



## TROUBLE TRACER - SIMPLE STEPS TO PUT A STOP TO BRAKE NOISE

### I. WITHOUT DISASSEMBLY

NO RAMP NEEDED



ANY MILEAGE OF PADS OPERATION



- |                                 |   |   |  |
|---------------------------------|---|---|--|
| I<br>↓<br>FULFIL THE WHOLE LIST | 1 | ASK CUSTOMER TO DESCRIBE THE NOISE IN AS MUCH DETAIL AS POSSIBLE                    |  |
|                                 | 2 | RETIGHTEN THE WHEELS TO THE SPECIFIED TORQUE AND FOLLOWING THE RECOMMENDED SEQUENCE |  |
|                                 | 3 | CHECK THE TYRE PRESSURES ARE CORRECT  |  |
|                                 | 4 | CHECK THE CONDITION OF THE WHEELS AND TYRES   |  |
|                                 | 5 | ENSURE THE WHEELS AND TYRES ARE COMPATIBLE WITH THE CAR                             |  |
|                                 | 6 | CHECK FOR STICK-ON/CLIP-ON BALANCE WEIGHTS  |  |
|                                 | 7 | CHECK THE CONDITION OF THE REAR BRAKE DISCS   |  |
|                                 | 8 | TEST DRIVE  |  |

IF THE NOISE IS NOT ELIMINATED, GO TO SECTION II

### II. BRAKES AND BEDDING-IN

RAMP NEEDED



IF BEDDING-IN IS NOT COMPLETED MILEAGE UP TO 500 KM

< 500 KM

II  
↓  
FULFIL THE WHOLE LIST

- |    |   |  |   |
|----|---|--|---|
| 9  | ASK THE CUSTOMER IF THEY CAN REMEMBER ANYTHING ELSE ABOUT THE ISSUE |  | WHEN DOES THE SOUND OCCUR?  |
| 10 | PAD AREA ISN'T FULLY BEDDED-IN                                      |  | <p>TELL THE CUSTOMER WHAT NEEDS TO BE DONE</p> <p>YES</p> <p>NO NEXT STEP</p> |
| 11 | SIGNS OF OVERHEATING  |  | <p>YES REPLACE</p> <p>NO NEXT STEP</p>  |
| 12 | ARE THERE ANY EXTERNAL CONTAMINANTS?                                |  | <p>YES CLEAN</p> <p>NO REPLACE</p>  |
| 13 | DIRECTIONAL PADS  |  | ENSURE THEY ARE CORRECTLY INSTALLED   |
| 14 | NON-DIRECTIONAL BRAKE PADS  |  | SWAP LEFT AND RIGHT SIDE  |
| 15 | CALIPER SLIDE PIN BOLTS   |  | TIGHTEN TO THE MANUFACTURER'S SPECIFICATION                                   |
| 16 | WHEELS  |  | TIGHTEN TO THE MANUFACTURER'S SPECIFICATION                                   |
| 17 | TEST DRIVE  |  | LET THE CUSTOMER MAKE A TEST DRIVE  |

IF THE NOISE IS NOT ELIMINATED, GO TO SECTION III



### III. CALIPER, PADS, ROTOR

RAMP NEEDED



IF BEDDING-IN IS COMPLETED START FROM POINT 9 TILL 37

> 500 KM

III  
↓  
FULFIL THE WHOLE LIST

- |    |  |  |  |
|----|--|--|--|
| 19 | ASK THE CUSTOMER IF THERE WAS ANYTHING THEY FORGOT TO MENTION? |  | HAVE THERE BEEN ANY REPAIRS, MALFUNCTIONS OR INCIDENTS?                |
| 20 | BRAKE PAD MOUNTING AND DISC                                    |  | CLEAN / BRUSH  |
| 21 | DIRECTIONAL PADS   |  | ENSURE THEY ARE CORRECTLY INSTALLED                                    |
| 22 | CALIPER PINS   |  | CLEAN AND GREASE   |
| 23 | DISC CONDITION, MASS COMPARISON WITH OE DISC SPECIFICATION     |  | MEASURE, GRIND OR REPLACE  |
| 24 | SPRINGS, PLATES, BOLTS   |  | CHECK AND REPLACE  |
| 25 | WHEEL HUB  |  | CHECK AND CLEAN  |
| 26 | SAND, RUST OR SALT ON THE DISC                                 |  | CHECK, BRUSH, GRIND OR REPLACE   |
| 27 | OIL OR ANOTHER LIQUID CONTAMINANTS ON THE PAD                  |  | REPLACE  |
| 28 | CHEMICALS FOR CLEANING WHEELS AND TYRES                        |  | REMOVE AND WASH DISC WITH HOT WATER, SOAP AND WIRE BRUSH               |
| 29 | USE BRAKE DISKS AND BRAKE PADS OF THE SAME BRAND COMPATIBILITY |  | <b>FERODO</b>  |
| 30 | INACTIVE / INEFFECTIVE REAR BRAKES                             |  | REPAIR<br>REPLACE  |
| 31 | PAD SURFACE CRYSTALLIZATION                                    |  | PEEL OFF THE TOP LAYER WITH SANDPAPER ON A FLAT SURFACE OR REPLACE     |
| 32 | CALIPER GEOMETRY   |  | CHECK AND IF DAMAGED REPLACE CALIPER                                   |
| 33 | NON-DIRECTIONAL PADS   |  | SWAP LEFT AND RIGHT SIDE   |
| 34 | ANTISQUEAL SHIM  |  | CHECK INTEGRITY AND FIT  |
| 35 | REMOVABLE ANTISQUEAL SHIM                                      |  | CHECK AND IF NOT PRESENT INSTALL                                       |
| 36 | WHEN RE-INSTALLING THE WHEELS                                  |  | TIGHTEN WITH THE CORRECT TORQUE AND FOLLOWING THE RECOMMENDED SEQUENCE |
| 37 | TEST DRIVE   |  | SIMULATE THE CONDITIONS WHEN THE NOISE OCCURS                          |

