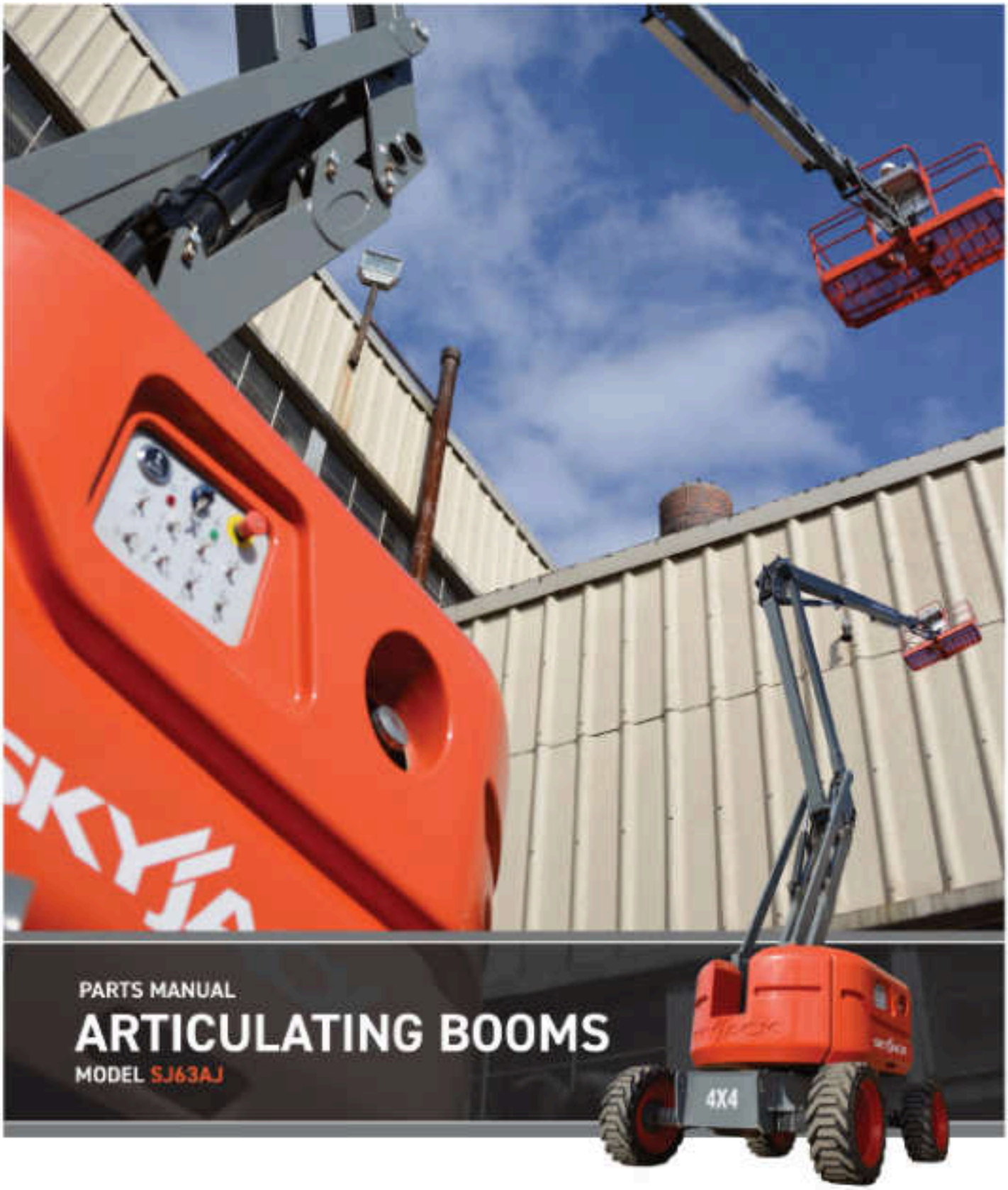



PARTS MANUAL

# ARTICULATING BOOMS

MODEL SJ63AJ

159762AH June 2024

SKYJACK

MidWestTech | Skyjack SJ63AJ Articulating Boom Lift Parts Manual | Publication 159762AH

