

| Output on GST and/or on VAG 1551/1552 scan tool |       | For troubleshooting use on VAG 1551/1552 display group / field | MIL status | DTC description for MIL ON  | Test condition | After repair quality check  |
|---|-------|--|------------|---|----------------|---|
| P0102   | 16486 | 002/1,3  | 2          | <b>DTC is set:</b> If mass air flow signal drops below 1.39 g/s for longer than 2 sec. with an engine speed under 1000 RPM. | WS/ER          | Let engine idle, watch display 002/3, must be in the range of 3.4 to 6.5 g/s.   |
| P0103   | 16486 | 002/1,3  | 2          | <b>DTC is set:</b> If mass air flow signal rises above 73.3 g/s for longer than 2 sec. with an engine speed under 1000 RPM. | WS/ER          | Let engine idle, watch display 002/3, must be in the range of 3.4. to 6.5 g/s.  |
| P0112   | 16496 | 003/4  | 2          | <b>DTC is set:</b> If air intake temp. rises above 135.0°C for longer than 2 sec., 5 sec. after engine start.               | WS/ER          | Let engine idle, wait 5 sec., watch display 003/4, should show reasonable values, not 19.5°C (substitute 1551 value).             |
| P0113   | 16497 | 003/4  | 2          | <b>DTC is set:</b> If air intake temp. drops below -45.0°C for longer than 2 sec., 5 sec. after engine start.               | WS/ER          | Let engine idle, wait 5 sec., watch display 003/4, should show reasonable values, not 19.5°C (substitute 1551 value).             |
| P0116   | 16500 | 003/3  | 2          | <b>DTC is set:</b> If coolant temperature drops 10.0°C below temperature map after engine start.                            | WS/ER          | Cool engine down to 60.0°C (003/3), start engine and let idle, watch temperature, should show reasonable values, reaching 90.0°C. |
| P0117   | 16501 | 003/3  | 2          | <b>DTC is set:</b> If engine coolant temperature rises above 130.5°C for longer than 2 sec.                                 | WS/ER          | Let engine idle, watch display 003/3, should show reasonable values between 85.0 to 105.0°C with a warm engine.                   |

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| P0118   | 16502 | 003/3  | 2          | <b>DTC is set:</b> If engine coolant temperature drops below -45.0°C for longer than 2 sec.   | WS/ER          | Let engine idle, watch display 003/3, should show reasonable values between 85.0 to 105.0°C with a warm engine.  |
| P0121   | 16505 | 003/1,3<br>004/1,3   | 2          | <b>DTC is set:</b> If throttle drive valve potentiometer voltage drops below 0.647V with an engine speed in the range of 2720RPM to 5200RPM, engine load over 5.90ms and an engine coolant temp. over 68.25°C, for longer than 1.5 sec.   | TD             | Warm up engine to 68.25°C (003/3) and drive with engine speed in the range of 2800RPM to 5200RPM (003/1) and an engine load over 5.90ms (004/3), watch display 004/1, must not drop below 12.9% for longer than 1 sec.   |
| P0122   | 16506 | 004/1  | 2          | <b>DTC is set:</b> If throttle valve potentiometer voltage drops below 0.137V, for longer than 1.5 sec.   | WS/ER          | Let engine idle, watch display 004/1, must not show values below 2.7% , for longer than 1.5 sec.   |
| P0123   | 16507 | 004/1  | 2          | <b>DTC is set:</b> If throttle valve potentiometer voltage rises above 4.863V, for longer than 1.5 sec.   | WS/ER          | Let engine idle, watch display 004/1, must not show values above 97.2%, for longer than 1.5 sec.   |
| P0130   | 16514 | 003/2<br>026/1<br>027/1  | 2          | <b>DTC is set:</b> If oxygen sensor voltage (B1-S1) is in the range from 0.149V to 0.400V for longer than 30 sec. <b>or</b> if oxygen sensor voltage (B1-S1) is in the range from -0.038V to 0.040V for longer than 30 sec. with oxygen sensor voltage (B1-S2) greater than 0.499V. Diagnosing 150 sec. after engine start and a battery voltage over 8.000V. | WS/ER          | Let engine idle, wait 150 sec., check battery voltage (003/2), must be greater than 8.000V, watch display 026/1, must not be in the range from 0.149V to 0.400V for longer than 30 sec., <b>or</b> display 026/1 must not stay in the range below 0.040V for longer than 30 sec. with oxygen sensor voltage (B1-S2) (027/1) greater than 0.499V. |

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| P0131   | 16515 | 003/2<br>026/1   | 2          | <b>DTC is set:</b> If oxygen sensor voltage (B1-S1) drops below -0.119V for longer than 10 sec. 150 sec. after engine start and a battery voltage over 8.000V, <b>or</b> if oxygen sensor voltage (B1-S1) is in the range from 0.178V to 0.375V for longer than 0.10 sec. with cold sensors. | WS/ER          | Erase DTC-memory, function 05, let engine idle, wait 150 sec., check battery voltage (003/2), must be greater than 8.000V, watch 026/1, must not drop below -0.119V for longer than 10 sec. Check DTC-memory again, function 02, should not be this fault. |
| P0132   | 16516 | 003/2<br>026/1   | 2          | <b>DTC is set:</b> If oxygen sensor voltage (B1-S1) rises above 1.052V for longer than 10 sec., 150 sec. after engine start and a battery voltage over 8.000V.   | WS/ER          | Let engine idle, wait 150 sec., check battery voltage (003/2), must be greater than 8.000V, watch 026/1, must not exceed 1.052V for longer than 10 sec.  |
| P0133   | 16517 | 029/4  | 2          | <b>DTC is set:</b> If the time period of heated oxygen sensor before TWC bank 1 is over 2.50 sec.  | WS/ER          | Let engine idle, go in basic settings, function 04 and choose display 029. After test end, display 029/4 must show B1-S1 OK.<br><b>For more information and conditions use template 029!</b>   |
| P0134   | 16518 | 003/2<br>026/1   | 2          | <b>DTC is set:</b> If oxygen sensor voltage (B1-S1) is in the range from 0.400V to 0.598V for longer than 10 sec., 150 sec. after engine start and a battery voltage over 8.000V.  | WS/ER          | Let engine idle, wait 150 sec., check battery voltage (003/2), must be greater than 8.000V, watch 026/1, must not stay in the range from 0.400V to 0.598V for longer than 10 sec.  |
| P0136   | 16520 | 003/2<br>027/1   | 2          | <b>DTC is set:</b> If oxygen sensor voltage (B1-S2) is in the range from -0.038V to 0.040V for longer than 60 sec., 150 sec. after engine start and a battery voltage over 8.000V.   | WS/ER          | Let engine idle, wait 150 sec., check battery voltage (003/2), watch 027/1, must not stay in the range from -0.038V to 0.040V for longer than 60 sec.  |

