RAD®
TORQUE SYSTEMS

E-RAD BLU

全球领先的扭矩工具制造商

气动系列　充电系列　电子精控系列　电动系列　扭矩传感器

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IMPORTANT SAFETY NOTICE 重要安全提示

RAD TOOLS ARE SAFE AND RELIABLE. NOT FOLLOWING PRECAUTIONS AND INSTRUCTIONS OUTLINED HERE CAN RESULT IN INJURY TO THE TOOL, OPERATOR AND FELLOW WORKERS.

RAD 产品安全可靠。不遵守本手册所列的注意事项和使用说明可能会导致对产品本身，操作员及其同事造成损害。

NEW WORLD TECHNOLOGIES INCORPORATED IS NOT RESPONSIBLE FOR ANY SUCH INJURY.

新世界科技有限公司对此类伤害不负责任。

The intended use of the E-RAD BLU Tool System is for commercial and industrial bolting applications.

E-RAD BLU 工具系统预期用于工商业中的螺栓操作。

Do not operate the E-RAD BLU Tool System before reading and understanding this user manual and noting the Safety Notices displayed on the E-RAD BLU Tool System and throughout this manual.

在操作 E-RAD BLU 工具系统之前，请务必阅读并理解此用户手册，并留意 E-RAD BLU 工具系统上及此用户手册中所示安全标志。

Only qualified personnel with training in the safe operation of torque tooling and the E-RAD BLU Tool System should attempt the installation, operation and diagnosis of the E-RAD BLU Tool System. The E-RAD BLU Tool System is connected to high voltage power and consists of external rotating parts. Improper training and use can cause serious or fatal injury.

只有接受过扭矩工具和 E-RAD BLU 工具系统安全操作培训的合格人员方可尝试安装，操作和诊断 E-RAD BLU 工具系统。培训或使用不当，可能导致严重或致命伤害。

Do not disassemble or attempt to repair the E-RAD BLU Tool System; doing so will void warranty. If breakdown, malfunction, or damage occurs and the E-RAD BLU Tool System fails to operate correctly, contact New World Technologies Inc. Technical Support (refer to Section 8.0 – Contact Us).

请不要拆卸或尝试修理该 E-RAD BLU 工具系统；否则将不再享受质量担保服务。如果工具系统发生故障，失灵或损毁，不能正常运转，请联系新世界科技有限公司技术支持（参照 8.0 部分—联系我们）

The E-RAD BLU Tool System should only be used if environmental storage and operation specifications have been met. Refer to Section 1.2.3 – Environmental Specifications.

只有满足环境存储和操作规格的情况下方可使用 E-RAD BLU 工具系统。参照 1.2.3 部分—环境规范

Electrical Shock can cause serious or fatal injury. Do not apply power to the E-RAD BLU Tool System without verifying the Earth Ground. Ensure the E-RAD BLU Controller and Tool Handle are properly Earth Grounded before turning on the Power Switch. Do not touch any power devices or electrical connections or remove the E-RAD BLU Controller Top Plate before ensuring the Power Switch is in the Off Position, the AC Mains Power has been disconnected and no high voltage is present.

电击伤害能够导致严重或致命伤害。未经检验接地电源的情况下请勿连接电源到 E-RAD 工具系统。在打开电源开关前请确保 E-RAD BLU 控制器和工具手柄正确接地。

在确保电源开关断开，交流电电源切断，不存在高压之前，请勿触摸任何电源设备，导电连接，或是移除 E-RAD BLU 控制器顶板。

Ensure all AC Mains Power wiring to the E-RAD BLU AC Power Cable comply with all National and Local Electrical Codes. Improper wiring may result in unsafe conditions for equipment and personnel.

确保连接 E-RAD BLU 交流电电缆的所有电源线符合国家和当地的电器规程。不恰当的接线可能会导致设备或人员的不安全情况。

New World Technologies Inc. does not recommend replacing the supplied AC Power Cable. If using a different power cable or a power plug adapter, ensure the Earth Ground pin is present and firmly connected.

新世界科技有限公司不建议更换所提供的交流电电缆。如果使用不同的电缆或是电源插头适配器，请确保使用并稳固接地引脚。

While operating the E-RAD BLU Tool System, always wear safety goggles and keep all body parts clear of moving parts and the reaction arm contact point.

Always support the E-RAD BLU Tool Handle while the E-RAD BLU Tool System is in use. This will prevent unexpected release in the event of fastener or component failure.

在操作 E-RAD BLU 工具系统时，请一直佩戴防护眼镜，并保持所有的身体部位不接触活动部件和反作用力臂接触点。

在 E-RAD BLU 工具系统使用过程中，请保持支撑工具手柄。这能够在紧固件或元件出现故障时避免发生意外滑脱。

Never exceed the Maximum Torque of the E-RAD BLU Tool System. Failure to comply will result in void warranty.

不允许超过 E-RAD BLU 工具系统的最大扭矩值。否则将不再享受质量担保服务。

The E-RAD BLU Tool System has been calibrated by a qualified Calibration Technician. Calibration must be done by a qualified Calibration Technician. Improper calibration can cause damage to the Tool and joint.

E-RAD BLU 工具系统经由专业校对技术员校对。校对工作必须由专业校对技术员完成。不恰当的校对工具和接头造成损坏。

1.0 General Information 通用信息

1.1 System Components 系统元件

The E-RAD BLU Tool System is shipped from New World Technologies Inc. with the following parts:

新世界科技有限公司生产的 E-RAD BLU 工具系统包含以下部分：

- E-RAD BLU Torque Tool Handle (Figure 1.1-1)
- E-RAD BLU 扭矩工具手柄
- E-RAD BLU Touch Controller (Weatherproof (Figure 1.1-2) or Steel Case)
- E-RAD BLU 触摸屏式控制器（防水式（图 1.1-2）或钢壳式）
- Tool Handle Cable (Figure 1.1-3)
- 工具手柄电缆（图 1.1-3）
- AC Power Cable (Figure 1.1-4)
- 交流电电缆（图 1.1-4）
- Standard Reaction Arm and Snap Ring (Figure 1.1-5)
- 标准反作用力臂和卡环
- Serial Communication Cable (USB A to B) – used for data retrieval
- 串行通讯电缆（USB A 到 B）—用于数据检索
- Calibration Certificate
- 校对合格证
- User Manual
- 用户手册

Figure 1.1-1: E-RAD BLU Tool Handle
图 1.1-1 E-RAD BLU 工具手柄

Figure 1.1-2: E-RAD BLU Touch Controller
图 1.1-1 E-RAD BLU 触摸屏式控制器

Figure 1.1-3: Tool Handle Cable
图 1.1-3：:工具手柄电缆

Figure 1.1-4: AC Power Cable
图 1.1-4 交流电电缆

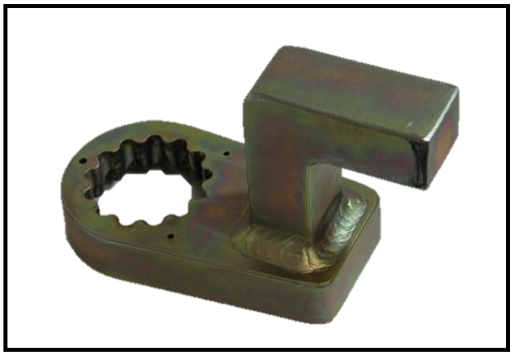


Figure 1.1-5: Standard Reaction Arm 图 1.1-5 标准反作用力臂

Note: Some distributors may ship additional parts along with the E-RAD BLU Tool System.
注：部分经销商可能经营 E-RAD BLU 工具系统随附零部件。

1.2 Specifications 规格说明

1.2.1 Torque Ranges 扭矩范围

The following table outlines the torque ranges, in Foot-Pounds and Newton-Meters, of each E-RAD BLU Tool System:
以下表格以英尺磅和牛顿米列出了每个 E-RAD BLU 工具系统的扭矩范围：

E-RAD BLU 700	100 – 700 FtLb （英尺磅）	Or （或）	135 – 950 Nm （牛顿米）
E-RAD BLU 2500 COMP	250 – 2500 FtLb	Or	340 – 3400 Nm
E-RAD BLU 3000	500 – 3000 FtLb	Or	675 – 4050 Nm
E-RAD BLU 6000	1000 – 6000 FtLb	Or	1350 – 8100 Nm
E-RAD BLU 7500	1500 – 7500 FtLb	Or	2030 – 10000 Nm

Table 1.2.1-1: Torque Ranges（表 1.2.1-1 扭矩范围）

1.2.2 Electrical Specifications 电气规格

Ensure that all Electrical Specifications are followed when utilizing the E-RAD BLU Tool System.请确保使用 E-RAD BLU 工具系统时满足了下列所有电气规格。

	Units	120V Model	230V Model
Nominal Input Voltage	VAC	120	208 - 240
Minimum Input Voltage	VAC	80% of Calibration Voltage	
Maximum Input Voltage	VAC	110% of Calibration Voltage	
Nominal Tool Voltage	VDC	160	328
Minimum Tool Voltage	VDC	80% of Calibration Voltage	
Maximum Tool Voltage	VDC	110% of Calibration Voltage	
Nominal Input Current	ARMS	5	5
Peak Tool Input Current	ARMS	15	15

Table 1.2.2-1: Electrical Specifications

Intermittent Operations 10 sec / 5 sec ON / OFF

	单位	120 伏	230 伏
标称输入电压	交流电压	120	208-240
最小输入电压	交流电压	校准电压的 80%	
最大输入电压	交流电压	校准电压的 110%	
标称工具电压	直流电压	160	328
最小工具电压	直流电压	校准电压的 80%	
最大工具电压	直流电压	校准电压的 110%	
标称输入电流	安	5	5
工具输入峰值电流	安	15	15

表 1.2.2-1 电气规格

间歇操作 10 秒/5 秒 开/关

1.2.3 Environmental Specifications 环境说明

CAUTION! 注意！

Only operate the E-RAD BLU Tool System if the following environmental storage and operation specifications have been met.
只有在满足以下存储环境和使用时方可操作 E-RAD BLU 工具系统。

	All Models	
Ambient Operating Temperate Range	°C	°F
Minimum	-20	-4
Maximum	40	104
Storage Temperature Range	-25 to 70	-13 to 158
Humidity	10% to 90% non-condensing	
Area	No flammable gases or vapours permitted in area.	
Shock	10G according to DIN IEC 68-2-6/29	
Vibration	1G, 10-50Hz according to DIN IEC 68-2-6/69	

Table 1.2.3-1: Environmental Specifications

	所有模式	
周边操作温度范围	摄氏度	华氏度
最低	-20	-4
最高	40	104
存放度范围	-25 到 70	-13 到 158
湿度	10%到 90%无冷凝	
所在区域	禁止可燃气体或蒸汽	
抗冲击	根据 DIN IEC 68-2-6/29 为 10G	
抗震动	DIN IEC 68-2-6/69 为 1G, 10-50Hz	

表 1.2.3-1 环境说明

2.0 Power Requirements 电源要求

The installer of this equipment is responsible for complying with National Electrical Code (NEC) or equivalent and Federal and Local Guidelines and Application Codes that govern protection, Earth Grounding, disconnects and other current protection for electrical equipment for use in outdoor or indoor applications.

The following sections outline the E-RAD BLU power requirements.
本设备的安装者负责美遵守国国家电气标准（NEC）或是同等效力之标准；管理保护装置，接地，断电的联邦和地方指导条例与应用程序代码，以及针对室内外电气装置的其他通用保护措施。
以下部分概述了 E-RAD BLU 的电源要求。

2.1 AC Mains Power 交流电源功率

DANGER! 危险！

Electrical Shock can cause serious or fatal injury. Do not apply power to the E-RAD BLU Tool System without verifying the Earth Ground. Ensure the E-RAD BLU Controller and Tool Handle are properly Earth Grounded before turning on the Power Switch. Do not touch any power device or electrical connection or remove the E-RAD BLU Controller Top Plate before ensuring the Power Switch is in the Off Position, the AC Mains Power has been disconnected and no high voltage is present. New World Technologies Inc. does not recommend replacing the supplied AC Power Cable. If using a different power cable or a power plug adapter, ensure the Earth Ground pin is present and firmly connected.

电击可以导致严重伤害或危及性命。未经检验接地之前请不要将电源连接到 E-RAD BLU 工具系统。在打开电源开关之前请确保 E-RAD BLU 控制器和工具手柄正确接地。在确认电源开关处于断路位置，交流电电源断开连接，不存在高压电之前，请不要触摸任何电源设备或是电插头或是移除 E-RAD BLU 控制器顶盖。新世界科技有限公司不建议更换配备的交流电电缆。如果使用不同的电缆或是电源插头适配器，请确认使用接地插头，并且连接稳固。

WARNING! 警告！

Ensure all AC Mains wiring to the E-RAD BLU AC Power Cable comply with all National and Local Electrical Codes. Improper wiring may result in unsafe conditions for equipment and personnel.

The E-RAD BLU Controller requires model specific single phase 120VAC or 230VAC.

The single phase line must be electrically symmetrical with respect to Earth Ground. The branch circuit must be a dedicated 15A to ensure proper tool operation and to avoid circuit loading and nuisance trips.

Note: The E-RAD BLU Controller is internally fused for self-protection. Contact New World Technologies Inc. Technical Support for assistance if a blown fuse is suspected.

确保连接交流电源线的所有电源布线符合国家及地方电气规程。不恰当的布线可导致设备人员不安全情况的发生。

E-RAD BLU 控制器要求特定模式的单相 120V 或者 230V 交流电。

单相电线必须接地。分支电路电流必须达到 15 安，以保证工具正确操作，避免电路负载和跳闸。

注：出于自我保护，E-RAD BLU 控制器保险丝置于内部。如果怀疑有保险丝熔断，请联系新世界科技有限公司获得支持或帮助。

2.2 Earth Grounding Safety 接地安全

Important! 重要信息！ Earth Grounding is the primary electrical shock protection and is mandatory!

The E-RAD BLU is assembled with a dedicated earth ground connection to the Tool Handle and Controller via the AC Mains Power Connection.

It is the operator's responsibility to adhere and follow, at minimum, an Assured Grounding Program and all National and Local Electrical Codes.

接地是防止电击发生的强制性基本保护措施。

E-RAD BLU 配备了一个专用的接地线，通过交流电源接头连接工具手柄与控制器。

操作者应负责至少是遵守和坚持一个有保障的接地程序和全部国家及地方电气规程说明。

2.3 Ground Fault Current Interrupt (GFCI) 接地故障电流漏电保护(GFCI)

GFCI's are secondary protection devices which protect against electric shock in case of a ground wiring fault.

The E-RAD BLU Controller is compatible with Class A GFCI.

Note: National and Local Electrical Codes may require use of GFCI. Check National and Local Electrical Codes for compliance.

接地故障断路器是第二级防护设备，以在接地线故障的情况下避免电击情况的发生。

E-RAD BLU 控制器与 A 级接地故障断路器兼容。

注：国家及地方电气规程可能有使用接地故障断路器的要求。请查询以做到与标准相符。

2.4 Extension Cords 延长电线

Extension cord quality and condition is important to ensure personal safety and E-RAD BLU performance. Check National and Local Electrical Codes for compliance.

For extension cords under 30ft, 12AWG is recommended; for extension cords over 30ft, 10AWG is recommended.

Generally 100ft is the maximum recommended length for any extension cord, although some installations demand longer cords. Longer extension cords will reduce the voltage and speed of the E-RAD BLU Tool System and may cause nuisance trips at higher torque demand.

延长线的质量和条件对确保人员安全和 E-RAD BLU 的性能非常重要。请查询国家和地方电气规程并与之相符。

尽管有些装置要求更长的线路，对任何延长电线，通常 100 英尺是可推荐的最大长度。延长的电线会将低电压以及 E-RAD BLU 工具系统的速度，在要求更大扭力的情况下可能会导致跳闸。

2.5 Power Cycling 处理不正常断电

If AC power has been shut off from the E-RAD BLU, it should not be reapplied for at least one minute. This allows the input surge protection to perform properly. Power cycling too quickly can cause nuisance trips and reduce the life-time of the electronics.

如果 E-RAD BLU 的交流电切断了，那么至少在一分钟之内不要打开。这可以使输入性过载保护正确运行。反复开电源频率过高可导致跳闸，缩短产品使用寿命。

3.0 Tool System Assembly 工具系统安装

3.1 Tool Handle Description 工具手柄说明

The E-RAD BLU Tool Handle (Figure 3.1-1) is trigger activated with a Forward/Reverse Switch. On each side of the tool housing is a LED Status Display (Figure 3.1-2) which notifies the operator when the tool is ready for use, when the bolting cycle has passed, or if the bolting cycle has failed.

1. Forward/Reverse Switch – controls direction of rotation.

2. On/Off Trigger – tool activation.
3. System Ready – blue LED will illuminate when the tool is ready for use.
4. Fail – red LED will illuminate when the tool fails to complete the torque cycle.
5. Pass – green LED will illuminate when the tool completes torque operation.

E-RAD BLU 工具手柄（图 3.1-1）为触发器激活式，有一个正转/反转开关。工具壳两侧各有一个 LED 状态显示器（图 3.1-2），对操作者给出工具准备运行，螺栓连接已成功或是螺栓连接失败的指示。

1. 正转/反转开关—控制旋转方向。
2. 开/关触发器—工具激活。
3. 系统准备就绪—工具准备就绪时蓝色 LED 灯会发光。
4. 失败—当工具没能完成螺栓连接时红色 LED 灯会发光。
5. 成功—当工具完成扭矩操作时绿色 LED 灯会发光。

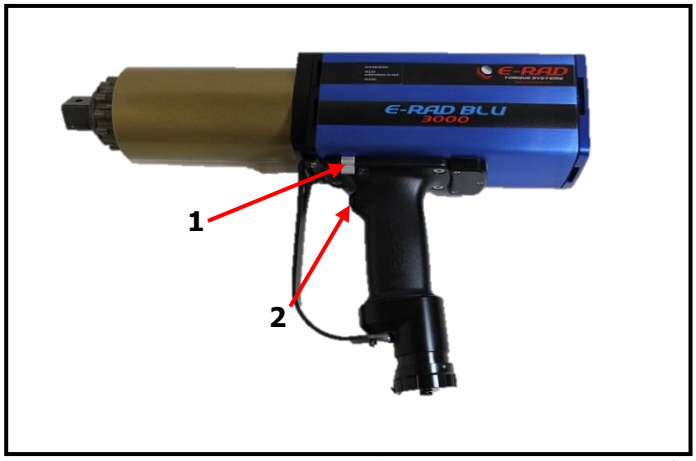


Figure 3.1-1: E-RAD BLU Tool Handle 图 3.1-1：E-RAD BLU 工具手柄

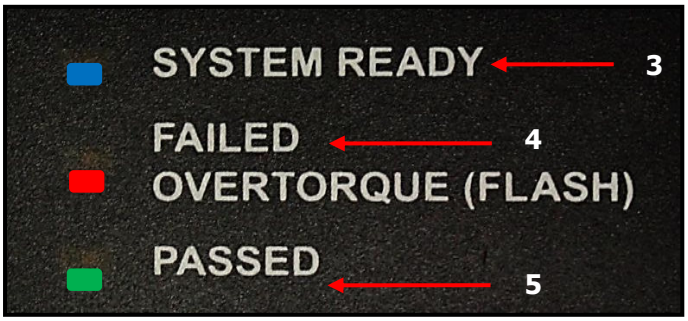


Figure 3.1-2: LED Status Display 图 3.1-2 LED 状态显示器

系统准备就绪　失败 扭力过大（闪光）　成功

3.2 Controller Description 控制器说明

The E-RAD BLU Controller has a touch screen interface for ease of bolting operation and status, as well as advanced configuration options and Data Logging. The AC Power and Tool Handle Connection are located on the right side of the controller housing. Details are shown below in Figure 3.2-1 and Figure 3.2-2:

1. Tool Handle Connector for the E-RAD BLU Tool Handle
2. AC Mains Input Power Connector (120V AC or 230V AC)
3. Serial Number for E-RAD BLU Controller
4. USB Communication Port
5. Network Communication Port
6. Optional Serial Port for Integration into Custom Applications
7. LCD Touch Display
8. Power Switch

E-RAD BLU 控制器含一个触摸屏界面，既便于螺栓连接和状态控制，也是一种先进的配置选择和数据记录方式。交流电源和工具手柄的接头位于控制器外壳的右侧。详细信息请见下图 3.2-1 和 3.2-2：

1.E-RAD BLU 工具手柄的接头

2.交流电输入接头（120V 或 230V 交流电）
3. E-RAD BLU 控制器序列号
4.USB 通讯端口
5.网络通讯端口
6. 结合定制应用的可选串行端口
7.LCD 触摸屏
8.电源开关

Figure 3.2-1: Controller Cable Connections 图 3.2-1 控制器电源接头

Figure 3.2-2: Controller Top Plate 图 3.2-2 控制器顶盖

3.3 Connecting the Tool Handle, the Controller, and the Power

连接工具手柄，控制器和电源

DANGER! 危险！

Electrical shock can cause serious or fatal injury. Ensure E-RAD BLU Controller and Tool Handle are properly Earth Grounded before turning on the Power Switch. Do not turn on power to the Tool or operate the Tool without verifying the Earth Ground.

电击可能导致严重或致命伤害。在打开电源开关之前请确认 E-RAD BLU 控制器和工具手柄正确接地。未经检查接地情况，不得打开工具电源或操作工具。

CAUTION!注意！

Do not disconnect the electrical connectors while the E-RAD BLU power is on. Damage to the Tool or Controller will occur.

E-RAD BLU 电源开启状态下，请勿断开接头。否则会损坏工具或控制器。

By following the instructions below, the operator will safely connect the E-RAD BLU Tool System. Once all these steps have been completed, the E-RAD BLU Tool System will be ready to power on.

按照下面的说明，操作者能够安全的连接 E-RAD BLU 工具系统。一旦完成了这些步骤，E-RAD BLU 工具系统就可以准备就绪通电了。

1. Refer to Section 2.0 – Power Requirements and ensure compliance before connecting the Tool Handle or AC Power Cable to the Controller.
2. Connect the Tool Handle Cable to the Tool Handle Connector on the right side of the Controller.
3. Ensure the AC is Earth Grounded.
4. Ensure the AC Power Cable is in good condition; there are no cuts or breaks in the cable insulating jacket and the Plug Pins and Earth Ground Pin are present and in good condition.
5. Ensure the E-RAD BLU Power Switch is in the Off Position.
6. Connect the E-RAD BLU AC Power Cable to the AC Mains Input Power Connector on the right side of the Controller.
7. Connect the E-RAD BLU AC Power Cable to the AC Mains Supply.
8. Check that the E-RAD BLU Controller and Tool Handle are properly Earth Grounded.

Note: Different E-RAD BLU Tool Handles can be used with single Controller (Figure 3.3-1).

1. 参考 2.0 部分-电源要求，并在连接工具手柄或交流电电缆与控制器之前确保符合该要求。
2. 连接工具手柄电缆与控制器右侧的插头。
3. 确保交流电处于接地状态。
4. 确保交流电电缆状况良好；电缆绝缘夹套上没有切口或破裂，插销和接地插头状况良好可以使用。
5. 确保 E-RAD BLU 电源插头处于断开位置。
6. 连接 E-RAD BLU 电缆与控制器右侧的进线插头。
7. 连接 E-RAD BLU 电缆与电源。
8. 检查 E-RAD BLU 控制器与工具手柄正确接地。

注：不同的 E-RAD BLU 工具手柄可与单控制器一同使用。

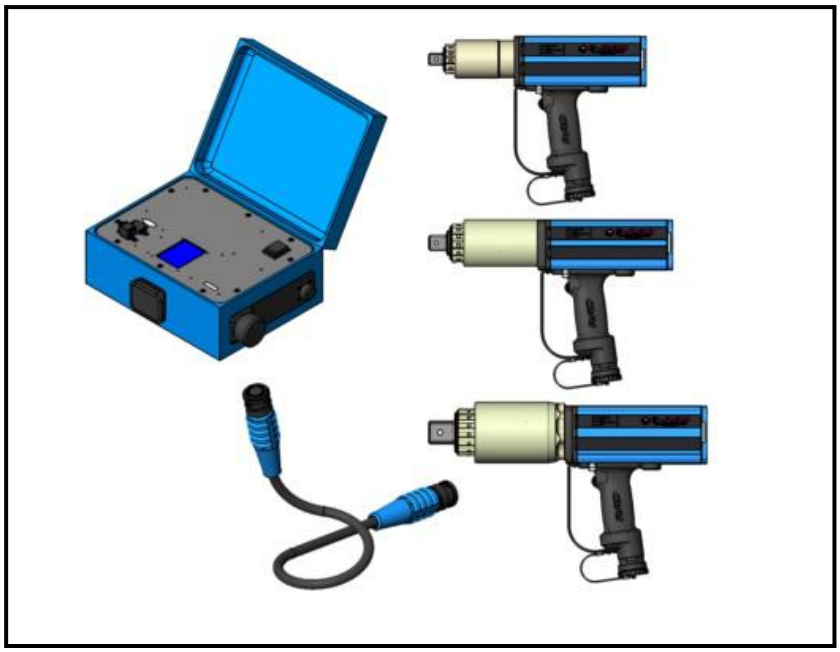


Figure 3.3-1: Multiple Tool Handles can connect to single Controller
图 3.3-1 一个控制器可以连接多个工具手柄

4.0 Touch Display Interface 触摸屏界面

CAUTION! 注意！

LCD Touch Displays are susceptible to mechanical shock and any force exerted on the module may result in damage.

LCD Touch Displays can be damaged by moisture or water and high temperatures. Avoid such conditions when storing and gently wipe clean or let dry before usage.

Note: Dirt from fingerprint oil can easily stain the surface of the display. Gently wipe off any stains with a soft, lint-free cloth.

The E-RAD BLU Controller includes a LCD Touch Display. This simple touch screen interface has many functions, including Data Logging, Configuration Options, and Torque and Angle Settings. The following sections describe these functions, as well as how to enable and/or use them.

LCD 触摸屏易受到机械震动影响，施加到组件的任何外力可能会导致损坏。
湿气或水分以及高温可能会导致 LCD 触摸屏损坏。存放时请避免这种情形，并在使用前轻轻擦拭干净或晾干。
注：指纹油渍容易弄脏屏幕表面。请用一块柔软无绒抹布轻轻擦拭干净。

4.1 Main Screen 主屏幕

The Main Screen is used as the central control point of the E-RAD BLU Tool System. Here the operator can access: Menu Options, Presets, Torque and Angle Settings, Smart Socket settings, and Data Logs. The operator can also see the Case Temperature and the Handle Temperature. Figure 4.1-1 shows the Main Screen and indicated important aspects.