Order the manual at mid-west-tech.com >

## Table of Contents


**Section 1 – PLATFORM**

1.1 Platform ..... 8
1.2 Railings ..... 10
1.3 Platform Base - ANSI/CSA ..... 12
1.4 Platform Base - CE & AS ..... 13
1.5 Swing Gate, S/N 95 300 250 & below ..... 14
1.6 Swing Gate, S/N 95 300 251 & above ..... 15
1.7 Drop Bar Gate, S/N 95 300 250 & below ..... 16
1.8 Drop Bar Gate, S/N95 300 251 & above ..... 17
1.9 Railing Extension - No Gate ..... 18
1.10 Platform Control Console Assembly ..... 20
1.11 Boom / Turret Controller Assembly ..... 24
1.12 Drive / Steer Controller Assembly ..... 26
1.13 Riser Boom Controller Assembly (Single Axis) ..... 28
1.14 Platform Terminal Strip ..... 29

**Section 2 – BOOM**

2.1 Riser Boom Assembly ..... 32
2.2 Main and Fly Boom Assembly ..... 36
2.3 Jib Boom Assembly ..... 42
2.4 Limit Switch Assemblies ..... 44
2.5 Rotary Actuator Assembly ..... 46

**Section 3 – CYLINDERS**

3.1 Riser Lift Assembly ..... 48
3.2 Riser Boom Cylinder Assembly ..... 49
3.3 Main Boom Lift Cylinder Assembly ..... 50
3.4 Master Cylinder Assembly ..... 51
3.5 Slave Cylinder Assembly ..... 52
3.6 Axle Lock Cylinder Assembly ..... 53
3.7 Fly Boom Extension Cylinder Assembly ..... 54
3.8 Jib Boom Cylinder Assembly ..... 56

**Section 4 – TURRET**

4.1 Turret Assembly ..... 60
4.2 Cowling Assembly Mounting - Engine Side ..... 62
4.3 Cowling Assembly Mounting - Controls Side ..... 64
4.4 Cowling Assembly - Engine Side ..... 66
4.5 Cowling Assembly - Controls Side ..... 67
4.6 Counterweight Assembly ..... 68
4.7 Additional Counterweight Assembly ..... 69
4.8 Engine Tray Assembly ..... 70
4.9 High Pressure Shuttle Valve Assembly ..... 71
4.10 Main Manifold Assembly ..... 72
4.11 Brake Manifold Assembly ..... 74
4.12 Fuel Tank Assembly - Deutz Engine ..... 76
4.13 Fuel Tank Assembly - Dual Fuel Engine ..... 79
4.14 Hydraulic Tank Assembly ..... 80
4.15 High Pressure Filter Assembly ..... 82
4.16 Turret Swing Drive Assembly ..... 83
4.17 Base Control Console Assembly ..... 84
4.18 Base Terminal Strip ..... 88
4.19 Emergency Power Unit ..... 89





MidWestTech | Skyjack SJ63AJ Articulating Boom Lift Parts Manual | Publication 159762AH

Order the manual at mid-west-tech.com >

## Table of Contents


4.20 Battery Assembly ..... 90
4.21 Grease Line Hose Assembly ..... 91

**Section 5 – ELECTRICAL HARNESSES**

5.1 Main Electrical Harness and Fuel Level Switch Harness ..... 94
5.2 Lowering Throttle Valve Harness ..... 96
5.3 Deutz ECU Harness ..... 97
5.4 Cable Harnesses ..... 98
5.5 Control Cable Harnesses ..... 100
5.6 Glow Plug Harness - Deutz Engine ..... 101
5.7 110/220V Outlet Assembly ..... 102
5.8 Engine Interface Harness - Dual Fuel Engine ..... 103
5.9 Rotate Select Harness ..... 104

