

REQUIRED ITEMS:

- A. **Altronic III^{NG} Unit** – see listing and identification section.
- B. **Wiring Harness** – see listing and identification section.
- C. **Ignition Coils** – unshielded, 1 per spark plug:
501061 – Standard
591010 – Long duration
591040 – Long duration (plastic case)
- D. **Drive Parts** – Use one per Altronic III^{NG} unit where required:
560001 – Drive member for base mount Installations
510221 – Shaft extension required for some applications (note 5)

OPTIONAL ITEMS:

- E. **Shielded system** – See application options.
- F. **Altronic Digital Instruments** – Annunciator, tachometer, hourmeter, overspeed trip, timing indicator, pyrometer, temperature and pressure switch and gauge – see form ADI-C.
- G. **Murphy Panelfuel valve adaptor** – 501213.

ENGINE/ MODEL NO.	DRIVE RATIO	ROTATION	ALT III ^{NG} UNIT NO.	WIRING HARNESS	QTY. COILS	NOTES
BUDA						
6MO Series	1-1/2:1	CCW/CW	6A39-G-NG	393023-1	6	S
8MO Series	1:1	CW	8A29-D-NG	393018-1	8	S
PC-2505	1:1	CW	8A29-D-NG	393018-1	8	S

CATERPILLAR

G333	1-1/2:1	CW	6A39-A-NG	393023-1	6	S
G342	1-1/2:1	CCW/CW	6A39-A-NG	393023-2	6	S
G343	1-1/2:1	CCW/CW	6A39-G-NG	393023-1	6	S
G353	1-1/2:1	CCW	6A39-A-NG	393023-2	6	S
G398 (side mount)	1-1/2:1	CCW	12A33-A-NG	393018-2	12	D
G398 (between "V")	1-1/2:1	CW	12A33-A-NG	393018-2	12	D
G399	1:1	CCW	16B21-A-NG	393022-1	16	D,9
G399 (2 units)	1:1	CW	8A25-G-NG	393018-1	16	D,20
G3306	1-1/2:1	CCW	6A39-A-NG	393023-1	6	S
G3406	1:1	CW	6A29-A0-NG	393023-1	6	S
G3408	1:1	CCW	8A23-G0-NG	393018-1	8	D
G3412	1:1	CCW	12P21-G0-NG	393018-2	12	D
G3508	1:1	CW	8A23-J-NG	393018-1	8	D

ALTRONIC III^{NG} DIGITAL IGNITION SYSTEM

ENGINE/ MODEL NO.	DRIVE RATIO	ROTATION	ALT III ^{NG} UNIT NO.	WIRING HARNESS	QTY. COILS	NOTES
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CATERPILLAR (continued)

G3512	1:1	CW	12A23-J-NG	393018-2	12	D
G3516	1:1	CW	16T21-J-NG	393022-1	16	D
G3606	2:1	CCW	6A46-J-SI-NG	393018-1	6	S
G3608	2:1	CCW	8A45-J-SI-NG	393018-1	8	D
G3612	2:1	CW	12V45-J-S2-NG	393018-2	12	D
G3616	2:1	CW	16V43-J-S2-NG	393022-1	16	D

CLIMAX

K-67	1-1/2:1	CW	6A39-A-NG	393023-1	6	S
K-75	1-1/2:1	CW	6A39-A-NG	393023-1	6	S
L-3230	1-1/2:1	CW	12A33-A-NG	393018-2	12	D
L-3711	1-1/2:1	CW	12A33-A-NG	393018-2	12	D
V-120	1-1/2:1	CW	12A33-BEL-NG	393018-2	12	D
V-122	1-1/2:1	CW	12A33-G-NG	393018-2	12	D
V-125	1-1/2:1	CW	12A33-G-NG	393018-2	12	D

