ASCS 4.8, 6.3

Repair instructions

Contents

1. Models described

These instructions describe how to repair the following models:

Model	Order no.
ASCS 4.8	711310
ASCS 6.3	711311

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

2. Technical data

Torque values

Stage	ASCS 4.8	Stage	ASCS 6.3
1	2 Nm	1	3 Nm
4	3 Nm	5	4 Nm
8	4 Nm	8	5 Nm
11	5 Nm	10	6 Nm
		11	7 Nm

NOTE

The stated torque values serve as guides for the torque setting. Variations will occur depending on the situation.

3. Provisions

Provisions

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.

Only use original FEIN spare parts!

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!

4. Tools required

Standard tools

Torx 15 and 20 screwdrivers
Small slotted screwdriver
Arbor press
Plastic hammer
Slide gauge
Cable hooks
Circlip pliers

Special tools

Unlocking tool			
Arbor			
Sleeve:	Inner diameter	55 mm	
	Outer diameter	65 mm	
Sleeve:	Inner diameter	15 mm	
	Outer diameter	25 mm	
Sleeve:	Inner diameter	7 mm	
	Outer diameter	30 mm	
Ball bearing support		19 mm	
Ball bearing puller		19 mm	6 41 07 019 00 7
Drawing-off socket cap			6 41 04 150 00 8
Test board			6 41 340 0100 0

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

4. Tools required

Special tools

Unlocking tool

FEIN recommends using this unlocking tool because it is designed precisely for the plug contact used.

Manufacturer no.: 1-1579007-6 (not available from FEIN)
Manufacturer: www.te.com
Price: approx. € 40

5. Lubricants and auxiliary substances required

Lubricants

ASCS 4.8

Grease	0 40 121 0300 4	10 g	Gearbox
Grease	0 40 106 0100 1		Plain bearing bush in intermediate bearing

ASCS 6.3

Grease	0 40 121 0300 4	13 g	Gearbox
Grease	0 40 106 0100 1		Plain bearing bush in intermediate bearing

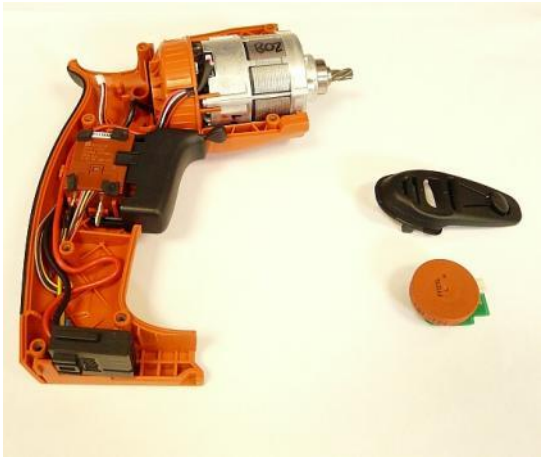
6. Disassembly

1. Remove battery, depth stop sleeve, outer sleeve and screwdriver bit.
2. Remove screws from gearbox head.
3. Remove gearbox head.

Tool:

-Torx 20 screwdriver

6. Disassembly

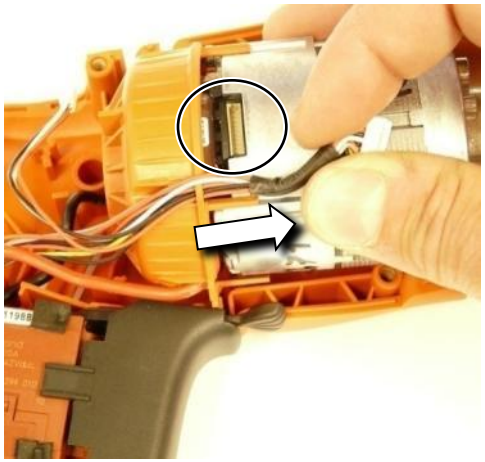


1. Loosen screws on upper housing section and remove this section.
2. Disconnect plug from potentiometer electronics.
3. Remove potentiometer electronics and belt hook.