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| P0137   | 16521 | 003/2<br>027/1   | 2          | <b>DTC is set:</b> If oxygen sensor voltage (B1-S2) drops below -0.119V for 10 sec., 150 sec. after engine start and a battery voltage over 8.000V, <b>or</b> if oxygen sensor voltage (B1-S2) is in the range from 0.178V to 0.375V for longer than 0.10 sec. with cold sensors.   | WS/ER          | Erase DTC-memory, function 05, let engine idle, wait 150 sec., check battery voltage (003/2), must be greater than 8.000V, watch 027/1, must not drop below -0.119V and stay there for longer than 10 sec. Check DTC-memory again, function 02, should not be this fault.  |
| P0138   | 16522 | 003/2<br>027/1   | 2          | <b>DTC is set:</b> If oxygen sensor voltage (B1-S2) rises above 1.052V for longer than 10 sec., 150 sec. after engine start.  | WS/ER          | Let engine idle, wait 150 sec., check battery voltage (003/2), watch display 027/1, must not exceed 1.052V for longer than 10 sec.   |
| P0140   | 16524 | 003/2<br>027/1   | 2          | <b>DTC is set:</b> If oxygen sensor voltage (B1-S2) is in the range from 0.400V to 0.499V for longer than 400 sec., 150 sec. after engine start.  | WS/ER          | Let engine idle, wait 150 sec., watch display 027/1, must not stay in the range from 0.400V to 0.499V for longer than 400 sec.   |
| P0150   | 16534 | 003/2<br>026/2<br>027/2  | 2          | <b>DTC is set:</b> If oxygen sensor voltage (B2-S1) is in the range from 0.149V to 0.400V for longer than 30 sec. <b>or</b> if oxygen sensor voltage (B2-S1) is in the range from -0.038V to 0.040V for longer than 30 sec. with oxygen sensor voltage (B2-S2) greater than 0.499V. Diagnosing 150 sec. after engine start and a battery voltage over 8.000V. | WS/ER          | Let engine idle, wait 150 sec., check battery voltage (003/2), must be greater than 8.000V, watch display 031/1, must not be in the range from 0.149V to 0.400V for longer than 30 sec., <b>or</b> display 026/2 must not stay in the range below 0.040V for longer than 30 sec. with oxygen sensor voltage (B2-S2) (027/2) greater than 0.499V. |

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| P0151   | 16535 | 003/2<br>026/2   | 2          | <b>DTC is set:</b> If oxygen sensor voltage (B2-S1) drops below -0.119V for longer than 10 sec. 150 sec. after engine start and a battery voltage over 8.000V, <b>or</b> if oxygen sensor voltage (B2-S1) is in the range from 0.178V to 0.375V for longer than 0.10 sec. with cold sensors. | WS/ER          | Erase DTC-memory, function 05, let engine idle, wait 150 sec., check battery voltage (003/2), must be greater than 8.000V, watch 031/1, must not drop below -0.119V for longer than 10 sec. Check DTC-memory again, function 02, should not be this fault. |
| P0152   | 16536 | 003/2<br>026/2   | 2          | <b>DTC is set:</b> If oxygen sensor voltage (B2-S1) rises above 1.052V for longer than 10 sec., 150 sec. after engine start and a battery voltage over 8.000V.   | WS/ER          | Let engine idle, wait 150 sec., check battery voltage (003/2), must be greater than 8.000V, watch 026/2, must not exceed 1.052V for longer than 10 sec.  |
| P0153   | 16537 | 030/4  | 2          | <b>DTC is set:</b> If the time period of heated oxygen sensor before TWC bank 2 is over 2.50 sec.  | WS/ER          | Let engine idle, go in basic settings, function 04 and choose display 030. After test end, display 030/4 must show B2-S1 OK.<br><b>For more information and conditions use template 030!</b>   |
| P0154   | 16538 | 003/2<br>026/2   | 2          | <b>DTC is set:</b> If oxygen sensor voltage (B2-S1) is in the range from 0.400V to 0.598V for longer than 10 sec., 150 sec. after engine start and a battery voltage over 8.000V.  | WS/ER          | Let engine idle, wait 150 sec., check battery voltage (003/2), must be greater than 8.000V, watch 026/2, must not stay in the range from 0.400V to 0.598V for longer than 10 sec.  |
| P0156   | 16540 | 003/2<br>027/2   | 2          | <b>DTC is set:</b> If oxygen sensor voltage (B2-S2) is in the range from -0.038V to 0.040V for longer than 60 sec., 150 sec. after engine start and a battery voltage over 8.000V.   | WS/ER          | Let engine idle, wait 150 sec., check battery voltage (003/2), must be greater than 8.000V, watch 027/2, must not stay in the range from -0.038V to 0.040V for longer than 60 sec.   |