**Section 6 – BASE**

6.1 Base Assembly ..... 106
6.2 Axle Assembly Hardware - Front ..... 108
6.3 Axle Assembly Hardware - Rear ..... 109
6.4 Front Axle Assembly ..... 110
6.5 Differential Assembly - Front Axle ..... 112
6.6 Central Housing Assembly - Front Axle ..... 114
6.7 Steering Assembly - Front Axle ..... 115
6.8 Trunnion Assembly - Front Axle ..... 116
6.9 Axle Drive Shaft ..... 117
6.10 Rear Axle Assembly (with Gear Box) ..... 118
6.11 Differential Assembly - Rear Axle (with Gear Box) ..... 120
6.12 Central Housing Assembly - Rear Axle (with Gear Box) ..... 123
6.13 Gear Box - Rear Axle ..... 124
6.14 Brakes Assembly - Front and Rear Axle ..... 126
6.15 Brakes Assembly - Front and Rear Axle ..... 128
6.16 Rotary Manifold Assembly ..... 130
6.17 Propane Tank Assembly ..... 132
6.18 Tire Assemblies ..... 134

**Section 7 – ENGINES**

7.1 Engine Assembly - Deutz Engine ..... 138
7.2 Engine Assembly - GM Engine ..... 142
7.3 Drive Pump and System Pump Assembly ..... 146
7.4 Engine Coupling Assembly ..... 148

**Section 8 – HOSE CONNECTIONS**

8.1 Standard Hose Numbering System ..... 150
8.2 Hydraulic Hose Connections - Turret ..... 152
8.3 Hydraulic Hose Connections - Chassis ..... 154
8.4 Hydraulic Hose Connections - Drive Pump and System Pump ..... 156
8.5 Hydraulic Hose Connections - Boom ..... 158
8.6 Fuel Line Connection - Deutz Engine ..... 161
8.7 Fuel Line Connection - Dual Fuel Engine ..... 162

**Section 9 – OPTIONAL EQUIPMENT**

9.1 Diesel Scrubber ..... 166
9.2 All Motion Alarm ..... 167
9.3 Air Hose to Platform ..... 168
9.4 Hostile Environment Kit ..... 170
9.5 Platform Control Box Cover ..... 172
9.6 Hydraulic Oil Cooler Assembly ..... 174





MidWestTech | Skyjack SJ63AJ Articulating Boom Lift Parts Manual | Publication 159762AH Order the manual at mid-west-tech.com >

## Table of Contents


9.7 Hydraulic Hose Connection - Hydraulic Oil Cooler Assembly ..... 175
9.8 Hydraulic Oil Cooler Wiring ..... 176
9.9 Generator Assembly - 3.5 kW ..... 178
9.10 Generator Assembly - 12 kW ..... 180
9.11 Hydraulic Hose Connection - Generator Assembly (3,500W) ..... 182
9.12 Hydraulic Hose Connection - Generator Assembly (12,000W) ..... 183
9.13 Generator Wiring ..... 184
9.14 Welder and Mounting Assembly ..... 186
9.15 Glazier Package Assembly ..... 190
9.16 Cold Start Assembly ..... 192
9.17 Arctic Package Assembly ..... 193
9.18 Working Lights Assembly ..... 194
9.19 External Platform Railing Assembly ..... 196
9.20 Pipe Rack Assembly ..... 198
9.21 Flashing Amber Light Assembly ..... 199
9.22 SGM Assembly ..... 200
9.23 SGE Assembly ..... 202

**Section 10 – LABELS**

10.1 Label Kits ..... 207
10.2 Labels - Platform Control Console ..... 208
10.3 Labels - Front and Back ..... 209
10.4 Labels - Engine Side ..... 210
10.5 Labels - Controls Side ..... 212
10.6 Labels - Engine Compartment ..... 214
10.7 Labels - Controls Compartment ..... 215
10.8 Labels - Operator Platform ..... 216

