

REQUIRED ITEMS:

A) POWER SOURCE - Select from one of the following options:

NOTE: All II-CPU systems are specified with the High Output option.

1) ALTERNATOR POWER OPTION, NEW APPLICATIONS - order as follows:

a) ALTRONIC II-CPU UNIT - See listing and Identification section.

NOTE: Part No. listed includes the Altronic II Alternator, CPU Back Cover and Distributor Shaft Assembly (if required).

b) DRIVE MEMBER - 1 per system:

560 001 Drive member for -AL, -EL units
560 008 Drive member for -AN, -EN units

2) ALTERNATOR POWER OPTION, RETROFIT APPLICATIONS - follow these guidelines:

a) ALTERNATOR:

S/N 100-899: Replace Alternator with new type - see above.

S/N 900-2399: Overhaul and replace stator with current type. **NOTE:** Stator should conform with that specified in CPU Alternator in this listing to achieve full output; see Identification page for stator part number.

S/N 2400 & up: OK - overhaul to current specifications. **NOTE:** Stator should conform with that specified in CPU Alternator in this listing to achieve full output; see Identification page for stator part number.

b) BACK COVER, CPU - 1 per system:

281 500-2 Back cover, CPU - high output

c) DISTRIBUTOR SHAFT ASSEMBLY (4-CYCLE ENGINE ONLY) - 1 per system:

280 601-1 Distributor shaft assembly 1:1
280 601-2 Distributor shaft assembly 2:1
280 601-3 Distributor shaft assembly 3:1
280 601-5 Distributor shaft assembly 2-1/2:1

d) RETROFIT KIT CODE - see listing:

Code	Required Items
20	281 500-2
21	281 500-2 + 280 601-1
22	281 500-2 + 280 601-2
23	281 500-2 + 280 601-3
25	281 500-2 + 280 601-5

3) 24 VDC POWER OPTION (NO ALTERNATOR REQUIRED) - order as follows:

a) 24 VDC CONVERTER - 1 per system:

281 550-2 24 VDC converter

b) CYCLE TRIGGER (4-CYCLE ENGINE ONLY) - 1 of each item per system:

260 604 Trigger magnet - 5/8" dia., 8 mm thread (recommended for new installations)
720 002 Trigger magnet - 1/4" dia., 8 mm thread
591 014-2 Hall-effect pick-up - 2.5" threaded bushing length
591 014-4 Hall-effect pick-up - 4.5" threaded bushing length
593 052-12 Pick-up cable assembly - 12" length
593 052-18 Pick-up cable assembly - 18" length
593 052-24 Pick-up cable assembly - 24" length
593 052-36 Pick-up cable assembly - 36" length

c) 24 VDC KIT CODE - see listing:

Code	Required Items
32	281 550-2
34	281 550-2 + 260 604 or 720 002, 591 014-2 or -4, 593 052-x

**ALTRONIC II-CPU
LARGE ENGINES, 3-20 CYLINDERS**

**APPLICATION LIST
FORM AII-CPU AL 7-94**

B) ALTRONIC II-CPU CONTROL UNIT - 1 per system:

Part no. specific to each engine type; see listing.

1) CONTROL UNIT PART NO.:

- 281 516-2 II-CPU Unit, 16 outputs
- 281 516-2A II-CPU Unit, 16 outputs, 2 outputs fire simultaneously
- 281 632-2 II-CPU Unit, 32 outputs
- 281 632-2A II-CPU Unit, 32 outputs, 2 outputs fire simultaneously

NOTE 1: Prior models 281 508-2 and 281 512-2 are replaced with model 281 516-2.

NOTE 2: Prior models 281 508-2A and 281 512-2A are replaced with model 281 516-2A.

NOTE 3: Prior model 281 624-2 is replaced with model 281 632-2.

NOTE 4: Prior model 281 624-2A is replaced with model 281 632-2A.

2) MEMORY CHIP PART NO. (abcdef.gh) Example: (F2A360.DA)

a) Letter of alphabet corresponding to number of Control Unit outputs:

D = 4, E = 5, F = 6, G = 7, H = 8, I = 9, J = 10,
L = 12, N = 14, P = 16, R = 18, T = 20, X = 24, Z = 32

b) Engine stroke-cycle:

2 = 2-cycle
3 = 2-cycle, high speed
4 = 4-cycle
5 = 4-cycle, high speed

c) Altronic firing pattern code:

A = even firing pattern
Other letter = odd firing pattern

def) No. of sensed teeth or holes:

Example: 360 = 360 teeth or holes

g) CPU logic board series code:

B = "B" series CPU logic board
D = "D" series CPU logic board

h) 4-20 ma loop timing retard range:

A = 48 degrees
B = 36 degrees
C = 24 degrees
S = special range curve

EXAMPLES:

8-Cylinder, 4-Cycle Engine	10-Cylinder, 2-Cycle Engine
90° even firing pattern	60°-12° odd firing pattern
360 sensed holes or teeth	180 sensed holes or teeth
24 degree range on 4-20 ma loop	48 degree range on 4-20 ma loop
PART NO. 281 508-2 (H4A360.DC)	PART NO. 281 512-2 (J2B180.DA)

C) HARNESS ASSEMBLY, ALTERNATOR TO CPU UNIT - 1 per system:

NOTE: This item is NOT REQUIRED with the 24 VDC powered system.

293 024-1 60" conduit
293 024-2 96" conduit

**ALTRONIC II-CPU
LARGE ENGINES, 3-20 CYLINDERS**

**APPLICATION LIST
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D) HARNESS ASSEMBLY, CPU UNIT TO JUNCTION BOX - 1 per system:

293 023-8	48" conduit, 8 outputs
293 023-16	48" conduit, 16 outputs
293 026-8	84" conduit, 8 outputs
293 026-16	84" conduit, 16 outputs
293 027-8	144" conduit, 8 outputs
293 027-16	144" conduit, 16 outputs
293 028-8	96" conduit, 8 outputs
293 028-16	96" conduit, 16 outputs

NOTE: 32-output CPU units require two harnesses 293 02x-16.

E) MAGNETIC PICK-UP, 5/8"-18 THREAD - 2 per system:

691 118-1	1.75" threaded body length
691 118-2	2.50" threaded body length
691 118-3	3.00" threaded body length
691 118-4	4.50" threaded body length
691 118-6	6.00" threaded body length

F) CABLE ASSEMBLY, MAGNETIC PICK-UP - 2 per system:

593 048-24	50 ft. cable, shielded, 24" conduit
593 048-48	50 ft. cable, shielded, 48" conduit
593 048-72	50 ft. cable, shielded, 72" conduit
593 048-96	50 ft. cable, shielded, 96" conduit
693 104-1	10 ft. cable, unshielded
693 104-2	20 ft. cable, unshielded
693 104-3	30 ft. cable, unshielded
693 104-4	40 ft. cable, unshielded
693 104-5	50 ft. cable, unshielded

NOTE: Use 593 048 series cable for CSA certified installation.

