

DTC: 404062 - Brake Pedal Switch - Signal Compare Failure

DATE: March 11, 2022

MODELS: All models M156/M157/M161

SECTION: 05.20 - 1 COMPLETE PEDAL BOARD UNIT

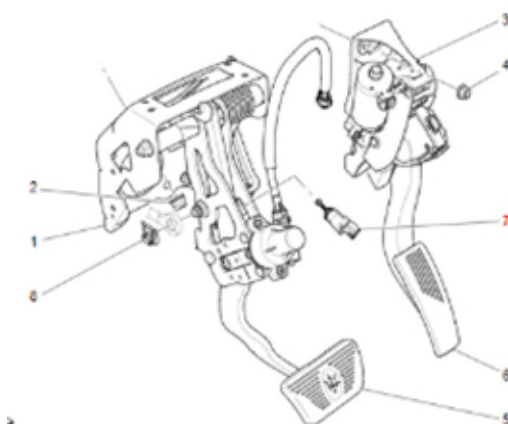


Figure 1: Brake pedal switch as pictured in the spare parts catalog (component #7)

ISSUE: ESC and engine warning lights on in the instrument panel

CONDITIONS: No specific condition

DTC IN ECU: Possible DTCs in ESC and ECM:

- 404062 - Brake Pedal Switch Signal Compare Failure
- C41500 - Invalid Data Received from Anti-Lock Brake System (ABS) Control Module "A"

TROUBLESHOOTING:

DTC 404062 is stored in the ESC control unit when the two switches (one normally open and one normally closed), grouped together in the same housing (brake pedal switch), may assume the same state, which represents an anomaly, as shown in Figure 2:

13.1. Diagnostic trouble code: 404062 – Brake Pedal Switch Signal Compare Failure

Flags

Test Failed	False
Test Failed This Operation Cycle	False
Pending Diagnostic trouble code	False
Confirmed Diagnostic trouble code	True
Test Not Completed Since Last Clear	False
Test Failed Since Last Clear	True
Test Not Completed This Operation Cycle	False
Warning Indicator Requested	False
Occurrence Flag	Error
Original Odometer Value	69984 km
Most Recent Odometer Value	69984 km
Frequency Counter	2
Ignition Cycle Counter	11
DTC Extended Data Record Number – #2	ff
Battery voltage	14.79 V
Vehicle Speed (Vehicle speed out)	0.00 Km/h
Brake Light Switch Normaly Open	Not Pressed
Brake Light Switch Normaly Close	Not Pressed
Reverse Gear Switch	Not Applied
Electronic System Controller Switch	Not Pressed
EPB Switch	Not Pressed
Electronic braking differential function Control	Not Active
Anti-Lock Brake System function control	Not Active
Electronic stability program (ESP) / Anti-Slip Regulation (ASR) function control	Not Active
Reserved	00
Hill Holder function control	Not Active
Electronic System Controller enabled/disabled by driver	Disabled
Brake Oil Pressure	30.92 bar

Figure 2: Enviromental conditions when the DTC is stored.

The table below explains the operation of the two switches mentioned above; identified respectively by the parameters:

- Brake Light Switch - Normally Open
- Brake Light Switch - Normally Closed

Diagnostic parameters related to the brake pedal switches (ESC module)	
Brake Light Switch - Normaly Open	Digital input from the NO switch. Parameter reading matches the condition of the brake pedal:: - Not Pressed when the brake pedal is released (ESC module measures 0 volts). - Pressed when the brake pedal is pressed (ESC module measures battery voltage)
Brake Light Switch – Normaly Closed	Digital input from the NC switch. Parameter reading is the opposite of the brake pedal condition:: - Pressed when the brake pedal is released. ESC module (as well as BCM and EPB) measures battery voltage. - Not pressed when the brake pedal is pressed (the modules measure 0 volts).

Checks:

- 1) Attach to the BOL, DTC and parameters report of the car.
- 2) Delete DTCs, and with the car running at idle, acquire the following ESC parameters while slowly pressing and releasing the brake pedal:
 - 0884 Brake Oil Pressure
 - 0889 Brake Light Switch – Normally Closed
 - 0889 Brake Light Switch – Normally Open

During acquisition, check if the two parameters "Brake light switch - Normally open" and "Brake light switch - Normally closed" assume the same status as in figure 3

Time	Brake Light Switch Normally Closed	Brake Light Switch Normally Open	Brake Oil Pressure
36:23.000	0 - Not Pressed	0 - Not Pressed	-0.64
36:23.500	1 - Pressed	0 - Not Pressed	-0.48
36:24.000	1 - Pressed	0 - Not Pressed	-0.36
36:24.500	1 - Pressed	0 - Not Pressed	-0.30
36:25.000	1 - Pressed	0 - Not Pressed	-0.36
36:25.500	1 - Pressed	0 - Not Pressed	-0.36
36:26.000	1 - Pressed	0 - Not Pressed	-0.30

Figure 3: Anomaly during the acquisition

- 3) Check if the brake pedal switch is installed correctly. If ok, go to the next step
- 4) Check if the stem of the brake pedal switch is stuck or not. If ok, go to the next step
- 5) According to the wiring diagram FE0501 - Braking system, check the electrical integrity (ground, connectors, power supply and wiring) of the brake pedal switch, also paying attention to any intermediate connections.

CONSIDERATIONS: if from the above checks nothing is found, the complaint is due to the brake pedal switch which will need to be replaced.