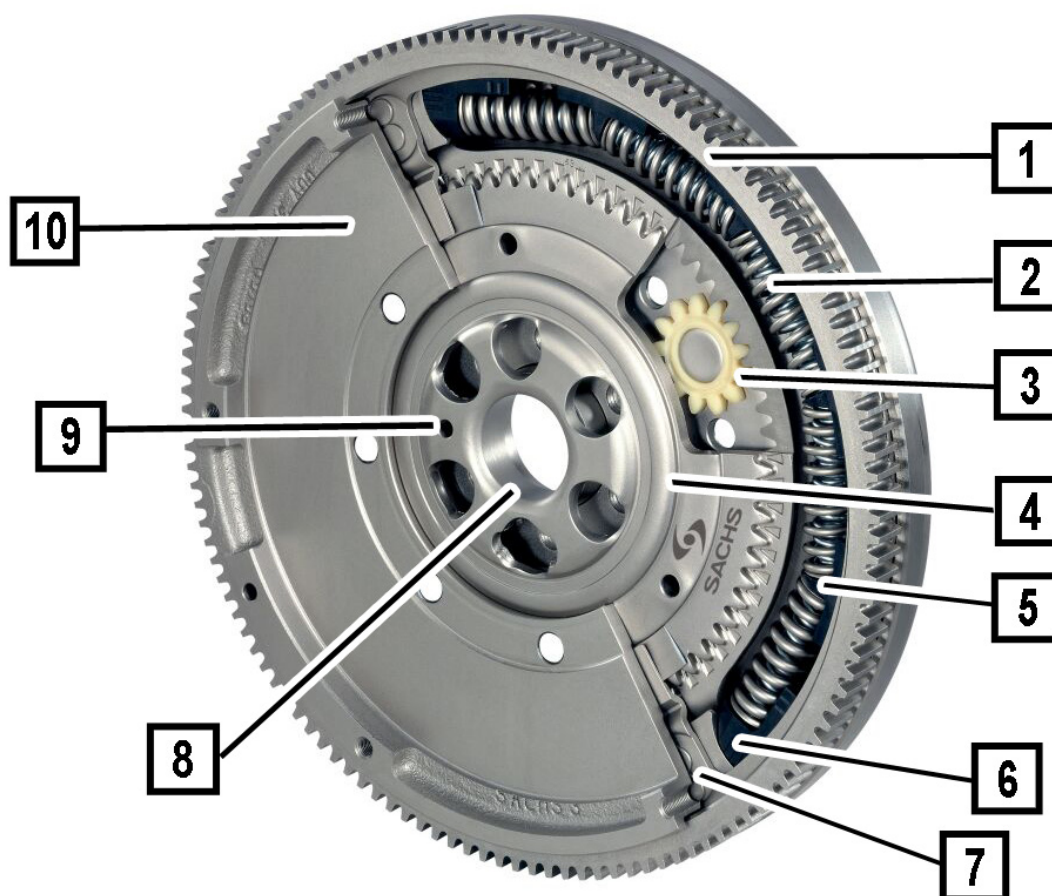


Dual-mass flywheels decrease noise and improve refinement on the move.



- | | |
|--|-------------------------|
| 1 Primary flywheel | 2 Springs |
| 3 Planetary gear | 4 Plain bearing, axial |
| 5 Sliding shoe | 6 Spring cap |
| 7 Cover plate to retain grease content | 8 Plain bearing, radial |
| 9 Hole for securing pin | 10 Secondary flywheel |

NOTICE

- Clean the dual-mass flywheel with oil- and grease-free rags only. High-pressure cleaners, steam jets, cleaning sprays or compressed air must not be used. That could lead to dirt or cleaning agents getting inside the dual-mass flywheel and causing increased wear.
- For technical reasons, the secondary flywheel (10) friction area must not be reworked!
- The primary (1) and secondary flywheel (10) have to be prevented from rotating with a 6mm-pin (9) before removing it from the crankshaft. If this is omitted, the secondary flywheel could be damaged by a bolt head.
- Always renew the crankshaft connecting bolts. Please observe the tightening torques for the bolts. Observe the vehicle manufacturers' instructions (expansion bolts, securing material).
- When replacing the clutch for the second time, always replace the dual-mass flywheel as well. The torsion damper in the dual-mass flywheel is also wear component.



Testing the DMF

When installed, the primary and secondary flywheels can be rotated against each other by hand. Measured on the external diameter of the dual-mass flywheel, the rotation of the secondary flywheel amounts to 10 mms clockwise and 10 mms counter-clockwise. Rotation tolerance must be equal in both directions. In any case, the secondary flywheel has to turn back to its original position by itself.

Possible causes of damage / failure of the dual-mass flywheel

- Frequent stalling of the engine
- Driving at extremely low engine speeds
- Irregular operation of the ignition and fuel injection systems
- Different compression pressures in various cylinders
- Extreme vibration due to worn drivetrain components
- Overheating

Indicators for mandatory replacement:

Overheating of secondary flywheel

Cause:

Caused by incorrect clutch use, e.g. clutch slip.

Result:

- Heat counteracts the effect of the damping grease. Sliding shoes, spring caps and springs run dry.
- Vibration damping performance is reduced or fails.
- Heat spots can cause clutch grabbing.

Note:

Clearly visible annealing discoloration and heat cracking.



Primary flywheel worn through

Cause:

Extreme mechanical strain on entire DMF. This may be due to a rough running engine, e.g. caused by faulty injectors.

Result:

- Destruction of interior components
- In extreme cases, internal components wear through the housing of the primary flywheel.
- This leads to total failure of the DMF.

Note:

Lubricant leakage is another sign of this problem.



Signs of overheating inside on the secondary flywheel

Cause:

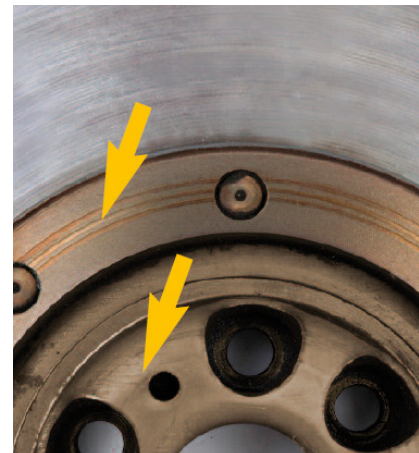
Thrust bearing wear between primary and secondary flywheel due to mechanical strain.

Result:

Heat counteracts the effect of the damping grease. Sliding shoes, spring caps and springs run dry.

Note:

Clearly noticeable by the temper colors, as well as the unusual vehicle noise that gets stronger when disengaging the clutch.



DMF blocked

Cause:

Excessively long screws used to fit the cover assembly can block the primary and secondary flywheels.

Result:

- Vibrations cannot be dampened
- Noise levels cannot be reduced



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