

9/07/12

ARIEL CORPORATION
SALES ORDER COVER SHEET

C/N: 001

RHCOVP02

SERIAL #: F39392

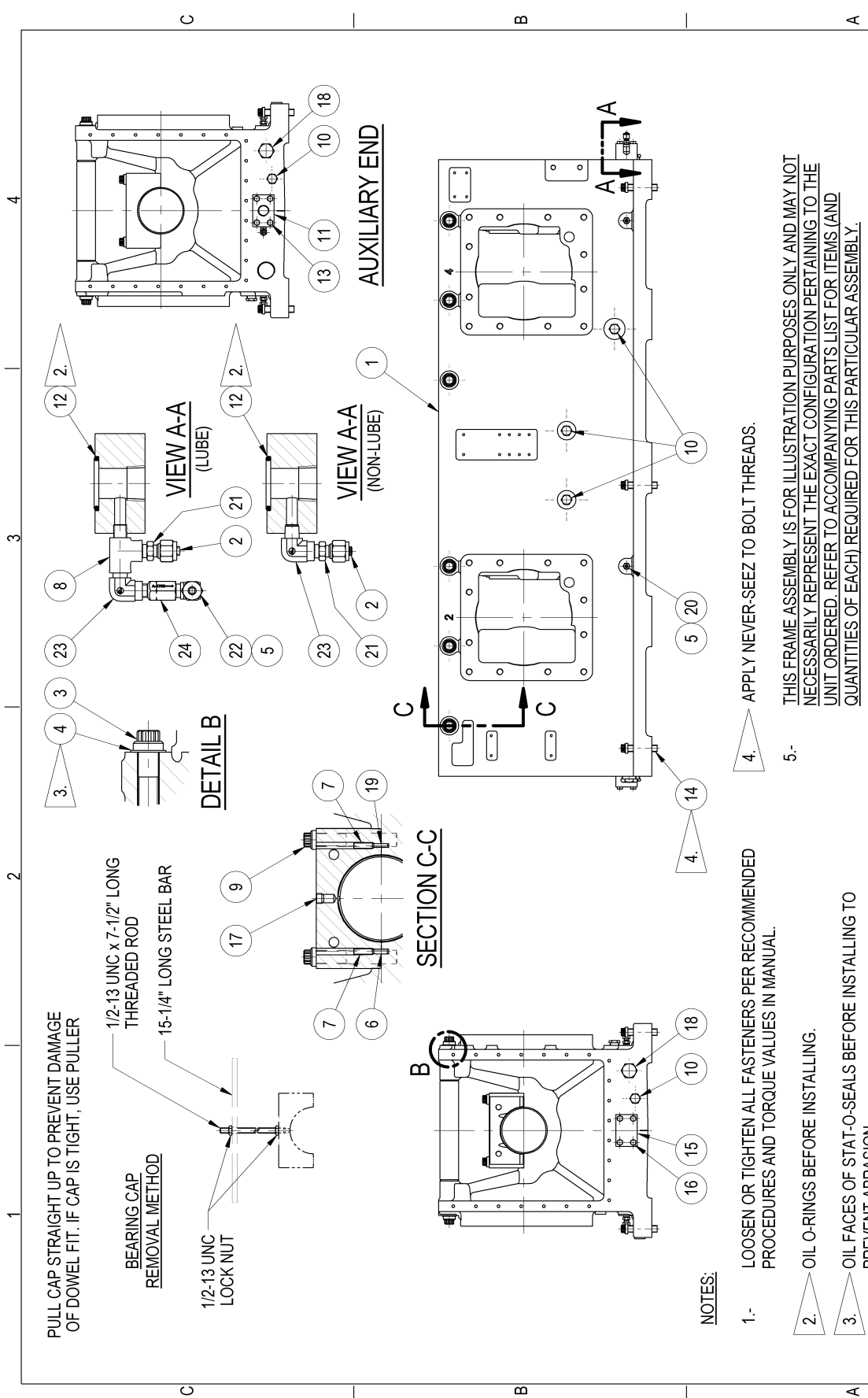
PART: JGJ CLASS DESCRIPTION: JGJ FRAME CLASS

PART NUMBER	QTY	DESCRIPTION	DRAWING NO.
G-2446	1	FRAME ASSEMBLY, JGR:W:J/4	A-18296
G-1956	1	CRANKSHAFT ASSY, JGJ/4	A-11864
G-19954	4	GUIDE ASSEMBLY, R:RJ:HJ:8-7/8W, STD	A-18719
G-5183	4	CONN ROD ASSY, FS, JGJ, NEW BRG	A-3985
G-0600	4	X-HEAD ASSY, JGR:JGJ	A-6873
A-0358	1	12S-12S-9T	N.A.
A-0794	1	9S-9T-6S	N.A.
B-0314	2	XHD NUT, 2.4#HEX, JGR:W:J	B-0314
D-0239	3	CROSSHEAD, LGT, DI, 32.3#, JGR:J	D-0239
D-0241	1	CROSSHEAD, HVY, DI, 54.3#, JGR:J	D-0241
G-0438	1	DRIVE END COVER ASSY, R:W:J/2/4	A-6314
G-2509	1	AUX.CVR,W/1 OR 2P.FF.L, JGJ/4	A-6315
G-17075	1	LO LEVEL ASSY, GLASS, JGR:W:J/4	A-16770
G-19672	1	LUBE OIL PUMP ASSEMBLY, JGJ/4, STANDARD & -GK	A-18551
FF LUBRICATOR A	1	FORCE FEED LUBRICATOR	A-18783 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-1087	1	FF TUBING, JGR:W:J/4 D.A. CYLS	N.A.
G-1959	1	CHAIN ASSY, JGJ/4, STD OR R/R	D-1198
G-0563	1	TOP COVER ASSY, JGR:W:J/4	A-7932
G-19564	2	FORCE FEED GAUGE ASSEMBLY, 3000 PSI, LUBE BLOCK, 3/8 TUBE	A-18433
G-9873	2	FF S/D, PRO-FLO, DC, STD	N.A.
G-2385	1	LUBE OIL COOLER, JG:A:R:W:J:H:E:K:T:C:D:Z:U	N.A.
G-8160	1	THRM VLV, 3/4", MTD, R:W:J/4	A-6118

9/07/12

SALES ORDER COVER SHEET

PART NUMBER	QTY	DESCRIPTION	DRAWING NO.
G-16339	1	TOOL KIT ASSY, JGR:W:J	N.A.



NOTES:

- 1.- LOOSEN OR TIGHTEN ALL FASTENERS PER RECOMMENDED PROCEDURES AND TORQUE VALUES IN MANUAL.
2. OIL O-RINGS BEFORE INSTALLING.
3. OIL FACES OF STAT-O-SEALS BEFORE INSTALLING TO PREVENT ABRASION.
4. APPLY NEVER-SEEZ TO BOLT THREADS.
- 5.- THIS FRAME 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.

ARIEL CORPORATION 35 BLACKJACK ROAD MOUNT VERNON, OHIO 43050		ASSEMBLY DWG. NO.	A-18296		SHT 1 OF 1
		SCALE	NONE		
REV	DESCRIPTION	INIT/DATE	REV	ECON	REV
0	17689	CPM 07/11/11	DLI 07/13/11	DLI 07/13/11	DLI 07/13/11

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9/07/12

PARTS LIST

FRAME, SPACERS AND BEARING CAPS
JGR/4, JGW/4 AND JGJ/4

PART NO. G-2446
REF DRAWING A-18296

ITEM	PART NUMBER	QTY	DESCRIPTION
1	D-1390	1	FRAME, JGR:W:J/4
2	A-0918	1	PLUG, TUBE FITTING, STL, 1/4 TUBE
3	FC0125IT	12	12-POINT CAPSCREW, 3/4-16 X 4-1/2, G8
4	FW0550IA	12	STAT-O-SEAL, 3/4 DIA., NITRILE
5	PT0200CB	135."	TUBING, SS, 1/4 OD X .035 WALL
6	FP0500FE	0	DOWEL PIN, 1/4 OD X 3/4 LONG, +.0002
7	FS0400DG	0	SET SCREW, CUP POINT, 5/16-18 X 1"
8	A-15556	1	STREET TEE, STL, 1/8P
9	FC0120HU	16	12-POINT CAPSCREW, 5/8-11 X 5, G8
10	PP0810GB	7	PIPE PLUG, HEX HEAD, 1/2 NPT, STL
11	A-0397	1	END PLATE, OIL GALLERY, JGR:W:J
12	A-0030	2	O-RING, VT, 1.637 OD X .139, 75/85 DUROMETER
13	FC0102DK	4	HEX HEAD CAPSCREW, 5/16-18 X 2, G5
14	FC0120HN	6	12-POINT CAPSCREW, 5/8-11 X 2-3/4, G8
15	A-0396	1	END PLATE, BLIND, JGR:W:J
16	FC0102DI	4	HEX HEAD CAPSCREW, 5/16-18 X 1-1/2, G5
17	FS0450GB	3	SET SCREW, CUP POINT, NYLON PATCH, 1/2-13 X 3/8
18	PP0810KB	2	PIPE PLUG, 1"NPT, HEX HD, STL
19	FP0500EE	0	DOWEL PIN, 3/16 OD X 3/4 LONG, +.0002
20	A-0827	4	MALE CONNECTOR, STL, 1/4 TUBE X 1/4 NPT
21	A-0830	1	MALE CONNECTOR, STL, 1/4 TUBE X 1/8 NPT
22	A-0815	1	MALE ELBOW, STL, 1/4 TUBE X 1/8 NPT
23	A-0804	1	STREET ELBOW, 90° 1/2", 1/8 NPT, STL

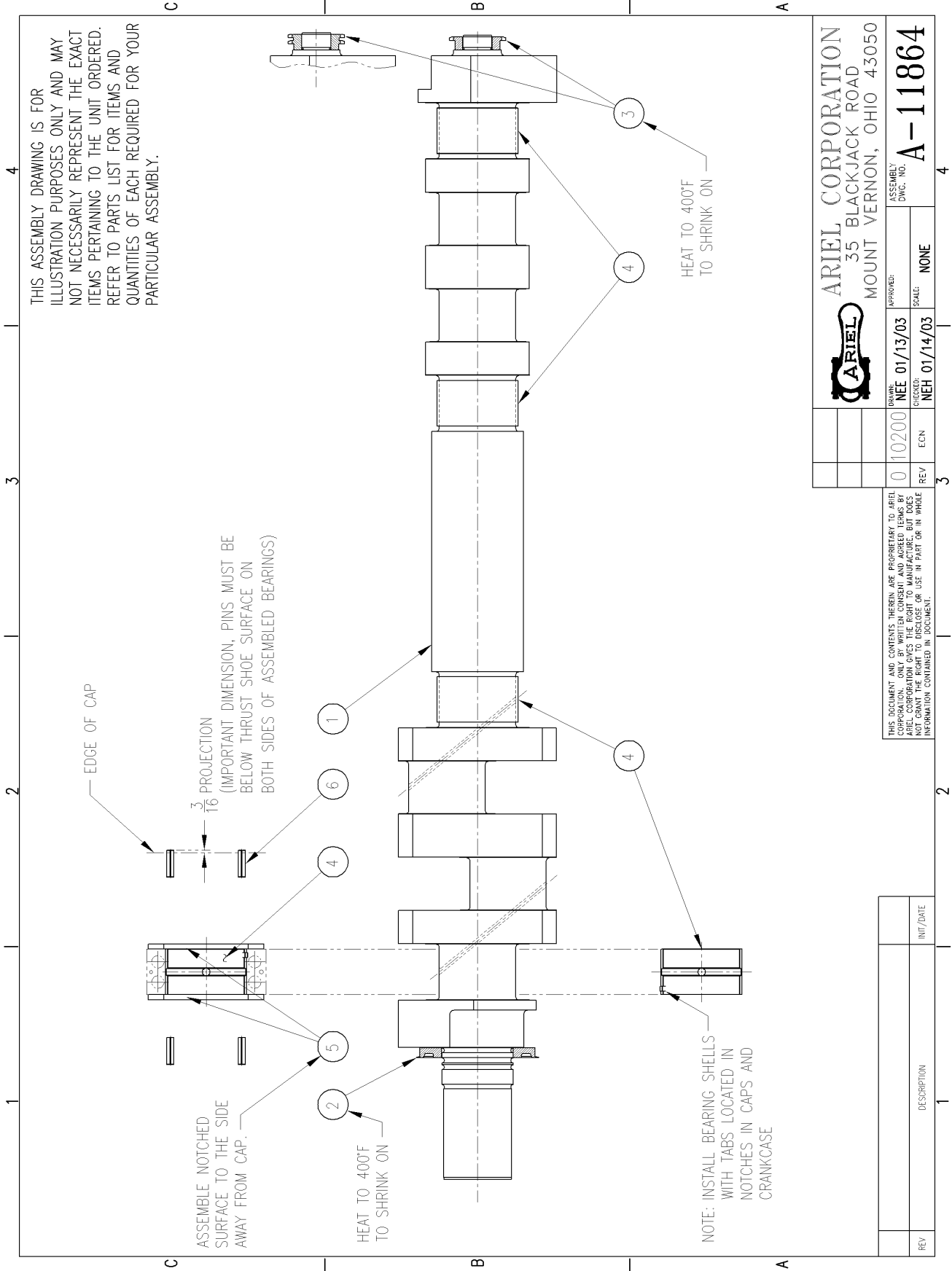
WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
DOES NOT REPRESENT THE QUANTITY REQUIRED.
*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***

9/07/12

PARTS LIST

24	A-3763	1	CHK VLV, 1/8MX1/8F, SS, PPT/14PSI
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ARIEL CORPORATION
 35 BLACKJACK ROAD
 MOUNT VERNON, OHIO 43050

REV	DESCRIPTION	INIT/DATE	REV	ECN	REV	ECN	REV	ECN	REV	ECN	REV	ECN	
0	10200	NEE 01/13/03	0	10200	NEE 01/13/03	0	10200	NEE 01/13/03	0	10200	NEE 01/13/03	0	10200

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ASSEMBLY DWG. NO.	A-11864
APPROVED:	
CHECKED:	NEH 01/14/03
SCALE:	NONE

9/07/12

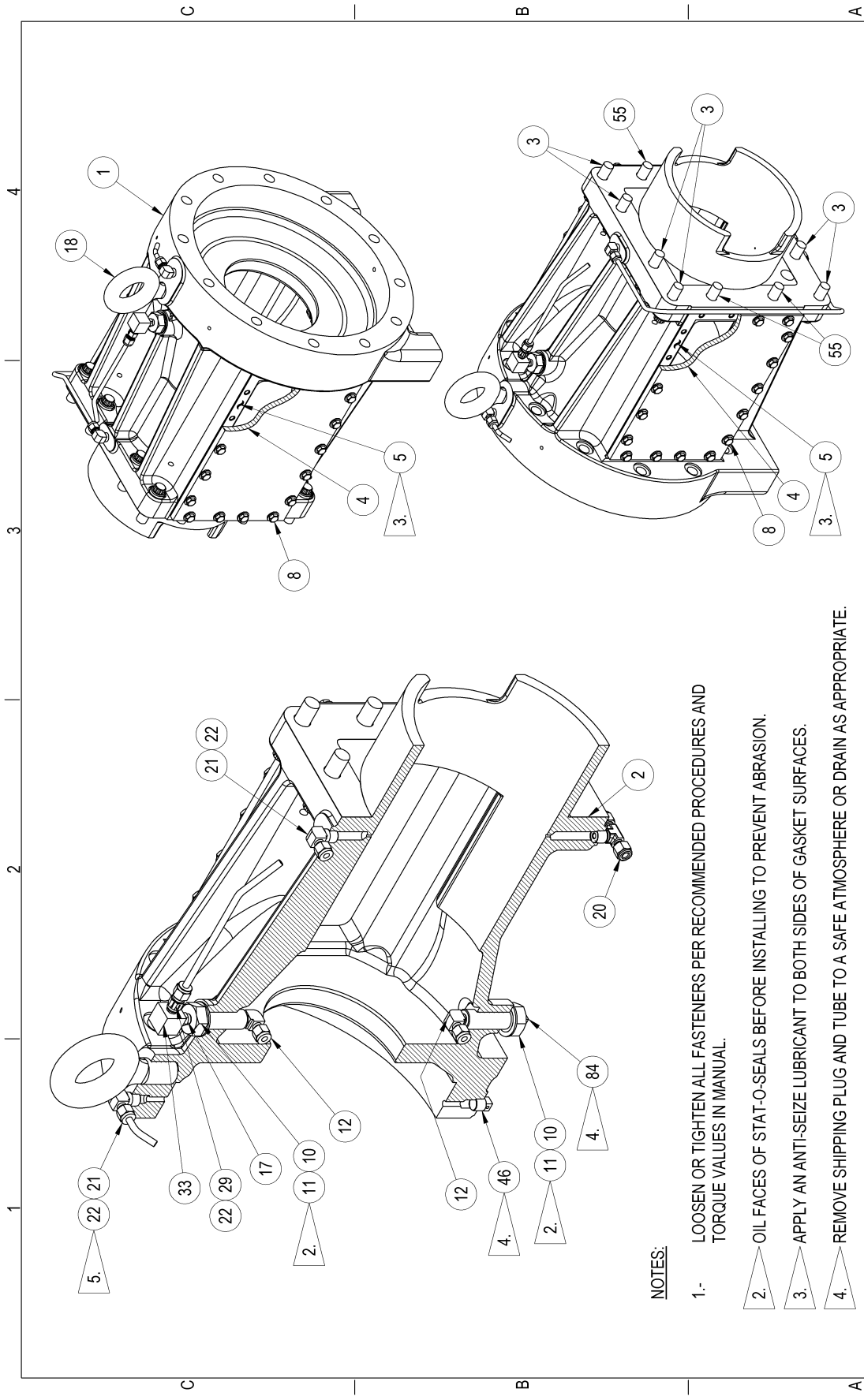
PARTS LIST

CRANKSHAFT ASSEMBLY,
MAIN BEARINGS AND THRUST PLATES
JGJ/4, 3-1/2" STROKE

PART NO. G-1956
REF DRAWING A-11864

ITEM	PART NUMBER	QTY	DESCRIPTION
1	AD-1195	1	CRANKSHAFT ASSEMBLY, FS, JGJ/4
2	B-0248	0	OIL SLINGER, JGR:W:J/2/4,A/6
3	A-2546	0	SPKT, 35-2 X 24T
4	B-0245	8	SLEEVE BEARING, HALF SHELL, MAIN, JGR:W:J:ACF
5	B-0304	2	THRUST PLATE, BZ, JGR:W:J
6	FP0510JN	2	SPIROL PIN, 1/2 OD X 2-3/4 LONG
99	AD-1195-C	0	CRANKSHAFT ASSEMBLY WITH CRATE, JGJ/4

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NOTES:

- 1.- LOOSEN OR TIGHTEN ALL FASTENERS PER RECOMMENDED PROCEDURES AND TORQUE VALUES IN MANUAL.
2. OIL FACES OF STAT-O-SEALS BEFORE INSTALLING TO PREVENT ABRASION.
3. APPLY AN ANTI-SEIZE LUBRICANT TO BOTH SIDES OF GASKET SURFACES.
4. REMOVE SHIPPING PLUG AND TUBE TO A SAFE ATMOSPHERE OR DRAIN AS APPROPRIATE.
5. VENTS TO BE TUBED TO APPROPRIATE AND SAFE ATMOSPHERE.

ARIEL CORPORATION 35 BLACKJACK ROAD MOUNT VERNON, OHIO 43050		ASSEMBLY DWG. NO.	A-18719		SHT 1 OF 1
		SCALE	NONE		
REV	DESCRIPTION	INITIALS	DATE	REV	DATE
0	17233	CPM 11/16/11	DLI 11/17/11	REV	DATE
1	17233	CPM 11/16/11	DLI 11/17/11	REV	DATE

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PARTS LIST

JGR CROSSHEAD GUIDE

JGR:RJ:HJ & 8-7/8 JGW CLASS CYLINDERS

PART NO. G-19954

REF DRAWING A-18719

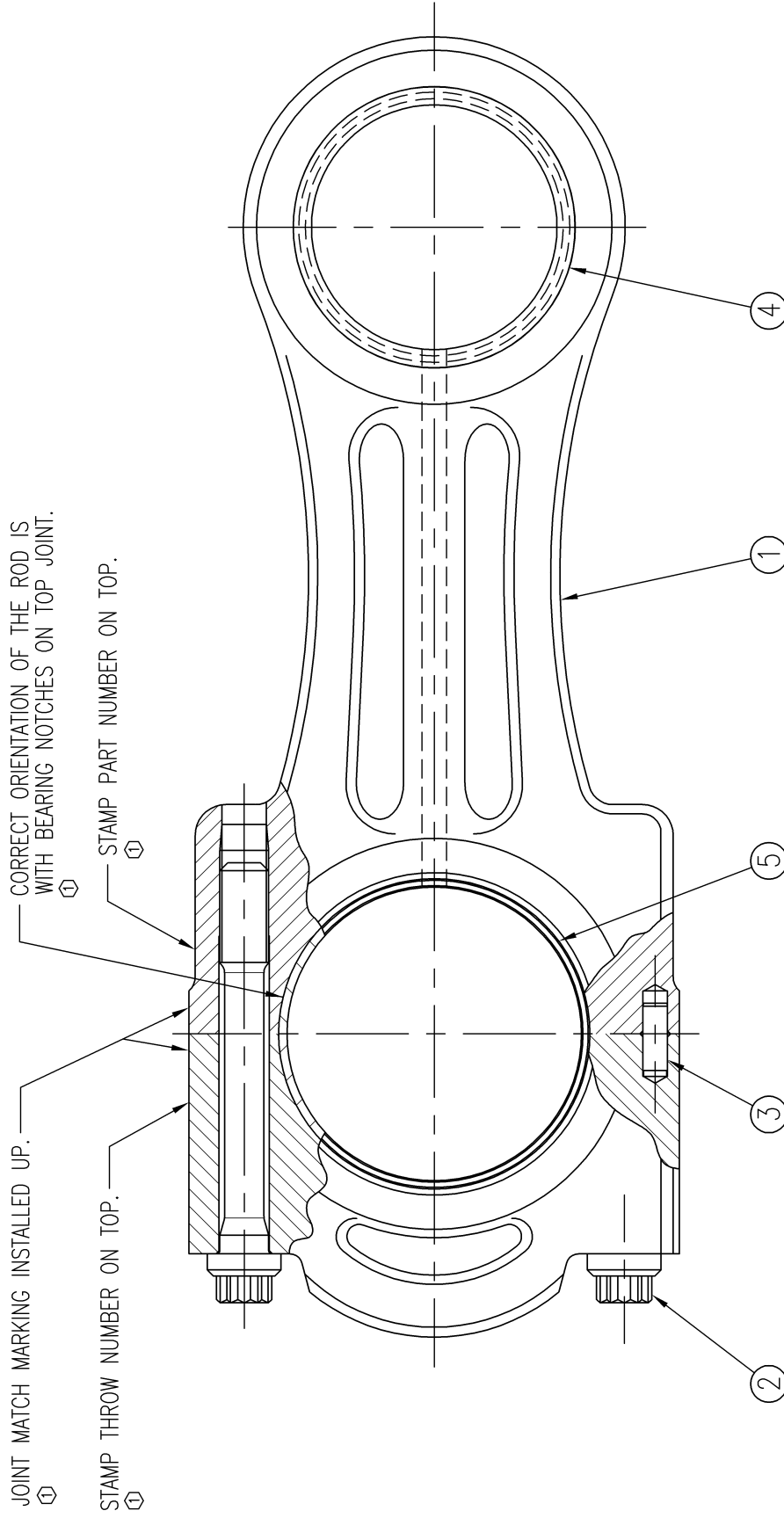
ITEM	PART NUMBER	QTY	DESCRIPTION
1	D-0223	1	X-HD GUIDE,STD,JGR:RJ
2	B-0299	1	GSKT,RET,12-1/4 X 12 X 1/64
3	FC0120HL	8	12-POINT CAPSCREW, 5/8-11 X 2-1/4, G8
4	B-0418	2	COVER, GUIDE, JGR
5	B-0419	2	GSKT,RET,12-1/4 X 8-1/8X1/32
8	A-10185	36	SEMS BOLT, 5/16-18 X 1", G5
10	A-0415	2	LUBE FITTING, 3/4-10 X 2
11	FW0550IA	2	STAT-O-SEAL, 3/4 DIA., NITRILE
12	A-0815	2	MALE ELBOW, STL, 1/4 TUBE X 1/8 NPT
17	A-17775	1	OIL TRAP, STEM, SS, 1/8 NPT
18	A-2205	1	EYEBOLT, 1"-8 UNC, SHORT
20	A-0808	1	MALE BRANCH TEE, STL, 1/4 TUBE X 1/4 NPT
21	A-0800	2	MALE ELBOW, STL, 1/4 TUBE X 1/4 NPT
22	PT0200CB	51."	TUBING, SS, 1/4 OD X .035 WALL
29	A-18496	1	CHECK VALVE, DOUBLE BALL, SS, 1/4 TUBE INLET X 1/8 NPT OUTLET,
33	A-17774	1	OIL TRAP, BODY, SS, 1/8 NPT
46	A-12569	1	PIPE PLUG, 1/4NPT, SQUARE HEAD, STL, DRILLED
55	FC0120HK	4	12-POINT CAPSCREW, 5/8-11 X 2, G8
84	A-15842	1	PIPE PLUG, 1/8NPT, SQUARE HEAD, STL, DRILLED

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
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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.



116756
04734

ARIEL CORPORATION
35 BLACKJACK ROAD
MOUNT VERNON, OHIO 43050

ASSEMBLY
DWG. No. **A-3985**

ADDED NOTES: "JOINT MATCH MARKING INSTALLED UP", "STAMP THROW NUMBER ON TOP", "STAMP PART NUMBER ON TOP", AND "CORRECT ORIENTATION OF THE ROD IS WITH BEARING NOTCHES ON TOP JOINT".

DESCRIPTION

REV

9/07/12

PARTS LIST

CONNECTING ROD, FORGED STEEL
JGJ CLASS, WITH NEW BEARING

PART NO. G-5183
REF DRAWING A-3985

ITEM	PART NUMBER	QTY	DESCRIPTION
1	AD-1152	1	CONNECTING ROD ASSEMBLY, FS, JGJ
2	A-2461	0	12-POINT CAPSCREW, 3/4-16 X 5-5/8, G8
3	FP0500FE	0	DOWEL PIN, 1/4 OD X 3/4 LONG, +.0002
4	B-0300	0	BUSHING, CONNECTING ROD, BZ, JGR:W:J:ACF
5	B-2112	2	SLEEVE BEARING, HALF SHELL, CONNECTING ROD, JGR:W:J:ACF

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STYLE 2 CROSSHEAD

- THIS CROSSHEAD 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.