**Section 11 – TABLES**

11.1 Boom Fluids Table ..... 220
11.2 Boom Grease Locations - Axle Grease Table ..... 221
11.3 Boom Grease Locations - Gear Grease Table ..... 222





MidWestTech | Skyjack SJ63AJ Articulating Boom Lift Parts Manual | Publication 159762AH Order the manual at mid-west-tech.com >

| Index No. | Skyjack Part No. | Qty. | Description |
|---|---|---|---|
| | | | Parts list continued from the previous page. |
| 32 | 138229 | 1 | • • MODULE, Upper indicating light |
| 33 | 139203 | 6 | • • • BULB, 12V |
| 34 | 153815 | 1 | • • MODULE, OCM controller |
| 35 | (Ref.) | 1 | • • TERMINAL STRIP, Platform |
| | | | *(For components, refer to 1.14 Platform Terminal Strip)* |
| 36 | 138749 | 6 | • • SOCKET, Automotive relay |
| 37 | 127131 | 5 | • • RELAY, 12V (40 AMP) A D |
| | | 6 | • • RELAY, 12V (40 AMP) B C |
| 38 | 138751 | 2 | • • HOUSING, Open bottom 24 pin levered |
| 39 | 138756 | 1 | • • SOCKET, 24 Pin spring (16A) |
| 40 | 138755 | 1 | • • PLUG, 24 Pin spring (16A) |
| 41 | 103057 | 1 | • • BEEPER, 4-28 VFC Slow pulsing |
| 42 | 144387 | 1 | • • ALARM, Continuos tone B C |
| 43 | 138765 | 8 | • • NUT, Hex lock (#8-32 Grade 5, nylon) |
| 44 | 103957 | 8 | • • SCREW, Round machine (#8-32 x 1/2") |
| 45 | 115545 | 2 | • • SCREW, Round machine (#10-32 x 3/8") |
| 46 | 300450 | 2 | • • NUT, Hex lock (#10-32 Grade 5, nylon) |
| 47 | 115649 | 8 | • • NUT, Hex lock (1/4"-20 Grade 5, nylon) |
| 48 | 103859 | 4 | • • BOLT, Hex head (1/4"-20 x 1 1/2" Grade 5) |
| 49 | 128571 | 4 | • • SLEEVE, Anti-vibration mount battery |
| 50 | 104694 | 2 | • • WASHER, Flat (#10) |
| 51 | 104003 | 2 | • • NUT, Hex (#10-32) |
| 52 | 103855 | 2 | • • BOLT, Hex head (1/4"-20 x 1/2" Grade 5) |
| 53 | 103995 | 2 | • • WASHER, Flat (1/4") |
| 54 | 116266 | 1 | • • CONNECTOR, Liquid tight (Heyco) B C |
| 55 | 144264 | 2 | • • PLUG, Snap in (9/32") |
| 56 | 139128 | 2 | • • SEAL, Hole (7/8") B C |
| 57 | 103036 | 2 | • • STRAIN RELIEF, Connector (1/2") A D |
| 58 | 131938 | 2 | • • PLUG, Snap in (1 1/8") A D |
| 59 | 149402 | 1 | • • HANDREST |
| 60 | 103995 | 8 | • WASHER, Flat (1/4") |
| 61 | 115649 | 4 | • NUT, Hex lock (1/4"-20 Grade 5, nylon) |
| 62 | 103856 | 4 | • BOLT, Hex head (1/4"-20 x 3/4" Grade 5) |
| 63 | (Ref.) | 1 | • HARNESS, Rotate select |
| | | | *(For components, refer to 5.9 Rotate Select Harness)* |
| 64 | 154127 | - | • PLATFORM FOOTSWITCH ASSEMBLY |
| 65 | 700188 | 1 | • • COVER, Footswitch |
| 66 | 700187 | 1 | • • FOOTSWITCH |
| 67 | 139688 | 2 | • • SCREW, Flat head machine (1/4"-20 x 1", Zinc) |
| 68 | 130017 | 2 | • • NUT, K-lock (#10-32, Zinc) |
| 69 | 103891 | 4 | • BOLT, Hex head (1/4"-20 x 7/8" Grade 5) |
| 70 | 700598 | 4 | • WASHER, Fender |