主屏幕被用作 E-RAD BLU 工具系统的中心控制点。在这里操作者可以设置：菜单选择，扭矩和角度设置，智能套筒设置，以及数据记录。操作者也可以看到壳体温度和手柄温度。图 4.1-1 说明了主屏幕和指出的重要方面。

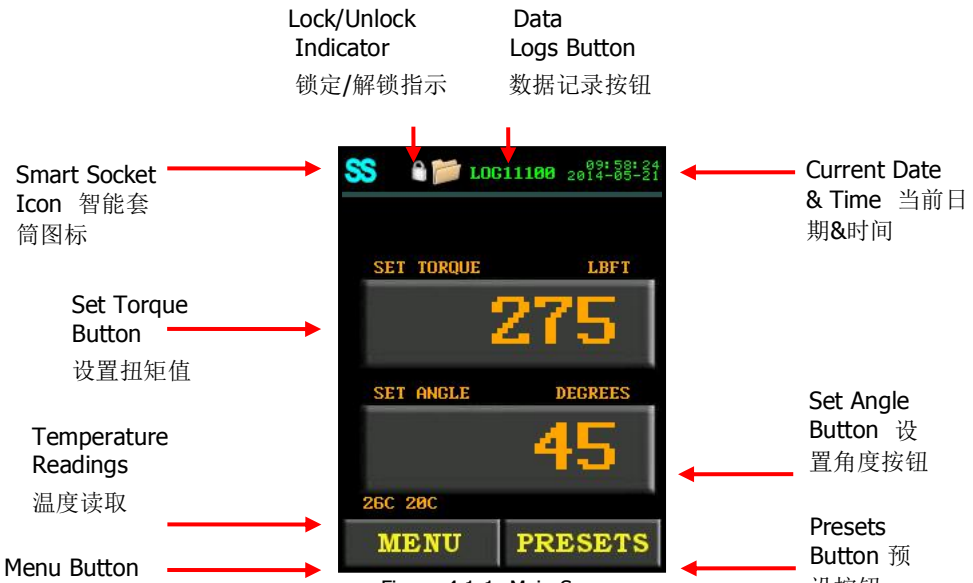


Figure 4.1-1: Main Screen
图 4.1-1 主屏幕

4.1.1 The "SS" Icon "智能套筒"图标

The Smart Socket (SS) icon in the top left of the screen displays the connection status of the ERAD BLU with the Smart Socket. It will display one of the following:

智能套筒图标位于屏幕的左上方，显示 ERAD BLU 与智能套筒的连接状态。它会显示以下所列中的一项：

- Dim grey SS, indicates the Bluetooth Bridge (BT module) has been disabled or it was not found (Figure 4.1-2).
  Note: If the Bluetooth Bridge was not found there will be no "Sensor Info" in the Tool Information Menu. Refer to section 4.3.5 – View Tool Information.
- Red SS, indicates that the unit recognizes the Bridge (BT module) in the handle, but is not connected to any Smart Socket (Figure 4.1-3). As long as Sensor Mode is not enabled the Tool will operate as a normal ERAD.
- Yellow SS, indicates that the unit has found a Smart Socket and is in the process of connecting to it (Figure 4.1-4). **DO NOT** use the Tool during this stage.

- Blue SS, indicates that the unit is connected to a Smart Socket and is ready to be used (Figure 4.1-5). Torque readings will be displayed in light blue to indicate that the reading was from the Smart Socket.
- 深灰色 SS,指示蓝牙连接（蓝牙模块）已经失灵或是没有找到（图 4.1-2）。

  注：如果蓝牙桥未找到，工具信息菜单上不会有“传感器信息”。查阅 4.3.5 部分—查看工具信息。

- 红色 SS，指示部件识别出了手柄中的蓝牙连接（蓝牙模块），但是没有连接上智能套筒（图 4.1-3）。未开启传感器模式时，工具可作为常规 E-RAD 使用。

- 黄色 SS，指示部件已经发现一个智能套筒，并且正在连接（图 4.1-4）。在这个阶段请**不要**使用工具。

- 蓝色 SS,指示部件已经发现蓝牙并已连接成功，可以直接使用（图 4.1-5）。扭力读书将以蓝色显示，表明读数来自于智能套筒。

Figure 4.1.1-1: Bluetooth Bridge Disabled or Not Found

图 4.1-1 蓝牙连接失灵或未发现

Figure 4.1.1-2: Bridge Found/Enabled. Smart Socket Not Connected

图 4.1.1-2 连接找到/启动。智能套筒未连接

Figure 4.1.1-3: Connecting to Smart Socket

图 4.4.1-3 连接到智能套筒

Figure 4.1.1-4: Connected to Smart Socket and Ready For Use 图 4。1.1-4 连接到智能套筒，可以启用

4.1.2 The Temperature Readings 温度读数

The Temperature Readings can be found above the "**Menu**" button on the Main Screen (Figure 4.1.2-1). The Case Temperature is on the left and the Handle Temperature is on the right.

温度数值在主屏幕“菜单”键的上方（图 4.1.2-1）。其中左边数值为壳体温度，右边数值为工具手柄温度。

Figure 4.1.2-1: Temperature Readings

图 4.1.2-1 温度读数

When the Case Temperature goes above 85°C, the E-RAD BLU handle will shut off until the temperature of the case drops below 75°C.

当壳体温度超过 85°C，E-RAD BLU 手柄会切断电源，直到壳体温度降至 75°C 以下。

When the Handle Temperature goes above 85°C, the E-RAD BLU handle will shut down until the temperature of the handle drops below 75°C.

当手柄温度超过 85°C，E-RAD BLU 手柄会停止工作，直到手柄温度降至 75°C 以下。

4.2 User Access Levels 用户访问级别

Access to the functions on the Touch Display have been constricted to four Access Levels: the Locked Level, the Basic Level, the Intermediate Level and the Advanced Level. Access to the last three levels requires a password. Each level has a different password and access to different functions. Table 4.2-1 outlines the functions accessible to each level.

触摸屏上功能的访问被约束为四个访问级别：限制访问，基础访问，中级访问和高级访问。后面的三个级别需要密码方可使用。每个级别有一个不同的密码，能够获取不同的功能。表 4.2-1 列出了每个级别能够使用的功能。

Function	Level			
	Locked	Basic	Intermediate	Advanced
Select a Preset	YES	YES	YES	YES
Setup a Data Log	YES	YES	YES	YES
View a Data Log	YES	YES	YES	YES
View Tool Information	YES	YES	YES	YES
View Tool Statistics	YES	YES	YES	YES
View Diagnostics	YES	YES	YES	YES
Modify Presets	NO	YES	YES	YES
Change Set Torque	NO	YES	YES	YES
Change Set Angle	NO	YES	YES	YES
Change Torque Units	NO	YES	YES	YES
Enable/Disable Angle Mode	NO	NO	YES	YES
Enable/Disable Auto Lock	NO	NO	YES	YES
Enable/Disable Reverse Confirmation	NO	NO	YES	YES
Enable/Disable Operator Password	NO	NO	YES	YES
Clear Maintenance Statistics	NO	NO	YES	YES
Enable/Disable Point Calibration	NO	NO	YES	YES
Enable/Disable Blue Calibration	NO	NO	YES	YES
Calibration Adjust	NO	NO	YES	YES
Enable/Disable Maintenance Cycle Lock	NO	NO	NO	YES
Maintenance Count Threshold	NO	NO	NO	YES

Enable/Disable Sensor Mode	NO	NO	NO	YES
Tool Calibration	NO	NO	NO	YES
Low Pre-Torque	NO	NO	NO	YES
Factory Settings	NO	NO	NO	YES
Network	NO	NO	NO	YES

功能	级别			
	限制	基础	中级	高级
选择一个预设值	是	是	是	是
建立一个数据记录	是	是	是	是
查看一个数据记录	是	是	是	是
查看工具信息	是	是	是	是
查看工具统计	是	是	是	是
查看诊断信息	是	是	是	是
修改预设值	否	是	是	是
改变设定扭矩	否	是	是	是
改变设定角度	否	是	是	是
改变扭矩单元	否	是	是	是
启用/解除角度模式	否	否	是	是
启用/解除自动锁	否	否	是	是
启用/解除反转确认	否	否	是	是
启用/解除操作员密码	否	否	是	是
清除维护统计	否	否	是	是
启用/解除点校对	否	否	是	是
启用/解除蓝牙校对	否	否	是	是
刻度校准	否	否	是	是
启用/解除维护周期锁	否	否	否	是
Maintenance Count Threshold	否	否	否	是
启用/解除传感器模式	否	否	否	是
刻度校准	否	否	否	是
Low Pre-Torque	否	否	否	是
工厂设置	否	否	否	是
网络	否	否	否	是

Table 4.2-1: User Access Levels and Functions
表 4.2-1 用户访问级别与功能

Note: The E-RAD BLU Tool System is shipped from factory in the Basic Level. After configuration, it is recommended that the Tool be locked for normal bolting operations to avoid inadvertent changes to Tool Settings and Calibration。
注：E-RAD BLU 工具系统在出厂时权限为基础访问，经过配置之后，建议将工具进行常规螺栓操作锁定，以避免无意中更改了工具设置和校准信息。

4.2.1 Unlocking Access Levels 解锁访问级别

To Unlock an Access Level: 如何解锁一个访问级别：

1. Press the "**Menu**" button on the Main Screen.
   点击主屏幕上的“菜单”按钮。
2. Select the "**Unlock**" option from the Main Menu, shown in Figure 4.2.1-1.
   从主菜单中选择“解锁”项，请看图 4.2.1-1
   Result: A numeric keypad will be displayed as shown in Figure 4.2.1-2.
   结果：如图 4.2.1-1 所示，将会出现一个数字小键盘。

Figure 4.2.1-1: Main Menu
图 4.2.1-1 主菜单

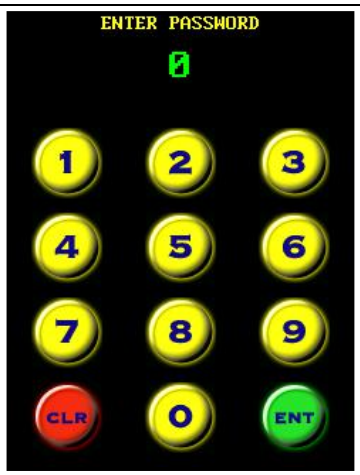


Figure 4.2.1-2: Numeric Keypad
图 4.2.1-2 数字小键盘

3. Enter the password for the desired Access Level.
   输入想要进入的访问级别的密码。
4. Press "**ENT**" to confirm the password or "**CLR**" to correct.
   点击“ENT”确认密码或者点击“CLR”进行修改。

Result: If the password is invalid, an "**INCORRECT**" message will be displayed (Figure 4.2.1-3). If the password is correct, the display will return to the Main Screen and the desired Access Level will be unlocked (Figure 4.2.1-4).
结果：如果密码无效，将会出现一条“错误”信息（如图 4.2.1-3），如果密码正确，将会回到主屏幕，想要进入的访问级别将被解锁。

Figure 4.2.1-3: Incorrect Password Message
图 4.2.1-3：密码错误信息

Figure 4.2.1-4: Main Screen in the Basic, Intermediate or Advanced Level
图 4.2.1-4 基础，中级和高级访问级别下的主屏幕

Note: There is no longer a Lock Icon in the top of the screen.
注：屏幕上方不再显示锁定图标

Access Level	Passcode
Basic	14504
Intermediate	Contact your RAD Distributor.
Advanced	Contact your RAD Distributor.

Table 4.2.1-1: Access Levels and Passwords

访问级别	密码
基础	14504
中级	联系你的 RAD 经销商
高级	联系你的 RAD 经销商

表 4.2.1-1 访问级别和密码

4.2.2 Returning to the Locked Level 返回到限制访问级别

To return to the Locked Access Level: 如何返回到限制访问级别：

1. Press the "**Menu**" button on the Main Screen.
   点击主屏幕上的“菜单”按钮。
2. Select the "**Lock**" option from the Main Menu, Figure 4.2.2-1.
   Result: A numeric keypad will be displayed as shown in Figure 4.2.2-2.
   从主菜单中选择“锁定”项，请看图 4.2.2-1
   结果：如图 4.2.2-2 所示，将会出现一个数字小键盘。

Figure 4.2.2-1: Main Menu
图 4.2.2-1 主菜单

Figure 4.2.2-2: Numeric Keypad
图 4.2.2-2 数字小键盘

3. Enter the password: "14504".
   输入密码； “14504”
4. Press "**ENT**" to confirm the password or "**CLR**" to correct.
   点击“ENT”确认密码或者点击“CLR”进行修改。

Result: If the password is invalid, an "**INCORRECT**" message will appear, Figure 4.2.2-3. If the password is correct, the display will return to the Main Screen and the Touch Screen will have returned to the Locked Level, Figure 4.2.2-4.

结果：如果密码无效，将会出现一条“错误”信息（如图 4.2.2-3），如果密码正确，将会回到主屏幕，触摸屏将返回到锁定级别，如图 4.2.2-4.

Figure 4.2.2-3: Incorrect Password Message
图 4.2.2-3：密码错误信息

Figure 4.2.2-4: Main Screen in the Locked Level
图 4.2.2-4 锁定级别下的主屏幕

Note: The Lock Icon is now displayed in the top of the screen.
注：屏幕上方显示锁定图标

4.3 Functions 功能

The following sections describe the functions available on the E-RAD BLU Touch Display Interface. Refer to Section 4.2 – User Access Levels for more information on the accessibility of these functions.

Note: When selecting an option from any menu, press the number to the left of the option.

Note: Menus may consist of several screens. To move through the menu, use the left and right arrow keys at the bottom of the screen.

Note: Menus will look different depending on the Access Level. The figures in this section are from the Advanced Access Level.

以下部分说明了 E-RAD BLU 触摸屏界面能够使用的功能。请参照 4.2 部分—用户访问权限，获取更多关于这些功能可访问性的信息。

注：从任何菜单上选择一个选项时，请点击选项左侧的数字。

注：菜单或许包含几个屏幕，请使用屏幕下方的左右箭头翻阅菜单。

注：根据访问权限的差异，菜单会有所不同，这一部分的图取自于高级访问权限状态下。

4.3.1 Connecting to a Smart Socket 连接智能套筒

To connect the E-RAD BLU to a Smart Socket:如何连接 E-RAD BLU 与智能套筒：

1. Turn on Bluetooth on the Smart Socket. Refer to Section 5.2.2 in the Smart Socket User Manual on how to do this.
   打开智能套筒上的蓝牙。关于如何做到这一点，请参照智能套筒用户手册的 5.2.2 章节。
2. Turn on Bluetooth on the E-RAD BLU. To do this, tap the SS icon in the top left of the screen (can only be done in an unlocked state). The Socket Information Screen, shown in Figure 4.3.1-1, will be displayed. Select "**Bluetooth**" to enable Bluetooth or select "**Bluetooth**" again to disable Bluetooth.
   Note: When a check is displayed, Bluetooth is enabled (Figure 4.3.1-1).
   Note: The Socket information screen can also be accessed through the User Configuration Menu.
   打开 E-RAD BLU 上的蓝牙。要做到这一点，点击屏幕左上方的 SS 图标（只有在解锁状态下可以做到）。图 4.3.1-1 所示的套筒信息屏幕将会显示。选择"**蓝牙**"启动蓝牙或者再次选择"**蓝牙**"关闭蓝牙。
   注：当出现如图 4.3.1-1 的核对信息时，蓝牙启动。
   注：套筒信息屏也可以在用户设置菜单中找到。
3. Input the Smart Socket serial number and pairing code.
   Note: The first zeros and the SS in the serial number can be ignored, for example: for SS00302 only 302 needs to be entered. Entering "**0**" or toggling the "**Bluetooth**" button will disable the Bluetooth Bridge (BT module).
   Note: Make sure that "**Target Pass/Fail Enable**" is **Disabled** before using the Smart Socket with the E-RAD BLU. Refer to Section 6.2 – Operating Modes, in the Smart Socket User Manual for more information.
   Note: The default pairing code is 1111. Refer to Section 5.7 – Changing the Bluetooth Pin, of the Smart Socket User Manual for information on how to change the pairing code.
   输入智能套筒序列号和配对代码。
   注：序列号中前面的数字 0 和 SS 可以忽略，例如：SS00302 中，仅输入 302 就可以。输入"0"或是切换**"蓝牙"**按钮将会关闭蓝牙连接（蓝牙模块）。
   注： 确保在使用 E-RAD BLU 的智能套筒之前关闭**"启用任务通过/失败"**。参照智能套筒用户手册的 6.2 章节—操作模式获取更多信息。

Figure 4.3.1-1: Socket

Information Screen
图 4.3.1-1 套筒信息屏

Note: For troubleshooting, refer to Section 7.3 – Connecting to a Smart Socket: Troubleshooting.
注：排除故障请参阅 7.3 部分—连接智能套筒：故障排除。

4.3.2 Select a Preset 选择一个预设值

A Preset is a pre-defined Set Torque and Set Angle value. They allow the operator to quickly and efficiently change the Set Torque and Set Angle.

To select a Preset:

1. Press the "**Presets**" button on the Main Screen.
2. Select "**Load Preset**" from the Preset Menu, shown in Figure 4.3.2-1.
3. Select the desired Preset from the list displayed. Figure 4.3.2-2 shows an example of the Load Preset Screen.

预设值是指一个预先设置的固定扭矩和固定角度值。这样操作者可以迅速高效的改变预设扭矩和角度。

选择一个预设值：

1.点击主屏幕上的“**预设值**”按钮。

2.如图 4.3.2-1 所示，从预设值菜单中选择“**下载预设值**”

3.从列表显示预设值汇中选择需要的值。图 4.3.2-2 是下载预设值屏幕的一个例子。

Figure 4.3.2-1: Preset Menu
图 4.3.2-1 预设值菜单

Figure 4.3.2-2: Load Preset Screen
图 4.3.2-2 装载预设值

An Application Preset is a pre-defined Set Torque and Set Angle value. They allow the operator to quickly and efficiently change the Set Torque and Set Angle for a certain application.

Note: The "**App Presets**" button only appears on the Preset Menu when App Presets are installed on the E-RAD BLU. For more information on installing App Presets, refer to Section 6.4 – Edit Applications, in the E-RAD Touch Data Logger Manual.

To select an Application Preset:

1. Press the "**Presets**" button on the Main Screen.
2. Select "**App Presets**" from the Preset Menu, shown in Figure 4.3.2-3.
3. Select the desired Application from the list displayed (Figure 4.3.2-4).
4. Select the desired preset from the list displayed (Figure 4.3.2-5).

应用程序预设值是一个预先设置的固定扭矩和角度值。这使得操作者得以迅速有效的改变一

Figure 4.3.2-3: Preset Menu
图 4.3.2-3 预设值菜单

Figure 4.3.2-4: Application Selection
图 4.3.2-4 应用程序选择

Figure 4.3.2-5: Preset Selection
图 4.3.2-5 预设值选择

个特定程序的固定扭矩和角度值。

注：只有当 E-RAD BLU 上安装了应用程序预设值时，预设值菜单上才会出现“应用程序预设值”按钮。请参阅 E-RAD 触摸式数据记录器手册 6.4 章节—编辑应用程序获取更多关于安装应用程序预设值的信息。

选择一个应用程序预设值：

1.点击主屏幕上的“**预设值**”按钮。

2.如图 4.3.2-3 所示，从预设值菜单中选择“**应用程序预设值**”

3.从显示的列表中选择需要的应用程序（图 4.3.2-4）。

4. 从显示的列表中选择需要的预设值（图 4.3.2-5）

Note: For information on how to install Application Presets onto the E-RAD, refer to the E-RAD Touch Data Logger User Manual.

Note: If the Application Preset has a torque that is above the Maximum Torque of the tool or below the Minimum Torque of the tool, a warning will be displayed saying that the preset value is not accepted. The tool will then correct the Set Torque to the Minimum or the Maximum Torque of the tool.

注：获取更多在 E-RAD 上设置应用程序预设值的信息，请参阅 E-RAD 触摸式数据记录器手册。

注：如果程序预设值的扭矩值高于工具最大扭矩或是低于工具的最小扭矩，屏幕上会出现一个警告信息说明该预设值不被接受。然后工具会将该固定扭矩值改至工具的最小或最大扭矩值。

4.3.3 Setup/Change Data Log File 创建/修改数据记录文件

Note: When the E-RAD BLU Tool System is turned on, the Data Log file name will be set to the serial number of the handle that is attached, this is the Default Data Log.

注：当 E-RAD BLU 工具系统启动时，数据记录文件名将被设置为连接手柄的序列号，这是一个系统默认的数据记录。

This function allows the operator to create and select Data Log files for recording and viewing different Data Sets.

通过这一功能，操作者可以创建和选择数据记录文件进行记录，查看不同的数据集合。

To create a new Data Log file: 如何创建一个新的数据记录文件：

1. Press the Data Logs button (folder icon) located at the top of the Main Screen.
   点击位于屏幕上方的数据记录按钮（文件夹按钮）。
2. Select "**Select Log**" from the Data Log Menu, shown in Figure 4.3.3-1.
   Result: The Select Log Screen will be displayed and the currently selected Log will be shown at the top of the screen and highlighted in the list of Data Logs (Figure 4.3.3-2).
   从数据记录菜单中选择“**选择记录**”，如图 4.3.3-1 所示。
   结果：选择记录屏将会出现，当前被选定的记录会显示在屏幕上端，并在数据记录列表中突出显示（如图 4.3.3-1 所示）。
3. Press the "**New**" button.
   点击“**新建**”按钮
   Result: An alpha-numeric keypad will be displayed as shown in Figure 4.3.3-3.

结果：将会出现一个字母数字键盘，如图 4.3.3-3 所示。

Figure 4.3.3-1: Data Log Menu
图 4.3.3-1 数据记录菜单

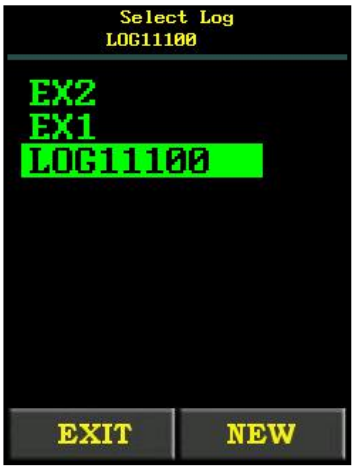


Figure 4.3.3-2: Select Log Screen
图 4.3.3-2 选择记录屏

Figure 4.3.3-3: Alpha-Numeric Keypad
图 4.3.3-3 字母数字键盘

4. Enter the desired alpha-numeric file name using the displayed keypad.
   Note: Press the key numerous times to cycle through the available characters on that key. The "**1**" key includes the characters "**-**" "**_**" "**.**". If the operator pauses for more than one second, the cursor will move to the next position.
   使用字母数字键盘输入需要的字母数字文件名。
   注：多次点击键盘在字符之间循环。"**1**"键包含符号"-" "_" ".".如果操作者停顿时间超过一秒，光标会移动到下一个位置

5. Press "**ENT**" to accept the file name or "**CLR**" to correct.
   Result: If the Data Log file name already exists, the operator will be prompted to continue using the existing log (Press "**ENT**") or choose another file name (Press "**CLR**"). This prompt window is shown in Figure 4.3.3-4.
   Result: The new Data Log file name (or the continued existing one) will be displayed at the top of the Main Screen as shown in Figure 4.3.3-5.
   点击"**ENT**"接受文件名或者点击"**CLR**"进行修改。
   结果：如果该数据文件名已经存在，操作者将会被提示继续使用已经存在的记录文件名（点击"**ENT**"）或者选择另一个文件名（点击"**CRL**"）.图 4.3.3-4 显示了这一提示窗口。
   结果：新的数据记录文件名（或是那个已经存在的文件名）将会在主屏幕的顶端显示，如图 4.3.3-5 所示。

Figure 4.3.3-4: Data Log Already Exists Prompt
图 4.3.3-4 数据记录已经存在提示

Figure 4.3.3-5: Main Screen with New Data Log Displayed
图 4.3.3-5 新的数据文件出现在主屏幕上

To select a different Data Log file:如何选择其他数据记录文件：

1. Press the Data Logs button (folder icon) located at the top of the Main Screen.
   点击位于屏幕上方的数据记录按钮（文件夹按钮）。

2. Select "**Select Log**" from the Data Log Menu, shown in Figure 4.3.3-6.
从数据记录菜单中选择"**选择记录**"，如图 4.3.3-6 所示。
Note: To use the default log, select "**Use Default**" from the Data Log Menu.
注：使用系统默认记录，请选择数据记录菜单中的"使用系统默认"选项。
Result: The Select Log Screen will be displayed and the currently selected log will be shown at the top of the screen and highlighted in the List of Data Logs (Figure 4.3.3-7).
结果：选择记录屏将会出现，当前被选定的记录会显示在屏幕上端，并在数据记录列表中突出显示（如图 4.3.3-7 所示）。

Figure 4.3.3-6: Data Log Menu
图 4.3.3-6 数据记录菜单

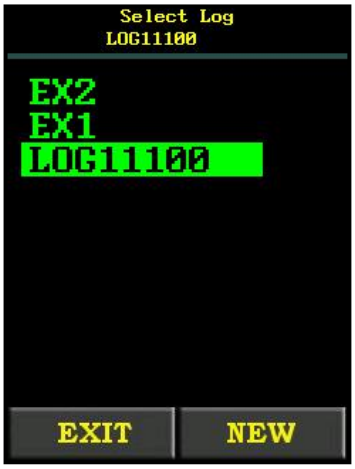


Figure 4.3.3-7: Select Log Screen
图 4.3.3-7 选择记录屏

3. Select a Data Log. 选择一个数据记录
Result: The Data Log will be shown at the top of the screen and highlighted in the list of Data Logs.
结果：该记录会显示在屏幕上端，并在数据记录列表中突出显示。
4. Press the "**Exit**" button. 点击退出按钮
Result: The display will return to the Data Log Menu.
结果：显示器将回到数据记录菜单。
5. Press the "**Exit**" button to return to the Main Screen.
Result: The Data Log file name will be displayed at the top of the Main Screen as shown in Figure 4.3.3-8.
点击"**退出**"按钮回到主屏幕。
结果：该数据记录文件名将会显示在主屏幕上端，如图 4.3.3-8 所示。

Figure 4.3.3-8: Main Screen with Selected Data Log Displayed
图 4.3.3-8 被选定的数据记录显示在主屏幕上。

Note: When a log is selected in "**Select Log**", that log will open up on the E-RAD BLU start up regardless of what handle is attached. When "**Use Default**" is selected, the default log (the serial number of the handle) will open up on the E-RAD BLU start up.

注：当一个记录在“**选择记录**”中被选定时，该记录会在 E-RAD BLU 上启动，而不管工具连接的是哪个手柄。当选择的是“**使用系统默认**”时，系统默认的记录（工具手柄的序列号）将会在 E-RAD BLU 工具上启动。

4.3.4 View a Data Log File 查看一个数据记录文件

This function allows the operator to view the data stored in a selected Data Log file. To select a different Data Log file, refer to Section 4.3.3 –Setup/Change Data Log File.

这一功能可让操作者查看一个被选定文件夹中的数据。关于选择其他数据记录，请参阅 4.3.3 章节—建立/修改数据记录文件。

To view the currently selected Data Log file:如何 查看当前选定的数据记录文件：

1. Press the Data Logs button (folder icon) located at the top of the Main Screen.
   点击位于主屏幕上端的数据记录按钮（文件夹图标）。
2. Select "**View Log**" from the Data Log Menu, shown in Figure 4.3.4-1.
   如图 4.3.4-1 所示，从数据记录菜单中选择“**查看记录**”。
3. View individual Cycle Logs using the left and right arrow keys at the bottom of the screen.
   使用屏幕下方的左右箭头查看单个循环记录。

Figure 4.3.4-1: Data Log Menu
图 4.3.4-1 数据记录菜单

Figure 4.3.4-2: View Cycle Logs – Passed Cycle
图 4.3.4-2 查看循环记录—通过循环

Figure 4.3.4-3: View Cycle Logs – Failed Cycle
图 4.3.4-3 查看循环记录-未通过循环

Note: The text will be in green if the cycle passed (Figure 4.3.4-2) and in red if the cycle failed or was invalid (Figure 4.3.4-3).

