STANLEY
Engineered Fastening

Instruction Manual

BR-Series Cordless Tools

STANLEY
Assembly Technologies

20Z104600 – Revision 0

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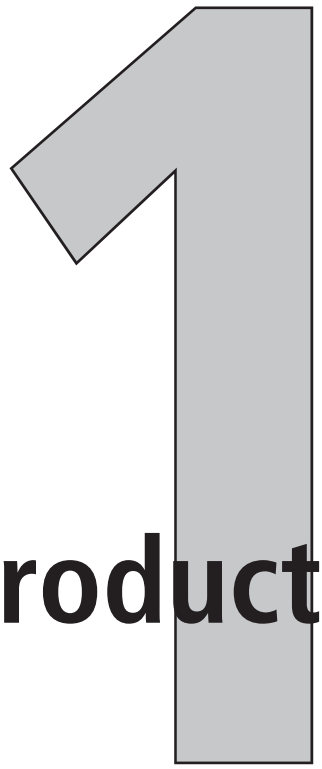
Cordless Tools



Introduction

1.1 About the Cordless Tool

A BR-Series Cordless Tool from STANLEY Assembly Technologies is designed to secure, or fasten, blind rivet fasteners in industrial assembly operations. It utilizes closed loop monitoring of force, speed, and distance so that it can perform various routines to secure each rivet with the highest quality results. High precision sensors provide feedback to the integrated digital control circuit. This circuit compares the feedback values to the programmed values and adjusts the servo motor's power and speed values to maintain the programmed speed on the output of the tool until the rivet has been set. Once the tool senses that the rivet has been set, it reports the setting force and distance and whether it met the specified parameters.

The BR-Series Cordless Tool uses a Lithium Ion battery pack as its power source.

Use the recommended Lithium Ion Battery Charger to charge the battery pack.

Programming strategies into the BR-Series Cordless Tool can be done with or without a STANLEY Assembly Technologies QBE controller. The cordless tool has an embedded transceiver and communicates to the QBE Controller via an IEEE 802.11 a/b/g/n WIFI connection. See section 2.16 "Pairing Tool to Controller" on page 32 for instructions on pairing the cordless tool to the controller. See the QBE controller manual for instructions on programming.

CONNECTING TO WIFI		
WIFI Specifications:	IEEE 802.11a/b/g/n	
Band Support:	2.4 GHz, channel 1-13* 5 GHz, channel 36-165*	
Security	OPEN	
	WPA2	AES/CCMP, TKIP
	PEAP	

***Actual channels available may be reduced to IEEE 802.11d, depending on the region.**

After programming, the tool can remain paired to the controller for program selection, error proofing operations or data management requirements or it can be used independent of the controller.

The BR-Series Cordless Tool stores data for 500 cycles and 2 traces (starting Version 5.2.15). These values can be viewed and retrieved using the QBE Controller or STANLEY Alpha ToolBox software utility.

Periodic preventive maintenance and calibration will keep the BR-Series Cordless Tool in optimum working condition allowing it to continue to achieve high quality results.

1.2 Tool Components

Tool components are explained in chapter 3 "Tool Operation" on page 37.
The standard output that is shipped with each pistol tool is the 4.8mm (3/16") size nose assembly. However, 4.0mm (5/32") or 3.2mm (1/8") size nose assemblies can be requested. The battery pack and charger and their operation are explained in chapter 2 "Getting Started" on page 23.

1.3 SMART Rivet Tool Models

1. Pistol

1.4 CE Declaration of Conformity

STANLEY Assembly Technologies is working toward obtaining CE Declaration for the BR-Series Cordless Tool.

1.5 FCC Notice (USA)

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. The FCC requires the OEM to be notified of any changes or modifications. Changes or modifications not expressly approved by STANLEY Assembly Technologies could void the user's authority to operate the equipment. This device, using the integrated antenna, has been tested to comply with FCC CFR Part 15. The device meets the requirements for modular transmitter approval as detailed in the FCC public notice DA00.1407.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna,
- Increase the separation between the equipment and receiver,
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected, or
- Consult the dealer or an experienced radio/TV technician for help.

This device contains transmitter module FCC ID: QPU8200.

CAUTION
To satisfy FCC RF exposure requirements for mobile transmitting devices, a separation distance of 20 cm (7.87 in) or more should be maintained between the antenna of this device and persons during operation. To ensure compliance, operations at closer distances than this are not recommended.

1.6 Industry Canada Notice (Canada)

The term "IC" before the certification/registration number only signifies that the Industry Canada technical specifications were met.

Le terme "IC" devant le numéro de certification /d'enregistrement signifie seulement que les spécifications techniques Industrie Canada ont été respectées.

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil est conforme avec Industrie Canada RSS standard exempts de licence (s). Son utilisation est soumise à Les deux conditions suivantes: (1) cet appareil ne peut pas provoquer d'interférences et (2) cet appareil doit accepter Toute interférence, y compris les interférences qui peuvent causer un mauvais fonctionnement du dispositif.

This device complies with Health Canada's Safety Code 6 / IC RSS-210. The installer of this device should ensure that RF radiation is not emitted in excess of the Health Canada's requirement. Information can be obtained at: http://www.hc-sc.gc.ca/ewh-semt/pubs/radiation/radio_guide-lignes_direct-eng.php

Cet appareil est conforme avec Santé Canada Code de sécurité 6 / IC RSS-210. Le programme d'installation de cet appareil doit s'assurer que les rayonnements RF n'est pas émis au-delà de l'exigence de Santé Canada. Les informations peuvent étre obtenues: http://www.hc-sc. gc.ca/ewh-semt/pubs/radiation/radio_guide-lignes_direct-eng.php

This device contains transmitter module IC: 4523A-SN8200

1.7 CE Notice (Europe)

STANLEY Assembly Technologies is working toward obtaining CE Declaration for the BR-Series Cordless Tool.

1.8 EU Directive 2006/42/EC (Europe)

STANLEY Assembly Technologies is in compliance with the EU Directive 2006/42/EC (Machinery Directive) requirement that machinery and tools must be secured so users are not endangered. The BR12PP-8 meets this requirement by employing the following functions:

- FORCE SWITCH - The force switch ensures that a blind rivet can only be processed if a pressure is being applied to the force switch. This prevent unintentional triggering. Additionally, the force switch assists with making sure that the tool is indeed on the job.

  Note - The force switch can be disabled via the controller or Alpha Toolbox software interfaces.

- MCS SWITCH - The mandrel collection system (MCS) switch ensures that the tool will not function if the mandrel collection cup or vacuum collection connection are not installed properly. This assists in preventing a rivet from being ejected from the tool.

1.9 Safety

A. Danger, Warning, Caution

The safety notices and warnings for protection against loss of life (the users or service personnel) or for the protection against damage to property are highlighted in this document by the terms and pictograms defined here. The terms used in this document and marked on the equipment itself have the following significance:

1. **Danger: Indicates that death or severe personal injury will result if proper precautions are not taken.**
2. **Warning: Indicates that death or severe personal injury may result if proper precautions are not taken.**
3. **Caution: Indicates that property damage may result if proper precautions are not taken.**


Indicates an electrical hazard. This icon appears as a part of a DANGER, WARNING, or CAUTION notice.


Indicates a fire hazard. This icon appears as a part of a DANGER, WARNING, or CAUTION notice.


Indicates a general hazard. This icon appears as a part of a DANGER, WARNING, or CAUTION notice.


Indicates that eye protection should be worn. This icon appears as a part of a DANGER, WARNING, or CAUTION notice.


Read and understand all the safety recommendations and all operating instructions before operating tools and controllers.


Indicates an item of special interest.


Indicates a pinch point hazard. This icon appears as a part of a DANGER, WARNING, or CAUTION notice.


Indicates an open wrench pinch point hazard. This icon appears as a part of a DANGER, WARNING, or CAUTION notice.


Indicates an environmental hazard. Do not throw equipment into the normal housekeeping refuse bin.

