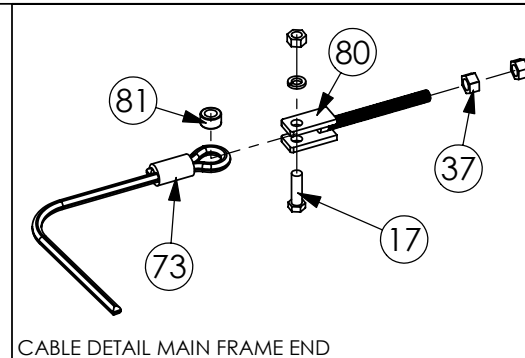
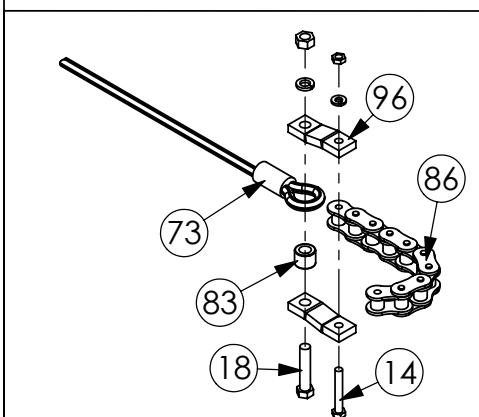
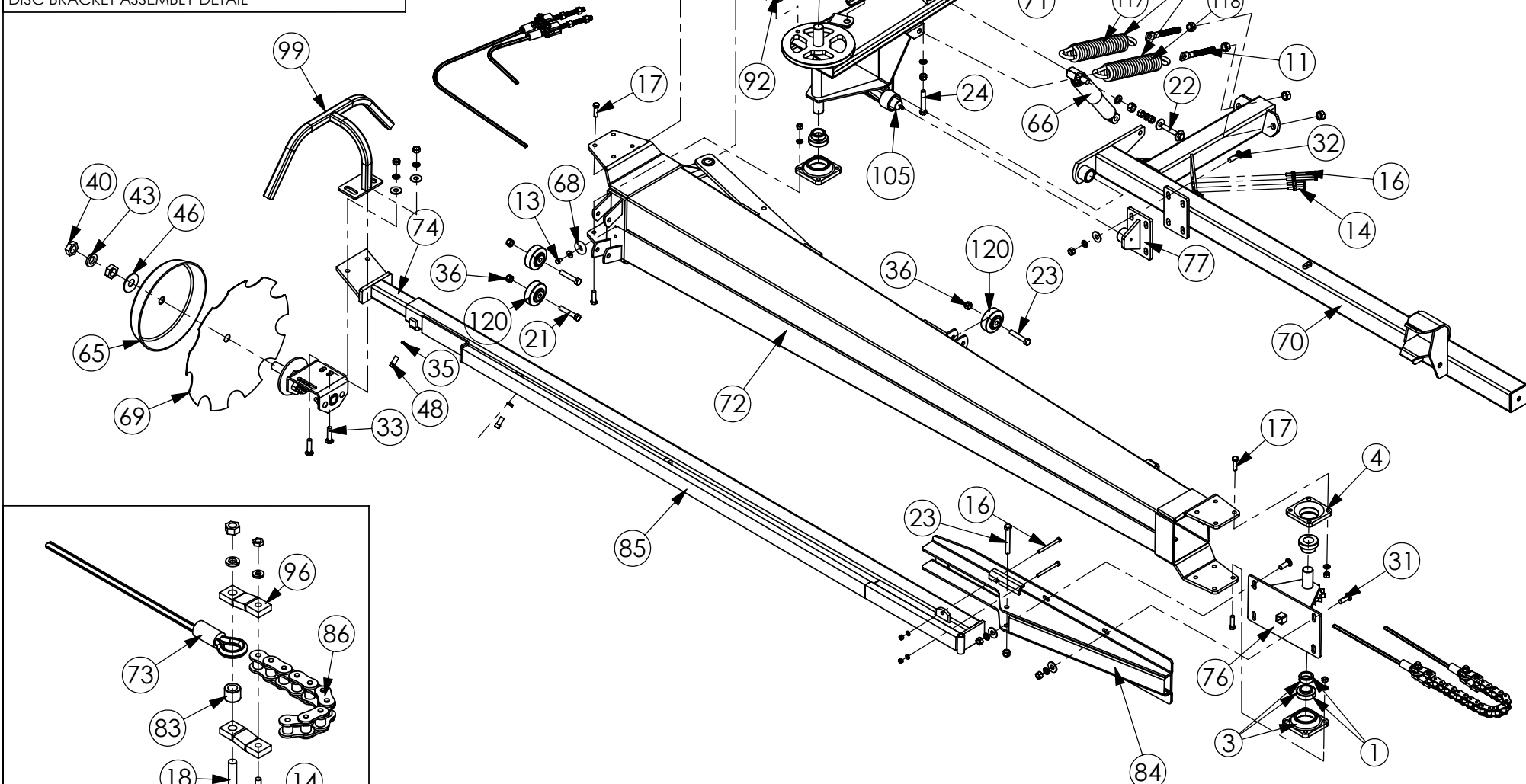


