



**MODEL EF  
Full Circle  
Tire Spreader**

Installation, Operation  
& Repair Parts  
Information



Branick Industries, Inc. • 4245 Main Avenue • Fargo, North Dakota 58103

## **CAUTION**

- ◆ **Before using this product, read and fully understand the operating instructions and all decals on the product. This is necessary to prevent injury to the operator and damage to the product.**
- ◆ **This product is intended to be used to spread tire casings for inspection and/or repair only.**
- ◆ **Keep fingers and hands clear of all hooks and mechanisms during operation.**
- ◆ **Do not use this product if it is visibly worn, distorted or damaged.**
- ◆ **Always wear appropriate eye protection.**

## **WARNING**

- ◆ **Keep feet clear of the tire lift when raising and lowering tire.**
- ◆ **All personnel must be clear of the spread arms during operation.**

## **INSTALLATION**

- 1) Position the Model eF on a solid level floor leaving a minimum of 12 inches of clearance from rear and 24 inches of clearance from sides. The eF can be bolted down if desired using the four holes in bottom of frame.
- 2) Install the light post in socket on the top of cylinder housing and lock in place with set screw. Hang the light fixture assembly on the light post as shown on the cover of this manual. Lock in place with tee set screw. Cable tie the power cord to the light post and plug in to outlet on frame column.
- 3) Attach the loose spread arm spring to spread arm. Refer to the other spread arm for proper spring location.
- 4) Attach the lift cradle to the lower lift arms.
- 5) Install a 1/4 NPT quick coupler nipple (not provided) into the air filter located on frame column. Use 1/4 inch air hose with 100 p.s.i. minimum.

## **OPERATION**

- 1) Roll tire onto lift cradle, and while balancing the tire with hands, step on left foot valve to raise tire just above inner bead hooks. Release lift valve to allow cradle to lower to floor and tire hanging on inner bead hooks.

- 2) While keeping tire on inner bead hooks, step on center foot valve to spread and fully engage all four hooks on inner bead of tire.
- 3) Grasp both outer bead hook arms by the handles and pull to center of tire. Push forward and allow bead hooks to engage outer bead of tire. **Make certain all hooks are securely engaged with tire beads before spreading tire.**
- 4) To spread the tire, step on right foot valve to obtain desired spread. Tire can now be rotated and inspected.

## **WARNING**

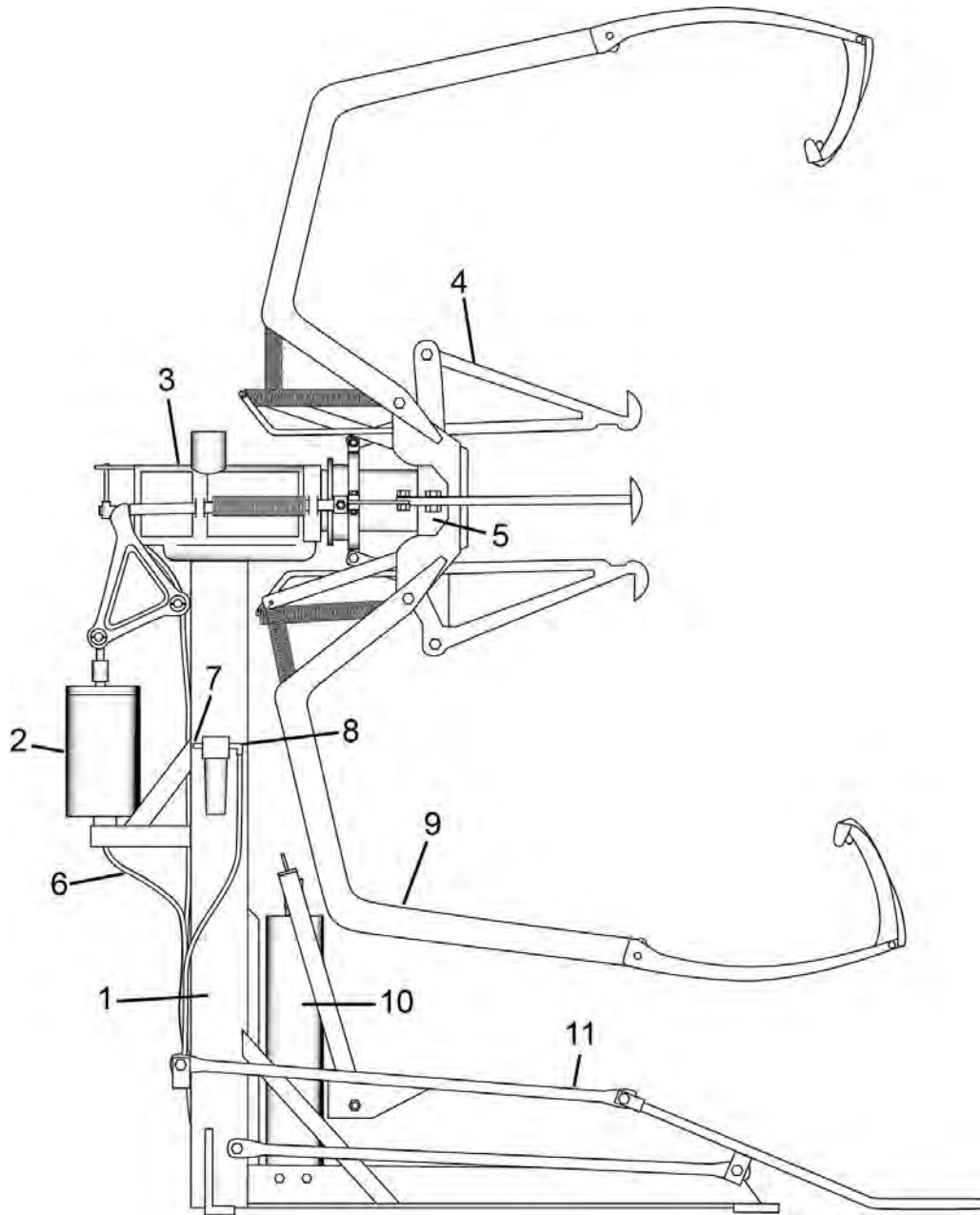
- ◆ **Do not release the inner bead hooks (center valve) until the outer bead hooks have been released (right valve) and removed from tire.**