B. Safety Instructions for Cordless Tools and Controllers

WARNING

ELECTRICAL HAZARD

To Avoid Injury:

- Save these instructions for future reference.
- Read and understand all the safety recommendations and all operating instructions before operating tools and controllers. Failure to follow all instructions listed below may result in electric shock, fire and/or serious personal injury.
- Train all operators in the safe and proper use of power tools. Operators should report any unsafe condition to their supervisor.
- Follow all safety recommendations in the manual that apply to the tools, battery packs and chargers being used, and the nature of the work being performed.
- Verify that all warning labels illustrated in this manual are readable. Replacement labels are available at no additional cost from STANLEY Assembly Technologies.
- Only allow suitably qualified personnel to install, program, or maintain this equipment and or system. Follow all manufacturer installation instructions and applicable regulatory electrical codes and safety codes.
- These persons must be knowledgeable of any potential sources of danger and maintenance measures as set out in the Installation, Operations, and Maintenance manual.
- This product must be transported, stored, and installed as intended, and maintained and operated with care to ensure that the product functions correctly and safely.
- Persons responsible for system planning and design must be familiar with the safety concepts of automation equipment.
- Install tools in dry, indoor, non-flammable, and non-explosive environments only–Humidity: 0 to 95% noncondensing and Temperature: 32 to 122. F (0 to +50 .C).
- Do not install worn, damaged, or modified equipment that may be unsuitable for safe use.
- Controller plugs must match the outlet and must be earth grounded. Never modify a plug in any way or use any adaptor plugs.
- Avoid body contact with electrically energized surfaces when holding a grounded tool.
- Prior to connecting a power source, always ensure the tool or controller is turned off.
- Limit controller access to trained and qualified personnel. Lock controller cabinets.
- Only use equipment and accessories specifically designed to operate with STANLEY Assembly Technologies tools and use them only in the manner for which they are intended.
- Store idle tools and accessories in a safe location accessible only by trained persons.
- Disconnect power source (battery pack, electricity, etc.) from tool or controller prior to adjusting, changing accessories, or storing.
- Prior to operation, always check and test tools and accessories for damage, misalignment, binding or any other condition that may affect operation. Maintenance and repair should be performed by qualified personnel.
- Do not operate tools in or near explosive environments or in the presence of flammable liquids, gases, dust, rain or other wet conditions.
- Keep the work area clean, well-lit and uncluttered.
- Keep unauthorized personnel out of the work area.
- Install tools and controllers in dry, indoor, non-flammable, and non-explosive environments only.
- Do not use this product near water, for example near a washbowl, wet basement, or the like.
- This product should be located away from heat sources such as radiators or other devices that produce heat.
- This product should not be subjected to vibration or shock or in close contact with water or other liquids.
- To minimize electrical interference, place the tools and controllers as far away from possible sources of electrical noise, such as arc welding equipment.

B. Safety Instructions for Cordless Tools and Controllers (Cont.)

CAUTION

When not in use, place tool on its side on a stable surface where it will not cause a tripping or failing hazard. Some tools with large battery packs will stand upright on the battery pack but may be easily knocked over.

C. Safety Instructions for All Battery Packs

WARNING

Electrical Hazard
To Avoid Injury:

When using electric tools, basic safety precautions should always be followed to reduce risk of fire, electric shock, and personal injury, including the following:

- Read and understand all the safety recommendations and all operating instructions before operating tools and controllers. Failure to follow all instructions listed below may result in electric shock, fire and/or serious personal injury.
- Do not charge or use the battery pack in explosive atmospheres, such as in the presence of flammable liquids, gases or dust. Inserting or removing the battery pack from the charger may ignite the dust or fumes.
- Never force the battery pack into the charger. Do not modify the battery pack in any way to fit into a noncompatible charger as battery pack may rupture causing serious personal injury. Consult the chart at the end of this manual for compatibility of batteries and chargers.
- Charge the battery packs only in designated STANLEY chargers.
- DO NOT splash or immerse in water or other liquids.

DANGER

To Avoid Injury:

- Never attempt to open the battery pack for any reason.
- DO NOT probe pack with conductive objects.
- DO NOT store or use the tool and battery pack in locations where the temperature may reach or exceed 105°F (40°C) (such as outside sheds or metal buildings in summer). For best life store battery packs in a cool, dry location.

NOTE: Do not store the battery pack in a tool with the trigger switch locked on. Never tape the start trigger switch in the ON position.

C. Safety Instructions for All Battery Packs

WARNING

FIRE HAZARD

To Avoid Injury:

- Never attempt to open the battery pack for any reason. If the battery pack case is cracked or damaged, do not insert into the charger. Do not crush, drop or damage the battery pack. Do not use a battery pack or charger that has received a sharp blow, been dropped, run over or damaged in any way (e.g., pierced with a nail, hit with a hammer, stepped on). Damaged battery packs should be returned to the service center for recycling.

- Do not store or carry the battery pack so that metal objects can contact exposed battery pack terminals. For example, do not place the battery pack in aprons, pockets, tool boxes, product kit boxes, drawers, etc., with loose nails, screws, keys, etc. Transporting batteries can possibly cause fires if the battery pack terminals inadvertently come in contact with conductive materials such as keys, coins, hand tools and the like. The US Department of Transportation Hazardous Material Regulations (HMR) prohibit transporting batteries in commerce or on airplanes (e.g., packed in suitcases and carry-on luggage) UNLESS they are properly protected from short circuits. So, when transporting individual battery packs, make sure that the battery pack terminals are protected and well insulated from materials that could contact them and cause a short circuit.

D. Specific Safety Instructions for Lithium Ion (Li-Ion)

- Do not incinerate the battery pack even if it is severely damaged or is completely worn out. The battery pack can explode in a fire. Toxic fumes and materials are created when lithium ion battery packs are burned.
- If battery contents encounter the skin, immediately wash area with mild soap and water.
- If battery liquid gets into the eye, rinse water over the open eye for 15 minutes or until irritation ceases.
- If medical attention is needed, the battery electrolyte is composed of a mixture of liquid organic carbonates and lithium salts.
- Contents of opened battery cells may cause respiratory irritation. Provide fresh air. If symptoms persist, seek medical attention.

WARNING

BURN HAZARD

To Avoid Injury:

- Battery liquid may be flammable if exposed to spark or flame.
- Do not submerge the battery pack in any liquid or allow fluid to enter the battery pack. Never attempt to open the battery pack for any reason. If the plastic housing of the battery pack breaks or cracks, return it to a service center for recycling.

E. Safety Instructions for Battery Pack Charger

WARNING

SHOCK HAZARD

To Avoid Injury:

- Do not allow any liquid to get inside of the charger. Electric shock may result.

1.10 Tool Kinetic Specifications

1. Operating Conditions: Temperature 32 to 122. F (0 to +50 C)

2. Humidity: 0 to 95% non-condensing

3. Noise Level: A weighted emission sound pressure level at the work station LpA (ref 20µPa) is < 70dB(A). Value determined according to ISO 15744-2002 * using as basic standards ISO 3744 and ISO 11203.

4. Vibration Level:

   - STANLEY Assembly Technologies hereby declares the following sound and vibration emission levels as required by the Machinery Directive 98/37/EC.
   - A-weighted emission sound pressure level at the work station LpA (ref 20µPa) is < 70dB(A). Value determined according to ISO 15744-2002 * using as basic standards ISO 3744 and ISO 11203.
   - Weighted emission root mean square acceleration level at the handle is < 2.5 m/s^2. Value determined according to ISO 28927-2:2009 * (3-axis)
   - Operating conditions for all measurements: full rated speed, no load, rated supply voltage.

WARNING

VIBRATION HAZARDS

To Avoid Injury:

- This information is provided to assist in making rough estimates of sound and vibration exposure levels in the workplace. The declared emission values were obtained by laboratory type testing in accordance with the stated standards. Levels measured in individual workplaces may be higher.

- The actual exposure levels and risk of harm experienced by an individual user depends upon the work piece, workstation design, duration of exposure, and the physical condition and work habits of the user. To help prevent physical impairment, a program of health surveillance is highly recommended to detect early symptoms which may relate to sound and/or vibration exposure, such that appropriate preventive measures may be taken.

A. Operator Protection

WARNING

ROTATING EQUIPMENT

To Avoid Injury:

- Always wear eye and foot protection when operating, installing, or maintaining power tools, and when in areas where power tools are being used, maintained, or installed. Some applications may require the use of safety glasses and face shields. Use eye protection that conforms to ANSI Z87.1.[3] and ANSI Z41-PT99M I/75 C/75.
- Always stay alert when operating tools and/or their accessories. Do no operate tools and/or their accessories while tired, under the influence of drugs, alcohol or any other mind-altering substance.
- Repetitive work motions or vibration may be harmful to your hands, arms, shoulders or back.
- Use suitable protective equipment and work methods whenever an application presents a hazard.

B. Reaction Forces

WARNING

REACTION FORCE

To Avoid Injury:

- Be alert and maintain good balance, footing, and posture at all times in anticipation of the power tool reaction. Do not over-extend or over-reach.