SA-9041 with 18" blade and depth
guage complete is sold as SA-9034

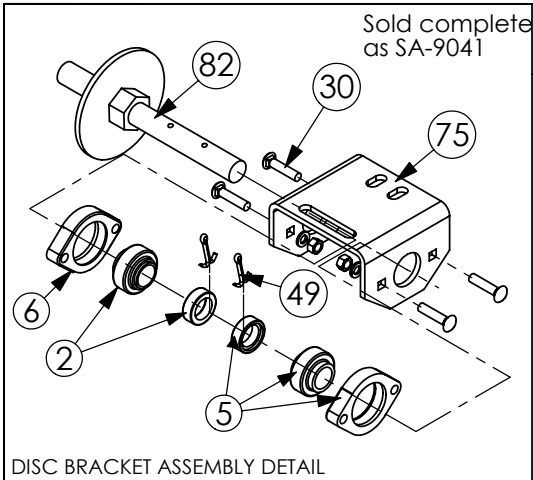
Page 19



246's require 2 - 116



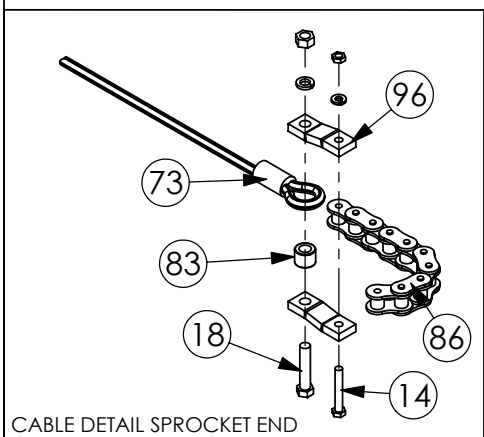
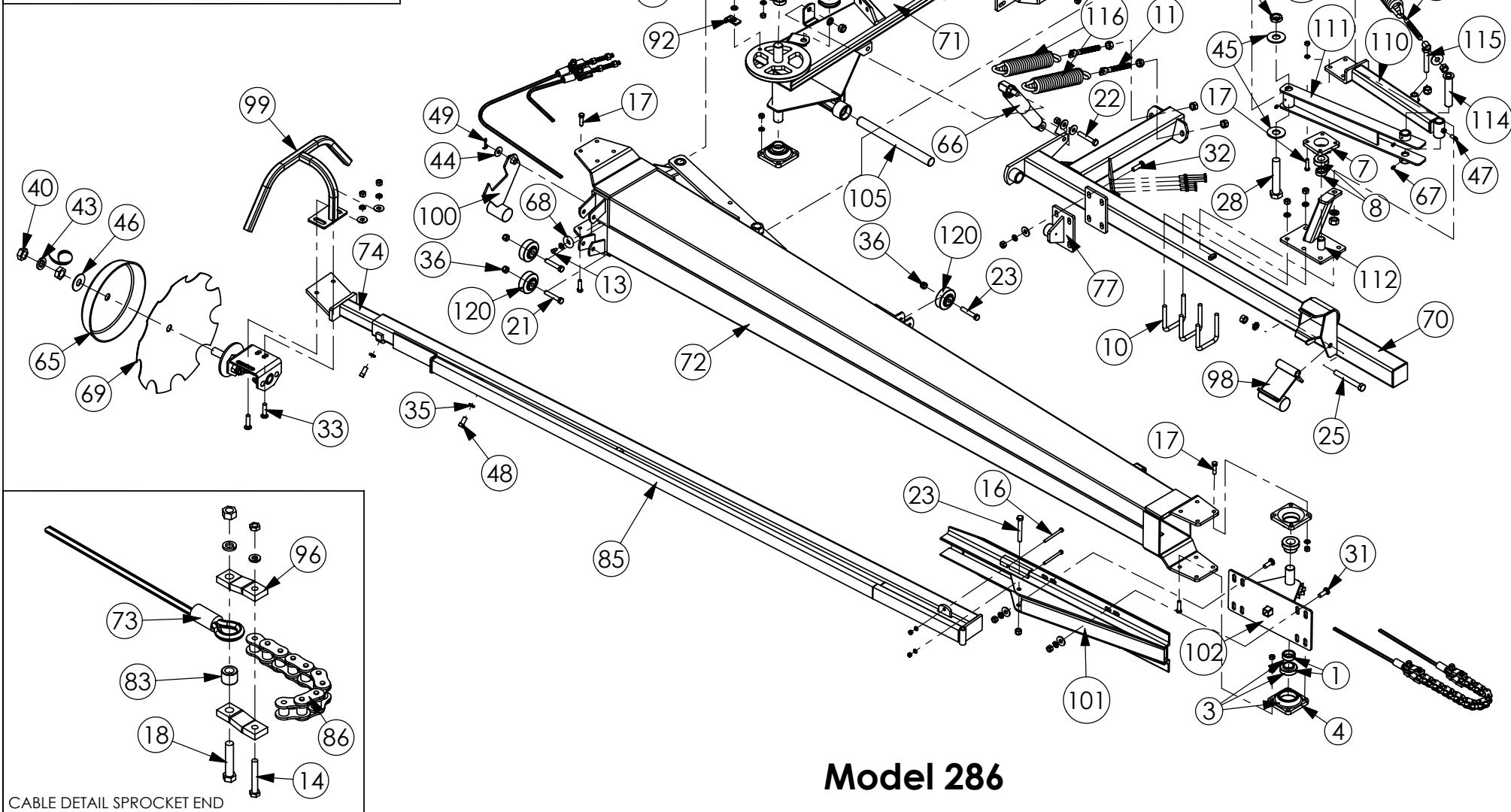
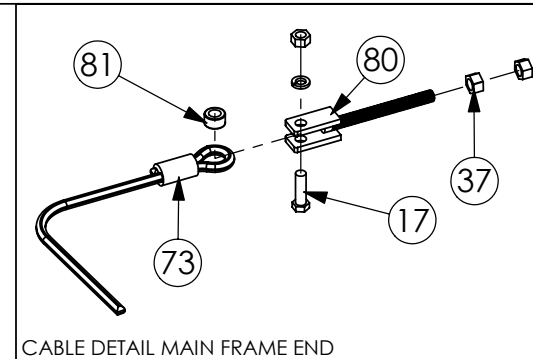
Model 136 & Model 246