Tool:

-Torx 15 screwdriver

6. Disassembly



1. Remove plug on motor.
2. Pull shrink-fit hose slightly to the right and press out individual cables over fixing mechanism on air guide ring.
3. Press motor cable out of plug with unlocking tool.

   NOTE

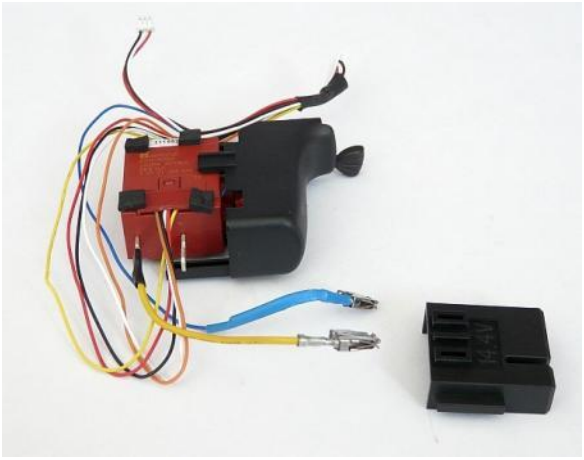
   The locking noses in the plug are worn during disassembly.
   Use new plugs for assembly.

4. Take motor and air guide ring out of housing.

Tool:

-Unlocking tool

6. Disassembly

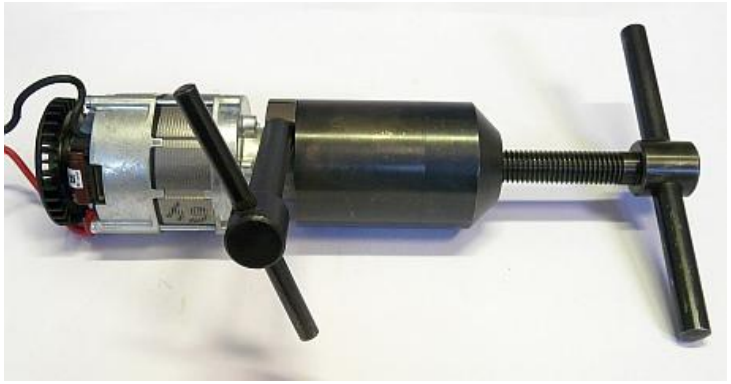


1. Press switch cable out of plug with unlocking tool.

Tool:

-Unlocking tool

6. Disassembly



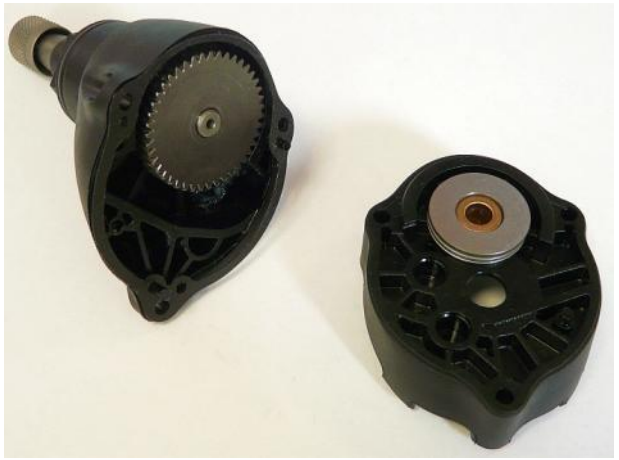
1. Pull ball bearing and sealing ring off motor.

Tool:

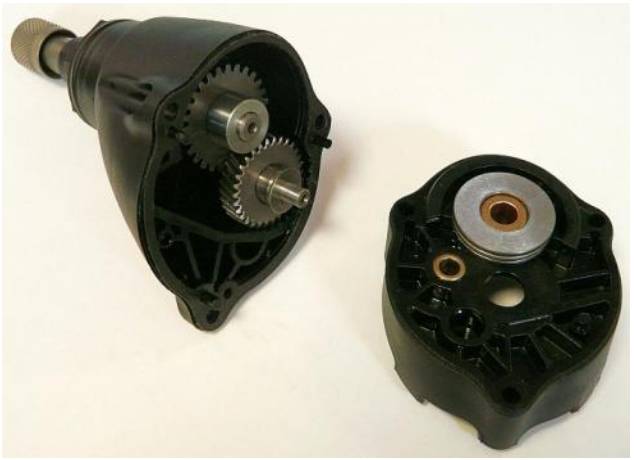
-Ball bearing puller 19 mm
-Drawing-off socket cap with tip