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REV	EGN	CHECKED:	SCALE:	APPROVED:	ASSEMBLY DWG. NO.
0	6859	DJB	4/18/97		A-6873

 **ARIEL CORPORATION**
35 BLACKJACK ROAD
MOUNT VERNON, OHIO 43050

9/07/12

PARTS LIST

CROSSHEAD, PIN, END PLATES AND
BALANCE NUT JGR & JGJ

PART NO. G-0600
REF DRAWING A-6873

ITEM	PART NUMBER	QTY	DESCRIPTION
1	CROSSHEAD	0	FOR PART NO. SEE COVER SHEET
1	D-0239	0	CROSSHEAD, LGT, DI, 32.3#, JGR:J
1	D-0240	0	CROSSHEAD, MEDIUM, DI, 46.2#, JGR:J
1	D-0241	0	CROSSHEAD, HVY, DI, 54.3#, JGR:J
1	D-0458	0	CROSSHEAD, HVY, BZ, 65.0#, JGR:W:J
1	D-0650	0	CROSSHEAD, BALANCE, BZ, 146.0#, JGR:W:J
1	D-0651	0	CROSSHEAD, BALANCE, CI, 119.0#, JGR:W:J
1	D-0652	0	CROSSHEAD, BALANCE, CI, 103.0#, JGR:W:J
1	D-0653	0	CROSSHEAD, BALANCE, CI, 87.0#, JGR:W:J
1	D-0654	0	CROSSHEAD, BALANCE, CI, 71.0#, JGR:W:J
1	D-0658	0	CROSSHEAD, BALANCE, BZ, 130.0#, JGR:W:J
1	D-3985	0	CROSSHEAD, XLGT, ADI, 22.4#, JGR:J
2	B-0332	1	CROSSHEAD PIN, JGR:W:J
3	A-0431	2	END PLATE, CROSSHD PIN, R:W:J
4	A-0419	1	12-POINT CAPSCREW, 7/16-20 X 7
5	FN0467FA	1	SELF-LOCK NUT, FLEXLOC, 7/16-20
6	FP0505EE	2	ROLL PIN, 3/16 OD X 3/4 LONG
7	B-0314	0	XHD NUT, 2.4#HEX, JGR:W:J
7	B-0315	0	XHD NUT, 6.4#RND, JGR:W:J
7	B-0316	0	XHD NUT, 10.4#RND, JGR:W:J
7	B-0317-A	0	XHD NUT, 14.4#RND, JGR:W:J
7	B-0422	0	XHD NUT, 8.4#RND, JGR:W:J
7	B-0423	0	XHD NUT, 12.4#RND, JGR:W:J

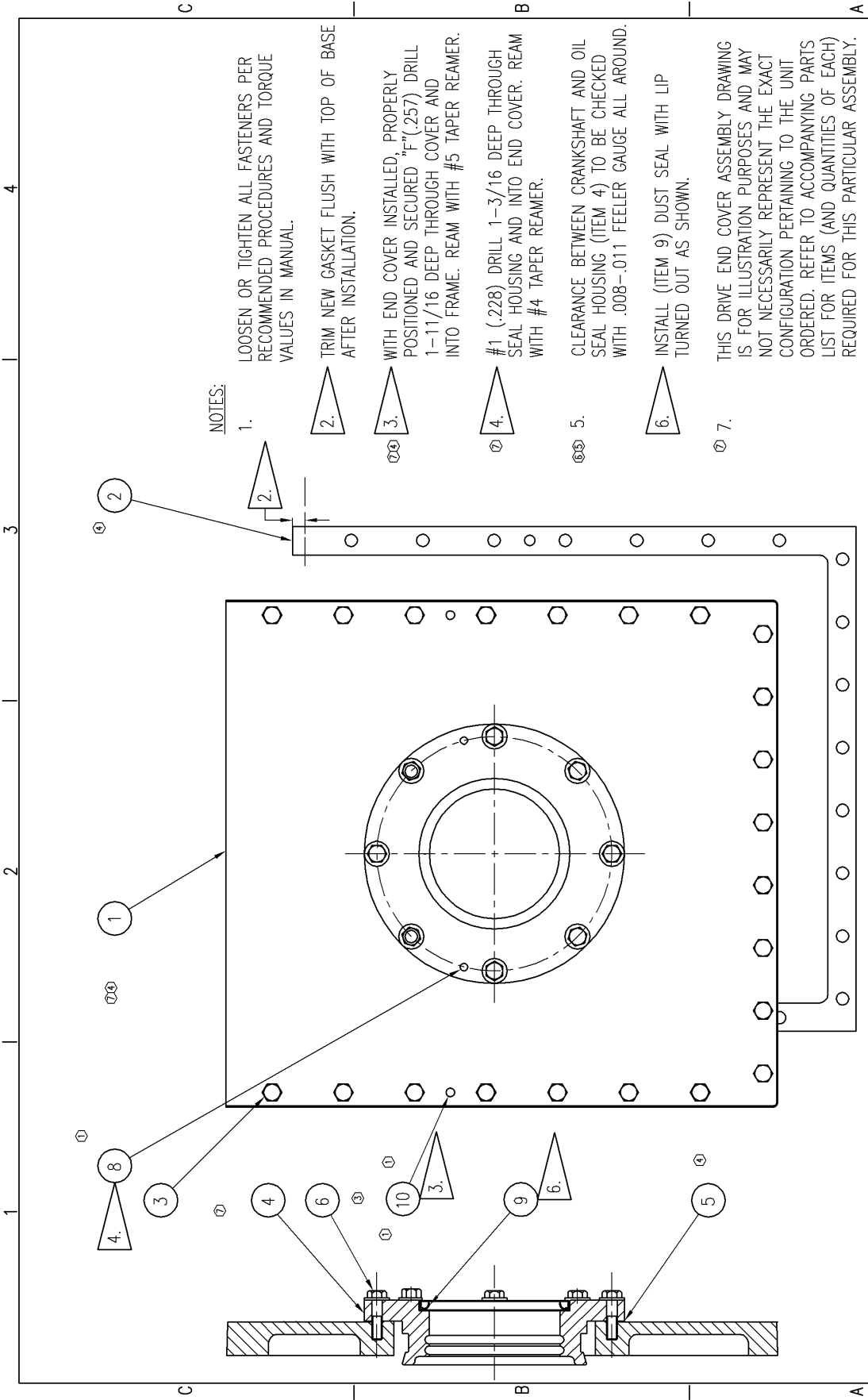
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PARTS LIST

7	B-0468	0	XHD NUT, 16.4#RND, JGR:W:J
7	B-0497	0	XHD NUT, 4.4#RND, JGR:W:J
7	B-0686	0	XHD NUT, 24.4#RND, JGR:W:J
7	B-0690	0	XHD NUT, 22.4#RND, JGR:W:J
7	B-0990	0	XHD NUT, 20.4#RND, JGR:W:J
7	B-0991	0	XHD NUT, 18.4#RND, JGR:W:J
7	B-5051	0	XHD NUT, 26.4#RND, JGR:W:J
7	B-5052	0	XHD NUT, 28.4#RND, JGR:W:J
7	CROSSHEAD NUT	0	FOR PART NO. SEE COVER SHEET
8	FS0455DI	0	SET SCREW, CUP POINT, NYLON PATCH, 5/16-24 X 1-1/2
9	B-0301	0	BUSHING, CROSSHEAD, BZ, JGR:J:ACF

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NOTES:

1. LOOSEN OR TIGHTEN ALL FASTENERS PER RECOMMENDED PROCEDURES AND TORQUE VALUES IN MANUAL.
2. TRIM NEW GASKET FLUSH WITH TOP OF BASE AFTER INSTALLATION.
3. WITH END COVER INSTALLED, PROPERLY POSITIONED AND SECURED "F"(.257) DRILL 1-11/16 DEEP THROUGH COVER AND INTO FRAME. REAM WITH #5 TAPER REAMER.
4. #1 (.228) DRILL 1-3/16 DEEP THROUGH SEAL HOUSING AND INTO END COVER. REAM WITH #4 TAPER REAMER.
5. CLEARANCE BETWEEN CRANKSHAFT AND OIL SEAL HOUSING (ITEM 4) TO BE CHECKED WITH .008-.011 FEELER GAUGE ALL AROUND.
6. INSTALL (ITEM 9) DUST SEAL WITH LIP TURNED OUT AS SHOWN.
7. 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.

REV	DESCRIPTION	INIT/DATE
7	QAS1: REVISED NOTE #7 QAS1 NOTE #3 WAS "F"(.257) DRILL 1-11/16 DEEP THROUGH COVER AND INTO FRAME. REAM WITH #5 TAPER REAMER. QAS1 NOTE #4 WAS "F"(.257) DRILL 1-11/16 DEEP THROUGH SEAL HOUSING AND INTO END COVER. REAM WITH #4 TAPER REAMER. QAS1: REMOVED FLAG #5 QAS2: REMOVED ITEM BALLOON #11 & FLAG #7. UPDATED TO CURRENT DRAFTING STANDARDS.	SPY 01/15/2007
6	AT #4 NOTE #5 WAS CLEARANCE BETWEEN CRANKSHAFT AND OIL SEAL HOUSING (ITEM #4) TO BE CHECKED WITH .010-.013 FEELER GAUGE ALL AROUND.	JCS 5/30/02

6	10741	3	10023	7	14114	4	8739	1	6456	CH	05-10-96	ECN	REV	3
5	10203	2	7428	7	14114	4	8739	1	6456	CH	05-10-96	ECN	REV	3

ARIEL CORPORATION
 35 BLACKJACK ROAD
 MOUNT VERNON, OHIO 43050

APPROVER: CH 05-10-96	ASSEMBLY DWG. NO.	SCALE: NONE
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A-6314

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9/07/12

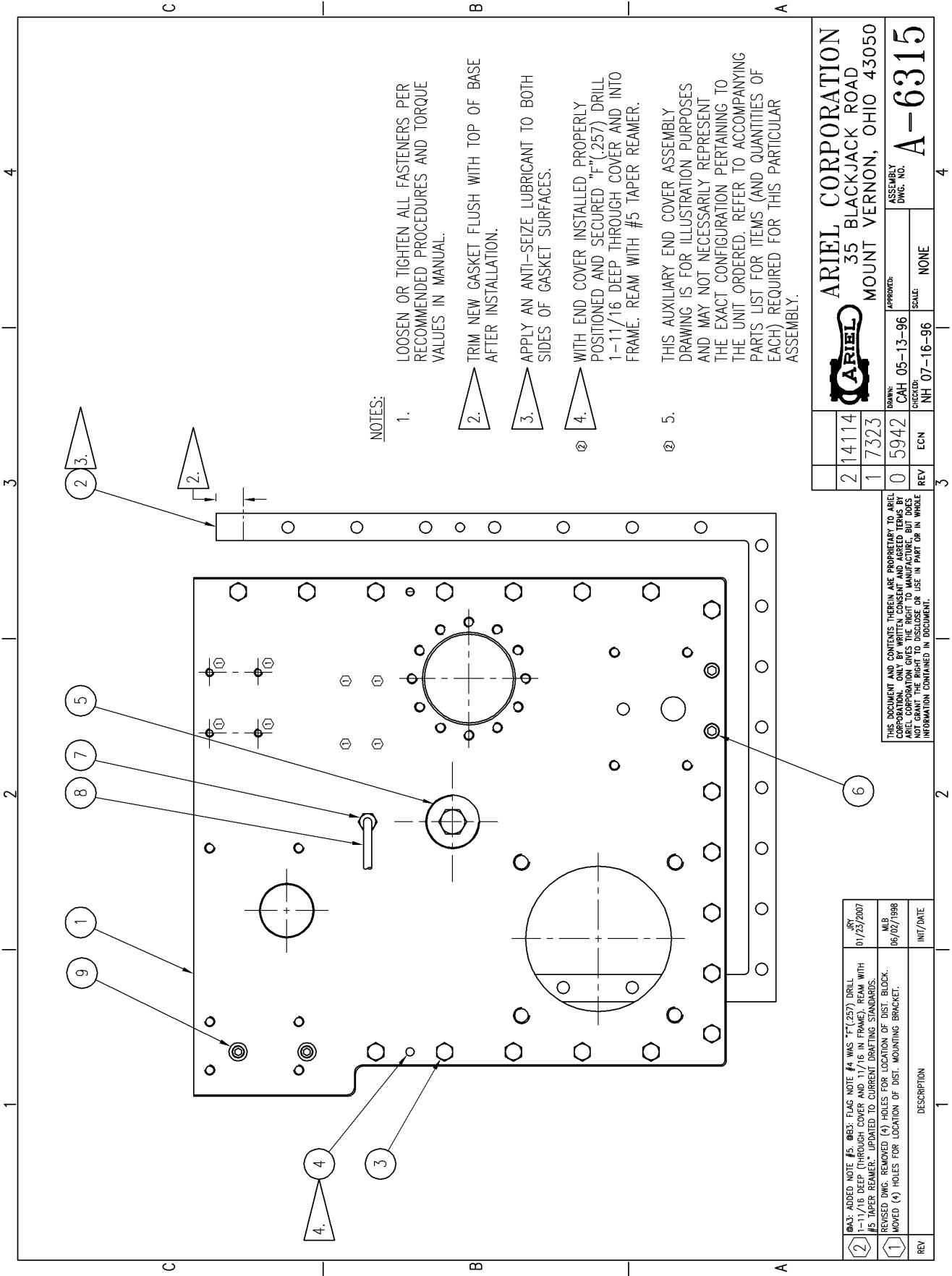
PARTS LIST

DRIVE END COVER
JGW/2, JGR/2, JGW/4, JGR/4, JGJ/2, JGJ/4

PART NO. G-0438
REF DRAWING A-6314

ITEM	PART NUMBER	QTY	DESCRIPTION
1	C-0140	1	COVER, DRIVE END, JGW:R:J:2:4
2	B-0298	1	GSKT,RET,16-25/32X15-1/16X32
3	FC0102DI	22	HEX HEAD CAPSCREW, 5/16-18 X 1-1/2, G5
4	C-0141	1	SHAFT SEAL HOUSING, JGR:W:J
5	A-0412	1	FIBER GASKET, 07.750 OD X 06.000 ID X .031, DRIVE END COVER JGR:W:J:2/4
6	A-10186	8	SEMS BOLT, 5/16-18 X 1-1/4, G5
8	FP0512EF	2	THREADED TAPER PIN, #4 X 1" LONG
9	A-0245-A	1	DUST SEAL, TFE, JGW:R:J
10	FP0512FH	2	THREADED TAPER PIN, #5 X 1-1/2 LONG

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NOTES:

1. LOOSEN OR TIGHTEN ALL FASTENERS PER RECOMMENDED PROCEDURES AND TORQUE VALUES IN MANUAL.
2. TRIM NEW GASKET FLUSH WITH TOP OF BASE AFTER INSTALLATION.
3. APPLY AN ANTI-SEIZE LUBRICANT TO BOTH SIDES OF GASKET SURFACES.
4. WITH END COVER INSTALLED PROPERLY POSITIONED AND SECURED "F"(.257) DRILL 1-11/16 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.



ARIEL CORPORATION
35 BLACKJACK ROAD
MOUNT VERNON, OHIO 43050

214114

17323

05942

07-16-96

APPROVED:

SCALE: NONE

ASSEMBLY DWG. NO.

A-6315

REV	DESCRIPTION	INT/DATE
2	043: ADDED NOTE #5. 043: FLAG NOTE #4 WAS "F"(.257) DRILL 1-11/16 DEEP (THROUGH COVER AND 11/16 IN FRAME). REAM WITH #5 TAPER REAMER. UPDATED TO CURRENT DRAFTING STANDARDS.	JRY 01/23/2007
1	REVISED DWG. REMOVED (4) HOLES FOR LOCATION OF DIST BLOCK. MOVED (4) HOLES FOR LOCATION OF DIST. MOUNTING BRACKET.	MLB 06/02/1998

9/07/12

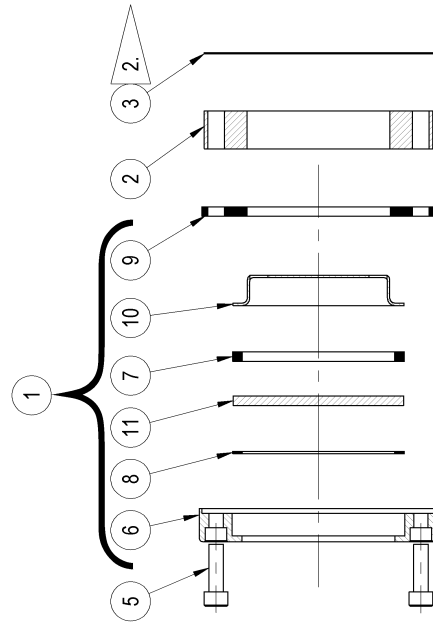
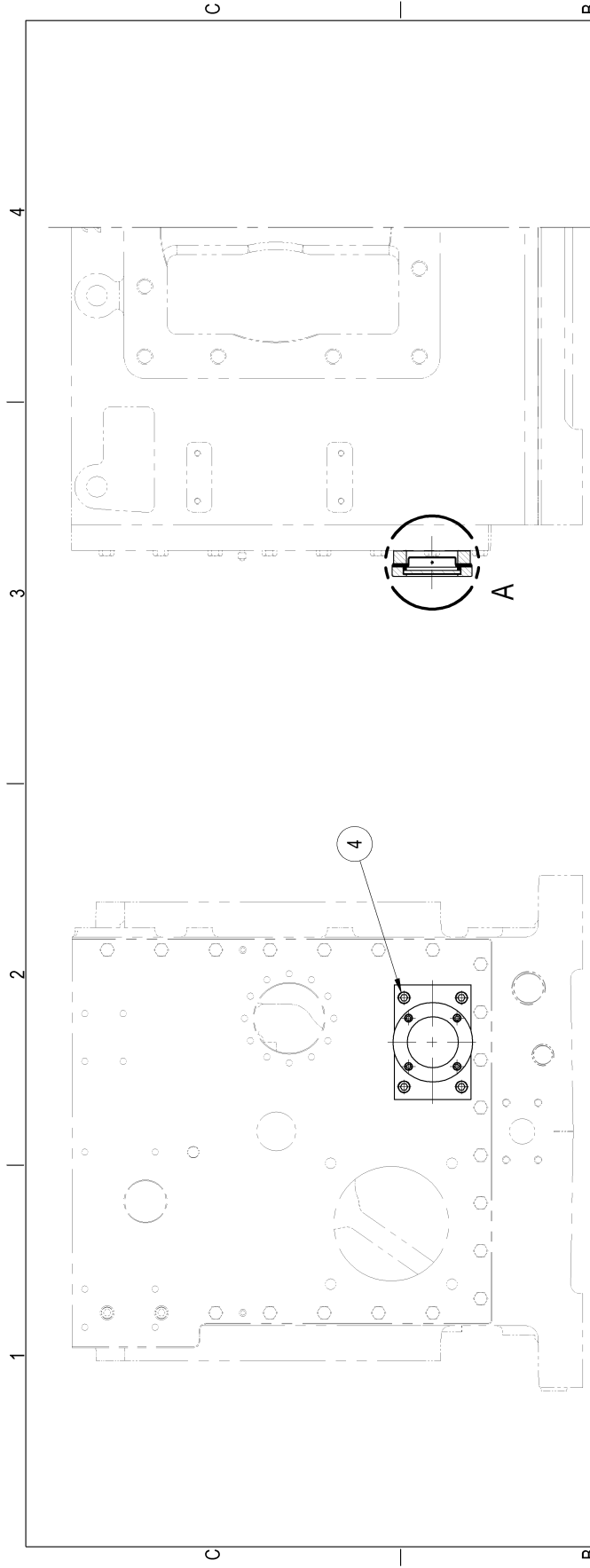
PARTS LIST

AUXILIARY END COVER ASSEMBLY
JGJ/4

PART NO. G-2509
REF DRAWING A-6315

ITEM	PART NUMBER	QTY	DESCRIPTION
1	C-2171	1	COVER, AUXILIARY END, JGJ/4
2	B-0298	1	GSKT,RET,16-25/32X15-1/16X32
3	FC0102DI	18	HEX HEAD CAPSCREW, 5/16-18 X 1-1/2, G5
4	FP0512FH	2	THREADED TAPER PIN, #5 X 1-1/2 LONG
5	PP0850MB	1	PIPE PLUG,1-1/4NPTF,HEXSOC,STL
6	FC0110DI	2	SOCKET HEAD CAPSCREW, 5/16-18 X 1-1/2, G8
7	A-0827	1	MALE CONNECTOR, STL, 1/4 TUBE X 1/4 NPT
8	PT0200CB	18."	TUBING, SS, 1/4 OD X .035 WALL
9	FC0110DH	2	SOCKET HEAD CAPSCREW, 5/16-18 X 1-1/4, G8

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
DOES NOT REPRESENT THE QUANTITY REQUIRED.
*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***



DETAIL 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 FIBER GASKET.

[illegible]

9/07/12

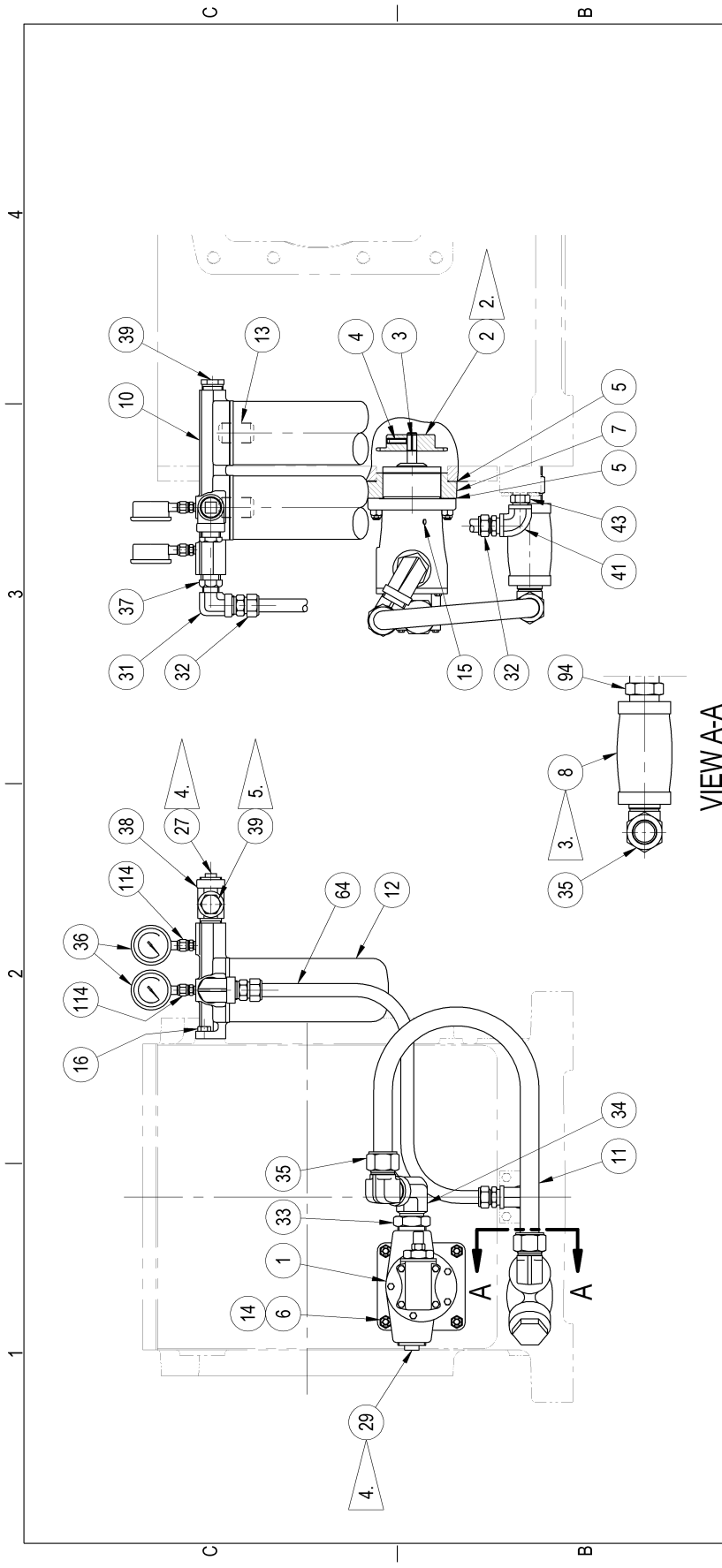
PARTS LIST

CRANKCASE LUBE OIL LEVEL SIGHT GLASS
JGW/4, JGR/4 & JGJ/4

PART NO. G-17075
REF DRAWING A-16770

ITEM	PART NUMBER	QTY	DESCRIPTION
1	A-16771	1	SIGHT GLASS, 2", 4-BOLT MTG.
2	A-0574	1	ADAPTER, SIGHT GLASS, JGR:W:J/4
3	A-0573	1	GASKET, RETANGULAR, 4-1/2 X 3 X 1/32
4	FC0110DG	4	SOCKET HEAD CAPSCREW, 5/16-18 X 1", G8
5	FC0115BD	4	SOCKET HEAD CAPSCREW, #10-32 X 5/8, G8
6	A-16769	0	SIGHT GLASS FLG, 2", 4-BOLT MTG.
7	A-5376	0	GSKT, RND, 2-1/4 X 1/8, OUTER
8	A-5375	0	GSKT, RND, 2-1/4, X 1/32, INNER
9	A-5377	0	GSKT, RND, 3-1/16 X 1/8, FLANGE
10	A-5378	0	REFLECTOR, SIGHT GLASS, 2"
11	A-5374	0	SIGHT GLASS, 2-1/4" LENS

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
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NOTES:

- 1.- LOOSEN OR TIGHTEN ALL FASTENERS PER RECOMMENDED PROCEDURES AND TORQUE VALUES IN MANUAL.
2. ALIGN PUMP SPROCKET WITH CRANKSHAFT AND TIGHTEN SET SCREWS.
3. REMOVE AND INSPECT STRAINER SCREEN WHEN CHANING OIL. (CLEAN IN SUITABLE SOLVENT).
4. CUSTOMER CONNECTION PLUGGED FOR SHIPMENT.
5. CUSTOMER CONNECTION FOR THERMOWELL.

ARIEL CORPORATION 35 BLACKJACK ROAD MOUNT VERNON, OHIO 43050		ASSEMBLY DWG. NO.		A-18551		SHT 1 OF 1	
		0	17756	CPM 09/26/11	DLI 10/18/11	NONE	
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		REV	EON	REV	EON	SCALE	

9/07/12

PARTS LIST

JGJ/4 LUBE OIL PUMP, STRAINER, FILTER
STANDARD AND -GK

PART NO. G-19672
REF DRAWING A-18551

ITEM	PART NUMBER	QTY	DESCRIPTION
1	D-0292	1	L O PUMP,VIKING,RWJ/4,HEKT/2
2	A-2547	1	SPKT,35-2 X 30T
3	FK0361EG	1	SQUARE KEY, 3/16 X 1" LONG
4	FS0455DG	2	SET SCREW, CUP POINT, NYLON PATCH, 5/16-24 X 1"
5	B-0779	2	GSKT,SQ,5-15/16X5-15/16X1/32
6	FD0212GDI	4	1/2 DOG PT.STUD,1/2-13 X 3-1/2
7	B-1251	1	ADPATER, LUBE OIL PUMP, VIKING, JGJ/4
8	A-8248	1	LUBE OIL STRAINER, 1-1/4 NPT
10	D-0922	1	LUBE OIL FILTER HEAD, 2 ELEMENT
11	A-3340	1	LUBE OIL SUCTION TUBE, PREFORMED, R:W:J/4
12	A-0661	2	SPIN-ON FILTER, LUBE OIL
13	A-0660	0	STUD, LUBE OIL SPIN-ON FILTER
14	FN0460GA	4	SELF-LOCK NUT,ESNA,1/2-13
15	A-5257	1	DRIVE PLUG, VKG WEEPHOLE
16	FC0102GG	2	HEX HEAD CAPSCREW, 1/2-13 X 1", G5
27	A-15845	1	PIPE PLUG, 1"NPT, SQUARE HEAD, STL, DRILLED
29	A-15685	1	PIPE PLUG, 1-1/2NPT, SQUARE HEAD, STL, DRILLED
31	A-0861	1	STREET ELBOW, STL, 3/4 NPT, 90 DEGREE
32	A-0862	2	MALE CONNECTOR, STL, 7/8 TUBE X 3/4 NPT
33	A-0894	1	HEX REDUCING BUSHING, STL, 1-1/2 NPT(MALE) X 1-1/4 NPT(FEMALE)
34	A-0895	1	STREET ELBOW,STL,1-1/4P 90
35	A-2767	2	MALE ELBOW,STL,1-1/4T X 1-1/4P
36	A-18450	2	GAUGE, 100PSI, BOTTOM MOUNT, 3/8 TUBE

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9/07/12

PARTS LIST

37	A-0863	1	HEX REDUCING BUSHING, STL, 1" NPT(MALE) X 3/4 NPT(FEMALE)
38	A-0972	1	STREET TEE, STL, 1"P
39	PP0810KB	2	PIPE PLUG, 1"NPT, HEX HD, STL
41	A-0903	1	FEMALE ELBOW, STL, 3/4P 90
43	A-0850	1	HEX PIPE NIPPLE, 3/4 NPT(MALE), STL
64	PT0200IC	40."	SS, TUBING, 7/8 OD X .049 WALL
94	A-0892	1	HEX PIPE NIPPLE, STL, 1-1/4 NPT
99	A-18450-A	0	GAUGE, 100PSI, REPLACEMENT SET, BOTTOM MOUNT, 3/8 TUBE
114	A-0934	2	MALE CONN, STL, 3/8T X 1/4P

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9/07/12

PARTS LIST

FORCE FEED LUBRICATOR; FOR PUMP SIZES SEE PARTS LIST; G-SHEETS USED: G-19907, G-19959

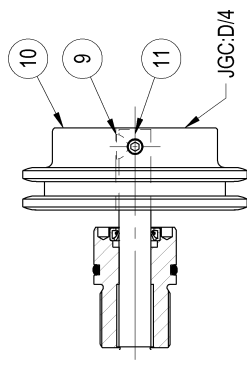
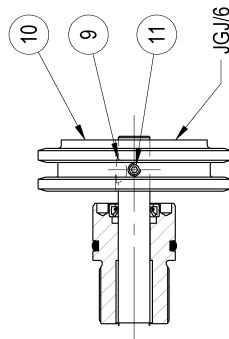
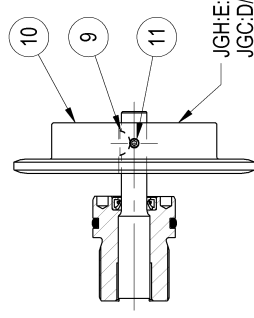
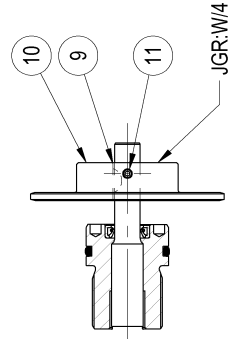
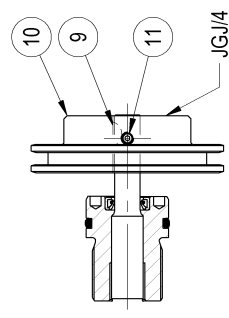
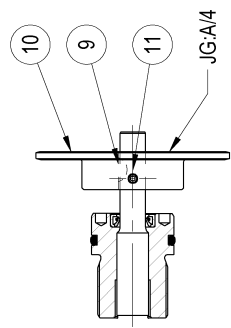
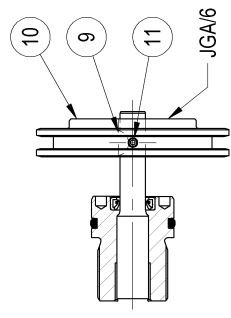
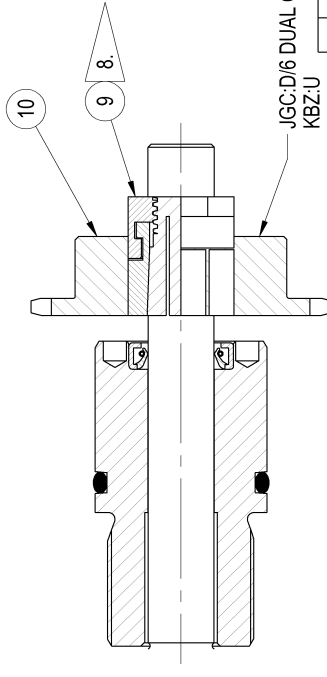
PART NO. FF LUBRICATOR ASSY
REF DRAWING A-18783 2 SHT 2 SHT

ITEM	PART NUMBER	QTY	DESCRIPTION
1	D-6140	1	FORCE FEED LUBRICATOR, 2 PUMP TANK ASSEMBLY, 1/2 INCH SHAFT
2	A-18526	2	FORCE FEED LUBRICATOR PUMP, 1/4, ARIEL
3	A-2347	0	TOP CVR DOUBLE FF LUBE BOX
4	A-2349	0	GSKT,ARL DBL LUBE BOX CVR,1/32
5	A-2360	0	WORM SHAFT,FF LUBR 1/2D E
6	A-5638	0	HSG BRG FF LUBE BOX LH
7	A-3911	0	SHAFT OIL SEAL
8	A-0030	0	O-RING, VT, 1.637 OD X .139, 75/85 DUROMETER
9	FK0360AA	1	WOODRUFF KEY, #204, 1/2 OD X 1/16 WIDE
10	A-2550	1	SPROCKET, 35-2 X 30T, FORCE FEED LUBRICATOR, JGJ/4
11	FS0455CG	1	SET SCREW, CUP POINT, NYLON PATCH, 1/4-28 X 1"
12	A-2353	0	ADJ SHAFT-DOUBLE LUBE BOX
13	B-1177	0	CAM/WORM GEAR,2-PUMP FF LUBR
14	PP0810CB	2	PIPE PLUG,1/4NPT,HEX HD,STL
15	FN0457KA	0	HEX NUT, JAM, STL, 1"-14
16	A-2359	0	SNAP RING, STL, RADIAL ASSY 0.625
17	A-2358	0	FLAT WASHER, SUPPORT, 5/8, HARD
18	A-5641	0	SIGHT GLASS, 3/4" NPT
19	FC0120DF	4	12-POINT CAPSCREW, 5/16-18 X 7/8, G8
21	FC0102CE	0	HEX HEAD CAPSCREW, 1/4-20 X 3/4, G5
22	A-16622	1	DATA PLATE, 1 & 2 PUMP FORCE FEED LUBRICATOR
23	A-0827	3	MALE CONNECTOR, STL, 1/4 TUBE X 1/4 NPT

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
DOES NOT REPRESENT THE QUANTITY REQUIRED.
*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***

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 75 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 TO 200 IN-LBS)
9. 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.



