

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

**APPLICATION LIST
FORM AII AL 1-89**

REQUIRED ITEMS:

- A) ALTRONIC II UNIT - See listing and Identification section.
 NOTE: To replace Pulse-Generator or Pulse-tronic, see drive ratio of 1:1 (2-cycle), 1/2:1 (4-cycle).
 NOTE: To specify variable timing unit, add "B" before the dash in unit part number. Example: 10A251B-EN
- B) WIRING HARNESS - See listing and Identification section.
- C) IGNITION COILS - 1 per spark plug:
 291 001 - unshielded coil
 291 001-S - shielded coil
 591 008 - integral coil, 1"-20 x 5.6"
- D) DRIVE MEMBER:
 560 001 - for -AL and -EL units
 560 008 - for -AN and -EN units

OPTIONAL ITEMS:

- E) SHIELDED SYSTEM - See Application Options.
- F) 12-24 VDC STARTING BOOSTER - 581 605.
- G) MOUNTING ADAPTOR - The following adaptors convert to the base mount Altronic II unit:
 290 153* - C-B Interruptor or C-B5 (GMW, LSV, V-250, V-275, W-330)
 290 154* - C-B Interruptor or C-B5 (GMV)
 290 156** - Bendix SS
 290 158** - Pulse Generator
 * Drive member (item D above) plus 510 551 hub required with this adaptor.
 ** Adaptor provides for direct hook-up (note 2); drive member not required.
- H) ALTRONIC DIGITAL INSTRUMENTS - Annunciator, Tachometer, Hourmeter, Overspeed Trip, Timing Indicator, Pyrometer, Temperature and Pressure Switch & Gauge.
- I) MURPHY PANEL/FUEL VALVE ADAPTOR - 501 200.

ENGINE / MODEL NO.	DRIVE RATIO	ROTA-TION	ALTRONIC II UNIT NO.	WIRING HARNESS	QTY. COILS	NOTES
CLARK						
BA,HBA,HBA-T,HLA - 5	2-1/2:1	CCW	5A541-EL	293 001-6	10	S,1
- 5	2-1/2:1	CW	5A542-EL	293 001-6	10	S,1
- 5	1:1	CCW	5A151-A, -AN, -EN	293 001-6	10	S,2
- 5	1:1	CW	5A152-A, -AN, -EN	293 001-6	10	S,2
- 6	3:1	CCW	6A341-EL	293 001-6	12	S,1
- 6	3:1	CW	6A342-EL	293 001-6	12	S,1
- 6	1:1	CCW	6A151-A, -AN, -EN	293 001-6	12	S,2
- 6	1:1	CW	6A152-A, -AN, -EN	293 001-6	12	S,2
- 8	2:1	CCW	8C221-EL	293 001-8	16	D,1
- 8	2:1	CW	8C222-EL	293 001-8	16	D,1
- 8	1:1	CCW	8C151-A, -AN, -EN	293 001-8	16	D,2
- 8	1:1	CW	8C152-A, -AN, -EN	293 001-8	16	D,2
-10	2-1/2:1	CCW	10A531-EL	293 001-10	20	S,1
-10	2-1/2:1	CW	10A532-EL	293 001-10	20	S,1
-10	1:1	CCW	10A111-A, -AN, -EN	293 001-10	20	S,2
-10	1:1	CW	10A112-A, -AN, -EN	293 001-10	20	S,2

CLARK LISTING CONTINUED ON NEXT PAGE

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ENGINE / MODEL NO.	DRIVE RATIO	ROTA-TION	ALTRONIC II UNIT NO.	WIRING HARNESS	QTY. COILS	NOTES
CLARK (CONTINUED)						
RA,HRA,HRA-T, - 32	1-1/2:1	CW	6A322-EL	293 001-6	6	S
HSRA - 4	2:1	CW	4A222-EL	293 001-6	8	S
- 4	1:1	CCW	4A151-A, -AN, -EN	293 001-6	8	S,2
- 4	1:1	CW	4A152-A, -AN, -EN	293 001-6	8	S,2
- 5	2-1/2:1	CW	5A542-EL	293 001-6	10	S
- 5	1:1	CCW	5A151-A, -AN, -EN	293 001-6	10	S,2
- 5	1:1	CW	5A152-A, -AN, -EN	293 001-6	10	S,2
- 6	3:1	CW	6A342-EL	293 001-6	12	S
- 6	1:1	CCW	6A151-A, -AN, -EN	293 001-6	12	S,2
- 6	1:1	CW	6A152-A, -AN, -EN	293 001-6	12	S,2
- 8	2:1	CW	8A222-EL	293 001-8	16	S
- 8	1:1	CCW	8A151-A, -AN, -EN	293 001-8	16	S,2
- 8	1:1	CW	8A152-A, -AN, -EN	293 001-8	16	S,2
TCV,TCVA,TCVC, - 10	1:1	CW	10T112H-A, -AN, -EN	293 001-10	20	D,H,2
TCVD,TPV - 12	1:1	CW	12T112H-A, -AN, -EN	293 001-12	24	D,H,2
- 16	1:1	CW	16H112-A, -AN, -EN	293 001-16	32	D,2
- 16	2:1	CW	16H222H-A, -AN, -EN	293 001-16	32	D,H,2,17
- 20	2:1	CW	20H222H-A, -AN, -EN	293 002-20	40	D,H,2,17
TLA,TLAC, - 5	2-1/2:1	CCW	5A541H-EL	293 001-6	10	S,H,1
TLAD,TRA - 5	2-1/2:1	CW	5A542H-EL	293 001-6	10	S,H,1
- 5	1:1	CCW	5A111H-A, -AN, -EN	293 001-6	10	S,H,2
- 5	1:1	CW	5A112H-A, -AN, -EN	293 001-6	10	S,H,2
- 6	3:1	CCW	6A341H-EL	293 001-6	12	S,H,1
- 6	3:1	CW	6A342H-EL	293 001-6	12	S,H,1
- 6	1:1	CCW	6A111H-A, -AN, -EN	293 001-6	12	S,H,2
- 6	1:1	CW	6A112H-A, -AN, -EN	293 001-6	12	S,H,2
- 8	2:1	CCW	8C221H-EL	293 001-8	16	D,H,1
- 8	2:1	CW	8C222H-EL	293 001-8	16	D,H,1
- 8	1:1	CCW	8C111H-A, -AN, -EN	293 001-8	16	D,H,2
- 8	1:1	CW	8C112H-A, -AN, -EN	293 001-8	16	D,H,2
- 10	2-1/2:1	CCW	10A531H-EL	293 001-10	20	D,H,1
- 10	2-1/2:1	CW	10A532H-EL	293 001-10	20	D,H,1
- 10	1:1	CCW	10A111H-A, -AN, -EN	293 001-10	20	D,H,2
- 10	1:1	CW	10A112H-A, -AN, -EN	293 001-10	20	D,H,2
VRA (Bobcat) - 12	1:1	CW	12Q112-A, -AN, -EN	293 001-12	24	D,2
- 16	1:1	CW	16Q112-A, -AN, -EN	293 001-16	32	D,2
** - 20	1:1	CW	10Q112-A, -AN, -EN	293 001-12	40	D,2,15