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| P0157   | 16541 | 003/2<br>027/2   | 2          | <b>DTC is set:</b> If oxygen sensor voltage (B2-S2) drops below -0.119V for 10 sec., 150 sec. after engine start and a battery voltage over 8.000V, <b>or</b> if oxygen sensor voltage (B2-S2) is in the range from 0.178V to 0.375V for longer than 0.10 sec. with cold sensors. | WS/ER          | Erase DTC-memory, function 05, let engine idle, wait 150 sec., check battery voltage (003/2), must be greater than 8.000V, watch 027/2, must not drop below -0.119V and stay there for longer than 10 sec. Check DTC-memory again, function 02, should not be this fault. |
| P0158   | 16542 | 003/2<br>027/2   | 2          | <b>DTC is set:</b> If oxygen sensor voltage (B2-S2) rises above 1.052V for longer than 10 sec., 150 sec. after engine start and a battery voltage over 8.000V.  | WS/ER          | Let engine idle, wait 150 sec., check battery voltage (003/2), must be greater than 8.000V, watch display 027/2, must not exceed 1.052V for longer than 10 sec.   |
| P0160   | 16544 | 003/2<br>027/2   | 2          | <b>DTC is set:</b> If oxygen sensor voltage (B2-S2) is in the range from 0.400V to 0.499V for longer than 400 sec., 150 sec. after engine start and a battery voltage over 8.000V.  | WS/ER          | Let engine idle, wait 150 sec., check battery voltage (003/2), must be greater than 8.000V, watch display 027/2, must not stay in the range from 0.400V to 0.499V for longer than 400 sec.  |
| P0300   | 16684 | 017/3,4<br>019/1,2,3,4<br>020/1,2,3,4                          | 3          | <b>DTC is set:</b> If combustion misfiring has been recognized for one or more cylinders  | TD             | <u>Before starting repair procedure:</u><br>-check 017/3, 019/1,2,3,4 and 020/1,2,3,4<br>-go in basic settings, function 04 and choose 017,<br>017/4 must show ADP. OK<br><u>Perform TD:</u><br>check after TD 017/3, 019/1,2,3,4 and 020/1,2,3,4                         |

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| P0301<br>P0302<br>P0303<br>P0304<br>P0305<br>P0306<br>P0307<br>P0308 | 16685<br>16686<br>16687<br>16688<br>16689<br>16690<br>16691<br>16692 | 017/3,4<br>019/1,2,3,4<br>020/1,2,3,4                          | 3          | <b>DTC is set:</b> If combustion misfiring has been recognized for one cylinder  | TD             | Before starting repair procedure:<br>-check 017/3, 019/1,2,3,4 and 020/1,2,3,4<br>-go in basic settings, function 04 and choose 017,<br>017/4 must show ADP. OK<br><u>Perform TD:</u><br>check after TD 017/3, 019/1,2,3,4 and 020/1,2,3,4 |
| P0321  | 16705  |  | 2          | <b>DTC is set:</b> If no mark can be found on the crankshaft position disc.  | WS/ER          | Start engine.  |
| P0322  | 16706  |  | 1          | <b>DTC is set:</b> If no engine speed signal occurs.   | WS/ER          | Start engine.  |
| P0327  | 16711  | 003/1,3<br>004/3<br>015/1,2,3,4                                | 1          | <b>DTC is set:</b> If knock sensor voltage bank 1 drops below 0.860V with an engine coolant temp. over 35.25°C, engine speed over 2600 RPM and engine load over 3.50 ms, for more than 100 consecutive combustions.  | TD             | Warm up engine over 35.25°C (003/3), accelerate to 3000 RPM (003/1) with an engine load over 3.50 ms (004/3), watch display 015/1,2,3,4 must not drop below 0.860V for longer than 6 sec.  |
| P0328  | 16712  | 003/1,3<br>004/3<br>015/1,2,3,4                                | 1          | <b>DTC is set:</b> If knock sensor voltage bank 1 rises above 20.080V with an engine coolant temp. over 35.25°C, engine speed over 2600 RPM and engine load over 3.50 ms, for more than 100 consecutive combustions. | TD             | Warm up engine over 35.25°C (003/3), accelerate to 3000 RPM (003/1) with an engine load over 3.50 ms (004/3), watch display 015/1,2,3,4 must not rise above 20.080V for longer than 6 sec.   |

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| P0332   | 16716 | 003/1,3<br>004/3<br>016/1,2,3,4                                | 1          | <b>DTC is set:</b> If knock sensor voltage bank 1 drops below 0.860V with an engine coolant temp. over 35.25°C, engine speed over 2600 RPM and engine load over 3.50 ms, for more than 100 consecutive combustions.  | TD             | Warm up engine over 35.25°C (003/3), accelerate to 3000 RPM (003/1) with an engine load over 3.50 ms (004/3), watch display 016/1,2,3,4 must not drop below 0.860V for longer than 6 sec.      |
| P0333   | 16717 | 003/1,3<br>004/3<br>016/1,2,3,4                                | 1          | <b>DTC is set:</b> If knock sensor voltage bank 1 rises above 20.080V with an engine coolant temp. over 35.25°C, engine speed over 2600 RPM and engine load over 3.50 ms, for more than 100 consecutive combustions. | TD             | Warm up engine over 35.25°C (003/3), accelerate to 3000 RPM (003/1) with an engine load over 3.50 ms (004/3), watch display 016/1,2,3,4 must not rise above 20.080V for longer than 6 sec.     |
| P0422   | 16806 | 031/4  | 2          | <b>DTC is set:</b> If the conversion rate of the Cat B1 is too low.  | WS/ER          | Let engine idle, go in basic settings, function 04 and choose display 031. After test end, display 031/4 must show Cat B1 O.K.<br><b>For more information and conditions use template 031!</b> |
| P0432   | 16816 | 032/4  | 2          | <b>DTC is set:</b> If the conversion rate of the Cat B2 is too low.  | WS/ER          | Let engine idle, go in basic settings, function 04 and choose display 032. After test end, display 032/4 must show Cat B2 O.K.<br><b>For more information and conditions use template 032!</b> |
| P0441   | 16825 | 033/4  | OFF        | <b>DTC is set:</b> If EVAP system has incorrect air flow.  | WS/ER          | Let engine idle, go in basic settings, function 04 and choose display 033. After test end, display 033/4 must show EVAP OK.<br><b>For more information and conditions use template 033!</b>    |