ARIEL CORPORATION
35 BLACKJACK ROAD
MOUNT VERNON, OHIO 43050



ASSEMBLY
DWG. NO. **A-18783**

DATE
CPM 12/08/11

REV
DLI 01/03/12

SCALE
NONE

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9/07/12

PARTS LIST

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	0	FF LUBRICATOR PUMP GASKET, 1/16 THICK, ARIEL PUMP
29	PT0200CB	28."	TUBING, SS, 1/4 OD X .035 WALL
30	A-0843	1	STREET ELBOW, STL, 1/2 NPT, 90 DEGREE
34	A-0807	1	UNION TEE, STL, 1/4 TUBE
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	2	FEMALE BRANCH TEE STL1/4TX1/8P
39	A-0809	1	MALE ADAPTOR, STL, 1/4 TUBE X 1/4 NPT
40	FC0102CC	2	HEX HEAD CAPSCREW, 1/4-20 X 1/2, G5
45	FW0500CA	0	WASHER, 1/4 ID, SAE
52	FC0102CH	0	HEX HEAD CAPSCREW, 1/4-20 X 1-1/4, G5
53	A-8828	2	MALE ADAPTR, STL, 1/4T X 1/8P
99	A-18526-A	0	FORCE FEED LUBRICATOR PUMP, REPLACEMENT SET, 1/4, ARIEL
99	A-8723-K	0	FILTER KIT, LUBRICATOR 150 MIC

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9/07/12

PARTS LIST

DISTRIBUTION BLOCK, MOUNTING BOLTS
JGA:H:E:K:T:C:D:B:V/4:6, SINGLE BLOCK

PART NO. G-5299
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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9/07/12

PARTS LIST

RUPTURE DISC ASSEMBLY
3250 PSI

PART NO. G-2708
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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9/07/12

PARTS LIST

FORCE FEED LUBRICATION TUBING
WITH TWO DOUBLE ACTING CYLINDERS
JGR-4 AND JGW-4

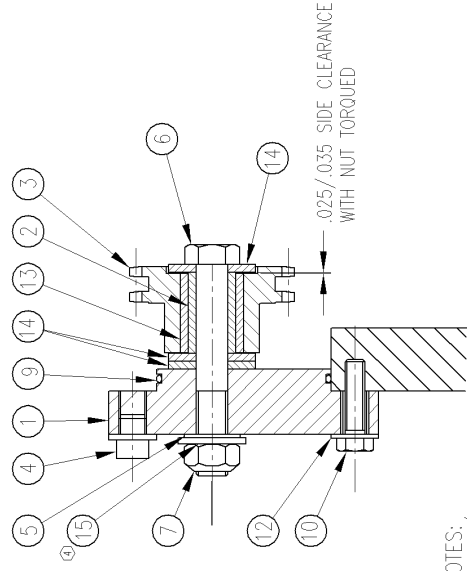
PART NO. G-1087
REF DRAWING N.A.

ITEM	PART NUMBER	QTY	DESCRIPTION
1	PT0200CB	550."	TUBING, SS, 1/4 OD X .035 WALL
2	A-0886	4	BULKHEAD UNION, STL, 1/4 TUBE
3	A-0401	4	BRACKET, BULKHEAD UNION
4	FC0102CC	4	HEX HEAD CAPSCREW, 1/4-20 X 1/2, G5

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STANDARD ROTATION

REVERSE ROTATION



NOTES:

1. LOOSEN OR TIGHTEN ALL FASTENERS PER RECOMMENDED PROCEDURES AND TORQUE VALUES IN MANUAL
2. USE NEW CAPSCREW AND NUT WHEN REPLACING IDLER SPROCKET.
- ⑤ 3. FOR CHAIN TIGHTENING REFER TO ER-74.

5	@B3 ADDED NOTE #3, FOR CHAIN TIGHTENING, REF ER-74.	RWR 8/27/04
4	ADDED ITEM #15 (PWS500GH - FLAT WASHER, 1/2 SAE).	DW 10/27/00
AD	DESCRIPTION	INT/DAT/

		3	8060	 ARIEL CORPORATION 35 BLACKJACK ROAD MOUNT VERNON, OHIO 43050	
		2	4434		
5	11872	1	3984		
4	8434	0	3892	APPROVED:	ASSEMBLY DWG. NO.
REV	ECN	REV	ECN	DATE AGD 11/21/89	SCALE NONE
				CHECKED: 11/21/89	
				D-1198	

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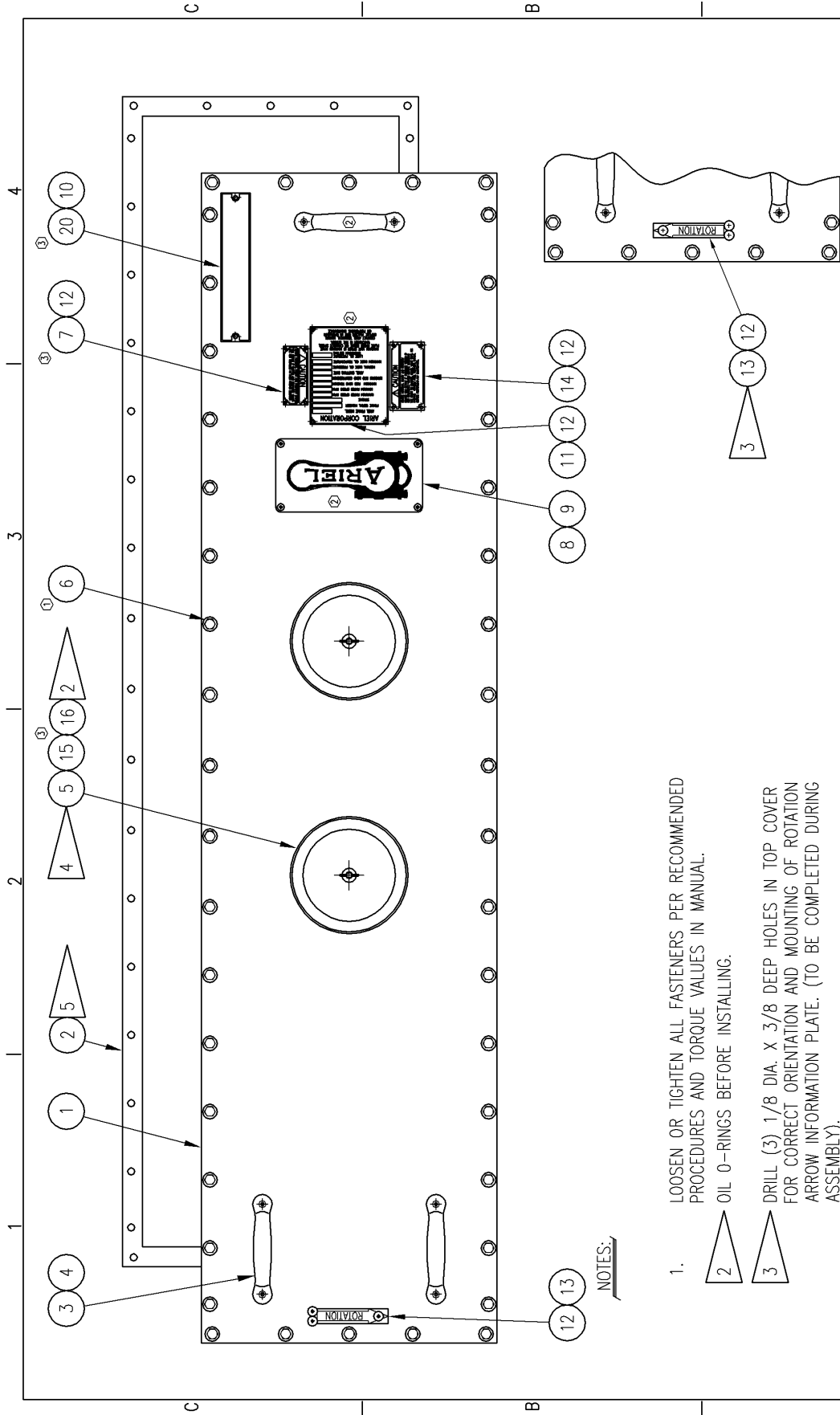
PARTS LIST

CHAIN DRIVE, STANDARD OR REVERSE
ROTATION, JGJ/4

PART NO. G-1959
REF DRAWING D-1198

ITEM	PART NUMBER	QTY	DESCRIPTION
1	B-1271	1	ECCENTRIC VERNIER CAP, JGJ/4
2	A-3199	1	IDLER SLEEVE, JGJ/4:6
3	A-2552	1	SPKT, 35-2 X 20T, IDLER ASSY, BZ
4	A-0109	8	MACHINE SCREW PLUG, PLASTIC, 7/16-14
5	FW0550GA	1	STAT-O-SEAL, 1/2 DIA., BLACK
6	FC0107GQ	1	HEX HEAD CAPSCREW, 1/2-20 X 3-1/2, G5
7	FN0468GA	1	HEX NUT, STOVER TYPE C, 1/2-20
9	A-0745	1	O-RING, VT, 2.756 OD X .103, 75/85 DUROMETER
10	FC0100DH	2	HEX HEAD CAPSCREW, 5/16-18 X 1-1/4, G9
11	A-2549	1	CHAIN, 35-2 X 120
12	FW0501CA	2	WASHER, 5/16 ID, PLAIN
13	A-2558	0	BUSHING, .750 SHAFT, BZ
14	FW0502HA	3	WASHER, 1/2 STEEL
15	FW0500GA	1	FLAT WASHER, 1/2 SAE

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REVERSE ROTATION VIEW

1. LOOSEN OR TIGHTEN ALL FASTENERS PER RECOMMENDED PROCEDURES AND TORQUE VALUES IN MANUAL.
2. OIL O-RINGS BEFORE INSTALLING.
3. DRILL (3) 1/8 DIA. X 3/8 DEEP HOLES IN TOP COVER FOR CORRECT ORIENTATION AND MOUNTING OF ROTATION ARROW INFORMATION PLATE. (TO BE COMPLETED DURING ASSEMBLY).
4. ITEMS 5 TO BE INSTALLED BEFORE TESTING - REMOVED AFTER TESTING AND REPLACED WITH ITEMS 15 & 16 FOR SHIPPING.
5. APPLY AN ANTI-SEIZE LUBRICANT TO BOTH GASKET SURFACES.

NOTES:

3 11390		ARIEL CORPORATION	
2 8572		35 BLACKJACK ROAD	
1 8330		MOUNT VERNON, OHIO 43050	
0 7338		A-7932	
REV		ASSEMBLY	
ECN		DWG. NO.	
REV		NONE	
0 7338		APPROVER:	
0 7338		SCALE:	
0 7338		CHECKED:	
0 7338		NEH 08-27-98	
0 7338		RW 08-13-98	
0 7338		THIS DOCUMENT AND CONTENTS THEREIN ARE PROPRIETARY TO ARIEL CORPORATION. ONLY BY WRITTEN CONSENT AND AGREED TERMS BY ARIEL CORPORATION WILL ANY PART OF THIS DOCUMENT BE DISCLOSED OR NOT GRANT THE RIGHT TO DISCLOSE OR USE IN PART OR IN WHOLE INFORMATION CONTAINED IN DOCUMENT.	

9/07/12

PARTS LIST

TOP COVER AND BREATHER
JGW/4, JGR/4 AND JGJ/4

PART NO. G-0563
REF DRAWING A-7932

ITEM	PART NUMBER	QTY	DESCRIPTION
1	C-0276	1	COVER, TOP, JGW:R:J/4
2	C-0277	1	GASKET, RECTANGULAR, 60 X 15-1/8 X 1/32
3	A-2958	3	TOP / SIDE COVER HANDLE, AL, 2 HOLE
4	FC0134CD	6	BUTTON HEAD CAPSCREW, 1/4-20 X 5/8, 316SS
5	B-4798	2	BREATHER, 1" NPT, FRAME
6	A-10186	44	SEMS BOLT, 5/16-18 X 1-1/4, G5
7	A-0464	1	CAUTION PLATE, COMPRESSOR VALVE
8	A-0138	1	NAME PLATE, ARIEL LOGO
9	FC0134BC	4	BUTTON HEAD CAPSCREW, #10-24 X 1/2, 316SS
10	A-0713	1	INFORMATION PLATE, LUBE OIL FILTER, SPIN-ON
11	A-14766	1	DATA PLATE, FRAME SPECIFICATION
12	FR0571CC	15	DRIVE SCREW, TYPE U, SS, #6 X 1/4
13	A-0719	1	INFORMATION PLATE, ROTATION ARROW
14	A-0463	1	CAUTION PLATE, CYLINDER VENTING
15	A-7655	2	PIPE PLUG, 1"NPT, SLOTTED HEAD
16	A-0009	2	O-RING, VT, 1.387 OD X .139, 75/85 DUROMETER
20	FC0134BB	2	BUTTON HEAD CAPSCREW, #10-24 X 3/8, 316SS

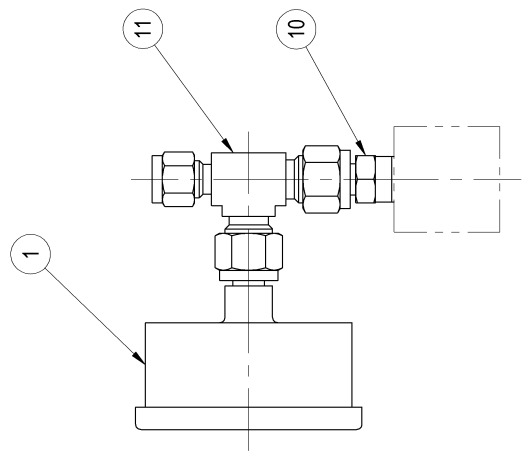
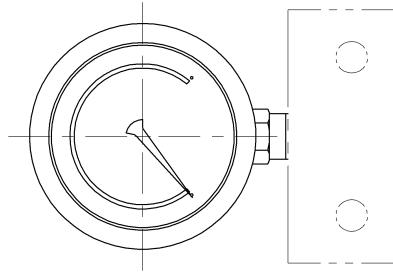
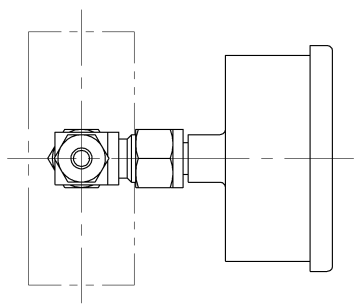
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1

2

3

4



NOTES:

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

A

B

C

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REV		DESCRIPTION	INIT/DATE		2		3		4	
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		DRAWN CPM 08/29/11								
		17756								
		0								
		REV								
		EON								
		REV								
		EON								
		DLI 09/01/11								
		SCALE								
		NONE								
		ASSEMBLY DWG. NO.								
		A-18433								
		SHT 1 OF 1								



ARIEL CORPORATION
35 BLACKJACK ROAD
MOUNT VERNON, OHIO 43050

9/07/12

PARTS LIST

FORCE FEED PRESSURE GAUGE
3000 PSI, GAUGE WITH 3/8 TUBE ADAPTER.
MOUNTS TO LUBE BLOCK

PART NO. G-19564
REF DRAWING A-18433

ITEM	PART NUMBER	QTY	DESCRIPTION
1	A-17256	1	GAUGE, 3000 PSI, BACK MOUNT, 3/8T, SS
10	PS0012BE	1	MALE ADAPTER, STL, 3/8T X 1/4P
11	A-18430	1	REDUCING UNION TEE, STL, 3/8T, 1/4T
99	A-17256-A	0	GAUGE, 3000PSI, REPLACEMENT SET, BACK MOUNT, 3/8 TUBE

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
DOES NOT REPRESENT THE QUANTITY REQUIRED.
*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***

9/07/12

PARTS LIST

FORCE FEED LUBRICATOR PRO-FLO TIMER WITH PART NO. G-9873
PROXIMITY SWITCH. REF DRAWING N.A.

ITEM	PART NUMBER	QTY	DESCRIPTION
1	A-11295	1	FORCE FEED SHUTDOWN, PRO-FLO, TRABON

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

9/07/12

PARTS LIST

LUBE OIL COOLER,
SHELL & TUBE TYPE
UNMOUNTED FOR UNITS
JG:A:R:W:J:H:E:K:T:C:D:Z:U

PART NO. G-2385
REF DRAWING N.A.

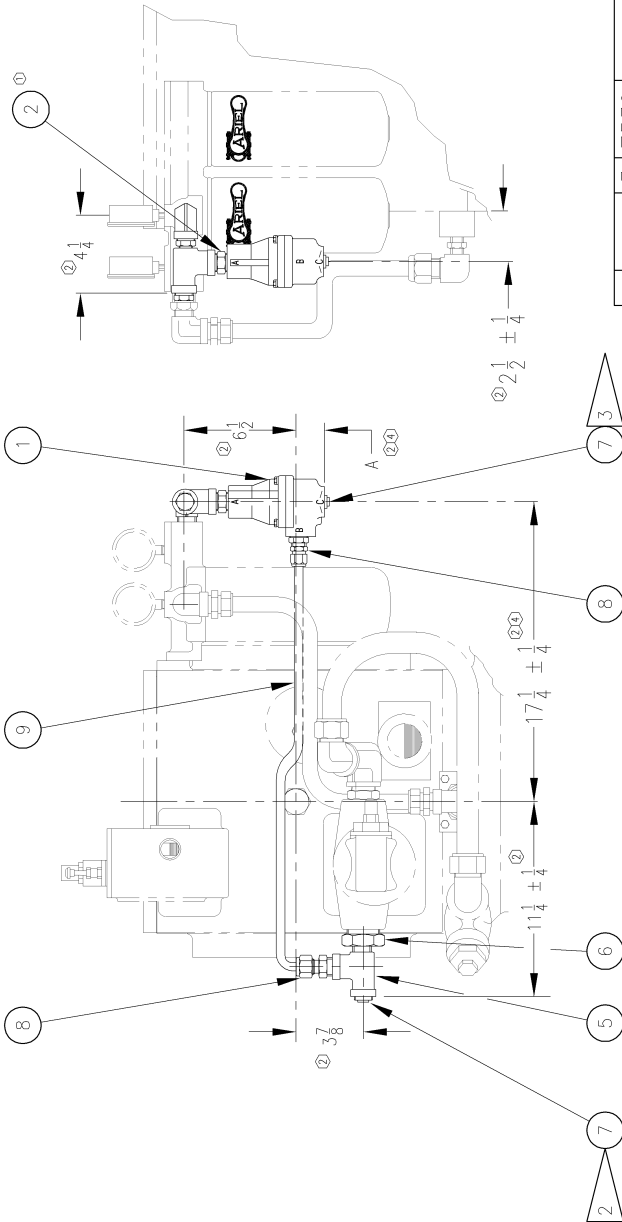
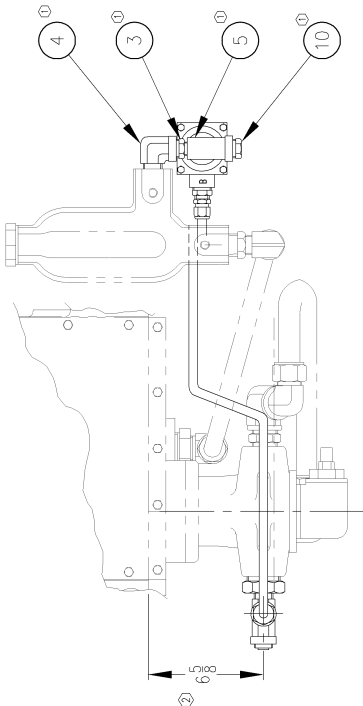
ITEM	PART NUMBER	QTY	DESCRIPTION
1	B-2073	1	LUBE OIL COOLER, SHELL & TUBES, 1-1/2NPT

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
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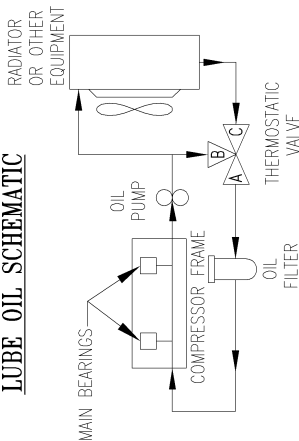
④	VALVE TYPE	AMOT	F.P.E.
	DIM "A"	2	1 ³ / ₄

NOTES:

1. LOOSEN OR TIGHTEN ALL FASTENERS PER RECOMMENDED PROCEDURES AND TORQUE VALUES IN MANUAL.
2. CUSTOMER CONNECTION TO RADIATOR 3/4" NPT.
3. CUSTOMER CONNECTION FROM RADIATOR 3/4" NPT.



LUBE OIL SCHEMATIC



REV	DESCRIPTION
4	REVISED DWG. ADDED TABULATION TO DWG. SHOWING DIMS FOR AMOT OR FLUID POWER ENERGY THERMOSTATIC VALVE. 17-1/4 ± 1/4 WAS 17-3/4 ± 1/4
3	UPDATED FRAME TO MAKE GENERIC FOR ACF PRODUCTION.

3	7539	3	7539	3	7539
2	7405	2	7405	2	7405
1	7242	1	7242	1	7242
4	8140	0	5750	ECN	REV
REV	ECN	REV	ECN	REV	ECN



ARIEL CORPORATION
35 BLACKJACK ROAD
MOUNT VERNON, OHIO 43050

ASSEMBLY
DWG. NO. A-6118

APPROVED:
C/H 1/16/96
NH 1/17/96
SCALE: NONE

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9/07/12

PARTS LIST

LUBE OIL THERMOSTATIC VALVE, MOUNTED
JGR/4, JGW/4, AND JGJ/4

PART NO. G-8160
REF DRAWING A-6118

ITEM	PART NUMBER	QTY	DESCRIPTION
1	B-2745	1	THERMOSTATIC VALVE, 3/4", 170 ¹⁰ ₁₆ F, FPE
2	A-0850	1	HEX PIPE NIPPLE, 3/4 NPT(MALE), STL
3	A-0863	1	HEX REDUCING BUSHING, STL, 1" NPT(MALE) X 3/4 NPT(FEMALE)
4	A-0847	1	STREET ELBOW, STL, 1" NPT
5	A-0928	2	STREET TEE, STL, 3/4P
6	A-10188	1	HEX RED BUSH, STL, 1-1/2M X 3/4F
7	A-15844	2	PIPE PLUG, 3/4NPT, SQUARE HEAD, STL, DRILLED
8	A-0862	2	MALE CONNECTOR, STL, 7/8 TUBE X 3/4 NPT
9	PT0200IC	54."	SS, TUBING, 7/8 OD X .049 WALL
10	PP0810IB	1	PIPE PLUG, 3/4NPT, HEX HD, STL
99	A-9649	0	O-RING, VT, FPE, THERMOSTATIC VALVE
99	A-9724	0	ELEMENT, THERM.VLV, 3/4", 170, FPE
99	A-9725	0	LIP SEAL, TEFLON, 3/4" VALVE, FPE

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
DOES NOT REPRESENT THE QUANTITY REQUIRED.
*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***

9/07/12

PARTS LIST

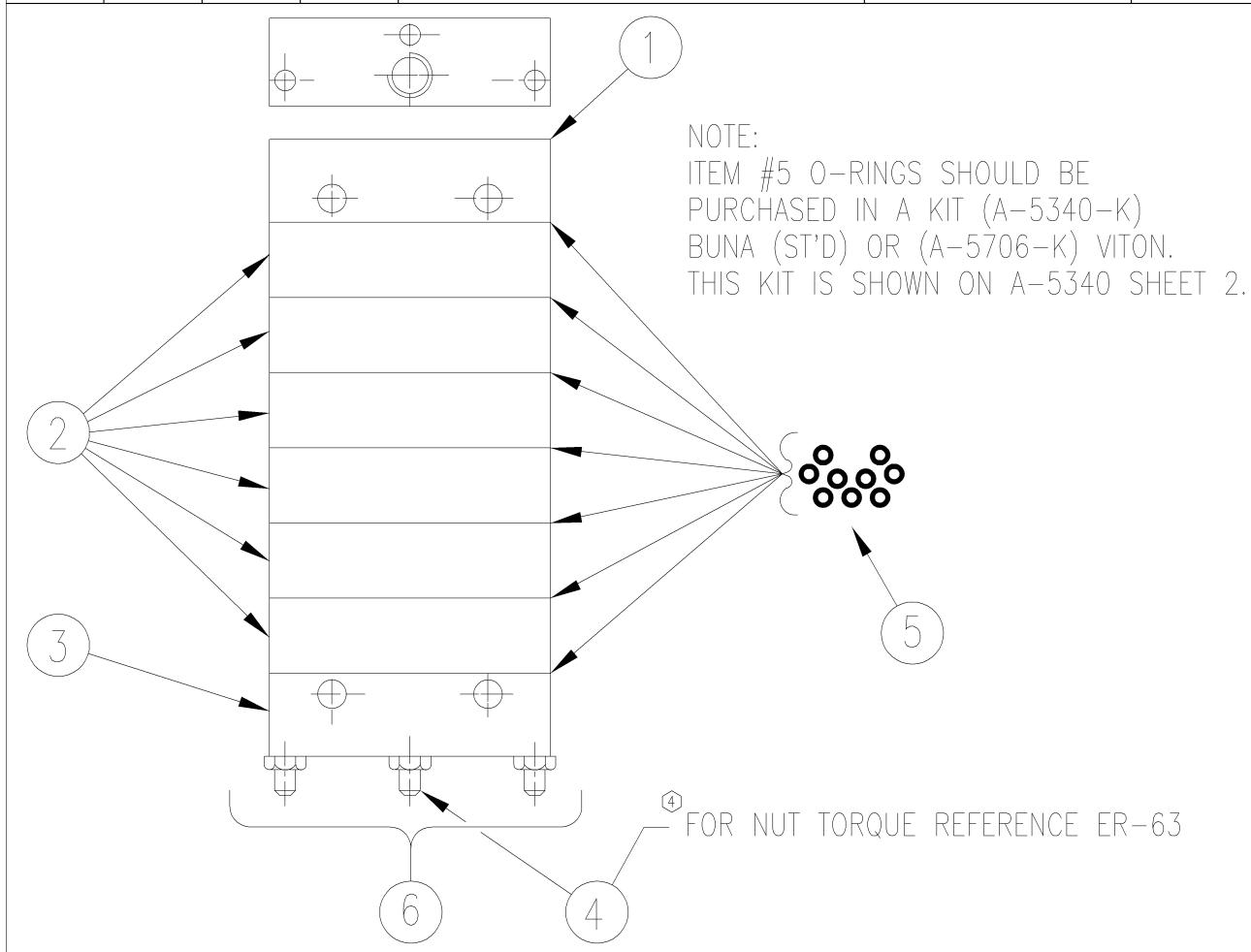
SPECIAL TOOLS
JGR, JGW, JGJ

PART NO. G-16339
REF DRAWING N.A.

