Final control diagnosis - gearbox with hydraulic control “Type E18/2”

The final control diagnosis procedure is different for gearbox with hydraulic control “Type E17” and for gearbox with hydraulic control “Type E18/2”. Allocation of hydraulic control system to gearbox → Rep. Gr.00.

Note

- *The final control diagnosis can only be performed with the ignition switched on, the selector lever in position “P”, the engine not running and the vehicle stationary.*
- *If the engine is started the final control diagnosis will be terminated.*
- *During the final control diagnosis the operation of solenoid valves -N88-, -N89- and -N90- as well as the selector lever lock solenoid -N110- is tested acoustically. Since the switching action (clicking) of the control elements is very quiet, any background noise should be avoided when carrying out this part of the test.*
- *During final control diagnosis for gearbox with hydraulic control “Type E18/2” the solenoid valves -N91-, -N92-, -N93- and -N94- are referred to as pressure regulating valves -N215-, -N216-, -N217- and -N218-.*
- *The pressure regulating valves -N215-, -N216-, -N217- and -N218- are activated during final control diagnosis. It is not possible to check operation of each component directly, however, any electrical faults that may occur during the activation process will be stored in the fault memory.*
- *During the final control diagnosis the control elements are activated until the [→] button is touched.*
- *When the ignition has been switched on the final control diagnosis can only be performed once. To perform a second final control diagnosis the ignition must be switched off and then on again.*

Activation sequence

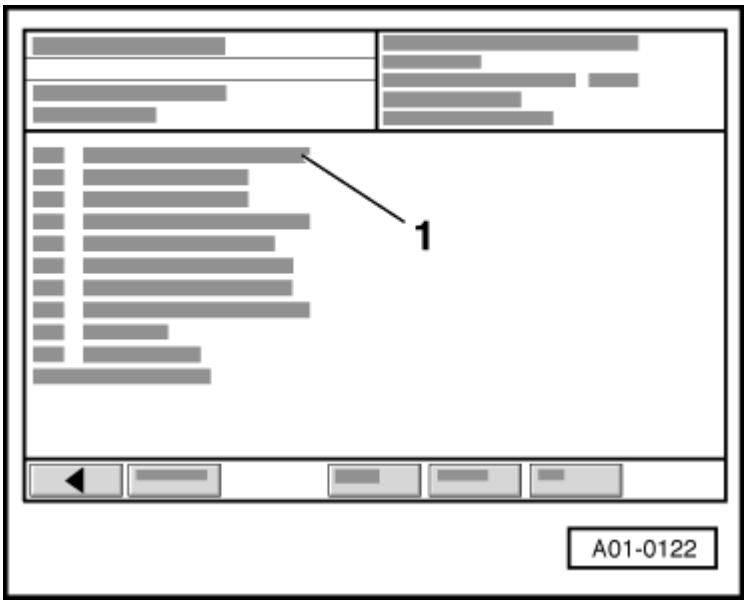
1. Solenoid valve 1 -N88-
2. Solenoid valve 2 -N89-
3. Solenoid valve 3 -N90-
4. Selector lever lock solenoid -N110-
5. Pressure regulating valve 1 -N215-
6. Pressure regulating valve 2 -N216-
7. Pressure regulating valve 3 -N217-
8. Pressure regulating valve 4 -N218-
9. Voltage supply for solenoid valves

Procedure

– Connect the vehicle diagnostic, testing and information system - VAS 5051 A- → Chapter and select vehicle system “02 - Gearbox electronics”. When doing this the ignition must be switched on.

Display on -VAS 5051 A-:

– From list -1- select diagnostic function “03 - Final control diagnosis”.



Display on -VAS 5051 A-:

A - 1st control element in test

1 - Switch valve 1 ⇒ Solenoid valve 1 -N88-

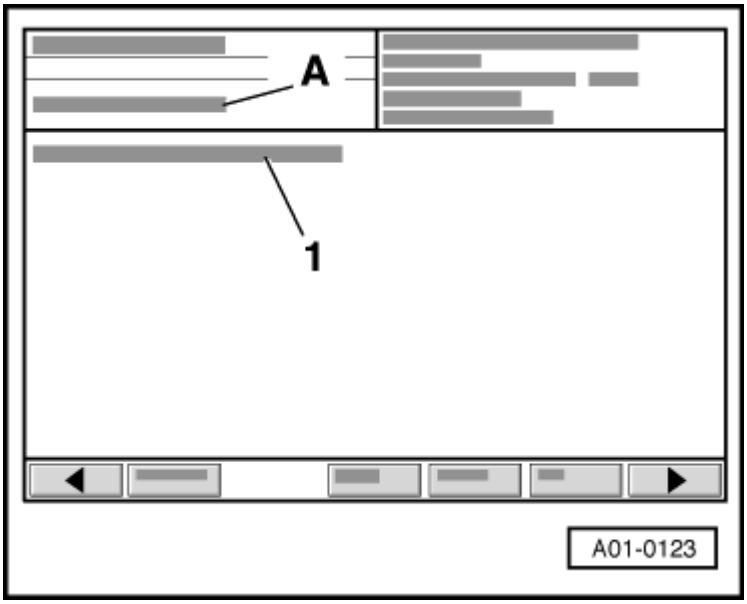
- The valve is activated in intervals (and should click).

Note

♦ *If valve is not activated, read measured value block 005 →Anchor.*

♦ *Any electrical faults will be stored in the fault memory, see fault tables for solenoid valve 1 -N88- →Anchor and →Anchor.*

– Final control diagnosis is advanced to the next control element by touching [→] button.



Display on -VAS 5051 A-:

A - 2nd control element in test

2 - Switch valve 2 ⇒ Solenoid valve 2 -N89-

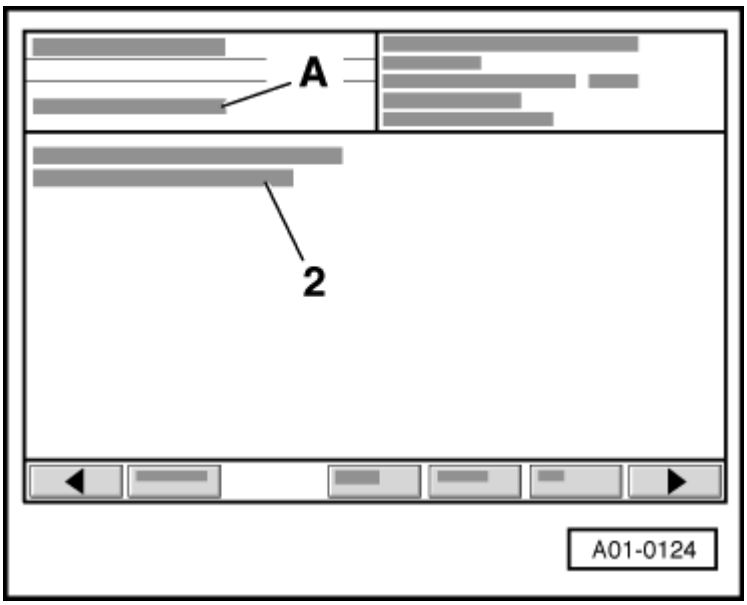
- The valve is activated in intervals (and should click).

Note

♦ *If valve is not activated, read measured value block 005 →Anchor.*

♦ *Any electrical faults will be stored in the fault memory, see fault tables for solenoid valve 2 -N89- →Anchor and →Anchor.*

– Final control diagnosis is advanced to the next control element by touching [→] button.



Display on -VAS 5051 A-:

A - 3rd control element in test

3 - Switch valve 3 ⇒ Solenoid valve 3 -N90-

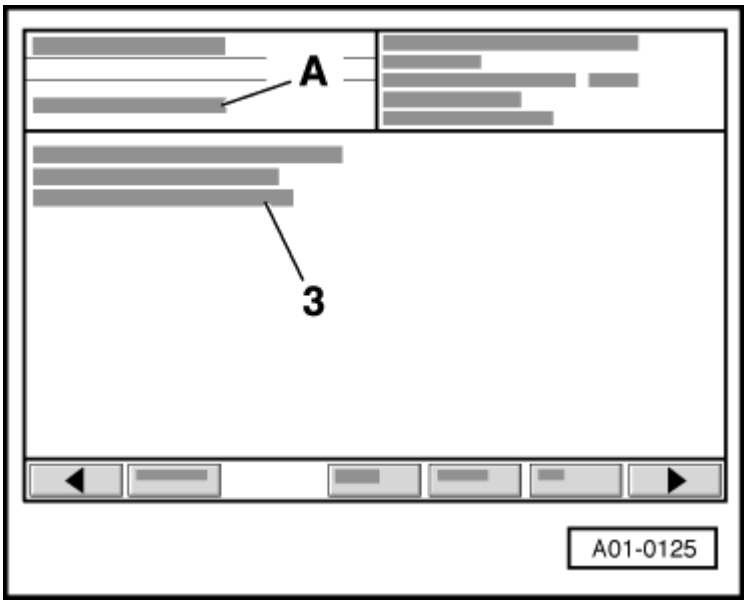
- The valve is activated in intervals (and should click).

