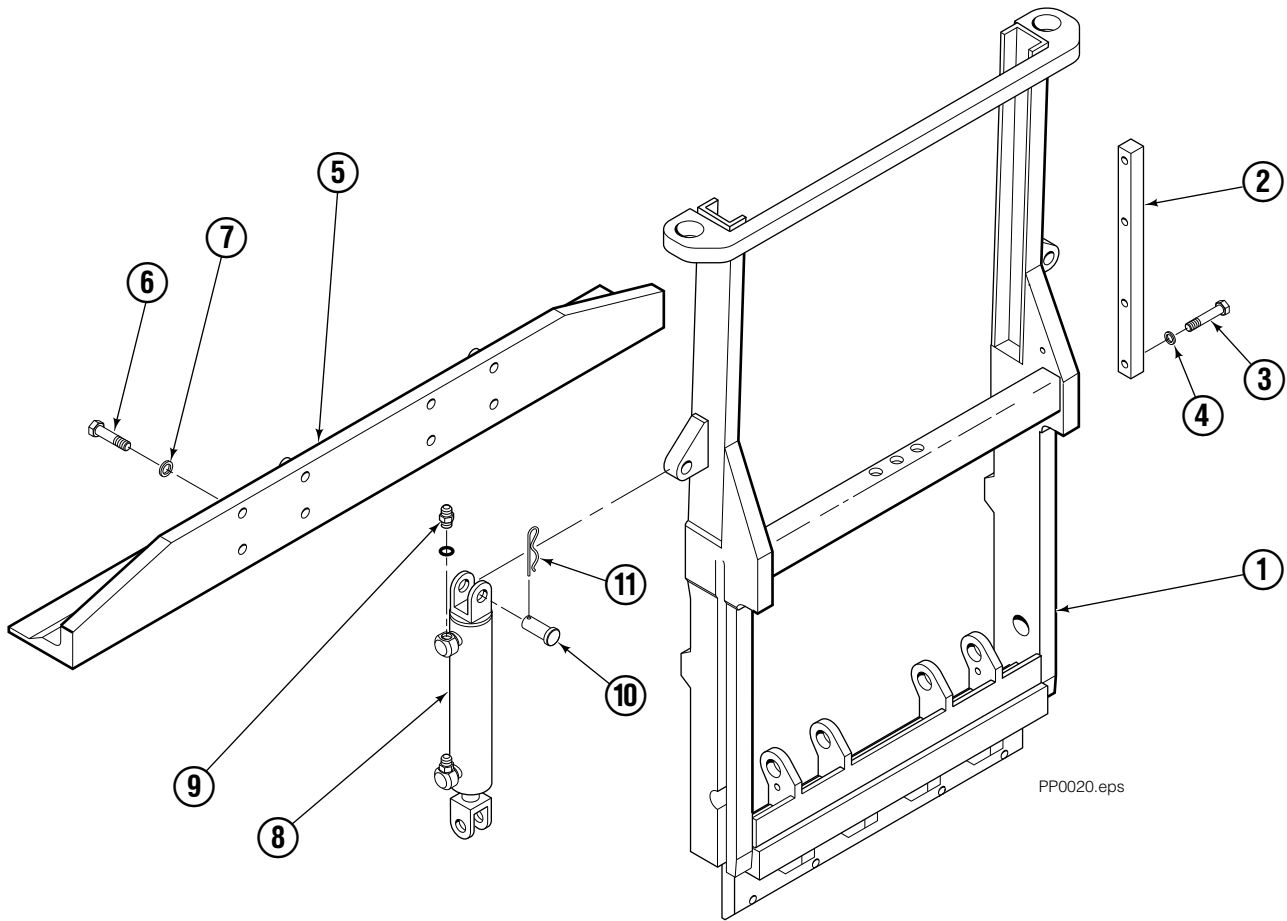


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| PART NO. | DESCRIPTION                     |
|----------|---------------------------------|
|          | Parts Manual                    |
| 686455   | Service Manual                  |
| 684945   | Operators Guide                 |
| 685531   | Operators Pocket Guide          |
| 684944   | Installation Instructions       |
| 680664   | Servicing Cascade Cylinders-VHS |
| 679929   | Tool Catalog                    |
| 673964   | Literature Index Order Form     |