6. Disassembly

ASCS 4.8



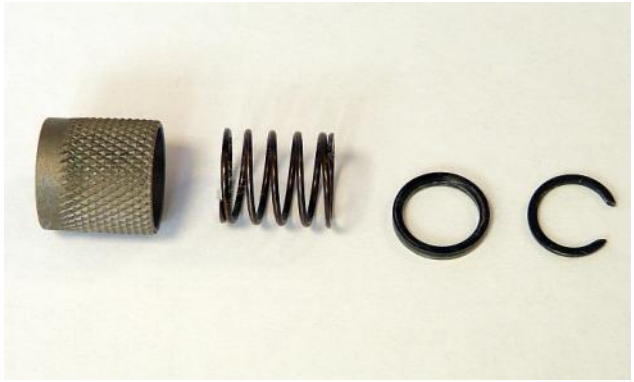
ASCS 6.3



6. Disassembly

WARNING
Damage to bush.
The bush must not be unscrewed even though it has a spanner flat.

6. Disassembly



1. Loosen circlip and remove along with disc.
2. Remove pressure spring.
3. Remove sleeve.

Tool:

-External circlip pliers
-Small slotted screwdriver

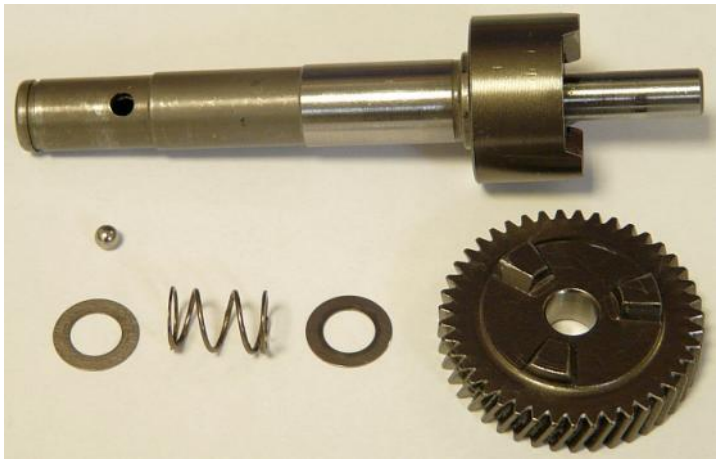
6. Disassembly

ASCS 4.8

1. Remove axial disc and two discs from intermediate bearing.

6. Disassembly

ASCS 4.8



1. Remove ball from tool holder.
2. Remove cam wheel.
3. Take tool holder out of gearbox head.
4. Remove two discs and pressure spring from tool holder.

