

Order numbers

| Repair kit | GAN10 Order-No. | GAN16 Order-No. | GAN27 Order-No. |
|------------|--|--|--|
| 1 | MT1 56010890010 MT2 56011890010 | MT2 56020890010 MT3 56021890010 | MT3 56030890010 MT4 56031890010 |
| 2 | 56010890020 | 56020890020 | 56030890020 |
| 3 | 56010890030 | 56020890030 | 56030890030 |
| 4 | 56311890040 | 56322890040 | 56333890040 |
| Torque bar | 56010900050 | 56020900050 | 56030900050 |

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05/06/F-GAN-EN-B

**Operating Instructions
 Tapping Attachments GAN with Morse taper**
1. Product features

- on all conventional drill presses and radial arm drill presses on non-reversing spindles (where you work with hand feed) for holding taps
- for the efficient machining of through and blind hole threads
- rapid backout 2:1 with inbuilt planetary gear drive
- immediate reversal with change of feed direction
- safety clutch infinitely adjustable by rotation and locking of graduated collar
- conversion from slipping clutch to friction operation by simply turning over the cam ring (for small threads)
- suitable for right or left hand threads
- clamping jaw mechanism grips all tap shanks within unit's capacity including intermediate and inch sizes
- easy to operate without any special previous knowledge

2. Executions

GAN Tapping Attachments are supplied with Morse Taper with tang DIN228-B:

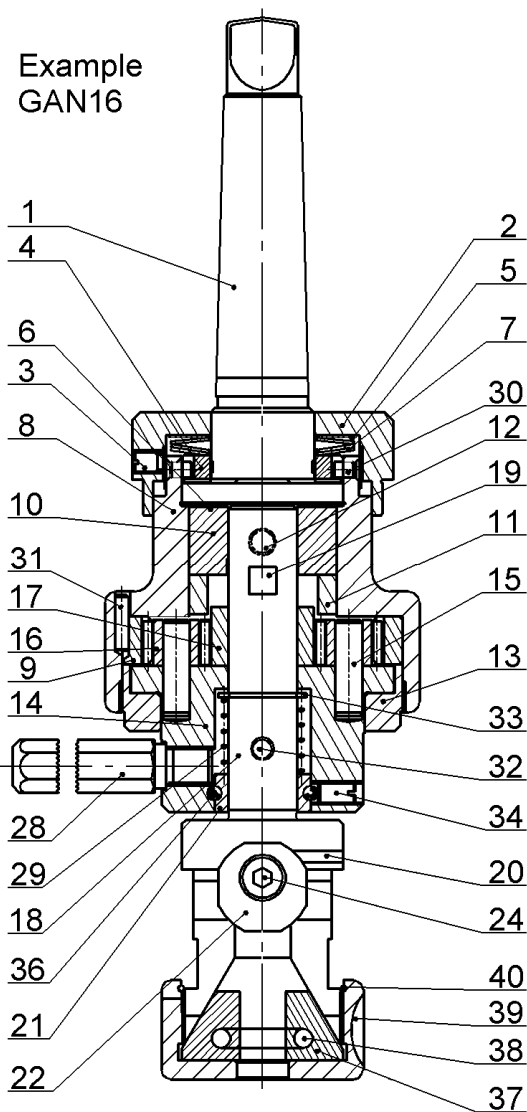
| <u>Model</u> | <u>Cutting range *</u> | <u>Max. speed</u> |
|-----------------------|--|-------------------|
| GAN10 with MT1 or MT2 | M3-M10 (M12) #6-3/8" (1/2") | 600 |
| GAN16 with MT2 or MT3 | M6-M16 1/4"-5/8" | 400 |
| GAN27 with MT3 or MT4 | M14-M27 (M30) 9/16"-1.1/8" (1.1/4") | 250 |

* Cutting range refers to materials with tensile strength of 500 N/mm²

() for light machining only, e.g. aluminium, grey cast iron, steel up to max. 350 N/mm² and fine pitch threads

Other models on request

3. System structure



| Part # | Description |
|--------|-------------------------|
| 1 | Shank MT2 or MT3 |
| 2 | Cap Nut |
| 3 | Screw for Cap Nut |
| 4 | Cam |
| 5 | Plain Washer |
| 6 | Washer |
| 7 | Cup Spring |
| 8 | Body |
| 9 | Gear Wheel |
| 10 | Clutch Part |
| 11 | Ring |
| 12 | Screw for Clutch Part |
| 13 | Guide Ring |
| 14 | Guide Bush |
| 15 | Bolt Bearing |
| 16 | Small Pinion |
| 17 | Large Pinion |
| 18 | Spindle |
| 19 | Square Key |
| 20 | Dowel Pin |
| 21 | Ring for Guide Bush |
| 22 | Left & Right Nuts (Set) |
| 24 | Stud LH/RH thread |
| 28 | Torque Bar |
| 29 | Spring |
| 30 | Pin for Cam |
| 31 | Pin for Gear Wheel |
| 32 | Ball Oiler |
| 33 | Lock Ring for Spindle |
| 34 | Threaded Pin |
| 36 | Ball |
| 37 | Jaws (Set) |
| 38 | Spring for Jaws |
| 39 | Chuck Nut |
| 40 | Lock Ring for Chuck Nut |

11. Fault

In the event of poor clockwise drive despite the correct adjustment of the cap nut, the square key has been worn down. It can be turned through 180° and reused.