Note

♦ *If valve is not activated, read measured value block 005 → Anchor.*

♦ *Any electrical faults will be stored in the fault memory, see fault tables for solenoid valve 3 -N90- → Anchor and → Anchor.*

– Final control diagnosis is advanced to the next control element by touching [→] button.



Display on -VAS 5051 A-:

A - 4th control element in test

4 - Selector lever lock ⇒ solenoid -N110-

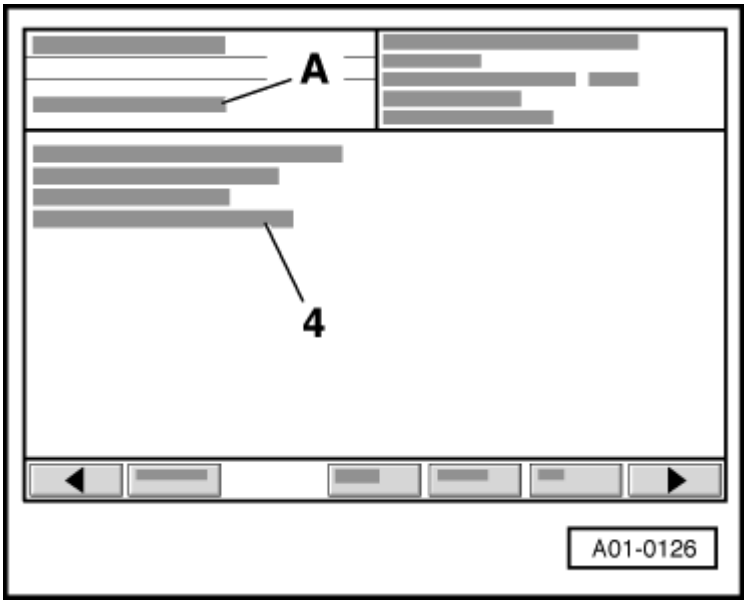
- The solenoid is activated in intervals (and should click).

Note

♦ *If solenoid is not activated, read measured value block 003 → Anchor.*

♦ *Any electrical faults will be stored in the fault memory, see fault tables for selector lever lock solenoid -N110- → Anchor and → Anchor.*

– Final control diagnosis is advanced to the next control element by touching [→] button.



Display on -VAS 5051 A-:

A - 5th control element in test

5 - Pressure regulating valve 1 -N215-

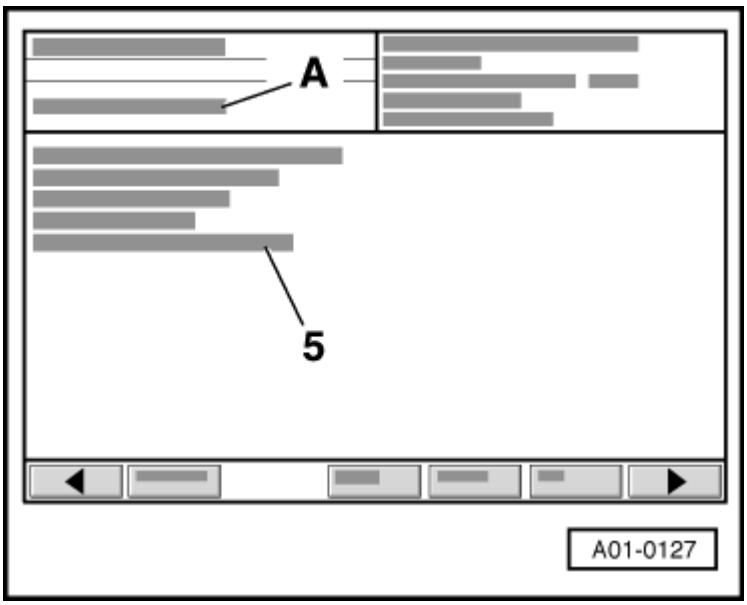
- The pressure regulating valve 1 -N215- is activated.