6. Disassembly

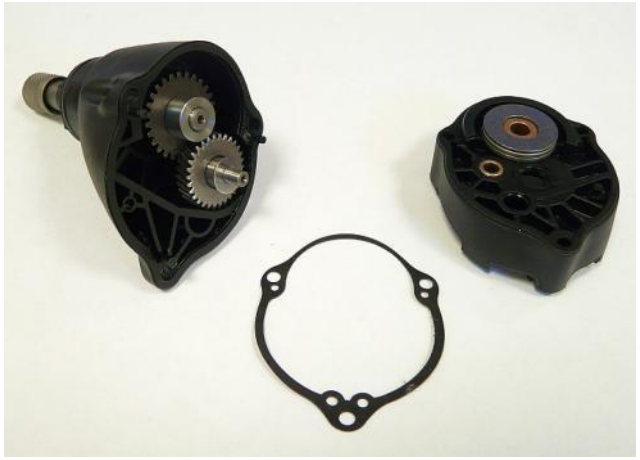
ASCS 4.8

1. Press cam wheel down and off tool holder.

Tool
-Arbor press -Sleeve: Inner diameter 15 mm Outer diameter 25 mm

6. Disassembly

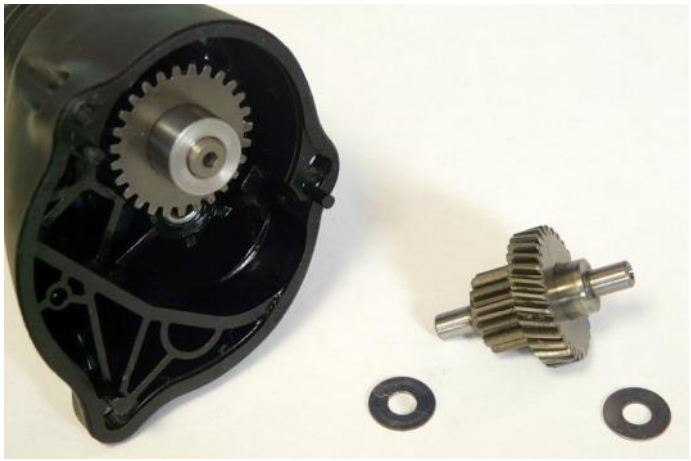
ASCS 6.3



1. Remove seal.
2. Remove axial disc and two discs from intermediate bearing.

6. Disassembly

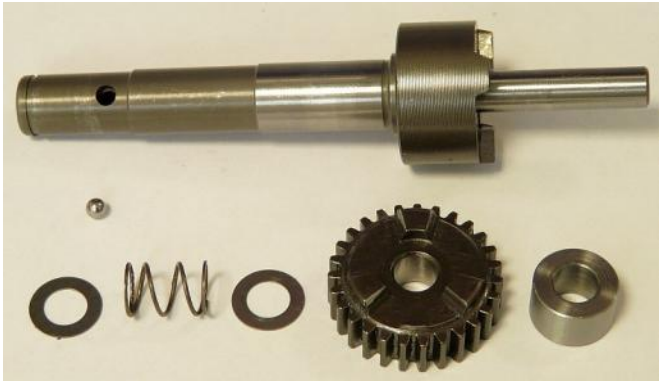
ASCS 6.3



1. Remove spur gear shaft with the two discs.

6. Disassembly

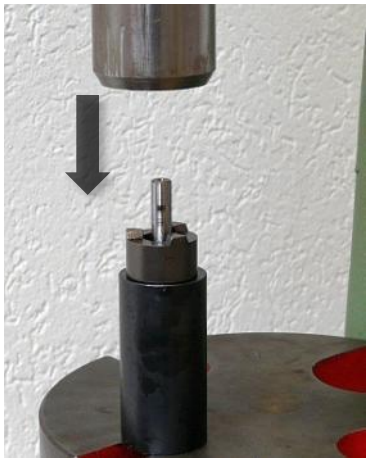
ASCS 6.3



1. Remove ball from tool holder.
2. Remove disc and cam wheel.
3. Take tool holder out of gearbox head.
4. Remove two discs and pressure spring from tool holder.

6. Disassembly

ASCS 6.3



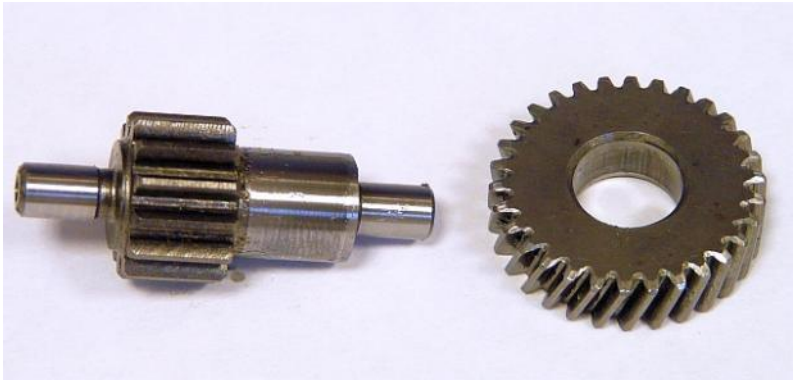
1. Press cam wheel down and off tool holder.

