



Ariel Compressor Balancing Record

Company: A G Equipment Company
 Order #: 58593 (AP022405)
 Case 7:

Customer: Caiman Eastern
 Inquiry:
 Project: Caiman Energy Recompression



Operating RPM: **890.0**
 Stroke, in: **6.50**

Frame S/N: **F37926**

Balance By: **JASON RINGER**

Completed: 3/15/2012

Frame: **JGC/6**

| ELP | Throw #1 | | Throw #2 | | Throw #3 | | Throw #4 | | Throw #5 | | Throw #6 | |
|---|----------|--------|----------|--------|----------|--------|----------|--------|----------|--------|----------|--------|
| | P/N | LB | P/N | LB | P/N | LB | P/N | LB | P/N | LB | P/N | LB |
| Parts Group | AD-5197 | 165.21 | AD-5197 | 165.50 | AD-5197 | 165.21 | AD-5197 | 164.60 | AD-5197 | 165.43 | AD-5197 | 165.30 |
| | C-2641 | 238.80 | C-1236 | 162.81 | C-2641 | 239.93 | C-1236 | 163.22 | C-2641 | 236.25 | C-1236 | 162.96 |
| Connecting Rod with Bushing, bolts and bearing shells | C-1248 | | C-1247 | | C-1248 | | C-1247 | | C-1248 | | C-1247 | |
| | D-5802 | 144.69 | D-5199 | 191.43 | D-5802 | 143.45 | D-5199 | 188.96 | D-5802 | 145.37 | D-5199 | 188.47 |
| Crosshead with bushings | B-1438 | 19.09 | B-1444 | 48.94 | B-1438 | 19.09 | B-1444 | 49.00 | B-1438 | 19.09 | B-1444 | 48.70 |
| | 567.79 | | 568.68 | | 567.68 | | 565.78 | | 566.14 | | 565.43 | |
| Total Recip Weight Max: 986.10 | 0.89 | | 1.90 | | 0.71 | | 0.71 | | 0.71 | | 0.71 | |
| Imbalance Max: 2.50 | | | | | | | | | | | | |



Ariel Lubrication Sheet

Company: A G Equipment Company
 Order #: 58593 (AP022405)
 Case 9:

Customer: Caiman Eastern
 Inquiry:
 Project: Caiman Energy Recompression



7.6.6.2

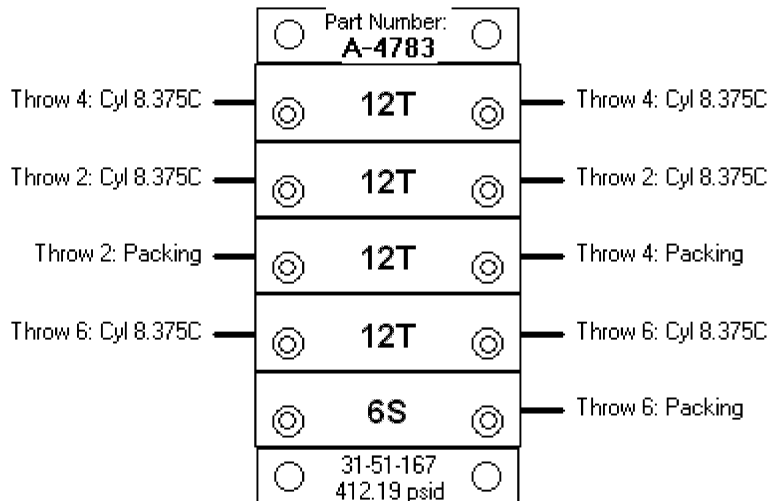
Frame: JGC/6 Stroke, in: 6.50 Rod Dia, in: 2.500 Frame S/N: F37926
 Gas Stream: Natural Gas (Water Saturated and/or Heavy hydrocarbons)

| Throw | Cylinder Model | MAWP psig | Service | Stage # | Suct Press psia | Disch Press psia | Serial No. |
|-------|----------------|-----------|-----------|---------|-----------------|------------------|------------|
| 2 | 8.375C | 1895.0 | Service 1 | 2 | 502.71 | 1327.10 | C131601 |
| 4 | 8.375C | 1895.0 | Service 1 | 2 | 502.71 | 1327.10 | C131603 |
| 6 | 8.375C | 1895.0 | Service 1 | 2 | 502.71 | 1327.10 | C131605 |

| | |
|---|---|
| Applied Speed, RPM | 890 |
| Cycle Time at Applied Speed, sec | 11.2 (see chart, lower right) |
| Break-In Cycle Time, sec | 6.7 (For period of 200 hours) |
| Recommended lubricant (mineral oil) for application and pressures | <i>SAE 50-60 wt (ISO 220-320) or SAE 40 wt (ISO 150) w/ Compounding</i> |

| | |
|---------------------------------|--|
| Rupture Disc | Purple 3250.00 psig, 0.250 in hole dia. |
| Lubricator Pump Diameter | 3/8" (0.3750 in) |
| Qty of Pumps feeding this block | 2 |
| Recommended base feed rate | 0.50 Pints/day/in of bore diameter |

Throw 2, 4, 6



| Lube Point Description | Base Rate Multiplier | Recommended Pints/day | Delivered Pints/day | Del/ Rec |
|--------------------------|----------------------|-----------------------|---------------------|----------|
| Throw 4: Cylinder 8.375C | 1.50 | 2.80 | 3.20 | 114% |
| Throw 4: Cylinder 8.375C | 1.50 | 2.80 | 3.20 | 114% |
| Throw 2: Cylinder 8.375C | 1.50 | 2.80 | 3.20 | 114% |
| Throw 2: Cylinder 8.375C | 1.50 | 2.80 | 3.20 | 114% |
| Throw 2: Packing | 1.50 | 3.34 | 3.20 | 96% |
| Throw 4: Packing | 1.50 | 3.34 | 3.20 | 96% |
| Throw 6: Cylinder 8.375C | 1.50 | 2.80 | 3.20 | 114% |
| Throw 6: Cylinder 8.375C | 1.50 | 2.80 | 3.20 | 114% |
| Throw 6: Packing | 1.50 | 3.34 | 3.20 | 96% |

| RPM | Cycle Time, sec | | Pints/day | |
|------------|-----------------|------------|-------------|-------------|
| | Normal | Break-In | Normal | Break-In |
| 1000 | 10.0 | 6.0 | 32.3 | 53.9 |
| 900 | 11.1 | 6.7 | 29.1 | 48.5 |
| 890 | 11.2 | 6.7 | 28.8 | 47.9 |
| 800 | 12.5 | 7.5 | 25.8 | 43.1 |
| 700 | 14.3 | 8.6 | 22.6 | 37.7 |
| 600 | 16.7 | 10.0 | 19.4 | 32.3 |
| 500 | 20.0 | 12.0 | 16.1 | 27.0 |

****NOTE:** Ariel suggests that delivered/recommended amount for cylinders and packings be within 90 - 125%. These recommendations are general guidelines. If the lubricants or flow rates do not appear to work adequately, flow rates and/or lubricant types may need to be changed. Please contact the lubricant supplier for specific lubricant recommendations. See Section 6.0 of the Ariel Packager Standards for more information.

3/07/12 ARIEL CORPORATION C/N: 001 RHCOVP02
 SALES ORDER COVER SHEET

SERIAL #: F37926

PART: JGC CLASS DESCRIPTION: JGC:D FRAME CLASS

| PART NUMBER | QTY | DESCRIPTION | DRAWING NO. |
|-----------------|-----|---|---------------|
| G-19252 | 1 | FRAME ASSEMBLY, C:D/6, STD, DRILLED FOR BEARING TEMPERATURE DEVICE | A-11002 |
| G-10224 | 1 | CRKSHAFT ASSY,C6,6-1/2STK,DUAL | A-13047 |
| G-16735 | 6 | GUIDE ASSY,C:D,STD | A-16316 |
| G-14984 | 6 | CONN ROD ASSY,FS,JGC:D ELP | A-3093 |
| G-14981 | 6 | X-HEAD ASSY,JGC:D ELP | A-14464 |
| A-1987 | 1 | 24T-24T-24T-18T-9S | N.A. |
| A-4783 | 1 | 12T-12T-12T-12T-6S | N.A. |
| B-1438 | 3 | XHD NUT,19.2#,RND,JGC:D | B-1438 |
| D-5199 | 3 | CROSSHEAD, L/M, DI, 194.0#, ELP, JGC:D | D-5199 |
| D-5802 | 3 | CROSSHEAD, LGT, DI, 146.2#, ELP, JGC:D | D-5802 |
| G-2904 | 1 | DRIVE END CVR,C:D/6,STD OR R/R | A-4295 |
| G-10387 | 1 | AUX.END CVR,C:D/6,4 PUMP,DUAL | A-11770 |
| G-0986 | 1 | LO LEVEL GLASS,J6>,STD | A-4068 |
| G-19612 | 1 | LUBE OIL PUMP ASSY, G-R, JGC:D/6, DUAL | A-18490 |
| FF LUBRICATOR A | 1 | FORCE FEED LUBRICATOR | A-18971 2 SHT |
| G-5299 | 1 | DISTRIBUTION BLOCK MOUNTING. SINGLE, JGR:W/4, JGJ/4:6, JGH:E:K:T/4:6, JGC:D/4:6 | N.A. |
| G-2708 | 2 | RUPTURE DISC ASSEMBLY, 3250 PSI | N.A. |
| G-2861 | 1 | FF TUBING,JGC:D/6,E:K:T/6 | N.A. |
| G-10225 | 1 | CHAIN ASSY,C:D/6,STD,R/R,DUAL | A-11650 |
| G-19684 | 1 | TOP COVER ASSEMBLY, 1 PIECE GASKET, JGC:D/6 | A-18567 |
| G-19564 | 2 | FORCE FEED GAUGE ASSEMBLY, 3000 PSI, LUBE BLOCK, 3/8 TUBE | A-18433 |
| G-12164 | 2 | FORCE FEED PROXIMITY SWITCH, CYCLE INDICATOR, KENCO, TRABON-SB | N.A. |
| G-8091 | 1 | THRM VLV2"FLG,MTD,CD46,EKT6STD | A-3224 |

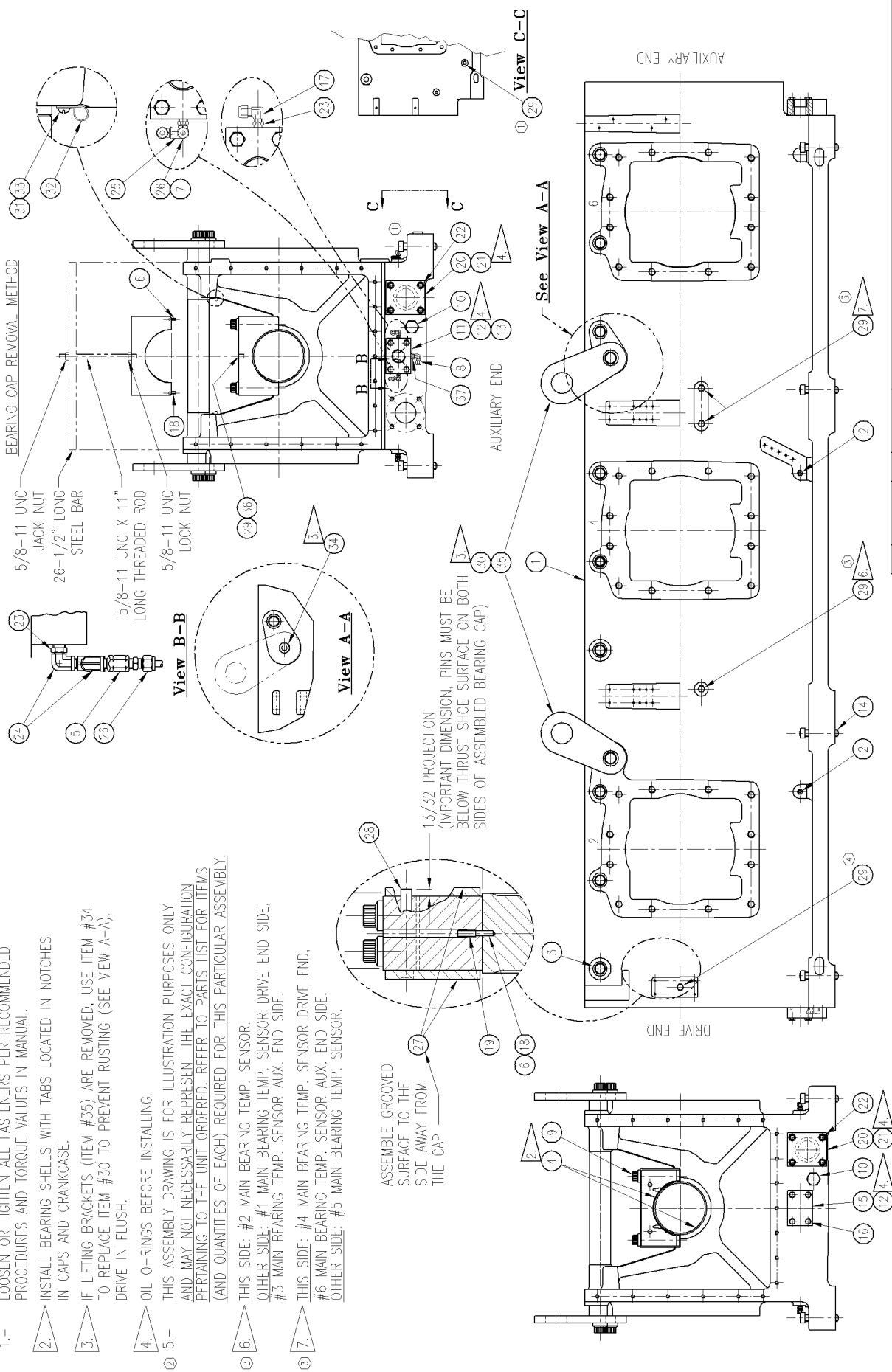
3/07/12

SALES ORDER COVER SHEET

| PART NUMBER | QTY | DESCRIPTION | DRAWING NO. |
|-------------|-----|---|-------------|
| G-2226 | 1 | ANALYZER DRIVE SHAFT FOR ALL UNITS EXCEPT JGB AND KBB | A-2793 |
| G-5738 | 14 | CRANK VIB DETUNER,C:D, 400WR2 | A-6742 |
| G-16337 | 1 | TOOL KIT ASSY, JGC:D,W/110 $\frac{1}{2}$ IND | N.A. |
| G-17577 | 1 | OVER PRESSURE RELIEF VALVE ASSEMBLY, C:D/6 | A-17200 |

NOTES:

- 1.- LOOSEN OR TIGHTEN ALL FASTENERS PER RECOMMENDED PROCEDURES AND TORQUE VALUES IN MANUAL.
2. INSTALL BEARING SHELLS WITH TABS LOCATED IN NOTCHES IN CAPS AND CRANKCASE.
3. IF LIFTING BRACKETS (ITEM #35) ARE REMOVED, USE ITEM #34 TO REPLACE ITEM #30 TO PREVENT RUSTING (SEE VIEW A-A). DRIVE IN FLUSH.
4. OIL O-RINGS BEFORE INSTALLING.
- 5.- THIS ASSEMBLY DRAWING IS FOR ILLUSTRATION PURPOSES ONLY AND MAY NOT NECESSARILY REPRESENT THE EXACT CONFIGURATION PERTAINING TO THE UNIT ORDERED. REFER TO PARTS LIST FOR ITEMS (AND QUANTITIES OF EACH) REQUIRED FOR THIS PARTICULAR ASSEMBLY.
6. THIS SIDE: #2 MAIN BEARING TEMP. SENSOR.
OTHER SIDE: #1 MAIN BEARING TEMP. SENSOR DRIVE END SIDE, #3 MAIN BEARING TEMP. SENSOR AUX. END SIDE.
7. THIS SIDE: #4 MAIN BEARING TEMP. SENSOR DRIVE END, #6 MAIN BEARING TEMP. SENSOR AUX. END SIDE.
OTHER SIDE: #5 MAIN BEARING TEMP. SENSOR.



| | | |
|-----|--|------------|
| 4 | REVISED DRAWING. (A-2) ADDED ITEM #29. UPDATED TO CURRENT KSL STANDARDS. | 12/11/2007 |
| 3 | REVISED DRAWING. @C1: ADDED NOTES #6 & #7. @A3: ADDED FLAG #6. @A4: ADDED FLAG #7. | 03/23/2005 |
| REV | DESCRIPTION | INIT/DATE |

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| | | | | | |
|-----------------------|-------|-------------|------|---------------------------|------|
| 3 | 12450 | ECN | REV | ECN | 3 |
| 2 | 10982 | ECN | REV | ECN | 3 |
| 1 | 10797 | ECN | REV | ECN | 3 |
| 4 | 14732 | 0 | 8864 | 0 | 8864 |
| DRAWN: RLW 09-12-01 | | APPROVED: | | ASSEMBLY DWG. NO. A-11002 | |
| CHECKED: CAH 09-14-01 | | SCALE: NONE | | MOUNT VERNON, OHIO 43050 | |
| | | | | 35 BLACKJACK ROAD | |
| | | | | ARIEL CORPORATION | |



3/07/12

PARTS LIST

JGC:D/6 FRAME, SPACER BARS, MAIN CAPS,
BEARINGS & THRUST PLATES, DRILLED FOR
BEARING TEMPERATURE DEVICE.

PART NO. G-19252
REF DRAWING A-11002

| ITEM | PART NUMBER | QTY | DESCRIPTION |
|------|-------------|-----|---|
| 1 | D-6020 | 1 | FRAME, BTD, JGC:D/6 |
| 2 | A-3051 | 5 | MALE CONN,STL,3/8T X 3/8P |
| 3 | A-3068 | 18 | 12-POINT CAPSCREW, 1-3/8-12 X 9, G8 |
| 4 | B-3995 | 12 | SLEEVE BEARING, HALF SHELL, MAIN / CONNECTING ROD, JGC:D |
| 5 | A-3763 | 1 | CHK VLV,1/8MX1/8F,SS,PPT/14PSI |
| 6 | FP0500HG | 0 | DOWEL PIN, 3/8 OD X 1" LONG, +.0002 |
| 7 | A-0918 | 1 | PLUG, TUBE FITTING, STL, 1/4 TUBE |
| 8 | A-0925 | 1 | MALE ELBOW,STL, 3/8T X 1/4P |
| 9 | FC0120LEE | 24 | 12-POINT CAPSCREW, 1-1/8-7 X 9, G8 |
| 10 | PP0810MB | 2 | PIPE PLUG,1-1/4NPT,HEX HD,STL |
| 11 | A-9589 | 1 | END PLATE, OIL GALLERY, WITH PORT, JGC:D/6 |
| 12 | A-0018 | 2 | O-RING, VT, 2.770 OD X .210, 75/85 DUROMETER |
| 13 | FC0102GO | 4 | HEX HEAD CAPSCREW, 1/2-13 X 3, G5 |
| 14 | FS0420KV | 8 | SET SCREW, SQUARE HEAD, OVAL POINT, 1-8 X 5-1/2 |
| 15 | A-3065 | 1 | END PLATE, JGC:D/2:4:6 |
| 16 | FC0102GL | 4 | HEX HEAD CAPSCREW, 1/2-13 X 2-1/4, G5 |
| 17 | A-0815 | 1 | MALE ELBOW, STL, 1/4 TUBE X 1/8 NPT |
| 18 | FP0500GG | 0 | DOWEL PIN, 5/16 OD X 1" LONG, +.0002 |
| 19 | FS0400FG | 0 | SET SCREW, CUP POINT, 7/16-14 X 1" |
| 20 | A-3208 | 2 | END PLATE, HEATER MOUNTING, JGC:D/2:4:6 |
| 21 | A-0013 | 2 | O-RING, VT, 3.520 OD X .210, 75/85 DUROMETER |
| 22 | FC0120HJ | 8 | 12-POINT CAPSCREW, 5/8-11 X 1-3/4, G8 |

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
DOES NOT REPRESENT THE QUANTITY REQUIRED.

*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***

3/07/12

PARTS LIST

| | | | |
|----|----------|---|--|
| 23 | A-0811 | 2 | HEX REDUCING BUSHING, 1/4 NPT (MALE) X 1/8 NPT (FEMALE), STL |
| 24 | A-0804 | 2 | STREET ELBOW, 90° 1/2", 1/8 NPT, STL |
| 25 | A-15556 | 1 | STREET TEE, STL, 1/8P |
| 26 | A-0830 | 2 | MALE CONNECTOR, STL, 1/4 TUBE X 1/8 NPT |
| 27 | B-1423 | 2 | THRUST PLATE, BZ, JGC:D |
| 28 | FP0510LU | 2 | SPIROL PIN, 5/8 OD X 5 LONG |
| 29 | PP0810GB | 2 | PIPE PLUG, HEX HEAD, 1/2 NPT, STL |
| 30 | FC0120NQ | 4 | 12-POINT CAPSCREW, 1-1/2-6 X 3-1/2, G8 |
| 34 | FS0400NK | 4 | SET SCREW, CUP POINT, 1-1/2-6 X 2 |
| 35 | B-1837 | 4 | LIFTING BRACKET, NEW STYLE C:D6 |
| 36 | FS0450HC | 6 | SET SCREW, CUP POINT, NYLON PATCH, 5/8-11 X 1/2 |
| 37 | A-0841 | 1 | HEX REDUCING BUSHING, STL, 1/2 NPT(MALE) X 1/4 NPT(FEMALE) |

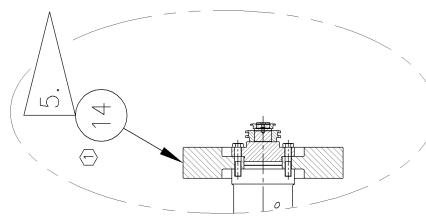
WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT DOES NOT REPRESENT THE QUANTITY REQUIRED.

1

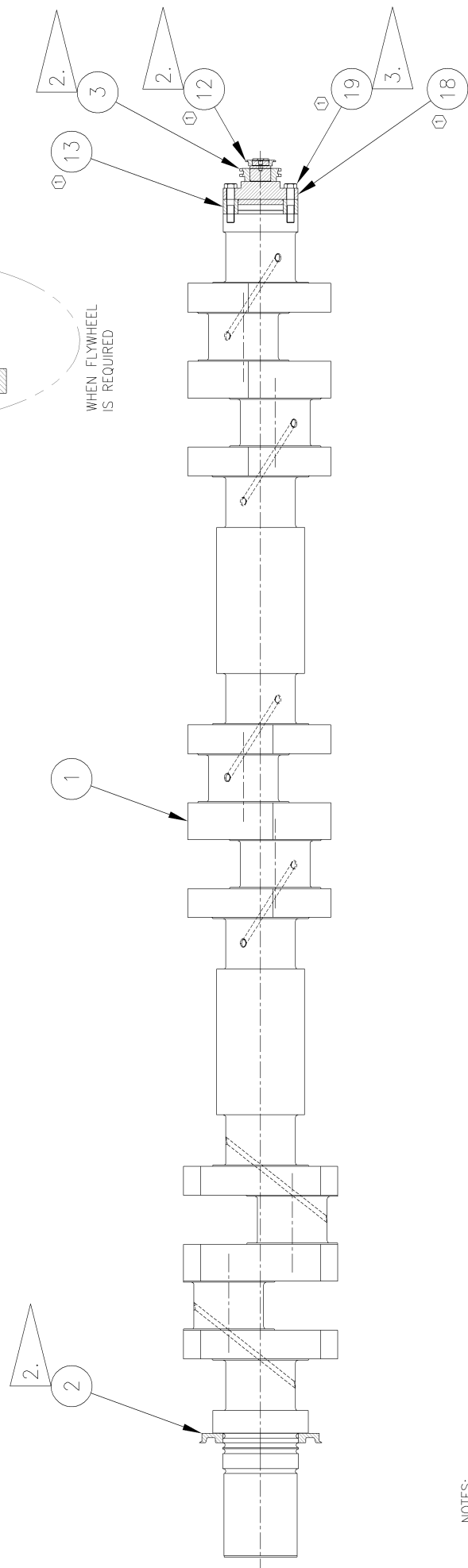
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4



WHEN FLYWHEEL IS REQUIRED



NOTES:

1. THIS ASSEMBLY DRAWING IS FOR ILLUSTRATION PURPOSES ONLY AND MAY NOT NECESSARILY REPRESENT THE EXACT CONFIGURATION PERTAINING TO THE UNIT ORDERED. REFER TO ACCOMPANYING PARTS LIST FOR ITEMS (AND QUANTITIES OF EACH) REQUIRED FOR THIS PARTICULAR ASSEMBLY
2. HEAT TO 350° TO SHRINK ON.
3. TORQUE TO 215 FT-LBS.
4. LOOSEN OR TIGHTEN ALL FASTENERS PER RECOMMENDED PROCEDURES AND TORQUE VALUES IN MANUAL.

INSTALLATION INFORMATION FOR FLYWHEEL:

REMOVE THE TOP COVER AND THE LUBE OIL PUMP PIPING. THE IDLER SPROCKET WILL HAVE TO BE REMOVED WHICH WILL ALLOW THE CHAIN TO BE REMOVED. REMOVE THE ENTIRE AUXILIARY END COVER WITH AS MANY PARTS ATTACHED AS POSSIBLE. THIS WILL ELIMINATE MUCH OF THE RE-ASSEMBLY WORK AS WELL AS THE NEED TO RE-ALIGN THE SPROCKETS USING FEELER GAUGES. THE PIPING FOR THE LUBE OIL PUMP MUST BE REMOVED AS WILL THE TUBING TO THE FORCE FEED LUBRICATOR BOX AND THE LUBE OIL PRESSURE GAUGE.

REMOVE THE DAMPER DUMMY SPACER FROM THE CRANKSHAFT BY REMOVING THE 12 BOLTS THROUGH THE ADAPTOR. THE FLYWHEEL WILL BE INSTALLED IN THE PLACE OF THE SPACER. AFTER ASSEMBLING THE FLYWHEEL AND ADAPTOR, TORQUE THE (12) BOLTS TO 215 FT-LBS.

ASSEMBLE THE AUXILIARY END COVER AND THE CHAIN AT THE SAME TIME WITH THE IDLER SPROCKET REMOVED. WHEN INSTALLED, HOLD THE CHAIN UP AND INSTALL THE IDLER SPROCKET. TIGHTEN THE CHAIN USING ARIEL RECOMMENDED PROCEDURES OUTLINED IN THE OPERATORS MANUAL.

RE-ASSEMBLE THE PIPING TO THE LUBE OIL PUMP AS WELL AS THE TUBING TO THE FORCE FEED BOX AND PRESSURE GAUGE.

| | | | |
|-----|---|-----------|------------|
| 2 | (A-2) SECOND PARAGRAPH OF FLAG NOTE #5 WAS: "REMOVE THE DAMPER ... TORQUE THE (12) BOLTS TO 215 FT-LBS." | FET | 7/18/11 |
| 1 | RENAMED ITEM #18 WAS ITEM #4 @B4. ITEM #19 WAS ITEM #5 @B4. ITEM #12 WAS ITEM #7 @B4. ITEM #13 WAS ITEM #6 @C4. ITEM #14 WAS ITEM #B @C4. | NEE | 05/04/2006 |
| REV | DESCRIPTION | INIT/DATE | |

| | | | |
|--|-------|----------------------------------|-------------------------------------|
| <p>ARIEL CORPORATION 35 BLACKJACK ROAD MOUNT VERNON, OHIO 43050</p> | | APPROVED: M.L.B. 02/02/05 | ASSEMBLY DWG. NO. A-13047 |
| 2 | 17667 | 0 | 12658 |
| 1 | 13620 | ECN | DAH 02/07/05 |
| REV | | SCALE | NONE |

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4

1

3

1

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1

4

*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***
3/07/12

PARTS LIST

JGC/6 CRANKSHAFT, FORGED ALLOY STEEL, PART NO. G-10224
FOR DUAL CHAIN. 6-1/2" STROKE REF DRAWING A-13047

| ITEM | PART NUMBER | QTY | DESCRIPTION |
|------|-------------|-----|--|
| 1 | AD-3480 | 1 | CRANKSHAFT ASSEMBLY, FS, DUAL CHAIN, JGC/6 |
| 1 | D-1589 | 0 | CRANKSHAFT, FS, ALLOY STL, JGC/6 |
| 2 | B-1612 | 0 | OIL SLNGR,DRIVE END,C:D/6 |
| 3 | A-11617 | 0 | SPKT,40-2 X 25T |
| 12 | A-11619 | 0 | SPKT,35-1 X 24T |
| 13 | B-1631 | 1 | SPACER,DAMPER DUMMY C:D:Z:U/6 |
| 18 | AB-3450 | 0 | ADAPTER ASSEMBLY, VIBRATION DAMPER, DUAL CHAIN, JGC:D/6 |
| 19 | FC0105IQ | 12 | HEX HEAD CAPSCREW, 3/4-16 X 3-1/2, G9 |
| 99 | AD-3480-C | 0 | CRANKSHAFT ASSEMBLY WITH CRATE, DUAL CHAIN, JGC/6 |

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
DOES NOT REPRESENT THE QUANTITY REQUIRED.

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3/07/12

PARTS LIST

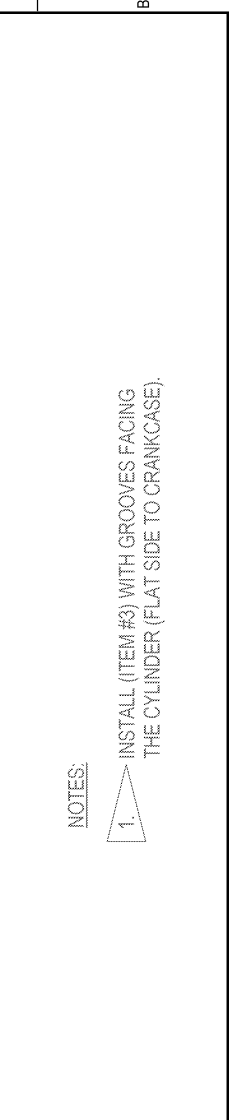
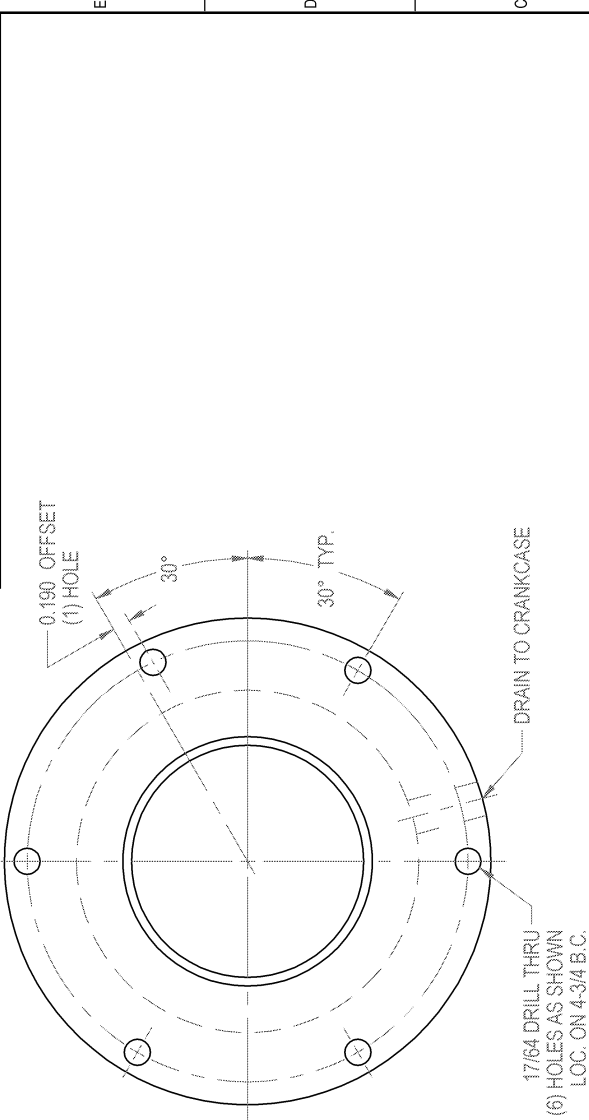
JGC:D CROSSHEAD GUIDE PART NO. G-16735
REF DRAWING A-16316

| ITEM | PART NUMBER | QTY | DESCRIPTION |
|------|-------------|-----|---|
| 1 | D-2928 | 1 | X-HD GUIDE,S2,JGC:D |
| 2 | B-1428 | 1 | GSKT,NST,22-1/4 X19-1/4X1/64 |
| 3 | FC0120KQ | 12 | 12-POINT CAPSCREW, 1-8 X 3-1/2, G8 |
| 4 | B-1426 | 2 | COVER, CROSSHEAD GUIDE, JGC:D |
| 5 | B-1429 | 2 | GSKT,RET,13-1/2X17-7/8X1/32 |
| 8 | A-10187 | 48 | SEMS BOLT, 1/2-13 X 1-3/4, G5 |
| 10 | A-0415 | 2 | LUBE FITTING, 3/4-10 X 2 |
| 11 | FW0550IA | 6 | STAT-O-SEAL, 3/4 DIA., NITRILE |
| 12 | A-0815 | 2 | MALE ELBOW, STL, 1/4 TUBE X 1/8 NPT |
| 13 | A-9099 | 1 | MALE ELBOW,STL, 3/4T X 3/4P |
| 14 | A-15517 | 1 | SS GUIDE VENT TUBE |
| 16 | A-15683 | 2 | PIPE PLUG, 1/2NPT, SQUARE HEAD, STL, DRILLED |
| 17 | A-8725 | 1 | OMNI OIL TRAP, STEM, SS, 1/8 NPTF |
| 18 | A-3181 | 1 | EYEBOLT,1-3/4-8 UNC, SHORT |
| 19 | A-0863 | 1 | HEX REDUCING BUSHING, STL, 1" NPT(MALE) X 3/4 NPT(FEMALE) |
| 20 | A-0926 | 1 | MALE BRANCH TEE,STL, 3/8TUBE X 1/4NPT |
| 21 | A-0800 | 1 | MALE ELBOW, STL, 1/4 TUBE X 1/4 NPT |
| 23 | B-1425 | 1 | X-HD GUIDE,GLAND,JGC:D |
| 24 | A-3117 | 1 | O-RING, VT, 9.895 OD X .210, 75/85 DUROMETER |
| 25 | FC0102GI | 5 | HEX HEAD CAPSCREW, 1/2-13 X 1-1/2, G5 |
| 27 | B-1690 | 1 | PKG,2.5, OIL WIPER,WAT |
| 29 | A-3780 | 1 | CHECK VALVE, POPPET, DOUBLE BALL, SOFT SEAT, SS, 1/4 NPTF INLET X 1/4 NPTF OUTLET |

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
DOES NOT REPRESENT THE QUANTITY REQUIRED.

