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Total Diagnostic Solutions

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21

Exceed Your Expectations

🟠 **Trade Show**

2010 AAPEX, Las Vegas, USA

🟠 **iSCAN-II / D91 Latest Versions (October, 2010)**

iSCAN-II VOLVO	V3.01 / V2.03 / V1.03	English/Chinese/Japanese	2010-10-05
iSCAN-II MB	V3.03 / V2.04 / V1.06	English/Chinese/Japanese	2010-10-05
iSCAN-II OBDII	V1.09	English/Chinese/Japanese	2010-10-05
iSCAN-II IMS2-TYT (US Model Only)	V1.00	English/Chinese	2010-10-12
iSCAN-II OPEL-BR	V3.00 SP1	English/Spanish	2010-10-12
iSCAN-II BMW CODING	V3.02	English/Chinese/Japanese	2010-10-15
iSCAN-II BMW SSS	V3.01	English/Chinese/Japanese	2010-10-15
iSCAN-II IMS2-MB	V3.07	English/Chinese/Japanese	2010-10-15
iSCAN-II IMS2-FORD / JAGUAR / LANDROVER	V2.00	English/Chinese	2010-10-15
iSCAN-II HYUNDAI	V3.01 / V2.02 SP1 / V1.01 SP4	English/Chinese	2010-10-21
iSCAN-II KIA	V3.01 / V2.02 SP1 / V1.01 SP1	English/Chinese	2010-10-21
iSCAN-II HINO	V1.00	English/Chinese/Japanese	2010-10-21
D91-MB	V4.57 / V4.09	English/Chinese/Japanese	2010-10-05

D91-OBDII	V4.09	English/Chinese/Japanese	2010-10-05
D91-OPEL-BR	V4.01 SP1 / V3.02 SP3	English/Spanish	2010-10-12
D91-HYUNDAI	V4.02 SP1 / V3.01 SP4 / V2.50 SP5	English/Chinese	2010-10-21
D91-KIA	V5.02 SP1 / V4.01 SP1 / V3.50 SP6	English/Chinese	2010-10-21

VeDiS Yearly Update Project (YUP) Software

Software releases monthly for D91-EURO PRO YUP 2010 / D91-ASIAN PRO YUP 2010. YUP customers, please get the updates from website.

Technical Guidance

Peugeot AL4 Transmission: Solenoid Check and Ful Oil Conter Zero

AL4 Introduction

AL4 automatic transmission was developed together by Citroen, Peugeot, Renault.
* Electronically operated transverse automatic transmission
* Four forward gears and one reverse gear
* Fuzzy logic auto-adaptive ECU which controls the convert, gear changes and specific programs
* Transmission oil cooled by heat exchanger
* Torque converter has the clutch lock function from 2nd gear
* Two "Simpson 2" type epicyclic gear trains

Models equipped with AL4

From 1998, AL4 automatic transmission was manufactured. It was equipped on the models like:
* PEUGEOT 206, 207, 307, 406
* CITROEN C3, C4, C5, PICASO
* RENAULT CLIO

Fault Warnings

1. The warning condition on the instrument cluster: blinking the snow or sport light or "_ _ _" shown on the gear indicator, or "AUTOMATIC GEAR FAULT" shown on the display.
2. The transmission oil becomes black, smells burnt, or has been emulsified.
3. The impact during shift becomes larger, when shift to D gear, the car doesn't move. Then up to 3000 rpm, the car suddenly moves out.
4. The transmission is stuck in the third speed.

Check the solenoid valve

1. Check if there is oil leak in the exterior of gearbox. If the oil level is too low and the oil pressure is not enough, it will cause the problem on gear change. Please solve the leakage problem, clear the fault codes and perform the road test. If the problem still happens, please check the solenoid valve.
2. Please perform the road test over 5 km, the transmission oil will achieve the working temperature.
3. Connect with the diagnostic scanner to check the data stream of hydraulic solenoid valve.

