

Installation Instructions

Altronic V^{NG} Ignition System

Small Engines, 2-6 Cylinders

Form AV-NG II 01-21

altronic
HOERBIGER Engine Division



1.0 ALTRONIC V^{NG} IGNITION SYSTEM – DESCRIPTION

- 1.1 The Altronic V^{NG} self-powered ignition system consists of these basic components:
 1. Altronic V^{NG} unit
 2. Wiring harness
 3. Ignition coils - 501061, 501061-S, 591010, 591010-S, 591040 (one per cylinder)

2.0 ENGINE

- 2.1 Set the engine so that no. 1 cylinder is at the desired ignition firing point.

3.0 DIRECTION OF ROTATION

- 3.1 Determine the rotation of the Altronic V^{NG} unit (looking at the drive end of the Altronic V^{NG}) for the engine being equipped.

4.0 ALTRONIC V^{NG} UNIT

- 4.1 Locate the timing mark on the housing for the proper rotation (see drawing 509104). Rotate the unit shaft until the red mark on the shaft lines up with the proper mark on the housing.
- 4.2 Mount the unit on the engine drive keeping the two red marks lined up as close as possible. Install and tighten finger-tight two 3/8"-16 mounting bolts. See drawing 509101 for dimensions of the various Altronic V^{NG} models.
- 4.3 Once the unit is mounted, rotate the entire unit to cause the two red timing lines to meet. If the red lines cannot be made to meet in this manner, remove the four screws which fasten the back cover assembly to the unit. The entire back cover assembly should then be pulled away from the unit keeping the internal plug connected. Rotate the distributor gear until the two marks described above line up. Then reinstall the back cover to the unit, engaging the gears, and keeping the two red marks together. If necessary, the plastic cover can be removed to keep one finger on the timing decal to maintain the proper alignment of the two red timing marks. Securely tighten the four cover mounting screws
- 4.4 Final timing should be set using a timing light with the engine at operating speed. The entire unit is rotated to adjust ignition timing.
- 4.5 Tighten the two 3/8"-16 mounting bolts.

5.0 IGNITION COILS

- 5.1 Use only the Altronic coils listed in section 1.1.
- 5.2 Mount the ignition coils as close to the spark plugs as possible keeping the high-tension lead length to a minimum but also keeping temperature below 200°F. (95°C.) during operation.

IMPORTANT SAFETY NOTICE:
PROPER INSTALLATION, MAINTENANCE, REPAIR AND OPERATION OF THIS EQUIPMENT IS ESSENTIAL. THE RECOMMENDED PRACTICES CONTAINED HEREIN SHOULD BE FOLLOWED WITHOUT DEVIATION. AN IMPROPERLY INSTALLED OR OPERATING IGNITION SYSTEM COULD CAUSE PERSONAL INJURY TO OPERATORS OR OTHER NEARBY PERSONNEL.

6.0 PRIMARY WIRING

6.1 The firing order of the Altronic V^{NG} unit is as follows:

NO. OF CYLS.	ALTRONIC V ^{NG} UNIT NO.	FIRING ORDER CCW ROTATION	FIRING ORDER CW ROTATION	WIRING DIAGRAM
2**	2A14-NG	A-B	A-B	2A
3**	3A14-NG, 3A64-NG	A-C-B	A-B-C	3A
4**	2A14-NG	A-B-A-B	A-B-A-B	4
4*	4A24-NG, 4A34-NG	A-B-C-D	A-D-C-B	6
5*	5A24-NG	A-B-C-D-E	A-E-D-C-B	6
6**	3A14-NG, 3A64-NG	A-B-C-A-B-C	A-C-B-A-C-B	5
6*	6A24-NG, 6A34-NG	A-B-C-D-E-F	A-F-E-D-C-B	6

* Single firing unit - fires each cylinder individually on the compression stroke only.

