ASW 14-6, 14-6-PC, 14-10, 14-10-PC, 14-14, 14-14-PC

Repair instructions

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Contents

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1. Models described

These instructions describe how to repair the following models:

Model	Order no.
ASW 14-6	7 112 40 00 95 0
ASW 14-10	7 112 42 00 95 0
ASW 14-14	7 112 58 00 95 0
ASW 14-6-PC	7 112 50 00 95 0
ASW 14-10-PC	7 112 51 00 95 0
ASW 14-14-PC	7 112 52 00 95 0

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2. Technical data

Technical data

The complete technical data can be found in the operating instructions for the model.

Test data

Up-to-date test data for all models can be found on the FEIN Extranet (Customer Service → Repair Guides).

Lubricants

The lubricants and container sizes available from FEIN can be found on the FEIN Extranet (Customer Service → Repair Guides).

Lists of spare parts

Lists of spare parts and exploded views are available online at www.fein.com

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3. Notes / requirements

Note

These instructions are only intended for persons with suitable technical training. It is assumed that the reader has mechanical and electrical training.

Only use original FEIN spare parts!

Requirements

Please note that power tools may only be repaired, maintained and checked by a trained electrician, as improper repair can result in serious risks to the user.

The provisions set out in *DIN VDE 0701-0702* should be observed after repairs.

The relevant accident prevention regulations of the employers' liability insurance associations are to be observed when commissioning.

The German Equipment and Product Safety Act applies for correct use.

Outside Germany, the regulations applicable in the relevant country must be observed!

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4. Tools required

Standard tools

- Torx 10 screwdriver
- Small slotted screwdriver
- Circlip pliers
- Circlip pliers (ground)
- Open-ended spanner 26 mm
- Flat-nose pliers
- Feeler gauge

Special tools

- Torque wrench	3 21 23 002 00 6
- Drawing-off socket cap	6 41 04 150 00 8
- Puller	6 41 07 019 00 7

NOTE
You can only order special tools with an order number from FEIN.

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5. Lubricants and auxiliary substances required

Lubricants

Grease	3 21 600 14 23 0	0.6 g	Tool holder; switch ring; cam ring

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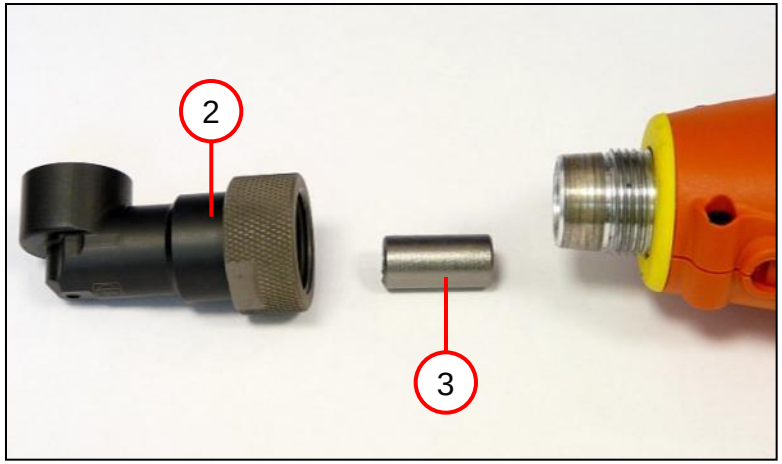
6. Disassembly

Removing the angled head



1. Loosen the thread ring (1).
2. Remove the angled head (2) and the clutch part (3).
3. Lever the coded sleeve (4) down.

Tools:

- Open-ended spanner 26 mm
- Slotted screwdriver

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6. Disassembly

Removing the housing

1. Loosen the eight screws (1).
2. Remove the upper section of the housing (2).

Tools:

-Torx T10 screwdriver

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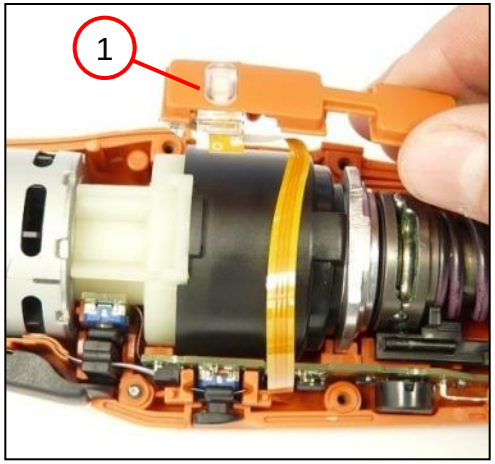
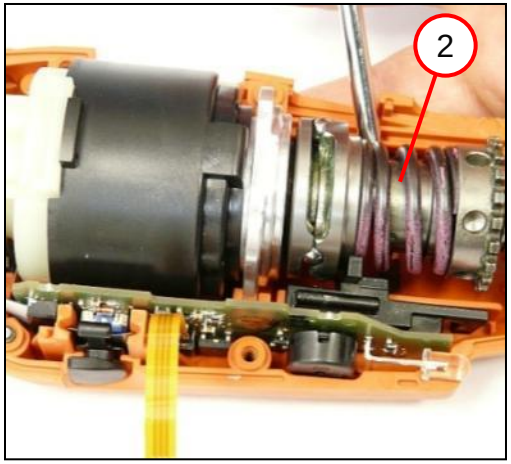
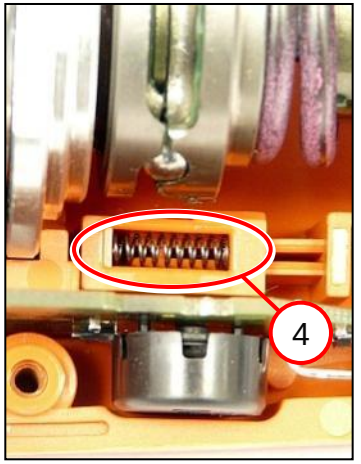
6. Disassembly

Removing the clutch







1. Carefully remove the electronic strip (1).
2. Lift the clutch (2) slightly with a screwdriver.

NOTE

When the slide switch is removed, the spring (4) may jump out slightly.

3. Remove the slide switch (3).
4. Remove the spring (4).

Tools:

- Slotted screwdriver
- Flat-nose pliers

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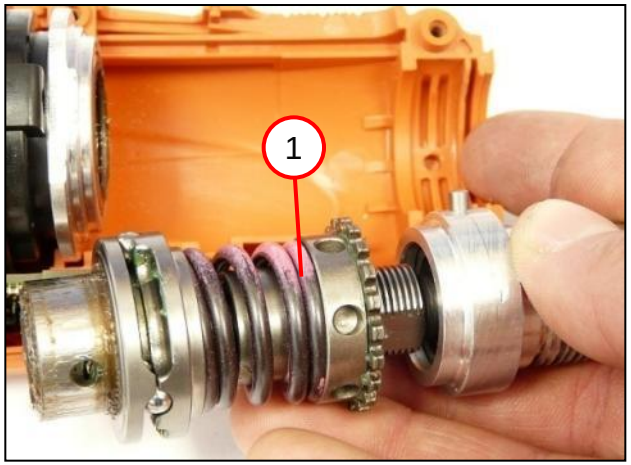
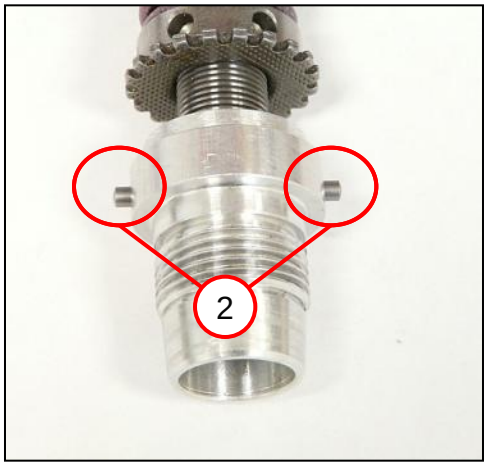
6. Disassembly