ITEM	PART NUMBER	QTY	DESCRIPTION
1	A-0798	1	TOOL BOX
2	TA0100GA	6	ALLEN WRENCH, 5/32 SHORT ARM
3	TA0100EA	12	ALLEN WRENCH, 1/8 SHORT ARM
4	TA0100HA	4	ALLEN WRENCH, 3/16 SHORT ARM
5	TA0100JA	4	ALLEN WRENCH, 1/4 SHORT ARM
6	C-0195	1	CROSSHEAD NUT WRENCH, 3 INCH
7	B-0324	1	PEG WRENCH, 1"
8	A-0424	1	PISTON NUT SPANNER, JGR:W:J
9	A-0626	1	VALVE PULLER, 5/8 X 3/4 UNF
10	A-0409	1	VALVE PULLER, 1/4-28 X 3/8-24
11	A-0135	1	VALVE PULLER, 5/16 X 1/2 UNF
12	B-1240	1	PISTON TURNING TOOL SUPT. ASSY
13	ER-63	1	TORQUE CHART, ALL UNITS
14	A-2289	1	VLV PULLER TOOL FOR 'CT' VALVE
15	A-8158	0	BRG HSG SPANNER WRENCH
16	A-14784	1	PISTON ROD ENTERING SLEEVE, 2PC, JGR:W:J
17	A-15236	1	THREAD GAUGE

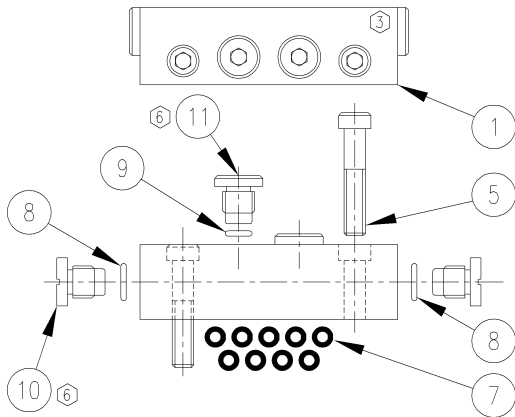
WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
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*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***

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

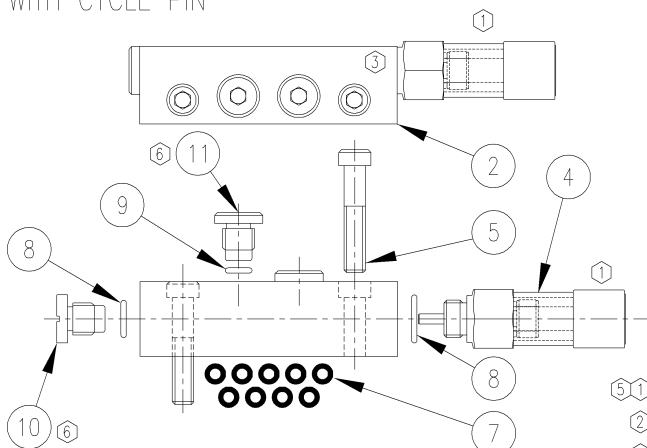


		5 14799		3 10737		 ARIEL CORPORATION 35 BLACKJACK ROAD MOUNT VERNON, OHIO 43050			
		6 17759		4 12506				2 8200	
6	ON SHEET 2: ADDED ITEM BALLOONS 10 & 11 TO WITHOUT CYCLE PIN & WITH CYCLE PIN VIEWS. ADDED NOTE QTY. (1) ITEM 10 REQUIRED WHEN ITEM 4 IS INSTALLED. ADDED ITEMS 10 & 11 TO TABLE.			DPD 7/11/12		1 8175		TITLE: DISTRIBUTION BLOCK VALVE 	DRAWING No. A-5340 SHT 1 OF 2
						0 5695			
REV	DESCRIPTION			INT/DATE		REV ECN			

WITHOUT CYCLE PIN

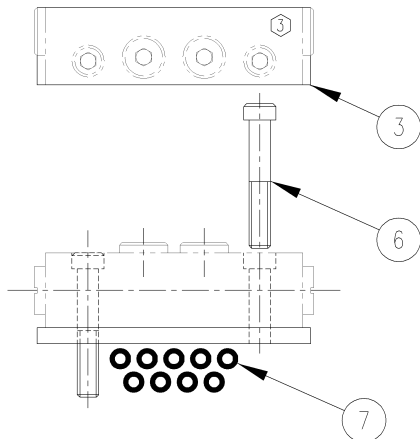


WITH CYCLE PIN



QTY. (1) ITEM #10 REQUIRED WHEN ITEM #4 IS INSTALLED

CROSSPORT



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
10	A-14300	2	SERIES "A" PISTON PLUG
	A-16800	2	SERIES "B" PISTON PLUG
11	A-18405	2	INDICATOR PORT PLUG

6	17759	4	12506
5	14799	3	10737

6	SEE SHEET 1 FOR REVISIONS.	DPD 7/11/12	2	8200
5	SEE SHEET #1 FOR REVISIONS.	DLI 02/07/08	1	8175
REV	DESCRIPTION	INT/DATE	REV	ECN
			0	5695



ARIEL CORPORATION
35 BLACKJACK ROAD
MOUNT VERNON, OHIO 43050

TITLE: DISTRIBUTION BLOCK VALVE

DRAWING No.
A-5340 SHT 2 OF 2

9/07/12

ARIEL CORPORATION
SALES ORDER COVER SHEET

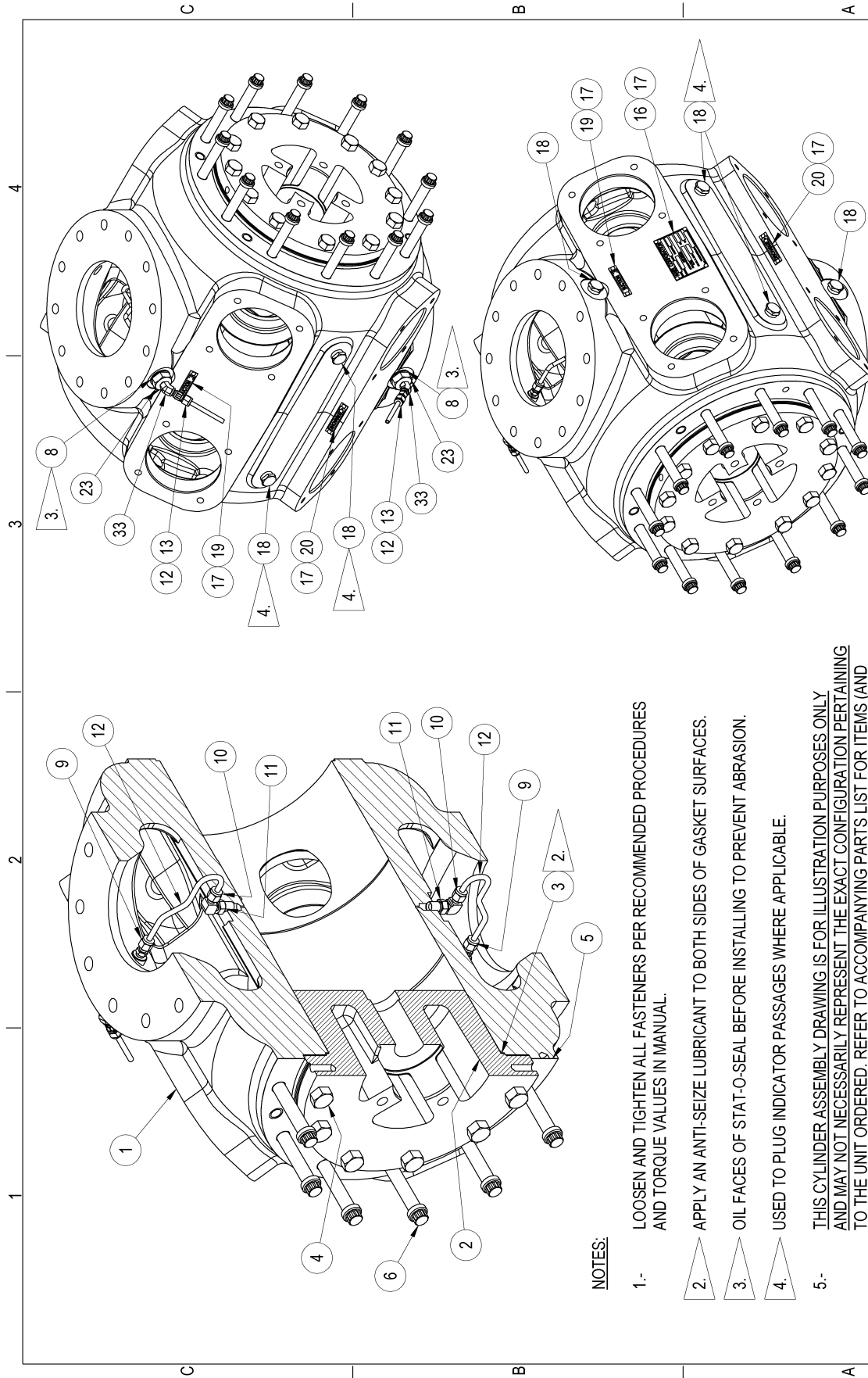
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SERIAL #: C137499 & 501

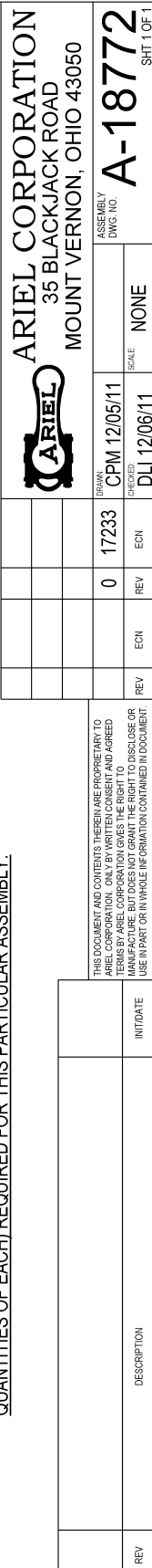
PART: 8-3/8RJ CLASS DESCRIPTION: 8-3/8" RJ CYLINDER CLASS

PART NUMBER	QTY	DESCRIPTION	DRAWING NO.
G-20682	1	CYLINDER ASSEMBLY, 8R:RJ, 635 MAWP	A-18772
G-2380	4	SUC VLV ASSY, 8-3/8RJER:R-CE	A-6056
G-1206	4	DIS VLV ASSY, 8-3/8HRJER(RH)CE	A-6057
PISTON ASSY	1	PISTON ASSY 08.000 RJ	A-17703 2 SHT
B-4928-U	4	SUC VLV, 98CRE,NYX	A-9278
B-4929-BB	4	DIS VLV, 98CRE,MTX	A-9279



NOTES:

- 1.- LOOSEN AND TIGHTEN ALL FASTENERS PER RECOMMENDED PROCEDURES AND TORQUE VALUES IN MANUAL.
2. APPLY AN ANTI-SEIZE LUBRICANT TO BOTH SIDES OF GASKET SURFACES.
3. OIL FACES OF STAT-O-SEAL BEFORE INSTALLING TO PREVENT ABRASION.
4. USED TO PLUG INDICATOR PASSAGES WHERE APPLICABLE.
- 5.- THIS CYLINDER ASSEMBLY DRAWING IS FOR ILLUSTRATION PURPOSES ONLY AND MAY NOT NECESSARILY REPRESENT THE EXACT CONFIGURATION ITEMS TO THE UNIT ORDERED. REFER TO ACCOMPANYING PARTS LIST FOR ITEMS (QUANTITIES OF EACH) REQUIRED FOR THIS PARTICULAR ASSEMBLY.



9/07/12

PARTS LIST

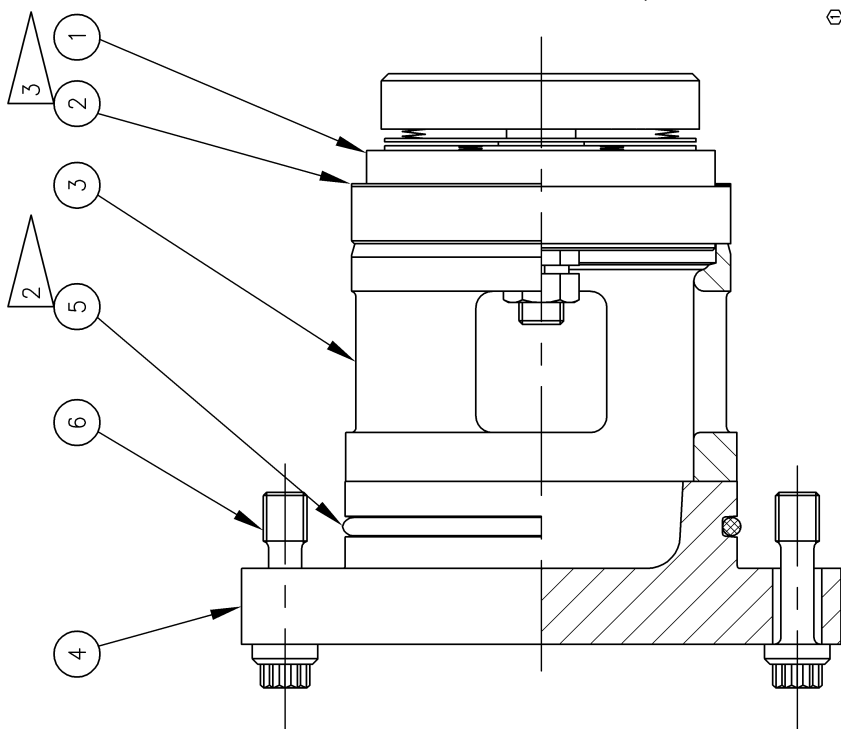
8" R:RJ CYLINDER BODY,
RDP 577#, MAWP 635#

PART NO. G-20682
REF DRAWING A-18772

ITEM	PART NUMBER	QTY	DESCRIPTION
1	D-3584	0	CYLINDER, 8R:RJ:ET, 635 MAWP
2	C-0336	0	CRANK END HEAD, 8R:RJ
3	A-0586	1	STEEL GASKET, 08.813 OD X 08.500 ID X .060, HEAD
4	FC0100HM	12	HEX HEAD CAPSCREW, 5/8-11 X 2-1/2, G9
5	B-3515	1	GASKET, ROUND, 16 OD X 12-57/65 ID X 1/64, 16 HOLES
6	FC0120HS	12	12-POINT CAPSCREW, 5/8-11 X 4, G8
8	FW0550ID	1	STAT-O-SEAL, VT, 75 DUROMETER, 3/4 ID
9	A-0830	1	MALE CONNECTOR, STL, 1/4 TUBE X 1/8 NPT
10	A-0815	1	MALE ELBOW, STL, 1/4 TUBE X 1/8 NPT
11	A-0811	1	HEX REDUCING BUSHING, 1/4 NPT (MALE) X 1/8 NPT (FEMALE), STL
12	PT0200CB	48."	TUBING, SS, 1/4 OD X .035 WALL
13	A-18496	1	CHECK VALVE, DOUBLE BALL, SS, 1/4 TUBE INLET X 1/8 NPT 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
23	A-0158	1	LUBE FITTING, 3/4-10 X 3
33	A-3989	1	STREET ELBOW, 45° 1/2, 1/8 NPT, STL
100	HD-3857	1	CYLINDER HYDROTEST SET, 8R:RJ, 635 MAWP

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

1 2 3 4



NOTES:

- 1. LOOSEN OR TIGHTEN ALL FASTENERS PER RECOMMENDED PROCEDURES AND TORQUE VALUES IN MANUAL.
- 2. OIL O-RING BEFORE INSTALLING.
- 3. APPLY AN ANTI-SEIZE LUBRICANT TO GASKET SURFACES.
- 4. THIS ASSEMBLY DRAWING IS FOR ILLUSTRATION PURPOSES ONLY AND MAY NOT NECESSARILY REPRESENT THE EXACT CONFIGURATION PERTAINING TO THE UNIT ORDERED. REFER TO THE ACCOMPANYING PARTS LIST FOR ITEMS AND QUANTITIES REQUIRED FOR THIS ASSEMBLY.

ARIEL CORPORATION

35 BLACKJACK ROAD

MOUNT VERNON, OHIO 43050

ARIEL

10525

0

5853

12/13/95

12/14/95

1

3

4

APPROVED:

SCALE: NONE

ASSEMBLY

DWG. NO.

A-6056

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ADDED NOTE #4 AND UPDATED BORDER.	5/23/02
DESCRIPTION	INT/DATE

1	REV
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9/07/12

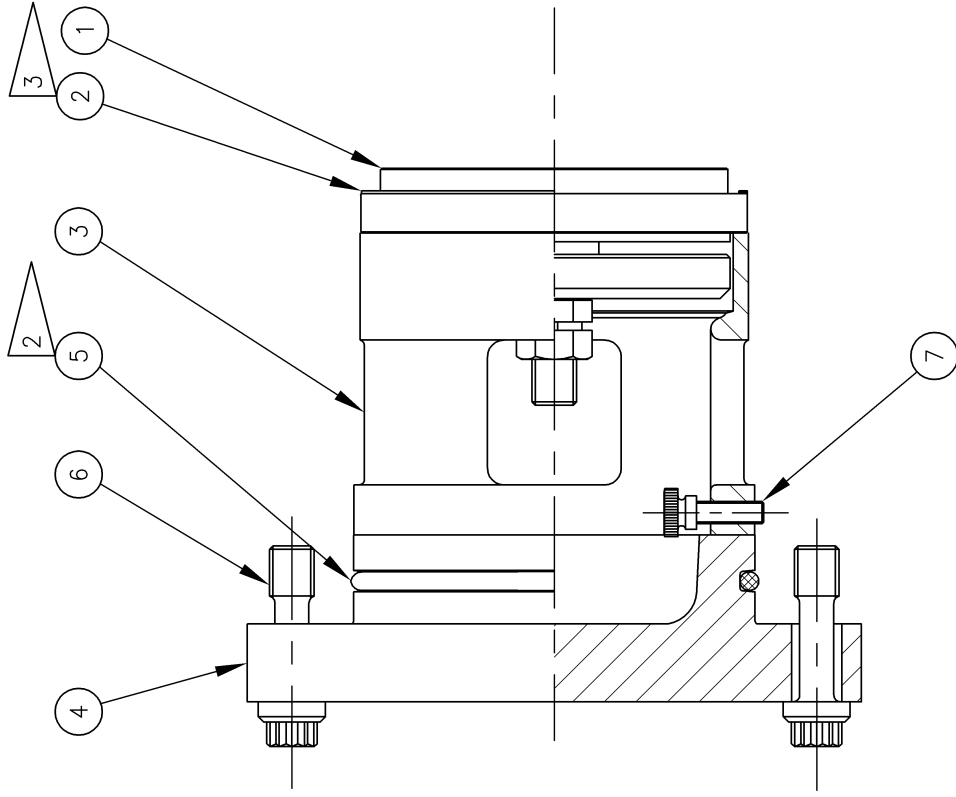
PARTS LIST

SUCTION VALVE, RETAINER AND CAP
8-3/8" RJ:R:E:R-CE CLASS

PART NO. G-2380
REF DRAWING A-6056

ITEM	PART NUMBER	QTY	DESCRIPTION
1	SUCTION VALVE	0	FOR VALVE PART NUMBER, SEE COVER SHEET
2	A-0141	1	STEEL GASKET, 04.320 OD X 04.125 ID X .030, VALVE
3	B-1397	1	VLV RET,SUC, 8-3/8RJ,RJ-HP PRC
4	B-0457	0	VALVE CAP, 8-3/8R:R-CE:RJ:RJ PRC:RJ HP:H:H-CE:E:ET:ET HP
5	A-0041	1	O-RING, VT, 4.395 OD X .210, 75/85 DUROMETER
6	FC0171CDD	4	12-POINT CAPSCREW, 1/2-13 X 1-3/4 X 9/16, G8

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



NOTES:

1. LOOSEN OR TIGHTEN ALL FASTENERS PER RECOMMENDED PROCEDURES AND TORQUE VALUES IN MANUAL.
2.  OIL O-RING BEFORE INSTALLING.
3.  APPLY AN ANTI-SEIZE LUBRICANT TO GASKET SURFACES.

REV	DESCRIPTION

9/07/12

PARTS LIST

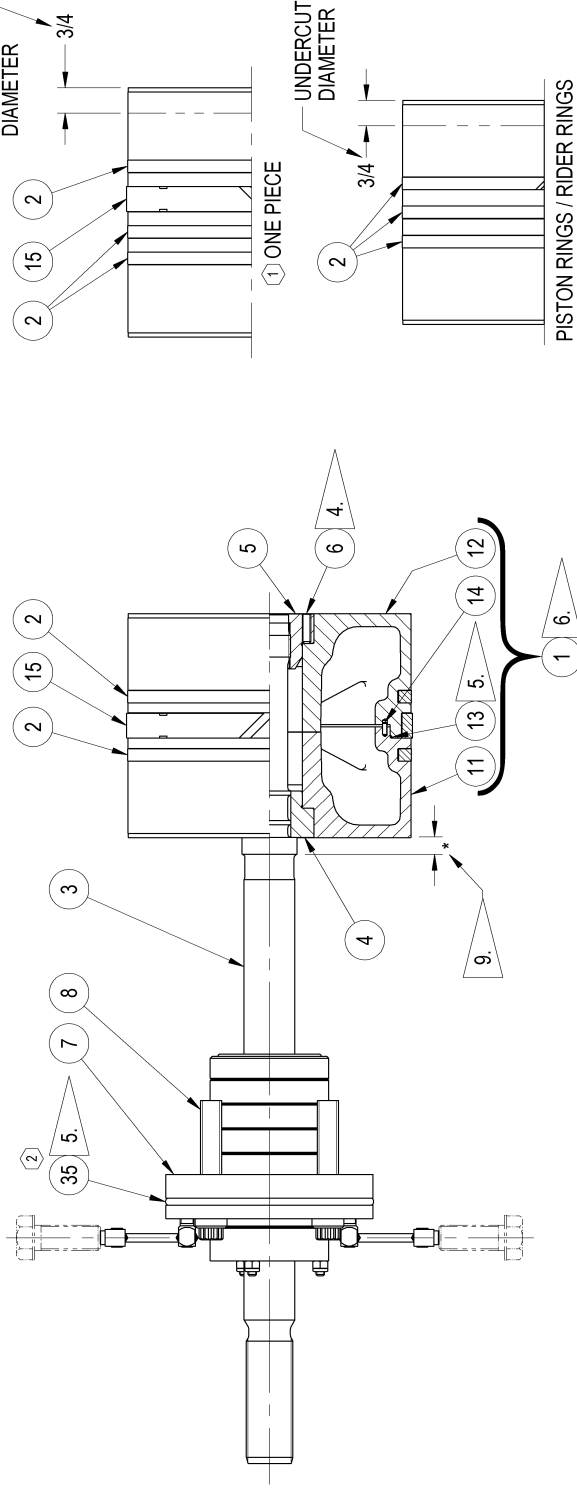
DISCHARGE VALVE, RETAINER, CAP PART NO. G-1206
8-3/8" RJ:H:E:R:R & H-CE CLASS CYLINDERS REF DRAWING A-6057

ITEM	PART NUMBER	QTY	DESCRIPTION
1	DISCHARGE VALV	0	FOR VALVE PART NUMBER, SEE COVER SHEET
2	A-0141	1	STEEL GASKET, 04.320 OD X 04.125 ID X .030, VALVE
3	B-0899	1	VLV RET,DIS, 8-3/8R:RJ:ET
4	B-0457	0	VALVE CAP, 8-3/8R:R-CE:RJ:RJ PRC:RJ HP:H:H-CE:E:ET:ET HP
5	A-0041	1	O-RING, VT, 4.395 OD X .210, 75/85 DUROMETER
6	FC0171CDD	4	12-POINT CAPSCREW, 1/2-13 X 1-3/4 X 9/16, G8
7	A-0145	2	THUMB SCREW, NYLON, 1/4-20 X 3/4

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



2	ON SHEET #1: @B2: ADDED ITEM #35 BALLOON AND FLAG #5. ON SHEET #2: NO REVISIONS.	CPM 03/13/12
1	ON SHEET #1: @B4: REVERSED ONE PIECE PISTON VIEW TO SHOW THE (2) PISTON RING GROOVES ON THE CRANK END SIDE OF THE PISTON. ON SHEET #2: NO REVISIONS.	CPM 01/18/12
REV	DESCRIPTION	INITIALS

ARIEL CORPORATION 35 BLACKJACK ROAD MOUNT VERNON, OHIO 43050		2	18129	1	18031	0	16366	CPM 12/16/10	ASSEMBLY DWG. NO.	SCALE	NONE
ARIEL		REV	ECN	REV	ECN	REV	ECN	CRKING	CRKING	CRKING	CRKING
A-17703		REV	ECN	REV	ECN	REV	ECN	CRKING	CRKING	CRKING	CRKING

9/07/12

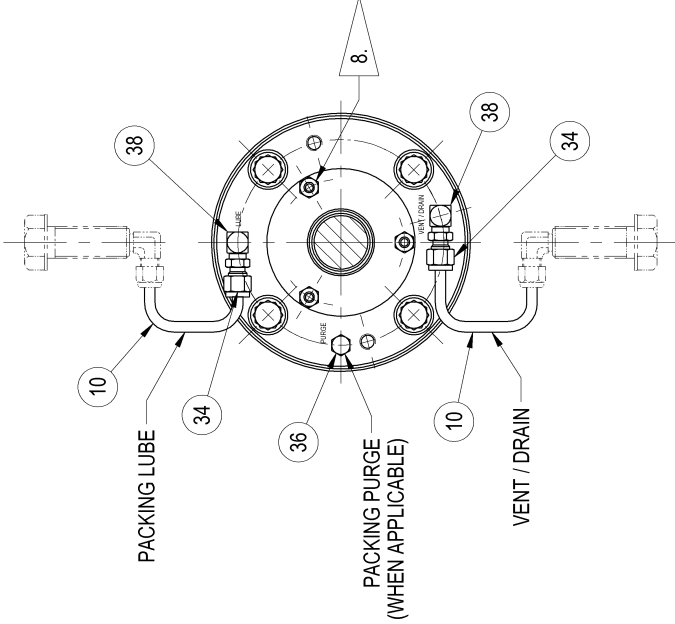
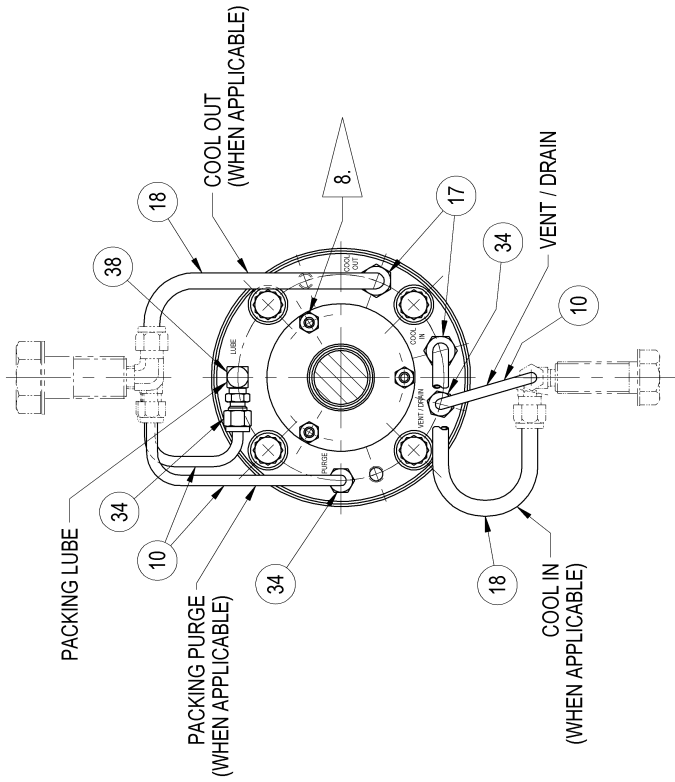
PARTS LIST

08.000 RJ PISTON ASSEMBLY; 03.500 STROKE. PART NO. PISTON ASSY
G-SHEETS USED: G-19848, G-19896, G-19839, G-19991, REF DRAWING A-17703 2 SHT
G-19950.

ITEM	PART NUMBER	QTY	DESCRIPTION
1	C-3152	1	PIST,WB, 8RJ,2PC
2	A-0591	3	PISTON RING, 8 R:RJ
3	C-1177	1	P ROD, 3.50STK/25.512LG
4	B-1261	1	PISTON COLLAR, 2-5/8 OD, J:RJ:HJ:RJ-CE
5	B-1260	1	PISTON NUT, 2-5/8 OD, JGJ:RJ:HJ:RJ-HE
6	FS0405CF	2	SET SCREW, CUP POINT, 1/4-28 X 7/8
7	B-1683	1	PKG,1.5,1440,BTR,PU
8	FC0120HQ	4	12-POINT CAPSCREW, 5/8-11 X 3-1/2, G8
10	PT0200CB	18."	TUBING, SS, 1/4 OD X .035 WALL
11	SC-3150	0	PIST,WB , 8 RJ,CE/PC
12	SC-3151	0	PIST,WB , 8 RJ,HE/PC
13	A-10080	0	O-RING, VT, 6.265 OD X .070, 75 DUROMETER
14	FP0505CB	0	ROLL PIN, 1/8 OD X 3/8 LONG
15	A-2992	1	WEAR BAND, 8 RJ,.75W
34	A-0830	0	MALE CONNECTOR, STL, 1/4 TUBE X 1/8 NPT
38	A-0884	0	STREET ELBOW, STL, 1/8 NPT, SHORT, 90 DEGREE
99	B-1683-K	0	REBUILD KIT, 1.500 PISTON ROD PACKING

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
DOES NOT REPRESENT THE QUANTITY REQUIRED.
*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***

1 2 3 4



A

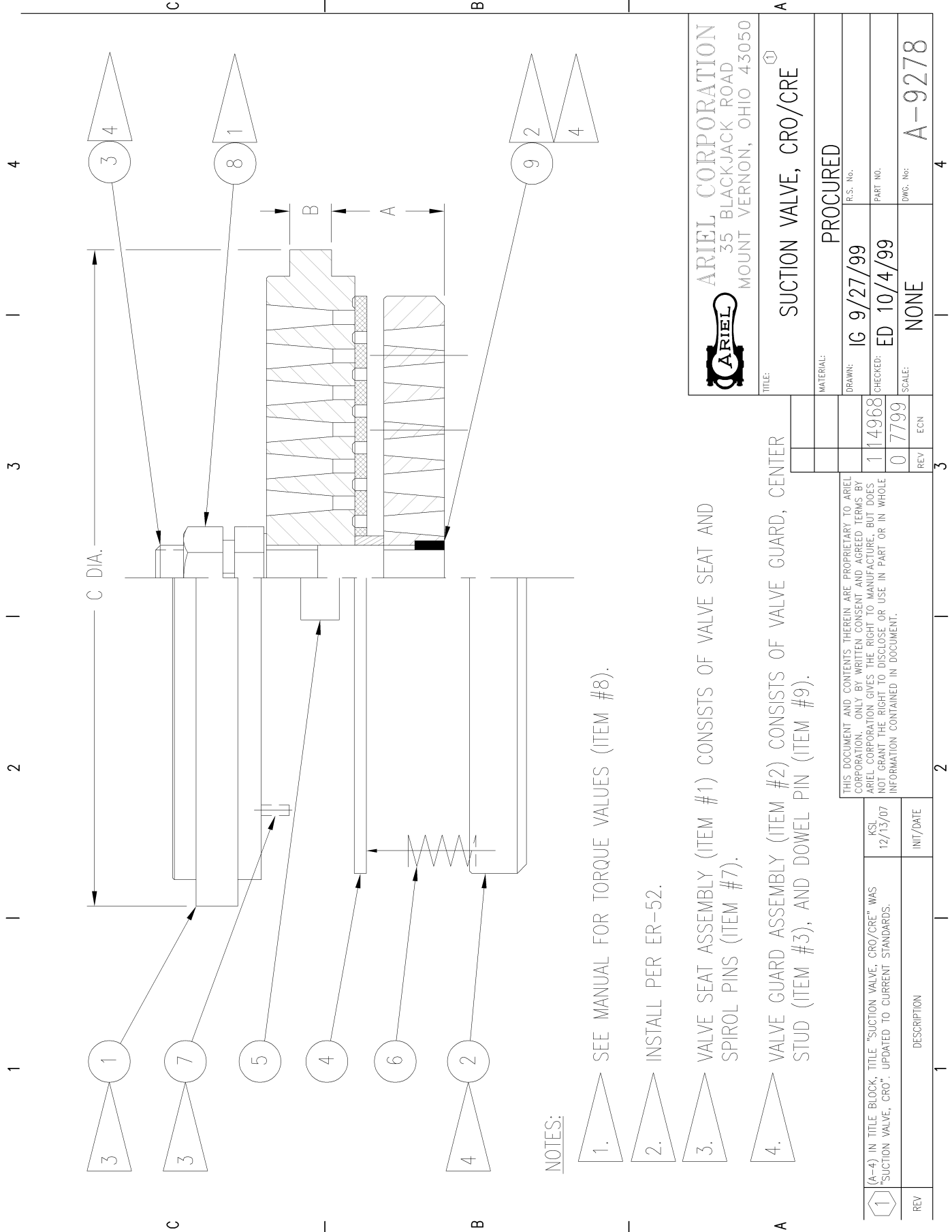
A

REV	DESCRIPTION	INIT/DATE	CPM 03/13/12
2	ON SHEET #1: @B2: ADDED ITEM #35 BALLOON AND FLAG #5. ON SHEET #2: NO REVISIONS.		
1	ON SHEET #1: @B4: REVERSED ONE PIECE PISTON VIEW TO SHOW THE (2) PISTON RING GROOVES ON THE CRANK END SIDE OF THE PISTON. ON SHEET #2: NO REVISIONS.		