** Two complete systems required.

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ENGINE / MODEL NO.	DRIVE RATIO	ROTA-TION	ALTRONIC II UNIT NO.	WIRING HARNESS	QTY. COILS	NOTES
COOPER BESSEMER						
GMV (short stroke) - 4	2:1	CW	4F242-EL	293 001-6	8	S
(S/N 41481 and lower) - 6	3:1	CW	6F342-EL	293 001-6	12	S,10
- 8	2:1	CW	8F232-EL	293 001-8	16	D
- 10	2-1/2:1	CW	10F542-EL	293 001-10	20	D
GMV,GMVA,GMVC - 4	2:1	CCW	4B221-EL	293 001-6	8	S
GMVE,GMVG - 4	3:1	CCW	4B341-EL	293 001-6	8	S
(S/N 41482 and higher) - 6	3:1	CCW	6A341-EL	293 001-6	12	S,10
- 6	3:1	CW	6A342-EL	293 001-6	12	S,10
- 6	1:1	CCW	6A151-A, -AN, -EN	293 001-6	12	S,2
- 6	1:1	CW	6A152-A, -AN, -EN	293 001-6	12	S,2
- 8	2:1	CCW	8T221-EL	293 001-8	16	S
- 8	2:1	CW	8T222-EL	293 001-8	16	S
- 8	1:1	CCW	8T111-A, -AN, -EN	293 001-8	16	S,2
- 8	1:1	CW	8T112-A, -AN, -EN	293 001-8	16	S,2
(a)- 8	2:1	CCW	8N221-EL	293 001-8	16	D
(a)- 8	1:1	CCW	8N111-A, -AN, -EN	293 001-8	16	D,2
(a)- 8	1:1	CW	8N112-A, -AN, -EN	293 001-8	16	D,2
- 10	2-1/2:1	CCW	10B531-EL	293 001-10	20	D
- 10	2-1/2:1	CW	10B532-EL	293 001-10	20	D
- 10	1:1	CCW	10B111-A, -AN, -EN	293 001-10	20	D,2
- 10	1:1	CW	10B112-A, -AN, -EN	293 001-10	20	D,2
- 12	3:1	CCW	12A331-EL	293 001-12	24	S
- 12	3:1	CW	12A332-EL	293 001-12	24	S
- 12	1:1	CCW	12A111-A, -AN, -EN	293 001-12	24	S,2
- 12	1:1	CW	12A112-A, -AN, -EN	293 001-12	24	S,2
(a)- 12	1:1	CCW	12R111-A, -AN, -EN	293 001-12	24	D,2
(a)- 12	1:1	CW	12R112-A, -AN, -EN	293 001-12	24	D,2
GMVH - 6	1:1	CCW	6A111HB-A, -AN, -EN	293 001-6	12	S,H,2,5
- 8	1:1	CCW	8T111HB-A, -AN, -EN	293 001-8	16	D,H,2,5
(a)- 8	1:1	CCW	8N111HB-A, -AN, -EN	293 001-8	16	D,H,2,5
- 10	1:1	CCW	10B111HB-A, -AN, -EN	293 001-10	20	D,H,2,5
- 10	1:1	CW	10B112HB-A, -AN, -EN	293 001-10	20	D,H,2,5
- 12	1:1	CCW	12A111HB-A, -AN, -EN	293 001-12	24	D,H,2,5
(a)- 12	1:1	CCW	12R111HB-A, -AN, -EN	293 001-12	24	D,H,2,5

(a) Two cylinders fire simultaneously.

COOPER BESSEMER LISTING CONTINUED ON NEXT PAGE

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ENGINE / MODEL NO.	DRIVE RATIO	ROTA-TION	ALTRONIC II UNIT NO.	WIRING HARNESS	QTY. COILS	NOTES
COOPER BESSEMER (CONTINUED)						
GMX,GMXA,	- 4	2:1	CW	4F242-EL	293 001-6	8 S
GMXB,GMXC,	- 4	1:1	CW	4F152-A, -AN, -EN	293 001-6	8 S,2
GMXD,GMXE	- 6	3:1	CW	6F342-EL	293 001-6	12 S,10
	- 6	1:1	CW	6F152-A, -AN, -EN	293 001-6	12 S,2
	- 8	2:1	CW	8F232-EL	293 001-8	16 D
	- 8	1:1	CW	8F152-A, -AN, -EN	293 001-8	16 D,2
	- 10	2-1/2:1	CW	10F542-EL	293 001-10	20 D
	- 10	1:1	CW	10F152-A, -AN, -EN	293 001-10	20 D,2
	(a) - 12	1:1	CW	12X152-A, -AN, -EN	293 001-12	24 D,2
GMW,GMWA,	- 6	3:1	CCW	6D331-EL	293 001-6	12 S
GMWC	- 6	1:1	CCW	6D111-A, -AN, -EN	293 001-6	12 S,2
	- 8	2:1	CCW	8D221-EL	293 001-8	16 S
	- 8	1:1	CCW	8D111-A, -AN, -EN	293 001-8	16 S,2
	- 10	2-1/2:1	CCW	10A531-EL	293 001-10	20 S
	- 10	1:1	CCW	10A111-A, -AN, -EN	293 001-10	20 S,2
	- 12	3:1	CCW	12D331-EL	293 001-12	24 D
	- 12	1:1	CCW	12D111-A, -AN, -EN	293 001-12	24 D,2
GMWH	- 6	1:1	CCW	6D111B-A, -AN, -EN	293 001-6	12 S,2,5
	- 8	1:1	CCW	8D111B-A, -AN, -EN	293 001-8	16 S,2,5
	- 10	1:1	CCW	10A111B-A, -AN, -EN	293 001-10	20 S,2,5
	- 12	1:1	CCW	12D111B-A, -AN, -EN	293 001-12	24 D,2,5
	- 16	1:1	CCW	16D111B-A, -AN, -EN	293 001-16	32 D,2,5
JS	- 6	1/2:1	CCW	6A151-A, -AN, -EN	293 001-6	12 S,2,6
	- 6	1/2:1	CW	6A152-A, -AN, -EN	293 001-6	12 S,2,6
	(4° diff.) - 6	1/2:1	CCW	12S111-A, -AN, -EN	293 001-12	12 D,2,6
	(4° diff.) - 6	1/2:1	CW	12S112-A, -AN, -EN	293 001-12	12 D,2,6
	- 8	1/2:1	CCW	8A151-A, -AN, -EN	293 001-8	16 S,2,6
	- 8	1/2:1	CW	8A152-A, -AN, -EN	293 001-8	16 S,2,6
	(4° diff.) - 8	1/2:1	CCW	16S111-A, -AN, -EN	293 001-16	16 D,2,6
	(4° diff.) - 8	1/2:1	CW	16S112-A, -AN, -EN	293 001-16	16 D,2,6
LSV	** - 12	1/2:1	CCW	12L101-AN, -EN	293 001-12	24 D,2,4,6
	** - 12	1/2:1	CW	12L102-AN, -EN	293 001-12	24 D,2,4,6
	** - 16	1/2:1	CCW	16L101-AN, -EN	293 001-16	32 D,2,4,6
	** - 16	1/2:1	CW	16L102-AN, -EN	293 001-16	32 D,2,4,6

(a) Two cylinders fire simultaneously.