C. Repetitive Motion

WARNING

REPETITIVE MOTION HAZARD

To Avoid Injury:

- When using a power tool, you may experience discomfort in your hands, arms, shoulders, neck, or other parts of your body.
- While using a power tool, position your body in a comfortable posture. Maintain secure footing and avoid awkward or off-balance postures. Changing your body posture during extended tasks may help avoid discomfort and fatigue.
- If you experience symptoms such as persistent or recurring discomfort, pain, throbbing, aching, tingling, numbness, burning sensations, or stiffness, do not ignore these warning signs. Promptly tell your employer and consult a qualified health professional.
- The use of power tools may involve highly repetitive motions of the fingers, hands, wrists, and shoulders. These repetitive motions can lead to cumulative trauma disorders (CTD). Many personal and workplace factors can contribute to these disorders.
- Currently available data have identified the following risk factors. These risk factors are not necessarily causation factors of CTDs. The mere presence of a risk factor does not necessarily mean there is excessive risk of injury. Generally, the greater the exposure to a single risk factor or combination of factors the greater the risk for CTDs:

  1. Forceful exertions and motions
  2. Extreme postures and motions
  3. Repetitive exertions and motions
  4. Intended duration of exertion, postures, motions, vibration, and cold
  5. Insufficient rest or pauses
  6. Work organization risk factors
  7. Environmental risk factors

These risk factors span job design and content, operator training, work method, work pace, work environment, proper tool selection and other work place factors beyond the control of the tool manufacturer. Tool owners and employers should analyze jobs for all of the risk factors identified above and take appropriate action.

Some measures which may reduce the risk of CTDs:

- Use minimum hand grip force consistent with proper control and safe operation.
- Keep wrists as straight as possible.
- Avoid repetitive movements of the hands and wrists.
- If wrist pain, hand tingling, numbness, or other disorders of the shoulders, arm, wrist or finger occur; notify supervisor, discontinue task, reassign user to a different job; if relief is not found contact experts skilled in treating such disorders.
- Wrist supports and balancers should be used if it can be determined that such devices can reduce the risk of repetitive motion disorders.

D. Hearing Protection

WARNING

NOISE HAZARD

To Avoid Injury:

- Unprotected exposure to high noise levels can cause permanent, disabling, hearing loss and other problems, such as tinnitus (ringing, buzzing, whistling or humming in the ears).
- Risk assessment and implementation of appropriate controls for these hazards are essential.
- Appropriate controls to reduce the risk may include actions such as damping materials to prevent work pieces from "ringing".

Power tool operators and adjacent personnel may be exposed to excessive sound levels. The tool in use is generally only one of many sources of noise that an operator experiences. Other tools and machines in the area, joint assembly noise, work processes, and other ambient noise sources all contribute to the sound level to which operators are exposed.

The actual sound level an individual is exposed to and the individual's exposure time over the work day are key factors in determining hearing protection requirements. Worker sound level exposure can only be determined at the job site and is the responsibility of tool owners and employers.

Measure worker sound level exposure and identify high-risk noise areas where hearing protection is required.
Follow federal (OSHA), state or local sound level statues, ordinances and or regulations.

E. Vibration

WARNING

VIBRATION HAZARDS

To Avoid Injury:

- Long-term exposure to vibration can cause disabling damage to the nerves and blood supply of the hands and arms.
- Keep the hands away from the tool nose assembly.
- Wear warm clothing when working in cold conditions and keep your hands warm and dry.
- If you experience numbness, tingling, pain or whitening of the skin in your fingers or hands, stop using the rivet setter, tell your employer and consult a physician.
- Operate and maintain the rivet setter to prevent an unnecessary increase in vibration levels.
- Support the weight of the rivet setter in a stand or balancer, if possible.
- The risk from vibration is generally greater when the grip force is higher. Hold the rivet setter with a light but safe grip, taking account of the required hand reaction forces. Power tools can vibrate during use. To minimize the possible effects of vibration:

    1. Keep hands dry and body dry.
    2. Avoid anything that inhibits blood circulation such as tobacco, cold temperatures and certain drugs.
    3. Operators should notify their employer when experiencing prolonged symptoms of pain, tingling, numbness or blanching of the fingers.
    4. Wear vibration damping gloves if it can be determined that they reduce the risk of vibration disorders without introducing other hazards.

F. Breathing Protection

WARNING

DUST AND FUME HAZARD

To Avoid Injury:

- Dust and fumes generated when using assembly power tools for blind rivet fasteners can cause ill health (for example, cancer, birth defects, asthma and/or dermatitis); risk assessment and implementation of appropriate controls for these hazards are essential.
- Risk assessment should include dust created by the use of the rivet setter and the potential for disturbing existing dust.
- Where dust or fumes are created, the priority shall be to control them at the point of emission.
- All integral features or accessories for the collection, extraction or suppression of airborne dust or fumes should be correctly used and maintained in accordance with the manufacturer's instructions.
- Use respiratory protection in accordance with employer's instructions and as required by occupational health and safety regulations.
- Respirators shall be used where contaminants in the work area present a hazard.

G. Projectile Hazards

WARNING

PROJECTILE HAZARD

To Avoid Injury:

- Failure of the work piece, of accessories, or even of the tool itself may generate high velocity projectiles.
- Always wear impact-resistant eye protection during operation of the rivet setter. The grade of protection required should be assessed for each use.
- Ensure that the work piece is securely fixed.
- Defeating the push-to-start feature and pulling a rivet, not in a work piece, will cause a projectile hazard.
- Defeating and operating the tool without a cup or vacuum pickup for the Mandrel Collection System (MCS) can cause the mandrel to become a projectile.

H. Entanglement Hazards

WARNING

ENTANGLEMENT HAZARD

To Avoid Injury:

- Entanglement hazards such as choking, scalping and/or lacerations can occur if loose clothing, personal jewelry, neck ware, hair or gloves are not kept away from the power tool and accessories.
- Gloves can become entangled with the linear drive, causing severed or broken fingers.
- Do not wear loose fitting gloves or gloves with cut or frayed fingers.
- Never hold the nose assembly.
- Keep hands away from linear drives.

I. Operating Hazards

WARNING

OPERATING HAZARD

To Avoid Injury:

- Use of the rivet setter may expose the operator's hands to hazards including crushing, impacts, cuts, abrasions and heat. Wear suitable gloves to protect hands.
- Operators and maintenance personnel must be physically able to handle the bulk, weight and power of the rivet setter.
- Hold the rivet setter correctly; be ready to counteract normal or sudden movements – have both hands available.
- Maintain a balanced body position and secure footing.
- Use only lubricants recommended elsewhere in this instruction manual.

J. Accessory Hazards

WARNING

ACCESSORY HAZARD

To Avoid Injury:

- Disconnect the rivet setter from the power supply (battery pack) before changing accessories.
- Do not touch accessories during operation, as this increases the risk of cuts, pinches, or vibration injuries.
- Use only sizes and types of accessories and consumables that are recommended elsewhere in this instruction manual.

K. Workplace Hazards

WARNING

WORKPLACE HAZARD

To Avoid Injury:

- Slips, trips and falls are major causes of workplace injury. Be aware of slippery surfaces caused by the use of the rivet setter.
- Proceed with care in unfamiliar surroundings. Hidden hazards, such as electricity or other utility lines, can exist.
- The rivet setter is not intended for use in potentially explosive atmospheres and is not insulated against coming into contact with electric power.
- Make sure there are no electrical cables, gas pipes, etc., that can cause a hazard if damaged by use of the rivet setter.

Getting Started

2.1 Open the Box

Each cordless tool is shipped in a box with a battery pack and a charger. This chapter explains their operation and how these components fit together.

2.2 Battery Pack

Before using the battery pack, read all instructions and cautionary markings on the charger, battery pack and the BR-Series Cordless tool. The battery pack is not fully charged out of the box. Before using the battery pack and charger, read the safety instructions in 1.8 "Safety" on page 11 and then follow charging procedures outlined in the charger manual.

The battery pack should be recharged when it fails to produce sufficient power on jobs which were easily done previously. DO NOT CONTINUE to use it under these conditions. Follow the charging procedure 2.8 "Charging Procedure" on page 27. You may also charge a partially used pack whenever you desire with no adverse effect on the battery pack. When ordering replacement battery packs, be sure to include the part number. The BR-Series Cordless Tools use a Lithium Ion battery pack as its power source. Use the STANLEY recommended Lithium Ion Battery Charger to charge the battery pack.

2.3 Fuel Gauge

The battery packs include a fuel gauge which consists of three green LED lights that indicate the level of charge remaining in the battery pack. To actuate the fuel gauge, press and hold the fuel gauge button. A combination of the three green LED lights will illuminate designating the level of charge left. When the level of charge in the battery pack is below the usable limit, the fuel gauge will not illuminate, and the battery pack will need to be recharged.

NOTE: The fuel gauge is only an indication of the charge left on the battery pack. It does not indicate tool functionality and is subject to variation based on product components, temperature and end-user application.