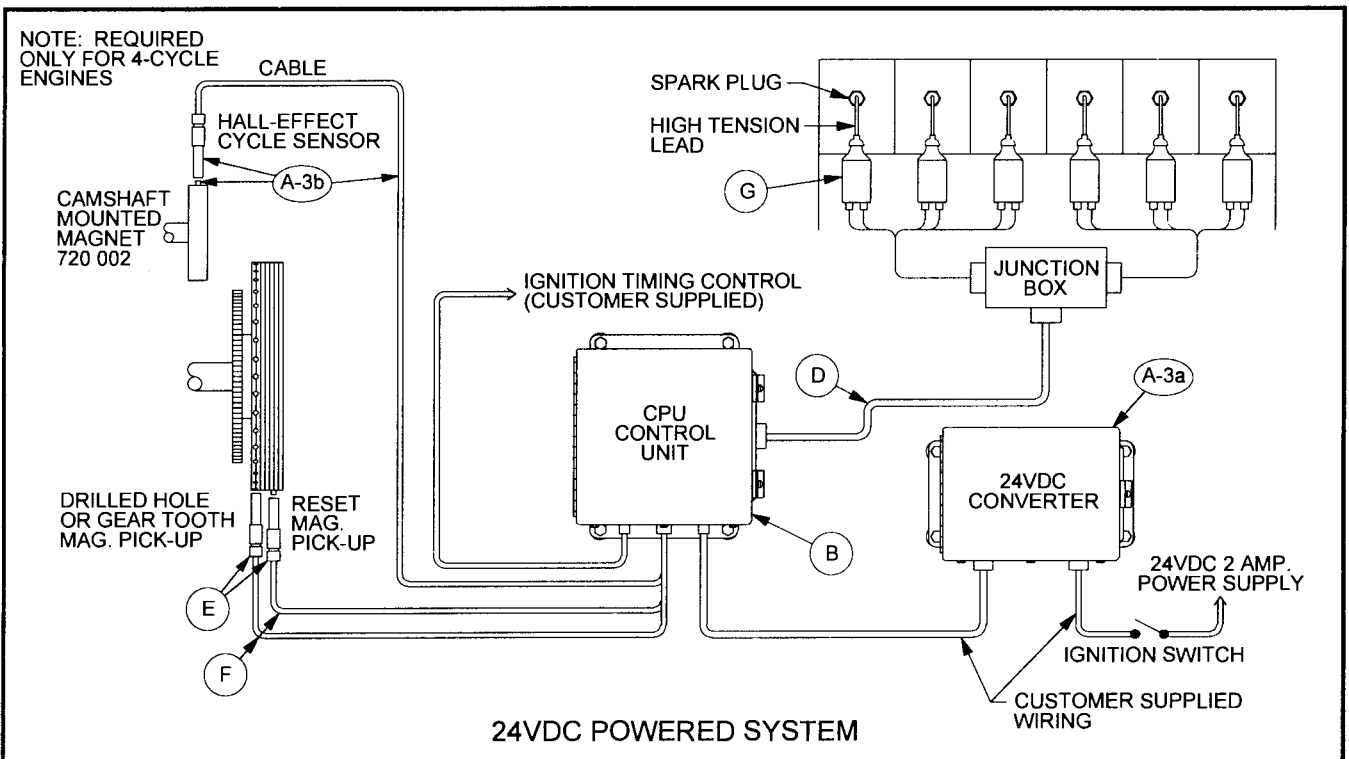
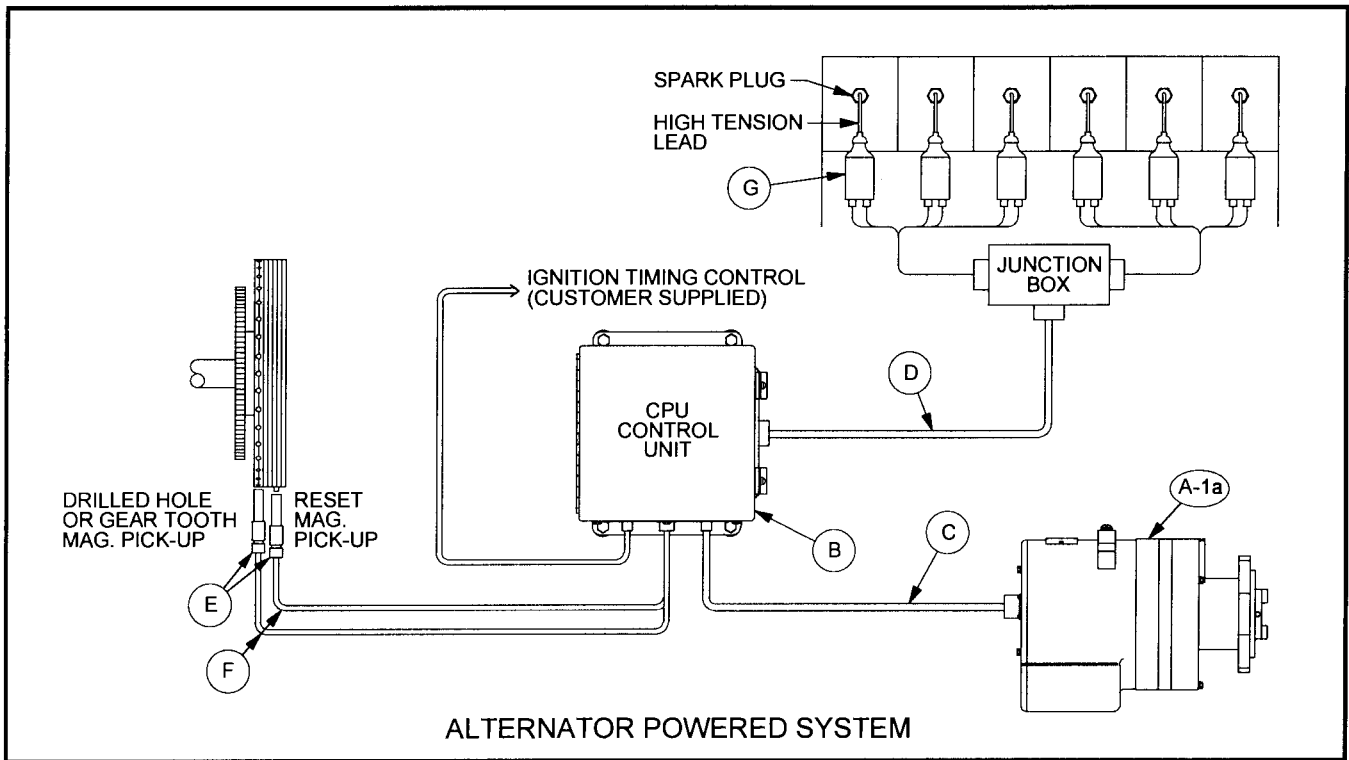
G) IGNITION COILS - 1 per spark plug:

291 001	Unshielded coil
591 060	Long duration coil (plastic case)
291 001-S series	Shielded coil
591 008 series	Integral coil

H) OTHER SYSTEM COMPONENTS:

See OPTIONAL ITEMS on front page of Altronic II Application List form All AL.