# Frame Group

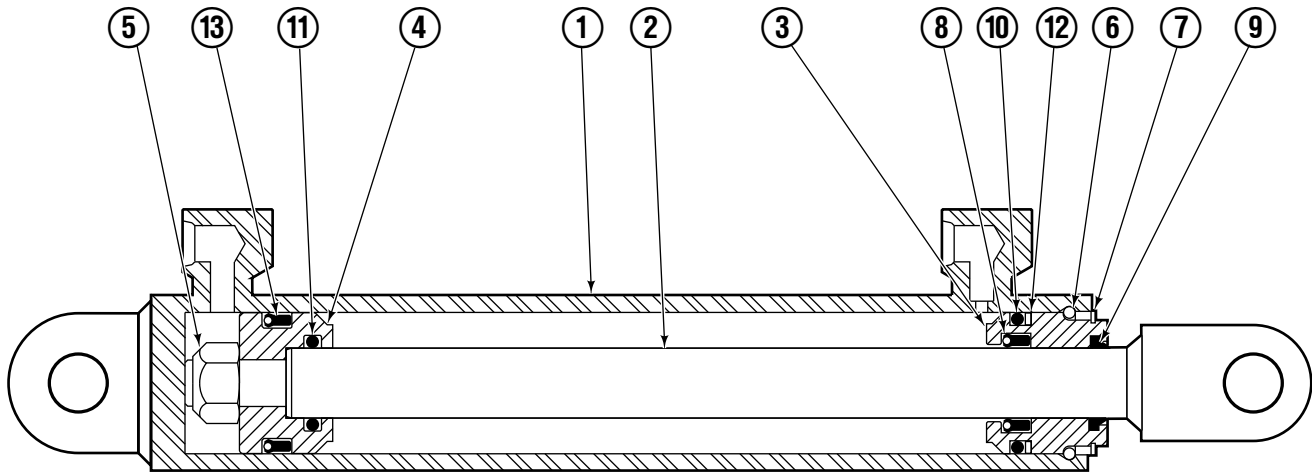


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| 35E/45E |     |          |              |
|---------|-----|----------|--------------|
| REF     | QTY | PART NO. | DESCRIPTION  |
|         |     | 206950   | Frame Group  |
| 1       | 1   | 206945   | Frame        |
| 2       | 1   | 206954   | Bar          |
| 3       | 2   | 768525   | Capscrew     |
| 4       | 2   | 686119   | Washer       |
| 5       | 1   | 206955   | Foot         |
| 6       | 8   | 766929   | Capscrew     |
| 7       | 8   | 678991   | Lockwasher   |
| 8       | 2   | ■583942  | Cylinder     |
| 9       | 4   | 617915   | Fitting, 4-4 |
| 10      | 4   | 678525   | Pin-Clevis   |
| 11      | 4   | 672726   | Cotter Pin   |

■ See Cylinder page for parts breakdown.

# Sheet-Sav Cylinder

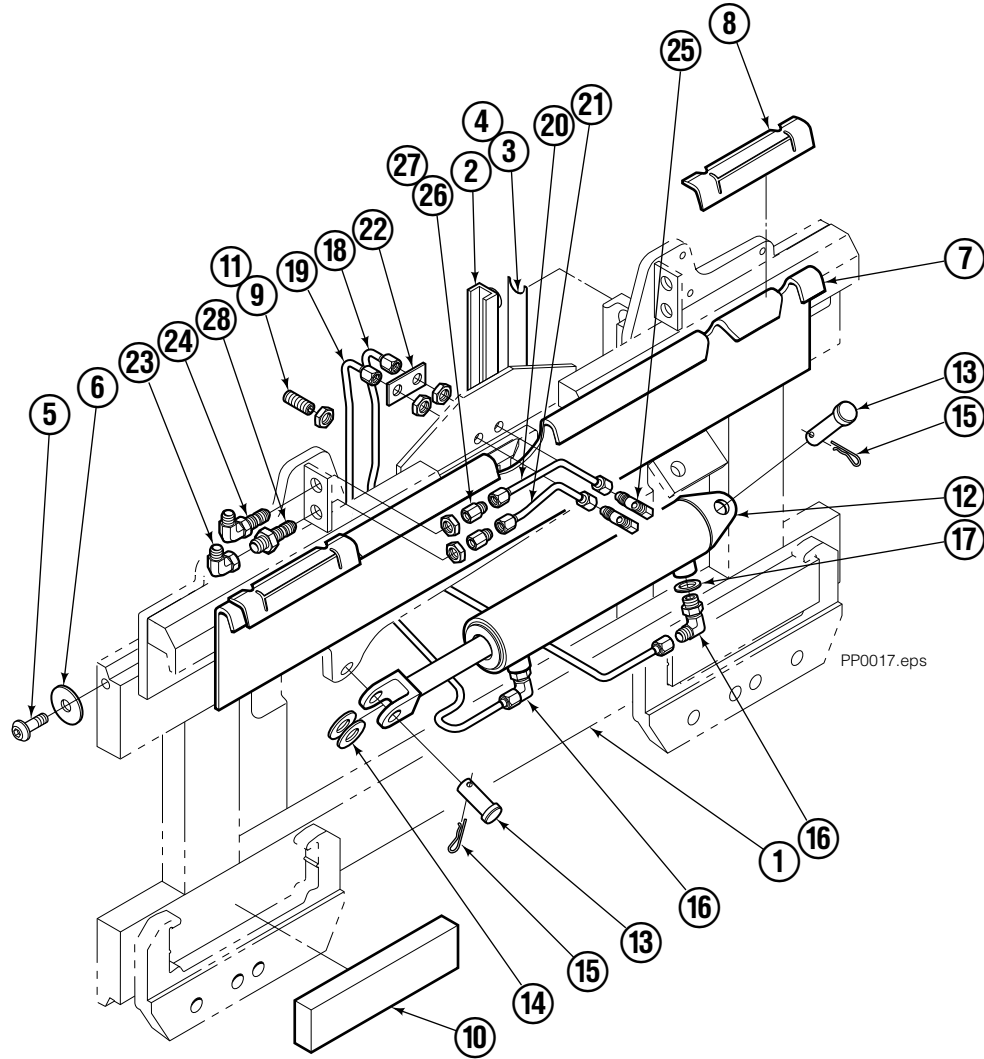


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| 35E/45E |     |          |                   |
|---------|-----|----------|-------------------|
| REF     | QTY | PART NO. | DESCRIPTION       |
|         |     | 583942   | Cylinder Assembly |
| 1       | 1   | 564162   | Shell             |
| 2       | 1   | 564165   | Rod               |
| 3       | 1   | 685664   | Retainer          |
| 4       | 1   | 685665   | Piston            |
| 5       | 1   | 563462   | Nut               |
| 6       | 1   | 563916   | Ring-Stop         |
| 7       | 1   | 3137     | Retaining Ring    |
| ▼ 8     | 1   | 646540   | Seal              |
| ▼ 9     | 1   | 646850   | Wiper             |
| ▼ 10    | 1   | 2718     | O-Ring            |
| ▼ 11    | 1   | 2710     | O-Ring            |
| ▼ 12    | 1   | 615122   | Back-up Ring      |
| ▼ 13    | 1   | 663728   | Seal              |

▼ Included in Service Kit 684827.