2.4 The RBRC™ Seal

The RBRC™ (Rechargeable Battery Recycling Corporation) seal on the nickel cadmium, nickel metal hydride or lithium ion batteries (or battery packs) indicate that the costs to recycle these batteries (or battery packs) at the end of their useful life have already been paid by STANLEY. In some areas, it is illegal to place spent nickel cadmium, nickel metal hydride or lithium ion batteries in the trash or municipal solid waste stream and the RBRC program provides an environmentally conscious alternative. RBRC™, in cooperation with STANLEY and other battery users, has established programs in the United States and Canada to facilitate the collection of spent nickel cadmium, nickel metal hydride or lithium ion batteries. Help protect our environment and conserve natural resources by returning the spent nickel cadmium, nickel metal hydride or lithium ion batteries to an authorized STANLEY service center or to your local retailer for recycling. You may also contact your local recycling center for information on where to drop off the spent battery pack. RBRC™ is a registered trademark of the Rechargeable Battery Recycling Corporation.

2.5 Storage Recommendations

The best storage place is one that is cool and dry, away from direct sunlight and excess heat or cold.

For long storage, it is recommended to store a fully charged battery pack in a cool dry place out of the charger for optimal results.

NOTE: Battery packs should not be stored completely depleted of charge. The battery pack will need to be recharged before use.

2.6 Charger

Before using the charger, read all instructions and cautionary markings on the charger, battery pack and the BR-Series Cordless Tool. The STANLEY supplied Lithium Ion battery pack charger is designed to charge Lithium ion battery packs. This charger requires no adjustment and is designed to be as easy as possible to operate. Simply place your battery pack into the receptacle of a plugged-in charger and it will automatically charge the pack.

CAUTION
Under certain conditions, with the charger plugged into the power supply, the charger can be shorted by foreign material. Foreign materials of a conductive nature, such as, but not limited to, grinding dust, metal chips, steel wool, aluminum foil or any buildup of metallic particles should be kept away from the charger cavities. Always unplug the charger from the power supply when there is no battery pack in the receptacle. Unplug the charger before attempting to clean it.

DO NOT attempt to charge the battery pack with any chargers other than the ones in this manual. The charger and battery pack are specifically designed to work together.

These chargers are not intended for any uses other than charging STANLEY supplied Lithium Ion rechargeable batteries. Any other uses may result in risk of fire, electric shock or electrocution.

Do not expose the charger to rain or snow.
Pull by the plug rather than the cord when disconnecting the charger. This will reduce the risk of damage to the electric plug and cord.

Make sure that the cord is located so that it will not be stepped on, tripped over or otherwise subjected to damage or stress.

Do not use an extension cord unless it is necessary. Use of improper extension cord could result in risk of fire, electric shock or electrocution.

When operating a charger outdoors, always provide a dry location and use an extension cord suitable for outdoor use. Use of a cord suitable for outdoor use reduces the risk of electric shock.

An extension cord must have adequate wire size (AWG or American Wire Gauge) for safety. The smaller the gauge number of the wire, the greater the capacity of the cable, that is, 16 gauge has more capacity than 18 gauge. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. When using more than one extension to make up the total length, be sure each individual extension contains at least the minimum wire size. The following table shows the correct size to use depending on cord length and nameplate ampere rating. If in doubt, use the next heavier gauge. The lower the gauge number, the heavier the cord.

Minimum Gauge for Cord Sets						
Ampere Rating		Volts	Total Length of Cord in Feet (meters)			
		120V	25 (7.6)	50 (15.2)	100 (30.5)	150 (45.7)
		240V	50 (15.2)	100 (30.5)	200 (61.0)	300 (91.4)
More Than	Not More Than	AWG				
0	6		18	16	16	14
6	10		18	16	14	12
10	12		16	16	14	12
12	16		14	12	Not Recommended	

Do not place any object on top of the charger or place the charger on a soft surface that might block the ventilation slots and result in excessive internal heat. Place the charger in a position away from any heat source. The charger is ventilated through slots in the top and the bottom of the housing.

Do not operate the charger with a damaged cord or plug.

Do not operate the charger if it has received a sharp blow, been dropped or otherwise damaged in any way. Take it to an authorized service center.

Do not disassemble the charger; take it to an authorized service center when service or repair is required. Incorrect reassembly may result in a risk of electric shock, electrocution or fire.

Disconnect the charger from the outlet before attempting any cleaning. This will reduce the risk of electric shock.

Removing the battery pack will not reduce this risk.

NEVER attempt to connect 2 chargers together.

The charger is designed to operate on standard 120V household electrical power. Do not attempt to use it on any other voltage.

2.7 Regulatory Notices for Charger

It is mandatory that national, state and local codes and standards be followed.

A. FCC Notice (USA)

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in an installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

A. FCC Notice (USA) (Cont.)

- Reorient or relocate the receiving antenna,
- Increase the separation between the equipment and receiver,
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected, or
- Consult the dealer or an experienced radio/TV technician for help.

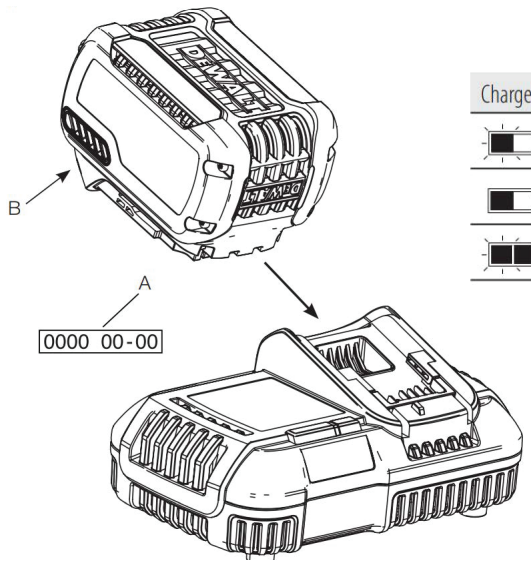
B. Industry Canada Notice (Canada)

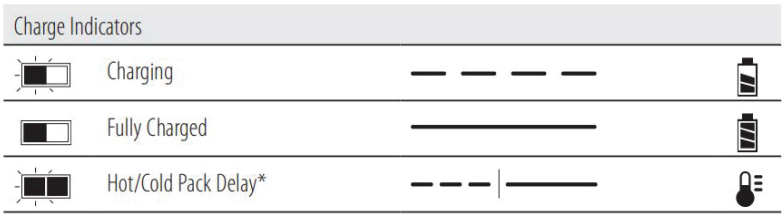
This Class B digital apparatus complies with Canadian ICES-003.

The term "IC" before the certification/registration number only signifies that the Industry Canada technical specifications were met. Le terme "IC" devant le numéro de certification /d'enregistrement signifie seulement que les spécifications techniques Industrie Canada ont été respectées. This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil est conforme avec Industrie Canada RSS standard exempts de licence (s). Son utilisation est soumise à Les deux conditions suivantes: (1) cet appareil ne peut pas provoquer d'interférences et (2) cet appareil doit accepter Toute interférence, y compris les interferences qui peuvent causer un mauvais fonctionnement du dispositif.

2.8 Charger Procedure





1. Plug the charger into an appropriate outlet before inserting the battery pack.

2. Insert the battery pack into the charger, as shown, making sure the pack is fully seated in the charger. The red (charging) light will blink continuously indicating that the charging process has started.

3. The completion of charge will be indicated by the red light remaining ON continuously. The pack is fully charged and may be used at this time or left in the charger.

A. Charge Indicators

- **Battery Pack Charging**
- **Battery Pack Charged**
- **Hot/Cold Delay**

This charger is designed to detect certain problems that can arise. Problems are indicated by the charger refusting to illuminate any light. If this occurs, re-insert the battery pack into the charger. If the problem persists, try a different battery pack to determine if the charger is working properly. If the new pack charges correctly, then the original pack is defective and should be returned to a service center or other collection site for recycling. If the new battery pack elicits the same trouble indication as the original, have the charger and the battery pack tested at an authorized service center.

B. Hot/Cold Delay

This charger has a hot/cold delay feature:
When the charger detects a battery pack that is hot, it automatically starts a delay, suspending charging until the battery pack has cooled. After the battery pack has cooled, the charger automatically switches to the battery pack charging mode. This feature ensures maximum battery pack life. The red-light will continue to blink, but a yellow indicator light will be illuminated during this operation.

C. Leaving The Battery Pack In The Charger

The charger and battery pack can be left connected with the charge indicator showing pack charged.

D. Weak Battery Packs

Weak battery packs will continue to function, but should not be expected to perform as much work.