** Double firing unit - fires on exhaust stroke as well as compression stroke.

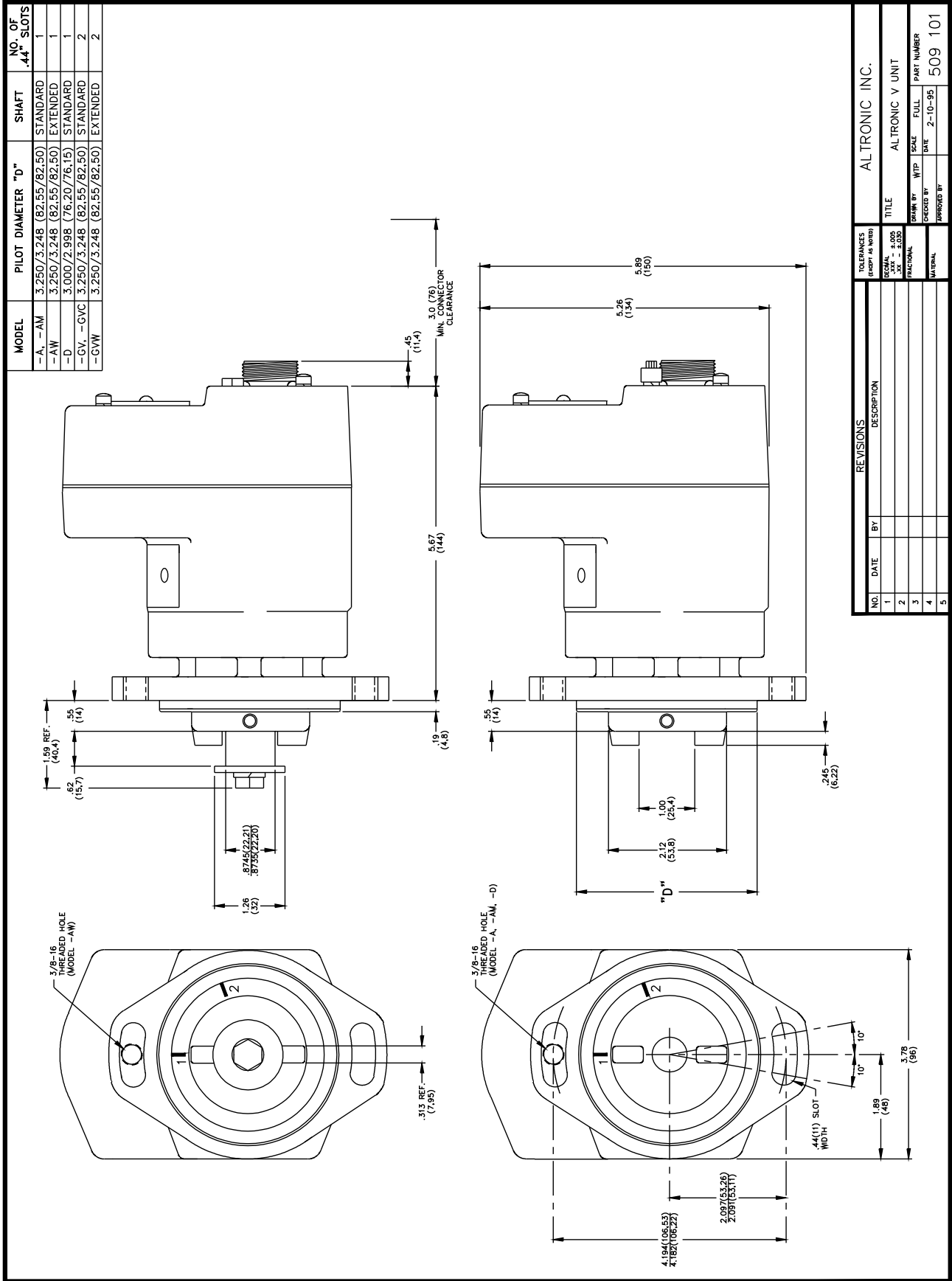
- 6.2 Starting with lead "A" to the coil of no. 1 cylinder, the harness leads are connected in accordance with the engine's firing order to the positive (+) terminals of the coils - see wiring diagrams. On exhaust stroke firing units (**), the coils for the cylinders with the same harness letter are connected in SERIES as shown in the wiring diagrams.
- 6.3 A common ground lead connecting the negative (!) terminals of the coils must be connected as shown in the wiring diagrams.
- 6.4 All connections should be made using ring type terminals specified for 16 gauge wire and #10 stud size. Terminals should either be soldered to the wire or attached with an appropriate staking tool. All primary wiring should be protected from physical damage, vibration and temperatures in excess of 200°F. (95° C.).
- 6.5 SHIELDED SYSTEM - Request Altronic drawing 509013 for detail.