# S/S Platen Carrier Group ITA II



## 35E/45E

| REF | QTY | PART NO. | DESCRIPTION          | REF | QTY | PART NO. | DESCRIPTION  |
|-----|-----|----------|----------------------|-----|-----|----------|--------------|
|     |     | 375216   | Platen Carrier Group | 15  | 2   | 6517     | Cotter Pin   |
| 1   | 1   | 375217   | Platen Carrier       | 16  | 2   | 666984   | Fitting, 6-6 |
| 2   | 2   | 206964   | Bearing              | 17  | 1   | 675550   | Washer       |
| 3   | ●   | 674298   | Shim (.015)          | 18  | 1   | 207042   | Tube         |
| 4   | ●   | 674299   | Shim (.020)          | 19  | 1   | 207043   | Tube         |
| 5   | 2   | 683142   | Capscrew             | 20  | 1   | 207044   | Tube         |
| 6   | 2   | 683001   | Washer               | 21  | 1   | 207045   | Tube         |
| 7   | 1   | 682554   | Anchor Bracket       | 22  | 1   | 207046   | Spacer       |
| 8   | 2   | 671165   | Bearing              | 23  | 1   | 2680     | Fitting, 6-6 |
| 9   | 2   | 768759   | Setscrew             | 24  | 1   | 2453     | Fitting, 6-6 |
| 10  | 2   | 682814   | Bearing              | 25  | 2   | 2451     | Fitting, 4-4 |
| 11  | 2   | 688387   | Jam Nut              | 26  | 2   | 2617     | Fitting, 6   |
| 12  | 1   | ■675548  | Cylinder Assembly    | 27  | 2   | 2669     | Fitting, 4-6 |
| 13  | 2   | 678525   | Pin-Clevis           | 28  | 1   | 2375     | Fitting, 6-6 |
| 14  | 2   | 6234     | Washer               |     |     |          |              |

- As required maximum 1 per side.
- See Cylinder page for parts breakdown.

# Sideshift Cylinder

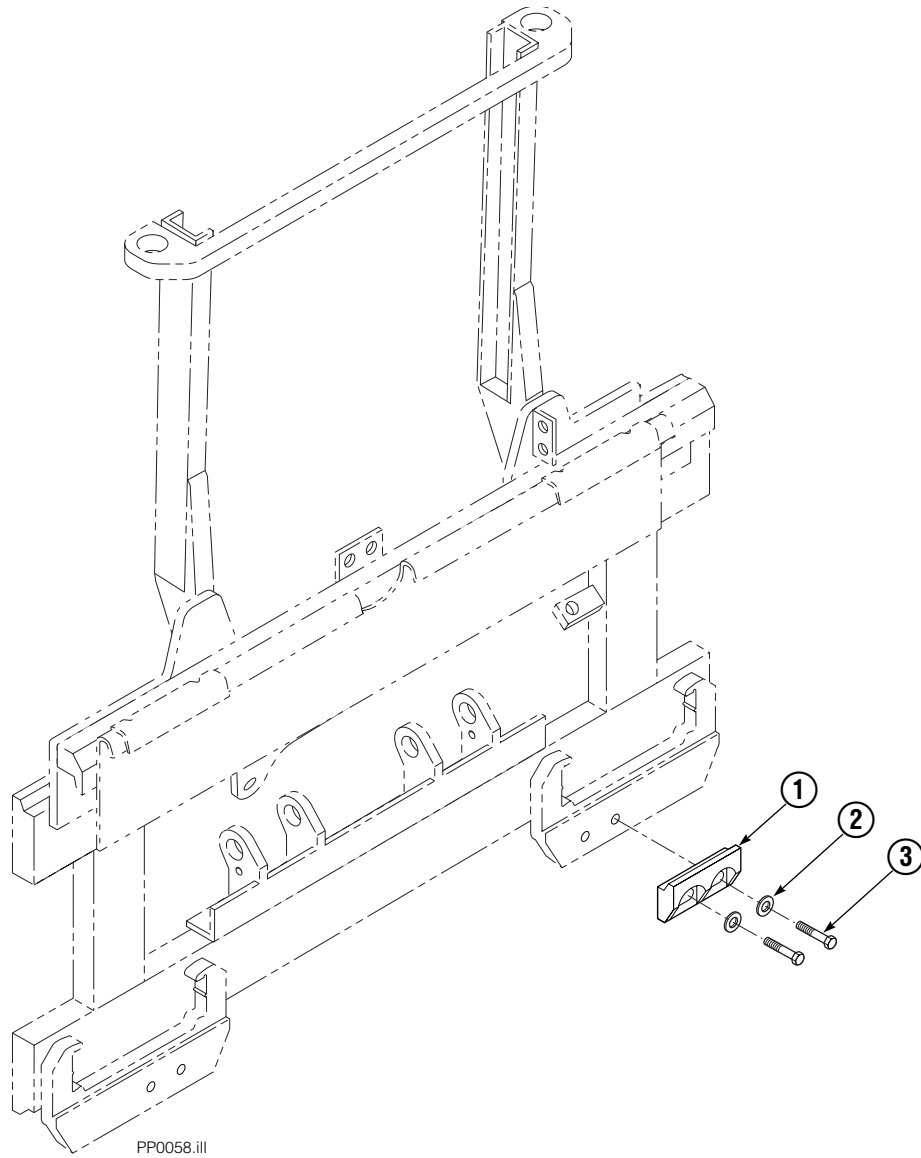


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| REF  | QTY | PART NO. | DESCRIPTION           |
|------|-----|----------|-----------------------|
|      |     | 675548   | Cylinder Assembly     |
| 1    | 1   | 553857   | Nut                   |
| ■ 2  | 1   | 662452   | Seal                  |
| 3    | 1   | 553501   | Piston                |
| ■ 4  | 1   | 636851   | Wiper                 |
| ■ 5  | 1   | 638247   | Back-up Ring          |
| 6    | 1   | 675550   | Washer (orifice .085) |
| 7    | 1   | 675549   | Shell                 |
| 8    | 1   | 553449   | Rod                   |
| ■ 9  | 1   | 2785     | O-Ring                |
| ■ 10 | 1   | 615128   | Back-up Ring          |
| 11   | 1   | 553500   | Retainer              |
| 12   | 1   | 553856   | Retaining Ring        |
| 13   | 1   | 7202     | Snap Ring             |
| ■ 14 | 1   | 641835   | Seal                  |
| 15   | 1   | ---      | Spacer                |
|      |     | 553861   | Service Kit           |

