

**ALTRONIC V^{NG}
SMALL ENGINES, 1-6 CYLINDERS**

**APPLICATION LIST
FORM AVNG AL 01-20**

REQUIRED ITEMS:

- A) ALTRONIC V^{NG} UNIT - See listing and Identification section.
 * Single Firing Unit fires each cylinder individually on the compression stroke only.
 ** Double Firing Unit fires on exhaust stroke as well as the compression stroke.
- B) WIRING HARNESS - See listing and Identification section.
- C) IGNITION COILS - unshielded, 1 per spark plug:
 501 061 - standard
 591 010 - long duration

OPTIONAL ITEMS:

- D) SHIELDED SYSTEM - See Application Options.
- E) ALTRONIC DIGITAL INSTRUMENTS -Annunciator, Tachometer, Hourmeter, Overspeed Trip, Timing Indicator, Pyrometer, Temperature and Pressure Switch & Gauge - see form ADI-C.
- F) MURPHY PANEUFUEL VALVE ADAPTOR - 501 213.

ENGINE / MODEL NO.	ALTRONIC 1/1-6 KIT AVAILABLE	ALTRONIC V ^{NG} SINGLE FIRING* UNIT NO. HARNESS	ALTRONIC V ^{NG} DOUBLE FIRING** UNIT NO. HARNESS	QTY. IGN. COILS	NOTES
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AJAX

6-1/2 x 8, 7-1/4 x 8	I	1A28-A-NG 593041-1	-- --	1	
7-1/2 x 10, 8-1/2 x 10	I	1A28-A-NG 593041-1	-- --	1	
E-15	I	1A28-A-NG 593041-1	-- --	1	
EA-22	I	1A28-A-NG 593041-1	-- --	1	
C-30, EA-30	I	1A28-A-NG 593041-1	-- --	1	
C-42, E-42	I	1A28-A-NG 593041-1	-- --	1	
DP-60, DPC-60	I	1A28-A-NG 593041-1	-- --	1	
DP-70	I	1A28-A-NG 593041-1	-- --	1	
DP-80, DPC-80	I	1A28-A-NG 593041-1	-- --	2	
DPC-81	I	1A28-A-NG 593041-1	-- --	2	
DPC-105	I	1A28-A-NG 593041-1	-- --	2	
DP-115, DPC-115	I	1A28-A-NG 593041-1	-- --	2	
DPC-120	I	2A28-A-NG 593041-1	-- --	2	
DP-125	I	1A28-A-NG 593041-1	-- --	2	
DPC-140	I	1A28-A-NG 593041-1	-- --	2	
DP-160, DPC-160	I	2A28-A-NG 593041-1	-- --	4	
DPC-162	I	2A28-A-NG 593041-1	-- --	4	
DP-165	I	1A28-A-NG 593041-1	-- --	2	
DPC-180	I	1A28-A-NG 593041-1	-- --	2	
DP-230, DPC-230	I	2A28-A-NG 593041-1	-- --	4	
DP-250	I	2A28-A-NG 593041-1	-- --	4	
DPC-280	I	2A28-A-NG 593041-1	-- --	4	
DPC-300	I	2A28-A-NG 593041-1	-- --	4	
DP-325	I	2A28-A-NG 593041-1	-- --	4	
DPC-360	I	2A28-A-NG 593041-1	-- --	4	

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ALLIS CHALMERS

4-Cylinder (1:1)	--	4A24-A-NG 393023-1	2A14-A-NG 593041-1	4	
6-Cylinder (1-1/2:1)	--	6A34-A-NG 393023-1	3A64-A-NG 593041-1	6	

ARIEL

325JGS/1	--	2A18-GV-NG 593041-1	-- --	4	
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ARROW SPECIALTY

C-245	I	2A25-A-NG 593041-1	-- --	2	
C-255	I	2A25-A-NG 593041-1	-- --	2	
L-795	I	2A28-GV-NG 593041-1	-- --	2	
L-1770	I	2A28-A-NG 593041-1	-- --	2	
L-2165	I	2A28-A-NG 593041-1	-- --	2	

