

Electronic Ignition

"OPUS SYSTEMS"

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10p

RECOMMENDED TEST EQUIPMENT

DC Moving Coil Voltmeter, Scale 0-20V
HT Jumper Cable

Notes: 1. The ignition must be switched 'on' for all checks except TEST 3
2. Key to symbols used in the charts for TEST 2



Correct reading



High reading



Low reading

TEST:

RESULT:

1 CHECK HT SPARKING

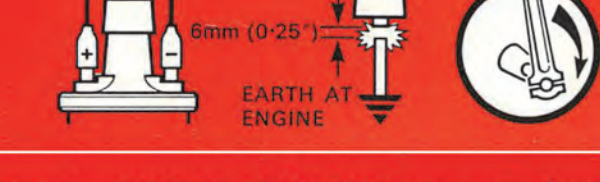
Should be:

Regular sparking

TEST 7

No sparking

TEST 2



2 4/6 CYL. INBUILT AMPLIFIER (NON-BALLASTED)

Measure voltages at 1-6 inc.

Should be:

1 More than 11-5V

2 1V max. below V at 1

3 1V max. below V at 1

4 1V max. below V at 1

5 0.3V-1.3V

6 0.5V-2.5V

All correct

TEST 3

Incorrect reading(s)

SEE CHART

SUSPECT

Battery discharged

Ign. switch, feed to/from ign. switch

Amplifier supply lead

Resistor supply lead

Coil supply lead

Coil, amplifier, coil/amplifier lead

Resistor, resistor/amplifier lead

Amplifier



2 4/6 CYL. INBUILT AMPLIFIER (BALLASTED COIL)

Measure voltages at 1-7 inc.

Should be:

1 More than 11-5V

2 1V max. below V at 1

3 1V max. below V at 1

4 1V max. below V at 1

5 4V-8V

6 0.3V-1.3V

7 0.5V-2.5V

All correct

TEST 3

Incorrect reading(s)

SEE CHART

SUSPECT

Battery discharged

Ign. switch, feed to/from ign. switch

Amplifier supply lead

Drive resistor supply lead

Ballast resistor, ballast/coil lead

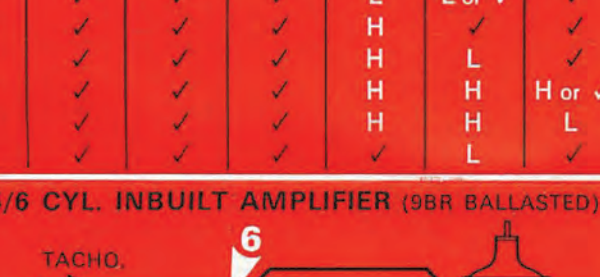
Solenoid - cold start circuit

Coil, coil/amplifier lead

Amplifier

Drive resistor, resistor/amplifier lead

Amplifier



2 4/6 CYL. INBUILT AMPLIFIER (9BR BALLASTED)

Measure voltages at 1-6 inc.

Should be:

1 More than 11-5V

2 1V max. below V at 1

3 2V max. below V at 1

4 4V-8V

5 0.3V-1.3V

6 0.5V-2.5V

All correct

TEST 3

Incorrect reading(s)

SEE CHART

SUSPECT

Battery discharged

Ign. switch, feed to/from ign. switch

Ballast resistor

Ballast resistor, ballast/coil '+' lead

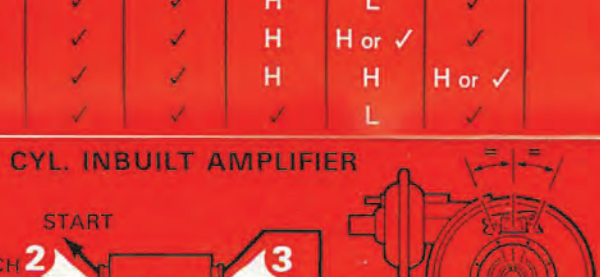
Ballast resistor

Coil

Solenoid - cold start circuit

Amplifier

Amplifier



2 8 CYL. INBUILT AMPLIFIER

Measure voltages at 1-5 inc.

Should be:

1 More than 11-5V

2 1V max. below V at 1

3 1-5V max. below V at 1

4 4V-8V

5 0.5V-1.8V

All correct

TEST 3

Incorrect reading(s)

SEE CHART

SUSPECT

Battery discharged

Ign. switch, feed to/from ign. switch

Ballast resistor

Ballast resistor, ballast/coil '+' lead

Solenoid - cold start circuit

Coil, ballast/coil '-' lead

Amplifier

Amplifier



2 8/12 CYL. EXTERNAL AMPLIFIER

Measure voltages at 1-7 inc.