- 5) To remove tire, release spread arm control valve (right valve) and remove outer bead hook.
- 6) Release pressure on inner bead hooks by stepping on diameter control valve (center valve).
- 7) With tire hanging on inner hooks, raise lift cradle (left valve) up to contact tire. While holding onto tire, raise tire slightly above inner bead hooks and lean tire outward and release pressure on lift valve to lower tire to floor.

## ***MAINTENANCE***

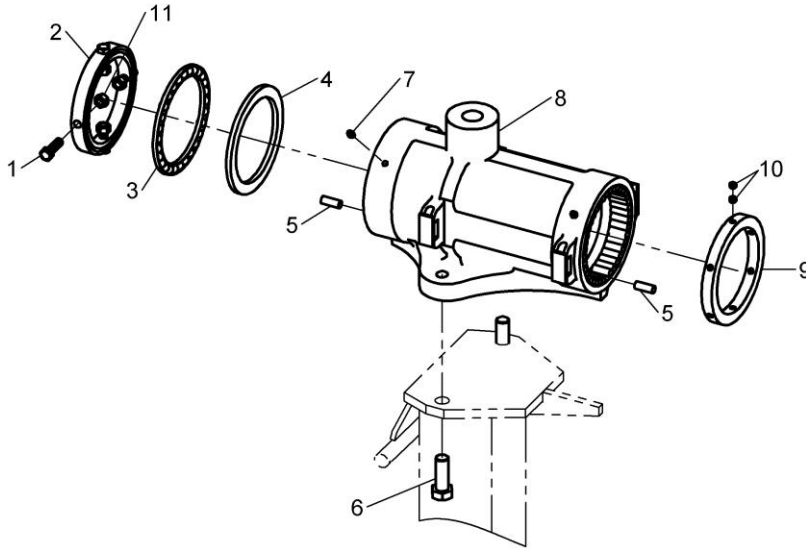
- MONTHLY** – Put a few ounces of 10 or 20 weight oil in all cylinders.  
Lubricate all moving parts (bolts, hinges, rollers, etc.) with a lubricating oil.  
Grease cylinder bearings through the grease zerk fittings. Apply some grease to the races of the bearings also.

