

Meat&Doria **805161**
Hoffer Products **H805161**



FOCUS

Transmission Components

Our range



Our Premium Quality

A superior quality range, guaranteed by direct control of the entire process.

Design and production are supervised by the Group's engineers, in compliance with the original equipment specifications. Subsequently, each component undergoes end-of-line validation testing by the Quality team, with the aim of offering a product that always stands out for its quality, reliability, and durability.



Design



Fleet Coverage



Testing



After-Sales Support

Introduction

This category includes a wide range of transmission-related components, including **selector modules, disengagement devices, pressure accumulators, electric pumps, and control units** for automatic or automated manual transmissions.





Component Examples

Replacement Gear Selector Module (cod. 805003)



What is it?

It is an electromechanical module that replaces the driver's manual control in an automated manual transmission.

How does it work?

Automation: It receives electrical impulses from the transmission control unit and converts them into mechanical movement.

Gear selection: It physically moves the selectors inside the gearbox to engage the correct gear or neutral, without the driver having to use a mechanical lever or clutch pedal.

Replacement

It is used to repair common faults where the transmission remains stuck or does not respond correctly to commands.

Operating Details

- Detects the gear lever position (P-R-N-D-M/S)
- Sends the signal to the transmission control unit
- Enables engine start authorization in P or N
- Manages manual or sport modes when present

Positioning

Usually located:

- Under the gear lever (in traditional systems)
- Integrated into the central tunnel
- In electronic shift-by-wire systems, it is fully electronic
- Mounted on top of the gearbox (at gear engagement and selection mechanism)

Failure Symptoms

Vehicle does not recognize the selected gear

Engine will not start in P or N

Transmission stuck in emergency mode (recovery)

Stiff or immovable gear lever

Transmission error message on dashboard



Common Causes

Wear of internal microswitches

Oxidation or poor electrical contacts

Wiring issues

Integrated control unit electronic failure

Overheating

Oil contamination

Mechanical breakage

Estimated Replacement Costs

Module only: € 150 - 600

With labor: € 300 - 1,200

Electronic coding via diagnostic tool may be required in some cases.

Central Clutch Slave Cylinder (CSC) (cod. 805026)



What is it?

It is a fundamental hydraulic component of the automatic/automated transmission control unit.

How does it work?

Automatic disengagement: It receives hydraulic pressure from the valve body to physically push the clutch pressure plate.

Pedal replacement: It performs the function that, in a manual car, the driver would perform by pressing the clutch pedal, allowing the control unit to disengage the transmission and change gears autonomously.

Failure Signs: When malfunctioning, the vehicle may have difficulty engaging gears, jerk when starting, or display the message "Transmission not available" or "Recovery mode".

Operating Details

- Converts pedal pressure into mechanical movement
- Pushes directly on the clutch pressure plate
- Allows clutch disengagement for gear shifting

In modern systems replaces the traditional external slave cylinder with fork



Positioning

- Inside the gearbox bell housing
- Mounted around the input shaft
- Integrated into the release bearing assembly

Gearbox removal is required for replacement

Failure Symptoms

- Difficulty engaging gears
- Vibrations during gear changes
- Clutch not fully disengaging
- Brake fluid leakage from the bell housing

Common Causes

- Internal seal wear
- Hydraulic fluid leakage
- Brake fluid contamination
- Incorrect installation

Estimated Replacement Costs

Component only: **€ 80 - 250**

With labor: **€ 400 - 1,200**

Often replaced together with the clutch kit to avoid double labor

Pressure Accumulator (cod. 805038)



What is it?

A pressurized metal shell filled with nitrogen and containing a movable separator element, typically with nitrogen gas on one side and hydraulic oil on the other. It stores hydraulic energy for the transmission actuation system.

How does it work?

Energy storage: The transmission electric pump sends oil into the accumulator, compressing the nitrogen inside. This maintains a reserve of high-pressure oil ready for use.

Shift speed: Thanks to stored pressure, the system can operate the clutch and shift gears instantly without waiting for the pump to start each time.



Failure Signs: If nitrogen pre-charge is lost, the pump activates more frequently (a buzzing noise is heard when opening the door or while driving). If it completely fails, the transmission may lock or suddenly shift to neutral due to insufficient pressure.

It is a critical component: a discharged accumulator can cause overheating and failure of the electric pump.