7.0 SHUTDOWN WIRING

- 7.1 The shutdown harness lead must be grounded to shut-off the ignition. The shutdown lead is identified:
- "E" for units with a 5-pin connector (models 2A, 3A);
 - "G" for units with a 7-pin connector (models 4A, 5A, 6A).
- 7.2 For proper operation of Murphy Tattletale switches or fuel valve, use panel adapter 501213 as shown in the wiring diagrams.

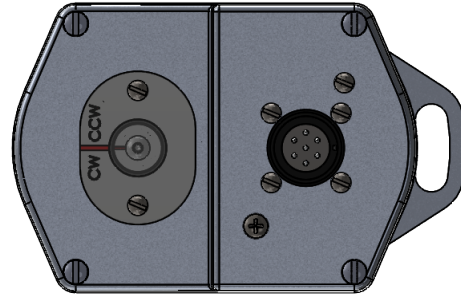
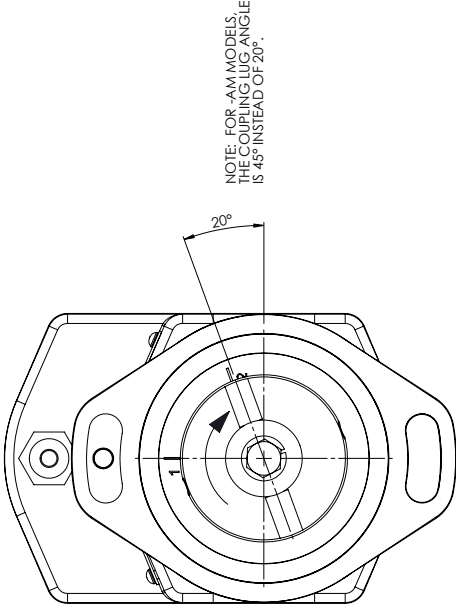
8.0 SECONDARY WIRING

- 8.1 The spark plug leads should be fabricated from 7mm, silicone insulated, tinned copper conductor with suitable terminals and silicone spark plug boot. Keep spark plug leads as short as possible and in all cases not longer than 20 inches (500mm). Spark plug leads should be kept at least 2 inches (50mm) away from any grounded engine part. In deep spark plug wells, use rigid, insulated extenders projecting out of the well.
- 8.2 The use of a clear, silicone grease (such as Dow Corning DC-4, G.E. G-623 or GC Electronics Z5) is recommended for all high-tension connections and boots. This material helps seal out moisture and prevent corrosion from atmospheric sources.

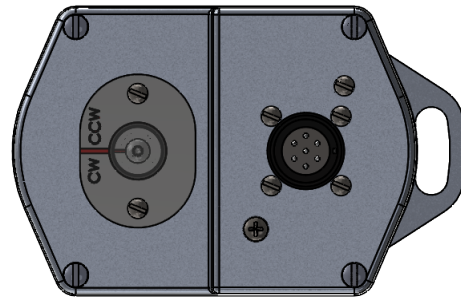
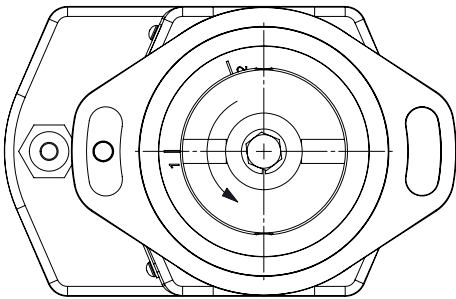


