

Dual Mass Flywheel Testing Tool Kit





4200 080 563

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4200 080 563 - Dual Mass Flywheel Testing Tool Kit

Universally applicable to vehicles equipped with a standard dual mass flywheel (hereinafter also referred to as 'DMF') made by ZF.

Field of Application

The Dual Mass Flywheel Testing Tool Kit allows for simple checks of ZF dual mass flywheels (DMF) that have already been in use, both off and on the vehicle. For example, the following tests can be performed: Freeplay angle of the torsional damper, uniformity of the torsional damper arc spring force, axial bearing condition as well as displacement of the radial bearing position.

Note: The actual-state assessment of the dual mass flywheel does not allow any reliable conclusions to be drawn about the remaining service life of the DMF.

The Dual Mass Flywheel Testing Tool Kit is designed for use on dual mass flywheels (DMF) from ZF only. Dual mass flywheels from other manufacturers cannot be assessed with the aid of the tools of this tool kit and the following instructions.

DMFs made by ZF can be identified by the SACHS' logo that is either cast in (Fig. 1) or laser-marked on the DMF.

For design reasons, dual mass flywheels with driveplate, as well as dual mass flywheels for double-clutch transmissions cannot be checked. **Fig. 2**.

Scope of Delivery

| Pos. | Part No. | Description | Qty |
|-------------|-----------------|------------------------------|-----|
| 1 | KL-0043-591 | Retaining Device for DMF | 1 |
| 1.1 | KL-0043-591 M1 | Profile Rail with Limit Stop | 1 |
| 1.2 | KL-0043-591 M2 | Base Plate with Holder | 1 |
| 1.3 | KL-0043-5918 | Slot Nut, M10 | 2 |
| 1.4 | KL-0043-5919 | Slot Nut, M9 | 2 |
| 2 | KL-0043-5914 | Cheese Head Screw, M8x12mm | 2 |
| 3 | KL-0043-5922 | Spacer Screw, M6 | 2 |
| 4 | KL-0043-5923 | Spacer Screw, M7 | 2 |
| 5 | KL-0043-5924 | Spacer Screw, M8 | 2 |
| 6 | KL-0043-5925 | Shoulder Nut, M8 | 2 |
| 7 | KL-0043-5920-9 | Cheese Head Screw, M9x30mm | 2 |
| 8 | KL-1283-1118 | Cheese Head Screw, M10x30mm | 2 |
| 9 | KL-0043-594 | Slotted Lever with Lugs | 1 |
| 10 | KL-0043-5920-5 | Lever with Cantilever | 1 |
| 11 | KL-0481-70 | Flywheel Locking Tool (pair) | 1 |
| (not shown) | KL-0500-5190 ZF | Plastic Storage Case | 1 |

🖄 Warnings and Notes

- Any work on engines, transmissions etc. should only be performed by qualified specialist personnel observing and complying with the directions, provisions, and safety regulations specified by the vehicle manufacturer.
- Always refer to the vehicle manufacturer's data and instructions as only these apply to all work that is carried out on the vehicle.
- All vehicle-specific data stated herein are supplied under reserve and without commitment.
- Any comparison between DMFs (e.g. between a new DMF and one that has already been in use) cannot be reasonably assessed. Different distribution of grease within the DMF as well as new plain bearings that have not been subjected to initial friction can lead to different torsional behaviour and/or noises.

Preparatory Work

Loosen and/or remove components/parts as necessary according to manufacturer's instructions. (e.g. gearbox, clutch etc.)

Note: The engine must be properly secured against tilting. Risk of damage to engine mount and short cable harness.





Example of Use:

Checking the Dual Mass Flywheel (DMF) on the vehicle:

- 1. Lock DMF. To do this, mount flywheel locking tool (pair) "11" where appropriate as shown in Fig. 3 B.
- Depending on the thread Ø on the DMF, choose suitable spacer screws "3", "4" or "5", and screw them into two opposing threaded holes. (Fig. 3 A)

Note: Some DMFs have an odd number of clutch fixing holes, which means that the tapped holes are not exactly located opposite each other. This, however, has <u>no</u> effect on the test procedure.

 Bolt levers "9" and "10" together. (Fig. 4) Next, mount lever to DMF and secure with shoulder nuts "6" as shown in Fig. 5.

Note: Some DMFs have an odd number of clutch fixing holes, which means that the lever cannot be mounted centrally. This, however, has <u>no</u> effect on the test procedure.