CATERPILLAR

G3304-NA (1:1)	I-6	4A24-A-NG 393023-1	2A14-A-NG 593041-1	4	12
G3304-NA (1-1/2:1)	--	4A34-A-NG 393023-1	-- --	4	12
G3306-NA	I-6	6A34-A-NG 393023-1	3A64-A-NG 593041-1	6	
G3306-TA	--	6A34-A-NG 393023-1	-- --	6	

CONTINENTAL

F-163	I-6	4A24-A-NG 393023-1	2A14-A-NG 593041-1	4	
F-226	I-6	6A34-A-NG 393023-1	3A64-A-NG 593041-1	6	
F-227	I-6	6A34-A-NG 393023-1	3A64-A-NG 593041-1	6	
F-245	I-6	6A34-A-NG 393023-1	3A64-A-NG 593041-1	6	

CONTINENTAL-EMSCO

C-E 264	I	2A25-A-NG 593041-1	-- --	2	
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CUMMINS

G-495	I-6	4A24-D-NG 393023-1	2A14-D-NG 593041-1	4	
G-743 (1:1)	I-6	6A24-D-NG 393023-1	3A14-D-NG 593041-1	6	11
G-743 (1-1/2:1)	--	6A34-GVC-NG 393023-1	3A64-GV-NG 593041-1	6	11
G-855 (1:1)	I-6	6A24-D-NG 393023-1	3A14-D-NG 593041-1	6	11
G-855 (1-1/2:1)	--	6A34-GVC-NG 393023-1	3A64-GV-NG 593041-1	6	11
GTA-743 (1:1)	--	6A24-D-NG 393023-1	-- --	6	
GTA-743 (1-1/2:1)	--	6A34-GVC-NG 393023-1	-- --	6	
GTA-855 (1:1)	--	6A24-D-NG 393023-1	-- --	6	
GTA-855 (1-1/2:1)	--	6A34-GVC-NG 393023-1	-- --	6	

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DEUTZ					
GF2L912, GF2L913	--	2A25-GV-NG 593041-1	2A14-GV-NG 593041-1	2	
GF3L912, GF3L913	--	3A25-GV-NG 593041-1	3A14-GV-NG 593041-1	3	
GF4L912, GF4L913	--	4A24-GV-NG 393023-1	2A14-GV-NG 593041-1	4	
GF5L912, GF5L913	--	5A24-GV-NG 393023-1	-- --	5	
GF6L912, GF6L913	--	6A24-GV-NG 393023-1	3A14-GV-NG 593041-1	6	
DORMAN					
6LEG	--	6A34-A-NG 393023-1	3A64-A-NG 593041-1	6	
6QG	--	6A34-A-NG 393023-1	3A64-A-NG 593041-1	6	
HERCULES (WHITE)					
G-2300 (1:1)	I-6	4A24-GVW-NG 393023-1	2A14-GVW-NG 593041-1	4	1
G-2300 (1-1/2:1)	I-6	4A34-GVW-NG 393023-1	2A64-GVW-NG 593041-1	4	2
G-3400 (1-1/2:1)	I-6	6A34-GVW-NG 393023-1	3A64-GVW-NG 593041-1	6	2
G-4800 (1-1/2:1)	--	6A34-GVW-NG 393023-1	3A64-GVW-NG 593041-1	6	
INTERNATIONAL					
4-Cylinder (1:1)	--	4A24-A-NG 393023-1	2A14-A-NG 593041-1	4	
6-Cylinder (1-1/2:1)	--	6A34-A-NG 393023-1	3A64-A-NG 593041-1	6	
LUFKIN					
HC-333, HT-333	I	2A28-GV-NG 593041-1	-- --	2	
L-795	I	2A28-GV-NG 593041-1	-- --	2	
L-1770B	I	2A28-A-NG 593041-1	-- --	2	
L-2165B	I	2A28-A-NG 593041-1	-- --	2	
MINNEAPOLIS MOLINE					
4-Cylinder (1:1)	I-6	4A24-A-NG 393023-1	2A14-A-NG 593041-1	4	
6-Cylinder (1-1/2:1)	I-6	6A34-AM-NG 393023-1	3A64-AM-NG 593041-1	6	
OILWELL					
C-15RC	I	-- --	1A18-GV-NG 593041-1	1	
C-19RC	I	-- --	1A18-GV-NG 593041-1	1	
E-15RC	I	-- --	1A18-GV-NG 593041-1	1	
E-20RC	I	-- --	1A18-GV-NG 593041-1	1	
F-70RC	I	-- --	2A14-GV-NG 593041-1	2	
F-90RC	I	-- --	2A14-GV-NG 593041-1	2	

