## RIDGID® 工具保证

### 保证内容

艾默生管道工具（上海）有限公司对其产品的生产工艺及物料质量提供保证，但因非生产工艺或物料引起的任何问题除外。

### 保证时效及范围

艾默生管道工具（上海）有限公司对在中国大陆购买并使用的电动液压电缆工具产品提供有限保证，具体为：

- 电动电缆液压工具(例如电缆三合一工具),保证期为两年。
- 保证期内的保养（每32000次需要一次保养）为有偿付费项目。
- 上述产品保证期限均自购买之日起开始计算（以经销商开具的原始有效销售发票为准）。

### 非保证范围

由于不遵守操作说明、不正确使用、异常的环境条件、不适当的操作条件、使用非原装附件、部件或零件所造成的损坏，以及易损件（诸如刀片、模头、液压密封圈、液压油和充电电池等）等情况不在本保证之内。艾默生管道工具（上海）有限公司不承担任何非产品缺陷所致损失。

### 维修服务

经艾默生管道工具（上海）有限公司专业鉴定，用户就保证范围内产品享有维修服务：

- 在保证期内，对属于物料瑕疵或生产工艺缺陷的产品予以免费维修；如果产品在保证期内经过三次维修后仍无法正常使用，则予以更换相同或同类产品（同类产品如有价差，多退少补）。
- 对因非物料瑕疵或生产工艺缺陷的产品予以收费维修。
- 所有超出保证期的产品均为收费维修。

### 获得维修服务的方法

需自费将完整的产品送至艾默生管道工具（上海）有限公司当地代理商或者艾默生管道工具（上海）有限公司所核定的服务中心，并出示原始发票以供核对（收费维修的产品除外）。

### 法律保障

用户有权得到中国大陆相应的明确的法律保护。

### 无其它的保证

除本保证外，任何员工、代理商、经销商或其他任何人员均无权代表艾默生管道工具（上海）有限公司改变本保证或提供其它保证。

### 艾默生管道工具（上海）有限公司对以上保证条款持有最终解释权。

## RIDGID® Tool Warranty

### What Is Covered

RIDGID® tools are warranted to be free of defects in workmanship and material. Warranty coverage ends when the product becomes unusable for reasons other than defects in workmanship or material.

### How Long The Coverage Lasts

Emerson Professional Tools (Shanghai) Co., Ltd. provides the following limited warranty for its power hydraulic cable tools purchased in mainland China:

- 2 years warranty for power hydraulic cable tool (such as 3 in 1 cable tool).
- Paid life maintenance service during warranty period (need life maintenance after every 32,000 times of use).
- The warranty period of the above product is calculated upon the date of purchase (based on the original valid invoice issued by dealer).

### What Is Not Covered

Failures due to misuse, abuse, abnormal environment, improper operation conditions, use of non-original attachments, parts or components, as well as consumable parts (such as blade, die head, hydraulic seal, hydraulic oil and rechargeable battery) are not covered by this warranty. Emerson Professional Tools (Shanghai) Co., Ltd. shall not be responsible for any loss caused by reasons other than product defects.

### Repair Service

Customers are entitled to the following repair service after professional evaluation by Emerson Professional Tools (Shanghai) Co., Ltd.:

- Free repair for products with defects in workmanship and material during warranty period; if after three attempts to repair during the warranty period the product is still defective, you can choose to replace the product or select a product in the same category (if there is a price difference of product in the same category, the balance will be paid).
- Paid repair for products with issues other than defects in workmanship and material.
- Paid repair for products out of warranty period.

### How To Obtain Service

To obtain the benefit of this warranty, deliver the complete product at your own cost to our local agent or service center approved by us, original invoice of your product shall be presented for check (excluding products need paid repair service).

### How Local Laws Relate To The Warranty

Customers are protected by the relevant laws in mainland China.

### No Other Express Warranty Applies

In addition to this warranty, no employee, agent, dealer, or other person is authorized to alter this warranty or make any other warranty on behalf of Emerson Professional Tools (Shanghai) Co., Ltd.

Emerson Professional Tools (Shanghai) Co., Ltd. has the right for final explanation of the above warranty terms.

EMERSON
Commercial & Residential Solutions

RIDGID

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944-732-842.10
REV. A

RIDGID

# RE 60 操作手册

# 电动液压工具


**⚠ 警告！**

使用本工具前务必仔细阅读此操作手册。如果未理解或不遵照以下说明，可能会导致电击、失火和/或严重人身伤害。

## 目录





# RE 60

# 电动液压工具


RIDGID

| RIDGID | RE 60 电动工具 | |
|---|---|---|
| | 在下面空格内记下产品序列号，并妥善保存写有产品序列号的铭牌。 | |
| | 序列号 | |

观看此产品视频：http://www.ridgid.com.cn/pro/show.asp?ID=615&ClassID=139&parentid=138&tid=1

## 安全标识符号

在本操作手册和该产品上，利用了一些安全标识符号和专业词汇来表达重要的安全注意事项。
本节内容主要是帮助读者能更好地理解这些标识符号和用语。

这是安全警告符号。用于对一些潜在的人身伤害危险进行警示。
必须遵守安全信息的指导来规避可能的伤害事故甚至死亡的发生。

**⚠ DANGER** 危险警告符号表示一些存在危险情况的环境，如果不能避免，将导致死亡和严重的伤害事故。

**⚠ WARNING** 警告符号表示危险的境况，如果不能避免，也可能导致死亡或严重的伤害事故。

**⚠ CAUTION** 小心符号表示危险的境况，如果不能避免，可能导致轻微或中等程度伤害事故。

***NOTICE*** 注意符号表示和保护财产相关的安全信息。


该符号意味着使用者在使用该工具前必须仔细阅读操作手册，因为操作手册里介绍了重要的安全注意事项和正确的使用方法。


该符号表示在搬运或使用本设备时应始终佩戴带安全防护罩的安全眼镜或护目镜以降低眼部受伤的危险。


该符号表示手、手指或身体其他部位有被压伤的风险。


这是电击危险的符号。

## 安全须知*

**⚠ 警告**

请仔细阅读所有的安全注意事项和安全指导。如果不遵从这些安全指导可能会导致电击危险、火灾甚至其它严重的伤害事故的发生。

请保留这些安全注意事项和安全指导，
以备将来参考。

“电动工具”的涵义是指带有电源线直接由外部电源提供电力和不带电源线由电池提供电力的两类设备。

### 工作区域安全事项

- 保持工作场所干净整洁和照明充分。
  混乱和昏暗的环境容易引起安全事故的发生。
- 不要在易燃易爆等的危险环境下操作机器，例如易燃易爆的液体、气体或粉尘环境下。
  电动工具易产生火花，会引燃这些粉尘或气体。
- 在操作机器时，让儿童和旁观者远离工作现场。
  注意力分散容易导致安全事故的发生。

### 电气安全须知

- 电动工具插头应该和插座相匹配。请勿以任何方式改动插头。不要将任何适配器插头用于带接地的电动工具。
  不改动插头并与插座相匹配将会减少电击事故的发生。
- 避免身体与接地物体的表面接触，如管道、散热器、金属柜体和制冷设备。
  如果身体和接地物体接触，会增加电击危险的机率。
- 不要把电动工具置于雨中或潮湿的环境下。
  水进入电动工具将增加电击危险的发生。
- 不要损坏电源线。不要把电源线用来拖、拽或拔出电动工具。使电源线远离热、油、尖锐边缘或移动物体。
  电源线损坏或卷入其它物体中都会增加电击危险。
- 当在室外使用电动工具时，请使用适合在室外使用的延长电源线。
  这样能减少电击事故的发生。
- 如果在潮湿的环境下使用电动工具，请使用接地故障断续电路（GFCI）保护装置。
  使用GFCI可以减少电击危险的发生。

* 根据适用的UL/CSA 60745标准，本手册安全须知部分所使用的文本包含所有情况。该部分内容包含了适用于多种电动工具的安全须知。并非每条内容都适用于每种工具，有些并不适用于本工具。





### 个人安全注意事项

- 使用电动工具时，保持头脑清醒，关注自己手头的工作，操作时注意基本常识。不要在疲惫或受到药物、酒精或医疗影响的情况下使用电动工具。
  如在使用过程中稍有疏忽，就可能导致较为严重的伤害事故。
- 使用个人防护设备，始终佩戴护目镜。
  在不同情况下穿戴诸如防尘面罩、防滑安全鞋、安全帽或耳罩等防护设备能够降低受到人身伤害的风险。
- 防止意外开机，在接通电源或装上电池前、或是拿起或携带工具时，确保开关置于关闭状态。
  当你携带电动工具，手指不小心触动开关置于开机状态时，会导致安全事故的发生。
- 开机前拿走所有的调节工具，如扳手、锁匙等。
  如果这些工具处在旋转部件上，将会导致人身伤害的发生。
- 保持身体平衡，不要在操作机器时使身体失去平衡。
  这样会使你在意外情况下更好地控制工具。
- 正确着装，不要穿宽松的衣服或佩戴首饰，使你的衣服、头发和手套远离运动部件。
  宽松的衣服、首饰和长发易于卷入运动部件中。
- 如果工具可与粉尘收集装置相连接，请确保连接和使用方法均正确。
  使用粉尘收集装置能减少与粉尘相关的事故的发生。

### 电动工具使用与维护

- 不要强制使用电动工具，请在不同场合选择合适的电动工具。
  合适的工具将会使你更快、更安全的完成工作。
- 如果开关不能工作，请不要使用电动工具。
  任何电动工具如果不能控制开关，都是非常危险的并且必须立即进行修理。
- 在对工具进行调整、更换配件、存放前必须先断开电源或者把电池取下来。
  这些措施可以预防不小心开动工具的风险。

### 存放电动工具时注意不要让不会使用工具或未阅读操作手册的人员接触到工具，尤其是儿童。

- 因为电动工具对于未经过培训的人员来说是非常危险的。
- 维护电动工具，看是否运动部件的位置不正确或卡住、零件有损坏或其他可能影响工具正常使用的损坏状况，如果有，请在使用前务必修理好。
  许多事故的发生都是由于工具的维护不当造成的。
- 保持切割部件锋利、干净。
  这样工作时更加轻松、顺利，易于控制。
- 按照操作指南、工作环境要求和工作目的来正确使用电动工具及其配件和其它组件。
  如果工具与工作环境和目的不匹配，可能会导致危险的发生。

### 使用电池的工具的使用和维护

- 请选择制造商指定的充电器对电池进行充电。
  使用其它类型的充电器充电可能造成危险。
- 请使用指定的电池。
  如果使用其它类型的电池可能造成伤害或引起火灾。
- 当电池不使用时将其放在远离如回形针、硬币、钥匙、钉子、螺丝或其它小型金属物品的位置，这些物品可能会意外连接电池的两极。
  电池短路可能会导致燃烧或火灾的发生。
- 在严苛环境下，电池内的液体可能会溅出；避免接触到溅出的液体。如果意外接触到液体，请用水冲洗。如果液体接触到眼部，请就医。
  电池内溅出的液体可能会引起刺激或灼伤。

