



# 18V Li-Ion Brushless Angle Grinder 5" J系列锂电无刷角磨机 5"

51091C/51090C



中文

使用说明书

EN

OPERATION INSTRUCTION





# 电动工具的通用安全警告：

## 警告

阅读随电动工具提供的所有安全警告、说明、图示和规定。不遵照以下所列说明会导致电击、着火和/或严重伤害。

保存所有警告和说明书以备查阅。

警告中的术语“电动工具”是指市电驱动（有线）电动工具或电池驱动（无线）电动工具。

### a) 工作场地的安全

- 1) 保持工作场地清洁和明亮。杂乱和黑暗的场地会引发事故。
- 2) 不要在易爆环境，如有易燃液体、气体或粉尘的环境下操作电动工具。电动工具产生的火花会点燃粉尘或气体。
- 3) 操作电动工具时，远离儿童和旁观者。注意力不集中会使你失去对工具的控制。

### b) 电气安全

- 1) 电动工具插头必须与插座相配。绝不能以任何方式改装插头。需接地的电动工具不能使用任何转换插头。未经改装的插头和相配的插座将降低电击风险。
- 2) 避免人体接触接地表面，如管道、散热片和冰箱。如果你身体接触接地表面会增加电击风险。
- 3) 不得将电动工具暴露在雨中或潮湿环境中。水进入电动工具将增加电击风险。
- 4) 不得滥用软线。绝不能用软线搬运、拉动电动工具或拔出其插头。使软线远离热源、油、锐边或运动部件。受损或缠绕的软线会增加电击风险。
- 5) 当在户外使用电动工具时，使用适合户外使用的延长线。适合户外使用的电线将降低电击风险。

- 6) 如果无法避免在潮湿环境中操作电动工具，应使用带有剩余电流装置（RCD）保护的电源。RCD 的使用可降低电击风险。

注：术语“剩余电流装置（RCD）”可以用“接地故障电路断路器（GFCI）”或“接地泄漏电路断路器（ELCB）”术语代替。

### c) 人身安全

- 1) 保持警觉，当操作电动工具时关注所从事的操作并保持清醒。当你感到疲倦，或在有药物、酒精或治疗反应时，不要操作电动工具。在操作电动工具时瞬间的疏忽会导致严重人身伤害。
- 2) 使用个人防护装置。始终佩戴护目镜。防护装置，诸如适当条件下使用防尘面具、防滑安全鞋、安全帽、听力防护等装置能减少人身伤害。
- 3) 防止意外起动。在连接电源和/或电池包、拿起或搬运工具前确保开关处于关断位置。手指放在开关上搬运工具或开关处于接通时通电会导致危险。
- 4) 在电动工具接通之前，拿掉所有调节钥匙或扳手。遗留在电动工具旋转零件上的扳手或钥匙会导致人身伤害。
- 5) 手不要过分伸展。时刻注意立足点和身体平衡。这样能在意外情况下能更好地控制住电动工具。
- 6) 着装适当。不要穿宽松衣服或佩戴饰品。让你的头发和衣服远离运动部件。宽松衣服、佩饰或长发可能会卷入运动部件。
- 7) 如果提供了与排屑、集尘设备连接用的装置，要确保他们连接完好且使用得当。使用集尘装置可降低尘屑引起的危险。
- 8) 不要因为频繁使用工具而产生的熟悉感而掉以轻心，忽视工具的安全准则。某个粗心的动作可能在瞬间导致严重的伤害。

#### d) 电动工具使用和注意事项

- 1) 不要勉强使用电动工具，根据用途使用合适的电动工具。选用合适的按照额定值设计的电动工具会使你工作更有效、更安全。
- 2) 如果开关不能接通或关断电源，则不能使用该电动工具。不能通过开关来控制的电动工具是危险的且必须进行修理。
- 3) 在进行任何调节、更换附件或贮存电动工具之前，必须从电源上拔掉插头和 / 或卸下电池包（如可拆卸）。这种防护性的安全措施降低了电动工具意外起动的风险。
- 4) 将闲置不用的电动工具贮存在儿童所及范围之外，并且不允许不熟悉电动工具和不了解这些说明的人操作电动工具。电动工具在未经培训的使用者手中是危险的。
- 5) 维护电动工具及其附件。检查运动部件是否调整到位或卡住，检查零件破损情况和影响电动工具运行的其他状况。如有损坏，应在使用前修理好电动工具。许多事故是由维护不良的电动工具引发的。
- 6) 保持切削刀具锋利和清洁。维护良好地有锋利切削刃的刀具不易卡住而且容易控制。
- 7) 按照使用说明书，并考虑作业条件和要进行的作业来选择电动工具、附件和工具的刀头等。将电动工具用于那些与其用途不符的操作可能会导致危险情况。
- 8) 保持手柄和握持表面干燥、清洁，不得沾有油脂。在意外的情况下，湿滑的手柄不能保证握持的安全和对工具的控制。

#### e) 电池式工具使用和注意事项

- 1) 仅使用生产者规定的充电器充电。将适用于某种电池包的充电器用到其他电池包时可能会发生着火危险。
- 2) 仅使用配有专用电池包的电动工具。使用其他电池包可能会产生伤害或着火危险。
- 3) 当电池包不用时，将它远离其他金属物品，例如回形针、硬币、钥匙、钉子、螺钉或其他小金属物体，以防电池包一端与另一端连接。电池组端部短路可能会引起燃烧或着火。