CUMMINS

G-743	1:1	CW	6A29-D-NG	393023-1	6	S
G-855	1:1	CW	6A29-D-NG	393023-1	6	S
G-1150	1:1	CW	6A29-D-NG	393023-1	6	S
G-1710	1:1	CCW	12Z21-D-NG	393018-2	12	D,12
GNH-220	1:1	CW	6A29-D-NG	393023-1	6	S
GNH-250	1:1	CW	6A29-D-NG	393023-1	6	S
GNHC-4	1:1	CW	4A29-D-NG	393023-1	4	S
GT-743	1:1	CW	6A29-D-NG	393023-1	6	S
GT-855	1:1	CW	6A29-D-NG	393023-1	6	S
GT-1710	1:1	CCW	12Z21-D-NG	393018-2	12	D
GTA-743	1:1	CW	6A29-D-NG	393023-1	6	S
GTA-855	1:1	CW	6A29-D-NG	393023-1	6	S
GTA-1150	1:1	CW	6A29-D-NG	393023-1	6	S
GTA-1710	1:1	CCW	12Z21-D-NG	393018-2	12	D

M.E.P.

(2 units)	• 6	1:1	CW	6A17-A-NG	393013-5	12	S
	• 6	3:1	CCW	6A37-A-NG	393013-5	12	S
(2 units)	• 6	3:1	CCW	6A39-A-NG	393013-5	12	S,20
	• 8	1:1	CW	8A12-A-NG	393014-5	16	S
(2 units)	• 8	2:1	CCW	8A27-A-NG	393014-5	16	S
	• 8	2:1	CCW	8A23-A-NG	393014-5	16	D,20
(2 units)	• 8	2:1	CCW	8A23-A-NG	393014-5	16	D,20
(2 units)	• 12	1:1	CW	12A11-A-NG	393014-6	24	D
	• 12	3:1	CCW	12A31-A-NG	393014-6	24	D
(2 units)	• 12	3:1	CCW	12A33-A-NG	393014-6	24	D,20

ALTRONIC III^{NG} DIGITAL IGNITION SYSTEM

ENGINE/ MODEL NO.	DRIVE RATIO	ROTATION	ALT III ^{NG} UNIT NO.	WIRING HARNESS	QTY. COILS	NOTES
ROILINE						
F-1500	1-1/2:1	CCW/CW	6A39-G-NG	393023-1	6	S
F-1850	1-1/2:1	CCW/CW	6A39-A-NG	393023-1	6	S
H-540	1:1	CCW/CW	8A23-A-NG	393018-1	8	D,15
H-570	1:1	CCW/CW	8A23-A-NG	393018-1	8	D,15
H-844	1:1	CCW/CW	8A23-A-NG	393018-1	8	D,15
H-884	1:1	CCW/CW	8A23-A-NG	393018-1	8	D,15
L-3000 (flange mount)	1-1/2:1	CW	12A33-G-NG	393018-2	12	D