Should be:

1 More than 11-5V

2 1V max. below V at 1

3 1-5V max. below V at 1

4 4V-8V

5 0.3V-1.3V

6 0.5V-2.5V

7 0V-0.1V

All correct. Reconnect pick-up

TEST 3

Incorrect reading(s)

SEE CHART

SUSPECT

Battery discharged

Ign. switch, feed to/from ign. switch

Ballast resistor

Ballast resistor, ballast/coil '+' lead

Solenoid - cold start circuit

Coil

Amplifier

Ballast resistor

Amplifier

Amplifier earth



3 CHECK AIR GAP

Correct

TEST 4

Incorrect, adjust

Rectify

If engine will not start

TEST 4



LIMITS:
INBUILT AMPLIFIER
0.30mm - 0.43mm
(0.012" - 0.017")
EXTERNAL AMPLIFIER
0.51mm - 0.64mm
(0.020" - 0.025")

4 CHECK 'START' VOLTAGE AT COIL '+' (BALLASTED IGNITION ONLY)

Voltage should increase while cranking

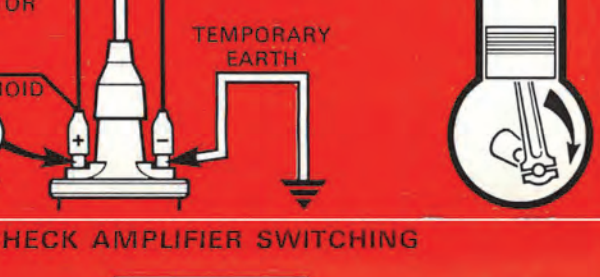
TEST 5

If no increase while cranking, check supply from ignition terminal (starter solenoid) and 9BR Ballast Resistor (where fitted)

Rectify

If engine will not start

TEST 5



5 CHECK AMPLIFIER SWITCHING

Voltage should increase while cranking

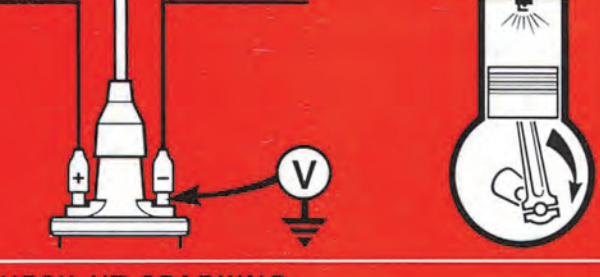
TEST 6

If no increase, amplifier is faulty

Replace amplifier

If engine will not start

TEST 6



6 CHECK HT SPARKING

Should be:

Good HT sparking

Repeat with original HT lead

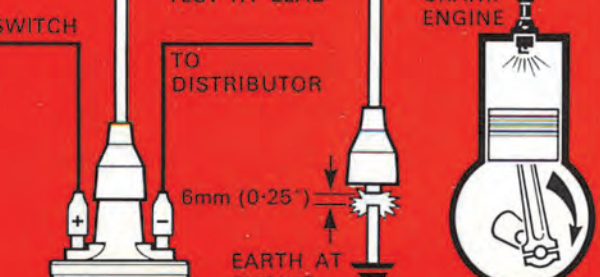
TEST 7

No sparking

Replace coil

If engine will not start

TEST 7



7 CHECK ROTOR ARM

Should be:

No sparking

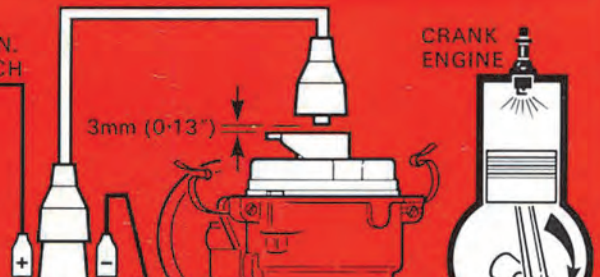
TEST 8

Good HT sparking

Replace rotor arm

If engine will not start

TEST 8



8 VISUAL AND HT CABLE CHECKS

Should be:

1 Clean, dry, no tracking marks

2 Must not be cracked, chafed or perished

3 Must not be open circuit

4 Clean, dry and set to correct gap

EXAMINE

1 DISTRIBUTOR COVER

2 HT CABLE INSULATION

3 HT CABLE CONTINUITY

4 SPARK PLUGS