

TABLE OF CONTENTS

Section 1-Scope Diagnostics in the Age of Computers (Introduction)	1
Oscilloscope Operation	2
Voltage Scales	3
Time Controls	5
Using the Oscilloscope	7
Triggers	7
Inputs	7
Pattern Display Methods (Parade, Superimposed, 5 Millisecond, Shift)	8
Gain and Offset	12
Section 2-Ignition Primary	14
Ignition Primary Circuit, Points-controlled	14
Electronic Ignition Operation	15
Primary Patterns	17
Ignition Primary Analysis	21
Section 3-Ignition Secondary	26
Ignition Secondary Circuit	26
Understanding Secondary Patterns	27
Plug Firing Voltage (Peak Secondary KV)	27
Plug Firing Time	30
Coil/Condenser Oscillations	32
Coil Build-up	32
Dwell	33
Secondary Analysis	33
Secondary Pattern Interpretation	36
Normal Pattern	36
Open Wire	38
Crossover Problem	39
Excessive Secondary Resistance	39
Grounded Wire/Fouled Plug	40
Arcing Points	41
Faulty Coil	42
Faulty Condenser	42
Air Leak	43
Lean Injector	43
Coil Secondary Tracking	44
Spark Plug Shorted to Ground	47
Spark Plug Fouling	48
Carbon Tracking	50
Low Primary Voltage/Primary Resistance	50