## Repair Parts Information



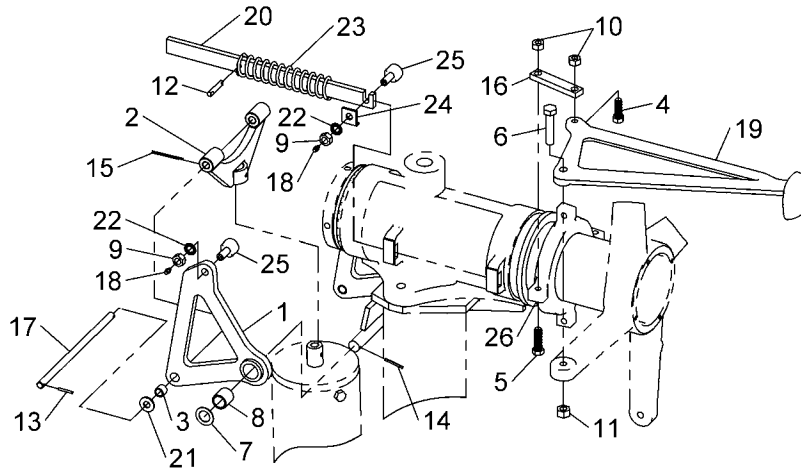
### MODEL EF GENERAL ASSEMBLY

| ITEM | QTY | P/N     | DESCRIPTION                    | PAGE |
|------|-----|---------|--------------------------------|------|
| 1    | 1   | 900-003 | Base and Column                | 3    |
| 2    | 1   | 900-043 | Diameter Arm Cylinder Assembly | 5    |
| 3    | 1   | 900-009 | Housing Assembly               | 4    |
| 4    |     |         | Diameter Arm and Linkage       | 4    |
| 5    | 1   | 900-020 | Spread Cylinder Assembly       | 5    |
| 6    | 1   | D20-007 | 1/4" Air Line                  | 3    |
| 7    | 1   | 096-170 | 1/4" Trifflate Nipple          | 3    |
| 8    | 1   | 096-342 | 1/4" x 1/4" Male Elbow         | 3    |
| 9    |     |         | Spread Arm Components          | 6    |
| 10   | 1   | 900-008 | Lift Cylinder Assembly         | 7    |
| 11   |     |         | Lift Cradle and Linkage        | 7    |
|      |     |         | Pneumatics                     | 8    |



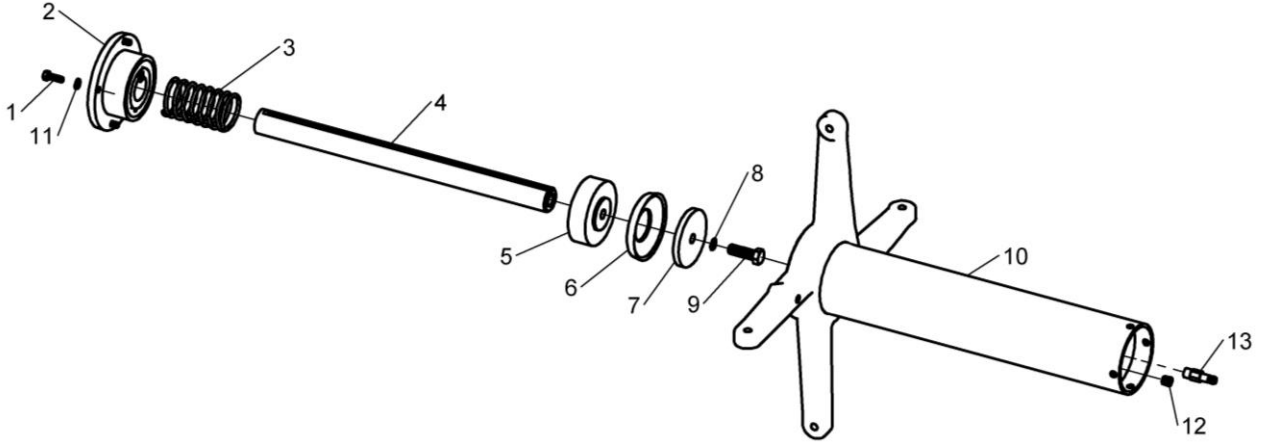
### 900-009 Housing Assembly

| ITEM | QTY | P/N     | DESCRIPTION                           | ITEM | QTY | P/N     | DESCRIPTION                   |
|------|-----|---------|---------------------------------------|------|-----|---------|-------------------------------|
| 1    | 4   | 028-046 | 3/8" x 16 x 1 1/4" Hex Head Cap Screw | 7    | 2   | 096-008 | 1/4" Grease Zerk              |
| 2    | 1   | 107-001 | Rear Collar Ball Race                 | 8    | 1   | 950-027 | Housing                       |
| 3    | 1   | 107-004 | Ball Thrust Bearing                   | 9    | 1   | 107-003 | Front Collar                  |
| 4    | 1   | 107-002 | Inner Ball Race                       | 10   | 12  | 028-004 | 5/16" x 1/4" Socket Set Screw |
| 5    | 80  | 281-001 | Bearing Roller                        | 11   | 4   | 055-210 | 3/8" Hex Locknut              |
| 6    | 2   | 028-016 | 5/8" x 1 3/4" Hex Head Cap Screw      |      |     |         |                               |