* APPLICATION LISTING - In the listing that follows, only the first three characters of the memory number are indicated. When ordering, fill in the number of sensed holes or teeth and the code for the desired degree range of the 4-20 ma timing signal (see item B). The listed Retrofit Kit Codes are found in item A-2d; the 24 VDC Powered Kit Codes are found in item A-3c.



**ALTRONIC II-CPU
LARGE ENGINES, 3-20 CYLINDERS**

**APPLICATION LIST
FORM AII-CPU AL 7-94**

		----- ALTERNATOR POWERED -----			DC PWR	*Item B	QTY.
ENGINE/MODEL NO.	DRIVE RATIO	Item A-1a ALT.II-CPU UNIT NO.	Item A-2d RETROFIT KIT CODE	Item A-3c 24 VDC KIT CODE	CPU CONTROL UNIT NO. (MEMORY)	IGN. COILS	
CLARK							
BA,HBA,	- 5	2-1/2:1	290 037H-EL	20	32	281 516-2 (E2A*)	10
HBA-T,HLA	- 5	1:1	290 013H-A, -AN, -EN	20	32	281 516-2 (E2A*)	10
	- 6	3:1	290 037H-EL	20	32	281 516-2 (F2A*)	12
	- 6	1:1	290 013H-A, -AN, -EN	20	32	281 516-2 (F2A*)	12
	- 8	2:1	290 023H-EL	20	32	281 516-2 (H2C*)	16
	- 8	1:1	290 013H-A, -AN, -EN	20	32	281 516-2 (H2C*)	16
	- 10	2-1/2:1	290 037H-EL	20	32	281 516-2 (J2A*)	20
	- 10	1:1	290 016H-A, -AN, -EN	20	32	281 516-2 (J2A*)	20
MA,HMA,HMAB,	- 4	Recommend 24 VDC Powered System			32	281 516-2 (D3A*)	8
TMB	- 5	Recommend 24 VDC Powered System			32	281 516-2 (E3A*)	10
	- 6	Recommend 24 VDC Powered System			32	281 516-2 (F3A*)	12
	- 8	Recommend 24 VDC Powered System			32	281 516-2 (H3C*)	16
	- 10	Recommend 24 VDC Powered System			32	281 516-2 (J3A*)	20
RA,HRA,HRA-T,	- 4	2:1	290 020H-EL	20	32	281 516-2 (D2A*)	8
HSRA	- 5	2-1/2:1	290 037H-EL	20	32	281 516-2 (E2A*)	10
	- 6	3:1	290 037H-EL	20	32	281 516-2 (F2A*)	12
	- 8	2:1	290 023H-EL	20	32	281 516-2 (H2A*)	16
TCV,TCVA,TCVC,-	- 10	1:1	290 016H-A, -AN, -EN	20	32	281 516-2 (J2T*)	20
TCVD,TPV	- 12	1:1	290 016H-A, -AN, -EN	20	32	281 516-2 (L2T*)	24
	- 16	1:1	290 016H-A, -AN, -EN	20	32	281 516-2 (P2H*)	32
	- 16	2:1	290 026H-A, -AN, -EN	20	32	281 516-2 (P2H*)	32
	- 20	2:1	290 026H-A, -AN, -EN	20	32	281 632-2 (T2H*)	40
TLA,TLAC,	- 5	2-1/2:1	290 037H-EL	20	32	281 516-2 (E2A*)	10
TLAD,TRA	- 5	1:1	290 013H-A, -AN, -EN	20	32	281 516-2 (E2A*)	10
	- 6	3:1	290 037H-EL	20	32	281 516-2 (F2A*)	12
	- 6	1:1	290 013H-A, -AN, -EN	20	32	281 516-2 (F2A*)	12
	- 8	2:1	290 023H-EL	20	32	281 516-2 (H2C*)	16
	- 8	1:1	290 013H-A, -AN, -EN	20	32	281 516-2 (H2C*)	16
	- 10	2-1/2:1	290 037H-EL	20	32	281 516-2 (J2A*)	20
	- 10	1:1	290 016H-A, -AN, -EN	20	32	281 516-2 (J2A*)	20
TVM	- 10	Recommend 24 VDC Powered System			32	281 516-2 (J3T*)	20
	- 12	Recommend 24 VDC Powered System			32	281 516-2 (L3T*)	24
VRA (Bobcat)	- 12	1:1	290 016H-A, -AN, -EN	20	32	281 516-2 (L2Q*)	24
	- 16	1:1	290 016H-A, -AN, -EN	20	32	281 516-2 (P2Q*)	32
	- 20	Recommend 24 VDC Powered System			32	281 632-2 (T2Q*)	40