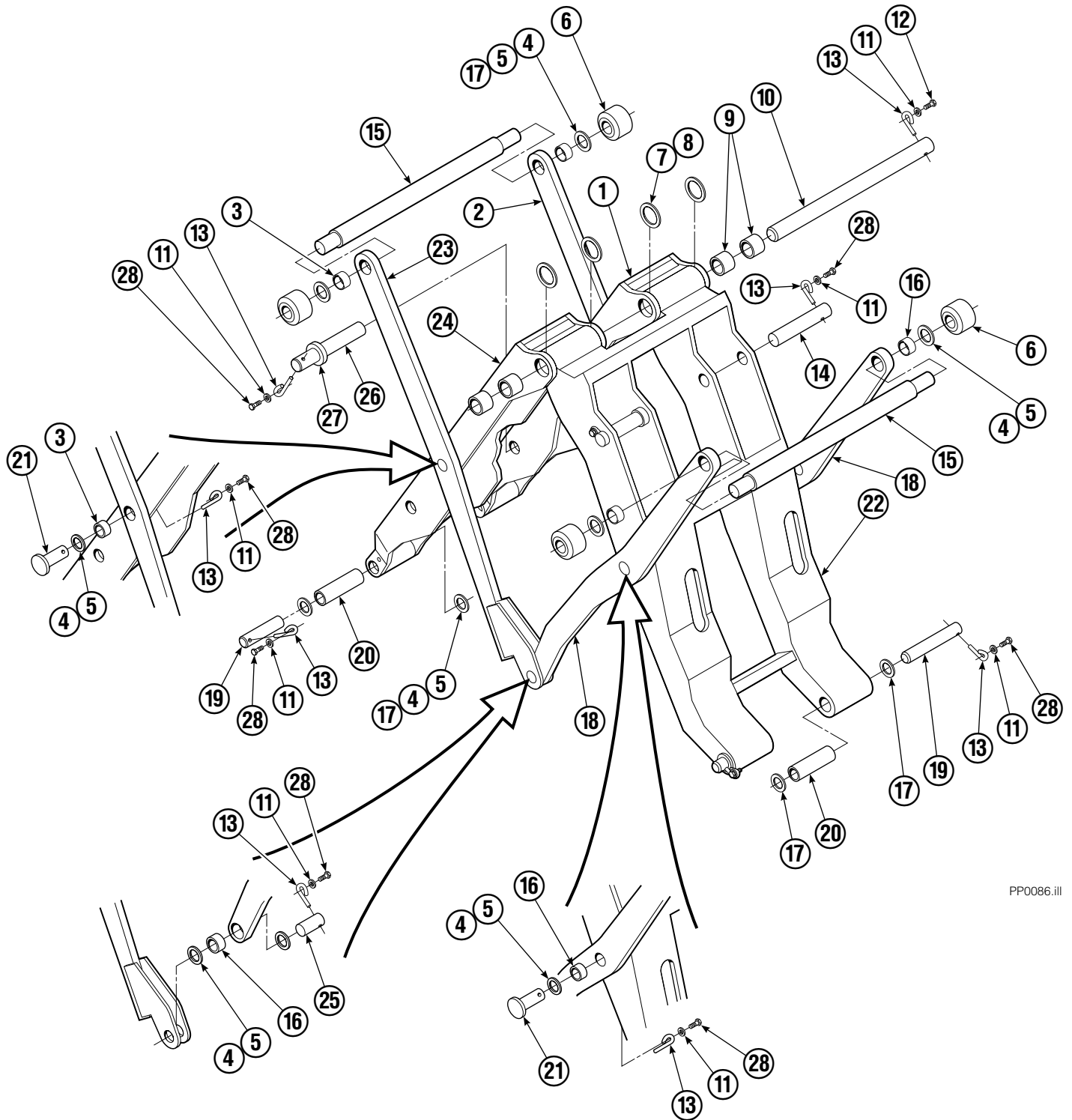
■ Included in Service Kit 553861.

# Bolt-On Lower Hook Group – ITA II



| 35E/45E |     |          |                         |
|---------|-----|----------|-------------------------|
| REF     | QTY | PART NO. | DESCRIPTION             |
|         |     | 683178   | Lower Hook Group ITA II |
| 1       | 2   | 679360   | Hook                    |
| 2       | 4   | 667225   | Washer                  |
| 3       | 4   | 779010   | Capscrew                |