注：如果循环通过文本将变为绿色（图 4.3.4-2），如果循环未成功或是无效，文本将变为红色（图 4.3.4-3）。

4. Press the "**Exit**" button to return to the Main Screen.
   点击“**退出**”按钮，返回主屏幕。

To view a Data Log that is not currently selected:

如何查看一个当前未选定的数据记录：

1. Press the Data Logs button (folder icon) at the top of the Main Screen.
   点击位于主屏幕上端的数据记录按钮（文件夹图标）。
2. Select "**View Select**" from the Data Log Menu, shown in Figure 4.3.4-1.
   如图 4.3.4-1 所示，从数据记录菜单中选择“**查看记录**”。
3. Select the log that you want to view (Figure 4.3.4-4).
   选定你想要查看的记录（图 4.3.4-4）。
4. Press the "**Exit**" button.
   点击“**退出**”按钮
5. View individual Cycle Logs using the left and right arrow keys at the bottom of the screen.
   使用屏幕下方的左右箭头查看单个循环记录。

   Note: The text will be in green if the cycle passed (Figure 4.3.4-5) and in red if the cycle failed (Figure 4.3.4-6).

注：如果循环通过文本将变为绿色（图 4.3.4-5），如果循环未成功或是无效，文本将变为红色（图 4.3.4-6）。

6. Press the "**Exit**" button to return to the Data Log Menu.

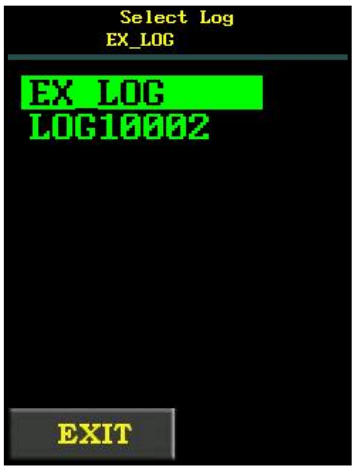


Figure 4.3.4-4: Select Log Screen
图 4.3.4-4 选择记录界面

Figure 4.3.4-5: View Cycle Logs – Passed Cycle
图 4.3.4-5 查看循环记录—通过循环

Figure 4.3.4-6: View Cycle Logs – Failed Cycle
图 4.3.4-6 查看循环记录-未通过循环

点击“**退出**”按钮，返回数据记录菜单。

Note: If a data log file contains no logs, an error message will be displayed saying "**Log is Empty**". Select different log to view or add logs to the file so that it can be viewed.

注： 如果一个数据记录文件中没有记录，将会出现一个错误信息提示“文件为空”，可选择查看其他文件或是添加记录到文件以便查看。

4.3.5 View Tool Information 查看工具信息

This function allows the operator to view the following E-RAD BLU Tool System information:
使用这一功能操作者可以查看以下 E-RAD BLU 工具系统信息：

- E-RAD BLU Serial Number
- E-RAD BLU 序列号
- E-RAD BLU Handle Serial Number
- E-RAD BLU 手柄序列号
- Smart Socket Serial Number
- 智能套筒序列号
- Model Numbers
- 型号
- Factory Calibration Date
- 工厂校准日期
- Customer Calibration Date (if Factory Calibration is modified)
- 客户校准日期（如果工厂校准经过修改）
- Calibration Voltage
- 校准电压
- Total Cycles
- 周期数
- Maintenance Cycles
- 维护周期
- Minimum Torque
- 最小扭矩
- Maximum Torque
- 最大扭矩

To view the Tool Information: 如何查看工具信息：

1. Press the "**Menu**" button on the Main Screen.
   点击主屏幕“**菜单**”按钮。
2. Select "**Tool Info**" from the Main Menu, shown in Figure 4.3.5-1.

Result: The Tool Information Menu will be displayed. Where the Case Information, Handle Information, or Sensor Information can be chosen (Figure 4.3.5-2).
从主菜单中选择“工具信息”，如图 4.3.5-1。

结果：工具信息将会显示，从中可以选择壳体信息，手柄信息或是传感器信息（图 4.3.5-2）。

3. Select "**Case Info**" from the Tool Information Menu to view the Case Information (Figure 4.3.5-3).
从工具信息菜单中选择从而查看“壳体信息”（图 4.3.5-3）.

Figure 4.3.5-1: Main Menu
图 4.3.5-1 主菜单

Figure 4.3.5-2: Tool Info Menu
图 4.3.5-2 工具信息菜单

4. Select "**Handle Info**" from the Tool Information Menu to view the Handle Information (Figure 4.3.5-4).
从工具信息菜单中选择从而查看“手柄信息”（图 4.3.5-4）.
5. Select "**Sensor Info**" from the Tool Information Menu to view the Sensor Information (Figure 4.3.5-5).
从工具信息菜单中选择从而查看“传感器信息”（图 4.3.5-5）.

Note: When "**Exit**" is pressed in one of the information screens, you will be taken back to the Tool Information Menu.
注：点击其中一个信息屏幕上的“退出”按钮，你就可以回到工具信息菜单。

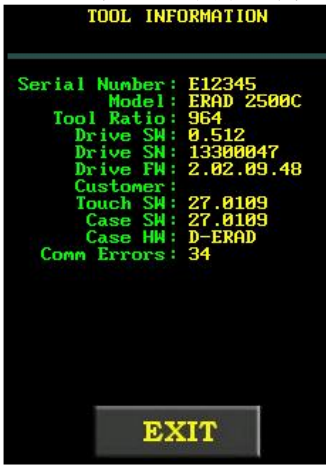


Figure 4.3.5-3: Case Information
图 4.3.5-3 壳体信息

Figure 4.3.5-4: Handle Information
图 4.3.5-4 手柄信息

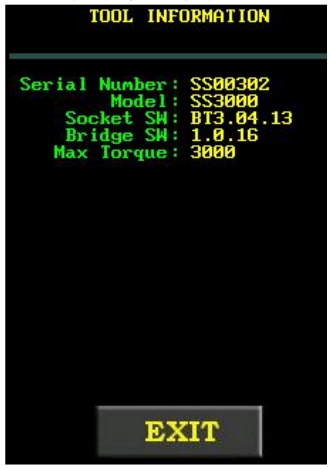


Figure 4.4.5-5: Sensor Information
图 4.4.5-5 传感器信息

4.3.6 View Tool Statistics 查看工具统计信息

This function allows the operator to view the Life Statistics, Maintenance Statistics and Error Log for the E-RAD BLU Tool System.
使用这一功能操作者可以查看 E-RAD BLU 工具系统的寿命统计，维护资料和错误记录。

To view the Tool Statistics: 如何查看工具统计信息：

1. Press the "**Menu**" button on the Main Screen.

点击主屏幕“**菜单**”按钮。

2. Select "**Tool Stats**" from the Main Menu, shown in Figure 4.3.6-1.
Result: The Tool Statistics Menu will be displayed (Figure 4.3.6-2). From here, the operator can select "**Life Stats**", "**Maint Stats**" or "**Error Log**".
从主菜单中选择“**工具统计**”，如图 4.3.6-1。
结果：工具统计菜单将会显示（图 4.3.6-2），操作者可以选择寿命统计，维护资料和错误记录（图 4.3.5-2）。

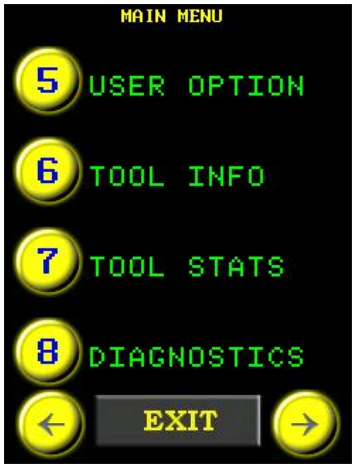


Figure 4.3.6-1: Main Menu
图 4.3.6-1 主菜单

Figure 4.3.6-2: Tool Statistics Menu
图 4.3.6-2 工具统计菜单

"**Life Stats**" displays all information since the tool was made (Figure 4.3.6-3).
“**寿命统计**”展示的是自工具生产之日起的全部信息（图 4.3.6-3）.

"**Maint Stats**" displays all information since the last maintenance (Figure 4.3.6-4).
“**维护资料**”展示的是上次维护之日起的全部信息（图 4.3.6-4）

"**Error Log**" displays the all errors and allows the operator to view individual errors using the left and right keys at the bottom of the screen.
“**错误记录**”展示的是所有错误信息，操作者可以使用屏幕下方的左右箭头查看每个错误。
Note: If an error has not occurred, the Error Log will say "**No Errors**" (Figure 4.3.6-5).
注：如果不存在错误，错误记录将会提示“**没有错误**”（图 4.3.6-5）。

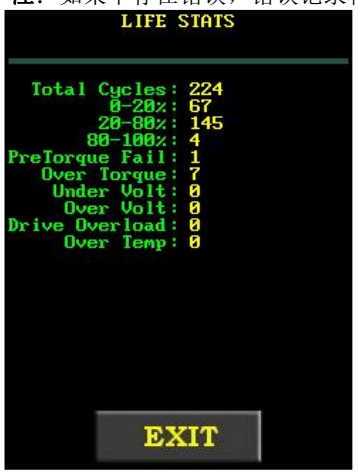


Figure 4.3.6-3: Life Statistics Screen
图 4.3.6-3 寿命统计屏

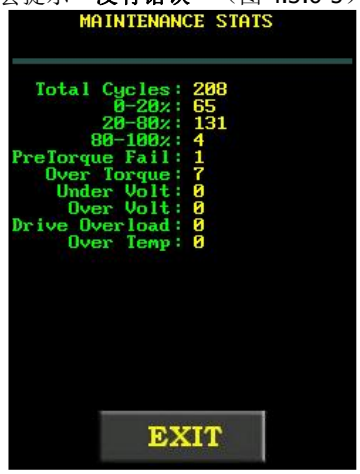


Figure 4.3.6-4: Maintenance Statistics Screen
图 4.3.6-4 维护资料屏

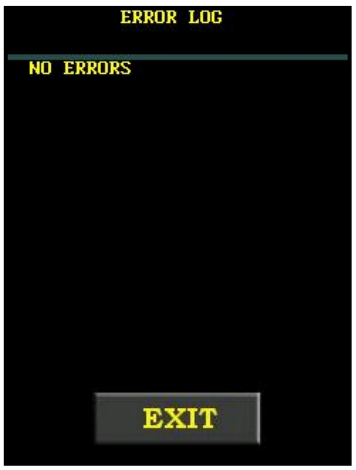


Figure 4.3.6-5: Error Log Screen
图 4.3.6-5 错误记录屏

4.3.7 View Diagnostics 查看诊断信息

This function displays information used when troubleshooting the E-RAD BLU Tool System. This information includes Line Voltage, Drive Temperature, Motor Current, Motor Position, Peak Current, Minimum Voltage and Torque, as well as confirmation of the status of the On/Off Trigger, the Forward/Reverse Switch and each LED in the LED Status Display. Figure 4.3.7-1 shows the Diagnostics Display.

该功能显示的是排查 E-RAD BLU 工具系统故障时使用的信息。这些信息包括线路电压，驱动器温度，电机电流，电机位置，峰值电流，最小电压和扭矩，触发器开关状态信息，正转/反转开关和状态显示器中的每个 LED。图 4.3.7-1 展示的是诊断信息屏。

The position of the Forward/Reverse Switch and the status of the Trigger can be read in the Inputs line. The Inputs sftwjx show the status of the Tool Inputs. The only ones to know about are: "**f**" – Reverse, "**F**" – Forward, "**t**" - no Trigger pulled, and "**T**" – Trigger pulled.

The Bridge State Line shows the connection state of the Smart Socket.

The Sensor Torque Line shows the torque currently being read from the Smart Socket.

正转/反转开关位置和触发器状态可以从输入行读取。输入的"sftwjx"体现的是工具输入的状态。唯一需要知道的是：“**f**”—反转，“**F**”—正转，“**t**”—触发器未启动，“**T**”触发器启动。

连接状态说明的是智能套筒的连接状态。

传感器扭矩行说明的是当前从智能套筒读取的扭矩值。

To view the Diagnostics Display: 如何查看诊断信息：

1. Press the "**Menu**" button on the Main Screen.
   点击主屏幕“**菜单**”按钮。
2. Select "**Diagnostics**" from the Main Menu, shown in Figure 4.3.7-2.
   从主菜单中选择“**诊断信息**”，如图 4.3.7-2。

Figure 4.3.7-1: Diagnostics Display
图 4.3.7-1 诊断信息屏

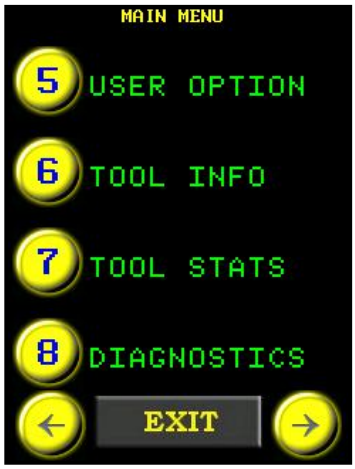


Figure 4.3.7-2: Main Menu
图 4.3.7-2 主菜单

Note: To return to the Main Screen, press the "**Exit**" button.
注：返回主屏幕，请点击“退出”按钮。

4.3.8 Change the Set Torque 修改固定扭矩

This function allows the operator to change the Set Torque. The Set Torque is the torque value at which the E-RAD BLU will stop the Torque Cycle and the cycle will be considered a pass. For more information on the Set Torque and Torque Cycle, refer to Section 5.2 – Torque Only Operation.

使用这一功能操作者可以修改固定扭矩。固定扭矩是使 E-RAD BLU 终止扭矩循环的扭矩值，且这个循环将被认定为通过。要获取更多固定扭矩和扭矩循环的信息，请查阅 5.2 章节—仅扭矩操作。

To change the Set Torque: 修改固定扭矩：

1. Press the "**Set Torque**" button on the Main Screen.
   点击主屏幕上的“固定扭矩”按钮。
   Result: A numeric keypad will be displayed as shown in Figure 4.3.8-1.
   结果：将会出现一个如图 4.3.8-1 所示的字母数字键盘。
2. Enter the new Set Torque.
   输入新的固定扭矩
   Note: Refer to Section 1.2.1 – Torque Ranges.
   注：参阅 1.2.1 章节—扭矩范围。
3. Press "**ENT**" to confirm the new Set Torque or "**CLR**" to correct.

点击“ENT”确认密码或者点击“CLR”进行修改。

Note: If the entered value is less than the Minimum Torque, it will be corrected to the Minimum Torque. If the entered value is greater than the Maximum Torque, it will be corrected to the Maximum Torque.

Result: The new Set Torque will be displayed on the Main Screen, Figure 4.3.8-2.

注：如果输入的值低于最小扭矩，它将被改为最小扭矩。如果输入的值高于最大扭矩，它将被改为最大扭矩。

结果：新的固定扭矩将显示在主屏幕上，如图 4.3.8-2 所示。

Figure 4.3.8-1: Numeric Keypad
图 4.3.8-1 字母数字键盘

Figure 4.3.8-2: Main Screen with New Set Torque
图 4.3.8-2 设置了新固定扭矩的主屏幕

4.3.9 Change the Set Angle 改变固定角度

This function allows the operator to change the Set Angle. The Set Angle is the angle value at which the E-RAD BLU will stop the Angle Cycle and the cycle will be considered a pass. For more information on the Set Angle and Angle Cycle, refer to Section 5.3 – Angle Only Operation.

使用这一功能操作者可以修改固定角度。固定角度是是使 E-RAD BLU 终止角度循环的角度值，且这个循环将被认定为通过。要获取更多固定角度和角度循环的信息，请参阅 5.3 章节—仅角度操作。

Note: To change the Set Angle, Angle Mode must be enabled, refer to Section 4.3.12 – Enable/Disable Angle Mode.

注：要修改固定角度，必须要启动角度模式，请参照 4.3.12 章节—启动/解除角度模式。

To change the Set Angle: 如何修改固定角度：

1. Press the "**Set Angle**" button on the Main Screen.
   点击主屏幕上的“固定角度”按钮。
   Result: A numeric keypad will be displayed as shown in Figure 4.3.9-1.
   结果：将会出现一个如图 4.3.9-1 所示的字母数字键盘。
2. Enter the new Set Angle.
   输入新的固定角度。
   Note: The Set Angle range is 0 degrees or 10 to 600 degrees.
   注：固定角度范围是 0 度或是 10 度到 600 度。
3. Press "**ENT**" to confirm the new Set Angle or "**CLR**" to correct.
   点击“ENT”确认密码或者点击“CLR”进行修改。
   Note: If the new Set Angle is less than 10 degrees and not 0 degrees, it will be corrected to 10 degrees. If the new Set Angle is greater than the maximum, the alert "**Too High**" will be displayed (Figure 4.3.9-2). Press "**CLR**" and the value will change to 600 degrees. The operator can now enter a different Set Angle or press "**ENT**" to accept 600 degrees.
   注：如果新的固定角度低于 10 度且不为 0，它将被改为 10 度。如果新的固定角度大于最大值，将会出现“过高”警告（如图 4.3.9.2）。点击“CRL”，该值将被改为 600 度。现在操作者可以输入一个不同的固定角度或者点击"ENT"接受 600 度。
   Result: The new Set Angle will be displayed on the Main Screen as shown in Figure 4.3.9-3.
   结果：新的固定角度将显示在主屏幕上，如图 4.3.8-3 所示。

Figure 4.3.9-1: Numeric Keypad
图 4.3.9-1 字母数字键盘

Figure 4.3.9-2: Too High Alert
图 4.3.9-2 过高警示

Figure 4.3.9-3: Main Screen with New Set Angle
图 4.3.9-3 设置了新固定角度的主屏幕

4.3.10 Modify Presets 修改预设值

This function allows the operator to modify any of the eight Presets. Presets are pre-defined values of the Set Torque and the Set Angle. For more information on using Presets, refer to Section 4.3.2 – Select a Preset.

Note: If Angle Mode is disabled, the Presets will only consist of a Set Torque.

使用这一功能操作者可以修改 8 个预设值中的任意一个。预设值是预先设置的固定扭矩和固定角度值。关于更多使用预设值的信息，请查阅 4.3.2 章节—选择一个预设值。

To modify a Preset: 如何修改一个预设值：

1. Change the Set Torque and Set Angle to the desired values. Refer to Section 4.3.8 – Change the Set Torque and Section 4.3.9 – Change the Set Angle.
   将固定扭矩和固定角度改为需要的值。参照 4.3.8 章节—修改固定扭矩和 4.3.9 章节—修改固定角度。
2. Press the "**Presets**" button on the Main Screen.
   点击主屏幕上的“**预设值**”按钮。
3. Select "**Save Preset**" from the Presets Menu, shown in Figure 4.3.10-1.
   Result: The Load Preset Screen will be displayed as shown in Figure 4.3.10-2.
   如图 4.3.10-1，从预设值菜单中选择“**保存预设值**”。
   结果：装载预设值屏幕将会出现，如图 4.3.10-2。
4. Select the desired Preset Number.
   Note: The Set Torque and Set Angle values previously stored to the selected Preset Number will be overwritten.
   Note: Presets are saved on the Tool Handle, not the Control Box; changing the Tool Handle will result in different Presets.
   选择需要的预设值号码。
   注：之前保存到所选定的预设值号码的固定扭矩和固定角度将会被覆盖。
   注：预设值保存在工具手柄上，而非控制箱中；改变工具手柄会产生不同的预设值。

Figure 4.3.10-1: Preset Menu
图 4.3.10-1 预设值菜单

Figure 4.3.10-2: Load Preset Screen
图 4.3.10-2 装载预设值屏

4.3.11 Change the Torque Units 修改扭矩单位

This function allows the operator to change the torque units to Foot-Pounds (FtLb), Newton-Meters (Nm) or Kilogram-Force-Meters (KgFm). When the units are changed, the Set Torque value, Preset Torque values and Calibration Values are automatically converted to the selected units.

使用这一功能操作者可以将扭矩单位改为英尺磅（FtLb），牛顿米（Nm）或者千克力（KgFm）。单位改变后，固定扭矩值，预设扭矩值和刻度值会自动转换至选择的单位。

To change the torque units: 如何修改扭矩单位：

1. Press the "**Menu**" button on the Main Screen.
   点击主屏幕上的"**菜单**"按钮。
2. Select "**Change Units**" from the Main Menu, shown in Figure 4.3.11-1.
   如图 4.3.11-1，从主菜单中选择"**修改单位**"。
3. Select the desired units from the unit options (Figure 4.3.11-2).
   从单位选项中选择需要的单位（图 4.3.11-2）。

Figure 4.3.11-1: Main Menu
图 4.3.11-1 主菜单

Figure 4.3.11-2: Units Menu
图 4.3.11-2 单位菜单

4.3.12 Enable/Disable Angle Mode 启动/解除角度模式

This function allows the operator to enable or disable the use of Angle Mode. When this function is enabled, the operator can change the Set Angle, modify and use Set Angle Preset values and operate in Angle Only and Torque and Angle Modes. Refer to Section 4.3.2 – Select a Preset, Section 4.3.9 – Change the Set Angle, Section 4.3.10 – Modify Presets, Section 5.3 – Angle Only Operation and Section 5.4 – Torque and Angle Operation.

使用这一功能，操作者可以启用或禁用角度模式。启动这一功能时，操作者可以改变固定扭矩，修改和使用固定角度预设值，仅使用角度操作，以及扭矩和角度模式。参照 4.3.2 章节—

选择一个预设值，4.3.9 章节—改变固定角度，4.3.10 章节—修改预设值，5.3 章节—只进行角度操作，和 5.4 章节—扭矩和角度操作。

To enable/disable Angle Mode: 如何启动/解除角度模式：

1. Press the "**Menu**" button on the Main Screen.
   点击主屏幕上的"**菜单**"按钮。
2. Select "**User Config**" from the Main Menu, shown in Figure 4.3.12-1.
   如图 4.3.12-1，从主菜单中选择"**用户设置**"。
3. Select "**Angle Mode**" to enable Angle Mode or select "**Angle Mode**" again to disable Angle Mode.
   选择"角度模式"进行启动或者再次选择"角度模式"退出。
   Note: When a check is displayed, Angle Mode is currently enabled (Figure 4.3.12-2).
   注：当复选框显示时，角度模式已处于激活状态了（图 4.3.12-2）。

Figure 4.3.12-1: Main Menu
图 4.3.12-1 主菜单

Figure 4.3.12-2: User Configuration Menu
4.3.12-2 用户设置菜单

4.3.13 Enable/Disable Auto Lock 启动/解除自动锁

When this function is enabled, upon power-up, the E-RAD BLU Touch Display will be in the Locked Access Level, regardless of the previous state.

启动这一功能时，电源一经启动，不管之间状态如何，E-RAD BLU 触摸屏都将进入限制访问状态。

To enable/disable Auto Lock: 如何启动/解除自动锁：

1. Press the "**Menu**" button on the Main Screen.
   点击主屏幕上的"**菜单**"按钮。
2. Select "**User Option**" from the Main Menu, shown in Figure 4.3.13-1.
   如图 4.3.13-1，从主菜单中选择"**用户选项**"。
3. Select "**Auto Lock**" to enable the Auto Lock or "**Auto Lock**" again to disable the Auto Lock.
   Note: When a check is displayed, Auto Lock is enabled (Figure 4.3.13-2).
   选择"**自动锁**"进行启动或者再次选择"自动锁"退出。
   注：当复选框显示时，自动锁已处于激活状态了（如图 4.3.13-2）。

Figure 4.3.13-1: Main Menu
图 4.3.13-1 主菜单

Figure 4.3.13-2: User Option Menu
4.3.13-2 用户选择菜单

4.3.14 Enable/Disable Reverse Confirmation 启动/解除反转确认

This function prevents the operator from reversing without acknowledgement. While this function is enabled, the Touch Display will prompt the operator to confirm the use of the reverse setting.

这一功能防止操作者未经确认进行反转操作。启动此功能，触摸屏会提示操作者确认使用反转设置。

To enable/disable Reverse Confirmation: 启动/解除反转确认

1. Press the "**Menu**" button on the Main Screen.
   点击主屏幕上的"**菜单**"按钮。
2. Select "**User Option**" from the Main Menu, shown in Figure 4.3.14-1.
   如图 4.3.14-1，从主菜单中选择"**用户选项**"。
3. Select "**Rev Confirm**" to enable Reverse Confirmation or "**Rev Confirm**" again to disable Reverse Confirmation.
   Note: When a check is displayed, Reverse Confirmation is enabled (Figure 4.3.14-2).
   选择"**反转确认**"进行启动或者再次选择"反转确认"退出。
   注：当复选框显示时，反转确认已处于激活状态了（如图 4.3.14-2）。

Figure 4.3.14-1: Main Menu
图 4.3.14-1 主菜单

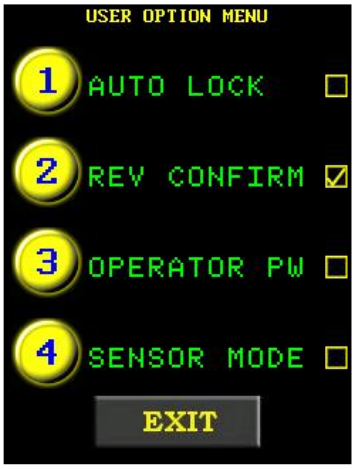


Figure 4.3.14-2: User Option Menu
图 4.3.14-2 用户选择菜单

4.3.15 Operator Password 操作员密码

While enabled, this function will disable the operation of the E-RAD BLU Tool System until the operator logs in using one of the passwords in the Operator Password File uploaded to the E-RAD BLU (refer to Section 6.7 – Uploading Operator Password File). The operator will still have full access to the Main Menu and all functions accessible from there. The display will not exit from the Main Menu, preventing the operator from accessing the Presets, Set Torque, Set Angle, and Data Logs and from operating the E-RAD BLU Tool Handle.

For instructions on creating an Operator Password File, refer to Section 6.7 – Uploading Operator Password File.

