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# **GUIDE TO GENERATION 4 HALDEX TROU**

Applicable Vehicles - Typically Post 2008 Confirm via ECU part numbers on this page below - can be i

- Audi TT, TTS, TTRS, A3, S3
- Seat Altea
- Skoda Yeti, Superb
- VW Golf 4 Motion R32, GTi, R32
- Audi Q3, VW Passat
- VW Tiguan, Sharan
- Seat Alhambra
- VW Transporter

#### System Overview – The system components

- Oil pump with strainer gauze "Haldex Clutch Pump (V181)"
- Filter cartridge
- Pressure Accumulator (a piston with a spring which holds a pre charge pressure for instant demand)
- Oil Control solenoid "Valve for Controlling Clutch Operating Angle (N373)"
- A wet clutch pack like a motorcycle clutch, which is clamped together with a piston type actuator built into the assembly
- ECU which is a slave to the ABS/TC/ESP ECU

VW Audi reduced the specification of the Generation 4 Haldex System by ditching the pressure sensor which Generation 2 systems had, this detected how much oil pressure the pump and filter system was delivering. It was a diagnostic sensor, it had no purpose other than to detect system failure. Without this sensor the system is blind to it's pumping/pressure delivery efficiency. Secondly, VW / Audi never designed or manufactured the Gene maintenance requirements.



Accumulator Filter Ca

Pre Strainer on

# (generation "Haldex IV"), rear final drive "0BR", "0BS" and "0BY"

For more detailed information refer to:



When the ABS/TC/ESP ECU detects the front wheels are rotating faster than the rear wheels by the ABS Haldex Clutch pack, thus engaging the 4wd system. It is very fast at responding, it typically engages the slippage. It then holds the 4wd system engaged until the Torque request from the Engine ECU drops. The engaged.

Haldex Repairs By Auto Fault Finder	ECU REPAIR(HTTPS://WWW.HALDEXREPAIRS.CO.UK/ECU-TESTING-REPAIR-S		
(https://www.haldexrepairs.co.uk/)			
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involved with, only 2 vehicles upto now have had mechanical failure, both of which have been modifie

**To diagnose and work on Gen 4 Haldex equipped VW/Audi Vehicles, the workshop must use either VAGCOM/VCDS (preferred)** or "after market" scanning equipment which can connect directly to the control unit ID "22 – AWD", and can read the live data from the ECU and run the output tests on the "Valve for Controlling Clutch Operating Angle (N373)" and the "Haldex Clutch Pump (V181)". Such equipment would be Launch Pro X431, Autel Maxisys MS908, some of the Snap-On scanning equipment, Bosch KTS, and Delphi/Autocom DS150E. After market equipment named above have various functionalities depending on version and software updates.

## Typical Failure Types – Pump Failure

Fault Codes:-

- 00448 Haldex Clutch Pump (V181) 002 Lower Limit Exceeded Intermittent
- 00448 Haldex Clutch Pump (V181) 011 Open Circuit Intermittent
- 00448 Haldex Clutch Pump (V181) 011 Open Circuit Defective

• 00448 – Haldex Clutch Pump (V181) – 011 – Open Circuit – Intermittent Causes:-

The pump runs every 20 seconds or so to keep the system primed, the ECU powers up the motor for 2 seconds and turns off again.

This causes the brushes to wear out, typically this can be proven by running the pump with VAGCOM/VCDS using the output test function. If the pump will not run, gently tap the pump a few times with something metal, typically the pump will jump back into life. This is not a fix, this proves the pump is defective.

You can test the pump with a multimeter set in the Resistance "ohms" setting, and connect it to the two terminals in the pumps multi plug, polarity does not matter.. A good pump will measure between 5 and 8

ohms. Below or above this spec highlights a defective pump. Bad pumps often read very high resistan pump to make it run is an option, but it is far from any kind of conclusive test method. Some pump will cycles then test out of spec the next, this is due to worn motor brushes and commutator.

Pumps burn out typically because the filter clogs up with scum. Typically cars clog the filter between 4 the clock with a clogged filter. There is no set mileage, more down to activation/use of the Haldex clute If replacing the pump ALWAYS replace the filter. It is a consumable, and if clogged the new pump will k





Hald V181 Resolution:-

Replace Filter + Pump + Oil using correct method. **Buy Gen 4 Pump** Here(https://www.haldexrepairs.co.uk/shop/pumps/0ay598549ageneration-4-pump-haldex-vag/)





#### Typical Failure Types – Clogged Filter Failure

Fault Codes:-

- 02248 Valve for Controlling Clutch Operating Angle (N373) Intermittent
- 01155 Clutch 003 Mechanical Failure Intermittent

### Causes/Diagnosis:-

The clutch pack wear material is suspended in the Haldex coupling oil. Firstly large particles get filtered residue/particles get filtered by the cartridge filter. According to VW/Audi this filter does not exist!! Because oil is not passing through the filter cartridge, the oil pressure required to clamp the Haldex clu clutch pack slips (causing more wear and clogging the filter further!) thus the ABS/ASC/TCS system de should not be possible with the Haldex clutch engaged, thus the fault codes generated are focused of CAUTION – a Haldex pre change pump V181 which no longer delivers good oil pressure will also give the

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to 8 ohms resistance specification.

Jumping/skipping wheel when turning tight corners in car parks etc.

A binding sensation when doing tight turns.

### Resolution:-

Replace Filter + Oil + Clean pump pre filter. Often replacement pump is required. **Buy Filter Kits** Here(https://www.haldexrepairs.co.uk/shop/filters/generation-gen-4-filter-kit-vw-audiseat-skoda/)







Typical Failure Types – ECU Failure

Fault Codes:-

- 02248 Valve for Controlling Clutch Operating Angle (N373) Defective
- 02248 Valve for Controlling Clutch Operating Angle (N373) Intermittent
- 02248 Valve for Controlling Clutch Operating Angle (N373) 012 Electrical Fault in Circuit
- 01324 Control Module for All Wheel Drive (J492) 004 No Signal/Communication
- 65535 Internal Control Module Memory Error 00-10 Intermittent
- 16347 Control Module EEPROM error 014 Defective Intermittent
- 00003 Control Module 014 Defective Intermittent / Control module faulty sporadic

Diagnosis:-

This can manifest itself in sneaky ways on Generation 4 Haldex vehicles. It can give any of the fault codes above, and even pump fault codes. As it depends which area of the circuit board is either corroded and/or burnt out.

The most simple way to prove the ECU is at fault is to open the ECU up. To do this, cut away all of the bl the lid – do not shove anything under the lid – do not scratch the circuit board or components. Then ir components on the bottom front edge of the circuit board. Around 15% of all Generation 4 Haldex failu many are viable for repair – depending on how bad the burning and/or corrosion is.



Jumping/skipping wheel when turning tight corners in car parks etc. A binding sensation when doing tight turns. Burnt electrical smell from the ECU when removed. **Find out more about our ECU repair service here(https://www.haldexrepairs.co.uk/ecutesting-repair-service/)** 

Resolution:-Repair or Replace Haldex ECU Replacing filter and oil is advisable Often pump is at end of service life too



# HALDEX PARTS AND ECU REPAIRS BY A

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INFORMATION

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