# Mechanism Group



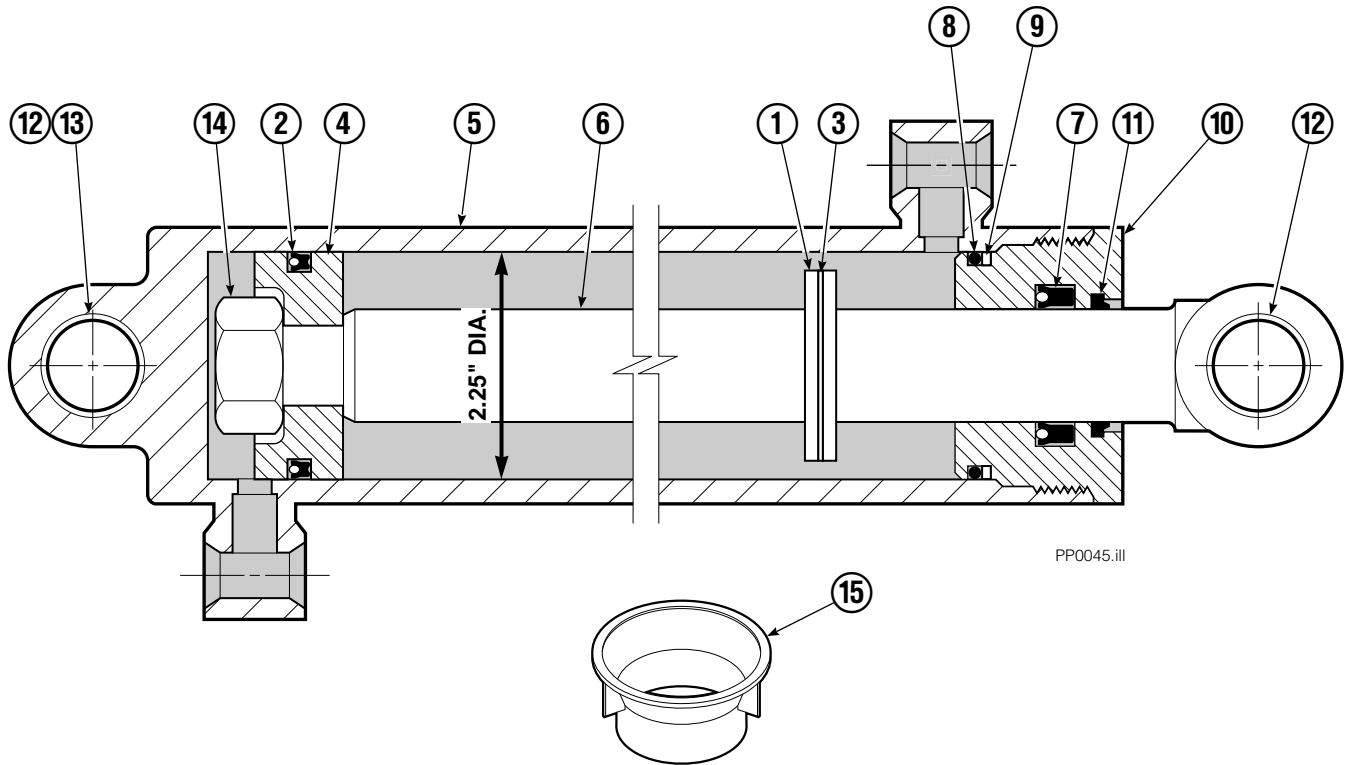
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# Mechanism Group

| 35E/45E |     |          |                           |
|---------|-----|----------|---------------------------|
| REF     | QTY | PART NO. | DESCRIPTION               |
|         |     | 204644   | Mechanism Group           |
| 1       | 1   | 204691   | Arm-Inner Secondary R. H. |
| 2       | 1   | 204692   | Arm-Secondary Outer R. H. |
| 3       | 4   | 683154   | ■ Bushing                 |
| 4       | ●   | 683161   | Shim (.030)               |
| 5       | ●   | 683162   | Shim (.060)               |
| 6       | 4   | 205070   | Roller                    |
| 7       | ●   | 683163   | Shim (.030)               |
| 8       | ●   | 683164   | Shim (.060)               |
| 9       | 4   | 683155   | ■ Bushing                 |
| 10      | 1   | 682821   | Pin                       |
| 11      | 15  | 6229     | Washer                    |
| 12      | 2   | 685661   | Capscrew                  |
| 13      | 15  | 682999   | Eye-Pin                   |
| 14      | 2   | 682822   | Pin-Head                  |
| 15      | 2   | 205065   | Pin                       |
| 16      | 6   | 683153   | ■ Bushing                 |
| 17      | ●   | 204532   | Shim (.12)                |
| 18      | 2   | 204694   | Arm-Outer Primary         |
| 19      | 4   | 204533   | Pin-Frame                 |
| 20      | 4   | 204535   | ■ Bushing                 |
| 21      | 4   | 204695   | Pin                       |
| 22      | 1   | 204604   | Arm-Inner Primary         |
| 23      | 1   | 204693   | Arm-Secondary Outer L. H. |
| 24      | 1   | 204690   | Arm-Inner Secondary L. H. |
| 25      | 2   | 204696   | Pin-Outer                 |
| 26      | 2   | 682823   | Pin-Rod                   |
| 27      | 2   | 683165   | Spacer                    |
| 28      | 13  | 767961   | Capscrew                  |

- Quantity as required.
- Included in Bushing Service Kit 205075.

