

# PARTS MANUAL

Starke EcoMaxx Series

ECO-FG/FD 10-18

Rev 02/2017



## STARKE MATERIAL HANDLING GROUP

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**STARKE**  
ECOMAXX

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# FOREWORD

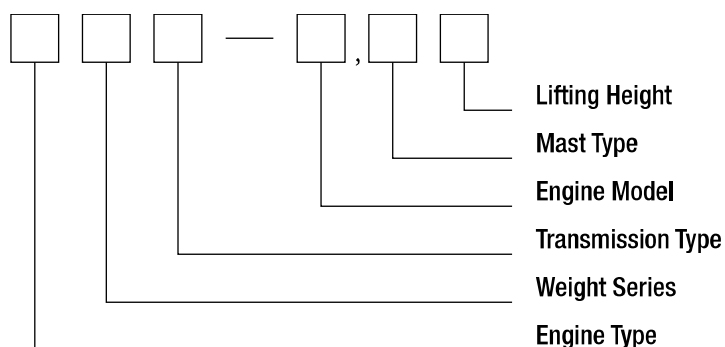
This manual contains parts and components for all Stärke EcoMaxx 2000-3500 pound (1.0-1.8 ton) forklifts, models ECO-FD/FG 18 with pneumatic tires.

The contents of this manual can be updated at any time at the discretion of the manufacturer. In the event of modifications, part numbers may change and manuals altered, resulting in the issuance of a new edition.

For the best possible customer service when ordering parts please have the make, model and serial number of the unit for which the part is required. As well as the part name, and quantity required.

This manual is the outcome of diligent continuous improvement, should you find errors or omissions in this manual please report them to Stärke Material Handling Group for correction in upcoming additions.

## UNDERSTANDING SPECIFIC MODEL NUMBERS



|                   | CODE         | TRANSLATION               |
|-------------------|--------------|---------------------------|
| Lifting Height    | 200          | 2.0 Meters / 78.0 Inches  |
|                   | 300          | 3.0 Meters / 118.0 Inches |
|                   | 350          | 3.5 Meters / 138.0 Inches |
| Mast Type         | Z            | Full Free 2-Stage Mast    |
| Engine Model      | As Indicated |                           |
| Transmission Type | C            | Manual Transmission       |
|                   | B            | Hydraulic Transmission    |
| Weight Series     | 10           | 1.0 Ton / 2000 Lbs        |
|                   | 18           | 1.8 Ton / 3500 Lbs        |
| Engine Type       | FY           | LPG Counter Balance       |
|                   | FQ           | Gasoline Counter Balance  |
|                   | FD           | Diesel Counter Balance    |

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**FORKLIFT MODELS & ENGINES**

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FD/Q/Y10,18-X7/485BPG Engine

FD/Q/Y10,18-W1/C240PKJ Engine

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FD/Q/Y10,18-R1/K21 Engine

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**DISCLAIMER**

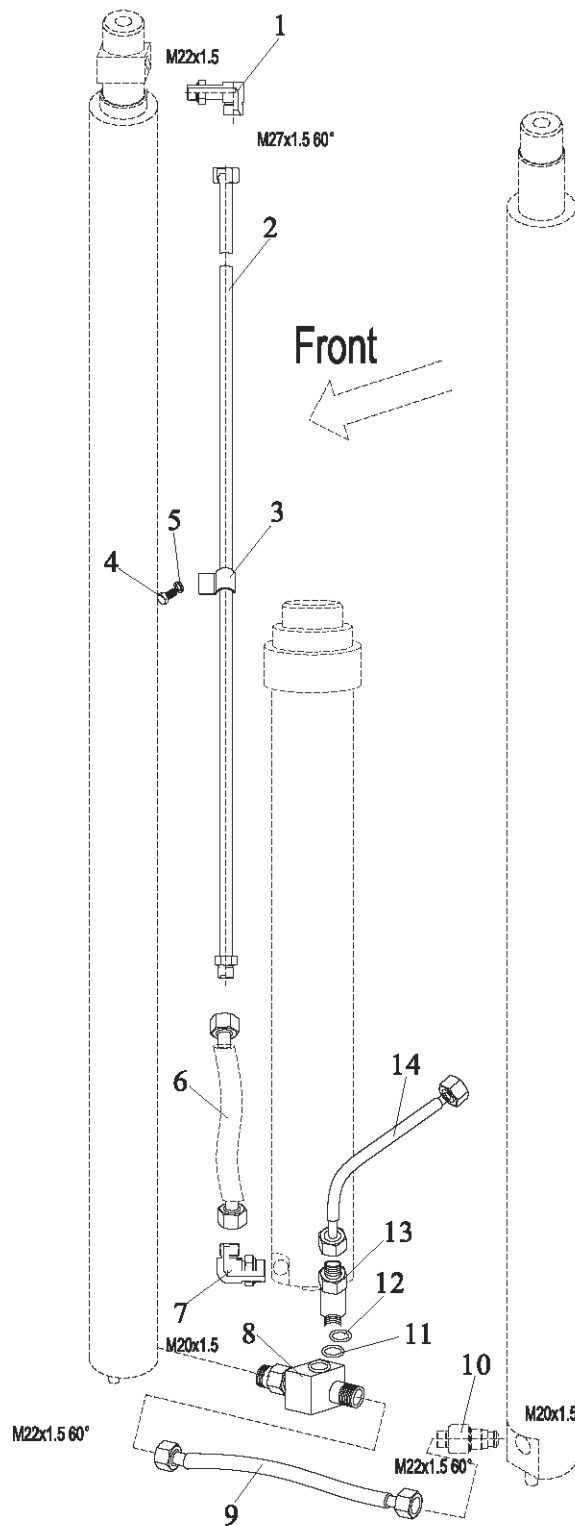
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# **LIFTING SYSTEM**