E. Faulty Battery Packs

This charger will not charge a faulty battery pack. The charger will indicate a faulty battery pack by refusing to illuminate light.

F. Problem Power Line

Some chargers have a Problem Power Line indicator. When the charger is used with some portable power sources such as generators or sources that convert DC to AC, the charger may suspend operationn, flashing the red light with two fast blinks followed by a pause. This indicates the power sources is out of limits.

G. Important Charging Notes

Longest life and best performance can be obtained if the battery pack is charged when the air temperature is between 65°F and 75°F (18 - 24°C). DO NOT charger the battery pack in an air temperature below +40°F (+4.5°C), or above +105F (+40.5°C). This is important and will prevent serious damage to the battery pack, The charger and battery pack may become warm to the touch while charging. This is a normal condition, and does not indicate a problem. To facilitate the cooling of the battery pack after use, avoid placing the charger or battery pack in a warm enviroment such as a metal shed or uninsulated trailer. A cold battery pack will charge at about half the rate of a warm battery pack. The battery pack will charge at that slower rate throughout the entire charging cycle and will not return to maximum charge rate even if the battery pack warms. If the battery pack does not charge properly:

- Check operation of the receptacle by plugging in a lamp or other appliance;
- Check to see if the receptacle is connected to a light switch which turns the power off when you turn off the lights;
- Move the charger and battery pack to a location where the surrounding air temperature is approximately 65°F - 75°F (18 - 24°C);
- If charging problem persist, take the tool, battery pack, and charger to your local service center.

2.9 Cordless Tools

Before using the STANLEY Assembly Technologies BR-Series cordless tool, read all instructions and cautionary markings on the charger, battery pack and the BR-Series cordless tool.

2.10 General Power Tool Safety Instructions

Prevent unintentional starting, ensure the tool lever or trigger is in the off position before connecting to power source and/or battery pack, picking up or carrying the tool. Carrying power tools with your finger on the lever or trigger or energizing power tools that have the switch on invites accidents.

- Do not force the power tool.
- The correct power tool will do the job better and safer at the rate for which it was designed.
- Disconnect the battery pack from the power tool before making any repairs, changing accessories, or storing power tools. Such preventive safety measures reduce the risk of starting the power tool accidentally.
- Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use.
- Accidents are caused by poorly maintained power tools.
- Use the power tool and accessories in accordance with these instructions, taking into account the working conditions and the work to be performed.
- Use of the power tool for operations different from those intended could result in a hazardous situation.
- Use power tools only with specifically designated battery packs. Use of any other battery packs may create a risk of injury and fire.
- Hold power tool by insulated gripping surfaces when performing an operation where the rivet may contact hidden wiring. Rivets contacting a "live" wire may make exposed metal parts of the power tool "live" and could give the operator an electric shock.
- Use clamps or other practical way to secure and support the workpiece to a stable platform. Holding the work by hand or against your body is unstable and may lead to loss of control.

CAUTION
When not in use, place tool on its side on a stable surface where it will not cause a tripping or falling hazard. Some tools with large battery packs will stand upright on the battery pack but may be easily knocked over.

The label on your tool may include the following symbols. The symbols and their definitions are as follows:

- V - Volts
- Ah - Amp hours
- kN - Kilonewtons
- mm - Millimeters
- Wh - Watt hours
- Safety alert symbol

2.11 Accessories

Since accessories, other than those offered by STANLEY, have not been tested with this product, use of such accessories with this tool could be hazardous. To reduce the risk of injury, only STANLEY recommended accessories should be used with this product.

Recommended accessories for use with your tool are available from your local service center.

2.12 Installing and Removing the Battery Pack

NOTE: For best results, make sure your battery pack is fully charged.

1. To install the battery pack into the tool handle, align the battery pack with the rails inside the tool's handle and slide it into the handle until the battery pack is firmly seated in the tool and ensure that it does not disengage.
2. Installing the battery pack into the tool does not turn the tool on.
3. After the battery pack is inserted in the tool, press the start trigger switch to turn the tool on.
4. After the tool turns on it will connect wirelessly to the associated STANLEY controller if it is setup to do so. The orange PM light will slowly blink until communication between the controller and the tool is made.
5. One of the two blue READY lights will illuminate when the tool is ready to run.
6. To remove the battery pack from the tool, press the release button and firmly pull the battery pack out of the tool handle.
7. Insert it into the charger as described in the charger section of this manual.

2.13 Connecting a Computer to a STANLEY Controller

Connect a computer to the Alpha Toolbox port using a standard CAT 5, 5E or 6 Ethernet cable. It does not matter if the cable is straight-through or crossover. The computer's Ethernet port must be set to DHCP rather than a static IP Address to the computer. Observe the computer's notifications to determine when the STANLEY controller has provided the IP Address.

1. Open a web browser, any current browser will do, and
2. Type http://atb.qpm into the uniform resource locator's (URL) bar.
3. The controller's web server will provide the Alpha Toolbox screens and controls.

2.14 Set SSID

1. Click on the COMMUNICATIONS tab under the SETUP section.

2. Click on the wireless tab on the COMMUNICATIONS screen.

3. Enable wireless communications for the STANLEY controller, type in an SSID value, type in a PASSWORD and choose the applicable REGION.

4. Click on Apply to save the changes.

2.15 Wireless Setup Parameters

- High, Medium, Low - Enables the radio in the STANLEY controller.
- Off - Disables the radio in the STANLEY controller.

1. Name

This parameter sets the Service Set Identifier (SSID) for the access point in the STANLEY controller. The maximum number of case sensitive, alphanumeric (ASCII) characters is 32. It is recommended to use a value that best differentiates the station under test from other stations. Use the up and down arrows on the keypad to insert characters. Use the right arrow to move the cursor for the next character.
If left blank the default SSID for the STANLEY controller is QB-serial number, where
Serial number is the serial number of the controller; i.e. QB-032014007.

2. Password

This parameter sets the encryption key needed to connect a wireless device to the access point in the STANLEY controller. Must be a minimum of 8 characters and no longer than 63 printable characters or 64 hexadecimal digits. Use the up and down arrows on the keypad to insert characters. Use the right arrow to move the cursor to the next character.

3. Region

Select from the drop-down list the region of the world where the tool is operating. This selects the correct frequency channels allowed by that region.

2.16 Pairing Tool to Controller

STANLEY Assembly Technologies BR-Series cordless tools must be connected, or paired, to a controller to allow fastening cycle data streaming to a network. The connection between the BR-Series cordless tool and the STANLEY Controller is an IEEE 802.11b/g/n wireless link. This BR-Series cordless tool is a device that connects to the STANLEY Controller's access point.

A. Pair a STANLEY BR-Series Cordless Tool to EXPERT, SPECIALIST, or, NETWORK NODE

NOTE: Do not remove the battery pack from the BR-Series cordless tool during this process.

Steps:

1. First turn ON the wireless Radio, choose a power level and save it. Next create "SSID" and "Password" for your wireless radio of the QBE Controller.
2. Use the controller keypad (EXPERT and SPECIALIST only) or Alpha Toolbox (NETWORK NODE - Chapter 2.13) to navigate to the WIFI tab under SETUP / COMMUNICATIONS.
3. Press the PAIR button.
4. This will put the STANLEY EXPERT, SPECIALIST, or NETWORK NODE controller in search mode.
5. Bring the BR-Series cordless tool within range of the associated STANLEY controller.
6. With the BR-Series Cordless tool turned off and battery packed installed, press and hold the mutliple function button (MFB). While holding the MFB, press and release the start trigger switch. The tool will emit a chirp indicating the start of the pairing process. After the chirp, the MFB can be released. This may take up to 15 seconds. The tool will is required to perform the homing process following pairing.
7. The orange preventative maintenance (PM) light will flash slowly, and the 2 blue lights will slowly alternate flash to indicate it is searching for the STANLEY controller.
8. When the BR-Series cordless tool and the STANLEY controller connect, the tools status lights will flash in sequence.
9. The STANLEY controller will show an "Accept as Spindle" pop up; Select the desired number for the spindle number and press the OK button.
10. If the tool does not make a connection to the STANLEY controller after 2 minutes, the BR-Series cordless tool will exit pairing mode and the process will need to be started again.
11. The tool will attach itself as a trailing spindle of the STANLEY controller.
12. Press the BACK button. The tool will briefly disconnect from the STANLEY controller and then reconnect.
13. Do not remove the battery pack during this process.
14. Select the spindle tab which corresponds to the BR-Series cordless tool recently connected and program it to run the desired fastening strategy.

2.17 Tool Installation

Connect the STANLEY BR-Series cordless tools to a STANLEY controller and program it for the operation where the tool will be used. Follow the pairing procedure in chapter 2.16 "Pairing Tool to Controller" on page 32.