MidWestTech | Skyjack SJ63AJ Articulating Boom Lift Parts Manual | Publication 159762AH Order the manual at mid-west-tech.com >

| Index No. | Skyjack Part No. | Qty. | Description |
|---|---|---|---|
| - | 154175 | - | COWLING ASSEMBLY MOUNTING, CONTROLS SIDE |
| 1 | (Ref.) | 1 | • COWLING, Assembly (Controls Side)<br>*(For components, refer to 4.5 Cowling Assembly - Controls Side)* |
| 2 | 162142 | 2 | • WELDMENT, Hinge |
| 4 | 159870 | 1 | • BRACKET, Handle mounting |
| 5 | 144015 | 1 | • MOUNT, Anti-vibration |
| 6 | 153882 | 1 | • BRACKET, Standoff - LH cowling |
| 7 | 159877 | 1 | • BRACKET, Gas spring |
| 8 | 159959 | 1 | • GAS SPRING, Cowling |
| 9 | 103999 | 10 | • WASHER, Lock (3/8") |
| 10 | 138834 | 4 | • SCREW, Round machine (#10-24 x 3/4") |
| 11 | 104694 | 4 | • WASHER, Flat (#10) |
| 12 | 126642 | 4 | • NUT, Hex lock (#10-24 Grade 5, nylon) |
| 13 | 103984 | 5 | • NUT, Hex lock (5/16"-18 Grade 5, nylon) |
| 14 | 103996 | 6 | • WASHER, Flat (5/16") |
| 15 | 125959 | 14 | • WASHER, Flat hardened (3/8") |
| 16 | 103983 | 2 | • NUT, Hex jam (1/4"-20 Grade 5) |
| 17 | 104606 | 2 | • NUT, Hex lock (3/8"-16 Grade 5, nylon) |
| 18 | 103404 | 1 | • WASHER, Lock (5/16") |
| 19 | 133216 | 4 | • CARRIAGE BOLT, (5/16"-18 x 1" Grade 5) |
| 20 | 101297 | 4 | • BOLT, Hex head (3/8"-16 x 1 1/4" Grade 5) |
| 21 | 103473 | 8 | • BOLT, Hex head (3/8"-16 x 1" Grade 5) |
| 22 | 138836 | 2 | • BALL, Stud |
| 23 | 162151 | 2 | • BRACKET, Latch mounting |
| 24 | 162136 | 2 | • SUPPORT, Cowling |
| 25 | 163397 | 4 | • SCREW, Flat head hex (1/4"-20 x 1 1/4" Grade 5 Zinc) |
| 26 | 103995 | 4 | • WASHER, Flat (1/4") |
| 27 | 115649 | 4 | • NUT, Hex nylon lock (1/4"-20 Grade 5) |



MidWestTech | Skyjack SJ63AJ Articulating Boom Lift Parts Manual | Publication 159762AH Order the manual at mid-west-tech.com >