L-3000 (base mount)	1-1/2:1	CW	12A33-BEL-NG	393018-2	12	D
L-3230	1-1/2:1	CW	12A33-A-NG	393018-2	12	D
L-3460	1-1/2:1	CW	12H35-A-NG	393018-2	24	D,1
L-4000	1-1/2:1	CW	12H35-A-NG	393018-2	24	D,1
RXISV (flange mount)	1-1/2:1	CW	12A33-G-NG	393018-2	12	D
RXISV (base mount)	1-1/2:1	CW	12A33-BEL-NG	393018-2	12	D
SUPERIOR (White Superior)						
6G-510	1-1/2:1	CCW	6A39-BEL-NG	393023-2	6	S
6GT-510	1-1/2:1	CCW	6A39-BEL-NG	393023-2	6	S
6G-825	1-1/2:1	CCW	6A39-BEL-NG	393023-2	6	S
6GT-825	1-1/2:1	CCW	6A39-BEL-NG	393023-2	6	S
6GTL	1-1/2:1	CCW	6A39-BEL-NG	393023-2	6	S
16G-825	1:1	CCW	16G23-BEL-NG	393022-1	16	D,11
16G-825 (2 units)	1:1	CCW	8A29-BEL-NG	393018-1	16	S,20
16GT-825	1:1	CCW	16G23-BEL-NG	393022-1	16	D
16GT-825 (2 units)	1:1	CCW	8A29-BEL-NG	393018-1	16	S,20
16GTL	1:1	CCW	16G23-BEL-NG	393022-1	16	D,11
16GTL (2 units)	1:1	CCW	8A29-BEL-NG	393018-1	16	S,20
16SGT	1:1	CCW	16G23-BEL-NG	393022-1	16	D,11
16SGT (2 units)	1:1	CCW	8A29-BEL-NG	393018-1	16	S,20
16SGTA	1-1/2:1	CCW	8L63-BEL-NG	393014-7	16	D,9
THOMASSEN						
12NC	1-1/2:1	CW	12A35-BEL-NG	393018-2	12	D,19
WAUKESHA						
6LR0 Series	1-1/2:1	CW	6A39-BEL-NG	393023-2	6	S,6,8
6LRZ Series	1-1/2:1	CW	6A39-BEL-NG	393023-2	6	S,6,8
6NKR Series	1-1/2:1	CW	6A39-BEL-NG	393023-2	6	S,8
6WAKSeries	1-1/2:1	CW	6A39-BEL-NG	393023-2	6	S,8,16
8L-AT25GL	1-1/2:1	CCW	8A39-G-NG	393018-1	8	S
16V-AT25GL	1-1/2 :1	CCW	16K33-G-NG	393022-1	16	D
F18G, F18GL	1:1	CW	6A29-GV-NG	393023-2	6	S
F18G, F18GL	1:1	CW	6A29-GVN-NG	393023-2	6	S,21

