

Error Description

ZFF
EcoLife

Status: 07/2011

001



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Pressure regulator A (DR_A) short circuit to plus (VPS) of proportional valves

Internal designation:

DR_A_Kurzschluss VPS (DR_A_short circuit VPS)

Error description:

TCU detects short circuit fault VPS, if current output (AIM) is active and the current is higher than allowed. E.g. proportional valve = 0 ohm

Error detection by:

- Sum current detection
(I_Summe_ist > I_Summe_Soll [I_Sum_is > I_Sum_Nominal]);
- Control frequency is greater than maximum allowable control frequency (f_ist > f_max [f_is > f_max]);
- Output stage of TCU (TRES);

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No short circuit of the AIM on VPS
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system incl. transmission cable
3. Connect transmission test cable
4. Measure resistance of proportional valve (pin 5 to pin 13) Setpoint value: 10 – 15 ohm
5. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.

002



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Pressure regulator B (DR_B) has a short circuit on the positive supply pin (VPS) of the proportional valves

Internal designation:

DR_B_Kurzschluss VPS (DR_B_short circuit VPS)

Error description:

TCU detects short circuit fault VPS, if current output (AIM) is active and the current is higher than allowed. E.g. proportional valve = 0 ohm

Error detection by:

- Sum current detection
(I_Summe_ist > I_Summe_Soll [I_Sum_is > I_Sum_Nominal]);
- Control frequency is greater than maximum allowable control frequency (f_ist > f_max [f_is > f_max]);
- Output stage of TCU (TREX);

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No short circuit of the AIM on VPS
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system incl. transmission cable
3. Connect transmission test cable
4. Measure resistance of proportional valve (pin 5 to pin 12) Setpoint value: 10 – 15 ohm
5. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.

003



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Pressure regulator D (DR_D) has a short circuit on the positive supply pin (VPS) of the proportional valves

Internal designation:

DR_D_Kurzschluss VPS (DR_D_short circuit VPS)

Error description:

TCU detects short circuit fault VPS, if current output (AIM) is active and the current is higher than allowed. E.g. proportional valve = 0 ohm

Error detection by:

- Sum current detection
($I_{\text{Summe_ist}} > I_{\text{Summe_Soll}}$ [$I_{\text{Sum_is}} > I_{\text{Sum_Nominal}}$]);
- Control frequency is greater than maximum allowable control frequency ($f_{\text{ist}} > f_{\text{max}}$ [$f_{\text{is}} > f_{\text{max}}$]);
- Output stage of TCU (TRES);

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No short circuit of the AIM on VPS
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system incl. transmission cable
3. Connect transmission test cable
4. Measure resistance of proportional valve (pin 5 to pin 22) Setpoint value: 10 – 15 ohm
5. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.

004



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Pressure regulator E (DR_E) has a short circuit on the positive supply pin (VPS) of the proportional valves

Internal designation:

DR_E_Kurzschluss VPS (DR_E_short circuit VPS)

Error description:

TCU detects short circuit fault VPS, if current output (AIM) is active and the current is higher than allowed. E.g. proportional valve = 0 ohm

Error detection by:

- Sum current detection
(I_Summe_ist > I_Summe_Soll [I_Sum_is > I_Sum_Nominal]);
- Control frequency is greater than maximum allowable control frequency (f_ist > f_max [f_is > f_max]);
- Output stage of TCU (TREX);

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No short circuit of the AIM on VPS
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system incl. transmission cable
3. Connect transmission test cable
4. Measure resistance of proportional valve (pin 5 to pin 24) Setpoint value: 10 – 15 ohm
5. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.

005



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Pressure regulator F (DR_F) has a short circuit on the positive supply pin (VPS) of the proportional valves

Internal designation:

DR_F_Kurzschluss VPS (DR_F_short circuit VPS)

Error description:

TCU detects short circuit fault VPS, if current output (AIM) is active and the current is higher than allowed. E.g. proportional valve = 0 ohm

Error detection by:

- Sum current detection
(I_Summe_ist > I_Summe_Soll [I_Sum_is > I_Sum_Nominal]);
- Control frequency is greater than maximum allowable control frequency (f_ist > f_max [f_is > f_max]);
- Output stage of TCU (TREX);

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No short circuit of the AIM on VPS
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system incl. transmission cable
3. Connect transmission test cable
4. Measure resistance of proportional valve (pin 5 to pin 19) Setpoint value: 10 – 15 ohm
5. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.

006



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Pressure regulator WK [torque converter lock-up clutch] (DR_WK) has a short circuit on the positive supply pin (VPS) of the proportional valves

Internal designation:

DR_WK_Kurzschluss VPS (DR_WK_short circuit VPS)

Error description:

TCU detects short circuit fault VPS, if current output (AIM) is active and the current is higher than allowed. E.g. proportional valve = 0 ohm

Error detection by:

- Sum current detection
($I_{\text{Summe_ist}} > I_{\text{Summe_Soll}}$ [$I_{\text{Sum_is}} > I_{\text{Sum_Nominal}}$]);
- Control frequency is greater than maximum allowable control frequency ($f_{\text{ist}} > f_{\text{max}}$ [$f_{\text{is}} > f_{\text{max}}$]);
- Output stage of TCU (TREX);

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No short circuit of the AIM on VPS
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system incl. transmission cable
3. Connect transmission test cable
4. Measure resistance of proportional valve (pin 5 to pin 9) Setpoint value: 10 – 15 ohm
5. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.

007



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Main pressure regulator (DR_HD) has a short circuit on the positive supply pin (VPS) of the proportional valves

Internal designation:

DR_HD_Kurzschluss VPS (DR_HD_short circuit VPS)

Error description:

TCU detects short circuit fault VPS, if current output (AIM) is active and the current is higher than allowed. E.g. proportional valve = 0 ohm

Error detection by:

- Sum current detection
(I_Summe_ist > I_Summe_Soll [I_Sum_is > I_Sum_Nominal]);
- Control frequency is greater than maximum allowable control frequency (f_ist > f_max [f_is > f_max]);
- Output stage of TCU (TREX);

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No short circuit of the AIM on VPS
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system incl. transmission cable
3. Connect transmission test cable
4. Measure resistance of proportional valve (pin 5 to pin 10) Setpoint value: 10 – 15 ohm
5. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.

008



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Pressure regulator of retarder (DR_Ret) has a short circuit on the positive supply pin (VPS) of the proportional valves

Internal designation:

DR_Ret_Kurzschluss VPS (DR_Ret_short circuit VPS)

Error description:

TCU detects short circuit fault VPS, if current output (AIM) is active and the current is higher than allowed. E.g. proportional valve = 0 ohm

Error detection by:

- Sum current detection
(I_Summe_ist > I_Summe_Soll [I_Sum_is > I_Sum_Nominal]);
- Control frequency is greater than maximum allowable control frequency (f_ist > f_max [f_is > f_max]);
- Output stage of TCU (TREX);

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No short circuit of the AIM on VPS
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system incl. transmission cable
3. Connect transmission test cable
4. Measure resistance of proportional valve (pin 5 to pin 8) Setpoint value: 10 – 15 ohm
5. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.

009



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Pressure regulator of PTO (DR_NA) has a short circuit on the positive supply pin (VPS) of the proportional valves

Internal designation:

DR_NA_Kurzschluss VPS (DR_NA_short circuit VPS)

Error description:

TCU detects short circuit fault VPS, if current output (AIM) is active and the current is higher than allowed. E.g. proportional valve = 0 ohm

Error detection by:

- Sum current detection
(I_Summe_ist > I_Summe_Soll [I_Sum_is > I_Sum_Nominal]);
- Control frequency is greater than maximum allowable control frequency (f_ist > f_max [f_is > f_max]);
- Output stage of TCU (TRES);

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No short circuit of the AIM on VPS
- Ignition off/on

System check:

None yet, as applications with a PTO are not feasible at this point.

010



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Pressure regulator G (DR_G) has a short circuit on the positive supply pin (VPS) of the proportional valves

Internal designation:

DR_G_Kurzschluss VPS (DR_G_short circuit VPS)

Error description:

TCU detects short circuit fault VPS, if current output (AIM) is active and the current is higher than allowed. E.g. proportional valve = 0 ohm

Error detection by:

- Sum current detection
($I_{\text{Summe_ist}} > I_{\text{Summe_Soll}}$ [$I_{\text{Sum_is}} > I_{\text{Sum_Nominal}}$]);
- Control frequency is greater than maximum allowable control frequency ($f_{\text{ist}} > f_{\text{max}}$ [$f_{\text{is}} > f_{\text{max}}$]);
- Output stage of TCU (TREX);

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No short circuit of the AIM on VPS
- Ignition off/on

System check:

None yet, as a version with G-valve is not feasible at this point.

011



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

A fault occurred in pressure regulator A (DR_A). Active diagnostics was not able to uniquely identify the fault.

Internal designation:

DR_A_ Fehlertyp_unbekannt (temporary fault)

Error description:

The TCU detects the fault in pressure regulator A, but cannot uniquely identify the fault during subsequent active diagnostics.

Error detection by:

- Sum current detection
(I_Summe_ist > I_Summe_Soll [I_Sum_is > I_Sum_Nominal]);
- Return read voltage (U_AIM) faulty
- Control frequency is greater than maximum allowable control frequency (f_ist > f_max [f_is > f_max]);
- Output stage of TCU (TRES)

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No pressure regulator fault
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system incl. transmission cable
3. Connect transmission test cable
4. Measure resistance of proportional valve (pin 5 to pin 13) Setpoint value: 10 – 15 ohm
5. Measure resistance of proportional valve to ground/housing (pin 13 to KL31) Setpoint value: >10 mohm
6. Measure resistance of proportional valve to ground/housing (pin 13 to pin 9/22/19/8/12/10/24) Setpoint value: 20 – 30 ohm
7. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.

012



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

A fault occurred in pressure regulator B (DR_B). Active diagnostics was not able to uniquely identify the fault.

Internal designation:

DR_B_ Fehlertyp_unbekannt (temporary fault)

Error description:

The TCU detects the fault in pressure regulator B, but cannot uniquely identify the fault during subsequent active diagnostics.

Error detection by:

- Sum current detection
(I_Summe_ist > I_Summe_Soll [I_Sum_is > I_Sum_Nominal]);
- Return read voltage (U_AIM) faulty
- Control frequency is greater than maximum allowable control frequency (f_ist > f_max [f_is > f_max]);
- Output stage of TCU (TRES)

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No pressure regulator fault
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system incl. transmission cable
3. Connect transmission test cable
4. Measure resistance of proportional valve (pin 5 to pin 12) Setpoint value: 10 - 15 ohm
5. Measure resistance of proportional valve to ground/housing (pin 12 to KL31) Setpoint value: >10 mohm
6. Measure resistance of proportional valve to other proportional valves (pin 12 to pin 9/22/19/8/13/10/24) Setpoint value: 20 - 30 ohm
7. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.

013



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

A fault occurred in pressure regulator D (DR_D). Active diagnostics was not able to uniquely identify the fault.

Internal designation:

DR_D_ Fehlertyp_unbekannt (temporary fault)

Error description:

The TCU detects the fault in pressure regulator D, but cannot uniquely identify the fault during subsequent active diagnostics.

Error detection by:

- Sum current detection
(I_Summe_ist > I_Summe_Soll [I_Sum_is > I_Sum_Nominal]);
- Return read voltage (U_AIM) faulty
- Control frequency is greater than maximum allowable control frequency (f_ist > f_max [f_is > f_max]);
- Output stage of TCU (TRES)

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No pressure regulator fault
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system incl. transmission cable
3. Connect transmission test cable
4. Measure resistance of proportional valve (pin 5 to pin 22) Setpoint value: 10 – 15 ohm
5. Measure resistance of proportional valve to ground/housing (pin 22 to KL31) Setpoint value: >10 mohm
6. Measure resistance of proportional valve to other proportional valves (pin 22 to pin 9/12/19/8/13/10/24) Setpoint value: 20 – 30 ohm
7. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.

014



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

A fault occurred in pressure regulator E (DR_E). Active diagnostics was not able to uniquely identify the fault.

Internal designation:

DR_E_ Fehlertyp_unbekannt (temporary fault)

Error description:

The TCU detects the fault in pressure regulator E, but cannot uniquely identify the fault during subsequent active diagnostics.

Error detection by:

- Sum current detection
(I_Summe_ist > I_Summe_Soll [I_Sum_is > I_Sum_Nominal]);
- Return read voltage (U_AIM) faulty
- Control frequency is greater than maximum allowable control frequency (f_ist > f_max [f_is > f_max]);
- Output stage of TCU (TRES)

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No pressure regulator fault
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system incl. transmission cable
3. Connect transmission test cable
4. Measure resistance of proportional valve (pin 5 to pin 24) Setpoint value: 10 – 15 ohm
5. Measure resistance of proportional valve to ground/housing (pin 24 to KL31) Setpoint value: >10 mohm
6. Measure resistance of proportional valve to other proportional valves (pin 24 to pin 9/22/19/8/13/10/12) Setpoint value: 20 - 30 ohm
7. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.

015



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

A fault occurred in pressure regulator F (DR_F). Active diagnostics was not able to uniquely identify the fault.

Internal designation:

DR_F_ Fehlertyp_unbekannt (temporary fault)

Error description:

The TCU identifies the fault in pressure regulator F, but cannot uniquely identify the fault during subsequent active diagnostics.

Error detection by:

- Sum current detection
(I_Summe_ist > I_Summe_Soll [I_Sum_is > I_Sum_Nominal]);
- Return read voltage (U_AIM) faulty
- Control frequency is greater than maximum allowable control frequency (f_ist > f_max [f_is > f_max]);
- Output stage of TCU (TREX)

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No pressure regulator fault
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system incl. transmission cable
3. Connect transmission test cable
4. Measure resistance of proportional valve (pin 5 to pin 19) Setpoint value: 10 – 15 ohm
5. Measure resistance of proportional valve to ground/housing (pin 19 to KL31) Setpoint value: >10 mohm
6. Measure resistance of proportional valve to other proportional valves (pin 19 to pin 9/22/12/8/13/10/24) Setpoint value: 20 - 30 ohm
7. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.

016



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

A fault occurred in pressure regulator WK [torque converter lock-up clutch] (DR_WK). Active diagnostics was not able to uniquely identify the fault.

Internal designation:

DR_WK_ Fehlertyp_unbekannt (temporary fault)

Error description:

The TCU identifies the fault in pressure regulator WK, but cannot uniquely identify the fault during subsequent active diagnostics.

Error detection by:

- Sum current detection
($I_{\text{Summe_ist}} > I_{\text{Summe_Soll}}$ [$I_{\text{Sum_is}} > I_{\text{Sum_Nominal}}$]);
- Return read voltage (U_{AIM}) faulty
- Control frequency is greater than maximum allowable control frequency ($f_{\text{ist}} > f_{\text{max}}$ [$f_{\text{is}} > f_{\text{max}}$]);
- Output stage of TCU (TREX)

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No pressure regulator fault
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system incl. transmission cable
3. Connect transmission test cable
4. Measure resistance of proportional valve (pin 5 to pin 9) Setpoint value: 10 – 15 ohm
5. Measure resistance of proportional valve to ground/housing
(pin 9 to KL31)
Setpoint value: >10 mohm
6. Measure resistance of proportional valve to other proportional valves (pin 9 to pin 12/22/19/8/13/10/24) Setpoint value: 20 - 30 ohm
7. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.

017



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

A fault occurred in main pressure regulator (DR_HD). Active diagnostics was not able to uniquely identify the fault.

Internal designation:

DR_HD_ Fehlertyp_unbekannt (temporary fault)

Error description:

The TCU identifies the fault in the main pressure regulator, but cannot uniquely identify the fault during subsequent active diagnostics.

Error detection by:

- Sum current detection
(I_Summe_ist > I_Summe_Soll [I_Sum_is > I_Sum_Nominal]);
- Return read voltage (U_AIM) faulty
- Control frequency is greater than maximum allowable control frequency (f_ist > f_max [f_is > f_max]);
- Output stage of TCU (TREX)

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No pressure regulator fault
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system incl. transmission cable
3. Connect transmission test cable
4. Measure resistance of proportional valve (pin 5 to pin 10) Setpoint value: 10 - 15 ohm
5. Measure resistance of proportional valve to ground/housing (pin 10 to KL31) Setpoint value: >10 mohm
6. Measure resistance of proportional valve to other proportional valves (pin 10 to pin 9/22/19/8/13/12/24) Setpoint value: 20 - 30 ohm
7. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.

018



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

A fault occurred in pressure regulator of retarder (DR_Ref). Active diagnostics was not able to uniquely identify the fault.

Internal designation:

DR_Ret_Fehlertyp_unbekannt (temporary fault)

Error description:

The TCU identifies the fault in the retarder pressure regulator, but cannot uniquely identify the fault during subsequent active diagnostics.

Error detection by:

- Sum current detection
(I_Summe_ist > I_Summe_Soll [I_Sum_is > I_Sum_Nominal]);
- Return read voltage (U_AIM) faulty
- Control frequency is greater than maximum allowable control frequency (f_ist > f_max [f_is > f_max]);
- Output stage of TCU (TREX)

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No pressure regulator fault
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system incl. transmission cable
3. Connect transmission test cable
4. Measure resistance of proportional valve (pin 5 to pin 8) Setpoint value: 10 - 15 ohm
5. Measure resistance of proportional valve to ground/housing (pin 8 to KL31) Setpoint value: >10 mohm
6. Measure resistance of proportional valve to other proportional valves (pin 8 to pin 9/22/19/12/13/10/24) Setpoint value: 20 - 30 ohm
7. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.

019



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

A fault occurred in pressure regulator of PTO (DR_NA). Active diagnostics was not able to uniquely identify the fault.

Internal designation:

DR_NA_Fehlertyp_ unbekannt (temporary fault)

Error description:

The TCU identifies the fault in the pressure regulator of the PTO, but cannot uniquely identify the fault during subsequent active diagnostics.

Error detection by:

- Sum current detection ($I_{\text{Summe_ist}} > I_{\text{Summe_Soll}}$ [$I_{\text{Sum_is}} > I_{\text{Sum_Nominal}}$]);
- Return read voltage (U_{AIM}) faulty
- Control frequency is greater than maximum allowable control frequency ($f_{\text{ist}} > f_{\text{max}}$ [$f_{\text{is}} > f_{\text{max}}$]);
- Output stage of TCU (TRES)

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No pressure regulator fault
- Ignition off/on

System check:

None yet, as applications with a PTO are not feasible at this point.

020



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

A fault occurred in pressure regulator G (DR_G). Active diagnostics was not able to uniquely identify the fault.

Internal designation:

DR_G_Fehlertyp_ unbekannt (temporary fault)

Error description:

The TCU identifies the fault in pressure regulator G, but cannot uniquely identify the fault during subsequent active diagnostics.

Error detection by:

- Sum current detection
(I_Summe_ist > I_Summe_Soll [I_Sum_is > I_Sum_Nominal]);
- Return read voltage (U_AIM) faulty
- Control frequency is greater than maximum allowable control frequency (f_ist > f_max [f_is > f_max]);
- Output stage of TCU (TREX)

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No pressure regulator fault
- Ignition off/on

System check:

None yet, as a version with G-valve is not feasible at this point

021



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Pressure regulator A (DR_A) has a short circuit on ground

Internal designation:

DR_A_ Kurzschluss GND

Error description:

TCU detects short circuit error AIM on ground.

E.g. chafe point of internal wiring harness.

Error detection by:

- Sum current detection
(I_Summe_ist > I_Summe_Soll [I_Sum_is > I_Sum_Nominal]);
- Readback voltage (U_AIM) faulty (U_AIM << U_VPS);
- Control frequency is greater than maximum allowable control frequency (f_ist > f_max [f_is > f_max]);
- Output stage of TCU (TRES)

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No pressure regulator fault
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system incl. transmission cable
3. Connect transmission test cable
4. Measure resistance of proportional valve to ground/housing (pin 13 to ground (KL31)/housing) Setpoint value: > 10 mohm
5. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.

022



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Pressure regulator B (DR_B) has a short circuit on ground

Internal designation:

DR_B_ Kurzschluss GND

Error description:

TCU detects short circuit error AIM on ground.

E.g. chafe point of internal wiring harness.

Error detection by:

- Sum current detection
(I_Summe_ist > I_Summe_Soll [I_Sum_is > I_Sum_Nominal]);
- Readback voltage (U_AIM) faulty (U_AIM << U_VPS);
- Control frequency is greater than maximum allowable control frequency (f_ist > f_max [f_is > f_max]);
- Output stage of TCU (TRES)

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No pressure regulator fault
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system incl. transmission cable
3. Connect transmission test cable
4. Measure resistance of proportional valve to ground/housing (pin 12 to ground (KL31)/housing) Setpoint value: > 10 mohm
5. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component

023



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Pressure regulator D (DR_D) has a short circuit on ground

Internal designation:

DR_D_ Kurzschluss GND

Error description:

TCU detects short circuit error AIM on ground.

E.g. chafe point of internal wiring harness.

Error detection by:

- Sum current detection
(I_Summe_ist > I_Summe_Soll [I_Sum_is > I_Sum_Nominal]);
- Readback voltage (U_AIM) faulty (U_AIM << U_VPS);
- Control frequency is greater than maximum allowable control frequency (f_ist > f_max [f_is > f_max]);
- Output stage of TCU (TRES)

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No pressure regulator fault
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system incl. transmission cable
3. Connect transmission test cable
4. Measure resistance of proportional valve to ground/housing (pin 22 to ground (KL31)/housing) Setpoint value: > 10 mohm
5. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.

024



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Pressure regulator E (DR_E) has a short circuit on ground

Internal designation:

DR_E_ Kurzschluss GND

Error description:

TCU detects short circuit error AIM on ground.

E.g. chafe point of internal wiring harness.

Error detection by:

- Sum current detection
(I_Summe_ist > I_Summe_Soll [I_Sum_is > I_Sum_Nominal]);
- Readback voltage (U_AIM) faulty (U_AIM << U_VPS);
- Control frequency is greater than maximum allowable control frequency (f_ist > f_max [f_is > f_max]);
- Output stage of TCU (TRES)

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No pressure regulator fault
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system incl. transmission cable
3. Connect transmission test cable
4. Measure resistance of proportional valve to ground/housing (pin 24 to ground (KL31)/housing) Setpoint value: > 10 mohm
5. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.

025



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Pressure regulator F (DR_F) has a short circuit on ground

Internal designation:

DR_F_ Kurzschluss GND

Error description:

TCU detects short circuit error AIM on ground.

E.g. chafe point of internal wiring harness.

Error detection by:

- Sum current detection
(I_Summe_ist > I_Summe_Soll [I_Sum_is > I_Sum_Nominal]);
- Readback voltage (U_AIM) faulty (U_AIM << U_VPS);
- Control frequency is greater than maximum allowable control frequency (f_ist > f_max [f_is > f_max]);
- Output stage of TCU (TRES)

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No pressure regulator fault
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system incl. transmission cable
3. Connect transmission test cable
4. Measure resistance of proportional valve to ground/housing (pin 19 to ground (KL31)/housing) Setpoint value: > 10 mohm
5. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.

026



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Pressure regulator WK [torque converter lock-up clutch] (DR_WK) has a short circuit on ground

Internal designation:

DR_WK_ Kurzschluss GND

Error description:

TCU detects short circuit error AIM on ground.

E.g. chafe point of internal wiring harness.

Error detection by:

- Sum current detection
($I_{\text{Summe_ist}} > I_{\text{Summe_Soll}} [I_{\text{Sum_is}} > I_{\text{Sum_Nominal}}]$);
- Readback voltage (U_{AIM}) faulty ($U_{\text{AIM}} \ll U_{\text{VPS}}$);
- Control frequency is greater than maximum allowable control frequency ($f_{\text{ist}} > f_{\text{max}} [f_{\text{is}} > f_{\text{max}}]$);
- Output stage of TCU (TRES)

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No pressure regulator fault
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system incl. transmission cable
3. Connect transmission test cable
4. Measure resistance of proportional valve to ground/housing (pin 9 to ground (KL31)/housing) Setpoint value: $> 10 \text{ mohm}$
5. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component

027



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Main pressure regulator (DR_HD) has a short circuit on ground

Internal designation:

DR_HD_ Kurzschluss GND

Error description:

TCU detects short circuit error AIM on ground.

E.g. chafe point of internal wiring harness.

Error detection by:

- Sum current detection
($I_{\text{Summe_ist}} > I_{\text{Summe_Soll}} [I_{\text{Sum_is}} > I_{\text{Sum_Nominal}}]$);
- Readback voltage (U_{AIM}) faulty ($U_{\text{AIM}} \ll U_{\text{VPS}}$);
- Control frequency is greater than maximum allowable control frequency ($f_{\text{ist}} > f_{\text{max}} [f_{\text{is}} > f_{\text{max}}]$);
- Output stage of TCU (TRES)

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No pressure regulator fault
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system incl. transmission cable
3. Connect transmission test cable
4. Measure resistance of proportional valve to ground/housing (pin 10 to ground (KL31)/housing) Setpoint value: $> 10 \text{ mohm}$
5. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.

028



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Pressure regulator of retarder (DR_Ret) has a short circuit on ground

Internal designation:

DR_Ret_ Kurzschluss GND

Error description:

TCU detects short circuit error AIM on ground.

E.g. chafe point of internal wiring harness.

Error detection by:

- Sum current detection
(I_Summe_ist > I_Summe_Soll [I_Sum_is > I_Sum_Nominal]);
- Readback voltage (U_AIM) faulty (U_AIM << U_VPS);
- Control frequency is greater than maximum allowable control frequency (f_ist > f_max [f_is > f_max]);
- Output stage of TCU (TRES)

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No pressure regulator fault
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system incl. transmission cable
3. Connect transmission test cable
4. Measure resistance of proportional valve to ground/housing (pin 8 to ground (KL31)/housing) Setpoint value: > 10 mohm
5. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.

029



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Pressure regulator of PTO (DR_NA) has a short circuit on ground

Internal designation:

DR_NA_ Kurzschluss GND

Error description:

TCU detects short circuit error AIM on ground.

E.g. chafe point of internal wiring harness.

Error detection by:

- Sum current detection
(I_Summe_ist > I_Summe_Soll [I_Sum_is > I_Sum_Nominal]);
- Readback voltage (U_AIM) faulty (U_AIM << U_VPS);
- Control frequency is greater than maximum allowable control frequency (f_ist > f_max [f_is > f_max]);
- Output stage of TCU (TRES)

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No pressure regulator fault
- Ignition off/on

System check:

None yet, as applications with a PTO are not feasible at this point.

030



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Pressure regulator G (DR_G) has a short circuit on ground

Internal designation:

DR_G_ Kurzschluss GND

Error description:

TCU detects short circuit error AIM on ground.

E.g. chafe point of internal wiring harness.

Error detection by:

- Sum current detection
(I_Summe_ist > I_Summe_Soll [I_Sum_is > I_Sum_Nominal]);
- Readback voltage (U_AIM) faulty (U_AIM << U_VPS);
- Control frequency is greater than maximum allowable control frequency (f_ist > f_max [f_is > f_max]);
- Output stage of TCU (TRES)

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No pressure regulator fault
- Ignition off/on

System check:

None yet, as applications with a G-valve are not feasible at this point.

031



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Circuit of pressure regulator A (DR_A) is interrupted.

Internal designation:

DR_A_Unterbrechung (DR_A_interruption)

Error description:

TCU detects an interruption in the circuit of pressure regulator A.

E.g. cable breakage / proportional valve not connected.

Error detection by:

- Sum current detection
(I_Summe_ist < I_Summe_Soll [I_Sum_is < I_Sum_Nominal]);
- Readback voltage (U_AIM) faulty
(U_AIM -> 0V);
- Control frequency is less than minimum allowable control frequency (f_ist -> 0Hz [f_is -> 0Hz]);
- Output stage of TCU (TRES)

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No pressure regulator fault
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system incl. transmission cable
3. Connect transmission test cable
4. Measure resistance of proportional valve (pin 5 to pin 13) Setpoint value: 10 – 15 ohm
5. Measure resistance of proportional valve to ground (pin 13 to ground (KL31) / housing)
Setpoint value: > 10 mohm
6. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.