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WAUKESHA					
135	I-6	6A34-AW-NG 393023-1	3A64-AW-NG 593041-1	6	3
140	I-6	6A34-A-NG 393023-1	3A64-A-NG 593041-1	6	
145	I-6	6A34-A-NG 393023-1	3A64-A-NG 593041-1	6	
180	--	4A24-A-NG 393023-1	2A14-A-NG 593041-1	4	9
190	I-6	6A34-AW-NG 393023-1	3A64-AW-NG 593041-1	6	4
195	I-6	6A34-AW-NG 393023-1	3A64-AW-NG 593041-1	6	4
F11G, F11GSI	--	6A34-GV-NG 393023-1	-- --	6	5
F11G, F11GSI	--	6A34-GVW-NG 393023-1	-- --	6	5
F554GU	I-6	6A34-A-NG 393023-1	3A64-A-NG 593041-1	6	
F817GU	I-6	6A34-A-NG 393023-1	3A64-A-NG 593041-1	6	
F1197GU	I-6	6A34-GV-NG 393023-1	3A64-GV-NG 593041-1	6	8
F1905G	I-6	6A34-GV-NG 393023-1	3A64-GV-NG 593041-1	6	8
VRG-220	I-6	4A24-AW-NG 393023-1	2A14-AW-NG 593041-1	4	6
VRG-232	I-6	6A34-A-NG 393023-1	3A64-A-NG 593041-1	6	10
VRG-265	I-6	6A34-A-NG 393023-1	3A64-A-NG 593041-1	6	10
VRG-283	I-6	6A34-A-NG 393023-1	3A64-A-NG 593041-1	6	10
VRG-310	I-6	6A34-A-NG 393023-1	3A64-A-NG 593041-1	6	10
VRG-330	I-6	6A34-AW-NG 393023-1	3A64-AW-NG 593041-1	6	7
VRG-330S	--	6A34-AW-NG 393023-1	-- --	6	7