ALTRONIC III^{NG} DIGITAL IGNITION SYSTEM

ENGINE/ MODEL NO.	DRIVE RATIO	ROTATION	ALT III ^{NG} UNIT NO.	WIRING HARNESS	QTY. COILS	NOTES
WAUKESHA (continued)						
F1197G	1-1/2 :1	CW	6A39-BEL-NG	393023-2	6	S,8,16
F1905G	1-1/2:1	CW	6A39-BEL-NG	393023-2	6	S,8
F2894G, GSI	1-1/2:1	CW	6A39-BEL-NG	393023-2	6	S,6,8
F2895G, GSI (flange)	1-1/2:1	CCW	6A39-G-NG	393023-2	6	S
F2895G, GSI (base)	1-1/2:1	CCW	6A39-BEL-NG	393023-2	6	S,7,8
F2895GL	1-1/2:1	CCW	6A39-G-NG	393023-2	6	S
F3520G, GSI	1-1/2:1	CW	6A39-BEL-NG	393023-2	6	S,6,8
F3521G, GSI (flange)	1-1/2:1	CCW	6A39-G-NG	393023-2	6	S
F3521G, GSI (base)	1-1/2:1	CCW	6A39-BEL-NG	393023-2	6	S,7,8
F3521GL	1-1/2:1	CCW	6A39-G-NG	393023-2	6	S
H24G, H24GL	1:1	CW	8A23-GV-NG	393018-1	8	D
H24G, H24GL	1:1	CW	8A23-GVN-NG	393018-1	8	D,21
H1077G	1:1	CW	8B25-G-NG	393018-1	8	D,18
H2475G	1:1	CW	8B25-A-NG	393018-1	8	D
H2476G	1:1	CW	8B25-A-NG	393018-1	8	D
L36G, L36GL	1-1/2:1	CW	12A33-GN-NG	393018-2	12	D,21
L1616G	1-1/2:1	CCW/CW	12A33-G-NG	393018-2	12	D
L3711G	1-1/2:1	CW	12A33-A-NG	393018-2	12	D
L3712G	1-1/2:1	CW	12A33-A-NG	393018-2	12	D
L5100G, GSI	1-1/2:1	CCW	12A33-BEL-NG	393018-2	12	D,8
L5108G, GSI (flange)	1-1/2:1	CCW	12A33-G-NG	393018-2	12	D
L5108G, GSI (base)	1-1/2:1	CCW	12A33-BEL-NG	393018-2	12	D,8
L5108GL	1-1/2:1	CCW	12A33-G-NG	393018-2	12	D
L5788G, GSI	1-1/2:1	CCW	12A33-BEL-NG	393018-2	12	D,8
L5790G, GSI (flange)	1-1/2:1	CCW	12A33-G-NG	393018-2	12	D
L5790G, GSI (base)	1-1/2:1	CCW	12A33-BEL-NG	393018-2	12	D,8
L5790GL	1-1/2:1	CCW	12A33-G-NG	393018-2	12	D
L7040G, GSI	1-1/2:1	CCW	12A33-BEL-NG	393018-2	12	D,8
L7042G, GSI (flange)	1-1/2:1	CCW	12A33-G-NG	393018-2	12	D
L7042G, GSI (base)	1-1/2:1	CCW	12A33-BEL-NG	393018-2	12	D,8
L7042GL	1-1/2:1	CCW	12A33-G-NG	393018-2	12	D
P48G, P48GL	1-1/2:1	CW	16T31-GN-NG	393022-1	16	D,21
P9390G, GSI (flange)	1:1	CW	16T21-GV-NG	393022-1	16	D,9
P9390G, GSI (flange-2 units)	1:1	CW	8A25-GV-NG	393018-1	16	D,20
P9390G, GSI (base)	1:1	CW	16T21-BEL-NG	393022-1	16	D,9
P9390G, GSI (base-2 units)	1:1	CW	8A25-BEL-NG	393018-1	16	D,20
P9390GL	1:1	CW	16T21-GV-NG	393022-1	16	D
VLRO Series	1-1/2:1	CCW	12A33-BEL-NG	393018-2	12	D,8