# Cylinder

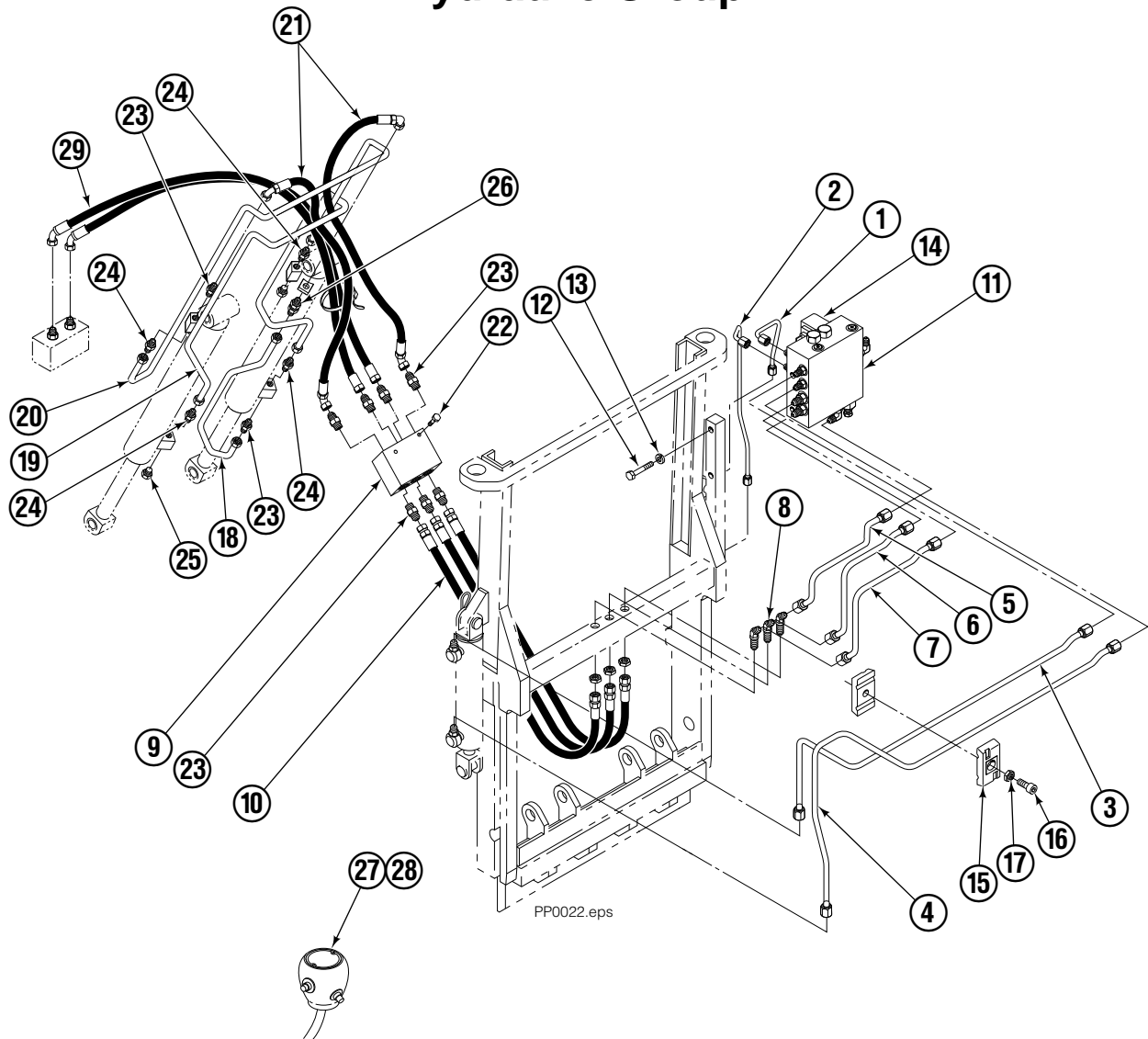


| REF | QTY | PART NO. | DESCRIPTION       |
|-----|-----|----------|-------------------|
|     |     | 582636   | Cylinder Assembly |
| 1   | 1   | ---      | Spacer            |
| 2   | 1   | 562553   | Seal ■            |
| 3   | 1   | 7348     | Snap Ring         |
| 4   | 1   | 562333   | Piston            |
| 5   | 1   | 562717   | Shell             |
| 6   | 1   | 558626   | Rod               |
| 7   | 1   | 559705   | Seal ■            |
| 8   | 1   | 2787     | O-Ring ■          |
| 9   | 1   | 615130   | Back-Up Ring ■    |
| 10  | 1   | 558628   | Retainer          |
| 11  | 1   | 636853   | Wiper ■           |
| 12  | 4   | 559697   | Bearing           |
| 13  | 1   | 559698   | Spacer            |
| 14  | 1   | 678019   | Nut               |
| 15  | 1   | 671048   | Seal Loader Kit ■ |

■ Included in Service Kit 562339.