### Diameter Arms and Linkage

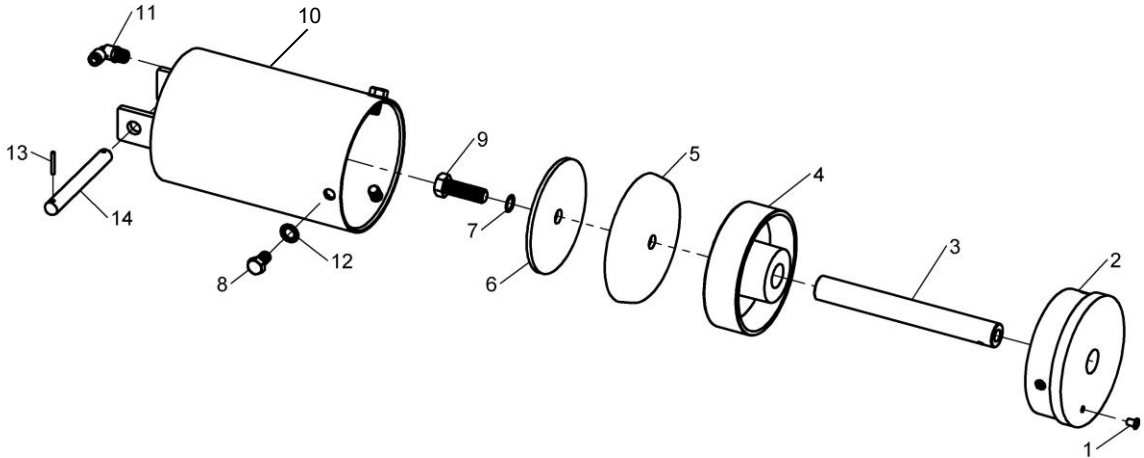
| ITEM | QTY | P/N     | DESCRIPTION                   | ITEM | QTY | P/N     | DESCRIPTION                  |
|------|-----|---------|-------------------------------|------|-----|---------|------------------------------|
| 1    | 2   | 03-0635 | Bell Crank                    | 14   | 2   | 061-006 | 1/8" X 1-1/4" Spring Pin     |
| 2    | 1   | 267-001 | Diameter Cylinder Connector   | 15   | 1   | 061-166 | Cotter Pin                   |
| 3    | 2   | 20-0055 | 7/16" Sleeve Bearing          | 16   | 4   | 062-001 | Diameter Arm Connecting Link |
| 4    | 4   | 028-007 | 7/16" X 1-1/4" Hex Head Screw | 17   | 1   | 73-1141 | Pivot Shaft                  |
| 5    | 4   | 028-008 | 7/16" X 1-1/2" Hex Head Screw | 18   | 4   | 096-010 | 3/16" Grease Zerk            |
| 6    | 4   | 028-023 | 1/2" X 2-1/4" Hex Head Screw  | 19   | 4   | 103-007 | Diameter Arm                 |
| 7    | 2   | 039-002 | 3/4" Machine Bushing          | 20   | 2   | 104-003 | Slide Bar                    |
| 8    | 2   | 039-043 | 3/4" Sleeve Bearing           | 21   | 2   | 108-126 | 3/8" Washer                  |
| 9    | 4   | 51-0057 | 7/16" - 20 Nut                | 22   | 4   | 108-038 | 7/16" Internal Tooth Washer  |
| 10   | 8   | 055-058 | 7/16" - 14 Bi-Way Lock Nut    | 23   | 2   | 110-002 | Slide Bar Spring             |
| 11   | 4   | 055-021 | 1/2" - 13 Bi-Way Lock Nut     | 24   | 2   | 111-024 | Arm Bracket                  |
| 12   | 2   | 061-004 | Slide Bar Pin                 | 25   | 4   | 281-002 | Cam Roller                   |
| 13   | 2   | 061-005 | 1/8" X 1" Spring Pin          | 26   | 1   | 489-001 | Sliding Collar               |



**900-020 Spread Cylinder Assembly**

| ITEM | QTY | P/N     | DESCRIPTION                   | ITEM | QTY | P/N     | DESCRIPTION                       |
|------|-----|---------|-------------------------------|------|-----|---------|-----------------------------------|
| 1    | 4   | 028-014 | 5/16" x 1" Hex Head Cap Screw | 8    | 1   | 167-240 | 14 mm Gasket                      |
| 2    | 1   | 950-029 | Cover Plate                   | 9    | 1   | 028-013 | 9/16" x 1 3/4" Hex Head Cap Screw |
| 3    | 1   | 110-003 | Spring                        | 10   | 1   | 950-023 | Spread Arm Cylinder               |
| 4    | 1   | 149-005 | Piston Rod                    | 11   | 4   | 108-067 | 5/16" Shakeproof Washer           |
| 5    | 1   | 051-005 | 4" Diameter Spread Piston     | 12   | 1   | 096-004 | 1/4" Oil Plug                     |
| 6    | 1   | 041-007 | Piston Cup                    | 13   | 1   | 096-170 | 1/4" Trueflate Nipple             |
| 7    | 1   | 108-010 | Piston Cup Follower           |      |     | 643-135 | 1.038 Rotary Union Kit            |