- 4) 在滥用条件下，液体可能会从电池组中溅出，应避免接触。如果意外碰到液体，用水冲洗。如果液体碰到眼睛，还应寻求医疗帮助。从电池中溅出的液体可能会发生腐蚀或燃烧。
- 5) 不要使用损坏或改装过的电池包或工具。损坏或改装过的电池组可能呈现出无法预测的结果，导致着火、爆炸或伤害。
- 6) 不要将电池包暴露于火或高温中。电池包暴露于火或高于 130°C 的高温中可能导致爆炸。

#### f) 维修

- 1) 让专业维修人员使用相同的备件维修电动工具。这将保证所维修的电动工具的安全。
- 2) 决不能维修损坏的电池包。电池包仅能由生产者或者授权的维修服务商进行维修。

## 电钻安全警告：

当在钻削附件可能触及暗线或其自身导线的场合进行操作时，要通过绝缘握持面握持工具。钻削附件碰到带电导线会使工具外露的金属零件带电而使操作者受到电击。

## 标记



为减少伤害，用户应仔细阅读说明书



禁止置于雨或水中



警告标记



禁止置于火中



请戴防护耳罩



请勿丢弃电池，将废旧电池送回到你当地收集或回收点回收



请戴防护眼镜



该产品包含有某些有毒有害物质，在环保使用期限内可以放心使用，超过环保使用期限之后则应该进入回收循环系统。



请戴防尘面具



仅在室内使用

## 产品中有毒有害物质或元素的名称及含量

部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
外壳的金属部分	○	○	○	○	○	○
外壳的非金属部分	○	○	○	○	○	○
机械传动机构	×	○	○	○	○	○
电机组件	×	○	○	○	○	○
控制组件	×	○	○	○	○	○
附件	○	○	○	○	○	○
配件	○	○	○	○	○	○
连接件	×	○	○	○	○	○
电源线 * ①	○	○	○	○	○	○
电池系统 * ②	×	○	○	○	○	○

本表格依据 SJ/T11364 的规定编制。

○：表示该有害物质在该部件所有均质材料中的含量均在 GB/T 26572 规定的限量要求以下。

×：表示该有害物质至少在该部件的某一均质材料中的含量超出 GB/T 26572 规定的限量要求。

且目前业界没有成熟的替代方案，符合欧盟 RoHS 指令环保要求。

\* ①适用于采用电源线连接供电的产品。

\* ②适用于采用充电电池供电的产品。

产品环保使用期限内的使用条件参见产品说明书。

### 随机附件

机器型号	内容	数量
51091C / 51090C	5.0 安时锂电 电池包	1
	4.0A 充电器	1

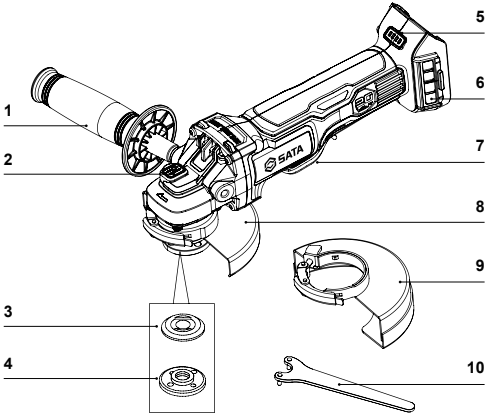
充满一个 5.0Ah 电池包约 80 分钟

充满一个 2.5Ah 电池包约 40 分钟

我们建议您从所购买电动工具的商店选配您的附件。请使用有知名品牌的高质量附件。请选择适合您工作所需的正确附件。请参考附件包装，您将获得附件使用的更多的方法及帮助。

### 机器规格

机器型号	51091C	51090C
电压	18 V	
空载转速	8000 转 / 分钟	
主轴尺寸	M14	
砂轮直径	100 毫米	125 毫米
砂轮护罩直径	112 毫米	138 毫米
机器重量	2.3 千克	
电池容量	5000 毫安时	
充电时间	80 分钟	