1 88820101155468E-0007
E3 1/20101

CW ROTATION



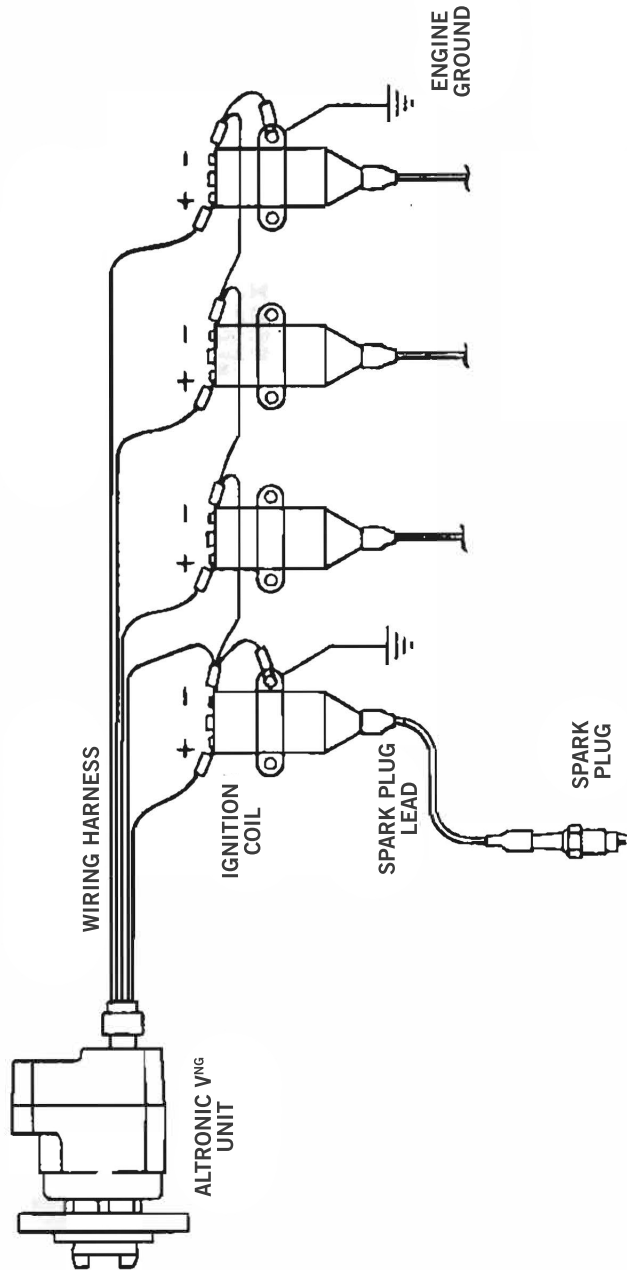
CCW ROTATION



REV	DATE	BY	DESCRIPTION

CONFIDENTIAL - Copyright Altronic, LLC All rights reserved. May not be copied in whole or in part without prior written permission from Altronic, LLC.	TOLERANCES (unless noted) DECIMAL: .xxx = ± 0.05 .xx = ± 0.10 SCALE: 1:1	Altronic UNIT TIMING ALTRONIC V NEXT GEN	Drawn in SOLIDWORKS
REVISIONS	DRAWN BY: JFD CHECKED BY: [] APPROVED BY: []	DATE: 12-20-19 DATE: [] DATE: []	DRAWING NUMBER 509 104