1 2 3 4 5 6 7 8

| COMPONENT PART LIST | | | | |
|---------------------|------|----------|------------------------|-------|
| ITEM | QTY. | PART NO. | DESCRIPTION | MAT'L |
| - | - | B-1690 | COMPLETE PACKING | |
| - | - | B-1690-K | COMPLETE REBUILD KIT | |
| 1 | 1 | A-3371 | WIPER CUP, 2-1/2 | C.I. |
| 2 | 1 | A-3357 | PACKING PLATE, 2-1/2 | C.I. |
| 3 | 1 | A-3267 | WIPER RINGS "3RWS" | C.I. |
| 4 | 1 | A-4216 | DOUBLE SEAL RING "WAT" | TFE |



NOTES:
 1. INSTALL (ITEM #3) WITH GROOVES FACING THE CYLINDER (FLAT SIDE TO CRANKCASE).

| | | | |
|-----|-------|-------------|---------------|
| 3 | 17168 | | |
| 2 | 13881 | CH 05/02/94 | SEE COMPONENT |
| 1 | 5616 | DB 05/09/94 | PART LIST |
| 0 | 5194 | | NONE |
| REV | ECH | | |

ARIEL CORPORATION
 35 BLACKJACK ROAD
 MOUNT VERNON, OHIO 43050

ARIEL

THIRD ANGLE PROJECTION

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DRAWN: CH 05/02/94
 CHECKED: DB 05/09/94

MATERIAL: SEE COMPONENT
 SCALE: NONE

TITLE: ROD PACKING 2-1/2, OIL WIPER

PART No: B-1690
 DWG No: B-1690

| | | | |
|-----|--|----------------|-----------|
| 3 | REDRAWN TO SOLID EDGE @A3 ADDED VIEW FOR CORRECT ORIENTATION OF "3RWS" RING @C2 REVISED DIMENSION, 1-3/8 REF. WAS 1-3/8. | DATE: 02/02/01 | INITIALS: |
| REV | DESCRIPTION | | |

*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***

3/07/12

PARTS LIST

| | | | |
|----|-----------|------|--|
| 30 | A-3529 | 1 | HEX PIPE NIPPLE,STL,1/4 X 1/4 |
| 32 | FC0103IK | 4 | HEX HEAD CAPSCREW, 3/4-10 X 2, G2 |
| 33 | A-8724 | 1 | OMNI OIL TRAP, BODY, SS, 1/4 NPTF |
| 34 | FC0160CJ | 6 | SOCKET HEAD CAPSCREW, 1/4-20 X 1-3/4, NYLOK |
| 35 | FC0103KK | 3 | HEX HEAD CAPSCREW, 1-8 X 2, G2 |
| 36 | FW0550KA | 3 | STAT-O-SEAL, 1"DIA., BLACK |
| 37 | A-0925 | 1 | MALE ELBOW,STL, 3/8T X 1/4P |
| 39 | B-1427 | 2 | COVER, GUIDE, DISTANCE PIECE, JGC:D:Z:U |
| 40 | B-1430 | 2 | GSKT,RET,10-3/16X13-1/2X1/32 |
| 42 | PT0200EB | 80." | SS,TUBING, 3/8 OD X .035 WALL |
| 45 | A-2958 | 2 | TOP / SIDE COVER HANDLE, AL, 2 HOLE |
| 46 | FC0134CD | 4 | BUTTON HEAD CAPSCREW, 1/4-20 X 5/8, 316SS |
| 47 | FD0210GCO | 4 | DOG POINT STUD, 1/2-13 X 2-7/8 LONG, B7 |
| 48 | FW0500GA | 4 | FLAT WASHER, 1/2 SAE |
| 49 | FN0450GD | 4 | HEX NUT,GR8,1/2-13 |
| 50 | PP0850CB | 1 | PIPE PLUG,1/4NPTF,HEX SOC,STL |
| 51 | PP0810KB | 1 | PIPE PLUG,1"NPT,HEX HD,STL |
| 84 | A-15842 | 1 | PIPE PLUG, 1/8NPT, SQUARE HEAD, STL, DRILLED |

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT DOES NOT REPRESENT THE QUANTITY REQUIRED.

NOTES:

- 1.- LOOSEN OR TIGHTEN ALL FASTENERS PER RECOMMENDED PROCEDURES AND TORQUE VALUES IN MANUAL.
- 2.- PRESS BRONZE BUSHING IN WHILE MAINTAINING ALIGNMENT OF OIL HOLE TO OIL PASSAGE IN ROD.
- 3.- INSTALL BEARING SHELLS WITH TABS LOCATED IN NOTCHES IN ROD AND ROD CAP.
- ④ 4.- PRE-TORQUE ROD BOLTS PER ER-63 (TOOL BOX TORQUE CHART) USING CRISSCROSS PATTERN. THEN TURN EACH BOLT PER ER-63 USING TURN INDICATOR TOOL ITEM 6 AS SHOWN BELOW.
- ⑤ 5.- THIS ASSEMBLY DRAWING IS FOR ILLUSTRATION PURPOSES ONLY, AND MAY NOT NECESSARILY REPRESENT THE EXACT CONFIGURATION PERTAINING TO THE UNIT ORDERED. REFER TO ACCOMPANYING PARTS LIST FOR ITEMS (AND QUANTITIES OF EACH) REQUIRED FOR THIS PARTICULAR ASSEMBLY.

START WITH FIRST LEVEL VIAL FACING UP WITH THE BUBBLE CENTERED. TIGHTEN THUMB SCREW/SETScrew ONTO SOCKET AND TURN BOLT WITH SOCKET AS SPECIFIED IN ER-63 UNTIL SECOND VIAL IS VERTICAL AND BUBBLE IS CENTERED.

① STAMP THROW NUMBER ON TOP.

① JOINT MATCH MARKING INSTALLED UP.

CORRECT ORIENTATION OF THE ROD IS WITH BEARING NOTCHES ON TOP JOINT.

① STAMP PART NUMBER ON TOP.

SOCKET (BY OTHERS)

1/4 TURN (90°)

110°

⑥

SEE NOTE 2

①

①

⑤

③

②

④

ARIEL

| | |
|----------------|-----------------|
| ADDED NOTE #5. | JCS 10/17/02 |
| DESCRIPTION | INIT/DATE |

| | | | | |
|---------|-----|-------------|-------------|-------------------|
| 3 10756 | 3 | 10756 | 10756 | 10756 |
| 2 10629 | 2 | 10629 | 10629 | 10629 |
| 1 6756 | 1 | 6756 | 6756 | 6756 |
| 0 4371 | 0 | 4371 | 4371 | 4371 |
| REV | ECN | CHECKED | APPROVED | ASSEMBLY DWG. NO. |
| | | WGP 5/26/92 | AGD 5/26/92 | A-3093 |
| | | | SCALE | NONE |



ARIEL CORPORATION
35 BLACKJACK ROAD
MOUNT VERNON, OHIO 43050

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*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***
3/07/12

PARTS LIST

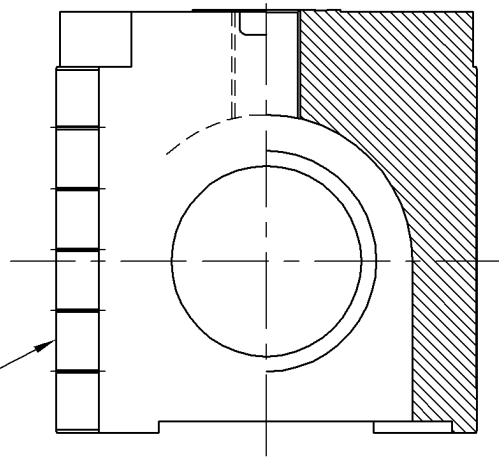
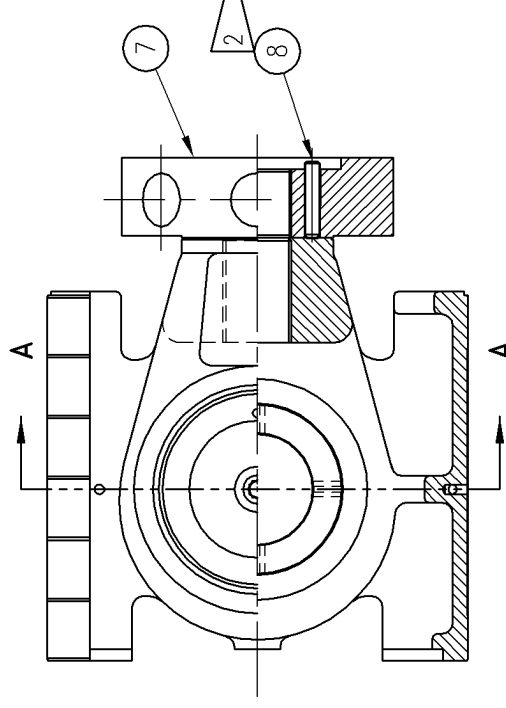
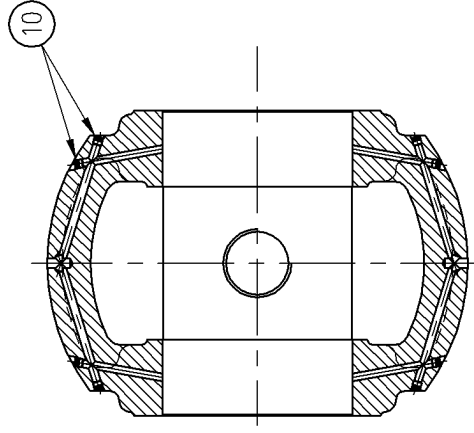
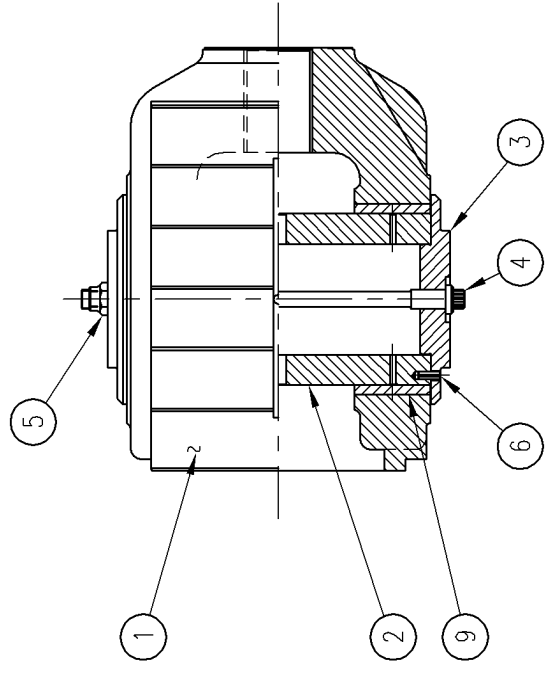
CONNECTING ROD, FORGED STEEL PART NO. G-14984
JGC:D WITH BEARING HALF SHELLS. REF DRAWING A-3093
EXTERNALLY LUBRICATED CROSSHEAD PIN

ITEM PART NUMBER QTY DESCRIPTION

| | | | |
|----|----------|---|---|
| 1 | D-5197 | 1 | CONNECTING ROD, FS, JGC:D, ELP |
| 2 | A-2907 | 0 | 12-POINT CAPSCREW, 1-1/8-12 X 9, G8 |
| 3 | FP0500IG | 0 | DOWEL PIN, 7/16 OD X 1" LONG, +.0002 |
| 4 | B-1424 | 1 | BUSHING, CONNECTING ROD, BZ, JGC:D |
| 5 | B-4821 | 2 | SLEEVE BEARING, HALF SHELL, CONNECTING ROD, JGC:D, ELP |
| 6 | B-3993 | 0 | TURN IND, JGC:D, 110i ₂ 1/2, 3/4 DRIVE |
| 99 | AD-5197 | 0 | CONNECTING ROD ASSEMBLY, FS, JGC:D, ELP |

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
DOES NOT REPRESENT THE QUANTITY REQUIRED.

1 2 3 4



SECTION A-A

NOTES:

- 1.- LOOSEN OR TIGHTEN ALL FASTENERS PER RECOMMENDED PROCEDURES AND TORQUE VALUES IN MANUAL.
2. LOOSEN TWO SETSCREWS (ITEM#8) BEFORE REMOVING CROSSHEAD NUT (ITEM#7). SETSCREWS ARE TO BE SCREWED IN AND TIGHTENED (TO LOCK) ONLY AFTER CROSSHEAD NUT (ITEM#7) HAS BEEN TORQUED TO SPECIFICATIONS.

| REV | DESCRIPTION | INIT/DATE |
|-----|-------------|-----------|
| | | |

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| | | | |
|-----|-------|-----------------------|-------------|
| 0 | 14385 | MLB 04/04/07 | APPROVED: |
| REV | ECN | CHECKED: ARW 04/04/07 | SCALE: NONE |



ARIEL CORPORATION
 35 BLACKJACK ROAD
 MOUNT VERNON, OHIO 43050

ASSEMBLY
 DWG. NO. **A-14464**

C B A

*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***
3/07/12

PARTS LIST

CROSSHEAD, PIN, END PLATES & BALANCE NUT PART NO. G-14981
EXTERNALLY LUBRICATED PIN. JGC & JGD REF DRAWING A-14464

| ITEM | PART NUMBER | QTY | DESCRIPTION |
|------|---------------|-----|---|
| 1 | CROSSHEAD | 0 | FOR PART NO. SEE COVER SHEET |
| 1 | D-5199 | 0 | CROSSHEAD, L/M, DI, 194.0#, ELP, JGC:D |
| 1 | D-5200 | 0 | CROSSHEAD, M/H, DI, 245.3#, ELP, JGC:D |
| 1 | D-5201 | 0 | CROSSHEAD, HVY, DI, 291.0#, ELP, JGC:D |
| 1 | D-5202 | 0 | CROSSHEAD, XHVY, BZ, 344.5#, ELP, JGC:D |
| 1 | D-5802 | 0 | CROSSHEAD, LGT, DI, 146.2#, ELP, JGC:D |
| 2 | B-1437 | 1 | CROSSHEAD PIN,JGC:D |
| 3 | A-3063 | 2 | END PLATE,CROSSHEAD PIN, JGC:D |
| 4 | A-3062 | 1 | 12-POINT CAPSCREW, 5/8-18 X 12, G8 |
| 5 | FN0461HA | 1 | SELF-LOCK NUT,ESNA,5/8-18 |
| 6 | FP0505FE | 2 | ROLL PIN, 1/4 OD X 3/4 LONG |
| 7 | B-1438 | 0 | XHD NUT,19.2#,RND,JGC:D |
| 7 | B-1439 | 0 | XHD NUT,23.9#,RND,JGC:D |
| 7 | B-1440 | 0 | XHD NUT,29.0#,RND,JGC:D |
| 7 | B-1441 | 0 | XHD NUT,34.2#,RND,JGC:D |
| 7 | B-1442 | 0 | XHD NUT,39.1#,RND,JGC:D |
| 7 | B-1443 | 0 | XHD NUT,43.9#,RND,JGC:D |
| 7 | B-1444 | 0 | XHD NUT,49.0#,RND,JGC:D |
| 7 | B-1445 | 0 | XHD NUT,53.9#,RND,JGC:D |
| 7 | B-1498 | 0 | XHD NUT,58.9#,RND,JGC:D |
| 7 | B-1499 | 0 | XHD NUT,64.1#,RND,JGC:D |
| 7 | CROSSHEAD NUT | 0 | FOR PART NO. SEE COVER SHEET |
| 8 | FS0455GM | 2 | SET SCREW, CUP POINT, NYLON PATCH, 1/2-20 X 2-1/2 |

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
DOES NOT REPRESENT THE QUANTITY REQUIRED.

*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***

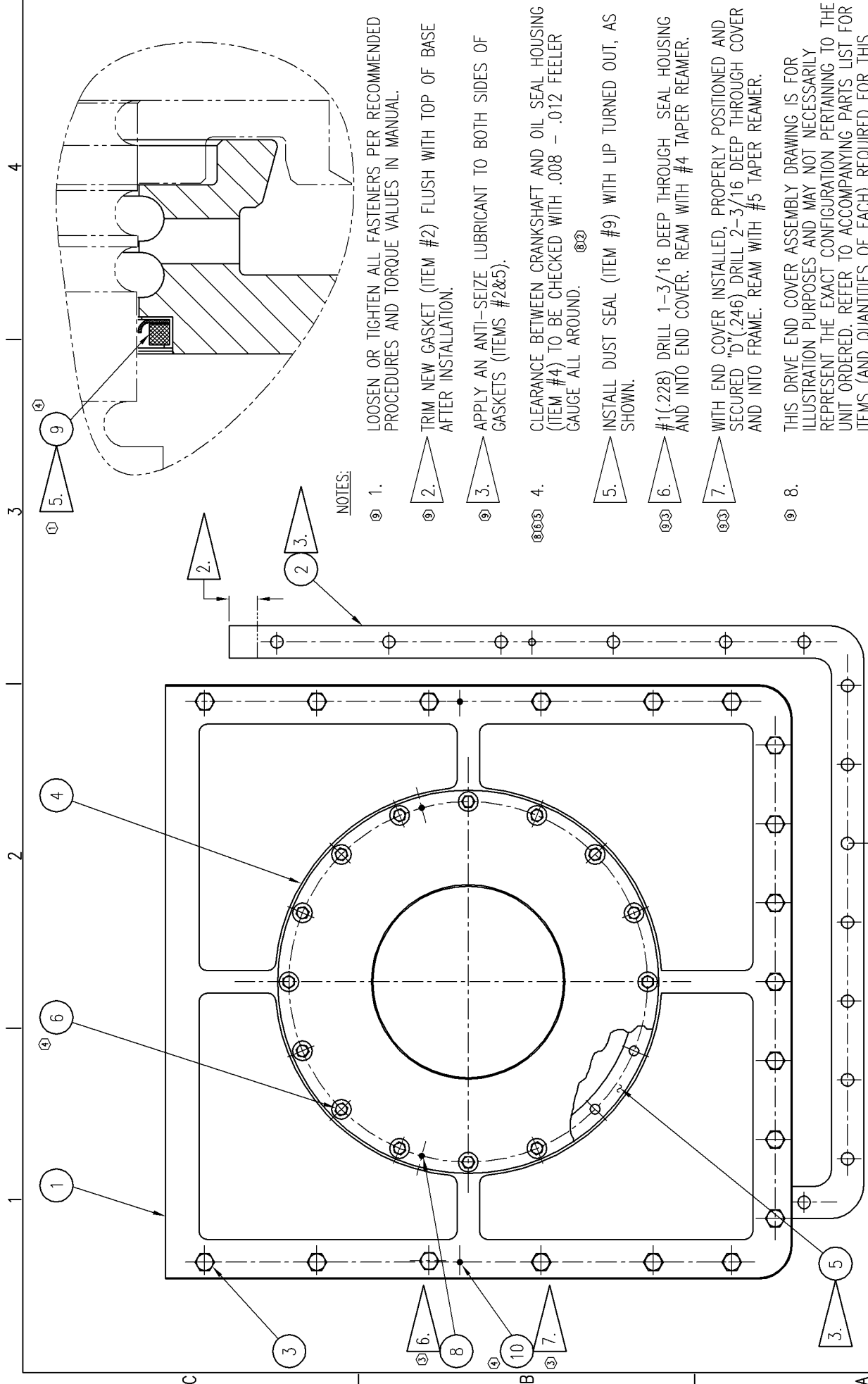
3/07/12

PARTS LIST

9 B-5905 0 BUSHING, CROSSHEAD, BZ, JGC:D, ELP

11 A-16273 0 PLUG,EXPANSION,.281,STEEL

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
DOES NOT REPRESENT THE QUANTITY REQUIRED.



NOTES:

- ① 1. LOOSEN OR TIGHTEN ALL FASTENERS PER RECOMMENDED PROCEDURES AND TORQUE VALUES IN MANUAL.
- ② 2. TRIM NEW GASKET (ITEM #2) FLUSH WITH TOP OF BASE AFTER INSTALLATION.
- ③ 3. APPLY AN ANTI-SEIZE LUBRICANT TO BOTH SIDES OF GASKETS (ITEMS #2&5).
- ④ 4. CLEARANCE BETWEEN CRANKSHAFT AND OIL SEAL HOUSING (ITEM #4) TO BE CHECKED WITH .008 - .012 FEELER GAUGE ALL AROUND. ⑤②
- ⑤ 5. INSTALL DUST SEAL (ITEM #9) WITH LIP TURNED OUT, AS SHOWN.
- ⑥ 6. #1(.228) DRILL 1-3/16 DEEP THROUGH SEAL HOUSING AND INTO END COVER. REAM WITH #4 TAPER REAMER.
- ⑦ 7. WITH END COVER INSTALLED, PROPERLY POSITIONED AND SECURED "D"(.246) DRILL 2-3/16 DEEP THROUGH COVER AND INTO FRAME. REAM WITH #5 TAPER REAMER.
- ⑧ 8. THIS DRIVE END COVER ASSEMBLY DRAWING IS FOR ILLUSTRATION PURPOSES AND MAY NOT NECESSARILY REPRESENT THE EXACT CONFIGURATION PERTAINING TO THE UNIT ORDERED. REFER TO ACCOMPANYING PARTS LIST FOR ITEMS (AND QUANTITIES OF EACH) REQUIRED FOR THIS PARTICULAR ASSEMBLY.

| | | |
|-----|---|-------------------|
| ⑨ | ADDED NOTE #8 & FLAG NOTE #7 WAS "D"(.246) DRILL 2-3/16 DEEP (THROUGH COVER AND 23732 IN COVER). REAM WITH #5 TAPER REAMER. ⑩③. NOTE #1 WAS NOTE #3, FLAG NOTE #2 WAS FLAG NOTE #3, FLAG NOTE #3 WAS FLAG NOTE #1, FLAG NOTE #6 WAS "#1(.228) DRILL 1-3/16 DEEP (THROUGH SHAFT SEAL HSG AND 11/32 IN COVER). REAM WITH #4 TAPER REAMER." UPDATED TO CURRENT DRAFTING STANDARDS. | DRY 01/17/2007 |
| ⑧ | AT B3, NOTE #4 WAS-CLEARANCE BETWEEN CRANKSHAFT AND OIL SEAL HOUSING (ITEM#4) TO BE CHECKED WITH .010 - .013 FEELER GAUGE ALL AROUND. | DHI 04/04/03 |
| REV | DESCRIPTION | INIT/DATE |

| | | | | | |
|---|-------|---|-------|-----|------|
| 9 | 14114 | 6 | 10741 | 3 | 5942 |
| 8 | 10980 | 5 | 10203 | 2 | 5541 |
| 7 | 10770 | 4 | 8330 | 1 | 5422 |
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| | | | | 0 | 4928 |

ARIEL CORPORATION
35 BLACKJACK ROAD
MOUNT VERNON, OHIO 43050

ARIEL

| | |
|--------------------|---------------------------------|
| APPROVED: | ASSEMBLY DWG. NO. A-4295 |
| DRAWN: CH 08/18/93 | SCALE: NONE |
| CHECKED: 08/27/93 | |

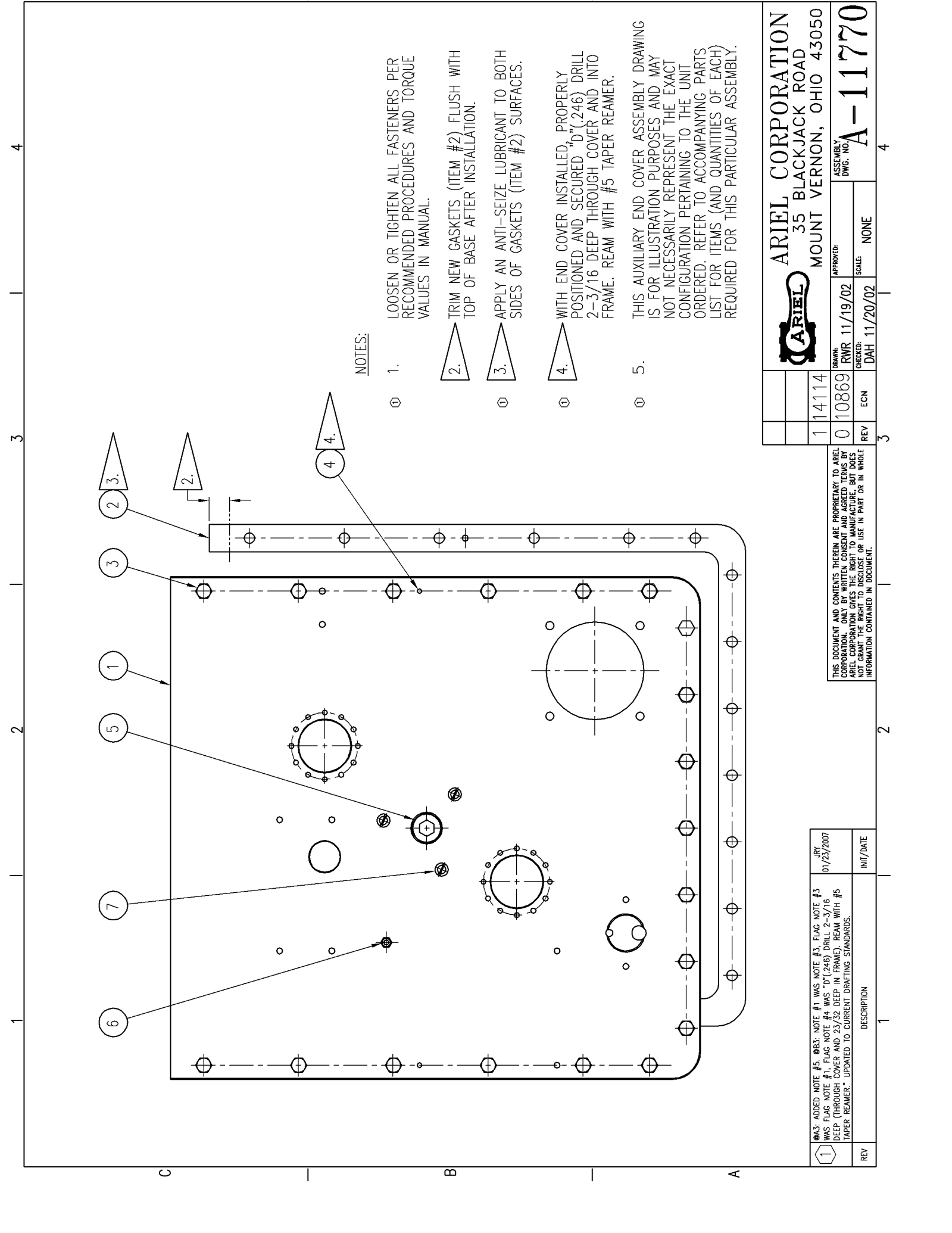
*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***
3/07/12

PARTS LIST

DRIVE END COVER, JGC/6, 7.5" DIAMETER PART NO. G-2904
DRIVE END, STANDARD AND REVERSE ROTATION REF DRAWING A-4295

| ITEM | PART NUMBER | QTY | DESCRIPTION |
|------|-------------|-----|---|
| 1 | C-1212 | 1 | COVER, DRIVE END, JGC:D |
| 2 | B-1436 | 1 | GSKT,RET26-5/16X28-9/32X1/32 |
| 3 | FC0102GL | 19 | HEX HEAD CAPSCREW, 1/2-13 X 2-1/4, G5 |
| 4 | C-1124 | 1 | SHAFT SEAL HOUSING, JGC:D/6, 7-1/2 STUB SHAFT |
| 5 | A-3059 | 1 | GSKT,RND,17 X 1/32 |
| 6 | A-10201 | 16 | SEMS BOLT, 3/8-16 X 1-1/2, G5 |
| 8 | FP0512EF | 2 | THREADED TAPER PIN, #4 X 1" LONG |
| 9 | A-4778 | 1 | DUST SEAL,TURCON 9,JGC:D/6 |
| 10 | FP0512FJ | 2 | THREADED TAPER PIN, #5 X 2 LONG |

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
DOES NOT REPRESENT THE QUANTITY REQUIRED.



NOTES:

1. LOOSEN OR TIGHTEN ALL FASTENERS PER RECOMMENDED PROCEDURES AND TORQUE VALUES IN MANUAL.
2. TRIM NEW GASKETS (ITEM #2) FLUSH WITH TOP OF BASE AFTER INSTALLATION.
3. APPLY AN ANTI-SEIZE LUBRICANT TO BOTH SIDES OF GASKETS (ITEM #2) SURFACES.
4. WITH END COVER INSTALLED, PROPERLY POSITIONED AND SECURED "D"(246) DRILL 2-3/16 DEEP THROUGH COVER AND INTO FRAME. REAM WITH #5 TAPER REAMER.
5. THIS AUXILIARY END COVER ASSEMBLY DRAWING IS FOR ILLUSTRATION PURPOSES AND MAY NOT NECESSARILY REPRESENT THE EXACT CONFIGURATION PERTAINING TO THE UNIT ORDERED. REFER TO ACCOMPANYING PARTS LIST FOR ITEMS (AND QUANTITIES OF EACH) REQUIRED FOR THIS PARTICULAR ASSEMBLY.

| | | |
|---|-------------|-----------|
| 1 | DESCRIPTION | INIT/DATE |
| | | |

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| | | | | | |
|---|-------|-----|-----|-----------------------|-------------|
| 1 | 14114 | REV | ECN | CHECKED: DAH 11/20/02 | SCALE: NONE |
| 0 | 10869 | REV | ECN | CHECKED: DAH 11/19/02 | SCALE: NONE |

ARIEL CORPORATION
 35 BLACKJACK ROAD
 MOUNT VERNON, OHIO 43050

ASSEMBLY DWG. NO. **A-11770**

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3/07/12

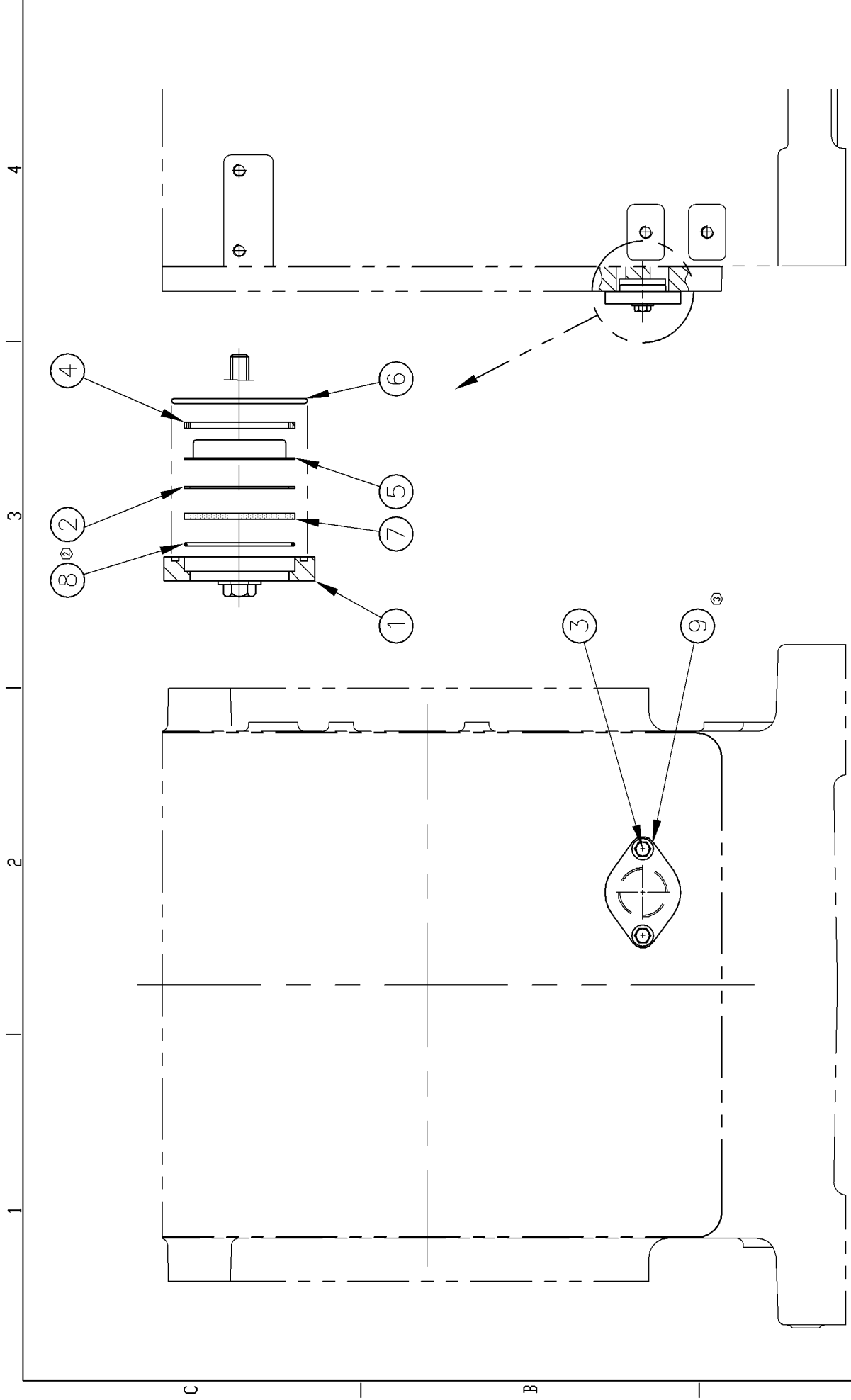
PARTS LIST

AUXILIARY END COVER FOR DUAL CHAIN WITH PART NO. G-10387
4 PUMP FORCE FEED LUBRICATOR. REF DRAWING A-11770

ITEM PART NUMBER QTY DESCRIPTION

| | | | |
|---|----------|----|--|
| 1 | C-3599 | 1 | COVER, AUXILIARY END, FOR 4 PUMP LUBRICATOR, DUAL CHAIN, JGC:D/6 |
| 2 | B-1436 | 1 | GSKT,RET26-5/16X28-9/32X1/32 |
| 3 | FC0102GL | 19 | HEX HEAD CAPSCREW, 1/2-13 X 2-1/4, G5 |
| 4 | FP0512FJ | 2 | THREADED TAPER PIN, #5 X 2 LONG |
| 5 | PP0850MB | 1 | PIPE PLUG,1-1/4NPTF,HEXSOC,STL |
| 6 | A-0827 | 1 | MALE CONNECTOR, STL, 1/4 TUBE X 1/4 NPT |
| 7 | A-0490 | 3 | PUSH-IN PLUG, PLASTIC, 5/16 THREAD, YELLOW |

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT DOES NOT REPRESENT THE QUANTITY REQUIRED.