### 售后服务

- 请让经过培训合格的维修人员对您的电动工具进行维修，并选择相同规格的零部件进行更换。
  这样可以确保工具的使用安全和保养正确。

## 其它安全须知

**⚠ 警告**

本节内容是专门针对该电动工具的一些重要安全注意事项。

在使用电动工具前认真阅读此内容，可以减少电击危险或严重人身伤害事故的发生。

请注意保存好这些安全指导内容！

工具的便携式手提箱的夹层可存放此操作手册，用于指导操作者正确使用该工具。

### 电动工具安全使用规范

- 该电动工具只能配合RIDGID® 快速连接系统（QCS）的各种钳头一起使用，包括切割头、压接头和冲孔头等。

  如果将工具用于其它应用可能会损坏电动工具、钳头和/或导致人身伤害。

- 不要改动工具或钳头。

  对工具或钳头进行改动可能导致人身伤害。

- 不要试图维修损坏的钳头。

  经过焊接、打磨、钻孔或者其他改动的钳头在使用中可能损坏。不要更换单独的部件。将损坏的钳头丢弃以降低受伤的风险。

- 在操作过程中，让手指和手远离可互换的钳头。

  如果手指和手碰到钳头或被夹在这些部件或任何其它物件中，可能会导致夹伤、挫伤或被切断。

- 本工具未经绝缘，不得在带电导体上或附近进行使用。

  如果在带电导体配件上进行使用可能会发生电击并导致受伤或死亡。

- 工具使用过程中会产生巨大的力，并可能导致部件损坏或飞出从而造成人身伤害。让所有无关人员远离工作区域。

  在使用工具过程中要站稳，并穿戴合适的防护设备，包括护目镜。

- 切勿在未装好可互换钳头或未在钳头里安装好模具/插件的情况下操作工具。

  这样可能损坏工具或钳头和/或导致严重人身伤害。

- 在使用RIDGID电动压接工具之前，请阅读并理解：
  - 本操作手册
  - 可互换钳头使用说明
  - 电池/充电器手册
  - 连接器和模具/插件制造商安装说明
  - 本工具所使用的其它设备的说明

  不遵守所有说明和警告可能导致财产损坏和/或严重人身伤害。

如果您对本RIDGID®工具有任何疑问：

- 请联系您当地的RIDGID® 分销商。
- 访问www.RIDGID.com.cn
- 写信至RIDGID.China@emerson.com联系RIDGID® 技术服务部，请拨打电话400 820 5695

## 产品概述、规格和标准配置

### 概述

RIDGID® RE60电动工具为电动液压工具，需要与相应的可互换钳头搭配使用；该工具有多种功能，如压接电气连接、切割电缆和冲孔等。

使用时，工具的内部电机会启动一个液压泵，从而为工具的气缸供应液体，使撞柱向前移动并向经过特殊设计的可互换钳头施加力。

工具配备RIDGID® 快速连接系统（QCS），可安装各种可互换钳头。钳头可旋转360°以固定至正确位置。

工具上有两（2）个肩带扣可以搭配肩带或绳子一起使用。

工具上有明亮的LED灯，当按下操作按钮时灯会亮起，这样能方便使用者对工作区域进行照明。

工具的LED显示板指示工具的状态（工具开/关、温度异常、保养提示）。






图1 – RE60电动工具


图2-LED诊断显示板

### 规格

RE 60电动工具：

| | RE 60 |
|---|---|
| 活塞推动力 | 13,500 lbf (60kN) |
| 活塞冲程 | 0.94" (24mm) |
| 电压 | 18 V |
| 安培数 | 18 A |
| 功率 | 324 W |
| 电池 | 18 V 锂电池，充电电池 |

操作温度

| | |
|---|---|
| 范围 | 15°F至122°F (-10°C至50°C) |
| 声级 | 92 dB |
| 振动 | 59 in/s$_2$ (1.5 m/s$_2$) |
| 重量（带电池） | 5 lb (2.27 kg) |

电动工具序列号标牌位于工具后部。最后4位数字为制造年月。（04=月份，10=年份）


图3-机器序列号

## 电磁兼容性（EMC）

电磁兼容性是指产品在具有电磁辐射和静电释放环境下进行正常使用且不会对其它设备造成电磁干扰的能力。

**注意** RIDGID® RE53RE和60电动工具符合所有适用的EMC标准。但是，不能保证绝对不会对其它设备造成电磁干扰。

## 工具检查

在每天使用工具前，请仔细检查工具和校正发现的问题，以减少电击、压伤、可互换钳头失效和其它原因引起的各种伤害事故发生的风险，并保护工具免受损坏。

1. 确保已取下电池。检查电池是否完好。如果发现有任何损坏或变动，在修理或更换电池之前不要继续使用。

2. 清除任何油脂、灰尘，包括QCS套筒、手柄和控制元件。这样可以防止使用过程中机器滑落。

3. 就以下几点对电动工具进行检查：
   - 工具是否正确组装和维护，是否完好。
   - 是否有任何破损、老化、缺失零件、调校不准或部件卡死。
   - 工具和电池警告标签是否还在且清楚易读。
   - 肩带扣是否损坏，缝线是否磨损。
   - QCS中是否有异物可能导致电动工具或可互换钳头损坏。
   - 确认QCS耦合装置中的开口处的十二（12）个固定球没有缺失且无损坏。图4显示了完好且清洁的QCS耦合装置内部。

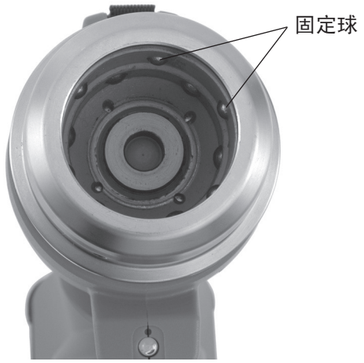


图4-QCS耦合装置内部

- 其它可能影响安全和正常操作的因素。

如出现任何问题，请在解决问题之前不要使用工具。

4. 根据相应的使用说明对其它需要使用的设备进行检查和维护，确保其能够正常使用。检查可互换钳头是否有磨损、变形或其它问题。在检查QCS耦合装置与可互换钳头的咬合部位时，查看QCS耦合装置槽中的凹痕是否可正常使用，而非损坏。（图5）

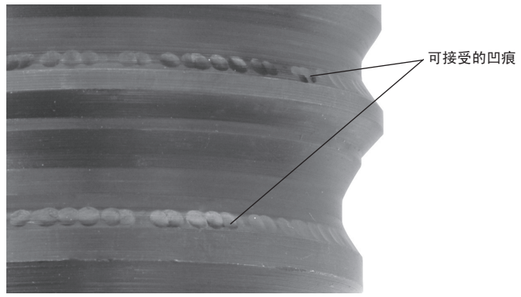


图5 – QCS耦合装置槽中的凹痕

## 安装和操作说明

**⚠ 警告**

在操作过程中，让手指和手远离可互换的钳头。如果手指和手碰到钳头或被夹在这些部件或任何其它物件中，可能会导致夹伤、挫伤或被切断。

本工具未经绝缘，不得在带电导体上或附近进行使用。如果在带电导体配件上进行使用可能会发生电击并导致受伤或死亡。

工具使用过程中会产生巨大的力，并可能导致部件损坏或飞出从而造成人身伤害。让所有无关人员远离工作区域。在使用工具过程中要站稳，并穿戴合适的防护设备，包括护目镜。

切勿在未装好可互换钳头或未在钳头里安装好模具/插件的情况下操作工具。这样可能损坏工具或钳头和/或导致严重人身伤害。





遵守安装和操作说明以减少压伤、电击和因其它原因受到伤害的风险，并防止工具受到损坏。

1. 检查工作区域：
   - 照明充分
   - 可燃液体、气体或粉尘容易引起燃烧。请不要在这些环境下使用工具，直到整改符合要求以后。压接工具没有防爆保护措施，因此会产生火花。
   - 清洁、平整、干燥、稳定的环境适合于操作。不要站在水中使用工具。

2. 工作场所检查完毕后，要根据应用场合来选择合适RIDGID工具及可互换钳头。如果可互换钳头使用错误，也会引起伤害事故的发生和工具损坏及管道连接不符合要求。RIDGID电动液压压接工具提供一个可互换钳头清单，可访问www.RIDGID.com.cn、或致电RIDGID技术服务热线400 820 5695400 820 5695咨询。确保工具和可互换钳头都按照使用指南进行了检查。可互换钳头在装入电动工具之前应装有插件。

3. 权衡工作区域看是否需要进行隔离，使旁观者远离工作地点。因为旁观者会使操作者注意力分散。

4. 按下泄压按钮确保活塞完全收回。如果活塞未完全收回，则可互换钳头可能无法正确固定。

5. 从工具上拆下电池。按下电动工具上的QCS套筒以便拆下/装上相应的可互换钳头。松开套筒，固定可互换钳头。打开电动工具前确认应用所需的正确可互换钳头完全插入并固定。切勿在未安装可互换钳头或插件的情况下进行操作，否则可能会损坏电动工具。（如果可互换钳头无法在QCS中锁定，则按下泄压按钮，并确保柱塞完全收回。）

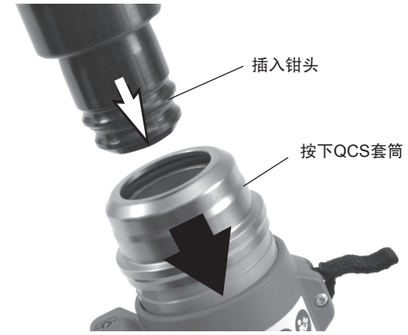


图6 – 在电动工具中安装可互换钳头。

6. 保持操作时手掌干燥，在电动工具中装入充足电的电池。按下电动工具上的开/关按钮使工具置于开的状态。所有三个LED灯都会闪烁一遍，表示电源开关已打开，随后绿色LED灯会一直亮着表示机器处于待机状态（如果有其他异常状况，可参阅图7中的故障诊断代码）。如果电动工具在150秒内未使用，则会自动关闭。要重启工具，则再次按下开/关按钮。

7. 有关具体的操作说明请参见可互换钳头使用说明。双手不要触碰到可互换钳头和其它移动部件，按下阀门控制开关让工具柱塞前移并激活可互换钳头。只要松开阀门控制开关即可随时停止柱塞的前移。这样就能定位可互换钳头来进行切割、冲孔作业或夹紧和定位连接器。

   如果可互换钳头使用说明中未另行说明，则在大部分操作只需继续按着阀门控制开关直至柱塞自动收回即可完成工具的一次循环。这表明工具已达到相应的力且循环结束。这样做是为了确保对电气连接实现完全压接。