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REV	EON	REV	EON

ARIEL CORPORATION 35 BLACKJACK ROAD MOUNT VERNON, OHIO 43050			
DRAWN CPM 12/16/10			
CHECKED KRN 12/17/10			
SCALE NONE			
ASSEMBLY DWG. NO. A-17703			
SHT 2 OF 2			

1 2 3 4



NOTES:

- 1. SEE MANUAL FOR TORQUE VALUES (ITEM #8).
- 2. INSTALL PER ER-52.
- 3. VALVE SEAT ASSEMBLY (ITEM #1) CONSISTS OF VALVE SEAT AND SPIROL PINS (ITEM #7).
- 4. VALVE GUARD ASSEMBLY (ITEM #2) CONSISTS OF VALVE GUARD, CENTER STUD (ITEM #3), AND DOWEL PIN (ITEM #9).



ARIEL CORPORATION

35 BLACKJACK ROAD

MOUNT VERNON, OHIO 43050

A		4. VALVE GUARD ASSEMBLY (ITEM #2) CONSISTS OF VALVE GUARD, CENTER STUD (ITEM #3), AND DOWEL PIN (ITEM #9).			TITLE: SUCTION VALVE, CRO/CRE ^①				
					MATERIAL: PROCURED				
					DRAWN: IG 9/27/99				
					R.S. No.				
			THIS DOCUMENT AND CONTENTS THEREIN ARE PROPRIETARY TO ARIEL CORPORATION. ONLY BY WRITTEN CONSENT AND AGREED TERMS BY 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.			DRAWN: IG 9/27/99		R.S. No.	
						1		14968	
						0		7799	
						REV		ECN	
						INIT/DATE			
						DESCRIPTION			
①			(A-4) IN TITLE BLOCK, TITLE "SUCTION VALVE, CRO/CRE" WAS "SUCTION VALVE, CRO". UPDATED TO CURRENT STANDARDS.						
REV									
						SCALE: NONE		DWG. No: A-9278	

A-9278

9/07/12

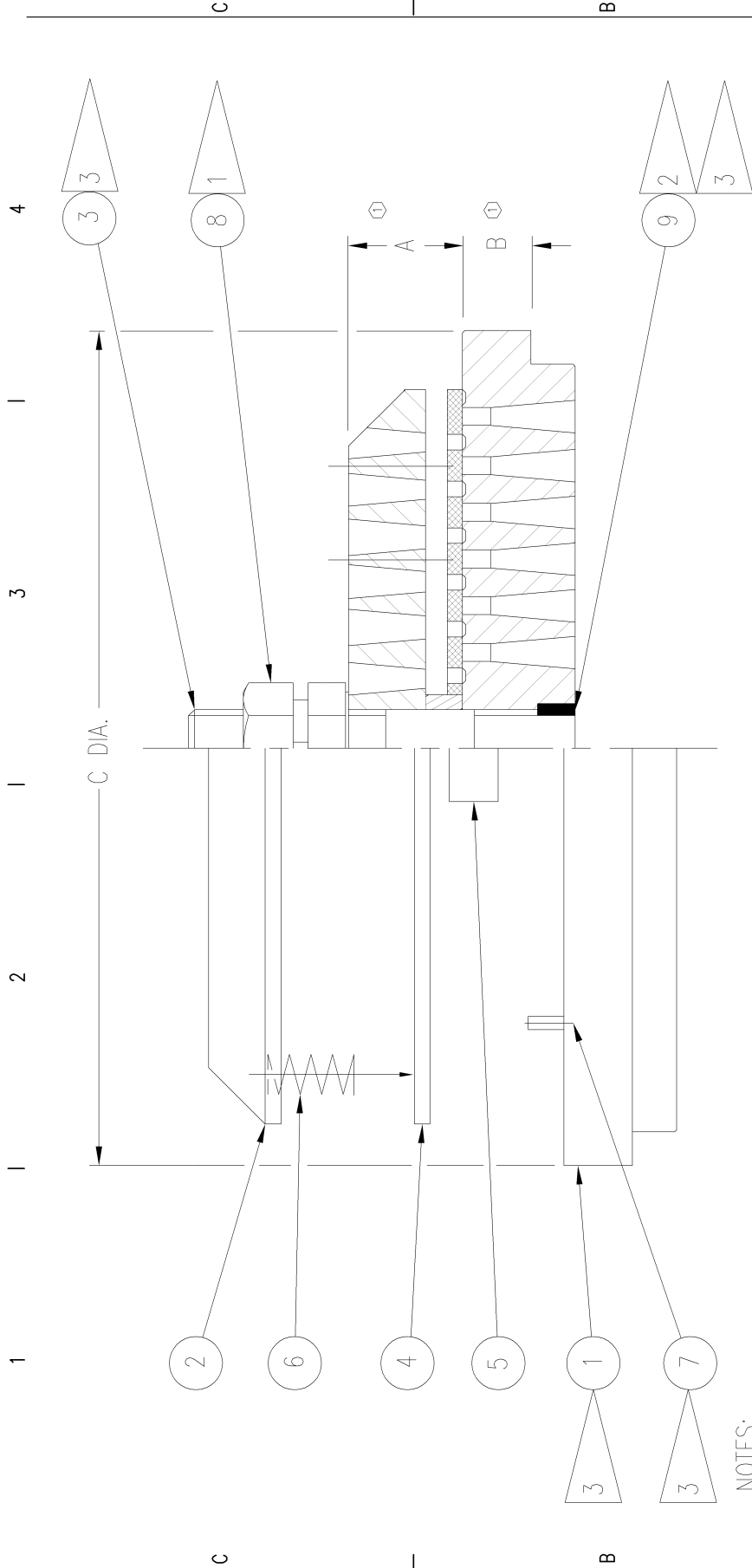
PARTS LIST

0.8310=A
0.6570=B
4.3530=C
0.0710=LFT

PART NO. B-4928-U
REF DRAWING A-9278

ITEM	PART NUMBER	QTY	DESCRIPTION
1	A-14436	1	SUC VLV SEAT, 98CRE
2	A-15177-A	1	SUCTION VALVE GUARD ASSEMBLY, 98CRE
3	A-1360	1	CNTR STUD,1/2-20X2.913 STL
4	A-14466	1	VALVE PLATE, 98CRE, .156 THICK, NYX
5	A-14437	1	GUIDE RING,98CRE,.226 THK
6	A-8898	12	SPRING (.197 OD X .413 FREE LENGTH) BLUE, .024 WIRE DIAMETER
7	A-1023	2	SPIROL PIN,.091D X .433L
8	A-1368	1	LOCKNUT, DRAKE 1/2-20
9	A-1442	1	DOWEL PIN,.118D X .241L
99	KB-4928-U	0	KIT,VLV, 98CRE,NYX

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
DOES NOT REPRESENT THE QUANTITY REQUIRED.
*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***



NOTES:

- SEE MANUAL FOR TORQUE VALUES (ITEM #8).
- INSTALL PER ER-52.
- VALVE SEAT ASSEMBLY (ITEM #1) CONSISTS OF VALVE SEAT, CENTER STUD (ITEM #3), SPIROL PIN (ITEM #7) AND DOWEL PIN (ITEM #9).

ARIEL CORPORATION
35 BLACKJACK ROAD
MOUNT VERNON, OHIO 43050

TITLE:	DISCHARGE VALVE, CRO/CRE
MATERIAL:	PROCURED
DRAWN:	IC 9/27/99
CHECKED:	ED 10/4/99
SCALE:	NONE
DWG. No:	A-9279

REV	DESCRIPTION	INT/DATE	REV	ECN
2	(A-4) IN TITLE BLOCK, "DISCHARGE VALVE, CRO/CRE" WAS "DISCHARGE VALVE, CRO".	KSL 12/13/07	2	14968
1	@C4 WAS B. @B4 WAS A.	RWR 6/01/05	1	12882
0			0	7799

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PARTS LIST

0.7560=A
0.3930=B
4.3280=C
0.0470=LFT

PART NO. B-4929-BB
REF DRAWING A-9279

ITEM	PART NUMBER	QTY	DESCRIPTION
1	A-14439-A	1	DIS VLV SEAT ASSY, 98CRE
2	A-14440-C	1	DISCHARGE VALVE GUARD ASSEMBLY, 98CRE
3	A-2654	1	CNTR STUD,1/2-20
4	A-14529	1	VALVE PLATE, 98CRE, .156 THICK, MTX
5	A-11963	1	GUIDE RING,117CR0,.205 THK
6	A-8908	15	SPRING (.197 OD X .413 FREE LENGTH) RED, .022 WIRE DIAMETER
7	A-1023	2	SPIROL PIN,.091D X .433L
8	A-1368	1	LOCKNUT, DRAKE 1/2-20
9	A-1442	1	DOWEL PIN,.118D X .241L
99	KB-4929-BB	0	KIT,VLV, 98CRE,MTX

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
DOES NOT REPRESENT THE QUANTITY REQUIRED.
*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***

9/07/12

ARIEL CORPORATION
SALES ORDER COVER SHEET

C/N: 001

RHCOVP02

SERIAL #: U94326 & 28

PART: G-11330 DESCRIPTION: VVCP, 8 R:RJ:RJ-HP:ET

8" JGR:RJ:RJ-HP:ET UNLOADER ASSEMBLY, PART NO. G-11330
STAINLESS STEEL TUBING AND FITTINGS. REF DRAWING A-8598

ITEM	PART NUMBER	QTY	DESCRIPTION
1	C-0405	1	UNL.HEAD, 8 RU
2	D-2949	1	ADAPTER, HEAD END UNLOADER, 8-3/8R
3	B-0575	0	UNL PIST, 8-3/8R
4	C-3712	0	UNL.STEM,8-3/8,9-3/4RU CL.TP/H
5	A-0687	1	O-RING, VT, 7.895 OD X .210, 75/85 DUROMETER
6	A-0586	1	STEEL GASKET, 08.813 OD X 08.500 ID X .060, HEAD
7	A-0688	1	UNLOADER PISTON RING, 6-1/2 OD
8	C-0369	1	UNLOADER LOCKING HANDLE, 2"-8 THREAD
9	B-0523	1	UNLOADER PACKING RETAINER, 6 THROUGH 15-3/4R:RJ:ET
10	A-0643	1	BACK-UP RING, PACKING
11	A-0629	1	COMPRESSION SPRING, UNLOADER
12	A-0639	1	V PACKING, UNLOADER
13	FC0120HR	12	12-POINT CAPSCREW, 5/8-11 X 3-3/4, G8
14	A-2389	0	SELF-LOCK NUT, ESNA, THIN, 1-3/8-12
15	FC0110DF	4	SOCKET HEAD CAPSCREW, 5/16-18 X 7/8, G8
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-0641	1	BELLOWS, THREAD PROTECTOR, UNLOADER
21	A-0642	1	BACK-UP RING, BELLOWS

9/07/12

SALES ORDER COVER SHEET

22	FC0134CC	3	BUTTON HEAD CAPSCREW, 1/4-20 X 1/2, 316SS
23	PT0201CD	5."	TUBING, 316 SS, 1/4 OD X .065 WALL
24	C-0982	0	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-3713	1	UNL PIST ASSY, 8-3/8R:RJ:H:E
32	A-12927	1	DATA PLATE, UNLOADER ADAPTER SPECIFICATION

VARIABLE VOLUME CLEARANCE POCKET (Headend Unloader) DATA SHEET

8-3/8RJ Class Cylinder

Stroke: 3.50 in 89 mm

Bore: 8.000 in 203 mm

MAWP: 635 psig 43.8 barg 4378 kPa(g) 44.6 kg/cm²(g)

General Data for VVCP (independent of cylinder):

MAWP*: 800 55.2 barg 5516 kPa(g)

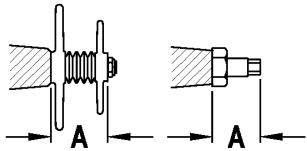
*Note: If VVCP services another cylinder, it may have a higher MAWP than the above

VVCP piston diameter: 6.5 in 165 mm

Stem thread lead (pitch): 0.125 in 3 mm

Total travel: 3.3 in 8.3 cm

Number of turns from closed to fully open: 26



A distance - see diagram

- closed: 4-1/2 in 11.4 cm

- open: 7-3/4 in 19.7 cm

Minimum added fixed clearance: 2.1 in³ 34.1 cm³

Additional added clearance when fully open: 108 in³ 1770 cm³

Total added clearance when fully open: 110.1 in³ 1803.8 cm³

Clearance volume change per turn: 4.2 in³ 68.1 cm³

Clearance volume change per change in travel: 33.2 in³/in 214.4 cm³/cm

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

Minimum added fixed clearance: 1.2%

Additional added clearance when fully open: 61.4%

Total added clearance when fully open: 62.6%

Head end clearance change per turn: 2.4%

Head end clearance change per change in travel: 18.9% /in 7.4% /cm

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

Minimum fixed head end clearance: 23.0%

Total head end clearance when fully open: 84.4%

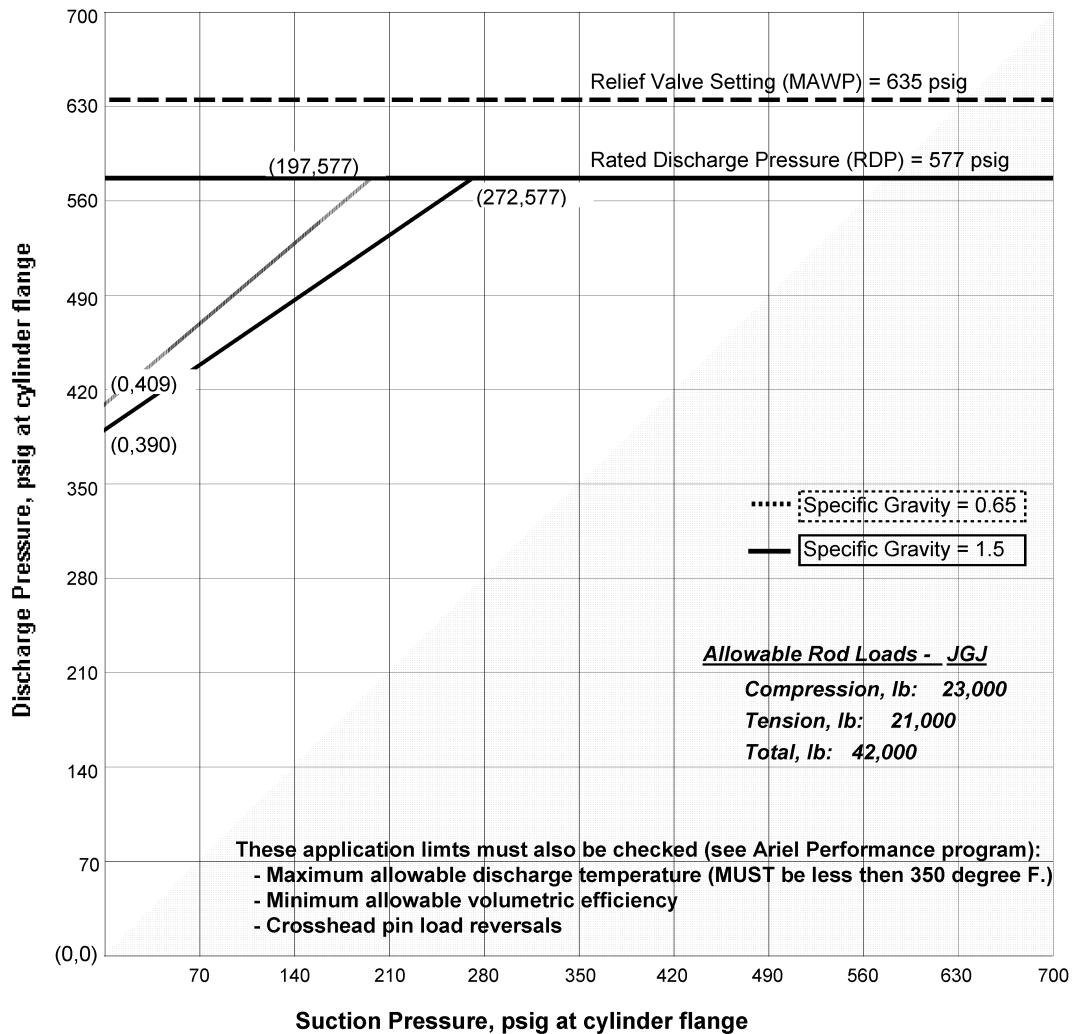
PLEASE NOTE: It is important to understand that the percent clearance figures for the variable volume clearance pocket above include the cylinder headend clearance. However, any valve spacers or other non-standard added clearances on the unit must be accounted for.

Estimated Gas Rod Load and Pressure Limits for 3.5 inch stroke at 1800 RPM

Cylinder Class: 8-3/8RJ

Bore, inches: 8.000

Cylinder Serial Number: C-137499 & 501



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.

9/07/12

ARIEL CORPORATION
SALES ORDER COVER SHEET

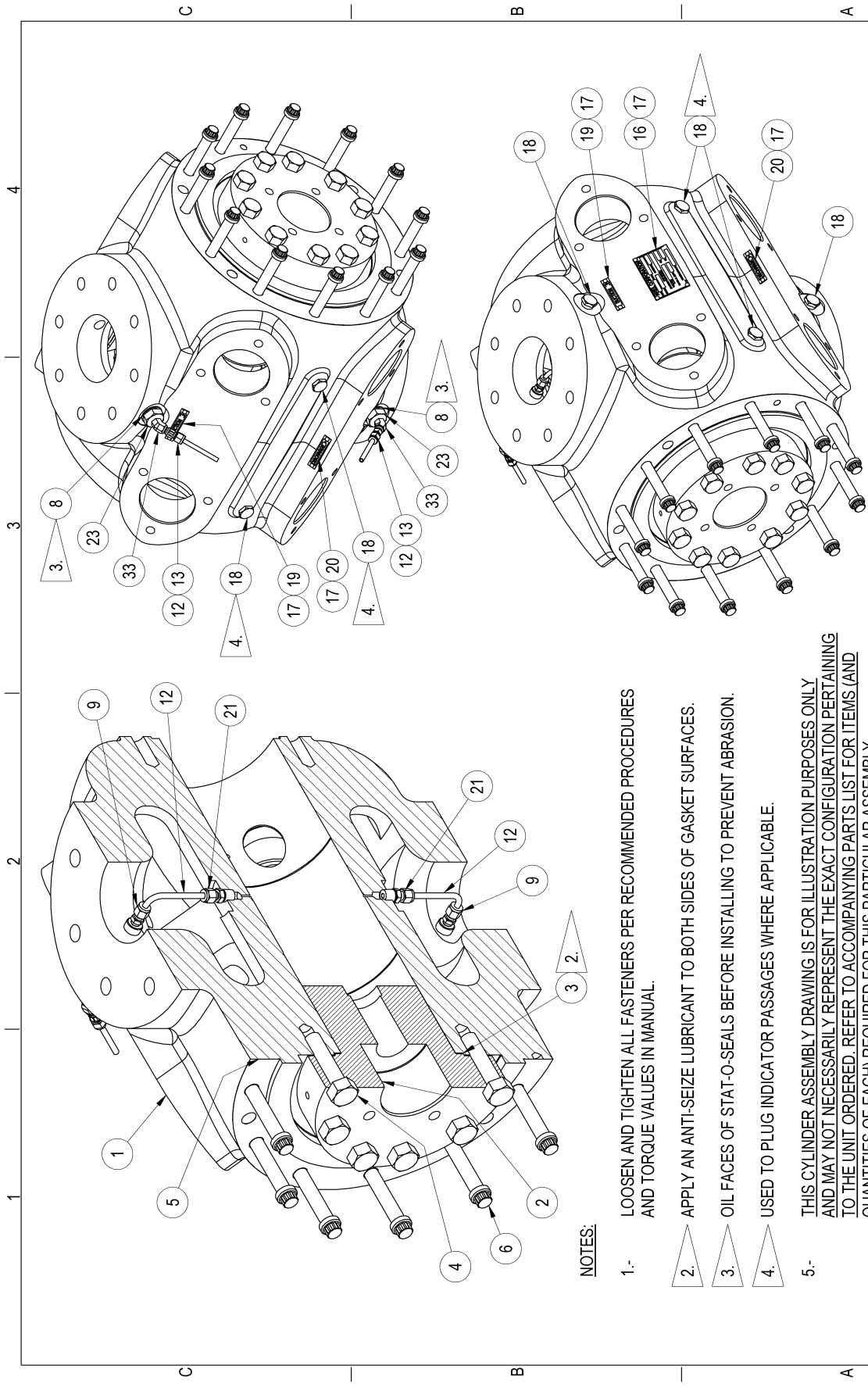
C/N: 001

RHCOVP02

SERIAL #: C137502

PART: 6-3/8RJ CLASS DESCRIPTION: 6-3/8" RJ CYLINDER CLASS

PART NUMBER	QTY	DESCRIPTION	DRAWING NO.
G-19970	1	CYLINDER ASSEMBLY, 6 R:RJ, STD, 1270 MAWP	A-18727
G-1028	4	SUC VLV ASSY, 6-3/8E,RHRJ-CE	D-0420
G-0621	4	DIS VLV ASSY6-3/8RHERJ,RHRJ-CE	D-0421
PISTON ASSY	1	PISTON ASSY 06.000 RJ	A-17703 2 SHT
B-4547-U	4	SUC VLV, 70CRE,NYX	A-9278
B-5079-DD	4	DIS VLV, 70CRE,MTX	A-9279



NOTES:

- 1.- LOOSEN AND TIGHTEN ALL FASTENERS PER RECOMMENDED PROCEDURES AND TORQUE VALUES IN MANUAL.
- 2. APPLY AN ANTI-SEIZE LUBRICANT TO BOTH SIDES OF GASKET SURFACES.
- 3. OIL FACES OF STAT-O-SEALS BEFORE INSTALLING TO PREVENT ABRASION.
- 4. USED TO PLUG INDICATOR PASSAGES WHERE APPLICABLE.
- 5.- THIS CYLINDER 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.

ARIEL CORPORATION

35 BLACKJACK ROAD

MOUNT VERNON, OHIO 43050

ARIEL

ASSEMBLY

DWG. NO.

A-18727

SHT 1 OF 1

REV	DESCRIPTION	INIT/DATE	1	2	3	4
0	17233	CPM 11/17/11	DLI 11/28/11	NONE		
REV	EON	REV	EON	REV		

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PARTS LIST

6" JGR:RJ STD CYLINDER BODY
RDP 1155#, MAWP 1270#

PART NO. G-19970
REF DRAWING A-18727

ITEM	PART NUMBER	QTY	DESCRIPTION
1	D-1783	0	CYLINDER, 6R:RJ, 1270 MAWP
2	C-0343	0	CRANK END HEAD, 6R-CE
3	A-0604	1	STEEL GASKET, 06.813 OD X 06.500 ID X .060, HEAD
4	FC0100IO	10	HEX HEAD CAPSCREW, 3/4-10 X 3, G9
5	B-3515	1	GASKET, ROUND, 16 OD X 12-57/65 ID X 1/64, 16 HOLES
6	FC0120HS	12	12-POINT CAPSCREW, 5/8-11 X 4, G8
8	FW0550ID	1	STAT-O-SEAL, VT, 75 DUROMETER, 3/4 ID
9	A-0830	1	MALE CONNECTOR, STL, 1/4 TUBE X 1/8 NPT
12	PT0200CB	39."	TUBING, SS, 1/4 OD X .035 WALL
13	A-18496	1	CHECK VALVE, DOUBLE BALL, SS, 1/4 TUBE INLET X 1/8 NPT 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	1	MALE CONNECTOR, STL, 1/4 TUBE X 1/4 NPT
23	A-2074	1	LUBE FITTING, 1/8 NPT, 3/4-10 X 4
33	A-3989	1	STREET ELBOW, 45° 1/2", 1/8 NPT, STL
100	HD-1783	1	CYLINDER HYDROTEST SET, 6R:RJ, 1270 MAWP

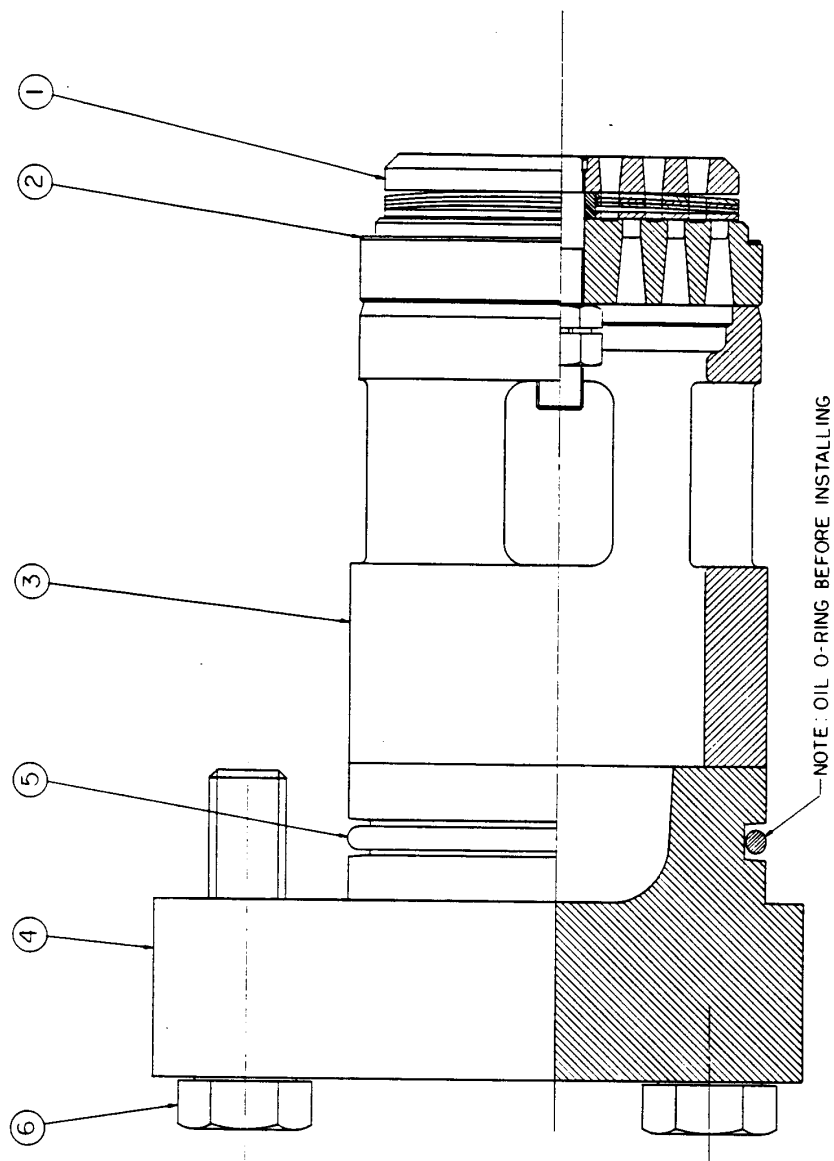
WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
DOES NOT REPRESENT THE QUANTITY REQUIRED.

