



WESSEL-WERK

EBK 360

Shop Manual

This Service Guide is designed as a reference tool to help pinpoint service needs of the Wessel-Werk EBK 360 Electric Brush.

Required Tools

- #10 Torx Screw Driver
- Mini Flat Head Screw Driver
- Common Multi-Meter

Common Spare Parts

- Brush Assembly Complete
- Geared Belt
- Motor Complete
- Electrified Neck Complete
- Wiring Harness
- LED light panel
- Set of 3 'Wago' wire connectors (2x3 pole wire 1x4 pole wire)

Warning!

- Do not over tighten screws as screw holes can become stripped.
- When refastening screws always use the original thread pitch of the screw hole. Failure to use the original screw orientation will likely drill-out material and strip hole.
- Easiest way to find the original thread orientation is by counter rotating the screw before turning the screw into the hole.
- Manually replace screws! Use of a power screw driver is not recommended for reassembly.

Only Use original replacement parts!

For best results- Only Use original replacement parts!

To avoid warranty invalidation only use original replacement parts!

Wago® wire connectors are not to be reused!

It is recommended that the base of the nozzle be supported during re-assembly so that the rear wheels are not under load. Pressure on the rear wheels during re-assembly will likely cause difficulty during reassembly. Parts may bind and not seat properly if pressure is not removed from the rear wheels during re-assembly.

Belt change

Under normal use the belt is almost maintenance-free. Occasionally when the brush is suddenly blocked the belt can jump over the motor or brush gear. Frequent abrupt stoppage may damaged or destroy the belt.

Remove Top Cover

- Depress Neck Release Pedal
- Place nozzle bottom up on non-marking surface
- Remove 8 X #10 Torx screws- Note 3 longer screws are in front of the brush roller
- Collect Screws-set aside for reassembly
- Turn Nozzle right side up
- Lift cover
- Assure pedals stay secure in cover housing

Remove Secondary/Motor Cover

- Remove clear plastic neck release lever and return spring-set aside
- Free wiring harness and LED light bar from storage positions in secondary cover
- Remove 3 X #10 Torx screws-set aside
- Lift secondary cover slide by wiring harness-set aside

Remove Brush Roller Assembly

- Lift Roller Assembly while guiding end cap past belt

Remove Belt

- Guide belt past drive gear on motor

Replace Belt

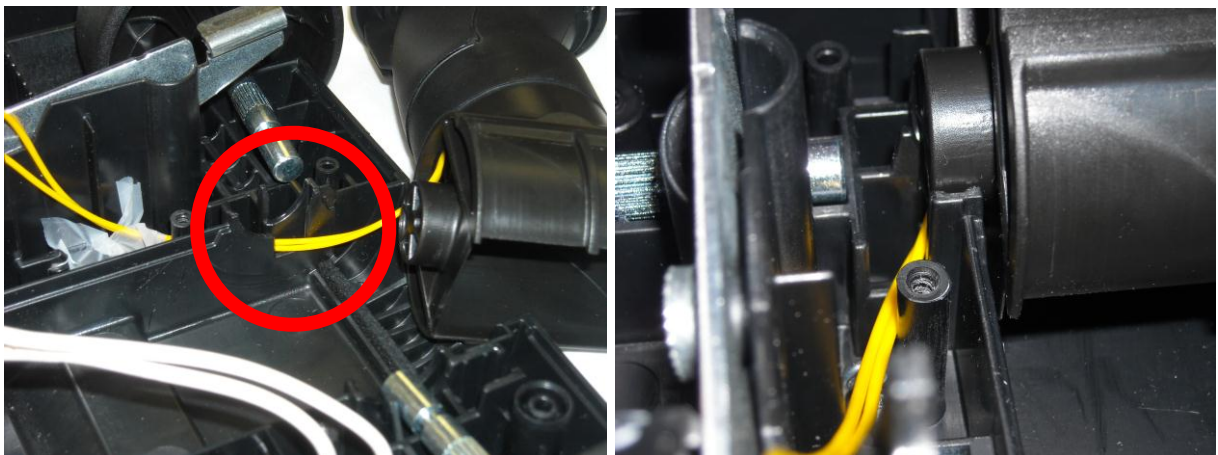
- Only use original spare part 19,1 016-300
- Guide new over gear on motor
- Guide new belt over end cap of brush roll

Replace Brush Roller

- Place brush roller assembly with belt over gear into base assembly
- Note: Narrow side of end cap faces down.