Note

♦ *The pressure regulating valve 1 -N215- mentioned in the final control diagnosis is the same component as the solenoid valve 4 -N91-. Also in some current flow diagrams the solenoid valve is referred to as pressure regulating valve → Current flow diagrams, Electrical fault finding and Fitting locations.*

♦ *Any electrical faults will be stored in the fault memory, see fault tables for solenoid valve 4 -N91-/pressure regulating valve 1 -N215- → Anchor and → Anchor.*

– Final control diagnosis is advanced to the next control element by touching [→] button.



Display on -VAS 5051 A-:

A - 6th control element in test

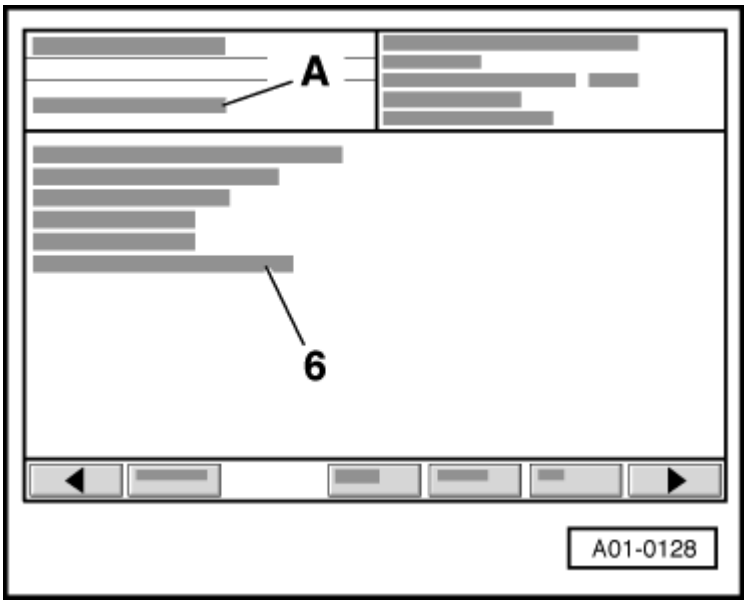
6 - Pressure regulating valve 2 -N216-

- The pressure regulating valve 2 -N216- is activated.

Note

- *The pressure regulating valve 2 -N216- mentioned in the final control diagnosis is the same component as the solenoid valve 5 -N92-. Also in some current flow diagrams the solenoid valve is referred to as pressure regulating valve →Current flow diagrams, Electrical fault finding and Fitting locations.*
- *Any electrical faults will be stored in the fault memory, see fault tables for solenoid valve 5 -N92-/pressure regulating valve 2 -N216- →Anchor and →Anchor.*

– Final control diagnosis is advanced to the next control element by touching [→] button.



Display on -VAS 5051 A-:

A - 7th control element in test

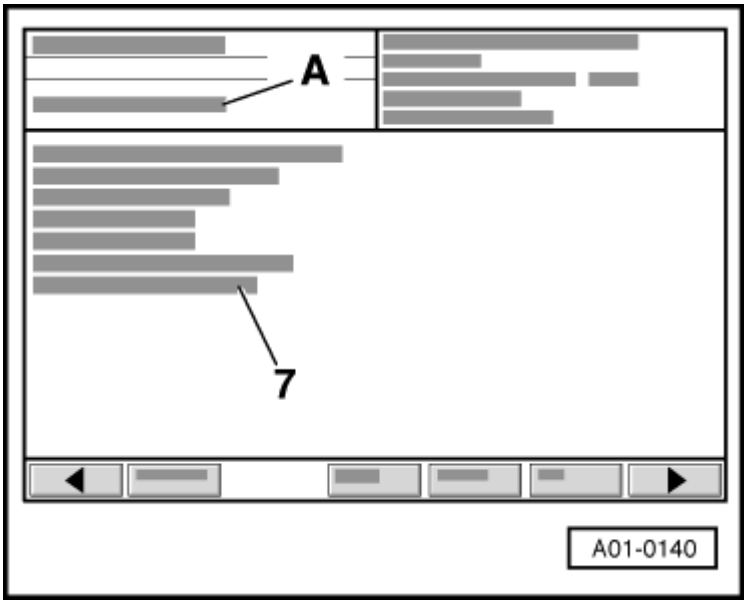
7 - Pressure regulating valve 3 -N217-

- The pressure regulating valve 3 -N217- is activated.