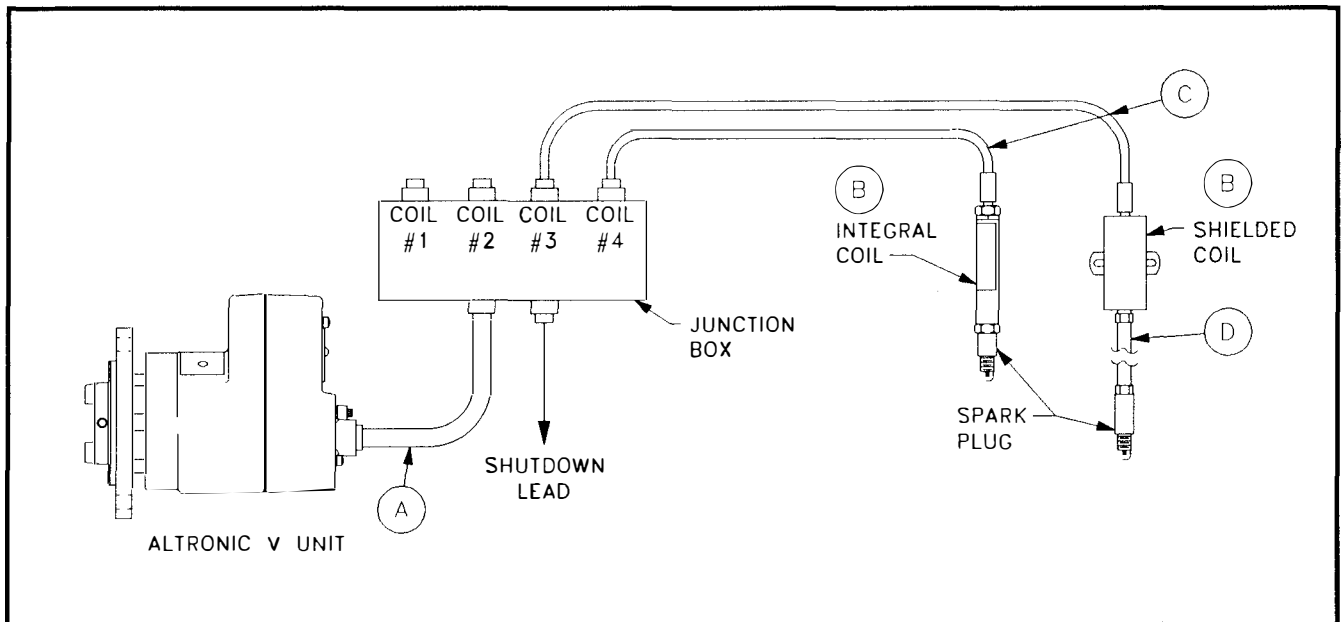
NOTES:

- 1 - Drive gear for Altronic V^{NG} unit is White part no. 255446 which requires a 7/8" I.D. x 1/8" thick spacer washer.
- 2 - Drive gear for Altronic unit is White part no. 40-3076701.
- 3 - Drive gear for Altronic unit is Waukesha part no. 135119.
- 4 - Drive gear for Altronic unit is Waukesha part no. 195119.
- 5 - First production engines using attached Waukesha gear no. 355019 use unit 6A34-GVW-NG. Later production engines using standard magneto drive use unit 6A34-GV-NG.
- 6 - Drive gear for Altronic unit is Waukesha part no. 216019.
- 7 - Drive gear for Altronic unit is Waukesha part no. 217019.
- 8 - Adaptation to flange mounting is required; contact Rocky Mountain Ignition & Emission Controls, Inc.; 5829 Monaco St.; Commerce City, Colorado 80022.
- 9 - Installation requires Waukesha adapter no. D151805; also requires various Waukesha parts to connect adaptor to the engine's oil system.
- 10 - Installation requires Waukesha adapter no. AA199686; also requires various Waukesha parts to connect adaptor to the engine's oil system.
- 11 - The single firing system (6A unit) is recommended for new installations.
- 12 - Engines with S/N 37Y02112 and lower use unit 4A24-A-NG; engines with S/N 37Y02113 and higher use unit 4A34-A-NG.
- 13 - Unit 109-8912 is model 6A24-GV-NG with special coupling 510699 in place of standard coupling 510454-U.