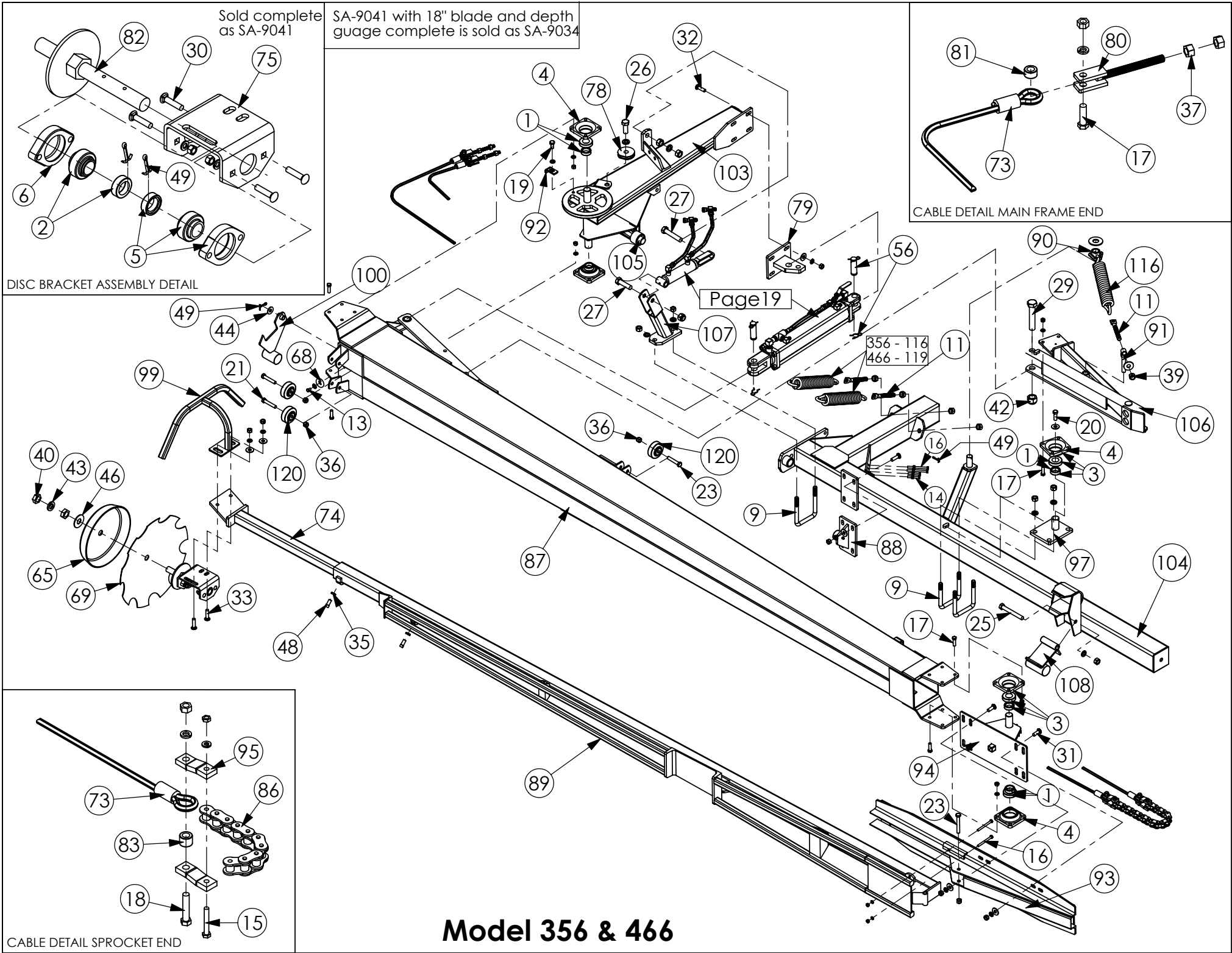
Sold complete
as SA-9041

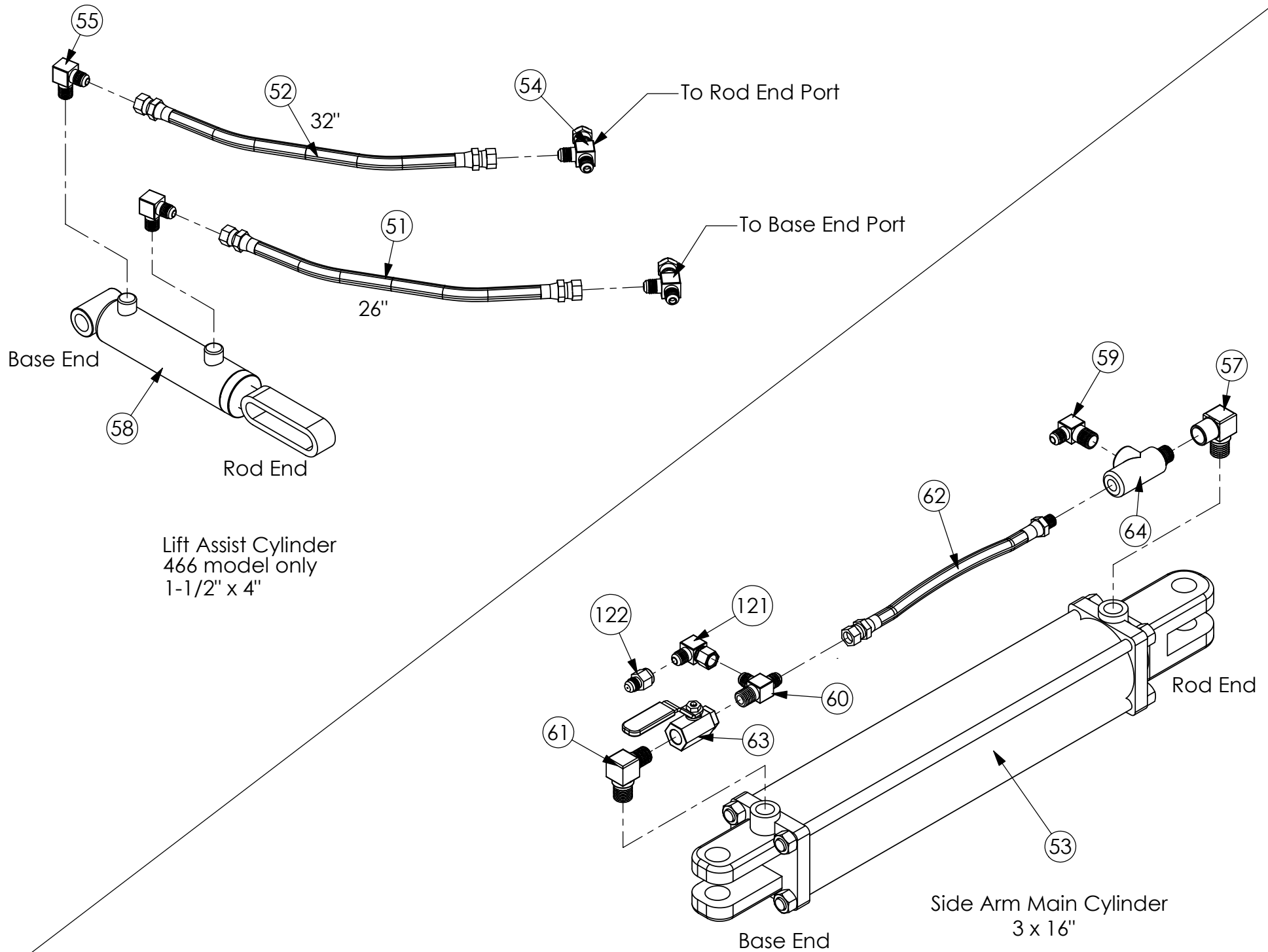
SA-9041 with 18" blade and depth
guage complete is sold as SA-9034