4. Checking the freeplay angle of the torsional damper:

Via the lever, rotate the secondary mass of the DMF anticlockwise until a slight resistance/spring force of the torsional damper is felt. **Fig. 6 A**

Next, set two opposing line marks on the DMF secondary mass and the starter ring gear. **Fig. 6 B**

Via the lever, rotate the secondary mass of the DMF clockwise until again a slight resistance/spring force of the torsional damper is felt. **Fig. 6 A**

Evaluating the result:

At starter ring gear, count number of teeth between the previously set line mark and the mark at current position. (Fig. 6 C). The maximum allowed number of teeth at the starter ring gear is <u>6 teeth</u>. If the freeplay angle is more than that, this probably indicates that parts inside the DMF are broken or defective. The DMF must be replaced.

Note:

The freeplay angle of the secondary mass of the DMF is due to its design and normal.

Prevent any tilting during the test, as this will lead to biased results. For this, slightly and evenly push the secondary mass of the DMF against the primary mass while performing the test.

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5. Checking the axial plain bearing position:

Using the lever, move the secondary mass of the DMF, within the freeplay, evenly back and forth. (**Fig. 7**)

Evaluating the result:

During the test, the secondary mass must not rub against the primary mass side and no scraping or similar noises should be audible.

If this is the case, the axial bearing is worn out. The DMF must be replaced.

Note:

The rock of the DMF secondary mass does not allow any reliable conclusions to be drawn about the condition of the DMF. Due to design, the rock can be greater or smaller. During the test, prevent any tilting, as this will lead to biased results. For this, push the secondary mass of the DMF slightly and uniformly against the primary mass while performing the test.

6. Checking the arc spring force of the torsional damper:

Via the lever, rotate DMF secondary mass, ascending against the arc spring force of the torsional damper, in both directions (left and right). (Fig. 8)

Evaluating the result:

During the test, the ascending spring force of the torsional damper and the expenditure of force felt should be identical in either direction.

Any scraping, scratching or similar noises will indicate that parts inside the DMF are broken or defective. The DMF must be replaced.

Note: The torsion angle itself depends on the respective characteristic curve of the DMF and the manual force applied.

During the test, prevent any tilting, as this will lead to biased results. For this, slightly and uniformly push the secondary mass of the DMF against the primary mass while performing the test.

7. Checking the radial plain bearing position:

Via the lever, push DMF secondary mass slightly and evenly and try to shift it radially with only a low expenditure of force. (Fig. 9)

Evaluating the result:

During the test, no or only slight radial clearance should be perceptible. If severe radial displacement is noticed, this usually also indicates failure of components in the area surrounding the DMF. The DMF must be replaced.

As a rule for the re-installation of a DMF, maximum clearance must not exceed 0.25mm. This can be measured with the aid of the **KL-0128-31** dial gauge with stand (see accessory).

Note: New plain bearings on the DMF are subjected to an 'initial friction process' where the two components rub against each other. Abrasion wear may occur as a normal consequence due to design and does not affect the service life of the DMF.

During the test, prevent any tilting, as this will lead to biased results. For this, slightly and uniformly push the secondary mass of the DMF against the primary mass while performing the test.





Checking the Dual Mass Flywheel (DMF) <u>off</u> the vehicle:

1. Bolt profile rail "1.1" and base plate "1.2" together as shown in Fig. 10.

Note: Tighten cheese head screws **"2"** to 20 Nm. Profile rail **"1.1"** can also be used for holding a dial gauge.

2. Clamp profile rail **"1.1**" along with base plate **"1.2**" into a vice as shown in **Fig. 11**.

Note: Make sure that profile rail "1.1" with base plate "1.2" are securely held in the vice to prevent them from slipping out of position.

3. Depending on the locating bore Ø of the DMF, choose suitable slot nuts **"1.3" or "1.4**".

Depending on the hole pitch of the DMF, insert suitable slot nuts "1.3" or "1.4" into base plate "1.2". (Fig. 12)

 Place DMF on base plate "1.2" and secure by screwing suitable cheese head screws "7" or "8" into the respective slot nuts "1.3" or "1.4". (Fig. 13)

Note: Tighten down cheese head screws "7" or "8" to 35 Nm.

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 Depending on the thread Ø on the DMF, choose suitable spacer screws "3", "4" or "5", and screw them into two opposing threaded holes. (Fig. 14)

Note: Some DMFs have an odd number of clutch fixing holes, which means that the tapped holes are not exactly located opposite each other. This, however, has <u>no</u> effect on the test procedure.