Ref: S-3424

# Hydraulic Group



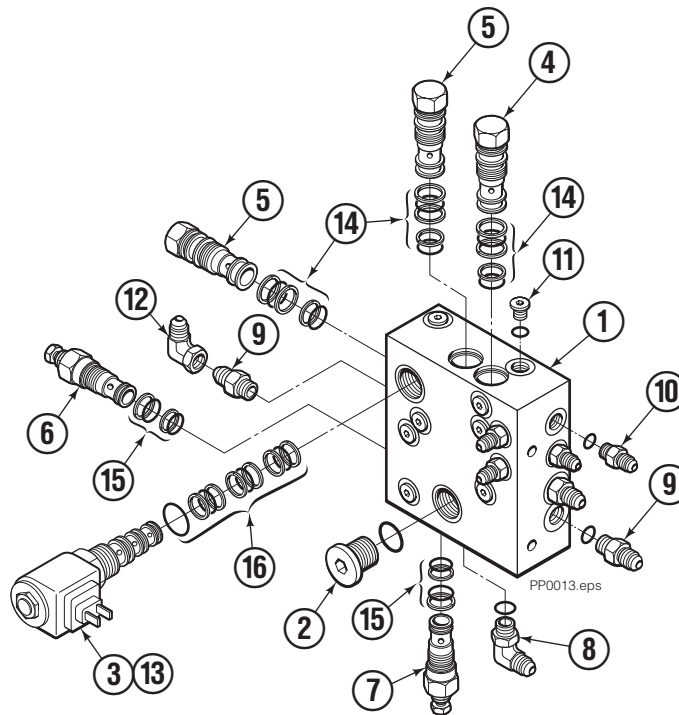
## 35E/45E

| REF | QTY | PART NO. | DESCRIPTION                       | REF | QTY | PART NO. | DESCRIPTION              |
|-----|-----|----------|-----------------------------------|-----|-----|----------|--------------------------|
|     |     | 206940   | Hydraulic Group (without gripper) | 15  | 2   | 207041   | Clamp                    |
| 1   | 1   | 206931   | Tube                              | 16  | 1   | 768794   | Capscrew                 |
| 2   | 1   | 206932   | Tube                              | 17  | 1   | 767414   | Nut                      |
| 3   | 1   | 206933   | Tube                              | 18  | 1   | 200647   | Tube                     |
| 4   | 1   | 206934   | Tube                              | 19  | 1   | 200648   | Tube                     |
| 5   | 1   | 206935   | Tube                              | 20  | 1   | 200649   | Tube                     |
| 6   | 1   | 206936   | Tube                              | 21  | 2   | 683173   | Hose                     |
| 7   | 1   | 206937   | Tube                              | 22  | 2   | 765329   | Capscrew                 |
| 8   | 3   | 2492     | Fitting, 6-6                      | 23  | 7   | 604511   | Fitting, 6-6             |
| 9   | 1   | 206927   | Junction Block                    | 24  | 4   | 605235   | Fitting, 5-6             |
| 10  | 3   | 685981   | Hose                              | 25  | 2   | 604510   | Fitting, 6               |
| 11  | 1   | 206942   | ■ Valve (without gripper)         | 26  | 1   | 2375     | Fitting, 6-6             |
| 12  | 2   | 768525   | Capscrew                          | 28  | 1   | 206939   | ● Knob (without gripper) |
| 13  | 2   | 686119   | Washer                            | 29  | 1   | 685831   | Hose                     |
| 14  | 1   | 669432   | Diode (without gripper)           |     |     |          |                          |

- See Valve page for parts breakdown.
- See Knob page for parts breakdown.

# Valve

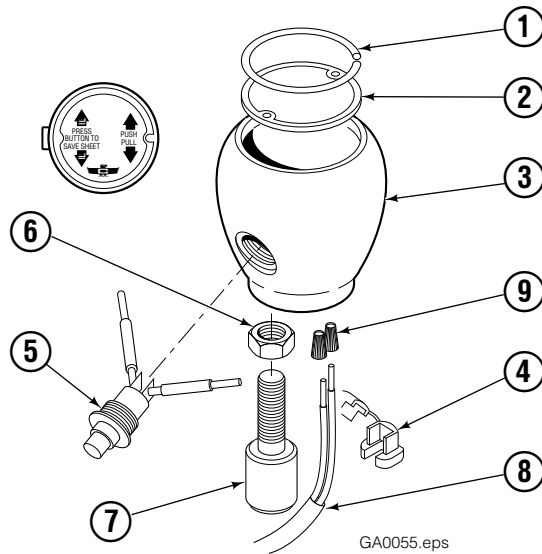
## Without Independent Gripper Control



| <b>35E/45E</b> |     |               |                |
|----------------|-----|---------------|----------------|
| REF            | QTY | PART NO.      | DESCRIPTION    |
|                |     | 206942        | Valve Assembly |
| 1              | 1   | 206943        | Valve Body     |
| 2              | 1   | 609453        | Fitting, 10    |
| 3              | 1   | 206991        | Solenoid Valve |
| 4              | 1   | 206944        | Check Valve    |
| 5              | 2   | 659058        | Check Valve    |
| 6              | 1   | 677125        | Relief Valve   |
| 7              | 1   | 677124        | Relief Valve   |
| 8              | 2   | 601676        | Fitting, 6-6   |
| 9              | 3   | 604511        | Fitting, 6-6   |
| 10             | 4   | 617915        | Fitting, 4-4   |
| 11             | 12  | 609234        | Fitting, 4     |
| 12             | 1   | 2680          | Fitting, 6-6   |
| 13             | 1   | <b>206995</b> | Coil - 12V     |
| 13             | 1   | 206996        | Coil - 24V     |
| 13             | 1   | 206997        | Coil - 36V     |
| 13             | 1   | 206998        | Coil - 48V     |
| 14             | 3   | 667516        | Service Kit    |
| 15             | 2   | 669597        | Service Kit    |
| 16             | 1   | 667379        | Service Kit    |

# Control Knob

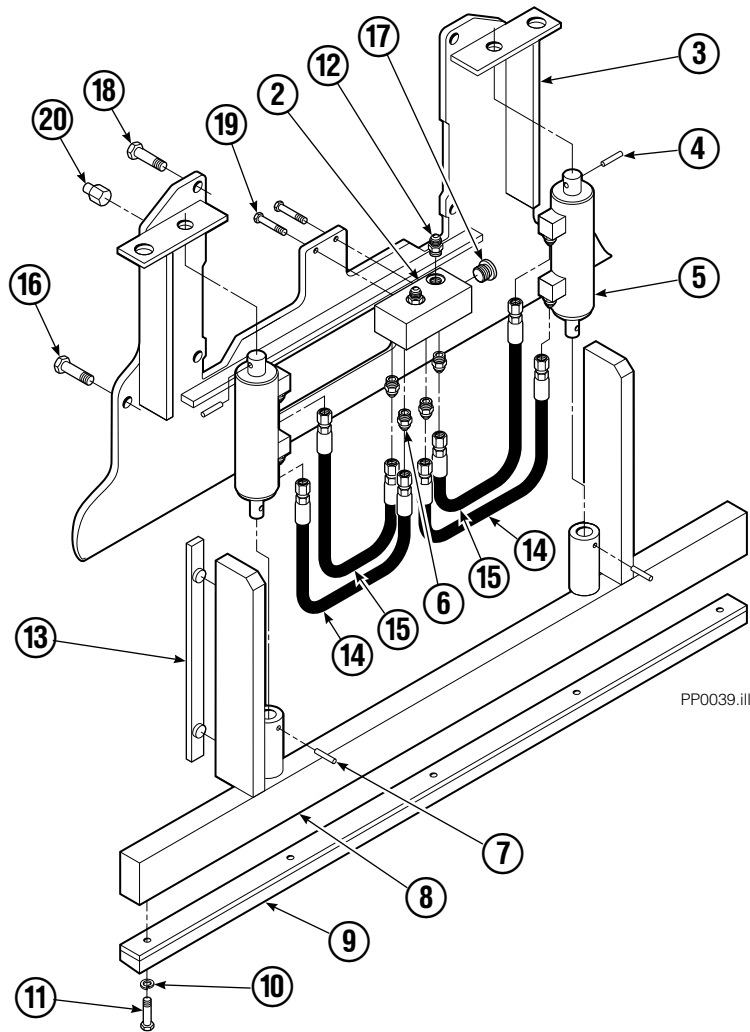
## Without Gripper Control



| 35E/45E |     |          |                |
|---------|-----|----------|----------------|
| REF     | QTY | PART NO. | DESCRIPTION    |
|         |     | 206939   | Knob Group     |
| 1       | 1   | 665250   | Snap Ring      |
| 2       | 1   | 206986   | Cover          |
| 3       | 1   | 667012   | Knob           |
| 4       | 1   | 665076   | Strain Relief  |
| 5       | 1   | 677112   | ■ Switch       |
| 6       | 1   | 5902     | Nut, 3/8 NC    |
| 7       | 1   | 665081   | Adapter        |
| 8       | 1   | 667718   | Cable Assembly |
| 9       | 2   | 667752   | Connector-Gray |