SHIELDED SYSTEM

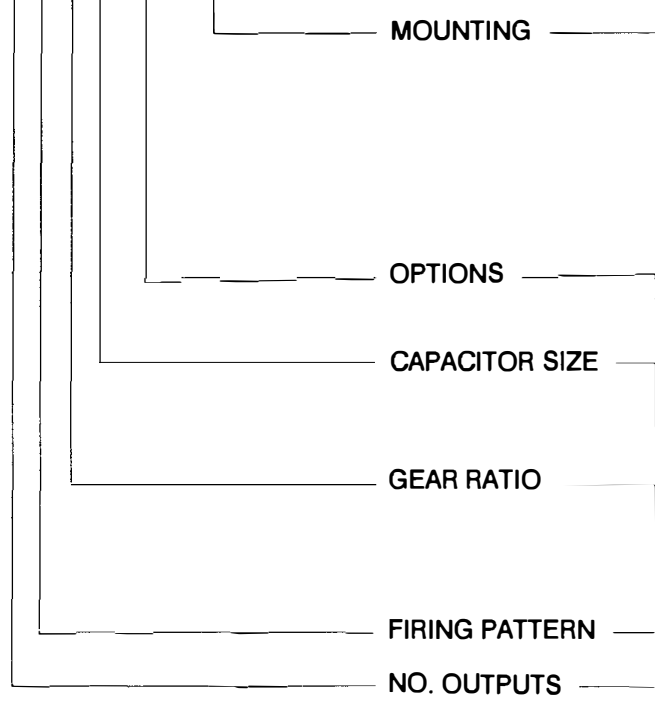
- A) SHIELDED HARNESS - Altronic V unit to junction box:
 - 593 044 series - 180° connector for models 1A, 2A, 3A
 - 593 046 series - 90° connector for models 1A, 2A, 3A
 - 393 013 series - 90° connector for models 4A, 5A, 6A
 - See Identification section for complete listing.
- B) IGNITION COILS - See Application Guide, form AIS AG:
 - 501 061-S series - shielded coil, standard
 - 591 010-S series - shielded coil, long duration
 - 591 007 series - integral coil, 1"-20 male thread
 - 591 011A series - integral coil, 13/16"-20 female thread
 - 591 011B series - integral coil, 13/16"-20 female thread
- C) SHIELDED PRIMARY CABLE ASSEMBLIES - coil to junction box:
 - 593 022 series - 180° connector
 - 593 027 series - 90° connector
 - See Application Guide, form AIS AG, for available lengths.
- D) SHIELDED SPARK PLUG LEAD ASSEMBLIES (FOR 501061-S, 591010-S COIL):
 - 593 020 - 10", 13", 16", 18"

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

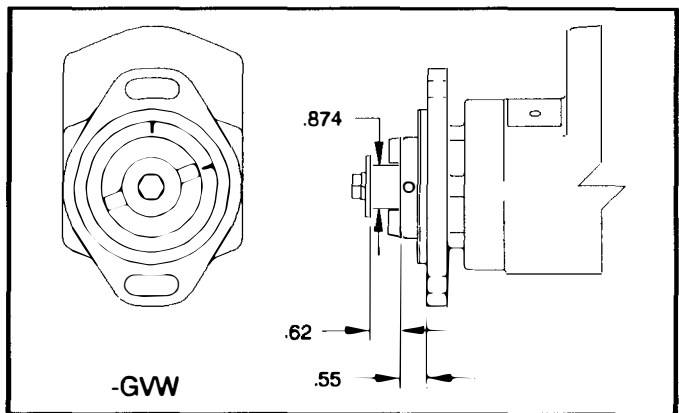
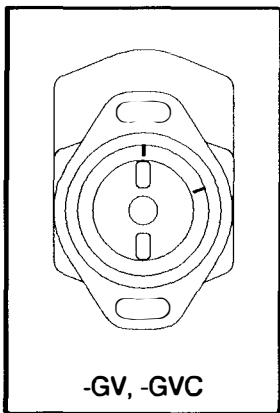
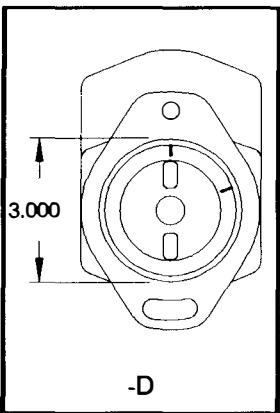
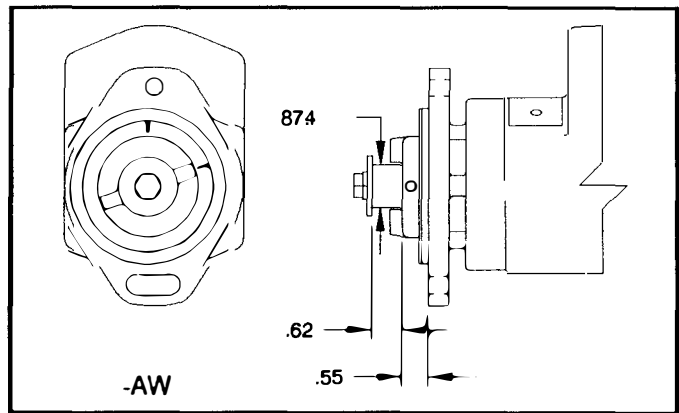
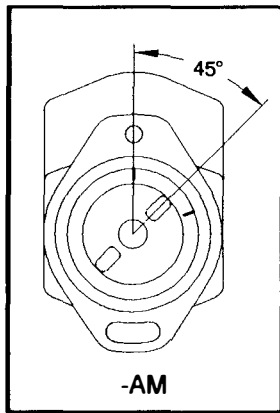
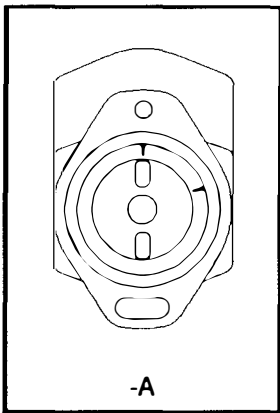