Reverse Steps above to re-assmble the power head

- Make certain all wires are returned to their original positions
- Take care when placing the neck assembly into its original position. The 2 yellow wires from the neck must move freely through the 'gate' under the neck axis pivot. Be certain wires do not become 'pinched'.



In conclusion-Conduct Electrical and Mechanical Function Test

Change Brush Roller

The brush roller is a wear item. Depending on usage and flooring type the brush will become worn and will need to be replaced.

Only replace the complete brush assembly (brush, axels, bearings, end caps).

Remove Top Cover

- Depress Neck Release Pedal
- Place nozzle bottom up on non-marking surface
- Remove 8 X #10 Torx screws- Note 3 longer screws are in front of the brush roller
- Collect Screws-set aside for reassembly
- Turn Nozzle right side up
- Lift cover
- Assure pedals stay secure in cover housing

Remove Secondary/Motor Cover

- Remove clear plastic neck release lever and return spring-set aside
- Free wiring harness and LED light bar from storage positions in secondary cover
- Remove 3 X #10 Torx screws-set aside
- Lift secondary cover slide by wiring harness-set aside

Remove Brush Roller Assembly

- Lift Roller Assembly while guiding end cap past belt

Check for wear or damage of belt

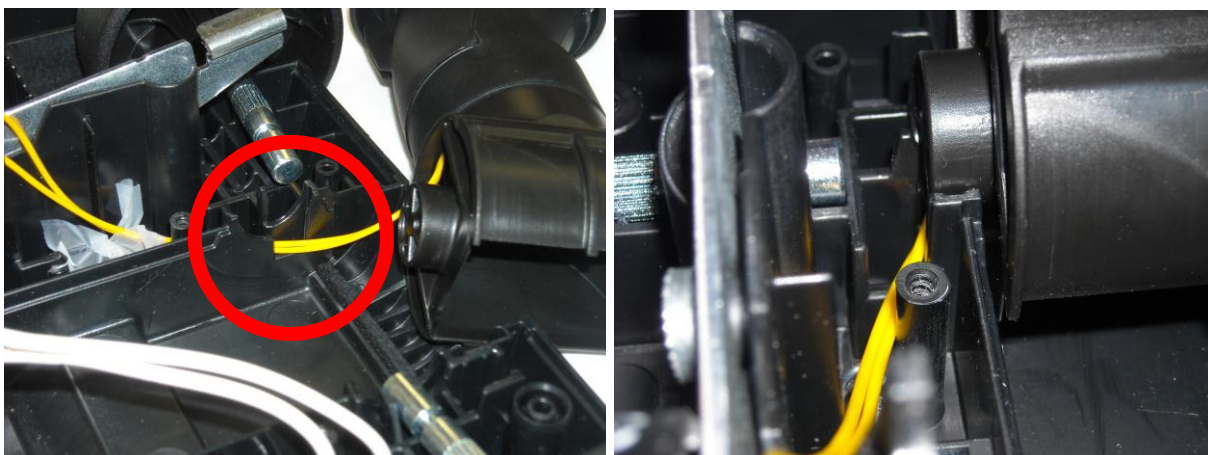
- Replace if necessary

Replace Brush Roller

- Only use original spare part # xxxxx-xxxxx.
- Guide new belt over end cap of brush roll
- Place brush roller assembly with belt over gear into base assembly
- Note: Narrow side of end cap faces down.

Reverse Steps above to re-assemble the power head

- Make certain all wires are returned to their original positions
- Take care when placing the neck assembly into its original position. The 2 yellow wires from the neck must move freely through the 'gate' under the neck axis pivot. Be certain wires do not become 'pinched'.



In conclusion-Conduct Electrical and Mechanical Function Test

Motor Replacement

The expected life of the motor is roughly the expected life of the entire power nozzle. The replacement of a failed motor is not recommended without the replacement of other components, such as; brush roll and belt.