032



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Circuit of pressure regulator B (DR_B) is interrupted.

Internal designation:

DR_B_Unterbrechung (DR_B_interruption)

Error description:

TCU detects an interruption in the circuit of pressure regulator B. E.g. cable breakage / proportional valve not connected

Error detection by:

- Sum current detection
(I_Summe_ist < I_Summe_Soll [I_Sum_is < I_Sum_Nominal]);
- Readback voltage (U_AIM) faulty
(U_AIM -> 0V);
- Control frequency is less than minimum allowable control frequency (f_ist -> 0Hz [f_is -> 0Hz]);
- Output stage of TCU (TRES)

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No pressure regulator fault
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system incl. transmission cable
3. Connect transmission test cable
4. Measure resistance of proportional valve (pin 5 to pin 12) Setpoint value: 10 - 15 ohm
5. Measure resistance of proportional valve to ground (pin 12 to ground (KL31) / housing)
Setpoint value: > 10 mohm
6. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.

033



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Circuit of pressure regulator D (DR_D) is interrupted.

Internal designation:

DR_D_Unterbrechung (DR_D_interruption)

Error description:

TCU detects an interruption in the circuit of pressure regulator D.

E.g. cable breakage / proportional valve not connected

Error detection by:

- Sum current detection
(I_Summe_ist < I_Summe_Soll [I_Sum_is < I_Sum_Nominal]);
- Readback voltage (U_AIM) faulty
(U_AIM -> 0V);
- Control frequency is less than minimum allowable control frequency (f_ist -> 0Hz [f_is -> 0Hz]);
- Output stage of TCU (TREX)

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No pressure regulator fault
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system incl. transmission cable
3. Connect transmission test cable
4. Measure resistance of proportional valve (pin 5 to pin 22) Setpoint value: 10 - 15 ohm
5. Measure resistance of proportional valve to ground (pin 22 to ground (KL31) / housing)
Setpoint value: > 10 mohm
6. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.

034



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Circuit of pressure regulator E (DR_E) is interrupted.

Internal designation:

DR_E_Unterbrechung (DR_E_interruption)

Error description:

TCU detects an interruption in the circuit of pressure regulator E.

E.g. cable breakage / proportional valve not connected

Error detection by:

- Sum current detection
(I_Summe_ist < I_Summe_Soll [I_Sum_is < I_Sum_Nominal]);
- Readback voltage (U_AIM) faulty
(U_AIM -> 0V);
- Control frequency is less than minimum allowable control frequency (f_ist -> 0Hz [f_is -> 0Hz]);
- Output stage of TCU (TREX)

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No pressure regulator fault
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system incl. transmission cable
3. Connect transmission test cable
4. Measure resistance of proportional valve (pin 5 to pin 24) Setpoint value: 10 - 15 ohm
5. Measure resistance of proportional valve to ground (pin 24 to ground (KL31) / housing)
Setpoint value: > 10 mohm
6. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.

035



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Circuit of pressure regulator F (DR_F) is interrupted.

Internal designation:

DR_F_Unterbrechung (DR_F_interruption)

Error description:

TCU detects an interruption in the circuit of pressure regulator F.

E.g. cable breakage / proportional valve not connected

Error detection by:

- Sum current detection
(I_Summe_ist < I_Summe_Soll [I_Sum_is < I_Sum_Nominal]);
- Readback voltage (U_AIM) faulty
(U_AIM -> 0V);
- Control frequency is less than minimum allowable control frequency (f_ist -> 0Hz [f_is -> 0Hz]);
- Output stage of TCU (TREX)

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No pressure regulator fault
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system incl. transmission cable
3. Connect transmission test cable
4. Measure resistance of proportional valve (pin 5 to pin 19) Setpoint value: 10 - 15 ohm
5. Measure resistance of proportional valve to ground (pin 19 to ground (KL31) / housing)
Setpoint value: > 10 mohm
6. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.

036



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Circuit of pressure regulator WK [torque converter lock-up clutch] (DR_WK) is interrupted.

Internal designation:

DR_WK_Unterbrechung (DR_WK_interruption)

Error description:

TCU detects an interruption in the circuit of pressure regulator WK.

E.g. cable breakage / proportional valve not connected

Error detection by:

- Sum current detection
($I_{\text{Summe_ist}} < I_{\text{Summe_Soll}}$ [$I_{\text{Sum_is}} < I_{\text{Sum_Nominal}}$]);
- Readback voltage (U_AIM) faulty
($U_{\text{AIM}} \rightarrow 0V$);
- Control frequency is less than minimum allowable control frequency ($f_{\text{ist}} \rightarrow 0Hz$ [$f_{\text{is}} \rightarrow 0Hz$]);
- Output stage of TCU (TRES)

System response:

- Disable WK (LuC)

Cancellation condition:

- No pressure regulator fault
- New request WK (LuC)

System check:

1. Switch ignition off
2. Unplug electronic system incl. transmission cable
3. Connect transmission test cable
4. Measure resistance of proportional valve (pin 5 to pin 9) Setpoint value: 10 - 15 ohm
5. Measure resistance of proportional valve to ground (pin 9 to ground (KL31) / housing)
Setpoint value: > 10 mohm
6. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.

037



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Circuit of main pressure regulator (DR_HD) is interrupted.

Internal designation:

DR_HD_Unterbrechung (DR_HD_interruption)

Error description:

TCU detects an interruption in the circuit of main pressure regulator.

E.g. cable breakage / proportional valve not connected

Error detection by:

- Sum current detection
(I_Summe_ist < I_Summe_Soll [I_Sum_is < I_Sum_Nominal]);
- Readback voltage (U_AIM) faulty
(U_AIM -> 0V);
- Control frequency is less than minimum allowable control frequency (f_ist -> 0Hz [f_is -> 0Hz]);
- Output stage of TCU (TRES)

System response:

- Main pressure is increased to the applied value

Cancellation condition:

- No pressure regulator fault
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system incl. transmission cable
3. Connect transmission test cable
4. Measure resistance of proportional valve (pin 5 to pin 10) Setpoint value: 10 - 15 ohm
5. Measure resistance of proportional valve to ground (pin 10 to ground (KL31) / housing)
Setpoint value: > 10 mohm
6. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.

038



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Circuit of pressure regulator of retarder (DR_Ret) is interrupted.

Internal designation:

DR_Ret_Unterbrechung

Error description:

TCU detects an interruption in the circuit of pressure regulator Retarder.

E.g. cable breakage / proportional valve not connected

Error detection by:

- Sum current detection
(I_Summe_ist < I_Summe_Soll [I_Sum_is < I_Sum_Nominal]);
- Readback voltage (U_AIM) faulty
(U_AIM -> 0V);
- Control frequency is less than minimum allowable control frequency (f_ist -> 0Hz [f_is -> 0Hz]);
- Output stage of TCU (TRES)

System response:

- Retarder request and current output of retarder (AIM) will be switched off.

Cancellation condition:

- No pressure regulator fault
- New retarder request

System check:

1. Switch ignition off
2. Unplug electronic system incl. transmission cable
3. Connect transmission test cable
4. Measure resistance of proportional valve (pin 5 to pin 8) Setpoint value: 10 - 15 ohm
5. Measure resistance of proportional valve to ground (pin 8 to ground (KL31) / housing)
Setpoint value: > 10 mohm
6. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.

039



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Circuit of pressure regulator for PTO (DR_NA) is interrupted.

Internal designation:

DR_NA_Unterbrechung (DR_NA_interruption)

Error description:

TCU detects an interruption in the circuit of pressure regulator PTO.

E.g. cable breakage / proportional valve not connected

Error detection by:

- Sum current detection
(I_Summe_ist < I_Summe_Soll [I_Sum_is < I_Sum_Nominal]);
- Readback voltage (U_AIM) faulty
(U_AIM -> 0V);
- Control frequency is less than minimum allowable control frequency (f_ist -> 0Hz [f_is -> 0Hz]);
- Output stage of TCU (TREX)

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No pressure regulator fault
- Ignition off/on

System check:

None yet, as applications with a PTO are not feasible at this point.

040



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Circuit of pressure regulator G (DR_G) is interrupted.

Internal designation:

DR_G_Unterbrechung (DR_G_interruption)

Error description:

TCU detects an interruption in the circuit of pressure regulator G.

E.g. cable breakage / proportional valve not connected

Error detection by:

- Sum current detection
(I_Summe_ist < I_Summe_Soll [I_Sum_is < I_Sum_Nominal]);
- Readback voltage (U_AIM) faulty
(U_AIM -> 0V);
- Control frequency is less than minimum allowable control frequency (f_ist -> 0Hz [f_is -> 0Hz]);
- Output stage of TCU (TREX)

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No pressure regulator fault
- Ignition off/on

System check:

None yet, as applications with a G-valve are not feasible at this point.

041



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Pressure regulator A (DR_A) has a short circuit on another output (AIM).

Internal designation:

DR_A_ Kurzschluss AIM

Error description:

The circuit of pressure regulator A (DR_A) has a short on the circuit and/or output (AIM) of another pressure regulator.

Error detection by:

- Sum current detection
(I_Summe_ist > I_Summe_Soll [I_Sum_is > I_Sum_Nominal]);
- Control frequency is greater than maximum allowable control frequency (f_ist > f_soll [f_is > f_nominal]);

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No fault in the circuit of the pressure regulator
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system incl. transmission cable
3. Connect transmission test cable
4. Measure resistance of proportional valve to other proportional valves (pin 13 to pin 9/12/19/8/22/10/24) Setpoint value: 20 - 30 ohm
5. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.

042



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Pressure regulator B (DR_B) has a short circuit on another output (AIM).

Internal designation:

DR_B_ Kurzschluss AIM

Error description:

The circuit of pressure regulator B (DR_B) has a short on the circuit and/or output (AIM) of another pressure regulator.

Error detection by:

- Sum current detection
(I_Summe_ist > I_Summe_Soll [I_Sum_is > I_Sum_Nominal]);
- Control frequency is greater than maximum allowable control frequency (f_ist > f_soll [f_is > f_nominal]);

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No fault in the circuit of the pressure regulator
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system incl. transmission cable
3. Connect transmission test cable
4. Measure resistance of proportional valve to other proportional valves (pin 12 to pin 9/13/19/8/22/10/24) Setpoint value: 20 - 30 ohm
5. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.

043



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Pressure regulator D (DR_D) has a short circuit on another output (AIM).

Internal designation:

DR_D_ Kurzschluss AIM

Error description:

The circuit of pressure regulator D (DR_D) has a short on the circuit and/or output (AIM) of another pressure regulator.

Error detection by:

- Sum current detection
(I_Summe_ist > I_Summe_Soll [I_Sum_is > I_Sum_Nominal]);
- Control frequency is greater than maximum allowable control frequency (f_ist > f_soll [f_is > f_nominal]);

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No fault in the circuit of the pressure regulator
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system incl. transmission cable
3. Connect transmission test cable
4. Measure resistance of proportional valve to other proportional valves (pin 22 to pin 9/12/19/8/13/10/24) Setpoint value: 20 - 30 ohm
5. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.

044



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Pressure regulator E (DR_E) has a short circuit on another output (AIM).

Internal designation:

DR_E_ Kurzschluss AIM

Error description:

The circuit of pressure regulator E (DR_E) has a short on the circuit and/or output (AIM) of another pressure regulator.

Error detection by:

- Sum current detection
(I_Summe_ist > I_Summe_Soll [I_Sum_is > I_Sum_Nominal]);
- Control frequency is greater than maximum allowable control frequency (f_ist > f_soll [f_is > f_nominal]);

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No fault in the circuit of the pressure regulator
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system incl. transmission cable
3. Connect transmission test cable
4. Measure resistance of proportional valve to other proportional valves (pin 24 to pin 9/12/19/8/22/10/13) Setpoint value: 20 - 30 ohm
5. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.

045



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Pressure regulator F (DR_F) has a short circuit on another output (AIM).

Internal designation:

DR_F_ Kurzschluss AIM

Error description:

The circuit of pressure regulator F (DR_F) has a short on the circuit and/or output (AIM) of another pressure regulator.

Error detection by:

- Sum current detection
(I_Summe_ist > I_Summe_Soll [I_Sum_is > I_Sum_Nominal]);
- Control frequency is greater than maximum allowable control frequency (f_ist > f_soll [f_is > f_nominal]);

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No fault in the circuit of the pressure regulator
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system incl. transmission cable
3. Connect transmission test cable
4. Measure resistance of proportional valve to other proportional valves (pin 19 to pin 9/12/13/8/22/10/24) Setpoint value: 20 - 30 ohm
5. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.

046



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Pressure regulator WK [torque converter lock-up clutch] (DR_WK) has a short circuit on another output (AIM).

Internal designation:

DR_WK_ Kurzschluss AIM

Error description:

The circuit of pressure regulator WK (DR_WK) has a short on the circuit and/or output (AIM) of another pressure regulator.

Error detection by:

- Sum current detection
(I_Summe_ist > I_Summe_Soll [I_Sum_is > I_Sum_Nominal]);
- Control frequency is greater than maximum allowable control frequency (f_ist > f_soll [f_is > f_nominal]);

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No fault in the circuit of the pressure regulator
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system incl. transmission cable
3. Connect transmission test cable
4. Measure resistance of proportional valve to other proportional valves (pin 9 to pin 13/12/19/8/22/10/24) Setpoint value: 20 - 30 ohm
5. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.

047



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Main pressure regulator (DR_HD) has a short circuit on another output (AIM).

Internal designation:

DR_HD_ Kurzschluss AIM

Error description:

The circuit of main pressure regulator (DR_HD) has a short on the circuit and/or output (AIM) of another pressure regulator.

Error detection by:

- Sum current detection
(I_Summe_ist > I_Summe_Soll [I_Sum_is > I_Sum_Nominal]);
- Control frequency is greater than maximum allowable control frequency (f_ist > f_soll [f_is > f_nominal]);

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No fault in the circuit of the pressure regulator
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system incl. transmission cable
3. Connect transmission test cable
4. Measure resistance of proportional valve to other proportional valves (pin 10 to pin 9/12/19/8/22/13/24) Setpoint value: 20 - 30 ohm
5. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.

048



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Pressure regulator of retarder (DR_Ret) has a short circuit on another output (AIM).

Internal designation:

DR_Ret_ Kurzschluss AIM

Error description:

The circuit of pressure regulator of retarder (DR_Ret) has a short on the circuit and/or output (AIM) of another pressure regulator.

Error detection by:

- Sum current detection
(I_Summe_ist > I_Summe_Soll [I_Sum_is > I_Sum_Nominal]);
- Control frequency is greater than maximum allowable control frequency (f_ist > f_soll [f_is > f_nominal]);

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No fault in the circuit of the pressure regulator
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system incl. transmission cable
3. Connect transmission test cable
4. Measure resistance of proportional valve to other proportional valves (pin 8 to pin 9/12/19/13/22/10/24) Setpoint value: 20 - 30 ohm
5. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.

049



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Pressure regulator of PTO (DR_NA) has a short circuit on another output (AIM).

Internal designation:

DR_NA_ Kurzschluss AIM

Error description:

The circuit of pressure regulator of PTO (DR_NA) has a short on the circuit and/or output (AIM) of another pressure regulator.

Error detection by:

- Sum current detection
($I_{\text{Summe_ist}} > I_{\text{Summe_Soll}}$ [$I_{\text{Sum_is}} > I_{\text{Sum_Nominal}}$]);
- Control frequency is greater than maximum allowable control frequency ($f_{\text{ist}} > f_{\text{soll}}$ [$f_{\text{is}} > f_{\text{nominal}}$]);

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No fault in the circuit of the pressure regulator
- Ignition off/on

System check:

None yet, as applications with a PTO are not feasible at this point.

050



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Pressure regulator G (DR_G) has a short circuit on another output (AIM).

Internal designation:

DR_G_ Kurzschluss AIM

Error description:

The circuit of pressure regulator G (DR_G) has a short on the circuit and/or output (AIM) of another pressure regulator.

Error detection by:

- Sum current detection
(I_Summe_ist > I_Summe_Soll [I_Sum_is > I_Sum_Nominal]);
- Control frequency is greater than maximum allowable control frequency (f_ist > f_soll [f_is > f_nominal]);

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No fault in the circuit of the pressure regulator
- Ignition off/on

System check:

None yet, as applications with a G-valve are not feasible at this point.

051



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Positive supply pins of all proportional valves (VPS) have sum current fault (temporary fault)

Internal designation:

Positive supply pins of all proportional solenoids (VPS) has sum current fault (temporary fault)

Error description:

The TCU identifies the fault at the positive supply pin of the proportional valve, but cannot uniquely designate the fault during subsequent active diagnostics. (Temporary fault)

Error detection by:

a) Sum current too high (for ground short);

TREX measures current via shunt only from KL 30

(limit 11.3 to 15 A dep. on U_Ref.)

Passive diagnosis: "HSD Short to ground",

If I_Summe_Fehler < 12..20 A then SW-sum current recognition possible.

b) Sum current too low (Output highly resistive)

Recognized at 32 V starting at 16 ohm.

Current fault to be identified.

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No error
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system incl. transmission cable
3. Connect transmission test cable
4. Measure resistance of proportional valves power supply to ground (KL31)/housing (pin 5 and pin 3 to ground (KL31)/housing) Setpoint value: >10 mohm
5. Measure resistance of both positive supply pins (pin 5 to pin 3) Setpoint value: 0 ohm
6. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the proportional valves.

052



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Positive supply pins of all proportional valves (VPS) have a short circuit to ground.

Internal designation:

Positive supply pins of all proportional solenoids (VPS); Short to GND

Error description:

TCU detects a short circuit of positive supply pins of proportional valves to ground. E.g. chafe points on the internal cable harness

Error detection by:

- Sum current detection ($I_Summe_Ist > I_Summe_Soll + Offset$ and control frequency $\rightarrow 0Hz$)
- $U_VPS < U_VPS_min$
- Output stage of TCU (TREX)

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No fault VPS
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system incl. transmission cable
3. Connect transmission test cable
4. Measure resistance of proportional valves (VPS) to ground (KL31) / housing (pin 5 and pin 3 to ground (KL31) / housing) Setpoint value: $>10\text{ mohm}$
5. TCU cable $\rightarrow$ test transmission

In the event of deviations from the nominal value, check the wiring and the component.

053



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Electric fault turbine speed

Internal designation:

EF1 turbine rpm sensor electric fault

Error description:

Turbine rpm sensor indicates fault or TCU receives no signal or implausible signal

Possible fault causes:

- Voltage at speed input (EF1) of TCU too low (EF_Voltage low)
- Voltage at speed input (EF1) of TCU too high (EF_Voltage high)
- Speed input of TCU (EF1) has a short to positive pin (EF_Short to Plus)
- Speed input of TCU (EF1) has a short to ground / housing (EF_Short to ground)
- Interruption on speed input of TCU (EF1) (EF_Open load)

Error detection by:

- Return read voltage outside valid value

System response:

- Turbine speed (n_{Tu}) will be substituted from n_{Mot} or $n_{Ab} \cdot I_{Gang}$, depending on its state
- Increased fuel consumption
- Reduced gearshifting quality
- Limited driving operation
- No NB (Neutral Ready)
- AIS switched off
- Limited engine torque
- Shifting pressure adaption switched off
- Shifting pressure of WK close controlled only
- Increased main pressure
- WK short-term opening and WK closing during gear-shifting locked
- Shifting point calculation based on default values
- Tractive force advance calculation switched off
- Subsequent shift preparation during gearshifting locked
- TOPO switched off

Cancellation condition:

- Ignition off/on

System check:

1. Switch ignition off
2. Unplug transmission electronics
3. Connect connector block between TCU and transmission
4. Switch ignition on
5. Measure voltage between pin 2 (EF1) and pin 6 (AU1) Setpoint value: 5 V
6. Switch ignition off
7. Unplug electronic system
8. Measure resistance between pin 6 (AU1) and ground / housing
Setpoint value: >10 mohm
9. Measure resistance between pin 2 (EF1) and ground / housing Setpoint value: >10 mohm

In the event of deviations from the nominal value, check the wiring, the component, and the TCU.

054



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Hardware input TCU (EF1) turbine speed sensor fault

Internal designation:

EF1 turbine rpm sensor fault hardware input

Error description:

The output stage of the TCU (TREX) recognizes and signals a hardware failure of the turbine rpm sensor

Error detection by:

- Output stage of the TCU (TREX) signals a hardware failure

System response:

- Turbine speed (n_Tu) will be substituted from n_Mot or n_Ab*I_Gang, depending on its state
- Hold gear, no gear change
- Increased fuel consumption
- Reduced gearshifting quality
- Limited driving operation
- No NB (Neutral Ready)
- AIS switched off
- Limited engine torque
- Shifting pressure adaption switched off
- Shifting pressure of WK close controlled only
- Increased main pressure
- WK short-term opening and WK closing during gear-shifting locked
- Shifting point calculation based on default values
- Tractive force advance calculation switched off
- Subsequent shift preparation during gearshifting locked
- TOPO switched off

Cancellation condition:

- No turbine rpm fault
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug transmission electronics
3. Connect connector block between TCU and transmission
4. Switch ignition on

5. Measure voltage between pin 2 (EF1) and pin 6 (AU1) Setpoint value: 5 V
6. Switch ignition off
7. Unplug electronic system
8. Measure resistance between pin 6 (AU1) and ground / housing
Setpoint value: >10 mohm
9. Measure resistance between pin 2 (EF1) and ground / housing Setpoint value: >10 mohm

In the event of deviations from the nominal value, check the wiring, the component, and the TCU.

055



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Unreal frequency drop at EF1 turbine speed (Fall off)

Internal designation:

EF1 n_Tu signal indicates unreal frequency drop

Error description:

Unrealistic frequency drop of turbine speed at EF1 to 0 Hz in x seconds (no fault for Geberausfall_unecht due to heavy braking)

Error detection by:

- rpm drop to 0 Hz in x seconds

System response:

- Turbine speed (n_Tu) will be substituted from n_Mot or n_Ab*I_Gang, depending on its state
- Hold gear, no gear change
- Increased fuel consumption
- Reduced gearshifting quality
- Limited driving operation:
- No NB (Neutral Ready)
- AIS switched off
- Limited engine torque
- Shifting pressure adaption switched off
- Shifting pressure of WK close controlled only
- Increased main pressure
- WK short-term opening and WK closing during gear-shifting locked
- Shifting point calculation based on default values
- Tractive force advance calculation switched off
- Subsequent shift preparation during gearshifting locked
- TOPO switched off

Cancellation condition:

- No turbine rpm fault
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug transmission electronics
3. Connect connector block between TCU and transmission
4. Switch ignition on

5. Measure voltage between pin 2 (EF1) and pin 6 (AU1) Setpoint value: 5 V
6. Switch ignition off
7. Unplug electronic system
8. Measure resistance between pin 6 (AU1) and ground / housing
Setpoint value: >10 mohm
9. Measure resistance between pin 2 (EF1) and ground / housing Setpoint value: >10 mohm

In the event of deviations from the nominal value, check the wiring, the component, and the TCU.

056



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Electronic fault output speed

Internal designation:

EF2 output rpm sensor electronic fault

Error description:

Turbine rpm sensor indicates fault or TCU receives no signal or implausible signal

Possible fault causes:

- Voltage at speed input (EF2) of TCU too low (EF_Voltage low)
- Voltage at speed input (EF2) of TCU too high (EF_Voltage high)
- Speed input of TCU (EF2) has a short to positive pin (EF_Short to Plus)
- Speed input of TCU (EF2) has a short to ground / housing (EF_Short to ground)
- Interruption on speed input of TCU (EF2) (EF_Open load)

Error detection by:

- Return read voltage outside valid value

System response:

- Output speed (n_{Ab}) will be substituted from n_{Tu} / I_{Gang}
- Increased fuel consumption
- Reduced gearshifting quality
- Limited driving operation
- No NB (Neutral Ready)
- AIS switched off
- Limited engine torque
- Engine brake switched off
- Retarder torque limited
- For gear requests, only gearshifts into "high gears"; after that, downshifts into suitable gear
- Reverse gear only permitted when the brake pressure is high and a forward gear has been engaged ($n_{Tu}=0$)
- Shifting pressure adaption switched off
- Increased main pressure
- WK short-term opening and WK closing during gear-shifting locked
- Shifting point calculation based on default values
- Tractive force advance calculation switched off
- Subsequent shift preparation during gearshifting locked
- TOPO switched off

Cancellation condition:

- No output rpm fault
- Ignition off / on

System check:

1. Switch ignition off
2. Unplug transmission electronics
3. Connect connector block between TCU and transmission
4. Switch ignition on
5. Measure voltage between pin 10 (EF2) and pin 15 (AU2) Setpoint value: 5 V
6. Switch ignition off
7. Unplug electronic system
8. Measure resistance between pin 15 (AU2) and ground / housing Setpoint value: >10 mohm
9. Measure resistance between pin 10 (EF2) and ground / housing Setpoint value: >10 mohm

In the event of deviations from the nominal value, check the wiring, the component, and the TCU.

057



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Hardware input TCU (EF2) output speed sensor fault

Internal designation:

EF2 output rpm sensor fault hardware input

Error description:

The output stage of the TCU (TREX) recognizes and signals a hardware failure of the output rpm sensor

Error detection by:

Output stage of the TCU (TREX) signals a hardware failure

System response:

- Output speed (n_{Ab}) will be substituted from n_{Tu} / I_{Gang}
- Hold gear, no gear change
- Increased fuel consumption
- Reduced gearshifting quality
- Limited driving operation:
- No NB (Neutral Ready)
- AIS switched off
- Limited engine torque
- Engine brake switched off
- Retarder torque limited
- For gear requests, only gearshifts into "high gears"; after that, downshifts into suitable gear
- Reverse gear only permitted when the brake pressure is high and a forward gear has been engaged ($n_{Tu}=0$)
- Shifting pressure adaption switched off
- Increased main pressure
- WK short-term opening and WK closing during gear-shifting locked
- Shifting point calculation based on default values
- Tractive force advance calculation switched off
- Subsequent shift preparation during gearshifting locked
- TOPO switched off

Cancellation condition:

- No output rpm fault
- Ignition off/on
-

System check:

1. Switch ignition off
2. Unplug transmission electronics
3. Connect connector block between TCU and transmission
4. Switch ignition on
5. Measure voltage between pin 10 (EF2) and pin 15 (AU2) Setpoint value: 5 V
6. Switch ignition off
7. Unplug electronic system
8. Measure resistance between pin 15 (AU2) and ground / housing Setpoint value: >10 mohm
9. Measure resistance between pin 10 (EF2) and ground / housing Setpoint value: >10 mohm

In the event of deviations from the nominal value, check the wiring, the component, and the TCU.

058



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Unreal frequency drop at EF2 output speed (Fall off)

Internal designation:

EF2 n_Ab signal indicates unreal frequency drop

Error description:

Unrealistic frequency drop of output speed at EF2 to 0 Hz in x seconds (no fault for Geberausfall_unecht due to heavy braking)

Error detection by:

Rpm drop to 0Hz in x seconds only possible when driving

System response:

- Output speed (n_Ab) will be substituted from n_Tu / I_Gang
- Reverse gear only permitted when the brake pressure is high and a forward gear has been engaged (n_Tu=0)
- Increased fuel consumption
- Reduced gearshifting quality
- Limited driving operation:
- No NB (Neutral Ready)
- AIS switched off
- Limited engine torque
- Engine brake switched off
- Retarder torque limited
- For gear requests, only gearshifts into "high gears"; after that, downshifts into suitable gear
- Reverse gear only permitted when the brake pressure is high and a forward gear has been engaged (n_Tu=0)
- Shifting pressure adaption switched off
- Increased main pressure
- WK short-term opening and WK closing during gear-shifting locked
- Shifting point calculation based on default values
- Tractive force advance calculation switched off
- Subsequent shift preparation during gearshifting locked
- TOPO switched off

Cancellation condition:

- No output rpm fault
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug transmission electronics
3. Connect connector block between TCU and transmission
4. Switch ignition on
5. Measure voltage between pin 10 (EF2) and pin 15 (AU2) Setpoint value: 5 V
6. Switch ignition off
7. Unplug electronic system
8. Measure resistance between pin 15 (AU2) and ground / housing Setpoint value: >10 mohm
9. Measure resistance between pin 10 (EF2) and ground / housing Setpoint value: >10 mohm

In the event of deviations from the nominal value, check the wiring, the component, and the TCU.