## **FULL FREE 2-STAGE MAST KZM**

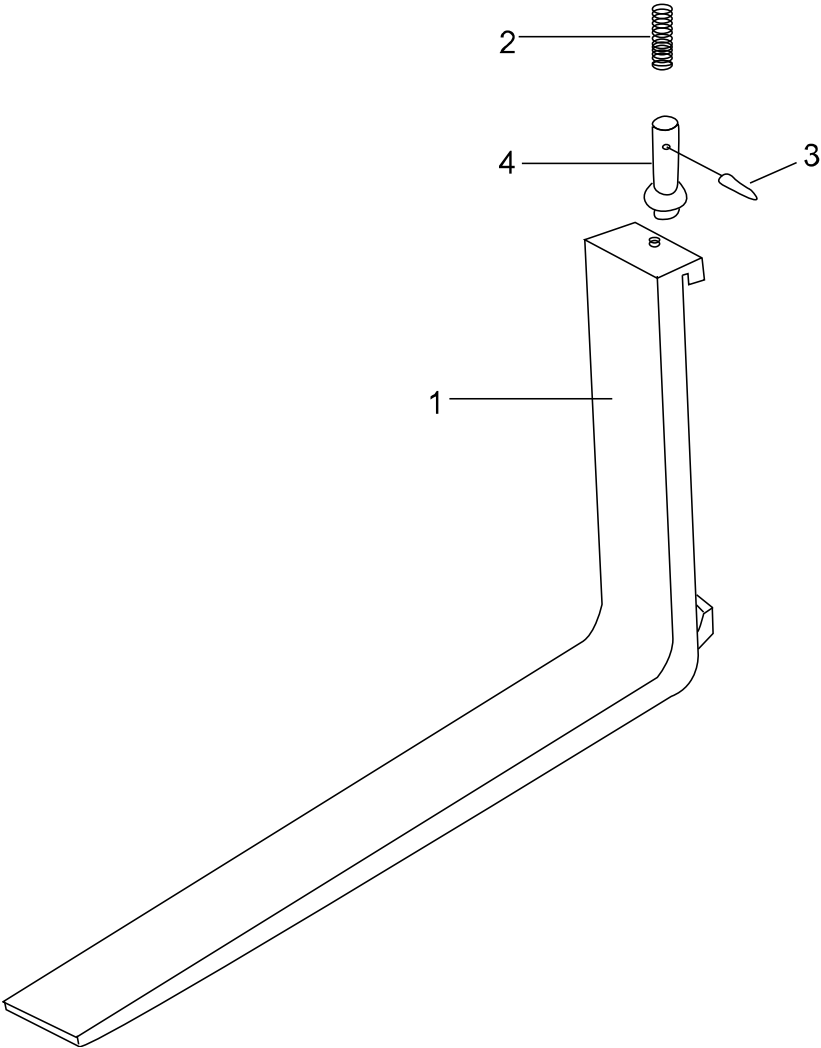
# HYDRAULIC SYSTEM MAST



## HYDRAULIC SYSTEM MAST

| ITEM | PART NO.             | DESCRIPTION                 | QTY | REMARK |
|------|----------------------|-----------------------------|-----|--------|
| 1    | GJT-22-00            | Elbow                       | 1   |        |
| 2    | GJT-335-00-Z300      | Steel Pipe Assembly         | 1   |        |
| 3    | Z30A3-70001          | Board                       | 1   |        |
| 4    | GB/T5782-2000        | M8 X 20 Bolt                | 1   |        |
| 5    | GB/T93-187           | 8 Washer, Lock              | 1   |        |
| 6    | TGICII-13046-GS*J    | 13II X 460 Hose H.P.        | 1   |        |
| 7    | GJT-240-00           | Elbow                       | 1   |        |
| 8    | GJT-03-00C           | Thee Way Connector Assembly | 1   |        |
| 9    | TGIBII-13033         | 13II X 330 Hose HP          | 1   |        |
| 10   | GJT-04-00            | Valve, Check                | 1   |        |
| 11   | GB3452.1-92          | 19.3 X 2.4G O-Ring          | 1   |        |
| 12   | GTJ-04-04            | 22 Washer                   | 1   |        |
| 13   | GJT-334-00           | Flow Regulator              | 1   |        |
| 14   | TGVCII-13060-H25NL*J | 1311 X 600 Hose HP          | 1   |        |