NOTES:

1. LOOSEN OR TIGHTEN ALL FASTENERS PER RECOMMENDED PROCEDURES AND TORQUE VALUES IN MANUAL.

| | | |
|-----|---|-------------------|
| ③ | ADDED TWO FLAT WASHERS. Ⓞ BS, ADDED ITEM #9. | AWP 09/04/2002 |
| ② | CHANGED OUTER GASKET TO AN O-RING, REMOVED (1) ITEM #2 AND ADDED (1) ITEM #8. | |
| REV | DESCRIPTION | INIT/DATE |

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| | | | | |
|-----|-------|---|----------------------|------------------------------------|
| 3 | 10940 | ARIEL CORPORATION 35 BLACKJACK ROAD MOUNT VERNON, OHIO 43050 | APPROVED: | ASSEMBLY DWG. NO. A-4068 |
| 2 | 8067 | | DRAWN: DB 5/25/93 | |
| 1 | 8001 | | CHECKED: 6/8/93 | |
| 0 | 4837 | ECN | | |
| REV | | | | |

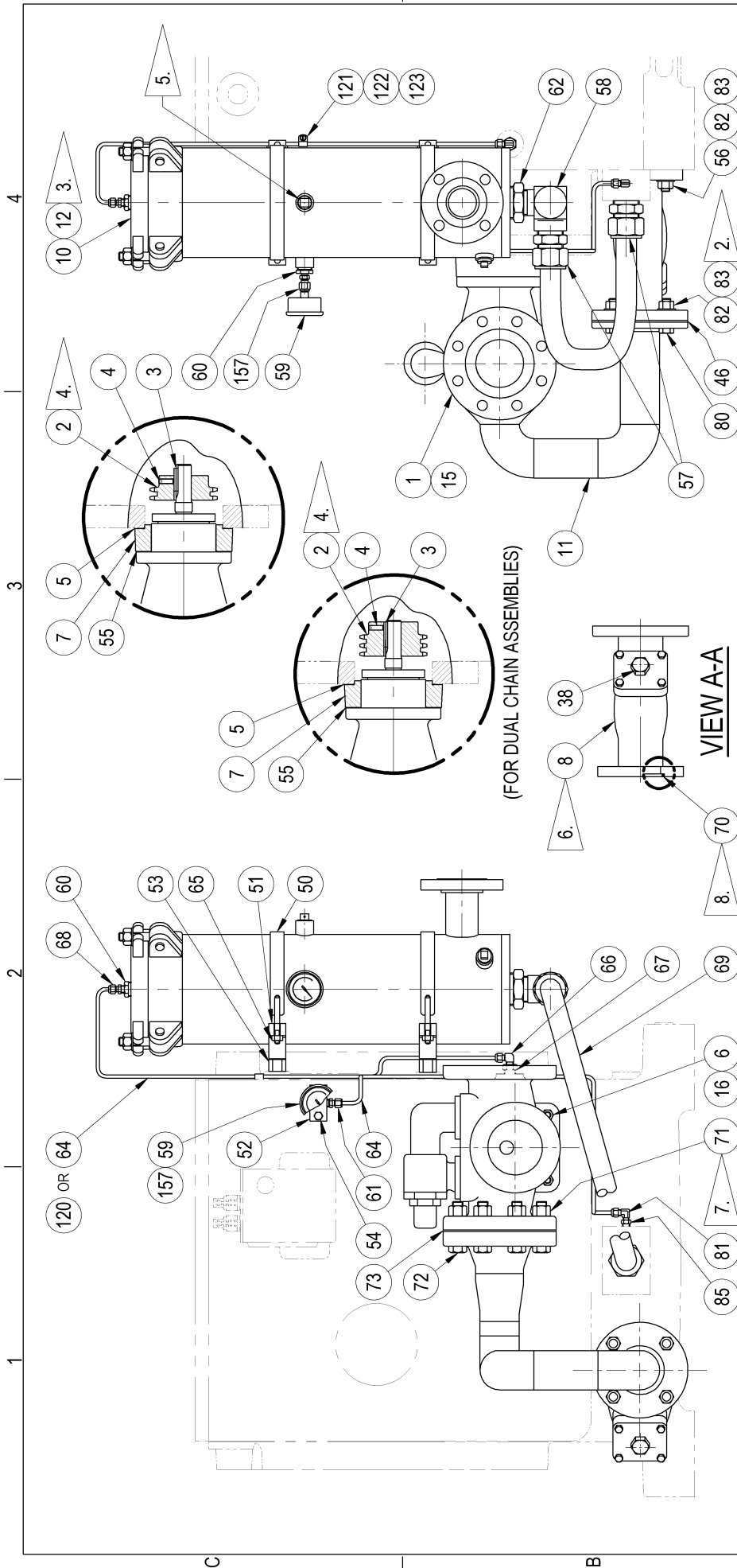
*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***
3/07/12

PARTS LIST

SIGHT GLASS ASSEMBLY STD PART NO. G-0986
JGE:K:T, JGC:D, JGB:V, & JGJ/6 REF DRAWING A-4068

| ITEM | PART NUMBER | QTY | DESCRIPTION |
|------|-------------|-----|--|
| 1 | B-3322 | 1 | FLANGE,SIGHT GLASS,HEKT:CD:BV |
| 2 | A-5375 | 1 | GSKT,RND,2-1/4,X 1/32,INNER |
| 3 | FC0102EG | 2 | HEX HEAD CAPSCREW, 3/8-16 X 1", G5 |
| 4 | A-5376 | 1 | GSKT,RND,2-1/4 X 1/8,OUTER |
| 5 | A-5378 | 1 | REFLECTOR,SIGHT GLASS,2" |
| 6 | A-0745 | 1 | O-RING, VT, 2.756 OD X .103, 75/85 DUROMETER |
| 7 | A-5374 | 1 | SIGHT GLASS,2-1/4"LENS |
| 8 | A-9870 | 1 | O-RING, VT, 2.254 OD X .070, 75/85 DUROMETER |
| 9 | FW0501DA | 2 | FLAT WASHER, 3/8 ID PLAIN |

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
DOES NOT REPRESENT THE QUANTITY REQUIRED.



NOTES:

- 1.- LOOSEN OR TIGHTEN ALL FASTENERS PER RECOMMENDED PROCEDURES AND TORQUE VALUES IN MANUAL.
2. TWO STEP TORQUE TO 35/60 FT.-LBS. TO PROPERLY SEAT GASKET.
3. INSTALL FILTER ELEMENT WITH THE LARGER I.D. TO BOTTOM.
4. ALIGN PUMP SPROCKET WITH CRANKSHAFT SPROCKET AND TIGHTEN SET SCREWS.
5. AFTER CLEANING, RETURN VENDOR SUPPLIED PLUG WITH TAGGING HOLE TO THIS POSITION.
6. REMOVE AND INSPECT STRAINER SCREEN WHEN CHANGING OIL. (CLEAN IN A SUITABLE SOLVENT).
7. TWO STEP TORQUE TO 55/95 FT.-LBS. TO PROPERLY SEAT GASKET.
8. OIL O-RING BEFORE INSTALLING.

| | | |
|---|------------------------------|---|
| ARIEL CORPORATION 35 BLACKJACK ROAD MOUNT VERNON, OHIO 43050 | | ASSEMBLY DWG. NO. A-18490 <small>SHT. 1 OF 1</small> |
| | DRAWN CPM 09/16/11 | |
| 0 17756 | REV ECN | SCALE NONE |
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| DESCRIPTION | INITIATE | |

*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***
3/07/12

PARTS LIST

LUBE OIL PUMP, STRAINER, AND FILTER PART NO. G-19612
FOR DUAL CHAIN. GORMAN-RUPP PUMP. REF DRAWING A-18490
JGC/6 & JGD/6

| ITEM | PART NUMBER | QTY | DESCRIPTION |
|------|-------------|-----|---|
| 1 | C-4258 | 1 | L O PUMP,G-R,R/R,C6,(DUAL STD) |
| 2 | A-11615 | 1 | SPKT,40-2 X 26T |
| 3 | FK0361FI | 1 | SQUARE KEY, 1/4 X 1-1/2 LONG |
| 4 | FS0455DG | 2 | SET SCREW, CUP POINT, NYLON PATCH, 5/16-24 X 1" |
| 5 | B-1435 | 1 | GSKT,SQ 6-7/16 X 6-7/16X1/32 |
| 6 | FD0212GDM | 4 | 1/2 DOG PT.STUD,1/2-13 X 3-3/4 |
| 7 | B-2277 | 1 | ADAPTER, LUBE OIL PUMP, VIKING, E:K:T:C:D/6 |
| 8 | A-9588 | 1 | STRAINER ASSY W/PIPE JGC:D/6 |
| 10 | B-1482 | 1 | LO FILTER ASSY,NUGENT C4:6,K6 |
| 11 | B-3514 | 1 | PIPE FAB,LO SUC,DUAL,C/6 |
| 12 | A-3166 | 0 | LO FILTER ELEMENT KIT,CD,ZU/2 |
| 16 | FN0460GA | 4 | SELF-LOCK NUT,ESNA,1/2-13 |
| 38 | PP0810IB | 1 | PIPE PLUG,3/4NPT,HEX HD,STL |
| 46 | A-3182 | 1 | GSKT,PIPE FLG,2-1/2"-125#, 1/8 |
| 50 | B-1570 | 2 | CLAMP, NUGENT FILTER MOUNTING |
| 51 | A-7028 | 2 | BRACKET, FILTER MOUNTING, K:C:Z:B/4:6 |
| 52 | A-3190 | 1 | BRACKET, PRESSURE GAUGE MOUNTING |
| 53 | FC0102HK | 2 | HEX HEAD CAPSCREW, 5/8-11 X 2, G5 |
| 54 | FC0102EJ | 2 | HEX HEAD CAPSCREW, 3/8-16 X 1-3/4, G5 |
| 55 | B-1434 | 1 | GSKT,SQR,6-1/4 X 6-1/4 X1/32 |
| 56 | FD0210HDC | 4 | DOG POINT STUD, 5/8-11 X 3-1/8 LONG, B7 |
| 57 | A-3185 | 2 | MALE CONN,STL, 1-1/2T X 1-1/2P |
| 58 | A-3191 | 1 | STREET ELBOW,STL,1-1/2P |

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
DOES NOT REPRESENT THE QUANTITY REQUIRED.

*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***
3/07/12

PARTS LIST

| | | |
|-----|-----------|--|
| 59 | A-18451 | 2 GAUGE, 100PSI, BACK MOUNT, 3/8 TUBE |
| 60 | A-0962 | 2 HEX RED BUSH,STL,3/4M X 1/4F |
| 61 | A-0830 | 1 MALE CONNECTOR, STL, 1/4 TUBE X 1/8 NPT |
| 62 | A-3187 | 1 HEX RED BUSH,STL,2M X 1-1/2F |
| 64 | PT0200CB | 76." TUBING, SS, 1/4 OD X .035 WALL |
| 65 | FN0451ED | 4 HEX NUT,H/W,2H,3/8-16 |
| 66 | A-0800 | 1 MALE ELBOW, STL, 1/4 TUBE X 1/4 NPT |
| 67 | A-9623 | 1 ORIF BUSH,SS,1/2M X1/4F X1/16 |
| 68 | A-0827 | 1 MALE CONNECTOR, STL, 1/4 TUBE X 1/4 NPT |
| 69 | A-9920 | 1 TUBE,PREF,316,LO,JGC/6 |
| 70 | A-0026 | 1 O-RING, VT, 3.895 OD X .210, 75/85 DUROMETER |
| 71 | FN0450IA | 8 HEX NUT,STL,3/4-10 |
| 72 | FC0100IP | 8 HEX HEAD CAPSCREW, 3/4-10 X 3-1/4, G9 |
| 73 | A-3183 | 1 GSKT,PIPE FLG,3"-300#,1/8 |
| 80 | FC0100HN | 4 HEX HEAD CAPSCREW, 5/8-11 X 2-3/4, G9 |
| 81 | A-0815 | 0 MALE ELBOW, STL, 1/4 TUBE X 1/8 NPT |
| 82 | FW0500HA | 8 WASHER, 5/8 SAE |
| 83 | FN0450HB | 8 HEX NUT, 5/8-11, STL, ZINC PLATED |
| 85 | A-0811 | 0 HEX REDUCING BUSHING, 1/4 NPT (MALE) X 1/8 NPT (FEMALE), STL |
| 99 | A-17157-K | 0 G-R "J", RELIEF VLV REPAIR KIT |
| 99 | A-17158-K | 0 G-R "J", SEAL & BRG REPAIR KIT |
| 99 | A-17160-K | 0 G-R "JP", IDLER REPAIR KIT |
| 99 | A-18451-A | 0 GAUGE, 100PSI, REPLACEMENT SET, BACK MOUNT, 3/8 TUBE |
| 120 | PT0201CD | 48." TUBING, 316 SS, 1/4 OD X .065 WALL |
| 121 | FM0400BC | 1 MACHINE SCREW, SLOTTED, #10-24 X 1/2 |

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT DOES NOT REPRESENT THE QUANTITY REQUIRED.

*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***

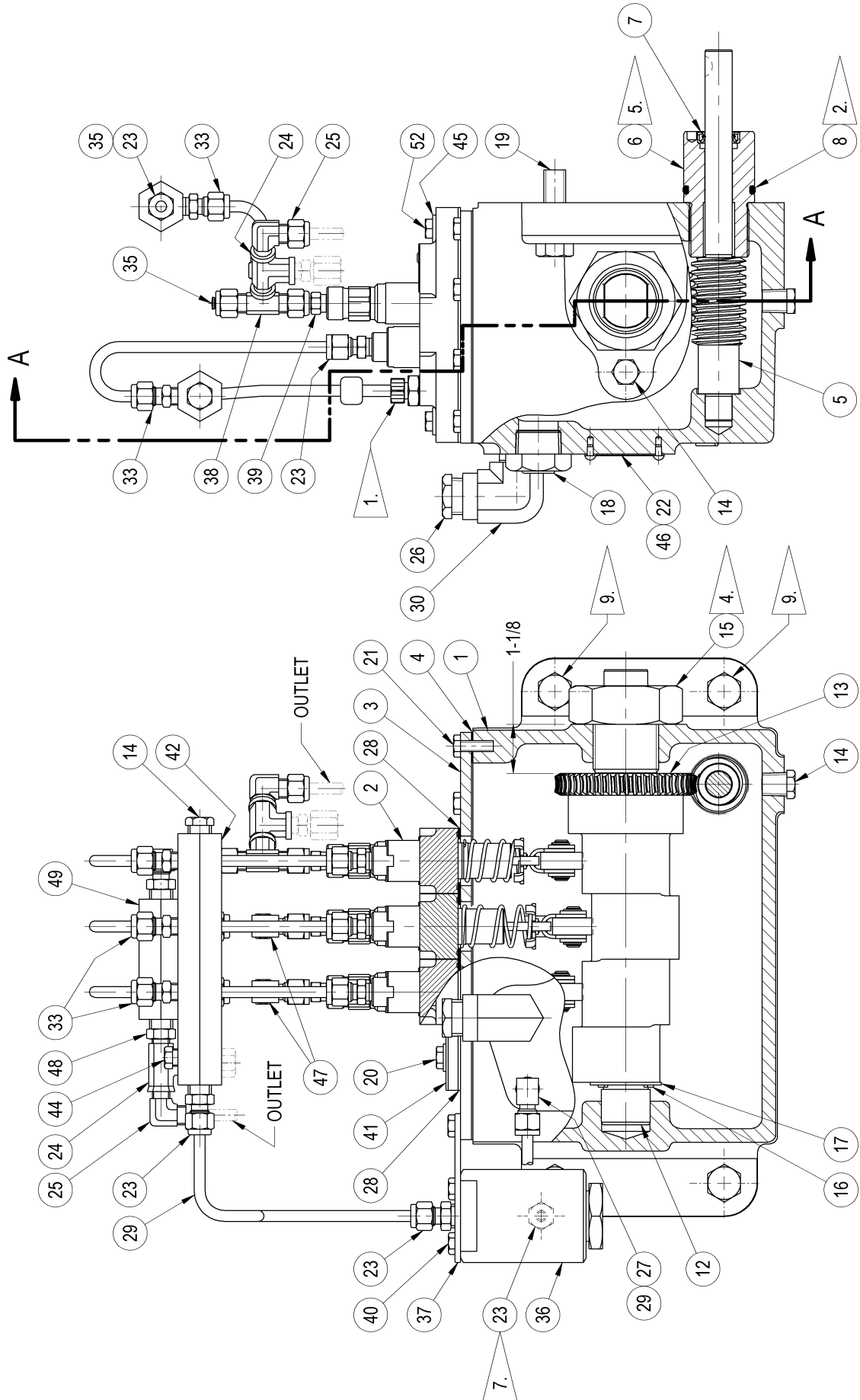
3/07/12


PARTS LIST

| | | | |
|-----|----------|---|----------------------------|
| 122 | FW0500AA | 1 | FLAT WASHER, #8 SAE |
| 123 | A-0831 | 1 | TUBING CLAMP, 1/4 TUBE |
| 157 | A-0934 | 2 | MALE CONN,STL, 3/8T X 1/4P |

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
DOES NOT REPRESENT THE QUANTITY REQUIRED.

1 2 3 4



| | | |
|---|--------------------------------|--|
|  ARIEL CORPORATION 35 BLACKJACK ROAD MOUNT VERNON, OHIO 43050 | | ASSEMBLY DWG. NO. A-18971 SHT. 1 OF 2 |
| DRAWN CPM 01/31/12 | CHECKED DLI 02/01/12 | SCALE NONE |
| 0 17793 | REV ECN | REV ECN |

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| REV | DESCRIPTION | INITIALS | DATE |
|-----|-------------|----------|------|
| | | | |

1 2 3 4

*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***

3/13/12

PARTS LIST

FORCE FEED LUBRICATOR; LUBE PUMP:3/8", QTY=1, PART NO. FF LUBRICATOR ASSY
LUBE PUMP:3/8", QTY=2 G-SHEETS USED: G-19877, REF DRAWING A-18971 2 SHT 2 SHT
G-19874

| ITEM | PART NUMBER | QTY | DESCRIPTION |
|------|-------------|-----|--|
| 1 | D-6146 | 1 | FORCE FEED LUBRICATOR, 4 PUMP TANK ASSEMBLY, 5/8 INCH SHAFT |
| 2 | A-18527 | 3 | FORCE FEED LUBRICATOR PUMP, 3/8, ARIEL |
| 3 | A-7155 | 0 | TOP CVR QUAD FF LUBE BOX |
| 4 | A-7158 | 0 | GSKT,ARL "4"LUBE BOX CVR,1/32 |
| 5 | A-3069 | 0 | WORM SHAFT, FF LUBR 5/8D E KCZ |
| 6 | A-5639 | 0 | HSG BRG FF LUBE BOX LH BCKZ |
| 7 | A-3072 | 0 | SHAFT OIL SEAL |
| 8 | A-0030 | 0 | O-RING, VT, 1.637 OD X .139, 75/85 DUROMETER |
| 9 | A-11560 | 1 | FENNER DRIVE, 5/8 ID X 1" OD, FORCE FEED LUBRICATOR, JGC:D/6, JGZ:U, KBZ:U:B:V |
| 10 | A-11616 | 1 | SPROCKET, 35-1 X 22T, FORCE FEED LUBRICATOR, JGC:D:Z:U, KBZ:U:B:V |
| 12 | A-10781 | 0 | ADJ SHAFT,QUAD LUBE BOX |
| 13 | B-2238 | 0 | CAM/WORM GEAR,4-PUMP FF LUBR |
| 14 | PP0810CB | 3 | PIPE PLUG,1/4NPT,HEX HD,STL |
| 15 | A-7617 | 0 | HEX NUT,JAM,STL,1-1/2-12 |
| 16 | A-10782 | 0 | SNAP RING,STL,RADIAL 1.125 |
| 17 | A-10783 | 0 | FLAT WASHER,SUPPORT,HARD |
| 18 | A-5641 | 0 | SIGHT GLASS,3/4" NPT |
| 19 | FC0102GI | 4 | HEX HEAD CAPSCREW, 1/2-13 X 1-1/2, G5 |
| 20 | FC0102CG | 2 | HEX HEAD CAPSCREW, 1/4-20 X 1", G5 |
| 21 | FC0102CE | 0 | HEX HEAD CAPSCREW, 1/4-20 X 3/4, G5 |
| 22 | A-16623 | 1 | DATA PLATE, 4 PUMP FORCE FEED LUBRICATOR |

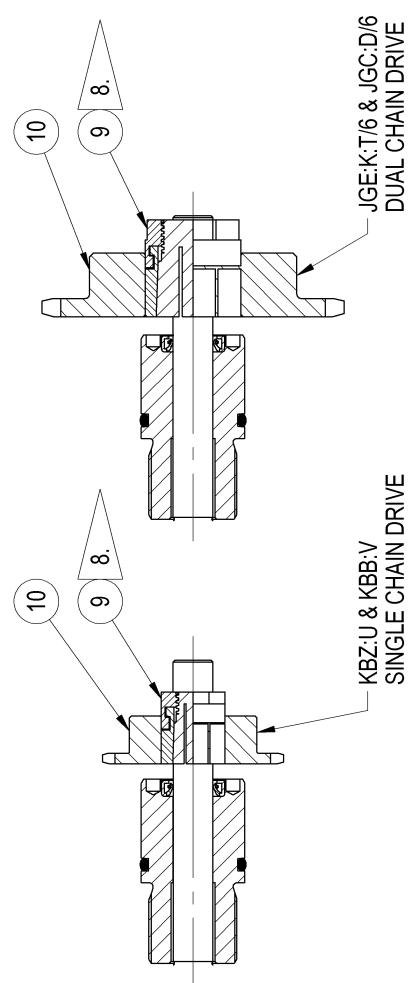
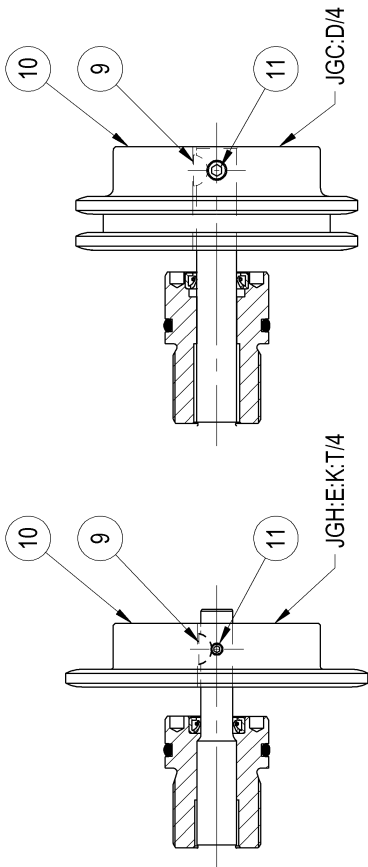
WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT DOES NOT REPRESENT THE QUANTITY REQUIRED.

1 2 3 4

NOTES:

1. SCREW IN ADJUSTMENT KNOB TO REDUCE FEED, SCREW ADJUSTMENT KNOB OUT TO INCREASE FEED.
2. OIL O-RING BEFORE INSTALLING.
- 3.- SEE CYLINDER LUBRICATION SHEET FOR CORRECT PUMP SETTING. (DISTRIBUTION BLOCK CYCLE INDICATOR TIMING).
4. TORQUE TO 112 FT-LBS.
5. TORQUE TO 70 FT-LBS.
- 6.- LOOSEN OR TIGHTEN ALL FASTENERS PER RECOMMENDED PROCEDURES AND TORQUE VALUES IN MANUAL.
7. OIL INLET ON BACK SIDE OF FILTER.
8. WHEN TIGHTENING FENNER DRIVE IT MAY BE NECESSARY TO POSITION IT 1/16 INCH FURTHER AWAY FROM THE PUMP. THIS IS DUE TO AXIAL MOVEMENT WHILE TIGHTENING.
(TORQUE JGE:K:T/6 TO 100 FT-LBS.)
(TORQUE JGC:D/6, KBZ:J & KBB:V TO 200 IN-LBS)
9. APPLY LOCTITE 246 TO THREADS, (JGH:E:K:T/4 UNITS ONLY).

10.- THIS ASSEMBLY IS FOR ILLUSTRATION PURPOSES ONLY AND MAY NOT NECESSARILY REPRESENT THE EXACT CONFIGURATION PERTAINING TO THE UNIT ORDERED. REFER TO ACCOMPANYING PART LIST FOR ITEMS (AND QUANTITIES OF EACH) REQUIRED FOR THIS PARTICULAR ASSEMBLY.



C

B

A

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ARIEL CORPORATION
 35 BLACKJACK ROAD
 MOUNT VERNON, OHIO 43050

ASSEMBLY DWG. NO. **A-18971**
 SCALE NONE

| | | | | | | | | |
|-----|-------------|----------|--------------|-----|-----|-----|-----|-----|
| REV | DESCRIPTION | INITIATE | REV | ECN | REV | ECN | REV | ECN |
| 0 | | | 17793 | | | | | |
| | | | CPM 01/31/12 | | | | | |
| | | | DLI 02/01/12 | | | | | |

| | | |
|-----|-------------|----------|
| REV | DESCRIPTION | INITIATE |
| 1 | | |

*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***

3/13/12

PARTS LIST

| | | | |
|----|-----------|------|--|
| 23 | A-0827 | 7 | MALE CONNECTOR, STL, 1/4 TUBE X 1/4 NPT |
| 24 | A-15556 | 2 | STREET TEE, STL, 1/8P |
| 25 | A-0815 | 2 | MALE ELBOW, STL, 1/4 TUBE X 1/8 NPT |
| 26 | PP0810GB | 1 | PIPE PLUG, HEX HEAD, 1/2 NPT, STL |
| 27 | A-0800 | 1 | MALE ELBOW, STL, 1/4 TUBE X 1/4 NPT |
| 28 | A-18592 | 1 | FF LUBRICATOR PUMP GASKET, 1/16 THICK, ARIEL PUMP |
| 29 | PT0200CB | 72." | TUBING, SS, 1/4 OD X .035 WALL |
| 30 | A-0843 | 1 | STREET ELBOW, STL, 1/2 NPT, 90 DEGREE |
| 33 | A-0830 | 5 | MALE CONNECTOR, STL, 1/4 TUBE X 1/8 NPT |
| 35 | A-0918 | 2 | PLUG, TUBE FITTING, STL, 1/4 TUBE |
| 36 | A-8723 | 1 | FF LUBR FILTER, 150 MIC |
| 37 | A-8729 | 1 | BRKT, FF INLET FILTER |
| 38 | A-8824 | 1 | FEMALE BRANCH TEE STL1/4TX1/8P |
| 39 | A-8828 | 3 | MALE ADAPTR, STL, 1/4T X 1/8P |
| 40 | FC0102CC | 2 | HEX HEAD CAPSCREW, 1/4-20 X 1/2, G5 |
| 41 | A-3394 | 1 | COVER PLATE, BLANK FF PUMP |
| 42 | A-8075 | 1 | FF LUBR MANIFOLD, 4 PUMP, SLOAN |
| 44 | PP0810RB | 1 | PIPE PLUG, 1/8NPT, HEX HD, STL |
| 45 | FW0500CA | 0 | WASHER, 1/4 ID, SAE |
| 46 | FR0571CC | 6 | DRIVE SCREW, TYPE U, SS, #6 X 1/4 |
| 47 | A-0805 | 2 | UNION ELBOW-TUBE, STL, 1/4 TUBE |
| 48 | A-0811 | 1 | HEX REDUCING BUSHING, 1/4 NPT (MALE) X 1/8 NPT (FEMALE), STL |
| 49 | A-8123 | 1 | FF LUBR MANIFOLD, 2 PUMP |
| 52 | FC0102CH | 0 | HEX HEAD CAPSCREW, 1/4-20 X 1-1/4, G5 |
| 99 | A-18527-A | 0 | FORCE FEED LUBRICATOR PUMP, REPLACEMENT, 3/8, ARIEL |
| 99 | A-8723-K | 0 | FILTER KIT, LUBRICATOR 150 MIC |

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3/07/12

PARTS LIST

DISTRIBUTION BLOCK, MOUNTING BOLTS PART NO. G-5299
JGA:H:E:K:T:C:D:B:V/4:6, SINGLE BLOCK REF DRAWING N.A.

ITEM PART NUMBER QTY DESCRIPTION

1 FC0102CI 8 HEX HEAD CAPSCREW, 1/4-20 X 1-1/2, G5

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3/07/12

PARTS LIST

RUPTURE DISC ASSEMBLY PART NO. G-2708
3250 PSI REF DRAWING N.A.

| ITEM | PART NUMBER | QTY | DESCRIPTION |
|------|-------------|-----|---|
| 1 | A-0080 | 1 | BLOW-OUT ASSY,SPECIFY DISC. |
| 2 | A-0124 | 0 | RUPTURE DISC, 3250 PSIG, PURPLE |
| 3 | A-2570 | 1 | PLASTIC PLUG/CAP, 5/8 ID HOLE OR 9/16 TUBE, RED |

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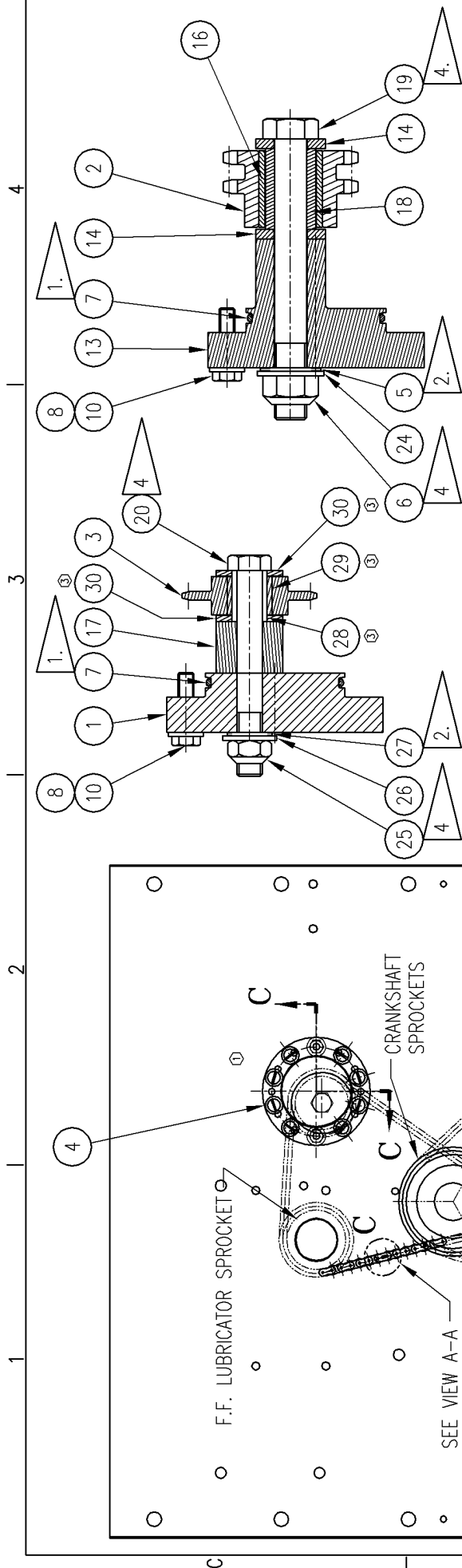
*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***
3/07/12

PARTS LIST

FORCE FEED LUBRICATION TUBING PART NO. G-2861
JGC:D/6 AND JGE:K:T/6 REF DRAWING N.A.

| ITEM | PART NUMBER | QTY | DESCRIPTION |
|------|-------------|-------|---|
| 1 | PT0200CB | 320." | TUBING, SS, 1/4 OD X .035 WALL |
| 2 | A-0886 | 12 | BULKHEAD UNION, STL, 1/4 TUBE |
| 3 | A-0401 | 12 | BRACKET, BULKHEAD UNION |
| 4 | FC0134CC | 12 | BUTTON HEAD CAPSCREW, 1/4-20 X 1/2, 316SS |
| 5 | A-0831 | 12 | TUBING CLAMP, 1/4 TUBE |
| 6 | FM0400BC | 12 | MACHINE SCREW, SLOTTED, #10-24 X 1/2 |
| 7 | FW0500AA | 12 | FLAT WASHER, #8 SAE |

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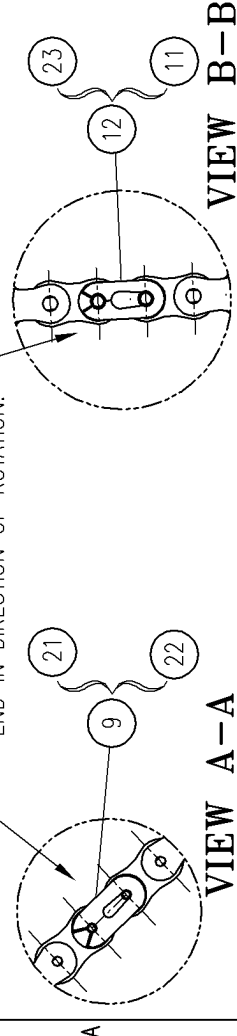


SECTION C-C

SECTION D-D

NOTES:

- 1. OIL O-RING (ITEM #7) BEFORE INSTALLING.
- 2. OIL FACES BEFORE INSTALLING TO PREVENT ABRASION OF STATO-SEAL (ITEM #5 & 27).
- 3. FOR CHAIN TIGHTENING, REFER TO ER-74
- 4. REPLACE NUT (ITEM #6 & 25) AND CAPSCREW (ITEM #19 OR #20) WITH NEW NUT AND CAPSCREW WHEN REPLACING IDLER SPROCKET (ITEM #2 OR #3).



VIEW A-A

VIEW B-B

| | | |
|-----|--|----------------|
| 3 | (C-3) ADDED ITEMS 28 (IDLER SLEEVE), 29 (SLEEVE BEARING), & 30 (WASHER). | DPD 8/27/07 |
| REV | DESCRIPTION | INIT/DATE |

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| | | | | | |
|---------------------|-------|-------------------|-------------------------------------|-------|-----|
| 3 | 14718 | ECN | 0 | 10897 | REV |
| 2 | 11872 | REV | 0 | 10897 | REV |
| 1 | 11009 | REV | 0 | 10897 | REV |
| DRAWN: JCS 9/4/02 | | APPROVED: | ASSEMBLY DWG. NO. A-11650 | | |
| CHECKER: DAH 9/6/02 | | SCALE: NONE | MOUNT VERNON, OHIO 43050 | | |
| 35 BLACKJACK ROAD | | ARIEL CORPORATION | | | |

*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***
3/07/12

PARTS LIST

DUAL CHAIN DRIVE ASSEMBLY,C:D/6,
STANDARD OR REVERSE ROTATION

PART NO. G-10225
REF DRAWING A-11650

| ITEM | PART NUMBER | QTY | DESCRIPTION |
|------|-------------|-----|---|
| 1 | B-3534 | 1 | ECCENTRIC VERNIER CAP, JGC DUAL CHAIN, FORCE FEED |
| 2 | A-7367 | 1 | SPKT,40-2 X 15T,IDLER ASSY |
| 3 | A-0085 | 1 | SPKT,35-1 X 20T |
| 4 | A-0109 | 20 | MACHINE SCREW PLUG, PLASTIC, 7/16-14 |
| 5 | FW0550HA | 1 | STAT-O-SEAL, 5/8 DIA., BLACK |
| 6 | FN0468IA | 1 | HEX NUT,STOVER TYPE C ,5/8-18 |
| 7 | A-0010 | 2 | O-RING,VT, 2.637 O.D. X .139 |
| 8 | FC0100DH | 4 | HEX HEAD CAPSCREW, 5/16-18 X 1-1/4, G9 |
| 9 | A-11622 | 1 | CHAIN ASSEMBLY, 35-1 X 72 |
| 10 | FW0501CA | 4 | WASHER, 5/16 ID, PLAIN |
| 11 | A-7501 | 0 | MASTER LINK, CHAIN, 40-2 |
| 12 | A-11620 | 1 | CHAIN ASSEMBLY, 40-2 X 82 |
| 13 | B-3451 | 1 | ECCENTRIC VERNIER CAP, JGC DUAL CHAIN, LUBE OIL |
| 14 | FW0503IA | 2 | WASHER,5/8 STEEL,X-TRA HVY |
| 16 | A-3200 | 0 | BUSHING, BZ, IDLER SPROCKET, JGC:D |
| 17 | A-11625 | 1 | IDLER SPACER, DUAL CHAIN, JGC:D/6 |
| 18 | A-7515 | 1 | IDLER SLEEVE,E:K:T:C:D/6 |
| 19 | FC0107HV | 1 | HEX HEAD CAPSCREW, 5/8-18 X 5-1/2, G5 |
| 20 | FC0107GS | 1 | HEX HEAD CAPSCREW, 1/2-20 X 4, G5 |
| 21 | A-11624 | 0 | MASTER LINK, CHAIN, 35-1 |
| 22 | A-11623 | 0 | CHAIN, 35-1 X 72 |
| 23 | A-11621 | 0 | CHAIN, 40-2 X 82 |
| 24 | FW0500HA | 1 | WASHER, 5/8 SAE |

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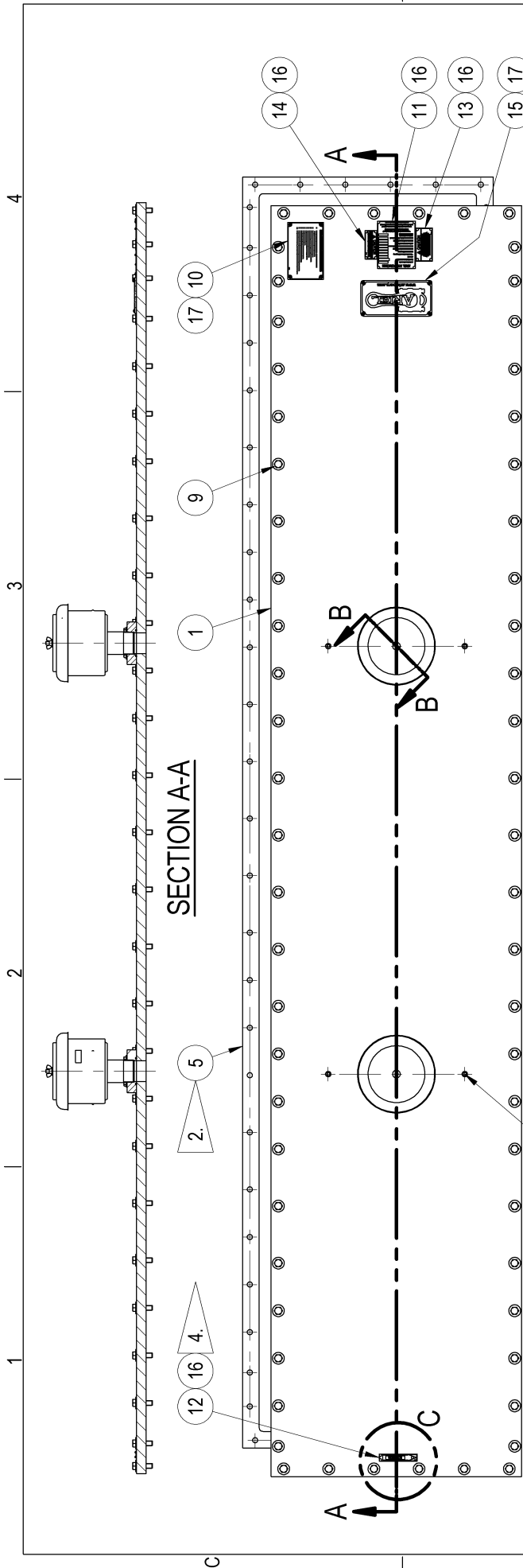
*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***

3/07/12

PARTS LIST

| | | | |
|----|----------|---|-------------------------------|
| 25 | FN0468GA | 1 | HEX NUT,STOVER TYPE C ,1/2-20 |
| 26 | FW0500GA | 1 | FLAT WASHER, 1/2 SAE |
| 27 | FW0550GA | 1 | STAT-O-SEAL, 1/2 DIA., BLACK |

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
DOES NOT REPRESENT THE QUANTITY REQUIRED.