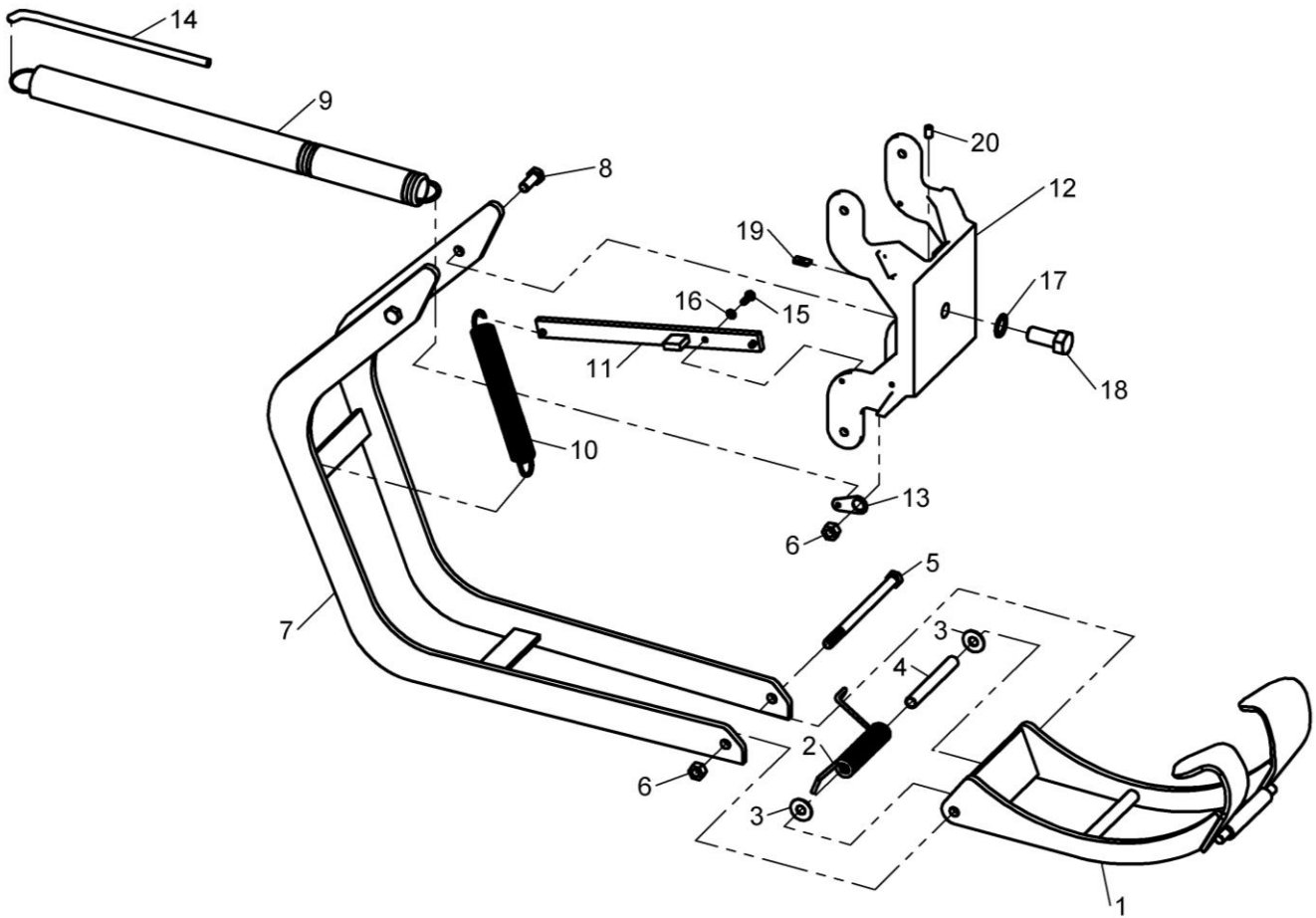
\* Items not included in 900-020 Spread Cylinder Assembly



**900-043 Diameter Arm Cylinder Assembly**

| ITEM | QTY | P/N     | DESCRIPTION               | ITEM | QTY | P/N     | DESCRIPTION                       |
|------|-----|---------|---------------------------|------|-----|---------|-----------------------------------|
| 1    | 1   | 006-004 | #1 Cap Plug               | 8    | 3   | 028-005 | 7/16" x 3/4" Hex Head Cap Screw   |
| 2    | 1   | 264-001 | Cylinder Head             | 9    | 1   | 028-013 | 9/16" x 1 3/4" Hex Head Cap Screw |
| 3    | 1   | 104-002 | Piston Rod                | 10   | 1   | 950-064 | Diameter Arm Cylinder             |
| 4    | 1   | 051-016 | 5 1/4" Diameter Piston    | 11   | 1   | 096-342 | 1/4" x 1/4" Male Elbow            |
| 5    | 1   | 041-009 | Piston Cup                | 12   | 3   | 108-038 | 7/16" Shakeproof Washer           |
| 6    | 1   | 101-033 | Piston Cup Follower Plate | 13   | 2   | 061-005 | 1/8" x 1" Drive Pin               |
| 7    | 1   | 167-240 | 14 mm Gasket              | 14   | 1   | 149-020 | Diameter Cylinder Pin             |