Procedure: Unscrew the torque bar, remove the guide ring with an adjustable pin-type face wrench, then pull off the entire internally mounted insert in a downward direction. Push the square key out of the spindle, turn it through 180° and reinsert. Then reassemble the device in the reverse order.

12. Repair

The GAN tapping attachment is very sturdily constructed and has a long service life. Faults may occur, however, as a result of wear, leading to breakdowns. The parts subject to wear can be replaced as described in point 8b and point 11.

The repair kits listed below are matched and must always be replaced as a unit.

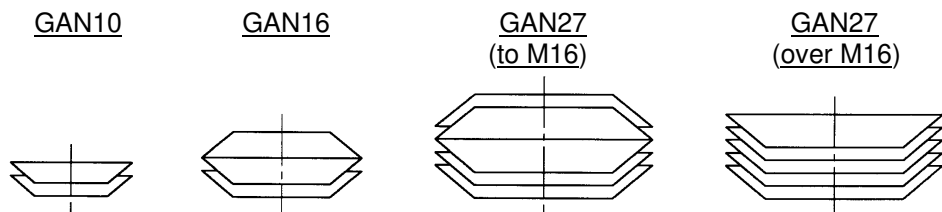
| Repair kit | Description |
|---------------------|---|
| 1 (Slipping clutch) | - shank with cam (please quote MT size) - cam - spring washer package |
| 2 (Claw coupling) | - 1 clutch part with ring - 2 square keys |
| 3 (Pinions) | - 1 large pinion - 2 small pinions - 2 pins |
| 4 (Clamping part) | - 1 left & right nuts (set) - 1 stud LH/RH thread |

c) long-chipping, soft materials

While cutting a thread, briefly withdraw the machine centre sleeve via the drill feed lever so that the device switches to anti-clockwise rotation and the tap runs back a little. After approx. 1 - 1.5 rotations press the centre sleeve in the direction of the thread once more. The device will continue to cut in a clockwise direction. This process breaks off the swarf, preventing the tap from becoming clogged with swarf.

9. Factory-installed direction for the cup springs

Shank side ↑



Tap side ↓

10. Maintenance

We recommend that the tapping attachment should be regularly lubricated. Grease is forced into the lubricating point. We recommend Klüber Centoplex 2 multi-purpose grease. Oil is not suitable.

Lubrication interval:

| | |
|----------------|---------------------|
| Continuous use | once a week |
| Normal use | every 3 to 6 months |

Note: For continuous operation, the cam and the cam on the shank should be sprayed with Molykote G-rapid plus (graphite spray) at approximately 3-monthly intervals.

Procedure: Loosen the screw for cap nut, unscrew the cap nut, remove the plain washer and cup springs, and cam. Spray cam and shank cam, then insert cam with cup springs and plain washer. Screw the cap nut on again and carry out torque-setting according to point 6.

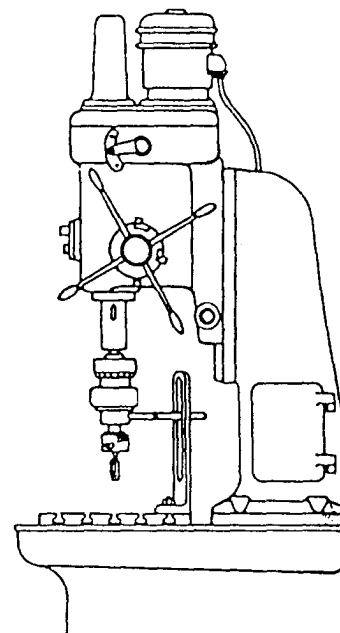
The emergence of lubricant on the guide bush is normal and design-related. New tapping attachments usually become hot initially, until they have been run in.

4. Preparing the machine

Snap the tapping attachment into the machine spindle. The torque bar of the tapping attachment transfers the cutting torque when tapping, and must therefore be flexibly mounted, and retained on both sides (see adjacent example).

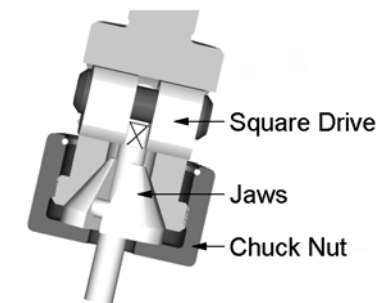
If not retained on both sides there is the possibility that the torque bar may suddenly turn anti-clockwise when the running direction is reversed, so impacting violently.