ALTRONIC III^{NG} DIGITAL IGNITION SYSTEM

ENGINE/ MODEL NO.	DRIVE RATIO	ROTATION	ALT III ^{NG} UNIT NO.	WIRING HARNESS	QTY. COILS	NOTES	
WORTHINGTON							
BBG							
-6	3:1	CCW/CW	6A39-BEL-NG	393023-2	6	S	
CCG							
-6	3:1	CCW/CW	6A39-BEL-NG	393023-2	6	S	
DDG							
-6	3:1	CCW/CW	6A39-BEL-NG	393023-2	6	S	
EEG							
-6	3:1	CCW/CW	6A39-BEL-NG	393023-2	6	S	
LTC	-3	3:1	CCW/CW	6A39-BEL-NG	393023-2	6	S,3,10,14
LTC							
-6	3:1	CCW/CW	6A39-BEL-NG	393023-2	12	S,3,14	
-8	2:1	CCW/CW	8A29-BEL-NG	393018-1	16	S,3,14	
TTDA 8-Cylinder	1-1/2:1	CCW/CW	8A39-G-NG	393018-1	16	S,13	

ALTRONIC III^{NG} DIGITAL IGNITION SYSTEM

NOTES:

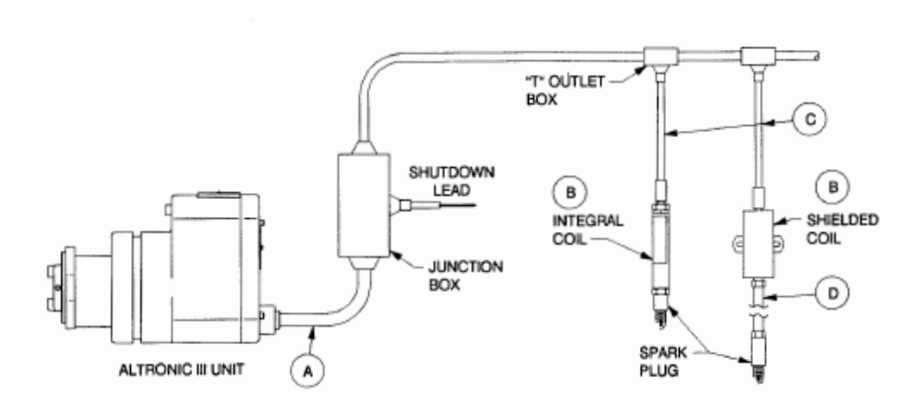
- S - Single storage capacitor unit.
- D - Dual storage capacitor unit.
- 1 - Installation requires special wiring Instructions; see Installation Instructions, form AIII NG II.
- 2 - Clark, Cooper Bessemer and Worthington 2-cycle engines should use the Altronic CPU-95 or CPU-2000 ignition system.
- 3 - Check engine for correct drive ratio. Engines with two 4-cylinder magnetos and interval timer have 2:1 ratio. Engines with two a-cylinder magnetos have 1:1 ratio.
- 4 - Installation requires 510221 shaft extension for each Altronic III^{NG} unit.
- 5 - Check engine magneto drive ratio. For 3:1 ratio, use unit 6x39H. For 1-1/2:1 ratio, use unit 6x69H.
- 6 - When mounting to the lower magneto drive, use Waukesha bracket #12062. With water pump shaft diameter of 1.120" use Waukesha extension #B2932; with water pump shaft diameter of .965", use extension #B2932A.
- 7 - Magneto mounting bracket (Waukesha #153290) and cover should be rotated 30 degrees away from engine block to allow Altronic III^{NG} unit to fit.
- 8 - Order appropriate Altronic drive hub as follows:
 - 510658 for 5/8" diameter engine drive shaft (12-cyl. engines).
 - 510551 for 3/4" diameter engine drive shaft (6-cyl. engines).
- 9 - a-cylinder unit listed fires two cylinders simultaneously (one on exhaust stroke). 16-cylinder unit listed has 16 separate outputs and is recommended for new installations.
- 10 - Use harness leads A, C, E and connect according to engine firing order.
- 11 - Newer engines with factory installation of 16-cylinder unit have 1-1/2:1 drive ratio and Altronic III unit no. 16G33HT-BEL.
- 12 - 6-cylinder unit listed fires two cylinders simultaneously (one on exhaust stroke). 12-cylinder unit listed has 12 separate outputs and is recommended for new installations.
- 14 - Long spark-duration ignition coils 591010 or 591010-S are recommended for this application.
- 15 - Engine must be equipped with Roiline drive #1-00810726 (old no. 4A-81601).
- 16 - Requires re-location of oil by-pass: request Waukesha drawing #SB-4868-30 for details.
- 17 - When replacing Mag-tronic MTC-8-1310 (magneto drive ratio of 1-1/2:1), use unit 8A39H-BEL (3:1 internal gears).
- 18 - When replacing Mag-tronic MTC-8-x320 (magneto drive ratio of 1-1/2:1), use unit 8B35H-G (3:1 internal gears).
- 19 - Mounting must be modified to a standard 45mm base mount drive.
- 20 - Two Altronic III units and two harnesses required for this application.
- 21 - Units -GN and -GVN use special gear-flex coupling; replacement coupling assembly is 560009.
- 22 - Engines with S/N 37Y2112 and lower use unit 4A29H-A; engines with S/N 37Y2113 and higher use unit 4A39H-A.