启动这一功能会使 E-RAD BLU 工具系统终止操作，直到操作者使用上传至 E-RAD BLU 的操作员密码文件中的密码进行登录（参照 6.7 章节—上传操作员密码文件）。操作员仍享有主菜单的完全访问权限以及其中所有的功能。显示器不会退出主菜单，不会阻止操作员获取预设值，固定扭矩，固定角度，数据记录或使用 E-RAD BLU 工具手柄。

To enable/disable the Operator Password: 如何启动/解除操作员密码

1. Press the "**Menu**" button on the Main Screen.
   点击主屏幕上的"**菜单**"按钮。
2. Select "**User Option**" from the Main Menu, shown in Figure 4.3.15-1.
   如图 4.3.15-1，从主菜单中选择"**用户选项**"。
3. Select "**Operator PW**" to enable the Operator Password or "**Operator PW**" again to disable the Operator Password.
   Note: When a check is displayed, the Operator Password is enabled (Figure 4.3.15-2).
   选择"**操作员密码**"进行启动或者再次选择"**操作员密码**"退出。
   注：当复选框显示时，操作员密码已处于激活状态了（如图 4.3.15-2）。

Figure 4.3.15-1: Main Menu
图 4.3.15-1 主菜单

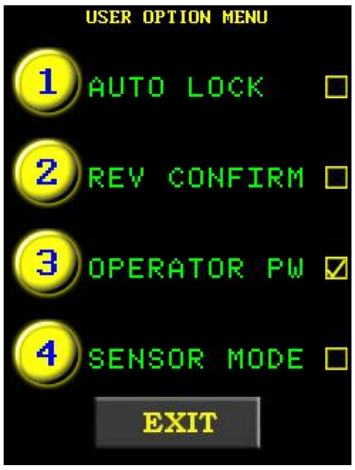


Figure 4.3.15-2: User Option Menu
图 4.3.15-2 用户选择菜单

To Login: 如何登录：

Note: When the Operator Password function is enabled, the display will return to the Main Menu Screen and the "**Login**" option will be displayed.
注：当操作员密码功能启动时，显示器将返回主菜单，并显示"**登录**"选项。

1. Select "**Login**" from the Main Menu, shown in Figure 4.3.15-3.
   Note: An alpha-numeric keypad will be displayed (Figure 4.3.15-4).
   从主菜单中选择"登录"，如图 4.3.15-3 所示。

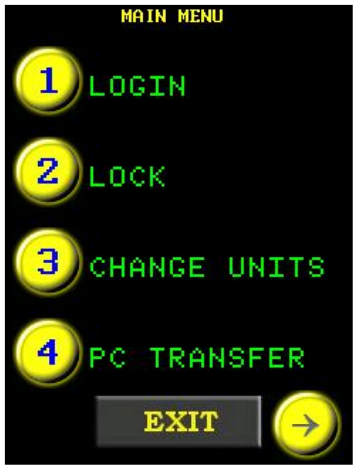


Figure 4.3.15-3: Main Menu
图 4.3.15-3 主菜单

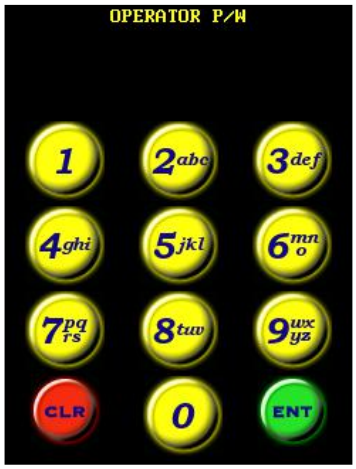


Figure 4.3.15-4: Alpha-Numeric Keypad
图 4.3.15-4 字母数字键盘

2. Enter an Operator Password.
   输入一个操作员密码。
   Note: If an Operator Password File has not been uploaded to the E-RAD BLU, any password can be used to login.
   注：如果 E-RAD BLU 没有上传操作员密码文件，使用任意密码都可登录。
3. Press "**ENT**" to confirm or "**CLR**" to correct.
   Result: The display will return to the Main Menu and the "**Logout**" option will be displayed (Figure 4.3.15-5).

   点击"**ENT**"确认或者点击"**CLR**"进行修改。

   结果：显示器将返回主菜单，并显示"**退出**"选项（如图 4.3.15-5）。

To Logout: 如何退出：

1. Press the "**Menu**" button on the Main Screen.
   点击主屏幕上的"**菜单**"按钮。
2. Select "**Logout**" from the Main Menu, shown in Figure 4.3.15-5.
   如图 4.3.15-5，从主菜单中选择"**退出**"。
   Result: The display will return to the Main Menu and the "**Login**" option will be displayed(Figure 4.3.15-6).

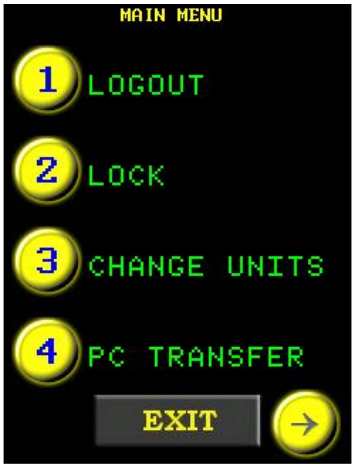


Figure 4.3.15-5: Main Menu with Logout Option
图 4.3.15-5 主菜单显示退出按钮

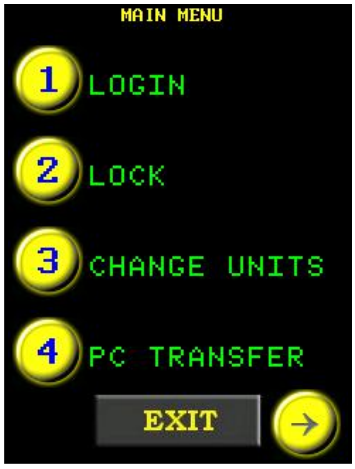


Figure 4.3.15-6: Main Menu with Login Option
图 4.3.15-6：主菜单显示登录

结果：显示器将返回主菜单，并显示"登录"选项(如图 4.3.15-6）

4.3.16 Sensor Mode 传感器模式

When enabled, this function disables the Tool when it is not connected to a Smart Socket. The Tool will only be usable when it is connected to a Smart Socket through Bluetooth.

To enable/disable Sensor Mode:

启动这一功能，当未连接智能套筒时，该模式会停止工具工作。只有通过蓝牙连接了智能套筒方可使用工具。

如何启动/解除传感器模式：

1. Press the "**Menu**" button on the Main Screen.
   点击主屏幕上的"**菜单**"按钮。
2. Select "**User Option**" from the Main Menu, shown in Figure 4.3.16-1.
   如图 4.3.16-1，从主菜单中选择"**用户选项**"。
3. Select "**Sensor Mode**" to enable Sensor Mode or "**Sensor Mode**" again to disable Sensor Mode.
   Note: When a check is displayed, Sensor Mode is enabled, Figure 4.3.16-2.
   选择"**传感器模式**"进行启动或者再次选择"**传感器模式**"退出。
   注：当复选框显示时，传感器模式已被激活了，如图 4.3.16-2。

Figure 4.3.16-1: Main Menu
图 4.3.16-1 主菜单

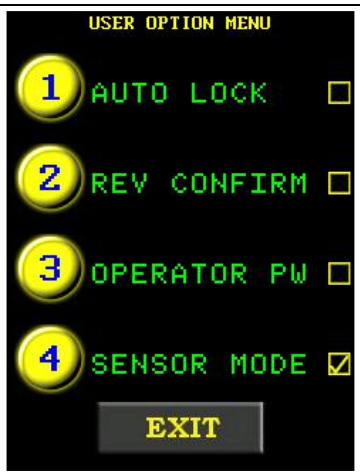


Figure 4.3.16-2: User Option Menu
图 4.3.16-2 用户选择菜单

4.3.17 Maintenance Cycle Lock 维护周期锁

When enabled, this function will disable the E-RAD BLU after an operator-defined number of cycles is reached. When the operator enables this function, the desired number of Warning Cycles and Shut-off Cycles must be entered. When the number of cycles defined as Warning Cycles is reached, the operator will be advised how many cycles remain before the Tool is disabled.

启动后，操作员定义的周期数完成后，该功能会停止 E-RAD BLU 工作。当操作员启动这一功能后，必须输入警告周期和停止周期的所需数目。当所设置的警告周期达到后，操作者会被提示工具被停止前声誉的周期数。

Note: Reverse Cycles are counted as well as Forward Cycles.

注：反转周期与正转周期一样被计算。

To enable/disable the Maintenance Cycle Lock: 如何启动/解除维护周期锁：

1. Press the "**Menu**" button on the Main Screen.
   点击主屏幕上的"**菜单**"按钮。
2. Select "**User Config**" from the Main Menu, shown in Figure 4.3.17-1.
   如图 4.3.17-1，从主菜单中选择"**用户设置**"。
3. Select "**Maint Lock**" to enable the Maintenance Cycle Lock or select "**Maint Lock**" again to disable the Maintenance Cycle Lock.
   Note: When a check is displayed, the Maintenance Cycle Lock is enabled (Figure 4.3.17-2).
   选择"**维护锁**"进行启动或者再次选择"**维护锁**"退出。
   注：当复选框显示时，维护周期已被激活了，如图 4.3.17-2。

Figure 4.3.17-1: Main Menu
图 4.3.17-1 主菜单

Figure 4.3.17-2: User Configuration Menu
图 4.3.17-2 用户设置菜单

To set the Warning Cycles and the Shut-Off Cycles: 如何设置警告周期及停止周期：

Note: Shut-Off Cycles will only disable the Tool if Maintenance Cycle Lock is enabled.
注：只有维护周期启动时，停止周期才会终止工具工作。

1. Press the "**Menu**" button on the Main Screen.
   点击主屏幕上的"**菜单**"按钮。
2. Select "**User Config**" from the Main Menu, shown in Figure 4.3.17-3.
   如图 4.3.17-3，从主菜单中选择"**用户设置**"。
3. Select "**Maint Warn**" from the User Configuration Menu, shown in Figure 4.3.17-4.
   Result: A numeric keypad will be displayed (Figure 4.3.17-5).
   从用户设置菜单中选择"维护警告"，如图 4.3.17-4 所示。
   结果：将会出现一个字母数字键盘（图 4.3.17-5）。

Figure 4.3.17-3: Main Menu
图 4.3.17-3 主菜单

Figure 4.3.17-4: User Configuration Menu
图 4.3.17-4 用户设置菜单

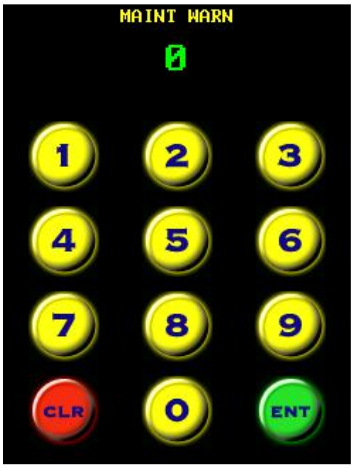


Figure 4.3.17-5: Numeric Keypad
图 4.3.17-5 字母数字键盘

4. Enter the desired number of cycles before the operator is advised of the number of cycles remaining before the E-RAD BLU is disabled for maintenance.
   在提示操作者 E-RAD BLU 距离停止进行维护所剩周期数之前输入需要的周期数。
5. Press "**ENT**" to confirm the Warning Cycles or "**CLR**" to correct.
   Result: The display will return to the User Configuration Menu (Figure 4.3.17-6).
   点击"**ENT**"确认或者点击"**CLR**"进行修改。
   结果：显示器将返回用户设置菜单（如图 4.3.17-6）。
6. Select "**Maint Limit**" from the User Configuration Menu, shown in Figure 4.3.17-7.
   Result: A numeric keypad will be displayed (Figure 4.3.17-8).
   从用户设置菜单中选择"**维护限制**"，如图 4.3.17-7.
   结果：将会出现一个字母数字键盘（图 4.3.17-8）
7. Enter the desired number of cycles before the E-RAD BLU is disabled for maintenance.
   在 E-RAD BLU 被终止进行维护之间输入所需的周期数。
8. Press "**ENT**" to confirm the Shut-Off Cycles or "**CLR**" to correct.
   Result: The display will return to the User Configuration Menu (Figure 4.3.17-9).
   点击"**ENT**"确认停止周期或者点击"**CLR**"进行修改。
   结果：显示器将返回用户设置菜单（如图 4.3.17-9）。

Figure 4.3.17-6: Main Menu
图 4.3.17-6 主菜单

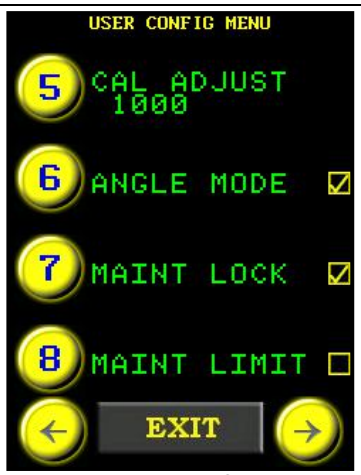


Figure 4.3.17-7: User Configuration Menu
图 4.3.17-7 用户设置菜单

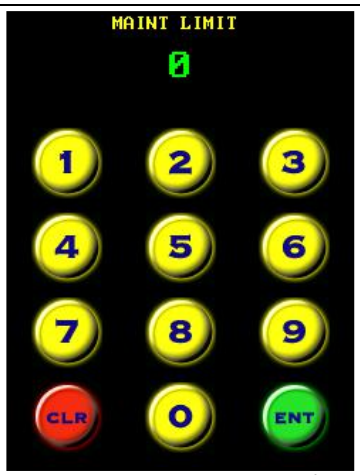


Figure 4.3.17-8: Numeric Keypad
图 4.3.17-8 字母数字键盘

Figure 4.3.17-9: User Configuration Menu
图 4.3.17-9 用户设置菜单

The Warning cycles will appear in red underneath the Set Angle button (Figure 4.3.17-10). When the maintenance limit is reached, the screen will display "**Maint Required**" in red underneath the Set Angle button (Figure 4.3.17-11).

警告周期将以红色显示在固定角度按钮下方（图 4.3.17-10）。当达到维护限制时，屏幕固定角度按钮下将显示红色“需要维护”信息。

Figure 4.3.17-10: Number of Cycles Before Tool Shut Off Warning
图 4.3.17-10 工具停止警告之前剩余的周期数

Figure 4.3.17-11: Maintenance Required Warning
图 4.3.17-11 需要维护警告信息

4.3.18 Maintenance Count Threshold 维护统计阈值

This function restricts the cycles counted toward the Warning Cycles and the Shut-Off Cycles referred to in Section 4.3.17 – Maintenance Cycle Lock. The operator sets a desired torque threshold and only cycles with a greater Actual Torque than this threshold are counted.
该功能限制 4.3.17 章节—维护周期锁中提到的警告周期和停止周期的统计周期数，操作者设置一个理想的扭矩阈值，仅用一个比该统计阈值更大的实际扭矩值进行循环。

Note: This function is especially useful in tandem with the Maintenance Cycle Lock. Refer to Section 4.3.17 – Maintenance Cycle Lock for more information.
Note: Reverse Cycles with a torque greater than the Threshold Torque will be counted.
注：这一功能与维护周期锁结合使用时特别有用。请参照 4.3.17 章节—维护周期锁获取更多信息。

To set the Maintenance Count Threshold: 如何设置维护统计阈值：

1. Press the "**Menu**" button on the Main Screen.
   点击主屏幕上的"**菜单**"按钮。
2. Select "**User Config**" from the Main Menu, shown in Figure 4.3.18-1.
   如图 4.3.18-1，从主菜单中选择"**用户设置**"。
3. Select "**Maint Torque**" from the User Configuration Menu (Figure 4.3.18-2).
   Result: A numeric keypad will be displayed (Figure 4.3.18-3).
   从用户设置菜单中选择"维护扭矩"，如图 4.3.18-2 所示。
   结果：将会出现一个字母数字键盘（图 4.3.18-3）。

Figure 4.3.18-1: Main Menu
图 4.3.18-1 主菜单

Figure 4.3.18-2: User Configuration Menu
图 4.3.18-2 用户设置菜单

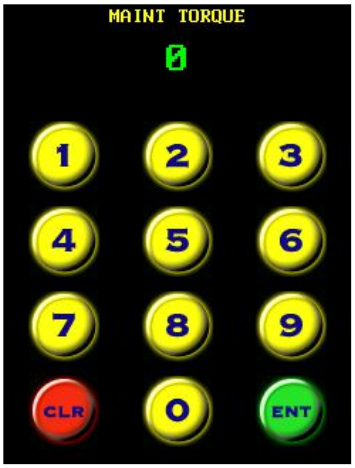


Figure 4.3.18-3: Numeric Keypad
图 4.3.18-3 字母数字键盘

4. Enter the desired Minimum Torque Threshold in percent of the E-RAD BLU's full scale.
   按照 E-RAD BLU 实尺百分比输入需要的最小扭矩阈值。
   Note: The number entered is the desired Minimum Torque Threshold divided by the Maximum Torque of the E-RAD BLU Tool System multiplied by 100%.
   注：所输入的数字为所需最小扭矩值阈值除以 E-RAD BLU 工具系统最大扭矩乘以 100%，

$$= \frac{\text{minimum torque threshold}}{\text{maximum torque of E RAD}} \times 100\%$$

$$= \frac{\text{最小扭矩阈值}}{\text{E RAD 最大扭矩}} \times 100\%$$

Note: When "**ENT**" is pressed on the numeric keypad, it will ask you if you want to clear Maint Stats. If you press "**CLR**", it will only clear the total Maintenance Cycles. If you press "**ENT**", it will clear all of the Maintenance Cycles.
Result: The display will return to the User Configuration Menu (Figure 4.3.18-4).
注：点击字母数字键盘上的"ENT"时，它会询问你是否要清除维护统计信息。如果你点击"CRL"，它只会清除维护总周期信息。如果你点击"ENT"，它会清除全部维护周期。

注：显示器将返回至用户设置菜单（图 4.3.18-4）。

Figure 4.3.18-4: User Configuration Menu
图 4.3.18-4 用户设置菜单

4.3.19 Clear Maintenance Statistics 清除维护统计信息

This function allows the operator to clear the Maintenance Statistics. This is generally done after maintenance. To view the Maintenance Statistics, refer to Section 4.3.6 – View Tool Statistics.

使用这一功能，操作者可以清除维护统计信息。这通常在维护工作完成之后进行。关于查看维护统计信息，请参考 4.3.6 章节—查看工具统计信息。

To clear Maintenance Statistics: 如何清除维护统计信息：

1. Press the "**Menu**" button on the Main Screen.
   点击主屏幕上的“**菜单**”按钮。
2. Select "**Tool Stats**" from the Main Menu, shown in Figure 4.3.19-1.
   如图 4.3.19-1，从主菜单中选择“**工具统计**”。
3. Select "**Clear Maint**" from the Statistics Menu, shown in Figure 4.3.19-2.
   从统计菜单中选择“**清除维护**”，如图 4.3.19-2 所示。
4. Select "**Confirm CLR**" to confirm the clearing of the Maintenance Statistics or press the "**Exit**" button to cancel (Figure 4.3.19-3).
   选择“**确认清除**”项确认清除维护统计信息或者点击“退出”按钮取消删除。

Figure 4.3.19-1: Main Menu
图 4.3.19-1 主菜单

Figure 4.3.19-2: Statistics Menu
图 4.3.19-2 统计菜单

Figure 4.3.19-3: Statistics Menu with Confirm CLR Option 图 4.3.19-3 统计菜单显示确认清除现象

4.3.20 Point Calibration 点校准

WARNING!警告！

Only qualified personnel with training in the safe operation of torque tooling and the E-RAD BLU Tool System should operate this tool.

This function allows the operator to quickly adjust the Calibration for a specific Set Torque. Point Calibration is useful in field applications when the torque needs to be verified and

adjusted. This adjustment is only valid when the Point Calibration is enabled and for the specific Set Torque. If the Set Torque is changed while still in Point Calibration Mode, the operator will be prompted to recalibrate for the new Set Torque. Point Calibration can be used at any point within the Tool's torque range.

只有接受过扭矩工具和 E-RAD BLU 工具系统安全操作培训的合格人员方可操作该工具。

通过这一功能，操作者能够迅速调整某个固定扭矩的刻度。点校对在扭矩需要被检验和调整的应用领域很有帮助。只有启动点校对，且针对某个固定扭矩时这种调整才有效。如果在点校对模式下修改了固定扭矩，操作者会被提示重新校准新的固定扭矩。点校对在工具扭力范围内任何一点都可使用。

Note: Point Calibration does not overwrite the E-RAD BLU Tool Calibration. For information on Tool Calibration, refer to Section 4.3.22 – Tool Calibration.
Note: Point Calibration does not appear in the User Configuration menu until after a full Tool Calibration has been done.

注：点校对不会改写 E-RAD BLU 的工具刻度。请参照 4.3.22—工具校准获取信息。

注：只有全面工具校准完成后，点校对才会出现在用户设置菜单中。

To enable/disable Point Calibration: 如何启动/解除点校对：

1. Press the "**Menu**" button on the Main Screen.
   点击主屏幕上的"**菜单**"按钮。
2. Select "**User Config**" from the Main Menu, shown in Figure 4.3.20-1.
   如图 4.3.20-1，从主菜单中选择"**用户设置**"。
3. Select "**Point Cal**" to enable Point Calibration or select "**Point Cal**" again to disable Point Calibration (Figure 4.3.20-2).
   Note: When a check is displayed, Point Cal is enabled (Figure 4.3.20-2).
   Result: The display will stay on the Menu Screen. A check will appear beside the Point Cal option to show Point Cal is enabled. Press "**Exit**" to return to the Main Screen. If Point Calibration is enabled, a Target Icon will appear at the top of the Main Screen (Figure 4.3.20-3).
   选择"**点校对**"进行启动或者再次选择"**点校对**"退出（图 4.3.20-2）。
   注：当复选框显示时，点校对已经启动（如图 4.3.20-2）。
   结果： 显示器将继续留在菜单屏。点校对旁边会出现一个复选框显示点校对已经启动。点击"退出"返回主屏幕。如果点校对启动，主屏幕上端将会出现一个图标（如图 4.3.20-3）。

Figure 4.3.20-1: Main Menu
图 4.3.20-1 主屏幕

Figure 4.3.20-2: User Configuration Menu
图 4.3.20-2 用户设置菜单

Figure 4.3.20-3: Main Screen in Point Calibration Mode
图 4.3.20 点校对模式下的主屏幕

To configure Point Calibration: 如何设置点校对：

1. Ensure Point Calibration is enabled.
   确保已经启动点校对。

2. Mount E-RAD BLU to the Calibration Stand or Smart Socket.
   将 E-RAD BLU 安装到校准台或者智能套筒。
3. If using a Calibration Stand, ensure the Calibration Transducer is set to the same units as the E-RAD BLU Tool System.
   如果使用校准台，确保校准传感器的单位与 E-RAD BLU 工具系统一致。
4. Press the "**Set Torque**" button on the Main Screen (Figure 4.3.20-3).
   Result: A numeric keypad will be displayed (Figure 4.3.20-4).
   点击主屏幕“**固定扭矩**”按钮（图 4.3.20-3）
   结果：字母数字键盘将会显示（图 4.3.20-3）。
5. Enter the desired Target Torque.
   Note: Press "**ENT**" to confirm torque or "**CLR**" to correct.
   Result: The Point Calibration Screen will be displayed along with a prompt to do Torque Cycle 1 (Figure 4.3.20-5).
   输入需要的目标扭矩。
   注：点击“ENT”确认扭矩或者点击“CLR”进行修改。
   结果：点校对屏幕将会显示，同时会提示进行扭矩循环 1（图 4.3.20-5）.

Figure 4.3.20-4: Numeric Keypad
图 4.3.20-4 字母数字键盘

Figure 4.3.20-5: Point Calibration Screen
图 4.3.20-5 点校对屏

Figure 4.3.20-6: Point Calibration Screen
图 4.3.20-6 点校对屏

6. Operate the E-RAD BLU through one pass cycle.
   使用一次成功循环运行 E-RAD BLU。
7. If using a calibration stand, manually enter the torque read from the Calibration Transducer. If using a Smart Socket, the Measured Torque will be entered through the Bluetooth connection and there will then be a prompt asking to do Torque Cycle 2 (Figure 4.3.20-6).
   如果使用校准台，需要手动输入从校准传感器中读取的扭矩值。如果使用智能套筒，测量到的扭矩值将通过蓝牙连接输入，并提示进行第二次循环。
8. Operate the E-RAD BLU through one pass cycle.
   使用一次成功循环运行 E-RAD BLU。
9. If using a Calibration Stand, manually enter the torque read from the Calibration Transducer. If using a Smart Socket, the Measured Torque will be entered through the Bluetooth connection (Figure 4.3.20-7).
   如果使用校准台，需要手动输入从校准传感器中读取的扭矩值。如果使用智能套筒，测量到的扭矩值将通过蓝牙连接输入(图 4.3.20-7)。
10. Press "**ENT**" to confirm the Point Calibration.
    点击“ENT”确认点校对。
    Result: A prompt will appear asking to save the Point Calibration results. Press "**ENT**" to save the results or "**CLR**" to not (Figure 4.3.20-8).
    Result: The screen will then go back to the Main Screen in Point Calibration Mode (Figure 4.3.20-3). The torque will be adjusted by the Point Calibration for the Target Torque entered in Step 5 until a new torque is entered or Point Calibration is disabled.
    结果：将会出现一个提示信息，询问是否保存点校对结果。点击“ENT”保存结果或者“CLR”取消保存（图 4.3.20-8）。

结果：屏幕将回到点校对模式下的主屏幕（图 4.3.20-3）。针对第 5 步中输入的目标扭矩，点校对将对扭矩进行调整，直到输入一个新的扭矩值或者退出点校对。

Figure 4.3.20-7: Point Calibration Screen
图 4.3.20-7 点校对屏

Figure 4.3.20-8: Save Result Confirmation
图 4.3.20-8 保存结果确认

4.3.21 Blue Calibration 蓝牙校准

WARNING! 警告！

Only qualified personnel with training in the safe operation of torque tooling and the E-RAD BLU Tool System should operate this tool.

This function allows the operator to quickly adjust the Calibration for the Tool. Blue (Bluetooth) Calibration is useful in field applications when the torque needs to be verified and adjusted. Blue Cal is only meant to adjust the Tool's calibration.

只有接受过扭矩工具和 E-RAD BLU 工具系统安全操作培训的合格人员方可操作该工具。

通过这一功能，操作者能够迅速调整工具刻度。蓝牙校准在扭矩需要被检验和调整的应用领域很有帮助。蓝牙校准只是要调整工具的校准仅是为了调整工具刻度。

Note: Blue Calibration will adjust the entire Tool Calibration, but it will not overwrite it. For more information on adjusting the Tool Calibration, refer to Section 4.3.23 – Calibration Adjust.
Note: Blue Calibration does not appear in the User Configuration Menu until after a full Tool Calibration has been done and the E-RAD BLU has been connected to a Smart Socket.
Note: The Minimum Torque usable while in Blue Calibration is 1/3 of the Tool's Maximum Torque. Blue Calibration is not recommended for use above 80% of the Tool's Maximum Torque. The optimal range for use is between 40% and 80% of the Tool's Maximum Torque. If Blue Calibration is used for a torque value below 40%, an error message will be displayed saying "**Torque too low use Point Cal**". Point Cal should be used for any torque below 40%. Refer to Section 4.3.20 – Point Calibration, for more information on Point Cal

注：蓝牙校准会调整整个工具刻度，但不会改写它。请参照 4.3.23 章节—刻度调整获取更多调整工具刻度的信息。

注：只有全面工具校准完成，E-RAD BLU 连接智能套筒后，蓝牙校准才会出现在用户设置菜单中。

注：蓝牙校准状态下，可用的最小扭矩值为工具最大扭矩值的 1/3.工具最大扭矩值的 80%以上不建议使用蓝牙校准。使用的理想范围是工具最大扭矩的 40%~80%之间。如果蓝牙校准用于 40%以下的扭矩值，将会出现一个错误信息，提示“扭矩过低，请使用点校准”。点校准应该用于任何低于 40%的扭矩。参照 4.3.20——点校准，获取更多关于点校准的信息。

To do a Blue Calibration: 如何进行蓝牙校准：

Note: A Smart Socket is needed to perform this procedure.
注：完成这一步骤需要安装智能套筒。

1. Press the "**Menu**" button on the Main Screen.
   点击主屏幕上的"**菜单**"按钮。
2. Select "**User Config**" from the Main Menu, shown in Figure 4.3.21-1.
   如图 4.3.21-1，从主菜单中选择"**用户设置**"。
3. Select "**Blue Cal**" to enable Blue Calibration (Figure 4.3.21-2).
   Result: A numeric keypad will be displayed asking for a Target Torque (Figure 4.3.21-3).
   选择"蓝牙校准"进行启动（图 4.3.21-2）。
   结果：将会出现一个字母数字键盘，询问目标扭矩值（图 4.3.21-3）

Figure 4.3.21-1: Main Menu
图 4.3.21-1 主菜单

Figure 4.3.21-2: User Configuration Menu
图 4.3.21-2 用户设置菜单

Figure 4.3.21-3: Numeric Keypad
图 4.3.21-3 字母数字键盘

4. Enter the desired Target Torque.
   Note: Press "**ENT**" to confirm torque or "**CLR**" to correct.
   Result: The Blue Calibration screen will be displayed along with a prompt to do torque cycle 1 (Figure 4.3.21-4).
   输入一个理想的目标扭矩值
   注：点击"ENT"确认扭矩或者点击"CLR"进行修改。
   结果：蓝牙校准屏将会出现，并提示进行第一次扭矩循环（图 4.3.21-1）
5. Operate the E-RAD through one pass cycle.
   使用一个成功循环操作 E-RAD BLU。
6. The measured torque will be entered through the Bluetooth connection and there will then be a prompt to do torque cycle 2 (Figure 4.3.21-5).
   测量的扭矩将会通过蓝牙连接输入，然后提示进行第二次循环（图 4.3.21-5）。
7. Operate the E-RAD through one pass cycle.
   使用一个成功循环操作 E-RAD BLU。
8. The measured torque will be entered through the Bluetooth connection (Figure 4.3.21-6).
   测量的扭矩将会通过蓝牙连接输入（图 4.3.21-6）。
9. Press "**ENT**" to confirm the Point Calibration.
   Result: A prompt will appear asking to save the Blue Calibration results. Press "**ENT**" to save the results or "**CLR**" to not save (Figure 4.3.21-7). The screen will then go back to the User Configuration Menu.
   点击"ENT"确认点校准
   结果：将会出现一个提示信息，询问是否保存蓝牙校对结果。点击"ENT"保存结果或者"CLR"取消保存（图 4.3.21-7）。然后屏幕将返回至用户设置菜单。

Figure 4.3.21-4: Blue Calibration Screen
图 4.3.21-4 蓝牙校准屏

Figure 4.3.21-5: Blue Calibration Screen
图 4.3.21-5 蓝牙校准屏

Figure 4.3.21-6: Blue Calibration Screen
图 4.3.21-6 蓝牙校准屏

Figure 4.3.21-7: Save Result Confirmation
图 4.3.21-7 保存结果确认

Note: To view the value that the Calibration Table has been adjusted by, go to "**Cal Adjust**" in the User Configuration Menu. For more information on "**Cal Adjust**" refer to Section 4.3.23 – Calibration Adjust.