RISK OF ACCIDENT!



5. Tap mounting

Push the tap into the opened jaws and locate into square drive. First clamp the square drive and then the tap shank by turning the chuck nut in a clockwise direction.



6. Determining the torque setting for tapping

The torque setting of the safety clutch is carried out by means of the cap nut. The line scale is there to provide information about the torque settings employed, as different materials also require different torque settings for tapping.

Important: Use a new tap for this adjustment!

Procedure: Loosen the screw for cap nut and undo the cap nut a little, so the cup washers are only slightly pre-tensioned. Start the machine and start tapping. If too little torque has been set, the safety clutch will jump and clatter. Stop the machine and tighten the cap nut a little (setting the clutch more tautly), then restart and continue trying to tap. Repeat this action until the thread is cut properly, and without the safety clutch jumping. The screw for cap nut can then be retightened.

When the torque is set correctly there is no risk of breakage of the tap if it comes to a stop because it is jammed with swarf, or on reaching the end of a blind hole.

7. Tapping

Important: The cap nut must be adjusted as at point 6!

The tap is to be applied centrally with moderately brief pressure on the drill feed lever, and then to be followed through without any feed pressure. High feed pressure will result in pitch errors in the cut thread. Use appropriate lubricants

On reaching the desired thread depth, pull up the centre sleeve via the drill feed lever (switching the device to anticlockwise rotation) and pulling gently, guide the tap out of the thread.

If you do not pull up the centre sleeve the tap will stop turning. If you pull too violently on the centre sleeve this may result in pitch errors, and in extreme cases to damage to the device.

The depth of thread in the case of blind holes can be restricted by means of the drill stop usually available. Approximate thread depth setting - 2 mm.

8. General instructions

a) Machining high-tensile materials

- tighten the cap nut further, or
- in the case of GAN27 (threads over M16): cup springs must be fitted pointing in one direction. This means that the claw coupling is more tautly pre-tensioned and acts with less elasticity.

Procedure: Loosen the screw for cap nut, unscrew the cap nut, remove the plain washer and cup springs, and replace them pointing in one direction.

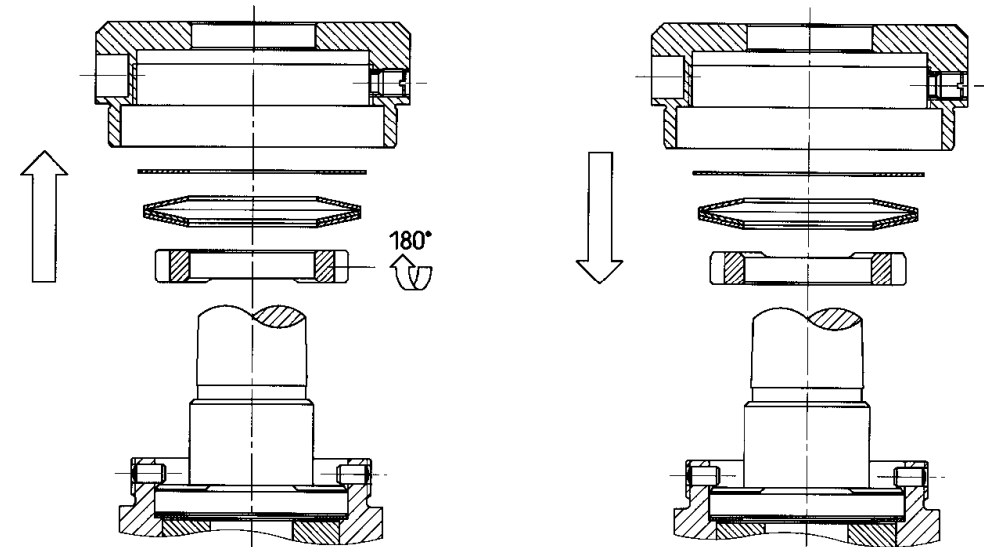
Then screw the cap nut on again and carry out torque-setting according to point 6.

b) Light alloys, plastics and small threads (up to M5)

In this case you are recommended to exchange the safety clutch for a friction drive. This is achieved by turning round the inserted cam and laying it with its flat surface against the toothed surface of the shank.

This instruction should also be followed if the machining of threads in blind holes, such as in cast components, causes difficulties when the toothed coupling engages.

Procedure: Loosen the screw for cap nut, unscrew the cap nut, remove the plain washer and cup springs, and cam. Put the plate with its flat side onto the shank cam, then fit the cup springs, the plain washer and the cap nut. Torque adjustment is now carried out in accordance with point 6.



Example GAN16