** Two complete systems required for LSV engine.

COOPER BESSEMER LISTING CONTINUED ON NEXT PAGE

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FORM AII AL 1-89**

ENGINE / MODEL NO.	DRIVE RATIO	ROTA-TION	ALTRONIC II UNIT NO.	WIRING HARNESS	QTY. COILS	NOTES
COOPER BESSEMER (CONTINUED)						
Q145,Q145H, - 8	1:1	CW	8T152HB-A, -AN, -EN	293 001-8	16	D,H,2,5
Q155,Q155H - 12	1:1	CW	12R152HB-A, -AN, -EN	293 001-12	24	D,H,2,5
(QUAD) ** - 16	1:1	CCW	8R151HB-A, -AN, -EN	293 001-8	32	D,H,2,5,15
** - 20	1:1	CW	10A152HB-A, -AN, -EN	293 001-10	40	D,H,2,5,15
TTDA (Horiz.) Type 19	1:1	CCW	8A201-EN	293 001-8	16	S,11
Type 22	1:1	CCW	8A201-EN	293 001-8	16	S,11
Type 26	1:1	CCW	8A201-EN	293 001-8	16	S,11
V-250,V-275,W-330 - 6	1:1	CCW	6D111B-A, -AN, -EN	293 022-6	12	S,2,5
- 8	1:1	CCW	8D111B-A, -AN, -EN	293 022-8	16	S,2,5
(72° crank) - 10	1:1	CCW	10A111B-A, -AN, -EN	293 022-10	20	S,2,5
(90° crank) - 10	1:1	CCW	10W111B-A, -AN, -EN	293 022-10	20	D,2,5
(60° crank) - 12	1:1	CCW	12D111B-A, -AN, -EN	293 022-12	24	D,2,5
(63° crank) - 12	1:1	CCW	12V111B-A, -AN, -EN	293 022-12	24	D,2,5
(76° crank) - 12	1:1	CCW	12U111B-A, -AN, -EN	293 022-12	24	D,2,5
- 16	1:1	CCW	16E111B-A, -AN, -EN	293 022-16	32	D,2,5
V-275,W-330*** - 6	2:1	CCW	6D221HB-A, -AN, -EN	293 022-6	12	D,H,5,16
- 8	2:1	CCW	8D221HB-A, -AN, -EN	293 022-8	16	D,H,5,16
(90° crank) - 10	2:1	CCW	10W221HB-A, -AN, -EN	293 022-10	20	D,H,5,16
(60° crank) - 12	2:1	CCW	12D221HB-A, -AN, -EN	293 022-12	24	D,H,5,16
- 16	2:1	CCW	16E221HB-A, -AN, -EN	293 022-16	32	D,H,5,16
Z-330 - 12	1:1	CW	12Z112HB-A, -AN, -EN	293 022-12	24	D,H,2,5
- 16	1:1	CW	16Z112B-A, -AN, -EN	293 022-16	32	D,2,5
(a) - 16	1:1	CW	16N112B-A, -AN, -EN	293 022-16	32	D,2,5
** - 20	1:1	CW	10A112HB-A, -AN, -EN	293 022-10	32	D,H,2,5,15
Z-330*** (a) - 16	2:1	CW	16N222HB-A, -AN	293 022-16	32	D,H,5,16
DE LAVAL						
HVA - 6	1/2:1	CCW	6W111B-A, -AN, -EN	293 001-6	12	D,2,5,12
- 6	1/2:1	CCW	6A111B-A, -AN, -EN	293 001-6	12	S,2,5,14
- 8	1/2:1	CCW	8Y111B-A, -AN, -EN	293 001-8	16	D,2,5,14
- 12	1/2:1	CCW	12Y111B-A, -AN, -EN	293 001-12	24	D,2,5,14
- 16	1/2:1	CCW	16Y111B-A, -AN, -EN	293 001-16	32	D,2,5,14

- (a) Two cylinders fire simultaneously.
- ** Two complete systems required.
- *** OEM installation with flange mount Altronic II unit.

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INGERSOLL RAND						
JVG - 4	1:1	CW	4G222-EL	293 001-6	4	S
- 6	1-1/2:1	CW	6B332-EL	293 001-6	6	S
- 8	1:1	CW	8G222-EL	293 001-8	8	D,8,9
KVG - 26	1-1/2:1	CW	6C322-EL	293 001-6	12	S
- 26	1/2:1	CW	6C102-A, -AN, -EN	293 001-6	12	S,2,7
- 48	1:1	CW	8E252-EN	293 001-8	16	D,9
- 48	1/2:1	CW	8E102-A, -AN, -EN	293 001-8	16	D,2
- 62	1-1/2:1	CW	6C322-EL	293 001-6	12	S
- 62	1/2:1	CW	6C102-A, -AN, -EN	293 001-6	12	S,2,7
- 82	1:1	CW	8H252-EN	293 001-8	16	D
- 82	1/2:1	CW	8H102-A, -AN, -EN	293 001-8	16	D,2
- 83	1:1	CW	8E252-EN	293 001-8	16	D,9
- 83	1/2:1	CW	8E102-A, -AN, -EN	293 001-8	16	D,2
- 103	1-1/4:1	CW	10E522-EL	293 001-10	20	D
- 103	1/2:1	CW	10E102-A, -AN, -EN	293 001-10	20	D,2,7
- 104	1-1/4:1	CW	10E522-EL	293 001-10	20	D
- 104	1/2:1	CW	10E102-A, -AN, -EN	293 001-10	20	D,2,7
- 123	1-1/2:1	CW	12H322-EL	293 001-12	24	D
- 123	1/2:1	CW	12H102-A, -AN, -EN	293 001-12	24	D,2,7
- 410	1-1/4:1	CW	10E522-EL	293 001-10	20	D
- 410	1/2:1	CW	10E102-A, -AN, -EN	293 001-10	20	D,2,7
(d) - 410	1-1/2:1	CW	12H322-EL	293 001-12	20	D,3
(d) - 410	1/2:1	CW	12H102-A, -AN, -EN	293 001-12	20	D,2,3,7
- 412	1-1/2:1	CW	12H322-EL	293 001-12	24	D
- 412	1/2:1	CW	12H102-A, -AN, -EN	293 001-12	24	D,2,7
(d) - 510	1-1/2:1	CW	12H322-EL	293 001-12	20	D,3
(d) - 510	1/2:1	CW	12H102-A, -AN, -EN	293 001-12	20	D,2,3,7
- 512	1-1/2:1	CW	12H322-EL	293 001-12	24	D
- 512	1/2:1	CW	12H102-A, -AN, -EN	293 001-12	24	D,2,7

(d) 12-cylinder crankshaft engine.