注：要查看调整刻度表的值，选择用户设置菜单中的“刻度调整”。参阅 4.3.23 刻度调整，查看更多关于刻度调整的信息。

4.3.22 Tool Calibration 工具校准

WARNING!警告！

Only qualified personnel with training in the safe operation of torque tooling and the E-RAD BLU Tool System should operate this tool.

只有接受过扭矩工具和 E-RAD BLU 工具系统安全操作培训的合格人员方可尝试安装，操作和诊断 E-RAD BLU 工具系统。

CAUTION!

Do not calibrate at Set Torques that result in exceeding the E-RAD BLU Tool System's Torque Range. Severe tool damage will occur.

固定扭矩的校准不要超过 E-RAD BLU 工具系统的扭矩范围。这将会导致某些损害发生。

This function provides access to the Calibration Values for the full Torque Range of the E-RAD BLU Tool System. Calibration Values should only be modified by a qualified Calibration Technician and with the use of a Calibration Stand.

通过这一功能可以访问 E-RAD BLU 工具系统整个扭矩范围内的校准值。校准值的修改应由合格的校准技术员使用校正台完成。

The Calibration Values represent a relationship between the Actual Output Torque of the E-RAD BLU Tool System and the Set Torque. By changing the Calibration Values, the E-RAD BLU is more accurate and precise.

校准值代表着 E-RAD BLU 工具系统实际输出扭力与固定扭矩之间的一种关系。通过修改校准值，使 E-RAD BLU 更加精密严格。

Note: When the Calibration Values are modified by the operator, the date is stored as the User Calibration Date in the Tool Information. When the Calibration Values are modified by a New World Technologies Inc. Calibration Technician, the date is stored as the Factory Calibration Date in the Tool Information. Refer to Section 4.3.5 – View Tool Information.

注：当操作员修改校准值时，修改日期在工具信息中保存为用户校准日期。当新世界科技有限公司校准技术员修改校准值时，修改日期在工具信息中保存为工厂校准日期。参阅 4.3.5 章节—查看工具信息。

To calibrate the E-RAD BLU Tool System: 如何校准 E-RAD BLU 工具系统：

1. Press the "**Menu**" button on the Main Screen.
   点击主屏幕“菜单”按钮。
2. Select "**User Config**" from the Main Menu, shown in Figure 4.3.22-1.
   从主菜单中选择“用户设置”， 如图 4.3.22-1。
3. Select "**Calibration**" from the User Configuration Menu, shown in Figure 4.3.22-2.
   从用户设置菜单中选择“校准”，如图 4.3.22-2
   Result: A prompt screen will be displayed asking to confirm the Calibration or cancel the Calibration (Figure 4.3.22-3).
   结果：将会出现一个提示框，询问确认校准或是取消校准（图 4.3.22-3）。

Figure 4.3.22-1: Main Menu
图 4.3.22-1 主菜单

Figure 4.3.22-2: User Configuration Menu
图 4.3.22-2 用户设置菜单

Figure 4.3.22-3: Confirm Calibration Prompt
图 4.3.22-3 确认校准提示

4. Press the "**ENT**" button to enter Calibration.
   点击“ENT”按钮进入校准。
   Result: The 7% Calibration Screen will be displayed (Figure 4.3.22-4).
   结果： 7%校准屏将会出现（图 4.3.22-4）。
   Mount E-RAD BLU to the Calibration Stand.
   将 E-RAD BLU 安装到校准台。
5. Ensure the Calibration Transducer is set to the same units as the E-RAD BLU Tool System
   确保校准传感器的单位与 E-RAD BLU 工具系统一致。
6. Do one Torque Cycle.
   进行一次扭矩循环。
   Note: If the ERAD BLU is connected to a Smart Socket through Bluetooth, the Calibration Values do not need to be manually entered. The ERAD BLU will enter in the number that is read from the Smart Socket. This number will be coloured blue (Figure 4.3.22-5). If you are using this feature, skip steps 8 - 10.
   注： 如果 ERAD BLU 已通过蓝牙连接到智能套筒，则校准值无需进行手动输入。E-RAD BLU 会输入从智能套筒读取的数据。该数据将呈蓝色（图 4.3.22-5）如果您使用这一功能，请略过第 8-10 步。
   Note: Do not put the tool in reverse until the calibration value appears on the screen.

注：屏幕上出现校准值之前不要将工具反转。

7. Press the "**Cal Value**" button on the Calibration Screen (Figure 4.3.22-4).
   点击校准屏上的“校准值”按钮（图 4.2.33-4）
   Result: A numeric keypad will be displayed (Figure 4.3.22-7).
   结果：将会出现一个字母数字键盘（图 4.3.22-7）
8. Enter the torque measured by the Transducer.
   输入传感器测得的扭矩。
9. Press "**ENT**" to confirm or "**CLR**" to correct.
   点击“ENT”确认或者点击“CLR”进行修改。
   Result: The next Calibration screen will be displayed.
   结果：下一个校准屏将会显示。

Figure 4.3.22-4: 7% Calibration Screen
图 4.3.22-4 ： 7%校准屏

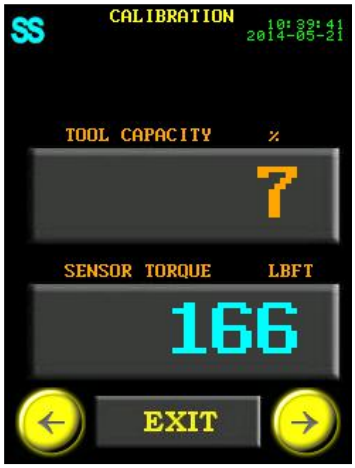


Figure 4.3.22-5: Calibration Value Entered in Through Bluetooth
图 4.3.22-5 通过蓝牙输入的校准值

Figure 4.3.22-6: Save Calibration Prompt
图 4.3.22-6 保存校准提示

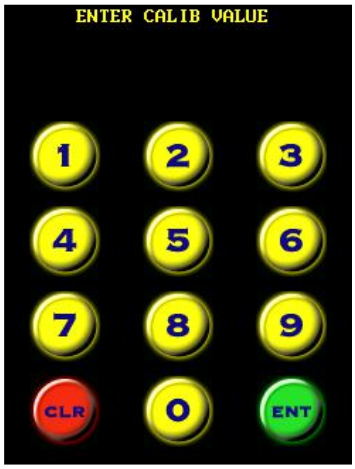


Figure 4.3.22-7: Numeric Keypad
图 4.3.22-7 字母数字键盘

10. Repeat steps 7 to 10 for each torque percentage. The torque percentages are 7%, 10%, 20%, 30%, 40%, 50%, 60%, and 70%.
11. 对每一个扭矩百分比重复 7 到 10 步，这些扭矩百分比包括 7%，10%，20%，30%，40%，50%，60%和 70%。

Note: Torque cycles do not need to be done for 80%, 90%, and 100% Tool Capacity. These Calibration Values are automatically generated based on the previous Calibration Values entered in for the previous Tool Capacity's. If the tool detects that a Calibration Value will be over the tool's maximum torque, it will automatically generate these numbers. The generated numbers will be coloured white in the Calibration Screen.

注：工具容量为 80%，90%和 100%时不需要进行扭矩循环，这些校准值根据对之前工具容量输入的校准值自动产生。如果工具检测到一个校准值将超过工具的最大扭矩，它会自动生成这些数字。生成的数字会以白色显示在校准屏上。

12. Press the "**Exit**" button.
    点击“退出”按钮。
    Result: The operator will be prompted to save before exiting (Figure 4.3.22-6).
    结果：操作者将会在退出之前被提示进行保存（图 4.3.22-6）。
13. Press "**ENT**" to save and exit or "**CLR**" to not save and exit.
    点击“ENT”保存或者点击“CLR”取消保存并退出。
    Result: The display will return to the Main Screen.
    结果：显示屏将回到主屏幕。

4.3.23 Calibration Adjust 刻度调整

This function allows the operator to adjust the Tool's Calibration Table. 1000 is with no adjustment, and the range for adjustment is 850-1150.

这一功能可以让操作者调整工具的刻度表。扭矩 1000 不用进行调整，除此之外的调整范围是 850-1150.

Note: Increasing the number increases the Output Torque and decreasing the number decreases the Output Torque.

注：数字增加会加大输出的扭矩，数字降低会缩小输出的扭矩。

Note: Blue Calibration will change the Calibration Adjust Value. For more information on Blue Calibration refer to Section 4.3.21 – Blue Calibration.

注：蓝牙校准会改变刻度校准值。更多蓝牙校准信息请参照 4.3.21 章节—蓝牙校准。

To adjust the calibration: 如何调整刻度：

1. Press the "**Menu**" button on the Main Screen.
   点击主屏幕“菜单”按钮。
2. Select "**User Config**" from the Main Menu, shown in Figure 4.3.23-1.
   从主菜单中选择“用户设置”， 如图 4.3.23-1。
3. Select "**Cal Adjust**" from the User Configuration Menu, shown in Figure 4.3.23-2.
   从用户设置菜单中选择“**刻度调整**”，如图 4.3.22-2。
   Result: A numeric keypad will be displayed (Figure 4.3.23-3).
   结果：将会出现一个字母数字键盘（图 4.3.23-3）
4. Enter the Adjustment Value for the Tool's Calibration.
   输入工具刻度的校准值。

Figure 4.3.23-1: Main Menu
图 4.3.23-1 主菜单

Figure 4.3.23-2: User Configuration Menu
图 4.3.23-2 用户设置菜单

Figure 4.3.23-3: Numeric Keypad
图 4.3.23-3 字母数字键盘

4.3.24 Low Pre-Torque 低预紧力矩

This function allows the operator to select from and modify three Low Pre-Torque Values which are below the Minimum Torque of the E-RAD Tool System. For more information on Pre-Torque and when it occurs, refer to Section 5.3 – Angle Only Operation and Section 5.4 – Torque and Angle Operation.

通过这一功能，操作者可以选取和和修改三种低于 E-RAD BLU 工具系统最小扭力的低预紧力矩值。关于更多低预紧力及其发生时间的信息，请参阅 5.3 章节—仅使用角度操作及 5.4 章节—扭矩及角度操作。

Note: Angle Mode must be enabled to access and use Low Pre-Torque. Refer to Section 4.3.12 – Enable/Disable Angle Mode.

注：角度模式必须启动，以获取和使用低预紧力矩。参照 4.3.12—启动/解除角度模式。

To add a Low Pre-Torque: 如何添加低预紧力矩：

1. Press the "**Menu**" button on the Main Screen.
   点击主屏幕“菜单”按钮。
2. Select "**User Config**" from the Main Menu, shown in Figure 4.3.24-1.
   从主菜单中选择“用户设置”， 如图 4.3.24-1。
3. Select "**Low Trq Value**" from the User Configuration Menu (Figure 4.3.24-2).
   从用户设置菜单中选择“**低预紧力值**”，如图 4.3.24-2。
4. Select the Low Torque from the Low Pre-Torque Menu (Figure 4.3.24-3).

Figure 4.3.24-1: Main Menu
图 4.3.24-1 主菜单

Figure 4.3.24-2: User Configuration Menu
图 4.3.24-2 用户设置菜单

Figure 4.3.24-3: Low Pre-Torque Menu
图 4.3.24-3 低预紧力扭矩菜单

从低预紧力菜单中选择低扭矩（图 4.3.24-3）。

Result: The Low Pre-Torque Adjustment Screen will be displayed. An example of this screen is shown in Figure 4.3.24-4.

结果：低预紧力矩调整屏幕将会出现。图 4.3.24-4 是一个例子。

5. Press the "**Torque Value**" button on the Low Pre-Torque Adjustment Screen.
   点击低预紧力矩调整屏上的“扭矩值”按钮。
   Result: A numeric keypad will be displayed (Figure 4.3.24-5).
   结果：将会出现一个字母数字键盘（图 4.3.24-5）。

Figure 4.3.24-4: Low Pre-Torque Adjustment Screen
图 4.3.24-4 低预紧力矩调整屏

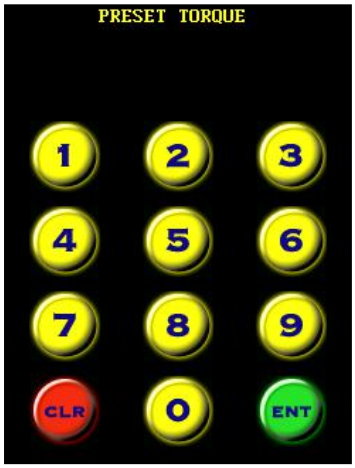


Figure 4.3.24-5: Numeric Keypad
图 4.3.24-5 字母数字键盘

6. Enter the Low Pretorque Value.
   输入低预紧力矩值。
7. Press "**ENT**" to confirm or "**CLR**" to correct.
   点击“ENT”确认或者点击“CLR”进行修改。

8. Mount E-RAD BLU to the Calibration Stand and ensure the Calibration Transducer is set to the same units as the E-RAD BLU Tool System.
   将 E-RAD BLU 安装到校正台，确保校准传感器单位与 E-RAD BLU 工具系统一致。
9. Do one Pre-Torque Cycle.
   进行一次低预紧力矩循环。
10. Calculate the Adjustment Value using the torque measured by the Transducer. Use the following equation:
    使用传感器测得的扭矩计算调整值。使用下方公式

$$\text{Adjustment Value} = \frac{\text{PreTorque Value}}{\text{Transducer Torque}} \times 1000$$

$$\text{调整值} = \frac{\text{低预紧力矩值}}{\text{传感器扭矩}} \times 1000$$

11. Press the "**Adjustment**" button on the Low Pre-Torque Adjustment Screen, shown in Figure 4.3.24-4.
    点击低预紧力矩调整屏上的“调整”按钮，如图 4.3.24-4.
    Result: A numeric keypad will be displayed (Figure 4.3.24-6).
    结果：将会出现一个字母数字键盘（图 4.3.24-6）。

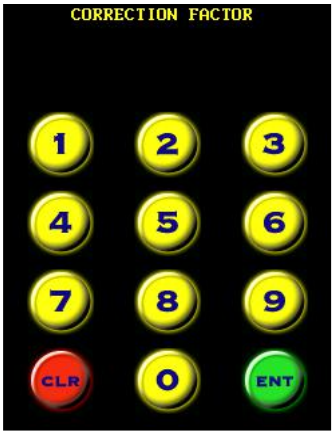


Figure 4.3.24-6: Numeric Keypad
图 4.3.24-6 字母数字键盘

12. Enter the Adjustment Value.
    输入调整值
13. Press "**ENT**" to confirm or "**CLR**" to correct.
    点击“ENT”确认或者点击“CLR”进行修改。
14. Press the "**Exit**" button at the bottom of the screen.
    点击屏幕下方“退出”按钮。
    Result: The display will return to the Low Pre-Torque Menu and the modifications will be saved.
    结果：显示器将回到低预紧力矩菜单，修改将被保存。
15. Press the "**Exit**" button at the bottom of the screen to return to the Main Screen.
    点击屏幕下方“退出”按钮返回到主屏幕。

To select a Low Pre-Torque: 选择一个低预紧力矩：

1. Make sure Angle Mode is enabled, refer to Section 4.3.12 – Enable/Disable Angle Mode for information on enabling Angle Mode.
   确保角度模式已启动，参照 4.3.12 章节—启动/解除角度模式，获取更多启动角度模式的信息。
2. Adjust the Set Angle to the desired value by referring to Section 4.3.2 – Select a Preset, if the E-RAD BLU is in the Locked Level, or Section 4.3.9 – Change the Set Angle, if the E-RAD BLU is in any other level.
   将固定角度调整到需要值，如果 E-RAD BLU 处于限制访问级别，请参照 4.3.2 章节—选择一个预设值，如果 E-RAD BLU 处于其他级别，请参照 4.3.9—修改固定角度。
3. Adjust the Set Torque to the desired Low Pretorque value that was previously added to the tool (Figure 4.3.24-7). Adjust the Set Torque by referring to Section

4.3.2 – Select a Preset, if the E-RAD BLU is in the Locked Level, or Section 4.3.8 – Change the Set Torque, if the E-RAD BLU is in any other level.

将固定扭矩调整到之前添加到工具的理想低预紧力值（图 4.3.24-7），如果 E-RAD BLU 处于限制访问级别，请参照 4.3.2 章节—选择一个预设值，如果 E-RAD BLU 处于其他级别，请参照 4.3.9—修改固定扭矩。

4. The Low Pretorque has now been selected and the tool can be used, refer to Section 5.4 – Torque and Angle Operation for information on operating the tool.
现在已经选取低预紧力矩，工具即可使用，参照 5.4 部分—扭矩好让角度操作，获取更多操作工具的信息。

Figure 4.3.24-7: Low Pretorque Selected.
图 4.3.24-7 选定低预紧力矩

4.3.25 Factory Settings 工厂设置

This function is used to adjust factory settings including Minimum Torque, Maximum Torque, Angle Mode and Gear Ratio. These settings should only be used under the direction of New World Technologies Inc. Technical Support.

该功能用于调整工厂设置，包括最小扭矩，最大扭矩，角度模式和齿轮比。这些设置应该在新世界科技有限公司技术支持的指导下使用。

Note: Contact New World Technologies Inc. Technical Support for more information (refer to Section 8.0 – Contact Us).

注：请洽新世界科技有限公司技术支持，获取更多信息（参阅 8.0 部分-联系我们）。

4.3.26 Network 网络

This function is used as an alternate way to connect to the E-RAD BLU Touch Data Logger. Refer to section 6.0 – Data Log PC Operations for more information about the Data Logger.

该功能提供了连接 E-RAD BLU 触摸式数据记录器的一种替代方法。参照 6.0 章节—数据记录电脑操作，获取更多关于数据记录器的信息。

To connect the E-RAD BLU to a PC: 如何连接 E-RAD BLU 与电脑：

1. Press the "**Menu**" button on the Main Screen.
点击主屏幕上的“菜单按钮”。
2. Select "**User Config**" from the Main Menu, shown in Figure 4.3.26-1.
从主菜单中选择“用户设置”选项，如图 4.3.26-1.
3. Select "**Network**" from the User Configuration Menu, shown in Figure 4.3.26-2.
从用户设置菜单中选择“**网络**”，如图 4.3.26-2.
4. For automatic IP Address set the "**IP Net**" to "**0**", and the "**IP Node**" to "**0**".
获取自动 IP 地址，将“IP 网络”设置为“0”，将“IP 节点”设置为“0”。
5. For a fixed IP Address on the 192.168 Private Network:
获取 192.168 专用网络的固定 IP 地址：
   a. Change the "**IP Net**" to the subnet of the IP address.
   将“IP 网络”更改为 IP 地址的子网络。
   b. Change the "**IP Node**" to the unit address of the IP address.
   将“IP 节点”更改为 IP 地址的单元地址。

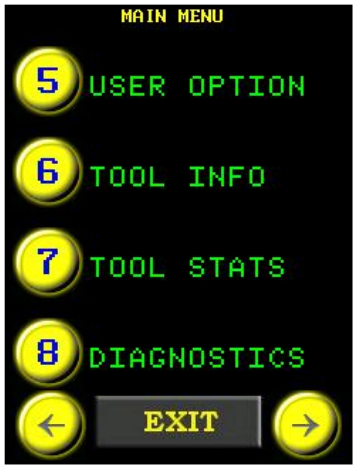
Figure 4.3.26-1: Main Menu
图 4.3.26-1 主屏幕

Figure 4.3.26-2: User Configuration Menu
图 4.3.26-2 用户设置菜单

Figure 4.3.26-3: Network Screen
图 4.3.26-3 网络屏

To check the IP Address: 如何查看 IP 地址：

1. Press the "**Menu**" button on the Main Screen.
   点击主屏幕上的“**菜单**”按钮。
2. Select "**Tool Info**" from the Main Menu, shown in figure 4.3.26-4.
   从主菜单中选择“工具信息”，如图 4.3.26-4.
3. Select "**Case Info**" (Figure 4.3.26-5). The IP Address will be shown in this menu.
   选择“壳体信息”（图 4.3.26-5）。IP 地址在此菜单中可以查看。



4.3.26-4: Main Menu
图 4.3.26-4 主菜单

4.3.26-5: Tool Information Menu
图 4.3.26-5 工具信息菜单

4.3.27 Angle Torque Pass/Fail 角度扭矩通过/未通过

This feature allows the user to create a range which determines whether an Angle Cycle (Section 5.3 – Angle Only Operation) or a Torque and Angle Cycle (Section 5.4 – Torque and Angle Operation) will pass or fail.

通过这一功能，用户可以创建一个范围，决定一个角度循环（5.3 章节-仅角度操作）或者扭矩和角度循环（5.4 章节—扭矩和角度操作）是否能够通过。

To create this range:如何创建这个范围：

1. Make sure Angle Mode is enabled. Refer to Section 4.3.12 – Enable/Disable Angle Mode for more information.

   确保角度模式已经开启。参照 4.3.12 开启/解除角度模式，获取更多信息。

2. Adjust the Set Angle to the desired value by referring to Section 4.3.2 – Select a Preset, if the E-RAD BLU is in the Locked Level, or Section 4.3.9 – Change the Set Angle, if the E-RAD BLU is in any other level.

   将固定角度调整到需要值，如果 E-RAD BLU 处于限制访问级别，请参照 4.3.2 章节—选择一个预设值，如果 E-RAD BLU 处于其他级别，请参照 4.3.9—修改固定角度。

   Note: The Set Angle range is 0 degrees or 10 to 600 degrees.

   注：固定角度的范围为 0 度或者 10 到 600 度。

3. Hold the "**Set Angle**" button for 3 seconds. The Angle Torque Menu will be displayed (Figure 4.3.27-1).

   按住“**固定角度**”按钮保持 3 秒。角度扭矩菜单将会显示（图 4.3.27-1）。

4. Set the Minimum Torque and the Maximum Torque by pressing the "**Min Torque**" and "**Max Torque**" buttons (Figure 4.3.27-1). Anything within this range will be a pass and anything outside this range will be a fail (Figure 4.3.27-2).

   点击“**最小扭矩**”和“**最大扭矩**”按钮，设置最小扭矩和最大扭矩（图 4.3.27-1）。这一范围内的任何值都会通过，反之不会通过（图 4.3.27-2）.

5. Press the "**Exit**" button to return to the Main Screen.

   点击“**退出**”按钮返回主屏幕。

Figure 4.3.27-1: Angle Torque Menu
图 4.3.27-1 角度扭矩菜单

Figure 4.3.27-2: Set Min Torque and Max Torque
图 4.3.27-2 设置最小扭矩及最大扭矩

When saved as a preset, these pass/fail ranges will also be saved. Presets with these pass/fail ranges will have the range displayed underneath the set angle of the preset in the Load Preset Menu (Figure 4.3.27-3).

当保存为预设值时，通过/未通过范围也将被保存。通过/未通过范围的预设值将显示在装载预设值菜单固定角度预设值之下。

Figure 4.3.27-3: Load Preset Menu

图 4.3.27-3 装载预设值菜单

5.0 General Operating Instructions 通用操作指示

WARNING!警告！

Only qualified personnel with training in the safe operation of torque tooling and the E-RAD BLU Tool System should operate this tool.

只有接受过扭矩工具和 E-RAD BLU 工具系统安全操作培训的合格人员方可尝试安装，操作和诊断 E-RAD BLU 工具系统。

There are three ways to operate the E-RAD BLU Tool System: Torque Only; Angle Only; or Torque and Angle. Each of these operations, the use of the Reaction Arm and reviewing the Last Result are discussed in the following sections.

以下是操作 E-RAD BLU 工具系统的三种方法：仅使用扭矩操作;仅使用角度操作；或者使用扭矩和角度操作。这些操作方法，反作用力臂的使用，回顾上次结果将在以下章节进行讨论。

5.1 Reaction Arm 反作用力臂

WARNING!警告！

Always keep body parts clear of the Reaction Arm when the E-RAD BLU Tool System is in use. Serious injury could occur.

在操作 E-RAD BLU 工具系统时，请保持所身体部位不接触反作用力臂。

CAUTION!注意！

Ensure the Reaction Arm has a solid contact point before operating the E-RAD BLU Tool System.

在操作 E-RAD BLU 工具系统之前确保反作用力臂有一个固定的支撑点。

5.1.1 Installing the Reaction Arm 安装反作用力臂

Ensure the Reaction Arm and Snap Ring are installed securely to hold the Reaction Arm in place. Make sure the Reaction Arm is in contact with a solid Reaction Point before you operate the tool. Keep your body parts clear of the Reaction Arm when the tool is in operation.

确保反作用力臂和卡环安装牢固，把反作用力臂固定就位。确保操作工具之前反作用力臂与一个固定的反作用点接连。当工具操作时，保持身体部位不接触反作用力臂。

When the tool is in operation the Reaction Arm rotates in the opposite direction to the Output Square Drive and must be allowed to rest squarely against a solid object or surface adjacent to the bolt to be tightened (Figure 5.1.1-1).

