

ASCT 14, 18 / 14U, 18U



## Repair instructions





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## 1. Models described

These instructions describe how to repair the following models:

Model	Order no.
ASCT 14	711314
ASCT 14U	711315
ASCT 18	711316
ASCT 18U	711317



## 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](http://www.fein.com)



### 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  
 Open-ended spanner 27 mm  
 Cable hooks  
 Circlip pliers  
 Socket wrench 2.0 mm

### Special tools

Unlocking tool

Arbor

Sleeve: Inner diameter 13 mm  
 Outer diameter 30 mm

Sleeve: Inner diameter 7 mm  
 Outer diameter 30 mm

Sleeve: Inner diameter 12 mm  
 Outer diameter 25 mm

Sleeve: Inner diameter 13 mm  
 Outer diameter 20 mm

Sleeve: Inner diameter 12 mm  
 Outer diameter 20 mm

Ball bearing support 30 mm

Ball bearing puller 19 mm 6 41 07 019 00 7

Ball bearing puller 28 mm 6 41 07 028 00 2

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](http://www.te.com)

Price: approx. € 40



## 5. Lubricants and auxiliary substances required

### Lubricants

#### ASCT 14, 18

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

#### ASCT 14U, 18U

Grease	0 40 101 0100 4	10 g	Gearbox, roller bearing
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## 6. Disassembly



1. Remove battery.
2. Remove screws from gearbox head.
3. Remove gearbox head.

Tool:

-Torx 20 screwdriver



## 6. Disassembly



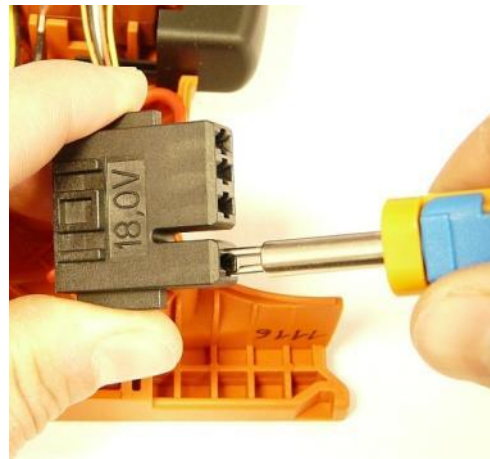
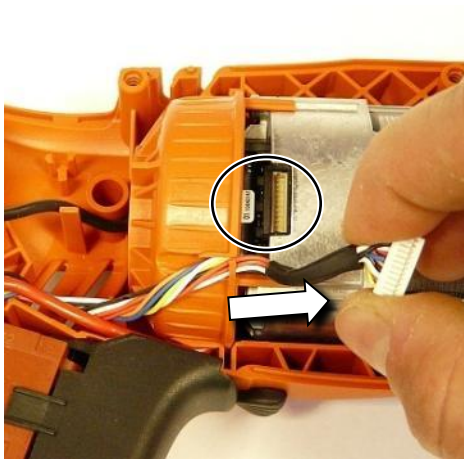
1. Loosen screws on upper section of housing and remove.
2. Remove belt hooks.

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.

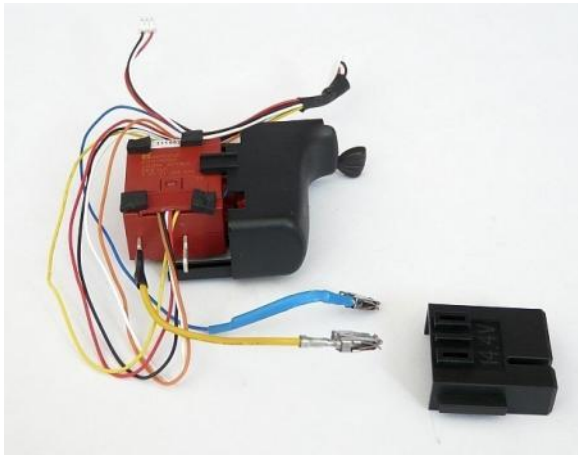
4. Take motor and air guide ring out of housing.

Tool:

-Unlocking tool



## 6. Disassembly



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

Tool:

-Unlocking tool



## 6. Disassembly



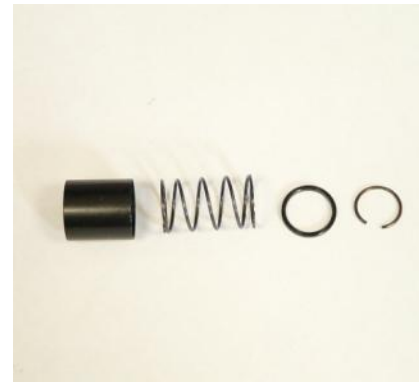
1. Pull ball bearing and sealing ring off motor.

### Tool:

- Ball bearing puller 19 mm  
6 41 07 019 00 7
- Drawing-off socket cap with tip  
6 41 04 150 00 8



## 6. Disassembly



1. Loosen circlip and remove along with disc.

### NOTE

It is easier to prise off the circlip if you use a small screwdriver.