INGERSOLL RAND LISTING CONTINUED ON NEXT PAGE

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INGERSOLL RAND (CONTINUED)						
KVGR - 36	1-1/2:1	CW	6C322-EL	293 001-6	12	S
(b) - 48	1:1	CW	8E252-EN	293 001-8	16	D,13
(c) - 48	1:1	CW	8K252-EN	293 001-8	16	D,13
- 412	1-1/2:1	CW	12H322-EL	293 001-12	24	D
KVGR*** - 36	1-1/2:1	CW	6C322-AN	293 001-6	12	S,16
- 48	1-1/2:1	CW	8K322-AN	293 001-8	16	D,16
(d) - 410	1-1/2:1	CW	12H322-AN	293 001-12	20	D,3,16
- 412	1-1/2:1	CW	12H322-AN	293 001-12	24	D,16
KVH - 512	1/2:1	CW	12H102-EN	293 001-12	24	D,1
- 616	1/2:1	CW	16A102-EN	293 001-16	32	D,1
KVR,KVT - 38	1:1	CW	8E212HB-AN, -EN	293 001-8	16	D,H,5
- 38	1/2:1	CW	8E102HB-EN	293 001-8	16	D,H,5
- 410	1:1	CW	10E212HB-AN, -EN	293 001-10	20	D,H,5
- 410	1/2:1	CW	10E102HB-EN	293 001-10	20	D,H,5
- 512	1:1	CW	12H212HB-AN, -EN	293 001-12	24	D,H,5
- 512	1/2:1	CW	12H102HB-EN	293 001-12	24	D,H,5
- 616	1:1	CW	16H212HB-AN, -EN	293 001-16	32	D,H,5
- 616	1/2:1	CW	16A102HB-EN	293 001-16	32	D,H,5
KVS - 26	1-1/2:1	CW	6C322-EL	293 001-6	12	S
- 26	1/2:1	CW	6C102-A, -AN, -EN	293 001-6	12	S,2,7
- 36	1-1/2:1	CW	6C322-EL	293 001-6	12	S
- 36	1/2:1	CW	6C102-A, -AN, -EN	293 001-6	12	S,2,7
- 48	1:1	CW	8K252-EN	293 001-8	16	D
- 48	1/2:1	CW	8K102-A, -AN, -EN	293 001-8	16	D,2
(d) - 410	1-1/2:1	CW	12H322-EL	293 001-12	20	D,3
(d) - 410	1/2:1	CW	12H102-A, -AN, -EN	293 001-12	20	D,2,3,7
- 412	1-1/2:1	CW	12H322-EL	293 001-12	24	D
- 412	1/2:1	CW	12H102-A, -AN, -EN	293 001-12	24	D,2,7
(d) - 510	1-1/2:1	CW	12H322-EL	293 001-12	20	D,3
(d) - 510	1/2:1	CW	12H102-A, -AN, -EN	293 001-12	20	D,2,3,7
- 512	1-1/2:1	CW	12H322-EL	293 001-12	24	D
- 512	1/2:1	CW	12H102-A, -AN, -EN	293 001-12	24	D,2,7

(b) Engine serial number NBR NKR 424 and below.

(c) Engine serial number NBR NKR 425 and above.

(d) 12-cylinder crankshaft engine.

*** OEM installation with flange mount Altronic II unit.

INGERSOLL RAND LISTING CONTINUED ON NEXT PAGE

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

**APPLICATION LIST
FORM AII AL 1-89**

ENGINE / MODEL NO.	DRIVE RATIO	ROTA-TION	ALTRONIC II UNIT NO.	WIRING HARNESS	QTY. COILS	NOTES
INGERSOLL RAND (CONTINUED)						
KVS,KVSF***	- 48	1-1/2:1	CW	8K322-AN	293 001-8	16 D,16
	- 412	1-1/2:1	CW	12H322-AN	293 001-12	24 D,16
KVSR	- 36	1-1/2:1	CW	6C322-EL	293 001-6	12 S
	- 36	1/2:1	CW	6C102-A, -AN, -EN	293 001-6	12 S,2,6
	- 48	1:1	CW	8K252-EN	293 001-8	16 D
	- 48	1/2:1	CW	8K102-A, -AN, -EN	293 001-8	16 D,2,6
	- 412	1-1/2:1	CW	12H322-EL	293 001-12	24 D
	- 412	1/2:1	CW	12H102-A, -AN, -EN	293 001-12	24 D,2,6
	- 512	1-1/2:1	CW	12H322-EL	293 001-12	24 D
	- 512	1/2:1	CW	12H102-A, -AN, -EN	293 001-12	24 D,2,6
	KVSR,KVSE***	- 36	1-1/2:1	CW	6C322-AN	293 001-6
- 48		1-1/2:1	CW	8K322-AN	293 001-8	16 D,16
(d) - 410		1-1/2:1	CW	12H322-AN	293 001-12	20 D,3,16
- 412		1-1/2:1	CW	12H322-AN	293 001-12	24 D,16
- 612		1-1/2:1	CW	12H322-AN	293 001-12	24 D,16
PKVG,PKVGR		- 6	1-1/2:1	CW	6C322-EL	293 001-6
	- 8	1:1	CW	8E252-EN	293 001-8	16 D,9
	- 10	1-1/4:1	CW	10E522-EL	293 001-10	20 D
	- 12	1-1/2:1	CW	12H322-EL	293 001-12	24 D
	- 16	1:1	CW	16A252-EN	293 001-16	32 D
	PKVS,PKVSR	- 6	1-1/2:1	CW	6C322-EL	293 001-6
- 6		1/2:1	CW	6C102-A, -AN, -EN	293 001-6	12 S,2,7
- 8		1:1	CW	8K252-EN	293 001-8	16 D
- 8		1/2:1	CW	8K102-A, -AN, -EN	293 001-8	16 D,2
(d) - 10		1-1/2:1	CW	12H322-EL	293 001-12	20 D,3
(d) - 10		1/2:1	CW	12H102-A, -AN, -EN	293 001-12	20 D,2,3,7
- 12		1-1/2:1	CW	12H322-EL	293 001-12	24 D
- 12		1/2:1	CW	12H102-A, -AN, -EN	293 001-12	24 D,2,7
- 16		1:1	CW	16A252-EN	293 001-16	32 D

(d) 12-cylinder crankshaft engine.

*** OEM installation with flange mount Altronic II unit.

INGERSOLL RAND LISTING CONTINUED ON NEXT PAGE

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

**APPLICATION LIST
FORM AII AL 1-89**

ENGINE / MODEL NO.	DRIVE RATIO	ROTA-TION	ALTRONIC II UNIT NO.	WIRING HARNESS	QTY. COILS	NOTES
INGERSOLL RAND (CONTINUED)						
PKVSE,PKVSR*** - 8	1-1/2:1	CW	8K322-AN	293 001-8	16	D,16
- 12	1-1/2:1	CW	12H322-AN	293 001-12	24	D,16
- 16	1-1/2:1	CW	16A322-AN	293 001-16	32	D,16
PKVT - 12	1/2:1	CW	12C102HB-EN	293 001-12	24	D,H,5
PSVG - 6	1-1/2:1	CW	6P332-EL	293 001-6	6	D
- 8	1:1	CW	8P222-EL	293 001-8	8	D,9
- 10	1-1/4:1	CW	10P522-EL	293 001-10	10	D
- 12	1-1/2:1	CW	12P332-EL	293 001-12	12	D
PVG,XVG - 4	1:1	CW	4G222-EL	293 001-6	4	S
- 6	1:1	CW	6E252-EN	293 001-6	6	S
- 8	1:1	CW	8B252-EN	293 001-8	8	S
SVG - 6	1-1/2:1	CW	6B332-EL	293 001-6	6	S
- 8	1:1	CW	8G222-EL	293 001-8	8	D,8,9
- 10	1-1/4:1	CW	10D522-EL	293 001-10	10	D
- 12	1-1/2:1	CW	12A322-EL	293 001-12	12	S
SVS - 8	1:1	CW	8K252-EN	293 001-8	16	D
- 12	1-1/2:1	CW	12H322-EL	293 001-12	24	D
TVS, TVR - 8	1:1	CW	8K252-EN	293 001-8	16	D
- 8	1/2:1	CW	8K102-A, -AN, -EN	293 001-8	16	D,2,7
- 10	1-1/4:1	CW	10E522-EL	293 001-10	20	D
- 12	1-1/2:1	CW	12H322-EL	293 001-12	24	D