当工具操作时，反作用力臂的旋转与输入方隼方向相反，必须顶住一个固定物体或者一个临近待紧固螺栓的面。

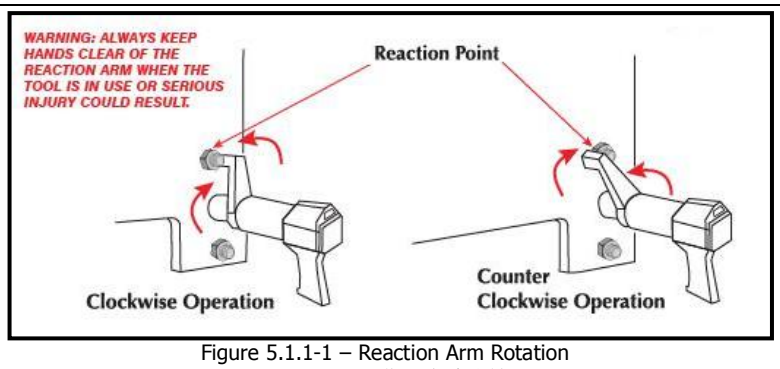


Figure 5.1.1-1 – Reaction Arm Rotation
图 5.1.1-1 反作用力臂旋转

CAUTION!注意！ Keep your hand and body parts clear of the Reaction Arm and barrel when the tool is in operation.
工具操作时，保持手和身体部位不接触反作用力臂及套筒。

Figure 5.1.1-2: Incorrect Placement of Hand/Body Parts During Operation
图 5.1.1-2 操作过程中手/身体部位的不正确放置

5.1.2 Reaction Arm Height 反作用力臂高度

Ensure the height of the socket is even with the height of the Reaction Arm as seen below in Figure 5.1.2-1. The height of the socket cannot be shorter or higher than the height of the Reaction Arm as seen below in Figure 5.1.2-2.

确保套筒高度与反作用力臂的高度相等，如下图 5.1.2-1.套筒的高度不能低于或高于反作用力臂高度，如图 5.1.2-2.

CORRECT: The Reaction Arm and socket are even height.
正确：反作用力臂与套筒高度相同。

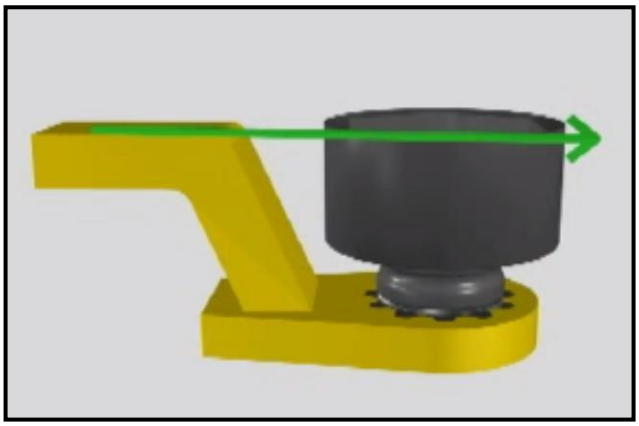


Figure 5.1.2-1: Correct Height
图 5.1.2-1 正确高度

INCORRECT: The leg of the Reaction Arm is too short on the left side, and too long on the right side.
错误：左侧反作用力臂支架过短，右侧反作用力臂过长。

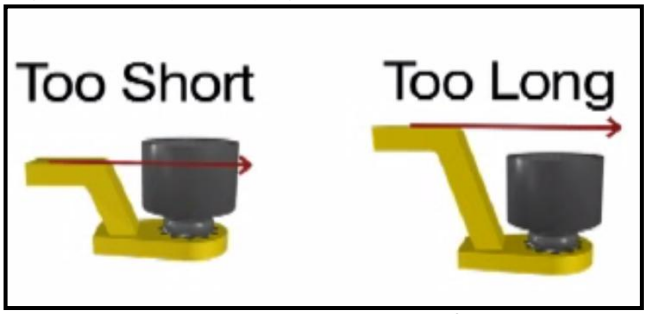


Figure 5.1.2-2: Incorrect Height
图 5.1.2-2 错误高度

IMPROPER REACTION WILL VOID WARRANTY AND CAN CAUSE PREMATURE TOOL FAILURE.
不恰当的反作用力会使保固失效，并导致人为工具失灵。

5.1.3 Reaction Arm Foot 反作用力臂支架

Ensure the foot of the Reaction Arm aligns with the length of the nut as seen in Figure 5.1.3-1. The length of the foot cannot be shorter or longer than the nut as seen in Figure 5.1.3-2.

确保反作用力臂支架与螺母长度相匹配，如图 5.1.3-1 所示。支架的长度不能短于或者长于螺母，如图 5.1.3-2.

CORRECT: The foot of the Reaction Arm aligns with the length of the nut.
正确：反作用力臂支架与螺母长度匹配。

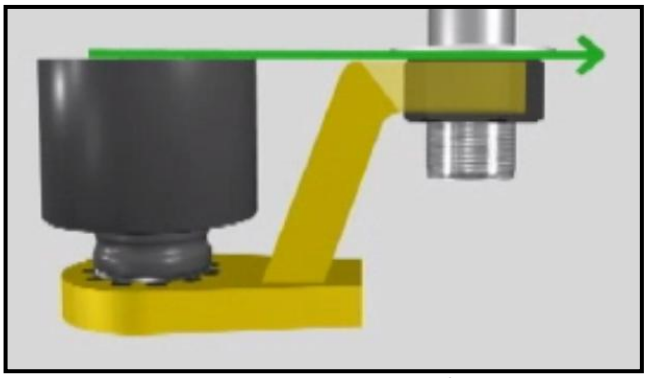


Figure 5.1.3-1: Correct Length
图 5.1.3-1 正确长度

INCORRECT: The foot of the Reaction Arm is too short on the left side, and too long on the right side.
错误：左边反作用力臂过短，右边反作用力臂过长。

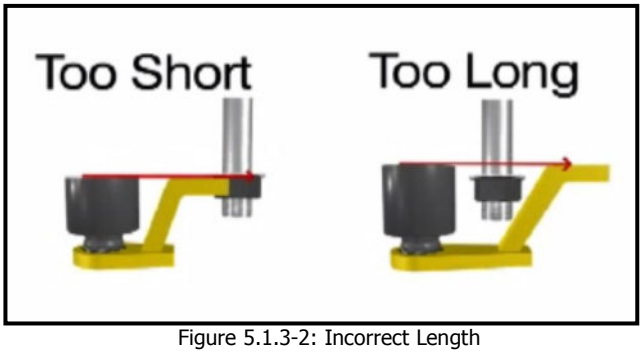


Figure 5.1.3-2: Incorrect Length
图 5.1.3-2 错误长度

Please contact New World Technologies Inc or your local RAD Authorized Distributor for custom Reaction Arms.
请恰新世界科技有限公司或是当地 RAD 授权经销商，咨询定制反作用力臂。

5.1.4 Reaction Points 反作用点

Ensure the Reaction Arm reacts off the middle of the foot as seen in Figure 5.1.4-1. Do not react off the heel of the reaction foot as seen in Figure 5.1.4-2.
确保反作用力臂施力于支架中部，如图 5.1.4-1 所示。不要施力于反作用支架倾侧，如图 5.1.4-2.

CORRECT: Reaction Arm is reacting off the middle of the Reaction Arm's foot.
正确：反作用力臂施力于反作用力臂支架中部。

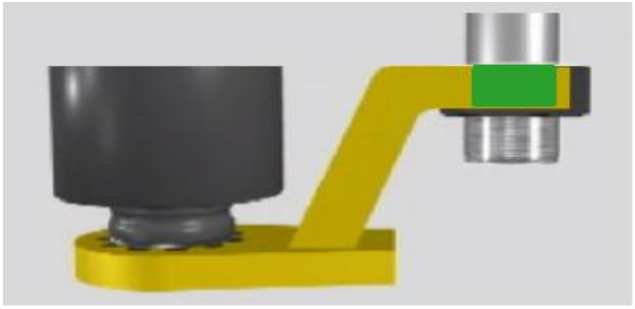


Figure 5.1.4-1: Correct Reaction Point

图 5.1.4-1 正确的反作用力点

INCORRECT: Reaction arm is reacting off the heel of the reaction arm. This can cause premature tool failure.
错误：反作用力臂施于力臂倾侧。这可以导致人为工具失灵。

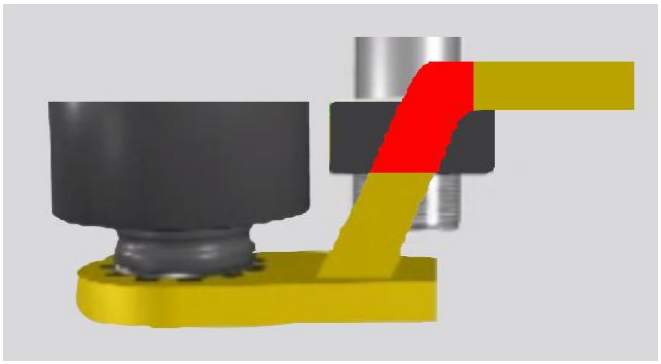


Figure 5.1.4-2: Incorrect Reaction Point

图 5.1.4-2 错误的反作用力点。

5.2 Torque Only Operation 仅扭矩操作

This section describes the operation of the E-RAD BLU Torque Only Mode. In Torque Only Mode, the Torque Cycle has passed when the Actual Torque reaches the Set Torque.
本章节说明了 E-RAD BLU 仅在扭矩模式下的操作。在仅扭矩模式操作下，当实际扭矩达到固定扭矩时，扭矩循环已经通过。

To operate the Torque Only Mode: 如何操作仅扭矩模式：

1. Adjust the Set Torque to the desired value by referring to Section 4.3.2 – Select a Preset, if the E-RAD BLU is in the Locked Level, or Section 4.3.8 – Change the Set Torque, if the E-RAD BLU is in any other level.
   如果 E-RAD BLU 处于限制访问级别，参照 4.3.2 章节—选择一个预设值，将固定扭矩调整到需要的值，如果 E-RAD BLU 处于其他任何访问级别，参照 4.3.8 章节—修改固定扭矩。
   Note: Refer to Section 1.2.1 – Torque Ranges.
   注：参照 1.2.1 章节—扭矩范围。
2. Adjust the Set Angle to zero if the Angle Mode is enabled. Refer to Section 4.3.2 – Select a Preset, if the E-RAD BLU is in the Locked Level, or Section 4.3.9 – Change the Set Angle, if the E-RAD BLU is in any other level.
   如果角度模式已启动，将固定角度调整为零。如果 E-RAD BLU 处于限制访问级别，参照 4.3.2—选择一个预设值如果 E-RAD BLU 处于其他任何访问级别，参照 4.3.9 章节—修改固定角度。
3. Place the E-RAD BLU on the joint system.
   将 E-RAD BLU 安置到连接系统。
4. Ensure the Forward/Reverse Switch is in the Forward Position.

确保正转/反转开关处于正转位置。

5. Ensure the blue "**System Ready**" LED is illuminated.
   确保“系统就绪”蓝色灯亮。
6. Press and hold the Tool Handle On/Off Trigger until the Torque Cycle has passed.
   点击并按住工具手柄开关，直到扭矩循环通过。

Note: To stop the E-RAD BLU at any time during the Torque Cycle, release the On/Off Trigger. This will result in an Invalid Torque Cycle.
注：松开开关，可以在扭矩循环过程中的任何时候停止 E-RAD BLU，这会导致扭矩循环无效。

Note: After the Torque Cycle has passed, the E-RAD BLU will reverse slightly to unload the Reaction Arm.
注：扭矩循环通过后，E-RAD BLU 会稍微反转以卸下反作用力臂。

Result: When the Torque Cycle has passed or failed, the Actual Torque (Measured Peak Torque) will be displayed on the Main Screen. Figure 5.2-1 shows the Main Screen after a passed Torque Cycle and Figure 5.2-2 shows the Main Screen after a failed Torque Cycle.
结果：扭矩循环通过或者失败后，实际扭矩（测得的峰值扭矩）会显示在主屏幕上。图 5.2-1 为扭矩循环通过后的主屏幕，图 5.2-2 为扭矩循环失败后的主屏幕。

Figure 5.2-1: Passed Torque Cycle
图 5.2-1 扭矩循环通过

Figure 5.2-2: Failed Torque Cycle
图 5.2-2 扭矩循环未通过

Note: The result will be displayed for ten seconds or until the E-RAD BLU is reversed or a new cycle is started.

注：结果将持续 10 秒显示在屏幕上，或者直到 E-RAD BLU 反转或者启动一个新的循环。

Note: When the Bluetooth Bridge is disabled or if the E-RAD BLU is not connected to a Smart Socket, an Actual Torque will be displayed instead of a Sensor Torque. A pass will be in green instead of blue (Figures 5.2-3 and 5.2-5) and a fail will be in red instead of purple (Figures 5.2-4 and 5.2-6). Blue Calibration will also not be available (Figure 5.2-7).
注：当蓝牙未连接或者 E-RAD BLU 未连接智能套筒的情况下，屏幕上将会出现实际扭矩值而非传感器扭矩。通过提示将以绿色而非蓝色显示（图 5.2-3 和 5.2-5），失败提示将以红色而非紫色显示（图 5.2-4 和 5.2-6）。蓝牙校准也不可用（图 5.2-7）。

Figure 5.2-3: Passed Torque Cycle With the Bluetooth Bridge Disabled

Figure 5.2-4: Failed Torque Cycle With the Bluetooth Bridge Disable 图

Figure 5.2-5: Passed Torque Cycle With a Smart Socket Not Connected

图 5.2-3 蓝牙未连接，扭矩循环通过　　5.2-4 蓝牙未连接，扭矩循环未通过　　图 5.2-5 智能套筒未连接，扭矩循环通过

Figure 5.2-6: Failed Torque Cycle With a Smart Socket Not Connected

图 5.2-6 智能套筒未连接，扭矩循环未通过

Figure 5.2-7: User Configuration Menu Without Blue Calibration

图 5.2-7 用户设置菜单无蓝牙校准选项

Note: If the trigger is released at any point during the Torque Cycle, a Torque Invalid message will be displayed (Figure 5.2-8).

注：如果在扭矩循环过程中任何一点松开开关，将会出现一条扭矩无效信息。（图 5.2-8）

Figure 5.2-8: Torque Invalid Message

图 5.2-8 扭矩无效信息

5.3 Angle Only Operation 仅角度操作

This section describes the operation of the E-RAD BLU Angle Only Mode. In Angle Only Mode, the Angle Cycle has passed when the Actual Angle reaches the Set Angle.

本章节说明了 E-RAD BLU 仅在角度模式下的操作。在仅角度模式操作下，当实际角度达到固定角度时，扭矩循环已经通过。

To operate in Angle Only Mode, Angle Mode must be enabled by referring to Section 4.3.12 – Enable/Disable Angle Mode.

操作仅角度模式，角度模式必须启动，参照 4.3.12 章节—启动/解除角度模式。

To operate the Angle Only Mode: 如何操作仅角度模式：

1. Adjust the Set Torque to zero by referring to Section 4.3.2 – Select a Preset, if the E-RAD BLU is in the Locked Level, or Section 4.3.8 – Change the Set Torque, if the E-RAD BLU is in any other level.
   将固定扭矩调整为零，如果 E-RAD BLU 处于限制访问级别，参照 4.3.2 章节—选择一个预设值，如果 E-RAD BLU 处于其他任何访问级别，参照 4.3.8 章节—修改固定扭矩。

2. Adjust the Set Angle to the desired value by referring to Section 4.3.2 – Select a Preset, if the E-RAD BLU is in the Locked Level, or Section 4.3.9 – Change the Set Angle, if the E-RAD BLU is in any other level.
将固定角度调整为需要的值，如果 E-RAD BLU 处于限制访问级别，参照 4.3.2 章节—选择一个预设值，如果 E-RAD BLU 处于其他任何访问级别，参照 4.3.9 章节—修改固定角度。
Note: The Set Angle range is 0 degrees or 10 to 600 degrees.
注：固定角度的范围为 0 度或者 10 度到 600 度。
3. Place the E-RAD BLU on the joint system.
将 E-RAD BLU 安置到连接系统。
4. Ensure the Forward/Reverse Switch is in the Forward Position.
确保正转/反转开关处于正转位置。
5. Ensure the blue "**System Ready**" LED is illuminated.
确保“**系统就绪**”蓝色灯亮。
6. Press and hold the Tool Handle On/Off Trigger until the arm has seated.
点击并按住工具手柄开关，直到力臂固定。

Result: Arm Seated will be displayed on the Main Screen as shown in Figure 5.3-1.
结果：如图 5.3-1，力臂固定将显示在主屏幕上。

Figure 5.3-1: Arm Seated Message
图 5.3-1 力臂固定信息

7. Press and hold the On/Off Trigger until the Angle Cycle has passed.
点击并按住工具手柄开关，直到扭矩循环通过。

Note: To pause the E-RAD BLU at any time during the Angle Cycle, release the Trigger. Pull the Trigger to continue (30 second timeout).
注：松开开关可在扭矩循环过程中的任何时候暂停操作。打开开关可继续操作（30 秒超时）。
Note: To stop the E-RAD BLU at any time during the Angle Cycle, toggle the Forward/Reverse switch. This will result in a failed Angle Cycle.
注：拨动正转/反转开关，可在扭矩循环过程中的任何时候停止 E-RAD BLU，这将导致角度循环失败。

Note: The Angle Cycle will stop if the Actual Torque reaches the Maximum Torque of the E-RAD BLU Model.
注：如果实际扭矩达到 E-RAD BLU 的最大扭矩，角度循环将会停止。
Note: After the Angle Cycle has passed, the E-RAD BLU will reverse slightly to unload the Reaction Arm.
注：角度循环通过后，E-RAD BLU 会稍微反转以卸下反作用力臂。
Result: When the Angle Cycle has passed or failed, the Socket Torque and the Actual Angle (total degrees of rotation) will be displayed on the Main Screen. Figure 5.3-2 shows the Main Screen after a passed Angle Cycle and Figure 5.3-3 shows the Main Screen after a failed Angle Cycle.
结果：角度循环通过或者失败后，套筒扭矩和实际角度（总旋转读数）会显示在主屏幕上。图 5.3-2 为角度循环通过后的主屏幕，图 5.3-3 为角度循环失败后的主屏幕。

Figure 5.3-2: Passed Angle Cycle
图 5.3-2 角度循环通过

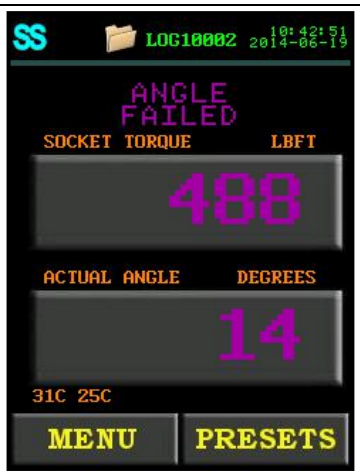


Figure 5.3-3: Failed Angle Cycle
图 5.3-3 角度循环未通过

Note: The result will be displayed for ten seconds or until the E-RAD BLU is reversed or a new cycle is started.
注：结果将持续 10 秒显示在屏幕上，或者直到 E-RAD BLU 反转或者启动一个新的循环。

Note: When the Bluetooth Bridge is disabled or if the E-RAD BLU is not connected to a Smart Socket, a Final Torque will be displayed instead of a Socket Torque. A pass will be in green (Figures 5.3-4 and 5.3-6) and a fail will be in red (Figures 5.3-5 and 5.3-7). Blue Calibration will also not be available (Figure 5.3-8).
注：当蓝牙未连接或者 E-RAD BLU 未连接智能套筒的情况下，屏幕上将会出现最终扭矩值而非套筒扭矩。通过提示将以绿色显示（图 5.3-4 和 5.2-6），失败提示将以红色显示（图 5.3-5 和 5.3-7）。蓝牙校准也不可用（图 5.3-8）。

Figure 5.3-4: Passed Angle With the Bluetooth Bridge Disabled
图 5.3-4 蓝牙未连接，角度循环通过

Figure 5.3-5: Failed Angle With the Bluetooth Bridge Disabled
图 5.3-5 蓝牙未连接，角度循环未通过

Figure 5.3-6: Passed Angle With a Smart Socket Not Connected
图 5.3-6 智能套筒未连接，角度循环通过

Figure 5.3-7: Failed Angle With a Smart Socket Not Connected
图 5.3-7 智能套筒未连接，角度循环未通过

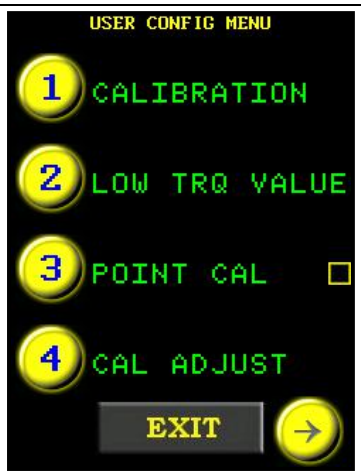


Figure 5.3-8: User Configuration Menu Without Blue Calibration
图 5.3-8 用户设置菜单无蓝牙校准选项

5.4 Torque and Angle Operation 扭矩+角度操作

This section describes the operation of the Torque and Angle Mode.
本章节说明了扭矩和角度模式的操作。

To operate in Torque and Angle Mode, Angle Mode must be enabled by referring to Section 4.3.12 – Enable/Disable Angle Mode.
如何操作扭矩和角度模式，必须启动角度模式。请参照 4.3.12 章节—启动/解除角度模式。

To operate the Torque and Angle Mode: 如何操作扭矩和角度模式：

1. Adjust the Set Torque to the desired value by referring to Section 4.3.2 – Select a Preset, if the E-RAD BLU is in the Locked Level, or Section 4.3.8 – Change the Set Torque, if the E-RAD BLU is in any other level.
   将固定扭矩调整为需要的值，如果 E-RAD BLU 处于限制访问级别，参照 4.3.2 章节—选择一个预设值，如果 E-RAD BLU 处于其他任何访问级别，参照 4.3.8 章节—修改固定角度。
   Note: Refer to Section 1.2.1 – Torque Ranges.
   注：参照 1.2.1 章节—扭矩范围。
2. Adjust the Set Angle to the desired value by referring to Section 4.3.2 – Select a Preset, if the E-RAD BLU is in the Locked Level, or Section 4.3.9 – Change the Set Angle, if the E-RAD BLU is in any other level.
   将固定角度调整为需要的值，如果 E-RAD BLU 处于限制访问级别，参照 4.3.2 章节—选择一个预设值，如果 E-RAD BLU 处于其他任何访问级别，参照 4.3.9 章节—修改固定角度。
   Note: The Set Angle range is 0 degrees or 10 to 600 degrees.
   注：固定角度的范围为 0 度或者 10 度到 600 度。
3. Place the E-RAD BLU on the joint system.
   将 E-RAD BLU 安置到连接系统。
4. Ensure the Forward/Reverse Switch is in the Forward Position.
   确保正转/反转开关处于正转位置。
5. Ensure the blue "**System Ready**" LED is illuminated.
   确保“**系统就绪**”蓝色灯亮。
6. Press and hold the On/Off Trigger until the Pretorque Cycle has passed. This will occur when the Actual Torque reaches the Set Torque (Figure 5.4-1).
   点击并按住工具手柄开关，直到预加力矩循环通过。这将会在实际扭矩达到固定扭矩时发生。

Figure 5.4-1: Pretorque Passed Cycle
图 5.4-1 预加力矩通过循环

Note: To stop the E-RAD BLU at any time during the Pretorque, release the Trigger. This will result in a failed Torque and Angle Cycle.

注：在预加力矩过程中的任何时候松开按钮 E-RAD BLU 停止，这将导致角度和角度循环失败。

7. Press and hold the On/Off Trigger until the Angle Cycle has passed. This will occur when the Actual Angle reaches the Set Angle or the Actual Torque reaches the Maximum Torque of the E-RAD BLU.
点击并按住按钮，直到角度循环通过。这将会在实际角度达到设定角度，或者实际扭矩达到 E-RAD BLU 最大扭矩时发生。

Note: The Angle Cycle will stop if the Actual Torque reaches the Maximum Torque of the E-RAD BLU Model.

注：如果实际扭矩达到 E-RAD BLU 最大扭矩，角度循环将会停止。

Note: After the Torque and Angle Cycle has passed, the E-RAD BLU will reverse slightly to unload the Reaction Arm.

注：角度循环通过后，E-RAD BLU 会稍微反转以卸下反作用力臂。

Result: When the Torque and Angle Cycle has passed or failed, the Socket Torque (Peak Measured Torque) and the Actual Angle (total degrees of rotation) will be displayed on the Main Screen. Figure 5.4-2 shows the Main Screen after a passed Torque and Angle Cycle and Figure 5.4-3 shows the Main Screen after a failed Torque and Angle Cycle.

结果：扭矩及角度循环通过或者失败后，套筒扭矩（测得的峰值扭矩）和实际角度（总旋转读数）会显示在主屏幕上。图 5.4-2 为扭矩及角度循环通过后的主屏幕，图 5.4-3 为扭矩及角度循环失败后的主屏幕。

Figure 5.4-2: Passed Torque and Angle Cycle
图 5.4-2 扭矩及角度循环通过

Figure 5.4-3: Failed Torque and Angle Cycle
图 5.4-3 扭矩及角度循环未通过

Note: The result will be displayed for ten seconds or until the E-RAD BLU is reversed or a new cycle is started.

注：结果将持续 10 秒显示在屏幕上，或者直到 E-RAD BLU 反转或者启动一个新的循环。

Note: When the Bluetooth Bridge is disabled or if the E-RAD BLU is not connected to a Smart Socket, a Final Torque will be displayed instead of a Sensor Torque. A pass will be in green (Figures 5.4-4 and 5.4-6) and a fail will be in red (Figures 5.4-5 and 5.4-7). Blue Calibration will also not be available (Figure 5.4.8).

注：当蓝牙未连接或者 E-RAD BLU 未连接智能套筒的情况下，屏幕上将会出现最终扭矩值而非套筒扭矩。通过提示将以绿色显示（图 5.4-4 和 5.4-6），失败提示将以红色显示（图 5.4-5 和 5.4-7）。蓝牙校准也不可用（图 5.4-8）。

Figure 5.4-4: Passed Torque and Angle Cycle With the Bluetooth Bridge Disabled

图 5.3-4 蓝牙未连接，扭矩及角度循环通过

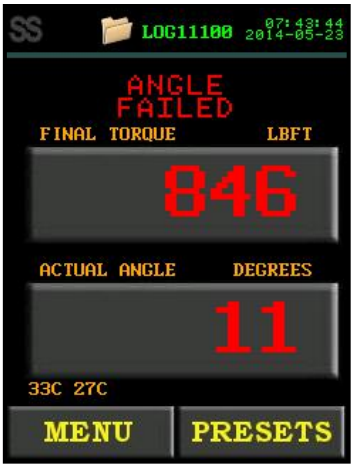


Figure 5.4-5: Failed Torque and Angle Cycle With the Bluetooth Bridge Disabled

图 5.4-5 蓝牙未连接，扭矩及角度循环未通过

Figure 5.4-6: Passed Torque and Angle Cycle Without a Smart Socket Connected

图 5.4-6 智能套筒未连接，扭矩及角度循环通过

Figure 5.4-7: Failed Torque and Angle Cycle Without a Smart Socket Connected

图 5.4-7 智能套筒未连接，扭矩及角度循环未通过

Figure 5.4-8: User Configuration Menu Without Blue Calibration

图 5.4-8 用户设置菜单无蓝牙校准选项

Note: When both the torque and the angle are set to zero, the tool will only seat the arm and not complete a torque cycle.