Remove Top Cover

- Depress Neck Release Pedal
- Place nozzle bottom up on non-marking surface
- Remove 8 X #10 Torx screws- Note 3 longer screws are in front of the brush roller
- Collect Screws-set aside for reassembly
- Turn Nozzle right side up
- Lift cover
- Assure pedals stay secure in cover housing

Remove Secondary/Motor Cover

- Remove clear plastic neck release lever and return spring-set aside
- Free wiring harness and LED light bar from storage positions in secondary cover
- Remove 3 X #10 Torx screws-set aside
- Lift secondary cover slide by wiring harness-set aside

Disassemble Wiring Harness

This product comes with 3 Wago® wire connectors. Wago wire connectors are not to be reused. If wires are removed from the Wago connector, the connector must be discarded and a new connector used as a replacement.

- It is necessary to remove all of the wires from 2 of the Wago connectors
- The connector that does not have a wire going directly to the motor will not be disturbed
- Force a mini screw driver into one of the wire channels of the Wago (Illus. #1)



- Pullout the wire and the screw driver simultaneously (Illus. #2)
- Continue process until all wires have been removed from the 2 connectors
- Discard old connectors

Remove Motor

- Remove the 2 screws holding the motor mounting plate, set plate and screws aside
- Remove motor taking care not to disturb belt

Check for wear or damage of belt

- Replace if necessary

Replace Motor

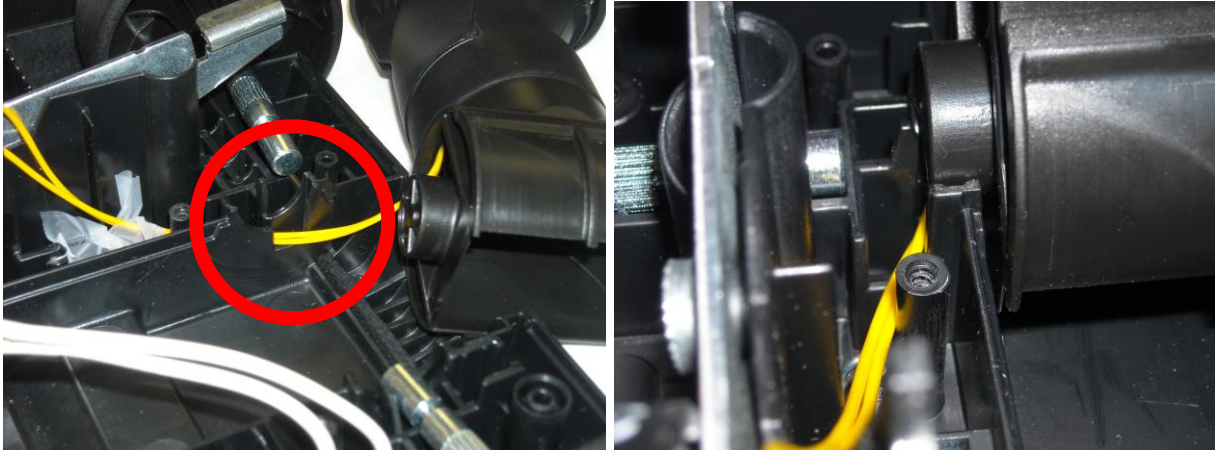
- Set motor with rubber motor mount in place taking care that belt is around the geared pulley of the motor
- Replace motor mounting plate and plate screws.
- Set motor wires back into their original slot

Re-assemble wiring harness

- Using new Wago connectors press wires into their original positions in the wire connectors
- Assure all wires are in their original positions (Review wiring diagram in the later section is necessary!)
- Assure all wires are secure in the Wago connectors

Reverse Steps above to re-assemble the power head

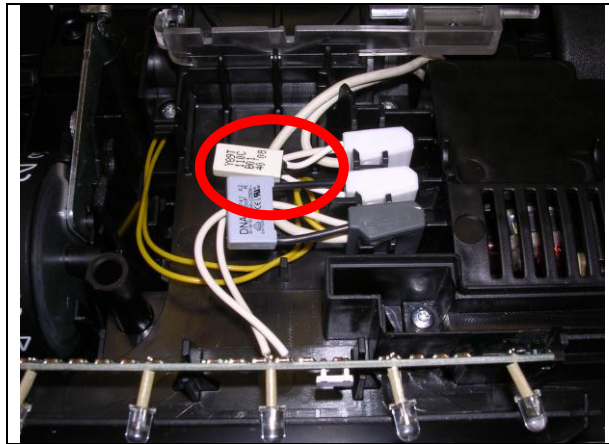
- Make certain all wires are returned to their original positions
- Take care when placing the neck assembly into its original position. The 2 yellow wires from the neck must move freely through the 'gate' under the neck axis pivot. Be certain wires do not become 'pinched'.