   如果活塞未完全收回，则按下泄压按钮。如果在压接电气连接过程中进行此操作，则压接未完全完成，需要再压接一次。

8. 操作完成后，按下开/关按钮关闭工具并拆下电池。

## 产品维护指南

**⚠ 警告**

在维护或调整工具之前，确保已拆下电池。

### 清洁和润滑

1. 每天用干净的抹布擦拭工具外部，保持工具的清洁。
2. 在清洁QCS耦合装置内部时，先将开口朝下然后轻轻晃动工具让异物落下。然后再检查里面是否还有异物。如果需要，则用干净的软布将残留的异物清洁干净。切勿强行将物品塞入用于固定圆球的孔中。
3. QCS耦合装置在工厂已进行过永久性润滑，因此无需额外的润滑。请勿向QCS耦合装置添加任何润滑剂。

### 需要RIDGID授权维修中心提供维修服务

在30,000次工作循环后，只要工具开机，黄色LED灯就会闪烁，这意味着需要进行维修保养和校正机器了。黄色灯闪烁后如果继续工作循环2000次（总计32000次）还没有维护保养，工具将自动停机， 以提示强制保养和校正。

### 配件

**⚠ 警告**

仅仅RIDGID提供配件包括电池充电器设计用于RE60电动工具配套使用。对于其它配合其它工具使用的配件，如果用于该机器上会损坏机器。为了防止意外发生，请使用为RE60专门设计的电池及充电器。

如果要得到完整的用于该工具的RIDGID配件清单，请访问www.RIDGID.com.cn网站查看Ridge工具目录或致电RIDGID技术服务热线400 820 5695  400 820 5695。

## 产品存放注意事项

把电池从工具上拆下，并将电动工具和电池一起存放在便携式手提箱内。不要存放在过热或过冷的地方。当油温不在15°F (-10°C) ~ 122°F (50°C)范围内时，工具的温度传感器不会使工具开动起来。因此在使用前必须使工具处于操作规范所规定的温度范围内。红色LED灯闪烁正是给于这方面的提示信息。

**⚠ 警告** 工具箱要存放于干燥、安全、能够上锁的地方，避免儿童、无关人员能够取到RE60电动工具。未经过培训的人员使用工具是很危险的。

## 维修与服务

**⚠ 警告**

不正确的维修与服务会使工具处于不安全的工作条件。

必须由经过RIDGID授权的维修中心来对RE60电动工具进行维修。

如有任何维修与保养的要求，或要获取最近的RIDGID授权维修服务中心的名称和地址，或有任何维修方面的问题，您可以：

- 请联系您当地的RIDGID®分销商。
- 访问www.RIDGID.com.cn，
  写信至RIDGID.China@emerson.com，
  联系RIDGID®技术服务部，
  请拨打电话400 820 5695  400 820 5695

## 处置

电动工具的某些部件含有有价值的材料可进行回收利用。您可以在当地寻找专门回收利用此类材料的公司。请遵循适用的法规来处置部件。有关更多信息请联系您当地的废品管理机构。





EC国家：请勿将电气设备与家庭垃圾混在一起。

根据欧洲2002/-96/EC废气电气和电子设备指令以及其在国家立法中的实行要求，无法继续使用的电气设备必须单独进行收集并以环保的方式进行处理。

## 故障诊断

| 故障现象 | 原 因 | 解决方法 |
|---|---|---|
| 当按下ON/OFF按钮时，工具不开机 | 电池没电或电池失效 | 换上充满电的电池/对电池进行充电 |
| | 电池未正确装入工具手柄 | 确保电池装入正确 |
| 按下按钮后工具不运行，绿灯闪烁 | 电池电量过低 | 换上充满电的电池/对电池进行充电 |
| 按下按钮后或在运行过程中工具关闭，红灯亮起 | 工具或电池温度过低或过高 | 把工具和电池恢复到规定的温度范围内 23°F (-5°C) ~ 122°F (50°C) |
| 当按下按钮，黄灯连续闪烁，工具工作正常 | 30000次循环后需进行工具的保养/调校 | 请致电RIDGID技术服务部门400 820 5695，寻找最近的授权维修中心 |
| 当按下按钮，黄灯连续闪烁，工具并不进行压接工作 | 32000次压接循环后需进行工具的保养/调校，工具已被自锁直到接受保养/调校后，才能恢复正常功能 | 请致电RIDGID技术服务部门400 820 5695，寻找最近的授权维修中心 |
| 一开机黄灯就亮 | 工具检测到有故障 | 拆下再装上充满电的电池，确保再次进行压接，如果LED继续闪亮，请致电RIDGID技术服务部门400 820 5695，寻找最近的授权维修中心 |
| 压接过程没有完全完成 | 可互换钳头/插件与电缆尺寸、材料不匹配 | 选择正确的可互换钳头/插件 |
| | 工具与钳头未连接好 | 重新连接，确保工具与钳头接合完好 |
| | 工具需要维修 | 请致电RIDGID技术服务部门400 820 5695，寻找最近的授权维修中心 |

## 故障诊断（续）

| 故障现象 | 原 因 | 解决方法 |
|---|---|---|
| 工具漏油 | 密封或机械问题 | 请致电RIDGID技术服务部门400 820 5695，寻找最近的授权维修中心 |
| 电机运行但工具无法完成循环 | 油位低 | 请致电RIDGID技术服务部门400 820 5695，寻找最近的授权维修中心 |
| 压模在操作过程中停止 | 油位低 | 请致电RIDGID技术服务部门400 820 5695，寻找最近的授权维修中心 |

## RE 60故障诊断代码

| LED | 状态 | 故障说明 | 图标 |
|---|---|---|---|
| 绿色 | 正常发亮<br>闪烁电池 | 工具开机<br>需要充电 | |
| 红色 | 正常发亮 | 超出了温度范围-10°C~ 50°C | |
| 黄色 | 闪烁<br>正常发亮 | 30,000次压接循环后维修保养提示，<br>注意：32,000次压接循环后，机器会被自锁<br>机器被锁 - 32,000次压接循环后或发生故障后进行维修 | |

图7 – LED故障诊断代码





**⚠ 警告**

在使用本工具前，请仔细阅读本说明、电动工具使用说明以及关于所使用设备和材料的所有警告和使用说明，以降低发生严重人身伤害的风险。

敬请保留本说明

- 剪切过程中，确保手指和双手其他部位远离剪切头。
  如果手指和手掌碰到剪切头或被夹在剪切头和其他部件之间，可能会导致碾伤、骨折或被切断。
- 本工具未经绝缘处理，不得在带电导体上或附近进行使用。
  如果在带电导体附近行使用可能会发生电击并导致受伤或死亡。
- 工具使用过程中会产生巨大的力，并可能导致部件损坏或飞出从而造成人身伤害。
  在使用工具过程中要站稳，并穿戴合适的防护设备，包括护目镜。
- 请勿自行维修损坏的压接头。
  经过焊接、打磨、钻孔或者其他改变的压接头在使用中可能损坏。必须按照此说明更换部件。将损坏的压接头丢弃以降低受伤的风险。
- 该RIDGID® LR-60压接头只能配合RIDGID® RE60电动工具一起使用。
  如果将压接头用于其它工具可能会损坏压接头、工具、切口或导致人身伤害。
- 使用合适的工具、模具、连接器和电缆组合。
  如果组合不当，可能导致压接无法完成或压接不当，从而增加发生火灾、严重伤害甚至死亡的危险。

**注意** 材料和连接方法应由系统的设计人员或安装人员负责选择。在安装前，需对具体要求进行仔细权衡评估。关于上述选择事宜，请咨询连接器制造商获取全面详细信息。

如果您对本RIDGID®工具有任何疑问：

- 请联系您当地的RIDGID®分销商。
- 访问www.RIDGID.com.cn或寻找您当地的Ridge工具联系点。
- 通过Ridgid.China@emerson.com联系RIDGID®技术服务部门；请拨打电话400 820 5695。

## 产品描述

RIDGID®可互换压接头配合相应的模具一起使用，能够将电气压缩连接器与电缆进行压接。

60系列压接头与RIDGID® RE60电动工具一起使用，搭配RIDGID快速连接系统（QCS）可旋转360度，适合狭小空间内使用。

LR-60圆形压接头应与圆形60kN模具（已在市场中销售）一起使用，将电气压缩连接器与电缆进行压接。

## 规格

| | LR-60 |
|---|---|
| 模具 | 圆形 |
| 电缆 | 600MCM<br>300 mm² |
| 工具输入力. | 13500 lbf (60 kN) |
| 重量 | 5.3 lb (2.4 kg) |


图1 – 圆形压接头

## 检查/维护

在每次使用前，检查压接头是否存在可能影响安全使用的问题。

1. 取下工具电池，按下QCS套筒并拆下压接头。
2. 清除任何油脂、灰尘、异物，这样能有助于检查和控制。仔细检查QCS连接器，确保无任何可能导致连接器损坏的异物。
3. 就以下几点对压接头进行检查：
   - 工具是否正确组装和完好。
   - 是否有磨损、腐蚀或其它损坏。查看QCS连接器槽中的凹痕是否正常可使用，查看是否损坏。确保锁扣功能完好且可牢固锁紧。
   - 压接头的标记是否清晰可读。

   如发现任何问题，请勿在更正前使用。
4. 按照相应的使用说明检查电动工具和其它设备。确保压接模具干净且状况良好。
5. QCS连接器在工厂已进行永久润滑处理，因此无需额外的润滑。使用轻质普通润滑油对枢轴点进行润滑，擦去多余润滑油。

## 装配和操作说明

1. 根据连接器制造商的说明，准备好待压接连接器。
2. 根据规格选择合适的压接模具和设备。确保所有设备都已经过检查请根据说明进行装配。
3. 拆下压接头，按下锁扣开关以打开压接头。插入匹配的模具。模具应紧固并与压接头匹配和对齐。切勿强行将模具装入压接头中。如果在匹配方面有问题，则不要继续使用。在安装好模具前请勿进行操作。

4. 拆下工具电池。按下QCS套筒拆下/插入合适的压接头。松开套筒，固定压接头。在启动工具之前，确认压接头已完全插入工具（如果压接头未锁定在QCS中，则按下泄压按钮确保工具柱塞完全收回）。