TYPICAL INSTALLATION - 4-CYLINDER SHOWN



NOTE: SEE THE APPROPRIATE WIRING DIAGRAM FOR THE SPECIFIC APPLICATION

2-CYL., 1 PLUGS/CYL.
UNIT 2A14

FIG. 2A

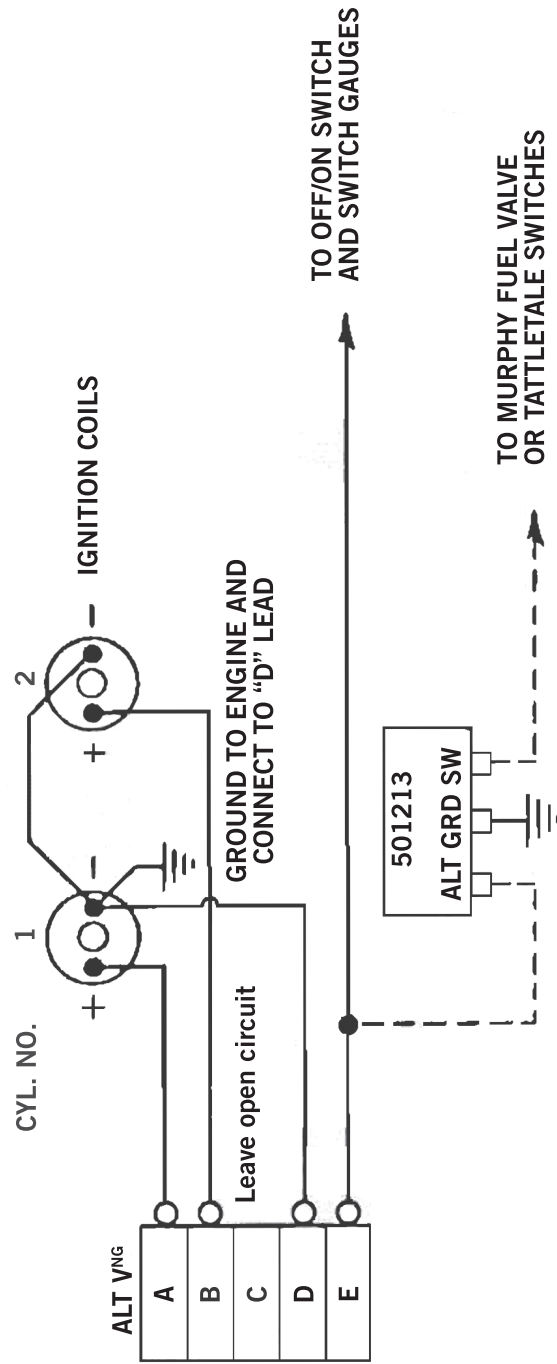


FIG. 3A

3-CYLINDER, 4-CYCLE
UNIT 3A14, 3A64

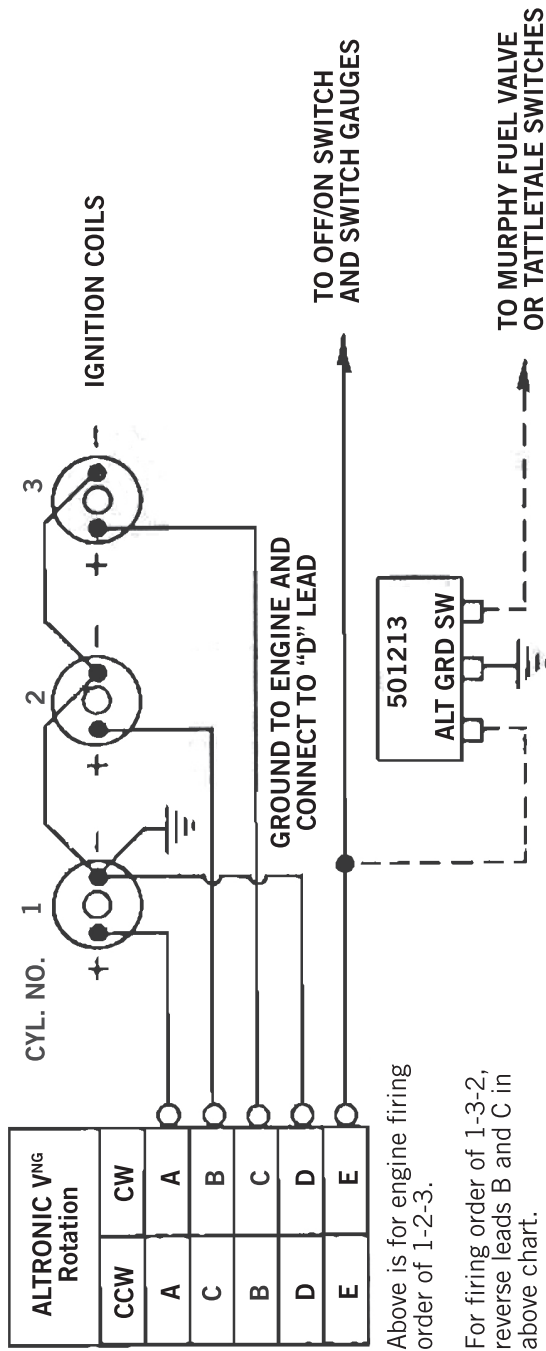
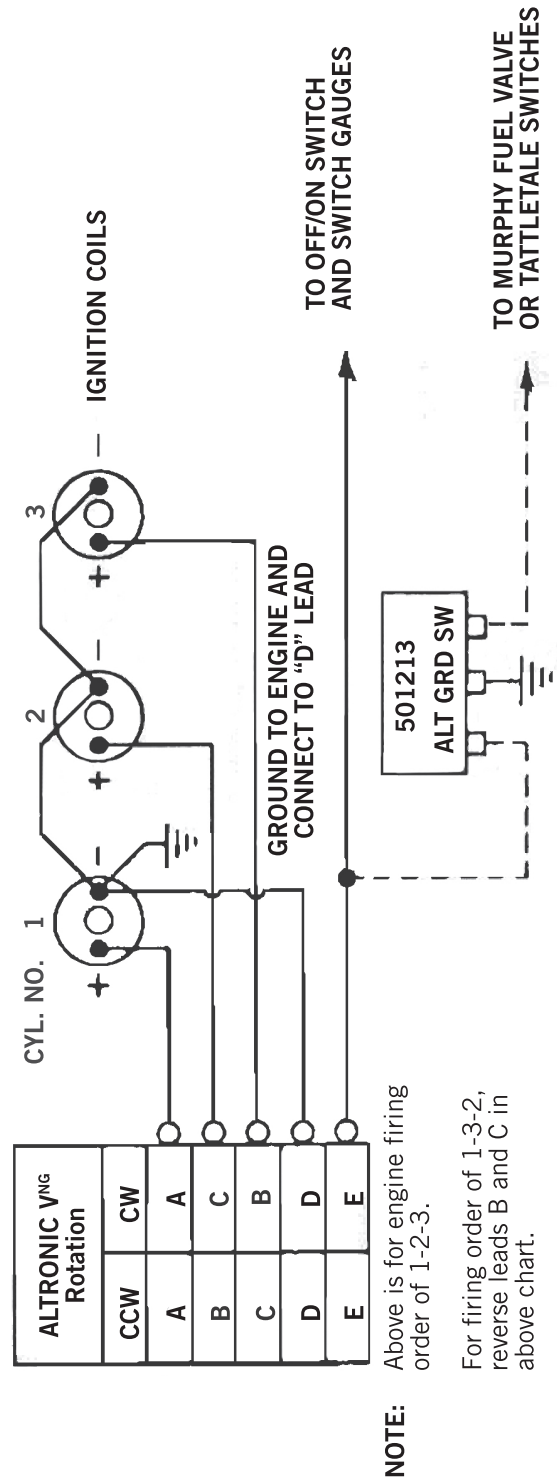