ALTRONIC III^{NG} DIGITAL IGNITION SYSTEM

SHIELDED SYSTEM

- A. **SHIELDED HARNESS** – Altronic III^{NG} unit to junction box:
593013 series – 90° connector for 4 to 6 cylinder units
593014 series – 90° connector for 8 to 12 cylinder units
393021 series – 90° connector for 16 cylinder units
See Identification Section for complete listing.
- B. **IGNITION COILS:**
501061-S series – shielded coil, standard
591010-S series – shielded coil, long duration
591007 series – integral coil, 1"-20 male thread
591011 A series – integral coil, 13/16"-20 female thread
591011 B series – integral coil, 13/16"-20 female thread
- C. **SHIELDED PRIMARY CABLE ASSEMBLIES** – coil to junction box:
593022 series – 180° connector
593027 series – 90° connector
- D. **SHIELDED SPARK PLUG LEAD ASSEMBLIES** (for 501061-S coil):
593020 – 10", 13", 16", 18" spark plug connector
593030 – 110", 13", 16", 18" - 2" spark plug connector

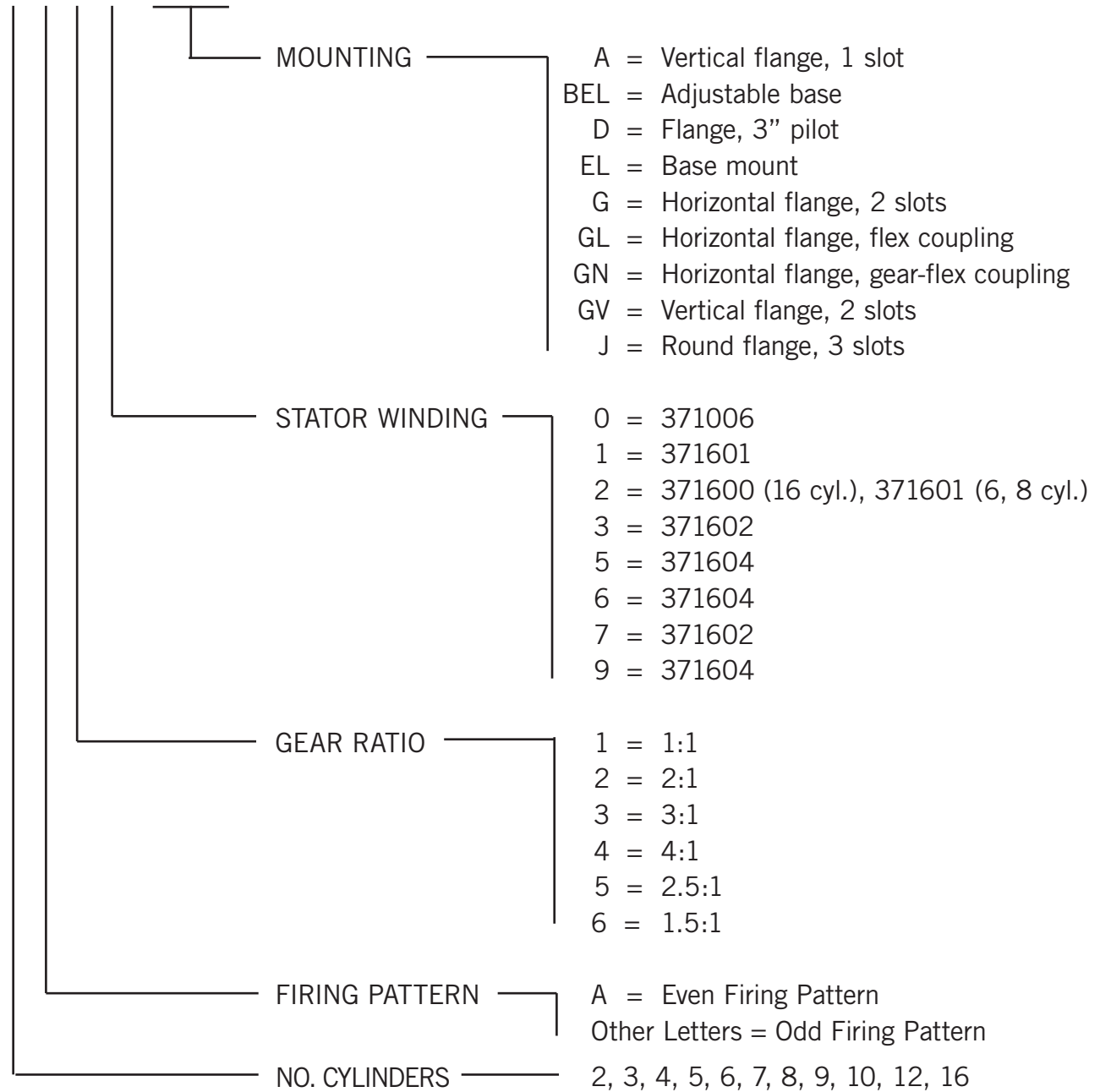
NOTE: Components listed above are CSA Certified/FMA Approved for Class I, Group D, Division 2 locations.