Example: PEUGEOT 307

1. Select Vehicle Diagnostic -> select EUROPEAN

1

MENU

1 **Vehicle Diagnostic**
2 Component Test System
   (External Modules)
3 IMS^2 (Interface Module
   Simulation System)
10 OBD-II Standard Compliant
   iSCAN-II(V1.09)USEN
20 SETUP

2

Vehicle Diagnostic

1 [ASIAN]
2 [EUROPEAN]
3 [USA]

2. Select FRENCH PKG, then select PEUGEOT software

3

EUROPEAN ▶

1 [BMW GT2]
2 [VASS]
3 [OPEL]
4 [FRENCH PKG]
5 MB
   iSCAN-II(V3.03)USEN
6 PORSCHE
   iSCAN-II(V2.04SP1)USEN
7 VOLVO
   iSCAN-II(V3.01)USEN

4

FRENCH PKG

1 CITROEN
   iSCAN-II(3.00)USEN
2 PEUGEOT
   iSCAN-II(V3.00)USEN
3 RENAULT
   iSCAN-II(V3.00)USEN

3. Select PEUGEOT MODEL, then select 307

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VEHICLE

1 AUTOMATIC SEARCH (SYSTEM)
2 PEUGEOT MODEL

6

PEUGEOT

1 1007
2 106
3 106 REMODEL
4 107
5 205
6 206
7 207
8 3008
9 306
10 306 REMODEL
11 307
12 308

4. Select GEARBOX, then select AL4

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SYSTEM	►
1 ENGINE	
2 GEARBOX	
3 ABS	
4 SRS (AIRBAG)	
5 BSI	
6 AC	
7 INSTRUMENT PANEL	
8 POWER-ASSISTED STEERING	
9 RADIO	
11 CD PLAYER	

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GEARBOX	
1 AUTOMATIC SEARCH	
2 AL4	
3 BVA AL4 (CAN)	
4 AM6	

5. Select Data Stream

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ECU VERSION	

AL4   ffbe00009af1a4618082
       00302005000496541899
       8009081701000374d000
       94e000ea

10

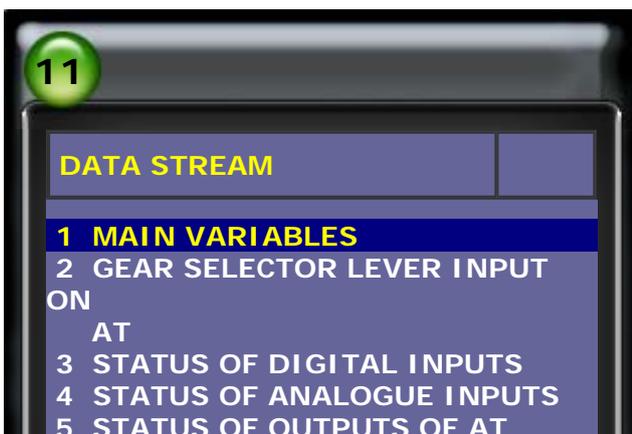| AL4	
1 System Information	
2 Read Fault Code	
3 Clear Fault Code	
4 Data Stream	
5 Activation	
6 Adaptation	
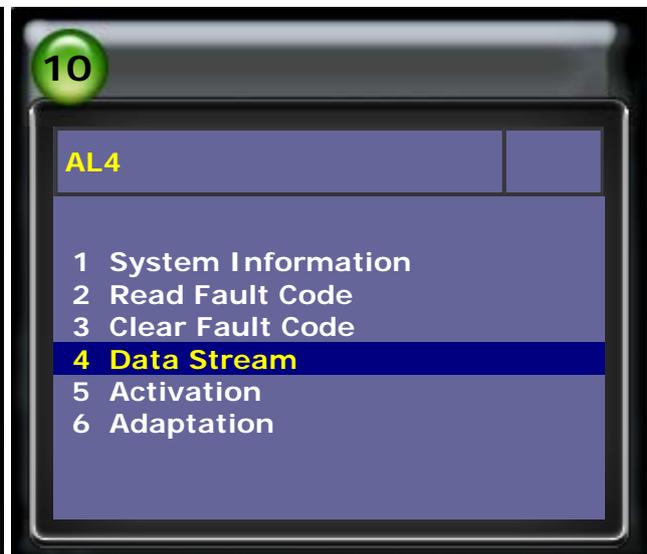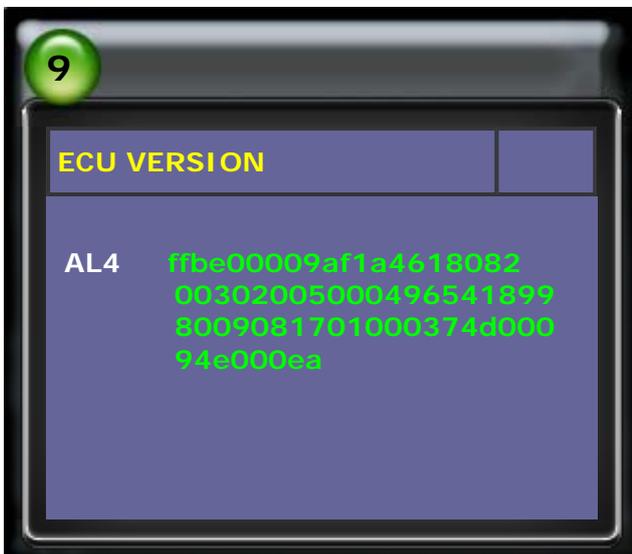
6. Select MAIN VARIABLES
   When the engine is idling and gear position is P, check the slippery difference of
    torque converter and the oil pressure.