2. Remove pressure spring.
3. Remove sleeve.
4. Remove ball from tool holder.

### Tool:

- Circlip pliers
- Small slotted screwdriver



## 6. Disassembly

ASCT 14, 18



ASCT 14U, 18U







## 6. Disassembly

### ASCT 14, 18



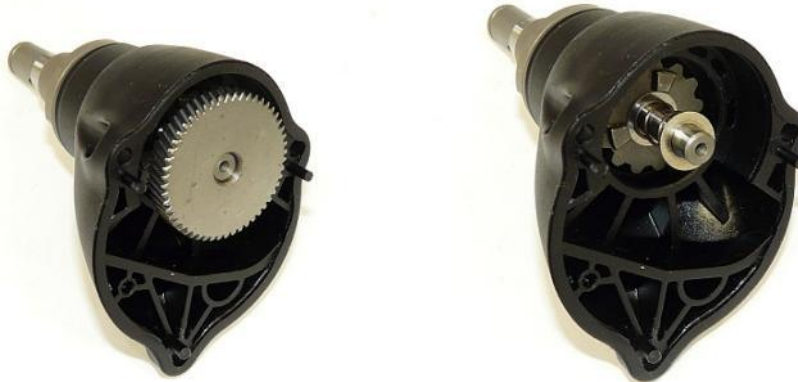
1. Remove axial disc and two discs from intermediate bearing.





## 6. Disassembly

### ASCT 14, 18



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



## 6. Disassembly

### ASCT 14, 18



1. Press cam wheel down and off tool holder.

#### Tool

- Arbor press
- Sleeve: Inner diameter 13 mm  
Outer diameter 30 mm



## 6. Disassembly



1. Unscrew bearing bush from gearbox head.
2. Remove sealing ring from bearing bush.

Tool

-Open-ended spanner 27 mm

## ASCT 14U, 18U



- Version 1



## 6. Disassembly

### ASCT 14U, 18U



1. Pull ball bearing out of dog clutch shaft.
2. Remove disc and axial disc.
3. Press spur gear down and off dog clutch shaft.

#### Tool:

- Ball bearing puller 16 mm  
6 41 07 016 00 1
- Drawing-off socket cap with tip  
6 41 04 150 00 8
- Sleeve Inner diameter 20 mm  
Outer diameter 30 mm



## 6. Disassembly

### ASCT 14U, 18U



1. Pull ball bearing out of dog clutch shaft.

#### Tool:

- Ball bearing puller 28 mm  
6 41 07 028 00 2
- Drawing-off socket cap with tip  
6 41 04 150 00 8



## 6. Disassembly

### ASCT 14U, 18U



1. Loosen socket head screw on tool holder.
2. Unscrew adjustment screw for coupling adjustment.

#### Tool:

- Socket wrench 2.0 mm
- Slotted screwdriver



## 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. Slide sealing ring on to bearing bush.
2. Screw down bearing bush on gearbox head.  
Tightening torque = 10 - 12 Nm.

### NOTE

Only screw down bearing bush to the tightening torque specified once the tool has been fully assembled.

Tool
-Open-ended spanner 27 mm
-Torque wrench



## 7. Assembly

ASCT 14, 18



ASCT 14U, 18U





## 7. Assembly

ASCT 14, 18



1. Press cam ring on to tool holder.

Tool:

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



## 7. Assembly

### ASCT 14, 18



1. Slide cam ring, 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

### ASCT 14, 18



1. Slide spur gear on to tool holder.
2. Fill plain bearing bush in intermediate bearing with grease.
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

### ASCT 14, 18



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

### ASCT 14U, 18U



1. Screw in adjustment screw.  
The further you insert the screw, the greater the tool's tightening torque.

Factory setting for depth of engagement = 0.75 mm.  
The depth of engagement increases by 0.16 mm from one notch to the next.

2. Tighten socket head screw

Tool:  
-Socket wrench 2.0 mm



## 7. Assembly

### ASCT 14U, 18U



1. Grease ball bearing.
2. Press ball bearing on to dog clutch shaft.
3. Press spur gear on to dog clutch shaft.

### NOTE

The flat side of the spur gear must be on the side of the large ball bearing.

#### Tool:

- Grease  
0 40 101 0100 4
- Arbor press
- Sleeve: Inner diameter 13 mm  
Outer diameter 20 mm
- Sleeve: Inner diameter 20 mm  
Outer diameter 30 mm



## 7. Assembly

### ASCT 14U, 18U



1. Grease ball bearing.
2. Slide axial disc and disc on to dog clutch shaft.
3. Press ball bearing on to dog clutch shaft.