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| P0442   | 16826 | 034/4  | OFF        | <b>DTC is set:</b> If fuel tank system has a small leak.  | WS/ER          | Let engine idle, go in basic settings, function 04 and choose display 034. After test end, display 034/4 must show Syst. OK.<br><b>For more information and conditions use template 034!</b> |
| P0455   | 16826 | 034/4  | OFF        | <b>DTC is set:</b> If fuel tank system has a large leak.  | WS/ER          | Let engine idle, go in basic settings, function 04 and choose display 034. After test end, display 034/4 must show Syst. OK.<br><b>For more information and conditions use template 034!</b> |
| P501  | 16885 | 008/4  | 2          | <b>DTC is set:</b> If vehicle speed drops below 3.8km/h with an engine coolant temperature over 39.75°C, an engine speed between 1400 RPM and 5000 RPM and a decel for longer than 2.5 sec. | TD             | Have a short test drive, watch display (008/4), must show reasonable vehicle speed corresponding to the odometer (must not drop to 0 km/h while driving).                                    |
| P0560   | 16944 |  | 2          | <b>DTC is set:</b> If the system voltage of the ECM has a malfunction.  | WS/IO          | Erase DTC-memory, function 05, after 1 sec., check DTC-memory again, function 02, should not be this fault.  |
| P0662   | 16946 |  | 2          | <b>DTC is set:</b> If the system voltage of the ECM is too low.   | WS/IO          | Erase DTC-memory, function 05, after 1 sec., check DTC-memory again, function 02, should not be this fault.  |
| P0563   | 16047 |  | 2          | <b>DTC is set:</b> If the system voltage of the ECM is too high.  | WS/IO          | Erase DTC-memory, function 05, after 1 sec., check DTC-memory again, function 02, should not be this fault.  |

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| P0601   | 16985 |  | 2          | <b>DTC is set:</b> If check sum error of internal control module memory occurs.  | WS/ER          | Erase DTC-memory, function 05, let engine idle. After 10 sec., check DTC-memory again, function 02, should not be this fault.   |
| P0604   | 16988 |  | 2          | <b>DTC is set:</b> If Ram error of internal control module memory occurs.  | WS/ER          | Erase DTC-memory, function 05, let engine idle. After 2 sec., check DTC-memory again, function 02, should not be this fault.  |
| P1102   | 17510 | 028/1,3  | 2          | <b>DTC is set:</b> If resistance of O2S sensor heater (B1-S1) drops below 2.5 $\Omega$ with a heater status ON, for longer than 30 sec., 180 sec after engine start. | WS/ER          | Wait 180 sec after engine start and until heater status is ON (028/3), let engine idle, watch display 028/1, must not drop below 2.4 $\Omega$ for longer than 10 sec. |
| P1105   | 17513 | 028/2,4  | 2          | <b>DTC is set:</b> If resistance of O2S sensor heater (B1-S2) drops below 2.5 $\Omega$ with a heater status ON, for longer than 30 sec., 180 sec after engine start. | WS/ER          | Wait 180 sec after engine start and until heater status is ON (028/4), let engine idle, watch display 028/2, must not drop below 2.4 $\Omega$ for longer than 10 sec. |
| P1107   | 17515 | 028/1,3  | 2          | <b>DTC is set:</b> If resistance of O2S sensor heater (B2-S1) drops below 2.5 $\Omega$ with a heater status ON, for longer than 30 sec., 180 sec after engine start. | WS/ER          | Wait 180 sec after engine start and until heater status is ON (028/3), let engine idle, watch display 028/1, must not drop below 2.4 $\Omega$ for longer than 10 sec. |
| P1110   | 17518 | 028/2,4  | 2          | <b>DTC is set:</b> If resistance of O2S sensor heater (B2-S2) drops below 2.5 $\Omega$ with a heater status ON, for longer than 30 sec., 180 sec after engine start. | WS/ER          | Wait 180 sec after engine start and until heater status is ON (028/4), let engine idle, watch display 028/2, must not drop below 2.4 $\Omega$ for longer than 10 sec. |

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| P1127   | 17535 | 003/3<br>010/3   | 2          | <b>DTC is set:</b> If oxygen sensor learning value at partial load bank 1 drops below -22.7%. | TD             | Warm up engine to 80.25°C (003/3), drive on the Freeway with a speed of 65MPH, using cruise control. Watch 010/3, must not begin to fall to -10.0% after 10 min of driving. |
| P1128   | 17536 | 003/3<br>010/3   | 2          | <b>DTC is set:</b> If oxygen sensor learning value at partial load bank 1 rises above 22.7%.  | TD             | Warm up engine to 80.25°C (003/3), drive on the Freeway with a speed of 65MPH, using cruise control. Watch 010/3, must not begin to rise to 10.0% after 10 min of driving.  |
| P1129   | 17537 | 003/3<br>010/4   | 2          | <b>DTC is set:</b> If oxygen sensor learning value at partial load bank 2 drops below -22.7%. | TD             | Warm up engine to 80.25°C (003/3), drive on the Freeway with a speed of 65MPH, using cruise control. Watch 010/4, must not begin to fall to -10.0% after 10 min of driving. |
| P1130   | 17538 | 003/3<br>010/4   | 2          | <b>DTC is set:</b> If oxygen sensor learning value at partial load bank 2 rises above 22.7%.  | TD             | Warm up engine to 80.25°C (003/3), drive on the Freeway with a speed of 65MPH, using cruise control. Watch 010/4, must not begin to rise to 10.0% after 10 min of driving.  |
| P1136   | 17544 | 003/3<br>010/1   | 2          | <b>DTC is set:</b> If oxygen sensor learning value at idle bank 1 rises above 17.4%.          | WS/ER          | Warm up engine to 80.25°C (003/3), let engine idle. Watch 010/1, must not begin to rise to 9.0% after 5 min of idle.  |
| P1137   | 17545 | 003/3<br>010/1   | 2          | <b>DTC is set:</b> If oxygen sensor learning value at idle bank 1 drops below -17.4%.         | WS/ER          | Warm up engine to 80.25°C (003/3), let engine idle. Watch 010/1, must not begin to fall to -14.0% after 5 min of idle.  |