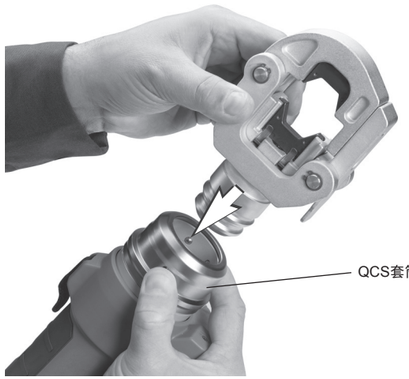


图2 – 在工具中安装压接头

5. 为工具装入电池，过程中应确保双手干燥。

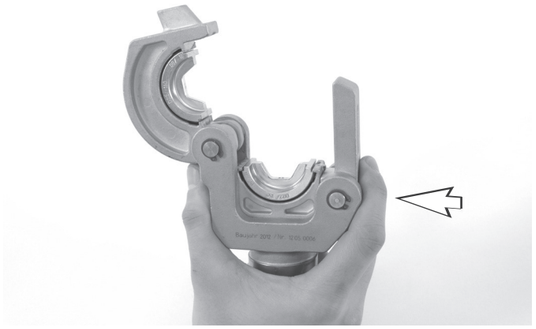

图3 – 打开/闭合锁扣

6. 如有必要，则按下锁扣开关打开压接头，然后将需要压接的连接器放入，再闭合压接头。确保锁扣完全闭合 – 在锁扣打开或部分打开的情况下切勿操作工具。

7. 按照连接器制造商的说明确定所有压接位置。一些电缆因尺寸因素，可能需要多次压接。

   将连接器放在压接头中间，并成直角，保持模具静止。如果放置不当可能导致压接不正确或损坏设备。

   如果只进行一次压接，则将模具对准连接器上的线。如果是多次压接，则确保线之间有足够的空间进行均匀的压接。

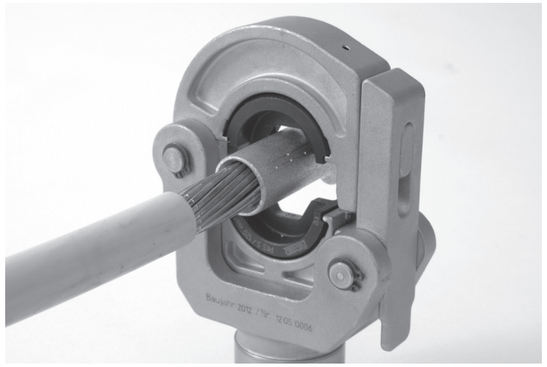

图4 – 将连接器在模具中对齐

8. 双手远离压接头和其它移动部件，然后按照说明对RE60电动工具进行操作。一次压接循环完毕后，柱塞自动收回，工具会停止。如果柱塞未收回，则压接不完整，必须重复一次。

9. 如果柱塞未完全收回，则按下泄压开关。如需要，拆下压接头并重复多次压接的步骤。

10. 从压接头上拆下压接好的连接器。

11. 根据接头供应商的说明、一般惯例以及适用的法规对连接进行检查和测试。





**⚠ 警告**

在使用本工具前，请仔细阅读本说明、电动工具使用说明以及关于所使用设备和材料的所有警告和使用说明，以降低发生严重人身伤害的风险。

**敬请保留本说明**

- 剪切过程中，确保手指和双手其他部位远离剪切头。
  如果手指和手掌碰到剪切头或被夹在剪切头和其他部件之间，可能会导致碾伤、骨折或被切断。
- 本工具未经绝缘处理，不得在带电导体上或附近进行使用。
  如果在带电导体附近使用可能会发生电击并导致受伤或死亡。
- 工具使用过程中会产生巨大的力，并可能导致部件损坏或飞出从而造成人身伤害。
  在使用工具过程中要站稳，并穿戴合适的防护设备，包括护目镜。
- 请勿自行维修损坏的剪切头。
  经过焊接、打磨、钻孔或者其他改变的剪切头在使用中可能损坏。必须按照此说明更换部件。将损坏的剪切头丢弃以降低受伤风险。
- 该RIDGID® SC-60剪切头只能配合RIDGID® RE60电动工具一起使用。
  如果将剪切头用于其它工具可能会损坏剪切头、工具、切口或导致人身伤害。

如果您对本RIDGID®工具有任何疑问：

- 请联系您当地的RIDGID®分销商。
- 访问www.RIDGID.com.cn或寻找您当地的Ridge工具联系点。
- 通过Ridgid.China@emerson.com联系RIDGID®技术服务部门；请拨打电话400 820 5695。

## 产品描述

RIDGID® SC-60剪切头设计用于剪切B级黄铜和铝制电线，尺寸最大为400mm$^2$。

剪切头与RIDGID® RE60电动工具一起使用，搭配RIDGID快速连接系统（QCS）可旋转360度。

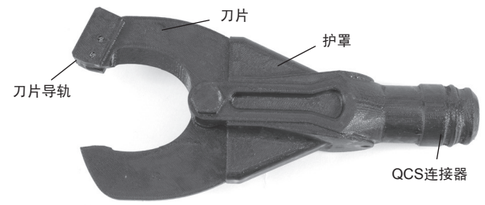


图1 SC-60剪切头

## 规格

电缆.....400 mm$^2$

B级黄铜和铝制电缆，最大带绝缘层直径 = 50 mm

最大工具作用力....60 kN (13500 lbf) RE 60-IB

重量.....2.2 kg

切割效果取决于材料厚度、类型、硬度和配置等多种因素。有时由于此类因素的关系可能无法完成切割。

**注意** 只能用于切割铝制或黄铜电缆。其它诸如钢之类的材料可能会损坏刀片或使刀片变钝。

## 检查/维护

在每次使用前，检查剪切头是否存在可能影响安全使用的问题。

1. 取下工具电池，按下QCS套筒并拆下剪切头。
2. 清除任何油脂、灰尘、异物，这样能有助于检查和控制。仔细检查QCS连接器，确保无任何可能导致连接器损坏的异物。
3. 就以下几点对剪切头进行检查：
   - 工具是否正确组装和完好。确保已安装护罩并牢固。
   - 是否有磨损、腐蚀或其它损坏。查看QCS连接器槽中的凹痕是否正常可使用，而非损坏。检查切口是否损坏。
   - 剪切头的标记是否清晰可读。

如发现任何问题，请在纠正后使用。

4. 按照相应的使用说明检查电动工具和其它设备。
5. QCS连接器在工厂已进行永久润滑处理，因此无需额外润滑。用普通的润滑油对剪切头的枢轴点进行稍许润滑。擦去多余润滑油。

## 装配和操作说明

1. 确定需要剪切的材料的尺寸和类型。根据规格选择相应的设备。切勿剪切钢缆。在电缆上标记剪切位置。
2. 确保所有设备都已经过检查，并根据相关说明进行装配。


图2 在压接工具中安装剪切头

3. 拆下工具电池。按下QCS套筒插入剪切头。松开套筒，固定剪切头。在启动工具之前，确认剪切头已完全插入工具（如果剪切头未锁定在QCS中，则按下泄压按钮确保工具柱塞完全收回）。

4. 将电缆放在剪切头的切口之间，将切口对准剪切位置。切勿斜着切割电缆。

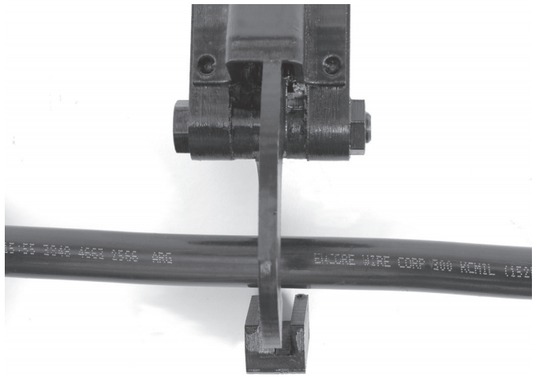


图3 切口对准电缆标记

5. 双手远离剪切头和其它移动部件，然后按照说明对电动工具进行操作。按住运行开关直至工具柱塞自动收回，电缆剪切完成。如果工具柱塞未完全收回，则按下电动工具的泄压开关。

6. 检查剪切情况。小心锋利切边。





**⚠ 警告**

在使用本工具前，请仔细阅读本说明、电动工具使用说明以及关于所使用设备和材料的所有警告和使用说明，以降低发生严重人身伤害的风险。

**敬请保留本说明**

- 在剪切过程中，确保手指和双手其他部位远离冲孔头。
  如果手指和手掌碰到冲孔头或被夹在冲孔头和其他部件之间，可能会导致碾伤、骨折或被切断。
- 本工具未经绝缘处理，不得在带电导体上或附近进行使用。
  如果在带电导体附近使用可能会发生电击并导致受伤或死亡。
- 工具使用过程中会产生巨大的力，并可能导致部件损坏或飞出从而造成人身伤害。
  在使用工具过程中要站稳，并穿戴合适的防护设备，包括护目镜。
- 请勿自行维修损坏的冲孔头。
  经过焊接、打磨、钻孔或者其他改变的冲孔头在使用中可能损坏。必须按照此说明更换部件。将损坏的冲孔头丢弃以降低受伤风险。
- 该RIDGID® PH-60冲孔头只能配合RIDGID® 60电动工具一起使用。
  如果将冲孔头用于其它工具可能会损坏冲孔头、工具、切口或导致人身伤害。

如果您对本RIDGID®工具有任何疑问：
- 请联系您当地的RIDGID®分销商。
- 访问www.RIDGID.com.cn或，寻找您当地的Ridge工具联系点。
- 通过Ridgid.China@emerson.com联系RIDGID®技术服务部门；请拨打电话400 820 5695

## 产品描述

RIDGID® PH-60冲孔头配备3/4" -10UNC螺纹螺柱，配合冲孔器和模具（如打洞器）一起使用，对诸如软钢或不锈钢板材进行冲孔。

冲孔头与RIDGID® RE60电动工具一起使用，搭配RIDGID快速连接系统（QCS）可旋转360度，适合狭小空间内使用。

## 规格

材料厚度.....软钢 – 最大为0.135英寸，3.4 mm
不锈钢 – 最大为0.06英寸，1.5 mm

最大冲孔直径.....63.5 mm

螺柱螺纹.....3/4英寸

最大施加力.....60 kN

重量.....1.5 kg

冲孔效果取决于诸如材料厚度、类型、硬度冲孔器尺寸/配置等多种因素。有时由于此类因素的关系可能无法完成冲孔。


图1 – PH-60冲孔头

## 检查/维护

在每次使用前，检查冲孔头是否存在可能影响安全使用的问题。

1. 取下工具电池，按下QCS套筒并拆下冲孔头。
2. 清除任何油脂、灰尘、异物，这样能有助于检查和控制。仔细检查QCS连接器，确保无任何可能导致连接器损坏的异物。
3. 就以下几点对冲孔头进行检查：
   - 工具是否正确组装和完好。
   - 是否有磨损、腐蚀或其它损坏。查看QCS连接器槽中的凹痕是否正常可使用，而非损坏。
   - 冲孔头的标记是否清晰可读。

   如发现任何问题，请在纠正后使用。
4. 安装相应的使用说明检查电动工具和其它设备。确保冲孔部件状况良好。
5. QCS连接器在工厂已进行永久润滑处理，因此无需额外的润滑。切勿拆开冲压头，设备包含压缩弹簧。

## 装配和操作说明

此处的说明适合多种类型的冲孔作业。按照特定的说明对冲孔器进行装配和操作。

1. 确定需要冲孔的材料的尺寸和类型。确保材料厚度均一。确定冲孔尺寸。选择相应套件。
2. 确保所有设备都已经过检查，并根据相关说明进行装配。
3. 标记冲孔位置，如需要，可先钻一个比螺柱稍大的导孔。
4. 拆下冲孔头，装入合适的螺柱并紧固。螺纹必须完全咬合以确保正确的操作。
5. 如需要，在螺柱上装上垫圈，然后再装入模具。将模具凹面背朝工具。