059



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Checksum of selected data field wrong (flash)

Internal designation:

Checksum of selected data field wrong (Flash)

Error description:

The checksum of the selected data field is not correct.

Error detection by:

Software / if ignition on. One possible cause for this is premature termination of the control unit run following ignition OFF as a result of a premature voltage drop on terminal 30.

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- Correct checksum
- Ignition off/on

System check:

No hardware check possible.

Check software, reload, if necessary.

060



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Driving program configuration is not available or not released.

Internal designation:

The block number entered by the customer for the driving program configuration is not available or not released

Error description:

The block number entered for the driving program configuration is not available or not released.

Error detection by:

Software

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- Activate enabled driving program configuration in EEPROM
- Ignition off/on

System check:

Checking of the driving program configuration in EEPROM

061



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Terminal 15 signal is missing even though the engine is running

Internal designation:

U_KI_15 signal is missing even though the engine is still running (not plausible)

Error description:

The voltage at terminal 15 is missing (ignition on), even though the engine is still running. If in the case of open circuit / not plausible KI 15 the engine is additionally being switched off, TCU goes into hunting mode and is deactivated.

After this, TCU remains switched off as long as KI 15 is missing.

As a result, the engine cannot be started because driving-switch neutral position is not available.

Error detection by:

Apply voltage at KL 15 < 4V for 5 seconds and the engine runs.

System response:

none

Cancellation condition:

none

System check:

Checking of the vehicle wiring (line, ignition lock, relay, plug-in connections...).

Terminal 15 to TCU Pin 25, low source (ground/source) at pins 17 and 18.

062



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Central cut-off unit (ZAE) does not cut off.

Internal designation:

Central cut-off unit (ZAE) no longer cuts off.

Error description:

The central cut-off unit (ZAE) no longer cuts off.

Error detection by:

ZAE test; during start, ZAE is tested by a brief lockup disable.

System response:

- All current outputs are switched off (internally)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No error present at central cut-off unit (ZAE)
- Ignition off/on

System check:

Check the TCU.

063



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Non-permissible shift element combination

Internal designation:

Non-permissible shift element combination

Error description:

This recognizes shift elements carrying too high currents that are not part of the gear.
Depending on the shift phase, a third SE is permissible up to a defined current.

Error detection by:

The shift elements monitor (SE_SMON) recognizes that more than two shift elements put out a high current for a non-permissible length of time

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

Ignition off/on

System check:

Check the TCU and the software

064



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

TCU power supply (KL30) undervoltage

Internal designation:

KL_30 TCU power supply failure low

Error description:

Power supply of TCU (KL_30) has undervoltage. $U_{Batt} > 16V$ Error does not apply to state "Start engine". Below 16 V, currents (I_{AIM}) cannot be guaranteed.

The fault applies to creeping voltage drops.

Error detection by:

TCU - input wiring / software

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No undervoltage at KL30
- Speed range selector Neutral

System check:

1. Switch ignition off
2. Connect connector block between TCU and vehicle
3. Switch ignition on
4. Measure voltage between pin 8 (VP1) and pin 17 (VM1) Setpoint value: $> 16 V$

In the event of deviations from the nominal value, check the wiring and the power supply (on the vehicle).

065



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

TCU power supply (KL30) overvoltage

Internal designation:

KL_30 TCU power supply failure high

Error description:

Power supply of TCU (KL_30) has overvoltage. $U_{Batt} > 38V$

Error does not apply to status "Start engine".

Difference from error 68:

The voltage increase is faster for error 68.

Error detection by:

TCU - input wiring / software

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No overvoltage at KL_30
- Ignition off/on

System check:

1. Switch ignition off
2. Connect connector block between TCU and vehicle
3. Switch ignition on
4. Measure voltage between pin 8 (VP1) and pin 17 (VM1) Setpoint value: $< 38 V$

In the event of deviations from the nominal value, check the power supply (on the vehicle).

066



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Key and driving direction signal from the speed range selector message are not plausible

Internal designation:

Key and driving direction signal from the speed range selector message are not plausible regarding driving direction

Error description:

Speed range selector message contains a key signal that does not match the driving direction signal (also message) or message failure or signal failure

Error detection by:

Software

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- Key signal matches driving direction signal; message and/or signal present,
- speed range selector Neutral

System check:

Check speed range selector

Check ZF-CAN hardware

1. Switch ignition off
2. Connect connector block between TCU and vehicle
3. Measure resistance of CAN bus (pin 2 to pin 11) Setpoint value: 60 ohm

In the event of deviations from the nominal value, check the wiring and components.

067



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Short-term overvoltage at the TCU KL_30 (temporary fault)

Internal designation:

KL_30 TCU short-term overvoltage (temporary fault with temporary load shedding)

Error description:

Short-term overvoltage at TCU KL_30 ($U_{\text{Batt}} > 38 \text{ V}$).

Fault does not apply to status "Start engine".

Error detection by:

TCU - input wiring / software

System response:

Temporary load shedding; i. e. central switch-off unit ZAE temporarily open.

Cancellation condition:

Fault drop

System check:

1. Switch ignition off
2. Connect connector block between TCU and vehicle
3. Switch ignition on
4. Measure voltage between pin 8 (VP1) and pin 17 (VM1) Setpoint value: $< 38 \text{ V}$

In the event of deviations from the nominal value, check the wiring and the power supply (on the vehicle).

068



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

KL_30 overvoltage at the TCU with subsequent load shedding

Internal designation:

KL_30 TCU overvoltage (fault with load shedding)

Error description:

Power supply of TCU (KL_30) has overvoltage. $U_{Batt} > 38V$

Fault does not apply to status "Start engine".

Difference from error 65:

The voltage increase is slower for error 65.

Error detection by:

If U_{Batt} (approx 0.2s) $> 38 V$;

fault is recognized by hardware (TCU – input wiring) and reported to software.

However, not immediately after ignition on and not immediately after ignition off (negative feed from on-board electronics possible; inductivity)

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No voltage fault
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug transmission electronics
3. Connect connector block between TCU and transmission
4. Switch ignition on
5. Measure voltage between pin 8 (VP1) and pin 17 (VM1)
Setpoint value: $< 38V$ (watch for voltage peaks)

In the event of deviations from the nominal value, check the power supply (on the vehicle).

069



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

TCU – temperature sensor failure; high temperature

Internal designation:

TCU temperature sensor failure low

U < Lower limit (corresponds to high temperature)

Error description:

TCU voltage – temperature sensor has fallen below lower failure limit, corresponds to >150°C.

Error detection by:

ADC value warm < 126, corresponds to >150°C

System response:

none

Cancellation condition:

ADC value > 126.

corresponds to < 150°C

System check:

Check the TCU

070



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

TCU – temperature sensor failure; high temperature

Internal designation:

TCU temperature sensor failure high

U > Upper limit (corresponds to low temperature)

Error description:

TCU voltage – temperature sensor has exceeded the upper failure limit, corresponds to < -30°C, and sump temperature > 50°C

Error detection by:

ADC value cold > 1009,
corresponds to < -30°C

System response:

none

Cancellation condition:

ADC value < 1009,
corresponds to > -30°C

System check:

Check the TCU

071



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Temperature sensor retarder / converter (ER2) failure high temperature

Internal designation:

ER2 retarder/ converter temperature sensor failure low

U < Lower limit (corresponds to high temperature)

Error description:

Temperature sensor of retarder / converter (ER2) has exceeded the lower failure limit, corresponds to > 195°C

Error detection by:

ADC value warm < 224,
corresponds to > 195°C

System response:

- Retarder torque limited

Cancellation condition:

- ADC value > 224,
- New retarder request

System check:

1. Switch ignition off
2. Unplug electronic system
3. Connect transmission test cable
4. Measure resistance of temperature sensor (pin 18) to sensor ground (pin 17).
Setpoint value: 20°C -> approx. 120 kohm
80°C -> approx. 12 kohm
140°C -> approx. 2 kohm

See temperature sensor data sheet for additional values.

5. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.

072



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Temperature sensor retarder / converter (ER2) failure low temperature

Internal designation:

ER2 retarder/ converter temperature sensor failure high

U > Upper limit (corresponds to low temperature)

Error description:

Temperature sensor of retarder / converter (ER2) has exceeded the upper failure limit, corresponds to < 23°C and the sump temperature > 50°C

Error detection by:

ADC value cold > 1000,

corresponds to < 23°C and T_Sump > 50°C

System response:

- Retarder torque limited

Cancellation condition:

- ADC value < 1000
- New retarder request

System check:

1. Switch ignition off
2. Unplug electronic system
3. Connect transmission test cable
4. Measure resistance of temperature sensor (pin 18) to sensor ground (pin 17).
Setpoint value: 20°C -> approx. 120 kohm
80°C -> approx. 12 kohm
140°C -> approx. 2 kohm
See temperature sensor data sheet for additional values.
5. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.

073



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Temperature sensor sump (ER1) failure high temperature

Internal designation:

ER1 sump temperature sensor failure low

U < Lower limit (corresponds to high temperature)

Error description:

Temperature sensor of sump (ER1) has fallen below the lower failure limit, corresponds to > 175°C

Error detection by:

ADC value warm < 95,
corresponds to > 175°C

System response:

- No NB (Neutral Ready)
- AIS switched off
- Limited engine torque
- Retarder torque limited
- Shifting pressure adaption switched off

Cancellation condition:

- ADC value > 95,
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system
3. Connect transmission test cable
4. Measure resistance of temperature sensor (pin 4) to sensor ground (pin 15).
Setpoint value: 20°C -> approx. 62.3 kohm
80°C -> approx. 6.3 kohm
140°C -> approx. 1.2 kohm

Additional values see temperature sensor data sheet.

TCU cable -> test transmission

Note:

The voltage at PIN cannot be used, as the voltage is split internally.

In the event of deviations from the nominal value, check the wiring and the component.

074



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Temperature sensor sump (ER1) failure low temperature

Internal designation:

ER1 sump temperature sensor failure high

U > Upper limit (corresponds to low temperature)

Error description:

Temperature sensor of sump (ER1) has exceeded the upper failure limit, corresponds to < -40°C

Error detection by:

ADC value cold > 968,

corresponds to <-40°

System response:

- No NB (Neutral Ready)
- AIS switched off
- Limited engine torque
- Retarder torque limited
- Shifting pressure adaption switched off

Cancellation condition:

- ADC – value < 968,
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system
3. Connect transmission test cable
4. Measure resistance of temperature sensor (pin 4) to sensor ground (pin 15).
Setpoint value: 20°C -> approx. 62.3 kohm
80°C -> approx. 6.3 kohm
140°C -> approx. 1.2 kohm
See temperature sensor data sheet for additional values.
5. TCU cable -> test transmission

Note:

The voltage at PIN cannot be used, as the voltage is split internally.

In the event of deviations from the nominal value, check the wiring and the component.

075



Error description

Project: EcoLife

Basic program AP63 / Step 1.1
status:

Error:

ER3 cooling water temperature sensor failure low

Internal designation:

ER3 cooling water temperature sensor failure low

Error description:

Currently there is no sensor installed.

Error detection by:

Not active

System response:

Not active

Cancellation condition:

System check:

Not possible

076



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

ER3 cooling water temperature sensor failure high

Internal designation:

ER3 cooling water temperature sensor failure high

Error description:

Currently there is no sensor installed.

Error detection by:

Not active

System response:

Not active

Cancellation condition:

System check:

Not possible

077



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Temperature TCU is too low

Internal designation:

Temperature TCU is too low

(Fault is unrealistic; diagnosis switched off via data field)

Error description:

Temperature TCU is too low

Error detection by:

Not active

System response:

Not active

Cancellation condition:

System check:

Not possible

078



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

TCU – temperature is too high

Internal designation:

Temperature off TCU is too high

Error description:

The temperature measured by the TCU temperature sensor has been higher than permitted for a specified time.

Error detection by:

TCU - temperature sensor detects a temperature > 138°C for a longer period of time.
(T_ECU_Temperatur > TEW_PCB_zul.)

System response:

none

Cancellation condition:

- TCU– temperature < 138°C
- Ignition off/on

System check:

Check TCU temperature with diagnosis tool

079



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Development tool active

Internal designation:

Transmission development tool has been activated (not relevant for volume production)

Error description:

A development tool is active

Error detection by:

Software

System response:

Retarder not effective.

Cancellation condition:

Remove development tool

System check:

Software is to be checked whether it is up to date

080



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Power supply turbine speed sensor (AU_1) short circuit to ground (GND)

Internal designation:

U_AU1 n_Tu sensor power supply has a short circuit to ground (GND)

Error description:

The power supply of the turbine speed sensor (AU_1 / +5V) has a short to ground (KL31) / housing

Error detection by:

TCU: $U_{AU1} < 4 \text{ V}$

System response:

- Turbine speed (n_{Tu}) will be substituted from n_{Mot} or $n_{Ab} \cdot I_{Gang}$, depending on its state
- Hold gear, no gear change
- Increased fuel consumption
- Reduced gearshifting quality
- Limited driving operation:
- No NB (Neutral Ready)
- AIS switched off
- Limited engine torque
- Shifting pressure adaption switched off
- Shifting pressure of WK close controlled only
- Increased main pressure
- WK short-term opening and WK closing during gear-shifting locked
- Shifting point calculation based on default values
- Tractive force advance calculation switched off
- Subsequent shift preparation during gearshifting locked
- TOPO switched off

Cancellation condition:

- No turbine rpm fault
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system
3. Connect transmission test cable
4. Measure resistance of power supply cable to ground / housing.

(Pin 23 to KL31 / housing)

Setpoint value: > 10 mohm

5. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.

081



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Power supply turbine speed sensor (AU_1) short circuit to plus/high source [+] supply (VPS)

Internal designation:

U_AU1 n_Tu sensor power supply short circuit to plus/high source [+] supply (VPS)

Error description:

The power supply of the turbine speed sensor (AU_1 / +5V) has a short circuit to plus/high source [+] supply (VPS)

Error detection by:

TCU ($U_{AU1} > 5.5 \text{ V}$)

System response:

- Turbine speed (n_{Tu}) will be substituted from n_{Mot} or $n_{Ab} \cdot I_{Gang}$, depending on its state
- Hold gear, no gear change
- Increased fuel consumption
- Reduced gearshifting quality
- Limited driving operation:
- No NB (Neutral Ready)
- AIS switched off
- Limited engine torque
- Shifting pressure adaption switched off
- Shifting pressure of WK close controlled only
- Increased main pressure
- WK short-term opening and WK closing during gear-shifting locked
- Shifting point calculation based on default values
- Tractive force advance calculation switched off
- Subsequent shift preparation during gearshifting locked
- TOPO switched off

Cancellation condition:

- No turbine rpm fault
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system
3. Connect transmission test cable
4. Measure resistance of supply line to VPS of proportional valves (pin 3 to pin 23) Setpoint

value: > 10 mohm

5. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.

082



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Power supply turbine speed sensor (AU_1) interruption

Internal designation:

U_AU1 n_Tu sensor voltage supply interruption inside the TCU (Interruption outside the TCU can only be registered on signal side and thus displayed as n_Tu- error 53).

Error description:

There is an interruption in the power supply of the turbine rpm sensor (AU_1). Interruption is mostly in the TCU as interruption on the outside can only be registered on signal side and leads to error 53.

Error detection by:

TCU internal: $U_{AU1} < 4V$;

TCU external: Can only be recognized on signal side (EF1) -> error 53

System response:

- Turbine speed (n_Tu) will be substituted from n_Mot or n_Ab*I_Gang, depending on its state
- Hold gear, no gear change
- Increased fuel consumption
- Reduced gearshifting quality
- Limited driving operation
- No NB (Neutral Ready)
- AIS switched off
- Limited engine torque
- Shifting pressure adaption switched off
- Shifting pressure of WK close controlled only
- Increased main pressure
- WK short-term opening and WK closing during gear-shifting locked
- Shifting point calculation based on default values
- Tractive force advance calculation switched off
- Subsequent shift preparation during gearshifting locked
- TOPO switched off

Cancellation condition:

- No turbine rpm fault
- Ignition off/on

System check:

1. Switch ignition off

2. Unplug transmission electronics
3. Connect connector block between TCU and transmission
4. Switch ignition on
5. Measure voltage between pin 2 (EF1) and pin 6 (AU1) Setpoint value: 5 V
6. Switch ignition off
7. Unplug electronic system
8. Measure resistance between pin 6 (AU1) and ground / housing
Setpoint value: >10 mohm
9. Measure resistance between pin 2 (EF1) and ground / housing Setpoint value: >10 mohm

In the event of deviations from the nominal value, check the wiring and the component.

083



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Power supply turbine speed sensor (AU_1) interruption

Internal designation:

U_AU2 n_Ab sensor power supply has a short circuit to ground (GND)

Error description:

The power supply of the output speed sensor (AU_2 / +5V) has a short to ground (KL31) / housing

Error detection by:

TCU: $U_{AU2} < 4 \text{ V}$

System response:

- Output speed (n_Ab) will be substituted from n_Tu / i_Gang
- Hold gear, no gear change
- Increased fuel consumption
- Reduced gearshifting quality
- Limited driving operation
- No NB (Neutral Ready)
- AIS switched off
- Limited engine torque
- Engine brake switched off
- Retarder torque limited
- For gear requests, only gearshifts into "high gears"; after that, downshifts into suitable gear
- Reverse gear only permitted when the brake pressure is high and a forward gear has been engaged (n_Tu=0)
- Shifting pressure adaption switched off
- Increased main pressure
- WK short-term opening and WK closing during gear-shifting locked
- Shifting point calculation based on default values
- Tractive force advance calculation switched off
- Subsequent shift preparation during gearshifting locked
- TOPO switched off

Cancellation condition:

- No output rpm fault
- Ignition off / on

System check:

1. Switch ignition off
2. Unplug electronic system
3. Connect transmission test cable
4. Measure resistance of power supply cable to ground / housing.
(pin 21 to KL31 / housing) Setpoint value: > 10 mohm
5. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.

084



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Power supply output speed sensor (AU_2) short circuit to plus/high source [+] supply (VPS)

Internal designation:

U_AU2 n_Ab sensor power supply short circuit to plus/high source [+] supply (VPS)

Error description:

The power supply of the turbine speed sensor (AU_2 / +5V) has a short circuit to plus/high source [+] supply (VPS)

Error detection by:

TCU ($U_{AU2} > 5.5 \text{ V}$)

System response:

- Output speed (n_{Ab}) will be substituted from n_{Tu} / i_{Gang}
- Hold gear, no gear change
- Increased fuel consumption
- Reduced gearshifting quality
- Limited driving operation
- No NB (Neutral Ready)
- AIS switched off
- Limited engine torque
- Engine brake switched off
- Retarder torque limited
- For gear requests, only gearshifts into "high gears"; after that, downshifts into suitable gear
- Reverse gear only permitted when the brake pressure is high and a forward gear has been engaged ($n_{Tu}=0$)
- Shifting pressure adaption switched off
- Increased main pressure
- WK short-term opening and WK closing during gear-shifting locked
- Shifting point calculation based on default values
- Tractive force advance calculation switched off
- Subsequent shift preparation during gearshifting locked
- TOPO switched off

Cancellation condition:

- No output rpm fault
- Ignition off / on

System check:

1. Switch ignition off
2. Unplug electronic system
3. Connect transmission test cable
4. Measure resistance of supply line to VPS of proportional valves (pin 3 to pin 21) Setpoint value: > 10 mohm
5. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.

085



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Power supply output speed sensor (AU_2) interruption

Internal designation:

U_AU2 n_Ab sensor voltage supply interruption inside the TCU (Interruption outside the TCU can only be registered on signal side and thus displayed as n_Ab- error 56).

Error description:

There is an interruption in the power supply of the output rpm sensor (AU_2). Interruption is mostly in the TCU as interruption on the outside can only be registered on signal side and leads to error 56.

Error detection by:

TCU internal: $U_{AU2} < 4V$;

TCU external: Can only be recognized on signal side (EF2) -> error 56

System response:

- Output speed (n_Ab) will be substituted from n_Tu / i_Gang
- Hold gear, no gear change
- Increased fuel consumption
- Reduced gearshifting quality
- Limited driving operation
- No NB (Neutral Ready)
- AIS switched off
- Limited engine torque
- Engine brake switched off
- Retarder torque limited
- For gear requests, only gearshifts into "high gears"; after that, downshifts into suitable gear
- Reverse gear only permitted when the brake pressure is high and a forward gear has been engaged (n_Tu=0)
- Shifting pressure adaption switched off
- Increased main pressure
- WK short-term opening and WK closing during gear-shifting locked
- Shifting point calculation based on default values
- Tractive force advance calculation switched off
- Subsequent shift preparation during gearshifting locked
- TOPO switched off

Cancellation condition:

- No output rpm fault
- Ignition off / on

System check:

1. Switch ignition off
2. Unplug transmission electronics
3. Connect connector block between TCU and transmission
4. Switch ignition on
5. Measure voltage between pin 10 (EF2) and pin 15 (AU2) Setpoint value: 5 V
6. Switch ignition off
7. Unplug electronic system
8. Measure resistance between pin 15 (AU2) and ground / housing Setpoint value: >10 mohm
9. Measure resistance between pin 10 (EF2) and ground / housing Setpoint value: >10 mohm

In the event of deviations from the nominal value, check the wiring and the component.

086



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

SAE J1708 BUS_OFF

Internal designation:

SAEJ1708 electronic fault (BUS_OFF error)

Error description:

If an active participant destroys the message or the message cannot be sent 30 times
(does not apply when there is a short circuit or interruption)

Error detection by:

TCU / Software

System response:

Limited engine torque

Cancellation condition:

- No SAE J1708 fault
- Speed range selector Neutral + Stop

System check:

Check CAN signals / Check CAN bus system

087



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

SAE J1708 fault during sending / error warning

Internal designation:

SAEJ1708 electric fault during sending (error warning)

Error description:

During sending, an electronic fault was detected on SAE J1708 CAN bus.

Only if message is destroyed or cannot be sent (does not apply in case of short circuit or interruption)

Error detection by:

TCU / Software

System response:

Limited engine torque

Cancellation condition:

- No SAE J1708 fault
- Speed range selector Neutral + Stop

System check:

Check CAN signals / Check CAN bus system

088



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Checksum Area 1587 wrong (EEPROM)

Internal designation:

Checksum Area 1587 wrong (EEPROM)

Error description:

EEPROM checksum has been determined wrongly

Error detection by:

Software / if ignition on. One possible cause for this is premature termination of the control unit run following ignition OFF as a result of a premature voltage drop on terminal 30.

System response:

None

Cancellation condition:

Correct data, the checksum is then being recalculated.

System check:

Check customer data, correct

089



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Retarder active without request or engine torque greater than limit value

Internal designation:

Retarder is active while engine torque is greater than limit value and/or without request

Error description:

The retarder is in pull operation and on / active

Error detection by:

Software (Ret_SMON)

System response:

- Retarder request switched off
- AIM_Retarder switched off

Cancellation condition:

New retarder request

System check:

- Check retarder requests
- Check load signal
- Check engine torque

090



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

ER4 oil level sensor U failure below

Internal designation:

ER4 oil level sensor U failure below

Error description:

Failure of the oil level sensor

Error detection by:

TCU - input wiring / software

System response:

???

Cancellation condition:

???

System check:

???

091



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

ER4 oil level sensor U failure above

Internal designation:

ER4 oil level sensor U failure above

Error description:

Failure of the oil level sensor

Error detection by:

TCU - input wiring / software

System response:

???

Cancellation condition:

???

System check:

???

092



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

CAN_A or CAN_B initialization error

Internal designation:

CAN_A / B has an error during initialization

Error description:

CAN_A or CAN_B has an error during initialization (false initial data).

The environment block can read out the CAN that caused the fault.

This is an application error

Error detection by:

Software

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- Correct initialization data
- Ignition off/on

System check:

Check CAN initialization data

093



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

CAN_A (vehicle CAN) BUS_OFF / electric fault

Internal designation:

CAN_A has an electronic fault (BUS_OFF- Fehler)

Error description:

Vehicle CAN has BUS_OFF due to an electronic fault (interruption, short circuit, short to ground...)

Error detection by:

TCU; CAN – Controller cannot re-read the written information. Node to bus is not available.

System response:

- Hold gear, no gear change
- Increased fuel consumption
- Reduced gearshifting quality
- Limited driving operation
- No NB (Neutral Ready)
- AIS switched off
- Limited engine torque
- Engine brake switched off
- Retarder torque limited
- Shifting pressure adaption switched off
- Increased main pressure
- WK short-term opening and WK closing during gear-shifting locked
- Shifting point calculation based on default values
- Tractive force advance calculation switched off
- Subsequent shift preparation during gearshifting locked
- TOPO switched off
- Engine control switched off
- N_Mot is replaced by n_Tu
- No enquiry of the load requirement

Cancellation condition:

- No BUS_OFF fault
- Ignition off/on

System check:

- Check software status of devices in the vehicle for topicality and compatibility
- Check CAN bus hardware

094



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

CAN B (ZF_CAN) BUS_OFF / electric fault

Internal designation:

CAN B has electronic fault (BUS_OFF fault) (only for ZF speed range selector)

Error description:

ZF-CAN (CAN_2) has BUS_OFF due to an electric fault (interruption, short circuit, short to ground...)

Error detection by:

TCU; CAN – Controller cannot re-read the written information. Node to bus is not available.

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder
- Limit engine torque to specified value
- If the additional functionality Limp Home is available, then operation can continue in secure mode via PWM.

Cancellation condition:

- No BUS_OFF fault
- Ignition off/on

System check:

- Check software status of devices in the vehicle for topicality and compatibility
- Check CAN bus hardware Setpoint value resistance: 60 ohm

095



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

CAN_A error passive (vehicle CAN)

Internal designation:

CAN A Error Passive (if information is written to CAN but acknowledge is missing)

Error description:

Occurs if the controller can re-read the written information, but does not receive acknowledge.

Occurs with interrupted CAN or EMC.

Error occurs e.g. when CAN is interrupted or there are EMC faults.

Error detection by:

Software / if no acknowledge is read back after writing to CAN

System response:

- Hold gear, no gear change
- Increased fuel consumption
- Reduced gearshifting quality
- Limited driving operation
- No NB (Neutral Ready)
- AIS switched off
- Limited engine torque
- Engine brake switched off
- Retarder torque limited
- Shifting pressure adaption switched off
- Increased main pressure
- WK short-term opening and WK closing during gear-shifting locked
- Shifting point calculation based on default values
- Tractive force advance calculation switched off
- Subsequent shift preparation during gearshifting locked
- TOPO switched off
- Engine control switched off
- N_Mot is replaced by n_Tu
- No enquiry of the load requirement

Cancellation condition:

- No CAN fault
- Ignition off/on

System check:

- Check software status of devices in the vehicle for topicality and compatibility
- Check CAN bus hardware Setpoint value resistance: 60 ohm

096



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

CAN_A (veh. CAN) error warning / error while sending

Internal designation:

CAN A has an electrical fault when sending

(error warning); (for driveline and possibly ZF speed range selector)

Error description:

Error warning. CAN_A has an error when sending messages. Send memory is full.

Error detection by:

Software / If there is no acknowledge, sending is no longer possible and an overflow occurs in the send queue

System response:

- Hold gear, no gear change
- Increased fuel consumption
- Reduced gearshifting quality
- Limited driving operation
- No NB (Neutral Ready)
- AIS switched off
- Limited engine torque
- Engine brake switched off
- Retarder torque limited
- Shifting pressure adaption switched off
- Increased main pressure
- WK short-term opening and WK closing during gear-shifting locked
- Shifting point calculation based on default values
- Tractive force advance calculation switched off
- Subsequent shift preparation during gearshifting locked
- TOPO switched off
- Engine control switched off
- N_Mot is replaced by n_Tu
- No enquiry of the load requirement

Cancellation condition:

- No CAN fault
- Ignition off/on

System check:

- Check software status of devices in the vehicle for topicality and compatibility
- Check CAN bus hardware Setpoint value resistance: 60 ohm

097



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

CAN_B (ZF CAN) error warning / Error while sending

Internal designation:

CAN B has an electric fault when sending (Error warning); (only for ZF speed range selector)

Error description:

Error warning. CAN_B has an error when sending messages. Send memory is full.