Tool:

-Arbor press
-Sleeve: Inner diameter 15 mm
Outer diameter 25 mm

6. Disassembly

ASCS 6.3



1. Press spur gear down and off spur gear shaft.

Tool:

-Arbor press
-Sleeve: Inner diameter 16 mm
Outer diameter 26 mm

7. Assembly

7. Assembly

WARNING

Incorrect assembly will damage device.

Motor shaft must be supported when pressing (e.g. using an arbor).

1. Press ball bearing on to motor.

Tool:

-Arbor press
-Arbor
-Ball bearing support: D = 19 mm

7. Assembly

WARNING

Incorrect assembly will damage device.

Motor shaft must be supported when pressing (e.g. using an arbor).

1. Slide sealing ring on to motor shaft.
2. Carefully press sealing ring on to motor.

Tool:

-Arbor press
-Arbor
-Sleeve: Inner diameter 7 mm
Outer diameter 30 mm

7. Assembly

1. Press cam ring on to tool holder.

Tool:

-Arbor press
-Sleeve: Inner diameter 12 mm
Outer diameter 25 mm

7. Assembly

ASCS 4.8

ASCS 6.3

7. Assembly

ASCS 4.8

1. Slide disc, spring and second disc on to tool holder.
2. Grease tool holder and slide in to gearbox housing.

Tool:

-Grease
0 40 121 0300 4

7. Assembly

ASCS 4.8

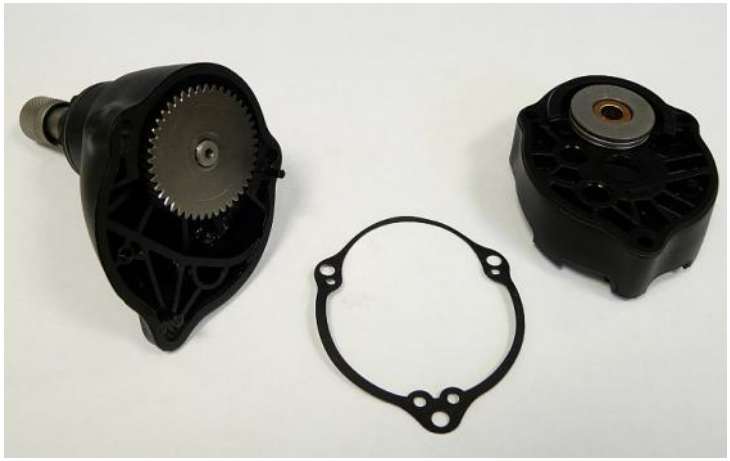
1. Fill plain bearing bush in intermediate bearing with grease.
2. Slide cam wheel on to tool holder.
3. Apply grease to thin disc and place on intermediate bearing.
4. Apply grease to axial disc and place on intermediate bearing.
5. Apply grease to thick disc and place on intermediate bearing.

Tool:

-Grease
0 40 106 0100 1

7. Assembly

ASCS 4.8



1. Fill gearbox with grease (10 g).
2. Fit new seal.
3. Connect gearbox housing and intermediate bearing.

Tool:

-Grease
0 40 121 0300 4

7. Assembly

ASCS 6.3

1. Slide disc, spring and second disc on to tool holder.
2. Grease tool holder and slide in to gearbox housing.
3. Grease plain bearing bush.

Tool:

-Grease
0 40 121 0300 4

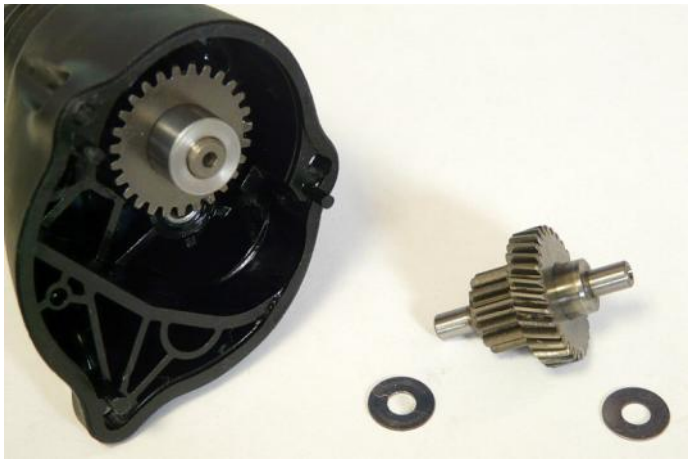
7. Assembly

ASCS 6.3

1. Slide cam wheel on to tool holder.
2. Slide needle sleeve on to tool holder.

7. Assembly

ASCS 6.3



1. Grease discs and slide on to spur gear shaft.
2. Insert spur gear shaft in to gearbox housing.

Tool:

-Grease
0 40 121 0300 4

7. Assembly

ASCS 6.3

1. Fill plain bearing bush in intermediate bearing with grease.
2. Place thin disc on intermediate bearing.
3. Apply grease to axial disc and place on intermediate bearing.
4. Place thick disc on intermediate bearing.

Tool:

-Grease
0 40 106 0100 1

7. Assembly

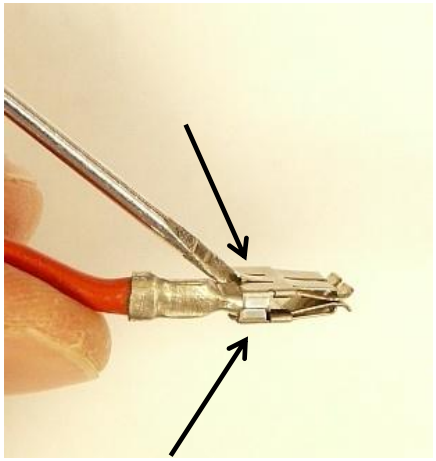
ASCS 6.3

1. Fill gearbox with grease (13 g).
2. Fit new seal.
3. Connect gearbox housing and intermediate bearing.

Tool:

-Grease
0 40 121 0300 4

7. Assembly



1. Check springs of battery plug contacts.
   If necessary, press the spring up a little.
2. Fit air guide ring on to motor.
3. Press motor cable in to air guide ring's guides.

Tool:

-Small slotted screwdriver

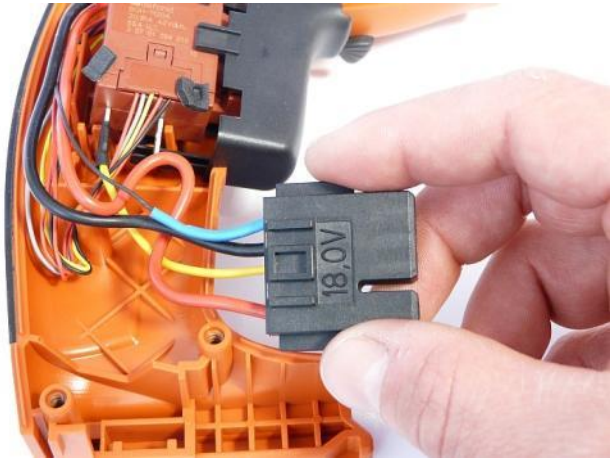
7. Assembly

1. Insert motor in to lower section of housing with air guide ring.
2. Insert black motor cable.
3. Insert switch in to lower section of housing.

Tool:

-Small slotted screwdriver

7. Assembly

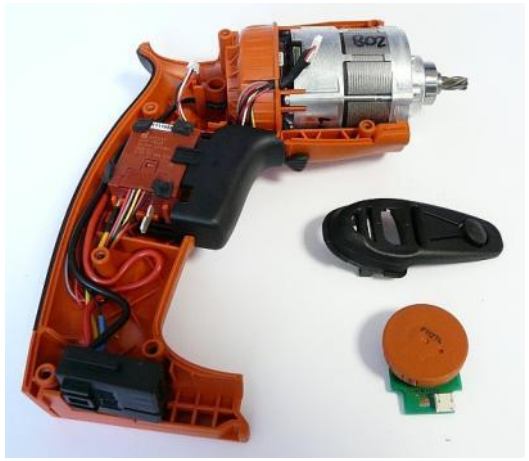


1. Insert cables in plug as shown.
   Check whether cables are secure in the plug.
2. Individually press motor plug's cables over fixing mechanism on air guide ring.
3. Insert plug in motor.
4. Insert red motor cable in the guide above the other cables.