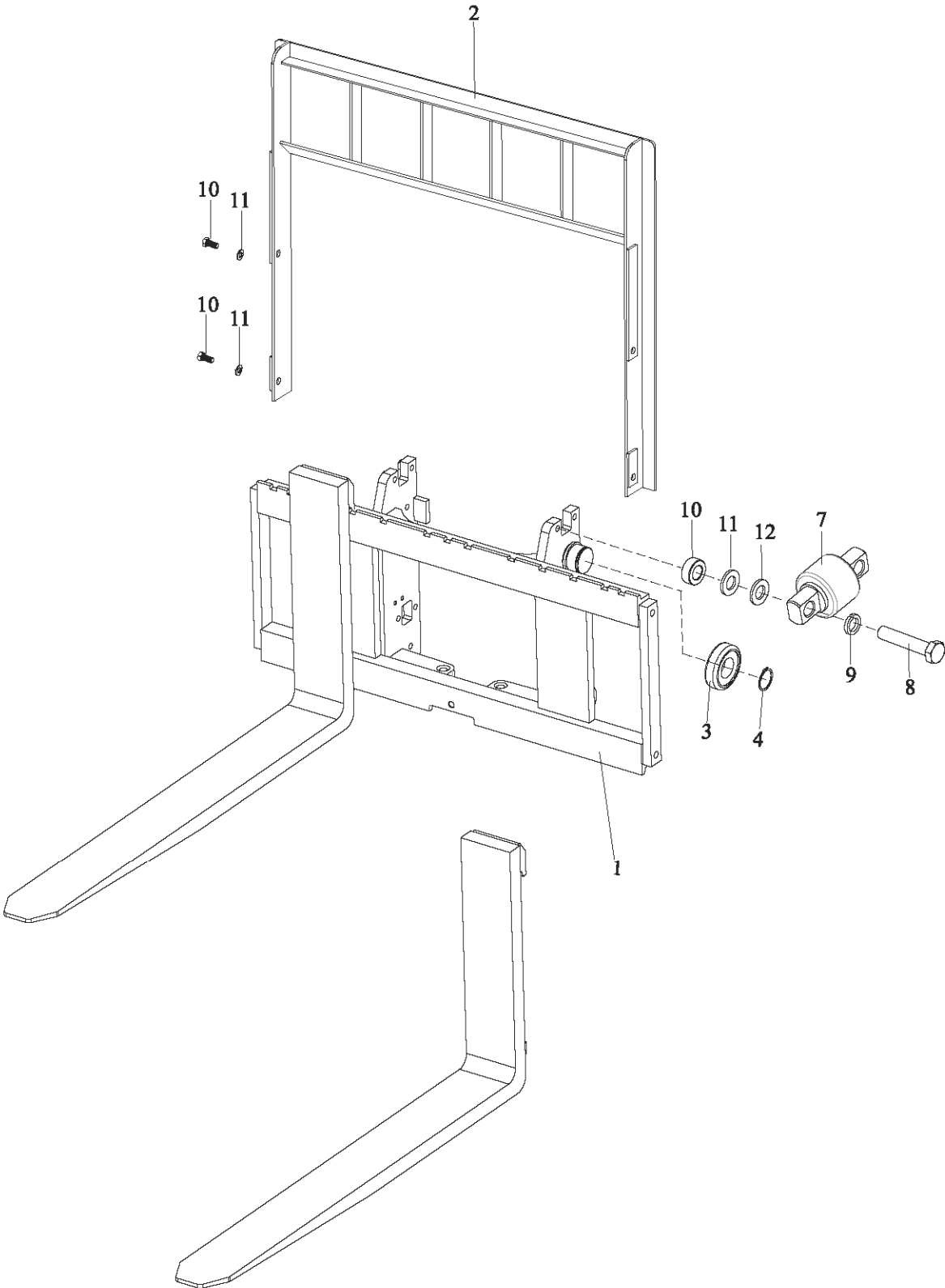
**FORK**



## FORK

| ITEM | PART NO.    | DESCRIPTION   | QTY | REMARK |
|------|-------------|---------------|-----|--------|
| 1    | A15A3-90000 | Fork Assembly | 2   |        |
| 2    | A15A3-90001 | Spring        | 2   |        |
| 3    | A15A3-90002 | Pin           | 2   |        |
| 4    | A15A3-90003 | Pin, Stopper  | 2   |        |