Removing the clutch





1. Remove the clutch (1).
2. Remove the straight pins (2) from the flange.

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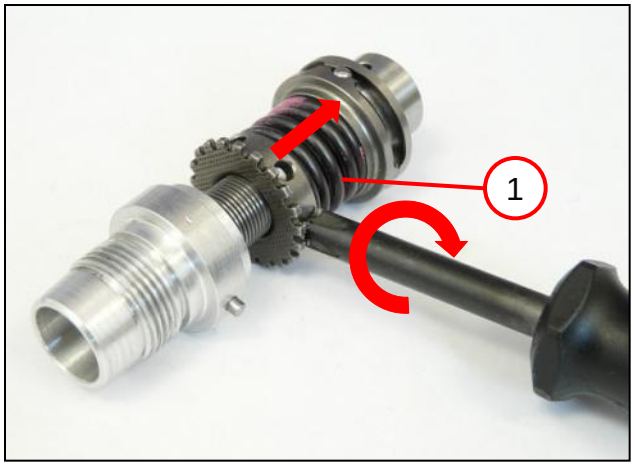
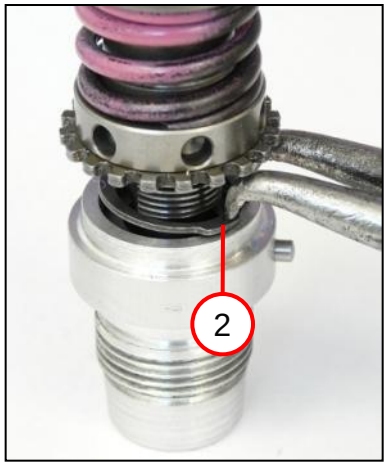
6. Disassembly

Removing the clutch





1. Tension the spring (1) fully to allow better access to the circlip.
   ☞ The adjusting ring has a left-handed thread.
2. Remove the circlip (2).

NOTE
You need modified circlip pliers to dismantle the circlip. The upper side of the pliers must be ground flat.

Tools:

- Torque wrench (supplied)
- Circlip pliers (ground)

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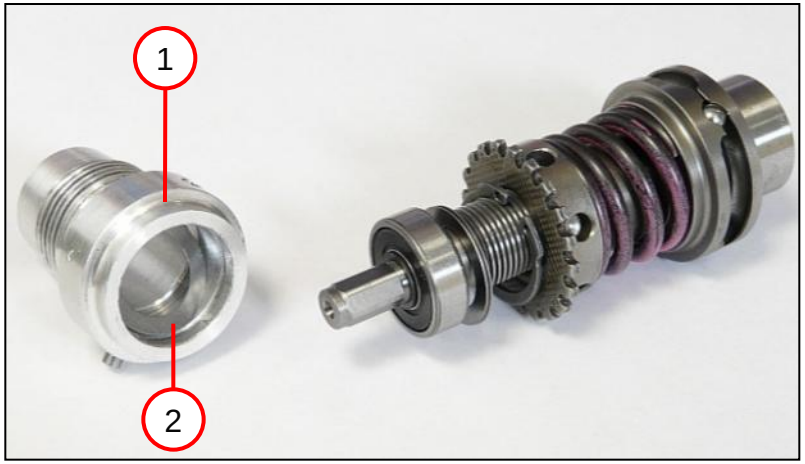
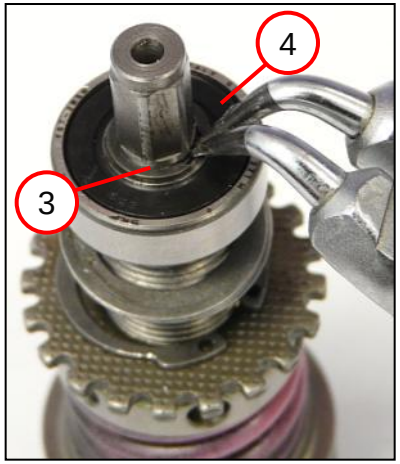
6. Disassembly

Removing the clutch





NOTE

The compensating discs in front of and behind the ball bearing must be replaced in the same position on assembly. The discs are used to adjust the play between the slide switch and the switch ring on the clutch.

1. Remove the flange (1) and take the disc(s) (2) out of the flange.
2. Remove the circlip (3).
   ☞ Use a new circlip for assembly each time.
3. Pull off the ball bearing (4).

Tools:

-Circlip pliers
- Drawing-off socket cap (6 41 04 150 00 8)
- Ball bearing puller 19 mm (6 41 07 019 00 7)

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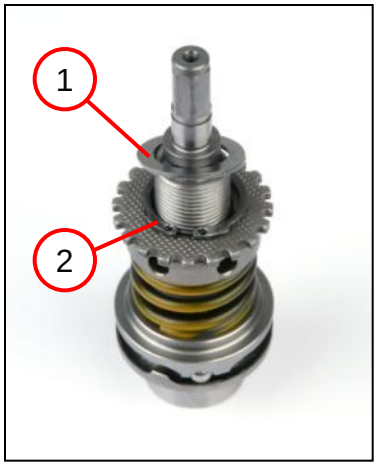
6. Disassembly

Removing the clutch



1. Remove the discs (1).
2. Remove the circlip (2).

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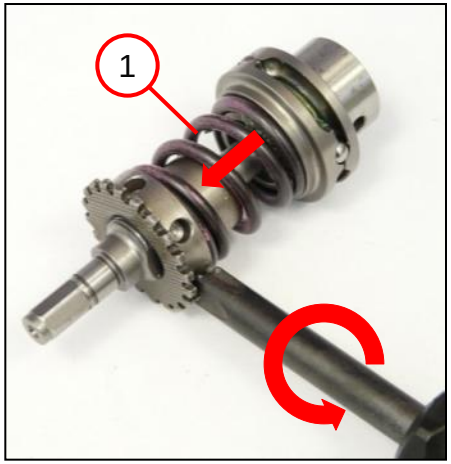
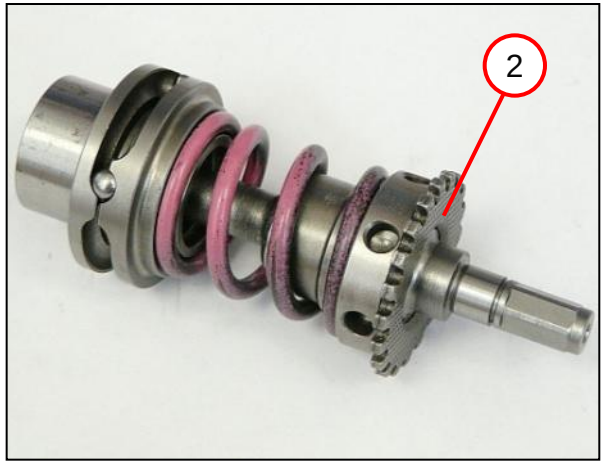
6. Disassembly

Removing the clutch





1. Release all the tension on the spring (1).
2. Unscrew the adjusting ring (2) (left-handed thread).
3. Remove the ring (3) and the spring (4).

Tools:

-Torque wrench

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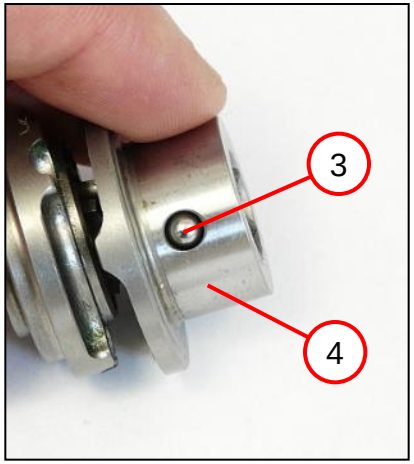
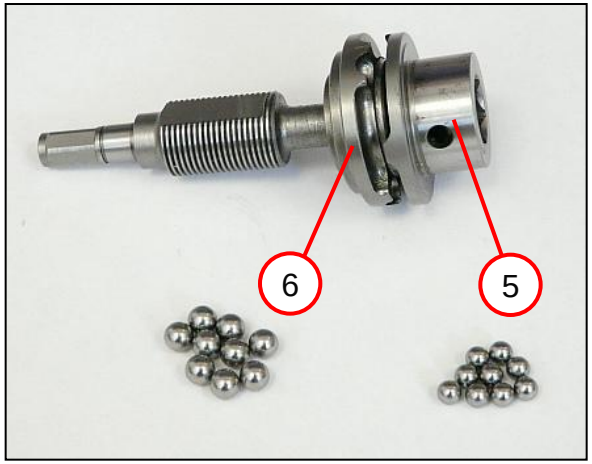
6. Disassembly

Removing the clutch





1. Remove the nine balls (1) from the inner clutch ring (2).
2. Shake the nine balls (3) out of the hole in the outer clutch ring (4).
3. Remove the two clutch rings (5 and 6).