| Index No. | Skyjack Part No. | Qty. | Description |
|---|---|---|---|
| - | 153419 | - | DUAL FUEL ENGINE ASSEMBLY |
| 1 | (Ref.) | - | • FUEL, Unleaded gas (not shown) |
| | | | *(For components, refer to 11.1 Boom Fluids Table)* |
| 2 | 153966 | 1 | • ENGINE, Dual fuel (GM) |
| | 157623 | 1 | • • PUMP, Fuel |
| | 142301 | 1 | • • FILTER, Fuel |
| | 142303 | 1 | • • MANIFOLD, Fuel |
| | 147120 | 1 | • • FILTER, Oil |
| | 147121 | 1 | • • PLUGS, Spark |
| | 147122 | 1 | • • SWITCH, Pressure |
| | 157624 | 1 | • • VALVE, Oil Drain |
| | 157625 | 1 | • • STARTER |
| | 147184 | 1 | • • BELT |
| | 147185 | 1 | • • ALTERNATOR |
| | 147186 | 1 | • • BODY, Throttle |
| | 157626 | 1 | • • VALVE, Lock off |
| | 159093 | 1 | • • SENSOR, Oxygen |
| | 159092 | 1 | • • REGULATOR |
| | 157627 | 1 | • • MIXER |
| | 147191 | 1 | • • SENSOR, T Map |
| | 147192 | 1 | • • WIRE SET, Spark plug |
| | 147194 | 1 | • • BOTTLE, Over flow |
| | 147195 | 1 | • • ELEMENT, Air cleaner |
| | 152212 | 1 | • • HEAT SHIELD, Fuel rail |
| | 168051 | 1 | • • ECU |
| | 195511 | 1 | • • HARNESS, ECU |
| | 204058 | 1 | • • RAIL, Fuel |
| 3 | 154520 | 1 | • RADIATOR ASSEMBLY |
| | 154541 | 1 | • • RADIATOR (3.0L) |
| | 154542 | 1 | • • GUARD, Fan (Pusher) |
| | 154560 | 1 | • • HOSE, Upper |
| | 154566 | 1 | • • HOSE, Lower (with spring) |
| | 154653 | 1 | • • STAY BAR, Left (3.0L) |
| | 154654 | 1 | • • STAY BAR, Right (3.0L) |
| | 152178 | 4 | • • CLAMP, Hose (S-28, 2") |
| | 152179 | 2 | • • ISOLATOR (TPC62372) |
| | 154532 | 2 | • • ISOLATOR, (TPC51308) |
| | 154552 | 1 | • • BRACKET, Mounting (3.0L) |
| | 101297 | 4 | • • BOLT, Hex head (3/8"-16 x 1.25, Grade 5) |
| | 103472 | 4 | • • WASHER, Flat (3/8") |
| | 104694 | 4 | • • WASHER, Flat (#10) |
| | 104185 | 4 | • • WASHER, Lock (#10) |
| | 103976 | 4 | • • NUT (3/8"-16) |
| | 152184 | 2 | • • NUT, Lock with plastic insert (3/8"-16) |
| | 104003 | 4 | • • NUT, Hex head (#10-32) |
| | 152185 | 4 | • • SCREW, Slot head (#10-32 x 3/4") |
| | 152187 | 1 | • • STICKER, Radiator PGS |