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

G-620

G-620-I

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



ASSY DWG NO

D-420

9/07/12

PARTS LIST

SUCTION VALVE RETAINER AND CAP
6-3/8" JGR, JGH, JGE & RJ CLASS

PART NO. G-1028
REF DRAWING D-0420

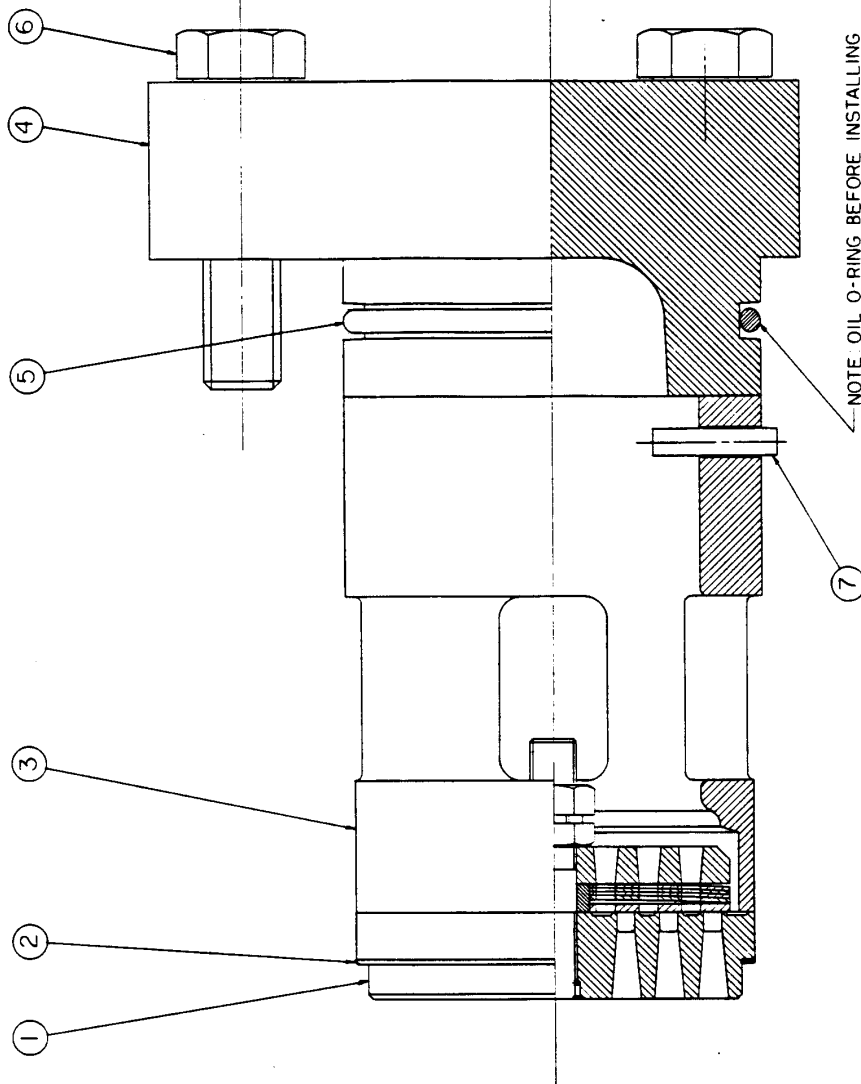
ITEM	PART NUMBER	QTY	DESCRIPTION
1	SUCTION VALVE	0	FOR VALVE PART NUMBER, SEE COVER SHEET
2	A-0603	1	STEEL GASKET, 03.220 OD X 03.024 ID X .030, VALVE
3	B-0884	1	VLV RET,SUC, 6-3/8R:H:E:RJ:ET
4	B-0462	0	VALVE CAP, 6-3/8R:R-CE:RJ:RJ PRC:RJ-CE:H:H-CE:E:ET:ET HP
5	A-0038	1	O-RING, VT, 3.270 OD X .210, 75/85 DUROMETER
6	FC0171EGG	3	12-POINT CAPSCREW, 5/8-11 X 2-1/2 X 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. ***

G-621

G-621-I

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



ASSY DWG NO

D-421



9/07/12

PARTS LIST

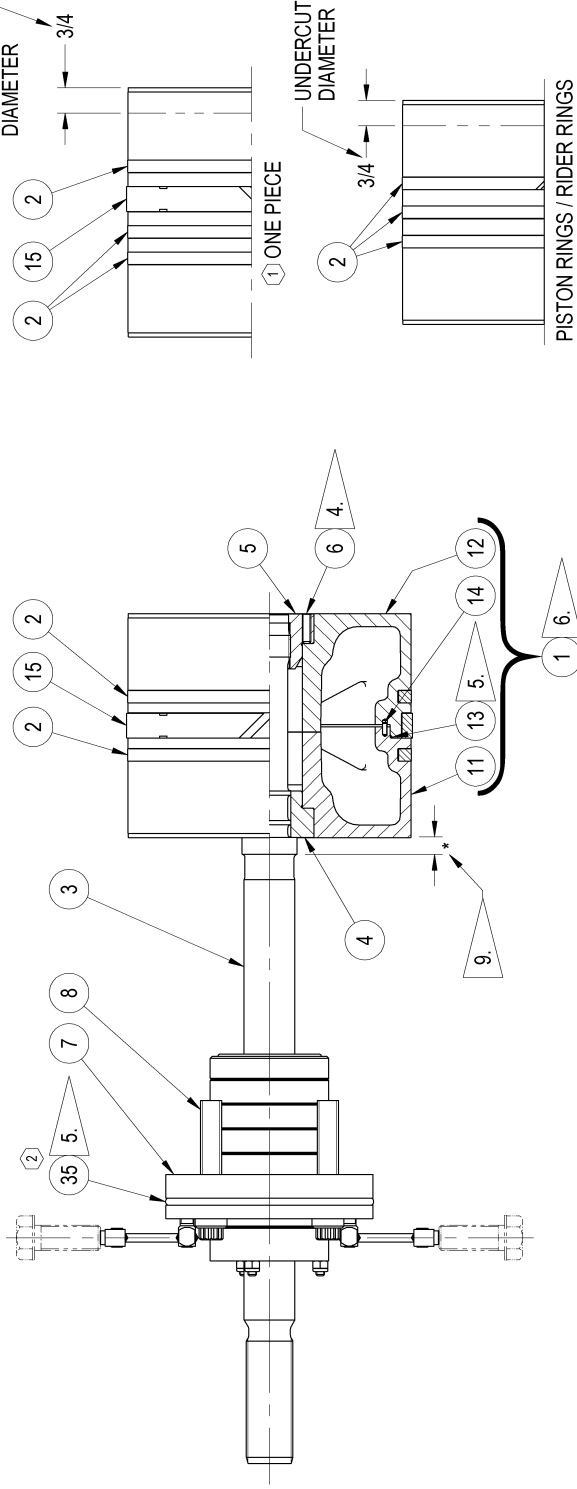
DISCHARGE VALVE, RETAINER AND CAP PART NO. G-0621
6-3/8" JGR, JGRJ, JGH, JGE CLASS CYLINDER REF DRAWING D-0421

ITEM	PART NUMBER	QTY	DESCRIPTION
1	DISCHARGE VALV	0	FOR VALVE PART NUMBER, SEE COVER SHEET
2	A-0603	1	STEEL GASKET, 03.220 OD X 03.024 ID X .030, VALVE
3	B-0460	1	VLV RET,DIS, 6-3/8R:H:E:RJ:ET
4	B-0462	0	VALVE CAP, 6-3/8R:R-CE:RJ:RJ PRC:RJ-CE:H:H-CE:E:ET:ET HP
5	A-0038	1	O-RING, VT, 3.270 OD X .210, 75/85 DUROMETER
6	FC0171EGG	3	12-POINT CAPSCREW, 5/8-11 X 2-1/2 X 3/4, G8
7	A-0145	2	THUMB SCREW, NYLON, 1/4-20 X 3/4

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



REV	DESCRIPTION	INITIALS	DATE
2	ON SHEET #1: @B2: ADDED ITEM #35 BALLOON AND FLAG #5. ON SHEET #2: NO REVISIONS.	CPM	03/13/12
1	ON SHEET #1: @B4: REVERSED ONE PIECE PISTON VIEW TO SHOW THE (2) PISTON RING GROOVES ON THE CRANK END SIDE OF THE PISTON. ON SHEET #2: NO REVISIONS.	CPM	01/18/12

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ARIEL CORPORATION
35 BLACKJACK ROAD
MOUNT VERNON, OHIO 43050

9/07/12

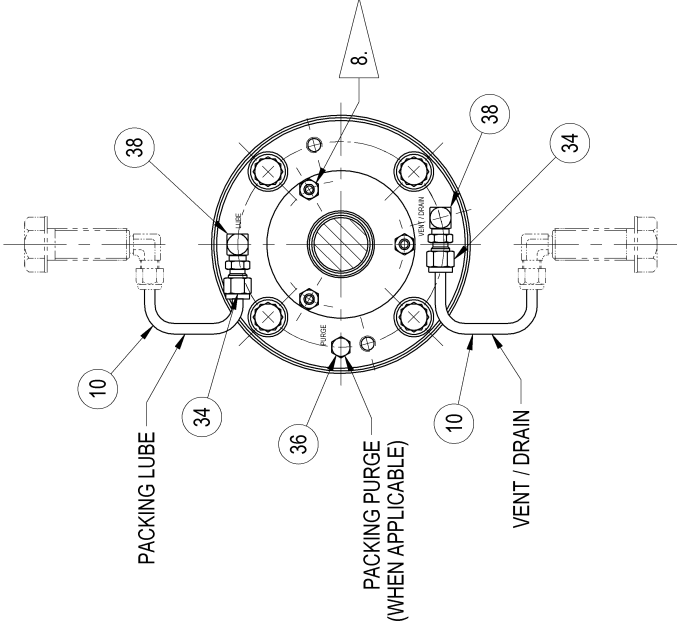
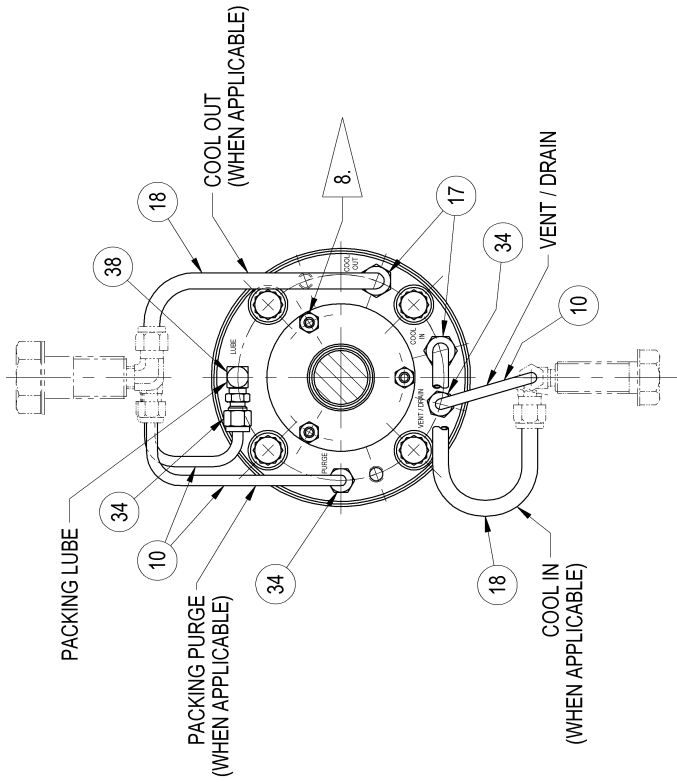
PARTS LIST

06.000 RJ PISTON ASSEMBLY; 03.500 STROKE. PART NO. PISTON ASSY
G-SHEETS USED: G-19823, G-19896, G-19839, G-19991, REF DRAWING A-17703 2 SHT
G-19948.

ITEM	PART NUMBER	QTY	DESCRIPTION
1	C-1196	1	PIST,WB , 6RJ
2	A-0584	4	PISTON RING, 6R:H:RJ
3	C-1177	1	P ROD, 3.50STK/25.512LG
4	B-1261	1	PISTON COLLAR, 2-5/8 OD, J:RJ:HJ:RJ-CE
5	B-1260	1	PISTON NUT, 2-5/8 OD, JGJ:RJ:HJ:RJ-HE
6	FS0405CF	2	SET SCREW, CUP POINT, 1/4-28 X 7/8
7	B-1683	1	PKG,1.5,1440,BTR,PU
8	FC0120H0	4	12-POINT CAPSCREW, 5/8-11 X 3, G8
10	PT0200CB	18."	TUBING, SS, 1/4 OD X .035 WALL
15	A-2996	1	WEAR BAND, 6 RJ:RJ-CE,75W
34	A-0830	0	MALE CONNECTOR, STL, 1/4 TUBE X 1/8 NPT
38	A-0884	0	STREET ELBOW, STL, 1/8 NPT, SHORT, 90 DEGREE
99	B-1683-K	0	REBUILD KIT, 1.500 PISTON ROD PACKING

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
DOES NOT REPRESENT THE QUANTITY REQUIRED.
*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***

1 2 3 4



A

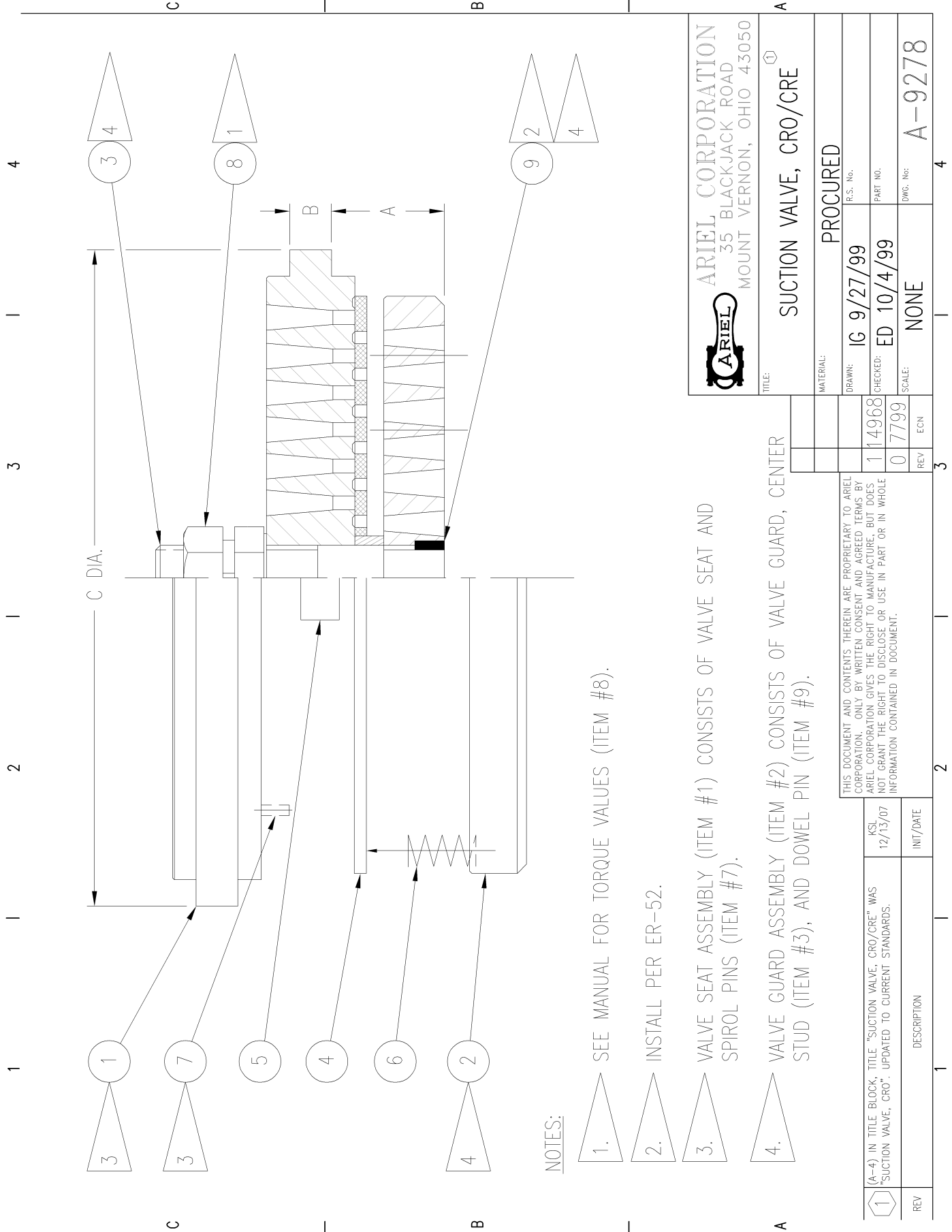
A

REV	DESCRIPTION	INIT/DATE	CPM 03/13/12
2	ON SHEET #1: @B2: ADDED ITEM #35 BALLOON AND FLAG #5. ON SHEET #2: NO REVISIONS.		
1	ON SHEET #1: @B4: REVERSED ONE PIECE PISTON VIEW TO SHOW THE (2) PISTON RING GROOVES ON THE CRANK END SIDE OF THE PISTON. ON SHEET #2: NO REVISIONS.		

THIS DOCUMENT AND CONTENTS THEREIN ARE PROPRIETARY TO ARIEL CORPORATION. ONLY BY WRITTEN CONSENT AND AGREED TERMS BY ARIEL CORPORATION GIVES THE RIGHT TO DISCLOSE OR USE IN PART OR IN WHOLE INFORMATION CONTAINED IN DOCUMENT.			
REV	EON	REV	EON

ARIEL CORPORATION 35 BLACKJACK ROAD MOUNT VERNON, OHIO 43050			
DRAWN CPM 12/16/10			
CHECKED KRN 12/17/10			
SCALE NONE			
ASSEMBLY DWG. NO. A-17703			
SHT 2 OF 2			

1 2 3 4



NOTES:

- 1. SEE MANUAL FOR TORQUE VALUES (ITEM #8).
- 2. INSTALL PER ER-52.
- 3. VALVE SEAT ASSEMBLY (ITEM #1) CONSISTS OF VALVE SEAT AND SPIROL PINS (ITEM #7).
- 4. VALVE GUARD ASSEMBLY (ITEM #2) CONSISTS OF VALVE GUARD, CENTER STUD (ITEM #3), AND DOWEL PIN (ITEM #9).



ARIEL CORPORATION

35 BLACKJACK ROAD

MOUNT VERNON, OHIO 43050

TITLE: SUCTION VALVE, CRO/CRE ^①	
MATERIAL: PROCURED	
DRAWN: IG 9/27/99	R.S. No.
CHECKED: ED 10/4/99	PART NO.
SCALE: NONE	DWG. No: A-9278

THIS DOCUMENT AND CONTENTS THEREIN ARE PROPRIETARY TO ARIEL CORPORATION. ONLY BY WRITTEN CONSENT AND AGREED TERMS BY 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.		1	14968		
REV	DESCRIPTION	INT/DATE	REV	ECN	
1	(A-4) IN TITLE BLOCK, TITLE "SUCTION VALVE, CRO/CRE" WAS "SUCTION VALVE, CRO". UPDATED TO CURRENT STANDARDS.	KSL 12/13/07	0	7799	
			3		

9/07/12

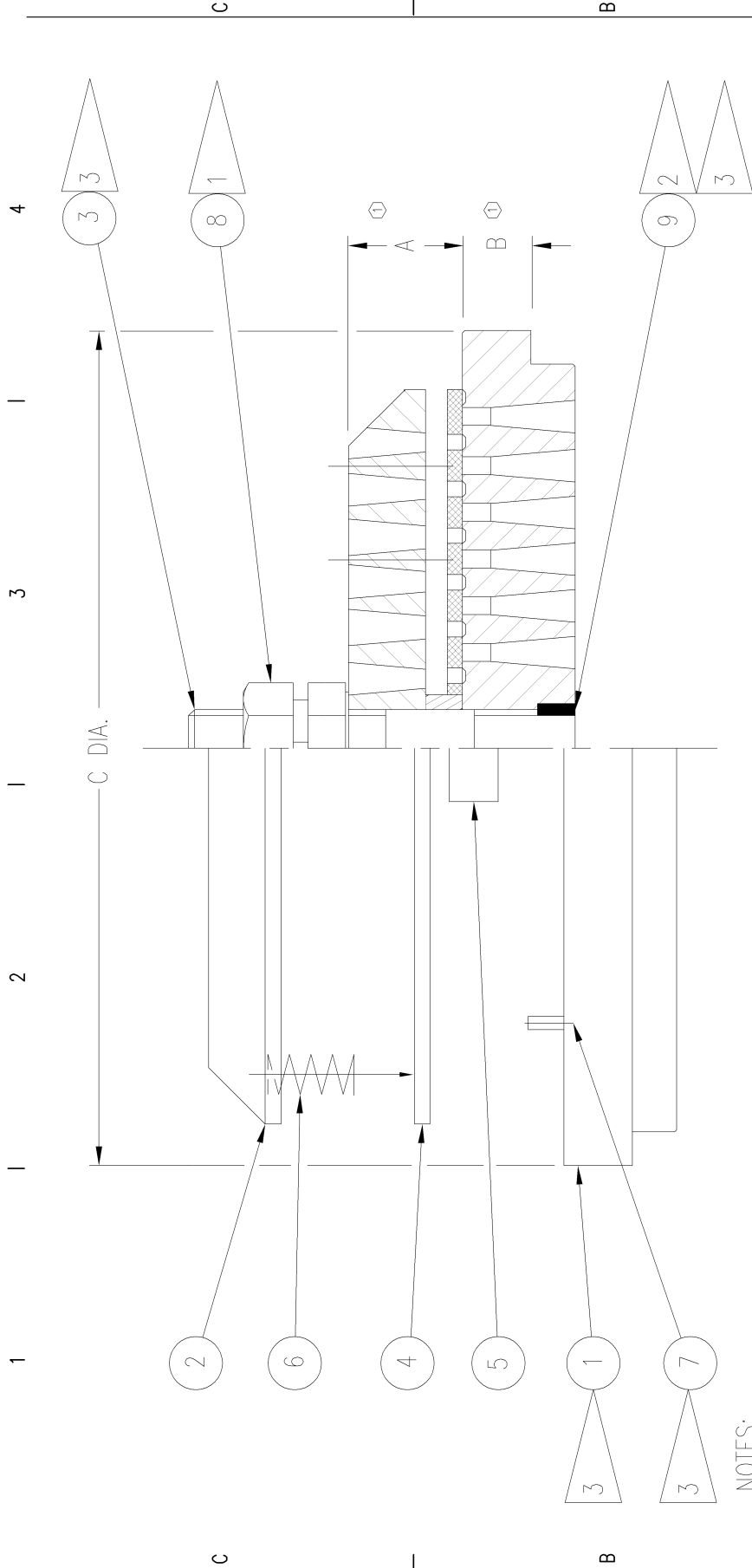
PARTS LIST

0.6140=A
0.5120=B
3.2480=C
0.0630=LFT

PART NO. B-4547-U
REF DRAWING A-9278

ITEM	PART NUMBER	QTY	DESCRIPTION
1	A-13977	1	SUC VLV SEAT, 70CRE
2	A-13791-A	1	SUC VLV GUARD ASSY, 70CRE
3	A-2669	1	CENTER STUD, 3/8-24 X 2.28
4	A-13979	1	VALVE PLATE, 70CRE, .157 THICK, NYX
5	A-5835	1	GUIDE RING, 70RX, .220 THK
6	A-8898	9	SPRING (.197 OD X .413 FREE LENGTH) BLUE, .024 WIRE DIAMETER
7	A-14645	2	SPIROL PIN, .079D X .354L
8	A-1367	1	LOCKNUT, DRAKE 3/8-24
9	A-16466	1	LOCK, STUD .098D
99	KB-4547-U	0	KIT, VLV, 70CRE, NYX

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
DOES NOT REPRESENT THE QUANTITY REQUIRED.
*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***



NOTES:

1. SEE MANUAL FOR TORQUE VALUES (ITEM #8).
2. INSTALL PER ER-52.
3. VALVE SEAT ASSEMBLY (ITEM #1) CONSISTS OF VALVE SEAT, CENTER STUD (ITEM #3), SPIROL PIN (ITEM #7) AND DOWEL PIN (ITEM #9).

ARIEL CORPORATION
35 BLACKJACK ROAD
MOUNT VERNON, OHIO 43050

TITLE:		DISCHARGE VALVE, CRO/CRE	
MATERIAL:		PROCURED	
DRAWN:		IC 9/27/99	R.S. No.
CHECKED:		ED 10/4/99	PART NO.
SCALE:		NONE	DWG. No:
		A-9279	

2	14968	THIS DOCUMENT AND CONTENTS THEREIN ARE PROPRIETARY TO ARIEL CORPORATION. ONLY BY WRITTEN CONSENT AND AGREED TERMS BY 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.	
1	12882		
0	7799		
REV	ECN		

(A-4) IN TITLE BLOCK, "DISCHARGE VALVE, CRO/CRE" WAS	KSI	12/13/07
@C4 WAS B. @B4 WAS A.	RWR	6/01/05
DESCRIPTION	INT/DATE	

1	2	3	4
REV	ECN		

9/07/12

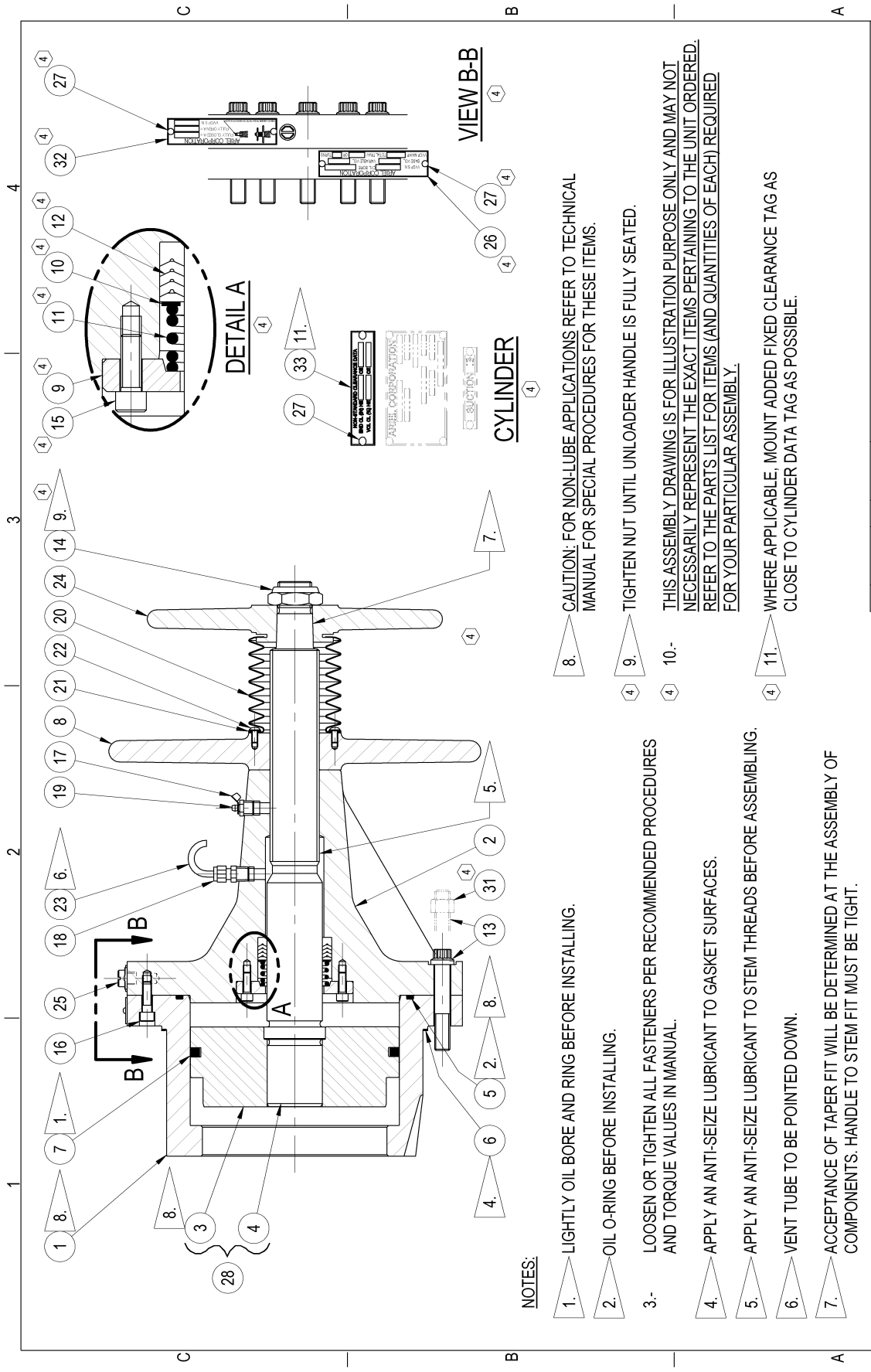
PARTS LIST

0.5980=A
0.3940=B
3.2250=C
0.0470=LFT

PART NO. B-5079-DD
REF DRAWING A-9279

ITEM	PART NUMBER	QTY	DESCRIPTION
1	A-13980-A	1	DIS VLV SEAT ASSY, 70CRE
2	A-15489-A	1	DIS VLV GUARD ASSY, 70CRE
3	A-2676	1	CNTR STUD, 3/8-24 X 2.32
4	A-13978	1	VALVE PLATE, 70CRE, .157 THICK, MTX
5	A-1735	1	GUIDE RING, 70RX, .205 THK
6	A-8897	9	SPRING (.197 OD X .413 FREE LENGTH) WHITE, .026 WIRE DIAMETER
7	A-14645	2	SPIROL PIN, .079D X .354L
8	A-1367	1	LOCKNUT, DRAKE 3/8-24
9	A-16466	1	LOCK, STUD .098D
99	KB-5079-DD	0	KIT, VLV, 70CRE, MTX

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
DOES NOT REPRESENT THE QUANTITY REQUIRED.
*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***



NOTES:

- 1. LIGHTLY OIL BORE AND RING BEFORE INSTALLING.
- 2. OIL O-RING BEFORE INSTALLING.
- 3.- LOOSEN OR TIGHTEN ALL FASTENERS PER RECOMMENDED PROCEDURES AND TORQUE VALUES IN MANUAL.
- 4. APPLY AN ANTI-SEIZE LUBRICANT TO GASKET SURFACES.
- 5. APPLY AN ANTI-SEIZE LUBRICANT TO STEM THREADS BEFORE ASSEMBLING.
- 6. VENT TUBE TO BE POINTED DOWN.
- 7. ACCEPTANCE OF TAPER FIT WILL BE DETERMINED AT THE ASSEMBLY OF COMPONENTS. HANDLE TO STEM FIT MUST BE TIGHT.
- 8. CAUTION: FOR NON-LUBE APPLICATIONS REFER TO TECHNICAL MANUAL FOR SPECIAL PROCEDURES FOR THESE ITEMS.
- 9. TIGHTEN NUT UNTIL UNLOADER HANDLE IS FULLY SEATED.
- 10.- THIS ASSEMBLY DRAWING IS FOR ILLUSTRATION PURPOSE 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.