NOTE
Degreasing the clutch ring before disassembly makes it easier to remove the balls.

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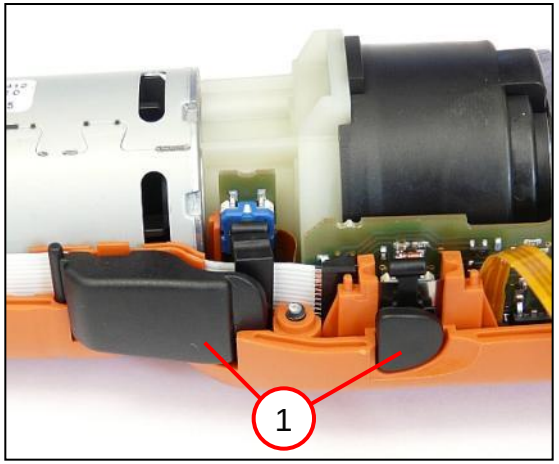
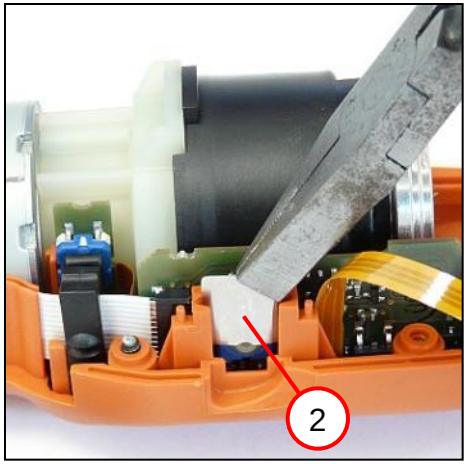
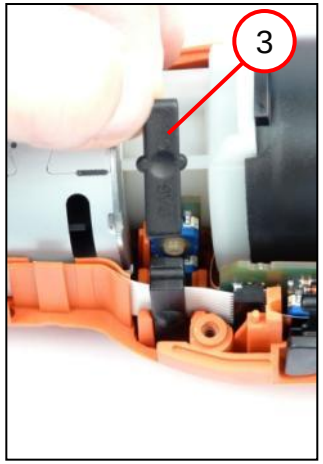
6. Disassembly

Removing the switch pushbuttons







1. Remove the two switch pushbuttons (1).
2. Remove the leaf spring (2).
3. Remove the pressure piece (3).

Tools:

- Flat-nose pliers

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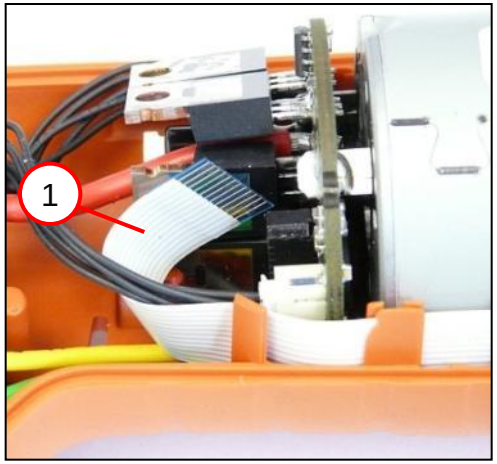
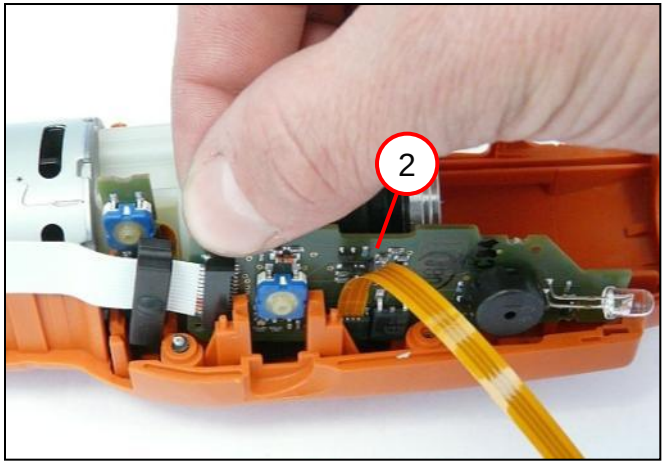
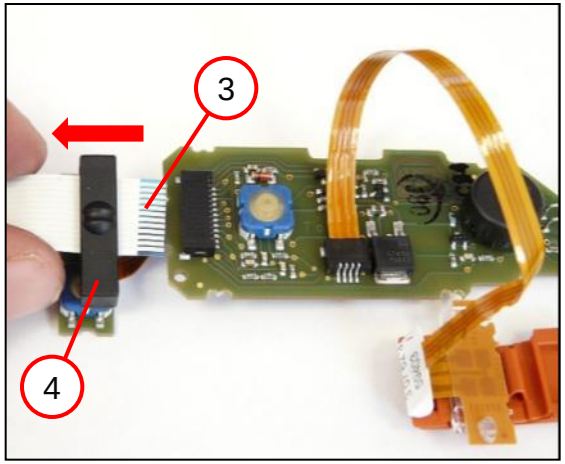
6. Disassembly

Removing the electronics







1. Carefully remove the ribbon cable (1) from the plug on the motor circuit board.
2. Take out the electronics circuit board (2).
3. Carefully pull the ribbon cable (3) from the electronics circuit board.
4. Remove the pressure piece (4) from the ribbon cable.

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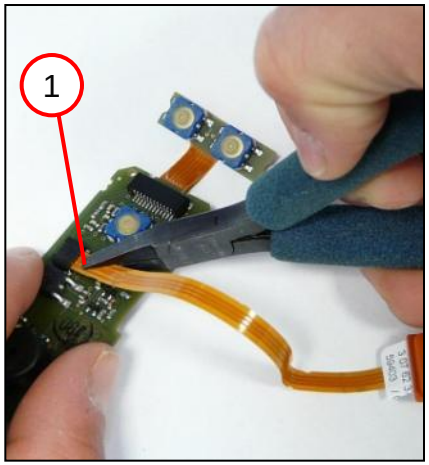
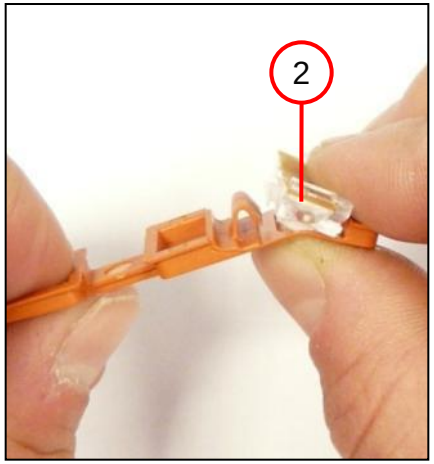
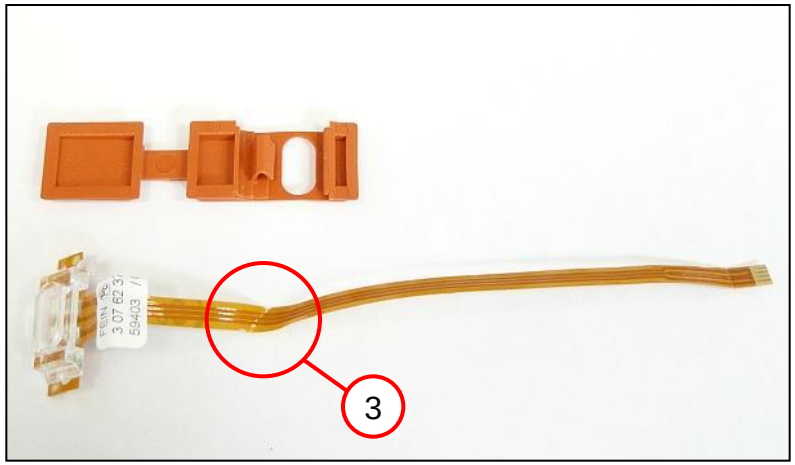
6. Disassembly

Removing the electronics







1. Holding the electronic strip by the reinforcement, carefully pull it out of the plug.
2. Unclip the LED with the electronic strip from the holder.

NOTE

If the electronic strip is defective, the replacement strip must be kinked slightly at the same place. The kink (3) is located between the two notches on the electronic strip.