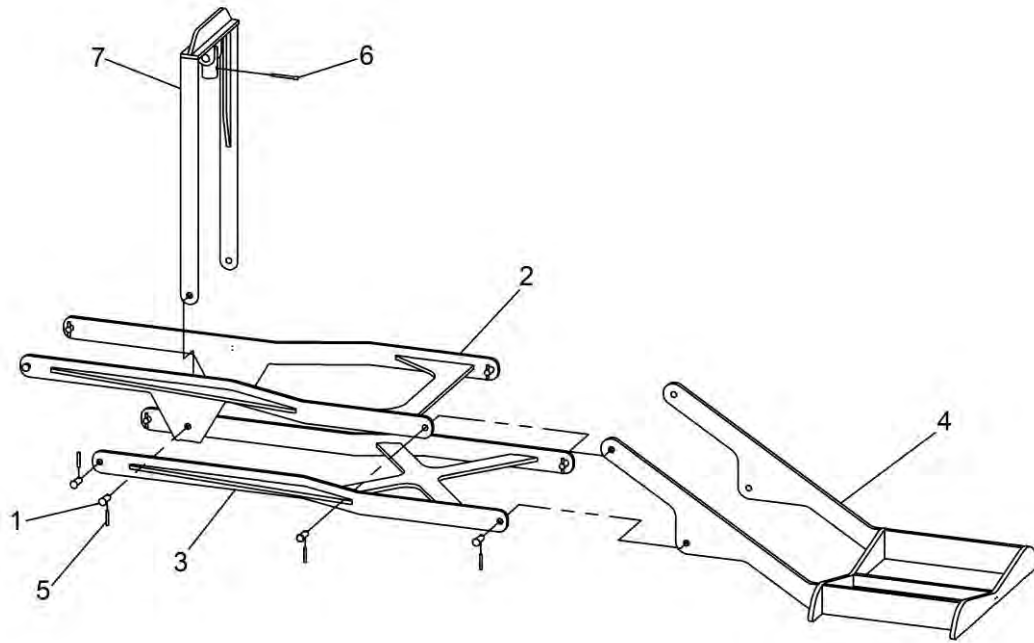
\* Items not included in 900-043 Diameter Arm Cylinder Assembly



### Spread Arm Components

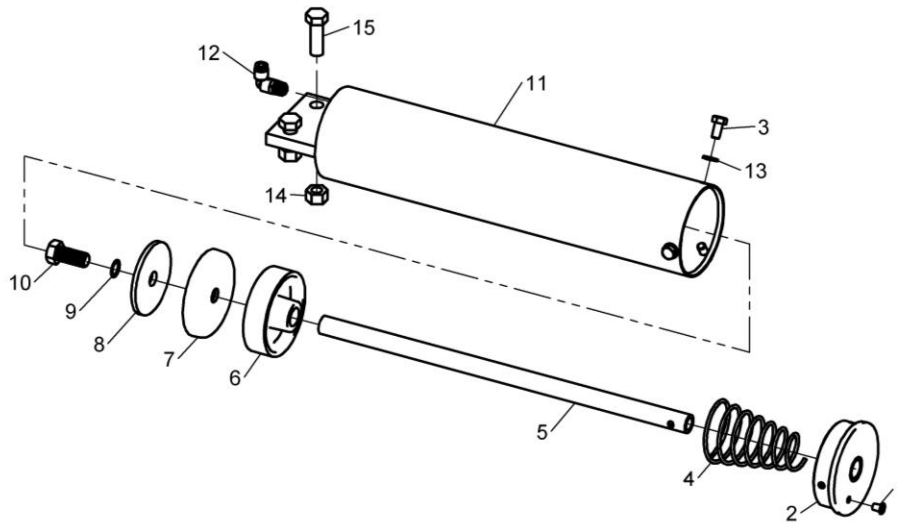
| ITEM | QTY | P/N     | DESCRIPTION                      | ITEM | QTY | P/N     | DESCRIPTION                      |
|------|-----|---------|----------------------------------|------|-----|---------|----------------------------------|
| 1    | 1*  | 950-020 | Bead Hook                        | 11   | 1*  | 950-017 | Spring Bar                       |
| 2    | 1*  | 110-006 | Bead Hook Spring                 | 12   | 1   | 264-002 | Extension Head                   |
| 3    | 2*  | 108-144 | 1/2" Fiber Washer                | 13   | 1*  | 017-005 | Return Spring Clip               |
| 4    | 1*  | 446-004 | Spring Sleeve                    | 14   | 1*  | 149-015 | Return Spring Rod                |
| 5    | 1*  | 242-003 | 1/2" x 7 1/2" Machine Bolt       | 15   | 2*  | 028-010 | 1/4" x 3/4" Hex Head Cap Screw   |
| 6    | 3*  | 055-058 | 1/2" Hex Head Lock Nut           | 16   | 2*  | 108-008 | 1/4" Shakeproof Washer           |
| 7    | 1*  | 900-018 | Spread Arm                       | 17   | 1   | 108-007 | 3/4" Shakeproof Washer           |
| 8    | 2*  | 028-034 | 1/2" x 1 1/4" Hex Head Cap Screw | 18   | 1   | 028-009 | 3/4" x 1 3/4" Hex Head Cap Screw |
| 9    | 1*  | 110-004 | Extension Head Return Spring     | 19   | 1   | 101-019 | 3/16" x 3/8" x 7/8" Detent Plate |
| 10   | 1*  | 110-005 | Spread Arm Spring                | 20   | 1   | 028-223 | 3/8" x 5/8" Socket Set Screw     |

\* Quantity shown for these parts is for one (1) spread arm. If servicing both spread arms double quantities.