SECTION A-A

NOTES:

1.- LOOSEN OR TIGHTEN ALL FASTENERS PER RECOMMENDED PROCEDURES AND TORQUE VALUES IN MANUAL.

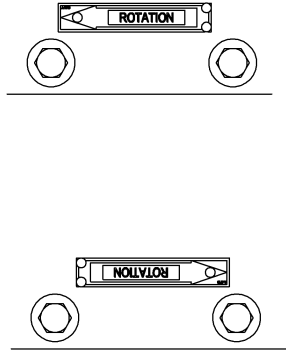
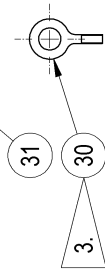
2. APPLY AN ANTI-SEIZE LUBRICANT TO BOTH SIDES OF GASKET SURFACES.

3. USE EYE BOLTS (ITEM #30) FROM TOOL BOX TO LIFT COVER ASSEMBLY.

4. DRILL (3) Ø1/8 X 3/8 DEEP HOLES IN TOP COVER FOR CORRECT ORIENTATION AND MOUNTING OF ROTATION ARROW INFORMATION PLATE. TO BE COMPLETED DURING ASSEMBLY. (SEE DETAIL C FOR CORRECT ROTATION).

5. (ITEM #19) TO BE INSTALLED PRIOR TO TESTING. REMOVE AFTER TESTING AND REPLACE WITH (ITEMS #23 & #24, SEE SECTION B-B).

6. OIL O-RING BEFORE INSTALLING.

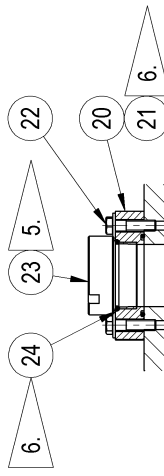


DETAIL C

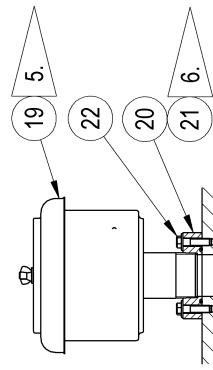
STANDARD ROTATION

DETAIL C

REVERSE ROTATION



SECTION B-B
(ITEM #23 & ITEM #24)



SECTION B-B
(ITEM #19)

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ARIEL CORPORATION
35 BLACKJACK ROAD
MOUNT VERNON, OHIO 43050

ASSEMBLY DWG. NO. **A-18567**
SCALE NONE

| | | | | | | | | | | |
|-----|-------------|-------|-----|-----|-----|-----|-----|--------------|--------------|---------|
| REV | DESCRIPTION | REV | ECN | REV | ECN | REV | ECN | DATE | DRAWN | CHECKED |
| 0 | | 17524 | | | | | | CPM 11/07/11 | DLI 10/14/11 | |

*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***
3/07/12

PARTS LIST

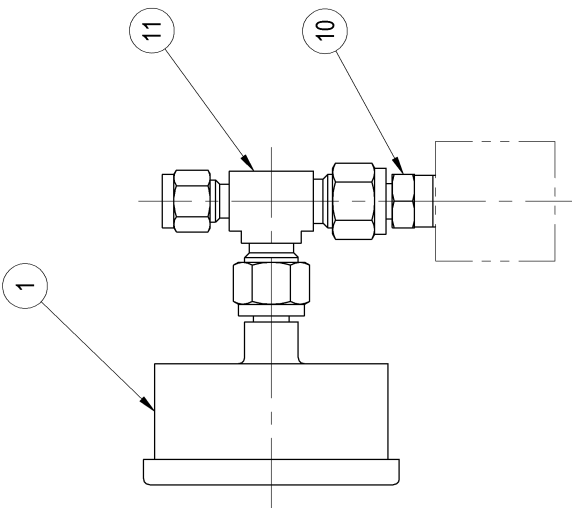
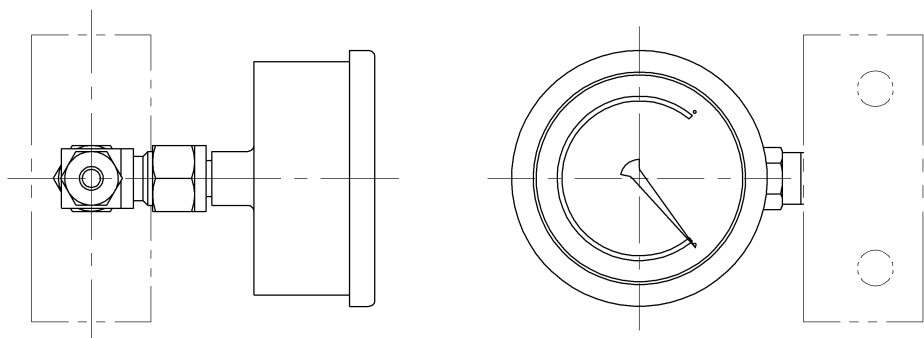
TOP COVER AND BREATHER, PART NO. G-19684
1 PIECE TOP COVER GASKET, REF DRAWING A-18567
JGC:D/6.

| ITEM | PART NUMBER | QTY | DESCRIPTION |
|------|-------------|-----|---|
| 1 | D-1596 | 1 | COVER, TOP, STD, JGC/6 |
| 5 | D-6129 | 1 | TOP COVER GASKET, RET, 1 PIECE, 133-5/8 X 26-3/8 X 1/32 |
| 9 | A-10187 | 62 | SEMS BOLT, 1/2-13 X 1-3/4, G5 |
| 10 | A-3568 | 1 | INFORMATION PLATE, LUBE OIL FILTER |
| 11 | A-14766 | 1 | DATA PLATE, FRAME SPECIFICATION |
| 12 | A-0719 | 1 | INFORMATION PLATE, ROTATION ARROW |
| 13 | A-0463 | 1 | CAUTION PLATE, CYLINDER VENTING |
| 14 | A-0464 | 1 | CAUTION PLATE, COMPRESSOR VALVE |
| 15 | A-0138 | 1 | NAME PLATE, ARIEL LOGO |
| 16 | FR0571CC | 15 | DRIVE SCREW, TYPE U, SS, #6 X 1/4 |
| 17 | FC0134BC | 8 | BUTTON HEAD CAPSCREW, #10-24 X 1/2, 316SS |
| 19 | B-4797 | 2 | BREATHER, 2 NPT, FRAME |
| 20 | A-3203 | 2 | THREAD FLG, 2"JGC:Z BREATHER |
| 21 | A-3204 | 2 | O-RING, VT, 2.887 OD X .139, 75/85 DUROMETER |
| 22 | A-10201 | 8 | SEMS BOLT, 3/8-16 X 1-1/2, G5 |
| 23 | A-7656 | 2 | PIPE PLUG, 2"NPT, SLOTTED HEAD |
| 24 | A-0027 | 2 | O-RING, VT, 2.520 OD X .210, 75/85 DUROMETER |
| 30 | FE0300EA | 0 | EYEBOLT, 3/8-16 UNC |
| 31 | A-0467 | 4 | PUSH-IN PLUG, PLASTIC, 3/8 THREAD, YELLOW |

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT DOES NOT REPRESENT THE QUANTITY REQUIRED.

1 2 3 4

C B A



NOTES:

- 1.- LOOSEN OR TIGHTEN ALL FASTENERS PER RECOMMENDED PROCEDURES AND TORQUE VALUES IN MANUAL.

THIS DOCUMENT AND CONTENTS THEREIN ARE PROPRIETARY TO ARIEL CORPORATION. NO PARTS HEREIN ARE TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF ARIEL CORPORATION. ARIEL CORPORATION GIVES THE RIGHT TO MANUFACTURE BUT DOES NOT GRANT THE RIGHT TO DISCLOSE OR USE IN PART OR IN WHOLE INFORMATION CONTAINED IN DOCUMENT.

ARIEL CORPORATION
 35 BLACKJACK ROAD
 MOUNT VERNON, OHIO 43050



ASSEMBLY DWG. NO. **A-18433**
 SCALE NONE

DRAWN: CPM 08/29/11
 CHECKED: DLI 09/01/11

| | | | |
|-----|-------|-----|-----|
| REV | ECN | REV | ECN |
| 0 | 17756 | | |

| | |
|-------------|----------|
| DESCRIPTION | INITIALS |
| | |

*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***
3/07/12

PARTS LIST

FORCE FEED PRESSURE GAUGE PART NO. G-19564
3000 PSI, GAUGE WITH 3/8 TUBE ADAPTER. REF DRAWING A-18433
MOUNTS TO LUBE BLOCK

| ITEM | PART NUMBER | QTY | DESCRIPTION |
|------|-------------|-----|------------------------------------|
| 1 | A-17256 | 1 | GAUGE, 3000 PSI, BACK MOUNT, 3/8T |
| 10 | PS0012BE | 1 | MALE ADAPTER,STL,3/8T X 1/4P |
| 11 | A-18430 | 1 | REDUCING UNION TEE, STL, 3/8T,1/4T |

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
DOES NOT REPRESENT THE QUANTITY REQUIRED.

*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***
3/07/12

PARTS LIST

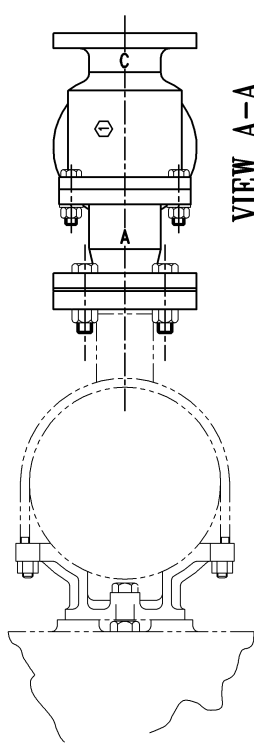
FORCE FEED PROXIMITY SWITCH WITH PART NO. G-12164
MAGNETIC CYCLE INDICATOR FOR THESE REF DRAWING N.A.
DIVIDER VALVES: TRABON, SLOAN BROS, LUBESCI

ITEM PART NUMBER QTY DESCRIPTION

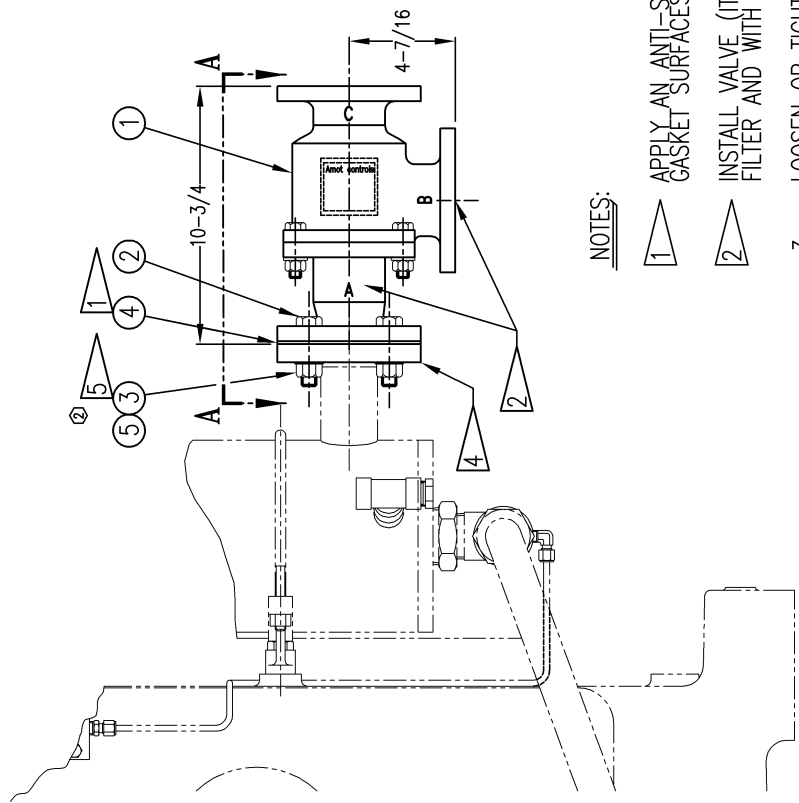
| | | | |
|---|---------|---|--|
| 1 | A-12814 | 1 | FORCE FEED SHUTDOWN, KENCO PROXIMITY SWITCH, TRABON, SB |
| 2 | A-14282 | 1 | FF.CYCLE IND,CCT,TRAB |

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
DOES NOT REPRESENT THE QUANTITY REQUIRED.

1 2 3 4

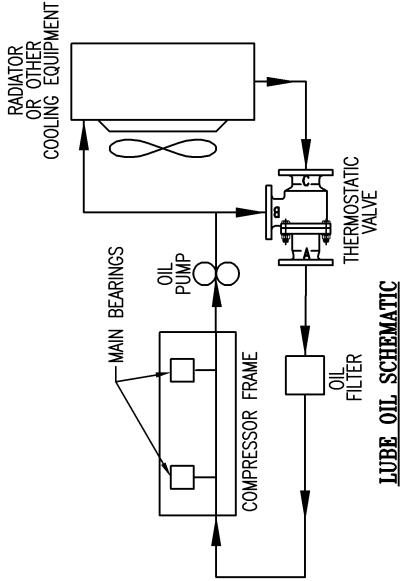


VIEW A-A

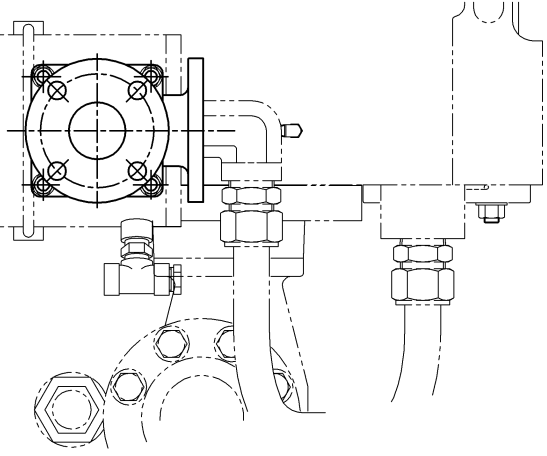


NOTES:

- 1 APPLY AN ANTI-SEIZE LUBRICANT TO BOTH GASKET SURFACES.
- 2 INSTALL VALVE (ITEM#1) WITH "A" PORT TO FILTER AND WITH "B" PORT DOWN AS SHOWN.
- 3 LOOSEN OR TIGHTEN ALL FASTENERS PER RECOMMENDED PROCEDURES AND TORQUE VALUES IN MANUAL.
- 4 SEE OUTLINE DRAWING FOR LOCATION OF FILTER INLET FLANGE.
- 5 TORQUE TO 35-50 FT/LB TO PROPERLY SEAT GASKET.



LUBE OIL SCHEMATIC



| | | |
|-----|--|-----------|
| 2 | ADDED FLAG NOTE #5. BZ ADDED FLAG FOR NOTE #5. | 12/16/02 |
| 1 | ADDED TOP VIEW | |
| REV | DESCRIPTION | INIT/DATE |

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| | | | |
|---|-------|------------------------------------|------------------------------------|
| ARIEL CORPORATION 35 BLACKJACK ROAD MOUNT VERNON, OHIO 43050 | | APPROVED: CH 5/18/92 5/28/92 | ASSEMBLY DWG. NO. A-3224 |
| 2 | 11052 | ECN | REV |
| 1 | 7405 | | |
| 0 | 4371 | | |
| REV | | | |

C B A

*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***
3/07/12

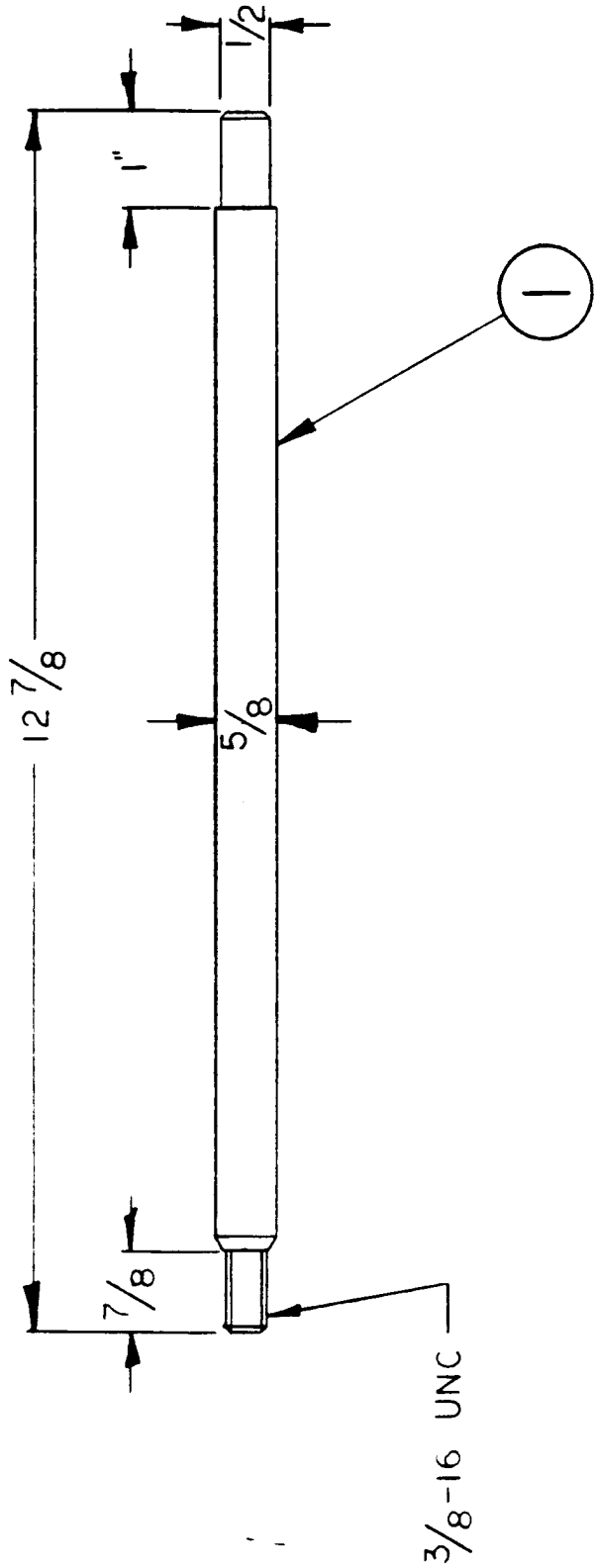
PARTS LIST

THERMOSTATIC VALVE, 2" FLANGE, MOUNTED PART NO. G-8091
WITH 170 DEGREE ELEMENT REF DRAWING A-3224
JGC:D/4:6,JGE:K:T/6

| ITEM | PART NUMBER | QTY | DESCRIPTION |
|------|-------------|-----|--|
| 1 | B-2746 | 1 | THERMOSTATIC VALVE, 2"FLG, 170i ₂ ½F, FPE |
| 2 | FC0100HM | 4 | HEX HEAD CAPSCREW, 5/8-11 X 2-1/2, G9 |
| 3 | FN0450HB | 4 | HEX NUT, 5/8-11, STL, ZINC PLATED |
| 4 | A-3221 | 1 | GSKT,PIPE FLG,2"-150#, 1/8 |
| 5 | FW0500HA | 4 | WASHER, 5/8 SAE |
| 99 | A-9732 | 0 | ELEMENT,THERM VALVE,2",170,FPE |
| 99 | A-9733 | 0 | O-RING,VT FPE |
| 99 | A-9734 | 0 | LIP SEAL-TEFLON,2"VALVE FPE |

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
DOES NOT REPRESENT THE QUANTITY REQUIRED.

G-2226



04182

ARIEL CORPORATION
MT. VERNON, OHIO

ASSY DRWG. A-2793
NUMBER

*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***
3/07/12

PARTS LIST

ANALYZER EXTENSION SHAFT FOR ALL UNITS PART NO. G-2226
REF DRAWING A-2793

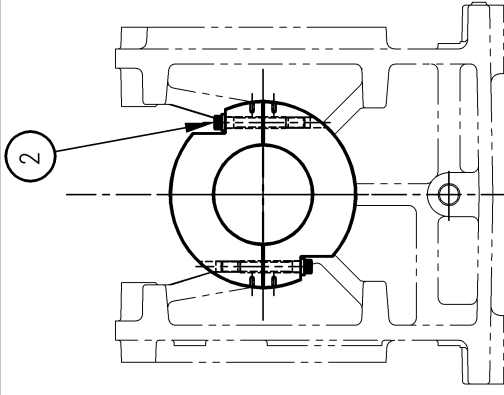
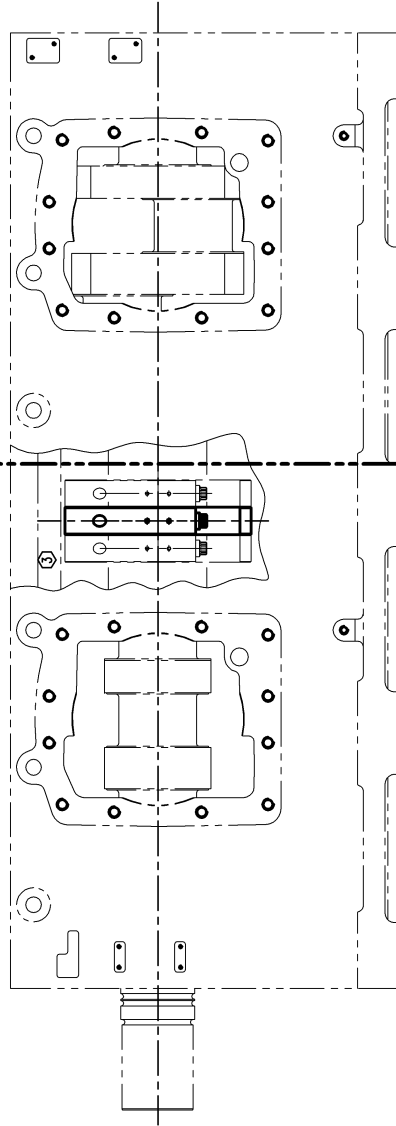
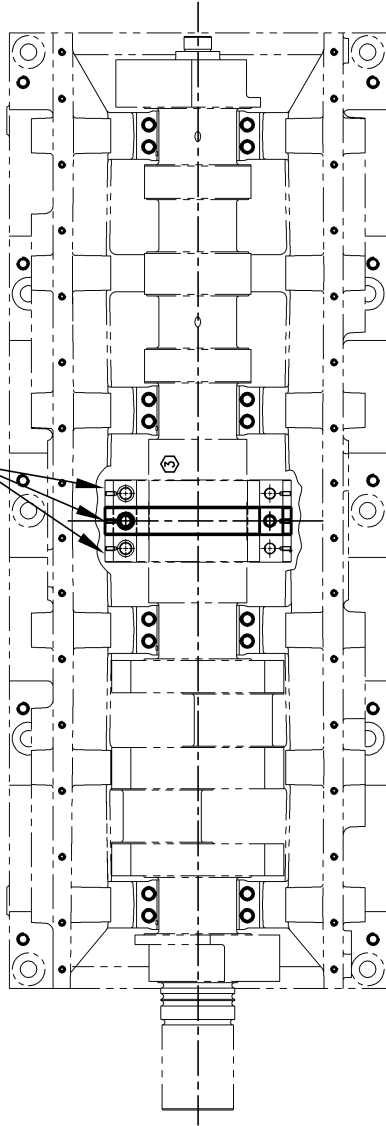
ITEM PART NUMBER QTY DESCRIPTION

1 A-0677 1 EXTENSION SHAFT, ANALYZER

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
DOES NOT REPRESENT THE QUANTITY REQUIRED.

THIS ASSEMBLY DRAWING IS FOR ILLUSTRATION PURPOSES ONLY AND MAY NOT REPRESENT THE EXACT CONFIGURATION PERTAINING TO THE UNIT ORDERED. REFER TO THE ACCOMPANYING PARTS LIST FOR ITEMS (AND QUANTITIES OF EACH) REQUIRED FOR THIS ASSEMBLY.

| BOLT SIZE | TORQUE LB-FT |
|-----------|--------------|
| 1/2"-20 | 61 |
| 3/4"-16 | 215 |
| 1"-14 | 530 |
| 1-1/8"-12 | 740 |



Section A-A

TYPICAL INSTALLATION NOTES:

1. LOOSEN OR TIGHTEN ALL FASTENERS PER RECOMMENDED PROCEDURES AND TORQUE VALUES IN MANUAL.
 2. WHEN ONLY ONE DETUNER IS TO BE USED, IT SHOULD BE PLACED AT THE CENTER OF THE CRANKSHAFT SPREADER SECTION.
 3. WHEN TWO OR MORE DETUNERS ARE TO BE USED, POSITION THEM CENTERED SYMMETRICALLY ALONG THE CRANKSHAFT SPREADER SECTION, IN CONTACT WITH EACH OTHER.
- WHEN PROPERLY INSTALLED, WITH FASTENERS PROPERLY TIGHTENED, THERE IS A GAP BETWEEN THE DETUNER HALVES, ON BOTH SIDES. CONFIRM USING FEELER STOCK. IF THERE IS NO GAP, DETERMINE AND CORRECT THE CAUSE BEFORE STARTING THE COMPRESSOR.

| | | |
|-----|---|-------------------|
| REV | DESCRIPTION | INIT/DATE |
| 5 | (C-3) ADDED "1/2"-20" BOLT TO TABLE. REVISED 3/4"-16 BOLT, 215 WAS "216". | KSL 08/23/2010 |

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| | | | |
|-----|-------|-----|-------|
| REV | ECN | REV | ECN |
| 5 | 16817 | 1 | 11623 |
| 4 | 13409 | 0 | 6627 |
| 3 | | 2 | 12623 |
| | | 3 | 14217 |

| | |
|--------------------|--------|
| APPROVED: | SCALE: |
| DRAWN: JJZ 1/09/97 | NONE |
| CHECKED: | |



ARIEL CORPORATION
35 BLACKJACK ROAD
MOUNT VERNON, OHIO 43050

ASSEMBLY DWG. NO. **A-6742**

FOUR THROW COMPRESSOR IS SHOWN AS AN EXAMPLE. INDIVIDUAL DETUNER ARRANGEMENTS WILL VARY.

*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***
3/07/12

PARTS LIST

CRANKSHAFT TORSIONAL VIBRATION DETUNER PART NO. G-5738
JGC:D FRAME REF DRAWING A-6742

| ITEM | PART NUMBER | QTY | DESCRIPTION |
|------|-------------|-----|-------------------------------------|
| 1 | C-2000 | 1 | TORSIONAL DETUNER, C:D, 4000 LB-IN2 |
| 2 | A-3941 | 0 | 12-POINT CAPSCREW, 1-14 X 7-1/4, G8 |

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
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*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***
3/07/12

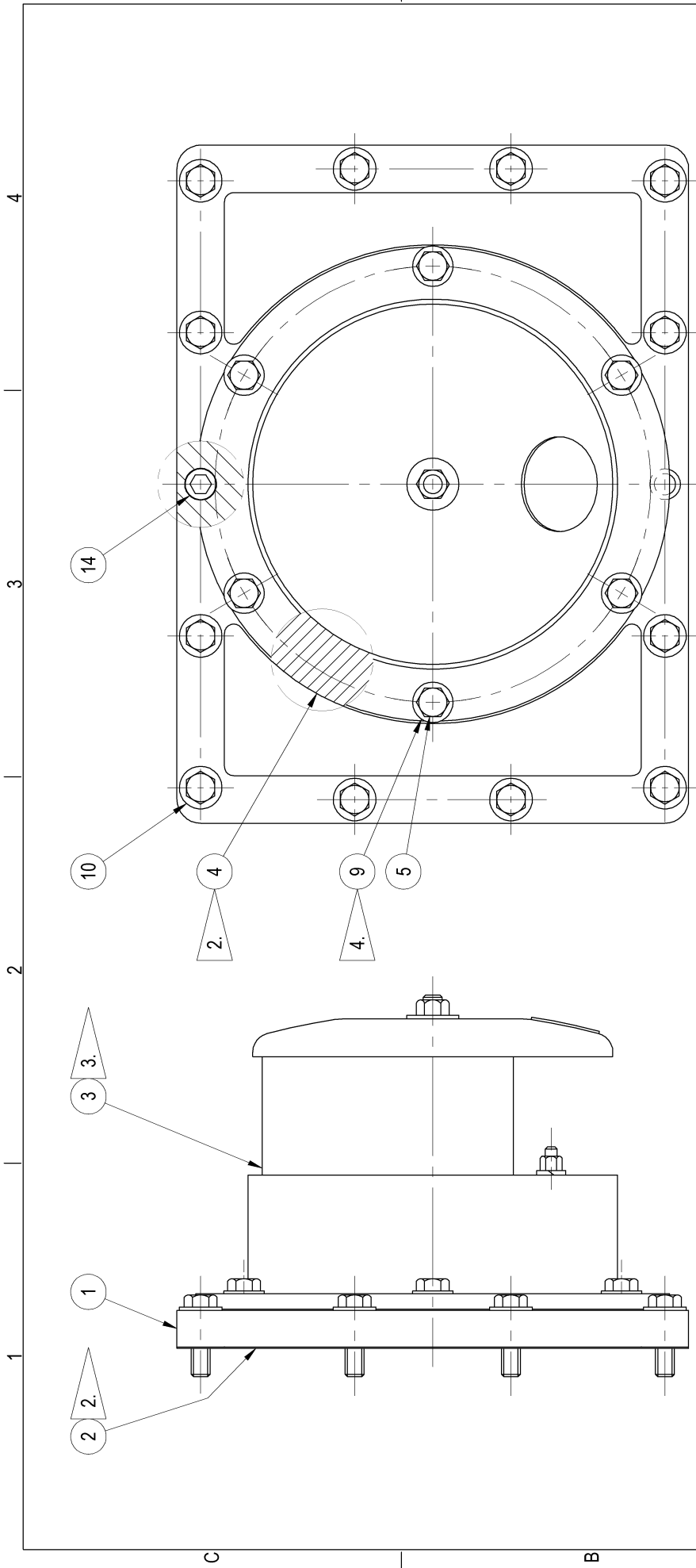
PARTS LIST

SPECIAL TOOLS
JGC:D, W/110i_j ½IND

PART NO. G-16337
REF DRAWING N.A.

| ITEM | PART NUMBER | QTY | DESCRIPTION |
|------|-------------|-----|---|
| 1 | A-0798 | 1 | TOOL BOX |
| 2 | A-2289 | 1 | VLV PULLER TOOL FOR'CT'VALVE |
| 3 | A-3055 | 1 | CROSSHEAD INSTALL. TOOL,JGC |
| 4 | A-3056 | 1 | PEG WRENCH,JGC |
| 5 | A-14790 | 1 | PISTON ROD ENTERING SLEEVE, 2PC, JGC:D |
| 6 | B-1240 | 1 | PISTON TURNING TOOL SUPT. ASSY |
| 7 | B-1512 | 1 | PISTON TURN.TOOL,SPANNER JGC |
| 8 | B-3993 | 1 | TURN IND,JGC:D, 110i _j ½,3/4 DRIVE |
| 9 | B-1988 | 1 | X-HD/PIN ALIGN. TOOL,JGC:D |
| 10 | C-3368 | 1 | CONN ROD CAP REMOVAL TOOL,C:D |
| 11 | ER-63 | 1 | TORQUE CHART, ALL UNITS |
| 12 | FC0102CG | 6 | HEX HEAD CAPSCREW, 1/4-20 X 1", G5 |
| 13 | FE0300EA | 6 | EYEBOLT,3/8-16 UNC |
| 14 | FE0300GA | 2 | EYEBOLT,1/2-13 UNC |
| 15 | TA0100GA | 5 | ALLEN WRENCH, 5/32 SHORT ARM |
| 16 | TA0100HA | 5 | ALLEN WRENCH, 3/16 SHORT ARM |
| 17 | TA0100LA | 1 | ALLEN WRENCH, 3/8 SHORT ARM |
| 18 | TA0100NB | 2 | ALLEN WRENCH, 1/2 LONG ARM |
| 19 | TA0100QB | 1 | ALLEN WRENCH, 3/4 LONG ARM |
| 20 | FE0300HA | 2 | EYEBOLT,5/8-11 UNC |
| 21 | A-13636 | 1 | VLV PULLER, 5/8 X 3/4 UNF, LONG |
| 22 | A-15236 | 1 | THREAD GAUGE |

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
DOES NOT REPRESENT THE QUANTITY REQUIRED.



NOTES:

- 1.- LOOSEN OR TIGHTEN ALL FASTENERS PER RECOMMENDED PROCEDURES AND TORQUE VALUES IN MANUAL.
- 2. APPLY AN ANTI-SIEZE LUBRICANT TO BOTH SIDES OF FIBER GASKETS.
- 3. INSTALL (ITEM #3) WITH OPENING DIRECTED DOWN.
- 4.- OIL FACES OF STAT-O-SEALS (ITEM #9) BEFORE INSTALLING TO PREVENT ABRASION.