JENBACHER

M6-1500G	1:1	CCW	6A151-A, -AN, -EN	293 001-6	12	S
M6-1500G	1:1	CW	6A152-A, -AN, -EN	293 001-6	12	S
M9-2500G	1:1	CCW	9A111-A, -AN, -EN	293 001-10	18	S
M9-2500G	1:1	CW	9A112-A, -AN, -EN	293 001-10	18	S

MWM

TBG441 - V12	1/2:1	CCW	12C151A-AN	293 001-12	12	D,16
- V16	1/2:1	CCW	16A151A-AN	293 001-16	16	D,16

*** OEM installation with flange mount Altronic II unit.

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

**APPLICATION LIST
FORM AII AL 1-89**

ENGINE / MODEL NO.	DRIVE RATIO	ROTA-TION	ALTRONIC II UNIT NO.	WIRING HARNESS	QTY. COILS	NOTES
NORDBERG						
FSE-96	1:1	CW	6A232-EL	293 001-6	12	S,7
FSE-1316	1/2:1	CW	16A112B-A, -AN, -EN	293 001-16	32	D,2,5
Radial 11-cyl.	2-3/4:1	CW	22P742-A	293 002-22	22	D
RUSTON						
RK270G - 6	1/2:1	CCW	6A151B-EN	293 001-6	6	S,5,16
- 8	1/2:1	CCW	8A151B-EN	293 001-8	8	S,5,16
- 12	1/2:1	CW	12C152B-EN	293 001-12	12	D,5,16
WORTHINGTON						
LTC - 3	3:1	CCW	3A341-EL	293 001-6	6	S
- 4	2:1	CCW	4A221-EL	293 001-6	8	S
- 4	2:1	CW	4A222-EL	293 001-6	8	S
- 5	2-1/2:1	CCW	5A541-EL	293 001-6	10	S
- 5	2-1/2:1	CW	5A542-EL	293 001-6	10	S
- 6	3:1	CCW	6A341-EL	293 001-6	12	S
- 6	3:1	CW	6A342-EL	293 001-6	12	S
- 8	2:1	CCW	8A221-EL	293 001-8	16	S
- 8	2:1	CW	8A222-EL	293 001-8	16	S
ML (MAINLINER) - 6	1:1	CCW	6A111HB-A, -AN, -EN	293 001-6	12	S,H,2,5
- 6	1:1	CW	6A112HB-A, -AN, -EN	293 001-6	12	S,H,2,5
- 7	1:1	CCW	7A111HB-A, -AN, -EN	293 001-8	14	S,H,2,5
- 7	1:1	CW	7A112HB-A, -AN, -EN	293 001-8	14	S,H,2,5
- 8	1:1	CCW	8A111HB-A, -AN, -EN	293 001-8	16	S,H,2,5
- 8	1:1	CW	8A112HB-A, -AN, -EN	293 001-8	16	S,H,2,5
- 10	1:1	CCW	10A111HB-A, -AN, -EN	293 001-10	20	D,H,2,5
- 10	1:1	CW	10A112HB-A, -AN, -EN	293 001-10	20	D,H,2,5
MLV (MAINLINER) - 10	1:1	CW	10A112HB-A, -AN, -EN	293 001-10	20	D,H,2,5
- 12	1:1	CW	12D112HB-A, -AN, -EN	293 001-12	24	D,H,2,5
- 14	1:1	CW	14D112HB-A, -AN, -EN	293 001-16	28	D,H,2,5
- 16	1:1	CW	16D112B-A, -AN, -EN	293 001-16	32	D,2,5
- 18	1:1	CW	18D112B-A, -AN, -EN	293 001-18	36	D,2,5

WORTHINGTON LISTING CONTINUED ON NEXT PAGE

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

**APPLICATION LIST
FORM AII AL 1-89**

ENGINE / MODEL NO.	DRIVE RATIO	ROTA-TION	ALTRONIC II UNIT NO.	WIRING HARNESS	QTY. COILS	NOTES
WORTHINGTON (CONTINUED)						
SLHC - 4	1:1	CCW	4S251-EN	293 001-6	8	S,6
- 4	1/2:1	CCW	4S151-A, -AN, -EN	293 001-6	8	S,2,6
- 4	1/2:1	CW	4S152-A, -AN, -EN	293 001-6	8	S,2,6
- 5	1-1/4:1	CCW	5A541-EL	293 001-6	10	S,6
- 5	1/2:1	CCW	5A151-A, -AN, -EN	293 001-6	10	S,2,6
- 5	1/2:1	CW	5A152-A, -AN, -EN	293 001-6	10	S,2,6
- 6	1-1/2:1	CCW	6A341-EL	293 001-6	12	S,6
- 6	1/2:1	CCW	6A151-A, -AN, -EN	293 001-6	12	S,2,6
- 6	1/2:1	CW	6A152-A, -AN, -EN	293 001-6	12	S,2,6
- 7	1:1	CCW	7A251-EN	293 001-8	14	S,6
- 7	1/2:1	CCW	7A151-A, -AN, -EN	293 001-8	14	S,2,6
- 7	1/2:1	CW	7A152-A, -AN, -EN	293 001-8	14	S,2,6
- 8	1:1	CCW	8A251-EN	293 001-8	16	S,6
- 8	1/2:1	CCW	8A151-A, -AN, -EN	293 001-8	16	S,2,6
- 8	1/2:1	CW	8A152-A, -AN, -EN	293 001-8	16	S,2,6
- 10	1:1	CCW	10A251-EN	293 001-10	20	S,6
- 10	1/2:1	CCW	10A111-A, -AN, -EN	293 001-10	20	S,2,6
- 10	1/2:1	CW	10A112-A, -AN, -EN	293 001-10	20	S,2,6
SUTC,UTC - 5	1:1	CCW	5A111H-A, -AN, -EN	293 001-6	10	S,H,2,6
- 5	1:1	CW	5A112H-A, -AN, -EN	293 001-6	10	S,H,2,6
- 6	1:1	CCW	6A111H-A, -AN, -EN	293 001-6	12	S,H,2,6
- 6	1:1	CW	6A112H-A, -AN, -EN	293 001-6	12	S,H,2,6
- 7	1:1	CCW	7A111H-A, -AN, -EN	293 001-8	14	S,H,2,6
- 7	1:1	CW	7A112H-A, -AN, -EN	293 001-8	14	S,H,2,6
- 8	1:1	CCW	8A111H-A, -AN, -EN	293 001-8	16	S,H,2,6
- 8	1:1	CW	8A112H-A, -AN, -EN	293 001-8	16	S,H,2,6
(a) - 8	1:1	CCW	8R111H-A, -AN, -EN	293 001-8	16	D,H,2,6
(a) - 8	1:1	CW	8R112H-A, -AN, -EN	293 001-8	16	D,H,2,6
- 10	1:1	CCW	10A111H-A, -AN, -EN	293 001-10	20	D,H,2,6
- 10	1:1	CW	10A112H-A, -AN, -EN	293 001-10	20	D,H,2,6
TTDA (Horizontal) - 8	1:1	CCW	8A201-EN	293 001-8	16	S,11

(a) Two cylinders fire simultaneously.