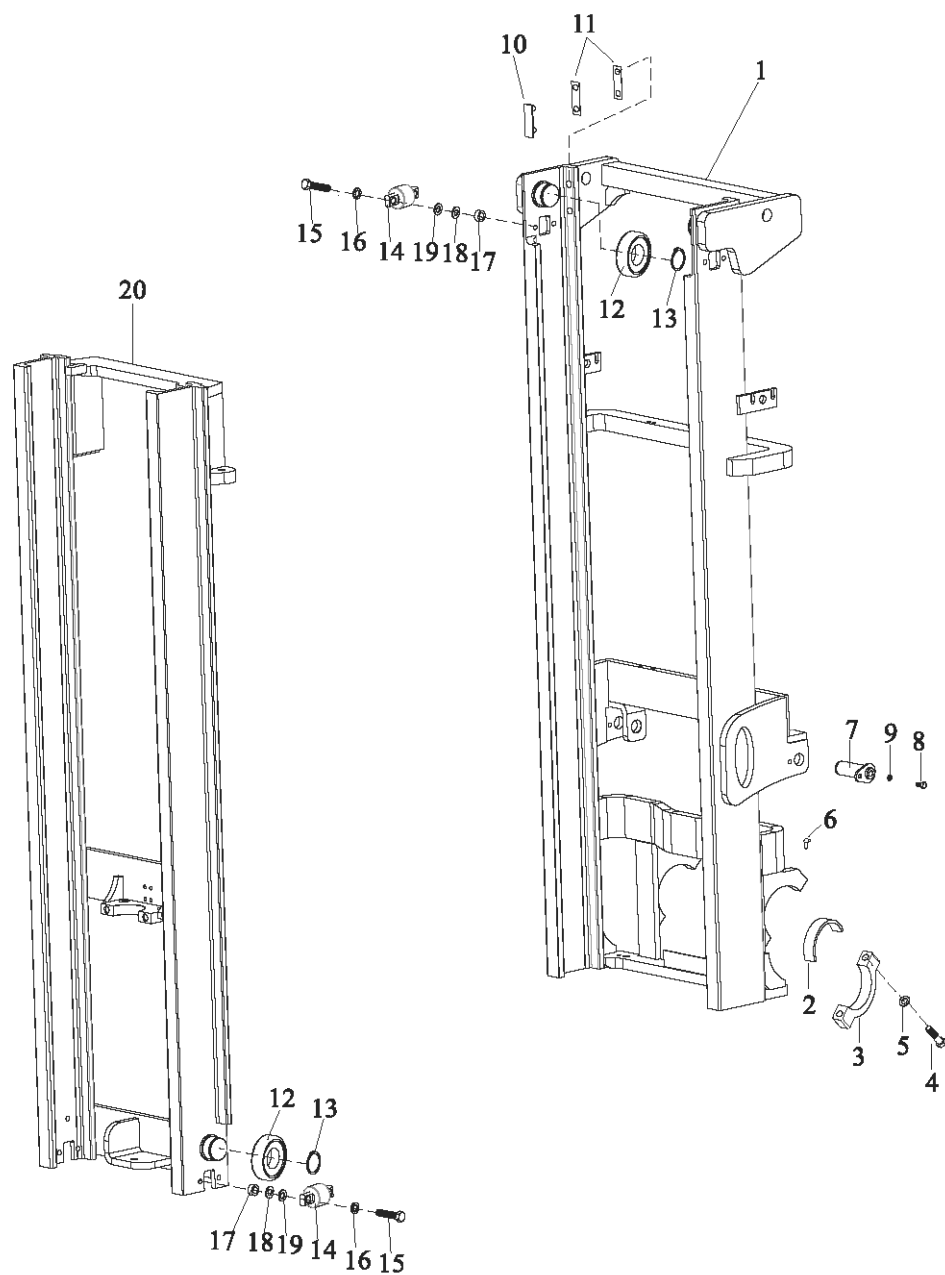
# LIFT BRACKET



## LIFT BRACKET

| ITEM | PART NO.      | DESCRIPTION           | QTY | REMARK |
|------|---------------|-----------------------|-----|--------|
| 1    | Z15C3-50000   | Lifting Fork Assembly | 1   |        |
| 2    | M15C3-60000   | Backrest Assembly     | 1   |        |
| 3    | M15C3-40101   | End Roller            | 4   |        |
| 4    | GB849.2-1986  | 55 Ring               | 4   |        |
| 5    | GB/T5786-2000 | M14 x 1.5 x 30 Bolt   | 4   |        |
| 6    | GB/T93-1987   | 14 Washer, Lock       | 4   |        |
| 7    | S30F3-40100   | Bearing               | 4   |        |
| 8    | GB/T5785-2000 | M10 x 1 x 50 Bolt     | 8   |        |
| 9    | GB/T93-1987   | 10 Washer, Lock       | 8   |        |
| 10   | S30F3-40001   | Spacer                | 16  |        |
| 11   | S30F3-40002   | Shim                  | 16  |        |
| 12   | S30F3-40003   | Shim                  | 16  |        |