 Bolt levers "9" and "10" together. (Fig. 15) Next, mount lever to DMF in an almost centred position and secure with shoulder nuts "6" as shown in Fig. 16.

Note: Some DMFs have an odd number of clutch fixing holes, which means that the lever cannot be mounted centrally. This, however, has <u>no</u> effect on the test procedure.

7. Checking the freeplay angle of the torsional damper:

Via the lever, rotate the secondary mass of the DMF anticlockwise until a slight resistance/spring force of the torsional damper is felt. **Fig. 17 A**

Next, set two opposing line marks on the DMF secondary mass and the starter ring gear. Fig. 17 B

Via the lever, rotate the secondary mass of the DMF clockwise until again a slight resistance/spring force of the torsional damper is felt. **Fig. 17 A**

Evaluating the result:

At starter ring gear, count number of teeth between the previously set line mark and the mark at current position. (Fig. 17 C). The maximum allowed number of teeth at the starter ring gear is 6 teeth. If the freeplay angle is more than that, this probably indicates that parts inside the DMF are broken or defective. The DMF must be replaced.

Note:

The freeplay angle of the secondary mass of the DMF is due to its design and normal.

During the test, prevent any tilting, as this will lead to biased results. For this, slightly and uniformly push the secondary mass of the DMF against the primary mass while performing the test.



Fig. 18: Checking the axial bearing position.





Fig. 20: Checking the radial bearing position.



8. Checking the axial bearing position:

Using the lever, move the secondary mass of the DMF, within the freeplay, evenly back and forth. (**Fig. 18**)

Evaluating the result:

During the test, the secondary mass must not rub against the primary mass side and no scraping or similar noises should be audible.

If this is the case, the axial bearing is worn. The DMF must be replaced.

Note:

The rock of the DMF secondary mass does not allow any reliable conclusions to be drawn about the actual state of the DMF. Due to design, the rock can be greater or smaller. During the test, prevent any tilting, as this will lead to biased results. For this, slightly and uniformly push the secondary mass of the DMF against the primary mass while performing the test.

9. Checking the spring force of the torsional damper:

Via the lever, rotate DMF secondary mass, ascending against the spring force of the torsional damper, in both directions (left and right). (Fig. 19)

Evaluating the result:

During the test, the ascending spring force of the torsional damper and the expenditure of force felt should be identical in either direction.

Any scraping, scratching or similar noises will indicate that parts inside the DMF are broken or defective. The DMF must be replaced.

Note: The torsion angle itself depends on the respective characteristic curve of the DMF and the manual force applied.

During the test, prevent any tilting, as this will lead to biased results. For this, slightly and uniformly push the secondary mass of the DMF against the primary mass while performing the test.

10. Checking the radial bearing position:

Via the lever, push DMF secondary mass slightly and evenly and try to shift it radially with only a low expenditure of force. (Fig. 20)

Evaluating the result:

During the test, no or only slight radial clearance should be perceptible. If severe radial displacement is noticed, this usually also indicates failure of components in the area surrounding the DMF. The DMF must be replaced.

As a rule for the re-installation of a DMF, maximum clearance must not exceed 0.25mm. This can be measured with the aid of the **KL-0128-31** dial gauge with stand (see accessory).

Note: New plain bearings on the DMF are subjected to an 'initial friction process' where the two components rub against each other. Abrasion wear may occur as a normal consequence due to design and does not affect the service life of the DMF.

During the test, prevent any tilting, as this will lead to biased results. For this, slightly and uniformly push the secondary mass of the DMF against the primary mass while performing the test.

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Accessory: KL-0128-31



Spare Parts:

| Pos. | Part No. | Part No. Description | |
|--|--|--|---|
| - | 4200 080 563 | Dual Mass Flywheel Testing Tool | 1 |
| | composed of: | | |
| 1 | KL-0043-591 | Retaining Device for DMF | 1 |
| 2 | KL-0043-5914 | Cheese Head Screw, M8x12mm | 2 |
| 3 | KL-0043-5922 | Spacer Screw, M6 | 2 |
| 4 | KL-0043-5923 | Spacer Screw, M7 | 2 |
| 5 | KL-0043-5924 | Spacer Screw, M8 | 2 |
| 6 | KL-0043-5925 | Shoulder Nut, M8 | 2 |
| 7 | KL-0043-5920-9 | Cheese Head Screw, M9x30mm | |
| 8 | KL-1283-1118 | Cheese Head Screw, M10x30mm | 2 |
| 9 | KL-0043-594 | Slotted Lever | 1 |
| 10 | KL-0043-5920-5 | Lever with Cantilever | 1 |
| 11 | KL-0481-70 | Flywheel Locking Tool (pair) | 1 |
| (not shown) | KL-0500-5190 ZF | Plastic Storage Case (not shown) | 1 |
| Pos. | Part No. | Description | Qty |
| 1 | KL-0043-591 | Retaining Device for DMF | 1 |
| | composed of: | | |
| 1.1 | KL-0043-591 M1 | Profile Rail with Stop | 1 |
| 1.2 | KL-0043-591 M2 | Base Plate with Holder | 1 |
| 1.3 | KL-0043-5918 | Slot Nut, M10 | 2 |
| 1.4 | KL-0043-5919 | Slot Nut, M9 | 2 |
| | | | |
| Pos. | Part No. | Description | Qty |
| Pos. 1.1 | Part No. KL-0043-591 M1 | Description Profile Rail with Stop | Qty 1 |
| Pos. 1.1 | Part No. KL-0043-591 M1 composed of: | Description Profile Rail with Stop | Qty 1 |
| Pos. 1.1 1.1.1 | Part No. KL-0043-591 M1 composed of: KL-0043-5912 | Description Profile Rail with Stop Cheese Head Screw, M4x8 | Qty 1 4 |
| Pos. 1.1 1.1.1 1.1.2 | Part No. KL-0043-591 M1 composed of: KL-0043-5912 KL-0043-5911 | Description Profile Rail with Stop Cheese Head Screw, M4x8 Limit Stop | Qty 1 4 2 |
| Pos. 1.1 1.1.1 1.1.2 1.1.3 | Part No. KL-0043-591 M1 composed of: KL-0043-5912 KL-0043-5911 KL-0043-5910 | Description Profile Rail with Stop Cheese Head Screw, M4x8 Limit Stop Profile Rail | Qty 1 4 2 1 |
| Pos. 1.1 1.1.1 1.1.2 1.1.3 Pos. | Part No. KL-0043-591 M1 composed of: KL-0043-5912 KL-0043-5911 KL-0043-5910 Part No. | Description Profile Rail with Stop Cheese Head Screw, M4x8 Limit Stop Profile Rail Description | Qty 1 4 2 1 Qty |
| Pos. 1.1 1.1.1 1.1.2 1.1.3 Pos. 1.2 | Part No. KL-0043-591 M1 composed of: KL-0043-5912 KL-0043-5911 KL-0043-5910 Part No. KL-0043-591 M2 | Description Profile Rail with Stop Cheese Head Screw, M4x8 Limit Stop Profile Rail Description Base Plate with Holder | Qty 1 4 2 1 1 Qty 1 |
| Pos. 1.1 1.1.1 1.1.2 1.1.3 Pos. 1.2 | Part No. KL-0043-591 M1 composed of: KL-0043-5912 KL-0043-5911 KL-0043-5910 Part No. KL-0043-591 M2 composed of: | Description Profile Rail with Stop Cheese Head Screw, M4x8 Limit Stop Profile Rail Description Base Plate with Holder | Qty 1 4 2 1 0 Qty 1 |
| Pos. 1.1 1.1.1 1.1.2 1.1.3 Pos. 1.2 1.2.1 | Part No. KL-0043-591 M1 composed of: KL-0043-5912 KL-0043-5911 KL-0043-5910 Part No. KL-0043-591 M2 composed of: KL-0043-591 XZ | Description Profile Rail with Stop Cheese Head Screw, M4x8 Limit Stop Profile Rail Description Base Plate with Holder Base Plate | Qty 1 4 2 1 Qty 1 1 |