Error detection by:

Software / If there is no acknowledge, sending is no longer possible and an overflow occurs in the send queue

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder
- If the additional functionality Limp Home is available, then operation can continue in secure mode via PWM.

Cancellation condition:

- No CAN fault
- Speed range selector Neutral

System check:

- Check software status of devices in the vehicle for topicality and compatibility
- Check CAN bus hardware Setpoint value resistance: 60 ohm

098



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

CAN_B error passive (ZF CAN)

Internal designation:

CAN A Error Passive (if information is written to CAN but acknowledge is missing)

Error description:

Occurs if the controller can re-read the written information, but does not receive acknowledge.

Occurs with interrupted CAN or EMC.

Error occurs e.g. when CAN is interrupted or there are EMC faults.

Error detection by:

Software / if no acknowledge is read back after writing to CAN

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder
- Limited engine torque
- Engine brake switched off
- Retarder torque limited

Cancellation condition:

- No CAN fault
- Speed range selector Neutral

System check:

- Check software status of devices in the vehicle for topicality and compatibility
- Check CAN bus hardware Setpoint value resistance: 60 ohm

099



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Too much positive engagement in NB (Neutral Ready)

Internal designation:

Too much positive engagement in NB (Neutral Ready)

Error description:

If non-permissible reduction of turbine speed is detected in NB, then already one shift element has too much positive engagement

Error detection by:

Neutral when stopped safety monitor (NB_SMON) / Software

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No positive engagement in NB (Neutral Ready)
- Ignition off/on

System check:

Check system for electric faults

Software is to be checked whether it is compatible and up to date.

100



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Slip on locked WK [torque converter lock-up clutch]

Internal designation:

Slip on locked WK [torque converter lock-up clutch]

Error description:

The converter clutch (WK) cannot transmit the applicable torque; the holding torque is too low or the load torque too high.

Error detection by:

MON detects slip if the measured slip exceeds the permissible slip limit value in several back-to-back measurements

System response:

- Limited engine torque
- Engine brake switched off
- Increased main pressure

Cancellation condition:

- No WK slip error
- Ignition off/on

System check:

- Check oil level / oil filter
- Check temperature retarder / converter
- Check CAN load signal
- Check system for rpm errors

101



Error description

Project: EcoLife

Basic program AP61_1 / Step 1.1

status:

Error:

Neutral - external via CAN not plausible

Internal designation:

NE_SMON (Neutral safety monitor for rail application)

Error description:

Neutral - external requirement from CAN is not plausible.

Error detection by:

TCU / Software

System response:

- Turns off central cut-off unit (ZAE)
- switch of all power ground outputs (AIM)
- switch to neutral internally
- Reset: Ignition off (reset via neutral not possible with power output errors because ZAE is open and therefore no active diagnosis is possible)

Cancellation condition:

- Neutral requirement via CAN is plausible

System check:

Check vehicle CAN for errors regarding neutral requirement.



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Failure of CAN message FMR1 ID 592 (IES) - vehicle engine controller

Internal designation:

Message FMR1 ID 592

Vehicle Engine Controller 1

Error description:

Failure of CAN message FMR1 ID 592 – Vehicle Engine Controller 1 (only with IES)

Transmission rate 10 ms

Error numbers are assigned to the different signals.

Error detection by:

Software / Timeout

System response:

- No NB (Neutral Ready)
- AIS switched off
- Limited engine torque
- Engine brake switched off
- Shifting pressure adaption switched off
- Increased main pressure
- Shifting point calculation based on default values
- Tractive force advance calculation switched off
- Topography switched off

Cancellation condition:

- Message available again
- Ignition off / on
- Neutral + Stop

System check:

- Check CAN hardware
- Check carried out the control unit indicated in the error for correct function, topicality, and compatibility.



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Failure of CAN message FMR2 ID 593 - vehicle engine controller 2 (IES)

Internal designation:

Message FMR2 ID 593

Vehicle Engine Controller 2

Error description:

Failure of message FMR2 ID 593 -

Vehicle Engine Controller 2 (only with IES)

Error numbers are assigned to the different signals.

Error detection by:

Software / Timeout

System response:

- No NB (Neutral Ready)
- AIS switched off
- Disable WK (LuC)
- Limited engine torque
- Engine brake switched off
- Retarder switched off
- Keep gear
- Engine control switched off
- Increased main pressure

Cancellation condition:

- Message available again
- Ignition off / on
- Neutral + Stop

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Failure of CAN message FMR3 ID 1360 - vehicle engine controller 3

Internal designation:

Message FMR3 ID 1360

Vehicle Engine Controller 3

Error description:

Failure of CAN message FMR3 ID 1360 - Vehicle Engine Controller 3 (only with IES)

Error numbers are assigned to the different signals.

Error detection by:

Software / Timeout

System response:

None, see signals received

Cancellation condition:

none

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility

105



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Failure of CAN message ABS / EPB ID 512 - electric brake controller 1

Internal designation:

Message ABS/ EPB ID 512:

Electric Brake Controller 1

Error description:

Failure of message ABS / EPB ID 512 -

Electric Brake Controller 1 (only for IES)

Error numbers are assigned to the different signals.

Error detection by:

Software / Timeout

System response:

AIS switched off

Cancellation condition:

- Message available again
- Neutral + Stop

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility

106



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Failure of CAN message ABS / EPB ID 1024 - electric brake controller 2

Internal designation:

Message ABS/ EPB ID 1024:

Electric Brake Controller 2

Error description:

Failure of message ABS/EPB ID 1024 -

Electric Brake Controller 2 (only for IES)

Transmission rate 50 ms

Error numbers are assigned to the different signals.

Error detection by:

Software / Timeout

System response:

AIS switched off

Cancellation condition:

- Message available again
- Neutral + Stop

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility

107



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Failure CAN message FPS ID 1448 - freely programmable shift module

Internal designation:

Message FPS ID1448:

Freely programmable shift module

Error description:

Failure of message FPS ID 1448 -

Freely programmable shift module (IES)

Error numbers are assigned to the different signals.

Error detection by:

Software / Timeout

System response:

- AIS switched off
- Limited engine torque
- Retarder switched off
- Shifting pressure adaption switched off

Cancellation condition:

- Message available again
- Neutral + Stop

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility

108



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Failure of CAN message EBC1 - electronic brake controller 1 (from ABS)

Internal designation:

Electronic Brake Controller 1 (to transmission) from ABS
(PGN: 61441 ID: 0x18F0010B)

Error description:

Failure of message EBC1 from ABS.

Transmission rate 100 ms.

Error numbers are assigned to the different signals.

Error detection by:

Software / Timeout

System response:

TOPO deactivated

Cancellation condition:

Neutral + Stop

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility

109



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Failure of CAN message EBC3 - electronic brake controller 3 (from ABS)

Internal designation:

Electronic Brake Controller 3 (to transmission) from ABS
(PGN: 65197 ID: 0x18FEAD0B)

Error description:

Failure of message EBC3 from ABS.

Transmission rate: 100 ms

Error numbers are assigned to the different signals.

Error detection by:

Software / Timeout

System response:

None, see individual signals

Cancellation condition:

none

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility

110



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Failure of CAN message EEC1 - electronic engine controller 2

Internal designation:

Electronic Engine Controller 1 (to transm.)

(PGN: 61444 ID: 0x0CF00400)

Transfer rate: engine speed dependent (> 1000 1/min max. 30 ms)

Error description:

Failure of CAN message EEC1 from engine.

Error numbers are assigned to the different signals.

Error detection by:

Software / Timeout

System response:

- No NB (Neutral Ready)
- AIS switched off
- Disable WK (LuC)
- Limited engine torque
- Engine brake switched off
- Retarder torque limited
- Keep gear
- Shifting pressure adaption switched off
- Increased main pressure

Cancellation condition:

- Message available again
- Ignition off / on
- Neutral + Stop

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility

111



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Failure of CAN message EEC2 - electronic engine controller 2

Internal designation:

Electronic Engine Controller 2 (to transm.)

(PGN: 61443 ID: 0x0CF00300)

Transmission rate: 50 ms

Error description:

Failure of CAN message EEC2 from engine.

Transmission rate 50 ms.

Error numbers are assigned to the different signals.

Error detection by:

Software / Timeout

System response:

- No NB (Neutral Ready)
- AIS switched off
- Limited engine torque
- Engine brake switched off
- Retarder torque limited
- Shifting pressure adaption switched off
- Increased main pressure

Cancellation condition:

- Message available again
- Ignition off / on
- Neutral + Stop

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility

112



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Failure of CAN message EEC3 - electronic engine controller 3

Internal designation:

Electronic Engine Controller 3 (to transm.)

(PGN: 65247 ID: 0x18FEDF00)

Transmission rate: 250 ms

Error description:

Failure of CAN message EEC3

Electronic Engine Controller 3 from engine.

Transmission rate: 250 ms

Error numbers are assigned to the different signals.

Error detection by:

Software / Timeout

System response:

Shifting pressure adaption switched off

Cancellation condition:

- Message available again
- Neutral + Stop

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility

113



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Failure of CAN message ENC - engine configuration

Internal designation:

Engine configuration (to transm.)

(PGN: 65251 ID: 0x18FEE300)

Error description:

Failure of message ENC –

Engine configuration from engine.

Error numbers are assigned to the different signals.

Error detection by:

Software / Timeout

System response:

None, see individual signal

Cancellation condition:

none

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility

114



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Failure of CAN message TC1 from Shift Console

Internal designation:

Transm. control from speed range selector (to transm.)

(PGN: 256 ID: 0x0C010305)

Transmission rate: When active: 50 ms to the transmissions and axles

Error description:

Failure of message TC1 from speed range selector.

Error numbers are assigned to the different signals.

Error detection by:

Software / Timeout

System response:

Central switch-off unit open

Cancellation condition:

- Message available again
- Speed range selector Neutral

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility

115



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Failure of CAN message TC1 from ABS/ASR

Internal designation:

Transm. control from ABS/ASR (to transm.)

(PGN: 256 ID: 0x0C01030B)

Transmission rate: When active: 50 ms to the transmissions and axles

Error description:

Failure of CAN message TC1 from ABS/ASR control unit.

Error numbers are assigned to the different signals.

Error detection by:

Software / Timeout

System response:

None, see individual signal

Cancellation condition:

none

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility

116



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Failure of CAN message TC1 from unknown

Internal designation:

Transm. contr. from unknown send. xx (to transm.)

(PGN: 256 ID: 0x0C0103XX)

Transmission rate: When active: 50 ms to the transmissions and axles

Error description:

Failure of CAN message TC1 from unknown sender.

Error numbers are assigned to the different signals.

Error detection by:

Software / Timeout

System response:

None, see individual signal

Cancellation condition:

none

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility

117



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Failure of CAN message ERC1 – electr. eng. ret. controller 1

Internal designation:

Engine brake controller (to transm.) Timeout error

(5.3.3) PGN: 61440 ID: 0x18F0000F Dross.Kl.

PGN: 61440 ID: 0x18F00029 Ko.Dross.

Transmission rate: 100 ms

Error description:

Failure of CAN message ERC1 from engine brake controller.

Transmission rate 100 ms.

Error numbers are assigned to the different signals.

Error detection by:

Software / Timeout

System response:

Engine brake switched off

Cancellation condition:

- Message available again
- Neutral + Stop

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility.

118



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

Failure of CAN message cruise control (CC)/vehicle speed (VS)

Internal designation:

Vehicle computer sends timeout error to transmission

J1939.CC_VS_FROM_CC.Timeout

(PGN: 65265 ID: 0xFE111 cruise control

(PGN: 65265 ID 0xFE127 ??)

Transmission rate: 100 ms

Error description:

Failure of CAN message CruiseControl/VehicleSpeed

Transmission rate 100 ms

Error numbers are assigned to the different signals.

Error detection by:

Software / Timeout

System response:

None, see individual signal

Cancellation condition:

none

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility

119



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Constant throttle signal not available (IES)

Internal designation:

Constant throttle signal not available

Error description:

The constant throttle signal is not available.

Signal is contained in message FMR1 ID 592 - Vehicle Engine Controller 1.

Error detection by:

Software

System response:

Engine brake switch-off

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility

120



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Engine speed failure (IES)

Internal designation:

Engine speed signal n_Mot not available

Error description:

Engine speed failure.

The engine speed transmitted by CAN is missing.

The engine speed is contained in messages FMR1 ID 592 - Vehicle Engine Controller 1 (IES-CAN).

Error detection by:

Software

System response:

Will be extracted, depending on state

- No NB (Neutral Ready)
- AIS switched off
- WK (LuC) open
- Limited engine torque
- Increased main pressure
- ZKVK switched off
- Shifting pressure adaption switched off

Cancellation condition:

- Engine speed available again
- Neutral + Stop

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility

121



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Failure engine nominal torque (IES)

Internal designation:

Engine torque nominal value signal (from accelerator pedal) not available

Error description:

The engine nominal torque transmitted by CAN is missing.

The engine nominal torque is contained in message FMR2 ID 593 - Vehicle Engine Controller 2 (IES-CAN).

Error detection by:

Software

System response:

- No NB (Neutral Ready)
- AIS switched off
- Limited engine torque
- Engine brake switch-off
- Retarder torque limited
- Shifting pressure adaption switched off

Cancellation condition:

- Engine torque available again
- Neutral + Stop

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Actual value signal of input torque / brake torque not available (IES)

Internal designation:

Actual value signal of input torque / brake torque not available

Error description:

Input torque / brake torque actual value signal failure. The signal is transmitted by CAN.

Contained in message FMR2 ID 593 - Vehicle Engine Controller 2 (IES-CAN).

If the ignition is on, nominal torque will be sent. To determine pressure / engine control / adaption.

If value is positive: engine torque;

If value is negative: Sum of retarder brake torque, engine brake, coasting torque

Error detection by:

Software

System response:

- No NB (Neutral Ready)
- AIS switched off
- Limited engine torque
- Engine brake switched off
- Retarder torque limited
- Shifting pressure adaption switched off
- Increased main pressure

Cancellation condition:

- Signal available again
- Neutral + Stop

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility

123



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Retarder target torque not available via CAN

Internal designation:

Retarder torque (nominal value signal at installation location) not available

Error description:

The target torque of the retarder is not available.

Signal is contained in messag FMR1 ID 593 - Vehicle Engine Controller 2 (IES-CAN).

Error detection by:

Software

System response:

none

Cancellation condition:

none

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Current maximum engine torque not available (IES)

Internal designation:

Current maximum engine torque signal not available

Error description:

The signal for the current maximum engine torque is not available.

Signal is contained in message FMR3 ID 1360 - Vehicle Engine Controller 3 (IES-CAN). Signal is needed for load determination / engine guide.

Error detection by:

Software

System response:

Switch off reproduction (adaptation) of engine torque characteristics

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility

125



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Brake nominal value is not available via CAN (IES)

Internal designation:

Brake nominal value signal is not available

Error description:

Brake nominal value is not available via CAN.

Signal included in message ABS/EPB ID 1024:

Electric Brake Controller 2 (IES-CAN) included. Signal is used for gear release and AIS.

Error detection by:

Software

System response:

AIS switched off

Cancellation condition:

- Signal available again
- Neutral + Stop

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility

126



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Signal ABS intervention not available (IES)

Internal designation:

Signal ABS intervention not available

Error description:

The signal ABS intervention is not available via CAN.

Signal included in message ABS/EPB ID 512:

Electric Brake Controller 1.

Error detection by:

Software

System response:

none

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Engine torque output in percent is not available via CAN (SAE)

Internal designation:

Engine torque in percent is not available (without friction torque) (J1939.

EEC1_FROM_ENGINE.actu_Eng_prcTrq.Wert)

Error description:

The signal of engine output torque in percent is not available via CAN. Included in message EEC1 from engine.

Error detection by:

Software

System response:

- No NB (Neutral Ready)
- AIS switched off
- Limited engine torque
- Engine brake switched off
- Retarder torque limited
- Engine control switched off
- Shifting pressure adaption switched off
- Increased main pressure

Cancellation condition:

- Ignition on / off
- Neutral + Stop

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Engine speed not available via CAN (SAE)

Internal designation:

Engine speed signal n_Mot not available (J1939.EEC1_FROM_ENGINE.n_Mot.Wert)

Error description:

The signal engine speed is not available via CAN (SAE).

Signal included in message EEC1 from engine.

Error detection by:

Software

System response:

Signal will be extracted, depending on state

- No NB (Neutral Ready)
- AIS switched off
- WK (LuC) open
- Limited engine torque
- Engine brake switched off
- Shifting pressure adaption is switched off
- Increased main pressure
- Shifting point calculation based on default values
- ZKVK switched off

Cancellation condition:

- Signal available again
- Ignition on / off
- Neutral + Stop

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Engine torque requested in percent is not available via CAN (SAE)

Internal designation:

Driver request engine torque in percent not available
(J1939.EEC1_FROM_ENGINE.Drv_Dem_Eng_prcTrq.Wert)

Error description:

The signal for requested engine torque is not available via CAN (SAE). It is included in message EEC1 from engine.

Error detection by:

Software

System response:

- No NB (Neutral Ready)
- AIS switched off
- Limited engine torque
- Engine brake switched off
- Retarder torque limited
- Engine guide switched off during gearshift
- Shifting pressure adaption switched off
- Increased main pressure

Cancellation condition:

- Signal available again
- Ignition off / on
- Neutral + Stop

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Engine torque requested in percent is not available via CAN (SAE)

Internal designation:

Driver request engine torque in percent not available

(J1939.EEC1_FROM_ENGINE.Drv_Dem_Eng_prcTrq.Wert)

Error description:

The signal for requested engine torque is not available via CAN (SAE). It is included in message EEC1 from engine.

Error detection by:

Software

System response:

- No NB (Neutral Ready)
- AIS switched off
- Limited engine torque
- Engine brake switched off
- Retarder torque limited
- Engine guide switched off during gearshift
- Shifting pressure adaption switched off
- Increased main pressure

Cancellation condition:

- Signal available again
- Ignition off / on
- Neutral + Stop

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Engine torque in percent at current speed is not available (SAE)

Internal designation:

Engine torque in percent at current speed is not available (J1939.EEC2_FROM_ENGINE.prcLoad_at_current_Speed.Wert)

Error description:

Engine torque in percent at current speed is not available via CAN (SAE). Signal included in message EEC2 from engine.

Error detection by:

Software

System response:

Engine guide switched off during gearshift

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Friction torque in percent is not available via CAN (SAE)

Internal designation:

Friction torque signal in percent not available (J1939.EEC3_FROM_ENGINE.
nom_friction_prcTrq.Wert)

Error description:

The engine friction torque in percent is not available via CAN. It is included in message EEC3 from engine.

Error detection by:

Software

System response:

The default value is used.

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

The engine reference torque is not available via CAN or outside of the specification window (SAE)

Internal designation:

Engine reference torque signal not available or value outside of the specification window (J1939. ENGINE_CONFIG. Ref_Eng_Trq. Wert)

Error description:

The engine reference torque is not available via CAN or outside of the specification window. Signal included in message ENC from engine.

Error detection by:

Software

System response:

The last valid value is used.

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility

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Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Directional signal (V/N/R) from speed range selector not available via CAN (SAE)

Internal designation:

CAN speed range selector directional signal (V/N/R) not available.

Error description:

Driving direction signal (V/N/R) from speed range selector not available via CAN (SAE). The driving direction signal is included in message TC1 from the control switch group (Requested Gear).

Error detection by:

Software

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- Signal available again
- Neutral + Stop

System check:

- Check CAN hardware
- Check the control switch group for correct function, topicality, and compatibility.

135



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

CAN speed range selector key signal not available via CAN (SAE)

Internal designation:

CAN speed range selector key signal not available
(J1939. TC1_FROM_SC. req_Range. Wert)

Error description:

The speed range selector key signal is not available via CAN. Signal included in message TC1 from speed range selector (Transm. Requested Range).

Error detection by:

Software

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- Signal available again
- Speed range selector Neutral

System check:

- Check CAN hardware
- Check the control switch group for correct function, topicality, and compatibility.

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Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Engine brake control mode signal not available (SAE)

Internal designation:

Engine brake control mode signal not available

(J1939. ERC1_FROM_ENGRET. EngRet_TrqMode. Wert)

Error description:

The signal for engine brake control mode is not available. Signal is included in message ERC1 from engine brake electronics.

Error detection by:

Software

System response:

Engine brake switched off

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility

137



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Engine torque in percent not available (SAE)

Internal designation:

Requested engine brake torque signal in percent not available (J1939. ERC1_FROM_ENGRET. actu_EngRet_prcTrq.Wert)

Error description:

The signal of engine brake torque in percent is not available. It is included in message ERC1 (Actual Retarder - Percent Torque) from the engine brake electronics.

Error detection by:

Software

System response:

Engine brake switched off

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility

138



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

Parking brake signal not available (SAE)

Internal designation:

Switch for parking brake signal not available,
J1939.CC_VS_FROM_CC.Parking_Brake_Switch_Sig

Error description:

The parking brake signal is not available. It is included in message CC/VS (Parking Brake Switch) from the vehicle computer.

Error detection by:

Software

System response:

none

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check signal transmitter
- Check the control unit indicated in the error for correct function, topicality, and compatibility

139



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

Brake switch signal not available via CAN (SAE)

Internal designation:

Switch for brake signal not available (J1939.CC_VS_FROM_CC.Brake_Switch_Sig)

Error description:

The signal of the brake switch is not available via CAN. It is included in message CC/VS (Brake Switch) from the vehicle computer.

Error detection by:

Software

System response:

none

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check signal transmitter
- Check the control unit indicated in the error for correct function, topicality, and compatibility

140



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Signal ASR engine control active is not available (SAE)

Internal designation:

Signal ASR engine control active is not available (J1939. EBC1_FROM_ABS.

ASR_Eng_Ctrl_active.Wert)

Error description:

Signal ASR engine control active is not available. It is included in message EBC1 (ASR Engine Control Active) from the ABS control unit.

Error detection by:

Software

System response:

none

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility

141



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Signal ABS active is not available (SAE)

Internal designation:

Signal ABS active is not available (J1939. EBC1_FROM_ABS. ABS_active.Wert)

Error description:

The signal ABS active is not available via CAN. It is included in message EBC1 (Anti-lock Braking (ABS) Active) from the ABS control unit.

Error detection by:

Software

System response:

none

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility

142



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Brake pedal position in percent not available (SAE)

Internal designation:

Signal for brake pedal position in percent not available (J1939. EBC1_FROM_ABS.
Brake_Pedal_Position.Wert)

Error description:

The brake pedal position in percent signal is not available via CAN. It is included in message EBC1 (Brake Pedal Position) from the ABS control unit.

Error detection by:

Software

System response:

TOPO deactivated

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility

143



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

CAN_A sending error

Internal designation:

CAN A TX sending error

Error description:

Occurs when messages cannot be sent.

Error detection by:

When acknowledge is missing.

Sending is then no longer possible and an overflow occurs in the send queue.

System response:

- No NB (Neutral Ready)
- AIS switched off
- Limited engine torque
- Engine brake switched off
- Retarder torque limited
- Engine guide switched off during gearshift
- WK opening and closing blocked during gear changes

Cancellation condition:

- No CAN_A sending error
- Ignition off/on

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility

144



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

CAN_B sending error

Internal designation:

CAN B TX sending error

Error description:

Occurs when messages cannot be sent.

Error detection by:

When acknowledge is missing.

Sending is then no longer possible and an overflow occurs in the send queue.

System response:

- Limited engine torque
- Engine brake switched off
- Retarder torque limited

Cancellation condition:

- No CAN_B sending error
- Speed range selector Neutral + Stop

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility

145



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Failure of CAN message TSC1 – torque/speed control 1 from cruise control to retarder (SAE)

Internal designation:

Transm. electr. retarder limiter (to retarder) timeout error
(PGN: 0 ID: 0x0C001011 cruise control)

Error description:

Timeout of message TSC1 (Torque/Speed Control 1 to Retarder) from cruise control to retarder is not available via CAN.

Transmission rate 50 ms if active.

Error numbers are assigned to the different signals.

Error detection by:

Software

System response:

none

Cancellation condition:

- Signal available again
- New retarder request

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility

146



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Failure of CAN message TSC1 – torque/speed control 1 from ABS/ASR to retarder (SAE)

Internal designation:

Transm. electr. retarder limiter (to retarder) timeout error
(PGN: 0 ID: 0x0C00100B ABS/ASR)

Error description:

Timeout of message TSC1 (torque/speed control 1 to retarder) from ABS/ASR to retarder is not available via CAN.

Transmission rate 50 ms if active.

Error numbers are assigned to the different signals.

Error detection by:

Software

System response:

none

Cancellation condition:

none

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility

147



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Timeout configuration engine brake (to transmission) (SAE)

Internal designation:

Engine brake configuration (to transm.) timeout error

(PGN: 65249 ID: 0 x18FEE10F Dross.Kl.

PGN: 65249 ID: 0x18FEE129 Ko.Dross.)

Transmission rate: on request

Error description:

Timeout of message RC (Eng. retarder configuration) from engine brake to transmission is not available via CAN.

Transmission rate upon request.

Error numbers are assigned to the different signals.

Error detection by:

Software

System response:

none

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility

148



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

J1939.VDC1_FROM_ABS.Timeout (Vehicle Dynamic Stability Control) (SAE)

Internal designation:

J1939.VDC1_FROM_ABS.Timeout (Vehicle Dynamic Stability Control)

Error description:

Message VDC1 is not available via CAN.

Error detection by:

Software

System response:

none

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility

149



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Timeout of time/date message (SAE)

Internal designation:

Time/date Timeout error

(PGN: 65254 ID: 18FEE617 Instrument Cluster)

Transmission rate: on request

Error description:

Message TD (Time Date) is not available via CAN.

The instrument cluster only sends the message upon request.

The error becomes apparent in the environment block if the information is missing.

Error detection by:

Software

System response:

Wrong time stamp in environment block

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility

150



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Timeout odometer reading (SAE)

Internal designation:

Odometer Timeout error HRVD

(PGN: 65217 ID: 18FEC1??)

Transmission rate: 1000 ms

Error description:

The message VDHR (High Resolution Vehicle Distance) is not available via CAN. Transmission rate 1000ms.

Error detection by:

Software

System response:

Faulty odometer reading in environment block and statistic memory

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility

151



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Reference torque of engine brake in Nm missing (SAE)

Internal designation:

Engine brake torque reference signal in Nm not available
(J1939.ENGRETCFG.Ref_EngRet_Trq.Wert)

Error description:

The signal is not available via CAN. It is included in message RC (Reference Retarder Torque) from the control unit of the engine brake.

Error detection by:

Software

System response:

None

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Retarder limit / torque requested by cruise control is missing (SAE)

Internal designation:

Requested signal for retarder torque/limit in percent not available (J1939.

TSC1_FROM_CC.req_Trq_TrqLim_CC.Wert)

Error description:

The torque / limit requested from retarder by the cruise control (Retarder Requested Torque/Torque Limit) is not available via CAN. It is included in message TSC1 to the retarder.

Error detection by:

Software

System response:

None

Cancellation condition:

none

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility.



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Retarder limit / torque in percent requested by ABS is missing (SAE)

Internal designation:

Requested signal for retarder limit / torque in percent is not available (J1939.

TSC1_FROM_ABS.req_Trq_TrqLim_ABS.Wert)

Error description:

The torque / limit in percent requested from retarder by the ABS (Retarder Requested Torque/Torque Limit) is not available via CAN. It is included in message TSC1 to the retarder.

Error detection by:

Software

System response:

None

Cancellation condition:

none

System check:

- Check CAN hardware
- Check the control unit indicated in the error for correct function, topicality, and compatibility.