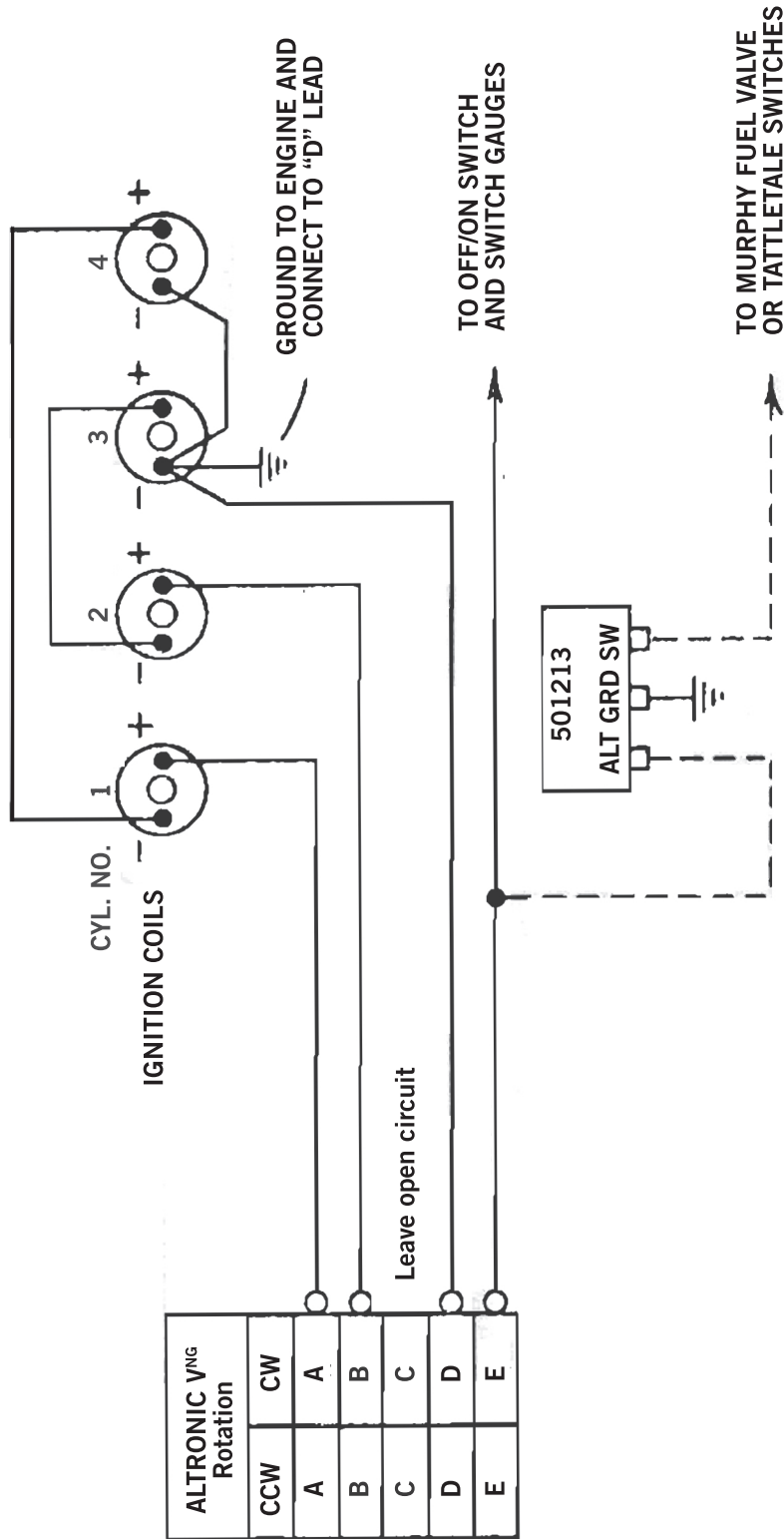
FIG. 3B

3-CYLINDER, 4-CYCLE
SINGLE FIRING



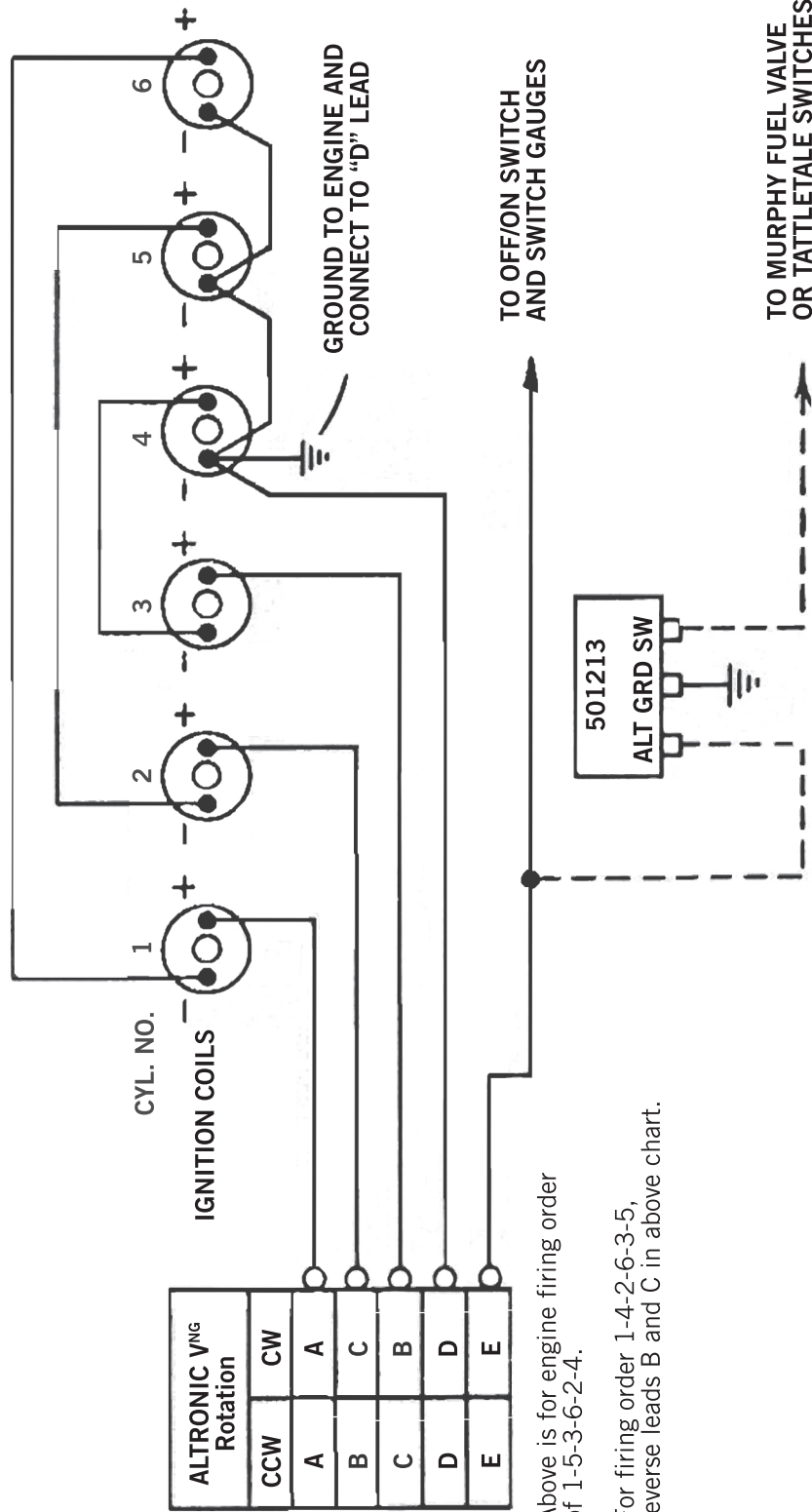
4-CYL., 4-CYCLE
UNIT 2A14

FIG. 4



6-CYL., 4-CYCLE
UNIT 3A14, 3A64

FIG. 5



NOTE: Above is for engine firing order of 1-4-2-6-3-5.

For firing order 1-5-3-6-2-4, reverse leads B and C in above chart.

UNIT 4A24, 4A34, 5A24,
6A24, 6A34

FIG. 6

4-CYLINDER		ENGINE FIRING ORDER
IGN. ROTATION	CW	
	A	
	B	D
	C	C
	D	B

5-CYLINDER		ENGINE FIRING ORDER
IGN. ROTATION	CW	
	A	
	B	E
	C	D
	D	C
	E	B

6-CYLINDER		ENGINE FIRING ORDER
IGN. ROTATION	CW	
	A	
	B	F
	C	E
	D	D
	E	C
	F	B