### 机件:

1. 副手柄
2. 主轴锁定
3. 内压板
4. 外压板
5. 电量指示
6. 防尘盖
7. 长柄开关
8. 磨片防护罩
9. 切片防护罩
10. 扳手

## 操作指南



注意：使用机器前，请仔细阅读说明书。

### 使用之前

#### 1) 充电

本充电器和机器需配套使用，严禁使用其他充电器。

本机器内设保护线路，当电池电量不足时，保护线路开启，机器停止转动。

在温度较高的环境中或者长时间使用后，机器可能会发烫，这时请不要立即充电，待电池冷却后再充电，否则将缩短电池的使用寿命或者因电池过热导致无法充电。

机器首次充电时或者长时间不用后，第一次充电器效率可能只能达到 60% 左右，需经 2-3 次的充放电之后，电池效率方可达到 100%。

#### 2) 安装 / 拆除电池包 (见图 A)

要取出电池包时，按下电池包前面的锁钮，然后将其拉出。要插入电池包时，只要将其轻推入机器即可。切忌用力过猛。

### 装配



警告

在安装或者更换附件时，必须关掉开关，取下电池包，否则可能会造成严重的身体伤害。

#### 1. 安装侧手柄 (图 B)



注意

操作前请务必牢固安装侧把手

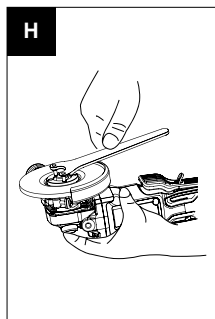
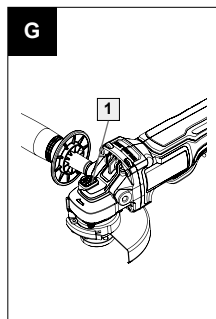
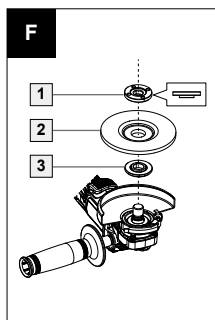
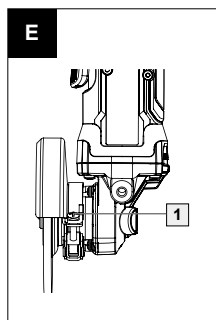
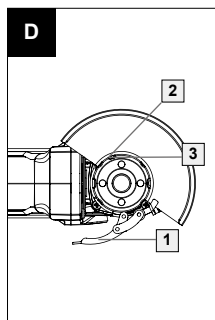
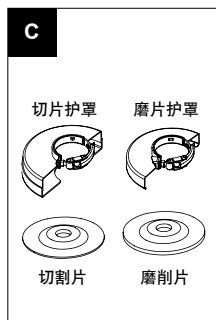
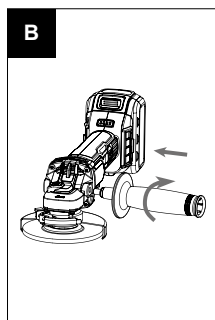
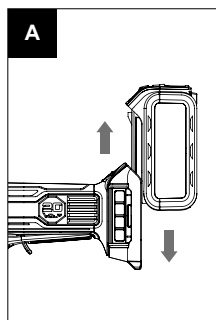
将侧手柄正对齿轮箱上螺纹孔，顺时针旋转，直到侧手柄拧紧；

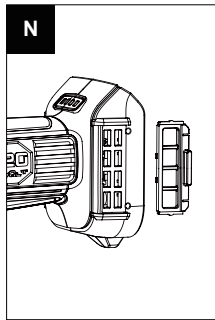
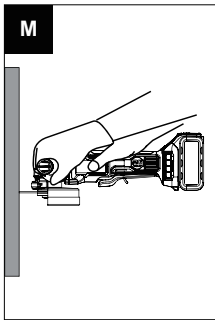
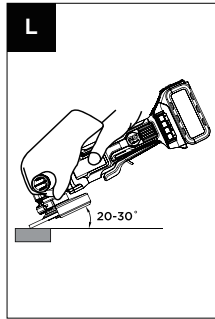
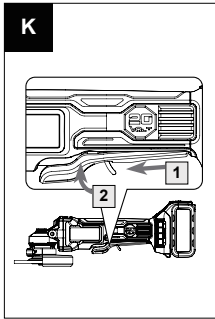
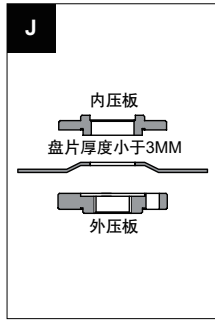
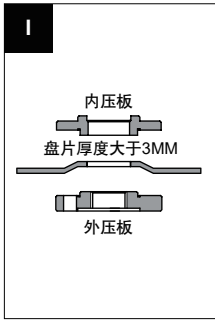
#### 2. 安装护罩和砂轮片 (图 C)



警告

切割砂轮片配全封闭护罩，磨削砂轮片配半封闭护罩。而且砂轮片直径与护罩直径规格必须匹配。





## 护罩的安装和拆卸 (图 D)

### 警告

当使用工具时，砂轮罩必须安装在工具上，而且确保砂轮罩的封闭侧始终朝向操作员所在位置

### 护罩的安装：

第一步：打开护罩锁扣 (1) ；

第二步：将护罩上的凸点 (2)，对准齿轮箱上的缺口；

第三步：向下压护罩，直到护罩套进齿轮箱，凸点 (2) 进入齿轮箱上的凹槽内 (3) ；

第四步：将护罩旋转到输出轴与操作者之间，选择合适的角度以后，锁紧锁扣 (1) 。

### 护罩的调整： (图 E)

护罩在出厂时，已经预调整到可以锁紧的位置，如果使用一段时间后，护罩变松，可以在护罩锁紧状态下，拧紧图示中的螺钉 (1) 。

### 护罩的拆卸：

与护罩安装相反顺序操作：先松开锁扣，旋转护罩，将护罩上的凸点对正齿轮箱上的缺口，垂直向上拉出护罩。

## 砂轮片的安装与拆卸 (见图 F.G.H)

### 警告

当工具上装有砂轮片时，请务必使用提供的砂轮罩，在使用中砂轮可能会粉碎，砂轮罩可帮助降低人员伤害的危险

### 砂轮片安装：

第一步：关掉开关，拔出电池包

第二步：将没有螺纹的内压板装在主轴上，有台阶一侧向下，卡在主轴上；

第三步：将砂轮片装在内压板上

第四步：将带有螺纹的外压板顺时针旋入主轴

第五步：按住主轴锁定按钮 (图 G 中的 1)，防止主轴转动，用锁紧扳手将外压板顺时针方向拧紧 (图 H)



## ⚠ 注意

(见图 I.J)