| Pos. 1.1 1.1.1 1.1.2 1.1.3 Pos. 1.2 1.2.1 | Part No. KL-0043-591 M1 composed of: KL-0043-5912 KL-0043-5911 KL-0043-5910 Part No. KL-0043-591 M2 composed of: KL-0043-591 X2 KL-0043-591 X2 KL-0043-591 X2 | Description Profile Rail with Stop Cheese Head Screw, M4x8 Limit Stop Profile Rail Description Base Plate with Holder Base Plate Cheese Head Screw, M8x20 | Qty 1 4 2 1 1 Qty 1 1 2 |
| Pos. 1.1 1.1.1 1.1.2 1.1.3 Pos. 1.2 1.2.1 1.2.2 1.2.3 | Part No. KL-0043-591 M1 composed of: KL-0043-5912 KL-0043-5911 KL-0043-5910 Part No. KL-0043-591 M2 composed of: KL-0043-591 3ZF KL-0043-5915 | Description Profile Rail with Stop Cheese Head Screw, M4x8 Limit Stop Profile Rail Description Base Plate with Holder Base Plate Cheese Head Screw, M8x20 Holder | Qty 1 4 2 1 1 Qty 1 1 2 1 1 2 1 |
| Pos. 1.1 1.1.1 1.1.2 1.1.3 Pos. 1.2 1.2.1 1.2.2 1.2.3 1.2.3 | Part No. KL-0043-591 M1 composed of: KL-0043-5912 KL-0043-5911 KL-0043-5910 Part No. KL-0043-591 M2 composed of: KL-0043-591 3 ZF KL-0043-5915 KL-0043-5915 | Description Profile Rail with Stop Cheese Head Screw, M4x8 Limit Stop Profile Rail Description Base Plate with Holder Base Plate Cheese Head Screw, M8x20 Holder Cheese Head Screw, M10x25 | Qty 1 4 2 1 1 Qty 1 1 2 1 2 |
| Pos. 1.1 1.1.1 1.1.2 1.1.3 Pos. 1.2 1.2.1 1.2.2 1.2.3 1.2.4 | Part No. KL-0043-591 M1 composed of: KL-0043-5912 KL-0043-5912 KL-0043-5911 KL-0043-5910 Part No. KL-0043-591 M2 composed of: KL-0043-591 M2 composed of: KL-0043-5913 ZF KL-0043-5915 KL-0043-5915 KL-0043-5917 KL-0043-5916 | Description Profile Rail with Stop Cheese Head Screw, M4x8 Limit Stop Profile Rail Description Base Plate with Holder Base Plate Cheese Head Screw, M8x20 Holder Cheese Head Screw, M10x25 Support Plate | Qty 1 4 2 1 Qty 1 Qty 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 |
| Pos. 1.1 1.1.1 1.1.2 1.1.3 Pos. 1.2 1.2.1 1.2.2 1.2.3 1.2.4 1.2.5 Pos. | Part No. KL-0043-591 M1 composed of: KL-0043-5912 KL-0043-5912 KL-0043-5911 KL-0043-5910 Part No. KL-0043-591 M2 composed of: KL-0043-591 M2 composed of: KL-0043-5913 ZF KL-0043-5915 KL-0043-5915 KL-0043-5917 KL-0043-5916 Part No. | Description Profile Rail with Stop Cheese Head Screw, M4x8 Limit Stop Profile Rail Description Base Plate with Holder Base Plate Cheese Head Screw, M8x20 Holder Cheese Head Screw, M10x25 Support Plate Description | Qty 1 4 2 1 Qty 1 Qty 1 2 1 2 1 2 1 2 1 2 1 2 1 Qty |
| Pos. 1.1 1.1.1 1.1.2 1.1.3 Pos. 1.2 1.2.1 1.2.2 1.2.3 1.2.4 1.2.5 Pos. 9 | Part No. KL-0043-591 M1 composed of: KL-0043-5912 KL-0043-5911 KL-0043-5910 Part No. KL-0043-591 M2 composed of: KL-0043-5913 ZF KL-0043-5913 ZF KL-0043-5915 KL-0043-5915 KL-0043-5917 KL-0043-5916 Part No. KL-0043-594 | Description Profile Rail with Stop Cheese Head Screw, M4x8 Limit Stop Profile Rail Description Base Plate with Holder Base Plate Cheese Head Screw, M8x20 Holder Cheese Head Screw, M10x25 Support Plate Description Slotted Lever with Lugs | Qty 1 4 2 1 Qty 1 Qty 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 |
| Pos. 1.1 1.1.1 1.1.2 1.1.3 Pos. 1.2 1.2.1 1.2.2 1.2.3 1.2.4 1.2.5 Pos. 9 | Part No. KL-0043-591 M1 composed of: KL-0043-5912 KL-0043-5911 KL-0043-5910 Part No. KL-0043-591 M2 composed of: KL-0043-5913 ZF KL-0043-5913 ZF KL-0043-5915 KL-0043-5915 KL-0043-5917 KL-0043-5916 Part No. KL-0043-594 composed of: | Description Profile Rail with Stop Cheese Head Screw, M4x8 Limit Stop Profile Rail Description Base Plate with Holder Base Plate Cheese Head Screw, M8x20 Holder Cheese Head Screw, M10x25 Support Plate Description Slotted Lever with Lugs | Qty 1 4 2 1 Qty 1 Qty 1 2 1 2 1 2 1 2 1 2 1 2 1 Qty 1 |