Tools:

- Flat-nose pliers (withoutridges)

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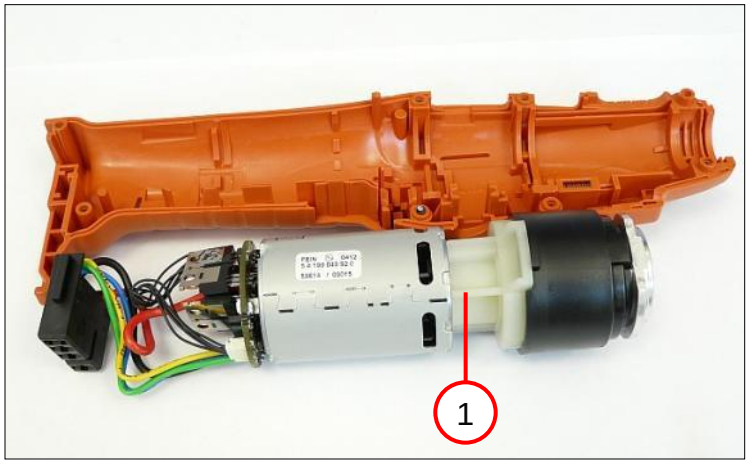
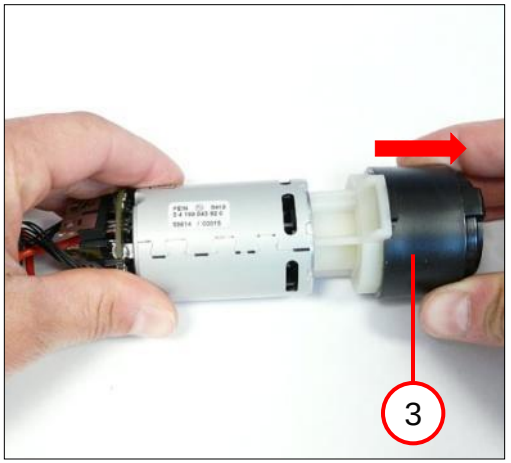
6. Disassembly

Removing the motor/gearbox unit





1. Remove the motor/gearbox unit (1) from the lower section of housing.
2. Remove the bush (2) from the gearbox.
3. Pull the gearbox (3) from the flange.

NOTE
Do not pull the gearbox jerkily as otherwise the gear-wheels may fall out of the gearbox housing.

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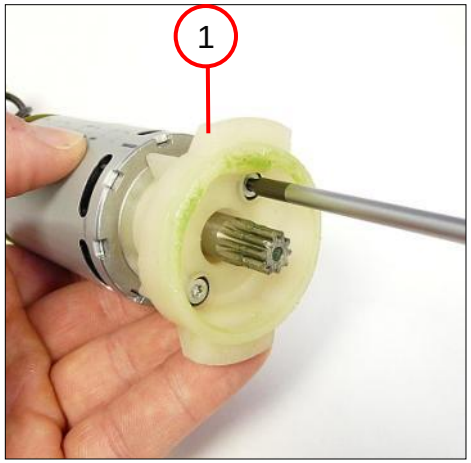
6. Disassembly

Removing the motor/gearbox unit



1. If the gearbox comes apart, reassemble as shown in the photo.
2. Unscrew the flange (1).

Tools:

- Torx 10 screwdriver

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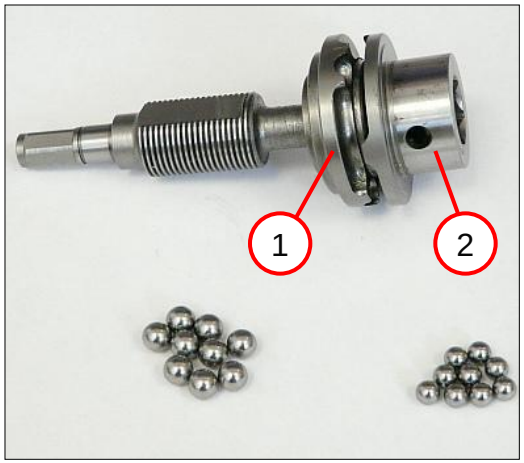
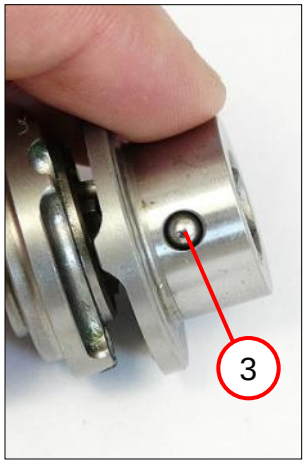
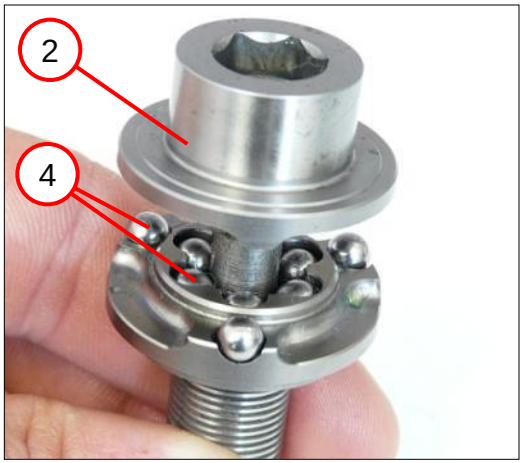
7. Assembly

Fitting the clutch







1. Coat the end of the tool holder and the switch ring (2) with grease (3 21 600 1423 0).
2. Slide the cam ring (1) and the switch ring (2) on to the tool holder.
3. Insert the nine balls (3) [D=4 mm] into the hole on the outer cam ring.
   ☞The balls must be inside the cam ring and must not lie inside the hole.
4. Insert the nine balls (4) [D=5 mm] into the recesses on the switch ring.
5. Slide the switch ring (2) on to the cam ring.

Tools:

- Grease (3 21 600 1423 0)

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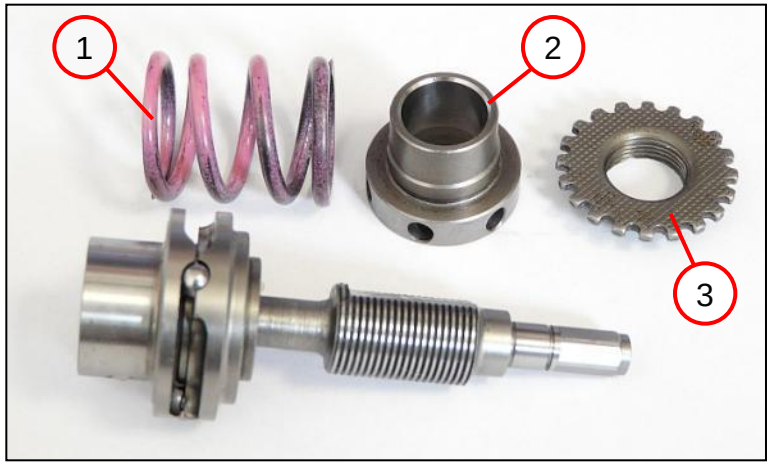
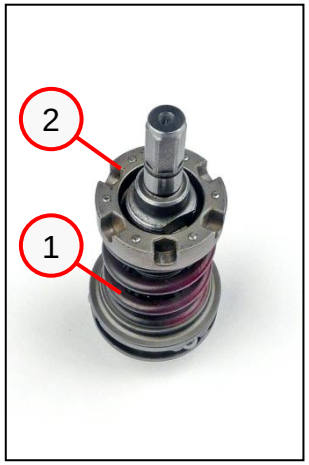
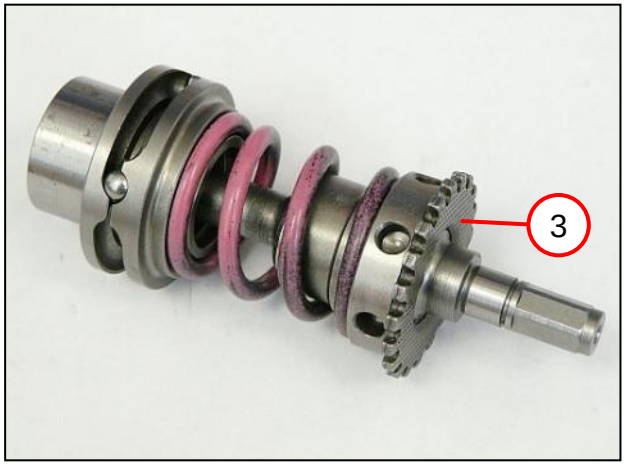
7. Assembly

Fitting the clutch







1. Slide the spiral spring (1) and the ring (2) on to the tool holder.
2. Screw down the adjusting ring (3) (left-handed thread).