Tool:

-Cable hooks

7. Assembly



1. Lay the thin motor cables below the red cable.
2. Connect plug to potentiometer electronics.
3. Insert potentiometer electronics together with belt hook in lower housing section.

7. Assembly

1. Fit upper housing section and screw in place.
2. Fit gearbox head and screw in place.

Tool
-Torx 20 screwdriver

7. Assembly




1. Place ball (for fixing screwdriver bit) in tool holder hole with a little grease.
2. Slide sleeve and pressure spring on to tool holder.
3. Place ring on pressure spring and press down.
4. Fit circlip.
   NOTE
   Use a new circlip for assembly.

5. Perform function check.

Tool:

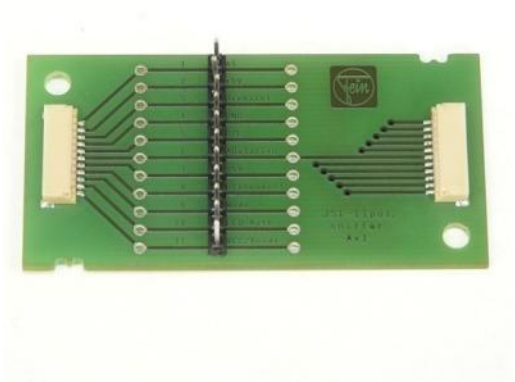
-External circlip pliers
-Small slotted screwdriver

8. Troubleshooting

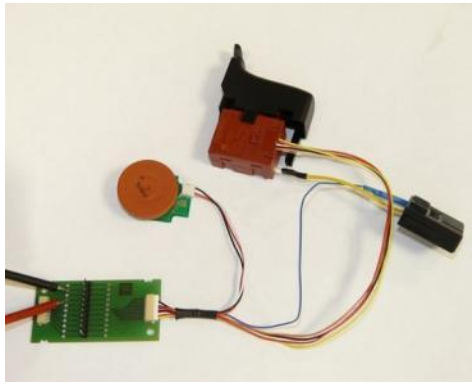
Fault	Cause	Remedy
Motor not running.	Motor is defective.	Check electrics with test board.
	Switch is defective.	Check electrics with test board.
	Battery plug contacts have come loose.	Check components.
Motor is running out of round. Speed fluctuates.	Bearing / gearbox is defective.	Check components.
Motor only turning in one direction.	Plug on motor has come loose or is not secure.	Check cable.

8. Troubleshooting (electrics)

Test board



Test setup



FEIN recommends using the test board (special tool) for electrical troubleshooting.

You can use the test board for ASCS 4.8/6.3, ASCT 14/18, ASCM, ABOP 6/10/13-2.

Since the motor cannot be tested directly, you can use the test board to check the functions of switches and torque potentiometers (if present).

The test steps and nominal values for use with the test board are provided on the next page.

Tool:

-Test board
6 41 34 001 01 0
-Multimeter

8. Troubleshooting (electrics)

Test object	Test method	Nominal value	Measurement line +	Measurement line -
General tests				
Battery Sense	Passage	Switch not pressed: > 1 MΩ Switch pressed: < 10 Ω	Battery Sense (yellow)	Pin 1
Battery data	Passage	< 10 Ω	Battery data (blue)	Pin 6
Right-left	Passage	Position 1: > 1 MΩ Position 2: < 10 Ω	Pin 4	Pin 5
Speed potentiometer, total resistance	Resistor	20 kΩ ±4 kΩ	Pin 4	Pin 2
Speed potentiometer, resistance range	Resistor	0 Ω to 20 kΩ ±4 kΩ (proportional to potentiometer travel) Switch not pressed: 0 Ω Switch pressed: 20 kΩ ±4 kΩ	Pin 4	Pin 3
Tool-dependent tests				
Torque potentiometer, total resistance (ASCS only)	Resistor	100 kΩ ±10 kΩ	Pin 7	Pin 9
Torque potentiometer, resistance range (ASCS only)	Resistor	0 kΩ to 90 kΩ ±10 kΩ (proportional to potentiometer travel) Stage 1: 90 kΩ ±10 kΩ Drilling stage: 0 kΩ	Pin 7	Pin 8

9. Connection diagram