NOTES:

- S - Single storage capacitor unit.
- D - Dual storage capacitor unit.
- H - High output unit.
- 1 - Installation may require 510 221 shaft extension.
- 2 - See Identification, form AII ID for explanation of various mounting and coupling types. The following additional drive parts are required:
 - AL, -EL: For adjustable engine drive, order coupling 560 001.
For direct hook-up to 5/8" dia. shaft, order spring pin 902 475.
 - AN, -EN: For adjustable engine drive, order coupling 560 008.
For direct hook-up to 5/8" dia. shaft, order spring pin 902 571.
- 3 - Use 12-cylinder unit with two leads left open circuited:
 - On KVG units, leave "D" and "L" open circuited.
 - On KVS units, leave "B" and "H" open circuited.
- 4 - Two units, harnesses and drive members required per engine. One unit fires all center plugs; second unit fires all side plugs. Some applications require one CCW unit and one CW unit.
- 5 - Installation requires Altronic II unit with provision for mechanical variable timing.
- 6 - Some versions of this engine may require variable timing unit. See item A) on front page.
- 7 - Use when replacing Bendix LC or DLC magneto.
- 8 - Engine must have 1:1 drive ratio. Conversion from 2:1 drive available from Magnetech, Inc.; 4600 Baldwin Blvd.; Corpus Christi, Texas 78408.
- 9 - Engines with interval timer and two 4-cylinder magnetos have 2:1 drive ratio which must be changed to 1:1 for Altronic II unit.
- 10 - Older engines with two 3-cylinder magnetos have 1-1/2:1 drive ratio which must be changed to 3:1 for Altronic II unit.
- 11 - Drive at 1:1 ratio available from K.C. Diesel & Electric; B2810 Nicholson; Kansas City, Missouri 64120.
- 12 - Unit listed fires the side spark plug 6 degrees in advance of the center spark plug in all cylinders. Alternate unit listed fires both spark plugs simultaneously (see Note 14).
- 13 - If engine serial number is NBR NKR 424 and below, use unit 8E252-EN.
If engine serial number is NBR NKR 425 and above, use unit 8K252-EN.
- 14 - Unit listed fires the two spark plugs simultaneously in each cylinder (no staggered firing).
- 15 - Two units, harnesses and drive members required per engine.
- 16 - Factory OEM installation.
- 17 - Requires conversion to 2:1 drive ratio; contact Altronic for details.

SHIELDED SYSTEM

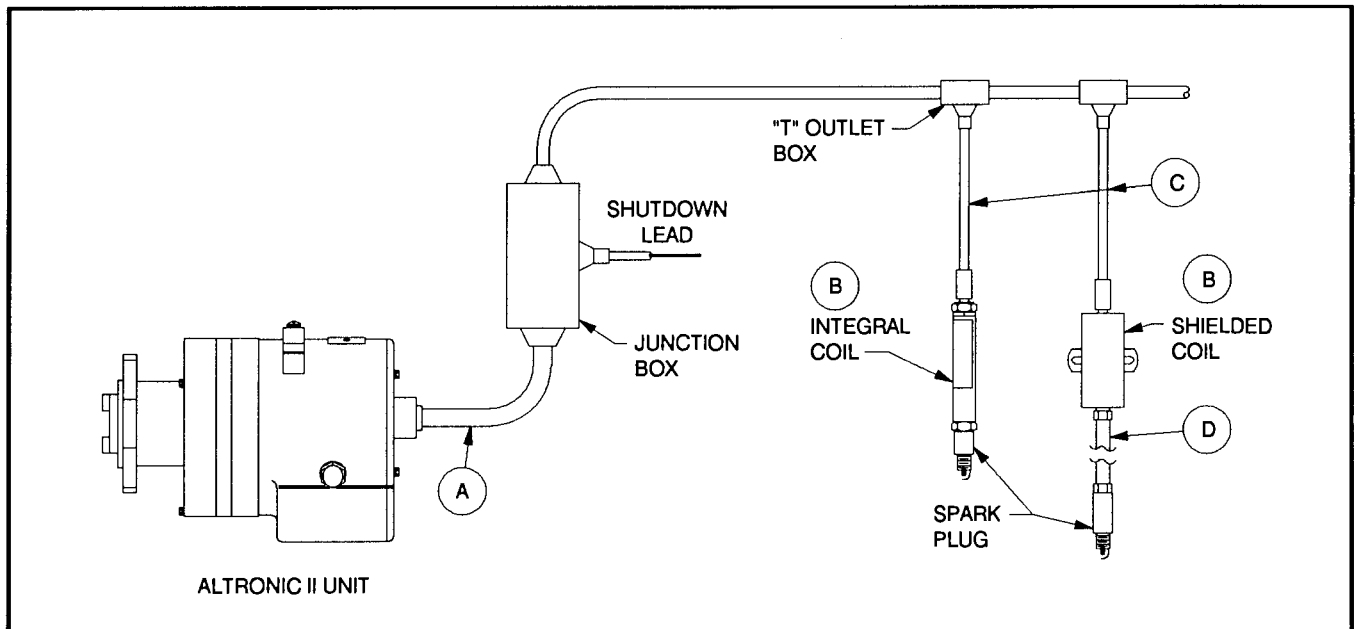
- A) SHIELDED HARNESS - Altronic II unit to junction box:
 - 293 001 series - 90° connector, 48" conduit length
 - 293 022 series - 90° connector, 84" conduit length
 - 293 025 series - 90° connector, 144" conduit lengthSee Identification section for complete listing.

- B) IGNITION COILS - See Application Guide, form AIS AG:
 - 291 001-S series - shielded coil
 - 591 008 series - integral coil, 1"-20 male thread

- C) SHIELDED PRIMARY CABLE ASSEMBLIES - coil to junction box:
 - 593 022 series - 180° connector
 - 593 027 series - 90° connectorSee Application Guide, form AIS AG, for available lengths.

- D) SHIELDED SPARK PLUG LEAD ASSEMBLIES (FOR 291 001-S COIL):
 - 593 020 - 10", 13", 16", 18" - 1" spark plug connector
 - 593 030 - 10", 13", 16", 18" - 2" spark plug connector

NOTE: Components listed above are CSA Certified / FMR Approved for Class I, Group D, Division 2 locations.