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Slip reduction during gearshifts too low

Internal designation:

Slip reduction during gearshifts too low

Error description:

Detects the slip reduction to be expected during gearshifts. If the additional pressure is faulty, the monitor is never triggered, since the controller immediately increases the shifting pressure, which also increases the main pressure.

Error detection by:

Software / The safety monitor of slip development (n_Verl_SMON) reports an error: expected slip reduction does not happen

System response:

- No NB (Neutral Ready)
- AIS switched off
- Hold gear, no gear change
- Putting in gear is locked

Cancellation condition:

- Correct slip reduction during gear change
- Ignition off / on

System check:

- Check oil level
- Check oil filter
- Check system for rpm errors

155



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Checksum EEPROM incorrect

Internal designation:

Checksum in customer data range incorrect (EEPROM)

Error description:

EEprom checksum is false.

Error detection by:

Software, if ignition on. One possible cause for this is premature termination of the control unit run following ignition OFF as a result of a premature voltage drop on terminal 30.

System response:

none

Cancellation condition:

none

System check:

- EEPROM settings
- Voltage supply of the control unit
- Software up to date, compatibility

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Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Composite error for TCU hardware (internal)

Internal designation:

TCU-internal composite error for hardware

Error description:

Composite error for TCU-internal hardware errors

Error detection by:

TCU / Software

System response:

- Central cut-off unit (ZAE) open
- Neutral
- No retarder

Cancellation condition:

- No TCU hardware fault
- Ignition off/on

System check:

Check the TCU

157



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Composite error for TCU software (internal)

Internal designation:

TCU-internal composite error for software

Error description:

Composite error for TCU-internal software errors

Error detection by:

TCU / Software

System response:

- Central cut-off unit (ZAE) open
- Neutral
- No retarder

Cancellation condition:

- No TCU hardware fault
- Ignition off/on

System check:

Check software status

Check the TCU

Check EEPROM parameters for plausibility, EEPROM can contain incorrect or implausible values

158



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

TCU-internal error information 1, warning only

Internal designation:

TCU internal error information 1

Error description:

Control unit internal error information. This is only a warning e.g. program overrun

Error detection by:

TCU / Software

System response:

none

Cancellation condition:

none

System check:

Check software status

Check the TCU

Check EEPROM parameters for plausibility, EEPROM can contain incorrect or implausible values

159



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

TCU-internal error information 2, warning only

Internal designation:

TCU internal error information 2

Error description:

Control unit internal error information. This is only a warning e.g. program overrun

Error detection by:

TCU / Software

System response:

none

Cancellation condition:

none

System check:

Check software status

Check the TCU

Check EEPROM parameters for plausibility, EEPROM can contain incorrect or implausible values

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Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

TCU-internal error information 3, warning only

Internal designation:

TCU internal error information 3

Error description:

Control unit internal error information. This is only a warning e.g. program overrun

Error detection by:

TCU / Software

System response:

none

Cancellation condition:

none

System check:

Check software status

Check the TCU

Check EEPROM parameters for plausibility, EEPROM can contain incorrect or implausible values

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Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

TCU internal error information 4, warning only

Internal designation:

TCU internal error information 4

Error description:

Control unit internal error information. This is only a warning e.g. program overrun

Error detection by:

TCU / Software

System response:

none

Cancellation condition:

none

System check:

Check software status

Check the TCU

Check EEPROM parameters for plausibility, EEPROM can contain incorrect or implausible values

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Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

TCU internal error information 5, warning only

Internal designation:

TCU internal error information 5

Error description:

Control unit internal error information. This is only a warning e.g. program overrun

Error detection by:

TCU / Software

System response:

none

Cancellation condition:

none

System check:

Check software status

Check the TCU

Check EEPROM parameters for plausibility, EEPROM can contain incorrect or implausible values



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Failure of turbine speed (n_Tu) and output speed (n_Ab)

Internal designation:

n_Tu and n_Ab failed

Error description:

Failure of turbine rpm (n_Tu) and failure of output rpm (n_Ab)

Error detection by:

- Readback channel
- Output stage of TCU (TREX)
- Rpm drop to 0Hz in x seconds only possible when driving
- Output stage of the TCU (TREX) signals a hardware failure

System response:

Will be extracted differently, depending on state (see error matrix).

- No NB (Neutral Ready)
- AIS switched off
- Disable WK lockup (quickly, without delay ramps)
- Limited engine torque
- Switch off engine brake
- Retarder request switched off and AIM_Retarder switched off
- Keep gear
- Lock gearshifts from Neutral to Reverse
- If a gear is requested, speed range selector shifts into "high gear"
- Shifting pressure of WK (LuC) close controlled only
- Switch off shift pressure adaptation (gear change); continue to use last values
- Neutral-Immediately if shifting into Neutral (without delay and holding ramps); applies to stationary and driving vehicle
- Increase main pressure to specified value
- WK short-term opening and WK closing during gear-shifting locked
- Shifting point calculation based on default values;
- Switch off tractive force advance calculation;
- Lock subsequent shift preparation during gearshifts;
- Switch off TOPO

Cancellation condition:

- No rpm error
- Neutral + Stop
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug transmission electronics
3. Connect connector block between TCU and transmission
4. Switch ignition on
5. Measure voltage between pin 10 (EF2) and pin 15 (AU2) Setpoint value: 5V
6. Measure voltage between pin 2 (EF1) and pin 6 (AU1) Setpoint value: 5V
7. Switch ignition off
8. Unplug electronic system
9. Measure resistance between pin 15 (AU2) and ground / housing Setpoint value: >10 mohm
10. Measure resistance between pin 10 (EF2) and ground / housing Setpoint value: >10 mohm
11. Measure resistance between pin 6 (AU1) and ground / housing Setpoint value: >10 mohm
12. Measure resistance between pin 2 (EF1) and ground / housing Setpoint value: >10 mohm

In the event of deviations from the nominal value, check the wiring, the component, and the TCU.



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Failure of turbine speed (n_Tu) and engine speed (n_Mot)

Internal designation:

n_Tu and n_Mot failed

Error description:

Failure of turbine rpm (n_Tu) and failure of engine rpm (n_Mot)

Error detection by:

- Readback channel
- Output stage of TCU (TREX)
- Rpm drop to 0Hz in x seconds only possible when driving
- Output stage of the TCU (TREX) signals a hardware failure
- Failure CAN message

System response:

Will be extracted differently, depending on state (see error matrix).

- No NB (Neutral Ready)
- AIS switched off
- Disable WK lockup (quickly, without delay ramps)
- Limited engine torque
- Switch off engine brake
- Retarder request switched off and AIM_Retarder switched off
- Keep gear
- Switch off shift pressure adaptation (gear change); continue to use last values
- Neutral-Immediately if shifting into Neutral (without delay and holding ramps); applies to stationary and driving vehicle
- Increase main pressure to specified value
- WK short-term opening and WK closing during gear-shifting locked
- Shifting point calculation based on default values
- Switch off tractive force advance calculation
- Lock subsequent shift preparation during gearshifts
- Switch off TOPO

Cancellation condition:

- No rpm error
- Neutral + Stop
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug transmission electronics
3. Connect connector block between TCU and transmission
4. Switch ignition on
5. Measure voltage between pin 2 (EF1) and pin 6 (AU1) Setpoint value: 5V
6. Switch ignition off
7. Unplug electronic system
8. Measure resistance between pin 6 (AU1) and ground / housing Setpoint value: >10 mohm
9. Measure resistance between pin 2 (EF1) and ground / housing Setpoint value: >10 mohm
10. Check the source of signals of the engine speed

In the event of deviations from the nominal value, check the wiring, the component, and the TCU.



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Failure of engine speed (n_Mot) and output speed (n_Ab)

Internal designation:

n_Mot and n_Ab failed

Error description:

Failure of engine rpm (n_Mot) and failure of output rpm (n_Ab)

Error detection by:

- Readback channel
- Output stage of TCU (TREN) (TREX)
- Rpm drop to 0Hz in x seconds only possible when driving
- Output stage of the TCU (TREN) signals a hardware failure
- Failure CAN message

System response:

Will be extracted differently, depending on state. (See error matrix)

- No NB (Neutral Ready)
- AIS switched off
- Disable WK lockup (quickly, without delay ramps)
- Limited engine torque
- Switch off engine brake
- Retarder request switched off and AIM_Retarder switched off
- Keep gear
- Reverse gear only permitted when the brake pressure is high and a forward gear has been engaged (n_Tu=0)
- If gear request from speed range selector, shift into "high gear"
- Switch off shift pressure adaptation (gear change); continue to use last values
- Neutral-Immediately if shifting into Neutral (without delay and holding ramps); applies to stationary and driving vehicle
- Increase main pressure to specified value
- WK short-term opening and WK closing during gear-shifting locked
- Shifting point calculation based on default values
- Switch off tractive force advance calculation
- Lock subsequent shift preparation during gearshifts
- Switch off TOPO

Cancellation condition:

- No rpm error
- Neutral + Stop
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug transmission electronics
3. Connect connector block between TCU and transmission
4. Switch ignition on
5. Measure voltage between pin 10 (EF2) and pin 15 (AU2) Setpoint value: 5V
6. Switch ignition off
7. Unplug electronic system
8. Measure resistance between pin 15 (AU2) and ground / housing Setpoint value: >10 mohm
9. Measure resistance between pin 10 (EF2) and ground / housing Setpoint value: >10 mohm
10. Check the source of signals of the engine speed

In the event of deviations from the nominal value, check the wiring, the component, and the TCU.

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Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Pressure adaptation offset if upshifts higher than limit value

Internal designation:

p_Adapt offset during upshift is greater than specified limit value

Error description:

Offset of shifting pressure adaption for upshifts is greater than a given limit value. This is a **reference warning** to prevent a mechanical defect.

Error detection by:

If adaption is active through software (pressure adaption offset > limit value during upshift)

System response:

none

Cancellation condition:

Pressure adaption offset < limit value

System check:

- Check oil level / oil filter
- Check main pressure
- Check shifts with data logger

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Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Pressure adaptation offset if downshifts greater than limit value

Internal designation:

p_Adapt offset during downshifts is greater than specified limit value

Error description:

Offset of shifting pressure adaption for downshifts is greater than a given limit value. This is a **reference warning** to prevent a mechanical defect.

Error detection by:

If adaption is active through software (pressure adaption offset > limit value during downshift)

System response:

none

Cancellation condition:

Pressure adaption offset < limit value

System check:

- Check oil level / oil filter
- Check main pressure
- Check shifts with data logger



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Pressure adaptation system limit for upshifts exceeded

Internal designation:

p_Adapt offset for during upshifts can no longer be performed because system limit was exceeded

Error description:

Offset for pressure adaption for upshifts has **exceeded the system limit**.

Error detection by:

Only possible with active adaption via software

System response:

The adaption uses the last valid value

Cancellation condition:

Pressure adaption - offset < system limit

System check:

- Check oil level / oil filter
- Check main pressure
- Check shifts with data logger



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Pressure adaptation system limit for downshifts exceeded

Internal designation:

p_Adapt offset for during downshifts can no longer be performed because system limit was exceeded

Error description:

Offset for pressure adaption for downshifts has **exceeded the system limit**.

Error detection by:

Only possible with active adaption via software

System response:

The adaption uses the last valid value

Cancellation condition:

Pressure adaption - offset < system limit

System check:

- Check oil level / oil filter
- Check main pressure
- Check shifts with data logger

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Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Speed range selector internal system error

Internal designation:

Speed range selector internal system error

Error description:

Speed range selector internal composite error: e.g. Watchdog etc.

Error detection by:

Transmit speed range selector via CAN to TCU

System response:

- Turns off central cut-off unit (ZAE)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No speed range selector error
- Speed range selector Neutral

System check:

Check speed range selector function,
check speed range selector wiring

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Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Speed range selector inputs / outputs (I/O)

Internal designation:

CAN messages of digital inputs and additional information from the speed range selector:

Timeout errors

Error description:

CAN messages of digital inputs and additional information from the speed range selector have Timeout errors.

Speed range selector internal I_O composite error: Send / receive CAN

Error detection by:

Speed range selector / TCU software

System response:

See individual signal / error matrix

Cancellation condition:

- No speed range selector error
- See individual signal

System check:

Check speed range selector function

Check ZF-CAN hardware

1. Switch ignition off
2. Connect connector block between TCU and vehicle
3. Measure resistance of CAN bus (pin 2 to pin 11) Setpoint value: 60 ohm

In the event of deviations from the nominal value, check the wiring and the function of the speed range selector



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Range selector inputs are digital

Internal designation:

Digital input channels of the speed range selector defective (ADC converter defective)

Error description:

Digital input channels of the speed range selector defective (ADC converter defective)

Error detection by:

Speed range selector / TCU software

Speed range selector internal ED collective error: Digital signal is read by an analog input. Use test voltage to check if error detection of ADC converter is working

System response:

See individual signal

Cancellation condition:

- No speed range selector error
- See individual signal

System check:

Check speed range selector function / input signals

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Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

System error E-Box

Internal designation:

E-Box system error

Error description:

A system error has occurred on the E-Box (converter of digital and analog signals from/to CAN)

Error detection by:

E-Box reports error to TCU

System response:

See individual signal

Cancellation condition:

- No E-Box error
- See individual signal

System check:

Check E-Box

Check input and output signals



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Digital output of gear signal of driving switch or E-Box faulty

Internal designation:

Speed range selector/E-box detects error on the digital output of gear signal interruption; short to GND; short to Plus

Error description:

Speed range selector or the E-box detects error at the digital output of the gear signal.

Possible causes:

interruption; short to GND; short to Plus

Error detection by:

The speed range selector / E-Box detects the error based on failure limits received from the TCU and transmits the calculated error status back to the TCU.

Limit values (applicable):

Interruption 50 % U_Nenn

Short on Plus > 80 % U_Nenn

Short to GND < 20 % U_Nenn

System response:

None

Cancellation condition:

- No speed range selector / E-Box error
- No short circuit / interruption

System check:

Check relay of gear signal

Check wiring



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Digital output of gear signal of speed range or E-Box faulty

Internal designation:

Speed range selector / E-box detects error on the digital output of starter lock signal interruption; short to GND; short to Plus

Error description:

Speed range selector or the E-box detects error at the digital output of the starter lock signal.

Possible causes:

interruption; short to GND; short to Plus

Error detection by:

The speed range selector / E-Box detects the error based on failure limits received from the TCU and transmits the calculated error status back to the TCU.

Limit values (applicable):

Interruption 50 % U_Nenn

Short on Plus > 80 % U_Nenn

Short to GND < 20 % U_Nenn

System response:

Engine start may not be possible

Cancellation condition:

- No speed range selector / E-Box error
- No short circuit / interruption

System check:

Check relay of starter lock

Check wiring



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Digital output of gear signal of speed range or E-Box faulty

Internal designation:

Speed range selector / E-box detects error on the digital output of reverse gear signal interruption; short to GND short to Plus

Error description:

Speed range selector or the E-box detects error at the digital output of the reverse gear signal.

Possible causes:

interruption; short to GND; short to Plus

Error detection by:

The speed range selector / E-Box detects the error based on failure limits received from the TCU and transmits the calculated error status back to the TCU.

Limit values (applicable):

Interruption 50 % U_Nenn

Short on Plus > 80 % U_Nenn

Short to GND < 20 % U_Nenn

System response:

none

Cancellation condition:

- No speed range selector / E-Box error
- No short circuit / interruption

System check:

Check reverse gear relay

Check wiring

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Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Current of pressure regulator A (DR_A) > 7 mA without request

Internal designation:

DR_A actual current > 0 if request = 0

Error description:

Current from pressure regulator A (DR_A) should be 0 mA but is higher.

Error detection by:

actual current > 7 mA if target current = 0 mA

(If the current regulator (TREX) activates the output independently)

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No pressure regulator error
- Ignition off/on

System check:

Check the TCU

178



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Current of pressure regulator B (DR_B) > 7 mA without request

Internal designation:

DR_V actual current > 0 if request = 0

Error description:

Current from pressure regulator B (DR_B) should be 0 mA but is higher.

Error detection by:

actual current > 7 mA if target current = 0 mA

(If the current regulator (TREX) activates the output independently)

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No pressure regulator error
- Ignition off/on

System check:

Check the TCU

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Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Current of pressure regulator D (DR_D) > 7 mA without request

Internal designation:

DR_D actual current > 0 if request = 0

Error description:

Current from pressure regulator D (DR_D) should be 0 mA but is higher.

Error detection by:

actual current > 7 mA if target current = 0 mA

(If the current regulator (TREX) activates the output independently)

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No pressure regulator error
- Ignition off/on

System check:

Check the TCU

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Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Current of pressure regulator E (DR_E) > 7 mA without request

Internal designation:

DR_E actual current > 0 if request = 0

Error description:

Current from pressure regulator E (DR_E) should be 0 mA but is higher.

Error detection by:

actual current > 7 mA if target current = 0 mA

(If the current regulator (TREX) activates the output independently)

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No pressure regulator error
- Ignition off/on

System check:

Check the TCU

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Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Current of pressure regulator F (DR_F) > 7 mA without request

Internal designation:

DR_F actual current > 0 if request = 0

Error description:

Current from pressure regulator F (DR_F) should be 0 mA but is higher.

Error detection by:

actual current > 7 mA if target current = 0 mA

(If the current regulator (TREX) activates the output independently)

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No pressure regulator error
- Ignition off/on

System check:

Check the TCU

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Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Current of pressure regulator WK [torque converter lock-up clutch] (DR_WK) > 7 mA without request

Internal designation:

DR_WK actual current > 0 if request = 0

Error description:

Current from pressure regulator WK (DR_WK) should be 0 mA but is higher.

Error detection by:

actual current > 7 mA if target current = 0 mA

(If the current regulator (TREX) activates the output independently)

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No pressure regulator error
- Ignition off/on

System check:

Check the TCU

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Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Current of main pressure regulator (DR_HD) > 7 mA without request

Internal designation:

DR_HD actual current > 0 if request = 0

Error description:

Current from main pressure regulator (DR_HD) should be 0 mA but is higher.

Error detection by:

actual current > 0 mA if target current = 0 mA (If the current regulator (TRES) activates the output independently)

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No pressure regulator error
- Ignition off/on

System check:

Check the TCU

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Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Current of pressure regulator for retarder (DR_Ret) > 7 mA without request

Internal designation:

DR_Ret actual current > 0 if request = 0

Error description:

Current from pressure regulator for retarder (DR_Ret) should be 0 mA but is higher.

Error detection by:

actual current > 7 mA if target current = 0 mA

(If the current regulator (TREX) activates the output independently)

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No pressure regulator error
- Ignition off/on

System check:

Check the TCU

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Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Current of pressure regulator for PTO (DR_NA) > 7 mA without request

Internal designation:

DR_NA actual current > 0 if request = 0

Error description:

Current from pressure regulator for PTO (DR_NA) should be 0 mA but is higher.

Error detection by:

actual current > 7 mA if target current = 0 mA

(If the current regulator (TREX) activates the output independently)

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No pressure regulator error
- Ignition off/on

System check:

Currently there is no PTO installed.

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Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Current of pressure regulator G (DR_G) > 7 mA without request

Internal designation:

DR_G actual current > 0 if request = 0

Error description:

Current from pressure regulator G (DR_G) should be 0 mA but is higher.

Error detection by:

actual current > 7 mA if target current = 0 mA

(If the current regulator (TREX) activates the output independently)

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No pressure regulator error
- Ignition off/on

System check:

None yet, since a version with G-valve is not feasible at this point.

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Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Gear not plausible relative to driving direction signal from speed range selector

Internal designation:

Actual gear not plausible relative to checked driving direction signal (V/N/R) from speed range selector (Check actual gear calculation for software errors from VR_SMON)

Error description:

The forward-reverse safety monitor

(VR_SMON) reports an error. Check whether driving direction signal matches "actual gear".

This is to detect software errors. A plausibility check of the driving direction signal has already been performed.

Error detection by:

Forward-reverse safety monitor (VR_SMON) in software

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- Plausible driving direction signal relative to gear
- Speed range selector Neutral

System check:

Check software status

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Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Slip in fixed gear

Internal designation:

Slip in fixed gear

Error description:

The shift elements cannot transmit the applicable torque. Holding torque too low or load torque too high.

Error detection by:

Software / MON detects slip if the measured slip exceeds the permissible slip limit value in several back-to-back measurements.

System response:

- Limited engine torque
- Engine brake switch-off
- Retarder torque limited
- Increased main pressure

Cancellation condition:

- No slip detected
- downtime
- Neutral
- Ignition off/on

System check:

- Check oil level / oil filter
- Check engine moment and load signal
- Check system for rpm errors
- Check transmission for wear



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Pressure regulator F (DR_F) - readback voltage too low

Internal designation:

DR_F_Rücklesekanal AIM; U_AIM off less than U_Nenn

Error description:

Readback voltage at the readback channel of pressure regulator F and switched off AIM is less than the expected voltage (expected voltage = on-board power supply voltage – voltage drop at proportional solenoid)

Error detection by:

Readback voltage at readback channel with current output (AIM) OFF.

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- Readback voltage at readback channel = on-board power supply voltage – voltage of proportional valve
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system
3. Connect transmission test cable
4. Measure resistance of proportional valve (pin 5 to pin 19) Setpoint value: 10 - 15 ohm
5. Measure resistance of proportional valve to ground (pin 19 to ground (KL31) / housing) Setpoint value: > 10 mohm
6. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Pressure regulator (DR_WK) - readback voltage too low

Internal designation:

DR_WK_Rücklesekanal AIM; U_AIM off less than U_Nenn

Error description:

Readback voltage at the readback channel of pressure regulator WK and switched off AIM is less than the expected voltage (expected voltage = on-board power supply voltage – voltage drop at proportional solenoid).

Error detection by:

Readback voltage at readback channel with current output (AIM) OFF.

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- Readback voltage at readback channel = on-board power supply voltage – voltage of proportional valve
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system
3. Connect transmission test cable
4. Measure resistance of proportional valve (pin 5 to pin 9) Setpoint value: 10 - 15 ohm
5. Measure resistance of proportional valve to ground (pin 9 to ground (KL31) / housing) Setpoint value: > 10 mohm
6. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Main pressure regulator (DR_HD) - readback voltage too low

Internal designation:

DR_HD_Rücklesekanal AIM; U_AIM off less than U_Nenn

Error description:

Readback voltage at the readback channel of pressure regulator HD and switched off AIM is less than the expected voltage (expected voltage = on-board power supply voltage – voltage drop at proportional solenoid)

Error detection by:

Readback voltage at readback channel with current output (AIM) OFF.

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- Readback voltage at readback channel = on-board power supply voltage – voltage of proportional valve
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system
3. Connect transmission test cable
4. Measure resistance of proportional valve (pin 5 to pin 10) Setpoint value: 10 - 15 ohm
5. Measure resistance of proportional valve to ground (pin 10 to ground (KL31) / housing) Setpoint value: > 10 mohm
6. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Pressure regulator retarder (DR_Ret) - readback voltage too low

Internal designation:

DR_Ret_Rücklesekanal AIM; U_AIM off less than U_Nenn

Error description:

Readback voltage at the readback channel of pressure regulator Ret and switched off AIM is less than the expected voltage (expected voltage = on-board electronics voltage – voltage drop at proportional solenoid).

Error detection by:

Readback voltage at readback channel with current output (AIM) OFF.

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- Readback voltage at readback channel = on-board power supply voltage – voltage of proportional valve
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system
3. Connect transmission test cable
4. Measure resistance of proportional valve (pin 5 to pin 8) Setpoint value: 10 - 15 ohm
5. Measure resistance of proportional valve to ground (pin 8 to ground (KL31) / housing) Setpoint value: > 10 mohm
6. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Pressure regulator A (DR_A) - readback voltage too low

Internal designation:

DR_A_Rücklesekanal AIM; U_AIM off less than U_Nenn

Error description:

Readback voltage at the readback channel of pressure regulator A and switched off AIM is less than the expected voltage (expected voltage = on-board power supply voltage – voltage drop at proportional solenoid)

Error detection by:

Readback voltage at readback channel with current output (AIM) OFF.

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- Readback voltage at readback channel = on-board power supply voltage – voltage of proportional valve
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system
3. Connect transmission test cable
4. Measure resistance of proportional valve (pin 5 to pin 13) Setpoint value: 10 - 15 ohm
5. Measure resistance of proportional valve to ground (pin 13 to ground (KL31) / housing) Setpoint value: > 10 mohm
6. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Pressure regulator B (DR_B) - readback voltage too low

Internal designation:

DR_B_Rücklesekanal AIM; U_AIM off less than U_Nenn

Error description:

Readback voltage at the readback channel of pressure regulator B and switched off AIM is less than the expected voltage (expected voltage = on-board electronics voltage – voltage drop at proportional solenoid).

Error detection by:

Readback voltage at readback channel with current output (AIM) OFF.

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- Readback voltage at readback channel = on-board power supply voltage – voltage of proportional valve
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system
3. Connect transmission test cable
4. Measure resistance of proportional valve (pin 5 to pin 12) Setpoint value: 10 - 15 ohm
5. Measure resistance of proportional valve to ground (pin 12 to ground (KL31) / housing) Setpoint value: > 10 mohm
6. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Pressure regulator D (DR_D) - readback voltage too low

Internal designation:

DR_D_Rücklesekanal AIM; U_AIM off less than U_Nenn

Error description:

Readback voltage at the readback channel of pressure regulator D and switched off AIM is less than the expected voltage (expected voltage = on-board power supply voltage – voltage drop at proportional solenoid).

Error detection by:

Readback voltage at readback channel with current output (AIM) OFF.

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- Readback voltage at readback channel = on-board power supply voltage – voltage of proportional valve
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system
3. Connect transmission test cable
4. Measure resistance of proportional valve (pin 5 to pin 22) Setpoint value: 10 - 15 ohm
5. Measure resistance of proportional valve to ground (pin 22 to ground (KL31) / housing) Setpoint value: > 10 mohm
6. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Pressure regulator E (DR_E) - readback voltage too low

Internal designation:

DR_E_Rücklesekanal AIM; U_AIM off less than U_Nenn

Error description:

Readback voltage at the readback channel of pressure regulator E and switched off AIM is less than the expected voltage (expected voltage = on-board power supply voltage – voltage drop at proportional solenoid).

Error detection by:

Readback voltage at readback channel with current output (AIM) OFF.

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- Readback voltage at readback channel = on-board power supply voltage – voltage of proportional valve
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug electronic system
3. Connect transmission test cable
4. Measure resistance of proportional valve (pin 5 to pin 24) Setpoint value: 10 - 15 ohm
5. Measure resistance of proportional valve to ground (pin 24 to ground (KL31) / housing) Setpoint value: > 10 mohm
6. TCU cable -> test transmission

In the event of deviations from the nominal value, check the wiring and the component.



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Pressure regulator of PTO (DR_NA) - readback voltage too low

Internal designation:

DR_NA_Rücklesekanal AIM; U_AIM off less than U_Nenn

Error description:

Readback voltage at the readback channel of pressure regulator NA and switched off AIM is less than the expected voltage (expected voltage = on-board power supply voltage – voltage drop at proportional solenoid).

Error detection by:

Readback voltage at readback channel with current output (AIM) OFF.

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- Readback voltage at readback channel = on-board power supply voltage – voltage of proportional valve
- Ignition off/on

System check:

Currently no application with PTO



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Pressure regulator G (DR_G) - readback voltage too low

Internal designation:

DR_G_Rücklesekanal AIM; U_AIM off less than U_Nenn

Error description:

Readback voltage at the readback channel of pressure regulator G and switched off AIM is less than the expected voltage (expected voltage = on-board electronics voltage – voltage drop at proportional solenoid).

Error detection by:

Readback voltage at readback channel with current output (AIM) OFF.

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- Readback voltage at readback channel = on-board power supply voltage – voltage of proportional valve
- Ignition off/on

System check:

None yet, since a version with G-valve is not feasible at this point.

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Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

The data field ID entered does not exist or has not been enabled

Internal designation:

The parts list number or configuration entered by the customer was not found or is not enabled

Error description:

The data field ID entered (in EEPROM) does not match any of the available data field IDs.