In conclusion-Conduct Electrical and Mechanical Function Test

Replace Circuit Breaker

Although unlikely it is possible that the circuit breaker fails.



Circuit Breaker

Remove Top Cover

- Depress Neck Release Pedal
- Place nozzle bottom up on non-marking surface
- Remove 8 X #10 Torx screws- Note 3 longer screws are in front of the brush roller
- Collect Screws-set aside for reassembly
- Turn Nozzle right side up
- Lift cover
- Assure pedals stay secure in cover housing

Disassemble Wiring Harness

This product comes with 3 Wago® wire connectors. Wago wire connectors are not to be reused. If wires are removed from the Wago connector, the connector must be discarded and a new connector used as a replacement.

- It is necessary to remove all of the wires from 2 of the Wago connectors
- The 4 pole wire connector will not need to be replaced
- Remove all wires from the 2 three pole Wago connectors (It is best to keep track of the wire groupings to facilitate reassembly)
- Force a mini screw driver into one of the wire channels of the Wago (Illus. #1)



- Pullout the wire and the screw driver simultaneously (Illus. #2)
- Continue process until all wires have been removed from the 2 connectors
- Discard old connectors

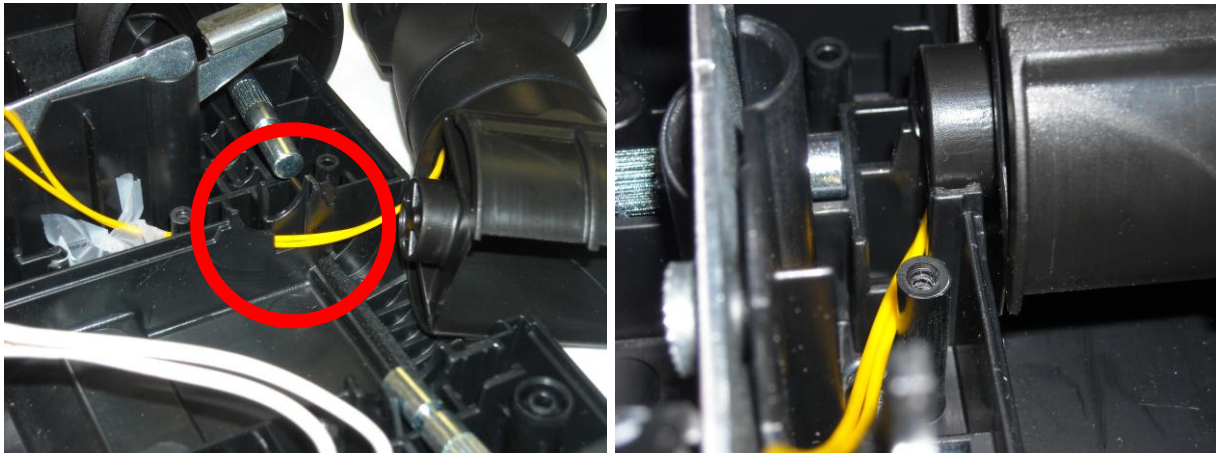
Replace Circuit Breaker

Re-assemble wiring harness

- Using new Wago connectors press wires into their original positions in the wire connectors
- Assure all wires are in their original positions (Review wiring diagram in the later section is necessary!)
- Assure all wires are secure in the Wago connectors