**ALTRONIC II-CPU
LARGE ENGINES, 3-20 CYLINDERS**

**APPLICATION LIST
FORM AII-CPU AL 7-94**

		----- ALTERNATOR POWERED -----			DC PWR	*Item B	QTY.
ENGINE/MODEL NO.	DRIVE RATIO	Item A-1a ALT.II-CPU UNIT NO.	Item A-2d RETROFIT KIT CODE	Item A-3c 24 VDC KIT CODE	CPU CONTROL UNIT NO. (MEMORY)	IGN. COILS	
COOPER BESSEMER							
GMV (short stroke)- 4	2:1	290 020H-EL	20	32	281 516-2 (D2F*)	8	
(S/N 41481 and lower) - 6	3:1	290 037H-EL	20	32	281 516-2 (F2F*)	12	
- 8	2:1	290 023H-EL	20	32	281 516-2 (H2F*)	16	
- 10	2-1/2:1	290 037H-EL	20	32	281 516-2 (J2F*)	20	
GMV,GMVA,GMVC - 4	2:1	290 020H-EL	20	32	281 516-2 (D2B*)	8	
GMVE,GMVG - 4	1:1	290 013H-A, -AN, -EN	20	32	281 516-2 (D2B*)	8	
(S/N 41482 and higher) - 6	3:1	290 037H-EL	20	32	281 516-2 (F2A*)	12	
- 6	1:1	290 013H-A, -AN, -EN	20	32	281 516-2 (F2A*)	12	
- 8	2:1	290 023H-EL	20	32	281 516-2 (H2T*)	16	
- 8	1:1	290 013H-A, -AN, -EN	20	32	281 516-2 (H2T*)	16	
(a) - 8	2:1	290 023H-EL	20	32	281 516-2A (H2N*)	16	
(a) - 8	1:1	290 013H-A, -AN, -EN	20	32	281 516-2A (H2N*)	16	
- 10	2-1/2:1	290 037H-EL	20	32	281 516-2 (J2B*)	20	
- 10	1:1	290 016H-A, -AN, -EN	20	32	281 516-2 (J2B*)	20	
- 12	3:1	290 036H-EL	20	32	281 516-2 (L2A*)	24	
- 12	1:1	290 016H-A, -AN, -EN	20	32	281 516-2 (L2A*)	24	
(a) - 12	3:1	290 036H-EL	20	32	281 516-2A (L2R*)	24	
(a) - 12	1:1	290 016H-A, -AN, -EN	20	32	281 516-2A (L2R*)	24	
GMVH - 6	1:1	290 013H-A, -AN, -EN	20	32	281 516-2 (F2A*)	12	
- 8	1:1	290 013H-A, -AN, -EN	20	32	281 516-2 (H2T*)	16	
(a) - 8	1:1	290 013H-A, -AN, -EN	20	32	281 516-2A (H2N*)	16	
- 10	1:1	290 016H-A, -AN, -EN	20	32	281 516-2 (J2B*)	20	
(a) - 12	1:1	290 016H-A, -AN, -EN	20	32	281 516-2A (L2R*)	24	
GMX,GMXA, - 4	2:1	290 037H-EL	20	32	281 516-2 (D2F*)	8	
GMXB,GMXC, - 4	1:1	290 053H-A, -AN, -EN	20	32	281 516-2 (D2F*)	8	
GMXD.GMXE - 6	3:1	290 037H-EL	20	32	281 516-2 (F2F*)	12	
- 6	1:1	290 053H-A, -AN, -EN	20	32	281 516-2 (F2F*)	12	
- 8	2:1	290 036H-EL	20	32	281 516-2 (H2F*)	16	
- 8	1:1	290 056H-A, -AN, -EN	20	32	281 516-2 (H2F*)	16	
- 10	2-1/2:1	290 036H-EL	20	32	281 516-2 (J2F*)	20	
- 10	1:1	290 056H-A, -AN, -EN	20	32	281 516-2 (J2F*)	20	
- 12	1:1	290 056H-A, -AN, -EN	20	32	281 516-2A (L2X*)	24	

(a) Two cylinders fire simultaneously.

COOPER BESSEMER LISTING CONTINUED ON NEXT PAGE

**ALTRONIC II-CPU
LARGE ENGINES, 3-20 CYLINDERS**

**APPLICATION LIST
FORM AII-CPU AL 7-94**

		----- ALTERNATOR POWERED -----				DC PWR		
ENGINE/MODEL NO.	DRIVE RATIO	Item A-1a ALT.II-CPU UNIT NO.	Item A-2d RETROFIT KIT CODE	Item A-3c 24 VDC KIT CODE	*Item B CPU CONTROL UNIT NO. (MEMORY)	QTY. IGN. COILS		
COOPER BESSEMER (CONTINUED)								
GMW,GMWA,	- 6	3:1	290 037H-EL	20	32	281 516-2 (F2D*)	12	
GMWC	- 6	1:1	290 013H-A, -AN, -EN	20	32	281 516-2 (F2D*)	12	
	- 8	2:1	290 023H-EL	20	32	281 516-2 (H2D*)	16	
	- 8	1:1	290 013H-A, -AN, -EN	20	32	281 516-2 (H2D*)	16	
	- 10	2-1/2:1	290 037H-EL	20	32	281 516-2 (J2A*)	20	
	- 10	1:1	290 016H-A, -AN, -EN	20	32	281 516-2 (J2A*)	20	
	- 12	3:1	290 036H-EL	20	32	281 516-2 (L2D*)	24	
	- 12	1:1	290 016H-A, -AN, -EN	20	32	281 516-2 (L2D*)	24	
GMWH	- 6	1:1	290 013H-A, -AN, -EN	20	32	281 516-2 (F2D*)	12	
	- 8	1:1	290 013H-A, -AN, -EN	20	32	281 516-2 (H2D*)	16	
	- 10	1:1	290 016H-A, -AN, -EN	20	32	281 516-2 (J2A*)	20	
	- 12	1:1	290 016H-A, -AN, -EN	20	32	281 516-2 (L2D*)	24	
	- 16	1:1	290 016H-A, -AN, -EN	20	32	281 516-2 (P2D*)	32	
JS	- 6	1/2:1	290 113H-A, -AN, -EN	21	34	281 516-2 (F4A*)	12	
	(4° diff.) - 6	1/2:1	290 116H-A, -AN, -EN	21	34	281 516-2 (L4S*)	12	
	- 8	1/2:1	290 113H-A, -AN, -EN	21	34	281 516-2 (H4A*)	16	
	(4° diff.) - 8	1/2:1	290 116H-A, -AN, -EN	21	34	281 516-2 (P4S*)	16	
LSV	†† - 12	1:1	290 216H-A, -AN, -EN	--	34	281 632-2 (X4L*)	24	
	** - 12	1/2:1	290 103H-A, -AN, -EN	21	34	281 516-2 (L4L*)	24	
	†† - 16	1:1	290 216H-A, -AN, -EN	--	34	281 632-2 (Z4L*)	32	
	** - 16	1/2:1	290 103H-A, -AN, -EN	21	34	281 516-2 (P4L*)	32	
Q145,Q145H,	- 8	1:1	290 053H-A, -AN, -EN	20	32	281 516-2 (H2T*)	16	
Q155,Q155H (a)	- 12	1:1	290 056H-A, -AN, -EN	20	32	281 516-2A (L2R*)	24	
(QUAD)	- 16	Recommend 24 VDC Powered System			32	281 516-2 (P2B*)	32	
	- 20	Recommend 24 VDC Powered System			32	281 632-2 (T2B*)	40	
V-250,V-275,	- 6	1:1	290 013H-A, -AN, -EN	20	32	281 516-2 (F2D*)	12	
W-330	- 8	1:1	290 013H-A, -AN, -EN	20	32	281 516-2 (H2D*)	16	
	- 10	1:1	290 016H-A, -AN, -EN	20	32	281 516-2 (J2A*)	20	
	(90° crank) - 10	1:1	290 016H-A, -AN, -EN	20	32	281 516-2 (J2W*)	20	
	(60° crank) - 12	1:1	290 016H-A, -AN, -EN	20	32	281 516-2 (L2D*)	24	
	(63° crank) - 12	1:1	290 016H-A, -AN, -EN	20	32	281 516-2 (L2V*)	24	
	(76° crank) - 12	1:1	290 016H-A, -AN, -EN	20	32	281 516-2 (L2U*)	24	
	- 16	1:1	290 016H-A, -AN, -EN	20	32	281 516-2 (P2E*)	32	

(a) Two cylinders fire simultaneously.