2.18 Nose Assembly and Accessories

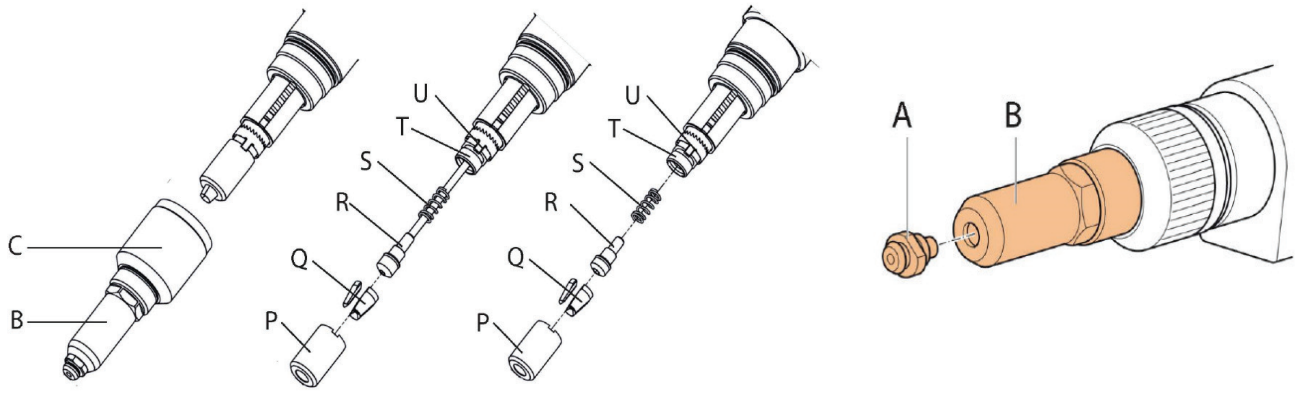
WARNING
To Avoid Injury: Use only STANLEY approved components. Unapproved components may break and cause a hazardous condition. Inspect all components prior to use to ensure that it contains no damage.

CAUTION
Inspect nose assembly and components prior to use. Missing or damaged items should be replaced before use.

A. Nose Assembly

NOTE: Remove battery pack before changing nose assembly and accessories.

Select the correct nosepiece for the rivet to be installed. Reference the Index for nose equipment bill of material. Tighten the nose piece (A) into the nose housing (B) by turning it clockwise using 11 mm wrench. Select the correct jaw pusher or jaw pusher assembly (R) that matches the nose piece selected. Insert jaw pusher (R) into jaw pusher spring (S). Reassemble jaw set (Q) and jaw guide (P) onto pulling head (T). NOTE: Do NOT use wrenches to mount jaw guide (P) onto front clutch (U). Manual tightening of jaw guide (P) is enough to lock onto front clutch (U).



B. Mandrel Collector

NOTE: Do not use the tool when the mandrel collector is removed.

The tool is fitted with a quick connect/release mandrel collector. A 60˚ rotation removes or replaces the mandrel collector. Removing the mandrel collector from the tool automatically disables the tool operation. Reinstalling the mandrel collector re-enables the tool.

C. Suspension Devices

Tool suspension devices or bails help support the weight of the tool during fastening operations. If needed, attach these devices securely and periodically inspect them for damage or loosening.

Tool Operation

STANLEY Assembly Technologies – BR-Series Cordless Tool

This chapter promotes proper and safe use and gives guidance to owners, employers, supervisors and others responsible for training and safe use by operators. Cordless tools from STANLEY Assembly Technologies are intended for use in industrial blind rivet fastening. Some instructions may not apply to all tools. Please contact STANLEY Assembly Technologies or a STANLEY Assembly Technologies Authorized Distributor for information or assistance on STANLEY training for assembly tool operation.

3.1 Display

Refer to the pictures under section 3.2 "Multiple Function Button" on page 40, the STANLEY BR-Series cordless tools have a display for operator feedback of tool operation status. Two sets of lights [3 and 6] indicate fastening cycle status. Two blue lights indicate whether the tool is armed (light on) or not armed (light off). A single multiple function button [5] can switch between two jobs or tasks, reset the job, or reset a reject. When the button is used to select the Job or Task, one of two orange indicators [4] illuminates to show the active Job or Task. The orange LED [7] indicates the status of the wireless connection to the controller or if there is an error or preventive maintenance is required. See chapter 3.1 section C to determine status of wireless link between the tool and the controller.

A. Status Lights and Matrix

STANLEY BR-Series tools have three (green, yellow, and red) status lights.

FUNCTION	LIGHTS	PATTERN
Programmed high force or high distance limits exceeded		Solid
Cycle OK		Solid
Programmed low force or low distance limits not met		Solid
Abort, or high and low force or distance limits violated		Solid
Homing Required		Slow Flash with Beep
Adding spindle to controller		Flash in Sequence
Tool is in hibernate mode, tool lights timed out, or tool off.		None
Saving high force or high distance, NOK, rundown to tools electronic board		Fast Flash
Saving OK rundown to tools electronic board		Fast Flash
Saving NOK, programmed low force or low distance limits exceeded rundown to tools electronic board		Fast Flash

B. Ready Light Matrix

The blue ready lights [1], [2] will illuminate when the tool is ready to run. Only one ready light may be illuminated at a time.

FUNCTION	LIGHTS	PATTERN
Tool enabled and ready in assembly mode		Solid
Tool powered on but requires Homing		Solid
Tool is in pairing mode		Alternate blinking
Tool disabled		None

C. PM Light Matrix

The orange Preventive Maintenance (PM) light [7] when illuminated indicates a tool fault, a controller warning, when the PM Threshold has been exceeded by the PM counter, or if the tool has lost connection to a controller. The light will indicate the first priority event only, even if a second or third priority event is active. Second priority event will indicate if there is no first priority event active. Third priority event will indicate if there are no first or second priority events active.

FUNCTION	LIGHTS	PATTERN
Tool Fault or Warning; first priority		Fast Flash
Tool radio disconnected from controller; second priority		Slow flash
PM Threshold exceeded; third priority		Solid
None of the above		None

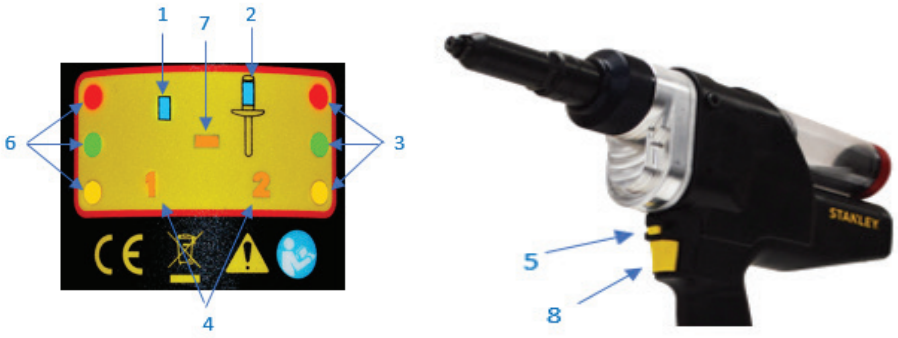
D. Indicator Light Matrix

The MFB can be assigned to select Jobs or Tasks. It can only select Job/Task 1 or Job/Task 2 since it is a binary switch. These lights [4] indicate the selected Job or Task. If a controller input selects a Job or Task greater than 2 the lights will extinguish.

FUNCTION	LIGHTS	PATTERN
Job 1 or Task 1 selected		Solid
Job 2 or Task 2 selected		Solid
Some other Job or Task besides 1 or 2 is selected		None

3.2 Multiple Function Button

The multiple function button (MFB) is used to select direction of rotation for the output of the tool and to select different modes. The first activation type is a quick press of the MFB called the TAP and the second activation is the HOLD which requires the operator to hold the MFB for over .5 second to activate the assigned mode.



A. Multiple Function Button (MFB) Modes

The MFB Mode configures the multiple function button for handheld BR-Series Cordless Tool. Two of these modes may be assigned at any one time as the MFB has two types of activation. The activations are TAP and HOLD. One mode may be assigned to each type of activation. The activations can be configured to operate in any of the following modes:

FUNCTION	DESCRIPTION
Disable	The Multi-Function button does nothing
Job/Task Select	Pressing the button toggles between Job/Task 1 and Job/Task 2 and illuminates the appropriate orange indicator light [4].
Job Reset	Pressing the button casues the selected Job to be reset. This means that the rivet count is reset and the tool, if disabled due to Error Proofing requirements, re-enables.
Reset Reject	This function, when selected, will cause the tool to disable after a NOK fastening cycle. The Reject Tone, when enabled, will sound. Pressing the button re-enables the tool indicating the operator acknowledges the rejected fastening cycle and wishes to repair it.