ALTRONIC V UNIT PART NO. DESIGNATION

2 A 2 8 H T - A - NG



- A = Vertical Flange, 1 slot
 - AM = Vertical Flange, 45° coupling
 - AW = Vertical Flange, gear drive
 - D = Vertical Flange, 3.00" pilot
 - GV = Vertical Flange, 2 slots
 - GVC = Vertical Flange, 2 slots
 - GWW = Vertical Flange, gear drive, 2 slots
- H = High Output Option
 - T = Electronic Timing Option
- 4 =
 - 5 =
 - 8 =
- 1 = 1: 1
 - 2 = 2: 1
 - 3 = 3: 1
 - 6 = 1-1/2: 1
- A = Even Firing Pattern
- 1 2 3 4 5 6



BACK COVER LISTING

UNIT	BACK COVER ASS'Y.
1A18	581409-1
1A28	581409-2
2A14	581409-4
2A25	581409-6
2A28	581409-3
2A64	581409-5

UNIT	BACK COVER ASS'Y.
3A14	581409-9
3A25	581409-11
3A35	581409-10
3A64	581409-8
4A24	581409-12
4A34	581409-13
5A24	581409-7
6A24	581409-17
6A34	581409-15

UNSHIELDED HARNESSSES

PART NO.	CONNECTOR / PINS	CYLS. / L1*	APPLICATION	NOTES
393023-1	180° / 7	4-6 / 72"	unshielded	b
393023-2	180° / 7	4-6 / 180"	unshielded	b
593041-1	180° / 5	1-6 / 72"	unshielded	b
593041-2	180° / 5	1-6 / 96"	unshielded	b

SHIELDED HARNESSSES

PART NO.	CONNECTOR / PINS	CYLS. / L1* / L2*	APPLICATION	NOTES
393013-1	90° / 7	4-6 / 72" / 48"	shielded	a
393013-2	90° / 7	4-6 / 180" / 48"	shielded	a
593044-12	180° / 5	1-6 / 72" / 12"	shielded	a
593044-18	180° / 5	1-6 / 72" / 18"	shielded	a
593044-24	180° / 5	1-6 / 72" / 24"	shielded	a
593046-12	90° / 5	1-6 / 72" / 12"	shielded	a
593046-18	90° / 5	1-6 / 72" / 18"	shielded	a
593046-24	90° / 5	1-6 / 72" / 24"	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.
- b) All 180 degree connectors are potted type.

* L1 = length of 16 ga. conductor
 L2 = length of conduit on shielded harnesses