**Parts list continued on the following page.**



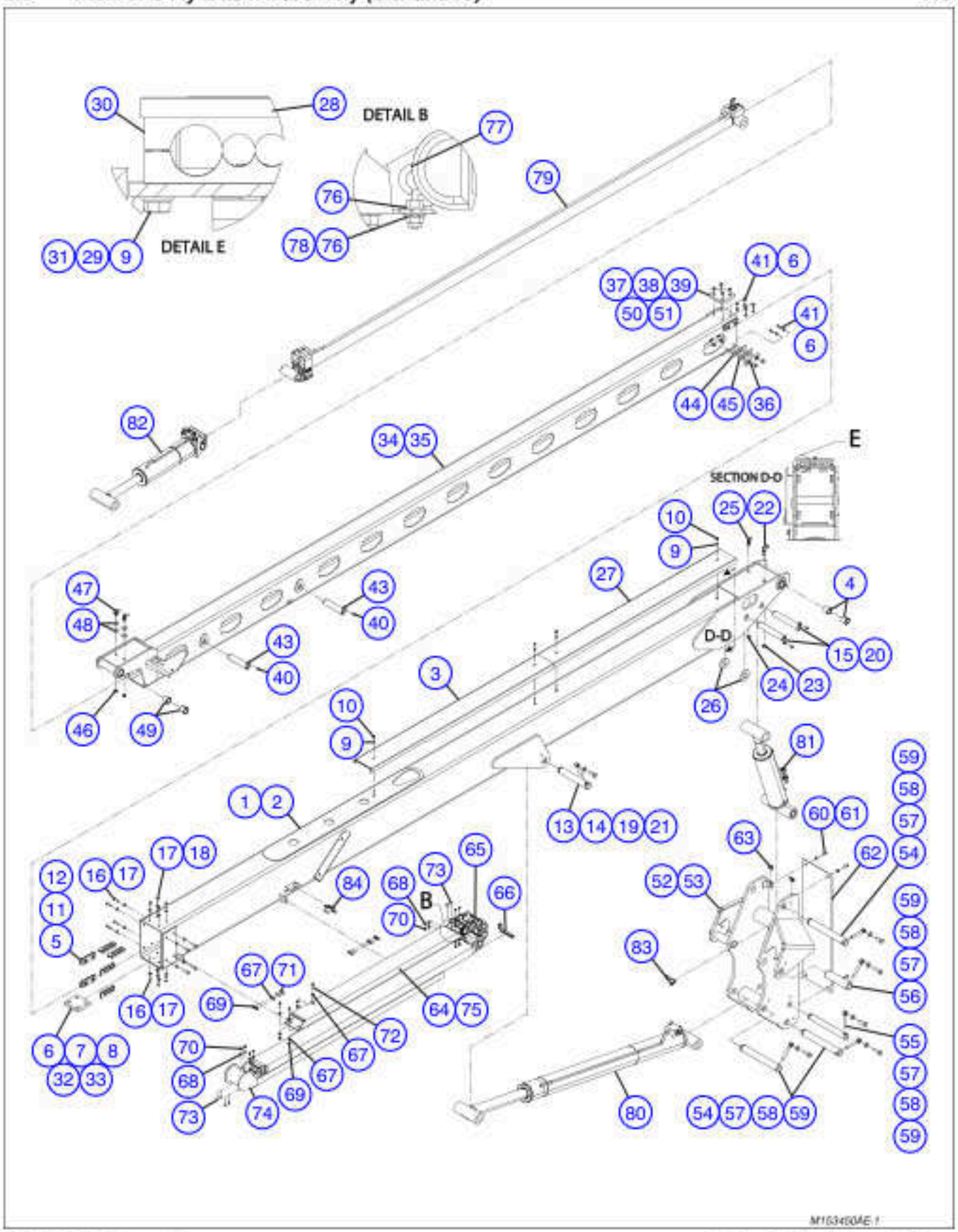
Order the manual at mid-west-tech.com >

**Fitting Arrangement Schedule** (Continued from the previous page)

| HOSE PREFIX | HOSE END FITTING | HOSE END FITTING | S.A.E. HOSE SPECIFICATION |
|---|---|---|---|
| H16 | NO FITTING | NO FITTING | 100R4 |
| H17 | NO FITTING | NO FITTING | 300 PSI |
| H18 | REUSABLE, FEMALE, 37° JIC, SWIVEL | NO FITTING | 300 PSI |
| H19 | LONG 90°, FEMALE, 37° JIC, SWIVEL | FEMALE, 37° JIC, SWIVEL | 100R13 |
| H20 | FEMALE, SHORT 37° JIC, SWIVEL | SHORT 90°, FEMALE, 37° JIC, SWIVEL | 100R4 |
| H21 | FEMALE, SHORT 37° JIC, SWIVEL | SHORT 90°, FEMALE, 37° JIC, SWIVEL | 100R2AT |
| H22 | FEMALE, 37° JIC, SWIVEL | FEMALE, 37° JIC, SWIVEL | 100R2AT |
| H23 | FEMALE, LONG 37° JIC, SWIVEL | LONG 90°, FEMALE, 37° JIC, SWIVEL | 100R2AT |
| H24 | FEMALE, SHORT 37° JIC, SWIVEL | SHORT 90°, FEMALE, 37° JIC, SWIVEL | 100R13 |
| H25 | FEMALE, 37° JIC, SWIVEL | FEMALE, 37° JIC, SWIVEL | 100R4 |
| H26 | SHORT 90°, FEMALE, 37° JIC, SWIVEL | FEMALE, 37° JIC, SWIVEL | 100R17 |
| H27 | LONG 90°, FEMALE, 37° JIC, SWIVEL | FEMALE, 37° JIC, SWIVEL | 100R17 |
| H28 | FEMALE, 37° JIC, SWIVEL | FEMALE, 37° JIC, SWIVEL | 100R17 |
| H29 | SHORT 45°, FEMALE, 37° JIC, SWIVEL | FEMALE, 37° JIC, SWIVEL | 100R17 |
| H30 | MEDIUM 90°, FEMALE, 37° JIC, SWIVEL | FEMALE, 37° JIC, SWIVEL | 100R17 |
| H31 | FEMALE, 37° JIC, SWIVEL | FEMALE, 37° JIC, SWIVEL | 100R17 |