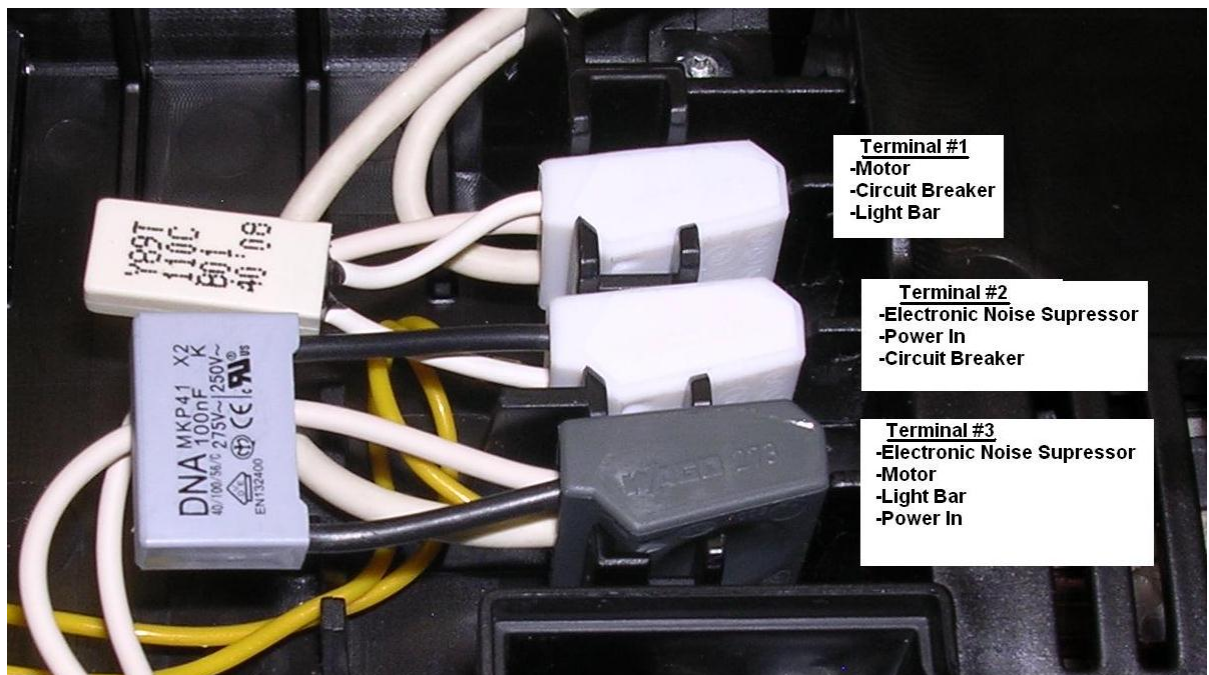
Reverse Steps above to re-asmble the power head

- Make certain all wires are returned to their original positions
- Take care when placing the neck assembly into its original position. The 2 yellow wires from the neck must move freely through the 'gate' under the neck axis pivot. Be certain wires do not become 'pinched'.

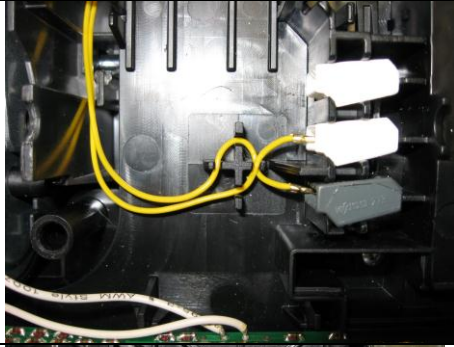


In conclusion-Conduct Electrical and Mechanical Function Test

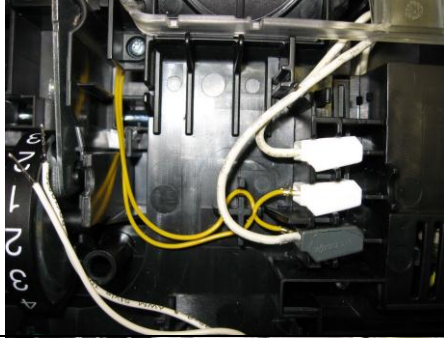
Wiring Diagram



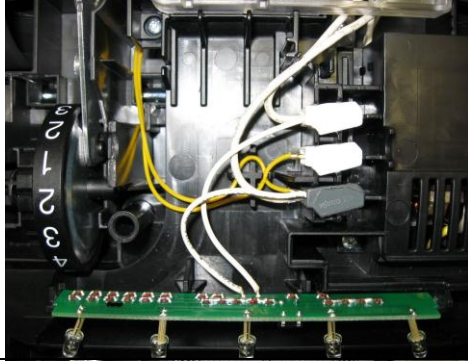
Wiring Diagram



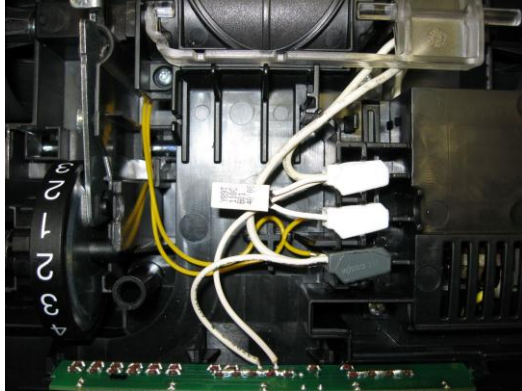
- Yellow Lead wires come directly from the Neck Assembly
- Note wires are secured in cross shaped wire holder molded into base plate