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| | | | | | |
|-----|---|---|--------------------------------|----------------------|--|
| | | ARIEL CORPORATION 35 BLACKJACK ROAD MOUNT VERNON, OHIO 43050 | | ASSEMBLY DWG. NO. | A-17200 <small>SHT. 1 OF 1</small> |
| | | DRAWN CPM 05/18/10 | CHECKED DLI 06/04/10 | SCALE | |
| REV | 0 | 16753 | ECN | REV | 3 |
| REV | | | ECN | REV | 4 |

| DESCRIPTION | INIT/DATE |
|-------------|-----------|
| | |
| | |

*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***
3/07/12

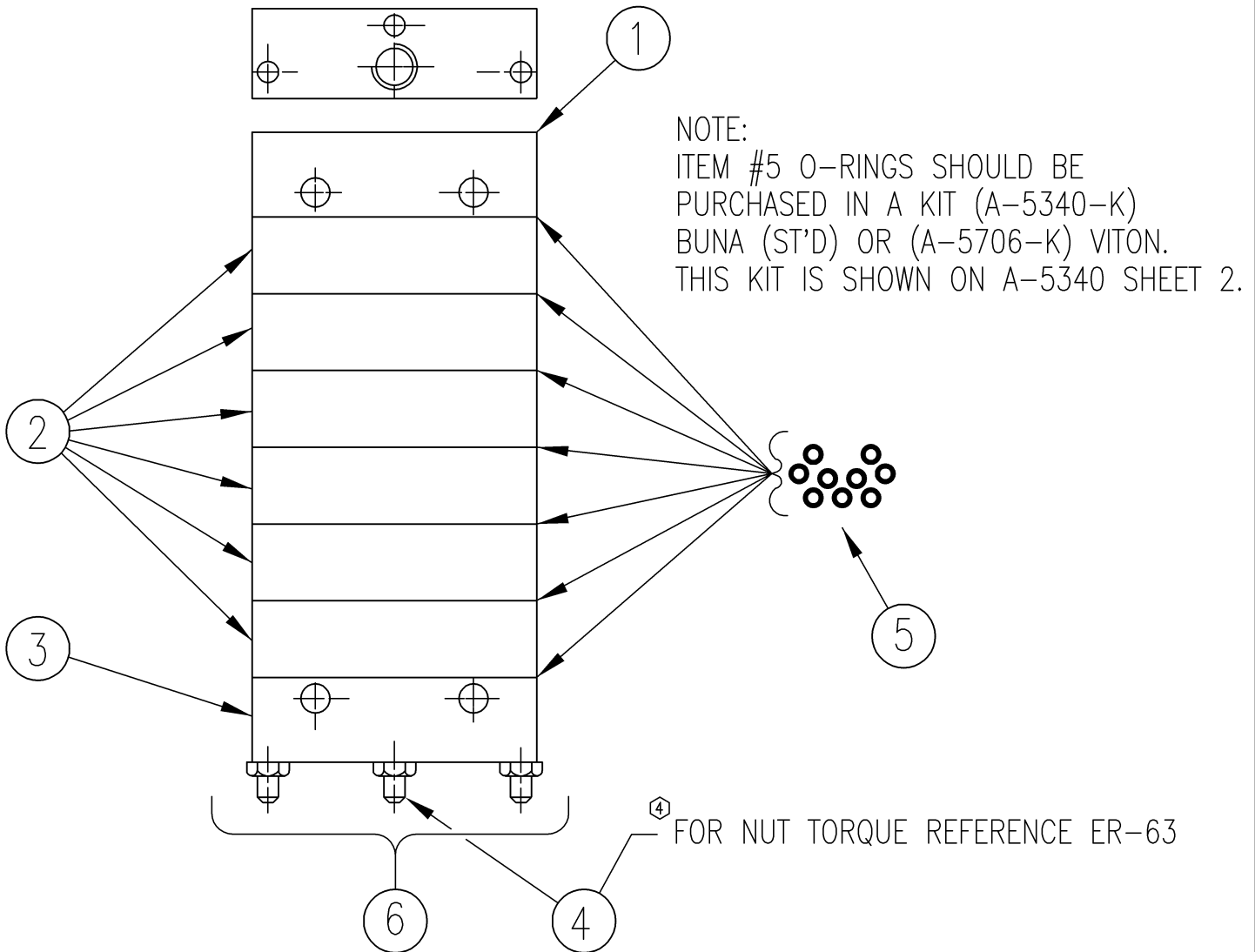
PARTS LIST

OVER PRESSURE RELIEF VALVE ASSEMBLY PART NO. G-17577
JGC:D/6 FRAME REF DRAWING A-17200

| ITEM | PART NUMBER | QTY | DESCRIPTION |
|------|-------------|-----|--|
| 1 | B-1497 | 3 | COVER, GUIDE, BICERA VALVE, JGC:D |
| 2 | B-1429 | 3 | GSKT,RET,13-1/2X17-7/8X1/32 |
| 3 | B-1496 | 3 | BICERA RELIEF VLV JGC:D |
| 4 | A-3225 | 3 | GSKT,RND,12-1/2 X 1/32 |
| 5 | FC0102GH | 18 | HEX HEAD CAPSCREW, 1/2-13 X 1-1/4, G5 |
| 9 | FW0550GA | 18 | STAT-O-SEAL, 1/2 DIA., BLACK |
| 10 | A-10187 | 36 | SEMS BOLT, 1/2-13 X 1-3/4, G5 |
| 14 | FC0110GH | 6 | SOCKET HEAD CAPSCREW, 1/2-13 X 1-1/4, G8 |
| 99 | B-1496-K | 0 | RBLD KIT,BICERA VLV, JGC:D |

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
DOES NOT REPRESENT THE QUANTITY REQUIRED.

| NUMBER OF BASE PLATES SECTIONS | | | | DESCRIPTION | ARIEL PART No. | ITEM |
|--------------------------------|--------|--------|--------|------------------------------|----------------|------|
| 3 | 4 | 5 | 6 | | | |
| 1 | 1 | 1 | 1 | INLET SECTION | A-5537 | 1 |
| 3 | 4 | 5 | 6 | INTERMEDIATE SECTION | A-5531 | 2 |
| 1 | 1 | 1 | 1 | END SECTION | A-5538 | 3 |
| 3 | | | | TIE ROD W/NUT | A-5539 | 4 |
| | 3 | | | TIE ROD W/NUT | A-5540 | |
| | | 3 | | TIE ROD W/NUT | A-5541 | |
| | | | 3 | TIE ROD W/NUT | A-5542 | |
| 36 | 45 | 54 | 63 | O-RING, BUNA STANDARD | A-5570 | 5 |
| 36 | 45 | 54 | 63 | O-RING, VITON | A-5703 | |
| A-5533 | A-5534 | A-5535 | A-5536 | COMPLETE BASE PLATE ASSEMBLY | | 6 |



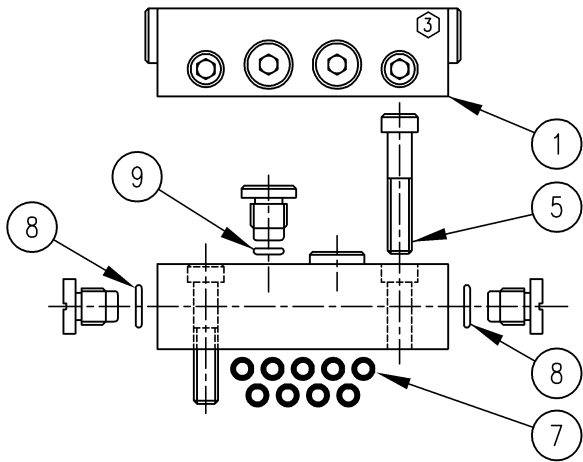
| | | | |
|---|-------|---|-------|
| 5 | 14799 | 3 | 10737 |
| 4 | 12506 | 2 | 8200 |
| | | 1 | 8175 |
| | | 0 | 5695 |



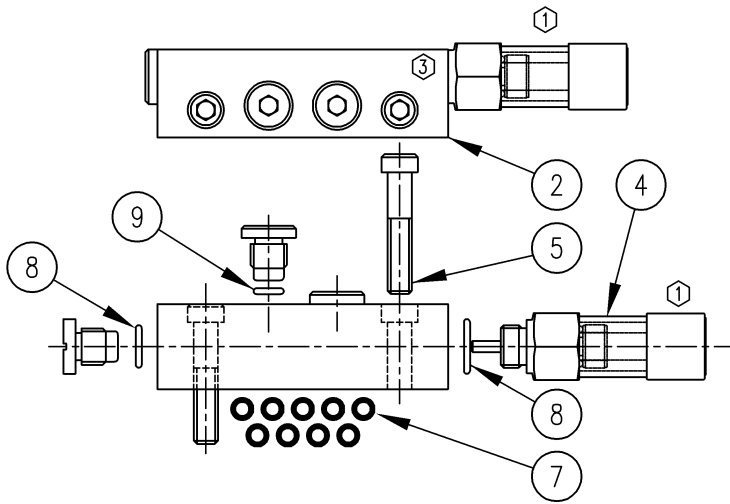
ARIEL CORPORATION
35 BLACKJACK ROAD
MOUNT VERNON, OHIO 43050

| | | | | | | | |
|-----|-------------|----------|-----|-----|-----------------------------------|--------------------|-------|
| REV | DESCRIPTION | INT/DATE | REV | ECN | TITLE: DISTRIBUTION BLOCK VALVE ⑤ | DRAWING No. A-5340 | SHT 1 |
| | | | | | | | OF 2 |

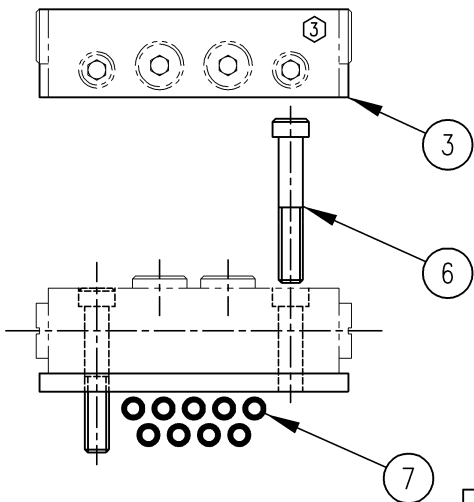
WITHOUT CYCLE PIN



WITH CYCLE PIN



CROSSPORT



- ⑤①
- ②
- ②

| ITEM | ARIEL PART | QUAN | DESCRIPTION |
|--------|------------|--------------------------|--------------------------|
| 1 | A-5543 | 1 | DIVIDER VALVE, 6T |
| | A-5545 | 1 | DIVIDER VALVE, 6S |
| | A-5547 | 1 | DIVIDER VALVE, 9T |
| | A-5549 | 1 | DIVIDER VALVE, 9S |
| | A-5551 | 1 | DIVIDER VALVE, 12T |
| | A-5553 | 1 | DIVIDER VALVE, 12S |
| | A-5555 | 1 | DIVIDER VALVE, 18T |
| | A-5557 | 1 | DIVIDER VALVE, 18S |
| | A-5559 | 1 | DIVIDER VALVE, 24T |
| | A-5561 | 1 | DIVIDER VALVE, 24S |
| | A-5563 | 1 | DIVIDER VALVE, 30T |
| A-5565 | 1 | DIVIDER VALVE, 30S | |
| 2 | A-5544 | 1 | DIVIDER VALVE, 6T W/CIP |
| | A-5546 | 1 | DIVIDER VALVE, 6S W/CIP |
| | A-5548 | 1 | DIVIDER VALVE, 9T W/CIP |
| | A-5550 | 1 | DIVIDER VALVE, 9S W/CIP |
| | A-5552 | 1 | DIVIDER VALVE, 12T W/CIP |
| | A-5554 | 1 | DIVIDER VALVE, 12S W/CIP |
| | A-5556 | 1 | DIVIDER VALVE, 18T W/CIP |
| | A-5558 | 1 | DIVIDER VALVE, 18S W/CIP |
| | A-5560 | 1 | DIVIDER VALVE, 24T W/CIP |
| | A-5562 | 1 | DIVIDER VALVE, 24S W/CIP |
| A-5564 | 1 | DIVIDER VALVE, 30T W/CIP | |
| A-5566 | 1 | DIVIDER VALVE, 30S W/CIP | |
| 3 | A-5567 | 1 | CROSSPORT BAR, RIGHT |
| | A-5568 | 1 | CROSSPORT BAR, LEFT |
| | A-5569 | 1 | CROSSPORT BAR, BOTH |
| 4 | A-14282 | 1 | CYCLE INDICATOR |
| 5 | FC0115CH | 2 | SOC. CAP. 1/4-28 X 1-1/4 |
| 6 | FC0115CI | 2 | SOC. CAP. 1/4-28 X 1-1/2 |

NOTE:

O-RINGS SHOULD BE PURCHASED IN A KIT (A-5340-K) BUNA (ST'D) OR (A-5706-K) VITON. THE KITS CONTAIN THE FOLLOWING O-RINGS:

| | | | |
|---|--------|----|--------------------------|
| 7 | A-5570 | 20 | O-RING, INTERFACE, BUNA |
| | A-5703 | 20 | O-RING, INTERFACE, VITON |
| 8 | A-5696 | 4 | O-RING, ENCLOSURE, BUNA |
| | A-5704 | 4 | O-RING, ENCLOSURE, VITON |
| 9 | A-5695 | 4 | O-RING, OUTLET, BUNA |
| | A-5705 | 4 | O-RING, OUTLET, VITON |

| | |
|---|-------|
| 5 | 14799 |
| 4 | 12506 |
| 3 | 10737 |
| 2 | 8200 |
| 1 | 8175 |
| 0 | 5695 |



ARIEL CORPORATION
 35 BLACKJACK ROAD
 MOUNT VERNON, OHIO 43050

TITLE: DISTRIBUTION BLOCK VALVE ⑤

DRAWING No. **A-5340** SHT 2 OF 2

| | | | | |
|-----|-----------------------------|-------------------|----------|-----|
| ⑤ | SEE SHEET #1 FOR REVISIONS. | DLI 02/07/2008 | REV | ECN |
| ④ | SEE SHEET #1. | RWR 01/17/03 | INT/DATE | |
| REV | DESCRIPTION | INT/DATE | REV | ECN |

3/07/12 ARIEL CORPORATION C/N: 001 RHCOVP02
 SALES ORDER COVER SHEET

SERIAL #: C131600, 02 & 04

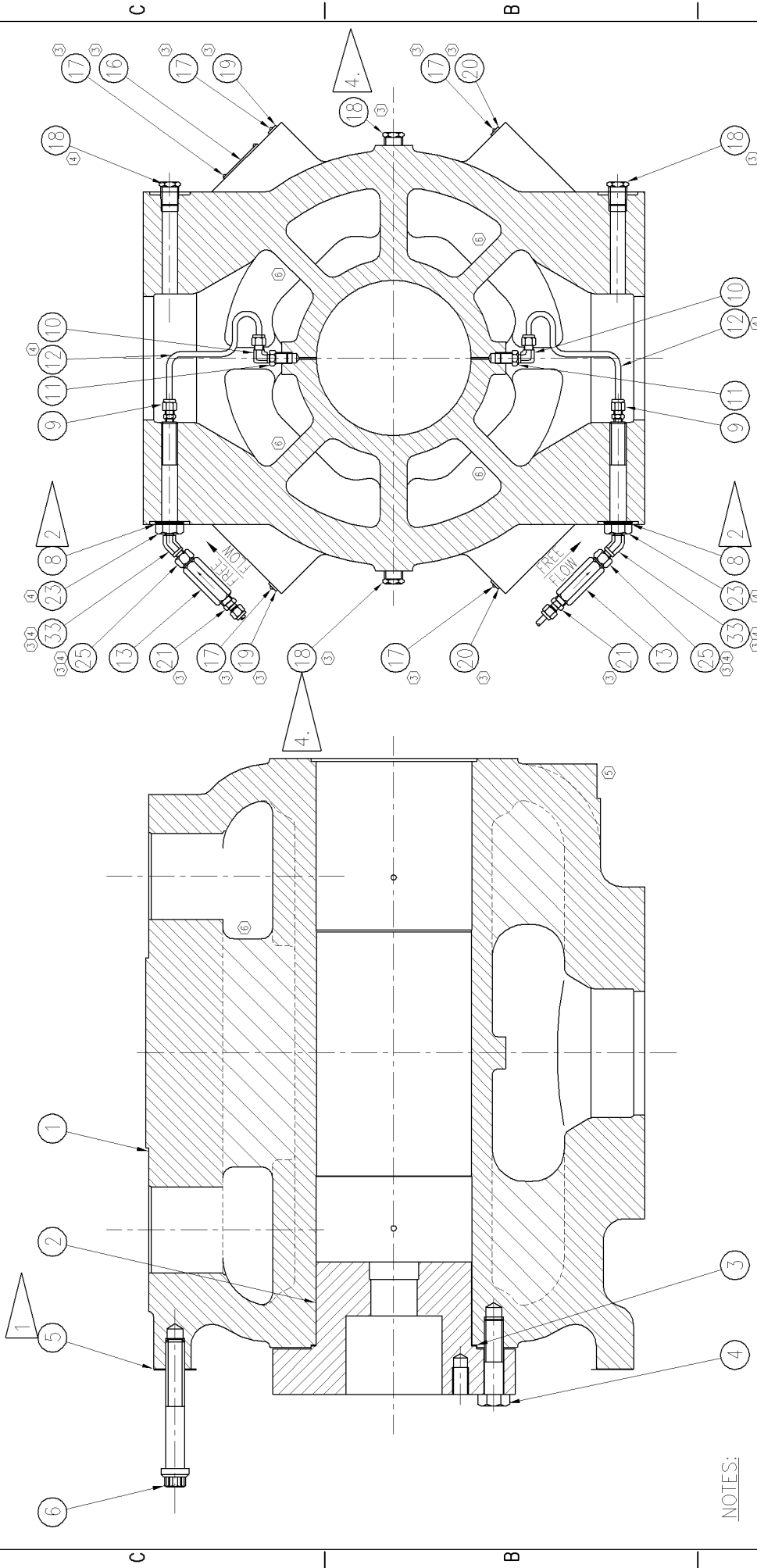
PART: 12-1/2C CLASS DESCRIPTION: 12-1/2" JGC:D CYLINDER CLASS

| PART NUMBER | QTY | DESCRIPTION | DRAWING NO. |
|-------------|-----|--------------------------------|---------------|
| G-11921 | 1 | CYL ASSY,12-1/2C:D,HES,STD 800 | A-6370 |
| G-1700 | 4 | SUC VLV ASSY,12-1/2KCDT | D-1092 |
| G-1701 | 4 | DIS VLV ASSY,12-1/2KCDT | D-1093 |
| PISTON ASSY | 1 | PISTON ASSY 12.500 C | A-17412 2 SHT |
| B-2230-S | 4 | SUC VLV,148CT,NYX | A-9265 |
| B-2231-DD | 4 | DIS VLV,148CT, MTX | A-9264 |

DC
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OR
C
RE
MA

RE

74



NOTES:

1. APPLY AN ANTI-SEIZE LUBRICANT TO GASKET (ITEM #5) SURFACES.
2. OIL FACES OF STATO-SEAL (ITEM #8) BEFORE INSTALLING TO PREVENT ABRASION.
3. LOOSEN OR TIGHTEN ALL BOLTS PER RECOMMENDED PROCEDURES AND TORQUE VALVES IN MANUAL.
4. USED TO PLUG INDICATOR PASSAGES WHERE APPLICABLE.

5. THIS ASSEMBLY DRAWING IS FOR ILLUSTRATION PURPOSES ONLY AND MAY NOT NECESSARILY REPRESENT THE EXACT CONFIGURATION PERTAINING TO THE UNIT ORDERED. REFER TO ACCOMPANYING PARTS LIST FOR ITEMS (AND QUANTITIES OF EACH) REQUIRED FOR THIS PARTICULAR ASSEMBLY.

| | | | | | |
|-----|-------|----|------|-------|------|
| 3 | 8001 | | | | |
| 6 | 12122 | 2 | 6282 | | |
| 5 | 10823 | 1 | 5971 | | |
| 4 | 7510 | 1 | 6277 | | |
| REV | ECN | EV | ECN | SCALE | NONE |

ARIEL CORPORATION
 35 BLACKJACK ROAD
 MOUNT VERNON, OHIO 43050

ARIEL

APPROVED: **JJZ 6/6/96**
 DRAWN: **JJZ 6/6/96**
 CHECKED: **6/11/96**

ASSEMBLY DWG. NO. **A-6370**

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| | | | |
|-----|---|-----------|------------|
| 6 | B3, B4, C2, C3 & C4: ADDED ANGLED VALVE PAD REINFORCING RIBS TO VIEWS. | ARW | 05/25/2004 |
| 5 | REVISED DRAWING. B2: REVISED VIEW WITH HEAD END SUPPORT. A3: ADDED NOTE #5. UPDATED TO CURRENT STANDARDS. | ARW | 12/02/2003 |
| REV | DESCRIPTION | INIT/DATE | |

3/16/12

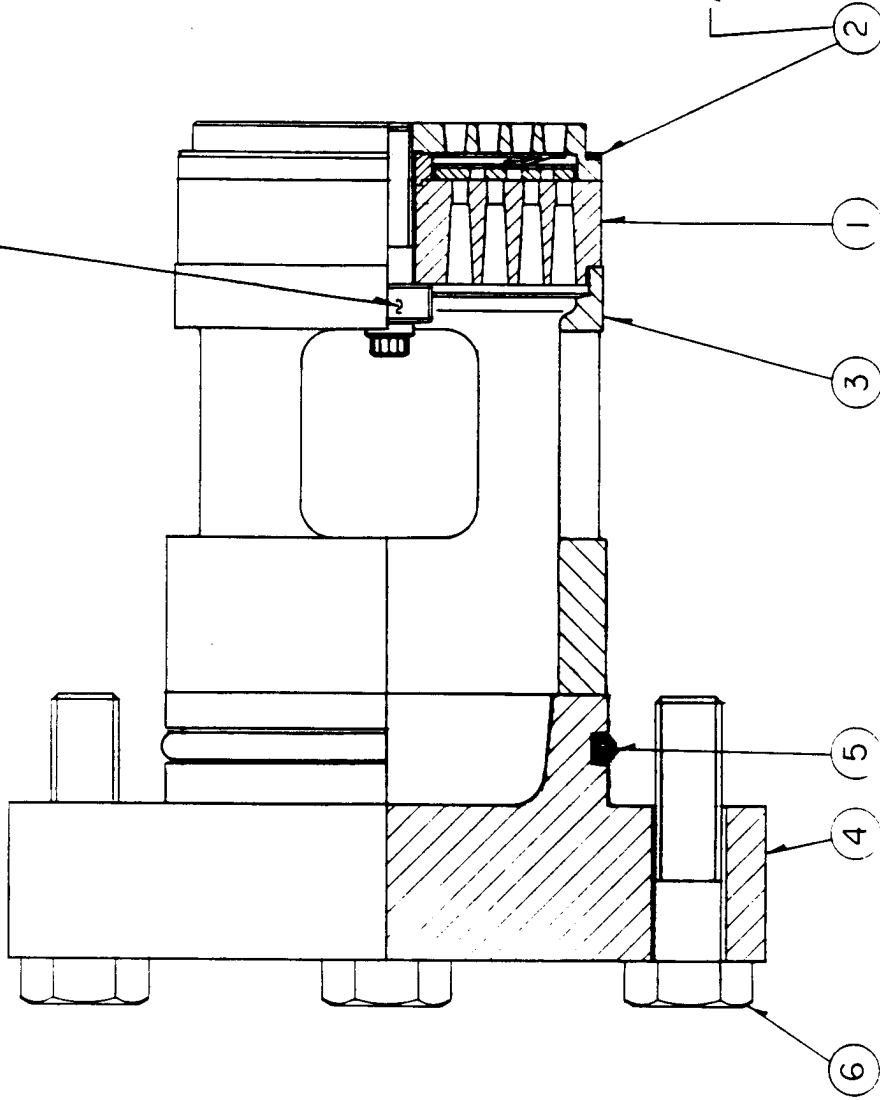
PARTS LIST

12-1/2" JGC:D CYLINDER BODY
WITH HEAD END SUPPORTS.
RDP 727#, MAWP 800#

PART NO. G-11921
REF DRAWING A-6370

| ITEM NUMBER | PART NUMBER | QUANTITY | DESCRIPTION |
|----------------|-------------|----------|---------------------------------|
| 001 | D-4025 | 0 | CYL,12-1/2C:K-HP, 800 |
| 002 | C-1259 | 0 | CE HEAD,12-1/2C:D |
| 003 | A-2080 | 1 | STL GASKET,12.938 X 12.625 X60 |
| 004 | FC0100IM | 14 | HEX HD CAP, 3/4-10 X 2-1/2 G9 |
| 005 | B-3549 | 1 | GSKT,RND,22-1/2 X 1/64,18 HOLE |
| 006 | FC0120JW | 12 | 12 PT,7/8-9 X 6 G8 |
| 008 | FW0550ID | 2 | STAT-O-SEAL,VT,75DUR. 3/4 DIA |
| 009 | A-0830 | 2 | MALE CONN,STL, 1/4T X 1/8P |
| 010 | A-0815 | 2 | MALE ELBOW,STL, 1/4T X 1/8P |
| 011 | A-0811 | 2 | HEX RED BUSH,STL,1/4M X 1/8F |
| 012 | PT0200CB | 100 | " SS TUBING, 1/4 OD X .035 WALL |
| 013 | A-3780 | 2 | CHK.VLV,DOU.BALL SOFT SEAT SS |
| 016 | A-0465 | 1 | DATA PLATE,CYLINDER SPEC STD |
| 017 | FR0571CC | 12 | DRIVE SCREW, #6 X 1/4 SS,U-TP |
| 018 | PP0810GB | 6 | PIPE PLUG,1/2NPT,HEX HD,STL |
| 019 | A-0640-A | 2 | INFO PLATE,SUCTION |
| 020 | A-0640-B | 2 | INFO PLATE,DISCHARGE |
| 021 | A-0827 | 2 | MALE CONN,STL, 1/4T X 1/4P |
| 023 | A-2074 | 2 | LUBE FITTING,3/4-10 X 4 |
| 025 | A-2114 | 2 | HEX PIPE NIPPLE,STL,1/4 X 1/8 |
| 033 | A-3989 | 2 | STREET ELBOW,45,1/8P STL |
| 100 | HD-4025 | 1 | CYL ASSY,12-1/2C:D,HES |

1"-8UNC THREADED WASHER FOR VALVE INSTALLATION/REMOVAL.



APPLY AN ANTI-SEIZE LUBRICANT TO GASKET SURFACES.

OIL O-RING BEFORE INSTALLING

NOTE : LOOSEN OR TIGHTEN ALL FASTENERS PER RECOMMENDED PROCEDURES AND TORQUE VALUES IN MANUAL.

| |
|--------|
| G-1646 |
| G-1539 |
| G-1700 |
| G-1710 |
| G-1754 |
| G-1819 |
| G-2198 |
| G-2303 |

4128
15749
15748
15747

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ARIEL CORPORATION
MT. VERNON, OHIO
ASSY. DRWG. D-1092
NUMBER

*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***
3/07/12

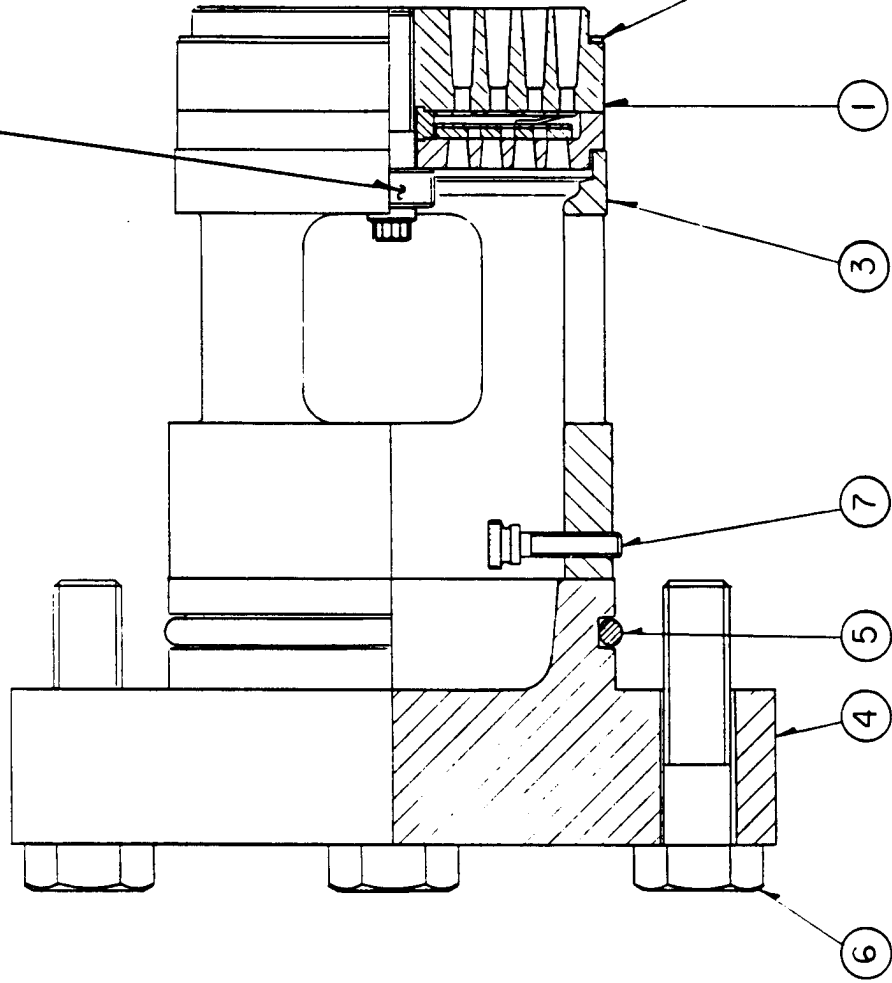
PARTS LIST

SUCTION VALVE, RETAINER AND CAP PART NO. G-1700
12-1/2" JGK:C:D:T CYLINDER CLASS REF DRAWING D-1092

| ITEM | PART NUMBER | QTY | DESCRIPTION |
|------|---------------|-----|---|
| 1 | SUCTION VALVE | 0 | FOR VALVE PART NUMBER, SEE COVER SHEET |
| 2 | A-2079 | 1 | STEEL GASKET, 06.623 OD X 06.435 ID X .030, VALVE |
| 3 | B-1044 | 1 | VLV RET,S&D,12-1/2KCZ,15-7/8C |
| 4 | B-1045 | 0 | VALVE CAP, 12-1/2K:K PRC:K HP:C:C PRC:Z |
| 5 | A-0724 | 1 | O-RING, VT, 6.645 OD X .210, 75/85 DUROMETER |
| 6 | FC0171FHJ | 4 | 12-POINT CAPSCREW, 3/4-10 X 2-3/4 X 15/16, G8 |

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
DOES NOT REPRESENT THE QUANTITY REQUIRED.

1"-8UNC THREADED WASHER FOR VALVE INSTALLATION/REMOVAL.



APPLY AN ANTI-SEIZE LUBRICANT TO GASKET SURFACES.

OIL O-RING BEFORE INSTALLING

NOTE : LOOSEN OR TIGHTEN ALL FASTENERS PER RECOMMENDED PROCEDURES AND TORQUE VALUES IN MANUAL.

| |
|--------|
| G-1647 |
| G-1564 |
| G-1701 |
| G-1711 |
| G-1755 |
| G-1820 |
| G-199 |
| G-2304 |

| |
|---|
| 1 |
| 2 |
| 3 |
| 4 |
| 5 |
| 6 |
| 7 |

ARIEL CORPORATION
 MT. VERNON, OHIO
 ASSY. DRWG. D-1093
 NUMBER

*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***
3/07/12

PARTS LIST

DISCHARGE VALVE, RETAINER, CAP PART NO. G-1701
12-1/2" JGK:C:D:T CYLINDER CLASS REF DRAWING D-1093






ITEM PART NUMBER QTY DESCRIPTION

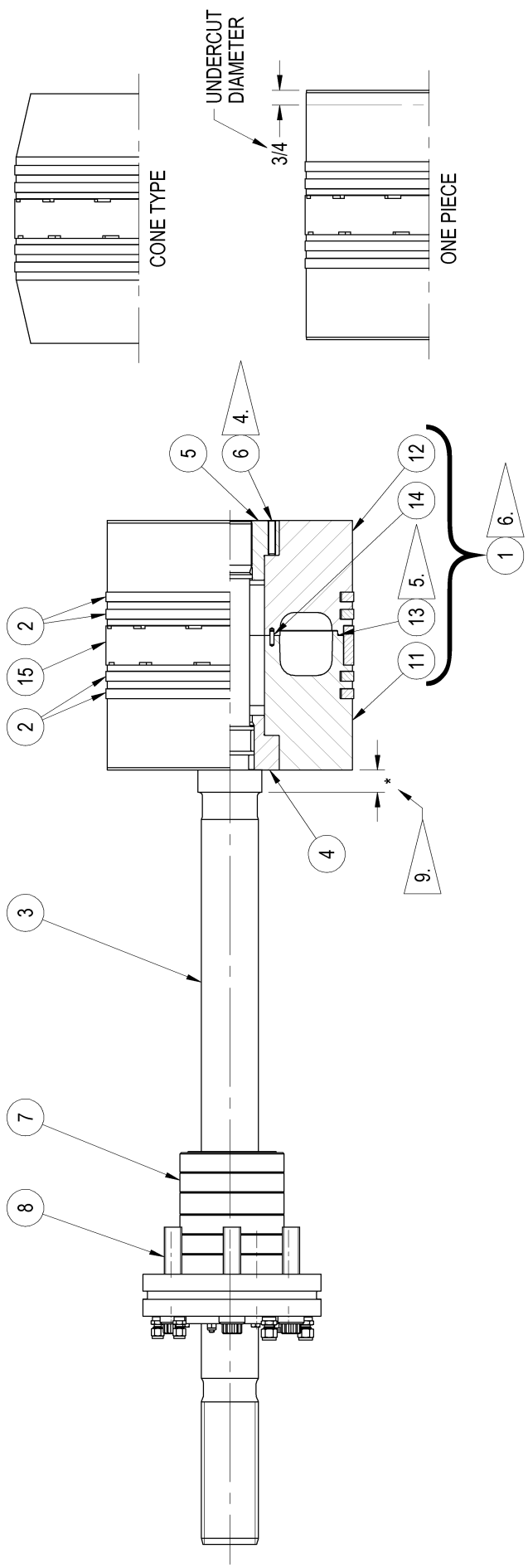
| | | | |
|---|----------------|---|---|
| 1 | DISCHARGE VALV | 0 | FOR VALVE PART NUMBER, SEE COVER SHEET |
| 2 | A-2079 | 1 | STEEL GASKET, 06.623 OD X 06.435 ID X .030, VALVE |
| 3 | B-1044 | 1 | VLV RET,S&D,12-1/2KCZ,15-7/8C |
| 4 | B-1045 | 0 | VALVE CAP, 12-1/2K:K PRC:K HP:C:C PRC:Z |
| 5 | A-0724 | 1 | O-RING, VT, 6.645 OD X .210, 75/85 DUROMETER |
| 6 | FC0171FHJ | 4 | 12-POINT CAPSCREW, 3/4-10 X 2-3/4 X 15/16, G8 |
| 7 | A-2695 | 2 | THUMB SCREW, NYLON, 1/4-20 X 1" |

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
DOES NOT REPRESENT THE QUANTITY REQUIRED.