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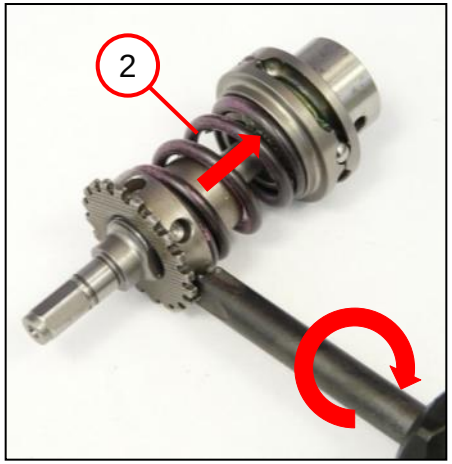
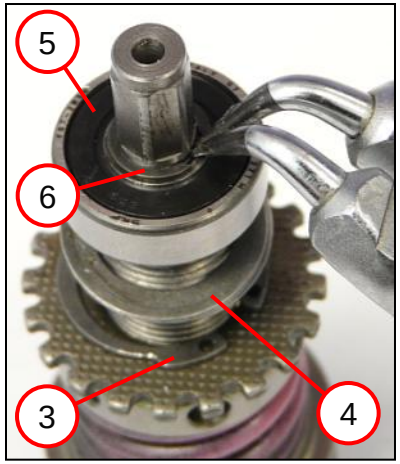
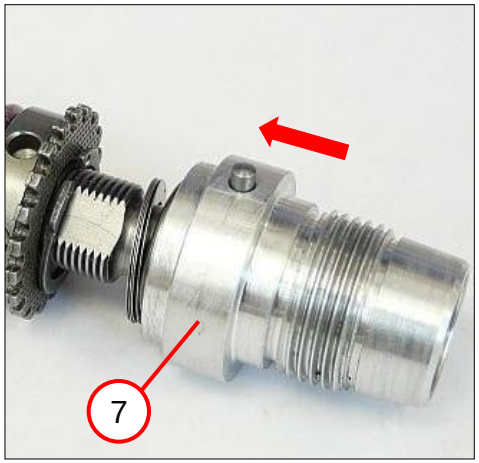
7. Assembly

Fitting the clutch







1. Insert the two discs (1) in the flange.
2. Fully tension the spring (2).
3. Slide the circlip (3), the two discs (4) and the grooved ball bearing (5) on to the tool holder.
4. Insert the circlip (6).
5. Slide the flange (7) on to the grooved ball bearing.

Tools:

- Circlip pliers
- Torque wrench

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7. Assembly

Fitting the clutch

1. Insert the circlip (1).

NOTE
You need modified circlip pliers to fit the circlip. The upper side of the pliers must be ground flat.

Tools:

- Circlip pliers (ground)

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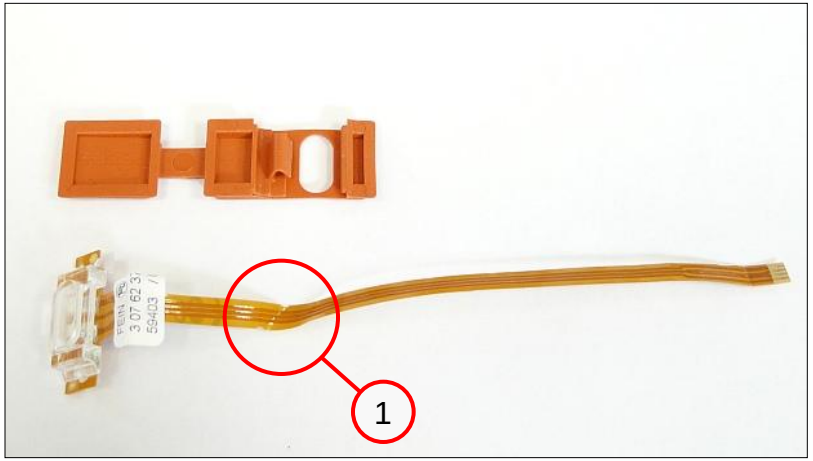
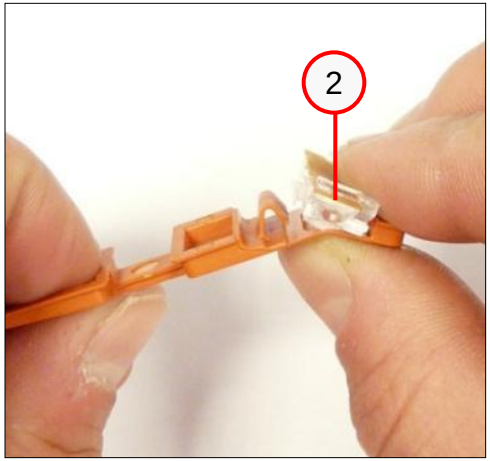
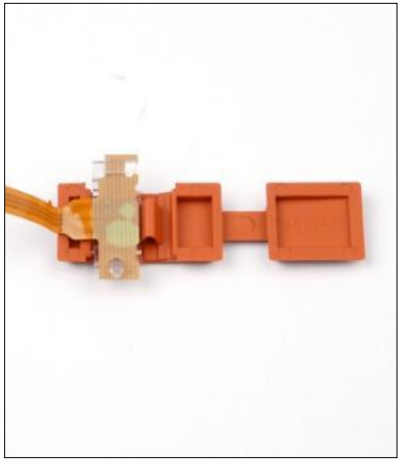
7. Assembly

Fitting electronics







NOTE

If the electronic strip is defective, the replacement strip must be kinked slightly at the same place. The kink (1) is located between the two notches on the electronic strip.

1. Clip the LED (2) with the electronic strip into the holder.

Tools:

- Flat-nose pliers (without ridges)

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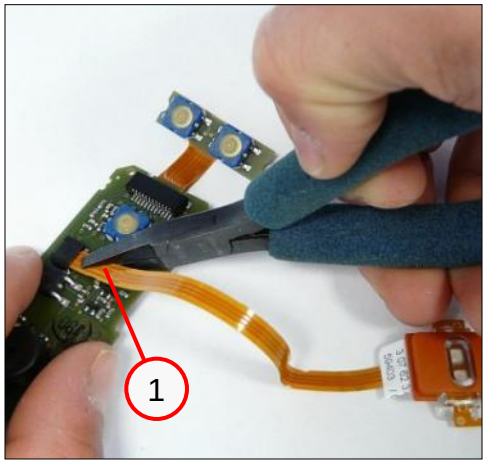
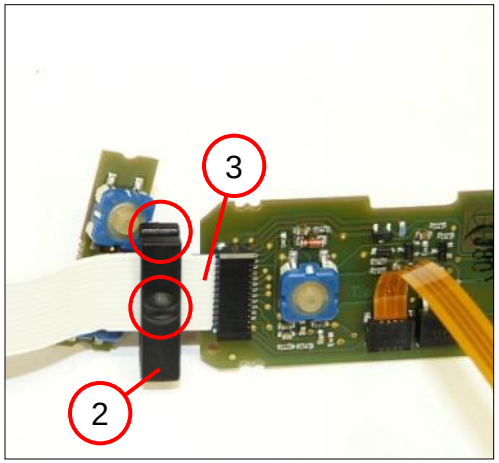
7. Assembly

Fitting electronics





1. Holding the electronic strip (1) by the reinforcement, insert it into the plug.
2. Push the pressure piece (2) on to the ribbon cable.
3. Carefully connect the ribbon cable (3) to the electronics circuit board.

NOTE
The notches on the pressure piece must be at the top and on the operating side.