砂轮片厚度大于 3mm 时，外压板有中心凸台的一侧与砂轮片接触压紧；砂轮片厚度小于等于 3mm 时，外压板有中心凹槽的一侧与砂轮片接触压紧。

砂轮片的拆卸：

## ⚠ 警告

只有在主轴停止转动时方可使用轴锁。

在确认关机和拔出电池包后，按照相反的顺序重复以上操作。

## 操作

### ⚠ 警告

操作工具时切勿用强力，过分施压会导致砂轮破损发生危险。

如果在工具作业时发生工具掉落，一定要更换砂轮。

切勿用磨盘或砂轮敲击工件。

应避免发生砂轮弹跳和受阻现象，以防砂轮失控而反弹，特别是在进行角部或锐边等的加工作业时。

本工具严禁使用锯木锯片和其他锯片。角磨机使用这些锯片，会频繁弹起，易发生失控，造成人身伤害事故。

### ⚠ 注意

单次切割的最大深度为 5 毫米。调整工具上的压力，使工具在操作中不会减慢速度。

操作完毕后，一定要关闭工具，等到砂轮完全停止转动后再把工具放下。

当工具连续运转至电池电量耗尽，请将工具搁置 15 分钟后再更换新电池包运行。

## 3. 开关 (见图 K)

握紧机器及副把手，向前推动锁钮 (1)，然后按下开关扳机，机器将启动。

## 4. 软启动

机器有软启动功能，启动以后，机器速度逐渐升高，直到最大转速，增加开机启动的舒适性。

## 5. 电子刹车

在机器运行过程中，释放开关时，电子刹车会启动，通常情况下 2S 左右机器会停止，偶尔停机时间大于 2S 属于正常。

## 6. 磨削操作 (图 L)

### ⚠ 注意

根据被加工件材料，选择不同材质的砂轮片，同时采用推荐的砂轮片直径，砂轮片能承受的转速必须大于 13000 转 / 分。内孔能与压板无缝隙安装。保持工作环境和工件整洁，可视性好。

将一只手放在外壳上，另一只手放在侧把手上握紧工具，启动工具，等待工具达最大转速时，慢慢将砂轮片置于工件上，然后以平稳的速度移动砂轮片。

通常砂轮片的边缘应与工件表面保持约 20 度的角度。结束工作时，机器先离开工件，再释放开关。

### ⚠ 注意

如果在工件表面一个地方磨削时间太久，或者机器与工件之间角度太大，会在工件表面磨出凹槽。

### ⚠ 警告

工作时，不要用过渡挤压砂轮片或者施压机器，否则砂轮片有破裂伤人的风险；

一定要使用随机的磨削用砂轮护罩，不能用切割护罩或者不带护罩；

切勿将切割砂轮片用于磨削工作。

## 7. 切削操作 (见图 M)

### ⚠ 注意

根据被加工件材料，选择不同材质的砂轮片，同时采用推荐的砂轮片直径，砂轮片能承受的转速必须大于 13000 转 / 分。内孔能与压板无缝隙安装。保

持工作环境和工件整洁，可视性好。

将一只手放在外壳上，另一只手放在侧把手上握




紧工具，启动工具，等待工具达最大转速时，慢慢将砂轮片接触工件，施加轻微的力气，可以适当提高切割效率。

一旦切口形成，不要再改变切割角度，否则砂轮片易变形、破裂，有伤人危险。

结束工作时，机器先离开工件，再释放开关。

## 9. 电池电量指示

按下机器开关，电量指示灯亮 5 秒，可按照下表判断电池包剩余电量。

LED 灯显示	剩余电量
	0-25%
	25-50%
	50-75%
	75-100%

### 警告

请勿挤压砂轮片或者过渡施压。请勿试图切割过深，会使负载增加，使砂轮在切割时易于扭曲或粘留，也使发生反弹或砂轮破损的可能性增大，可能会导致砂轮破损和电机过热。

一定要使用随机的切割用砂轮护罩，不能用磨削护罩或者不带护罩；

切勿将切割砂轮片用于磨削工作。

切勿在工件中启动切割操作。请让砂轮到达全速时再小心地将其插入切割工件的表面，如果电动工具在工件中启动则砂轮可能会粘留、移动或反弹。

在切割操作时切勿改变砂轮的角度。对切割砂轮施以侧压将导致砂轮裂开和破损，从而导致严重的人身伤害。

## 8. 空气过滤网（图 N）

为了防止碎屑或杂物进入机器内部，在进风口位置有过滤网，机器在长时间使用或放置后，请下拉拆卸清理。

## 问题解答：

### 1、为什么按压开关而机器却不运转？

检查电池包电量是否太低。

检查电池包是否安装不到位。

### 2、为什么在还未拧紧时，机器就停止运转？

机器带有低压保护，在电池包电量过低时，机器不能工作，请确认电池包电量。

本机带有温度保护，当长时间满负荷工作时，电池包会过热，温保系统会启动导致机器停止运转，请将机器冷却到常温后再继续使用。

本机带有过载保护。当压力过大，超过负载时，机器会自动保护，停止工作。

## 警告

请保持开机时砂轮片悬空，不与工件接触，否则会造成砂轮片损坏、机器反弹。

### 3、为什么同一个电池包的工作时间会有长有短？

一个电池包如果放置时间过长而不使用的话，就会缩短其工作时间，这就是充电次数问题。在经过几次充电和使用之后，这种状况就会得到改善。在干重活时，电池包的电量也会消耗的很快。不要在 0℃ 以下或 35℃ 以上的环境里充电，这同样会影响到电池包的工作表现。

## 保养与维护

对机器作任何换修工作之前，请务必先拔出插头。

您的电动工具不需要再添加润滑油或进行其它保养。不要用水或化学清洗剂来清洗你的电动工具，用干布擦拭干净就可以了。工具需储藏在干燥的环境中，并保持马达通风口处的清洁。尽量不要在灰尘较大的环境中使用。

为了有利于与电池包寿命，请注意：

- 1) 电池包存放：将电池包充电 30%-50% 电量，存放在 26℃ 以下环境中。
- 2) 不超过 6 个月时间，将电池包充满电使用一次。

## 废弃电池包的处理



为保护自然环境，请妥善回收或处理电池包。该电池包含有锂电池。请向当地废物处理部门咨询有关回收和（/或）处理的信息。通过使用手电钻把电池包电量耗尽，卸下电池包，用结实的胶带包裹好极片端口，避免短路和漏电。请勿试图打开或拆取任何部件。

## 环境保护



### 处理废弃物

为了响应环保，对于坏损的机器、配件及包装材料必须详细加以分类处理，以便利于回收。

为方便分类回收，各塑胶部位都做有材料标识。

## GENERAL SAFETY WARNING OF ELECTRIC TOOL:

### WARNING

Read all safety warnings, instructions, diagrams and regulations provided with the electric tool. Failure to follow the instructions listed below may result in electric shock, fire and/or serious injury.