†† Single system with 4 degree offset for side and center spark plugs; must have 1:1 drive for alternator version.

** Independent systems used for side and center spark plugs; must order two of the systems indicated.

COOPER BESSEMER LISTING CONTINUED ON NEXT PAGE

**ALTRONIC II-CPU
LARGE ENGINES, 3-20 CYLINDERS**

**APPLICATION LIST
FORM AII-CPU AL 7-94**

ENGINE/MODEL NO.	DRIVE RATIO	----- ALTERNATOR POWERED -----			DC PWR 24 VDC KIT CODE	*Item B CPU CONTROL UNIT NO. (MEMORY)	QTY. IGN. COILS
		Item A-1a ALT.II-CPU UNIT NO.	Item A-2d RETROFIT KIT CODE	Item A-3c			

COOPER BESSEMER (CONTINUED)

V-250, ***	- 6	2:1	290 023H-A, -AN, -EN	20	32	281 516-2 (F2D*)	12
V-275, ***	- 8	2:1	290 023H-A, -AN, -EN	20	32	281 516-2 (H2D*)	16
W-330 ***	- 10	2:1	290 026H-A, -AN, -EN	20	32	281 516-2 (J2W*)	20
	- 12	2:1	290 026H-A, -AN, -EN	20	32	281 516-2 (L2D*)	24
	- 16	2:1	290 026H-A, -AN, -EN	20	32	281 516-2 (P2E*)	32
Z-330	- 12	1:1	290 016H-A, -AN, -EN	20	32	281 516-2 (L2Z*)	24
	- 16	1:1	290 016H-A, -AN, -EN	20	32	281 516-2 (P2Z*)	32
	(a) - 16	1:1	290 016H-A, -AN, -EN	20	32	281 516-2A (P2N*)	32
	(a) - 16	2:1	290 026H-A, -AN, -EN	20	32	281 516-2A (P2N*)	32

DE LAVAL

HVA	- 6	1/2:1	290 113H-A, -AN, -EN	21	34	281 516-2 (F5A*)	12
	- 8	1/2:1	290 113H-A, -AN, -EN	21	34	281 516-2 (H5O*)	16
	- 12	1/2:1	290 116H-A, -AN, -EN	21	34	281 516-2 (L5O*)	24
	- 16	1/2:1	290 116H-A, -AN, -EN	21	34	281 516-2 (P5O*)	32

INGERSOLL RAND

KVG,KVGR	- 26	1-1/2:1	290 320H-EL	23	34	281 516-2 (F4C*)	12
	- 36	1-1/2:1	290 320H-EL	23	34	281 516-2 (F4C*)	12
(b)	- 48	1:1	290 253H-EN	22	34	281 516-2 (H4E*)	16
(c)	- 48	1:1	290 253H-EN	22	34	281 516-2 (H4K*)	16
	- 62	1-1/2:1	290 320H-EL	23	34	281 516-2 (F4C*)	12
	- 82	1:1	290 253H-EN	22	34	281 516-2 (H4H*)	16
	- 83	1:1	290 253H-EN	22	34	281 516-2 (H4E*)	16
	- 103	1-1/4:1	290 520H-EL	25	34	281 516-2 (J4E*)	20
	- 104	1-1/4:1	290 520H-EL	25	34	281 516-2 (J4E*)	20
	- 123	1-1/2:1	290 320H-EL	23	34	281 516-2 (L4H*)	24
	- 410	1-1/4:1	290 520H-EL	25	34	281 516-2 (J4E*)	20
(d)	- 410	1-1/2:1	290 320H-EL	23	34	281 516-2 (L4H*)	20
	- 412	1-1/2:1	290 320H-EL	23	34	281 516-2 (L4H*)	24
	- 510	1-1/4:1	290 520H-EL	25	34	281 516-2 (J4E*)	20
(d)	- 510	1-1/2:1	290 320H-EL	23	34	281 516-2 (L4H*)	20
	- 512	1-1/2:1	290 320H-EL	23	34	281 516-2 (L4H*)	24

- (a) Two cylinders fire simultaneously.
 (b) Engine serial number NBR NKR 424 and below.
 (c) Engine serial number NBR NKR 425 and above.
 (d) 12-cyl. crankshaft engine; leads "C" and "K" are left open-circuited.
 *** OEM installation with flange mount Alternator.

INGERSOLL RAND LISTING CONTINUED ON NEXT PAGE.

**ALTRONIC II-CPU
LARGE ENGINES, 3-20 CYLINDERS**

**APPLICATION LIST
FORM AII-CPU AL 7-94**

		----- ALTERNATOR POWERED ----- DC PWR					
		Item A-1a	Item A-2d	Item A-3c	*Item B	QTY.	
ENGINE/MODEL NO.	DRIVE RATIO	ALT.II-CPU UNIT NO.	RETROFIT KIT CODE	24 VDC KIT CODE	CPU CONTROL UNIT NO. (MEMORY)	IGN. COILS	
INGERSOLL RAND (CONTINUED)							
KVGR***	- 36	1-1/2:1	290 320H-AN	23	34	281 516-2 (F4C*)	12
	- 48	1-1/2:1	290 320H-AN	23	34	281 516-2 (H4K*)	16
	(d) - 410	1-1/2:1	290 320H-AN	23	34	281 516-2 (L4H*)	20
	- 412	1-1/2:1	290 320H-AN	23	34	281 516-2 (L4H*)	24
KVS,KVSR	- 26	1-1/2:1	290 320H-EL	23	34	281 516-2 (F4C*)	12
	- 26	1/2:1	290 103H-A, -AN, -EN	21	34	281 516-2 (F4C*)	12
	- 36	1-1/2:1	290 320H-EL	23	34	281 516-2 (F4C*)	12
	- 36	1/2:1	290 103H-A, -AN, -EN	21	34	281 516-2 (F4C*)	12
	- 48	1:1	290 253H-EN	22	34	281 516-2 (H4K*)	16
	- 48	1/2:1	290 103H-A, -AN, -EN	21	34	281 516-2 (H4K*)	16
	(e) - 410	1-1/2:1	290 320H-EL	23	34	281 516-2 (L4H*)	20
	(e) - 410	1/2:1	290 103H-A, -AN, -EN	21	34	281 516-2 (L4H*)	20
	- 412	1-1/2:1	290 320H-EL	23	34	281 516-2 (L4H*)	24
	- 412	1/2:1	290 103H-A, -AN, -EN	21	34	281 516-2 (L4H*)	24
	(e) - 510	1-1/2:1	290 320H-EL	23	34	281 516-2 (L4H*)	20
	(e) - 510	1/2:1	290 103H-A, -AN, -EN	21	34	281 516-2 (L4H*)	20
	- 512	1-1/2:1	290 320H-EL	23	34	281 516-2 (L4H*)	24
	- 512	1/2:1	290 103H-A, -AN, -EN	21	34	281 516-2 (L4H*)	24
KVS,KVSE,	- 36	1-1/2:1	290 320H-AN	23	34	281 516-2 (F4C*)	12
KVSF,KVSR***	- 48	1-1/2:1	290 320H-AN	23	34	281 516-2 (H4K*)	16
	(e) - 410	1-1/2:1	290 320H-AN	23	34	281 516-2 (L4H*)	20
	- 412	1-1/2:1	290 320H-AN	23	34	281 516-2 (L4H*)	24
	- 612	1-1/2:1	290 320H-AN	23	34	281 516-2 (L4H*)	24
KVT,KVR	- 38	1/2:1	290 103H-EN	21	34	281 516-2 (H4E*)	16
	- 410	1/2:1	290 103H-EN	21	34	281 516-2 (J4E*)	20
	- 512	1/2:1	290 103H-EN	21	34	281 516-2 (L4H*)	24
	- 616	1/2:1	290 103H-EN	21	34	281 516-2 (P4A*)	32
PKVG,PKVGR	- 6	1-1/2:1	290 320H-EL	23	34	281 516-2 (F4C*)	12
	- 8	1:1	290 253H-EN	22	34	281 516-2 (H4E*)	16
	- 10	1-1/4:1	290 520H-EL	25	34	281 516-2 (J4E*)	20
	- 12	1-1/2:1	290 320H-EL	23	34	281 516-2 (L4H*)	24
	- 16	1:1	290 253H-EN	22	34	281 516-2 (P4A*)	32