| Pos. 1.1 1.1.1 1.1.2 1.1.3 Pos. 1.2 1.2.1 1.2.2 1.2.3 1.2.4 1.2.5 Pos. 9 9.1 | Part No. KL-0043-591 M1 composed of: KL-0043-5912 KL-0043-5911 KL-0043-5910 Part No. KL-0043-591 M2 composed of: KL-0043-5913 ZF KL-0043-5913 ZF KL-0043-5915 KL-0043-5915 KL-0043-5917 KL-0043-5916 Part No. KL-0043-594 composed of: KL-0043-594 | Description Profile Rail with Stop Cheese Head Screw, M4x8 Limit Stop Profile Rail Description Base Plate with Holder Base Plate Cheese Head Screw, M8x20 Holder Cheese Head Screw, M10x25 Support Plate Description Slotted Lever with Lugs Lug with Thread | Qty 1 4 2 1 Qty 1 Qty 1 2 1 2 1 2 1 2 1 2 1 Qty 1 Qty 1 |
| Pos. 1.1 1.1.1 1.1.2 1.1.3 Pos. 1.2 1.2.1 1.2.2 1.2.3 1.2.4 1.2.5 Pos. 9 9.1 9.2 | Part No. KL-0043-591 M1 composed of: KL-0043-5912 KL-0043-5912 KL-0043-5911 KL-0043-5910 Part No. KL-0043-5913 KL-0043-5913 Zcomposed of: KL-0043-5913 KL-0043-5913 KL-0043-5917 KL-0043-5917 KL-0043-5916 Part No. KL-0043-594 composed of: KL-0043-594 Composed of: KL-0043-5920-2 ZF KL-0043-5920-4 | Description Profile Rail with Stop Cheese Head Screw, M4x8 Limit Stop Profile Rail Description Base Plate with Holder Base Plate Cheese Head Screw, M8x20 Holder Cheese Head Screw, M10x25 Support Plate Description Slotted Lever with Lugs Lug with Thread Cheese Head Screw | Qty 1 4 2 1 Qty 1 4 |
| Pos. 1.1 1.1.1 1.1.2 1.1.3 Pos. 1.2 1.2.1 1.2.2 1.2.3 1.2.4 1.2.5 Pos. 9 9.1 9.2 9.3 | Part No. KL-0043-591 M1 composed of: KL-0043-5912 KL-0043-5912 KL-0043-5911 KL-0043-5910 Part No. KL-0043-5910 Part No. KL-0043-5913 ZF KL-0043-5913 ZF KL-0043-5915 KL-0043-5915 KL-0043-5916 Part No. KL-0043-5916 Part No. KL-0043-5916 Part No. KL-0043-5917 KL-0043-5916 Part No. KL-0043-5917 KL-0043-5916 Part No. KL-0043-5920-2 KL-0043-5920-2 KL-0043-5920-2 KL-0043-5920-4 KL-0043-5920-3 | Description Profile Rail with Stop Cheese Head Screw, M4x8 Limit Stop Profile Rail Description Base Plate with Holder Base Plate Cheese Head Screw, M8x20 Holder Cheese Head Screw, M10x25 Support Plate Description Slotted Lever with Lugs Lug with Thread Cheese Head Screw | Qty 1 4 2 1 Qty 1 Qty 1 Qty 1 Qty 1 2 1 2 1 2 1 2 1 2 1 2 1 4 1 |

Accessory:

KL-0128-31 Dial Gauge Stand with Dial Gauge

Can be used for checking the max. limit value on the radial bearing position on the DMF. Features: Sturdy measuring rods made of bright steel, fine adjustment of the dial gauge clamp, prismatic base with switchable magnet.

| Graduation: | 0.01mm | Measuring range: 10mm |
|-------------------|--------|----------------------------|
| Housing Ø: | 58mm | 1 pointer revolution: 1 mm |
| Clamping shank Ø: | 8mm | |

| Part No. | Description | |
|--------------|----------------------------------|---|
| KL-0128-31 | Dial Gauge Stand with Dial Gauge | 1 |
| composed of: | · | |
| KL-0128-1 | Dial Gauge, Ø 58mm | 1 |
| KL-0128-3 | Support Stand without Dial Gauge | 1 |