#### Keep all warnings and instruction for review.

"Electric tool" in the warnings refers to the electric tool driven by mains supply (wired) or the battery (wireless).

#### a) Workplace safety

**1) Keep the work area clean and bright.**

Disordered and dark site may cause accidents.

**2) Do not operate the electric tool in the explosive environment such as the flammable liquid, gas or dust.** The spark generated by the electric tool will ignite the dust or gas.

**3) Keep away from children and bystanders when operating the electric tool.**

Inattention may cause you to lose control of tool.

#### b) Electrical Safety

**1) Plug of electric tool shall be supported by the socket. Never modify the plug in any way.** Any change-over plug shall not be used for the electric tool to be grounded. Unmodified plug and corresponding socket will reduce the risk of electric shock.

**2) Do not contact the grounded surface such as the pipe, cooling fin and refrigerator.** If your body is grounded, the risk of electric shock will increase.

**3) Do not expose the electric tool to the**

**rain or moisture.** Water entering the electric tool will increase the risk of electric shock.

**4) Do not abuse the cord. Never carry, pull the electric tool with cord or pull out its plug. Keep the cord away from heat source, oil, sharp edges or moving parts.** Damaged or entangled cords may increase the risk of electric shock.

**5) For the outdoor application, an extension cord for outdoor use shall be used.** A cord suitable for outdoor will reduce the risk of electric shock.

**6) If it is inevitable to operate the electric tool in the humid conditions, the residual current device (RCD) shall be used.** RCD is able to reduce the risk of electric shock.

**Note:** "residual current device (RCD)". may be replaced by the "ground fault circuit interrupter (GFCI)" or "earth leakage circuit breaker (ELCB)".

#### c) Personal safety

**1) Keep alert and awake when operating the electric tool. Do not operate the electric tool when you are tired or have medication, alcohol or a therapeutic response.** Instantaneous negligence in the operation of electric tool may result in serious personal injury.

**2) Wear the personal protective equipment. Always wear the goggles.** Protective devices, such as the dust mask, anti-slip safety shoes, helmet, listening protection, etc., are able to reduce the personal injury.

**3) Prevent the accidental starting. Make sure that the switch is turned off when connecting the power supply and/or battery box, picking up or carrying the**

**tool.** Putting the finger on the switch or powering on when the switch is turned on may result in the danger.

- 4) **Remove all adjustment keys or wrenches before turning on the electric tool.** A wrench or key left on the rotating part of electric tool may cause the personal injury.
  - 5) **Do not stretch your hands excessively. Always pay attention to the foothold and body balance.** This provides excellent control of electric tool in unexpected situations.
  - 6) **Dress properly. Do not wear loose clothing or jewelry. Keep your hair and clothes away from moving parts.** Loose clothes, accessories or long hair may get caught in moving parts.
  - 7) **If a device for connecting the chip conveyor and dust collector is provided, make sure that they are connected well and used properly.** Dust collector is able to reduce the risk of dust.
  - 8) **Don't take it lightly because of the familiarity of tool, and ignore the safety guidelines of tool.** A careless action may cause the serious injury in an instant.
- d) **Use and precautions of electric tool**
- 1) **Do not use the improper electric tool and select the appropriate electric tool according to the application.** The electric tool appropriately designed according to the rated value will make your work more efficient and safer.
  - 2) **The electric tool shall not be used if the switch is unable to turn on/off the power.** Electric tools that cannot be controlled with switches are dangerous and shall be repaired.
  - 3) **Before making any adjustments,**
    - replacing the accessories or storing the electric tool, remove the plug from the power supply and/or disengage the battery box (if possible). This protective safety measure reduces the risk of accidental starting of the electric tool.
  - 4) **Place the unused electric tool outside the reach of children, and do not let the electric tool operated by the people who are not familiar with the electric tool or who do not understand these instructions.** The electric tool is a potential threat in the hands of untrained users.
  - 5) **Maintenance of electric tool and its accessories** Check whether the moving parts are in place or stuck, check the parts for damage and other conditions that affect the operation of electric tool. The damaged electric tool shall be repaired before use. Many accidents are caused by poorly maintained electric tools.
  - 6) **Keep the cutting tool sharp and clean.** Well-maintained tools with sharp cutting edges are not easy to get stuck and easy to control.
  - 7) **Use the electric tool, accessories, cutter bit, etc. in accordance with the instructions, taking into account the operating conditions and works to be performed.** Applying the electric tool for operations that do not match the purpose may be dangerous.
  - 8) **Keep the handle and grip surface dry and clean and free from grease.** In case of accident, the slippery handle can not guarantee the gripping safety and the control of tool.