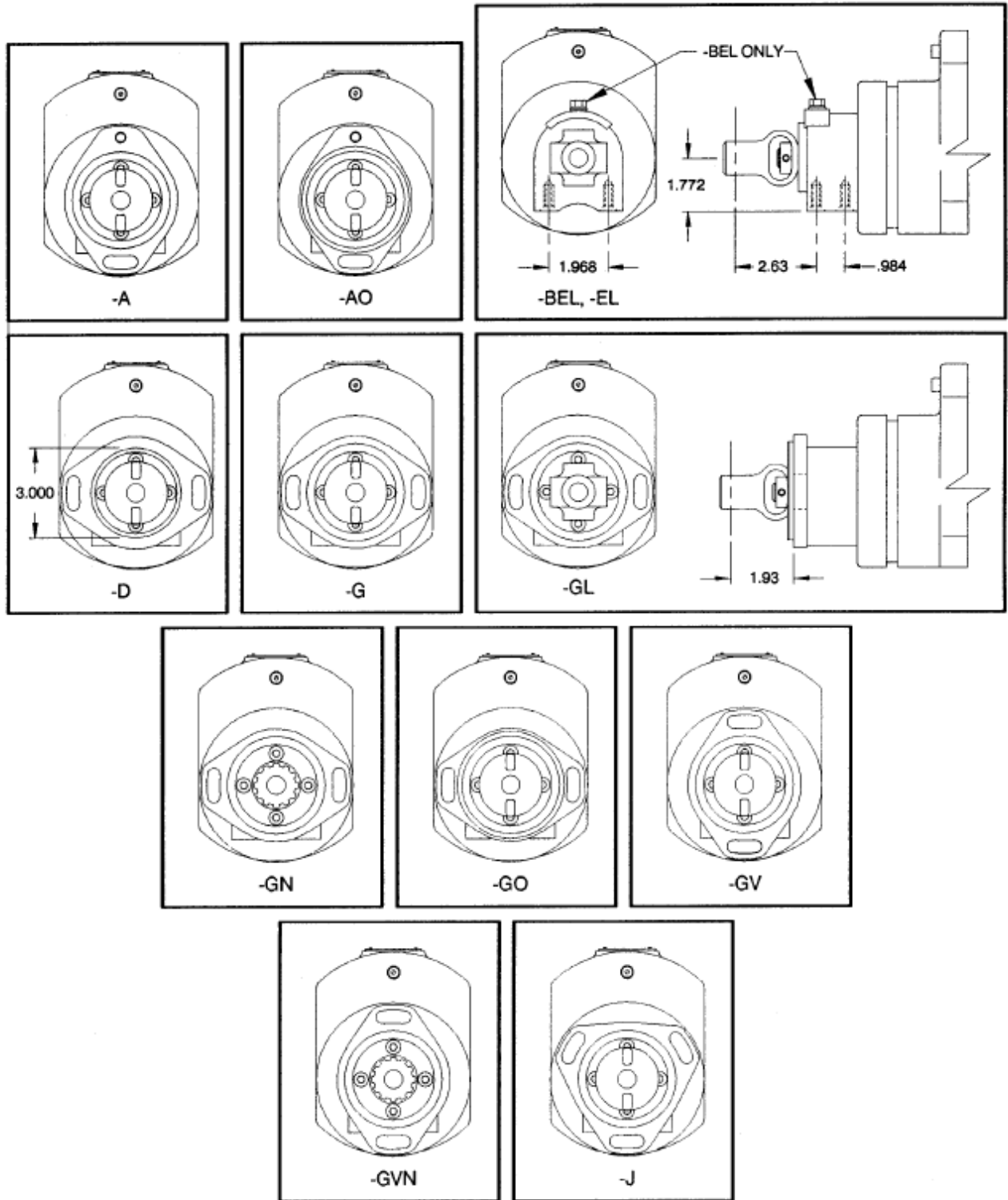


Altronic III^{NG} DIGITAL IGNITION SYSTEM IDENTIFICATION FORM

ALTRONIC III^{NG} UNIT PART NO. DESIGNATION

8 A 2 9 - BEL-NG





ALTRONIC III^{NG} DIGITAL IGNITION SYSTEM

UNSHIELDED HARNESSSES

PART NO.	CONNECTOR/PINS	CYLS./L1*	APPLICATION	NOTES
393011-1	90° / 7	6 / 72"	unshielded	
393011-2	90° / 7	6 / 180"	unshielded	
393012-8	90° / 14	8 / 180"	unshielded	
393012-12	90° / 14	12 / 180"	unshielded	
393018-1	180° / 14	8 / 180"	unshielded	b
393018-2	180° / 14	12 / 180"	unshielded	b
393020-1	90° / 17	16 / 180"	unshielded	
393020-2	90° / 17	16 / 180"	unshielded	
393022-1	180° / 17	16 / 180"	unshielded	b
393022-2	180° / 17	16 / 180"	unshielded	b
393023-1	180° / 7	6 / 72"	unshielded	b
393023-2	180° / 7	6 / 180"	unshielded	b

NOTES: b) All 180 degree connectors are potted type.

- L1 = length of 16 ga. conductor

SHIELDED HARNESSSES

PART NO.	CONNECTOR/PINS	CYLS. / L1* / L2*	APPLICATION	NOTES
393013-1	90° / 7	6 / 72" / 48"	shielded	a