(d) 12-cyl. crankshaft engine; leads "C" and "K" are left open-circuited.

(e) 12-cyl. crankshaft engine; leads "F" and "M" are left open-circuited.

*** OEM installation with flange mount Alternator.

INGERSOLL RAND LISTING CONTINUED ON NEXT PAGE.

**ALTRONIC II-CPU
LARGE ENGINES, 3-20 CYLINDERS**

**APPLICATION LIST
FORM AII-CPU AL 7-94**

		----- ALTERNATOR POWERED -----			DC PWR		
ENGINE/MODEL NO.	DRIVE RATIO	Item A-1a ALT.II-CPU UNIT NO.	Item A-2d RETROFIT KIT CODE	Item A-3c 24 VDC KIT CODE	*Item B CPU CONTROL UNIT NO. (MEMORY)	QTY. IGN. COILS	
INGERSOLL RAND (CONTINUED)							
PKVS,PKVSR	- 6	1-1/2:1	290 320H-EL	23	34	281 516-2 (F4C*)	12
	- 6	1/2:1	290 103H-A, -AN, -EN	21	34	281 516-2 (F4C*)	12
	- 8	1:1	290 253H-EN	22	34	281 516-2 (H4K*)	16
	- 8	1/2:1	290 103H-A, -AN, -EN	21	34	281 516-2 (H4K*)	16
(e)	- 10	1-1/2:1	290 320H-EL	23	34	281 516-2 (L4H*)	20
(e)	- 10	1/2:1	290 103H-A, -AN, -EN	21	34	281 516-2 (L4H*)	20
	- 12	1-1/2:1	290 320H-EL	23	34	281 516-2 (L4H*)	24
	- 12	1/2:1	290 103H-A, -AN, -EN	21	34	281 516-2 (L4H*)	24
	- 16	1:1	290 253H-EN	22	34	281 516-2 (P4A*)	32
PKVT	- 12	1/2:1	290 103H-A, -AN, -EN	21	34	281 516-2 (L4C*)	24
PSVG	- 6	1-1/2:1	290 320H-EL	23	34	281 516-2 (F4P*)	6
	- 8	1:1	290 253H-EN	22	34	281 516-2 (H4P*)	8
	- 10	1-1/4:1	290 523H-EL	25	34	281 516-2 (J4P*)	10
	- 12	1-1/2:1	290 323H-EL	23	34	281 516-2 (L4P*)	12
SVG	- 6	1-1/2:1	290 320H-EL	23	34	281 516-2 (F4B*)	6
	- 8	1:1	290 253H-EN	22	34	281 516-2 (H4G*)	8
	- 10	1-1/4:1	290 520H-EL	25	34	281 516-2 (J4D*)	10
	- 12	1-1/2:1	290 320H-EL	23	34	281 516-2 (L4A*)	12
SVS,TVS,TVR	- 8	1:1	290 253H-EN	22	34	281 516-2 (H4K*)	16
	- 10	1-1/4:1	290 523H-EL	25	34	281 516-2 (J4E*)	20
	- 12	1-1/2:1	290 323H-EL	23	34	281 516-2 (L4H*)	24

M.E.P.

M.E.P.	- 6	Use 24 VDC Powered System		32	281 516-2 (F3A*)	12
	- 8	Use 24 VDC Powered System		32	281 516-2 (H3A*)	16
	- 10	Use 24 VDC Powered System		32	281 516-2 (J3A*)	20
	- 12	Use 24 VDC Powered System		32	281 516-2 (L3A*)	24

NORDBERG

FSE	- 6	1:1	290 237H-EL	22	34	281 516-2 (F5A*)	12
	-1316	1/2:1	290 116H-A, -AN, -EN	21	34	281 516-2 (P5A*)	32

(e) 12-cyl. crankshaft engine; leads "F" and "M" are left open-circuited.

**ALTRONIC II-CPU
LARGE ENGINES, 3-20 CYLINDERS**

**APPLICATION LIST
FORM AII-CPU AL 7-94**

ENGINE/MODEL NO.	DRIVE RATIO	----- ALTERNATOR POWERED -----			DC PWR 24 VDC KIT CODE	*Item B CPU CONTROL UNIT NO. (MEMORY)	QTY. IGN. COILS
		Item A-1a ALT.II-CPU UNIT NO.	Item A-2d RETROFIT KIT CODE	Item A-3c			

SUPERIOR

8GT-825		Use 24 VDC Powered System		34	281 516-2 (H5A*)	8
8GTL		Use 24 VDC Powered System		34	281 516-2 (H5A*)	8
12GT-825		Use 24 VDC Powered System		34	281 516-2 (L5I*)	12
12GTL		Use 24 VDC Powered System		34	281 516-2 (L5I*)	12
12SGT		Use 24 VDC Powered System		34	281 516-2 (L5I*)	12
16GT-825		Use 24 VDC Powered System		34	281 516-2 (P5G*)	16
16GTL		Use 24 VDC Powered System		34	281 516-2 (P5G*)	16
16SGT		Use 24 VDC Powered System		34	281 516-2 (P5G*)	16