Error detection by:

Software

System response:

Activation of the default data field
(data field 1 / maneuvering software)

Cancellation condition:

Set correct data field in EEPROM
+ Ignition off / on

System check:

Set correct data field with diagnostic tool

200



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Application error warning

Internal designation:

Application error warning

(not relevant for volume production)

Error description:

If the settings of the application are faulty and this has been verified.

Several application errors may be listed

Error detection by:

Software, e. g.. If maximum gear > maximum gear in gear set (V and R)

System response:

E. g.: applied maximum gear is limited to maximum gear in gear set

Cancellation condition:

Apply correct maximum gear

System check:

Check application

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Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Currently not assigned

Internal designation:

Error description:

Error detection by:

System response:

Cancellation condition:

System check:



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Implausible voltage difference between KL30 and VPS

Internal designation:

Implausible voltage difference between U_KL30 and U_VPS (ZAE_MON)

Error description:

Monitors the difference between U_KL30 and U_VPS.

If - with the ZAE switched on - this voltage difference is greater than the threshold value ($\approx 1.5V$), it must be assumed that the output stage of the TCU (TREX) goes into test mode (unintentional switching on of low side drivers).

To prevent unintentional switching on of current outputs, the central switch-off unit (ZAE) must be switched off by an error response.

Error detection by:

Voltage difference between U_KL30 and U_VPS too great (voltage drop at ZAE too great)

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- No fault in central switch-off unit (ZAE)
- Ignition off/on

System check:

Check the TCU

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Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

Engine limit / retarder limit mode is missing (SAE)

Internal designation:

Engine and retarder torque mode signal not available

(Indicates which mode of Mot. or Ret. currently limits or regulates the torque / J1939.EEC1_FROM_ENGINE.Eng_Trq_Mode_Sig)

Error description:

Engine and retarder torque mode not available via CAN. This mode indicates which limit is currently active. The mode is included in message EEC1 (Engine / Retarder - Torque mode) from the engine control unit to the transmission.

Error detection by:

Software

System response:

- none

Cancellation condition:

- Signal available again

System check:

- Check CAN hardware
- Check the control unit indicated in the fault for correct function, topicality, and compatibility



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

Kickdown signal is not available via CAN (SAE)

Internal designation:

Kickdown signal not available (J1939.EEC2_FROM_ENGINE.Acc_Ped_Kickdown_Sig)

Error description:

The kickdown signal is not available via CAN.

The kickdown signal is included in message EEC2 from the engine control unit to the transmission (Accelerator Pedal Kickdown Switch).

Error detection by:

Software

System response:

No kickdown switch points

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the control unit indicated in the fault for correct function, topicality, and compatibility

205



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

Torque loss signal via CAN is missing (SAE)

Internal designation:

Parasitic loss torque signal not available

(through PTO consumer e.g. air conditioning.

J1939.EEC3_FROM_ENGINE.Parasitic_Losses_Prc_Trq_Sig)

Error description:

The parasitic torque loss is not available via CAN.

It is included in message EEC3 (Estimated Engine Parasitic Losses - Percent Torque) from the engine control unit to the transmission. This value indicates how much engine torque is lost due to other consumers. The transmission software must include this torque loss in its calculations.

Error detection by:

Software

System response:

Shifting pressure adaption switched off

Cancellation condition:

- Signal available again
- Neutral + Stop

System check:

- Check CAN hardware
- Check the control unit indicated in the fault for correct function, topicality, and compatibility

206



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Brake switch signal not available via CAN (SAE)

Internal designation:

Gearshift inhibit request signal not available
(J1939.TC1_FROM_ABS.Gear_Shift_inh_req_ABS.Wert)

Error description:

The signal for inhibiting gearshifts is not available via CAN.

The gearshift inhibit request is included in message TC1 from the ABS/ASR control unit to the transmission (Gear Shift Inhibit Request (ABS/ASR)).

Error detection by:

Software

System response:

none

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the control unit indicated in the fault for correct function, topicality, and compatibility

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Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Torque converter lock-up clutch disable signal not available via CAN (SAE)

Internal designation:

Request converter lock-up clutch disable signal is not available
(J1939.TC1_FROM_ABS.Trq_ConvLk_dis_req_ABS.Wert)

Error description:

The signal for requesting converter lock-up clutch disable is not available via CAN.

The request to disable the LuC is included in message TC1 from the ABS/ASR control unit to the transmission (Torque Converter Lockup Disable Request (ABS/ASR)).

Error detection by:

Software

System response:

none

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the control unit indicated in the fault for correct function, topicality, and compatibility

208



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

Signal cruise control active via CAN is missing (SAE)

Internal designation:

Cruise control active

Error description:

The signal Cruise Control active is not available via CAN.

J1939.CC_VS_FROM_CC.CC_active_Sig

The signal Cruise Control active is included in message CC/VS from the vehicle computer to the transmission.

Error detection by:

Software

System response:

none

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the control unit indicated in the fault for correct function, topicality, and compatibility

209



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

Speed signal (measured at the wheel) via CAN is missing (SAE)

Internal designation:

Speed measured at the wheel

J1939.CC_VS_FROM_CC.Wheelbased_Veh_Speed_Sig

(Wheel- based vehicle speed)

Error description:

The speed signal measured at the wheel is not available via CAN.

This speed is included in message CC/VS from the vehicle computer to the transmission.

Error detection by:

Software

System response:

none

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the control unit indicated in the fault for correct function, topicality, and compatibility

210



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Request gearshift inhibit signal is not available via CAN (unknown control unit) (SAE)

Internal designation:

Gearshift inhibit request signal not available

(J1939.TC1_FROM_ABS.Gear_Shift_inh_req_ABS.Wert)

Error description:

The signal for inhibiting gearshifts is not available via CAN.

The request to inhibit gearshifts is included in message TC1 from an unknown control unit to the transmission

Error detection by:

Software

System response:

none

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the control unit indicated in the fault for correct function, topicality, and compatibility

211



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Torque converter lock-up clutch disable signal is not available via CAN (unknown control unit) (SAE)

Internal designation:

Request converter lock-up clutch disable signal is not available
(J1939.TC1_FROM_ABS.Trq_ConvLk_dis_req_ABS.Wert)

Error description:

The signal for requesting converter clutch lockup disable is not available via CAN.
The request to disable the lockup is included in message TC1 from an unknown control unit to the transmission.

Error detection by:

Software

System response:

none

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the control unit indicated in the fault for correct function, topicality, and compatibility

212



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

Request Neutral - External not available via CAN

Internal designation:

Request Neutral - External not available

Error description:

The Neutral request from an unknown CAN – device is not available

J1939.TC1_FROM_XX.Disengage_Driveline_Req_Sig

(Disengage driveline request).

Error detection by:

Software

System response:

none

Cancellation condition:

Make Neutral - External signal available

System check:

- Check CAN hardware
- Check the control unit indicated in the fault for correct function, topicality, and compatibility

213



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

The signal ASR Brake Control active is not available via CAN (SAE)

Internal designation:

Signal ASR Brake Control active is not available

(J1939.EBC1_FROM_ABS.ASR_Brake_Ctrl_active.Wert)

Error description:

The signal ASR Electronic Brake Controller active is not available via CAN.

This signal (ASR Brake Control Active) is contained in message EBC1 from the Electronic Brake Controller to the transmission

Error detection by:

Software

System response:

none

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the control unit indicated in the fault for correct function, topicality, and compatibility

214



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Signal ABS (fully operational) is not available via CAN (SAE)

Internal designation:

Signal ABS (fully operational) is not available

(J1939.EBC1_FROM_ABS.ABS_fully_operational.Wert

For switch-off of retarder for step board)

Error description:

Signal ABS (fully operational) is not available via CAN.

This signal (ASR Brake Control Active) is used for retarder switch-off for step board. It is contained in message EBC1 from the Electronic Brake Controller to the transmission.

Error detection by:

Software

System response:

none

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the control unit indicated in the fault for correct function, topicality, and compatibility

215



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Signal ABS (fully operational) is not available via CAN (SAE)

Internal designation:

Signal ABS (fully operational) is not available

(J1939.EBC1_FROM_ABS.ABS_fully_operational.Wert

For switch-off of retarder for step board)

Error description:

Signal ABS (fully operational) is not available via CAN.

This signal (ASR Brake Control Active) is used for retarder switch-off for step board. It is contained in message EBC1 from the Electronic Brake Controller to the transmission.

Error detection by:

Software

System response:

none

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the control unit indicated in the fault for correct function, topicality, and compatibility

216



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Brake pressure signal front axle, left wheel, not available via CAN (SAE)

Internal designation:

Brake pressure signal front axle, right wheel, not available
(J1939.EBC3_FROM_ABS.Brake_press_front_rt.Wert)

Error description:

The brake pressure signal measured at the front axle, left wheel is not available via CAN.
This signal (Brake Application Pressure High Range, Front Axle, Right Wheel) is contained in message EBC3 from the Electronic Brake Controller to the transmission

Error detection by:

Software

System response:

none

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the control unit indicated in the fault for correct function, topicality, and compatibility

217



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Brake pressure signal rear axle 1, left wheel, not available via CAN (SAE)

Internal designation:

Brake pressure signal rear axle 1, left wheel, not available
(J1939.EBC3_FROM_ABS.Brake_press_rear1_lf.Wert)

Error description:

The brake pressure signal measured at the rear axle, left wheel is not available via CAN.
This signal (Brake Application Pressure High Range, Rear Axle 1, Left Wheel) is contained in message EBC3 from the Electronic Brake Controller to the transmission

Error detection by:

Software

System response:

none

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the control unit indicated in the fault for correct function, topicality, and compatibility

218



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Brake pressure signal rear axle 1, left wheel, not available via CAN (SAE)

Internal designation:

Brake pressure signal rear axle 1, right wheel, not available
(J1939.EBC3_FROM_ABS.Brake_press_rear1_lf.Wert)

Error description:

The brake pressure signal measured at the rear axle, left wheel is not available via CAN.
This signal (Brake Application Pressure High Range, Rear Axle 1, Right Wheel) is contained in message EBC3 from the Electronic Brake Controller to the transmission

Error detection by:

Software

System response:

none

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the control unit indicated in the fault for correct function, topicality, and compatibility

219



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Signal Vehicle Dynamic Control Fully Operational is not available via CAN (SAE)

Internal designation:

Signal Vehicle Dynamic Control Fully Operational is not available

(J1939.VDC1.VDC_fully_operational.Wert

Vehicle dynamic control)

Error description:

Signal Vehicle Dynamic Control Fully Operational is not available via CAN.

This signal (ASR Brake Control Active) is contained in message VDC1.

Error detection by:

Software

System response:

none

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the control unit indicated in the fault for correct function, topicality, and compatibility

220



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Signal ROP Engine Control Active is not available via CAN (SAE)

Internal designation:

Signal ROP Engine Control Active is not available (J1939.VDC1.ROP_Eng_Ctrl_active.Wert Roll over prevention)

Error description:

Signal ROP Engine Control Active is not available via CAN.

This signal (ROP Engine Control Active) is contained in message VDC1.

Error detection by:

Software

System response:

none

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the control unit indicated in the fault for correct function, topicality, and compatibility

221



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Signal ROP Brake Control Active is not available via CAN (SAE)

Internal designation:

Signal ROP Brake Control Active is not available (J1939.VDC1.ROP_Brake_Ctrl_active.Wert)

Error description:

Signal ROP Brake Control Active is not available via CAN.

This signal (ROP Brake Control Active) is contained in message VDC1

Error detection by:

Software

System response:

none

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the control unit indicated in the fault for correct function, topicality, and compatibility

222



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Signal TS (tracking stability) by controlling the engine control activated by CAN is not available (SAE)

Internal designation:

Signal TS (tracking stability) Engine Control Active is not available
(J1939.VDC1.YC_Eng_Ctrl_active.Wert
Yaw Control)

Error description:

The signal TS (tracking stability) via controlling the engine control activated by CAN is not available.

This signal (YC Engine Control Active) is contained in message VDC1

Error detection by:

Software

System response:

none

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the control unit indicated in the fault for correct function, topicality, and compatibility

223



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Signal TS (tracking stability) Brake Control Active is not available via CAN (SAE)

Internal designation:

Signal TS (tracking stability) Brake Control Active is not available
(J1939.VDC1.YC_Brake_Ctrl_active.Wert)

Error description:

Signal TS (tracking stability) Brake Control Active is not available via CAN.
This signal (YC Brake Control Active) is contained in message VDC1.

Error detection by:

Software

System response:

none

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the control unit indicated in the fault for correct function, topicality, and compatibility

224



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Low-idle switch signal is not available via CAN (IES)

Internal designation:

Low-idle switch

Message FMR1 ID 592 / Vehicle Engine Controller 1

Error description:

The signal of the low-idle switch is not available via CAN.

This signal is included in message FMR1 ID 592.

Error detection by:

Software

System response:

none

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check accelerator pedal
- Check the CAN network for correct function, topicality, and compatibility.

225



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Kickdown signal is not available via CAN (IES)

Internal designation:

Kickdown signal not available (IES.FMR592.Kickdown.Wert)

Error description:

The kickdown signal is not available via CAN.

This signal is included in message FMR1 ID 592.

Error detection by:

Software

System response:

none

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check accelerator pedal
- Check the CAN network for correct function, topicality, and compatibility.

226



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Parking brake signal is not available via CAN (IES)

Internal designation:

Parking brake signal is not available
(IES.FMR592.Feststellbremse.Wert)

Error description:

The parking brake signal is not available via CAN.

This signal is included in message FMR1 ID 592.

The missing signal may lead to functional restrictions; e.g. no AIS.

Error detection by:

Software

System response:

none

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the CAN network for correct function, topicality, and compatibility.

227



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

C3 – Signal (speed signal) is not available via CAN (IES)

Internal designation:

C3 – signal missing

Error description:

The C3 speed signal is not available via CAN.

This signal is included in message FMR1 ID 592.

In the event of a failure, the last I_HA adaption value is maintained.

Error detection by:

Software

System response:

none

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the CAN network for correct function, topicality, and compatibility.

228



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

The signal ASR intervention is not available via CAN (IES)

Internal designation:

Signal ASR intervention not available (IES.ABS512.ASR_Eingriff.Wert)

Error description:

The signal ASR intervention is not available via CAN.

This signal is included in message ABS/ EPB ID 512.

Error detection by:

Software

System response:

none

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the CAN network for correct function, topicality, and compatibility.

229



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

The signal roll-back (hill holder) lock is not available via CAN (IES)

Internal designation:

Signal Roll-back Lock is not available (IES.ABS512.Rueckrollsperr.Wert)

Error description:

The roll-back lock signal is not available via CAN.

This signal is included in message ABS/ EPB ID 512.

The missing signal may lead to functional restrictions; e.g. no AIS.

Error detection by:

Software

System response:

none

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the CAN network for correct function, topicality, and compatibility.

230



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

The bus stop brake signal is not available via CAN (IES)

Internal designation:

Frequent Stop Brake signal (electronic request) not available (IES.ABS1024.

Bremswert_Soll.Wert
for gear release and AIS)

Error description:

The bus stop brake signal is not available via CAN.

This signal is included in message FPS ID 1448.

The missing signal may lead to functional restrictions; e.g. no AIS.

Error detection by:

Software

System response:

none

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the CAN network for correct function, topicality, and compatibility.

231



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Engine friction torque signal is not available via CAN (IES)

Internal designation:

Engine friction torque signal not available

Error description:

The engine friction torque is not available via CAN.

This signal is included in message FMR2 ID 593.

Error detection by:

Software

System response:

none

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the CAN network for correct function, topicality, and compatibility.



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Failure of engine speed (n_{Mot}), turbine speed (n_{Tu}), and output speed (n_{Ab})

Internal designation:

n_{Ab} , n_{Tu} , and n_{Mot} failed

Error description:

Failure of engine speed (n_{Mot}), turbine speed (n_{Tu}), and output speed (n_{Ab}).

Error detection by:

If n_{Ab} , n_{Tu} , and n_{Mot} display simultaneous errors

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder
- Quick WK lock-up clutch disable (without drop / delay ramps)
- Limit engine torque
- Limit retarder torque
- Lock gearshifts;
- Lock gearshifts from Neutral to Reverse
- Switch off shift pressure adaptation (gear change); continue to use last values
- Neutral - Immediately if shifting into Neutral (without delay and holding ramps); applies to stationary and driving vehicle
- Increase main pressure
- WK short-term opening and WK closing during gear-shifting locked
- Shifting point calculation based on default values
- Switch off tractive force advance calculation
- Lock subsequent shift preparation during gearshifts
- Switch off TOPO

Cancellation condition:

- No triple rpm error
- Neutral + Stop
- Ignition off/on

System check:

1. Switch ignition off
2. Unplug transmission electronics
3. Connect connector block between TCU and transmission
4. Switch Ignition on
5. Measure voltage between pin 10 (EF2) and pin 15 (AU2) Setpoint value: 5V

6. Measure voltage between pin 2 (EF1) and pin 6 (AU1) Setpoint value: 5V
7. Switch ignition off
8. Unplug electronic system
9. Measure resistance between pin 15 (AU2) and ground / housing Setpoint value: >10 mohm
10. Measure resistance between pin 10 (EF2) and ground / housing Setpoint value: >10 mohm
11. Measure resistance between pin 6 (AU1) and ground / housing Setpoint value: >10 mohm
12. Measure resistance between pin 2 (EF1) and ground / housing Setpoint value: >10 mohm
13. Check the source of signals of the engine speed

In the event of deviations from the nominal value, check the wiring, the component, and the TCU.

233



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Signal EBS electronic brake switch missing / faulty (SAE)

Internal designation:

EBS electronic brake switch

(Electronic Brake Controller 1 (to transm.) from ABS

(PGN: 61441 ID: 0x18F0010B))

Error description:

The signal EBS electronic brake switch is not available via CAN.

This signal is contained in message EBC1 from the Electronic Brake Controller to the transmission.

The missing signal may lead to functional restrictions; e.g. no AIS

Error detection by:

Software

System response:

none

Cancellation condition:

no signal available again

System check:

- Check CAN hardware
- Check the control unit indicated in the fault for correct function, topicality, and compatibility

234



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Neutral external request not available via CAN (SAE)

Internal designation:

The Neutral external request is not available (Disengage Driveline Request).

Error description:

The Neutral request is not available via CAN.

This signal is contained in message TC 1.

Error detection by:

Software

System response:

None

Cancellation condition:

no signal available again

System check:

- Check CAN hardware
- Check the CAN network for correct function, topicality, and compatibility.

235



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Warning increase sump temperature

Internal designation:

Increased sump temperature

Error description:

The sump temperature is above 115°C

Error detection by:

$T_{\text{Sumpf}} > \text{limit value}$ T_{Sumpf} too high (approx. 115 °C)

System response:

Limit retarder torque

Cancellation condition:

- Sump temperature < limit value
- New retarder request

System check:

- Check oil level / oil filter
- Check system for slip faults
- Check for retarder faults
- Check cooling system
- Check cooler changeover valve
- Check main pressure
- Check lock-up clutch

236



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Sump temperature overheating

Internal designation:

Sump temperature overheat

Error description:

The sump temperature is above 125°C

Error detection by:

$T_{\text{Sumpf}} > \text{limit value}$ T_{Sumpf} increased (approx. 125 °C)

System response:

- Limited engine torque
- Retarder request switched off and AIM_Retarder switched off
- Engine brake switched off

Cancellation condition:

- Sump temperature < limit value
- Neutral + Stop
- New retarder request

System check:

- Check oil level / oil filter
- Check system for slip faults
- Check for retarder faults
- Check cooling system
- Check cooler changeover valve
- Check main pressure
- Check lock-up clutch

237



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Warning increased retarder temperature

Internal designation:

Retarder temperature too high

Error description:

The retarder temperature is above 160°C

Error detection by:

$T_{Ret} > \text{limit value } T_{Ret}$. too high (approx 160 °C)

System response:

Retarder torque limited

Cancellation condition:

- Retarder temperature < limit value
- New retarder request

System check:

- Check oil level / oil filter
- Check system for slip faults
- Check for retarder faults
- Check cooling system
- Check cooler changeover valve
- Check main pressure
- Check lock-up clutch

238



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Retarder temperature overheating

Internal designation:

Temperature retarder overheat

Error description:

The retarder temperature is above 160°C

Error detection by:

$T_{Ret} > \text{limit value } T_{Ret}$. too high (approx. 160 °C)

System response:

Retarder request switched off and AIM_Retarder switched off

Cancellation condition:

- Retarder temperature < limit value
- New retarder request

System check:

- Check oil level / oil filter
- Check system for slip faults
- Check for retarder faults
- Check cooling system
- Check cooler changeover valve
- Check main pressure
- Check lock-up clutch

239



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Test stand data field active

Internal designation:

Test stand data field active

Error description:

The test stand data field was activated

Error detection by:

Software

System response:

- All current outputs are switched off (ZAE open)
- Neutral / Loss of a gear
- No retarder

Cancellation condition:

- Set correct data field in EEPROM
- Ignition off/on

System check:

Correct data field with diagnostic tool in EEPROM

240



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Message FMR1104 timeout (IES)

Internal designation:

FMR1104_TIMEOUT

Error description:

Timeout of message FMR1104

Error detection by:

Software

System response:

none

Cancellation condition:

Message available again

System check:

- Check CAN hardware
- Check the CAN network for correct function, topicality, and compatibility

241



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Message PLD1364 timeout (IES)

Internal designation:

PLD1364_TIMEOUT

Error description:

Timeout of message PLD 1364

Error detection by:

Software

System response:

none

Cancellation condition:

Message available again

System check:

- Check CAN hardware
- Check the CAN network for correct function, topicality, and compatibility

242



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Parking brake signal is not available via CAN (IES)

Internal designation:

The retarder lever position signal is not available

Error description:

The retarder lever position signal is not available via CAN. This information is included in message FMR114.

Error detection by:

Software

System response:

none

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the CAN network for correct function, topicality, and compatibility

243



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

The signal brake pressure circuit 1 is not available via CAN (IES)

Internal designation:

Brake pressure signal circuit 1 not available

Error description:

Brake pressure in brake circuit 1 is not available via CAN. The missing signal may lead to functional restrictions; e.g. no AIS

Error detection by:

Software

System response:

none

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the CAN network for correct function, topicality, and compatibility

244



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

The signal brake pressure circuit 2 is not available via CAN (IES)

Internal designation:

Brake pressure signal circuit 2 not available

Error description:

Brake pressure in brake circuit 2 is not available via CAN. The missing signal may lead to functional restrictions; e.g. no AIS

Error detection by:

Software

System response:

none

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the CAN network for correct function, topicality, and compatibility

245



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

The engine cooling water temperature is not available via CAN (IES)

Internal designation:

IES_T_MOT_KUEHLWASSER_SIG

Error description:

The cooling water temperature sent by CAN is not available. It is included in message PLD1364

Error detection by:

Software

System response:

none

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the CAN network for correct function, topicality, and compatibility

246



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

The message FPS 1451 is not available via CAN (IES)

Internal designation:

Message FPS ID1451:

(Freely programmable shift module)

Error description:

Timeout of message FPS ID 1451

Error detection by:

Software

System response:

none

Cancellation condition:

Message available again

System check:

- Check CAN hardware
- Check the CAN network for correct function, topicality, and compatibility

247



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

The approval signal second gear forward is not available via CAN (IES)

Internal designation:

Approval signal second gear forward not available

Error description:

The approval signal second gear forward is not available via CAN. This signal is included in message FPS ID 1451.

Error detection by:

Software

System response:

There may be no gear approval

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the CAN network for correct function, topicality, and compatibility

248



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

The approval signal second gear reverse is not available via CAN (IES)

Internal designation:

The approval signal second gear reverse is not available

Error description:

The approval signal second gear reverse is not available via CAN. This signal is included in message FPS ID 1451.

Error detection by:

Software

System response:

There may be no gear approval

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the CAN network for correct function, topicality, and compatibility

249



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

The driving program selection signal is not available via CAN (IES)

Internal designation:

The driving program selection signal is not available

Error description:

The driving program selection signal is not available via CAN. This signal is included in message FPS ID 1451.

Error detection by:

Software

System response:

There is no driving program switching

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the CAN network for correct function, topicality, and compatibility

250



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

The acceleration/restriction status signal is not available via CAN (SAE)

Internal designation:

Acceleration restriction status

Error description:

The acceleration/restriction status signal is not available via CAN.

Error detection by:

Software

System response:

none

Cancellation condition:

Signal available again

System check:

- Check CAN hardware
- Check the CAN network for correct function, topicality, and compatibility

251



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

J1939.AUXIO1.Timeout supplement Input / Output (IES)

Internal designation:

Supplement Input / Output status timeout error

PGN65241

Error description:

Timeout of the message

Error detection by:

Software

System response:

none

Cancellation condition:

Message available again

System check:

- Check CAN hardware
- Check the CAN network for correct function, topicality, and compatibility

252



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Retarder hand lever signal digital is not plausible

Internal designation:

Retarder hand lever signal digital is implausible

Error description:

Faulty signal

Error detection by:

Software

System response:

none

Cancellation condition:

Signal is plausible

System check:

- Check CAN hardware
- Check the CAN network for correct function, topicality, and compatibility

253



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Retarder footplate signal digital is not plausible

Internal designation:

Retarder footplate signal digital is implausible

Error description:

Faulty signal

Error detection by:

Software

System response:

none

Cancellation condition:

Signal is plausible

System check:

- Check CAN hardware
- Check the CAN network for correct function, topicality, and compatibility

254



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

ECU temperature gradient too big

Internal designation:

ECU temperature gradient too big

Error description:

The temperature rose too quickly in the fixed time period.

Error detection by:

Software

System response:

none

Cancellation condition:

Normal temperature rise

System check:

- Heat dissipation inadequate
- Check cooling system
- Check transmission oil level

255



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Sump temperature gradient too big

Internal designation:

Sump temperature gradient too big

Error description:

The temperature rose too quickly in the fixed time period.

Error detection by:

Software

System response:

none

Cancellation condition:

Normal temperature rise

System check:

- Heat dissipation inadequate
- Check cooling system
- Check transmission oil level

256



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Retarder temperature gradient too big

Internal designation:

Retarder temperature gradient too big

Error description:

The temperature rose too quickly in the fixed time period.

Error detection by:

Software

System response:

none

Cancellation condition:

Normal temperature rise

System check:

- Heat dissipation inadequate
- Check cooling system
- Check retarder reduction
- Check transmission oil level

257



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

ER3 coolant temperature gradient too big

Internal designation:

ER3 coolant temperature gradient too big

Error description:

The temperature rose too quickly in the fixed time period.

Error detection by:

Software

System response:

none

Cancellation condition:

Normal temperature rise

System check:

- Heat dissipation inadequate
- Check cooling system

258



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Speed range selector CAN signal and speed range selector limp home signal not available

Internal designation:

Speed range selector CAN signal and speed range selector limp home signal not available

Error description:

No valid speed range selector signal from either Limp Home or CAN

Error detection by:

Software

System response:

ZAE deactivation (deactivate all AIM internally; deactivate neutral internally)

Cancellation condition:

No CAN signal error or signal present,
speed range selector in neutral

System check:

- Check speed range selector
- Check CAN hardware
- Check the CAN network for correct function, topicality, and compatibility

259



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Speed range selector limp home signal not available, however, speed range selector CAN signal OK

Internal designation:

Speed range selector limp home signal not available, however, speed range selector CAN signal OK

Error description:

CAN drive signal interface is OK

PDM drive signal interface defective.