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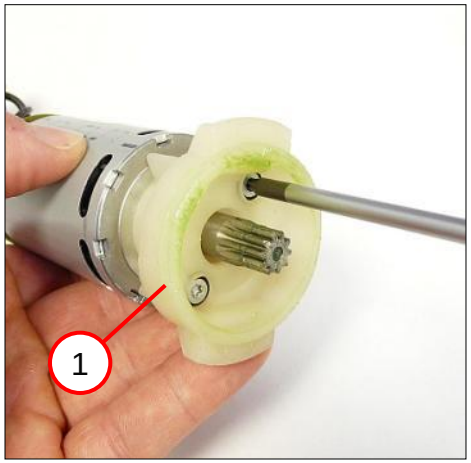
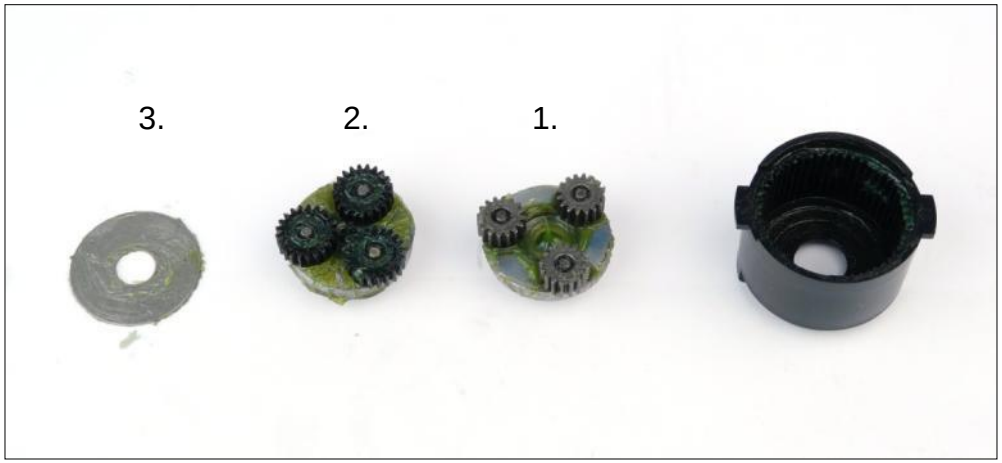
7. Assembly

Fitting the motor/gearbox unit





1. Position the flange (1) on the motor.
2. Screw down the flange with two Torx screws and the corresponding circlips.
   ☞ Tighten the screws to 1.1 Nm.
3. If the gearbox falls out, reassemble it in the correct order as shown in the photo.

Tools:

- Torx 10 screwdriver
- Loctite 270

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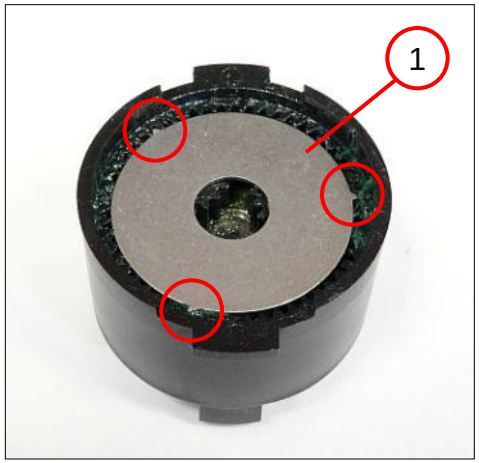
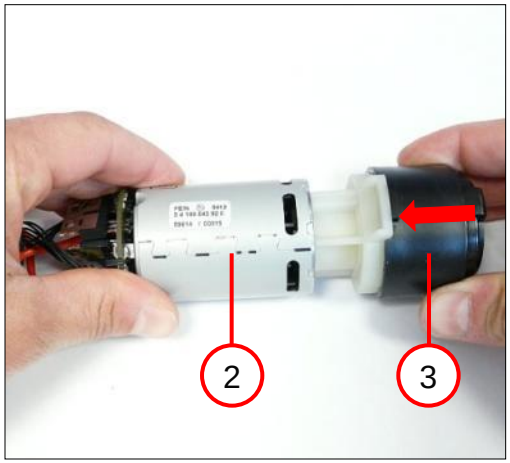
7. Assembly

Fitting the motor/gearbox unit





1. Insert the circlip (1) into the gearbox so that it is flush.
   - ☞ Ensure that the circlip does not slip during assembly.
   - ☞ The three prongs on the circlip must lie snugly inside the teeth.
2. Join the gearbox (3) to the motor (2).
3. Join the bush (4) to the gearbox.

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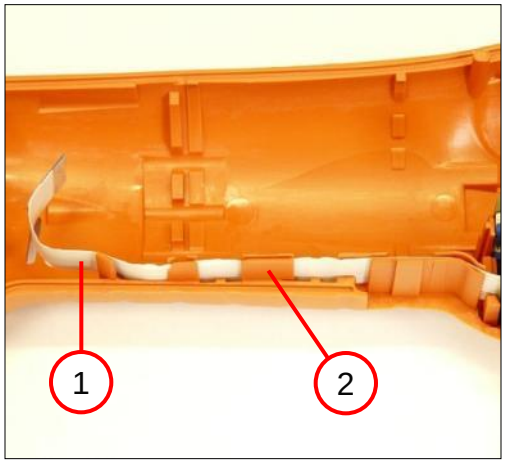
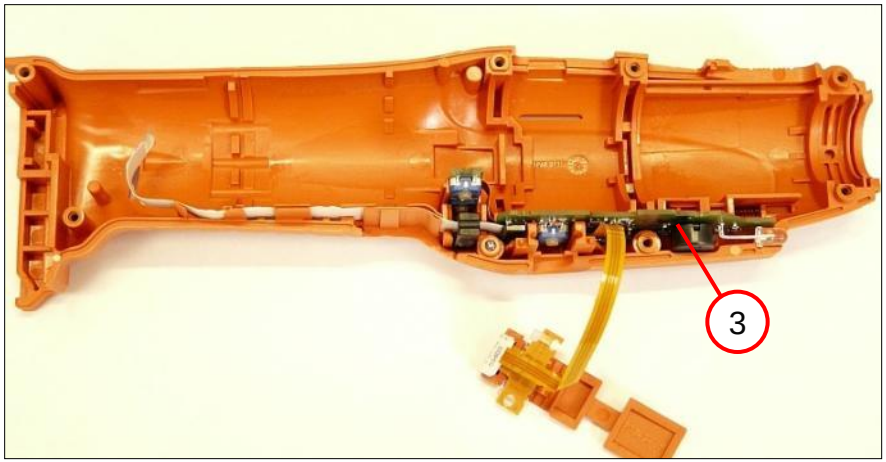
7. Assembly

Fitting electronics





1. Insert the ribbon cable (1) in the guides (2).
2. Insert the electronics circuit board (3) in the lower section of the housing.

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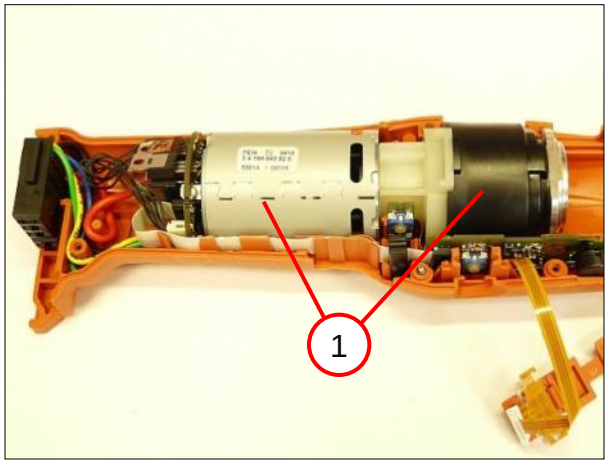
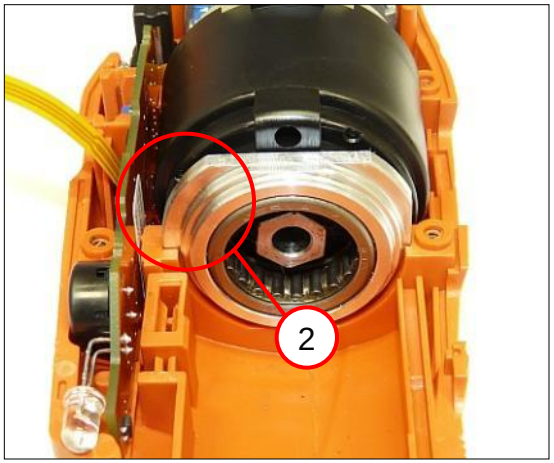
7. Assembly

Fitting the motor/gearbox unit





1. Insert the motor/gearbox unit (1) in the lower section of the housing.

NOTE

Ensure that no cables become trapped. The rounded side of the bush (2) must be on the operating side.