### Lift Cradle and Linkage

| ITEM | QTY | P/N     | DESCRIPTION      | ITEM | QTY | P/N     | DESCRIPTION        |
|------|-----|---------|------------------|------|-----|---------|--------------------|
| 1    | 10  | 003-001 | Flat Head Rivet  | 5    | 10  | 061-009 | Spring Pin         |
| 2    | 1   | 03-0649 | Upper Cradle Arm | 6    | 1   | 061-013 | 5/32 x 1.75 Cotter |
| 3    | 1   | 03-0650 | Lower Cradle Arm | 7    | 1   | 950-011 | Yoke Assembly      |
| 4    | 1   | 03-0651 | Tire Cradle      |      |     |         |                    |

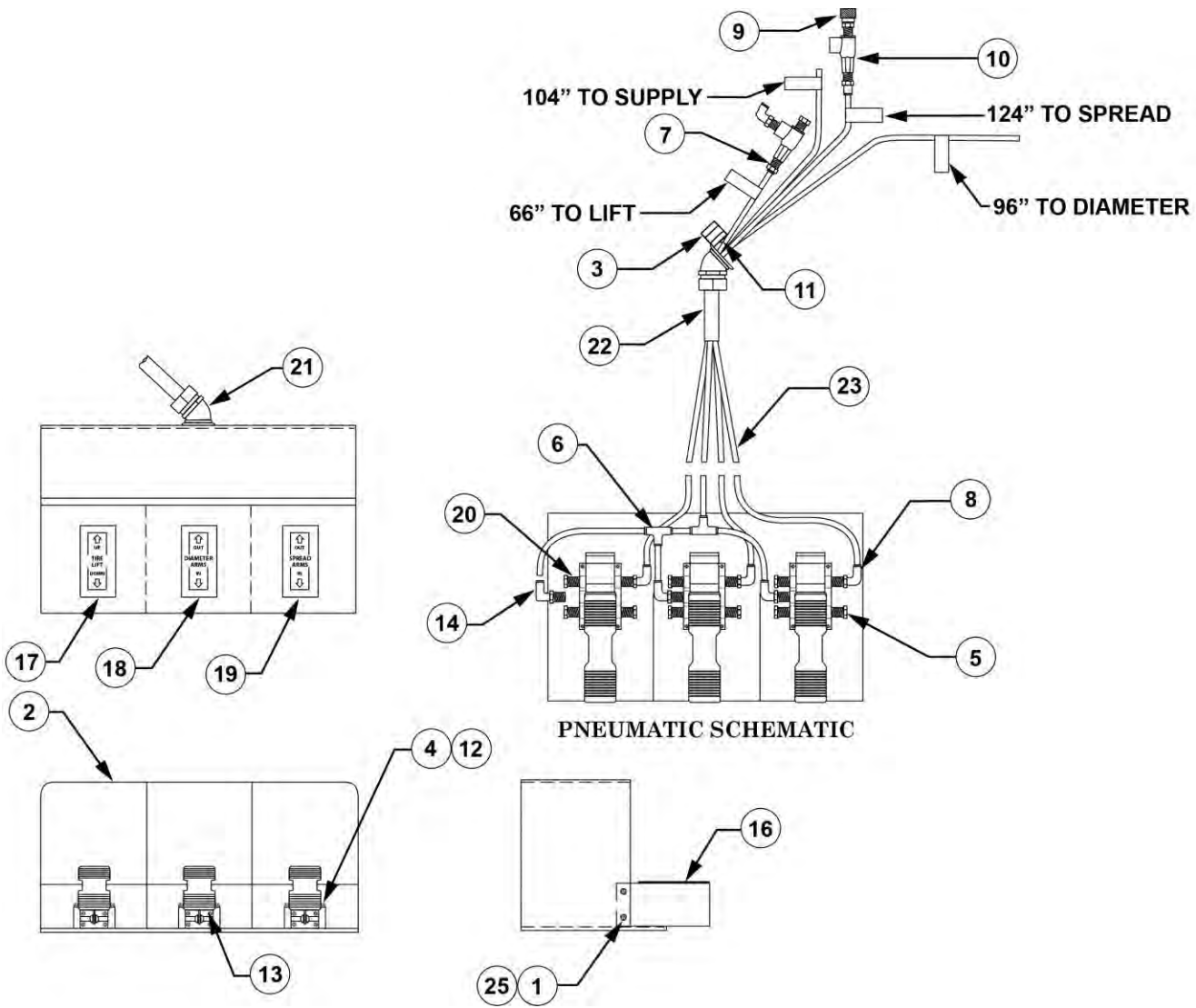


### 900-008 Lift Cylinder Assembly

| ITEM | QTY | P/N     | DESCRIPTION                     | ITEM | QTY | P/N     | DESCRIPTION                       |
|------|-----|---------|---------------------------------|------|-----|---------|-----------------------------------|
| 1    | 1   | 006-004 | #1 Cap Plug                     | 9    | 1   | 167-240 | 14 mm Gasket                      |
| 2    | 1   | 925-003 | Cylinder End Cap with Bushing   | 10   | 1   | 028-239 | 9/16" x 1 1/4" Hex Head Cap Screw |
| 3    | 3   | 028-002 | 5/16" x 5/8" Hex Head Cap Screw | 11   | 1   | 950-013 | Lift Cylinder                     |
| 4    | 1   | 110-007 | Lift Cylinder Spring            | 12   | 1   | 096-342 | 1/4" x 1/4" Male Elbow            |
| 5    | 1   | 149-003 | Piston Rod                      | 13   | 1   | D20-007 | 1/4" x 60" Impolene Air Line      |
| 6    | 1   | 051-023 | 3 1/2" Diameter Lift Piston     | 14   | 2   | 055-058 | 1/2" Hex Head Lock Nut            |
| 7    | 1   | 041-015 | Piston Cup                      | 15   | 2   | 028-025 | 1/2" x 1 1/2" Hex Head Cap Screw  |
| 8    | 1   | 108-032 | Piston Cup Washer               |      |     |         |                                   |

\* Items not included in 900-008 Lift Cylinder Assembly





**05-0009 PNEUMATICS ASSEMBLY**

| ITEM | QTY  | P/N     | DESCRIPTION                        |
|------|------|---------|------------------------------------|
| 1    | 4    | 50-0090 | #8-32 X 3/8" Tapping Screw         |
| 2    | 1    | 03-0048 | Foot Valve Guard Weldment          |
| 3    | 1    | 03-0052 | Fitting Mount Weldment             |
| 4    | 12   | 055-082 | #8-32 Nylon Lock Nut               |
| 5    | 6    | 096-004 | 1/4" NPT Hex Plug                  |
| 6    | 2    | 096-339 | 1/4" Tube Union Tee                |
| 7    | 1    | 096-340 | 1/4" NPT Male Fitting              |
| 8    | 7    | 096-342 | 1/4" Male Elbow                    |
| 9    | 1    | 60-0149 | 1/4" Male Quick Coupler            |