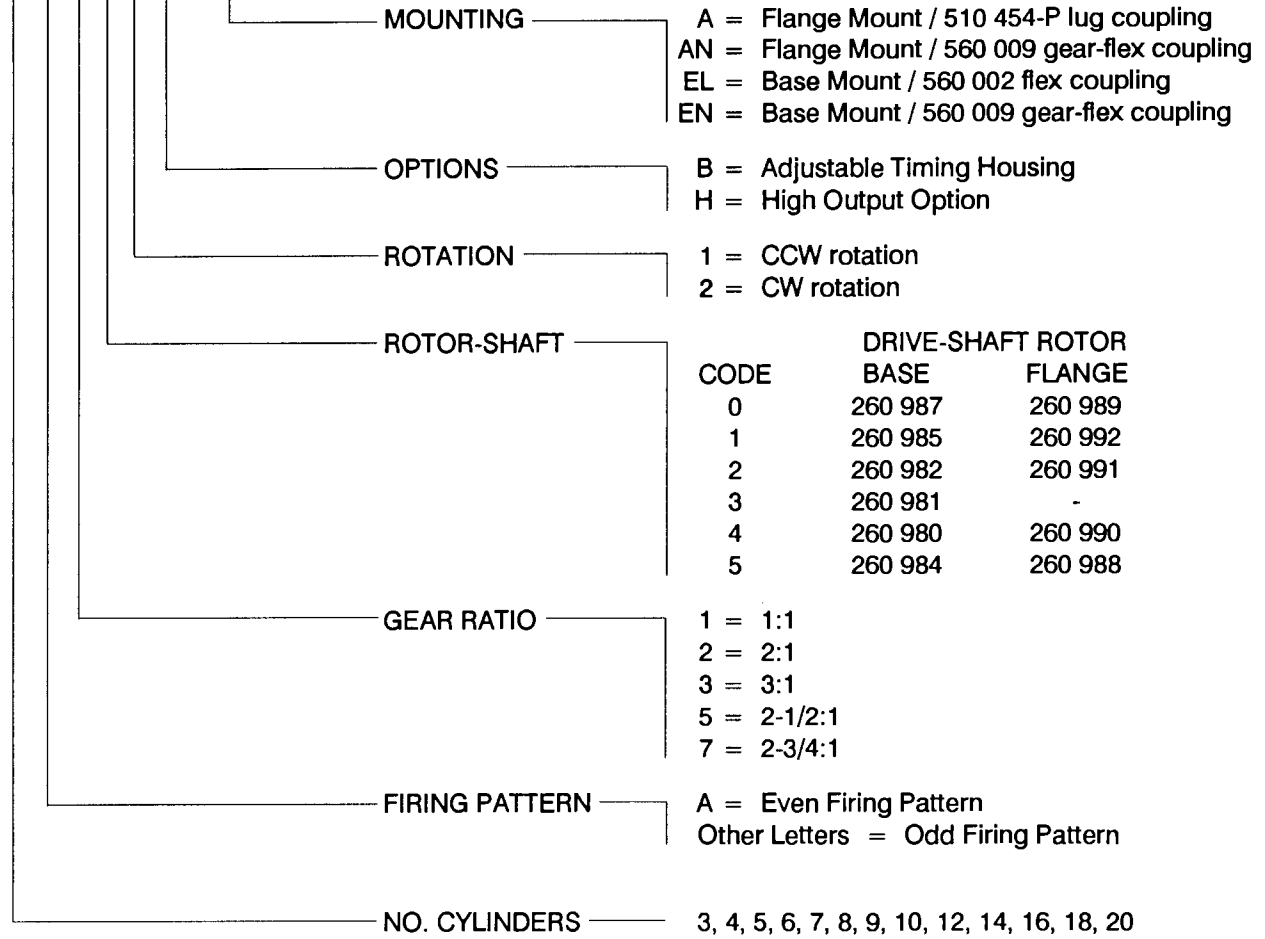


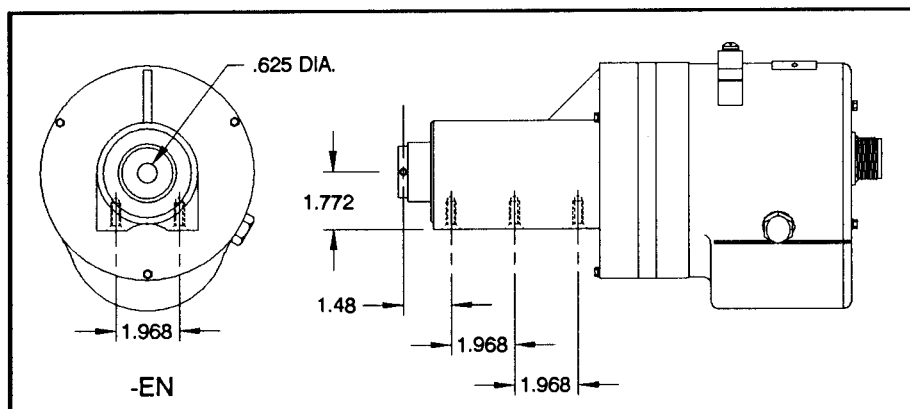
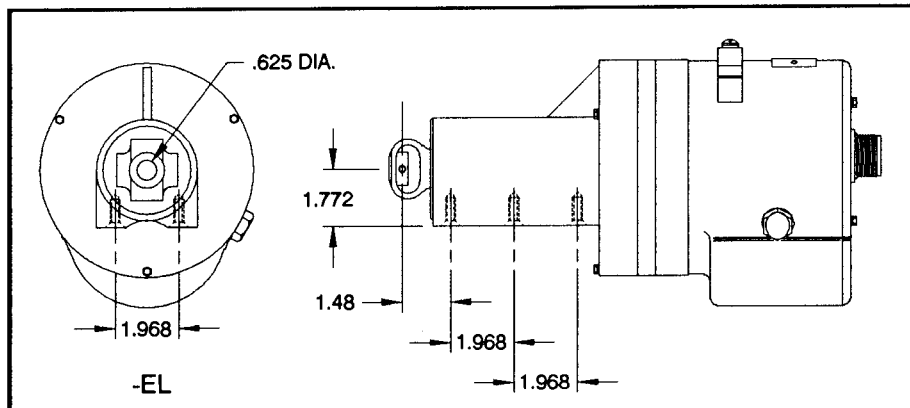
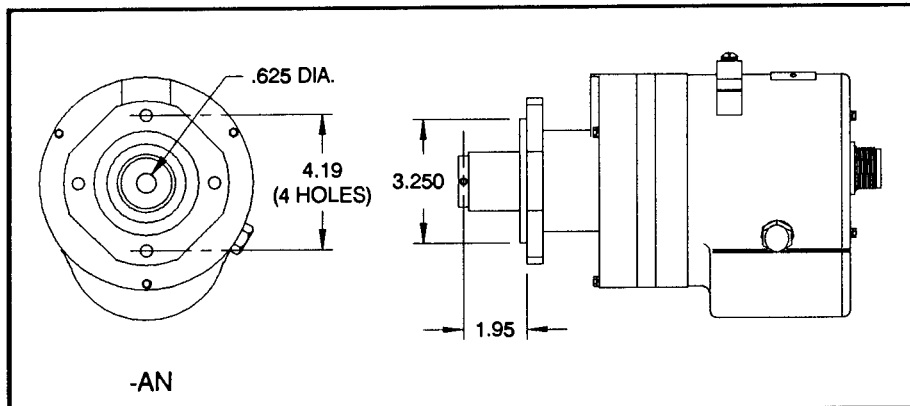
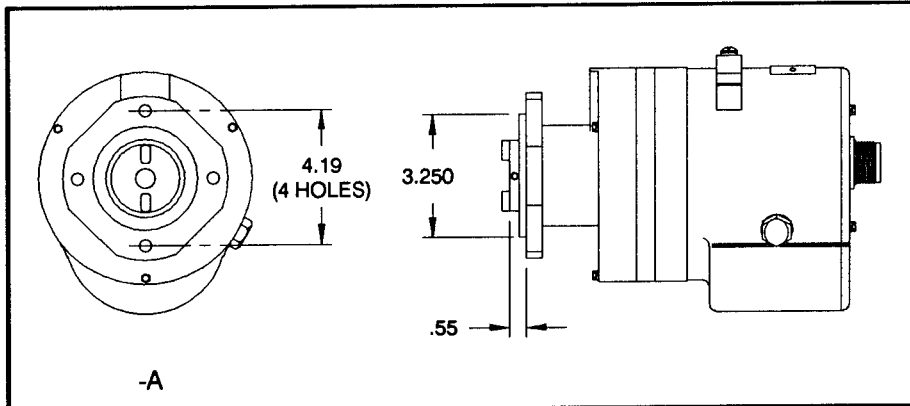
**ALTRONIC II
LARGE ENGINES, 3-20 CYLINDERS**