# MAST

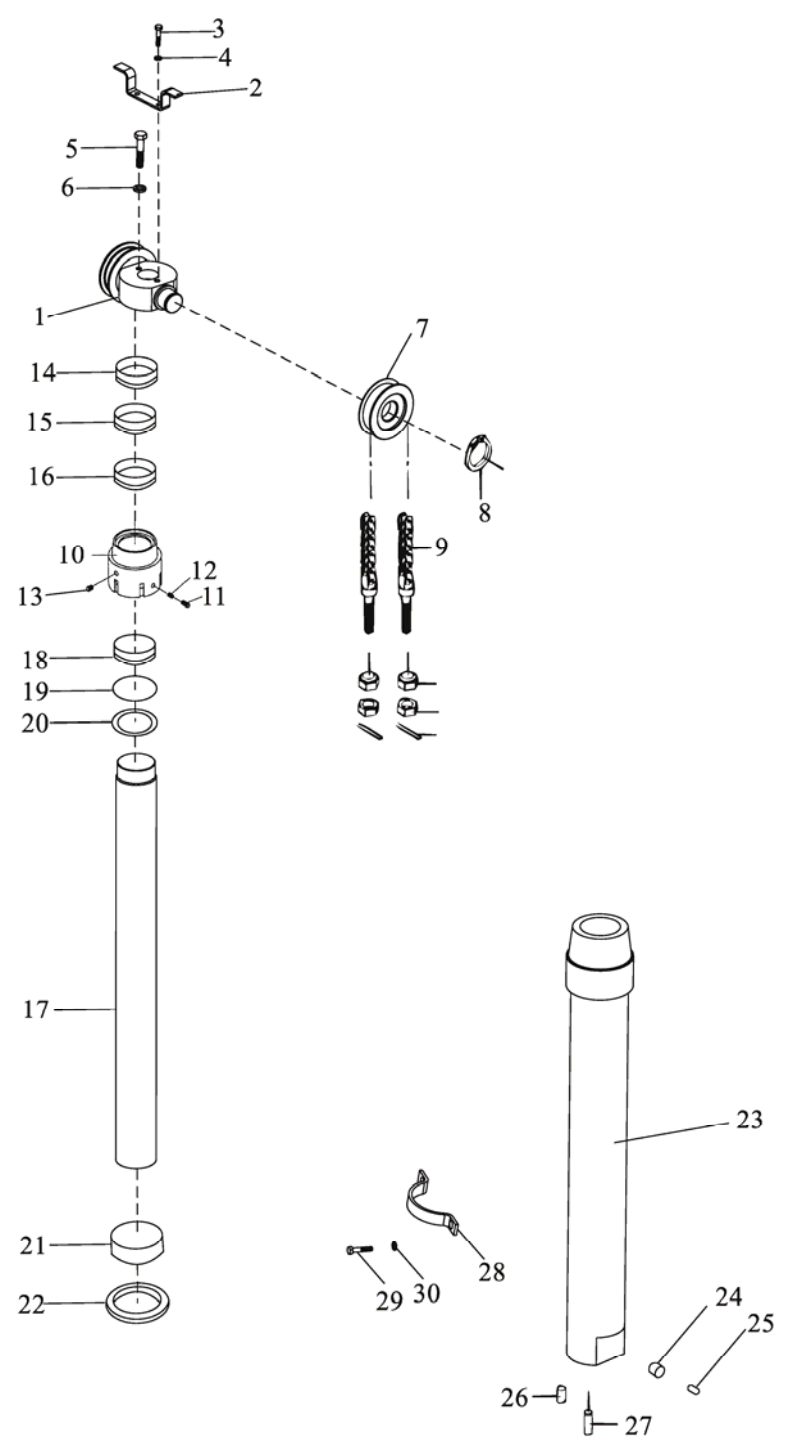




## MAST

| ITEM | PART NO.      | DESCRIPTION          | QTY | REMARK |
|------|---------------|----------------------|-----|--------|
| 1    | Z15C3-10000   | Mast, Outer          | 1   |        |
| 2    | M15A3-00002   | Bushing              | 2   |        |
| 3    | M15A3-00001   | Cap                  | 2   |        |
| 4    | GB/T5785-2000 | M14 X 1.5 X 70 Bolt  | 4   |        |
| 5    | GB/T93-1987   | 14 Washer, Lock      | 4   |        |
| 6    | ZBT33001.2-88 | M10 X 1 Oil Cup      | 2   |        |
| 7    | M30A3-00100   | Pin Axle             | 2   |        |
| 8    | GB/T5786-2000 | M10 X 1.25 X 20 Bolt | 2   |        |
| 9    | GB/T93-1987   | 10 Washer, Lock      | 2   |        |
| 10   | M30A3-40001   | Slipper              | 2   |        |
| 11   | M30A3-40002/3 | Shim                 | 4   |        |
| 12   | M15C3-40101   | End Roller           | 2   |        |
| 13   | GB849.2-1986  | 55 Ring              | 2   |        |
| 14   | S30F3-40100   | Bearing              | 4   |        |
| 15   | GB/T5785-2000 | M10 X 1 X 50 Bolt    | 8   |        |
| 16   | GB/T93-1987   | 10 Washer, Lock      | 8   |        |
| 17   | S30F3-40001   | Spacer               | 16  |        |
| 18   | S30F3-40002   | Shim                 | 16  |        |
| 19   | S30F3-40003   | Shim                 | 16  |        |
| 20   | Z15C3-30000   | Mast, Inner          | 1   |        |