注：当扭矩及角度均设置为零时，工具只会固定力臂不会完成扭矩循环。

5.5 Reviewing the Last Result 检查上次结果

This function allows the operator to review the results of the last cycle performed.

通过这一功能，操作者可以检查上次循环完成的结果。

To review the Last Result: 如何检查上次结果：

1. Select the "**Last Result**" text displayed above the Set Torque on the Main Screen. This text will appear when the display returns to the Main Screen after displaying the results of a cycle. The text will be blue if it passed while connected to a Smart

Socket (Figure 5.5-1), green if it passed while the Bluetooth Bridge is disabled or if it was not connected to a Smart Socket (Figure 5.5-2 and Figure 5.5-3), red if the last pull was invalid or failed while not connected to a Smart Socket (Figure 5.5-4), and purple if it failed while connected to a Smart Socket (Figure 5.5-5).

选择主屏幕固定扭矩上方显示的“上次结果”文字。这条文字将会在一次循环结果显示完毕，显示器返回到主屏幕时显示。当循环成功并连接了智能套筒时，它呈蓝色显示（图 5.5-1）当蓝牙未连接或者未连接智能套筒时，它将呈绿色显示（图 5.5-2 和图 5.5-3），如果上次循环无效或失败，同时没有连接智能套筒，它将呈红色显示（图 5.5-4），如果失败但是连接了智能套筒，则将以紫色显示（图 5.5-5）.

Note: An invalid Last Result will be red whether it is connected to a Smart Socket or not.

注: 不管是否连接了智能套筒，无效的上次结果将呈红色显示。

Figure 5.5-1: Passed Last Result With a Smart Socket Connected

图 5.5-1 上次结果通过，并连接了智能套筒

Figure 5.5-2: Passed Last Result With the Bluetooth Bridge Disabled

图 5.5-2 上次结果通过，蓝牙未连接

Figure 5.5-3: Passed Last Result With a Smart Socket Not Connected

图 5.5-3 上次结果通过，智能套筒未连接

Figure 5.5-4: Invalid Torque Last Result

图 5.5-4 上次结果无效

Figure 5.5-5: Failed Last Result With a Smart Socket Connected

图 5.5-5 上次结果失败，但连接了智能套筒

Note: The Last Result will be displayed for ten seconds or until the E-RAD BLU is reversed or a new cycle is started.

注：结果将持续 10 秒显示在屏幕上，或者直到 E-RAD BLU 反转或者启动一个新的循环。

5.6 Start Up With No Handle 无手柄启动

When the unit is started up without a handle (Figure 5.6-1) it will not show any Handle Temperature, the grey “SS” icon will appear and the “DEFAULT” Log will be chosen, as long

as no Log was manually set previously. If a Log file was previously set (or at this stage) then the unit will start up with that as the Log to use.
当工具不使用手柄启动时（图 5.6-1），它将不会显示任何手柄温度信息，将会显示灰色的"SS"图标将，只要之前没有人为设置记录，将选择"系统默认"记录；如果之前（或在此阶段）设置了记录文件，工具将会使用该记录启动使用。
Note: The unit will always start up locked if no handle is attached.
注：如果没有连接手柄，工具启动会一直保持锁定状态。

Figure 5.6-1: Screen Without Any Handle Found
图 5.6-1 未找到任何手柄状态下的屏幕

When the unit is unlocked without a handle (Figures 5.6-2 and 5.6-3), it will disable options in the menu that have their information stored on the handle so that the operator does not think they have changed something that cannot actually be changed without the handle.
当未使用手柄时（图 5.6-2 及 5.6-3），解锁工具会将操作者存储在手柄上的信息呈现在菜单中的选项禁用，所以操作者不用担心他们修改了某些信息，因为这些信息在没有连接手柄的状态下实际是不能被修改的。

Figure 5.6-2: First screen
图 5.6-2 第一屏

Figure 5.6-3: Second Screen
图 5.6-3 第二屏

6.0 Data Log PC Operations 数据记录的电脑操作

The E-RAD Touch Data Logger allows the operator to connect the E-RAD BLU Touch Controller to a personal computer (PC) and preform the following actions:
E-RAD 触摸屏数据记录器允许操作者连接 E-RAD BLU 触摸式控制器与电脑，并可完成以下操作：

- Setting the Clock on the E-RAD BLU Tool System (refer to 6.3)
- 设置 E-RAD BLU 工具系统上的时间（参照 6.3 章节）。
- Downloading all Data Logs from the E-RAD BLU Tool System (refer to 6.4)

- 从 E-RAD BLU 工具系统中下载所有的数据日志（参照 6.4 章节）。
- Deleting Data Logs on the E-RAD BLU Tool System (refer to 6.5)
- 删除 E-RAD BLU 工具系统中的数据记录（参照 6.5 章节）。
- Exporting Data to another program (refer to 6.6)
- 将数据输出到另一个程序（参照 6.6 章节）

For more detailed information on the E-RAD Touch Datalogger Software, refer to the E-RAD Touch Datalogger Manual located under the Help Dropdown Menu in the Datalogger.
更多关于 E-RAD 触摸屏数据记录器软件的详细信息，请参照记录器中帮助下拉菜单中的 E-RAD 触摸屏数据记录器手册。

6.1 Software Installation and PC Requirements 软件安装与电脑要求

The E-RAD Touch Data Logger Software can be downloaded from www.eradtorque.com, click on **"E-RAD Software Download"** found on the bottom right of the home page.

E-RAD 触摸式数据记录器软件可以从网址 www.eradtorque.com 下载，请点击主页右下方“E-RAD 软件下载”。

Download the desired Datalogger option as well as a Driver package. After the download is complete, select the "*setup.exe*" in the Datalogger file and follow the installation instructions. Then select the "*.exe*" in the Driver file and follow the installation instructions.

下载需要的数据记录器选项，以及驱动器程序包。下载完成以后，选择数据记录器文件中的“setup.exe”，并遵循安装指导。然后选择驱动包中的“.exe”并遵循安装指导。

The E-RAD Touch Data Logger Software is compatible with Windows XP, Windows Vista, Windows 7, and Windows 8 operating systems.

E-RAD 触摸式数据记录器软件与 Windows XP, Windows Vista, Windows 7, 及 Windows 8 操作系统兼容。

The PC must have a free USB port to be used with the Serial Communications Cable (USB A to B) provided.
电脑必须要一个可用的 USB 接口并配备了串行通信电缆。

Note: The "**New Customers**" download package is for customers with a Windows 8 computer or for those that do not have an existing database (compatible with Windows XP, Windows Vista, Windows 7, and Windows 8).

注：“新客户”下载包针对于使用 Windows8 或者没有现存数据库（兼容 Windows XP, Windows Vista, Windows 7, and Windows 8）的客户。

Note: The "**Existing Customers**" download package is for customers who have an existing database that is still in use (compatible with Windows XP, Windows Vista, and Windows 7).

注：“现有客户”下载包针对于有现存数据库且仍在使用的客户（与 Windows XP,Windows Vista 和 Windows7 兼容）

Note: If a physical copy is needed, request a CD copy or a memory stick copy from your Authorized RAD Distributor or New World Technologies Inc.

注：如果需要一个实体拷贝，请从当地授权经销商处或是新世界科技有限公司索取复制光盘或记忆棒。

6.2 Connecting E-RAD and PC 连接 E-RAD 与电脑

To connect the E-RAD BLU Tool System to a PC for Data Log access:

如何连接 E-RAD BLU 工具系统与电脑以获取数据记录：

1. Connect the Serial Communication Cable from the available PC USB Port to the Communication Port on the E-RAD BLU Controller.
   将电脑 USB 接口上的串行通信电缆与 E-RAD BLU 控制器上的通信端口相连接。
2. On the E-RAD BLU Touch Display: 在 E-RAD BLU 触摸屏幕显示器上：
   Press the "**Menu**" button on the Main Screen.
   点击主屏幕上的“菜单”键。
3. Select "**PC Transfer**" from the Main Menu, shown in Figure 6.2-1.
   从主菜单中选择“电脑传输”，如图 6.2-1.
   Result: The PC Transfer Screen will be displayed (Figure 6.2-2).
   结果:电脑传输屏幕将会显示（图 6.2-2）。

Figure 6.2-1: Main Menu On the PC
图 6.2-1 电脑上的主屏幕

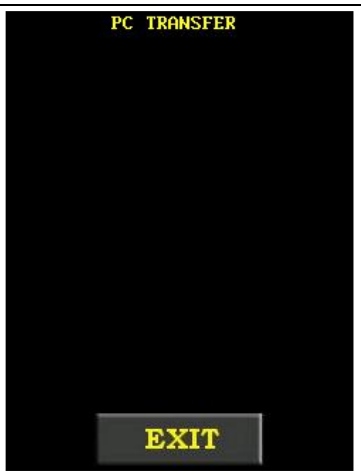


Figure 6.2-2: PC Transfer Screen
图 6.2-2 电脑传输屏幕

2. Open the Data Logger Software (Figure 6.2-3).
打开数据记录器软件（图 6.2-3）。

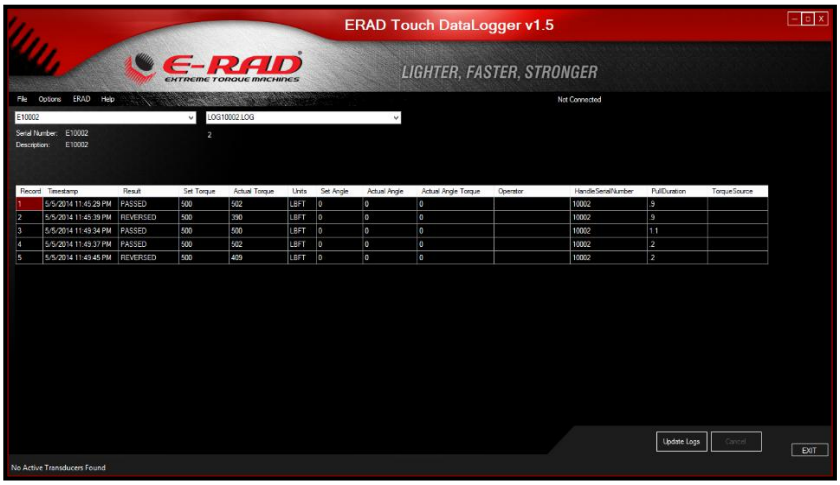


Figure 6.2-3: Datalogger Main Screen
图 6.2-3 数据记录器主屏幕

Note: If the E-RAD BLU is not in PC Transfer Mode, a prompt window will appear (Figure 6.2-4). Ensure the E-RAD BLU is in PC Transfer Mode and press "**OK**".
注：如果 E-RAD BLU 未处于电脑传输模式，将会出现一个提示窗口（图 6.2-4）。确保 E-RAD BLU 处于电脑传输模式，点击“OK”.

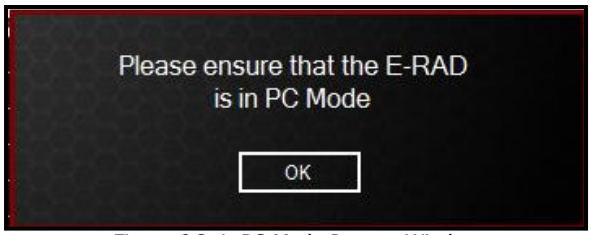


Figure 6.2-4: PC Mode Prompt Window
图 6.2-4 电脑模式提示窗口

3. Select the "**E-RAD**" drop down menu.
选择“E-RAD”下拉菜单。
4. Select "**Scan for more E-RADs**" from the E-RAD menu (Figure 6.2-5).
从 E-RAD 菜单中选择“扫描更多 E-RADS”。

If you want to set the ERAD manually:
如果你想手动设置 E-RAD:

1. Select "**Select E-RAD Manually**" from the E-RAD Menu (Figure 6.2-5).
从 E-RAD 菜单中选择“手动选择 E-RAD”。

2. Select "**Com Port**" from the menu (Figure 6.2-5).
   从菜单中选择“电脑端口”（图 6.2-5.）

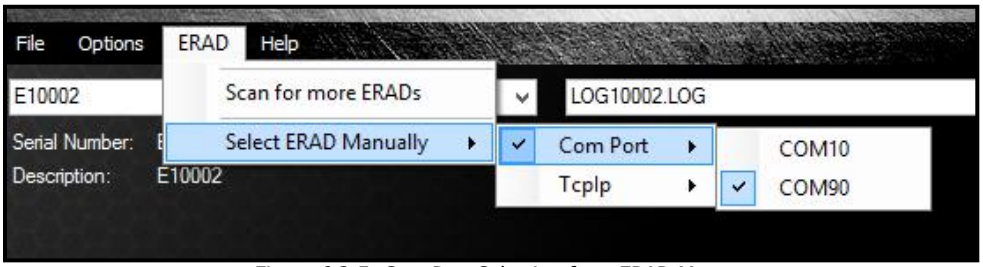


Figure 6.2-5: Com Port Selection from ERAD Menu
图 6.2-5 从 ERAD 菜单中选择电脑端口

3. Select the correct Com Port for the Serial Communication Cable.
   为串行通信电缆选择正确的电脑端口。

6.3 Setting the Clock 设置时钟

Once the E-RAD BLU Touch Display is in PC Transfer Mode and the Data Logger Software is running (refer to Section 6.2 – Connecting E-RAD and PC), the E-RAD Touch DataLogger Software can be used to set the time and date on the Main Screen of the E-RAD BLU Touch Display.

一旦 E-RAD 触摸屏显示器处于电脑传输模式，数据记录器软件开始运行（参照 6.2 章节—连接 E-RAD 与电脑），便可使用 E-RAD 触摸屏数据记录器软件在 E-RAD BLU 触摸屏显示器上设置时间与日期。

To set the time and date: 如何设置时间与日期：

1. Select the "**Options**" drop down menu.
   选择“选项”下拉菜单。
2. Select "**Set RTC**" from the Options drop down menu (Figure 6.3-1).
   从选项下拉菜单中选择“时间设置”

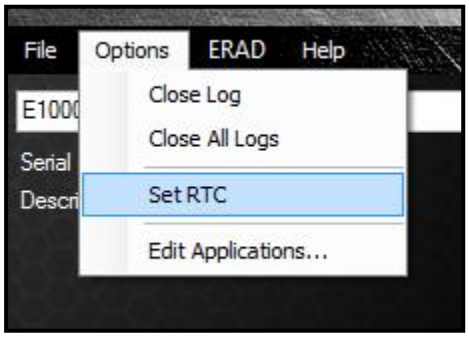


Figure 6.3-1: Set RTC from Options Menu
图 6.3-1 选项菜单中的时间设置

Result: The time and date on the E-RAD BLU Main Screen will be updated to the time and date on the PC.
结果：E-RAD BLU 主屏幕上的时间与日期会更新电脑上的时间与日期。

6.4 Downloading all Data Logs 下载所有数据日志

Once the E-RAD BLU Touch Display is in PC Transfer Mode and the Data Logger Software is running (refer to Section 6.2 – Connecting E-RAD and PC), the operator can download all the Data Logs from the E-RAD BLU Touch Display to the Data Logger Software.

To download all the Data Logs (on the PC):
一旦 E-RAD 触摸屏显示器处于电脑传输模式，数据记录器软件开始运行（参照 6.2 章节—连接 E-RAD 与电脑），操作者可以从 E-RADBLU 触摸控制器下载所有的数据日志到数据记录器软件。
如何下载（电脑上）所有的数据日志：

1. Press the "**Update Logs**" button on the Main Screen (Figure 6.4-1).
   点击主屏幕上的“更新记录”按钮（图 6.4-1）。

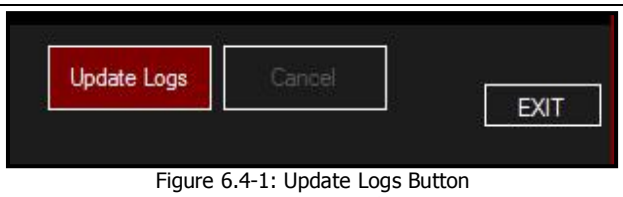


Figure 6.4-1: Update Logs Button
图 6.4-1 更新记录按钮

Result: The Data Logger Software will download all the Data Logs from the E-RAD BLU Tool System. Once the Data Logs have been downloaded to the Data Logger Software, the operator will be prompted to add descriptions of the E-RAD BLU and the Data Logs. These descriptions are useful in identifying a Data Log.

结果：数据记录器软件会从 E-RAD BLU 工具系统下载所有的数据记录。一旦数据日志下载了到数据记录器软件，操作者将会被提示添加 E-RAD BLU 和数据记录的说明。这些说明在识别数据日志上很有用。

Note: All Data Logs are stored on a local database which can be accessed to further manipulate the data.

注：所有的数据记录都存储在一个本地数据库中，可以获取供进一步处理使用。

6.5 Deleting Data Logs from the E-RAD BLU 从 E-RAD BLU 删除数据记录

By closing a Data Log in the Data Logger Software, the operator is also deleting the Data Log from the E-RAD BLU Tool System. The Data Log will be saved on the PC and the title of the Data Log will be modified to indicate the date it was closed.

通过关闭数据记录器软件中的数据记录，操作者也删除了 E-RAD BLU 工具系统中的数据日志。数据日志将会被存储在电脑上，数据记录的名称会被修改，提示它被关闭的日期。

Note: The E-RAD BLU must be in PC Transfer Mode and the Data Logger Software must be running before proceeding with the following instructions. Refer to Section 6.2 – Connecting E-RAD BLU and PC.

注：E-RAD BLU 必须处于电脑传输模式，数据记录器在处理以下指示之前必须开始运行。参照 6.2 章节—连接 E-RAD BLU 和电脑。

To delete a Data Log: 如何删除一个数据记录：

1. Select the Data Log to be closed (Figure 6.5-1).
   选择要关闭的数据记录（图 6.5-1）。

Figure 6.5-1: Select a Data Log
图 6.5-1 选择一个数据记录

2. Select the "**Options**" drop down menu.
   选择“选项”下拉菜单

3. Select "**Close Log**" from the Options menu (Figure 6.5-2).
   从选项菜单中选择“关闭记录”（图 6.5-2）。

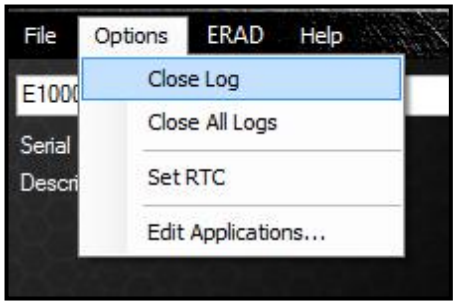


Figure 6.5-2: Close Log from Options Menu
图 6.5-2 从选项菜单中选择记录

Result: The selected Data Log will be closed in the Data Logger Software and deleted from the E-RAD BLU Tool System.

结果：被选择的数据记录会在数据记录器软件中关闭，并从 E-RAD BLU 工具系统中删除。

6.6 Exporting Data 输出数据

The Data Logger Software allows the operator to export the data contained within a Data Log to another program, such as Notepad, WordPad, Microsoft Word or Microsoft Excel, for further manipulation.

数据记录器软件允许操作者将数据日志中的数据输出到另一个程序，例如 Notepad, WordPad, Microsoft Word 或 Microsoft Excel，以进行进一步操作。

To export data from a Data Log: 如何从一个数据记录中输出数据：

1. Select the E-RAD BLU Tool from which the Data Log came from (Figure 6.6-1).
   选择数据记录保存的 E-RAD BLU 工具（图 6.6-1）。

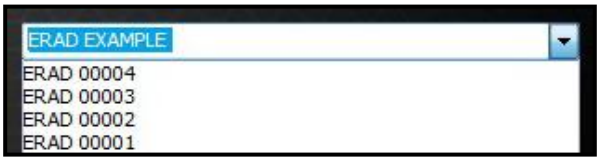
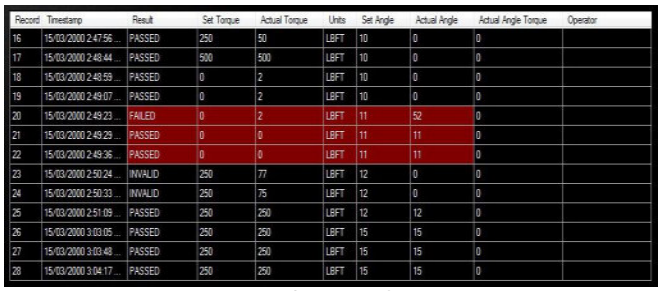


Figure 6.6-1: Select an E-RAD BLU
图 6.6-1 选择一个 E-RAD BLU

2. Select the Data Log (Figure 6.6-2).
   选择文件记录（图 6.6-2）。

Figure 6.6-2: Select a Data Log

3. Click and drag the mouse over the data to select it and then release the mouse (Figure 6.6-3).
   点击并移动鼠标到文件，选定它然后释放鼠标（图 6.6-3）。



Record	Timestamp	Result	Set Torque	Actual Torque	Units	Set Angle	Actual Angle	Actual Angle Torque	Operator
16	15/03/2000 2:47:56 ...	PASSED	250	50	LBFT	10	0	0	
17	15/03/2000 2:48:44 ...	PASSED	500	500	LBFT	10	0	0	
18	15/03/2000 2:48:59 ...	PASSED	0	2	LBFT	10	0	0	
19	15/03/2000 2:49:07 ...	PASSED	0	2	LBFT	10	0	0	
20	15/03/2000 2:49:23 ...	FAILED	0	2	LBFT	11	52	0	
21	15/03/2000 2:49:29 ...	PASSED	0	0	LBFT	11	11	0	
22	15/03/2000 2:49:36 ...	PASSED	0	0	LBFT	11	11	0	
23	15/03/2000 2:50:24 ...	INVALID	250	77	LBFT	12	0	0	
24	15/03/2000 2:50:33 ...	INVALID	250	75	LBFT	12	0	0	
25	15/03/2000 2:51:09 ...	PASSED	250	250	LBFT	12	12	0	
26	15/03/2000 3:03:05 ...	PASSED	250	250	LBFT	15	15	0	
27	15/03/2000 3:03:48 ...	PASSED	250	250	LBFT	15	15	0	
28	15/03/2000 3:04:17 ...	PASSED	250	250	LBFT	15	15	0	

Figure 6.6-3: Select Data from Data Log
图 6.6-3 从数据记录中选择数据

4. Press "**Control**" + "**C**" to copy the data.
   点击"**Control**" + "**C**"复制数据。
5. Open the other program.
   打开另一个程序。
   Suggestion: Microsoft Excel usually works best for manipulating the data which is already in a table setup.
   建议：通常，Microsoft Excel 最适合于操作表格中的数据，
6. Press "**Control**" + "**V**" to paste the data into the program.
   点击"**Control**" + "**V**"将数据黏贴到程序。

6.7 Uploading Operator Password File 上传操作者密码文件

When using the Operator Password function outlined in Section 4.3.15 – Operator Password, the operator must load an Operator Password File onto the E-RAD BLU Tool System. When the Operator Password function is enabled, the Data Log files will show the operator's name if they are included in the Operator Password File.

使用 4.3.15 章节-操作者密码中所列的操作者密码功能时，操作者必须上传一个操作者密码文件到 E-RAD BLU 工具系统。当操作者密码功能启动时，如果操作者密码文件中保存了操作者名字，数据记录文件便会显示出来。

Note: In this section, an underscore "_" represents a space. When writing this file, use spaces in place of the underscores used in these instructions. It is important to have the right spacing or the E-RAD BLU will not be able to read the file.

注：在这一章节中，下划线“_”代表一个空格。编辑此文档时，使用空格取代这些指令中的下划线。正确的间距非常重要，否则 E-RAD BLU 将不能读取文件。

To create the Operator Password File: 如何创建操作者密码文件：

1. Open Notepad on the PC.
   打开电脑上的 Notepad。
2. Enter the first line "PASSWORD_ _ _ _OPERATOR'S_NAME". See Figure 6.7-1 for an example of this first line.
   输入第一行"密码_ _ _ _操作者名称"。示例如图 6.7-1.
   Note: Do not include the quotation marks.
   注：不要使用引号。
   Note: All the letters must be capitals.
   注：所有的字母必须为大写字母。
3. Use the remaining lines to enter passwords and the corresponding operator names.
   在剩余的行中输入密码和相应的操作员名称。
4. Enter the first password and operator's name on the second line. Example: "12345678_ _ _ _OPERATOR_121212" (Figure 6.7-1).
   在第二行中输入第一个密码和操作员的名字。例如：
   "12345678_ _ _ _操作员_121212"(图 6.7-1).
   Note: The password can be eight characters or less and the operator's name can be 15 characters or less.
   注：密码长度不超过 8 位字符，操作员名称不超过 15 位字符。
   Note: The start of the password lines up with the P in the first line and the start of the operator's name lines up with the O in the first line. This must be done regardless of the length of the password. Any line cannot go passed the E at the end of the first line.
   Note: The operator's name column can be left blank.
   注：密码首字符需与第一行中的 P 对齐，操作员名字的首字符必须与第一行中的 O 对齐。不管密码的长度如何，都必须要做到这一点。任何一行都不能超过第一行末尾的 E.
   注：操作员名称一列不能为空。
5. Enter more passwords and operator's names if more than one is needed. Example with a shorter password: "555_ _ _ _ _ _ _ _ _OPERATOR_2" (Figure 6.7-1).
   Note: There is no need to finish the line with spaces. Press enter to start the next line.
   如有需要，输入更多密码和操作员名字。例如一个更短的密码：“555_ _ _ _ _ _ _ _ _操作员_2”（图 6.7-1）。

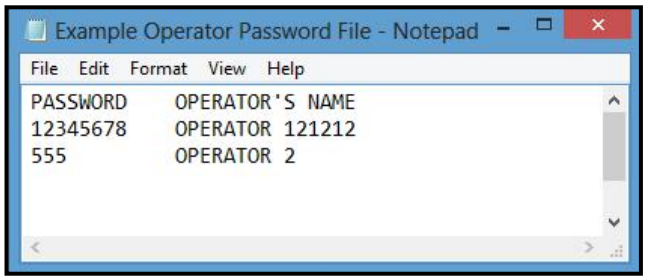


Figure 6.7-1: Example Operator Password File
图 6.7-1 操作员密码文件示例

6. Save this file with an appropriate name and in an appropriate location.
   用一个合适的文件名在恰当的位置保存文件。
7. Open Data Logger Software and ensure the E-RAD BLU Tool System is in PC Transfer Mode. Refer to Section 6.2 – Connecting E-RAD BLU and PC.
   打开数据记录器软件，确保 E-RAD BLU 处于电脑传输模式。参照 6.2 章节—连接 E-RAD BLU 与电脑。
8. Select the "**File**" drop down menu.
   选择“文件”下拉菜单。
9. Select "**Upload Files**" from the File drop down menu (Figure 6.7-2).
   从文件下拉菜单中选择“上传文件”（图 6.7-2）。

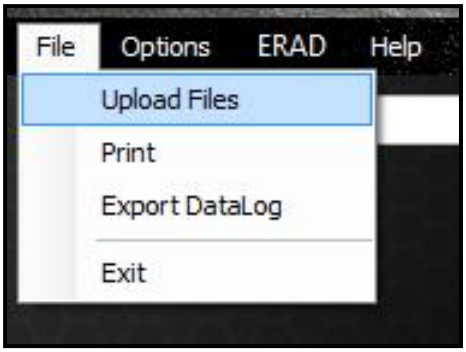


Figure 6.7-2: Upload Files from File Menu
图 6.7-2 文件菜单中的上传文件选项

Result: A File Explorer Window will appear (Figure 6.7-3).
结果：将会出现一个文件搜索窗口（图 6.7-3）

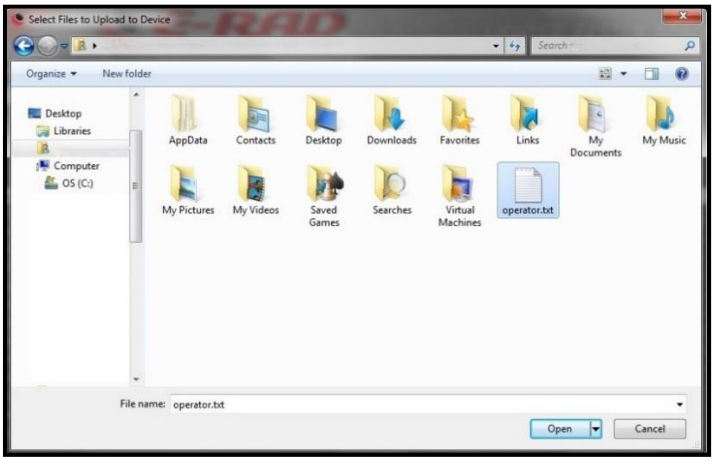


Figure 6.7-3: File Explorer Window
图 6.7-3 文件搜索窗口

10. Select the Operator Password File created previously.
    选择之前创建的操作员密码文件。
11. Press the "**Open**" button.
    点击“打开”按钮。
    Result: A progress bar will appear at the bottom of the Data Logger Main Screen. After the upload is completed, a message will be displayed, indicating if the upload was successful or not.
    结果：文件记录器主屏幕下方会出现一个进度条，上传完成后，将会出现一条信息，指示上传是否成功。

7.0 Troubleshooting 故障排除

DANGER! 危险！

Electrical Shock can cause serious or fatal injury. Do not remove the E-RAD BLU Controller Top Plate or attempt any repairs without approval and training. Do not touch any exposed power devices, electrical connections or cables. Disassembling or attempting repair on the E-RAD BLU Handle or Controller will void warranty.
电击可以导致严重或致命伤害。未经同意与培训，请勿去除 E-RAD BLU 控制器顶盖或者尝试做任何修理。不要触碰任何暴露的电源设备，电插头或电线。拆卸或者试图修改 E-RAD BLU 手柄或控制器会使质保失效。

7.1 Error Messages 错误信息

In case of an error or problem, the E-RAD BLU Touch Display will display an active error message, hindering tool operation. This section lists any error messages or problems that may occur and references the correct solution, found in Section 7.2 – Solutions.
Note: If the problem or error persists after following solution instructions, contact New World Technologies Inc. Technical Support (refer to Section 8.0 – Contact Us).
如果发生错误或问题，E-RAD BLU 触摸显示屏将会出现一条活动的错误信息，阻碍工具操作。本章列出了所有可能出现的错误信息或问题，并在 7.2 章节—应对措施中给出了参考解决方案。

注：如果在执行了以下指导方案后问题或错误依然存在，请洽新世界科技有限公司获取技术支持（参照 8.0 章节—联系我们）。

7.1.1 Blank E-RAD BLU Touch Display E-RAD BLU 触摸显示器空白

After turning the E-RAD BLU Tool System on, the Touch Display remains black.