Note

- *The pressure regulating valve 3 -N217- mentioned in the final control diagnosis is the same component as the solenoid valve 6 -N93-. Also in some current flow diagrams the solenoid valve is referred to as pressure regulating valve →Current flow diagrams, Electrical fault finding and Fitting locations.*
- *Any electrical faults will be stored in the fault memory, see fault tables for solenoid valve 6 -N93-/pressure regulating valve 3 -N217- →Anchor and →Anchor.*

– Final control diagnosis is advanced to the next control element by touching [→] button.



Display on -VAS 5051 A-:

A - 8th control element in test

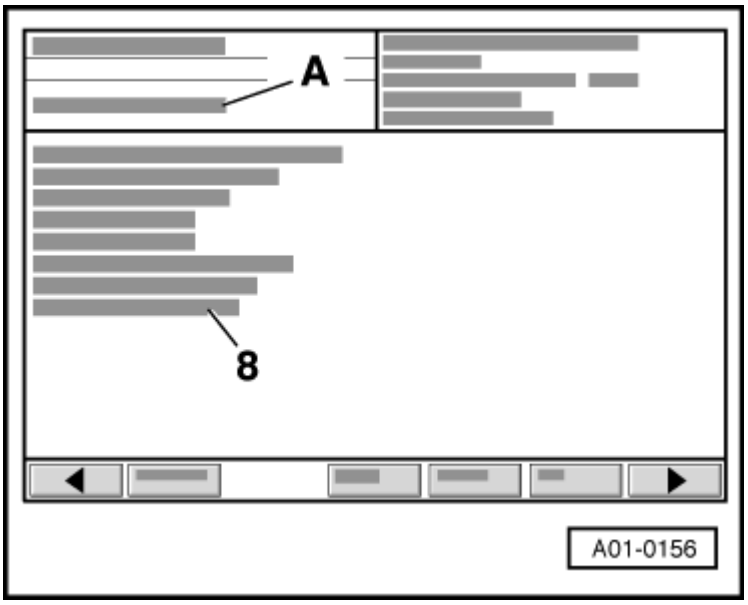
8 - Pressure regulating valve 4 -N218-

- The pressure regulating valve 4 -N218- is activated.

Note

- *The pressure regulating valve 4 -N218- mentioned in the final control diagnosis is the same component as the solenoid valve 7 -N94-. Also in some current flow diagrams the solenoid valve is referred to as pressure regulating valve →Current flow diagrams, Electrical fault finding and Fitting locations.*
- *Any electrical faults will be stored in the fault memory, see fault tables for solenoid valve 7 -N94-/pressure regulating valve 4 -N218- →Anchor and →Anchor.*

– Final control diagnosis is advanced to the next control element by touching [→] button.



Display on -VAS 5051 A-:

A - 9th control element in test

9 - Voltage supply for solenoid valves

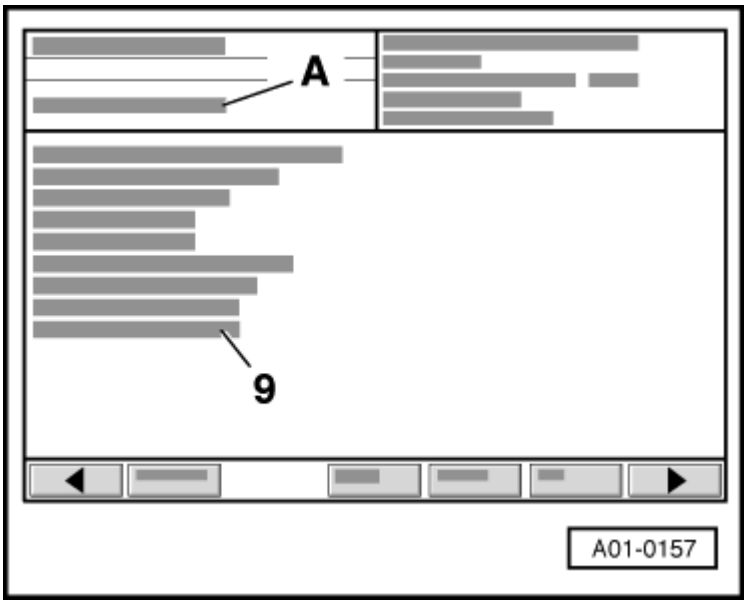
- The solenoid valves that are active in position “P” are

activated at intervals (and should click).

Note

Ignore control element.

– Touch [→] button.



Display on -VAS 5051 A-:

A - Control element test is completed

– Exit from function “03 - Final control diagnosis” by touching [←] button.

Note

To perform a second final control diagnosis the ignition must be switched off and then on again and function “03 - Final control diagnosis” selected once again.