Page 19



15





HAUKAAS FIELD MARKERS

THE FOLLOWING PARTS CORRESPOND WITH THE DRAWINGS ON THE PREVIOUS PAGES

| Drw # | Part # | Description |
|-------|-------------|---|
| 1 | BRG-2207 | 1-1/4" BEARING with LOCKING COLLAR |
| 2 | BRG-2209 | 1" BEARING with LOCKING COLLAR (for 2-BOLT) DISCONTINUED USE BRG-2476 |
| 3 | BRG-2450 | 1-1/4" BEARING & HOUSING COMPLETE |
| 4 | BRG-2463 | 1-1/4" BEARING HOUSING ONLY |
| 5 | BRG-2476 | 1" BEARING & HOUSING COMPLETE (2 BLT) |
| 6 | BRG-2486 | 1" BEARING HOUSING ONLY (2 BLT) DISCONTINUED USE BRG-2476 |
| 7 | BRG-2866 | 1" BEARING HOUSING ONLY (4 BOLT) |
| 8 | BRG-2867 | 1" BEARING with LOCKING COLLAR (for 4 BOLT) |
| 9 | FNS-02290 | 5/8" U-BOLT FOR 4x4" SQ. TUBE |
| 10 | FNS-02357 | 1/2" U-BOLT FOR 3x3" SQ. TUBE |
| 11 | FNS-02392 | 5/8-11x6" I-BOLT (4" THREAD) |
| 12 | FNS-02531 | 3/8"x16x3/8" SETSCREW |
| 13 | FNS-110B5PC | 5/16 x 1/2" GR. 5 HEX BOLT |
| 14 | FNS-112-5PC | 5/16x2" GR. 5 HEX BOLT |
| 15 | FNS-112-8PC | 5/16x2" GR. 8 HEX BOLT |
| 16 | FNS-113B5PC | 5/16x3-1/2" GR. 5 SHEAR BOLT |
| 17 | FNS-131B5PC | 7/16x1-1/2" GR. 5 SHEAR BOLT |
| 18 | FNS-132-5PC | 7/16x2" GR. 5 HEX BOLT PLT |
| 19 | FNS-140C5PC | 1/2 x 3/4" GR. 5 HEX BOLT |
| 20 | FNS-141-5PC | 1/2 x 1" GR. 5 HEX BOLT |
| 21 | FNS-142C5PC | 1/2x2-3/4" GR. 5 HEX BOLT |
| 22 | FNS-143-5PC | 1/2 x 3" GR. 5 HEX BOLT |
| 23 | FNS-143C8PC | 1/2x3-3/4" GR. 8 HEX BOLT |
| 24 | FNS-144B5PC | 1/2x4-1/2" STOP BOLT |
| 25 | FNS-165B5PC | 5/8x5-1/2" GR. 5 HEX BOLT |
| 26 | FNS-172-5PC | 3/4 x 2" GR. 5 HEX BOLT |
| 27 | FNS-172C5PC | 3/4x2-3/4" GR. 5 HEX BOLT |
| 28 | FNS-195B5PC | 1" x 5-1/2" GR. 5 HEX BOLT |
| 29 | FNS-197-5PC | 1" x 7" GR. 5 HEX BOLT |
| 30 | FNS-221B5PC | 3/8x1-1/2" GR. 5 CARRIAGE BOLT |
| 31 | FNS-241A5PC | 1/2x1-1/4" GR. 5 CARRIAGE BOLT |
| 32 | FNS-241B5PC | 1/2x1-1/2" GR. 5 CARRIAGE BOLT |
| 33 | FNS-241C5PC | 1/2x1-3/4" GR. 5 CARRIAGE BOLT |
| 34 | FNS-3685PC | 5/8"x8"NC GR. 5 SPADE BLT |
| 35 | FNS-54JPC | 1/2"- 13 NC JAM NUT |
| 36 | FNS-54LPC | 1/2"- 13 NC NYLON LOCKNUT |
| 37 | FNS-54RPC | 1/2"-13 NC HEX NUT |
| 38 | FNS-57LPC | 3/4"- NC NYLON LOCKNUT |
| 39 | FNS-57SPC | 3/4"-10 STOVER NUT |
| 40 | FNS-59JPC | 1" - 8 JAM NUT PLT |
| 41 | FNS-59RPC | 1"-8 HEX NUT PLT |
| 42 | FNS-59SPC | 1"-8 STOVER NUT PL |
| 43 | FNS-69RP | 1" LOCK WASHER PLT |
| 44 | FNS-74RP | 1/2" FLAT WASHER PLT |
| 45 | FNS-79NP | 1" FLAT WASHER SAE |
| 46 | FNS-79RP | 1" FLAT WASHER PLT |
| 47 | FNS-82CC | 3/8x3/4" SQ HD SET SCREW |
| 48 | FNS-8A41BPC | 1/2 x1-1/2"SQ HD SET SCREW |
| 49 | FNS-8CB-1BP | 3/16 x 1-1/2 COTTER-PIN |
| 50 | FNS-96SLN | 5/8" STOVER LOCK NUT |