在打开 E-RAD BLU 工具系统后，触摸显示屏仍然空白。

Solution: 解决方案“

1. Ensure E-RAD BLU Power Switch is on.
   确认 E-RAD BLU 电源开关是否已经打开。
2. Refer to 7.2.2 – AC Power Cable.
   参照 7.2.2—交流电电缆。
3. Refer to 7.2.4 – AC Mains Power Supply.
   参照 7.2.4 —交流电电源

7.1.2 Fixed in Initialization Screen 在初始化界面卡住

After turning the E-RAD BLU Tool System on, the Touch Display has started up but is fixed in the Initialization Screen.

打开 E-RAD BLU 工具系统之后，触摸显示器启动但是卡在了初始化界面。

Solution: Refer to 7.2.1 – Power-Cycle.
方案：参照 7.2.1—重新启动

7.1.3 FB Not Ready/Analog Sensor 反馈未就绪/模拟传感器

The E-RAD BLU Controller is not receiving feedback from the Tool Handle.

E-RAD BLU 控制器不能获取工具手柄反馈。

Solution: Refer to 7.2.3 – Tool Handle Cable.
方案：参照 7.2.3—工具手柄电缆

7.1.4 Feedback Loss 反馈丢失

The E-RAD BLU Controller has lost the feedback signal from the Tool Handle.

E-RAD BLU 控制器丢失了工具手柄的反馈信号。

Solution: Refer to 7.2.3 – Tool Handle Cable.
方案：参照 7.2.3—工具手柄电缆

7.1.5 Overspeed 超速

The motor is moving faster than expected during a cycle. This is usually caused by a loss of feedback from the motor to the servo drive.

一次循环中的点击运转速度超过了预期。这通常是由于电机到伺服驱动之间的反馈丢失造成的。

Solution: Refer to 7.2.3 – Tool Handle Cable.
方案：参照 7.2.3——工具手柄电缆

7.1.6 Position Error 位置误差

The motor is not in the expected position. This is usually caused by a loss of feedback from the motor to the servo drive.

点击不在预期位置。这通常是由于电机到伺服驱动之间的反馈丢失造成的。

Solution: Refer to 7.2.3 – Tool Handle Cable.
方案：参照 7.2.3——工具手柄电缆。

7.1.7 Position Limit Exceeded 超出位置限制

The motor position exceeded the expected motor movement during an Angle Cycle.

Solution: Refer to 7.2.3 – Tool Handle Cable.
一次角度循环中，电机位置的移动超出了预期情况。

7.1.8 Motor Stuck 电机卡死

The servo driver is unable to rotate the motor. This is usually caused by a loss of feedback or power from the motor to the servo drive.

伺服驱动不能使电机旋转。这通常是由于电机到伺服驱动之间的反馈或者电源丢失造成的。

Solution: Refer to 7.2.3 – Tool Handle Cable.
方案：参照 7.2.3——工具手柄电缆

7.1.9 Peak Current Exceeded 超出峰值电流

That the E-RAD BLU Controller or Tool Handle current draw has exceeded the Maximum Limit (15A).

E-RAD BLU 控制器或者工具手柄电流消耗超出了最大限度（15A）.

Solution:
方案：

1. Refer to 7.2.3 – Tool Handle Cable.
   参照 7.2.3——工具手柄电缆
2. Refer to 7.2.2 – AC Power Cable.
   参照 7.2.2—交流电电缆。
3. Refer to 7.2.4 – AC Mains Power Supply.
   参照 7.2.4 —交流电电源
4. Refer to 7.2.1 – Power-Cycle.
   参照 7.2.1—重新启动。

7.1.10 Inhibited 禁止

The servo driver is unable to rotate the motor. This is usually caused by a loss of feedback or power from the motor to the servo drive.

伺服驱动不能使电机旋转。这通常是由于电机到伺服驱动之间的反馈或者电源丢失造成的。

Solution: Refer to 7.2.1 – Power-Cycle.
方案：参照 7.2.1—重新启动。

7.1.11 Motor Cannot Start 电机无法启动

The servo driver is unable to rotate the motor. This is usually caused by a loss of feedback or power from the motor to the servo drive.

Solution: Refer to 7.2.1 – Power-Cycle.

伺服驱动不能使电机旋转。这通常是由于电机到伺服驱动之间的反馈或者电源丢失造成的。

方案：参照 7.2.1—重新启动

7.1.12 DB Inconsistent 数据库不一致

An intermittent fault in the AC/DC conversion has resulted in unexpected changes in signal amplification.

交流直流电转换中出现间歇性错误，导致信号放大的意外变化。

Solution: 方案：

1. Refer to 7.2.2 – AC Power Cable.
   参照 7.2.2—交流电电缆。
2. Refer to 7.2.4 – AC Mains Power Supply.
   参照 7.2.4 —交流电电源
3. Refer to 7.2.1 – Power-Cycle.
   参照 7.2.1—重新启动

7.1.13 Under Voltage 电压不足

The DC power provided to the motor does not meet the requirements.

直流电对电机的供给不符合要求。

Solution: 方案：

1. Refer to 7.2.2 – AC Power Cable.
   参照 7.2.2—交流电电缆。
2. Refer to 7.2.4 – AC Mains Power Supply.
   参照 7.2.4 —交流电电源
3. Refer to 7.2.1 – Power-Cycle.
   参照 7.2.1—重新启动

7.1.14 Over Voltage 过电压

The DC power provided to the motor exceeds the limitations.

直流电对电机供给超出限制。

Solution: 方案：

1. Refer to 7.2.2 – AC Power Cable.
   参照 7.2.2—交流电电缆。
2. Refer to 7.2.4 – AC Mains Power Supply.
   参照 7.2.4 —交流电电源
3. Refer to 7.2.1 – Power-Cycle.
   参照 7.2.1—重新启动

7.1.15 Short Circuit 短路

Immediately power off the E-RAD BLU and remove from service. Contact New World Technologies Inc. Technical Support (refer to Section 8.0 – Contact Us).

立即切断 E-RAD BLU 电源，取消操作。联系新世界科技有限公司获取技术支持（参照 8.0 章节—联系我们）。

7.1.16 Over Temp 温度过高

The E-RAD BLU Controller's Internal Temperature has exceeded its maximum.

Solution: Refer to 7.2.5 – Needs Cooling.

E-RAD BLU 控制器内部温度超出最大限度

方案：参照 7.2.5—需要冷却。

7.1.17 "Internal Error" or "Program Error" "内部错误"或者"程序错误"

An "Internal Error" could be any of the following messages:

"内部错误"可以是以下任何信息：

- Controller Comms – loss of communication between Control Modules.
- 控制器通讯—控制模块间的通讯丢失。
- Comms Lost – loss of communication between control modules.
- 通讯丢失—控制模块间的通讯丢失。
- NVRam Lost – corrupt memory in the Rabbit Module resulting in loss of data.
- 存储器丢失—破坏兔子模块中的记忆造成数据丢失。
- Unknown Err. 未知错误
- Stack Overflow – program crashed.
- 堆栈溢出—程序崩溃
- CPU Fatal Exception – Rabbit failure.
- CPU 严重异常—兔子模块出错

Solution: Refer to 7.2.1 – Power-Cycle.

方案：参照 7.2.1—重新启动

7.1.18 "Case and Screen Have Different Versions" "壳体与屏幕版本不同"

The programs on the case and screen do not match.

壳体与屏幕程序不匹配。

Solution: Contact your RAD Distributor for assistance.

方案：联系当地 RAD 经销商获取帮助。

7.1.19 "Tool Info Lost" "工具信息丢失"

The tool's information (units, voltage, serial numbers, etc.) have been lost.

Solution: Contact your RAD Distributor for assistance.

工具信息（包括单位，电压，序列号等）丢失。

方案：联系当地 RAD 经销商获取帮助。

7.1.20 "Program Not Validated"/"Validation Failed" "程序未验证/验证失败"

The program has not been validated or the validation process has failed.

程序未经验证或者验证过程失败。

Solution: Contact your RAD Distributor for assistance.

方案：联系当地 RAD 经销商获取帮助。

7.1.21 "Sensor Comms Lost"/"Handle Comms Lost" "传感器通讯丢失"/"手柄通讯丢失"

Communications with the sensor or the handle have been lost.

传感器或者手柄的通讯丢失。

Solution:

1. Refer to Section 7.2.3 – Tool Handle Cable.

   参照 7.2.3——工具手柄电缆

2. Refer to Section 4.3.5 – View Tool Information, and see if the Handle Information and the Sensor Information are there. If they are not there, contact you RAD Distributor for assistance.

   参照 4.3.5 章节—查看工具信息，查看手柄信息和传感器讯息是否存在。如果不存在，请联系当地 RAD 经销商获取帮助。

7.2 Solutions 解决方案

DANGER! 危险！

Electrical Shock can cause serious or fatal injury. Do not remove the E-RAD BLU Controller Top Plate and make any repairs without approval and training. Do not touch any exposed power devices, electrical connections or cables.

电击可以导致严重或致命伤害。未经同意与培训，请勿去除 E-RAD BLU 控制器顶盖或者尝试做任何修理。不要触碰任何暴露的电源设备，电插头或电线。

The following solutions may help solve the errors described in Section 7.1 – Error Messages. If the error persists after following the given solution instructions, contact New World Technologies Inc. Technical Support (refer to Section 8.0 – Contact Us).
以下方案或许会帮助解决 7.1 章节中说明的错误。注：如果在执行了以下指导方案后问题或错误依然存在，请洽新世界科技有限公司获取技术支持（参照 8.0 章节—联系我们）。

7.2.1 Power-Cycle 重新启动

To Power-Cycle the E-RAD BLU Tool System: 如何重新启动 E-RAD BLU 工具系统：

1. Switch the Power Switch to the Off Position.
   将电源开关切换到断路位置。
2. Wait two minutes.
   等待两分钟
3. Switch the Power Switch to the On Position and re-try.
   将电源开关切换到接通位置并重试。

7.2.2 AC Power Cable 交流电电缆

To check the AC Power Cable: 如何检查交流电电缆：

1. Switch the Power Switch to the Off Position and wait two minutes before proceeding.
   将电源开关切换到断路位置，等待两分钟，然后继续。
2. Remove the AC Power Cable from the AC Mains Power and then from the AC Mains Input Power Connector on the side of the E-RAD BLU Touch Controller.
   先将交流电电缆从交流电电源移除，然后再从 E-RAD BLU 触摸控制器一侧的交流电电源输入连接器移除。
3. Check the visual condition of the AC Power Cable and the pins in the AC Mains Input Power Connector. Ensure there are no cuts or breaks in the cable insulating jacket and the pins are present and in good condition.
   检查交流电电缆外观情况及交流电电源输入连接器的固定销。确保电缆绝缘套上没有切口或破损，且固定销状况良好。
4. Connect the AC Power Cable to the AC Mains Input Power Connector.
   将交流电电缆连接到交流电电源输入连接器。
5. Ensure the connection is locked tight.
   确保连接紧固。
6. Connect the AC Power Cable to the AC Mains Power.
   将交流电电缆连接到交流电电源。
7. Switch the Power Switch to the On Position and re-try.
   将电源开关切换到接通位置并重试。

7.2.3 Tool Handle Cable 工具手柄电缆

To check the Tool Handle Cable: 如何检查工具手柄电缆

1. Switch the Power Switch to the Off Position and wait two minutes before proceeding.
   将电源开关切换到断路位置，等待两分钟，然后继续。
2. Remove the Tool Handle Cable from the Tool Handle Connector on the side of the E-RAD BLU Controller.
   将工具手柄电缆从 E-RAD BLU 控制器一侧的工具手柄连接器移除。
3. Check the visual condition of the Tool Handle Cable and the pins in the Connectors. Ensure there are no cuts or breaks in the cable insulating jacket and the pins are present and in good condition.
   检查工具手柄电缆外观情况及交流电电源输入连接器的固定销。确保电缆绝缘套上没有切口或破损，且固定销状况良好。
4. Connect the Tool Handle Cable to the Connector.
   将工具手柄电缆连接到连接器。

5. Ensure the connections are locked tight.
   确保连接紧固。
6. Switch the Power Switch to the On Position and re-try.
   将电源开关切换到接通位置并重试。

7.2.4 AC Mains Power Supply 交流电电源

To check the AC Mains Power Supply: 如何检查交流电电源

1. Ensure the AC Mains Power Supply is present and within specifications.
   确保交流电电源存在并符合规格。
2. Ensure the AC Mains Power Supply branch is a dedicated 15A with no other appliances connected.
   确保交流电电源供电分支有 15A 专用电流，并未连接其他设备。
   Note: If an AC Mains Extension Cord is in use, ensure it meets the minimum E-RAD BLU specifications for length and gage outlined in Section 2.4 – Extension Cords.
   注：如果使用了交流电延长线，确保它满足 2.4 章节—延长线中所述 E-RAD BLU 长度规格的最低规格要求。

7.2.5 Needs Cooling 需要冷却

To cool the E-RAD BLU Tool System: 如何冷却 E-RAD BLU 工具系统

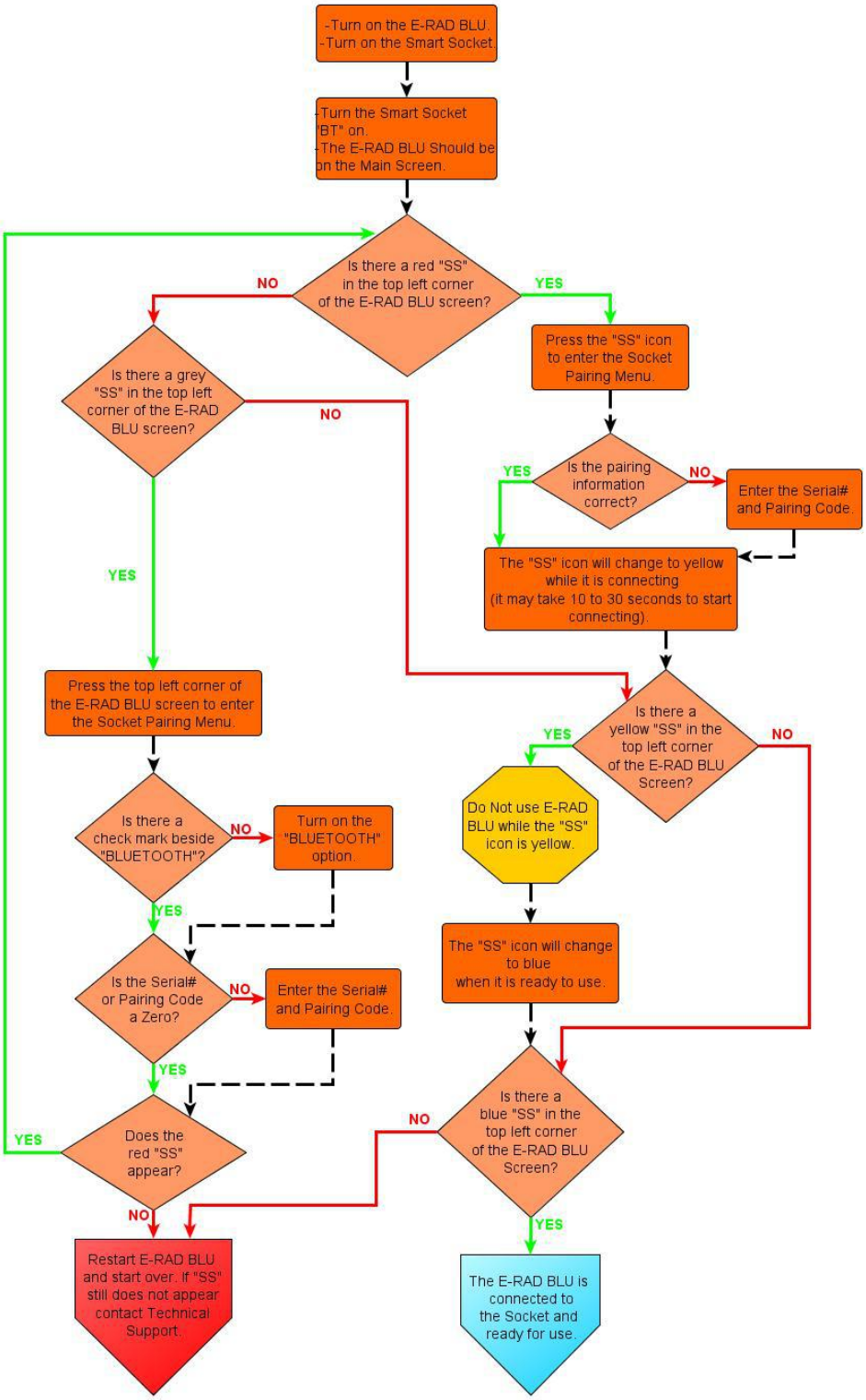
1. Ensure the Controller Cooling Fans are functional and the filter covers are not blocked.
   确保控制器冷却风扇运转正常，滤清器盖无遮挡。
2. Switch the Power Switch to the Off Position until the temperature of the system is within specifications.
   将电源开关切换到断开位置，直到系统温度符合规格。

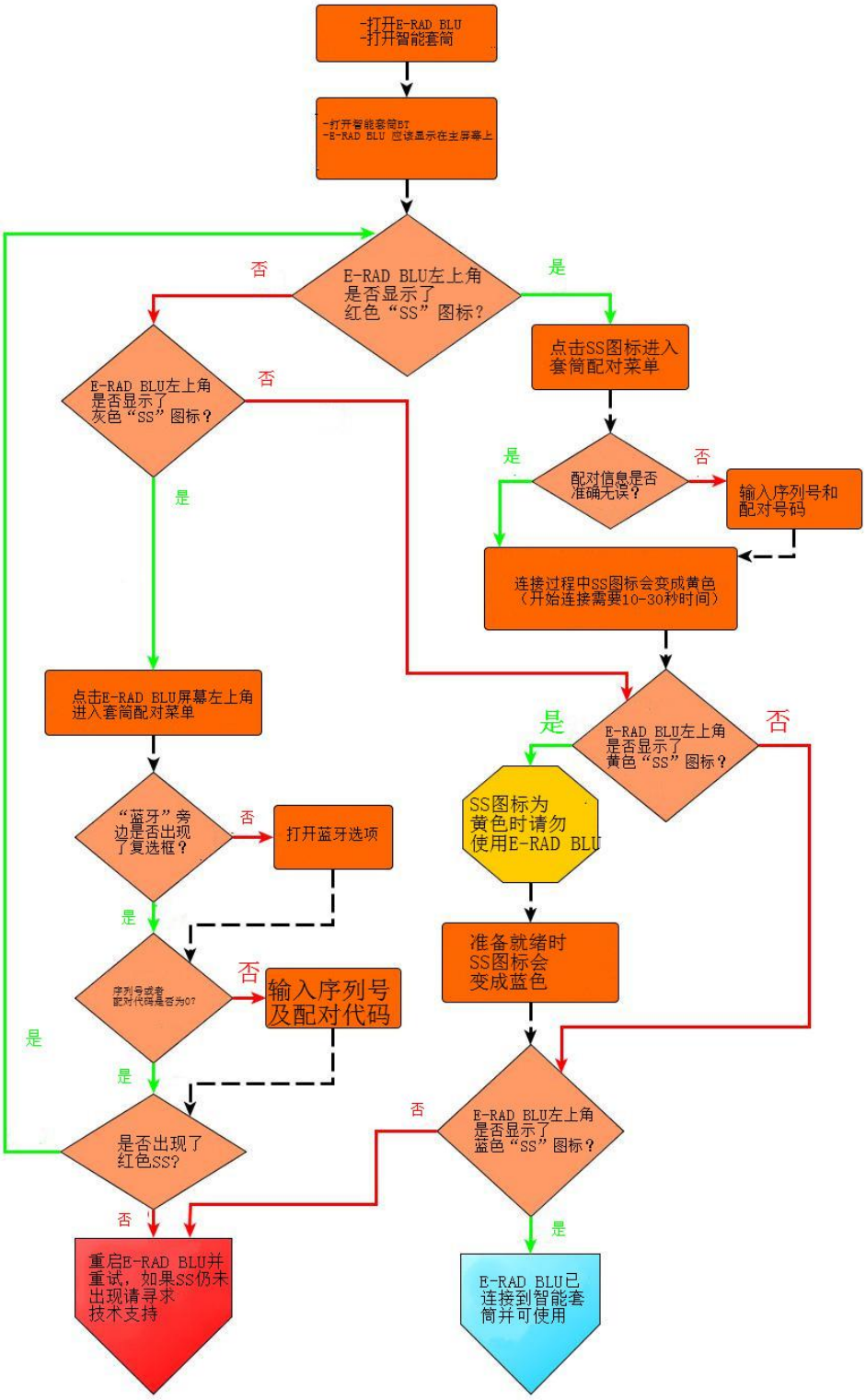
7.2.6 Forward/Reverse Switch 正转/反转开关

To reset using the Forward/Reverse Switch: 如何复位使用正转/反转开关：

1. Switch the Forward/Reverse Switch to the Reverse Position.
   将正转/反转开关切换到反转位置。
2. Switch the Forward/Reverse Switch to the Forward Position.
   将正转/反转开关切换到正转位置。
3. Re-try. 重试

7.3 Connecting to a Smart Socket: Troubleshooting 连接智能套筒：故障排查


-Turn on the E-RAD BLU.
-Turn on the Smart Socket.
-Turn the Smart Socket "BT" on.
-The E-RAD BLU Should be on the Main Screen.
Is there a red "SS" in the top left corner of the E-RAD BLU screen?
NO
YES
Is there a grey "SS" in the top left corner of the E-RAD BLU screen?
NO
YES
Press the top left corner of the E-RAD BLU screen to enter the Socket Pairing Menu.
Is there a check mark beside "BLUETOOTH"?
NO
Turn on the "BLUETOOTH" option.
YES
Is the Serial# or Pairing Code a Zero?
NO
Enter the Serial# and Pairing Code.
YES
Does the red "SS" appear?
YES
NO
Restart E-RAD BLU and start over. If "SS" still does not appear contact Technical Support.
Press the "SS" icon to enter the Socket Pairing Menu.
Is the pairing information correct?
YES
NO
Enter the Serial# and Pairing Code.
The "SS" icon will change to yellow while it is connecting (it may take 10 to 30 seconds to start connecting).
Is there a yellow "SS" in the top left corner of the E-RAD BLU Screen?
YES
NO
Do Not use E-RAD BLU while the "SS" icon is yellow.
The "SS" icon will change to blue when it is ready to use.
Is there a blue "SS" in the top left corner of the E-RAD BLU Screen?
NO
YES
The E-RAD BLU is connected to the Socket and ready for use.


-打开E-RAD BLU
-打开智能套筒
-打开智能套筒BT
-E-RAD BLU 应该显示在主屏幕上
E-RAD BLU左上角是否显示了红色“SS”图标?
否
是
E-RAD BLU左上角是否显示了灰色“SS”图标?
否
是
点击SS图标进入套筒配对菜单
是
否
配对信息是否准确无误?
输入序列号和配对号码
连接过程中SS图标会变成黄色（开始连接需要10-30秒时间）
点击E-RAD BLU屏幕左上角进入套筒配对菜单
是
否
E-RAD BLU左上角是否显示了黄色“SS”图标?
“蓝牙”旁边是否出现了复选框?
否
打开蓝牙选项
是
SS图标为黄色时请勿使用E-RAD BLU
序列号或者配对代码是否为0?
否
输入序列号及配对代码
是
是
准备就绪时SS图标会变成蓝色
是否出现了红色SS?
否
是
否
E-RAD BLU左上角是否显示了蓝色“SS”图标?
重启E-RAD BLU并重试，如果SS仍未出现请寻求技术支持
是
E-RAD BLU已连接到智能套筒并可使用

8.0 Contact Us 联系我们

New World Technologies Inc.
30580 Progressive Way
Abbotsford, BC, V2T 6Z2
Canada

Toll Free: 1-800-983-0044
Fax: 604-852-0269
Web: www.radtorque.com
Email: info@radtorque.com
New World Technologies Inc. Technical Support: 1-800-983-0044 (Ext. 227)
Email: eradsupport@radtorque.com

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青岛锐奥德扭力工具有限公司
地址：山东青岛市黄岛区峨眉山路396号
青岛光谷国际海洋信息港32号楼102
电话：0532-8187 8781
传真：0532-8238 6667
网址：www.radtorque.com.cn

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