**IDENTIFICATION
FORM AII AL 1-89**

ALTRONIC II UNIT PART NO. DESIGNATION

10 A 1 1 2 H - E N





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

**IDENTIFICATION
FORM AII AL 1-89**

BACK COVER LISTING

UNIT	BACK COVER	UNIT	BACK COVER	UNIT	BACK COVER
3A341	281 303-1	6D221H	281 406-3H	8E252	281 408-5
4A151	281 304-1	6D331	281 306-3	8F152	281 408-3
4A152	281 304-1	6E252	281 306-5	8F232	281 408-3
4A221	281 304-1	6F152	281 306-1	8G222	281 408-7
4A222	281 304-1	6F342	281 306-1	8H241	281 408-3
4B221	281 304-2	6P332	281 306-2	8H252	281 408-3
4B341	281 304-2	6W111	281 406-23	8K102	281 408-10
4F152	281 304-2	7A111H	281 307-1H	8K252	281 408-10
4F242	281 304-2	7A112H	281 307-1H	8K322	281 408-10
4S151	281 304-19	7A151	281 307-1	8N111	281 408-14
4S251	281 304-19	7A152	281 307-1	8N111H	281 408-14H
5A111H	281 305-1H	7A251	281 307-1	8N112	281 408-14
5A112H	281 305-1H	8A102	281 308-1	8N221	281 408-14H
5A151	281 305-1	8A111H	281 308-1H	8P222	281 408-7
5A152	281 305-1	8A112H	281 308-1H	8R111	281 408-18
5A541	281 305-1	8A151	281 308-1	8R151H	281 408-18H
5A541H	281 305-1H	8A152	281 308-1	8T111	281 308-2
5A542	281 305-1	8A201	281 308-1	8T111H	281 408-2H
5A542H	281 305-1H	8A251	281 308-1	8T112	281 308-2
6A102	281 306-1	8A222	281 308-1	8T152H	281 408-2H
6A111H	281 306-1H	8B252	281 308-2	8T221	281 308-2
6A112H	281 306-1H	8C111H	281 408-3H	8T222	281 308-2
6A151	281 306-1	8C112H	281 408-3H	8Y111	281 408-3
6A152	281 306-1	8C151	281 408-3	9A111	281 309-1
6A232	281 306-1	8C152	281 408-3	9A112	281 309-1
6A322	281 306-1	8C221	281 408-3	10A111	281 310-1
6A341	281 306-1	8C221H	281 408-3H	10A111H	281 410-1H
6A341H	281 306-1H	8C222	281 408-3	10A112	281 310-1
6A342	281 306-1	8C222H	281 408-3H	10A112H	281 410-1H
6A342H	281 306-1H	8D111	281 308-4	10A152H	281 410-1H
6B332	281 306-2	8D221	281 308-4	10A251	281 310-1
6C102	281 306-3	8D221H	281 408-4H	10A531	281 310-1
6C322	281 306-3	8E102	281 408-5	10A531H	281 410-1H
6D111	281 306-3	8E102H	281 408-5H	10A532	281 310-1

BACK COVER LISTING CONTINUES ON NEXT PAGE

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

**IDENTIFICATION
FORM AII AL 1-89**

BACK COVER LISTING

UNIT	BACK COVER
10A532H	281 410-1H
10A541D	281 410-1
10B111	281 410-2
10B111H	281 410-2H
10B112	281 410-2
10B112H	281 410-2H
10B531	281 410-2
10B532	281 410-2
10D522	281 410-2
10E102	281 410-2
10E102H	281 410-2H
10E212H	281 410-2H
10E522	281 410-2
10F152	281 410-2
10F542	281 410-2
10P522	281 410-2
10Q112	281 410-1
10T112	281 410-20
10T112H	281 410-20H
10T542	281 410-20
10W111	281 410-23
10W221H	281 410-24H
12A111	281 312-1
12A111H	281 412-1H
12A112	281 312-1
12A322	281 312-1
12A331	281 312-1
12A332	281 312-1
12C102H	281 412-3H
12C151A	281 412-3A
12C152	281 412-3
12D111	281 412-3
12D111H	281 412-3H
12D112	281 412-3

UNIT	BACK COVER
12D112H	281 412-3H
12D221H	281 412-3H
12D331	281 412-3
12H102	281 412-3
12H102H	281 412-3H
12H212H	281 412-3H
12H322	281 412-3
12L101	281 412-3
12L102	281 412-3
12Q112	281 412-20
12R111	281 412-20
12R111H	281 412-20H
12R112	281 412-20
12R152H	281 412-20H
12S111	281 412-20
12S112	281 412-20
12T112	281 412-20
12T112H	281 412-20H
12T342	281 412-20
12U111	281 412-21
12V111	281 412-3
12X152	281 412-20
12Y111	281 412-3
14D112	281 414-4
14D112H	281 414-4H
16A102	281 416-1
16A102H	281 416-1H
16A112	281 416-1
16A151A	281 416-1A
16A212H	281 416-1H
16A252	281 416-1
16A322	281 416-1
16D112	281 416-20
16E111	281 416-8

UNIT	BACK COVER
16E221H	281 416-8H
16H112	281 416-8
16H222H	281 416-8H
16L101	281 416-1
16L102	281 416-1
16N112	281 416-14
16N222H	281 416-14H
16S111	281 416-20
16S112	281 416-20
16Y111	281 416-1
16Z112	281 416-8
20H222	281 420-8
22P742A	281 422-16A

SHIELDED HARNESSSES

PART NO.	CONNECTOR / PINS	CYLS. / L1* / L2*	APPLICATION	NOTES
293 001-6	90° / 14	6 / 60" / 48"	shielded	a
293 001-8	90° / 14	8 / 60" / 48"	shielded	a
293 001-10	90° / 14	10 / 60" / 48"	shielded	a
293 001-12	90° / 14	12 / 60" / 48"	shielded	a
293 001-16	90° / 19	16 / 60" / 48"	shielded	a
293 001-18	90° / 19	18 / 60" / 48"	shielded	a
293 022-6	90° / 14	6 / 96" / 84"	shielded	a
293 022-8	90° / 14	8 / 96" / 84"	shielded	a
293 022-10	90° / 14	10 / 96" / 84"	shielded	a
293 022-12	90° / 14	12 / 96" / 84"	shielded	a
293 022-16	90° / 19	16 / 96" / 84"	shielded	a
293 025-6	90° / 14	6 / 180" / 144"	shielded	a
293 025-8	90° / 14	8 / 180" / 144"	shielded	a
293 025-10	90° / 14	10 / 180" / 144"	shielded	a
293 025-12	90° / 14	12 / 180" / 144"	shielded	a
293 025-16	90° / 19	16 / 180" / 144"	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