| H32 | SHORT 45°, FEMALE, 37° JIC, SWIVEL | FEMALE, 37° JIC, SWIVEL | 100R17 |
| H33 | MEDIUM 45°, FEMALE, 37° JIC, SWIVEL | FEMALE, 37° JIC, SWIVEL | 100R17 |
| H34 | SHORT 90°, FEMALE, 37° JIC, SWIVEL | FEMALE, 37° JIC, SWIVEL | 100R17 |
| H35 | MEDIUM 90°, FEMALE, 37° JIC, SWIVEL | FEMALE, 37° JIC, SWIVEL | 100R17 |
| H36 | LONG 90°, FEMALE, 37° JIC, SWIVEL | FEMALE, 37° JIC, SWIVEL | 100R17 |
| H37 | SHORT 45°, FEMALE, 37° JIC, SWIVEL | FEMALE, 37° JIC, SWIVEL | 100R4 |
| H38 | SHORT 90°, FEMALE, 37° JIC, SWIVEL | FEMALE, 37° JIC, SWIVEL | 100R4 |
| H39 | LONG 90°, FEMALE, 37° JIC, SWIVEL | FEMALE, 37° JIC, SWIVEL | 100R4 |
| H40 | SHORT 90°, FEMALE, 37° JIC, SWIVEL | FEMALE, 37° JIC, SWIVEL | 100R16 |
| H43 | FEMALE, 37º JIC, SWIVEL | FEMALE, 37º JIC, SWIVEL | 100R16 |
| H51 | FEMALE, 37º JIC, SWIVEL | FEMALE, 37º JIC, SWIVEL | 100R17 |
| H52 | SHORT 45º, FEMALE, 37º JIC, SWIVEL | FEMALE, 37º JIC, SWIVEL | 100R17 |
| H53 | MEDIUM 45º, FEMALE, 37º JIC, SWIVEL | FEMALE, 37º JIC, SWIVEL | 100R17 |
| H54 | SHORT 90º, FEMALE, 37º JIC, SWIVEL | FEMALE, 37º JIC, SWIVEL | 100R17 |
| H55 | MEDIUM 90º, FEMALE, 37º JIC, SWIVEL | FEMALE, 37º JIC, SWIVEL | 100R17 |
| H56 | LONG 90º, FEMALE, 37º JIC, SWIVEL | FEMALE, 37º JIC, SWIVEL | 100R17 |



MidWestTech | Skyjack SJ63AJ Articulating Boom Lift Parts Manual | Publication 159762AH Order the manual at mid-west-tech.com >






MidWestTech | Skyjack SJ63AJ Articulating Boom Lift Parts Manual | Publication 159762AH Order the manual at mid-west-tech.com >