| 10   | 2    | 190-085 | Quick Exhaust Valve                |
| 11   | 1    | 50-0006 | 5/16-18 x 3/8" Set Screw           |
| 12   | 12   | 50-0041 | #8-32 x 1" Flat Head Machine Screw |
| 13   | 3    | 60-0009 | Treadle Valve                      |
| 14   | 1    | 60-0010 | 1/4" NPT Swivel x 1/4" Tube Elbow  |
| 15   | 1    | 72-0021 | Airline Guard                      |
| 16   | 1    | 80-0031 | Tire Lift Decal                    |
| 17   | 1    | 80-0032 | Diameter Arms Decal                |
| 18   | 1    | 80-0033 | Spread Arms Decal                  |
| 19   | 5    | 885-035 | Valve Muffler                      |
| 20   | 2    | 980-085 | 3/4" x 45" Conduit                 |
| 21   | 1    | B40-003 | 3/4" Flex Conduit                  |
| 22   | 400" | D20-007 | 1/4" OD Plastic Tube               |
| 23   | 4    | 52-0006 | Internal Tooth Star Washer         |

**Notes:**

**Notes:**

## COMMERCIAL WARRANTY

This product is warranted by BRANICK INDUSTRIES, INC. to the original user-owner against defective materials or workmanship for a period of one year from the date of shipment. During the warranty period, at the discretion of Branick management, if the product is found to be defective, it will be repaired or replaced without charge. For service, contact Branick (800-437-4394) to obtain an RMA. Any product shipped to Branick must have an RMA and proof of original shipment date. The repaired or replacement product will be returned with transportation charges prepaid by Branick.

This warranty does not cover defects in the product caused by ordinary wear and tear, abuse, misuse, overloading, accident (including shipping damage), improper maintenance, alteration, or any other cause not the result of defective materials or workmanship.

REPAIR OR REPLACEMENT IS THE EXCLUSIVE REMEDY FOR DEFECTIVE PRODUCT UNDER THIS WARRANTY. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANT ABILITY OR ANY IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE OF THIS PRODUCT. BRANICK INDUSTRIES, INC. SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES.

BRANICK INDUSTRIES, INC. reserves the right to make changes in the design or construction of our products without obligation to incorporate such changes in products already sold and without notice.

Service parts and regular repair service are available from authorized distributors of Branick products, or from:

BRANICK INDUSTRIES, INC.  
4245 Main Ave.  
Fargo, North Dakota 58103  
Toll Free: 800-437-4394



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