7. The engine speed is 896 rpm, and the input speed measured is 832 rpm. The slippery
   difference should be within 10%. If the slippery difference is too high, the torque
   converter is damaded, and it will lower the efficiency of power transmission.

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DATA STREAM	
1 MAIN VARIABLES	
2 GEAR SELECTOR LEVER INPUT ON	
AT	
3 STATUS OF DIGITAL INPUTS	
4 STATUS OF ANALOGUE INPUTS	
5 STATUS OF OUTPUTS OF AT	

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MAIN PARAMETER (1/3)	

Engine speed   896
rpm
Input speed measured   832
rpm
Input speed
recommended   0 rpm
Output speed measured   0
rpm

8. When the engine running at idle speed and the selector lever is in position P, the oil
   pressure is 2.65 bar. The value is within 10% between the guide pressure and oil
   pressure. The pressure is in the standard range.

9. Then shift the gear to position D, check the engine speed and oil pressure again.
   The engine speed is 832 rpm, and the input speed measured is 0 rpm.
   The inner clutch body of transmission is normal without stalling situation.
   But the oil pressure is 2.65 bar, the value is too low, it's necessary to replace the
   solenoid valve.

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MAIN PARAMETER (2/3)

Guide
pressure   2.70 bar
Oil
pressure   2.65 bar
Activation time, modulating
solenoid valve   100.00 %
Oil temperature   89
℃
Gear change law   Economy pattern

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MAIN PARAMETER (1/3)

Engine speed   832
rpm
Input speed measured   0
rpm
Input speed
recommended   0 rpm
Output speed measured   0
rpm
Output speed recommended   0
rpm

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MAIN PARAMETER (2/3)