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| P1138   | 17546 | 003/3<br>010/2   | 2          | <b>DTC is set:</b> If oxygen sensor learning value at idle bank 2 rises above 17.4%.  | WS/ER          | Warm up engine to 80.25°C (003/3), let engine idle. Watch 010/2, must not begin to rise to 9.0% after 5 min of idle.   |
| P1139   | 17547 | 003/3<br>010/2   | 2          | <b>DTC is set:</b> If oxygen sensor learning value at idle bank 2 drops below -17.4%. | WS/ER          | Warm up engine to 80.25°C (003/3), let engine idle. Watch 010/2, must not begin to fall to -14.0% after 5 min of idle.   |
| P1141   | 17549 | 003/1<br>004/1<br>008/4  | 2          | <b>DTC is set:</b> If altitude level is not in the range from -50.0% to 20.0%.        | TD             | Erase DTC-memory, function 05, drive with a speed over 20.5 km/h (008/4), open throttle shortly to an angle in the range of 15° to 50° (004/1) with an engine speed over 2000RPM (003/1) for longer than 10 sec., check DTC-memory again, function 02, should not be this fault.       |
| P1176   | 17584 | 025<br>036/3   | OFF        | <b>DTC is set:</b> If O2S correction control behind TWC bank 1 is out of the range.   | WS/ER          | Erase DTC-memory, function 05, let engine idle, go in basic settings, function 04 and choose display 025 after test end, display 036/3 bit 6 must be 0, check DTC-memory again, function 02, should not be this fault.<br><b>For more information and conditions use template 025!</b> |

| Output on GST and/or on VAG 1551/1552 scan tool |       | For troubleshooting use on VAG 1551/1552 display group / field | MIL status | DTC description for MIL ON  | Test condition | After repair quality check   |
|---|-------|--|------------|---|----------------|--|
| P1177   | 17585 | 025<br>036/4   | OFF        | <b>DTC is set:</b> If O2S correction control behind TWC bank 2 is out of the range.   | WS/ER          | Erase DTC-memory, function 05, let engine idle, go in basic settings, function 04 and choose display 025 after test end, display 036/4 bit 6 must be 0, check DTC-memory again, function 02, should not be this fault.<br><b>For more information and conditions use template 025!</b> |
| P1196   | 17604 | 028/1,3  | 2          | <b>DTC is set:</b> If resistance of O2S sensor heater (B1-S1) rises above 9.2 Ω with a heater status ON, for longer than 30 sec., 180 sec after engine start. | WS/ER          | Wait 180 sec after engine start and until heater status is ON (028/3), let engine idle, watch display 028/1, must not rise above 9.2 Ω for longer than 30 sec.   |
| P1197   | 17605 | 028/2,4  | 2          | <b>DTC is set:</b> If resistance of O2S sensor heater (B1-S2) rises above 9.2 Ω with a heater status ON, for longer than 30 sec., 180 sec after engine start  | WS/ER          | Wait 180 sec after engine start and until heater status is ON (028/4), let engine idle, watch display 028/2, must not rise above 9.2 Ω for longer than 30 sec.   |
| P1198   | 17606 | 028/1,3  | 2          | <b>DTC is set:</b> If resistance of O2S sensor heater (B2-S1) rises above 9.2 Ω with a heater status ON, for longer than 30 sec., 180 sec after engine start. | WS/ER          | Wait 180 sec after engine start and until heater status is ON (028/3), let engine idle, watch display 028/1, must not rise above 9.2 Ω for longer than 30 sec.   |
| P1199   | 17607 | 028/2,4  | 2          | <b>DTC is set:</b> If resistance of O2S sensor heater (B2-S2) rises above 9.2 Ω with a heater status ON, for longer than 30 sec., 180 sec after engine start. | WS/ER          | Wait 180 sec after engine start and until heater status is ON (028/4), let engine idle, watch display 028/2, must not rise above 9.2 Ω for longer than 30 sec.   |

| Output on GST and/or on VAG 1551/1552 scan tool |       | For troubleshooting use on VAG 1551/1552 display group / field | MIL status | DTC description for MIL ON   | Test condition | After repair quality check   |
|---|-------|--|------------|--|----------------|--|
| P1201   | 17609 |  | 1          | <b>DTC is set:</b> If cyl. 1 fuel injector has an electrical malfunction in the circuit for more than 0.5 sec. | WS/ER          | Erase DTC-memory, function 05, let engine idle, check DTC-memory again, function 02, should not be this fault. |
| P1202   | 17610 |  | 1          | <b>DTC is set:</b> If cyl. 2 fuel injector has an electrical malfunction in the circuit for more than 0.5 sec. | WS/ER          | Erase DTC-memory, function 05, let engine idle, check DTC-memory again, function 02, should not be this fault. |
| P1203   | 17611 |  | 1          | <b>DTC is set:</b> If cyl. 3 fuel injector has an electrical malfunction in the circuit for more than 0.5 sec. | WS/ER          | Erase DTC-memory, function 05, let engine idle, check DTC-memory again, function 02, should not be this fault. |
| P1204   | 17612 |  | 1          | <b>DTC is set:</b> If cyl. 4 fuel injector has an electrical malfunction in the circuit for more than 0.5 sec. | WS/ER          | Erase DTC-memory, function 05, let engine idle, check DTC-memory again, function 02, should not be this fault. |
| P1205   | 17613 |  | 1          | <b>DTC is set:</b> If cyl. 5 fuel injector has an electrical malfunction in the circuit for more than 0.5 sec. | WS/ER          | Erase DTC-memory, function 05, let engine idle, check DTC-memory again, function 02, should not be this fault. |
| P1206   | 17614 |  | 1          | <b>DTC is set:</b> If cyl. 6 fuel injector has an electrical malfunction in the circuit for more than 0.5 sec. | WS/ER          | Erase DTC-memory, function 05, let engine idle, check DTC-memory again, function 02, should not be this fault. |
| P1207   | 17615 |  | 1          | <b>DTC is set:</b> If cyl. 7 fuel injector has an electrical malfunction in the circuit for more than 0.5 sec. | WS/ER          | Erase DTC-memory, function 05, let engine idle, check DTC-memory again, function 02, should not be this fault. |
| P1208   | 17616 |  | 1          | <b>DTC is set:</b> If cyl. 8 fuel injector has an electrical malfunction in the circuit for more than 0.5 sec. | WS/ER          | Erase DTC-memory, function 05, let engine idle, check DTC-memory again, function 02, should not be this fault. |