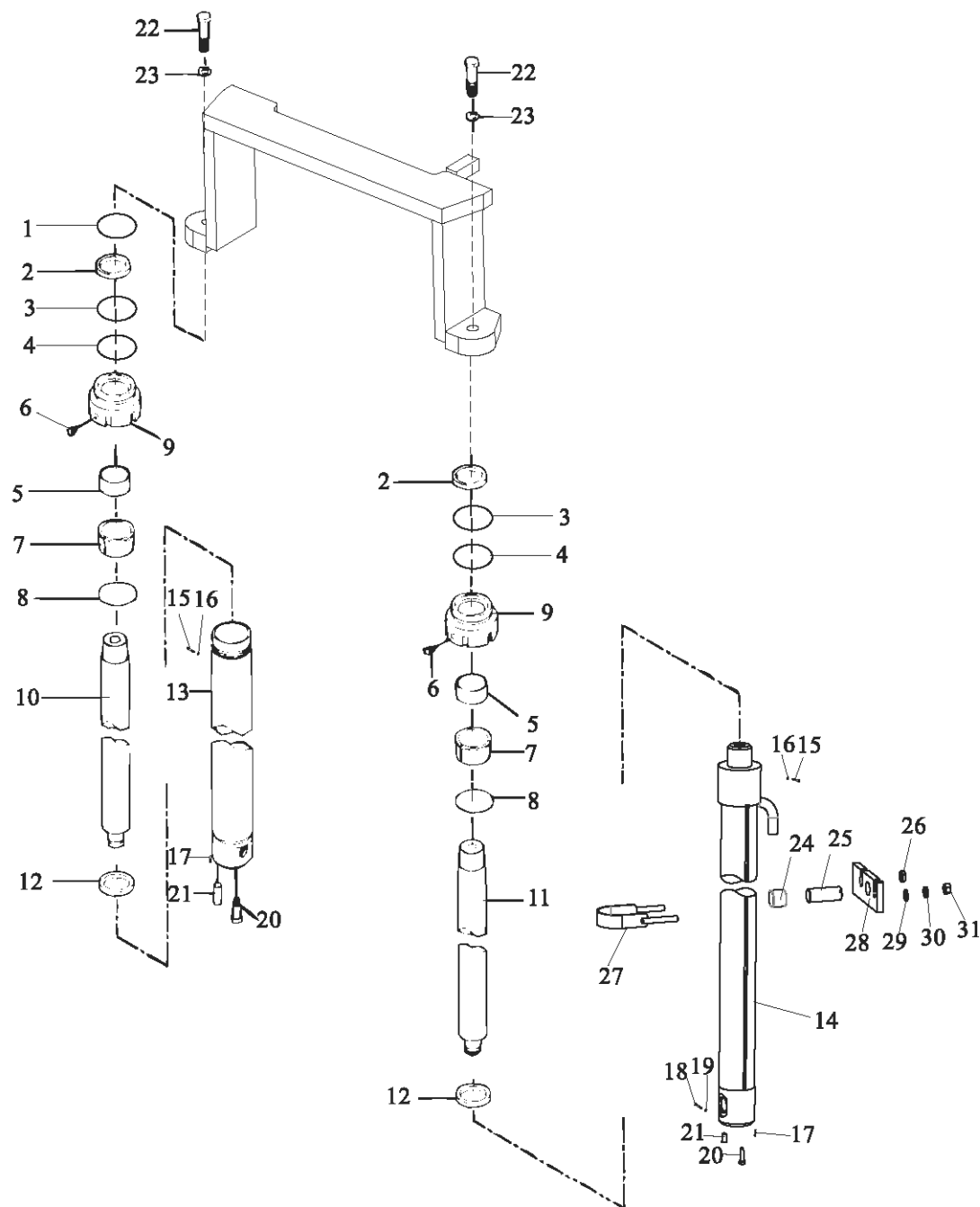
# FRONT LIFT CYLINDER



## FRONT LIFT CYLINDER

| ITEM | PART NO.       | DESCRIPTION                  | QTY | REMARK |
|------|----------------|------------------------------|-----|--------|
| A    | A15A4-10300    | Front Lift Cylinder Assembly | 1   |        |
| 1    | Z15A3-90100    | Sheave Seat                  | 1   |        |
| 2    | Z15A3-90001    | Stopper Chain                | 1   |        |
| 3    | GB/T5781-2000  | M8 x 20 Bolt                 | 2   |        |
| 4    | GB/T93-1987    | 8 Washer, Lock               | 2   |        |
| 5    | GB/T5783-2000  | M16 x 40 Bolt                | 1   |        |
| 6    | GB/T93-1987    | 16 Washer, Lock              | 1   |        |
| 7    | M15A3-80100    | Sheave                       | 2   |        |
| 8    | GB/T894.1-1986 | 40 Snap Ring                 | 2   |        |
| 9    | LH1223 X N     | Chain Assembly               | 2   |        |
| 10   | A15A4-10301    | Cap, Lift Cylinder           | 1   |        |
| 11   | GB/T73-85      | M8 x 10 Screw                | 1   |        |
| 12   | A15A4-10302    | 6 x 3 Plug                   | 1   |        |
| 13   | A15A4-10314    | ZG1/8" Plug                  | 1   |        |
| 14   | A15A4-10303    | 70 x 84 x 8/11 Dust Ring     | 1   |        |
| 15   | A15A4-10304    | 70 x 80 x 3 Snap Ring        | 1   |        |
| 16   | A15A4-10305    | 70 x 80 x 6 Ring             | 1   |        |
| 17   | A15A4-10306    | Piston Rod                   | 1   |        |
| 18   | A15A4-10307    | Guide Bushing                | 1   |        |
| 19   | GB/T3452.1-82  | 90 x 3.55 O-Ring             | 1   |        |
| 20   | A15A4-10308    | 89 x 95 x 1.5 Stopper        | 1   |        |
| 21   | A15A4-10309    | 80 x 25 x 2.5 Backup Ring    | 1   |        |
| 22   | A15A4-10310    | 80 x 72 x 4 Sear Ring        | 1   |        |
| 23   | A15A4-10311    | Cylinder                     | 1   |        |
| 24   | A15A4-10312    | Spool                        | 1   |        |
| 25   | A15A4-10313    | Spring                       | 1   |        |
| 26   | M30A3-80001    | Bolt                         | 1   |        |
| 27   | GB119-1986     | D x 26 Pin                   | 1   |        |
| 28   | Z15A3-90002    | Support                      | 1   |        |
| 29   | GB/T5786-2000  | M14 s 1.5 x 30 Bolt          | 2   |        |
| 30   | GB/T93-1987    | 14 Washer, Lock              | 2   |        |