WAUKESHA

F2895 Series		Use 24 VDC Powered System		34	281 516-2 (F5A*)	6
F3521 Series		Use 24 VDC Powered System		34	281 516-2 (F5A*)	6
L5108 Series		Use 24 VDC Powered System		34	281 516-2 (L5A*)	12
L5790 Series		Use 24 VDC Powered System		34	281 516-2 (L5A*)	12
L7042 Series		Use 24 VDC Powered System		34	281 516-2 (L5A*)	12
P9390 Series		Use 24 VDC Powered System		34	281 516-2 (P5T*)	16

WORTHINGTON

LTC	- 4	2:1	290 020H-EL	20	32	281 516-2 (D2A*)	8
	- 5	2-1/2:1	290 037H-EL	20	32	281 516-2 (E2A*)	10
	- 6	3:1	290 037H-EL	20	32	281 516-2 (F2A*)	12
	- 8	2:1	290 023H-EL	20	32	281 516-2 (H2A*)	16
ML (MAINLINER)	- 5	1:1	290 013H-A, -AN, -EN	20	32	281 516-2 (E2A*)	10
	- 6	1:1	290 013H-A, -AN, -EN	20	32	281 516-2 (F2A*)	12
	- 7	1:1	290 013H-A, -AN, -EN	20	32	281 516-2 (G2A*)	14
	- 8	1:1	290 013H-A, -AN, -EN	20	32	281 516-2 (H2A*)	16
	- 10	1:1	290 016H-A, -AN, -EN	20	32	281 516-2 (J2A*)	20
MLV (MAINLINER)	- 10	1:1	290 016H-A, -AN, -EN	20	32	281 516-2 (J2A*)	20
	- 12	1:1	290 016H-A, -AN, -EN	20	32	281 516-2 (L2D*)	24
	- 14	1:1	290 016H-A, -AN, -EN	20	32	281 516-2 (N2D*)	28
	- 16	1:1	290 016H-A, -AN, -EN	20	32	281 516-2 (P2D*)	32
	- 18	2:1	290 026H-A, -AN, -EN	20	32	281 632-2 (R2D*)	36
	(a) - 20	2:1	290 026H-A, -AN, -EN	20	32	281 632-2A (T2R*)	40

(a) Two cylinders fire simultaneously.

WORTHINGTON LISTING CONTINUED ON NEXT PAGE

**ALTRONIC II-CPU
LARGE ENGINES, 3-20 CYLINDERS**

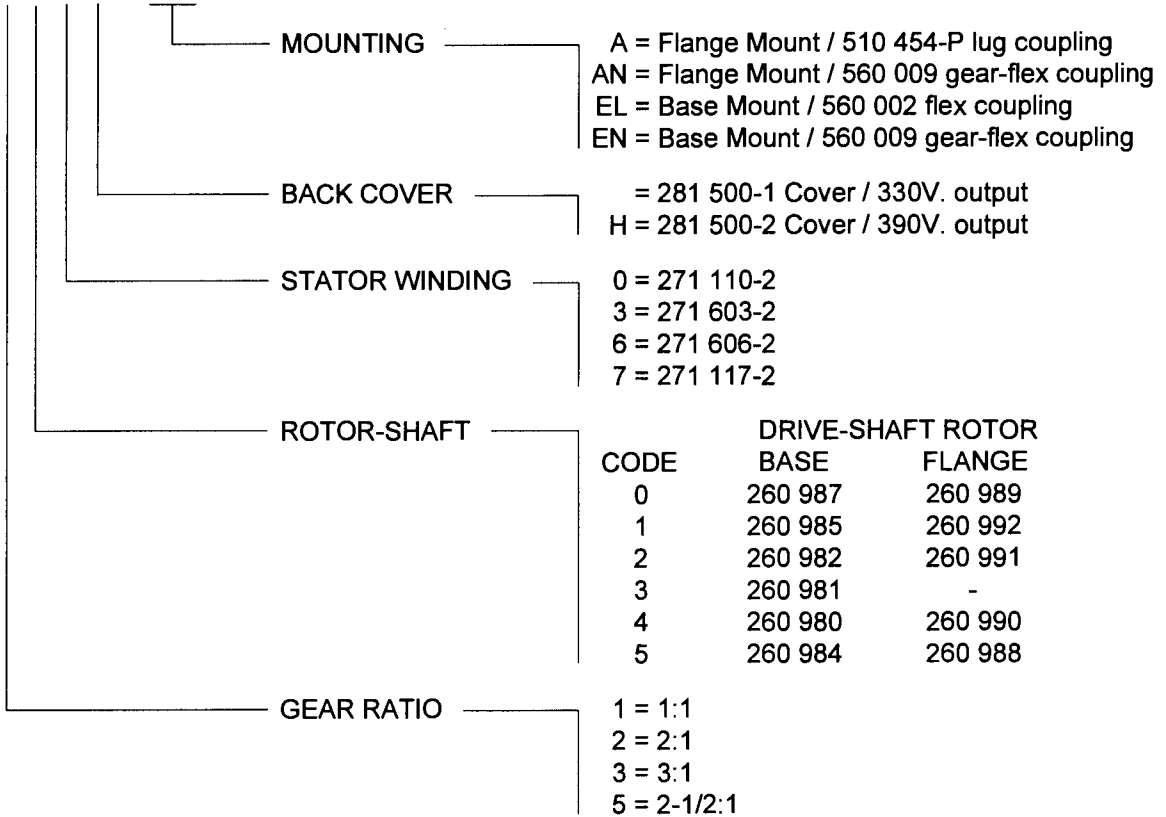
**APPLICATION LIST
FORM AII-CPU AL 7-94**