| Output on GST and/or on VAG 1551/1552 scan tool |       | For troubleshooting use on VAG 1551/1552 display group / field | MIL status | DTC description for MIL ON   | Test condition | After repair quality check   |
|---|-------|--|------------|--|----------------|--|
| P1213   | 17621 |  | 1          | <b>DTC is set:</b> If cyl. 1 fuel injector is short to B+ for more than 0.5 sec. | WS/ER          | Erase DTC-memory, function 05, let engine idle, check DTC-memory again, function 02, should not be this fault. |
| P1214   | 17622 |  | 1          | <b>DTC is set:</b> If cyl. 2 fuel injector is short to B+ for more than 0.5 sec. | WS/ER          | Erase DTC-memory, function 05, let engine idle, check DTC-memory again, function 02, should not be this fault. |
| P1215   | 17623 |  | 1          | <b>DTC is set:</b> If cyl. 3 fuel injector is short to B+ for more than 0.5 sec. | WS/ER          | Erase DTC-memory, function 05, let engine idle, check DTC-memory again, function 02, should not be this fault. |
| P1216   | 17624 |  | 1          | <b>DTC is set:</b> If cyl. 4 fuel injector is short to B+ for more than 0.5 sec. | WS/ER          | Erase DTC-memory, function 05, let engine idle, check DTC-memory again, function 02, should not be this fault. |
| P1217   | 17625 |  | 1          | <b>DTC is set:</b> If cyl. 5 fuel injector is short to B+ for more than 0.5 sec. | WS/ER          | Erase DTC-memory, function 05, let engine idle, check DTC-memory again, function 02, should not be this fault. |
| P1218   | 17626 |  | 1          | <b>DTC is set:</b> If cyl. 6 fuel injector is short to B+ for more than 0.5 sec. | WS/ER          | Erase DTC-memory, function 05, let engine idle, check DTC-memory again, function 02, should not be this fault. |
| P1219   | 17627 |  | 1          | <b>DTC is set:</b> If cyl. 7 fuel injector is short to B+ for more than 0.5 sec. | WS/ER          | Erase DTC-memory, function 05, let engine idle, check DTC-memory again, function 02, should not be this fault. |
| P1220   | 17628 |  | 1          | <b>DTC is set:</b> If cyl. 8 fuel injector is short to B+ for more than 0.5 sec. | WS/ER          | Erase DTC-memory, function 05, let engine idle, check DTC-memory again, function 02, should not be this fault. |

| Output on GST and/or on VAG 1551/1552 scan tool |       | For troubleshooting use on VAG 1551/1552 display group / field | MIL status | DTC description for MIL ON  | Test condition | After repair quality check  |
|---|-------|--|------------|---|----------------|---|
| P1250   | 17658 |  | OFF        | <b>DTC is set:</b> If fuel tank level is too low with a present misfiring fault .   | WS/IO          | Erase DTC-memory, function 05, switch ignition on, check DTC-memory again, function 02, should not be this fault.   |
| P1280   | 17688 | 035/4  | 2          | <b>DTC is set:</b> If the air shrouded fuel injectors have too low air flow.  | WS/ER          | Let engine idle, go in basic settings, function 04 and choose display 035 after test end, display 035/4 must show A-IV OK.<br><b>For more information and conditions use template 035!</b>                            |
| P1283   | 17691 |  | 2          | <b>DTC is set:</b> If air shrouded fuel injector valve has an electrical malfunction in the circuit for more than 0.5 sec.                                | WS/ER          | Erase DTC-memory, function 05, let engine idle, check DTC-memory again, function 02, should not be this fault.  |
| P1286   | 17694 | 035  | 2          | <b>DTC is set:</b> If air shrouded fuel injector valve is short to B+ for more than 0.5 sec.  | WS/ER          | Erase DTC-memory, function 05, let engine idle, go in basic settings, function 04 and choose display 035, check DTC-memory again, function 02, should not be this fault.  |
| P1325   | 17733 | 003/3<br>013/1   | OFF        | <b>DTC is set:</b> If knock sensor timing correction cyl.1 rises above 15.0° KW with an engine speed greater than 800 RPM, for 20 consecutive combustion. | TD             | Warm up engine to 80.25°C (003/3), go up a hill, accelerate with kick down in the 1 <sup>st</sup> , 2 <sup>nd</sup> and 3 <sup>rd</sup> gear, watch display 013/1, must not rise over 15.0°KW, for longer than 1 sec. |
| P1326   | 17734 | 003/3<br>013/2   | OFF        | <b>DTC is set:</b> If knock sensor timing correction cyl.2 rises above 15.0° KW with an engine speed greater than 800 RPM, for 20 consecutive combustion. | TD             | Warm up engine to 80.25°C (003/3), go up a hill, accelerate with kick down in the 1 <sup>st</sup> , 2 <sup>nd</sup> and 3 <sup>rd</sup> gear, watch display 013/2, must not rise over 15.0°KW, for longer than 1 sec. |