REDRAWN TO SOLID EDGE. @B4: ADDED VIEW B-B. RELOCATED ITEMS #26 & #27 FROM C2. @C4: REMOVED TABLE. @C4: ADDED ITEMS #27, #32 & DETAIL A. RELOCATED ITEMS #9, #10, #11 & #12 FROM C2. @C3: ADDED FLAG #9. RELOCATED ITEM #15 FROM C1. @B2-B4: REMOVED DIMS "A" & "B". @B2: ADDED ITEM #31. @A3-B3: ADDED NOTES #9, #10 & #11. @B3: ADDED CYL. VIEW. UPDATED TO CURRENT STANDARDS.	DLI 08/06/2008	ARIEL CORPORATION 35 BLACKJACK ROAD MOUNT VERNON, OHIO 43050					
REV	DESCRIPTION	INITIALS	DATE	REV	DESCRIPTION	INITIALS	DATE
4				3			
3				2			
2				1			
1				0			
0				7743			
13364				8001			
10297				10035			
3				10035			

9/07/12

ARIEL CORPORATION
SALES ORDER COVER SHEET

C/N: 001

RHCOVP02

SERIAL #: U94329

PART: G-11328 DESCRIPTION: VVCP, 6 R:RJ:ET-HP

6" JGR:RJ:ET-HP UNLOADER ASSEMBLY, PART NO. G-11328
STAINLESS STEEL TUBING AND FITTINGS. REF DRAWING A-8598

ITEM	PART NUMBER	QTY	DESCRIPTION
1	C-0433	1	UNL.HEAD, 6 RU
2	D-0529	1	ADAPTER, HEAD END UNLOADER, 6-3/8R
3	B-0599	0	UNL PIST, 6-3/8R
4	C-3717	0	UNL.STEM,6-3/8RU CL. TAPR HNDL
5	A-0724	1	O-RING, VT, 6.645 OD X .210, 75/85 DUROMETER
6	A-0604	1	STEEL GASKET, 06.813 OD X 06.500 ID X .060, HEAD
7	A-0751	1	UNLOADER PISTON RING, 5 OD
8	C-0369	1	UNLOADER LOCKING HANDLE, 2"-8 THREAD
9	B-0523	1	UNLOADER PACKING RETAINER, 6 THROUGH 15-3/4R:RJ:ET
10	A-0643	1	BACK-UP RING, PACKING
11	A-0629	1	COMPRESSION SPRING, UNLOADER
12	A-0639	1	V PACKING, UNLOADER
13	FC0120IT	10	12-POINT CAPSCREW, 3/4-10 X 4-1/2, G8
14	A-2389	0	SELF-LOCK NUT, ESNA, THIN, 1-3/8-12
15	FC0110DF	4	SOCKET HEAD CAPSCREW, 5/16-18 X 7/8, G8
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-0641	1	BELLOWS, THREAD PROTECTOR, UNLOADER
21	A-0642	1	BACK-UP RING, BELLOWS

9/07/12

SALES ORDER COVER SHEET

22	FC0134CC	3	BUTTON HEAD CAPSCREW, 1/4-20 X 1/2, 316SS
23	PT0201CD	5."	TUBING, 316 SS, 1/4 OD X .065 WALL
24	C-0982	0	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-3718	1	UNL PIST ASSY, 6-3/8R:RJ:H:E
32	A-12927	1	DATA PLATE, UNLOADER ADAPTER SPECIFICATION

VARIABLE VOLUME CLEARANCE POCKET (Headend Unloader) DATA SHEET

6-3/8RJ Class Cylinder

Stroke: 3.50 in 89 mm

Bore: 6.000 in 152 mm

MAWP: 1270 psi 87.6 bar(g) 8756 kPa(g) 89.3 kg/cm2(g)

General Data for VVCP (independent of cylinder):

MAWP*: 1650 113.8 barg 11376 kPa(g)

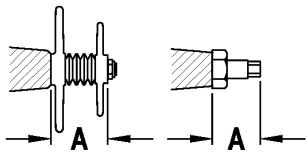
*Note: If VVCP services another cylinder, it may have a higher MAWP than the above

VVCP piston diameter: 5 in 127 mm

Stem thread lead (pitch): 0.125 in 3 mm

Total travel: 3.3 in 8.3 cm

Number of turns from closed to fully open: 26



A distance - see diagram

- closed: 4-1/2 in 11.4 cm

- open: 7-3/4 in 19.7 cm

Minimum added fixed clearance: 1.3 in3 20.9 cm3

Additional added clearance when fully open: 64 in3 1049 cm3

Total added clearance when fully open: 65.3 in3 1069.7 cm3

Clearance volume change per turn: 2.5 in3 40.3 cm3

Clearance volume change per change in travel: 19.7 in3/in 127.0 cm3/cm

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

Minimum added fixed clearance: 1.3%

Additional added clearance when fully open: 64.7%

Total added clearance when fully open: 66.0%

Head end clearance change per turn: 2.5%

Head end clearance change per change in travel: 19.9% /in 7.8% /cm

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

Minimum fixed head end clearance: 19.4%

Total head end clearance when fully open: 84.1%

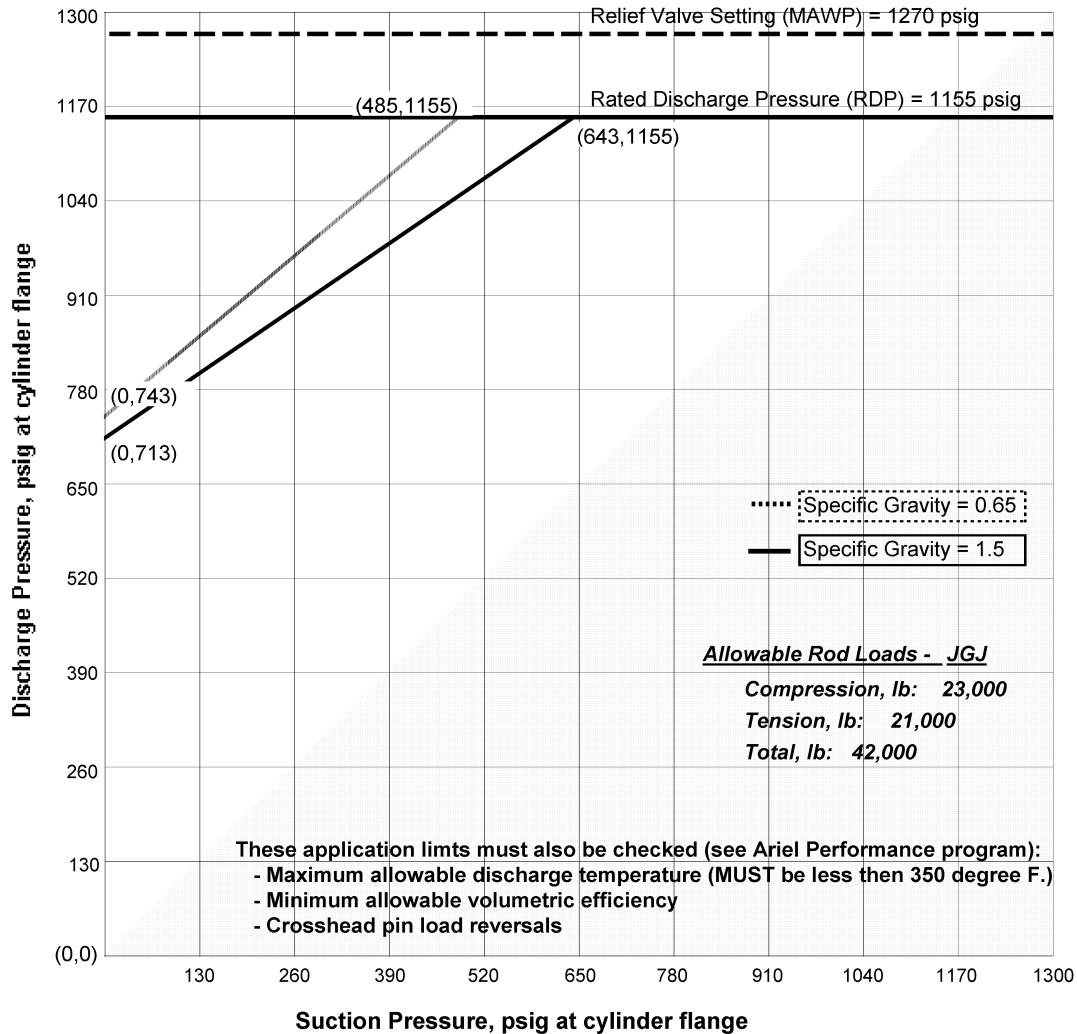
PLEASE NOTE: It is important to understand that the percent clearance figures for the variable volume clearance pocket above include the cylinder headend clearance. However, any valve spacers or other non-standard added clearances on the unit must be accounted for.

Estimated Gas Rod Load and Pressure Limits for 3.5 inch stroke at 1800 RPM

Cylinder Class: 6-3/8RJ

Bore, inches: 6.000

Cylinder Serial Number: C-137502



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.

9/07/12

ARIEL CORPORATION
SALES ORDER COVER SHEET

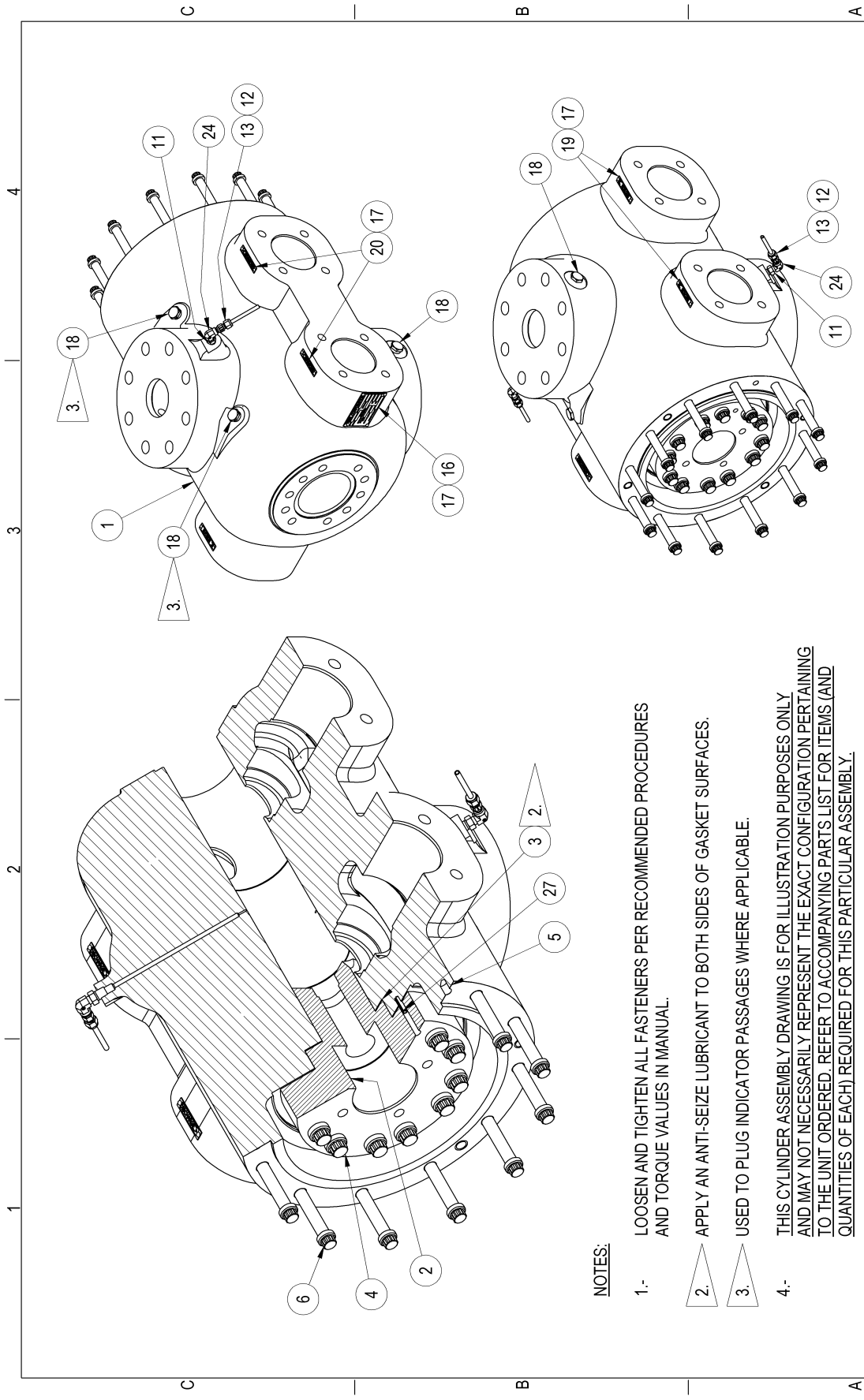
C/N: 001

RHCOVP02

SERIAL #: C137500

PART: 3-7/8RJ CLASS DESCRIPTION: 3-7/8" JGRJ CYLINDER CLASS

PART NUMBER	QTY	DESCRIPTION	DRAWING NO.
G-20145	1	CYLINDER ASSEMBLY, 3-5/8R:RJ, STD, 2200 MAWP	A-18728
G-0770	2	SUC VLV ASSY, 3-7/8R,RJ:R,RJ-CE	D-0496
G-0771	2	DIS VLV ASSY, 3-7/8(R:RJ)-CE	D-0497
PISTON ASSY	1	PISTON ASSY 03.625 RJ	A-17703 2 SHT
B-4578-UX	2	SUC VLV, 60CRE,NYX	A-9278
B-4828-CC	2	DIS VLV, 60CRE,MTX	A-9279



NOTES:

- 1.- LOOSEN AND TIGHTEN ALL FASTENERS PER RECOMMENDED PROCEDURES AND TORQUE VALUES IN MANUAL.
2. APPLY AN ANTI-SEIZE LUBRICANT TO BOTH SIDES OF GASKET SURFACES.
3. USED TO PLUG INDICATOR PASSAGES WHERE APPLICABLE.
- 4.- THIS CYLINDER 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.

REV		DESCRIPTION		INIT/DATE		THIS DOCUMENT AND CONTENTS THEREIN ARE PROPRIETARY TO ARIEL CORPORATION. ONLY BY WRITTEN CONSENT AND AGREED TERMS BY ARIEL CORPORATION GIVES THE RIGHT TO DISCLOSE OR USE IN PART OR IN WHOLE INFORMATION CONTAINED IN DOCUMENT.		0		17233	CPM 11/18/11	SCALE	NONE	ASSEMBLY DWG. NO.	A-18728	SHT 1 OF 1	
								REV		EON	REV	EON	DLI 11/18/11	CPM 11/18/11	ASSEMBLY DWG. NO.	A-18728	SHT 1 OF 1

ARIEL CORPORATION
 35 BLACKJACK ROAD
 MOUNT VERNON, OHIO 43050

9/07/12

PARTS LIST

3-5/8" JGR, JGRJ CYLINDER BODY
RDP 2000#, MAWP 2200#

PART NO. G-20145
REF DRAWING A-18728

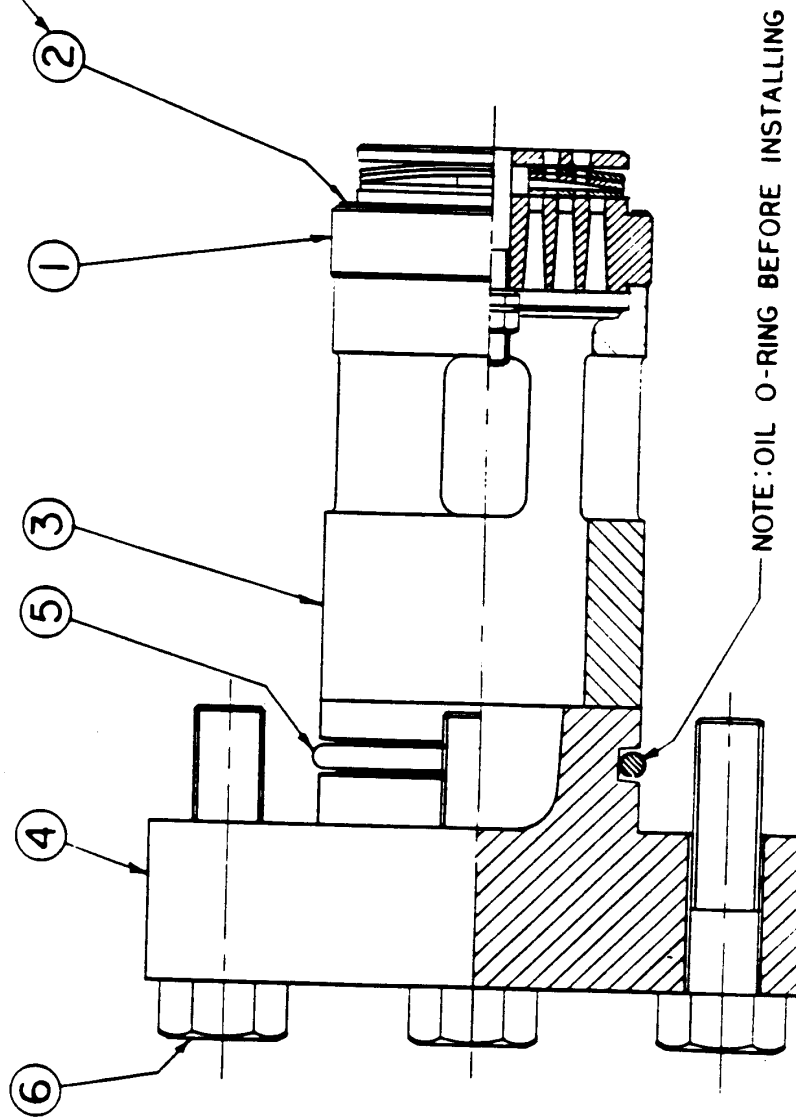
ITEM	PART NUMBER	QTY	DESCRIPTION
1	D-0799	0	CYLINDER, 3-5/8R:RJ, 2200 MAWP
2	C-0396	0	CRANK END HEAD, 3-5/8R:RJ
3	A-0154	1	STEEL GASKET, 04.480 OD X 04.230 ID X .060, HEAD
4	FC0120HN	10	12-POINT CAPSCREW, 5/8-11 X 2-3/4, G8
5	B-3515	1	GASKET, ROUND, 16 OD X 12-57/65 ID X 1/64, 16 HOLES
6	FC0120HS	12	12-POINT CAPSCREW, 5/8-11 X 4, G8
11	A-0811	1	HEX REDUCING BUSHING, 1/4 NPT (MALE) X 1/8 NPT (FEMALE), STL
12	PT0200CB	33."	TUBING, SS, 1/4 OD X .035 WALL
13	A-18496	1	CHECK VALVE, DOUBLE BALL, SS, 1/4 TUBE INLET X 1/8 NPT OUTLET,
16	A-0576	1	DATA PLATE, CYLINDER SPECIFICATION, 4 X 1-1/8
17	FR0571CC	12	DRIVE SCREW, TYPE U, SS, #6 X 1/4
18	PP0810GB	1	PIPE PLUG, HEX HEAD, 1/2 NPT, STL
19	A-0640-A	2	INFORMATION PLATE, SUCTION
20	A-0640-B	2	INFORMATION PLATE, DISCHARGE
24	A-0804	1	STREET ELBOW, 90° 1/2", 1/8 NPT, STL
100	HD-0799	1	CYLINDER HYDROTEST SET, 3-5/8R:RJ, 2200 MAWP

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
DOES NOT REPRESENT THE QUANTITY REQUIRED.
*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***

G-770
G-770-1

NOTE: LOOSEN OR TIGHTEN ALL BOLTS PER RECOMMENDED PROCEDURES
AND TORQUE VALUES

APPLY AN ANTI-SIEZE
COMPOUND TO GASKET
SURFACES



NOTE: OIL O-RING BEFORE INSTALLING

ASSY DWG. No.
D-496

9/07/12

PARTS LIST

SUCTION VALVE, RETAINER AND CAP
3-7/8" JGR, JGRJ CLASS CYLINDER

PART NO. G-0770
REF DRAWING D-0496

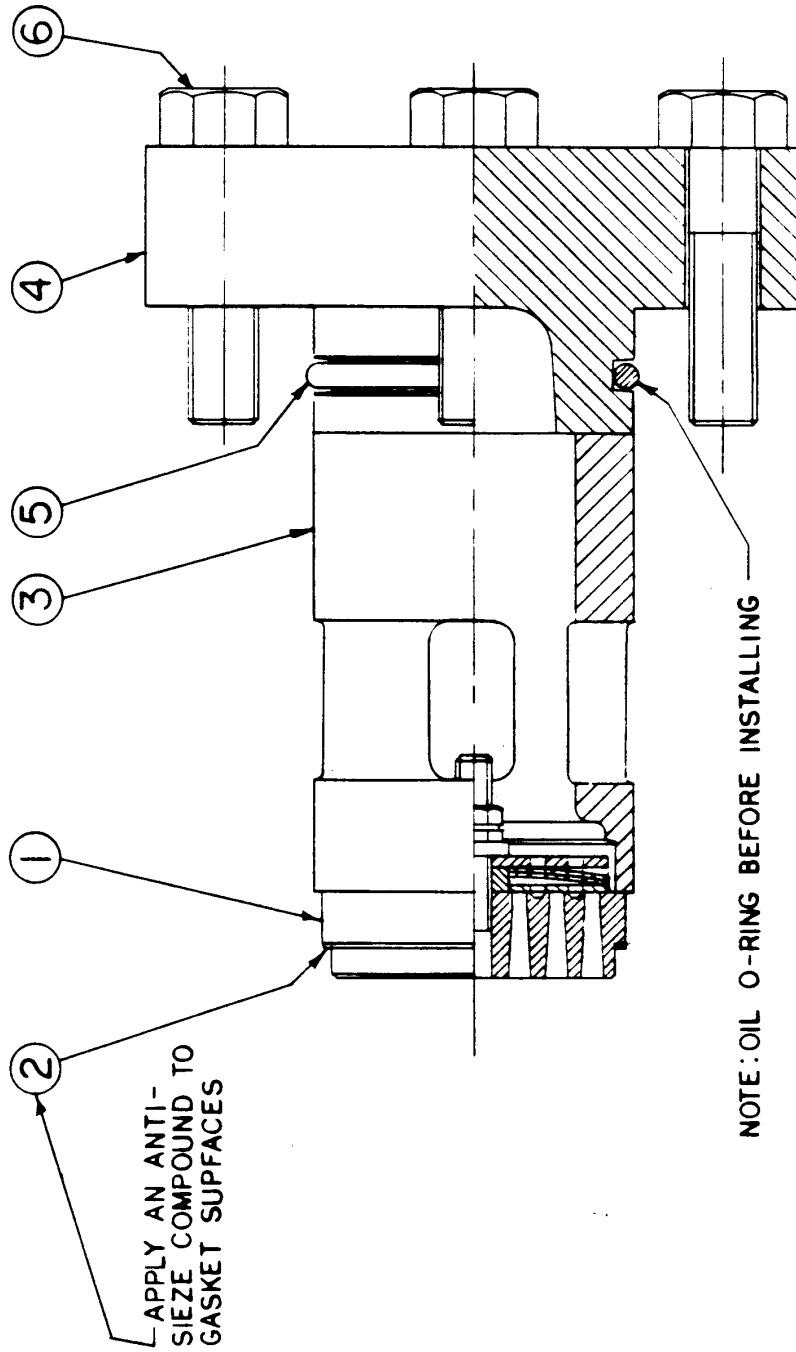
ITEM	PART NUMBER	QTY	DESCRIPTION
1	SUCTION VALVE	0	FOR VALVE PART NUMBER, SEE COVER SHEET
2	A-11121	1	STEEL GASKET, 02.750 OD X 02.594 ID X .060, VALVE
3	B-0549	1	VLV RET,SUC, 3-7/8R:RJ
4	B-0548	0	VALVE CAP, 3-7/8R:R-CE:R-HE:RJ:RJ-CE:RJ-HE:H-HE
5	A-0018	1	O-RING, VT, 2.770 OD X .210, 75/85 DUROMETER
6	FC0171EGG	4	12-POINT CAPSCREW, 5/8-11 X 2-1/2 X 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. ***

G-771
G-771-1

ASSY DWG. No.
D-497

NOTE: LOOSEN OR TIGHTEN ALL BOLTS PER RECOMMENDED PROCEDURES
AND TORQUE VALUES



APPLY AN ANTI-
SIEZE COMPOUND TO
GASKET SURFACES

NOTE: OIL O-RING BEFORE INSTALLING

9/07/12

PARTS LIST

DISCHARGE VALVE, RETAINER AND CAP
3-7/8" JGR, JGRJ CLASS CYLINDER

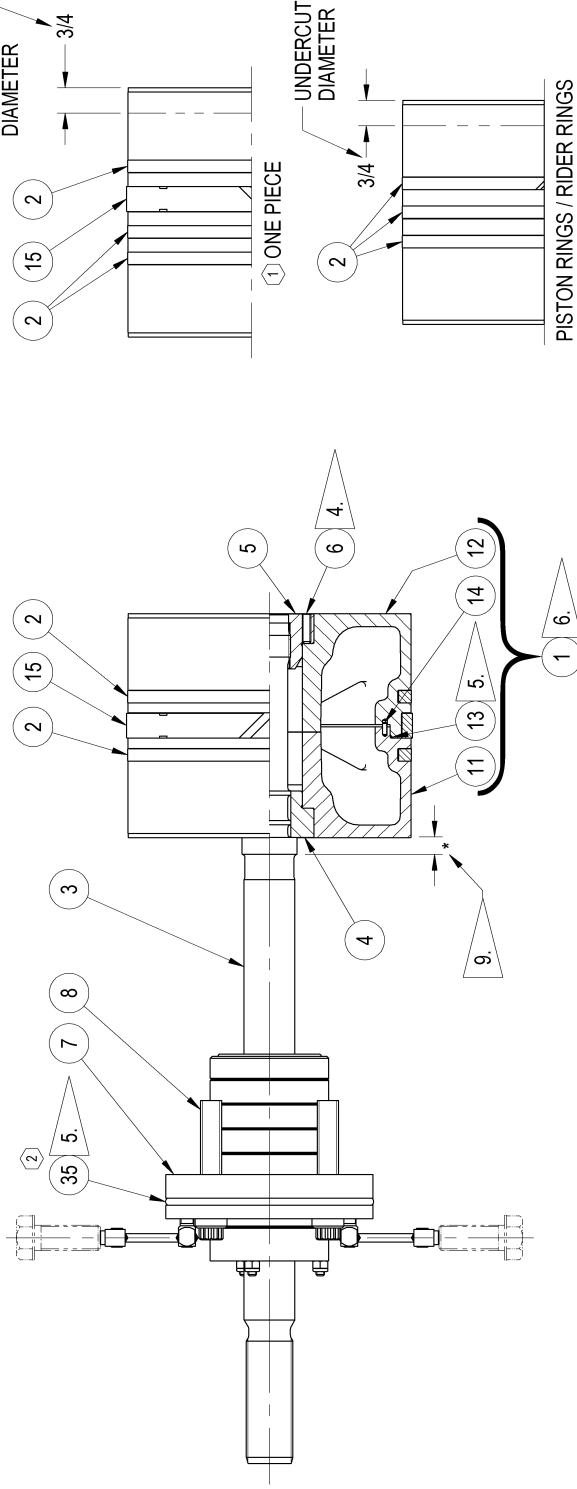
PART NO. G-0771
REF DRAWING D-0497

ITEM	PART NUMBER	QTY	DESCRIPTION
1	DISCHARGE VALV	0	FOR VALVE PART NUMBER, SEE COVER SHEET
2	A-11121	1	STEEL GASKET, 02.750 OD X 02.594 ID X .060, VALVE
3	B-0550	1	VLV RET,DIS, 3-7/8R:RJ
4	B-0548	0	VALVE CAP, 3-7/8R:R-CE:R-HE:RJ:RJ-CE:RJ-HE:H-HE
5	A-0018	1	O-RING, VT, 2.770 OD X .210, 75/85 DUROMETER
6	FC0171EGG	4	12-POINT CAPSCREW, 5/8-11 X 2-1/2 X 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. ***

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.



REV	DESCRIPTION	INITIALS	DATE
2	ON SHEET #1: @B2: ADDED ITEM #35 BALLOON AND FLAG #5. ON SHEET #2: NO REVISIONS.	CPM	03/13/12
1	ON SHEET #1: @B4: REVERSED ONE PIECE PISTON VIEW TO SHOW THE (2) PISTON RING GROOVES ON THE CRANK END SIDE OF THE PISTON. ON SHEET #2: NO REVISIONS.	CPM	01/18/12

2	18129	18031	16366	CPM 12/16/10	KRN 12/17/10	NONE	ASSEMBLY DWG. NO.	A-17703	SHT 1 OF 2
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ARIEL CORPORATION
35 BLACKJACK ROAD
MOUNT VERNON, OHIO 43050

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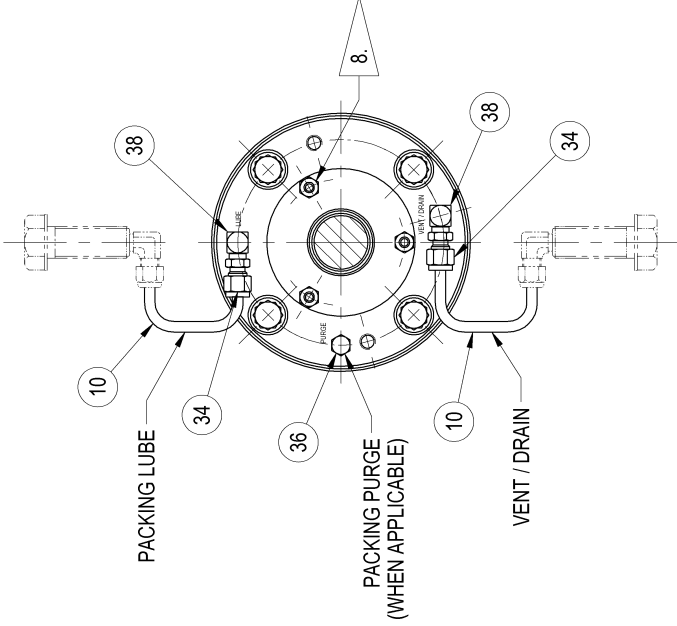
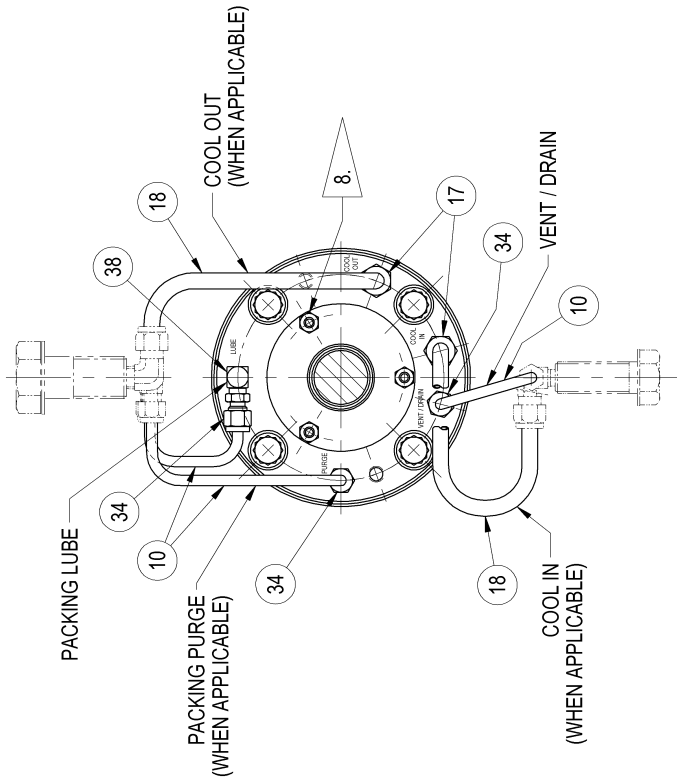
PARTS LIST

03.625 RJ PISTON ASSEMBLY; 03.500 STROKE. PART NO. PISTON ASSY
G-SHEETS USED: G-19787, G-19891, G-20065, G-19991, REF DRAWING A-17703 2 SHT
G-19946.