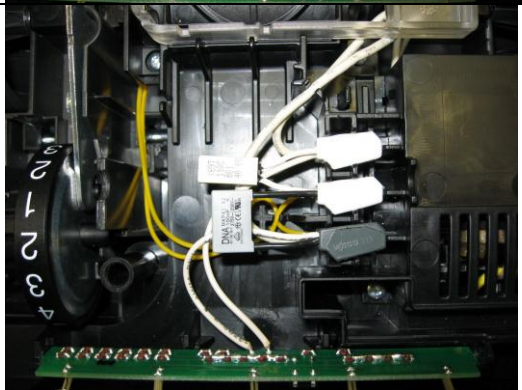
- These white wires are the lead wires from the motor



- Connect 2 white wires from the LED light circuit board



- Install Circuit Protector



- Install electronic noise suppressor

Electrical/Mechanical Function Test

Electrical Function Test

- Under no resistance (brush is free floating)
- Approximate Power usage is 1.25 Amps
- Check that all 5 LED lights work

Mechanical Function test

Block Brush test

- Block Brush Roll with shop rag
- Turn unit on
- Circuit breaker should activate in 6-8 approximately seconds
- Disconnect power! Required!
- Allow breaker to cool – approximately 30 seconds
- Un-block brush roll - Re-connect Power – Motor and light should activate

Test Height Adjustment Mechanism

- Height of nozzle and indicator should change one position up then return one position down each time the pedal is depressed

Test neck release Mechanism

- Depress neck release pedal
- Assure that neck releases
- Place neck into the fully upright position and assure that neck automatically locks into place

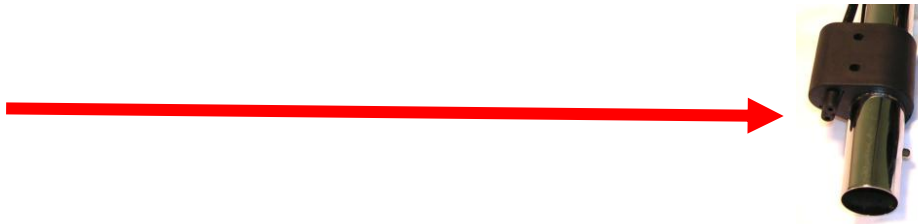
Test neck swivel/pivot function

- With neck released test that neck has ~90° unrestricted movement up and down
- With the neck released test that the neck has ~180° of rotation left to right

Troubleshooting

1) No Power to the nozzle

- a) Check with a Multi-Meter that there is a 120 volt power supplied at the end of the wand.

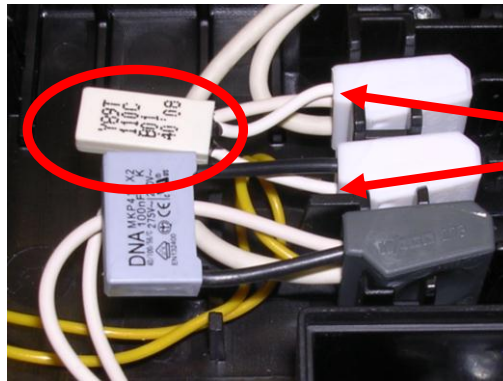


- b) Conduct a visual inspection to assure that there is no damage to the 2 pins in the neck assembly. The pins should be nearly flush to the top of the neck.



Replace neck assembly if damage is observed.

- c) Test PTC breaker. Breaker can easily be checked with a Multi Meter. Disconnect all power from nozzle. Simply check continuity of breaker. With power off there should be continuity through the breaker.