| Output on GST and/or on VAG 1551/1552 scan tool |       | For troubleshooting use on VAG 1551/1552 display group / field | MIL status | DTC description for MIL ON  | Test condition | After repair quality check  |
|---|-------|--|------------|---|----------------|---|
| P1327   | 17735 | 003/3<br>013/3   | OFF        | <b>DTC is set:</b> If knock sensor timing correction cyl.3 rises above 15.0° KW with an engine speed greater than 800 RPM, for 20 consecutive combustion. | TD             | Warm up engine to 80.25°C (003/3), go up a hill, accelerate with kick down in the 1 <sup>st</sup> , 2 <sup>nd</sup> and 3 <sup>rd</sup> gear, watch display 013/3, must not rise over 15.0°KW, for longer than 1 sec. |
| P1328   | 17736 | 003/3<br>013/4   | OFF        | <b>DTC is set:</b> If knock sensor timing correction cyl.4 rises above 15.0° KW with an engine speed greater than 800RPM, for 20 consecutive combustion.  | TD             | Warm up engine to 80.25°C (003/3), go up a hill, accelerate with kick down in the 1 <sup>st</sup> , 2 <sup>nd</sup> and 3 <sup>rd</sup> gear, watch display 013/4, must not rise over 15.0°KW, for longer than 1 sec. |
| P1329   | 17737 | 003/3<br>014/1   | OFF        | <b>DTC is set:</b> If knock sensor timing correction cyl.5 rises above 15.0° KW with an engine speed greater than 800 RPM, for 20 consecutive combustion. | TD             | Warm up engine to 80.25°C (003/3), go up a hill, accelerate with kick down in the 1 <sup>st</sup> , 2 <sup>nd</sup> and 3 <sup>rd</sup> gear, watch display 014/1, must not rise over 15.0°KW, for longer than 1 sec. |
| P1330   | 17738 | 003/3<br>014/2   | OFF        | <b>DTC is set:</b> If knock sensor timing correction cyl.6 rises above 15.0° KW with an engine speed greater than 800 RPM, for 20 consecutive combustion. | TD             | Warm up engine to 80.25°C (003/3), go up a hill, accelerate with kick down in the 1 <sup>st</sup> , 2 <sup>nd</sup> and 3 <sup>rd</sup> gear, watch display 014/2, must not rise over 15.0°KW, for longer than 1 sec. |
| P1331   | 17739 | 003/3<br>014/3   | OFF        | <b>DTC is set:</b> If knock sensor timing correction cyl.7 rises above 15.0° KW with an engine speed greater than 800 RPM, for 20 consecutive combustion. | TD             | Warm up engine to 80.25°C (003/3), go up a hill, accelerate with kick down in the 1 <sup>st</sup> , 2 <sup>nd</sup> and 3 <sup>rd</sup> gear, watch display 014/3, must not rise over 15.0°KW, for longer than 1 sec. |
| P1332   | 17740 | 003/3<br>014/4   | OFF        | <b>DTC is set:</b> If knock sensor timing correction cyl.8 rises above 15.0° KW with an engine speed greater than 800 RPM, for 20 consecutive combustion. | TD             | Warm up engine to 80.25°C (003/3), go up a hill, accelerate with kick down in the 1 <sup>st</sup> , 2 <sup>nd</sup> and 3 <sup>rd</sup> gear, watch display 014/4, must not rise over 15.0°KW, for longer than 1 sec. |

| Output on GST and/or on VAG 1551/1552 scan tool |       | For troubleshooting use on VAG 1551/1552 display group / field | MIL status | DTC description for MIL ON  | Test condition | After repair quality check  |
|---|-------|--|------------|---|----------------|---|
| P1386   | 17794 | 003/3  | OFF        | <b>DTC is set:</b> If a knock sensor control circuit error occurs in the ECM with an engine coolant temp. over 35.25°C. | WS/ER          | Warm up engine to 35.25°C (003/3), erase DTC-memory, function 05, let engine idle, check DTC-memory again, function 02, should not be this fault.                                     |
| P1391   | 17799 |  | 2          | <b>DTC is set:</b> If camshaft position sensor bank 2 is short to ground for more than 2 sec.                           | WS/ER          | Erase DTC-memory, function 05, let engine idle, check DTC-memory again, function 02, should not be this fault.  |
| P1392   | 17800 |  | 2          | <b>DTC is set:</b> If camshaft position sensor bank 2 has an open circuit/is short to B+ for more than 2 sec.           | WS/ER          | Erase DTC-memory, function 05, let engine idle, check DTC-memory again, function 02, should not be this fault.  |
| P1409   | 17817 |  | 2          | <b>DTC is set:</b> If fuel tank ventilation valve has an electrical malfunction for longer than 0.5 sec.                | WS/ER          | Erase DTC-memory, function 05, let engine idle, check DTC-memory again, function 02, should not be this fault.  |
| P1410   | 17818 | 033  | 2          | <b>DTC is set:</b> If fuel tank ventilation valve is short to B+ for longer than 0.5 sec.                               | WS/ER          | Erase DTC-memory, function 05, let engine idle, go in basic settings, function 04, choose display 033, after test end, check DTC-memory again, function 02, should not be this fault. |
| P1470   | 17878 |  | 2          | <b>DTC is set:</b> If leak detection pump has an electrical malfunction for longer than 0.5 sec.                        | WS/ER          | Erase DTC-memory, function 05, let engine idle, check DTC-memory again, function 02, should not be this fault.  |
| P1471   | 17879 | 034  | 2          | <b>DTC is set:</b> If leak detection pump is short to B+ for longer than 0.5 sec.                                       | WS/ER          | Erase DTC-memory, function 05, let engine idle, go in basic settings, function 04, choose display 034, after test end, check DTC-memory again, function 02, should not be this fault. |

| Output on GST and/or on VAG 1551/1552 scan tool |       | For troubleshooting use on VAG 1551/1552 display group / field | MIL status | DTC description for MIL ON   | Test condition | After repair quality check  |
|---|-------|--|------------|--|----------------|---|
| P1475   | 17883 | 034  | 2          | <b>DTC is set:</b> If leak detection pump has a mechanical malfunction or no signal  | WS/ER          | Erase DTC-memory, function 05, let engine idle, go in basic settings, function 04, choose display 034, after test end, check DTC-memory again, function 02, should not be this fault. |
| P1476   | 17884 | 034  | 2          | <b>DTC is set:</b> If leak detection pump has insufficient vacuum.   | WS/ER          | Erase DTC-memory, function 05, let engine idle, go in basic settings, function 04, choose display 034, after test end, check DTC-memory again, function 02, should not be this fault. |
| P1500   | 17908 |  | OFF        | <b>DTC is set:</b> If fuel pump relay circuit has an electrical malfunction for longer than 0.5 sec.   | WS/ER          | Erase DTC-memory, function 05, let engine idle, check DTC-memory again, function 02, should not be this fault.  |
| P1502   | 17910 |  | OFF        | <b>DTC is set:</b> If fuel pump relay circuit is short to B+ for longer than 0.5 sec.  | WS/ER          | Erase DTC-memory, function 05, let engine idle, check DTC-memory again, function 02, should not be this fault.  |
| P1505   | 17913 | 004/4  | 2          | <b>DTC is set:</b> If idle position switch does not close until 600 sec. after engine start, time only counting while vehicle speed under 100km/h, engine speed below 1800RPM, engine load below 5.00ms and throttle angle below 3.9°. | WS/ER          | Let engine idle, accelerate engine and close throttle, watch display 004/4 must switch between idle, part throttle and idle again.  |
| P1506   | 17914 |  | 2          | <b>DTC is set:</b> If idle position switch is closed and the throttle position voltage is below learned value for most open throttle drive position for longer than 2.2 sec.   | WS/ER          | Erase DTC-memory, function 05, let engine idle, accelerate engine and close throttle very quickly, check DTC-memory again, function 02, should not be this fault.                     |