ITEM	PART NUMBER	QTY	DESCRIPTION
1	C-1097	1	PIST,WB , 3-5/8RJ
2	A-0692	4	PISTON RING, 3-5/8R:RJ & CE/HE
3	C-1099	1	P ROD, 3.50STK/23.515LG
4	B-1261	1	PISTON COLLAR, 2-5/8 OD, J:RJ:HJ:RJ-CE
5	B-1260	1	PISTON NUT, 2-5/8 OD, JGJ:RJ:HJ:RJ-HE
6	FS0405CF	2	SET SCREW, CUP POINT, 1/4-28 X 7/8
7	B-1684	1	PKG,1.5,2600,BTR,PU
8	FC0120HN	4	12-POINT CAPSCREW, 5/8-11 X 2-3/4, G8
10	PT0200CB	18."	TUBING, SS, 1/4 OD X .035 WALL
15	A-3155	1	WEAR BAND, 3-5/8RJ:RJ-CE, .750 GROOVE WIDTH
34	A-0830	0	MALE CONNECTOR, STL, 1/4 TUBE X 1/8 NPT
38	A-0884	0	STREET ELBOW, STL, 1/8 NPT, SHORT, 90 DEGREE
99	B-1683-K	0	REBUILD KIT, 1.500 PISTON ROD PACKING

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
DOES NOT REPRESENT THE QUANTITY REQUIRED.
*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***

1 2 3 4



A

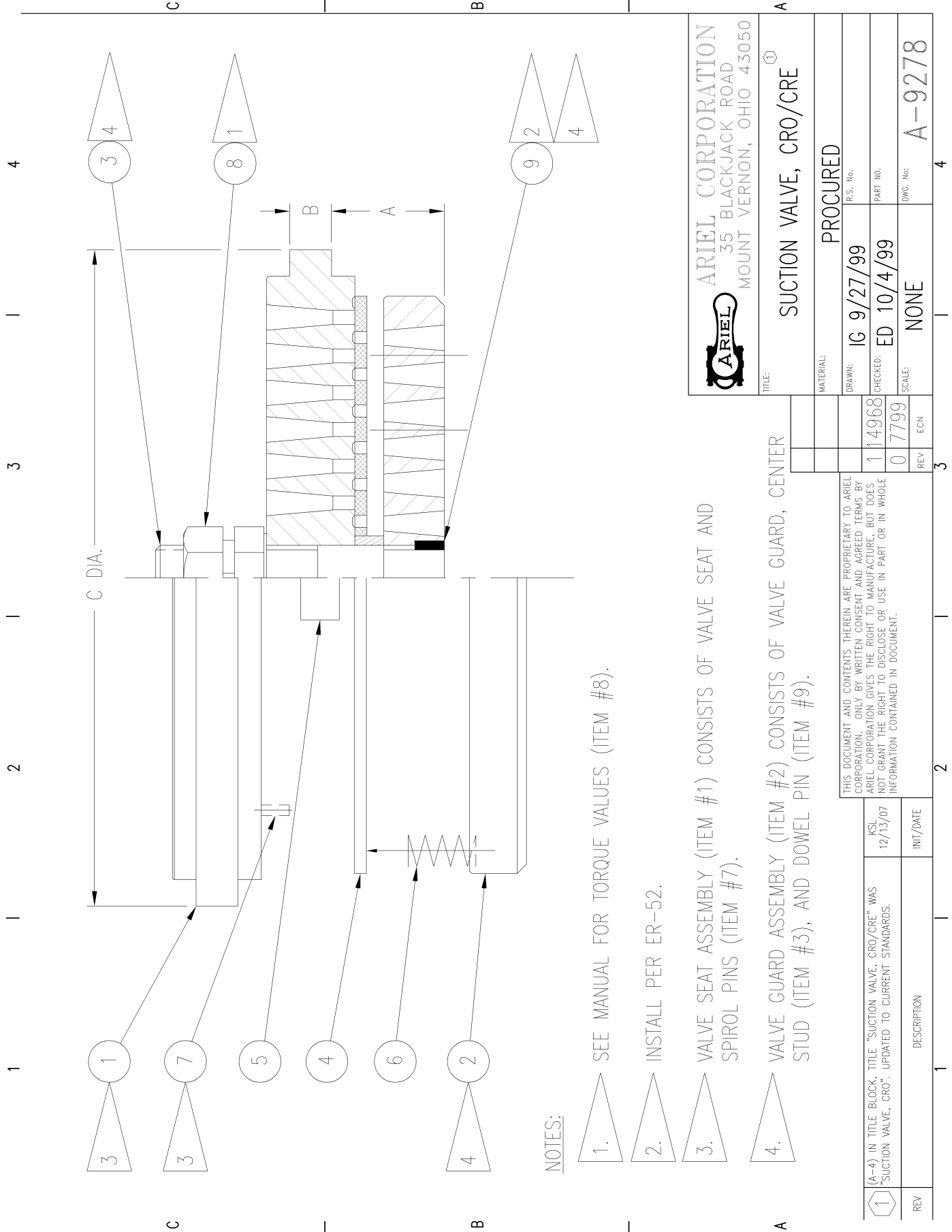
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REV	DESCRIPTION	INIT/DATE	CPM 03/13/12
2	ON SHEET #1: @B2: ADDED ITEM #35 BALLOON AND FLAG #5. ON SHEET #2: NO REVISIONS.		
1	ON SHEET #1: @B4: REVERSED ONE PIECE PISTON VIEW TO SHOW THE (2) PISTON RING GROOVES ON THE CRANK END SIDE OF THE PISTON. ON SHEET #2: NO REVISIONS.		

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REV	EON	REV	EON

ARIEL CORPORATION 35 BLACKJACK ROAD MOUNT VERNON, OHIO 43050			
ASSEMBLY DWG. NO. A-17703			
SHT 2 OF 2			
SCALE NONE			
DRAWN CPM 12/16/10			
CHECKED KRN 12/17/10			
EON REV 0 16366			
1 18031			
2 18129			

1 2 3 4



NOTES:

1. SEE MANUAL FOR TORQUE VALUES (ITEM #8).
2. INSTALL PER ER-52.
3. VALVE SEAT ASSEMBLY (ITEM #1) CONSISTS OF VALVE SEAT AND SPIROL PINS (ITEM #7).
4. VALVE GUARD ASSEMBLY (ITEM #2) CONSISTS OF VALVE GUARD, CENTER STUD (ITEM #3), AND DOWEL PIN (ITEM #9).



ARIEL CORPORATION

35 BLACKJACK ROAD

MOUNT VERNON, OHIO 43050

TITLE: SUCTION VALVE, CRO/CRE ^①	
MATERIAL: PROCURED	
DRAWN: IG 9/27/99	R.S. No.
CHECKED: ED 10/4/99	PART NO.
SCALE: NONE	DWG. No: A-9278

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REV	DESCRIPTION	INT/DATE	REV	ECN	
1	(A-4) IN TITLE BLOCK, TITLE "SUCTION VALVE, CRO/CRE" WAS "SUCTION VALVE, CRO". UPDATED TO CURRENT STANDARDS.	KSL 12/13/07	0	7799	
			3	1	4

9/07/12

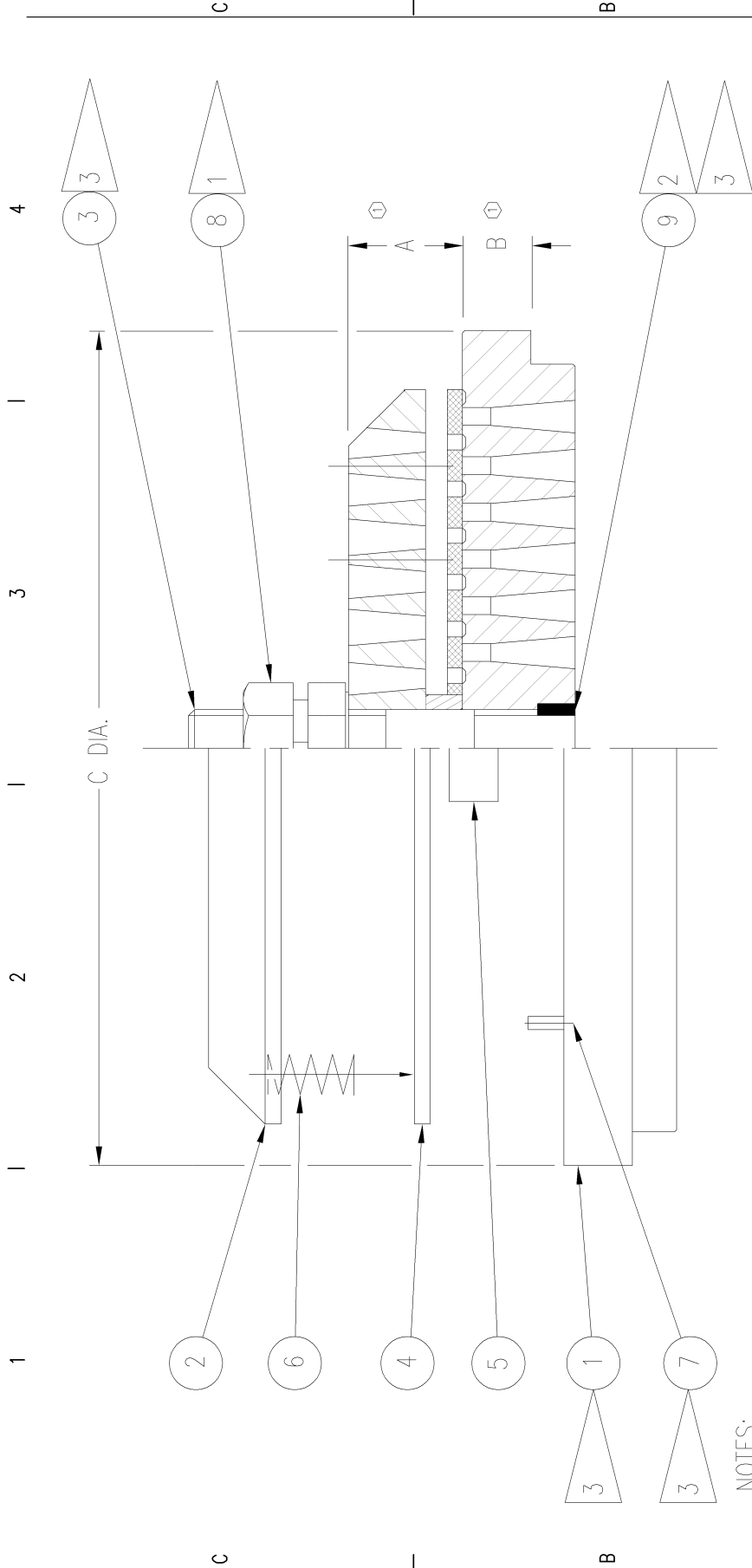
PARTS LIST

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0.5510=B
2.7800=C
0.0630=LFT

PART NO. B-4578-UX
REF DRAWING A-9278

ITEM	PART NUMBER	QTY	DESCRIPTION
1	A-14045	1	SUC VLV SEAT, 60CRE
2	A-14851-A	1	SUC VLV GUARD ASSY, 60CRE
3	A-2649	1	CNTR STUD,5/16-24
4	A-14128	1	VALVE PLATE, 60CRE, .118 THICK, NYX
5	A-9137	1	GUIDE RING,60CRO,.181 THK
6	A-8898	9	SPRING (.197 OD X .413 FREE LENGTH) BLUE, .024 WIRE DIAMETER
7	A-14645	2	SPIROL PIN, .079D X .354L
8	A-1366	1	LOCKNUT, DRAKE,5/16-24
9	A-16466	1	LOCK,STUD .098D
99	KB-4578-UX	0	KIT,VLV, 60CRE,NYX

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
DOES NOT REPRESENT THE QUANTITY REQUIRED.
*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***



NOTES:

1. SEE MANUAL FOR TORQUE VALUES (ITEM #8).
2. INSTALL PER ER-52.
3. VALVE SEAT ASSEMBLY (ITEM #1) CONSISTS OF VALVE SEAT, CENTER STUD (ITEM #3), SPIROL PIN (ITEM #7) AND DOWEL PIN (ITEM #9).

ARIEL CORPORATION
35 BLACKJACK ROAD
MOUNT VERNON, OHIO 43050

TITLE:		DISCHARGE VALVE, CRO/CRE	
MATERIAL:		PROCURED	
DRAWN:		IC 9/27/99	R.S. No.
CHECKED:		ED 10/4/99	PART NO.
SCALE:		NONE	DWG. No:
		A-9279	

(A-4) IN TITLE BLOCK, "DISCHARGE VALVE, CRO/CRE" WAS		KSI	12/13/07
"DISCHARGE VALVE, CRO".		RWR	6/01/05
@C4 WAS B. @B4 WAS A.		INT/DATE	
DESCRIPTION			

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2	14968	1	12882
0	7799	0	7799

9/07/12

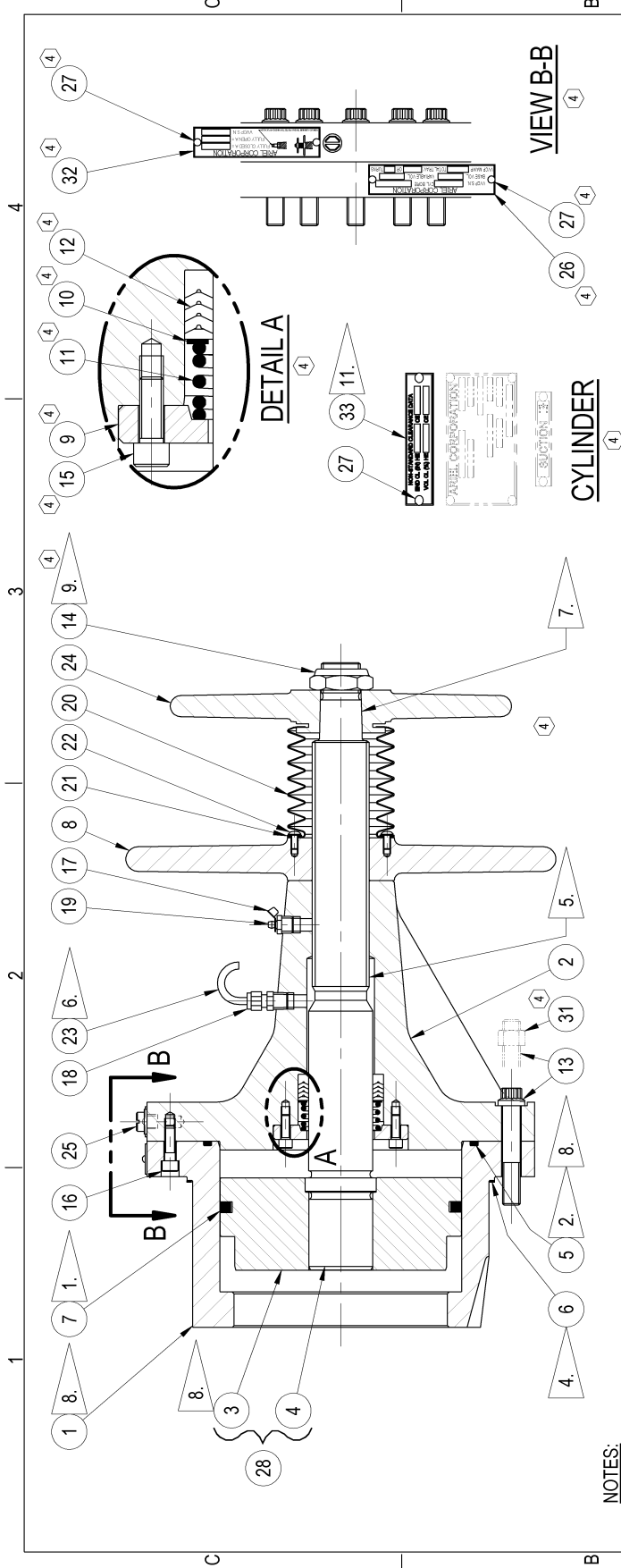
PARTS LIST

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0.4720=B
2.7550=C
0.0470=LFT

PART NO. B-4828-CC
REF DRAWING A-9279

ITEM	PART NUMBER	QTY	DESCRIPTION
1	A-14047-A	1	DIS VLV SEAT ASSY, 60CRE
2	A-14853-A	1	DIS VLV GUARD ASSY,60CRE
3	A-11000	1	CNTR STUD,5/16-24 X 2.24
4	A-14129	1	VALVE PLATE, 60CRE, .118 THICK, MTX
5	A-15000	1	GUIDE RING,60CRE,.165 THK
6	A-8897	9	SPRING (.197 OD X .413 FREE LENGTH) WHITE, .026 WIRE DIAMETER
7	A-14645	2	SPIROL PIN, .079D X .354L
8	A-1366	1	LOCKNUT, DRAKE,5/16-24
9	A-16466	1	LOCK,STUD .098D
99	KB-4828-CC	0	KIT,VLV, 60CRE,MTX

WHEN A ZERO APPEARS IN THE QUANTITY COLUMN IT
DOES NOT REPRESENT THE QUANTITY REQUIRED.
*** ALWAYS PROVIDE SERIAL NUMBER WHEN ORDERING SPARE PARTS. ***



NOTES:

1. LIGHTLY OIL BORE AND RING BEFORE INSTALLING.
 2. OIL O-RING BEFORE INSTALLING.
 - 3.- LOOSEN OR TIGHTEN ALL FASTENERS PER RECOMMENDED PROCEDURES AND TORQUE VALUES IN MANUAL.
 4. APPLY AN ANTI-SEIZE LUBRICANT TO GASKET SURFACES.
 5. APPLY AN ANTI-SEIZE LUBRICANT TO STEM THREADS BEFORE ASSEMBLING.
 6. VENT TUBE TO BE POINTED DOWN.
 7. ACCEPTANCE OF TAPER FIT WILL BE DETERMINED AT THE ASSEMBLY OF COMPONENTS. HANDLE TO STEM FIT MUST BE TIGHT.
8. CAUTION: FOR NON-LUBE APPLICATIONS REFER TO TECHNICAL MANUAL FOR SPECIAL PROCEDURES FOR THESE ITEMS.
9. TIGHTEN NUT UNTIL UNLOADER HANDLE IS FULLY SEATED.
- 10.- THIS ASSEMBLY DRAWING IS FOR ILLUSTRATION PURPOSE 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.

REDRAWN TO SOLID EDGE. @B4: ADDED VIEW B-B. RELOCATED ITEMS #26 & #27 FROM C2. @C4: REMOVED TABLE. @C4: ADDED ITEMS #27, #32 & DETAIL A. RELOCATED ITEMS #9, #10, #11 & #12 FROM C2. @C3: ADDED FLAG #9. RELOCATED ITEM #15 FROM C1. @B2-B4: REMOVED DIMS "A" & "B". @B2: ADDED ITEM #31. @A3-B3: ADDED NOTES #9, #10 & #11. @B3: ADDED CYL. VIEW. UPDATED TO CURRENT STANDARDS.		DLI	08/06/2008
REV	DESCRIPTION	INITIALS	DATE
4	REDRAWN TO SOLID EDGE. @B4: ADDED VIEW B-B. RELOCATED ITEMS #26 & #27 FROM C2. @C4: REMOVED TABLE. @C4: ADDED ITEMS #27, #32 & DETAIL A. RELOCATED ITEMS #9, #10, #11 & #12 FROM C2. @C3: ADDED FLAG #9. RELOCATED ITEM #15 FROM C1. @B2-B4: REMOVED DIMS "A" & "B". @B2: ADDED ITEM #31. @A3-B3: ADDED NOTES #9, #10 & #11. @B3: ADDED CYL. VIEW. UPDATED TO CURRENT STANDARDS.	DLI	08/06/2008

ARIEL CORPORATION 35 BLACKJACK ROAD MOUNT VERNON, OHIO 43050		ASSEMBLY DWG. NO.	SCALE
A-8598		CAH 04/29/99	NONE

3	10035	2	10297	1	8001
4	13364	0	7743	REV	EON
REV	EON	REV	EON	REV	EON

SHEET 1 OF 1

9/07/12

ARIEL CORPORATION
SALES ORDER COVER SHEET

C/N: 001

RHCOVP02

SERIAL #: U94327

PART: G-11043 DESCRIPTION: VVCP, 3-5/8R:RJ,(R:RJ:H)-HE

3-5/8" JGR:RJ(R:RJ:H)-HE UNLOADER ASSY, PART NO. G-11043
STAINLESS STEEL TUBING AND FITTINGS. REF DRAWING A-8598

ITEM	PART NUMBER	QTY	DESCRIPTION
1	C-0442	1	UNL.HEAD, 3-5/8RU
2	D-0543	1	ADAPTER, HEAD END UNLOADER, 3-5/8R
3	B-0611	0	UNL PIST, 3-7/8R
4	C-3701	0	UNL.STEM,3-7/8,4-5/8RU TPR/HND
5	A-0041	1	O-RING, VT, 4.395 OD X .210, 75/85 DUROMETER
6	A-0691	1	STEEL GASKET, 04.313 OD X 04.000 ID X .060, HEAD
7	A-0502	1	UNL.PISTON RING, 2-1/2 O.D.
8	C-0439	1	UNLOADER LOCKING HANDLE, 1-3/8-12 THREAD
9	B-0610	1	SPRING RETAINER
10	A-0518	1	BACK-UP RING, V-PACKING
11	A-0498	1	COMPRESSION SPRING, UNLOADER
12	A-0472	1	V PACKING, UNL
13	FC0120HU	12	12-POINT CAPSCREW, 5/8-11 X 5, G8
14	A-4851	0	SELF-LOCK NUT,ESNA,TN,1-14
15	FC0110DF	4	SOCKET HEAD CAPSCREW, 5/16-18 X 7/8, G8
16	FC0110EJ	2	SOCKET HEAD CAPSCREW, 3/8-16 X 1-3/4, 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-0641-A	1	BELLOWS, THREAD PROTECTOR, UNLOADER
21	A-0770	1	BACK-UP RING, BELLOWS

9/07/12

SALES ORDER COVER SHEET

22	FC0134CC	3	BUTTON HEAD CAPSCREW, 1/4-20 X 1/2, 316SS
23	PT0201CD	5."	TUBING, 316 SS, 1/4 OD X .065 WALL
24	C-1437	0	UNLOADER HANDWHEEL, 3-7/8 & 4-5/8R:R-HE:RJ:RJ-HE:HJ:H:H-HE:E:ET
25	A-0467	1	PUSH-IN PLUG, PLASTIC, 3/8 THREAD, YELLOW
26	A-0755	1	DATA PLATE, UNLOADER HEAD SPECIFICATION
27	FR0571CC	4	DRIVE SCREW, TYPE U, SS, #6 X 1/4
28	AC-3703	1	UNL PIST ASSY, 3-7/8R
32	A-12927	1	DATA PLATE, UNLOADER ADAPTER SPECIFICATION

VARIABLE VOLUME CLEARANCE POCKET (Headend Unloader) DATA SHEET

3-7/8RJ Class Cylinder

Stroke: 3.50 in 89 mm

Bore: 3.625 in 92 mm

MAWP: 2200 psi 151.7 barg 15168 kPa(g) 154.7 kg/cm2(g)

General Data for VVCP (independent of cylinder):

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

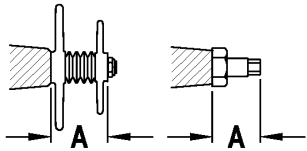
MAWP*: 2300 158.6 barg 15858 kPa(g)

VVCP piston diameter: 2.5 in 64 mm

Stem thread lead (pitch): 0.083333 in 2 mm

Total travel: 4.0 in 10.2 cm

Number of turns from closed to fully open: 48



A distance - see diagram

- closed: 4-1/8 in 10.5 cm

- open: 8-1/8 in 20.6 cm

Minimum added fixed clearance: 0.3 in3 5.6 cm3

Additional added clearance when fully open: 20 in3 328 cm3

Total added clearance when fully open: 20.3 in3 333.4 cm3

Clearance volume change per turn: 0.4 in3 6.8 cm3

Clearance volume change per change in travel: 5.0 in3/in 32.3 cm3/cm

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

Minimum added fixed clearance: 1.0%

Additional added clearance when fully open: 55.4%

Total added clearance when fully open: 56.3%

Head end clearance change per turn: 1.2%

Head end clearance change per change in travel: 13.8% /in 5.4% /cm

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

Minimum fixed head end clearance: 19.6%

Total head end clearance when fully open: 74.9%

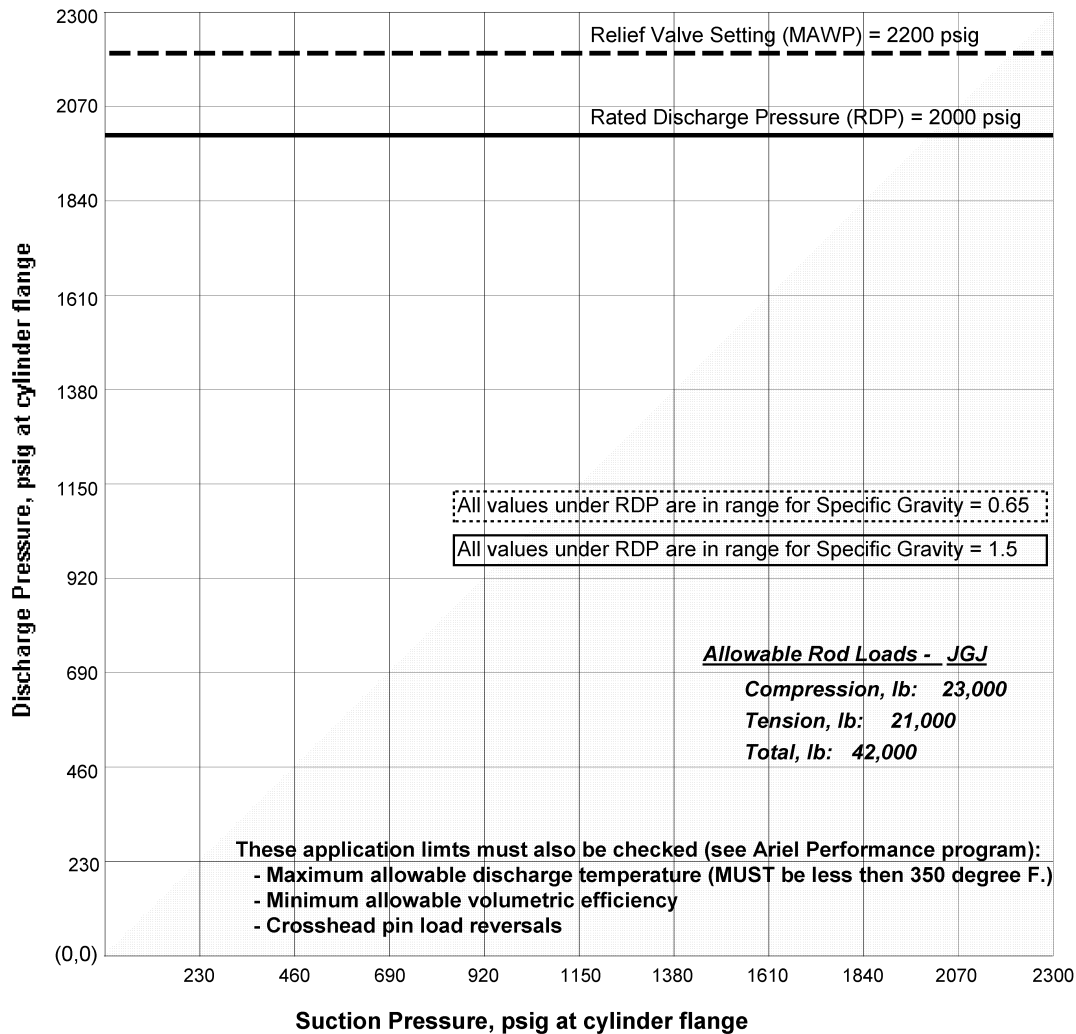
PLEASE NOTE: It is important to understand that the percent clearance figures for the variable volume clearance pocket above include the cylinder headend clearance. However, any valve spacers or other non-standard added clearances on the unit must be accounted for.

Estimated Gas Rod Load and Pressure Limits for 3.5 inch stroke at 1800 RPM

Cylinder Class: 3-7/8RJ

Bore, inches: 3.625

Cylinder Serial Number: C-137500



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.