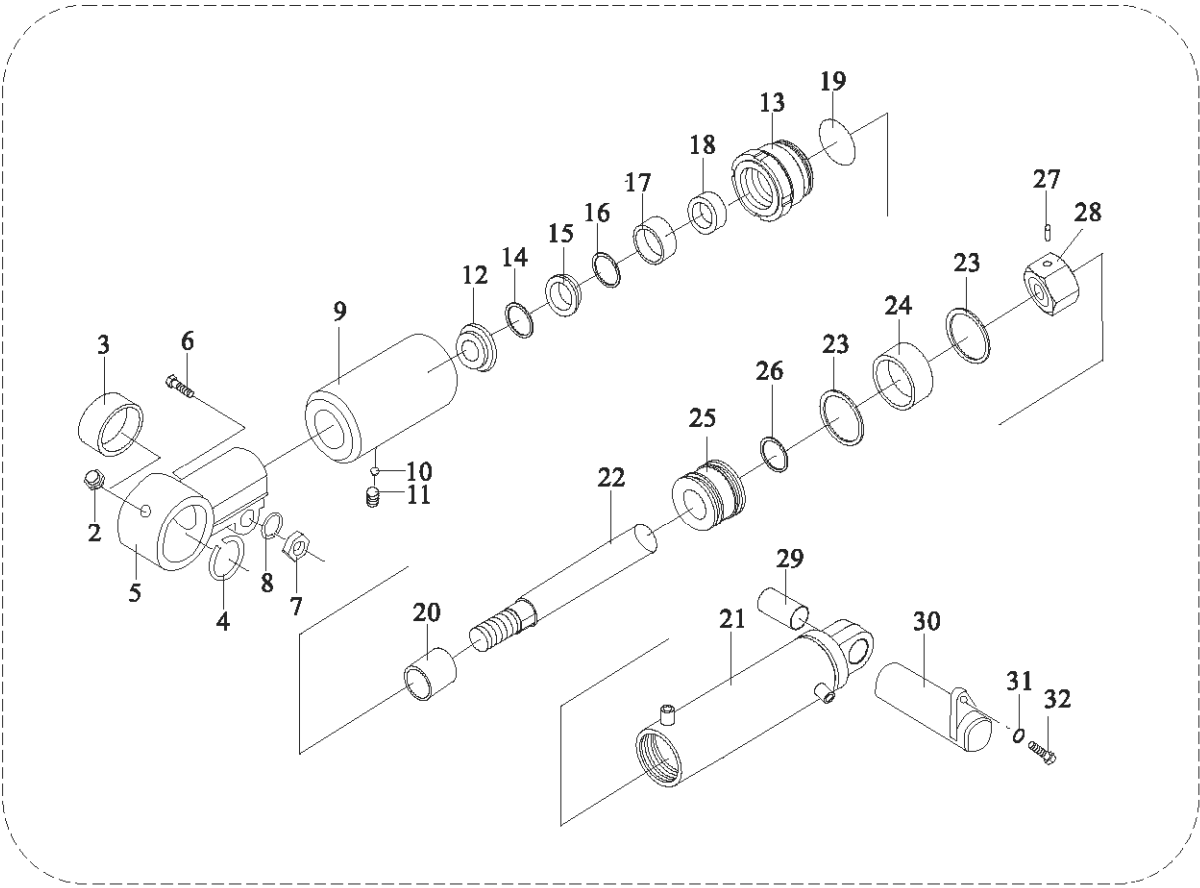
# REAR LIFT CYLINDER



## REAR LIFT CYLINDER

| ITEM | PART NO.      | DESCRIPTION                 | QTY | REMARK |
|------|---------------|-----------------------------|-----|--------|
| A    | A15A4-10400   | Rear Lift Cylinder Assembly | 1   |        |
| 1    | GB/T1235-76   | 22 x 2.4 O-Ring             | 1   |        |
| 2    | A15A4-10401   | 32 x 44 x 7/10 Dust Ring    | 2   |        |
| 3    | A15A4-10402   | 32 x 42 x 2 Stopper         | 2   |        |
| 4    | A15A4-10403   | 32 x 42 x 6 Ring            | 2   |        |
| 5    | A15A4-10404   | 32 x 36 x 30 Guide Bushing  | 2   |        |
| 6    | A15A4-10405   | Plug                        | 4   |        |
| 7    | GB3452.1-82   | 47.5 x 2.65 O-Ring          | 2   |        |
| 8    | A15A4-10406   | 48 x 51.8 x 1.5 Stopper     | 2   |        |
| 9    | A15A4-10407   | Cap, Lift Cylinder          | 2   |        |
| 10   | A15A4-10408   | Piston Rod, R.H.            | 1   |        |
| 11   | A15A4-10409   | Piston Rod, L.H.            | 1   |        |
| 12   | A15A4-10410   | 45 x 20 x 2 Back Up Ring    | 2   |        |
| 13   | A15A4-10411   | Cylinder R.H.               | 1   |        |
| 14   | A15A4-10412   | Cylinder L.H.               | 1   |        |
| 15   | GB/T73-1985   | M8 x 10 Screw               | 2   |        |
| 16   | A15A4-10302   | 6 x 3 Plug                  | 2   |        |
| 17   | GB/T119-86    | D10 x 25 Pin                | 2   |        |
| 18   | A15A4-10414   | Spool                       | 1   |        |
| 19   | A15A4-10415   | Spring                      | 1   |        |
| 20   | M30A3-80001   | Bolt                        | 2   |        |
| 21   | GB/T119-1986  | D10 X 26 Pin                | 2   |        |
| 22   | GB/T5783-2000 | M16 x 40 Bolt               | 2   |        |
| 23   | GB/T93-1987   | 16 Washer, Lock             | 2   |        |
| 24   | M15C3-80002   | Spacer                      | 2   |        |
| 25   | M15C3-80001   | Screw                       | 2   |        |
| 26   | GB/T6173-2000 | M20 X 1.5 Nut               | 2   |        |
| 27   | M15C3-80100   | Clip                        | 2   |        |
| 28   | M15C3-10001   | Bracket                     | 2   |        |
| 29   | GB/T97.1-1985 | 8 Washer                    | 4   |        |
| 30   | GB/T93-1987   | 8 Washer, Lock              | 4   |        |
| 31   | GB/T6173-2000 | M8 Nut                      | 4   |        |