393013-2	90° / 7	6 / 180" / 48"	shielded	a
393013-3	90° / 7	3 / 72" / 48"	shielded	a
393013-4	90° / 7	6 / 60" / 20"	shielded	a
393013-5	90° / 7	6 / 300" / 120"	shielded	a
393013-6	90° / 7	4 / 60" / 38"	shielded	a
393013-7	90° / 7	6 / 60" / 48"	shielded	a
393013-8	90° / 7	6 / 72" / 60"	shielded	a
393013-9	90° / 7	4 / 240" / 48"	shielded	a
393013-10	90° / 7	2 / 72" / 38"	shielded	a
393014-1	90° / 14	8 / 180" / 48"	shielded	a
393014-2	90° / 14	12 / 180" / 48"	shielded	a
393014-3	90° / 14	8 / 42" / 20"	shielded	a
393014-4	90° / 14	12 / 72" / 48"	shielded	a
393014-5	90° / 14	8 / 300" / 120"	shielded	a
393014-6	90° / 14	12 / 300" / 120"	shielded	a
393014-7	90° / 14	8 / 72" / 48"	shielded	a
393014-8	90° / 14	12 / 60" / 36"	shielded	a
393014-9	90° / 14	12 / 96" / 66"	shielded	a
393014-10	90° / 14	8 / 60" / 48"	shielded	a
393014-11	90° / 14	8 / 60" / 36"	shielded	a
393021-1	90° / 17	16 / 180" / 48"	shielded	a
393021-2	90° / 17	16 / 60" / 48"	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