HAUKAAS FIELD MARKERS

THE FOLLOWING PARTS CORRESPOND WITH THE DRAWINGS ON THE PREVIOUS PAGES

| | | |
|----|--------------|---|
| 51 | HP-9JF026 | 1/4"HOSEx26" 9/16" FEMALE JIC |
| 52 | HP-9JF032 | 1/4"HOSEx32" 9/16" FEMALE JIC |
| 53 | HYD-2368 | HYDRAULIC CYLINDER |
| 54 | HYD-2515 | 9/16"JIC MxFxF TEE |
| 55 | HYD-2516 | 1/4"MALE NPT->9/16"MALE JIC 90 DEG ELBOW |
| 56 | HYD-2528 | CYLINDER PIN KIT |
| 57 | HYD-2888 | 1/2"MALE NPT->3/8"FEMALE NPT 90 DEG ELBOW |
| 58 | HYD-2890 | 1-1/2"x4" HYDRAULIC CYLINDER (3000PSI) |
| 59 | HYD-25010606 | 9/16" 18 MJIC to 3/8" MNPT 90 DEG |
| 60 | HYD-2892 | 3/8"MALE NPT->#6MALE JIC TEE |
| 61 | HYD-2893 | 1/2"MALE NPT->3/8"MALE NPT 90 DEG ELBOW |
| 62 | HYD-2894 | 1/4"x11-1/2" HOSE 1/4"MALE NPT->#6FEMALE JIC 9/16"-18 |
| 63 | HYD-2895 | 3/8" BALL VALVE |
| 64 | HYD-2896 | PILOT OPERATED CHECK VALVE |
| 65 | MIS-2192 | NYLON DEPTH GAUGE |
| 66 | MIS-2195 | SHOCK ABSORBER |
| 67 | MIS-2325 | GF641 GREASE ZIRK |
| 68 | MIS-2362 | RUBBER BUMPER PAD |
| 69 | MIS-2526 | 18" NOTCHED DISC BLADE |
| 70 | SA-8051L | SMALL SUB-FRAME LEFT 136,246,286 |
| 70 | SA-8051R | SMALL SUB-FRAME RIGHT 136,246,286 |
| 71 | SA-8052L | SMALL MAIN FRAME LEFT 136,246,286 |
| 71 | SA-8052R | SMALL MAIN FRAME RIGHT 136,246,286 |
| 72 | SA-8053/136L | PRIMARY ARM 136 LEFT |
| 72 | SA-8053/136R | PRIMARY ARM 136 RIGHT |
| 72 | SA-8053/246L | PRIMARY ARM 246 LEFT |
| 72 | SA-8053/246R | PRIMARY ARM 246 RIGHT |
| 72 | SA-8053/286L | PRIMARY ARM 286 LEFT |
| 72 | SA-8053/286R | PRIMARY ARM 286 RIGHT |
| 73 | SA-8054/136 | 136 CABLE 88" OVERALL |
| 73 | SA-8054/246 | 246 CABLE 112" OVERALL |
| 73 | SA-8054/286 | 286 CABLE 124" OVERALL |
| 73 | SA-8054/356 | 356 CABLE 134" OVERALL |
| 73 | SA-8054/466 | 466 CABLE 158" OVERALL |
| 74 | SA-8055 | THIRD STAGE ARM |
| 75 | SA-8056 | DISC ASSEMBLY BRACKET |
| 76 | SA-8057 | SMALL SPROCKET ASSEMBLY (4 HOLE) 136,246 |
| 77 | SA-8065 | END BUSHING BRACKET ASSEMBLY |
| 78 | SA-8066 | 3" CABLE PULLEY |
| 79 | SA-8067 | HYDRAULIC CYLINDER ANCHOR BRACKET |
| 80 | SA-8069 | CABLE CLEVIS BOLTS |
| 81 | SA-8082 | CABLE/CLEVIS BUSHING (1/2") |
| 82 | SA-8084 | DISC AXLE |
| 83 | SA-8085 | 1/2 LINK BUSHING 11/16" |
| 84 | SA-8086 | SMALL ANGLE IRON ASSEMBLY (4 HOLE) 136,246 |
| 85 | SA-8087/136 | 136 2ND STAGE ARM TUBE ASSEMBLY |
| 85 | SA-8087/246 | 246 2ND STAGE ARM TUBE ASSEMBLY |
| 85 | SA-8087/286 | 286 2ND STAGE ARM TUBE ASSEMBLY |
| 86 | CHN-2537 | #80 ROLLER CHAIN (18 PINS-20" LONG) |
| 87 | SA-8104/356L | PRIMARY ARM 356 LEFT |
| 87 | SA-8104/356R | PRIMARY ARM 356 RIGHT |
| 87 | SA-8104/466L | PRIMARY ARM 466 LEFT |
| 87 | SA-8104/466R | PRIMARY ARM 466 RIGHT |