## e) Use and precautions of battery tool

- 1) Charge the battery only with the charger specified by the manufacturer.** Unmatched charger and battery pack may cause the risk of fire.
- 2) Use the electric tool only if a dedicated battery pack is provided.** Unmatched battery pack may cause the risk of damage and fire.
- 3) When the battery pack is not in use, keep it away from other metal objects, such as the clip, coin, key, nail, screw or others, to prevent one end from being connected to the other end.** A short circuit at the end of battery may cause a fire.
- 4) The abuse will make the liquid splash out of the battery. Therefore, the exposure shall be avoided.** In case of accidental exposure, rinse it with water. In case of splash into the eye, seek the medical assistance. Liquid spilled from the battery may cause the corrosion or burning.
- 5) Do not use damaged or modified battery packs or tools.** Damaged or modified battery packs may present the unpredictable results, causing the fire, explosion or injury.
- 6) Do not expose the battery pack to fire or heat.** Battery pack exposed to fire or high temperatures above 130 °C may cause an explosion.

## f) Repair

- 1) Have the qualified maintenance personnel to repair the electric tool with the same spare parts.** This will ensure the safety of the electric tool being repaired.
- 2) Never repair a damaged battery pack.** The battery pack can only be repaired

by the manufacturer or an authorized service provider.

## SAFETY WARNING OF DRILL:

If the drilling accessories may touch the concealed wire or its own wire, hold the tool at the insulating grip surface. The drilling accessories touching the live wire may cause the exposed metal parts of tool to be electrified to shock the operator.

**MARK**



To reduce the damage, the user shall read the warning marks in instructions carefully



Do not place it in the fire



Warning marks



Do not discard the battery and return the used battery to the local collection or recycling point.



Please wear the earmuffs



It may be recycled and shall not be discarded at will. The battery pack contains certain toxic and harmful substances, and may be used safely during the environment-friendly use period. After the above period is expired, it shall be put into the recycling system.



Please wear the protective glasses



Please wear the dust mask

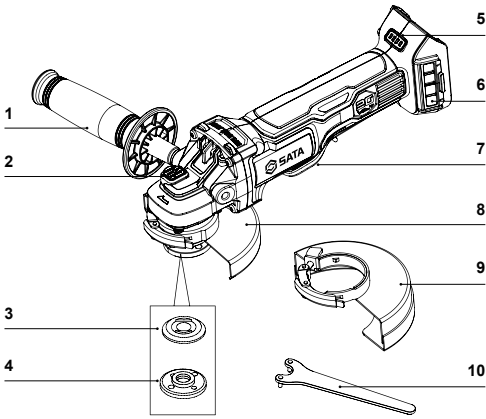


Only for indoors



Do not place the machine in the rain or water





### Machine part:

1. Auxiliary handle
2. Spindle lock
3. Inner pressure plate
4. External pressure plate
5. Battery level indication
6. Dust cover
7. Long handle switch
8. Guard
9. Guard
10. Wrench

### Accompanied accessories:

Model	Content	Quantity
51091C/ 51090C	5.0 Ah Li-ion battery pack	1
	4.0A charger	1

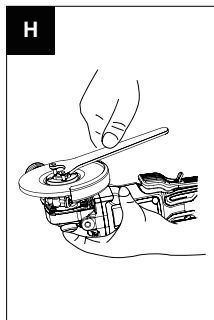
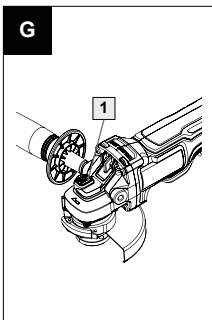
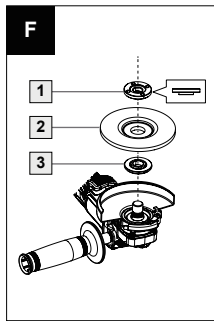
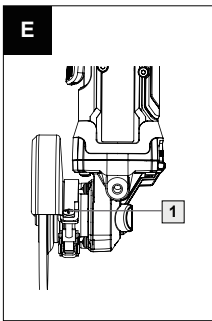
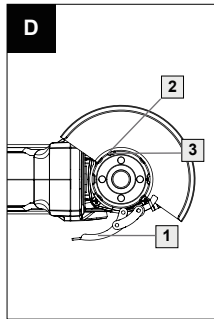
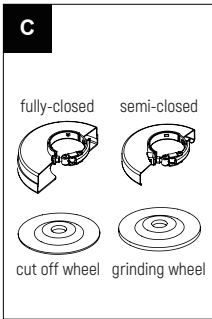
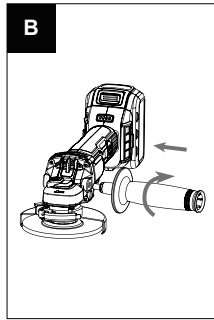
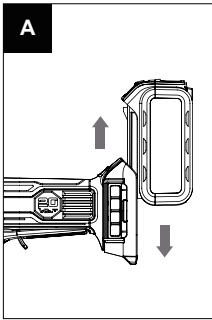
Charging duration of 5.0A battery pack: about 80min

Charging duration of 2.5A battery pack: about 40min

We recommend that you choose the accessories from the store where you purchased the electric tool. Please use the high-quality accessories from the well-known brands. Please choose the right accessory for your job. Please refer to the accessory package and you will get more methods and help for using the accessory.

### Specification

Model	51091C	51090C
Voltage	18V $\text{---}$	
No-loading speed	8000 rev/min	
Spindle size	M14	
Wheel diameter	100mm	125mm
Guard diameter	112mm	138mm
Machine weight	2.3kg	
Battery capacity	5000mAh	
Recharge time	80min	



## OPERATION GUIDELINE



**Caution:** Please read the instruction carefully before operating the machine.

### Before the use

#### 1) Charging

This charger and machine shall be used together. Do not use other chargers.

The machine has a protection circuit. When the battery is low, the protection circuit is turned on and the machine stops rotating.