6. 将螺柱插入待冲孔材料上的导孔。

7. 将模具与冲孔器相匹配的一边套上螺柱，切口朝向材料。用手将其紧固，直至冲压头、垫圈、模具、材料以及冲孔器之间没有空隙。如果部件之间留有空隙，则模具无法与材料成直角，并可能导致设备损坏或人身伤害。

   确保冲孔器完全套紧螺柱。如果只是部分套入，则切勿进行操作，这样可能损坏螺柱。如果冲孔器无法完全套入螺柱，则可能需要拆下垫圈。

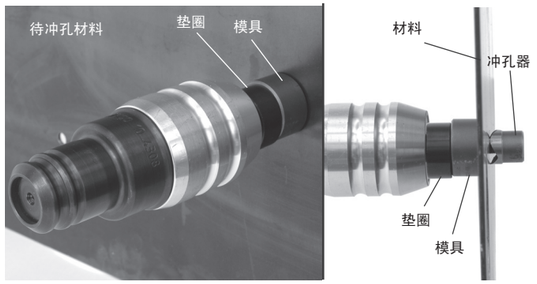


图2 冲孔头设置

8. 拆下工具电池。按下QCS套筒插入冲孔头。松开套筒，固定冲孔头。在启动工具之前，确认冲孔头已完全插入工具（如果冲孔头未锁定在QCS中，则按下泄压按钮确保工具柱塞完全收回）。


图3 – 在电动工具中安装冲孔头

9. 双手远离冲孔头和其它移动部件，然后按照说明对电动工具进行操作。冲孔完毕后，即刻松开运行开关。切勿按住运行开关直到柱塞自动收回，这样可能导致冲孔器冲到超过模具最底部，从而打破冲孔器/模具。按下电动工具的泄压开关收回柱塞。

10. 关闭电动工具，从孔中拆下冲孔器。小心锋利切边。





## Table of Contents

# RE 60

# Electrical Tool


RIDGID

| RE 60 Electrical Tool | |
|---|---|
| Record Serial Number below and retain product serial number which is located on nameplate. | |
| Serial No. | |



## Safety Symbols

In this operator's manual and on the product, safety symbols and signal words are used to communicate important safety information. This section is provided to improve understanding of these signal words and symbols.

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

**⚠ DANGER** DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

**⚠ WARNING** WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

**⚠ CAUTION** CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

***NOTICE*** NOTICE indicates information that relates to the protection of property.

This symbol means read the operator's manual carefully before using the equipment. The operator's manual contains important information on the safe and proper operation of the equipment.

This symbol means always wear safety glasses with side shields or goggles when handling or using this equipment to reduce the risk of eye injury.

This symbol indicates the risk of hands, fingers or other body parts being crushed.

This symbol indicates the risk of electrical shock.

## General Safety Rules

**⚠ WARNING**

Read all safety warnings and instructions. Failure to follow the warnings and instructions may result in electric shock, fire and /or serious injury.

SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE!

The term "power tool" in the warnings refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

### Work Area Safety

- Keep your work area clean and well lit. Cluttered or dark areas invite accidents.
- Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust. Power tools create sparkswhich may ignite the dust or fumes.
- Keep children and by-standers away while operating a power tool. Distractions can cause you to lose control.

### Electrical Safety

- Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools. Unmodified plugs and matching outlets will reduce risk of electric shock.
- Avoid body contact with earthed or grounded surfaces such as pipes, radiators, ranges and refrigerators. There is an increased risk of electrical shock if your body is earthed or grounded.
- Do not expose power tools to rain or wet conditions. Water entering a power tool will increase the risk of electrical shock.
- Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts. Damaged or entangled cords increase the risk of electric shock.
- When operating a power tool outdoors, use an extension cord suitable for outdoor use. Use of a cord suitable for outdoor use reduces the risk of electric shock.
- If operating a power tool in a damp location is unavoidable, use a ground fault circuit interrupter (GFCI) protected supply. Use of a GFCI reduces the risk of electric shock.

* The text used in the General Safety Rule section of this manual is verbatim, as required, from the applicable UL/CSA 60745 standard. This section contains general safety practices for many different types of power tools. Not every precaution applies to every tool, and some do not apply to this tool.

### Personal Safety

- Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol, or medication. A moment of inattention while operating power tools may result in serious personal injury.
- Use personal protective equipment. Always wear eye protection. Protective equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.
- Prevent unintentional starting. Ensure the switch is in the OFF-position before connecting to power source and/or battery pack, picking up or carrying the tool. C arrying power tools with your finger on the switch or energizing power tools that have the switch ON invites accidents.
- Remove any adjusting key or wrench before turning the power tool ON. A wrench or a key left attached to a rotating part of the power tool may result in personal injury.
- Do not overreach. Keep proper footing and balance at all times. This enables better control of the power tool in unexpected situations.
- Dress properly. Do not wear loose clothing or jewelry. Keep your hair, clothing, and gloves away from moving parts. Loose clothes, jewelry, or long hair can be caught in moving parts.
- If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used. Use of dust collection can reduce dust-related hazards.

### Power Tool Use And Care

- Do not force power tool. Use the correct power tool for your application. The correct power tool will do the job better and safer at the rate for which it is designed.
- Do not use power tool if the switch does not turn it ON andOFF. Any power tool that cannot be controlled with the switch is dangerous and must be repaired.
- Disconnect the plug from the power source and/or battery pack from the power tool before making any adjustments, changing accessories, or storing power tools. Such preventive safety measures reduce the risk of starting the power tool accidentally.
- Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool. Power tools are dangerous in the hands of untrained users.
- Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use. Many accidents are caused by poorly maintained power tools.
- Keep cutting tools sharp and clean. Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
- Use the power tool, accessories and tool bits etc. in accordance with these instructions, taking into account the working conditions and the work to be performed. Use of the power tool for operations different from those intended could result in a hazardous situation.

### Battery Tool Use And Care

- Recharge only with the charger specified by the manufacturer. A charger that is suitable for one type of battery pack may create a risk of fire when used with another battery pack.
- Use power tools only with specifically designated battery packs. Use of any other battery packs may create a risk of injury and fire.
- When battery pack is not in use, keep it away from other metal objects, like paper clips, coins, keys, nails, screws or other small metal objects that can make a connection from one terminal to another. Shorting the battery terminals together may cause burns or a fire.
- Under abusive conditions, liquid may be ejected from the battery; avoid contact. If contact acciden tally occurs, flush with water. If liquid contacts eyes, additionally seek medical help. Liquid ejected from the battery may cause irritation or burns.

### Service

- Have your power tool serviced by a qualified repair person using only identical replacement parts. This will ensure that the safety of the power tool is maintained.





## Specific Safety Information

**⚠ WARNING**

This section contains important safety information that is specific to this tool.

Read these precautions carefully before using the electrical tool to reduce the risk of electrical shock or serious personal injury.

SAVE THESE INSTRUCTIONS!

A compartment in the tool carrying case is included to keep this manual with the machine for use by the operator.

### Electrical Tool Safety

- Use the Electrical Tool only with RIDGID® Quick Connect System (QCS) interchangeable heads (cutting head, crimping head, punching head, etc.). Using the tool for other applications may damage the electrical tool, damage the head and/or cause personal injury.
- Do Not Modify Tool or Heads. Modifying the Tool or heads in any manner may result in personal injury.
- Never repair a damaged head. A head that has been welded, ground, drilled or modified in any manner an break during use. Never replace individual components. Discard damaged heads to reduce the risk of injury.
- Keep your fingers and hands away from the inter changeable head during the operating cycle. Your fingers or hands can be crushed, fractured or amputated if they become caught in the head or between these components and any other object.
- This tool is not insulated for use on or near energized conductors. Use of this tool near energized conductors may lead to electrical shock, causing severe injury or death.
- Large forces are generated during use that can break or throw parts and cause injury. Keep allunnecessary personnel away from work area. Stand clear during use and wear appropriate protective equipment, including eye protection.
- Do not operate the tool without an interchangeable head in place and dies/inserts properly installed in the head when required. This can damage the tool or head and/or cause serious personal injury.
- Before operating a RIDGID Electrical Crimp Tool, read and understand:
  - This operator's manual,
  - The interchangeable head instructions,
  - The battery/charger manual,
  - The connector and die/insert manufacturer's installation instructions,
  - The instructions for any other equipment used with this tool,

Failure to follow all instructions and warnings may result in property damage and/or serious injury.

The EC Declaration of Conformity (890-011-320.10) will accompany this manual as a separate booklet when required.

If you have any question concerning this RIDGID® product:

- Contact your local RIDGID® distributor.
- Visit www.RIDGID.com or www.RIDGID.eu to find your local Ridge Tool contact point.
- Contact RIDGID® Technical Services Department at rtctechservices@emerson.com, or in the U.S. and Cana da call (800) 519-3456.

## Description, Specifications And Standard Equipment

### Description

The RIDGID® Models and RE 60 Electrical Tools are electro-hydraulic tools, which when used with appropriate interchangeable heads; perform a variety of functions, such as crimping electrical compression connections, cutting electrical cables and hole punching operations.

When operated, an internal electric motor powers a hydraulic pump which supplies fluid to the cylinder of the tool, moving the ram forward and applying force to specially designed interchangeable heads.

The tools are equipped with the RIDGID® QuickConnect System (QCS) for installing the various interchangeable heads. This also allows interchangeable heads to be rotated 360° for better access in tight spaces.

The tools come with two (2) fabric loops that can be used with appropriate attachments such as shoulder straps or tie off lines.

The tools are equipped with a bright LED work light that lights up when the trigger is pulled, this allows the user to easily illuminate the work area.

The tool LED display indicates the tool's status (tool ON/OFF, temperature out of range, service required.)

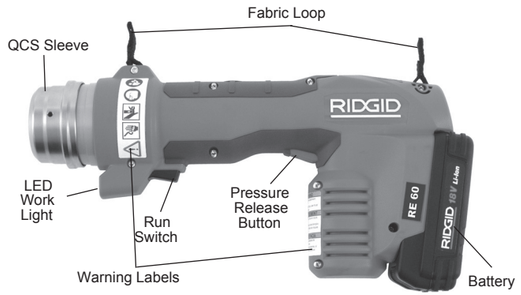


Figure 1 – RE 60 Electrical Tool


Figure 2 – LED Diagnostic Display

## Specifications

RE 60 Electrical Tools:

| | RE 60 |
|---|---|
| Piston Force | 13,500 lbf (60kN) |
| Piston Travel | 0.94" (24mm) |
| Motor | |
| Voltage | 18V DC |
| Amperage | 18 Amp |
| Power | 324 Watts |
| Battery | 18V Li-Ion, Rechargeable Battery Pack |
| Operating Temperature Range | 15° F to 122° F (-10° C to 50° C) |
| Sound Level | 92 dB |
| Vibration | 59 in/s² (1.5 m/s²) |
| Weight (with Battery) | 5 lb (2.27 kg) |

Electric Tool serial number plate is located on the rear of the tool. The last 4 digits indicate the month and year of the manufacture. (04 = month, 10 = year).