Guide
pressure   3.00 bar
Oil
pressure   2.65 bar
Activation time, modulating
solenoid valve
 78.80 %
Oil temperature   92
℃
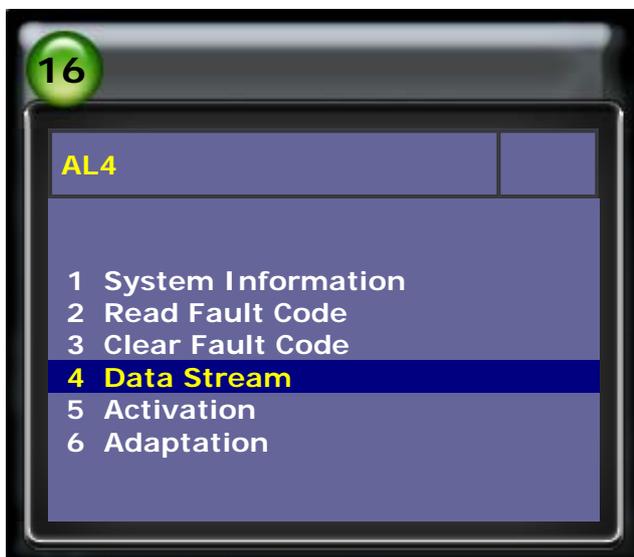Gear change law   Economy pattern

10. Before replacing the solenoid valve, please bleed the transmission oil first to lower
    the temperature of transmission to the regular temperature to avoid the damage of
    valve assembly. It is also suggested to replace the transmission oil at the same time.
    The hydraulic adjustment control will be more accurate.

11. After replacing, connect iSCAN-II to check the oil pressure (D position) again. The oil pressure should be over 2.80 bar. If not, it means that the valve assembly or the pump of the torque converter is damaged, the transmission assembly needs to be overhauled.

Normal Fault and Oil Level Check

Except the oil pressure, there are other problems that cause the lock shift situation.

1. Oil temperature is too high: the OEM oil cooler is too small, so the heat dissipation is poor. When the driving mileage is too high, driving time is too long, or climbing with heavy load, the oil temperature might be too high. The way to solve the problem is to replace a thickening oil cooler and replace a thermostat in the cooling system.

2. The faulty shift position switch will also cause the lock shift. It will be aware from the description of fault code.

3. When using the wrong transmission oil, it will also cause the gear change is not smooth. The tranditional model of transmission oil is not fit for AL4, it will also reduce the durability of transmission. Please use the appropriate transmission oil that the dealer selected or designated.

4. Oil level check: AL4 is without oil dipstick. The filler plug is composed by the level plug and the drain plug. It is necessary to check the oil temperature on iSCAN-II. Start the engine at idle speed and oil temperature reaches the 60 ℃.

5. Remove the level plug to check if the oil is enough or not. If the oil is not enough, add more oil to the standard level. Too much oil may haveabnormal heating of the oil, or oil leaks. Too little oil may damage the transmission.

AL4

1 System Information
2 Read Fault Code
3 Clear Fault Code
4 Data Stream
5 Activation
6 Adaptation

MAIN PARAMETER (2/3)

Guide pressure   3.00 bar
Oil pressure   2.65 bar
Activation time, modulating solenoid valve
 78.80 %
Oil temperature   60 ℃
Gear change law   Economy pattern

Fuel Oil Counter Zero

1. Before the road test, please clear all the memorised faults.

2. If the transmission oil has been changed, it is necessary to use the diagnostic scanner to connect AL4, then perform the Fuel Oil Counter Zero.

AL4		FUEL OIL COUNTER ZERO	
1 System Information **2 Read Fault Code** **3 Clear Fault Code** **4 Data Stream** **5 Activation** **6 Adaptation**		Counter: 0 units Important!! If the 'SPORT' and 'SNOW' indicator lights flash with the screen message: 'Oil Change to be carried out: YES' and counter saturated at 32958 units, carry out the oil change and update the oil wear counter ENTER (o): continue	

3. **After the Fuel Oil Counter Zero, please check if the counter is 0 units.**

4. **Based on the faulty condition, not every faulty electrovalve will have the fault codes.**

5. **If the electrovalve has been changed and the oil pressure is in the normal condition, the gear change has not been smooth when driving, it is suggested to have the dealer to update the transmission ECU software by downloading. It will improve the gear change more smoothly.**

6. **If the solenoid valve has been replaced, the oil pressure problem has been improved, and the ECU software has been also updated, the problem still happens. This transmission is necessary to be overhauled.**