The machine may become hot under the high temperatures or after a long period of operation. At this time, do not charge immediately but wait until the battery is cooled. Otherwise, the service life of battery will be shortened or the charging failure may be caused due to overheating.

For the first charging or after a long period of storage, the efficiency of first charging may only reach about 60%. After 2-3 charging and discharging cycles, the battery efficiency may reach 100%.

#### 2) Installation and removal of battery pack (see Figure A)

Press the lock buttons on both sides of battery pack and pull it out. To insert the battery pack, simply push it into the machine. Avoid the excessive force.

## ASSEMBLY

### ⚠ WARNING

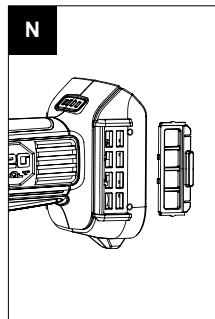
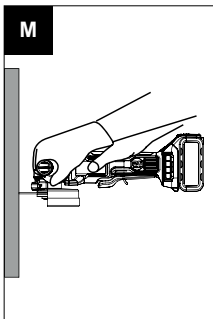
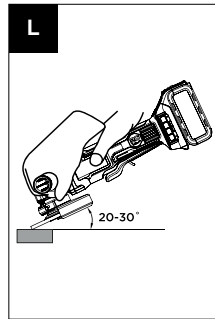
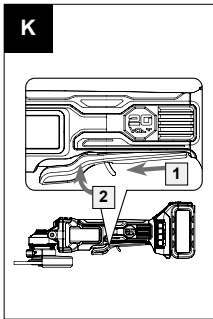
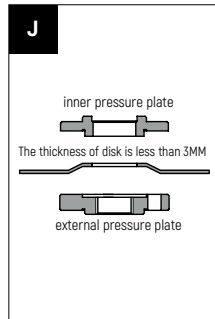
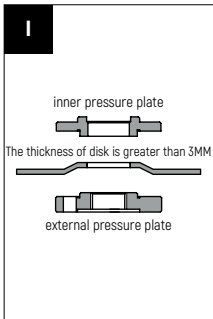
When installing or replacing the accessories, turn off the switch and remove the battery pack. Otherwise the serious injury may occur.

#### 1. Installation of side handle (Figure B)

### ⚠ NOTE

Be sure to install the side handle securely before operation.

Align the side handle with the threaded hole in the gearbox and turn them clockwise until the side handle is tightened;



## 2. Installation of shield and wheel (Figure C)

### **⚠ WARNING**

The cut-off wheel is equipped with a fully-closed shield and the grinding wheel blade is equipped with a semi-closed shield. Moreover, the diameter of wheel shall match that of shield.

### Installation or removal of shield (see Figure D)

### **⚠ WARNING**

When the tool is used, the shield shall be mounted on the tool and the closed side of shield shall always face the operator!

#### Installation of shield:

Step 1: open the shield lock (1);

Step 2: Align the bump (2) on the shield with the notch on the gearbox;

Step 3: Press down the shield until the shield is inserted into the gearbox, and the bump (2) is engaged in the groove on the gearbox (3);

Step 4: Rotate the shield between the output shaft and the operator. Select an appropriate angle, and then lock the buckle (1).

#### Adjustment of shield: (Figure E)

When the shield is delivered, it has been pre-adjusted to a position where it can be tightened. If the shield becomes loose after a period of use, tighten the screw (1) in the figure with the shield tightened. Removal of shield:

In reverse order of installation: first loosen the buckle, rotate the shield, and align the bump on the shield with the notch on the gearbox and pull out the shield vertically.

Installation and removal of wheel (see Figure F.G.H)

### **⚠ WARNING**

When the tool is equipped with a wheel, be sure to use the wheel shield. The wheel may be crushed during use. The shield may help reduce the risk of personal injury.

#### Installation of wheel:

Step 1: Turn off the switch and pull out the battery pack

Step 2: Install the inner pressure plate without thread on the spindle, with a side with step downwards, and get it caught on the spindle

Step 3: Install the wheel on the inner pressure plate

Step 4: Drive the threaded outer pressure plate clockwise into the spindle

Step 5: Press and hold the spindle lock button (1 in Figure G) to prevent the spindle from rotating. Tighten the outer pressure plate clockwise with the locking wrench(Figure H).

#### NOTE

(See Figure I.J)

When the thickness of wheel is greater than 3 mm, the side of outer pressure plate with the center boss is in contact with the wheel: when the thickness of wheel is less than or equal to 3 mm, the side of the outer pressure plate with the center groove is in contact with the wheel.

#### Removal of wheel:

#### WARNING

The axis lock can only be used when the spindle stops rotating.

After confirming the shutdown and unplugging the battery pack, repeat the above steps in reverse order.

### OPERATION

#### WARNING

Do not operate the tool too hard. Excessive pressure may cause damage to the wheel.

If the tool falls during the operation, be sure to replace the wheel.

Never hit the workpiece with a backing pad or grinding wheel.

The bounce and blockage of wheel shall be avoided to prevent the wheel from rebounding, especially for the processing of corner or sharp edge. Timber saw blade and other saw blades are strictly prohibited. The angle grinder with these saw blades will frequently bounce up, and it is prone to runaway and cause personal injury.

#### NOTE

The maximum cutting depth is 5mm. Adjust the pressure on the tool so that the tool does not slow down during operation.

After the operation, be sure to close the tool and lower the tool only after the wheel has completely stopped.

When the tool keeps operating until the battery is exhausted, leave the tool for 15 min before replacing the new battery pack.