2) Powerhead does not pick-up debris

- a) Check airflow from vacuum
- b) Check nozzle for blockage
 - i) Visually inspect inside neck assembly
 - ii) Visually inspect air intake near the brush roller

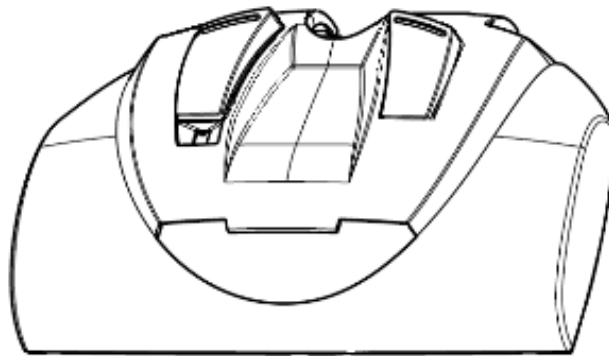
3) Motor Operates but brush does not turn

- a) Check condition of belt
- b) Replace if necessary

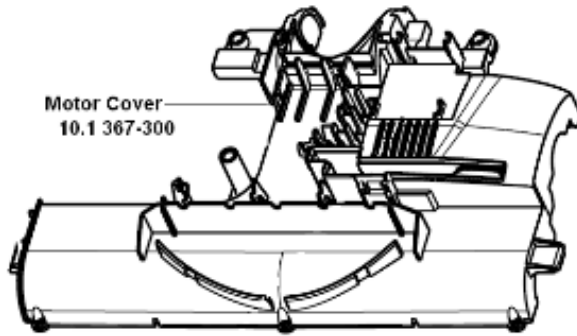
EBK 360



QDC Neck Complete
10.7 028-302



Cover Complete Light Grey
10.9 048-312



Motor Cover
10.1 367-300



Wire Coupler 19.1 063-300



Noise Reducer 19.1 041-301



Circuit Protector 19.1 071-301

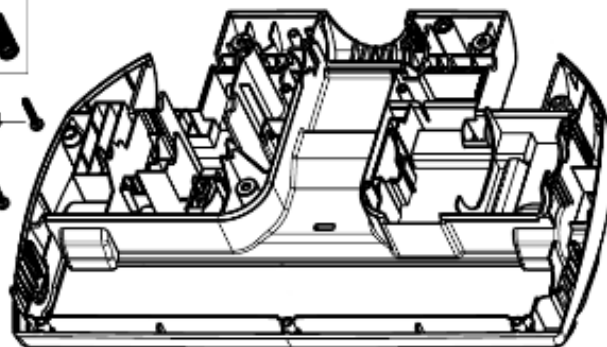


LED Light Bar Complete 10.4 104-300

Height Adjustment Assembly
10.9 048-309



Brush Roll Complete
10.9 048-302

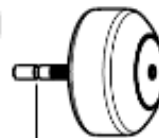


Motor Complete
10.9 048-314

Long Screw 09.1 003-304

Short Screw

Base assembly Complete



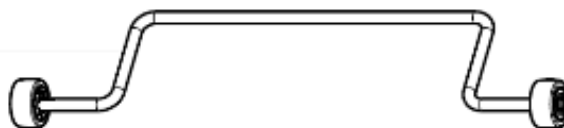
Rear Wheel
10.4 105-301

Axle-Rear
10.1 388-300

Wiper Blade
12.1 848-03



Front Wheels w/ Stirrup
10.9 048-315



Belt 19.1 016-300

EBK 360



<u>Description</u>	Part Number
Cover Complete-Light Grey	10.9 048-312
Cover Complete-Black	10.9 048-318
QDC Neck Complete	10.7 028-302
Brush Roll Complete	10.9 048-302
Height Adjustment Assembly	10.9 048-309
Base Assembly Complete - Black	10.9 048-319
Base Assembly Complete – Light Gray	10.9 048-313
Wiper Blade	12.1 848-06
Motor Complete 120V	10.9 048-314
Front Wheels with Stirrup	10.9 048-315
Wire Coupler	19.1 063-300
Noise Reducer / anti-interference capacitor	19.1 041-301
Circuit Protector	19.1 071-301
LED Light Bar Complete	10.4104-300
Axle - Rear	10.1 388-300
Wheel - Rear	10.4-105-301
Belt - Cogged	19.1 016-300
Motor Cover	10.1 367-300