1 2 3 4

NOTES:

- 1.- THIS PISTON ASSEMBLY IS FOR ILLUSTRATION PURPOSES ONLY AND MAY NOT NECESSARILY REPRESENT THE EXACT CONFIGURATION PERTAINING TO THE UNIT ORDERED. REFER TO ACCOMPANYING PARTS LIST FOR ITEMS (AND QUANTITIES OF EACH) REQUIRED FOR THIS PARTICULAR ASSEMBLY.
- 2.- REFER TO TECHNICAL MANUAL FOR RECOMMENDED PROCEDURES AND TORQUE VALUES FOR ASSEMBLY OR REASSEMBLY OF THIS UNIT.
- 3.- REFER TO SHEET #2 FOR PACKING TUBE LINE CONFIGURATIONS.
- 4.  PRICK PUNCH TO RETAIN SET SCREWS (ITEM #6).
- 5.  LIGHTLY OIL O-RING BEFORE INSTALLING.
- 6.  (ITEMS #11, #12, #13 & #14) APPLY TO (2) PIECE PISTONS ONLY.
- 7.- ASSEMBLE FITTINGS BEFORE INSTALLING PACKING.
- 8.  RETIGHTEN TIE STUD NUTS AFTER PACKING CASE (ITEM #7) IS BOLTED TO CYLINDER.
- 9.  REMOVE C.E. SUCTION VALVE TO ADJUST C.E. PISTON CLEARANCE. (SEE CYLINDER SPECIFICATIONS DATA PLATE OR THE TECHNICAL MANUAL). **DO NOT USE STRAP WRENCH ON PISTON ROD - USE TURNING TOOL WHICH FITS TURNING HOLES IN PISTON NUT.**
- 10.- PISTON MAY BE ONE OR TWO PIECE, CONE OR STRAIGHT.



ARIEL CORPORATION
35 BLACKJACK ROAD
MOUNT VERNON, OHIO 43050



ASSEMBLY DWG. NO. **A-17412** SHT. 1 OF 2

SCALE NONE

DRAWN CPM 10/04/10
CHECKED KRN 10/07/10

| REV | DESCRIPTION | INITIALS | DATE |
|-----|-------------|----------|------|
| | | | |

| REV | ECN | REV | ECN |
|-----|-----|-----|-----|
| | | | |

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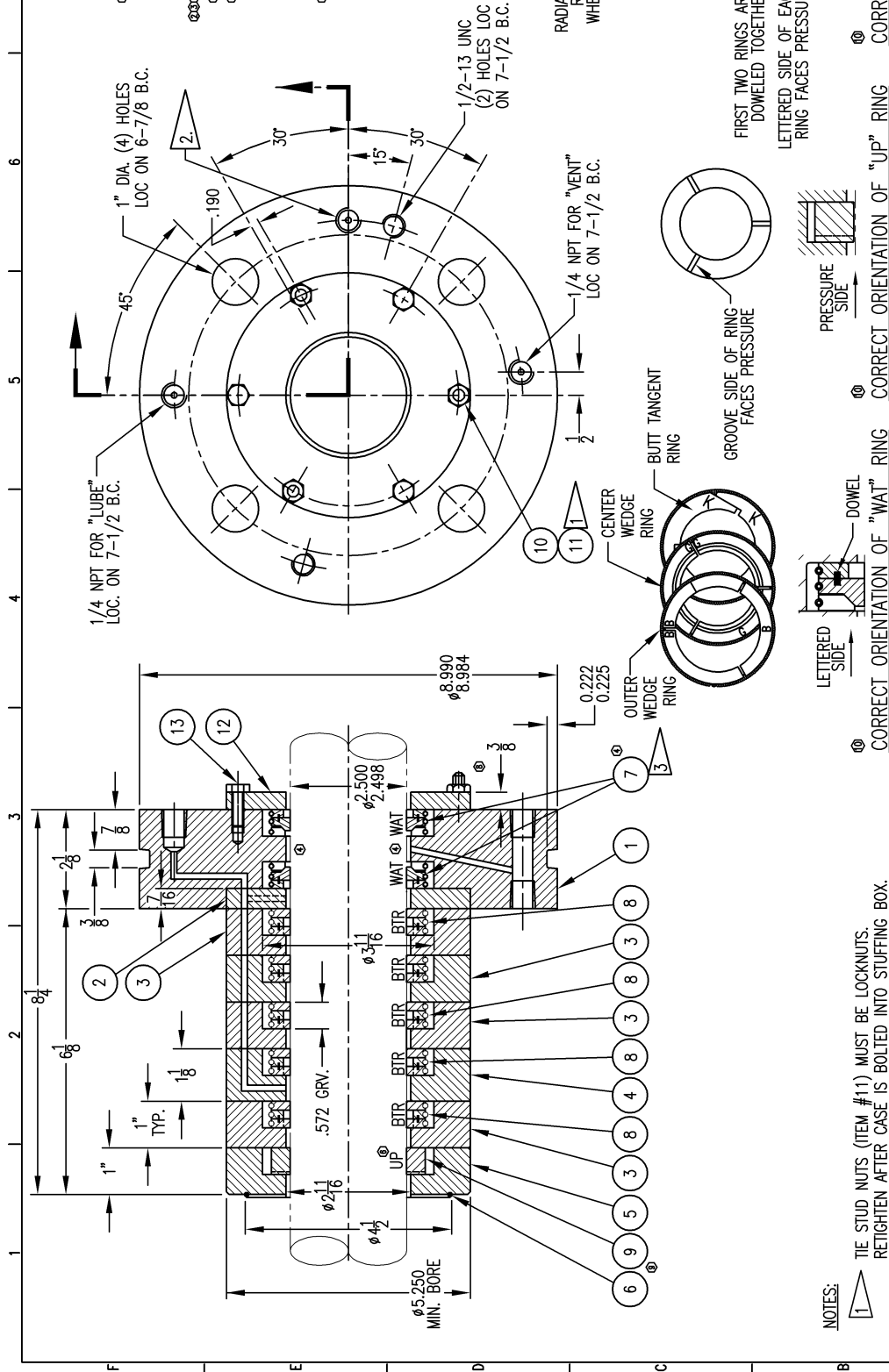
PARTS LIST

12.500 C PISTON ASSEMBLY; 06.500 STROKE. PART NO. PISTON ASSY
G-SHEETS USED: G-17838, G-18853, G-18011, G-18113, REF DRAWING A-17412 2 SHT
G-18022.

| ITEM | PART NUMBER | QTY | DESCRIPTION |
|------|-------------|------|--|
| 1 | C-2641 | 1 | PIST,WB ,12-1/2C,2PC |
| 2 | A-4008 | 4 | PISTON RING,12-1/2C:D:Z:U |
| 3 | C-1248 | 1 | P ROD, 6.50STK/48.855LG |
| 4 | B-1488 | 1 | PISTON COLLAR, 4-3/8 OD, JGC:D |
| 5 | B-1489 | 1 | PISTON NUT, 4-3/8 OD, JGC:D |
| 6 | FS0405EI | 2 | SET SCREW, CUP POINT, 3/8-24 X 1-1/2 |
| 7 | B-1462 | 1 | PACKING CASE, 2.500 ROD, 351-1500 PSI |
| 8 | FC0120JW | 4 | 12-POINT CAPSCREW, 7/8-9 X 6, G8 |
| 9 | A-0827 | 0 | MALE CONNECTOR, STL, 1/4 TUBE X 1/4 NPT |
| 10 | PT0200CB | 30." | TUBING, SS, 1/4 OD X .035 WALL |
| 11 | SC-2639 | 0 | PIST,WB ,12-1/2C,CE/PC |
| 12 | SC-2640 | 0 | PIST,WB ,12-1/2C,HE/PC |
| 13 | A-7477 | 0 | O-RING, VT, 10.270 OD X .070, 75 DUROMETER |
| 14 | FP0505GE | 0 | ROLL PIN, 5/16 OD X 3/4 LONG |
| 15 | A-2078 | 1 | WEAR BAND12-1/2KCZ:CTZ/LM,2.0W |
| 99 | B-1462-K | 0 | REBUILD KIT, 2.500 PISTON ROD PACKING |
| 99 | B-1690-K | 0 | REBUILD KIT, 2.500 OIL WIPER PACKING, WAT |

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
DOES NOT REPRESENT THE QUANTITY REQUIRED.

| COMPONENT PART LIST | | | | |
|---------------------|------|-------------|--------------------------|----------|
| ITEM | QUAN | PART NUMBER | DESCRIPTION | MAT'L |
| 1 | 1 | A-3353 | FLANGE | STL |
| 2 | 1 | A-3360 | VENT PLATE | C.I. |
| 3 | 4 | A-3355 | PLAIN CUP | C.I. |
| 4 | 1 | A-3356 | OIL CUP | C.I. |
| 5 | 1 | A-3358 | END CUP | C.I. |
| 6 | 1 | A-3268 | GASKET | ALUM. |
| 7 | 2 | A-4216 | DOUBLE SEAL RING "WAT" | TFE |
| 8 | 5 | A-3265 | SINGLE SEAL RING "BTR" | TFE/C.I. |
| 9 | 1 | A-1054 | PRESSURE BREAKER "UP" | PEEK |
| 10 | 3 | F002000CH | TIE STUD 1/4-20 X 8-7/16 | STL |
| 11 | 3 | F004600CA | TIE STUD NUT 1/4-20 | STL |
| 12 | 1 | A-3357 | PLATE | C.I. |
| 13 | 3 | FC0102CE | HEX HD. CAP SCR 1/4-20 | STL |
| 14 | 1 | PP0850CE | HEX SOCKET PLUG, 1/4 NPT | SS |



| REV | DESCRIPTION | INIT/DATE |
|-----|---|------------|
| 10 | ADDED "WAT" RING DETAIL (B-5) UPDATED "UP" RING DETAIL (B-7) ADDED "BTR" RING DETAIL (A-1) ADDED FLAG NOTE 3. UPDATED TO CURRENT STANDARDS. | 01/08/2008 |
| 9 | VIEW. CORRECTED VIEW FOR "UP" RING. 017, ADDED "UP" RING | 09/21/02 |

| REV | EDN | REV | EDN | DESCRIPTION |
|-----|-------|-----|------|------------------|
| 6 | 8637 | 0 | 4490 | REBUILD KIT |
| 7 | 10057 | 1 | 5095 | COMPLETE PACKING |
| 8 | 10406 | 2 | 5278 | |
| 9 | 10894 | 3 | 5698 | |
| 10 | 15332 | 4 | 5803 | |
| 5 | 6326 | | | |

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DO NOT SCALE DRAWING

DATE: 5/09/92
 CHECKED: WGP 7/09/92
 APPROVED: NONE

SCALE: NONE

SEE TABULATION

R.S. No: CB-1462
 PART No: B-1462
 DWG. No: B-1462

TITLE: PISTON ROD PACKING
 Ø 2-1/2 ROD
 351 TO 1500 PSIG

NOTES:

- TIE STUD NUTS (ITEM #11) MUST BE LOCKNUTS. RETIGHTEN AFTER CASE IS BOLTED INTO STUFFING BOX.
- 1/4 NPT FOR PURGE OR VENT. PLUG FRAME SIDE OF FLANGE (ITEM #1) WITH ITEM #14 FOR NON-PURGE SERVICE. PLUG CYLINDER SIDE OF FLANGE (ITEM #1) WITH ITEM #14 FOR PURGE SERVICE.
- SEAL RINGS MUST BE ASSEMBLED AS SHOWN.

© THIS DWG. SUPERSEDES B-1781 AND B-1461.

THIRD ANGLE PROJECTION

LETTERED SIDE OF EACH RING FACES PRESSURE

LETTERED SIDE OF EACH RING FACES PRESSURE

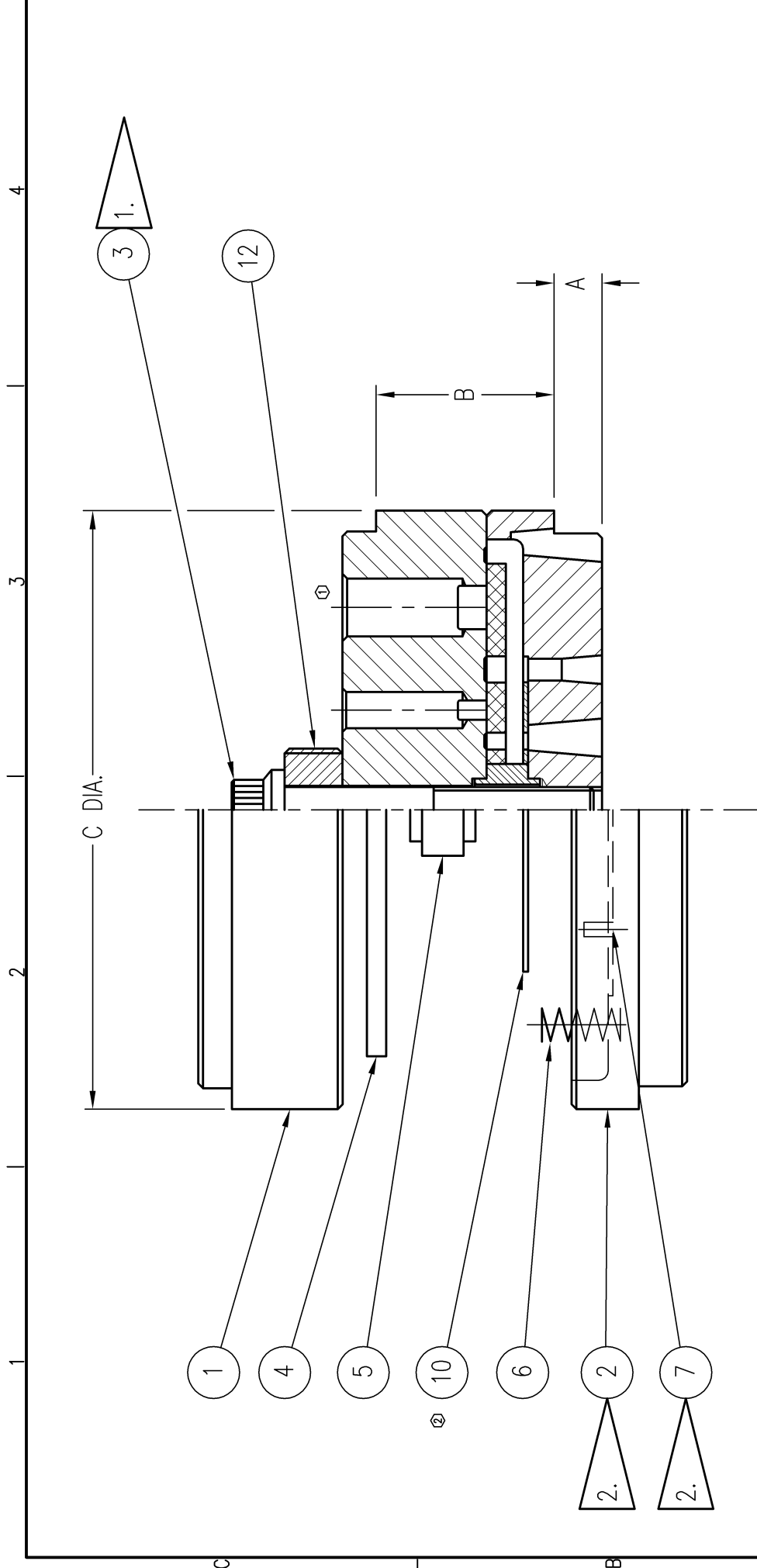
CORRECT ORIENTATION OF "UP" RING

CORRECT ORIENTATION OF "WAT" RING

CORRECT ORIENTATION OF "BTR" RINGS

DO NOT SCALE DRAWING

RIEL CORPORATION
 35 BLACKJACK ROAD
 MOUNT VERNON, OHIO 43050



NOTES:

- 1. FOR ASSEMBLY OF CENTER BOLT SEE ER-35.
- 2. VALVE GUARD ASSEMBLY (ITEM #2) CONSISTS OF VALVE GUARD, AND SPIROL PIN (ITEM #7).

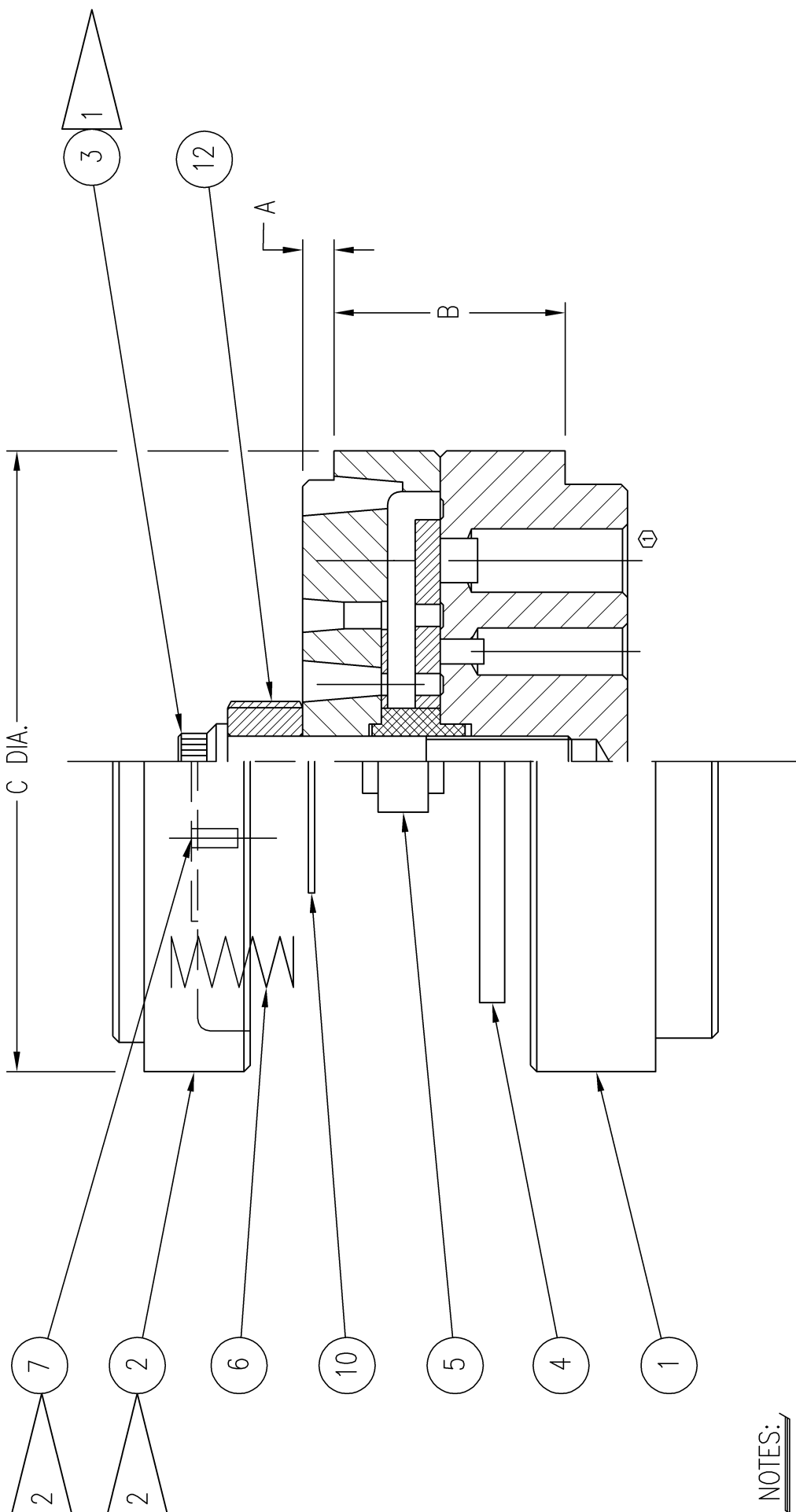
ARIEL CORPORATION
 35 BLACKJACK ROAD
 MOUNT VERNON, OHIO 43050

| | |
|--------------------------|-----------------|
| TITLE: SUCTION VALVE, CT | |
| MATERIAL: PROCURED | |
| DRAWN: IG 9/27/99 | R.S. No. |
| CHECKED: ED 10/1/99 | PART NO. |
| SCALE: NONE | DWG. No: A-9265 |

| | |
|-----|-------|
| REV | ECN |
| 2 | 16980 |
| 1 | 8549 |
| 0 | 7799 |

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 ---- DO NOT SCALE DRAWING ----

| | | | |
|-----|--|-----------|------------|
| 2 | (B-1) REVISED VIEW OF VALVE PLATE ITEM 10. UPDATED BORDER. | FET | 09/16/2010 |
| 1 | REMOVED THE OUTER RING FROM THE VALVE SEAT. | IG | 02/22/2001 |
| REV | DESCRIPTION | INIT/DATE | |



NOTES:

1. FOR ASSEMBLY OF CENTER BOLT SEE ER-35.
2. VALVE GUARD ASSEMBLY (ITEM #2) CONSISTS OF VALVE GUARD AND SPIRO PIN (ITEM #7).

| | |
|-----|---|
| 1 | REMOVED OUTER RING FROM THE VALVE SEAT. |
| REV | DESCRIPTION |

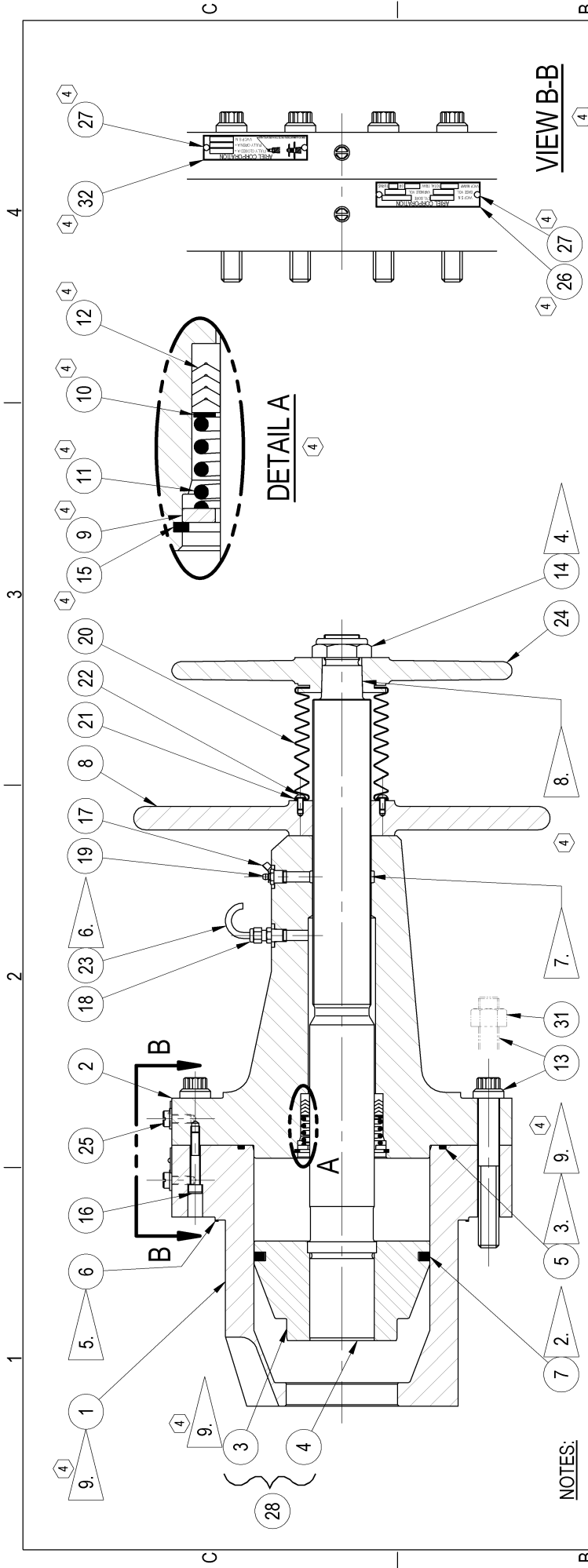
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 ---- DO NOT SCALE DRAWING ----
 DIMENSIONING AND TOLERANCING PER ARIEL SPECIFICATION ER-17.0.1 UNLESS OTHERWISE SPECIFIED.

| | | | |
|---|------|-----|-----|
| 1 | 8549 | REV | ECN |
| 0 | 7799 | REV | ECN |

ARIEL CORPORATION
 35 BLACKJACK ROAD
 MOUNT VERNON, OHIO 43050

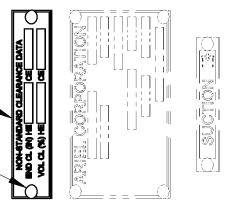


| | |
|-----------|---------------------|
| TITLE: | DISCHARGE VALVE, CT |
| MATERIAL: | PROCURED |
| DRAWN: | IG 9/27/99 |
| CHECKED: | ED 10/1/99 |
| R.S. No. | |
| PART NO. | |
| DWG. No: | A-9264 |
| SCALE: | NONE |



NOTES:

1. LOOSEN OR TIGHTEN ALL FASTENERS PER RECOMMENDED PROCEDURES AND TORQUE VALUES IN MANUAL.
2. LIGHTLY OIL BORE AND RING BEFORE INSTALLING.
3. OIL O-RING BEFORE INSTALLING.
4. TIGHTEN NUT UNTIL UNLOADER HANDLE IS FULLY SEATED.
5. APPLY AN ANTI-SEIZE LUBRICANT TO GASKET SURFACES.
6. VENT TUBE TO BE POINTED DOWN.
7. APPLY AN ANTI-SEIZE LUBRICANT TO STEM THREADS BEFORE ASSEMBLING.
8. ACCEPTANCE OF TAPER FIT WILL BE DETERMINED AT THE ASSEMBLY OF COMPONENTS. HANDLE TO STEM FIT MUST BE TIGHT.
9. CAUTION: FOR NON-LUBE APPLICATIONS REFER TO TECHNICAL MANUAL FOR SPECIAL PROCEDURES FOR THESE ITEMS..
10. THIS ASSEMBLY DRAWING IS FOR ILLUSTRATION PURPOSES ONLY AND MAY NOT NECESSARILY REPRESENT THE EXACT ITEMS PERTAINING TO THE UNIT ORDERED. REFER TO THE PARTS LIST FOR ITEMS (AND QUANTITIES OF EACH) REQUIRED FOR YOUR PARTICULAR ASSEMBLY.
11. WHERE APPLICABLE, MOUNT ADDED FIXED CLEARANCE TAG AS CLOSE TO CYLINDER DATA TAG AS POSSIBLE.



CYLINDER

| REV | DESCRIPTION | INITIALS | DATE |
|-----|---|----------|------------|
| 4 | REDRAWN TO SOLID EDGE. @A1: REVISED NOTE #4, WAS TORQUE TO 30 FT-LBS, THEN TORQUE 2-1/2 FLATS OR 350 FT-LBS. @B3: ADDED NOTE #9. @A3: ADDED NOTES #10 & #11. @B2 & C1: ADDED FLAGS #9. @B4: ADDED VIEW B-B, RELOCATED ITEMS #28 & #27 FROM C2. @C4: ADDED ITEMS #27 & #32. ADDED DETAIL A & RELOCATED ITEMS #10 FROM B2 & #12 FROM C2. @C3: RELOCATED ITEMS #9 & #11 FROM C2 & #15 FROM B1. @B2-B4: REMOVED DIMENSIONS. @A4: ADDED C'V, VIEW, UPDATED TO CURRENT STANDARDS. | | 08/05/2008 |

| REV | ECN | REV | ECN | REV | ECN | REV | ECN | SCALE | DATE | BY | CHECKED |
|-----|-------|-----|------|-----|-----|-----|---------|-------|---------|----|---------|
| | | | | | | | | | | | |
| 4 | 13364 | 0 | 6879 | ECN | ECN | WSH | 5/01/97 | | 5/12/97 | | NONE |

ARIEL CORPORATION
 35 BLACKJACK ROAD
 MOUNT VERNON, OHIO 43050

A-6883

*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***
3/07/12 ARIEL CORPORATION C/N: 001 RHCOVP02
 SALES ORDER COVER SHEET

SERIAL #: U90129, 31 & 33

PART: G-11018 DESCRIPTION: VVCP,12-1/2KCZ

12-1/2"JGK:T:C:D:Z:U UNLOADER ASSEMBLY, PART NO. G-11018
STAINLESS STEEL TUBING AND FITTINGS. REF DRAWING A-6883

| ITEM | PART NUMBER | QTY | DESCRIPTION |
|------|-------------|-----|--|
| 1 | C-0999 | 1 | UNL.HEAD,12-1/2KCZ |
| 2 | D-1123 | 1 | ADAPTER, HEAD END UNLOADER, 12-1/2K:C:Z |
| 3 | C-1375 | 0 | UNL PIST,12-1/2KCZ |
| 4 | C-3719 | 0 | UNLOADER STEM, K:C:Z, 2-1/2-8 THREAD |
| 5 | A-0035 | 1 | O-RING, VT, 10.895 OD X .210, 75/85 DUROMETER |
| 6 | A-2080 | 1 | STEEL GASKET, 12.938 OD X 12.625 ID X .060, HEAD |
| 7 | A-0478 | 1 | UNL.PISTON RING, 9-1/2 O.D. |
| 8 | C-0983 | 1 | UNLOADER LOCKING HANDLE, 2-1/2-8 THREAD |
| 9 | A-2397 | 1 | RETAINER, UNLOADER PACKING, K:C:Z |
| 10 | A-2395 | 1 | BACK-UP RING, PACKING |
| 11 | A-2400 | 1 | COMPRESSION SPRING, UNLOADER, 3-7/16 OD |
| 12 | A-2399 | 1 | V-RING PACKING, UNLOADER, 2-3/4 ID X 3-1/2 OD |
| 13 | FC0120IT | 14 | 12-POINT CAPSCREW, 3/4-10 X 4-1/2, G8 |
| 14 | A-2390 | 1 | SELF-LOCK NUT, ESNA, THIN, 1-1/2-12 |
| 15 | A-2392 | 1 | SNAP RING, INTERNAL, SS, 3-3/4 BORE |
| 16 | FC0110EH | 2 | SOCKET HEAD CAPSCREW, 3/8-16 X 1-1/4, G8 |
| 17 | A-0500 | 1 | GREASE FITTING CAP, PLASTIC |
| 18 | A-0938 | 1 | MALE CONNECTOR, SS, 1/4 TUBE X 1/4 NPT |
| 19 | PZ0230BA | 1 | STRAIGHT GREASE FITTING, 1/4-18 |
| 20 | A-2394 | 1 | BELLOWS, THREAD PROTECTOR, UNLOADER |
| 21 | A-2398 | 1 | BACK-UP RING, BELLOWS |

3/07/12

SALES ORDER COVER SHEET

| | | | |
|----|----------|-----|--|
| 22 | FC0134CC | 4 | BUTTON HEAD CAPSCREW, 1/4-20 X 1/2, 316SS |
| 23 | PT0201CD | 5." | TUBING, 316 SS, 1/4 OD X .065 WALL |
| 24 | C-0984 | 1 | UNLOADER HANDLE, 3 PRONG |
| 25 | A-0256 | 1 | MACHINE SCREW PLUG, PLASTIC, 1/2-13 |
| 26 | A-0755 | 1 | DATA PLATE, UNLOADER HEAD SPECIFICATION |
| 27 | FR0571CC | 4 | DRIVE SCREW, TYPE U, SS, #6 X 1/4 |
| 28 | AC-3723 | 1 | UNL PIST ASSY,12-1/2KCZ |
| 32 | A-12927 | 1 | DATA PLATE, UNLOADER ADAPTER SPECIFICATION |

VARIABLE VOLUME CLEARANCE POCKET (Headend Unloader) DATA SHEET

12-1/2C Class Cylinder

Stroke: 6.50 in 165 mm

Bore: 12.500 in 318 mm

MAWP: 800 psig 55.2 bar(g) 5516 kPa(g) 56.2 kg/cm2(g)

General Data for VVCP (independent of cylinder):

MAWP*: 800 55.2 barg 5516 kPa(g)

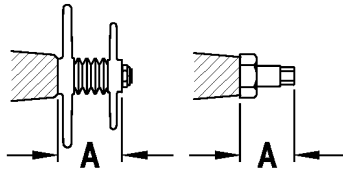
*Note: If VVCP services another cylinder, it may have a higher MAWP than the above

VVCP piston diameter: 9.5 in 241 mm

Stem thread lead (pitch): 0.125 in 3 mm

Total travel: 4.0 in 10.2 cm

Number of turns from closed to fully open: 32



A distance - see diagram

- closed: 4-5/8 in 11.7 cm

- open: 8-5/8 in 21.9 cm

Minimum added fixed clearance: 4.9 in³ 79.7 cm³

Additional added clearance when fully open: 284 in³ 4654 cm³

Total added clearance when fully open: 288.9 in³ 4733.6 cm³

Clearance volume change per turn: 8.9 in³ 145.4 cm³

Clearance volume change per change in travel: 71.0 in³/in 458.1 cm³/cm

Clearance Data for VVCP alone, in percent of swept volume of above cylinder:

Minimum added fixed clearance: 0.6%

Additional added clearance when fully open: 35.6%

Total added clearance when fully open: 36.2%

Head end clearance change per turn: 1.1%

Head end clearance change per change in travel: 8.9% /in 3.5% /cm

Clearance Data with VVCP installed on above cylinder with standard valves, in percent of swept volume:

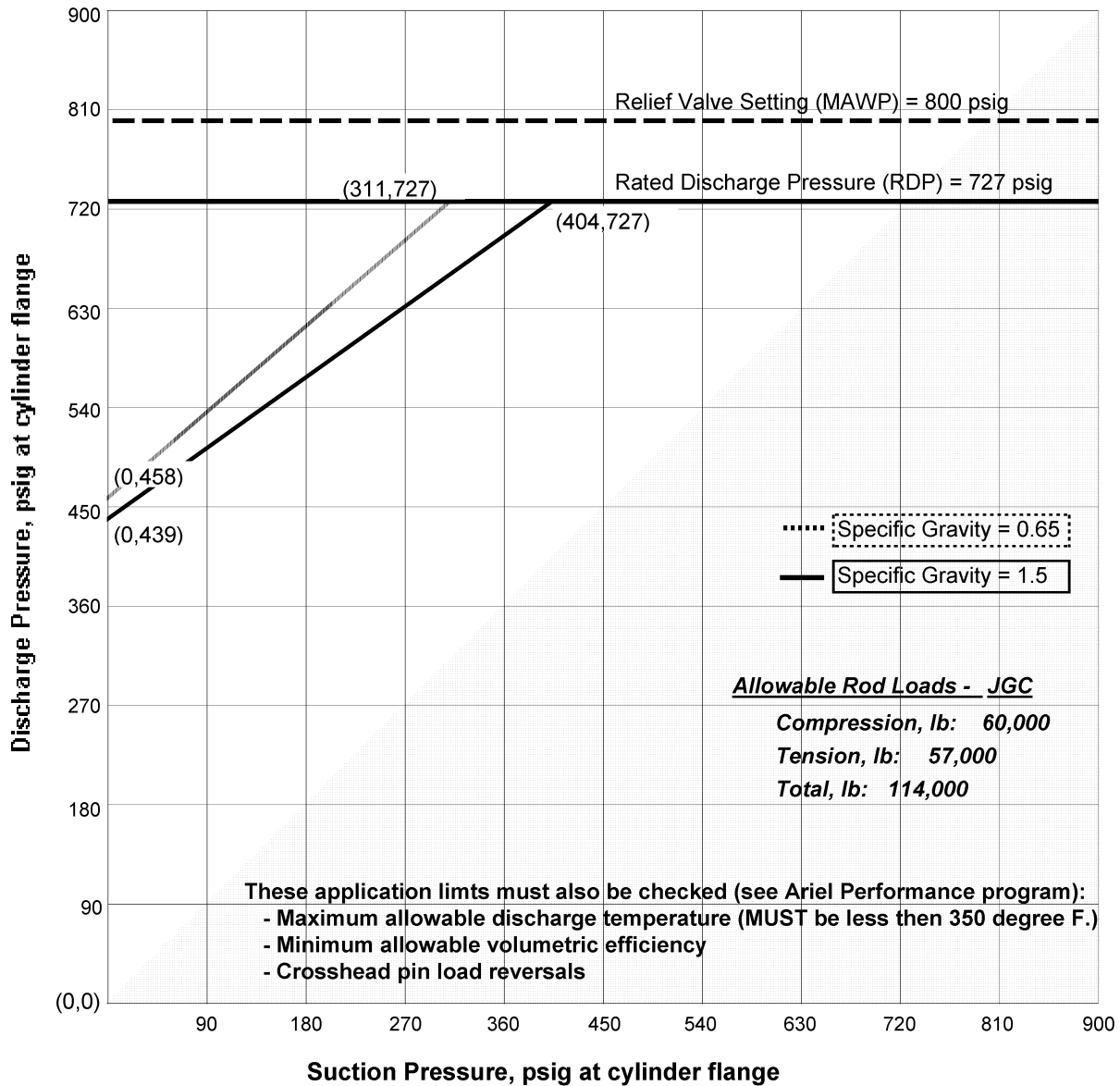
Minimum fixed head end clearance: 16.4%

Total head end clearance when fully open: 52.1%

PLEASE NOTE: It is important to understand that the percent clearance figures for the variable volume clearance pocket above include the cylinder headend clearance. However, any valve spacers or other non-standard added clearances on the unit must be accounted for.