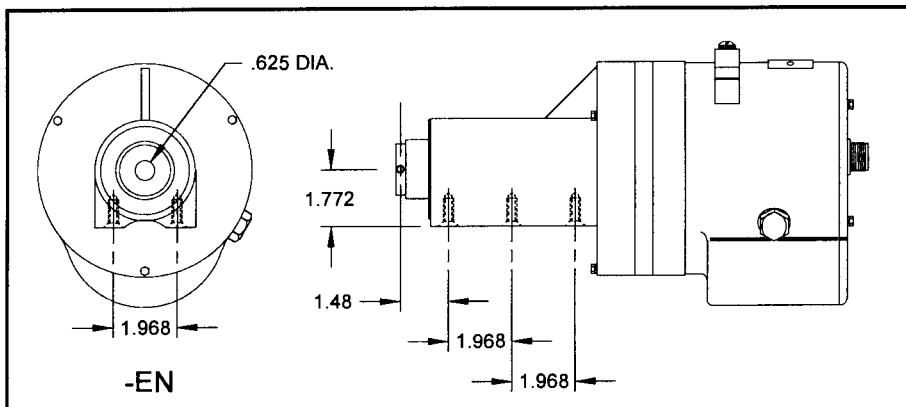
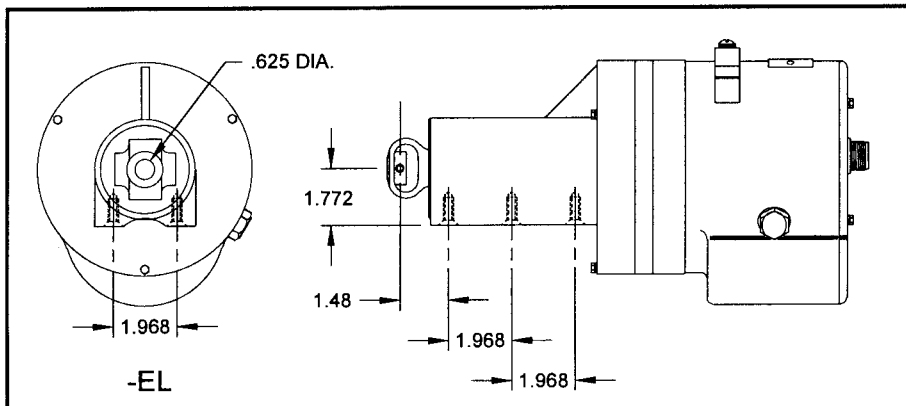
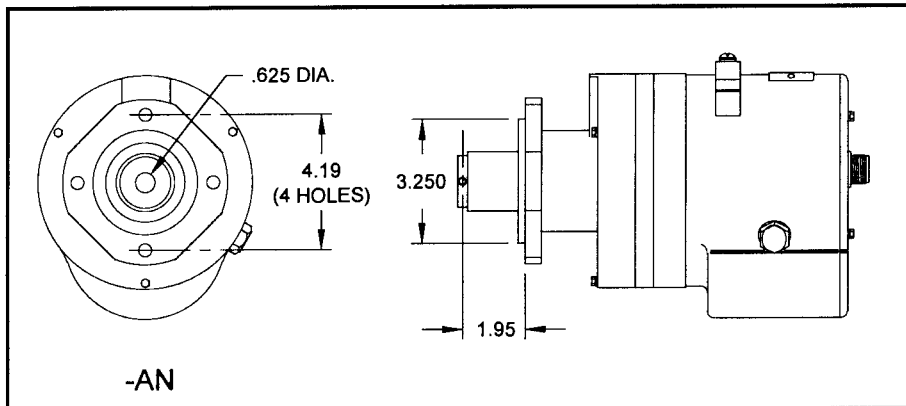
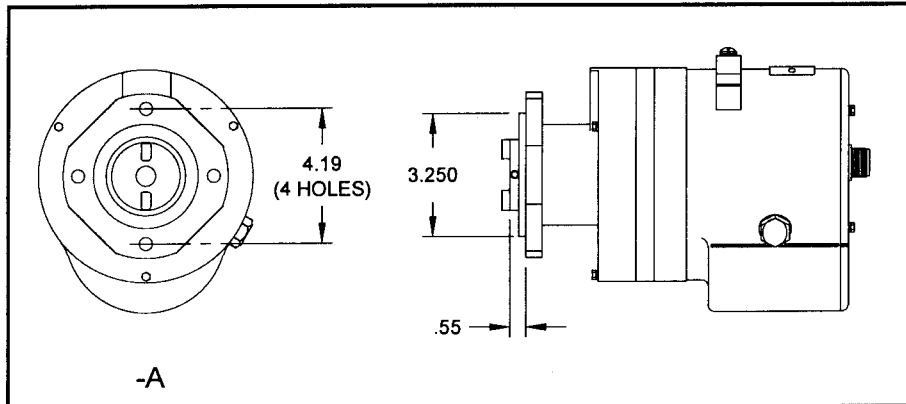
		----- ALTERNATOR POWERED -----			DC PWR		
ENGINE/MODEL NO.	DRIVE RATIO	Item A-1a ALT.II-CPU UNIT NO.	Item A-2d RETROFIT KIT CODE	Item A-3c 24 VDC KIT CODE	*Item B CPU CONTROL UNIT NO. (MEMORY)	QTY. IGN. COILS	
WORTHINGTON (CONTINUED)							
SLHC	- 4	1:1	290 250H-EN	22	34	281 516-2 (D4S*)	8
	- 5	1-1/4:1	290 520H-EL	25	34	281 516-2 (E4A*)	10
	- 6	1-1/2:1	290 320H-EL	23	34	281 516-2 (F4A*)	12
	- 7	1:1	290 253H-EN	22	34	281 516-2 (G4A*)	14
	- 8	1:1	290 253H-EN	22	34	281 516-2 (H4A*)	16
	- 10	1:1	290 253H-EN	22	34	281 516-2 (J4A*)	20
SUTC,UTC	- 5	1:1	290 013H-A, -AN, -EN	20	32	281 516-2 (E2A*)	10
	- 6	1:1	290 013H-A, -AN, -EN	20	32	281 516-2 (F2A*)	12
	- 7	1:1	290 013H-A, -AN, -EN	20	32	281 516-2 (G2A*)	14
	- 8	1:1	290 013H-A, -AN, -EN	20	32	281 516-2 (H2A*)	16
	(a) - 8	1:1	290 013H-A, -AN, -EN	20	32	281 516-2A (H2R*)	16
	- 10	1:1	290 016H-A, -AN, -EN	20	32	281 516-2 (J2A*)	20

(a) Two cylinders fire simultaneously.

ALTRONIC II-CPU ALTERNATOR PART NO. DESIGNATION

2 9 0 0 2 6 H - E N





SHIELDED HARNESSSES

PART NO.	CONNECTOR / PINS	CYLS. / L1* / L2*	APPLICATION	NOTES
293 023-8	90° / 19	8 / 60" / 48"	shielded	a
293 023-16	90° / 19	16 / 60" / 48"	shielded	a
293 026-8	90° / 19	8 / 96" / 84"	shielded	a
293 026-16	90° / 19	16 / 96" / 84"	shielded	a
293 027-8	90° / 19	8 / 180" / 144"	shielded	a
293 027-16	90° / 19	16 / 180" / 144"	shielded	a
293 028-8	90° / 19	8 / 180" / 96"	shielded	a
293 028-16	90° / 19	16 / 180" / 96"	shielded	a

NOTES:

- a) CSA Certified for Class I, Group D, Division 2 hazardous locations when used with applicable CSA Certified Altronic ignition unit and coils.
- * L1 = length of 16 ga. conductor
L2 = length of conduit on shielded harnesses