Technical Bulletin

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# Technical Bulletin
## Transmission Systems

**Model for**
MINI
Transmission type:
GS6-53DG
6-Speed Manual
Transmission

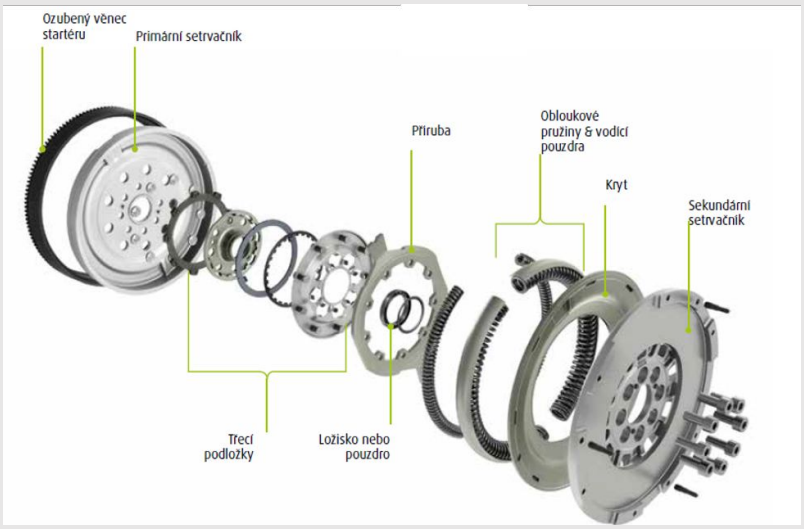
**Part number**
836057

## Flywheel test instructions

A dual mass flywheel is made up of many wearing components (see diagram below) and as such, should always be checked when performing a clutch replacement. Although a full functional test can only be performed at a properly equipped test facility, there are two simple test/measurements that can be undertaken on every dual mass flywheel to indicate if it needs to be replaced or not.

**These two tests are:**

1) Checking the secondary flywheel free-play angle measurement .
2) Checking the tilt/rock of the flywheel bearing/bushing.




For dual mass flywheel **836057,** the tolerance for both measurements are as following:

| Free play angel (J1) Maximum acceptance angle (degrees) | Permissible movement of secondary flywheel (number of teeth on the ring gear) | Tilt/ Rock Maximum permissible value (mm) |
|---|---|---|
| 21.5 | 8 | 3 |

Follow the following guide to check both the secondary flywheel free-play angle measurement and the tilt/rock of the flywheel bearing/bushing.

# Secondary flywheel free-play angle measurement

This angle corresponds to the angular free play between the secondary flywheel and primary flywheel. Free play can be checked using the following procedure:

Fig. 1

Fig. 2

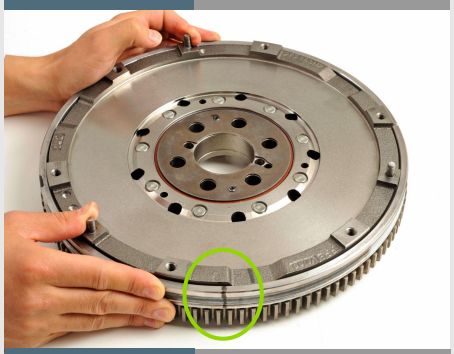


Fig. 3

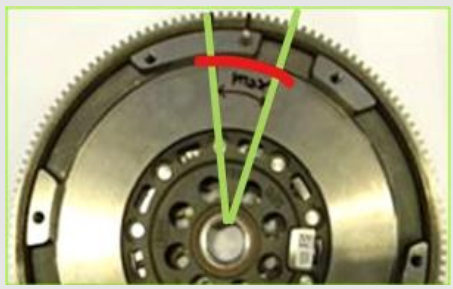


Fig. 4

1. Place the dual mass flywheel on a workbench or flat surface with the secondary flywheel facing upwards.

2. Apply a soft angular, clockwise pre-load to the secondary wheel until you feel the elastic reaction of the springs. Make the corresponding mark on the primary (ring gear teeth) and secondary flywheels.

3. Rotate the flywheel counter-clockwise until you feel the elastic reaction of the springs (the space between the two marks corresponds to angle J1). Make the corresponding mark in the primary (ring gear teeth) and secondary flywheels.

4. Count the number of teeth of the starting ring gear between the two marks. You can also measure the angle between the spaces (this is the angle J1).

# Tilt / Rock Measurement

This is the clearance between the primary and the secondary masses. Excessive secondary flywheel free play of the DMF is a possible sign of wear to the bearing/bushing. A simple measurement procedure is described below:

Fig. 1

Fig. 2

Fig. 3


Fig. 4

1. Place the dual mass flywheel on the workbench with the secondary flywheel facing upwards. Place a comparator (Vernier gauge) on the friction surface towards the outer surface (not on the

2. Press gently on the opposite side of the secondary flywheel, until it comes into contact with the primary flywheel. Reset the comparator (Vernier gauge).

3. Press the side where the comparator (Vernier gauge) is and read the value found (peak to peak).

4. Refer to the maximum value permitted and replace the DMF if it is over the maximum acceptance criteria.

**Hint**: you may use a mass of 100 N. Place it on one turret of the secondary flywheel. Reset the measuring tool. Move the mass 180° position (always on the turret), measure the tilt value.

# Welding deposit

The geometry of the DMF has a defined shape. During the welding process of the cover, it is normal to gather a welding deposit on the inertia ring. Such a deposit has brown/reddish color and by mistake can be confused as **rust presence**.