3.3 Start Trigger Switch

The first pull of the trigger switch, after battery install or tool Sleep, will awaken the tool. The tool lights will flash and the alarm will sound. This indicates that a second pull of the trigger switch is required. This second pull of the trigger will put the tool (nose assembly) into its Home position. Once the tool is in its Home position it is prepared for operation.

Once the trigger switch has been pulled on a job, the tool begin its cycle of pulling until breaking the rivet's mandrel. After breaking the mandrel, release the trigger for the tool to return to its Home position for the next job. The tool will report the results upon breaking the mandrel. NOTE: Holding the trigger will hold the tool at the end of its travel, until the trigger is released.

NOTE: The speed of the tool is programmed, and the internal digital circuit controls the speed of the tool, not the trigger switch. It is not a variable speed trigger.

3.4 Tool Memory

STANLEY Assembly Technologies BR-Series Cordless Tool have an on-board tool memory that stores tool identification, calibration factors and fastening cycle counters. Memory parameters include:

- Model Number
- Serial Number
- Force Cal (calibration) factor
- Fastening Cycle Counters
- Jobs Parameters
- Fastening Cycle Data
- Trace Data
- Program
- Event Log
- Force Targets

3.5 Fastening Cycle Counters

BR-Series Cordless Tool have on board counters that record the number of fastening cycles completed by the tool. The cycle counts are updated on the tool memory every 1 cycle.

Odometer Counter - Records the total number of fastening cycle the tool has completed during its lifetime.

Trip Counter - Records the number of fastening cycles the tool completed since the last reset to zero.

PM Counter - Records the number of fastening cycles the tool completed since the last reset to zero. Interacts with PM Threshold.

PM Threshold - A static value set by the end user. When the PM Counter exceeds the PM Threshold (Limit), the controller provides a maintenance alert. The alert is an orange indicator on the front of the controller and on the tool which illuminate.

The controller reads the fastening cycle counters from the tool on each power up.

3.6 Fastening Cycle Data

The BR-Series cordless tool stores data for 500 fastening cycles and 2 traces (Starting 5.2.16). These values can be viewed and retrieved wirelessly through a STANLEY Controller, wirelessly using Alpha Toolbox on a computer, or with a Micro-USB cable using the Alpha Toolbox Gateway program.

This data can be analyzed to determine root cause of failures when securing the rivet. Please contact STANLEY Assembly Technologies or a STANLEY Assembly Technologies Authorized Distributor for information or assistance on STANLEY training and data analysis.

This data can be retrieved manually or automatically. If an enterprise level client/server data collection software system is employed all the data from all the tools in the facility can be collected into one database and displayed using the end user's graphic reports software. The BR-Series cordless tool will need to remain in radio contact with an assigned STANLEY Controller to facilitate data collection.

3.7 Tool Operation

Pair the tool to a STANLEY Controller. See 2.16 "Pairing Tool to Controller" on page 32. Read the STANLEY Controller instruction manual to understand programming of strategies to run the STANLEY BR-Series cordless tool.

A. Headlights on BR-Series Pistol Tools

There are two headlights located above the MFB, below the motor. The headlights are activated when the trigger switch is depressed, and will automatically turn off after the programmed number of seconds after the trigger switch is released. If the trigger switch remains depressed, the headlights will remain on.

NOTE: The headlights are for lighting the immediate work surface and are not intended to be used as a flashlight.

B. Program Selection

The BR-Series cordless tool can have up to 16 Tasks programmed. Those Tasks are divided amongst up to 16 Jobs. The MFB can be used to select Job/Task 1 and 2. If it is desired to select and run more than two programmed Jobs or Tasks the BR-Series cordless tool will need to remain in radio contact with an assigned STANLEY Controller. The BR-Series cordless tool can also be equipped with the optional barcode scanner. This can also be used to select Jobs/Tasks.

The STANLEY Controllers have various means of changing the selected Job/Task such as inputs or barcode scans of product. Read the STANLEY Controller manual to understand how to select a Job/Task.

C. Tool Temperature

WARNING

POTENTIAL BURN HAZARD

To Avoid Injury:

- Wear thermal protective gloves when handling tools performing high duty cycles.

STANLEY BR-Series cordless tools are thermally protected to prevent overheating. Temperature is sensed inside the tool and the value is reported to the controller. The thermal protection does not allow the tool to operate if the tool temperature rises abnormally – the thermal protector resets automatically when the tool cools down.

EN60745-1 Hand-Held Motor-Operated Electric Tools - Safety is the most applicable standard to the tools. It defines +60°C as the limit for thermal rise over ambient of a contactable surface (e.g. if the ambient is 25°C, the surface limit is 85°C.) Since the default limit is 85°C inside the tool regardless of ambient, no external surface can exceed this value no matter what the ambient temperature.

Controller parameter settings can have a significant effect on tool operating temperatures.

E. Setting Operating Parameters

WARNING

EXCESSIVE FORCE CONDITION

To Avoid Injury:

- **Only trained and qualified personnel should program controllers.**
- **Never set control limits above the maximum rating of the tool.**
- **Always test for proper tool operation after programming via the controller.**

CAUTION

Ensure rivet and/or system will withstand the level of force generated by the tool. Excessive force may cause breakage and possible personal injury.

The STANLEY Controller is used to setup the tool's fastening strategies inside Jobs and Tasks. Read the STANLEY Controller manual to learn how to program strategies. Even though the STANLEY Controller can be used to program the BR-Series cordless tool, the parameters are stored in the tool and not the controller. The tool can be preprogrammed in a lab or tool crib prior to placing on line in a facility.

F. Inactivity Timer

The BR-Series cordless tool has an inactivity timer that allows the tool to "sleep" and conserve battery power when not in use. The inactivity timer can be enabled or disabled. If disabled, the BR-Series cordless tool will never go to sleep. This is not recommended. If the inactivity timer is enabled a time value in minutes must be entered. The minimum value is 1 minute; the maximum value is 60 minutes.

G. Assembly Operation

- With the mandrel collector (Section 2.18.B) and battery installed (Section 2.12), and the tool homed (Section 3.3), place a blind rivet into the nose piece.
- Move the tool into position, ensuring the nose piece is at a right angle (90°) to the workpiece.
- The tool is equipped with an optional Force Switch. If enabled, the tool must be pressed into the workpiece. Continue to apply pressure to the nose assembly output of the tool and press the trigger to start the tool's cycle. Release the pressure after the cycle is complete.
- NOTE: If the trigger is pulled before the Force Switch is engaged, the tool will not start. The Force Switch and trigger must both be released prior to attempting to start the tool.
- The tool is designed to run until the rivet's mandrel is broken, thus completing the tool's cycle. The mandrel is automatically deposited into the mandrel collector.
- Upon successful completion of the cycle, release the trigger and the tool will return to its home position.
- The mandrel collector should be emptied once it is half full.

CAUTION - DO NOT FORCE THE INSERTION OF A RIVET MANDREL OR BODY INTO THE TOOL. THIS CAN CAUSE DAMAGE TO THE TOOL.

Cordless Tools

Maintenance

4.1 STANLEY Lithium Ion Battery Packs and Chargers

WARNING

PINCH POINT AT THE NOSE ASSEMBLY
To Avoid Injury:

- To reduce the risk of serious personal injury, disconnect battery pack before performing maintenance, making any adjustments or removing/installing attachments or accessories.
- Failure to perform proper maintenance could result in unsafe and hazardous conditions.
- Failure to perform proper maintenance could significantly reduce gear life.

STANLEY Assembly Technologies rivet setters are designed to give the industrial user long service and superior performance provided they are given reasonable care and maintenance and are used under normal operating conditions.

A. Battery and Charger

The charger and battery pack are not serviceable. There are no serviceable parts inside the charger or battery pack.

READ ALL OF THE INSTRUCTIONS IN THE BATTERY CHARGER SECTION OF THIS MANUAL BEFORE ATTEMPTING TO CHARGE THE BATTERY PACK FOR YOUR TOOL.

If you have any questions, call STANLEY Assembly Technologies at +1 (440) 461-5500.

B. Charger Cleaning Instructions

Disconnect the charger from the AC outlet before cleaning.

Dirt and grease may be removed from the exterior of the charger using a cloth or soft non-metallic brush.

Do not use water or any cleaning solutions.

4.2 BR-Series Cordless Tools Preventive Maintenance

All power tools will experience wear of internal parts throughout their normal working life. A good preventive maintenance program will allow worn components to be replaced before actual failure occurs.