#### Tool:

- Grease  
0 40 101 0100 4
- Arbor press
- Sleeve: Inner diameter 10 mm  
Outer diameter 10 mm



## 7. Assembly

ASCT 14U, 18U



1. Grease tool holder and slide in to gearbox housing.

Tool:

-Grease  
0 40 101 0100 4



## 7. Assembly

### ASCT 14U, 18U



1. Insert spring pin in hole.
2. Insert dog clutch shaft in to intermediate bearing.



## 7. Assembly

### ASCT 14U, 18U



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

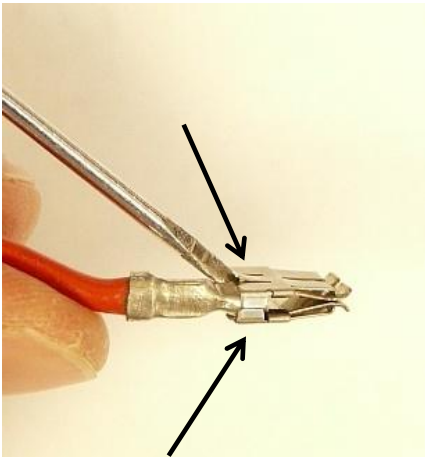
Tool:

-Grease

0 40 101 0100 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.

### **NOTE**

The recess with the detent must be next to the plug connection on the motor.

3. Press motor cable into air guide ring's guides.

Tool:

-Small slotted screwdriver





## 7. Assembly



1. Insert motor into lower section of housing with air guide ring.
2. Insert black motor cable at bottom.
3. Insert switch into lower section of housing.  
Place thin cables on top of black cable. The red cable is at the top.

### NOTE

The thin cables must be under a thick cable so they are not squashed by the upper section of housing.

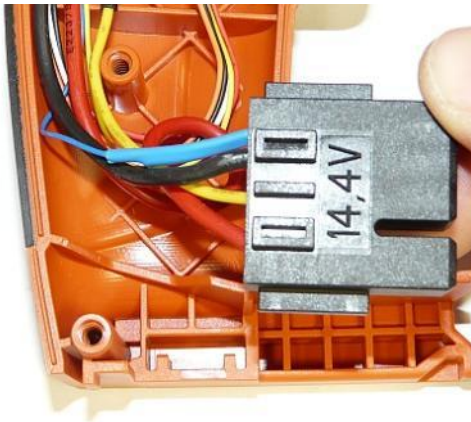
#### Tool:

- Small slotted screwdriver
- Cable hooks





## 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. Insert belt hooks into lower section of housing.

### NOTE

The same switch is also used by other tools with potentiometer electronics (e.g. ASCS 4.8, 6.3).  
The small switch plug on this tool has no function and no connection.



## 7. Assembly



1. Fit upper housing section and screw in place.  
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:

- Circlip pliers
- Small slotted screwdriver



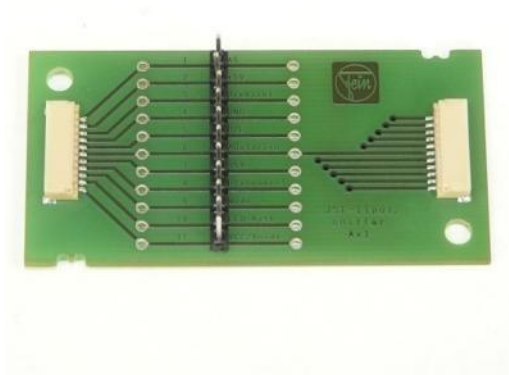
## 8. Troubleshooting

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.

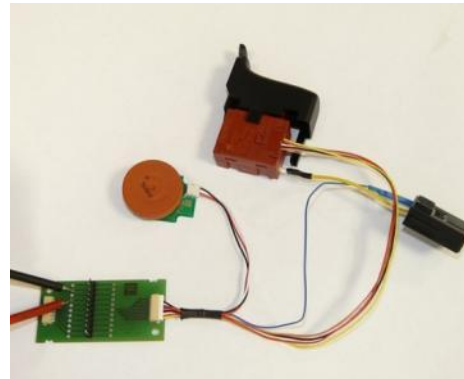


## 8. Troubleshooting (electrics)

**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 -
<b>General tests</b>				
Battery Sense	Passage	Switch not pressed: > 1 M $\Omega$ Switch pressed: < 10 $\Omega$	Battery Sense (yellow)	Pin 1
Battery data	Passage	< 10 $\Omega$	Battery data (blue)	Pin 6
Right-left	Passage	Position 1: > 1 M $\Omega$ Position 2: < 10 $\Omega$	Pin 4	Pin 5
Speed potentiometer, total resistance	Resistor	20 k $\Omega$ $\pm$ 4 k $\Omega$	Pin 4	Pin 2
Speed potentiometer, resistance range	Resistor	0 $\Omega$ to 20 k $\Omega$ $\pm$ 4 k $\Omega$ (proportional to potentiometer travel) Switch not pressed: 0 $\Omega$ Switch pressed: 20 k $\Omega$ $\pm$ 4 k $\Omega$	Pin 4	Pin 3
<b>Tool-dependent tests</b>				
Torque potentiometer, total resistance (ASCS only)	Resistor	100 k $\Omega$ $\pm$ 10 k $\Omega$	Pin 7	Pin 9
Torque potentiometer, resistance range (ASCS only)	Resistor	0 $\Omega$ to 90 k $\Omega$ $\pm$ 10 k $\Omega$ (proportional to potentiometer travel) Stage 1: 90 k $\Omega$ $\pm$ 10 k $\Omega$ Drilling stage: 0 k $\Omega$	Pin 7	Pin 8



## 9. Connection diagram