Operating Details

- Stores hydraulic pressure
- Stabilizes the circuit
- Ensures energy reserve for actuators (transmission, clutch, suspension, etc.)
- Reduces pressure fluctuations

Used in automated transmissions, automatic transmissions, hydraulic suspensions, and special braking systems.

Positioning

Depending on the system:

- Near the hydraulic control unit (automated / dual-clutch transmissions)
- Integrated in the hydraulic pump assembly
- In hydropneumatic suspension circuits
- In some ABS/ESP modules

Usually cylindrical or spherical in shape

Failure Symptoms

- Frequent pump activation
- Unstable system pressure
- Transmission error messages
- Emergency mode
- Delayed gear engagement

Common Causes

- Nitrogen loss (gas models)
- Damaged internal membrane
- Circuit leaks
- Wear after many operating cycles

Estimated Replacement Costs

Accumulator only: **€ 150 - 500**

With labor: **€ 300 - 900**

If integrated into the pump assembly: over **€ 1,000**.



Automatic Transmission Connector Housing / Control Unit (cod. 805122)



What is it?

A 13-pin plastic connector with seals that serves as the connection point between the vehicle's external wiring harness and the internal electrical plate of the transmission.

How does it work?

Data transmission: Allows the transmission control unit to communicate with internal sensors and solenoids to manage gear shifts.

Sealing: Its seals must prevent transmission oil leaks.

Common issue (capillarity): If the seals fail, transmission oil can travel by capillary action along the wiring up to the control unit, damaging it.

Failure Signs: Visible oil leaks under the gearbox, harsh gear shifts, or the vehicle entering "protection" mode (limp mode). Replacement is an inexpensive and very common preventive maintenance operation.

Positioning

Depends on the type of transmission:

- Inside the transmission (integrated in the mechatronics)
- On the external gearbox housing

In dual clutch transmissions it is almost always integrated into the electrohydraulic module.

Failure symptoms

- Transmission warning light on
- Transmission in emergency mode
- Jerking or delays in shifting
- Failure to engage gears
- Communication errors in diagnostics

Common causes

- Oil infiltration in the connector
- Oxidation of the pins
- Damaged wiring
- Overheated control unit
- Internal mechatronic failure

Estimated replacement costs

Connector repair: € 150 - 400

Complete mechatronics: € 1,200 - 2,500

External control unit: € 400 - 900

Official diagnostic coding is often required.

Automated transmission electric pump (cod. 805046)



What is it?

It is the energy core of the hydraulic system that manages the transmission. It is a small electric motor coupled with a pump that generates the pressure necessary for actuator operation.

How does it work?

Pressure generation: When opening the vehicle door or switching on the ignition, a buzzing sound is heard: it is this pump activating to pressurize the oil in the hydraulic circuit.

Actuator supply: The pressurized oil is sent to the actuators that physically move the clutch and gears. Without the thrust of this pump, the transmission cannot perform any operation.

Failure signs: If the electric pump burns out or weakens, the transmission locks, gears do not engage and the error "Transmission not available" appears. The failure is often due to wear of the internal motor brushes after many working cycles.

In many cases, if the problem is only electrical, it is possible to **replace or overhaul only the electric motor without having to change the entire hydraulic unit**, significantly reducing repair costs.





Operating details

- The control unit detects a drop in pressure
- Activates the electric pump
- The pump pressurizes the circuit
- The accumulator stores pressure
- The actuators use the pressure to change gear

It activates at intervals to maintain stable pressure.

Failure symptoms

- Frequent pump activation
- Delay in gear engagement
- Transmission in emergency mode
- Transmission error messages
- Vehicle that does not engage gear
- Continuous or abnormal pump noise

Estimated replacement costs

- Electric pump only: **€ 300 - 900**
- With labor: **€ 500 - 1,500**

Bleeding and calibration procedure with electronic diagnostics is often required.

Positioning

- Integrated into the mechatronic unit
- Near the hydraulic control unit
- Mounted externally to the gearbox in some systems

Usually connected to a hydraulic oil reservoir and a pressure accumulator.

Common causes

- Wear of the internal electric motor
- Faulty pump relay
- Discharged accumulator
- Leaks in the hydraulic circuit
- Electrical supply problems



What is it?

It is a hydraulic component of the clutch disengagement system, usually made of high-strength plastic material or metal.

How does it work?

Pressure conversion: With the pressure of the clutch pedal, the master cylinder sends hydraulic oil (brake fluid) to the secondary cylinder.