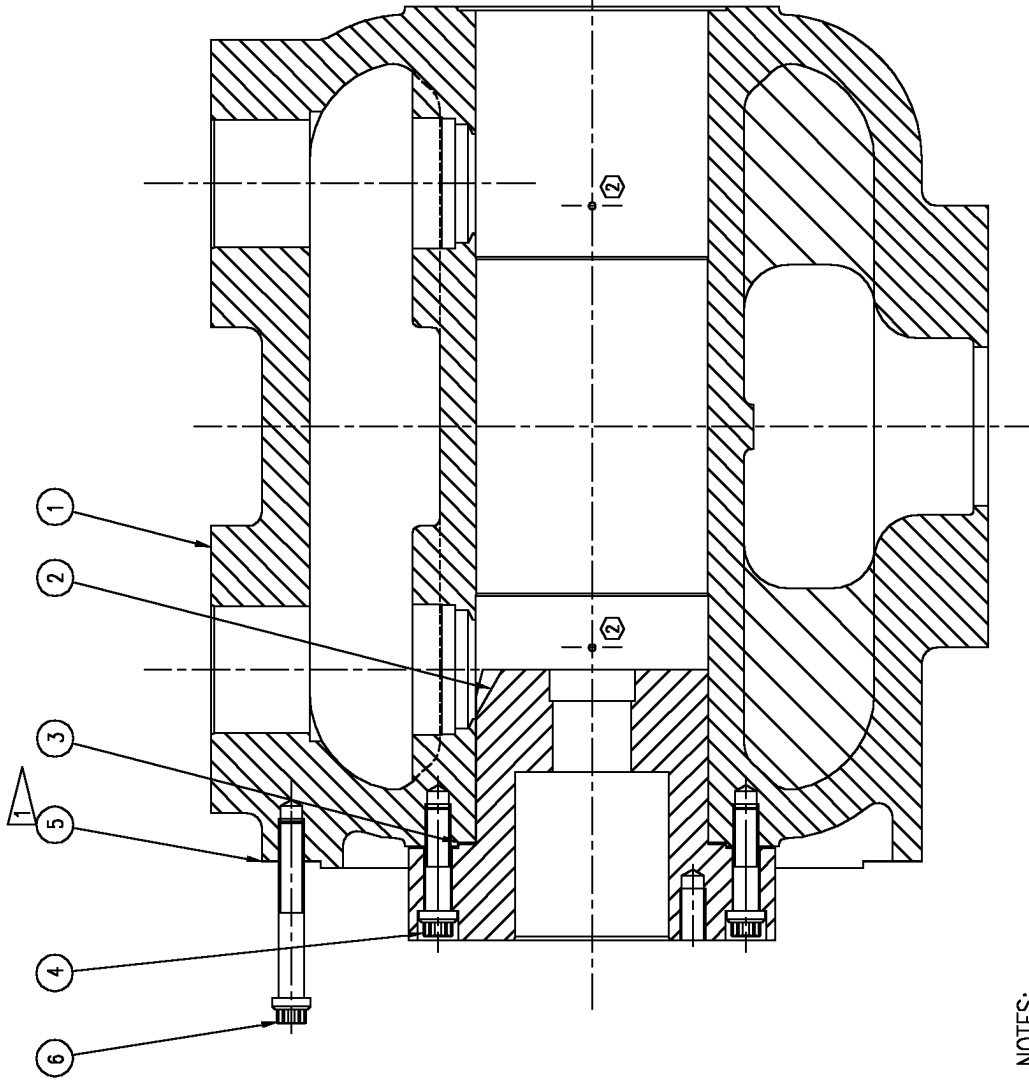
Estimated Gas Rod Load and Pressure Limits for 6.5 inch stroke at 1000 RPM

Cylinder Class: 12-1/2C Bore, inches: 12.500
 Cylinder Serial Number: C-131600, 02 & 04



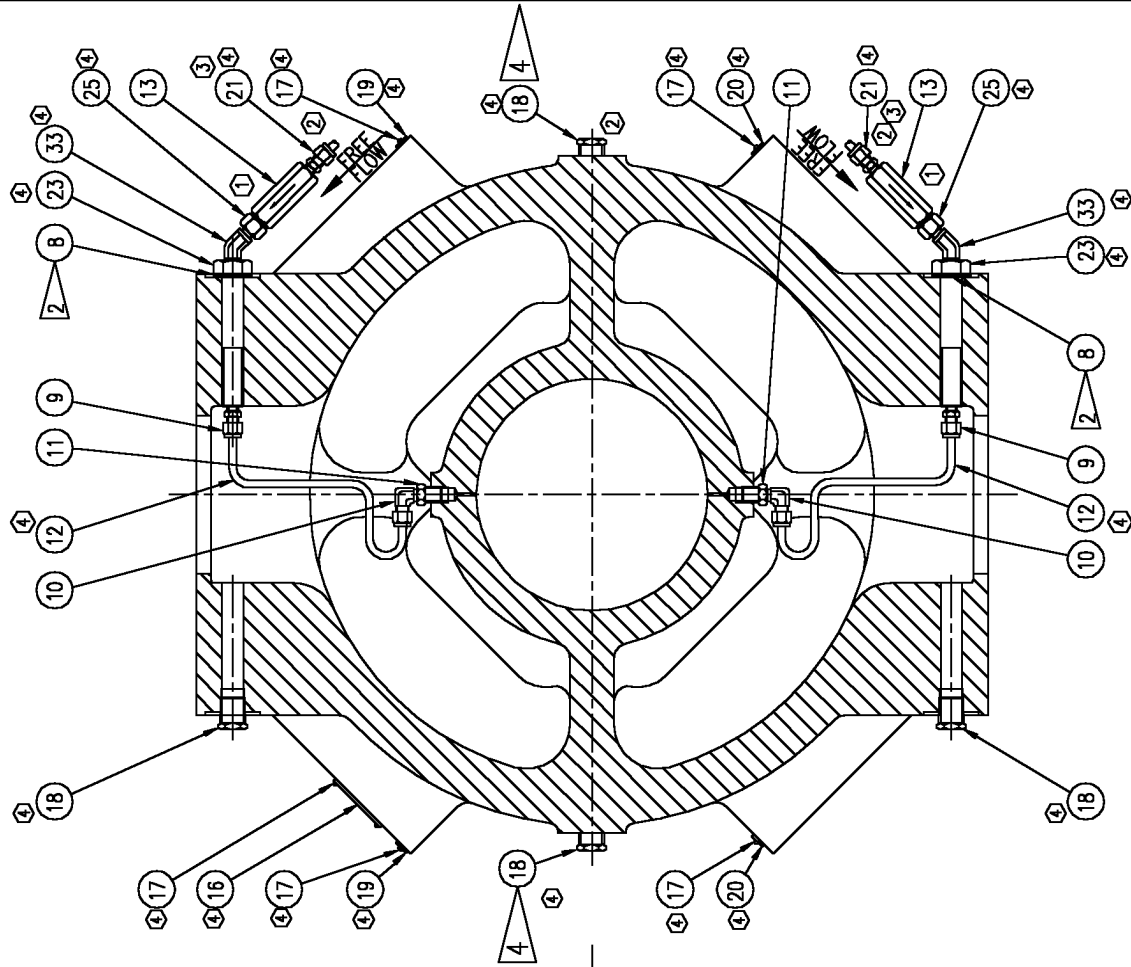
This chart defines allowable operating limits for gas rod loads and standard working pressures. Pressure combinations falling above the line for the applicable Specific Gravity of the gas being compressed will exceed the Rod Load limitations of the equipment.

Calculations are based on 80 degrees Fahrenheit hydrocarbon gas at 1500 ft. elevation.



NOTES:

- 1 \blacktriangle APPLY AN ANTI-SEIZE LUBRICANT TO GASKET (ITEM #5) SURFACES.
- 2 \blacktriangle OIL FACES OF STATO-SEALS (ITEM #8) BEFORE INSTALLING TO PREVENT ABRASION.
- 3. LOOSEN OR TIGHTEN ALL FASTENERS PER RECOMMENDED PROCEDURES AND TORQUE VALVES IN MANUAL.
- 4 \blacktriangle USED TO PLUG INDICATOR PASSAGES WHERE APPLICABLE.



| | |
|-----|---|
| 4 | ADDED 1/2 NPT; MODIFIED TUBING (ITEM 12) TO GIVE CLEARANCE FOR ADDED TAP. CHANGED ITEM NOS. |
| 3 | REMOVED NOTE 4 AND CORRESPONDING FLAGS FROM ITEM 20 |
| REV | DESCRIPTION |

| | | | | |
|---|----------|-------------------|----------|-------------|
| 3 | 7576 | ECN | REV | ECN |
| 2 | 6282 | ECN | REV | ECN |
| 1 | 5666 | ECN | REV | ECN |
| 4 | 7510 | 0 | 4371 | CH 06-03-92 |
| WCP | 07-13-92 | WCP | 07-13-92 | WCP |
| APPROVED: | | APPROVED: | | |
| ASSEMBLY DWG. NO. | | ASSEMBLY DWG. NO. | | |
| ARIEL CORPORATION 35 BLACKJACK ROAD MOUNT VERNON, OHIO 43050 | | | | |
| A-3259 | | | | |

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3/07/12

PARTS LIST

8-3/8"JGC:D CYLINDER BODY
WITH HEAD END SUPPORTS.
RDP 1720#, MAWP 1895#

PART NO. G-12308
REF DRAWING A-3259

| ITEM | PART NUMBER | QTY | DESCRIPTION |
|------|-------------|-------|--|
| 1 | D-4189 | 0 | CYLINDER, 8-3/8K:T:C:D, HES, 1895 MAWP |
| 2 | C-1253 | 0 | CRANK END HEAD, 8-3/8C:D |
| 3 | A-2064 | 1 | STEEL GASKET, 09.125 OD X 08.500 ID X .060, HEAD |
| 4 | FC0120JQ | 16 | 12-POINT CAPSCREW, 7/8-9 X 3-1/2, G8 |
| 5 | B-3549 | 1 | GASKET, 22.500 OD X 18.516 ID X 0.015, CYLINDER, 18 HOLES |
| 6 | FC0120JW | 12 | 12-POINT CAPSCREW, 7/8-9 X 6, G8 |
| 8 | FW0550ID | 2 | STAT-O-SEAL, VT, 75 DUROMETER, 3/4 ID |
| 9 | A-0830 | 2 | MALE CONNECTOR, STL, 1/4 TUBE X 1/8 NPT |
| 10 | A-0815 | 2 | MALE ELBOW, STL, 1/4 TUBE X 1/8 NPT |
| 11 | A-0811 | 2 | HEX REDUCING BUSHING, 1/4 NPT (MALE) X 1/8 NPT (FEMALE), STL |
| 12 | PT0200CB | 100." | TUBING, SS, 1/4 OD X .035 WALL |
| 13 | A-3780 | 2 | CHECK VALVE, POPPET, DOUBLE BALL, SOFT SEAT, SS, 1/4 NPTF INLET X 1/4 NPTF OUTLET |
| 16 | A-0465 | 1 | DATA PLATE, CYLINDER SPECIFICATION, 3-1/2 X 2-1/4 |
| 17 | FR0571CC | 12 | DRIVE SCREW, TYPE U, SS, #6 X 1/4 |
| 18 | PP0810GB | 6 | PIPE PLUG, HEX HEAD, 1/2 NPT, STL |
| 19 | A-0640-A | 2 | INFORMATION PLATE, SUCTION |
| 20 | A-0640-B | 2 | INFORMATION PLATE, DISCHARGE |
| 21 | A-0827 | 2 | MALE CONNECTOR, STL, 1/4 TUBE X 1/4 NPT |
| 23 | A-2072 | 2 | LUBE FITTING, 3/4-10 X 4-1/2 |
| 25 | A-2114 | 2 | HEX REDUCING NIPPLE, 1/4 NPT (MALE) X 1/8 NPT (MALE), STL |
| 33 | A-3989 | 2 | STREET ELBOW, 45 $\frac{1}{2}$, 1/8 NPT, STL |

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
DOES NOT REPRESENT THE QUANTITY REQUIRED.

*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***

3/07/12

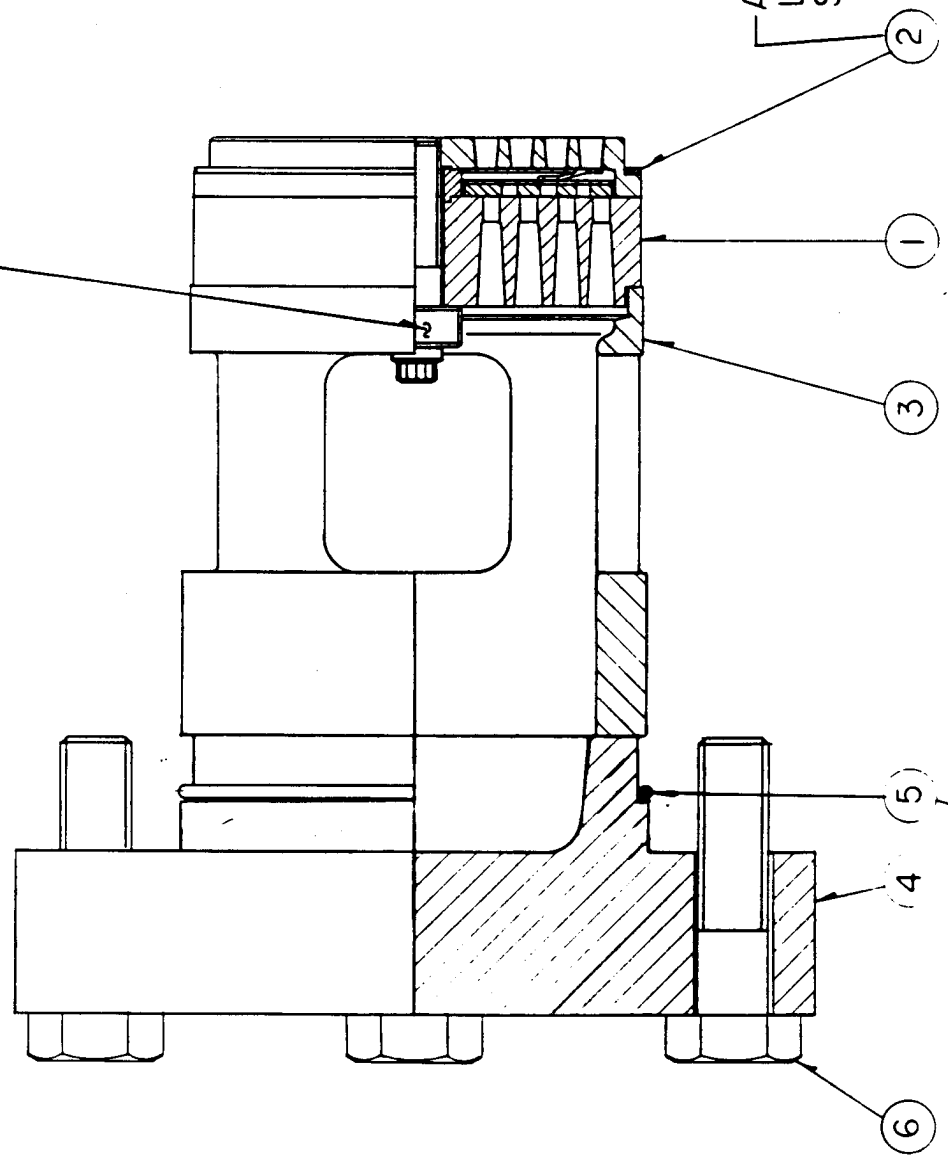
PARTS LIST

100 HD-4190 1 CYL ASSY, 8-3/8C:D,HES

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
DOES NOT REPRESENT THE QUANTITY REQUIRED.

G-1548
 G-1609
 G-1744

1"-8UNC THREADED WASHER FOR
 VALVE INSTALLATION/REMOVAL.



APPLY AN ANTI-SEIZE
 LUBRICANT TO GASKET
 SURFACES.

OIL O-RING BEFORE INSTALLING

NOTE : LOOSEN OR TIGHTEN ALL FASTENERS PER RECOMMENDED
 PROCEDURES AND TORQUE VALUES IN MANUAL.

013744
 ARIEL CORPORATION
 MT. VERNON, OHIO
 ASSY. DRWG. C-0971
 NUMBER

*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***
3/07/12

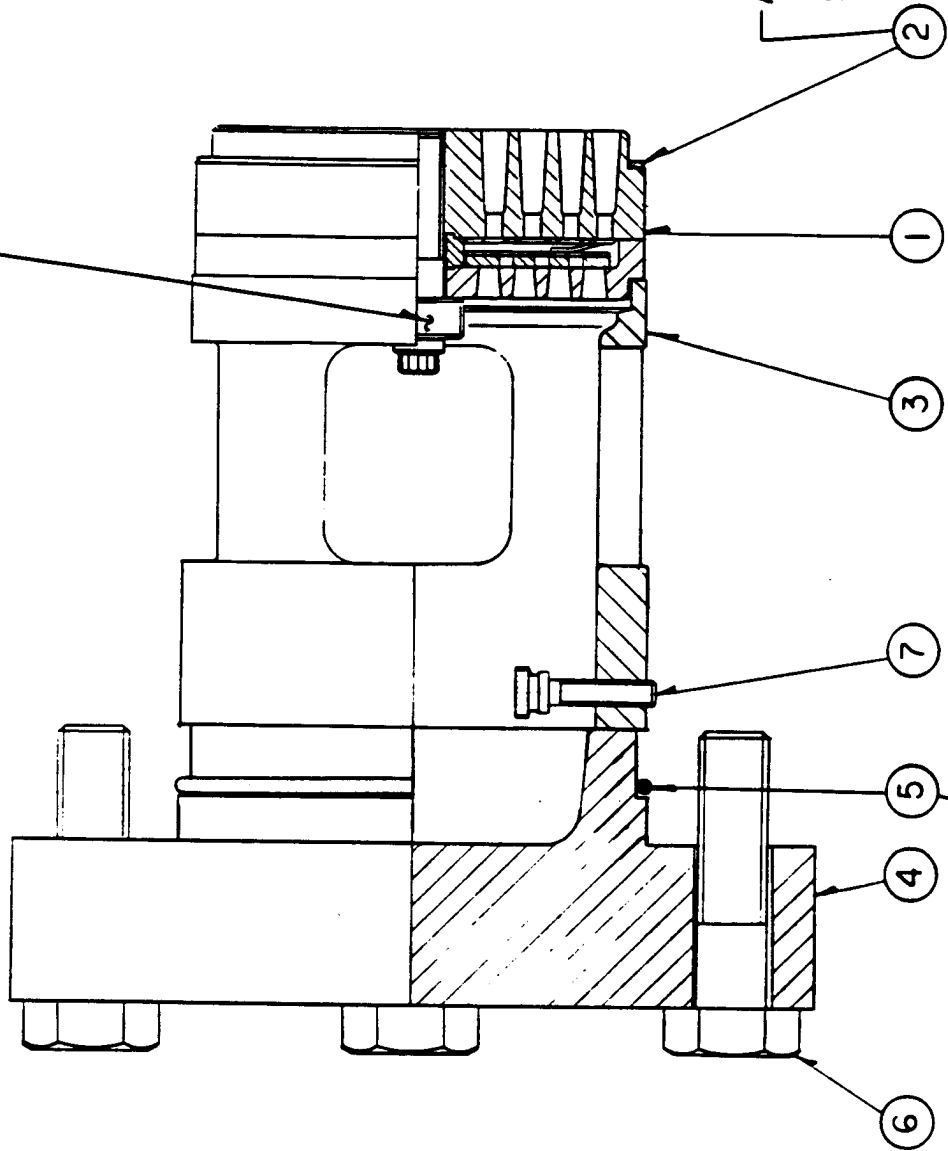
PARTS LIST

SUCTION VALVE, RETAINER AND CAP PART NO. G-1548
8-3/8" JGK:C:D:T CLASS REF DRAWING C-0971

| ITEM | PART NUMBER | QTY | DESCRIPTION |
|------|---------------|-----|---|
| 1 | SUCTION VALVE | 0 | FOR VALVE PART NUMBER, SEE COVER SHEET |
| 2 | A-2071 | 1 | STEEL GASKET, 04.373 OD X 04.055 ID X .030, VALVE |
| 3 | B-1041 | 1 | VLV RET,S&D, 5-3/8K-DW,8-3/8KC |
| 4 | B-1040 | 0 | VALVE CAP, 8-3/8K:K PRC:C:C PRC:Z |
| 5 | A-1888 | 1 | O-RING, VT, 4.512 OD X .139, 95 DUROMETER |
| 6 | FC0171GKL | 4 | 12-POINT CAPSCREW, 7/8-9 X 3-1/2 X 1-1/16, G8 |

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
DOES NOT REPRESENT THE QUANTITY REQUIRED.

1"-8UNC THREADED WASHER FOR VALVE INSTALLATION/REMOVAL.



APPLY AN ANTI-SEIZE LUBRICANT TO GASKET SURFACES.

OIL O-RING BEFORE INSTALLING

NOTE : LOOSEN OR TIGHTEN ALL FASTENERS PER RECOMMENDED PROCEDURES AND TORQUE VALUES IN MANUAL.

| |
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| G-1565 |
| G-1610 |
| G-1745 |
| |

15744
ARIEL CORPORATION
MT. VERNON, OHIO
ASSY. DRWG. C-0972
NUMBER

*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***
3/07/12

PARTS LIST






DISCHARGE VALVE, RETAINER, CAP PART NO. G-1565
8-3/8" JGK:C:D:T CLASS CYLINDER REF DRAWING C-0972

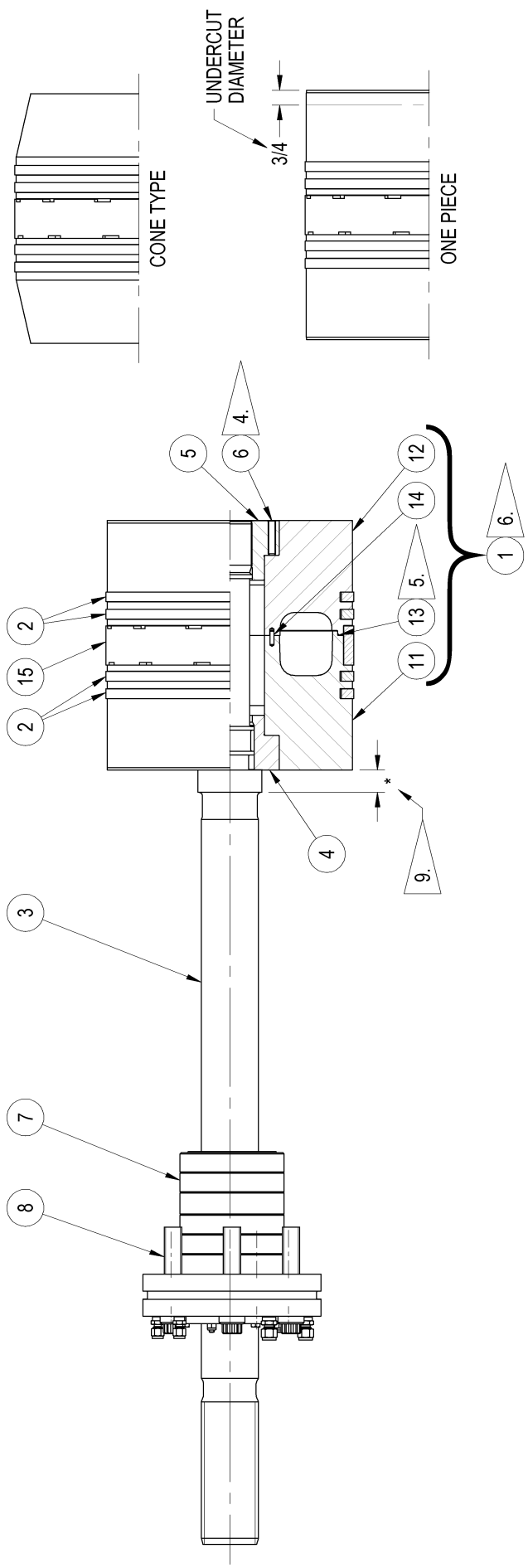
ITEM PART NUMBER QTY DESCRIPTION

| | | | |
|---|----------------|---|---|
| 1 | DISCHARGE VALV | 0 | FOR VALVE PART NUMBER, SEE COVER SHEET |
| 2 | A-2071 | 1 | STEEL GASKET, 04.373 OD X 04.055 ID X .030, VALVE |
| 3 | B-1041 | 1 | VLV RET,S&D, 5-3/8K-DW,8-3/8KC |
| 4 | B-1040 | 0 | VALVE CAP, 8-3/8K:K PRC:C:C PRC:Z |
| 5 | A-1888 | 1 | O-RING, VT, 4.512 OD X .139, 95 DUROMETER |
| 6 | FC0171GKL | 4 | 12-POINT CAPSCREW, 7/8-9 X 3-1/2 X 1-1/16, G8 |
| 7 | A-2695 | 2 | THUMB SCREW, NYLON, 1/4-20 X 1" |


WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
DOES NOT REPRESENT THE QUANTITY REQUIRED.

NOTES:

- 1.- THIS PISTON ASSEMBLY IS FOR ILLUSTRATION PURPOSES ONLY AND MAY NOT NECESSARILY REPRESENT THE EXACT CONFIGURATION PERTAINING TO THE UNIT ORDERED. REFER TO ACCOMPANYING PARTS LIST FOR ITEMS (AND QUANTITIES OF EACH) REQUIRED FOR THIS PARTICULAR ASSEMBLY.
- 2.- REFER TO TECHNICAL MANUAL FOR RECOMMENDED PROCEDURES AND TORQUE VALUES FOR ASSEMBLY OR REASSEMBLY OF THIS UNIT.
- 3.- REFER TO SHEET #2 FOR PACKING TUBE LINE CONFIGURATIONS.
- 4.  PRICK PUNCH TO RETAIN SET SCREWS (ITEM #6).
- 5.  LIGHTLY OIL O-RING BEFORE INSTALLING.
- 6.  (ITEMS #11, #12, #13 & #14) APPLY TO (2) PIECE PISTONS ONLY.
- 7.- ASSEMBLE FITTINGS BEFORE INSTALLING PACKING.
- 8.  RETIGHTEN TIE STUD NUTS AFTER PACKING CASE (ITEM #7) IS BOLTED TO CYLINDER.
- 9.  REMOVE C.E. SUCTION VALVE TO ADJUST C.E. PISTON CLEARANCE. (SEE CYLINDER SPECIFICATIONS DATA PLATE OR THE TECHNICAL MANUAL). **DO NOT USE STRAP WRENCH ON PISTON ROD - USE TURNING TOOL WHICH FITS TURNING HOLES IN PISTON NUT.**
- 10.- PISTON MAY BE ONE OR TWO PIECE, CONE OR STRAIGHT.



ARIEL CORPORATION
35 BLACKJACK ROAD
MOUNT VERNON, OHIO 43050



ASSEMBLY DWG. NO. **A-17412** SHT. 1 OF 2

SCALE NONE

DATE: CPM 10/04/10
DRAWN: CPM
CHECKED: KRN 10/07/10

| REV | DESCRIPTION | INITIALS | DATE |
|-----|-------------|----------|------|
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| REV | ECN | REV | ECN | REV | ECN |
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*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***

3/07/12

PARTS LIST

08.375 C PISTON ASSEMBLY; 06.500 STROKE. PART NO. PISTON ASSY
G-SHEETS USED: G-17955, G-18698, G-18012, G-18113, REF DRAWING A-17412 2 SHT
G-18021.

| ITEM | PART NUMBER | QTY | DESCRIPTION |
|------|-------------|------|--|
| 1 | C-1236 | 1 | PIST,WB , 8-3/8C |
| 2 | A-3220 | 4 | PISTON RING, 8-3/8C:T&HP:Z:U |
| 3 | C-1247 | 1 | P ROD, 6.50STK/45.860LG |
| 4 | B-1488 | 1 | PISTON COLLAR, 4-3/8 OD, JGC:D |
| 5 | B-1489 | 1 | PISTON NUT, 4-3/8 OD, JGC:D |
| 6 | FS0405EI | 2 | SET SCREW, CUP POINT, 3/8-24 X 1-1/2 |
| 7 | B-1463 | 1 | PACKING CASE, 2.500 ROD, 1501-2450 PSI, STD/S2/L2 GUIDE, PU DRILLED |
| 8 | FC0120JS | 6 | 12-POINT CAPSCREW, 7/8-9 X 4, G8 |
| 9 | A-0827 | 0 | MALE CONNECTOR, STL, 1/4 TUBE X 1/4 NPT |
| 10 | PT0200CB | 30." | TUBING, SS, 1/4 OD X .035 WALL |
| 15 | A-2069 | 1 | WEAR BAND, 8-3/8K:C&HP:Z,2.0W |
| 99 | B-1462-K | 0 | REBUILD KIT, 2.500 PISTON ROD PACKING |
| 99 | B-1690-K | 0 | REBUILD KIT, 2.500 OIL WIPER PACKING, WAT |

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
DOES NOT REPRESENT THE QUANTITY REQUIRED.