| Output on GST and/or on VAG 1551/1552 scan tool |       | For troubleshooting use on VAG 1551/1552 display group / field | MIL status | DTC description for MIL ON   | Test condition | After repair quality check  |
|---|-------|--|------------|--|----------------|---|
| P1507   | 17915 | 007/4  | 2          | <b>DTC is set:</b> If idle system learned value rises over 130 for longer than 102 sec. at an engine over 90°C.        | WS/ER          | Let engine idle, wait 2 min., watch display 007/4, must stay in the range of 75 to 100.   |
| P1508   | 17916 | 007/4  | 2          | <b>DTC is set:</b> If idle system learned value drops below 55 for longer than 102 sec. at an engine over 90°C.        | WS/ER          | Let engine idle, wait 2 min., watch display 007/4, must stay in the range of 75 to 100.   |
| P1509   | 17917 |  | 2          | <b>DTC is set:</b> If idle air control circuit has an electrical malfunction for longer than 0.5 sec.                  | WS/ER          | Erase DTC-memory, function 05, let engine idle, check DTC-memory again, function 02, should not be this fault.  |
| P1510   | 17918 |  | 2          | <b>DTC is set:</b> If idle air control circuit is short to B+ for longer than 0.5 sec.                                 | WS/ER          | Erase DTC-memory, function 05, let engine idle, check DTC-memory again, function 02, should not be this fault.  |
| P1511   | 17919 |  | OFF        | <b>DTC is set:</b> If intake manifold change over valve circuit has an electrical malfunction for longer than 0.5 sec. | WS/ER          | Erase DTC-memory, function 05, let engine idle, check DTC-memory again, function 02, should not be this fault.  |
| P1512   | 17920 | 022/1,4  | OFF        | <b>DTC is set:</b> If intake manifold change over valve is short to B+ with an status SU-V ON for longer than 0.5 sec. | WS/ER          | Erase DTC-memory, function 05, let engine idle, accelerate engine over 3800RPM (022/1) for 3 sec, watch display 022/4, must change to SU-V ON, check DTC-memory again, function 02, should not be this fault. |
| P1517   | 17925 |  | 1          | <b>DTC is set:</b> If main relay circuit has an electrical malfunction for longer than 0.5 sec.                        | WS/ER          | Erase DTC-memory, function 05, let engine idle, check DTC-memory again, function 02, should not be this fault.  |

| Output on GST and/or on VAG 1551/1552 scan tool |       | For troubleshooting use on VAG 1551/1552 display group / field | MIL status | DTC description for MIL ON  | Test condition | After repair quality check   |
|---|-------|--|------------|---|----------------|--|
| P1518   | 17926 |  | 1          | <b>DTC is set:</b> If main relay circuit is short to B+ for longer than 0.5 sec.  | WS/ER          | Erase DTC-memory, function 05, let engine idle, check DTC-memory again, function 02, should not be this fault.       |
| P1560   | 17968 | 003/1  | OFF        | <b>DTC is set:</b> If engine speed rises above 6800RPM.   | WS/ER          | Let engine idle. <b>Be careful!</b> Accelerate engine for a short time, watch display 003/1, must not reach 6800RPM. |
| P1602   | 18010 |  | OFF        | <b>DTC is set:</b> If power supply terminal 30 has low voltage.   | WS/ER          | Erase DTC-memory, function 05, let engine idle, check DTC-memory again, function 02, should not be this fault.       |
| P1606   | 18014 |  | OFF        | <b>DTC is set:</b> If the rough road or required engine torque information from the ABS-ECU has an electrical malfunction with a present misfire recognition. | WS/ER          | Erase DTC-memory, function 05, let engine idle, check DTC-memory again, function 02, should not be this fault.       |
| P1612   | 18020 |  | 1/OFF      | <b>DTC is set:</b> ECM is coded incorrect.  | WS/ER          | Erase DTC-memory, function 05, let engine idle, check DTC-memory again, function 02, should not be this fault.       |
| P1624   | 18032 |  | 1          | <b>DTC is set:</b> If MIL request signal is active.   | WS/ER          | Erase DTC-memory, function 05, let engine idle, check DTC-memory again, function 02, should not be this fault.       |
| P1625   | 18033 |  | 2          | <b>DTC is set:</b> If CAN Bus error message occurs from the TCM.  | WS/ER          | Erase DTC-memory, function 05, let engine idle, check DTC-memory again, function 02, should not be this fault.]      |

| Output on GST and/or on VAG 1551/1552 scan tool |       | For troubleshooting use on VAG 1551/1552 display group / field | MIL status | DTC description for MIL ON  | Test condition | After repair quality check  |
|---|-------|--|------------|---|----------------|---|
| P1640   | 18048 |  | 2          | <b>DTC is set:</b> If an internal control module EPROM error occurs.                  | WS/ER          | Erase DTC-memory, function 05, let engine idle for 5 sec., check DTC-memory again, function 02, should not be this fault. |
| P1690   | 18098 |  | OFF        | <b>DTC is set:</b> MIL circuit has an electrical malfunction for longer than 0.5 sec. | WS/ER          | Erase DTC-memory, function 05, let engine idle, check DTC-memory again, function 02, should not be this fault.            |
| P1693   | 18101 |  | OFF        | <b>DTC is set:</b> MIL circuit is short to B+ for longer than 0.5 sec.                | WS/ER          | Erase DTC-memory, function 05, let engine idle, check DTC-memory again, function 02, should not be this fault.            |
| P1851   | 18259 |  | OFF        | <b>DTC is set:</b> If CAN Bus missing message from the ABS control unit.              | WS/ER          | Erase DTC-memory, function 05, let engine idle, check DTC-memory again, function 02, should not be this fault.            |