## Connection diagrams – Electronic Ignition (EI) system (distributor-less)

**Note:**

- **The following section applies to Hermann engine analyzers, tests and connections for Bear DACE engine analyzers are similar, please refer to instruction manual supplied with the EI (distributor-less) test adapters.**
- When diagnosing starting or warm up complaints, do not check engine at operating temperature, instead proceed according to specific complaint.

**Connection method:**
Set engine analyzer to cylinder 1, select primary or secondary and test each ignition circuit

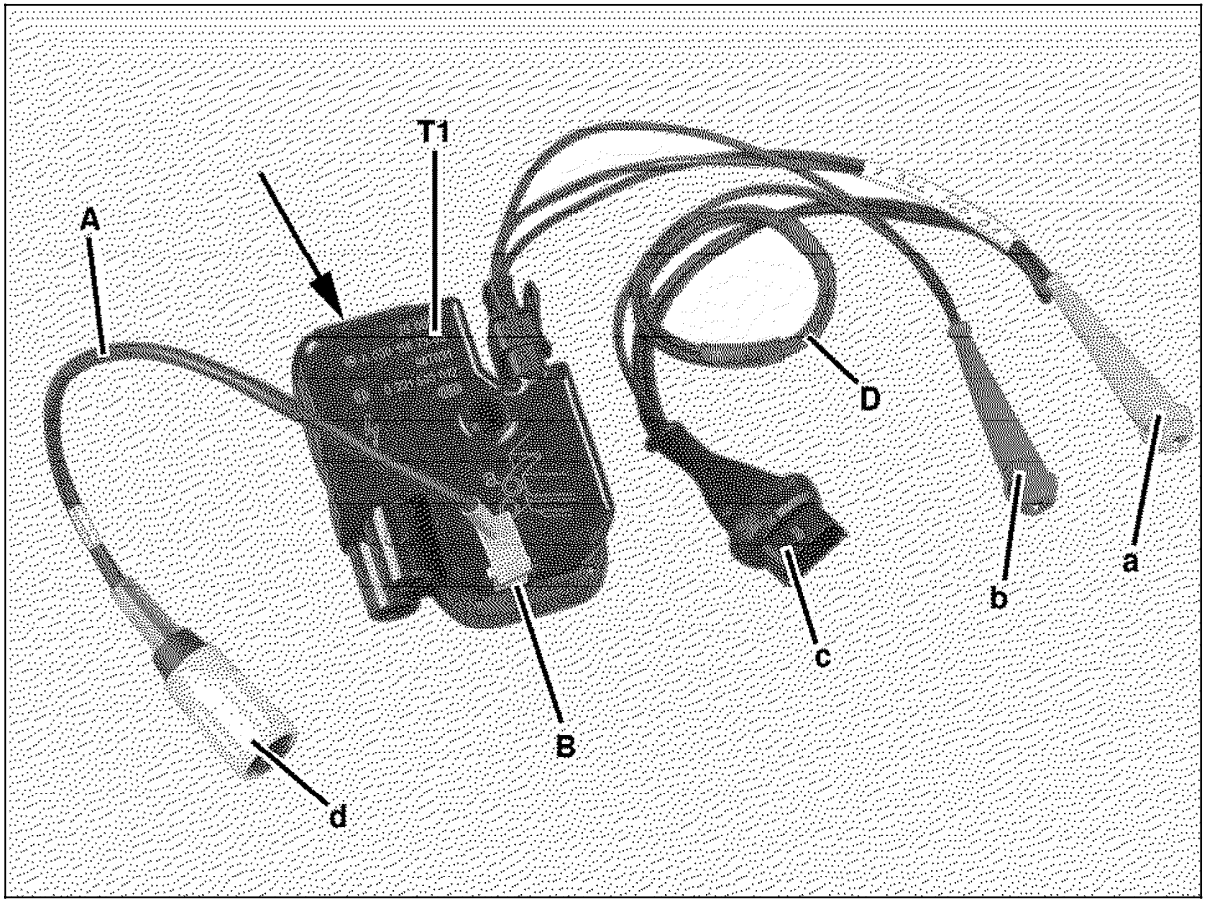
The primary and secondary ignition systems can be tested. The individual ignition circuits on each coil must be tested one after the other (ignition circuit a then ignition circuit b). The ignition coils are equipped with a mounting slot for the kV (pickup C) sensor. The primary pattern can be picked up using the primary adapter lead (D), or through a connection from the socket box to the ME-SFI engine control module.

| | |
|---|---|
| Air filter . . . . . | Remove, install |
| Ignition coil covers on top of valve covers . . . . . | Remove, install |
| **Primary side connections:** | |
| Disconnect engine harness from selected ignition coil (T1/1 - T1/6 or T1/1 - T1/8) and install primary adapter cable (A) **in between** selected ignition coil (T1) and engine harness . . . . . | Connect, disconnect |
| Primary leads with yellow (a) and green (b) connectors (from primary adapter cable) **to** primary leads on engine analyzer . . . . . | Connect, disconnect |
| **Secondary side connections:** | |
| Kilovolt (pickup) sensor (C) **to** selected ignition coil (T1) mounting slot | Connect, disconnect |
| Kilovolt clamp connector **from** engine analyzer (**Note:** kV clamp must first be removed) **to** secondary adapter cable connector (d [3 pole]) . . | Connect, disconnect |
| Secondary adapter cable connector (1- pole) **to** kV (pickup) sensor connector . . . . . | Connect, disconnect |

Figure 1
Connection diagram for Electronic Ignition System

The individual ignition circuits on each coil must be tested one after the other (ignition circuit a then ignition circuit b).

Connect green connector of the motor tester to either the yellow or green socket on the adapter cable (dependant on which ignition circuit is to be tested).
Connect yellow connector (Term. 15) of the motor tester to battery positive (Terminal 30/15).




P07.61-2138-57

| | |
|---|---|
| A | Primary adapter cable |
| B | Secondary adapter cable |
| C | kV (pickup) sensor |
| T1 | Ignition coil |
| a | Yellow (female) lead = terminal 15 |
| b | Green (female) lead = terminal 1 |
| c | to ignition harness |
| d | to kV clamp conector (kV clamp must first be removed |

**Equipment**

| | |
|---|---|
| Hermann Electronics [1] | Datascope D950 or D960 S |
| Automotive Diagnostic [1] | Bear DACE 40-960A |
| Electronic ignition (EI) System (distributor-less) adapter [1]<br>Includes: Kilovolt clamp and kilovolt pickup harness with trigger clamp for no. 1 cylinder, TN-adapter harness, primary ignition adapter harness and operating instructions. | Hermann CD 1222 [2]<br>Bear 43-324 (ref: DACE CD 1222 BA) [2] |
| Adapter set ME-SFI 1.0<br>Includes: Primary adapter cable for one cylinder, primary adapter cable (for DACE) secondary adapter cable, kilovolt (coil) pickup | Hermann CD 1230 [2]<br>Bear 43-324 [2] |

1) Refer to the MBUSA Standard Equipment Program.

2) Equipment supplied with EI (distributor-less) adapter may vary from equipment listed above, refer to MBUSA Standard Equipment Catalog for complete listing.