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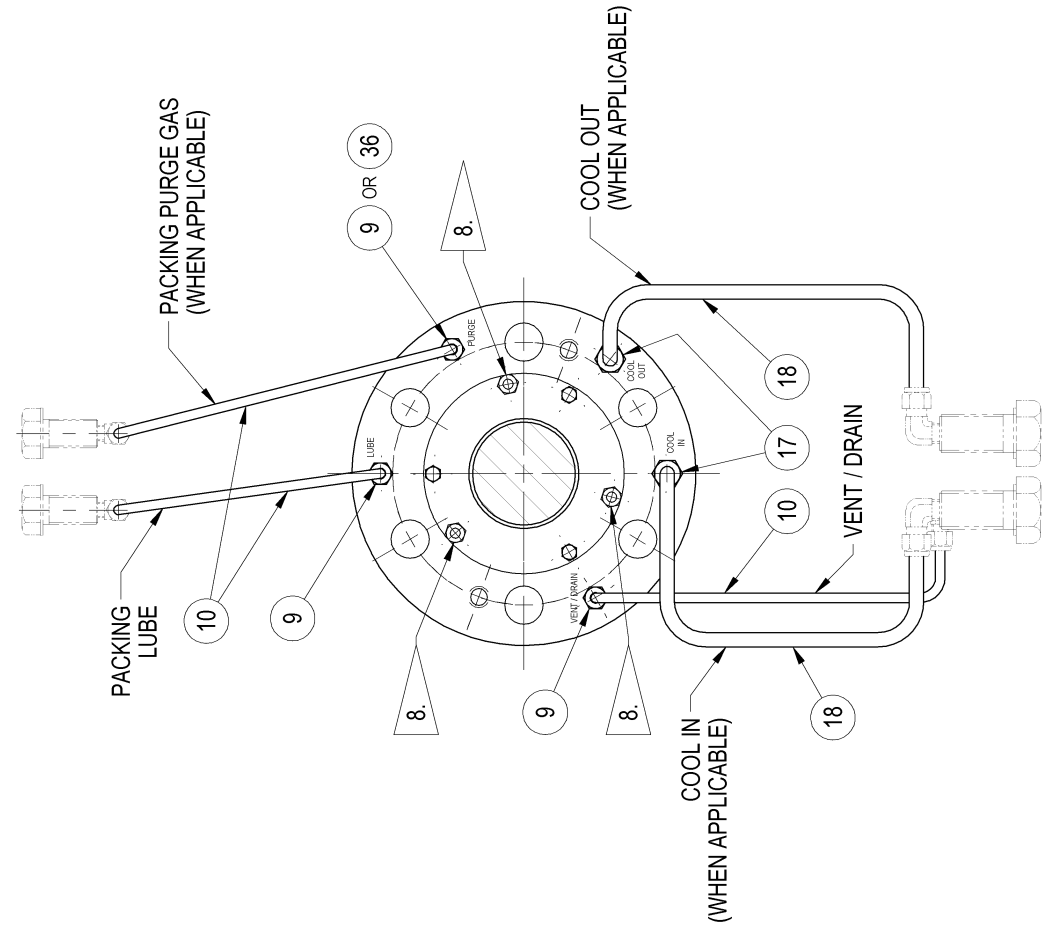
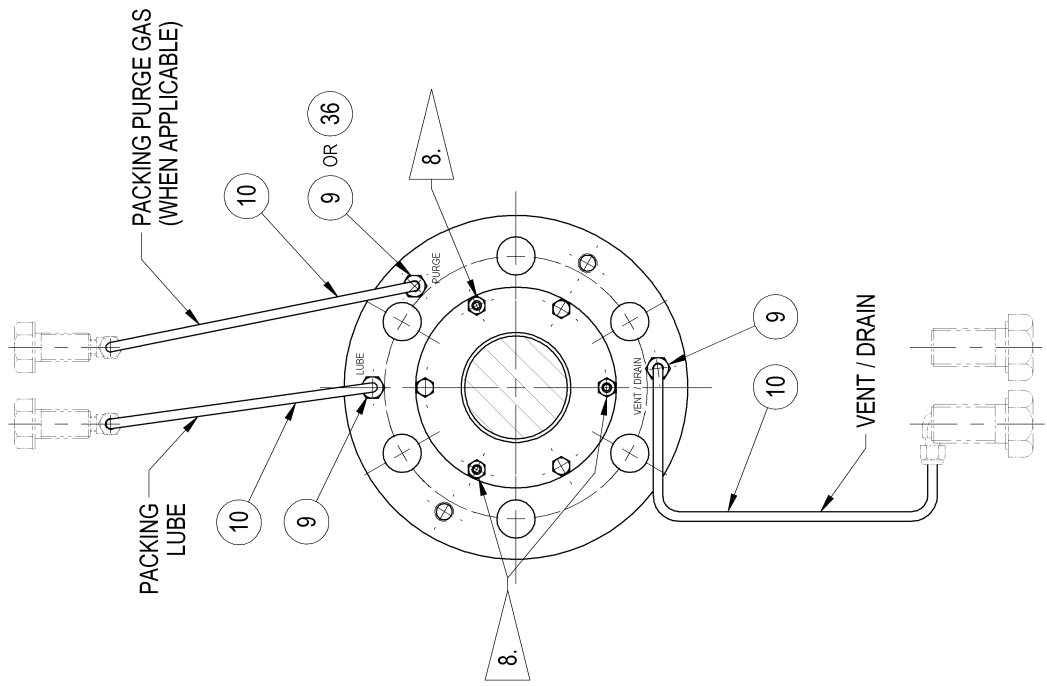
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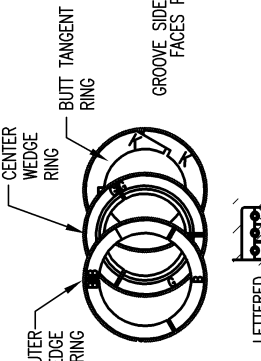
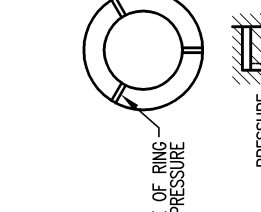
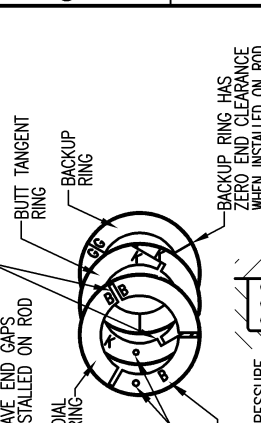
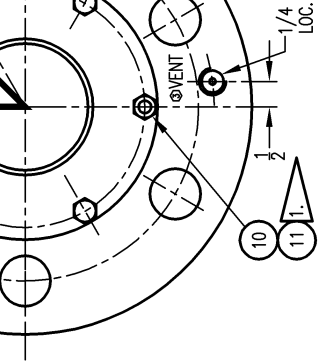
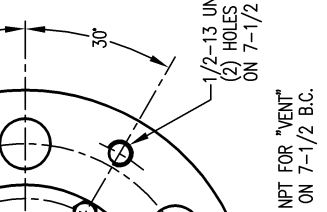
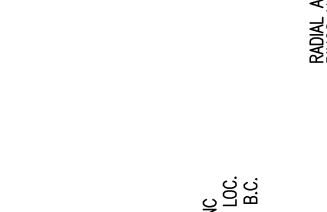
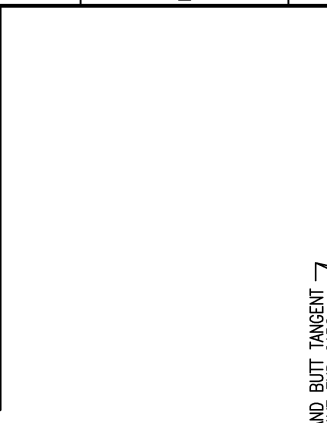
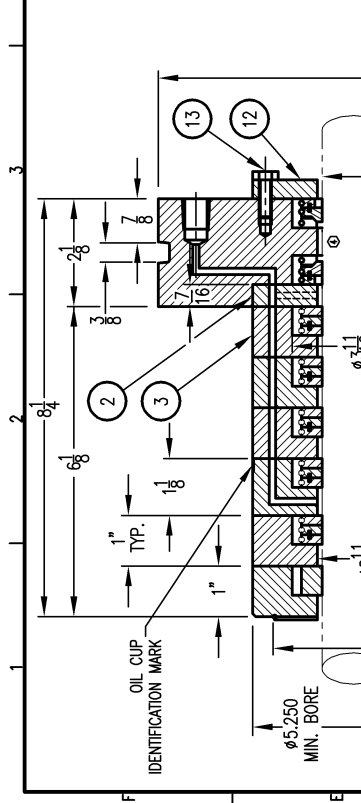
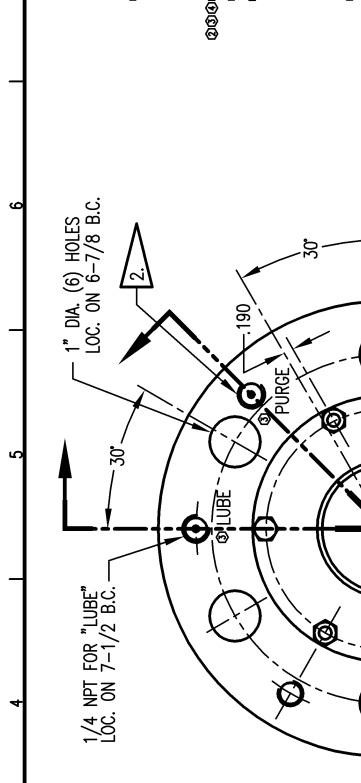
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| ARIEL CORPORATION 35 BLACKJACK ROAD MOUNT VERNON, OHIO 43050 | | ASSEMBLY DWG. NO. | A-17412 | | SHT 2 OF 2 |
| | | SCALE | NONE | | |
| REV | ECN | REV | ECN | SCALE | 4 |
| 0 | 16870 | 0 | 16870 | CPM 10/04/10 | 3 |
| | | | | CRN 10/07/10 | |

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| DESCRIPTION | INITIATE |
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| COMPONENT PART LIST | | | | |
|---------------------|------|-------------|------------------------------|--------|
| ITEM | QUAN | PART NUMBER | DESCRIPTION | MAT'L |
| 1 | 1 | A-3363 | FLANGE | STL |
| 2 | 1 | A-3360 | VENT PLATE | C.I. |
| 3 | 4 | A-3355 | PLAIN CUP | C.I. |
| 4 | 1 | A-3362 | OIL CUP | STL |
| 5 | 1 | A-3358 | END CUP | C.I. |
| 6 | 1 | A-3268 | GASKET | ALUM. |
| 7 | 2 | A-4216 | DOUBLE SEAL RING "WAT" | ITE |
| 8 | 3 | A-3265 | SINGLE SEAL RING "BTR" | ITE/CI |
| 9 | 1 | A-1054 | PRESSURE BREAKER "UP" | PEEK |
| 10 | 3 | FD0200CH | TIE STUD 1/4-20 X 8-7/16 STL | STL |
| 11 | 3 | FN0460CA | TIE STUD NUT 1/4-20 STL | STL |
| 12 | 1 | A-3357 | PLATE | C.I. |
| 13 | 3 | FC0102CE | HEX HD. CAP SCR 1/4-20 STL | STL |
| 14 | 1 | PP0850CE | HEX SOCKET PLUG, 1/4 NPT FST | STL |



| REV | EDN | REV | EDN | REV | EDN | DESCRIPTION |
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| 11 | 15896 | 5 | 6326 | | | |
| 10 | 15332 | 4 | 5803 | | | |
| 9 | 10894 | 3 | 5578 | | | |
| 8 | 8637 | 2 | 5278 | | | |
| 7 | 8363 | 1 | 5095 | | | |
| 6 | 6489 | 0 | 4490 | | | |

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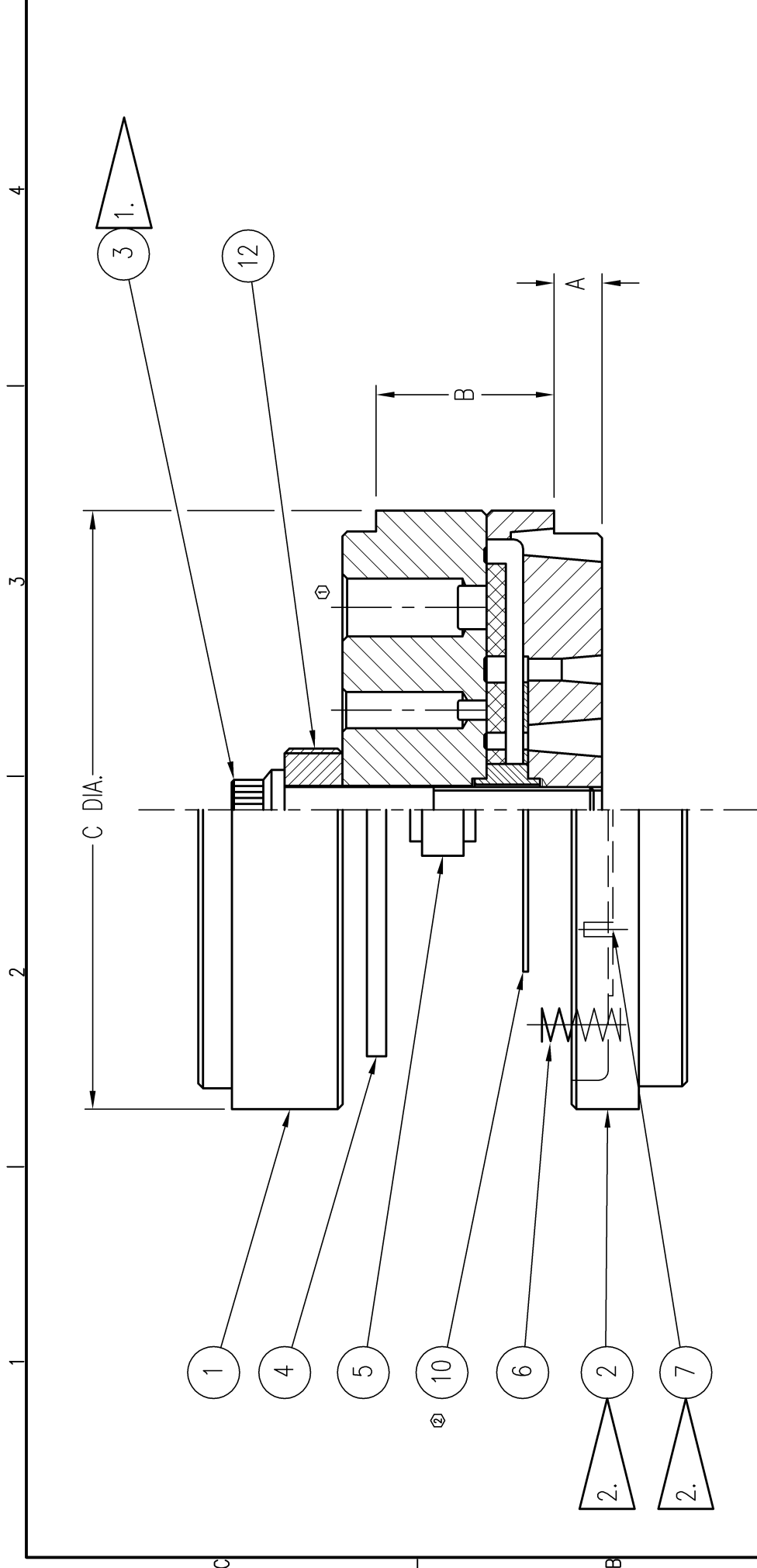
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NOTES:

- 1. FOR ASSEMBLY OF CENTER BOLT SEE ER-35.
- 2. VALVE GUARD ASSEMBLY (ITEM #2) CONSISTS OF VALVE GUARD, AND SPIROL PIN (ITEM #7).

ARIEL CORPORATION
 35 BLACKJACK ROAD
 MOUNT VERNON, OHIO 43050

| | |
|--------------------------|-----------------|
| TITLE: SUCTION VALVE, CT | |
| MATERIAL: PROCURED | |
| DRAWN: IG 9/27/99 | R.S. No. |
| CHECKED: ED 10/1/99 | PART NO. |
| SCALE: NONE | DWG. No: A-9265 |

| | |
|-----|-------|
| REV | ECN |
| 2 | 16980 |
| 1 | 8549 |
| 0 | 7799 |

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 DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.
 ---- DO NOT SCALE DRAWING ----

| | | | |
|-----|--|-----------|------------|
| 2 | (B-1) REVISED VIEW OF VALVE PLATE ITEM 10. UPDATED BORDER. | FET | 09/16/2010 |
| 1 | REMOVED THE OUTER RING FROM THE VALVE SEAT. | IG | 02/22/2001 |
| REV | DESCRIPTION | INIT/DATE | |

*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***

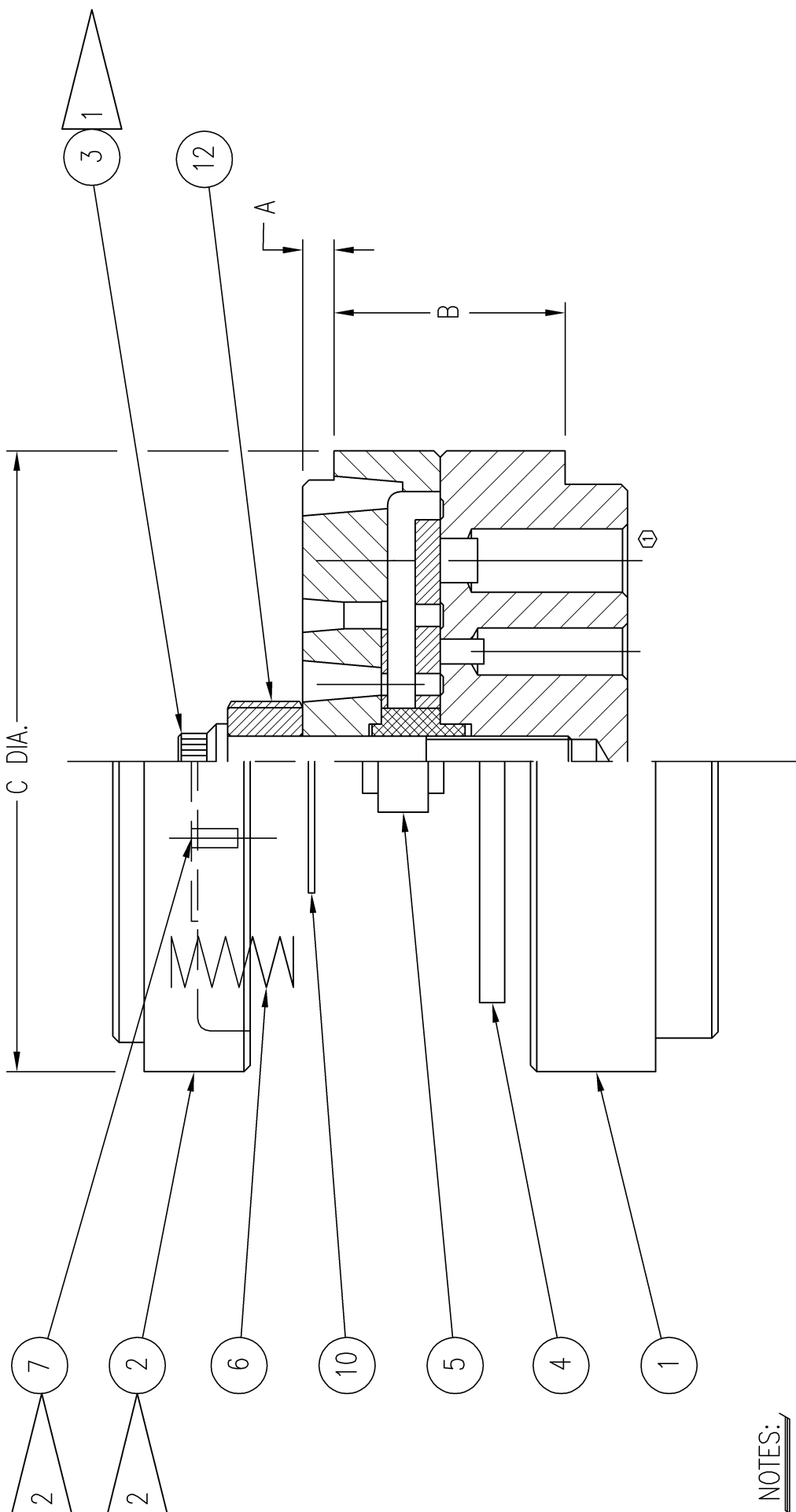
3/07/12

PARTS LIST

0.3940=A PART NO. B-1938-S
1.4570=B REF DRAWING A-9265
4.3880=C
0.0940=LFT

| ITEM | PART NUMBER | QTY | DESCRIPTION |
|------|-------------|-----|---|
| 1 | A-5954 | 1 | SUC VLV SEAT, 90CT ,M/S |
| 2 | A-4372-A | 1 | SUC VLV GUARD ASSY, 90CT |
| 3 | A-17239 | 1 | CENTER BOLT, 12-POINT, 3/8-24 X 2-1/2 |
| 4 | A-5446 | 1 | VLV PLT, 90CT.236THK,NYX |
| 5 | A-2925 | 1 | GUIDE RING,75CFT, .370 THK |
| 6 | A-12007 | 9 | SPRING (.354 OD X .709 FREE LENGTH) BLUE, .037 WIRE DIAMETER |
| 7 | A-2039 | 2 | SPIROL PIN,.118D X .591L |
| 10 | A-3573 | 1 | WAFER SPRING, 90CFT |
| 12 | A-2930 | 1 | VLV WASHER,3/8IDX 3/4-10 THD |
| 99 | KB-1938-S | 0 | KIT,VLV, 90CT ,NYX,M/S |

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
DOES NOT REPRESENT THE QUANTITY REQUIRED.



NOTES:

1. FOR ASSEMBLY OF CENTER BOLT SEE ER-35.
2. VALVE GUARD ASSEMBLY (ITEM #2) CONSISTS OF VALVE GUARD AND SPIRO PIN (ITEM #7).

| | |
|-----|---|
| 1 | REMOVED OUTER RING FROM THE VALVE SEAT. |
| REV | DESCRIPTION |

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 DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.
 ---- DO NOT SCALE DRAWING ----
 DIMENSIONING AND TOLERANCING PER ARIEL SPECIFICATION ER-17.0.1 UNLESS OTHERWISE SPECIFIED.

| | | | |
|---|------|-----|-----|
| 1 | 8549 | REV | ECN |
| 0 | 7799 | REV | ECN |

ARIEL CORPORATION
 35 BLACKJACK ROAD
 MOUNT VERNON, OHIO 43050



| | |
|-----------|---------------------|
| TITLE: | DISCHARGE VALVE, CT |
| MATERIAL: | PROCURED |
| DRAWN: | IG 9/27/99 |
| CHECKED: | ED 10/1/99 |
| R.S. No. | |
| PART NO. | |
| DWG. No: | A-9264 |
| SCALE: | NONE |

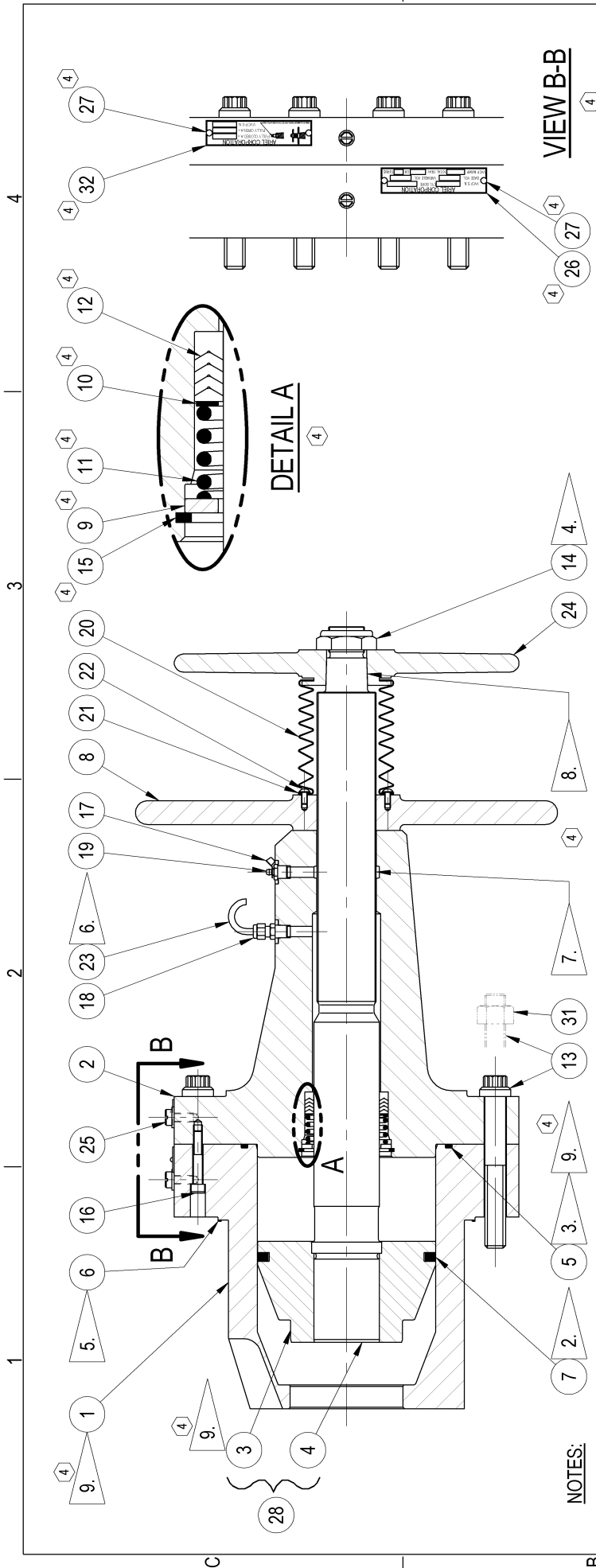
*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***
3/07/12

PARTS LIST

0.2750 =A PART NO. B-1939-DD
1.4570 =B REF DRAWING A-9264
4.4110 =C
0.0870 =LFT

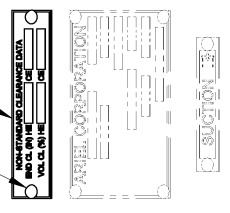
| ITEM | PART NUMBER | QTY | DESCRIPTION |
|------|-------------|-----|---|
| 1 | A-5956 | 1 | DIS VLV SEAT, 90CT ,M/S |
| 2 | A-4373-A | 1 | DIS VLV GUARD ASSY, 90CT |
| 3 | A-2158 | 1 | CNTR BOLT, 12 PT, 3/8-24X2 |
| 4 | A-8325 | 1 | VLV PLT, 90CT.236THK,MTX |
| 5 | A-2929 | 1 | GUIDE RING,75CFT,.362 THK |
| 6 | A-12064 | 18 | SPRING (.354 OD X .669 FREE LENGTH) GREEN, .041 WIRE DIAMETER |
| 7 | A-2039 | 2 | SPIROL PIN,.118D X .591L |
| 10 | A-3573 | 1 | WAFER SPRING, 90CFT |
| 12 | A-2930 | 1 | VLV WASHER,3/8IDX 3/4-10 THD |
| 99 | KB-1939-DD | 0 | KIT,VLV, 90CT ,MTX,M/S |

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT DOES NOT REPRESENT THE QUANTITY REQUIRED.



NOTES:

1. LOOSEN OR TIGHTEN ALL FASTENERS PER RECOMMENDED PROCEDURES AND TORQUE VALUES IN MANUAL.
2. LIGHTLY OIL BORE AND RING BEFORE INSTALLING.
3. OIL O-RING BEFORE INSTALLING.
4. TIGHTEN NUT UNTIL UNLOADER HANDLE IS FULLY SEATED.
5. APPLY AN ANTI-SEIZE LUBRICANT TO GASKET SURFACES.
6. VENT TUBE TO BE POINTED DOWN.
7. APPLY AN ANTI-SEIZE LUBRICANT TO STEM THREADS BEFORE ASSEMBLING.
8. ACCEPTANCE OF TAPER FIT WILL BE DETERMINED AT THE ASSEMBLY OF COMPONENTS. HANDLE TO STEM FIT MUST BE TIGHT.
9. CAUTION: FOR NON-LUBE APPLICATIONS REFER TO TECHNICAL MANUAL FOR SPECIAL PROCEDURES FOR THESE ITEMS..
10. THIS ASSEMBLY DRAWING IS FOR ILLUSTRATION PURPOSES ONLY AND MAY NOT NECESSARILY REPRESENT THE EXACT ITEMS PERTAINING TO THE UNIT ORDERED. REFER TO THE PARTS LIST FOR ITEMS (AND QUANTITIES OF EACH) REQUIRED FOR YOUR PARTICULAR ASSEMBLY.
11. WHERE APPLICABLE, MOUNT ADDED FIXED CLEARANCE TAG AS CLOSE TO CYLINDER DATA TAG AS POSSIBLE.



CYLINDER

| REV | DESCRIPTION | INITIALS | DATE |
|-----|---|----------|------------|
| 4 | REDRAWN TO SOLID EDGE. @A1: REVISED NOTE #4, WAS TORQUE TO 30 FT-LBS, THEN TORQUE 2-1/2 FLATS OR 350 FT-LBS. @B3: ADDED NOTE #9. @A3: ADDED NOTES #10 & #11. @B2 & C1: ADDED FLAGS #9. @B4: ADDED VIEW B-B, RELOCATED ITEMS #28 & #27 FROM C2. @C4: ADDED ITEMS #27 & #32. ADDED DETAIL A & RELOCATED ITEMS #10 FROM B2 & #12 FROM C2. @C3: RELOCATED ITEMS #9 & #11 FROM C2 & #15 FROM B1. @B2-B4: REMOVED DIMENSIONS. @A4: ADDED C'V, VIEW, UPDATED TO CURRENT STANDARDS. | | 08/05/2008 |

| REV | ECN | REV | ECN | REV | ECN | REV | ECN | SCALE | DATE | BY | CHECKED |
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| | 3 | | 10035 | | | | | | | | |
| | 2 | | 10927 | | | | | | | | |
| | 1 | | 7854 | | | | | | | | |
| 4 | 13364 | 0 | 6879 | ECN | ECN | REV | ECN | 5/12/97 | 5/01/97 | WSH | WSH |
| | | | | | | | | NONE | | | |

ARIEL CORPORATION
 35 BLACKJACK ROAD
 MOUNT VERNON, OHIO 43050

A-6883

*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***
3/07/12 ARIEL CORPORATION C/N: 001 RHCOVP02
 SALES ORDER COVER SHEET

SERIAL #: U90130, 32 & 34

PART: G-11011 DESCRIPTION: VVCP, 8-3/8KCZ

8-3/8" JGK:T:C:D:Z:U UNLOADER ASSEMBLY, PART NO. G-11011
STAINLESS STEEL TUBING AND FITTINGS. REF DRAWING A-6883

| ITEM | PART NUMBER | QTY | DESCRIPTION |
|------|-------------|-----|--|
| 1 | C-0993 | 1 | UNL.HEAD, 8-3/8K:C:D |
| 2 | C-0998 | 1 | ADAPTER, HEAD END UNLOADER, 8-3/8K:C |
| 3 | C-1372 | 0 | UNLOADER PISTON, 8-3/8K:C:Z |
| 4 | C-3719 | 0 | UNLOADER STEM, K:C:Z, 2-1/2-8 THREAD |
| 5 | A-0687 | 1 | O-RING, VT, 7.895 OD X .210, 75/85 DUROMETER |
| 6 | A-2064 | 1 | STEEL GASKET, 09.125 OD X 08.500 ID X .060, HEAD |
| 7 | A-2356 | 1 | UNL.PISTON RING, 6-1/4 O.D. |
| 8 | C-0983 | 1 | UNLOADER LOCKING HANDLE, 2-1/2-8 THREAD |
| 9 | A-2397 | 1 | RETAINER, UNLOADER PACKING, K:C:Z |
| 10 | A-2395 | 1 | BACK-UP RING, PACKING |
| 11 | A-2400 | 1 | COMPRESSION SPRING, UNLOADER, 3-7/16 OD |
| 12 | A-2399 | 1 | V-RING PACKING, UNLOADER, 2-3/4 ID X 3-1/2 OD |
| 13 | FC0120JV | 16 | 12-POINT CAPSCREW, 7/8-9 X 5-1/2, G8 |
| 14 | A-2390 | 1 | SELF-LOCK NUT, ESNA, THIN, 1-1/2-12 |
| 15 | A-2392 | 1 | SNAP RING, INTERNAL, SS, 3-3/4 BORE |
| 16 | FC0110EK | 2 | SOCKET HEAD CAPSCREW, 3/8-16 X 2, G8 |
| 17 | A-0500 | 1 | GREASE FITTING CAP, PLASTIC |
| 18 | A-0938 | 1 | MALE CONNECTOR, SS, 1/4 TUBE X 1/4 NPT |
| 19 | PZ0230BA | 1 | STRAIGHT GREASE FITTING, 1/4-18 |
| 20 | A-2394 | 1 | BELLOWS, THREAD PROTECTOR, UNLOADER |
| 21 | A-2398 | 1 | BACK-UP RING, BELLOWS |

3/07/12

SALES ORDER COVER SHEET

| | | | |
|----|----------|-----|--|
| 22 | FC0134CC | 4 | BUTTON HEAD CAPSCREW, 1/4-20 X 1/2, 316SS |
| 23 | PT0201CD | 6." | TUBING, 316 SS, 1/4 OD X .065 WALL |
| 24 | C-0984 | 1 | UNLOADER HANDLE, 3 PRONG |
| 25 | A-0256 | 1 | MACHINE SCREW PLUG, PLASTIC, 1/2-13 |
| 26 | A-0755 | 1 | DATA PLATE, UNLOADER HEAD SPECIFICATION |
| 27 | FR0571CC | 4 | DRIVE SCREW, TYPE U, SS, #6 X 1/4 |
| 28 | AC-3720 | 1 | UNL PIST ASSY, 8-3/8KCZ |
| 32 | A-12927 | 1 | DATA PLATE, UNLOADER ADAPTER SPECIFICATION |

VARIABLE VOLUME CLEARANCE POCKET (Headend Unloader) DATA SHEET

8-3/8C Class Cylinder

Stroke: 6.50 in 165 mm

Bore: 8.375 in 213 mm

MAWP: 1895 psi 130.7 bar(g) 13066 kPa(g) 133.2 kg/cm2(g)

General Data for VVCP (independent of cylinder):

MAWP*: 1895 130.7 barg 13066 kPa(g)

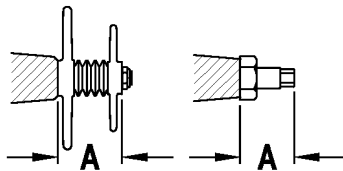
*Note: If VVCP services another cylinder, it may have a higher MAWP than the above

VVCP piston diameter: 6.25 in 159 mm

Stem thread lead (pitch): 0.125 in 3 mm

Total travel: 4.0 in 10.2 cm

Number of turns from closed to fully open: 32



A distance - see diagram

- closed: 4-5/8 in 11.7 cm

- open: 8-5/8 in 21.9 cm

Minimum added fixed clearance: 2.2 in³ 35.6 cm³

Additional added clearance when fully open: 123 in³ 2016 cm³

Total added clearance when fully open: 125.2 in³ 2051.2 cm³

Clearance volume change per turn: 3.8 in³ 63.0 cm³

Clearance volume change per change in travel: 30.8 in³/in 198.4 cm³/cm

Clearance Data for VVCP alone, in percent of swept volume of above cylinder:

Minimum added fixed clearance: 0.6%

Additional added clearance when fully open: 34.4%

Total added clearance when fully open: 35.0%

Head end clearance change per turn: 1.1%

Head end clearance change per change in travel: 8.6% /in 3.4% /cm

Clearance Data with VVCP installed on above cylinder with standard valves, in percent of swept volume:

Minimum fixed head end clearance: 15.1%

Total head end clearance when fully open: 49.4%

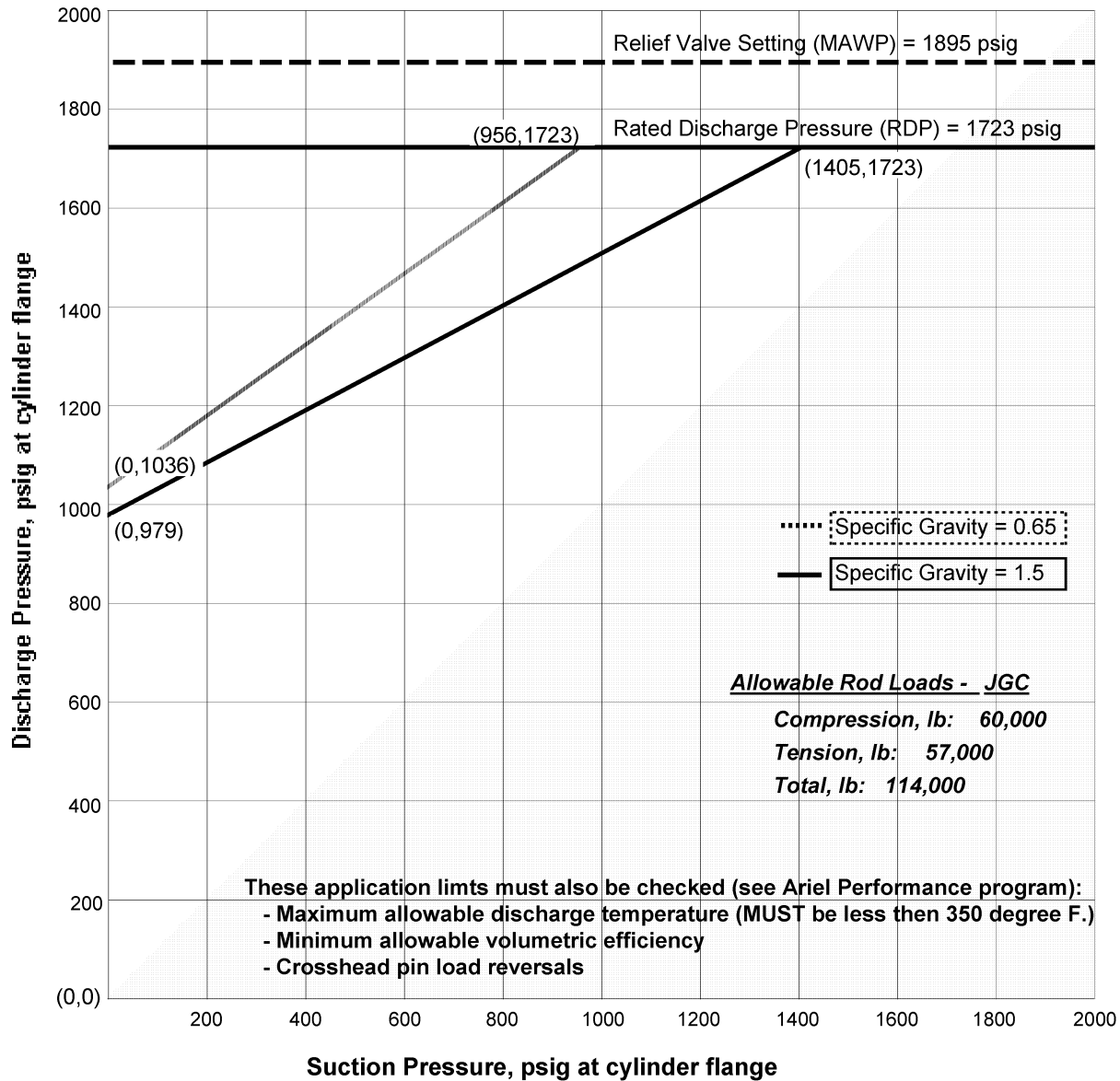
PLEASE NOTE: It is important to understand that the percent clearance figures for the variable volume clearance pocket above include the cylinder headend clearance. However, any valve spacers or other non-standard added clearances on the unit must be accounted for.

Estimated Gas Rod Load and Pressure Limits for 6.5 inch stroke at 1000 RPM

Cylinder Class: 8-3/8C

Bore, inches: 8.375

Cylinder Serial Number: C-131601, 03 & 05



This chart defines allowable operating limits for gas rod loads and standard working pressures. Pressure combinations falling above the line for the applicable Specific Gravity of the gas being compressed will exceed the Rod Load limitations of the equipment.

Calculations are based on 80 degrees Fahrenheit hydrocarbon gas at 1500 ft. elevation.