Figure 3 – Machine Serial Number

## Standard Equipment

The Electrical Tool, if ordered with batteries, comes with 2.0Ah batteries. 4.0Ah batteries are available as accessories *(See Accessories)*. Higher amp hour batteries allow more tool cycles per charge, but also weigh more.

The RIDGID® Model RE 53/60 Electrical Tool comes with the following:

- RIDGID® Model RE 53/60 Electrical Tool
- 18V 2.0 Ah Lithium-Ion Battery Pack
- 18V Lithium-Ion Charger
- Operator's Manual

*NOTICE* Selection of appropriate materials and joining methods is the responsibility of the system designer and/or installer. Before any installation is attempted, careful evaluation of the specific service environment, including chemical environment and service temperature, should be completed. Consult connector manufacturer for selection information.

# Electromagnetic Compatibility (EMC)

The term electromagnetic compatibility is taken to mean the capability of the product to function smoothly in an environment where electromagnetic radiation and electrostatic discharges are present and without causing electromagnet interference to other equipment.

*NOTICE* The RIDGID® Model RE 53 and RE 60 Electric Tools conform to all applicable EMC standards. However, the possibility of it causing interference in other devices cannot be precluded.





# Tool Inspection

**⚠ WARNING**

Daily before use, inspect your electrical tool and correct any problems to reduce the risk of serious injury from electric shock, crushing injures, interchangeable head failure and other cases, and prevent tool damage.

1. Make sure that the electric tool battery is removed. Inspect the battery for damage. If any damage or modifications are found, do not use until the battery has been properly repaired or replaced.
2. Clean any oil, grease or dirt from the tool, including the QCS Sleeve, handles and controls. This aids inspection and helps prevent the machine from slipping from your grip.
3. Inspect the electric tool for the following:
   - Proper assembly, maintenance and completeness.
   - Any broken, worn, missing, misaligned or binding parts.
   - Presence and readability of the tool and battery warning labels.
   - That the fabric loops are undamaged and that the stitching is not torn.
   - Foreign material in the QCS that could damage the electric tool or interchangeable heads.
   - Confirm that the twelve (12) retaining balls in the QCS coupling are present in all openings and that there is no damage. *Figure 4* shows the inside of a complete and clean QCS coupling.

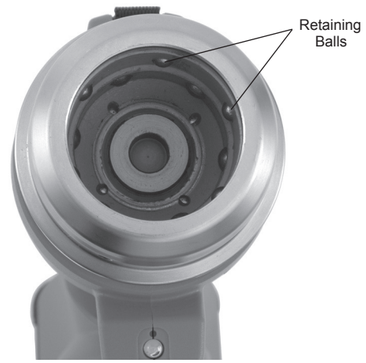


Figure 4 – Inside of QCS Coupling

   - Any other condition which may prevent safe and normal operation.

   If any problems are found, do not use the tool until the problems have been repaired.
4. Inspect and maintain any other equipment being used per its instructions to make sure it is functioning properly. Inspect the interchangeable heads for wear, deformation or other issues. When inspecting the mating portion of the QCS coupling on the interchangeable heads, dimples in the grooves of the QCS coupling are normal with use and are not considered damage (*Figure 5).*

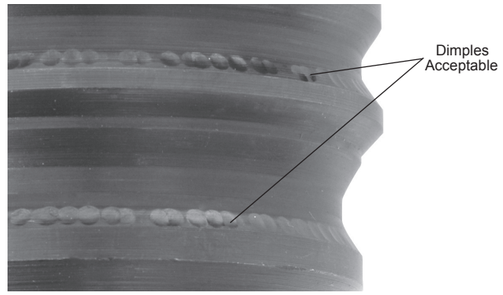


Figure 5 – Dimples In QCS Coupling Grooves

# Set-Up And Operating Instructions

**⚠ WARNING**

Keep your fingers and hands away from the interchangeable head during the operating cycle. Your fingers or hands can be crushed fractured or amputated in the interchangeable head or tool or be tween the interchangeablehead, work piece a-nd other objects.

This tool is not insulated for use on or near energized conductors. Use of this tool near energized conductors may lead to electrical shock, causing severe injury or death.

Large forces are generated during use that can break or throw parts and cause injury. Keep all unnecessary personnel away from work area. Stand clear during use and wear appr opriate protective equipment, including eye protection.

Do not operate the electrical tool without an interchangeable head in place/inserts in the interchangeable head. This can damage the electrical

tool or interchangeable head and/or cause serious personal injury.

Follow set up and operating instructions to reduce the risk of injury from crushing, electrical shock and other causes and to prevent tool damage.

1. Check work area for:
   - Adequate lighting.
   - Flammable liquids, vapors or dust that may ignite. If present, do not work in area until sources have been identified and corrected. The machine is not explosion proof and can cause sparks.
   - Clear, level, stable and dry place for operator. Do not use the tool while standing in water.
2. Inspect the work to be done and determine the correct RIDGID tool and interchangeable head for the application. Using an incorrect interchangeable head for an application can cause injury, damage the tool and make incomplete connections. For a complete listing of RIDGID interchangeable head available for this tool, see the Ridge Tool Catalog on line at www.RIDGID.com, www.RIDGID.eu or call RIDGID Technical Services Department (800) 519-3456.

   Make sure that the electrical tool and interchangeable heads have been inspected as directed in their instructions. Interchangeable heads should have any inserts installed prior to the interchangeable head being installed in the electrical tool.
3. Evaluate the work area and determine if any barriers are needed to keep bystanders out. Bystanders can distract the tool operator during use.
4. Ensure that the piston is fully retracted by depressing the pressure release button. If the piston is not fully retracted, the interchangeable head may not be properly retained.
5. Remove the battery from the tool. Depress the QCS sleeve on the electrical tool and remove/insert the appropriate interchangeable head. Release the sleeve to retain the interchangeable head. Confirm that the correct interchangeable head for the application is fully inserted and locked into the tool before turning ON. Do not operate without an interchangeable head or head inserts installed – this can damage the electrical tool. (If interchangeable head will not lock into QCS, ensure ram is fully retracted by pressing the pressure release button.).

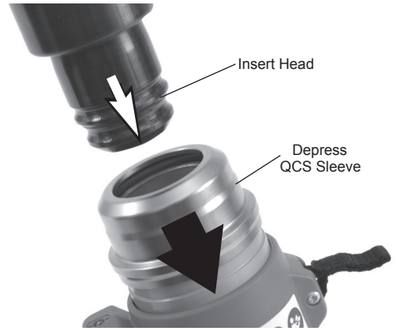


Figure 6 – Installing an interchangeable head in the Electrical Tool

6. With dry hands, install a fully charged battery into the electrical tool. Press the ON/OFF button to power on the electrical tool. All three LED's will blink once. Then, the green LED should solidly illuminate indicating the tool is ready to operate (See *Diagnostic Codes on Figure 7* for information on other tool conditions.) The electrical tool will automatically turn OFF if left unused for 150 seconds. To restart tool, it is necessary to depress the ON/OFF button again.
7. Refer to the instructions for the interchangeable head in use for specific operating instructions. With hands clear of the interchangeable head and other moving parts, depress the Run Switch to advance the tool ram and activate the interchangeable head. The advancement of the ram can be stopped at any point by releasing the Run Switch. This allows final positioning of the interchangeable head for cutting, punching or gripping and positioning of connectors.

   To complete the cycle of the tool in most operations, continue to press the Run Switch until the ram automatically retracts unless otherwise stated in the interchangeable head instructions; this indicates that the electric tool has reached the appropriate force and the cycle is complete. This is required to ensure the complete crimping of electrical connections.

   If the piston does not fully retract, press the pressure release button. If this is done during the crimping of an electrical connection, the crimp is not complete and needs to be repeated.
8. When operation is complete, press the ON/OFF button to turn off and remove the battery.





## Maintenance Instructions

**⚠ WARNING**

Make sure battery is removed from tool before performing maintenance or making any adjustment.

### Cleaning And Lubrication

1. Wipe exterior of the electrical tool clean daily with a clean dry cloth.
2. Clean the interior of the QCS coupling first by pointing the opening towards the ground and gently shaking any debris out. Then, visually inspect the area for any debris. If needed, a clean soft cloth can be used to wipe out any remaining debris. Do not force any material into the pockets that hold the retaining balls.
3. The QCS coupling is lubricated for life at the factory and does not require any further lubrication. Do not add any lubricant to the QCS coupling.

### Required Maintenance At RIDGID® Authorized Service Center

After 30,000 cycles, the electric tool will show a blinking yellow LED on the display as long as the tool is turned on to indicate that it is time for maintenance and recalibration. The electric tool will not run if it is not serviced within 2,000 more cycles (32,000 total) after the yellow blinking LED begins.

## Accessories

**⚠ WARNING**

The following tool accessories have been de signed to function with the RE 60 Electrical Tools. Other accessories suitable for use with other tools may become hazardous when used on the and RE 60. To prevent serious injury, use only accessories specifically designed and recommended for use with the RE 60, such as those listed below.

For a complete listing of RIDGID® attachments available for this tool, see the Ridge Tool Catalog on line at www.RIDGID.com or call Ridge Tool Technical Services (800) 519-3456.

## Storage

Remove battery from tool and store electric tool and battery in case. Avoid storing the electric tool, batteries or charger in extreme heat or cold. The electric tool temperature sensor will not allow the tool to turn ON if oil temperature is not within the temperature range of 15°F (-10°C) to 122°F (50°C). So it may be necessary to allow the tool to warm or cool to a temperature within the operating range by placing it in a conditioned room before use. This will be indicated by a red glowing LED on the display panel.

**⚠ WARNING** Store the carrying case in a dry, secured, locked area that is out of reach of children and people unfamiliar with the RE 60 Electric Tool. The electric tool is dangerous in the hands of untrained users.

## Service And Repair

**⚠ WARNING**

Improper service or repair can make machine unsafe to operate.

Service and repair on this RE 60 Electrical Tool must be performed by a RIDGID® Authorized Press Tool Service Center. The tool fasteners have been marked to indicate if service has been performed by unauthorized individuals.

For any repairs or maintenance, contact the Ridge Tool Company, Technical Service Department at (800) 519-3456 or www.RIDGID.com for nearest authorized service outlet.

For information on your nearest RIDGID® Authorized Service Center or any service or repair questions:

- Contact your local RIDGID® distributor.
- Visit www.RIDGID.com or www.RIDGID.eu to find your local RIDGID® contact point.
- Contact RIDGID® Technical Services Department at rtctechservices@emerson.com, or in the U.S. and Canada call (800) 519-3456.

## Disposal

Parts of the Elecrical Tool contain valuable materials and can be recycled. There are companies that specialize in recycling that may be found locally. Dispose of the components in compliance with all applicable regulations. Contact your local waste management authority for more information.

For EC Countries: Do not dispose of electrical equipment with household waste!

According to the European Guideline 2002/-96/EC for Waste Electrical and Electronic Equipment and its implementation into national legislation, electrical equipment that is no longer usable must be collected separately and disposed of in an environmentally correct manner.