Mechanical action: The fluid pressure moves a piston inside the small cylinder, which in turn pushes the rod to move the clutch pressure plate and temporarily disconnect the engine from the transmission.

Failure signs: If the component leaks or fails, the clutch pedal may feel "soft", remain fully depressed or make it difficult to engage gears due to incomplete disengagement.

Operating details

- Receives hydraulic pressure from the master cylinder
- Transforms pressure into mechanical movement
- Operates the clutch fork
- Allows clutch disengagement

It is present in traditional hydraulic clutch control systems.

Positioning

- Outside the gearbox bell housing
- Fixed on the gearbox housing
- Connected to the clutch fork via push rod

Different from the central clutch engagement device (CSC), which is internal to the gearbox.

Failure symptoms

- Soft clutch pedal
- Clutch pedal that remains pressed
- Brake fluid leaks near the gearbox
- Fluid level that drops without reason
- Difficulty engaging gears
- Clutch that does not fully disengage

Common causes

- Wear of internal seals
- Hydraulic fluid leaks
- Air in the circuit
- Oxidation or piston seizure

Estimated replacement costs

Cylinder only: **€ 30 - 120**

With labor: **€ 100 - 300**

If full system bleeding is necessary: **limited additional cost**

It is recommended to also check the master cylinder if the problem reoccurs.



Haldex System

What is it?

The Haldex coupling, used in all-wheel drive vehicles, allows management of different torque values between the two axles, continuously varying the percentage sent to the front and rear wheels.

How is it made?

It consists of a **cylindrical housing** that contains two sets of plates, one connected to the front axle and the other to the rear axle, which form the electrohydraulic multi-disc clutch pack managed through electronic control.

The clutch is of the **oil-bathed multi-disc type** and the pressure with which the plates are pushed together determines the amount of torque transferred between the axle connected to the engine and the axle that engages in case of loss of traction.

How does it work?

Under normal driving conditions the Haldex clutch is open; therefore, **the two axles are independent**. If, however, the ABS wheel speed sensor detects that the front axle rotates faster than the rear one, the control unit activates the hydraulic pump, which, by increasing the oil pressure in the actuators, brings the two clutch sectors closer together, tightening the clutch pack and consequently allowing **torque transfer between the two axles** thanks to the increased friction between the plates.

Operating details

- Automatically distributes torque between front and rear axle
- Activates rear traction only when necessary
- Improves grip and stability
- Reduces consumption compared to permanent AWD

It is widely used on transverse-engine vehicles with front-wheel-drive base.

Multi-plate coupling pump
(cod. 805127)



Positioning

- Integrated into the rear differential
- Connected to the driveshaft
- Includes: multi-disc clutch, hydraulic pump, control unit and sensors



Applications

It has been installed on many models of:

Volkswagen (4Motion)

Seat

Audi (some quattro models with transverse engine)

Škoda

Volvo Cars

Land Rover (on some specific models)

Failure symptoms

All-wheel drive warning light on

Vehicle that remains front-wheel drive only

Noise or vibrations from the rear

AWD error messages

Loss of traction on slippery surfaces

Clutch that does not fully disengage

Common causes

Faulty Haldex pump

Clogged Haldex oil filter

Oil not replaced regularly

Faulty pressure sensor

Control unit problems

Requires periodic maintenance
(specific oil change)

Estimated replacement costs

Oil and filter change: **€ 150 - 350**

Unit repair: **€ 800 - 2,000**

Haldex pump: **€ 300 - 800**

Possible failures of main components

Clutch actuator: sealing loss, O-ring wear, air in the circuit, oil contamination.

Pressure accumulator: gas precharge loss, membrane wear, overlaps.

Electric pump: work overload, brush wear, water infiltration, relay failure.

Symptoms

Unusual noises

Difficulty engaging gears or gears that jump out

Clutch problems: slipping, abnormal pedal, vibrations

Oil leaks or burning smell

Dashboard warning lights or emergency mode



Causes of malfunction

- Lack of lubrication
- Aggressive driving style
- Electronic or sensor failures
- Excessive heat (urban traffic, towing loads)

Common diagnostic errors

- P0942:** Insufficient hydraulic system pressure
- P0805/P1810:** Clutch sensor/actuation problems
- P060A/U0101:** Control unit communication errors
- P1773:** Low pressure during shifting
- P2900/P2905:** Gear selection errors