HAUKAAS FIELD MARKERS

THE FOLLOWING PARTS CORRESPOND WITH THE DRAWINGS ON THE PREVIOUS PAGES

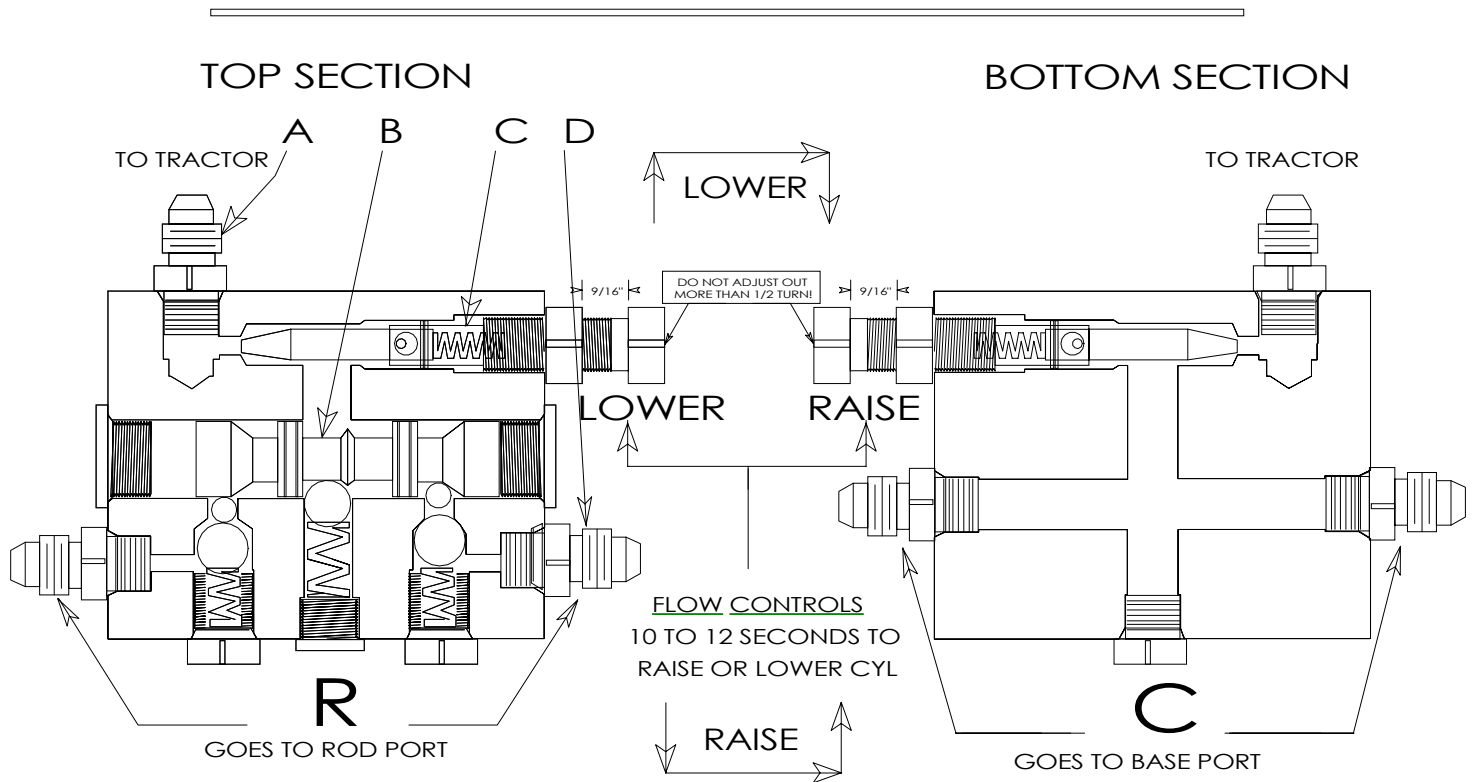
| | | |
|-----|------------------|--|
| 88 | SA-8109L | END BUSHING BRACKET ASSEMBLY LEFT |
| 88 | SA-8109R | END BUSHING BRACKET ASSEMBLY RIGHT |
| 89 | SA-8118/356 | 356 2ND STAGE ARM TUBE ASSEMBLY |
| 89 | SA-8118/466 | 466 2ND STAGE ARM TUBE ASSEMBLY |
| 90 | SA-8182 | STABILIZER SPRING ANCHOR RING |
| 91 | SA-8183 | STABILIZER SPRING LIFT BOLT/BUSHING |
| 92 | SA-8184 | CABLE CLIP |
| 93 | SA-8195 | LG ANGLE IRON ASSEMBLY (8 HOLE) |
| 94 | SA-8196 | LG SPROCKET ASSEMBLY (8 HOLE) |
| 95 | SA-8218 | 3/8 EXTENDED 1/2 LINK 356/466 no hdwe (2 links/pk) |
| 96 | SA-8219 | 3/8" HALF LINK 136-286 no hardware (2 links/pk) |
| 97 | SA-8221 | STABILIZER ARM PIVOT ASSEMBLY |
| 98 | SA-8222 | TUBE LOCK LATCH 136 TO 286 |
| 99 | SA-8223 | 1" SQUARE TUBE DISC GUARD |
| 100 | SA-8224 | AUTO-LOCK LATCH |
| 101 | SA-8335 | SM ANGLE IRON ASSEMBLY (8 HOLE) 286 |
| 102 | SA-8336 | SM SPROCKET ASSEMBLY (8 HOLE) 286 |
| 103 | SA-8337L | 466 MAIN FRAME LEFT |
| 103 | SA-8337R | 466 MAIN FRAME RIGHT |
| 104 | SA-8338L | LARGE SUB-FRAME LEFT |
| 104 | SA-8338R | LARGE SUB-FRAME RIGHT |
| 105 | SA-8339 | MAIN FRAME SHAFT (1-1/4" COLD ROLLED 14" LONG) |
| 106 | SA-8340 | STABILIZER ARM ASSEMBLY |
| 107 | SA-8381 | SL-HYD LIFT BRACKET 466 |
| 108 | SA-8385 | TUBE LOCK LATCH 356,466 |
| 109 | SA-8400 | 8x1.25x8MM SET SCREW 3/64" ORIFICE |
| 110 | SA-8417L | SM STABILIZER TUBE ARM LEFT ASSEMBLY |
| 110 | SA-8417R | SM STABILIZER TUBE ARM RIGHT ASSEMBLY |
| 111 | SA-8418 | SM STABILIZER WEB ARM ASSEMBLY |
| 112 | SA-8419L | SM STAB ARM PEDESTAL 286 LEFT |
| 112 | SA-8419R | SM STAB ARM PEDESTAL 286 RIGHT |
| 113 | SA-8420 | SM STABILIZER ARM SPRING/ANCHOR ASSEMBLY |
| 114 | SA-8421 | SM STABILIZER CENTRE PIN ASSEMBLY |
| 115 | SA-8422 | STAB/I-BOLT HOLDER |
| 116 | SPR-2173 | LARGE CB SPRING |
| 117 | SPR-2315 | SMALL CB SPRING |
| 118 | SPR-2395 | MEDIUM CB SPRING |
| 119 | SPR-2498 | X-LARGE CB SPRING |
| 120 | WHL-2172 | 3" NYLON WHEEL |
| 121 | HYD-65000606 | 9/16 MJ - 9/16 FJS 90 DEG SWIVEL |
| 122 | HYD-24060606.047 | ORIFICE IN 9/16 JIC F-M ADAPTER |