Error detection by:

Software

System response:

none

Cancellation condition:

Signal is plausible

System check:

- Check PDM drive signal interface

260



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Table mode activated (the table mode is only admissible for laboratory use because the diagnosis mode is switched off)

Internal designation:

Table mode activated (the table mode is only admissible for laboratory use because the diagnosis mode is switched off)

Error description:

Reference to table mode

Error detection by:

Software

System response:

none

Cancellation condition:

Connect control unit to vehicle and transmission

System check:

261



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Direct retarder request via switch (retarder torque target value) is not available

Internal designation:

Direct retarder request switch (retarder torque setpoint value) is not available

Error description:

CAN signal error or no signal

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check CAN hardware
- Check the CAN network for correct function, topicality, and compatibility

262



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Missing signal from the electronic brake system EBC5

Internal designation:

EBC5 Electronic Brake Controller 5: Timeout

Error description:

no signal EBC5_FROM_ABS

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check electronic brake controller
- Check the CAN network for correct function, topicality, and compatibility

263



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Bus stop brake signal error

Internal designation:

Stopover Brake EBC5_FROM_ABS_HALT_BRAKE_MODE_SIG

Error description:

no Bus Stop Brake signal or CAN signal error

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Have Bus Stop Brake checked
- Check the CAN network for correct function, topicality, and compatibility

264



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

EvoBus MCM C01 J1939 signal error

Internal designation:

J1939EVO.MCM_C01.Timeout

Error description:

No signal within the determined period or CAN signal error

J1939EVO.MCM_C01

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility

265



Error description

Project: EcoLife
Basic program AP83 / Step 2
status:

Error:

EvoBus MCM C02 J1939 signal error

Internal designation:

J1939EVO.MCM_C02.Timeout

Error description:

No signal within the determined period or CAN signal error J1939EVO.PT_MCM_C02

Error detection by:

Software

System response:

- Shut down NB function (NB = shift element F is shifted to neutral)
- Shut down AIS function (Automatic Idle Shift)
- Limit engine torque to specified value
- Limit retarder torque to specified value
- Switch off engine brake
- Switch off PTO request
- Switch off shift pressure adaptation (gear change); continue to use last values
- Safe opening or closing of lock-up clutch
- Neutral-Immediately if shifting into Neutral (without delay and holding ramps); applies to stationary and driving vehicle
- Main pressure max. value from terminal and total max. value across all assemblies incl. engine.
- Shift point calculation based on default values; switch off tractive force pre-calculation; block sequential shift preparation for gear change; switch off TOPO
- Switch off engine control during gear change
- Block and/or abort temporary opening of lock-up clutch and closing of lock-up clutch during gear changes
- n_Mot replaced by n_Tu (regarding RS_SMON function, n_Mot and n_Tu are queried. Thus, n_Tu is used as a substitute for lock-up clutch open and lock-up clutch closed)
- M_Mot Ist (actual) replaced by M_Mot Soll (target) (vehicle interface)
- SPHA: no "Sync. Starten GgEin" phase (because for the phase end detection, the speeds n_Mot and/or n_Tu are missing)
- Switch off reproduction (adaptation) of engine torque characteristics

Cancellation condition:

- Ignition off
- Error not active
- N and standstill
- New retarder request
- Engine brake is available for the next possible activation after a load request above 0%
- PTO, new request

System check:

- Check the CAN network for correct function, topicality, and compatibility

266



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

EvoBus MCM C07 J1939 signal error

Internal designation:

J1939EVO.MCM_C07.Timeout

Error description:

No signal within the determined period or CAN signal error J1939EVO.PT_MCM_C07

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility

267



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

EvoBus MCM C23 J1939 signal error

Internal designation:

J1939EVO.MCM_C23.Timeout

Error description:

No signal within the determined period or CAN signal error J1939EVO.PT_MCM_C23.Timeout

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility

268



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

EvoBus CPC C01 J1939 signal error

Internal designation:

J1939EVO.CPC_C01.Timeout

Error description:

No signal within the determined period or CAN signal error J1939EVO.CPC_C01.Timeout

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility

269



Error description

Project: EcoLife

Basic program status: AP83 / Step 2

Error:

EvoBus CPC C11 J1939 signal error

Internal designation:

J1939EVO.CPC_C11.Timeout

Error description:

No signal within the determined period or CAN signal error J1939EVO.CPC_C11.Timeout

Error detection by:

Software

System response:

- Switch off shift pressure adaptation (gear change); continue to use last values
- Main pressure max. value from terminal and total max. value across all assemblies incl. engine.
- Switch off engine control during gear change
- Block and/or abort temporary opening of lock-up clutch and closing of lock-up clutch during gear changes
- M_Mot_Soll (target) and/or L_An timer replaced by M_Mot_Ist (actual) (vehicle interface)
- No load request query regarding gear engagement condition (with missing load signal; Info: n_Tu and M_Mot_Soll (target) will continue to be queried)
- no M_Mot_Soll- and/or load request query regarding gear engagement condition
- Load from M_Mot_Soll (target) replacement
- Switch off reproduction (adaptation) of engine torque characteristics

Cancellation condition:

- N and standstill
- No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility

270



Error description

Project: EcoLife

Basic program status: AP83 / Step 2

Error:

EvoBus CPC C03 J1939 signal error

Internal designation:

J1939EVO.CPC_C03.Timeout

Error description:

No signal within the determined period or CAN signal error J1939EVO.CPC_C03.Timeout

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility

271



Error description

Project: EcoLife

Basic program status: AP83 / Step 2

Error:

EvoBus CPC C06 J1939 signal error

Internal designation:

J1939EVO.CPC_C06.Timeout

Error description:

No signal within the determined period or CAN signal error J1939EVO.CPC_C06.Timeout
Timeout (10 ms)

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility

272



Error description

Project: EcoLife

Basic program status: AP83 / Step 2

Error:

EvoBus CPC C07 J1939 signal error

Internal designation:

J1939EVO.CPC_C07.Timeout

Error description:

No signal within the determined period or CAN signal error J1939EVO.CPC_C07.Timeout

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility



Error description

Project: EcoLife
Basic program AP83 / Step 2
status:

Error:

EvoBus CPC C10 J1939 signal error

Internal designation:

J1939EVO.CPC_C10.Timeout

Error description:

No signal within the determined period or CAN signal error J1939EVO.CPC_C10.Timeout

Error detection by:

Software

System response:

- Shut down NB function (NB = shift element F is shifted to neutral)
- Shut down AIS function (Automatic Idle Shift)
- Limit engine torque to specified value
- Switch off retarder request and AIM_Retarder
- Limit retarder torque to specified value
- Switch off engine brake
- Switch off PTO request
- Switch off shift pressure adaptation (gear change); continue to use last values
- Main pressure max. value from terminal and total max. value across all assemblies incl. engine.
- Switch off engine control during gear change
- Block and/or abort temporary opening of lock-up clutch and closing of lock-up clutch during gear changes
- M_Mot_Ist (actual) replaced by M_Mot_Soll (target) (vehicle interface)
- No load request query regarding gear engagement condition (with missing load signal; Info: n_Tu and M_Mot_Soll (target) will continue to be queried)
- no M_Mot_Soll- and/or load request query regarding gear engagement condition
- Load from M_Mot_Soll (target) replacement
- Switch off reproduction (adaptation) of engine torque characteristics

Cancellation condition:

- Ignition off
- Error not active
- N and standstill
- New retarder request
- Engine brake is available for the next possible activation after a load request above 0%
- PTO, new request

System check:

- Check the CAN network for correct function, topicality, and compatibility

274



Error description

Project: EcoLife

Basic program status: AP83 / Step 2

Error:

EvoBus CPC C12 J1939 signal error

Internal designation:

J1939EVO.CPC_C12.Timeout

Error description:

No signal within the determined period or CAN signal error J1939EVO.CPC_C12.Timeout

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility

275



Error description

Project: EcoLife

Basic program status: AP83 / Step 2

Error:

EvoBus BS E2 J1939 signal error

Internal designation:

J1939EVO.BS_E2.Timeout

Error description:

No signal within the determined period or CAN signal error J1939EVO.BS_E2.Timeout

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility

276



Error description

Project: EcoLife

Basic program status: AP83 / Step 2

Error:

EvoBus BS E3 J1939 signal error

Internal designation:

J1939EVO.BS_E3.Timeout

Error description:

No signal within the determined period or CAN signal error J1939EVO.BS_E3.Timeout

Error detection by:

Software

System response:

- TOPO deactivated

Cancellation condition:

- Error not active

System check:

- Check the CAN network for correct function, topicality, and compatibility

277



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

EvoBus EBS BUS B02 J1939 signal error

Internal designation:

J1939EVO.EBS_BUS_B02.Timeout

Error description:

No signal within the determined period or CAN signal error J1939EVO.EBS_BUS_B02.Timeout

Error detection by:

Software

System response:

- TOPO deactivated

Cancellation condition:

- Error not active

System check:

- Check the CAN network for correct function, topicality, and compatibility

278



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

EvoBus MUX3 B33 J1939 signal error

Internal designation:

J1939EVO.MUX3_B33.Timeout

Error description:

No signal within the determined period or CAN signal error J1939EVO.MUX3_B33.Timeout

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility

279



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

Signal error, EvoBus engine brake constant throttle signal 1
MCM C01 EngBrk1 Stat MR PT J1939

Internal designation:

J1939EVO.PT_MCM_C01.EngBrk1_Stat_MR_PT_Sig

Error description:

Transmitted value (IES.FMR592.) constant throttle is not plausible or no signal
J1939EVO.PT_MCM_C01.EngBrk1_Stat_MR_PT_Sig value not plausible or no signal
Torque still comes correctly via ACTUAL drive brake torque

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility

280



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

Signal error, EvoBus engine brake constant throttle signal 2

MCM C01 EngBrk2 Stat MR PT J1939

Internal designation:

J1939EVO.PT_MCM_C01.EngBrk2_Stat_MR_PT_Sig

Error description:

Transmitted value (IES.FMR592.) constant throttle is not plausible or no signal

J1939EVO.PT_MCM_C01.EngBrk2_Stat_MR_PT_Sig value is not plausible or no signal

Torque still comes correctly via ACTUAL drive brake torque

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility

281



Error description

Project: EcoLife
Basic program AP83 / Step 2
status:

Error:

EvoBus signal error, engine speed signal
PT MCM C02 ENGSPD CVAL PT SIG

Internal designation:

J1939EVO.PT_MCM_C02.EngSpd_Cval_PT_Sig

Error description:

Transmitted value for engine speed signal (IES.FMR592.n_Mot.Wert) is not plausible or no signal

J1939EVO.PT_MCM_C02.EngSpd_Cval_PT_Sig value is not plausible or no signal

Error detection by:

Software

System response:

- Shut down NB function (NB=shift element F is shifted to neutral)
- Shut down AIS function (Automatic Idle Shift)
- Limit engine torque to specified value
- Switch off engine brake
- Switch off PTO request
- Switch off shift pressure adaptation (gear change); continue to use last values
- Safe opening or closing of lock-up clutch
- Neutral-Immediately if shifting into Neutral (without delay and holding ramps); applies to stationary and driving vehicle
- Main pressure max. value from terminal and total max. value across all assemblies incl. engine.
- Shift point calculation based on default values; switch off tractive force pre-calculation; block sequential shift preparation for gear change; switch off TOPO
- Block and/or abort temporary opening of lock-up clutch and closing of lock-up clutch during gear changes
- n_Mot replaced by n_Tu (regarding RS_SMON function, n_Mot and n_Tu are queried. Thus, n_Tu is used as a substitute for lock-up clutch open and lock-up clutch closed)
- SPHA: no "Sync. Starten GgEin" phase (because for the phase end detection, the speeds n_Mot and/or n_Tu are missing)
- Switch off reproduction (adaptation) of engine torque characteristics

Cancellation condition:

- Error not active

- With ignition off
- N and standstill
- Engine brake is available for the next possible activation after a load request above 0%
- PTO with new request

System check:

- Check the CAN network for correct function, topicality, and compatibility



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

EvoBus actual engine torque, signal error

PT MCM C02 EngTrq Cval PT Sig

Internal designation:

J1939EVO.PT_MCM_C02.EngTrq_Cval_PT_Sig

Error description:

Transmitted value for engine torque (IES.FMR593.M_Mot_Ist.Wert) is not plausible or no signal

J1939EVO.PT_MCM_C02.EngTrq_Cval_PT_Sig value is not plausible or no signal

If the ignition is on, nominal torque will be sent. To determine pressure / engine control / adaptation.

After that, if pos.: engine torque; if neg.: sum of brake torques from retarder, engine brake, overrun torque

Error detection by:

Software

System response:

- Shut down NB function (NB=shift element F is shifted to neutral)
- Shut down AIS function (Automatic Idle Shift)
- Limit engine torque to specified value
- Limit retarder torque to specified value
- Switch off engine brake
- Switch off PTO request
- Switch off shift pressure adaptation (gear change); continue to use last values
- Main pressure max. value from terminal and total max. value across all assemblies incl. engine
- Switch off engine control during gear change
- Block and/or abort temporary opening of lock-up clutch and closing of lock-up clutch during gear changes
- M_Mot_Ist (actual) replaced by M_Mot_Soll (target) (vehicle interface)
- Switch off reproduction (adaptation) of engine torque characteristics

Cancellation condition:

- Error not active
- With ignition off
- N and standstill
- Retarder with new request
- Engine brake is available for the next possible activation after a load request above 0%
- PTO with new request

System check:

- Check the CAN network for correct function, topicality, and compatibility.

283



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

EvoBus engine friction torque, signal error

PT MCM C23 EngFrictTrq Cval PT Sig J1939

Internal designation:

J1939EVO.PT_MCM_ C23.EngFrictTrq_Cval_PT_Sig

Error description:

Transmitted value for engine friction torque is not plausible or no signal

J1939EVO.PT_MCM_C23.EngFrictTrq_Cval_PT_Sig value is not plausible or no signal

Error detection by:

Software

System response:

- Switch off reproduction (adaptation) of engine torque characteristics

Cancellation condition:

- Error not active

System check:

- Check the CAN network for correct function, topicality, and compatibility.

284



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

EvoBus signal error, maximum current torque signal
PT MCM C02 MaxActlEngTrq Cval PT Sig J1939

Internal designation:

J1939EVO.PT_MCM_C02.MaxActlEngTrq_Cval_PT_Sig

Error description:

Transmitted value for maximum current torque signal is not plausible or no signal
IES.FMR1360.M_Mot_Max_Momentan (current): value for load determination/engine control
J1939EVO.PT_MCM_C02.MaxActlEngTrq_Cval_PT_Sig value is not plausible or no signal

Error detection by:

Software

System response:

- Switch off reproduction (adaptation) of engine torque characteristics

Cancellation condition:

- Error not active

System check:

- Check the CAN network for correct function, topicality, and compatibility.

285



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

EvoBus signal error, coolant temperature

PT MCM C07 CoolTemp Cval PT Sig J1939

Internal designation:

J1939EVO.PT_MCM_C07.CoolTemp_Cval_PT_Sig

Error description:

Transmitted value for engine coolant temperature is not plausible or no signal.

Is used to reduce retarder

No measure because: safeguarding by T_Ret and T_Su available.

J1939EVO.PT_MCM_C07.CoolTemp_Cval_PT_Sig value is not plausible or no signal

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility.

286



Error description

Project: EcoLife
Basic program AP83 / Step 2
status:

Error:

EvoBus signal error, ASR intervention signal
PT CPC3 C01 ATC BrkCtrl Stat PT Sig J1939

Internal designation:

J1939EVO.PT_CPC3_ C01.ATC_BrkCtrl_Stat_PT_Sig

Error description:

Transmitted value for ASR intervention is not plausible or not present
IES.ABS512.ASR_Eingriffwert (intervention value)
J1939EVO.PT_CPC3_C01.ATC_BrkCtrl_Stat_PT_Sig value is not plausible or no signal present

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility.

287



Error description

Project: EcoLife
Basic program AP83 / Step 2
status:

Error:

EvoBus signal error, ABS intervention signal
BS E2 ABS Actv2 Stat PT Sig J1939

Internal designation:

J1939EVO.BS_E2.ABS_Actv2_Stat_PT_Sig

Error description:

Transmitted value for ABS intervention signal is not plausible or not present
IES.ABS512.ABS_Eingriffwert (intervention value)
J1939EVO.BS_E2.ABS_Actv2_Stat_PT_Sig value is not plausible or no signal present

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility.

288



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

EvoBus signal error, kickdown signal

PT CPC3 C03 KickDn Stat PT Sig J1939

Internal designation:

J1939EVO_PT_CPC3_C03_KICKDN_STAT_PT_SIG

Error description:

Transmitted value for kickdown signal is not plausible or not present

IES.FMR592.Kickdownwert (kickdown value)

J1939EVO.PT_CPC3_C03.KICKDN_STAT_PT_SIG value is not plausible or no signal present.

Error detection by:

Software

System response:

Kickdown is not available

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility.

289



Error description

Project: EcoLife
Basic program AP83 / Step 2
status:

Error:

EvoBus signal error, speed signal
J1939EVOBus CPC C10 VehSpd Cval PT Sig

Internal designation:

J1939EVO.CPC_C10.VehSpd_Cval_PT_Sig

Error description:

Transmitted value for current speed signal is not plausible or not present.
If the speed signal fails, the last i_HA (i, rear axle) adaptation value is maintained to calculate the factor for the rear axle ratio with dynamic tire radius.
J1939EVO.CPC_C10.VehSpd_Cval_PT_Sig (C3 592) value is not plausible or no signal present.

Error detection by:

Software

System response:

- The rear axle adaptation i- HAA is deactivated. If the required speeds are not available, the rear axle adaptation is deactivated automatically.

Cancellation condition:

- Error not active

System check:

- Check the CAN network for correct function, topicality, and compatibility.

290



Error description

Project: EcoLife
Basic program AP83 / Step 2
status:

Error:

EvoBus signal error, parking brake signal
PT CPC C06 PrkBrk Stat PT Sig J1939

Internal designation:

J1939EVO.CPC_C06.PrkBrk_Stat_PT_Sig

Error description:

Transmitted value for parking brake signal is not plausible or not present.
IES.FMR592.Feststellbremsewert (parking brake value)
J1939EVO.CPC_C06.PrkBrk_Stat_PT_Sig value is not plausible or no signal present.

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility.

291



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

EvoBus signal error, cruise control signal (SPN 595)

PT CPC C09 CC Actvn Stat PT Sig J1939

Internal designation:

J1939EVO.CPC_C09.CC_Actvn_Stat_PT_Sig

Error description:

Transmitted value for cruise control signal is not plausible or not present.

J1939EVO.CPC_C09.CC_Actvn_Stat_PT_Sig value is not plausible or no signal present.

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility.



Error description

Project: EcoLife

Basic program status: AP83 / Step 2

Error:

EvoBus signal error, retarder lever setting signal
J1939EVOBus CPC C07 RetSwPosn2 Stat PT Sig

Internal designation:

J1939EVO.CPC_C07.RetSwPosn2_Stat_PT_Sig

Error description:

Transmitted value for retarder lever setting signal is not plausible or not present.
J1939EVO.CPC_C07.RetSwPosn2_Stat_PT_Sig value is not plausible or no signal present.

Error detection by:

Software

System response:

Retarder cannot be operated via CAN hand lever.

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility.



Error description

Project: EcoLife
Basic program AP83 / Step 2
status:

Error:

EvoBus signal error, engine target torque signal
 J1939EVOBus CPC C11 TargetEngTrqETP rq PT

Internal designation:

J1939EVO.CPC_C11.TargetEngTrqETP_rq_PT

Error description:

Transmitted value for engine target torque signal for load determination and engine control is not plausible or not present.

IES.FMR593.M_Mot_Sollwert (target value)

J1939EVO.CPC_C11.TargetEngTrqETP_rq_PT value is not plausible or no signal present.

Error detection by:

Software

System response:

- Shut down NB function (NB=shift element F is shifted to neutral)
- Shut down AIS function (Automatic Idle Shift)
- Limit engine torque to specified value
- Switch off retarder request and AIM_Retarder
- Limit retarder torque to specified value
- Switch off engine brake
- Switch off PTO request
- Switch off shift pressure adaptation (gear change); continue to use last values
- Main pressure max. value from terminal and total max. value across all assemblies incl. engine
- Switch off engine control during gear change
- Block and/or abort temporary opening of lock-up clutch and closing of lock-up clutch during gear changes
- M_Mot_Soll (target) and/or L_Anf replaced by M_Mot_Ist (actual) (vehicle interface)
- No load request query regarding gear engagement condition (with missing load signal; Info: n_Tu and M_Mot_Soll (target) will continue to be queried)
- no M_Mot_Soll- and/or load request query regarding gear engagement condition
- Load from M_Mot_Soll (target) replacement
- Switch off reproduction (adaptation) of engine torque characteristics

Cancellation condition:

- Error not active
- Ignition off

- N and standstill
- New retarder request
- Engine brake is available for the next possible activation after a load request above 0%
- PTO, new request

System check:

- Check the CAN network for correct function, topicality, and compatibility.



Error description

Project: EcoLife
Basic program AP83 / Step 2
status:

Error:

EvoBus signal error, retarder target torque signal
J1939EVOBus CPC C12 RetTrq Rq PT Sig

Internal designation:

J1939EVO.CPC_C12.RetTrq_Rq_PT_Sig

Error description:

Transmitted value for retarder target torque signal is not plausible or not present.
IES.FMR593.M_Ret_Sollwert (target value)
J1939EVO.CPC_C12.RetTrq_Rq_PT_Sig value is not plausible or no signal present.

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility.

295



Error description

Project: EcoLife
Basic program AP63 / Step 1.1
status:

Error:

EvoBus signal error, hill holder signal
BS E3 DispHaltBrk Cmd BS Sig J1939

Internal designation:

J1939EVO.BS_E3.DispHaltBrk_Cmd_BS_Sig

Error description:

Transmitted value for the hill holder signal is not plausible or not present.
IES.ABS512.Rueckrollsperrwert (hill holder value)
J1939EVO.BS_E3.DispHaltBrk_Cmd_BS_Sig value is not plausible or no signal present.

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility.



Error description

Project: EcoLife

Basic program status: AP83 / Step 2

Error:

EvoBus signal error, brake value setpoint value
J1939EVOBus BS E3.Brk Cval Sig

Internal designation:

J1939EVO.BS_E3.Brk_Cval_Sig

Error description:

Transmitted value for brake value setpoint value is not plausible or not present.
IES.ABS1024.brake value setpoint value
J1939EVO.BS_E3.Brk_Cval_Sig value is not plausible or no signal present.

Error detection by:

Software

System response:

- Topographical functionalities are deactivated

Cancellation condition:

- Error not active

System check:

- Check the CAN network for correct function, topicality, and compatibility.



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Signal error, EvoBus, brake circuit 1 pressure signal
AIR1 ICUC BrkAirPress1 Stat Sig

Internal designation:

J1939EVO.AIR1_ICUC.BrkAirPress1_Stat_Sig

Error description:

Transmitted value for brake circuit 1 pressure signal (pressure in brake circuit 1) is not plausible or not present.

J1939EVO.AIR1_ICUC.BrkAirPress1_Stat_Sig value is not plausible or no signal present.

Error detection by:

Software

System response:

- Topographical functionalities are deactivated

Cancellation condition:

- Error not active

System check:

- Check the CAN network for correct function, topicality, and compatibility.

298



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Signal error, EvoBus, brake circuit 2 pressure signal
AIR1 ICUC BrkAirPress2 Stat Sig

Internal designation:

J1939EVO.AIR1_ICUC.BrkAirPress2_Stat_Sig

Error description:

Transmitted value for brake circuit 2 pressure signal (pressure in brake circuit 2) is not plausible or not present.

J1939EVO.AIR1_ICUC.BrkAirPress2_Stat_Sig value is not plausible or no signal present.

Error detection by:

Software

System response:

- Topographical functionalities are deactivated

Cancellation condition:

- Error not active

System check:

- Check the CAN network for correct function, topicality, and compatibility.



Error description

Project: EcoLife
Basic program AP63 / Step 1.1
status:

Error:

EvoBus signal error, forward gear release signal
MUX3 B33 EnblGrD Rq Sig J1939

Internal designation:

J1939EVO.MUX3_B33.EnblGrD_Rq_Sig

Error description:

Transmitted value for forward gear release signal is not plausible or not present.
EvoBus reads in forward gear release signal (1451) and sends it to TCU, brake condition is still present.
J1939EVO.MUX3_B33.EnblGrD_Rq_Sig value is not plausible or no signal present.

Error detection by:

Software

System response:

- No gear release

Cancellation condition:

- Error not active

System check:

- Check the CAN network for correct function, topicality, and compatibility.

300



Error description

Project: EcoLife

Basic program status: AP63 / Step 1.1

Error:

EvoBus signal error, signal for bus stop brake request
MUX3 B33 HaltBrk Rq Mux Sig J1939

Internal designation:

J1939EVO.MUX3_B33.HaltBrk_Rq_Mux_Sig

Error description:

Transmitted value for bus stop brake request signal (1448) is not plausible or not present.
J1939EVO.MUX3_B33.HaltBrk_Rq_Mux_Sig value is not plausible or no signal present.

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility.

301



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

EvoBus signal error, retarder direct signal via CAN
MUX3 B33 RetDirectSw Rq PT Sig J1939

Internal designation:

J1939EVO.MUX3_B33.RetDirectSw_Rq_PT_Sig

Error description:

Transmitted value for retarder direct signal via CAN is not plausible or not present.

Retarder directly via CAN (FPS ID 1448) 100 ms.

In the case of a defect, the default value is set in such a way that the signal no longer issues a retarder request. Driving can be continued with the other signals.

J1939EVO.MUX3_B33.RetDirectSw_Rq_PT_Sig value is not plausible or no signal present.

Error detection by:

Software

System response:

- No retarder request
- No additional error measure: In the case of a defect, the default value is set in such a way that the signal no longer issues a request. Driving can be continued with the other signals.

Cancellation condition:

- Error not active

System check:

- Check the CAN network for correct function, topicality, and compatibility.

302



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

EvoBus signal error, reverse gear release

MUX3 B33 RlsRevGr Rq PT Sig J1939

Internal designation:

J1939EVO.MUX3_B33.RlsRevGr_Rq_PT_Sig

Error description:

Transmitted value for reverse gear release signal is not plausible or not present.

EvoBus reads in reverse gear release signal (1451) and sends it to TCU, brake condition is still present.

J1939EVO.MUX3_B33.RlsRevGr_Rq_PT_Sig is not plausible or no signal present.

Error detection by:

Software

System response:

- No reverse gear release

Cancellation condition:

- Error not active

System check:

- Check the CAN network for correct function, topicality, and compatibility.

303



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

EvoBus signal error, signal for drive program selection

MUX3 B33 SelAutoTxProg Stat PT Sig J1939

Internal designation:

J1939EVO.MUX3_B33.SelAutoTxProg_Stat_PT_Sig

Error description:

Transmitted value for drive program selection signal (program selection 1451) is not plausible or not present.

EvoBus reads in the signal and transmits it to the TCU.

In the case of failure, the default value is set (as set in IDAS).

J1939EVO.MUX3_B33.SelAutoTxProg_Stat_PT_Sig is not plausible or no signal present.

Error detection by:

Software

System response:

- It is not possible to select a drive program.

Cancellation condition:

- Error not active

System check:

- Check the CAN network for correct function, topicality, and compatibility.

304



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

EvoBus signal error, EBC1 brake electronics 1 (of xx) : Timeout (PGN 61441)
EBC1 FROM XX Timeout J1939

Internal designation:

J1939.EBC1_FROM_XX.Timeout

Error description:

No signal within the determined period of EBC1 brake electronics 1.
Transmitted value for EBC1 brake electronics 1 is not plausible or not present.
IES.ABS1024.brake setpoint value timeout error
J1939.EBC1_FROM_XX.Timeout due to missing signal.
Brake electronics sends to. Transmission rate: 100 ms

Error detection by:

Software

System response:

- Topography-dependent shift program changeover deactivated

Cancellation condition:

- Error not active, no timeout error

System check:

- Check the CAN network for correct function, topicality, and compatibility.

305



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

EvoBus signal error, signal for brake pedal position
EBC1 FROM XX Brake Pedal Position Sig J1939

Internal designation:

J1939.EBC1_FROM_XX.Brake_Pedal_Position_Sig

Error description:

Transmitted value for brake pedal position signal (J1939_SPN: 521) is not plausible or not present.

J1939.EBC1_FROM_XX.Brake_Pedal_Position_Sig is not plausible or no signal present.

Error detection by:

Software

System response:

- Topographical functionalities are deactivated

Cancellation condition:

- Error not active

System check:

- Check the CAN network for correct function, topicality, and compatibility.