■ This switch may be purchased without wires. Order part number 665004. Soldering is required.

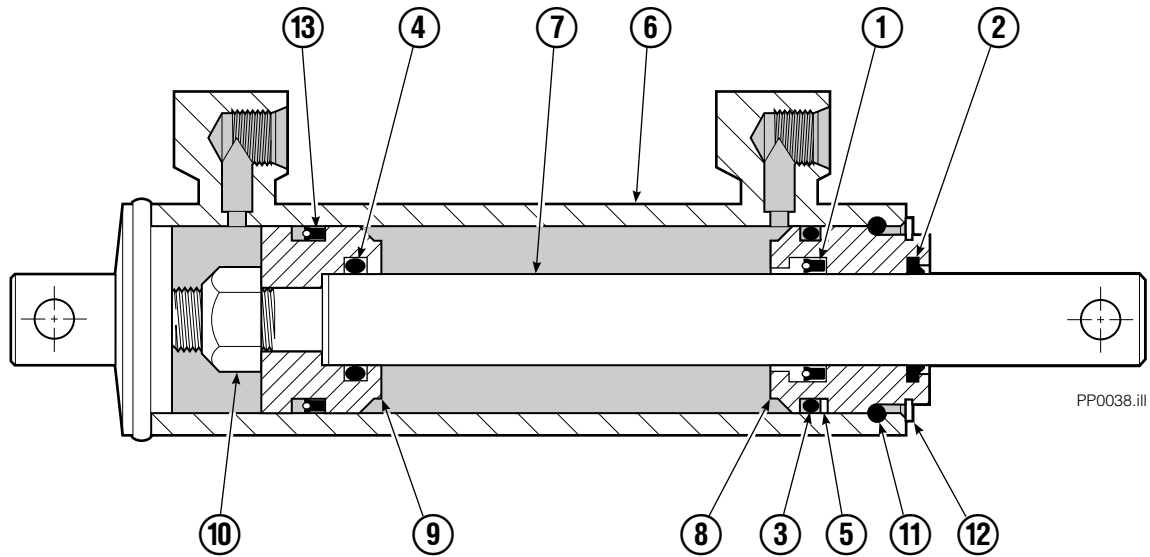
# Faceplate Group



| 35E/45E |     |          |                             |     |     |          |                          |
|---------|-----|----------|-----------------------------|-----|-----|----------|--------------------------|
| REF     | QTY | PART NO. | DESCRIPTION                 | REF | QTY | PART NO. | DESCRIPTION              |
|         |     | 205970   | Faceplate Group 40" x 40" ■ | 10  | 5   | 6444     | Lockwasher               |
|         |     | 205963   | Gripper Jaw Assembly ●      | 11  | 5   | 768794   | Capscrew, M8x1,25x20-8.8 |
| 1       | 1   | 204634   | Faceplate 40" x 40" ■       | 12  | 2   | 604511   | Fitting, 6-6             |
| 2       | 1   | 205959   | Junction Block              | 13  | 2   | 686573   | Bearing                  |
| 3       | 1   | 206396   | Gripper Jaw                 | 14  | 2   | 205957   | Hose                     |
| 4       | 2   | 673385   | Drive Pin                   | 15  | 2   | 205958   | Hose                     |
| 5       | 2   | 682844   | Gripper Cylinder ▼          | 16  | 2   | 768710   | Capscrew                 |
| 6       | 8   | 617915   | Fitting, 4-4                | 17  | 2   | 609234   | Plug, 4                  |
| 7       | 2   | 200877   | Drive Pin                   | 18  | 4   | 779010   | Capscrew                 |
| 8       | 1   | 206403   | Gripper Bar                 | 19  | 2   | 763166   | Capscrew, M8x1,25x25-8.8 |
| 9       | 1   | 672712   | Gripper Pad                 | 20  | 4   | ---      | Stop                     |

- Width x height.
- Includes items 2 through 20.
- ▼ See Gripper Cylinder page for parts breakdown.

# Gripper Cylinder



PP0038.iii

| 35E/45E |     |          |                  |
|---------|-----|----------|------------------|
| REF     | QTY | PART NO. | DESCRIPTION      |
|         |     | 682844   | Gripper Cylinder |
| ▼ 1     | 1   | 646540   | Seal             |
| ▼ 2     | 1   | 636850   | Wiper            |
| ▼ 3     | 1   | 2718     | O-Ring           |
| ▼ 4     | 1   | 2710     | O-Ring           |
| ▼ 5     | 1   | 615122   | Back-Up Ring     |
| 6       | 1   | 685662   | Shell            |
| 7       | 1   | 685663   | Rod              |
| 8       | 1   | 685664   | Retainer         |
| 9       | 1   | 685665   | Piston           |
| 10      | 1   | 563462   | Nut              |
| 11      | 1   | 563916   | Ring             |
| 12      | 1   | 684284   | Snap Ring        |
| ▼ 13    | 1   | 663728   | Piston Seal      |

▼ Included in Service Kit 684827.



**Do you have questions you need answered right now?** Call your nearest Cascade Parts Department.

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