Reference Chart for Springs

| Part # | | Model 136 | Model 246 | Model 286 | Model 356 | Model 466 | Overall Length (in) | Wire Dia (in) | Active Coils |
|----------|-----------------------------|--------------|--------------|--------------|--------------|--------------|------------------------|------------------|-----------------|
| SPR-2315 | SM | 1 | | | | | 13 7/8 | .362 | 27 |
| SPR-2395 | MED | 1 | | 1 | | | 13 | .406 | 23.5 |
| SPR-2173 | LG | | 2 | 2 | 3 | 1 | 13 1/8 | .437 | 21.5 |
| SPR-2498 | X-LG | | | | | 2 | 13 1/4 | .500 | 18.5 |
| SPR-2394 | Weight Equalizer Spring WEK | | | | | | | | |

SA-17ASK SEQUENCE VALVE

IMPORTANT! ORIFICE FITTING ON ELBOW AT BASE END PORT OF CYLINDER SHOULD BE REMOVED ON MODELS 136, 246, AND 286 MARKERS.



The following are the instructions for plumbing a SHOEMAKER Sequencing Valve with the SIDE ARM Field Markers.

On the valve you will find stamped: R and C. Plumb the valve in as follows:

Front Ports - Connects to the hydraulics on tractor.

Port C - Connects to the BASE end port on the hydraulic cylinder. (Ball valve side)

Port R - Connects to the ROD end port on the cylinder. (Check-valve side)

The best location for the valve would be close to the point where the left side of the hitch joins to the center section of the implement. Use the supplied bracket to fasten the valve to the frame of implement.

From the valve there will be two hoses running to the tractor and two hoses running to each marker. (6 hoses in all)

We recommend 3/8" hose be used. Use 9/16" JIC female ends.

Note: Warranty is void if Teflon tape is used.

Note: The fine threaded bolts on the valve then can be adjusted to regulate the speed of the markers. It is possible to slow the oil flow down too much with this adjustment which will cause the valve not to sequence. Do not screw flow adjustment all the way out of valve body as damage to seals may result.

Parts List for SA-17ASK

- 1 - Shoemaker Sequence Valve (gold in color)
- 1 - Valve Bracket (3715)
- 1 - Instruction Sheet
- 1 - 4" x 5/8" U-bolt
- 2 - 3/8" x 1" Hex Bolts
- 2 - 5/8" Nuts
- 2 - 3/8" Lock washers
- 2 - 5/8" Lock washers

Parts List for SHOEMAKER VALVE

- Item A - 9/16" JIC Straight Connector - HYD-2510
- Item B - Spool - HYD-2509
- Item C - Adjustment Assembly (Flow) - HYD-2508
- Item D - Special C Fitting x 9/16" JIC - HYD-2481
- Item E - Seal, Spring and Ball Kit - HYD-2507