306



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Signal for neutral externally from secondary message is not plausible to neutral externally from digital input

Internal designation:

N_EXT_CAN_UNPLAUSIBLE_TO_ED

Error description:

Signal for neutral externally from secondary message is not plausible with neutral externally from digital input (DI) or not present - red error. (Transmission rate >100 ms)

N_EXT_CAN_UNPLAUSIBLE_TO_ED not plausible or no signal.

Error detection by:

Software

System response:

- ZAE deactivation (deactivate all AIM internally; deactivate neutral internally)

Cancellation condition:

- Error not active
- N speed range selector

System check:

- Check the CAN network for correct function, topicality, and compatibility.



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Max. limit value for main pressure adaptation was exceeded.

Internal designation:

Main pressure - upward adaptation offset > threshold value

MAIN_PRESS_ADAP_OFFSET_MAX_LIM

Error description:

The max. admissible parameterized value for main pressure adaptation was exceeded.

Error detection by:

Software

System response:

- Limit engine torque to specified value
- Limit retarder torque to specified value
- Switch off engine brake

Cancellation condition:

- Error not active
- N and standstill
- New retarder request
- One-time torque request above 0%

System check:

- Check transmission oil level
- If possible, check oil grade and oil condition.
- Failure possibly caused by worn components
- Check for damage caused by overheating, transmission was operated too long at excessive temperatures.
- Low delivery rate of main pressure pump
- Poor filling characteristics resulting from too high internal leakage due to leaking oil supply
- High level of wear on hydraulic control unit

308



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

EvoBus signal error, brake pressure circuit 1 signal
IES.FPS_1451 brake pressure circuit1 Sig

Internal designation:

IES.FPS_1451.Bremsdruck_Kr1_Sig

Error description:

Transmitted value for signal from brake pressure circuit 1 (IES 1451) is not plausible or not present.

IES.FPS_1451.Bremsdruck_Kr1_Sig value is not plausible or no signal present.

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility.

309



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

EvoBus signal error, brake pressure circuit 2 signal
IES FPS 1451 brake pressure circuit2 Sig

Internal designation:

IES.FPS_1451.Bremsdruck_Kr2_Sig

Error description:

Transmitted value for signal from brake pressure circuit 2 (IES 1451) is not plausible or not present.

IES.FPS_1451.Bremsdruck_Kr2_Sig value is not plausible or no signal present.

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility.

310



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

EvoBus signal error, engine coolant temperature signal
J1939.ET1 FROM ENGINE Eng Coolant Temp Sig

Internal designation:

J1939.ET1_FROM_ENGINE.Eng_Coolant_Temp_Sig

Error description:

Transmitted value for engine coolant temperature (J1939_SPN: 110) is not plausible or not present.

J1939.ET1_FROM_ENGINE.Eng_Coolant_Temp_Sig value is not plausible or no signal present.

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility.

311



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

EvoBus signal error, no signal of ET1 engine temperature
J1939 ET1 FROM ENGINE Timeout

Internal designation:

J1939.ET1_FROM_ENGINE.Timeout

Error description:

No ET1 engine temperature signal (PGN 65262) within determined period
CAN signal error J1939.ET1_FROM_ENGINE Timeout

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility.

312



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Signal error, signal for speed range selector or E-box sends error
SC EBOX V 1 SIG

Internal designation:

SC_EBOX_V_1_SIG

Error description:

Transmitted value for the signal from the speed range selector or E-box sends error
SC_EBOX_V_1_SIG value is not plausible or no signal present.

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility.

313



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Signal error, signal for speed range selector or E-box sends error
SC EBOX V 2 SIG

Internal designation:

SC_EBOX_V_2_SIG

Error description:

Transmitted value for the signal from the speed range selector or E-box sends error
SC_EBOX_V_2_SIG value is not plausible or no signal present.

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility.

314



Error description

Project: EcoLife

Basic program AP63 / Step 1.1

status:

Error:

Signal error, signal for speed range selector or E-box sends error
SC EBOX GEAR 2 SIG

Internal designation:

SC_EBOX_GEAR_2_SIG

Error description:

Transmitted value for the signal from the speed range selector or E-box sends error
SC_EBOX_GEAR_2_SIG value is not plausible or no signal present.

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility.

315



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

EvoBus signal error, no signal from CC/VS cruise control
J1939 CCVS FROM XX Timeout

Internal designation:

J1939.CC_VS_FROM_XX.Timeout

Error description:

No signal from CC/VS cruise control (PGN 65265) within determined period
Vehicle computer should send signal to transmission
CAN signal error J1939.CC_VS_FROM_XX.Timeout, transmission rate: 100 ms

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility.

316



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

EvoBus signal error, signal for the speed measured at the wheel
CCVS FROM XX Wheelbased Veh Speed Sig J1939

Internal designation:

J1939.CC_VS_FROM_XX.Wheelbased_Veh_Speed_Sig

Error description:

Transmitted value for speed measured at wheel (J1939_SPN: 84) is not plausible or not present.

In the event of a failure, the last i_HA adaptation value is maintained for the rear-axle ratio.

J1939.CC_VS_FROM_XX.Wheelbased_Veh_Speed_Sig is not plausible or no signal present.

Error detection by:

Software

System response:

- The rear axle adaptation i- HAA is deactivated
- If the required speeds are not available, the rear axle adaptation is deactivated automatically

Cancellation condition:

- Error not active

System check:

- Check the CAN network for correct function, topicality, and compatibility.

317



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

Engine torque at stall speed is too high

TORQUE AT STALLSPEED TO HIGH

Internal designation:

TORQUE_AT_STALLSPEED_TO_HIGH

Error description:

Excessive engine torque was detected when reaching stall speed.

Possible causes:

- Engine's response to torque limitation is too sluggish or no response at all.
- The actual engine torque deviates too much from the engine torque transmitted.
- CAN failure when reaching stall speed.

Error detection by:

Software.

Error is detected only at standstill.

The reference torque is derived from the parameterized converter performance curve.

System response:

- none

Cancellation condition:

- Error not active

System check:

- Check the CAN network for correct function, topicality, and compatibility.
- Check engine torque output together with the vehicle manufacturer.
- Have engine control unit checked for errors.

318



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

EvoBus J1939EVO.EBC5_BS.Timeout signal error

Internal designation:

J1939EVO.EBC5_BS.Timeout

Error description:

No signal within the determined period or CAN signal error J1939EVO.EBC5_BS.Timeout

Error detection by:

Software

System response:

- none

Cancellation condition:

- Error not active

System check:

- Check the CAN network for correct function, topicality, and compatibility.

319



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

EvoBus J1939EVO.MCM_C03.Timeout signal error

Internal designation:

J1939EVO.MCM_C03.Timeout

Error description:

No signal within the determined period or CAN signal error J1939EVO.MCM_C03.Timeout

Error detection by:

Software

System response:

- none

Cancellation condition:

- Error not active

System check:

- Check the CAN network for correct function, topicality, and compatibility.

320



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

EvoBus J1939EVO.CPC_C09.Timeout signal error

Internal designation:

J1939EVO.CPC_C09.Timeout

Error description:

No signal within the determined period or CAN signal error J1939EVO.CPC_C09.Timeout

Error detection by:

Software

System response:

- none

Cancellation condition:

- Error not active

System check:

- Check the CAN network for correct function, topicality, and compatibility.

321



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

EvoBus J1939EVO.MCM_C03.AbsMaxEngTrq_Cval_PT_Sig signal error

Internal designation:

J1939EVO.MCM_C03.AbsMaxEngTrq_Cval_PT_Sig

Error description:

No signal within the determined period or CAN signal error

J1939EVO.MCM_C03.AbsMaxEngTrq_Cval_PT_Sig

Error detection by:

Software

System response:

- none

Cancellation condition:

- Error not active

System check:

- Check the CAN network for correct function, topicality, and compatibility.

322



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

HyLife signal error HybridCAN

HyCAN.H2T_1.Timeout

Internal designation:

HyCAN.H2T_1.Timeout

Error description:

No signal within the determined period or CAN signal error HyCAN.H2T_1.Timeout

Error detection by:

Software

System response:

- none

Cancellation condition:

- Error not active

System check:

- Check the CAN network for correct function, topicality, and compatibility.

323



Error description

Project: EcoLife

Basic program status: AP83 / Step 2

Error:

HyLife signal error HybridCAN

HyCAN.H2T_2.Timeout

Internal designation:

HyCAN.H2T_2.Timeout

Error description:

No signal within the determined period or CAN signal error HyCAN.H2T_2.Timeout

Error detection by:

Software

System response:

- none

Cancellation condition:

- Error not active

System check:

- Check the CAN network for correct function, topicality, and compatibility.

324



Error description

Project: EcoLife

Basic program status: AP83 / Step 2

Error:

HyLife signal error HybridCAN

HyCAN.H2T_3.Timeout

Internal designation:

HyCAN.H2T_3.Timeout

Error description:

No signal within the determined period or CAN signal error HyCAN.H2T_3.Timeout

Error detection by:

Software

System response:

- none

Cancellation condition:

- Error not active

System check:

- Check the CAN network for correct function, topicality, and compatibility.

325



Error description

Project: EcoLife

Basic program status: AP83 / Step 2

Error:

HyLife signal error HybridCAN

HyCAN.H2T_4.Timeout

Internal designation:

HyCAN.H2T_4.Timeout

Error description:

No signal within the determined period or CAN signal error HyCAN.H2T_4.Timeout

Error detection by:

Software

System response:

- none

Cancellation condition:

- Error not active

System check:

- Check the CAN network for correct function, topicality, and compatibility.

326



Error description

Project: EcoLife

Basic program status: AP83 / Step 2

Error:

HyLife signal error HybridCAN

HyCAN.H2T_5.Timeout

Internal designation:

HyCAN.H2T_5.Timeout

Error description:

No signal within the determined period or CAN signal error HyCAN.H2T_5.Timeout

Error detection by:

Software

System response:

- none

Cancellation condition:

- Error not active

System check:

- Check the CAN network for correct function, topicality, and compatibility.

327



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

HyLife signal error HybridCAN

HyCAN.H2T_1.stsEMotMode_Sig

Internal designation:

HyCAN.H2T_1.stsEMotMode_Sig

Error description:

No signal within the determined period or CAN signal error HyCAN.H2T_1.stsEMotMode_Sig

Error detection by:

Software

System response:

- none

Cancellation condition:

- Error not active

System check:

- Check the CAN network for correct function, topicality, and compatibility.

328



Error description

Project: EcoLife

Basic program status: AP83 / Step 2

Error:

HyLife signal error HybridCAN

HyCAN.H2T_1.trms_ctrlOpen_req_Sig

Internal designation:

HyCAN.H2T_1.trms_ctrlOpen_req_Sig

Error description:

No signal within the determined period or CAN signal error

HyCAN.H2T_1.trms_ctrlOpen_req_Sig

Error detection by:

Software

System response:

- none

Cancellation condition:

- Error not active

System check:

- Check the CAN network for correct function, topicality, and compatibility.



Error description

Project: EcoLife

Basic program status: AP83 / Step 2

Error:

HyLife signal error HybridCAN

HyCAN.H2T_1.CL1_ctrlMode_req_Sig

Internal designation:

HyCAN.H2T_1.CL1_ctrlMode_req_Sig

Error description:

No signal within the determined period or CAN signal error

HyCAN.H2T_1.CL1_ctrlMode_req_Sig

Error detection by:

Software

System response:

- none

Cancellation condition:

- Error not active

System check:

- Check the CAN network for correct function, topicality, and compatibility.

330



Error description

Project: EcoLife

Basic program AP82 / Step 2
status:

Error:

HyLife signal error HybridCAN
HyCAN.H2T_1.trqCL1_req_Sig

Internal designation:

HyCAN.H2T_1.trqCL1_req_Sig

Error description:

No signal within the determined period or CAN signal error HyCAN.H2T_1.trqCL1_req_Sig

Error detection by:

Software

System response:

- none

Cancellation condition:

- Error not active

System check:

- Check the CAN network for correct function, topicality, and compatibility.

331



Error description

Project: EcoLife

Basic program status: AP83 / Step 2

Error:

HyLife signal error HybridCAN

HyCAN.H2T_2.nEMot_Sig

Internal designation:

HyCAN.H2T_2.nEMot_Sig

Error description:

No signal within the determined period or CAN signal error HyCAN.H2T_2.nEMot_Sig

Error detection by:

Software

System response:

- none

Cancellation condition:

- Error not active

System check:

- Check the CAN network for correct function, topicality, and compatibility.



Error description

Project: EcoLife

Basic program status: AP83 / Step 2

Error:

HyLife signal error HybridCAN

HyCAN.H2T_2.trqEMot_Sig

Internal designation:

HyCAN.H2T_2.trqEMot_Sig

Error description:

No signal within the determined period or CAN signal error HyCAN.H2T_2.trqEMot_Sig

Error detection by:

Software

System response:

- none

Cancellation condition:

- Error not active

System check:

- Check the CAN network for correct function, topicality, and compatibility.

333



Error description

Project: EcoLife

Basic program status: AP83 / Step 2

Error:

HyLife signal error HybridCAN

HyCAN.H2T_3.stsHCUModeRcmd_Sig

Internal designation:

HyCAN.H2T_3.stsHCUModeRcmd_Sig

Error description:

No signal within the determined period or CAN signal error

HyCAN.H2T_3.stsHCUModeRcmd_Sig

Error detection by:

Software

System response:

- none

Cancellation condition:

- Error not active

System check:

- Check the CAN network for correct function, topicality, and compatibility

334



Error description

Project: EcoLife

Basic program status: AP83 / Step 2

Error:

HyLife signal error HybridCAN

HyCAN.H2T_3.trqEngDrvDem_Sig

Internal designation:

HyCAN.H2T_3.trqEngDrvDem_Sig

Error description:

No signal within the determined period or CAN signal error HyCAN.H2T_3.trqEngDrvDem_Sig

Error detection by:

Software

System response:

- none

Cancellation condition:

- Error not active

System check:

- Check the CAN network for correct function, topicality, and compatibility

335



Error description

Project: EcoLife

Basic program status: AP83 / Step 2

Error:

HyLife signal error HybridCAN
HyCAN.H2T_3.trqEMotDrvDem_Sig

Internal designation:

HyCAN.H2T_3.trqEMotDrvDem_Sig

Error description:

No signal within the determined period or CAN signal error HyCAN.H2T_3.trqEMotDrvDem_Sig

Error detection by:

Software

System response:

- none

Cancellation condition:

- Error not active

System check:

- Check the CAN network for correct function, topicality, and compatibility

336



Error description

Project: EcoLife

Basic program status: AP83 / Step 2

Error:

HyLife signal error HybridCAN
HyCAN.H2T_3.reltrqDrvDem_Sig

Internal designation:

HyCAN.H2T_3.reltrqDrvDem_Sig

Error description:

No signal within the determined period or CAN signal error HyCAN.H2T_3.reltrqDrvDem_Sig

Error detection by:

Software

System response:

- none

Cancellation condition:

- Error not active

System check:

- Check the CAN network for correct function, topicality, and compatibility

337



Error description

Project: EcoLife

Basic program status: AP83 / Step 2

Error:

HyLife signal error HybridCAN
HyCAN.H2T_4.ctrlShiftRcmd_Sig

Internal designation:

HyCAN.H2T_4.ctrlShiftRcmd_Sig

Error description:

No signal within the determined period or CAN signal error HyCAN.H2T_4.ctrlShiftRcmd_Sig

Error detection by:

Software

System response:

- none

Cancellation condition:

- Error not active

System check:

- Check the CAN network for correct function, topicality, and compatibility

338



Error description

Project: EcoLife

Basic program status: AP83 / Step 2

Error:

HyLife signal error HybridCAN

HyCAN.H2T_4.GearHCU_req_Sig

Internal designation:

HyCAN.H2T_4.GearHCU_req_Sig

Error description:

No signal within the determined period or CAN signal error HyCAN.H2T_4.GearHCU_req_Sig

Error detection by:

Software

System response:

- none

Cancellation condition:

- Error not active

System check:

- Check the CAN network for correct function, topicality, and compatibility

339



Error description

Project: EcoLife

Basic program status: AP83 / Step 2

Error:

HyLife signal error HybridCAN

HyCAN.H2T_5.trqEMotAct_max_Sig

Internal designation:

HyCAN.H2T_5.trqEMotAct_max_Sig

Error description:

No signal within the determined period or CAN signal error HyCAN.H2T_5.trqEMotAct_max_Sig

Error detection by:

Software

System response:

- none

Cancellation condition:

- Error not active

System check:

- Check the CAN network for correct function, topicality, and compatibility

340



Error description

Project: EcoLife

Basic program status: AP83 / Step 2

Error:

HyLife signal error HybridCAN

HyCAN.H2T_5.trqEMotPred_max_Sig

Internal designation:

HyCAN.H2T_5.trqEMotPred_max_Sig

Error description:

No signal within the determined period or CAN signal error

HyCAN.H2T_5.trqEMotPred_max_Sig

Error detection by:

Software

System response:

- none

Cancellation condition:

- Error not active

System check:

- Check the CAN network for correct function, topicality, and compatibility

341



Error description

Project: EcoLife

Basic program status: AP83 / Step 2

Error:

HyLife signal error HybridCAN

HyCAN.H2T_5.trqEMotAct_min_Sig

Internal designation:

HyCAN.H2T_5.trqEMotAct_min_Sig

Error description:

No signal within the determined period or CAN signal error HyCAN.H2T_5.trqEMotAct_min_Sig

Error detection by:

Software

System response:

- none

Cancellation condition:

- Error not active

System check:

- Check the CAN network for correct function, topicality, and compatibility

342



Error description

Project: EcoLife

Basic program status: AP83 / Step 2

Error:

HyLife signal error HybridCAN

HyCAN.H2T_5.trqEMotPred_min_Sig

Internal designation:

HyCAN.H2T_5.trqEMotPred_min_Sig

Error description:

No signal within the determined period or CAN signal error

HyCAN.H2T_5.trqEMotPred_min_Sig

Error detection by:

Software

System response:

- none

Cancellation condition:

- Error not active

System check:

- Check the CAN network for correct function, topicality, and compatibility

343



Error description

Project: EcoLife

Basic program status: AP83 / Step 2

Error:

UNUSED_343

Internal designation:

UNUSED_343

Error description:

UNUSED_343

Error detection by:

System response:

- none

Cancellation condition:

- none

System check:

- none



Error description

Project: EcoLife
Basic program AP83 / Step 2
status:

Error:

EvoBus signal error, accelerator pedal load signal error
 J1939EVO.CPC_C12.HiResAccelPdIPosn_Cval_Sig

Internal designation:

J1939EVO.CPC_C12.HiResAccelPdIPosn_Cval_Sig

Error description:

Transmitted value for the accelerator pedal position is not plausible or no signal.
 J1939EVO.PT_MCM_C02.MaxActlEngTrq_Cval_PT_Sig value is not plausible or no signal

Error detection by:

Software

System response:

- Shut down AIS function (Automatic Idle Shift)
- Limit engine torque to specified value
- Switch off retarder request and AIM_Retarder
- Limit retarder torque to specified value
- Switch off engine brake
- Switch off NI (Neutral internal)
- Switch off shift pressure adaptation (gear change); continue to use last values
- Main pressure max. value from terminal and total max. value across all assemblies incl. engine
- Switch off engine control during gear change
- Block and/or abort temporary opening of lock-up clutch and closing of lock-up clutch during gear changes
- M_Mot_Soll (target) and/or L_Anf replaced by M_Mot_Ist (actual) (vehicle interface)
- No load request query regarding gear engagement condition (with missing load signal; Info: n_Tu and M_Mot_Soll (target) will continue to be queried)
- no M_Mot_Soll- and/or load request query regarding gear engagement condition
- Load from M_Mot_Soll (target) replacement
- Switch off reproduction (adaptation) of engine torque characteristics

Cancellation condition:

- Error not active
- Neutral and Stop
- New retarder request
- Single load > 0

System check:

- Check the CAN network for correct function, topicality, and compatibility

345



Error description

Project: EcoLife

Basic program status: AP83 / Step 2

Error:

EvoBus J1939EVO.CGW_C1 signal error

Internal designation:

J1939EVO.CGW_C1.Timeout

Error description:

No signal within the determined period or CAN signal error

J1939EVO.CGW_C1.Timeout

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility

346



Error description

Project: EcoLife

Basic program status: AP83 / Step 2

Error:

EvoBus J1939EVO.CGW_VIN signal error

Internal designation:

J1939EVO.CGW_VIN.Timeout

Error description:

No signal within the determined period or CAN signal error

J1939EVO.CGW_VIN.Timeout

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility

347



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

The EEPROM array has not been written in

Internal designation:

EEP_DTFD_NOT_WRITTEN

Error description:

Notice message: The EEPROM array has not been written in
EEP_DTFD_NOT_WRITTEN

Error detection by:

Software

System response:

none

Cancellation condition:

- Write monitored value in the EEPROM.

System check:

- none

348



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

CAN signal error BoxCAN.InputValues

Internal designation:

EBoxCAN.InputValues.Timeout

Error description:

No signal within the determined period or CAN signal error

EBoxCAN.InputValues.Timeout

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility

349



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

CAN signal error BoxCAN.InputValues

Internal designation:

EBoxCAN.InputValues_Sig

Error description:

No signal within the determined period or CAN signal error

EBoxCAN.InputValues_Sig

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility

350



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

CAN signal error FSCAN.InputValues

Internal designation:

FSCAN.InputValues.Timeout

Error description:

No signal within the determined period or CAN signal error

FSCAN.InputValues.Timeout

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility

351



Error description

Project: EcoLife

Basic program status: AP83 / Step 2

Error:

CAN signal error FSCAN.InputValues_Sig

Internal designation:

FSCAN.InputValues_Sig

Error description:

No signal within the determined period or CAN signal error
FSCAN.InputValues_Sig

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility

352



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

CAN signal error SC_EBOX_BRAKE_LIGHT

Internal designation:

SC_EBOX_BRAKE_LIGHT_SIG

Error description:

No signal within the determined period or CAN signal error

SC_EBOX_BRAKE_LIGHT_SIG

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility

353



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

CAN signal error SC_EBOX_TEMP_WARN_1

Internal designation:

SC_EBOX_TEMP_WARN_1_SIG

Error description:

No signal within the determined period or CAN signal error

SC_EBOX_TEMP_WARN_1_SIG

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility

354



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

CAN signal error SC_EBOX_TEMP_WARN_2

Internal designation:

SC_EBOX_TEMP_WARN_2_SIG

Error description:

No signal within the determined period or CAN signal error

SC_EBOX_TEMP_WARN_2_SIG

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility

355



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

CAN signal error SC_EBOX_AIS_ACTIVE

Internal designation:

SC_EBOX_AIS_ACTIVE_SIG

Error description:

No signal within the determined period or CAN signal error

SC_EBOX_AIS_ACTIVE_SIG

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility

356



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

CAN signal error SC_EBOX_WARNING_LIGHT_ERROR

Internal designation:

SC_EBOX_WARNING_LIGHT_ERROR_SIG

Error description:

No signal within the determined period or CAN signal error

SC_EBOX_WARNING_LIGHT_ERROR_SIG

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility

357



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

CAN signal error, activation bus stop brake

J1939.EBC5_FROM_ABS.parking_brake_fully_activ_Sig

Internal designation:

J1939.EBC5_FROM_ABS.parking_brake_fully_activ_Sig

Error description:

Transmitted value to activate the bus stop brake is not plausible or no signal

J1939.EBC5_FROM_ABS.parking_brake_fully_activ_Sig is not plausible or no signal present

Error detection by:

Software

System response:

- none

Cancellation condition:

- Error not active

System check:

- Check the CAN network for correct function, topicality, and compatibility

358



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

EvoBus, J1939EVO.MCM_C04 signal error

Internal designation:

J1939EVO.MCM_C04.Timeout

Error description:

No signal within the determined period or CAN signal error J1939EVO.MCM_C04.Timeout

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility

359



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

EvoBus, J1939EVO.MCM_C04.ThermoSupport_Rq_Sig signal error

Internal designation:

J1939EVO.MCM_C04.ThermoSupport_Rq_Sig

Error description:

Transmitted value is not plausible or no signal.

J1939EVO.MCM_C04.ThermoSupport_Rq_Sig

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility

360



Error description

Project: EcoLife

Basic program status: AP83 / Step 2

Error:

CAN signal error, SC_EBOX_HST_ANF

Internal designation:

SC_EBOX_HST_ANF_SIG

Error description:

No signal within the determined period or CAN signal error

SC_EBOX_HST_ANF_SIG

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility

361



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

CAN signal error, analog retarder request pedal

RETARDER_ANALOG_PEDAL_ERROR

Internal designation:

RETARDER_ANALOG_PEDAL_ERROR

Error description:

Transmitted value for analog retarder request (pedal) is not plausible or no signal.

RETARDER_ANALOG_PEDAL_ERROR

Error detection by:

Software

System response:

- none

Cancellation condition:

- Error not active

System check:

- Check the CAN network for correct function, topicality, and compatibility

362



Error description

Project: EcoLife

Basic program status: AP83 / Step 2

Error:

CAN signal error, J1939.DLN5

Internal designation:

J1939.DLN5.Timeout

Error description:

No signal within the determined period or CAN signal error

J1939.DLN5.Timeout

Proprietary message Scania

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility

363



Error description

Project: EcoLife

Basic program status: AP83 / Step 2

Error:

CAN signal error, retarder cut-off
J1939.DLN5.RetarderBrakeAssist

Internal designation:

J1939.DLN5.RetarderBrakeAssist_Sig

Error description:

No signal within the determined period or CAN signal error for retarder cut-off
J1939.DLN5.RetarderBrakeAssist_Sig

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility

364



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

TCU system error, parameter assignment error in FP config. (unreleased block set)

DP_CONFIG_TAB_CHECK_ERROR

Internal designation:

DP_CONFIG_TAB_CHECK_ERROR

Error description:

TCU system error, in EEPROM an inadmissible (locked) block (FP, SP, customer, AIS or acceleration restriction block) activated.

DP_CONFIG_TAB_CHECK_ERROR

Error detection by:

Software

System response:

none

Cancellation condition:

- Cancel blocks (parameter group 4)
- Set valid vehicle configuration

System check:

- Correct valid vehicle configuration in EEPROM

365



Error description

Project: EcoLife

Basic program status: AP83 / Step 2

Error:

CAN signal error, hill holder transmitting invalid value
J1939.EBC5_FROM_ABS.Hill_Holder_Mode

Internal designation:

J1939.EBC5_FROM_ABS.Hill_Holder_Mode_Sig

Error description:

Invalid signal from the hill holder
J1939.EBC5_FROM_ABS.Hill_Holder_Mode_Sig

Error detection by:

Software

System response:

none

Cancellation condition:

No CAN signal error or signal present

System check:

- Check the CAN network for correct function, topicality, and compatibility

366



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

CAN signal error, cleaning the diesel-soot trap

J1939.TC1_FROM_XX.TrmsAutomDrvlSep_inhibit

Internal designation:

J1939.TC1_FROM_XX.TrmsAutomDrvlSep_inhibit_Sig

Error description:

Automatic cleaning of the diesel-soot trap,
traction in the transmission may not be disrupted,
(AIS not permitted) to keep exhaust temperature high
J1939.TC1_FROM_XX.TrmsAutomDrvlSep_inhibit_Sig

Error detection by:

Software

System response:

- AIS not permitted

Cancellation condition:

No CAN signal error or signal present

System check:

- Automatic cleaning of the diesel-soot trap
- Consultation with OEM service

367



Error description

Project: EcoLife

Basic program AP83 / Step 2

status:

Error:

HyLife system error, electrical auxiliary oil pump does not deliver the required volume flow
EZOEP_FAULT_Q_LOW

Internal designation:

EZOEP_FAULT_Q_LOW

Error description:

The delivery rate of the electric auxiliary oil pump is inadequate.
EZOEP_FAULT_Q_LOW

Error detection by:

Software

System response:

none

Cancellation condition:

- electric auxiliary oil pump can realize rpm request again

System check:

- Cabling and plug connectors for auxiliary oil pump
- Power supply for auxiliary oil pump
- Inverter for auxiliary oil pump
- Mechanical damage, storage, wear, leakage