### 3. Switch (see Figure K)

Grasp the machine and the auxiliary handle, push the lock button (1) forward, and then press the switch trigger to start the machine.

### 4. Soft start

The machine has a soft start function. After the start, the speed of machine gradually increases until the maximum rotating speed. The comfort of start is improved.

### 5. Electronic brake

During the operation, when the switch is released, the electronic brake will start. Normally, the machine will stop in 2S, and occasionally it may be greater than 2S.

### 6. Grinding operation (Figure L)

#### NOTE

According to the material of workpiece, the wheel of different material shall be selected, and the recommended diameter is adopted. The maximum rotating speed of wheel shall be more than 13000 rpm. The inner hole shall fit the pressure plate tightly. Keep the working environment and workpiece clean and tidy.

Place one hand on the outer casing, and the other on the side handle, hold and start the tool, wait for the tool to reach the maximum rotating speed, slowly place the wheel on the workpiece, and then move

the wheel smoothly.

Usually the edge of wheel shall be at an angle of about 20 degrees to the surface of workpiece. When the work is finished, separate the machine from the workpiece and then release the switch.

**NOTE**

If the grinding lasts too long at one place on the surface of workpiece, or if the angle between the machine and workpiece is too large, the groove will be ground on the surface of workpiece.

**WARNING**

During the operation, do not squeeze the wheel or press the machine excessively. Otherwise the wheel has the risk of rupture and may cause the injury; Always use the accompanied guard, and do not use the guard or be sure to carry the guard; Never use the cut-off wheel for grinding.

## 7. Cutting operation (see Figure M)

**NOTE**

According to the material of workpiece, the wheel of different material shall be selected, and the recommended diameter is adopted. The maximum rotating speed of wheel shall be more than 13000 rpm. The inner hole shall fit the pressure plate tightly. Keep the working environment and workpiece clean and tidy.

Place one hand on the outer casing, and the other on the side handle, hold and start the tool, wait for the tool to reach the maximum rotating speed, slowly place the wheel on the workpiece, and exert a slight force to improve the cutting efficiency.

Once the incision is formed, do not change the cutting angle. Otherwise, the wheel will be easily deformed and broken, causing a risk of injury.

When the work is finished, separate the machine from the workpiece and then release the switch.

**WARNING**

Do not squeeze the wheel or apply an excessive pressure. Avoid the deep cutting, which will increase the load, make the wheel easy to twist or stick and

increase the possibility of rebound or damage to the wheel. The wheel may break and the motor may overheat.

Always use the accompanied guard, and do not use the guard or be sure to carry the guard;

Never use the cut-off wheel for grinding.

Never initiate a cutting operation in the workpiece. Please carefully insert the wheel into the surface of cutting workpiece after it reaches the full speed. If the electric tool starts in the workpiece, the wheel may stick, move or rebound.





Do not change the angle of wheel during the cutting operation. Applying a side pressure to the cut-off wheel will cause the wheel to crack and break, resulting in the serious personal injury.

## 8. Air filter net (Figure N)

To prevent the debris from entering the inside of machine, a filter net is set at the air inlet. After the machine is used or stored for a long time, please pull it down and clean it.

## 9. Battery level indication

When the machine switch is pressed, the battery indicator will stay on for 5s. The remaining capacity of battery pack may be determined according to the following table.

LED display	Remaining battery
	0-25%
	25-50%
	50-75%
	75-100%

## QUESTION AND ANSWER:

### 1. Why does the machine not operate after the switch is pressed?

Check if the level of battery pack is too low

Check if the battery pack is installed properly.

### 2. Why does the machine stop when it is not tightened?

The machine has low-voltage protection. When the level of battery pack is too low, the machine will not work. Please confirm the level of battery pack.

The machine has temperature protection. When the battery is working at full load for a long time, the battery pack will overheat and the temperature protection system will start to stop the machine. Cool the machine to normal temperature before resumption.

The machine is equipped with overload protection. When the load is excessive, the protection system will start. Stop working.

## WARNING

Please keep the wheel floating when the machine is turned on and not touch the workpiece. Otherwise, the wheel will be damaged and the machine will rebound.

### 3. Why is the service life of same kind of battery pack is different?

If a battery pack is left unused for a long time, its service life may be shortened. This is the matter of charging frequency. Repeated charging and application may improve the situation. In case of heavy work, the battery pack will run out soon. Do not charge in a temperature below 0 °C or above 35 °C. Otherwise, the performance of battery pack will be affected.

## MAINTENANCE

### Be sure to pull off the plug before repairing or replacing the machine.

The electric tool does not require additional lubrication or other maintenance. Do not wash the electric tool with the water or chemical cleaner. Wipe it off with a dry cloth. Tool shall be stored under the dry conditions and kept clean at the vent of motor. Try not to use it in a dusty environment.

To prolong the service life of battery pack:

- 1) Store the battery pack below 26 °C after charging it to 30%-50%.
- 2) Charge the battery pack fully once in less than 6 months.

## DISPOSAL OF DISCARDED BATTERY PACK



To protect the natural environment, please recycle or dispose of the battery pack properly. The battery pack contains a Li-ion battery. Please consult the local waste disposal department for the information on recycling and/or disposal. Exhaust the battery pack with the hand drill, remove the battery pack, and wrap the pole port with strong tape to avoid the short circuit and leakage. Do not attempt to open or remove any part.

## ENVIRONMENTAL PROTECTION



The damaged machine, accessories and packaging materials shall be classified in detail for recycling in line with environmental protection requirements.

All plastic parts are marked with material identifications to facilitate the classification and recycling.

适用型号/Model  
版本号/Version No

51091C/51090C  
V-SC-5109NC-202104

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