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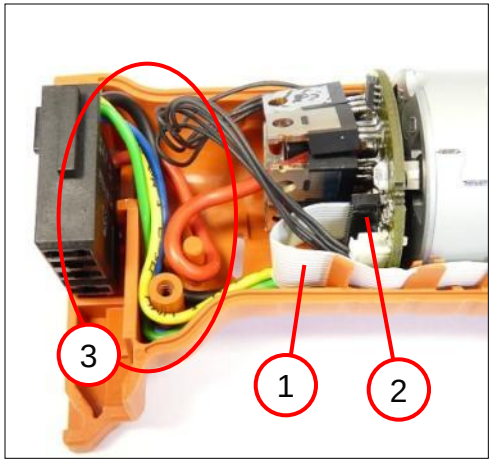
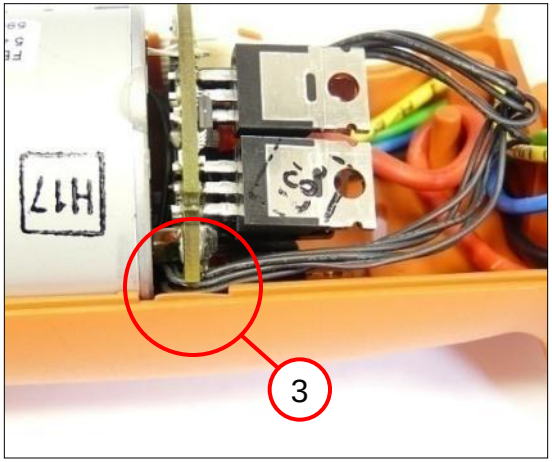
7. Assembly

Routing the cables





1. Carefully insert the ribbon cable (1) in the plug (2) on the motor circuit board.
2. Route the cables (3) as shown.

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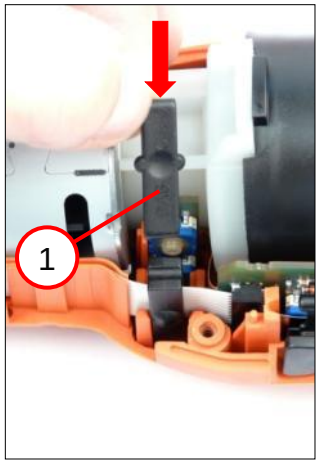
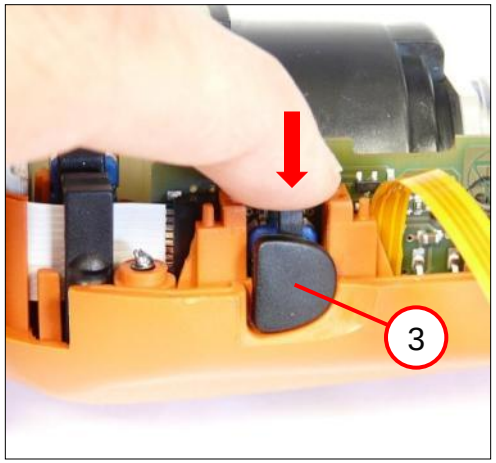
7. Assembly

Fitting the switch pushbuttons





1. Insert the switch pushbutton (1) in the housing.
   ☞ The switch pushbutton and the pressure piece must be flush at the top (2).

NOTE

The round depression in the switch pushbutton must be on the operating side.

2. Insert the switch pushbutton (3) in the housing.

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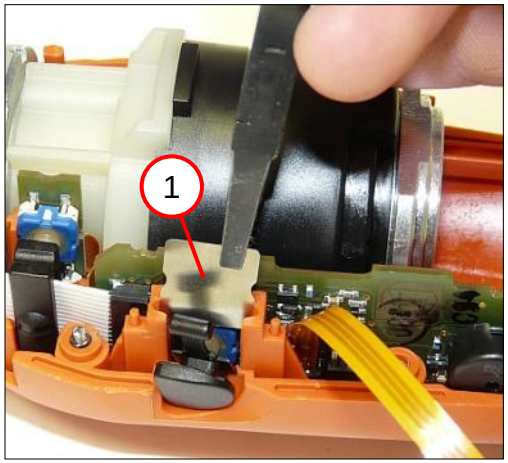
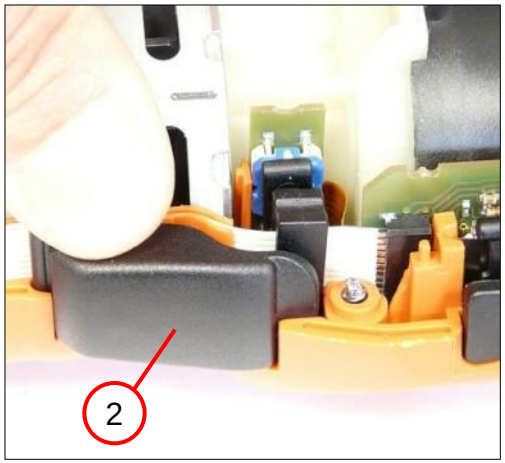
7. Assembly

Fitting the switch pushbuttons





1. Insert the leaf spring (1) in the recess behind the small switch pushbutton.

NOTE
The notches on the leaf spring are on the side and the curvature of the spring must face the operating side.

2. Insert the switch pushbutton (2) in the housing.

Tools:

- Flat-nose pliers

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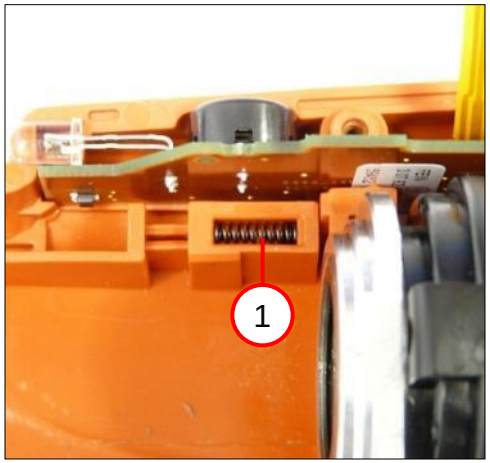
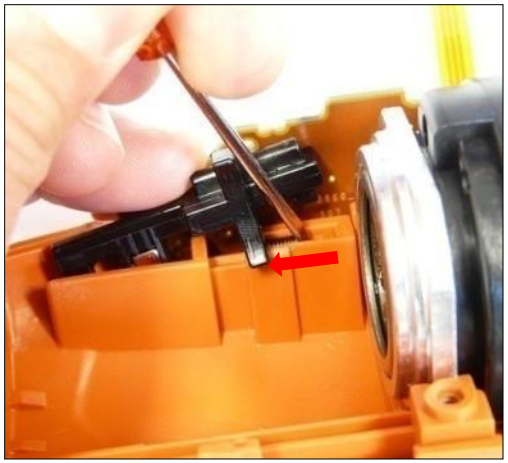
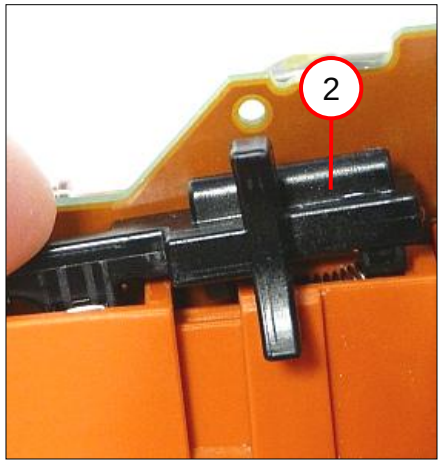
7. Assembly

Fitting the slide switch







There is a small spring under the slide switch for the torque shut-off. The spring pushes the slide switch into its home position.

1. Insert the spring (1).
2. Tension the spring (1) with a small screwdriver.
3. Insert the slide switch (2).

NOTE
For the rest of the assembly process, keep the slide switch continually pressed down to prevent the slide switch and spring from jumping out again.