IF THE NOISE IS NOT ELIMINATED, GO TO SECTION IV



[drivparts.com/en-gb/garagegurus.html](http://drivparts.com/en-gb/garagegurus.html)



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# 26 Reasons for Brake Noise

1. No or incomplete cleaning of the protective anti-oxidation coating of the disc (paraffin)
2. No decontamination of the disc, in the case of re-use (lack of cleaning of the friction surfaces)
3. The brake calipers do not slide correctly along sliding axis (grease or repair)
4. Poor condition of the discs (scoring, grooves, deformations, fissures)
5. Use of the disc below the minimum thickness MIN TH
6. Crystallisation of material (poor use, problems with a component of the system)
7. Poor condition of: springs, fastening screws or plates
8. Inadequate period of mechanical or thermal adaptation (excess or flaw)
9. Contamination from excess abrasive materials (rust, silicates, saltpetre)
10. Contamination from lubricants (oil, brake fluid, etc.)
11. Incompatibility of qualities between discs and pads (hardness, metallographic stabilisation)
12. Type and size of rims (aluminium, steel, inches)
13. Contamination of pads due to transfer of metallic elements from disc
14. Incorrect or incomplete assembly or repair process
15. Part unsuitable for the application
16. Geometric deformation of calipers, sleeves, rims, etc.
17. Condition of bearings
18. Structural torsion of chassis (vehicle usage, care, age, maintenance)
19. Condition of chassis components (ball joints, wishbones, tie rods)
20. Condition of the suspension system (dampers, springs, rods)
21. Condition of tyres and type (size, wear and pressures)
22. Condition of silentblocs
23. Incorrect tightening torque (caliper, disc, dampers, rims)
24. Condition and performance of rear axle brakes
25. Imbalance between axles (braking or suspension)
26. Use of a wheel cleaner (possible contact with washed dirt on the brake disc operating surface)

## IV. CHASSIS

RAMP NEEDED



IF NOISE PERSISTS AFTER GOING THROUGH ALL PREVIOUS STEPS CONTINUE WITH POINTS 38 TILL 44

> 500 KM

FULFIL THE WHOLE LIST

IV

38	BALL JOINTS, BUSHINGS AND SILENT BLOCKS		POLYURETHANE? DIAGNOSE, RE-TIGHTEN OR REPLACE
39	SHOCK ABSORBERS AND SPRINGS		DIAGNOSE AND REPLACE IF REQUIRED
40	WHEEL BEARINGS		WORN BEARING = BRAKE SQUEAL = REPLACE
41	CHECK BODY RIGIDITY		BRAKE NOISE IS LIKELY ON OLDER VEHICLES OR THOSE WITH COMPROMISED BODY STRUCTURES
42	IMBALANCE BETWEEN AXLES		RESTORE BALANCE
43	COUNTERFEIT PARTS INSTALLED		CHECK THAT THE COMPONENTS ARE GENUINE
44	REFURBISHED WHEEL RIM?		CAN CAUSE BRAKE NOISE

NEVER USE AN IMPACT WRENCH TO TIGHTEN THE WHEEL BOLTS AND NUTS.



DON'T LUBRICATE WHEEL BOLTS AND STUDS.



ALWAYS OFFER TO CUSTOMER BEDDING-IN MEMO.



	INSPECTION
	OPERATION
	BRAKE ROTOR / DISC
	BRAKE PADS
	WHEEL
	RAMP
	TEST DRIVE

When fitting new brake pads, best practice is to also check the condition and thickness of the brake discs and replace these at the same time if required. Regular inspection of the brake system is recommended to ensure continued safe braking.