## Troubleshooting

| SYMPTOM | POSSIBLE REASONS | SOLUTION |
|---|---|---|
| Tool will not turn ON when ON/OFF button is pressed. | Battery is completely discharged or battery has failed. | Insert fully charged battery/recharge battery. |
| | Battery not properly inserted into handle of tool. | Check to assure battery is fully inserted. |
| Tool will not run when trigger is depressed. Green light flashes. | Battery charge is too low. | Insert fully charged battery/recharge battery. |
| Tool turns OFF either when trigger is depressed or in the middle of a cycle. Red LED glows. | Tool or battery is too cold or too hot. | Bring tool and battery to correct operating range between 23 °F (-5 °C) and 122 °F (50 °C) by allowing the tool to sit in a conditioned room |
| Yellow LED blinks repeatedly as long as tool is turned ON and tool functions properly. | Scheduled maintenance/recalibration is required after 30,000 cycles. | Contact RIDGID Technical Service Department at (800) 519-3456 for nearest Authorized Service center. |
| Yellow LED glows continuously and tool will not begin press cycle when trigger switch is depressed. | Scheduled maintenance/recalibration is mandatory after 32,000 cycles. Tool is “locked” and will not function until serviced.. | Contact RIDGID Technical Service Department at (800) 519-3456 for nearest Authorizedl Service center. |
| Yellow LED glows when tool is turned ON. | Tool malfunction detected. | Remove and reinsert fully charged battery. Be sure to repress fitting. If LED continues to glow,Contact RIDGID Technical Service Department at (800) 519-3456 for nearest Authorized Service center. |
| The connections produced are not complete. | Used wrong interchangeable head/insert for the cable size or material. | Install the correct interchangeable head/insert . |
| | The tool was not square to the connector. | Redo the joint. Make sure that the tool is square to the connector. |
| | Tool is in need of repair. | Contact RIDGID Technical Service Department at (800) 519-3456 for nearest Authorized Service center. |





## Troubleshooting (Continued)

| SYMPTOM | POSSIBLE REASONS | SOLUTION |
|---|---|---|
| Oil leaks from tool. | Seal or mechanical problems. | Contact RIDGID Technical Service Department at (800) 519-3456 for nearest Authorized Service center. |
| Motor runs but tool will not complete a cycle. | Oil level low. | Contact RIDGID Technical Service Department at (800) 519-3456 for nearest Authorized Service center. |
| Dies stop during operation. | Oil level low. | Contact RIDGID Technical Service Department at (800) 519-3456 for nearest Authorized Service center. |

## RE 60 Diagnostic Codes

| LED | Status | Description | Icon |
|---|---|---|---|
| Green | Glows | Tool is ON. | |
| | Blinks | Battery needs charging.. |  |
| Red | Glows | Out of temperature range -10 °C to +50 °C. |  |
| Yellow | Blinks | Service indicator after 30,000 cycles. NOTE: Tool will lock after 32,000 cycles. |  |
| | Glows | Machine is locked – Service after 32,000 cycles or after a tool malfunction. |  |

Figure 7 – LED Diagnostic Codes

**⚠ WARNING**

Read and understand these instructions, the electrical tool instructions, the instructions for the dies to be used, the instructions for the connector to be crimped and the warnings and instructions for all equipment and material being used before operating this tool to reduce the risk of serious personal injury.

SAVE THESE INSTRUCTIONS!

- Keep your fingers and hands away from the crimp head during the crimping cycle. Your fingers or hands can be crushed, fractured or amputated if they are caught between the dies or the components and any other object.
- This head is not insulated for use on or near energized conductors. Use of this head on or near energized conductors may lead to electrical shock, causing severe injury or death.
- Large forces are generated during product use that can break or throw parts and cause injury. Stand clear during use and wear appropriate protective equipment, including eye protection.
- Never repair a damaged head. A head that has been welded, ground, drilled or modified in any manner can break during use. Never replace individual components. Discard damaged heads to reduce the risk of injury.
- Only use a RIDGID® RE 60 Electrical Tool with the RIDGID® LR-60 Latching Crimp Heads. Use of other tools with this head may damage the equipment, cause incomplete crimps or result in serious injury.
- Use proper tool, die, connector and cable combination. Improper combinations can result in an incomplete or improper crimp which increases the risk of fire, severe injury or death.

*NOTICE* Selection of appropriate materials and joining methods is the responsibility of the system designer and/or installer. Before any installation is attempted, careful evaluation of the specific requirements should be completed. Consult connector manufacturer for selection information.

If you have any questions concerning this RIDGID® product:
- Contact your local RIDGID distributor.
- Visit www.RIDGID.com or www.RIDGID.eu to find your local RIDGID contact point.
- Contact RIDGID Technical Services Department at rtctechservices.com, or in the U.S. and Canada call (800) 519-3456.

## Description

RIDGID® Interchangeable Latching Crimp Heads are designed to crimp electrical compression connectors to wire when used with appropriate dies.

The 60 series Crimp Heads are designed for use with the RIDGID® RE 60 Electrical Tool and can rotate 360 degrees with the RIDGID® QuickConnect System (QCS) for better access in tight areas.

The LR-60 round latching crimp head is intended to be used with commercially available, round, 60kN dies for crimping electrical connectors onto wire.

The LS-60 square latching crimp head is intended to be used with commercially available, square, 60kN dies conforming to DIN 48083 Type 6M for crimping electrical connectors onto wire.

## Specification

| | LR-60 |
|---|---|
| Dies | Round |
| Cable | 600MCM<br>300 mm² |
| Tool Input Force | 13500 lbf (60 kN) |
| Weight | 5.3 lb (2.4 kg) 5.3 lb (2.4 kg) |

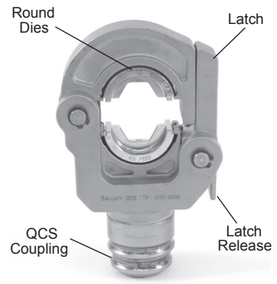


Figure 1 – Round Crimp Head

## Inspection/Maintenance

Inspect the Latching Crimp Head before each use for issues that could affect safe use.

1. With the battery removed from the tool, depress the QCS sleeve and remove the head.
2. Clean the head and remove all dirt, oil, grease, and debris to aid in inspection and improve control. Pay close attention to the QCS coupling to ensure there is no debris to damage the coupling.
3. Inspect the head for:
   - Proper assembly and completeness.
   - Wear, corrosion or other damage. Dimples in the grooves of the QCS coupling are normal with use and are not considered damage. Make sure that the latch works properly and securely closes.
   - Presence and readability of head markings.

   If any issues are found, do not use head until corrected.
4. Inspect the electrical tool and any other equipment being used as directed in their instructions. Confirm that the crimp dies are a clean, undamaged matched set.
5. The QCS coupling is lubricated for life at the factory and does not require any further lubrication. Lubricate the pivot points with a light weight general purpose lubricating oil. Wipe off any excess oil.





## Set Up/Operation

1. Prepare the connection to be crimped per the connector manufacturer's instructions.
2. Choose the appropriate crimp dies and equipment for the application per their specifications. Make sure all equipment is inspected and set up per its instructions.
3. With the head removed from the tool, open the Latching Crimp Head by pressing the latch release. Insert matching dies into the head. Dies should fit snugly and securely, and the crimping profiles should align. Do not force dies into head. If there are any issues with die fit, do not use the head. Do not operate head without dies installed.
4. Remove the battery from the tool. Depress the QCS sleeve on the electric tool and remove/insert the appropriate crimp head. Release the sleeve to retain the head. Confirm that the head is fully inserted and locked into tool before turning ON. (If head will not lock into QCS, ensure tool ram is fully retracted by pressing the relief button.)

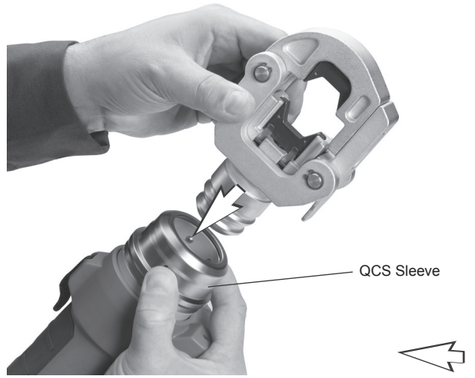


Figure 2 – Installing the Crimp Head in Tool

5. With dry hands install the tool battery.

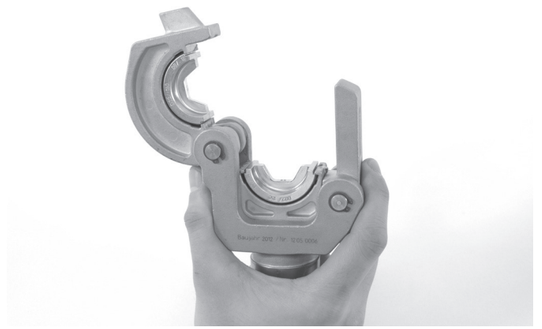

Figure 3 – Opening/Closing the Latching Square Head

6. If needed, open the head by pressing the latch release and close the head around the connector to be crimped. Make sure that the latch is fully closed – do not operate the tool with the latch open or partially open.
7. Follow all compression connector manufacturers' instructions for crimp location. Some wire sizes may require more than one crimp per connection.

   Center the connector squarely against the crimp profile in the stationary die. Improper placement can make an incorrect crimp or damage the equipment.

   If making a single crimp, line up the dies within the lines on the connector. If making multiple crimps on the connector, ensure there is enough room to evenly space crimps between lug lines.

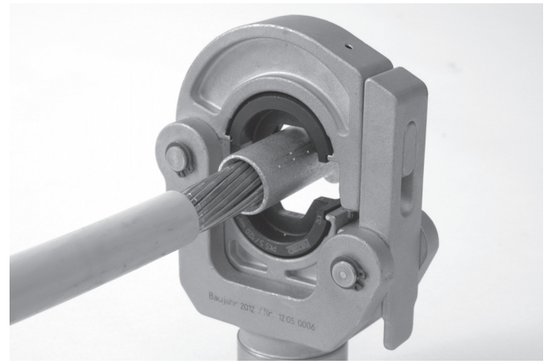

Figure 4 – Aligning the Connector in the Dies

8. With hands clear of the head and other moving parts, operate the RE 60 Electrical Tool as per its instructions. After a complete cycle the ram will retract and the tool will stop. If the ram does not retract, the crimp is not complete and must be repeated.
9. If the ram does not fully retract, press the electrical tool pressure release button. If needed, move the head and repeat the procedure for multiple crimps.
10. Remove the crimped connection from the head.
11. Inspect and test the connection in accordance with fitting supplier instructions, normal practice and applicable codes.

**⚠ WARNING**

Read and understand these instructions, the electrical tool instructions, and the warnings and instructions for all equipment and material being used before operating this tool to reduce the risk of serious personal injury.

SAVE THESE INSTRUCTIONS!