# TILT CYLINDER



## TILT CYLINDER

| ITEM | PART NO.       | DESCRIPTION                 | QTY | REMARK |
|------|----------------|-----------------------------|-----|--------|
| 1    | A15C4-10200    | Tilt Cylinder Assembly      | 2   |        |
| 2    | GB1152-79      | M10 x 1 Nipple Grease       | 2   |        |
| 3    | A15C4-10201    | GE30ES Bushing              | 2   |        |
| 4    | GB/T893.1-1986 | 47 Ring, Snap               | 2   |        |
| 5    | A15C4-10202    | Ear Ring                    | 2   |        |
| 6    | GB/T5785-1986  | M14 x 1.5 x 55 Bolt         | 2   |        |
| 7    | GB/T6071-1986  | M14 x 1.5 Nut               | 2   |        |
| 8    | GB/T93-1987    | 14 Washer, Lock             | 2   |        |
| 9    | A15C4-10203    | Spacer                      | 2   |        |
| 10   | A15C4-10204    | Plug                        | 2   |        |
| 11   | GB/T73-1985    | M8 X 10 Screw               | 2   |        |
| 12   | A15C4-10205    | 30 x 47 x 8 x 10 Seal, Dust | 2   |        |
| 13   | A15C4-10206    | Cap, Lift Cylinder          | 2   |        |
| 14   | GB/T893.1-1986 | 47 Ring, Snap               | 2   |        |
| 15   | A15C4-10207    | Ring, Back Up               | 2   |        |
| 16   | A15C4-10208    | 30 x 43 x 3 Ring, Snap      | 2   |        |
| 17   | A15C4-10209    | 30 x 43 x 10 Ring           | 2   |        |
| 18   | A15C4-10210    | 57.6 x 63 x 1.5 Ring, Snap  | 2   |        |
| 19   | GB3452.1-82    | 56 X 3.55 O-Ring            | 2   |        |
| 20   | A15C4-10211    | 3025 Guide Bushing          | 2   |        |
| 21   | A15C4-10212    | Tube, Cylinder Assembly     | 2   |        |
| 22   | A15C4-10213    | Piston Body                 | 2   |        |
| 23   | A15C4-10214    | 63 x 53 x 6 Ring            | 4   |        |
| 24   | A15C4-10215    | 63 x 14.7 x 2.5 Wearing     | 2   |        |
| 25   | A15C4-10216    | Piston                      | 2   |        |
| 26   | GB1235-76      | 24 x 2.4 O-Ring             | 2   |        |
| 27   | GB91-86        | 5 x 50 Pin                  | 2   |        |
| 28   | GB/T6181-1986  | M24 x 2 Nut                 | 2   |        |
| 29   | A15C3-00001    | Guide Bushing               | 2   |        |
| 30   | M15C3-00100    | Pin                         | 2   |        |
| 31   | GB/T5786-1986  | M10 X 1.25 X 20 Bolt        | 2   |        |
| 32   | GB/T93-1987    | 10 Washer, Lock             | 2   |        |



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