Tools:

- Slotted screwdriver (small)

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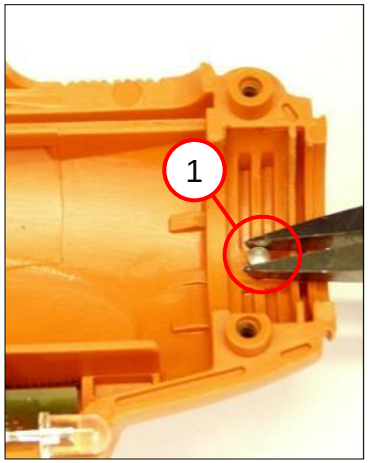
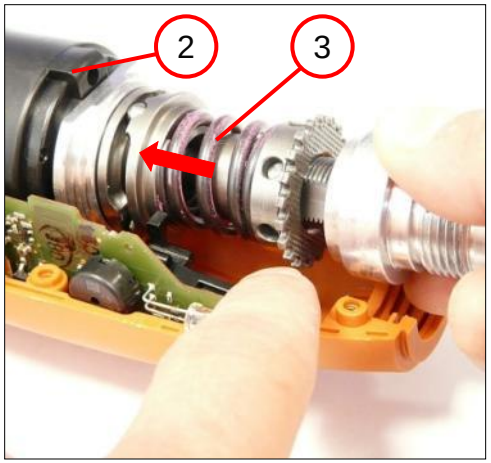
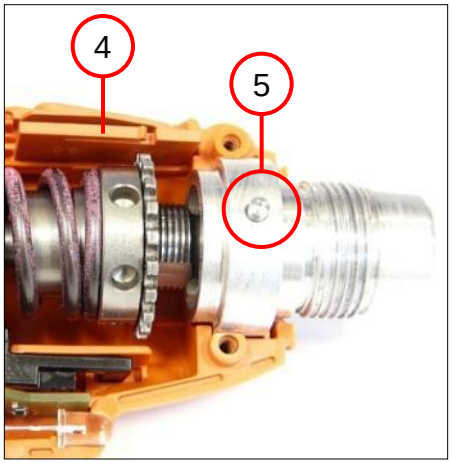
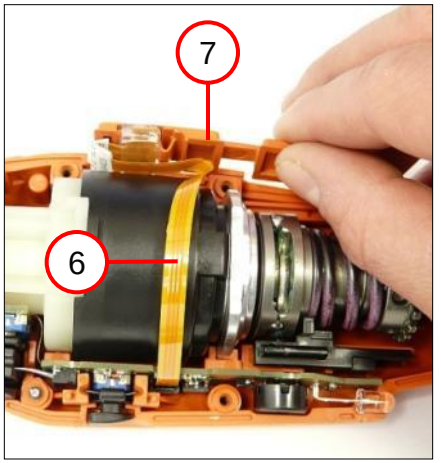
7. Assembly

Fitting the motor/gearbox unit









1. Insert the straight pin (1) in the lower section of the housing.
2. Lift the motor (2) slightly and insert the clutch (3) in the bush.
3. Insert the motor with the clutch in the housing.
4. Fit the cover (4).
5. Put the straight pin (5) into the hole in the flange.
6. Arrange the folded electronic strip (6) as shown.
7. Insert the holder (7) with the LED in the housing.

Tools:

- Flat-nose pliers

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7. Assembly

Fitting the motor/gearbox unit

NOTE
Ensure that the cable is correctly kinked and installed in the correct position.

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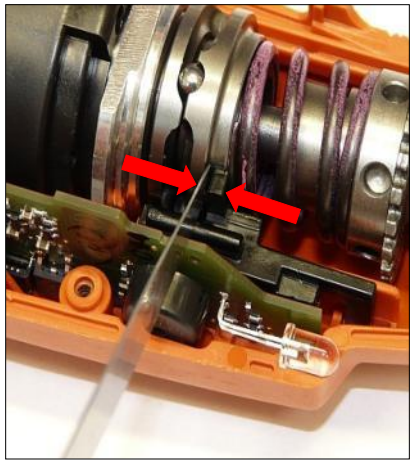
7. Assembly

Fitting the motor/gearbox unit



NOTE
If you have fitted a new clutch, you must check the play.

1. Check the play between the switch ring and the slide switch.
   ☞ Installation dimension 0.7 $^{\pm 0.3}$ mm.
   ☞ The installation dimension can be adjusted with the addition or removal of discs in front of and behind the ball bearing (see Removing the clutch / Fitting the clutch).

Tools:

- Feeler gauge

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7. Assembly

Fitting the housing cover

1. Screw down the top section of the housing (1).
2. Fit the coded sleeve (2).

Tools:

-Torx 10 screwdriver

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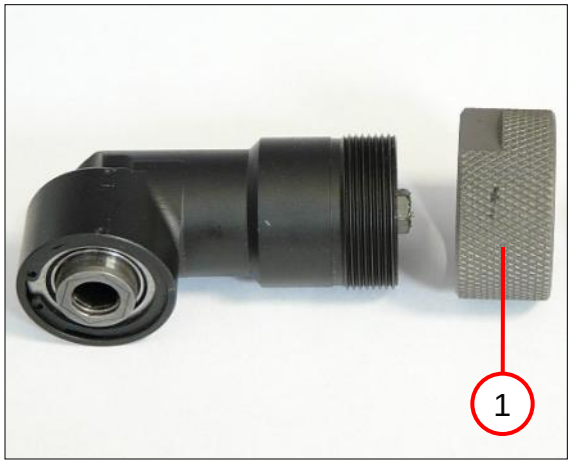
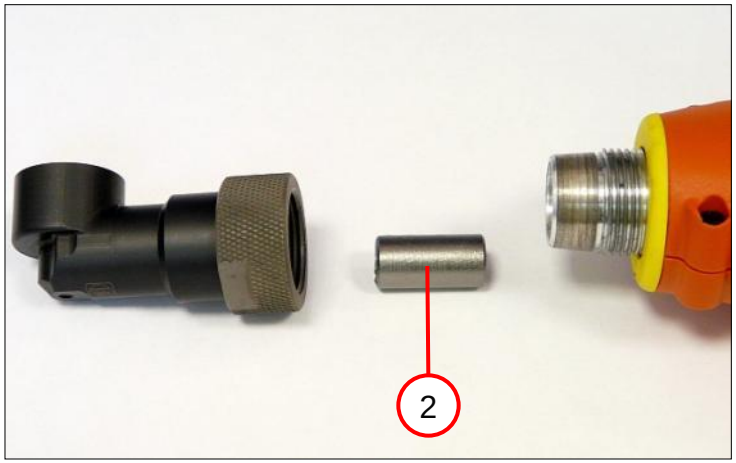
7. Assembly

Fitting the angled head





1. Hand-tighten the thread ring (1) as far as the stop.
2. Insert the clutch part (2).
3. Screw the angled head on as far as the stop.
4. Perform function check.

Tools:

- Open-ended spanner 26 mm

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8. Troubleshooting

See separate file on Extranet or retail partner portal.

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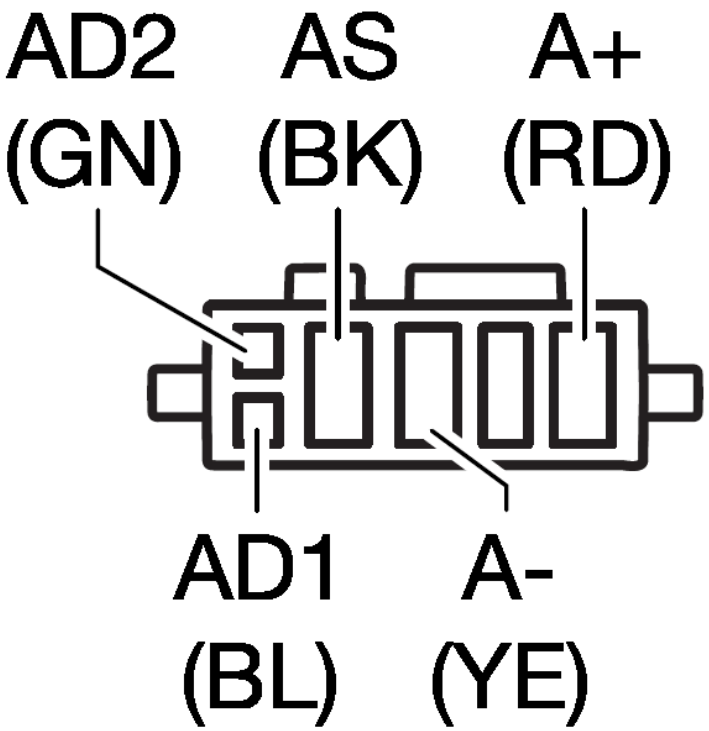
9. Connection diagram



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