- Keep your fingers and hands away from the scissor cutting head during the cutting cycle. Your fingers or hands can be crushed, fractured or amputated if they are caught in the attachment or between the attachment and other objects.
- This head is not insulated for use on or near energized conductors. Use of this head on or near energized conductors may lead to electrical shock, causing severe injury or death.
- Large forces are generated during product use that can break or throw parts and cause injury. Stand clear during use and wear appropriate protective equipment, including eye protection.
- Never repair a damaged head. A head that has been welded, ground, drilled or modified in any manner can break during use. Only replace components as indicated in these instructions. Discard damaged heads to reduce the risk of injury.
- Only use a RIDGID® RE60 Electrical Tool with this RIDGID® LR-60 Scissor Cutting Head. Use of other tools with this head may damage the head, tool, cutting edge, or result in serious injury.

If you have any questions concerning this RIDGID® product:
- Contact your local RIDGID distributor.
- Visit www.RIDGID.com or www.RIDGID.eu to find your local RIDGID contact point.
- Contact RIDGID Technical Services Department at rtctechservices.com, or in the U.S. and Canada call (800) 519-3456.

## Description

The RIDGID® SC-60 Scissor Cutting Head is designed to cut class B copper and aluminum electrical wire up to 750 MCM (375 mm^2).

The Scissor Cutting Head attaches to the RIDGID RE 53/RE 60 Electrical Tools and can rotate 360 degrees with the RIDGID QuickConnect System (QCS).

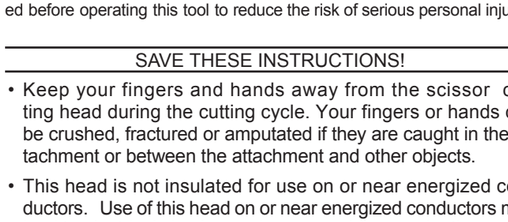


Figure 1 – SC-60 Scissor Cutting Head

## Specification

Cable .....750 MCM (375 mm^2)
Class B Copper and Aluminum Wire. Max. Dia. with insulation = 1.97" (50 mm)

Max. Tool Force ....60 kN (13500 lbf) RE 60-IB
53 kN (11900 lbf) RE 53-IB

Weight .....4.9 lb (2.2 kg)

Cutting capacity depends on a variety of factors including material thickness, type, hardness and configuration. Cuts may not be able to be completed based on these and other variables.

*NOTICE* Only cut aluminum or copper wire. Any other material, such as steel, can dull and damage the blades.

## Inspection/Maintenance

Inspect the Scissor Cutting Head before each use for issues that could affect safe use.

1. With the battery removed from the tool, depress the QCS sleeve and remove the head.
2. Clean the head and remove all dirt, oil, grease, and debris to aid in inspection and improve control. Pay close attention to the QCS coupling to ensure there is no debris to damage the coupling.
3. Inspect the head for:
   - Proper assembly and completeness. Make sure guards are present and secure.
   - Wear, corrosion or other damage. Dimples in the grooves of the QCS are normal with use and are not considered damage. Inspect the cutting edges for damage.
   - Presence and readability of head markings.

If any issues are found, do not use head until corrected.

4. Inspect the electrical tool and any other equipment being used as directed in their instructions.
5. The QCS coupling is lubricated for life at the factory and does not require any further lubrication. Lubricate the pivot points of the Scissor Cutting Head with a light weight general purpose lubricating oil. Wipe off any excess oil.

## Set Up/Operation

1. Determine the size and type of material to be cut. Select the appropriate equipment per its specifications. Do not cut steel wire. Mark the cut location on the wire.
2. Make sure all equipment is inspected and set up per its instructions.


Figure 2 – Installing the Scissor Cutting Head In Crimp Tool

3. Remove the battery from the tool. Depress the QCS sleeve on the electric tool and insert the scissor cutting head. Release the sleeve to retain the head. Confirm that the head is fully inserted and locked into tool before turning ON. (If head will not lock into QCS, ensure tool ram is fully retracted by pressing the release button.)
4. Place the wire between the cutting edges of the Scissor Cutting head, and squarely line up the cutting edge with the cut location. Do not try to cut the wire at an angle.

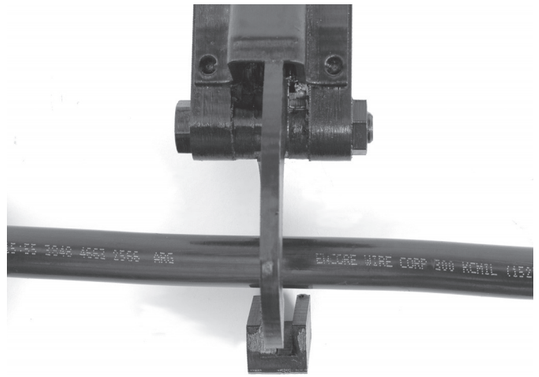

Figure 3 – Cutting Edge Lined Up With Wire Mark

5. With hands clear of the head and other moving parts, operate the Electrical Tool as per its instructions. Continue to press the run switch until the tool ram automatically retracts and the wire is cut. If the ram does not fully retract, press the electrical tool pressure release button.
6. Inspect the cut. Be careful of any sharp edges.

**⚠ WARNING**

Read and understand these instructions, the electrical tool instructions, and the warnings and instructions for all equip ment and material being used before operating this tool to reduce the risk of serious personal injury.

SAVE THESE INSTRUCTIONS!

- Keep your fingers and hands away from the punch head during the punch cycle.Your fingers or hands can be crushed, fractured or amputated if they are caught between the punch dies or the components and any other object.
- This head is not insulated for use on or near energized conductors. Use of this head on or near energized conductors may lead to electrical shock, causing severe injury or death.
- Large forces are generated during product use that can break or throw parts and cause injury. Stand clear during use and wear appropriate protective equipment, including eye protection.
- Never repair a damaged head. A head that has been welded, ground, drilled or modified in any manner can break during use. Only replace components as indicated in these instructions. Discard damaged heads to reduce the risk of injury.
- Only use a RIDGID® RE60 Electrical Tool with this RIDGID® PH-60 Punch Head. Use of other tools with this head may damage the head, tool, draw stud, punch dies, or result in serious injury.

If you have any questions concerning this RIDGID® product:
- Contact your local RIDGID distributor.
- Visit www.RIDGID.com or www.RIDGID.eu to find your local RIDGID contact point.
- Contact RIDGID Technical Services Department at rtctechservices.com, or in the U.S. and Canada call (800) 519-3456.

## Description

The RIDGID® PH-60 Punch Head is designed to accept 3/4" -10 UNC threaded draw studs for use with punches and dies (such as knockout punches) to punch holes through sheet materials such as mild or stainless steel.

The Punch Head attaches to the RIDGID RE 53/60 Electrical Tool and can rotate 360 degrees with the RIDGID Quick Connect System (QCS) for better access in tight areas.

## Specification

Material Thickness.....Mild Steel - Up to 10 gauge (0.135", 3.4 mm)
Stainless Steel – Up to 16 gauge (0.06", 1.5 mm)

Max. Punch Diameter.....2.5" (63.5 mm) in 10 gauge mild steel

Draw Stud Thread.....3/4" – 10 UNC

Maximum Force.....13,5000 lbf (60 kN)

Weight .....3.4 lb (1.5 kg)

Punching capacity depends on a variety of factors including material thickness, type and hardness, punch size/configuration. Holes may not be able to be completed in all cases based on these and other variables.

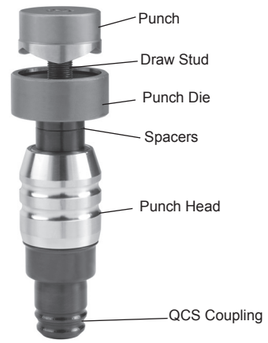


Figure 1 – PH-60 Punch Head

## Inspection/Maintenance

Inspect the Punch Head before each use for issues that could affect safe use.

1. With the battery removed from the tool, depress the QCS sleeve and remove the head.
2. Clean the head and remove all dirt, oil, grease, and debris to aid in inspection and improve control. Pay close attention to the QCS coupling to ensure there is no debris to damage the coupling. Ensure that the threaded hole is free of debris.
3. Inspect the head for:
   - Proper assembly and completeness.
   - Wear, corrosion or other damage. Dimples in the grooves of the QCS coupling are normal with use and are not considered damage.
   - Presence and readability of head markings.

   If any issues are found, do not use head until corrected.
4. Inspect the electrical tool and any other equipment being used as directed in their instructions. Make sure Punch parts are in good working condition.
5. The QCS coupling is lubricated for life at the factory and does not require any further lubrication. Do not disassemble the Punch Head, unit contains compressed spring.

## Set Up/Operation

These instructions are generalized for many types of hole punches. Follow the specific instructions for the set up and operation of the hole punch being used.

1. Determine the thickness and type of material to be punched. Make sure there is only a single thickness of material to be punched. Determine the hole size you wish to punch. Select the appropriate matched set per its specifications.
2. Make sure all equipment is inspected and set up per its instructions.





3. Mark the hole location and if needed drill a pilot hole just larger than the draw stud.
4. With the Punch Head removed from the tool, thread the appropriate draw stud into the Punch Head unit hand tight. The thread must be fully engaged to ensure proper operation.
5. Place any needed spacers over the draw stud, followed by the punch die. Place the cupped half of the die facing away from the tool.
6. Insert the draw stud through the pilot hole in the material to be punched.
7. Thread the matching punch half of the die onto the draw stud with the cutting edges toward the material. Tighten by hand until there are no gaps between the head, spacer(s), die, material and punch. If there are gaps between the parts, the dies will not be square to the material and could damage the equipment or cause injury.

   Make sure that the punch is fully threaded onto the draw stud. Do not operate with the punch partially threaded onto the draw stud, this could damage the stud. If the punch will not fully thread onto the draw stud, a spacer may need to be removed.

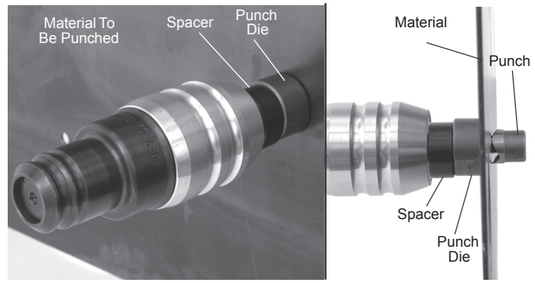


Figure 2 – Setting Up The Punch Head

8. Remove the battery from the tool. Depress the QCS sleeve on the electric tool and insert the punch head. Release the sleeve to retain the head. Confirm that the head is fully inserted and locked into tool before turning ON. (If head will not lock into QCS, ensure tool ram is fully retracted by pressing the release button.)


Figure 3 – Installing The Punch Head In Electrical Tool

9. With hands clear of the head and other moving parts, operate the Electrical Tool as per its instructions. As soon as the hole is complete release the run switch. Do not hold the run switch until the tool automatically retracts. This could cause the punch to bottom out in the die and damage the punch/die. Press the electrical tool pressure relase button to retract the ram.
10. Turn the Electrical tool OFF and remove the punch from the hole. Be careful of any sharp edges.