Because of the wide variety of assembly applications and user techniques in industrial applications, it is impossible to predict the life expectancy of any particular component.

We recommend following the STANLEY Assembly Technologies Preventive Maintenance Guidelines document schedule for inspecting the internal components. This power tool's maintainer should keep records and adjust the maintenance schedule for each particular assembly operation. Please contact STANLEY Assembly Technologies or a STANLEY Assembly Technologies Authorized Distributor for information or assistance on the Preventive Maintenance Guidelines.

STANLEY Assembly Technologies recommends:

- Schedule all power tools for periodic inspection and maintenance.
- Replace noticeably worn parts before wear occurs on adjoining parts.
- Use only genuine STANLEY replacement parts

A. Calibration

The BR-Series cordless tool's transducer must be calibrated annually or after repair to maintain its accuracy.

B. Repairs

Consult the repair parts lists for part identification and assembly instructions. Order all replacement parts by part number from STANLEY Assembly Technologies or a STANLEY Assembly Technologies Authorized Distributor.

C. Lubrication

Proper lubrication is required for satisfactory operation.

This grease specification is for all nose assembly components, ballscrew, thrust bearing, planetary and bevel gearing, and o-ring lubrication. STANLEY Assembly Technologies specifies the grease at the amounts indicated.

1. Ballscrew, Thrust Bearing, and Gearing

Every 250,000 rivets, disassemble ballscrew and gearing. Inspect for wear and replace any and all worn parts. Wipe components clean and replace grease covering all components.

Place a light coating of Dow Corning MOLYKOTE® G-4700 Extreme Pressure Synthetic grease or Kluber Lubrication Isoflex Topas NB 52 grease on all surfaces.

Fill housing to approximately 80% of capacity. Use Dow Corning MOLYKOTE® G-4700 Extreme Pressure Synthetic grease or Kluber Lubrication Isoflex Topas NB 52 grease.

2. O-Rings

Coat O-rings with Parker O-lube before assembly.

3. Jaws

Every 5,000 - 10,000 rivets, dependent upon application, wipe jaws clean. Place a light coating of Dow Corning MOLYKOTE® G-4700 Extreme Pressure Synthetic grease or Kluber Lubrication Isoflex Topas NB 52 grease on jaw and jaw guide interface surfaces. Alternatively, POP Jaw Lube (PRG510-130) may be used by dipping the end of the tool and allowing excess lubricant to drip off before returning to service.

E. Cleaning

Never use solvents or other harsh chemicals for cleaning the non-metallic parts of the tool. These chemicals may weaken the plastic materials used in these parts. Use a cloth dampened only with water and mild soap. Never let any liquid get inside the tool; never immerse any part of the tool into a liquid.

F. Disposal

CAUTION

EVIROMENTAL HAZARD

To Avoid Personnel / Environmental Contamination:

- Dispose of all materials used for maintenance properly and in accordance with local laws and regulations so as not to impose hazards to personnel or the environment.
- Catch all fluids (oil, grease) drained or removed from the tool and dispose of them in accordance with local laws.
- Do not dispose of battery packs into standard housekeeping refuse, fire or any body of water.

Follow all local laws or regulations such as the European WEEE directive for disposal of equipment.

Separate the packing material from the tool, battery pack and charger and their manuals. Dispose of the packing materials into recycling bins.

Return the used/defective tool, battery pack or charger to the end user collection facility or to a local service center.

Cordless Tools

Limited Warranty

5.1 Limited Warranty

A. STANLEY Assembly Technologies Limited Warranty

STANLEY Assembly Technologies Limited Warranty is available online at www.STANLEYassembly.com or by contacting STANLEY Assembly Technologies or a STANLEY Assembly Technologies Authorized Distributor for information or assistance on STANLEY's Limited Warranty (20Z103700).

B. Product Services

STANLEY Assembly Technologies provides full services for design, modification, service, repair and training on STANLEY products. Contacting STANLEY Assembly Technologies or a STANLEY Assembly Technologies Authorized Distributor for information or assistance on training courses to aid users in becoming familiar with operations, maintenance or programming of the STANLEY Assembly Technologies product line.

No modification of STANLEY tools or controllers can be made without the express permission of STANLEY Assembly Technologies. Refer all service to STANLEY Assembly Technologies or a STANLEY Assembly Technologies Authorized Distributors.

STANLEY Assembly Technologies Contact Information

WORLD HEADQUARTERS
STANLEY Engineered Fastening, Assembly Technologies

5335 Avion Park Drive, Cleveland, Ohio 44143

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STANLEYEngineeredFastening.com

Cordless Tools

6.1 Index

A. Nose Assembly BOM

Item Label	Item Description	Part Number
A	Nose Piece	26R200003
B	Nose Housing	26R200004
C	Nose Housing Nut	26D200000
P	Jaw Guide	26R200008
Q	Jaws	26R200009
R	Jaw Pusher	26R200006
S	Spring	26R200001
T	Pulling Head	
U	Front Clutch	

B. Rivet Placing Chart

Rivet Type	2.4mm [3/32˝]	3.0mm	3.2mm [1/8˝]	4.0mm [5/32˝]	4.3mm	4.8mm [3/16˝]	5.0mm	6.0mm	7.0mm
OPEN END	•	•	•	•		•			
CLOSED END			•	•		•			
HR (except SSHR)			•	•		•			
SSD SSHR			•	•					
TL				•		•			
Pull-Thru		•							
T-Rivet (Emhart)						•			
Avex®		•	•	•		•			
Stavex®			•	•		•			
Avinox®			•	•		•			
Avibulb®			•	•		•			
LSR / Bulbex®			•	•		•			
T-Lok®					•	•			
Avdel® SR			•	•		•			
Interlock®						•			
Monobolt®						•			
Aveseal®(STD)				•			•	•	•
Q Rivet			•	•					
Klamp-Tite BAPK®						•			
Klamp-Tite BAPKTR®						•			
VGrip						•			

C. Nose Piece Chart

Size	Rivet Type	Material (Body/Mandrel)				
		All Mat'ls	Al/Al	Al/St, Al/SS	NiCu/St, NiCu/SS	St/St, SS/St, SS/SS
2.4mm [3/32"]	Open End	TP124-539*	-	-	-	-
3.0mm	Open End	TP124-540*	-	-	-	-
	Pull-Thru	-	-	-	-	PRN4K-SK30M**
	Avex	TP124-540	-	-	-	-
3.2mm [1/8"]	Open End	TP124-540	-	-	-	-
	Closed End	-	TP124-615*	TP124-544*	TP124-540	TP124-540
	HR	-	TP124-541	TP124-540	-	TP124-541
	SSD SSHR	-	-	-	-	TP124-541
	Avex	TP124-540	-	-	-	-
	Stavex	TP124-541	-	-	-	-
	Avinox	TP124-541	-	-	-	-
	Avibulb	TP124-540	-	-	-	-
	LSR / Bulbex	TP124-540	-	-	-	-
	Avdel SR	TP124-540	-	-	-	-
	Q Rivet	TP124-540				
4.0mm [5/32"]	Open End	TP124-541	-	-	-	-
	Closed End	TP124-545*	-	-	-	-
	HR	-	TP124-542	TP124-541	-	TP124-542
	SSD SSHR	-	-	-	-	TP124-542
	TL	TP124-541	-	-	-	-
	Avex	TP124-541	-	-	-	-
	Avex Splined	TP124-542				
	Stavex	TP124-542	-	-	-	-
	Avinox	TP124-542	-	-	-	-
	Avibulb	TP124-542	-	-	-	-
	LSR / Bulbex	TP124-541	-	-	-	-
	Avdel SR	TP124-541	-	-	-	-
	Avseal	***	-	-	-	-
	Q Rivet	TP124-541	-	-	-	-
4.3mm	T-Lok	TP124-542				
4.8mm [3/16"]	Open End	TP124-542	-	-	-	-
	Closed End	-	TP124-546*	TP124-546*	-	TP124-542
	HR	-	TP124-543*	TP124-542	-	TP124-543*
	SSD SSHR	-	TP124-543*	TP124-542	-	TP124-543*
	TL	TP124-542	-	-	-	-
	T-Rivet	TP124-542	-	-	-	-
	Avex	TP124-542	-	-	-	-
	Stavex	TP124-542	-	-	-	-
	Avinox	TP124-543*	-	-	-	-
	Avibulb	TP124-543*	-	-	-	-
	LSR / Bulbex	TP124-542	-	-	-	-
	T-Lok	TP124-542	-	-	-	-
	Avdel SR	TP124-542	-	-	-	-
	Interlock	TP124-542*	-	-	-	-
	Monobolt	71210-16020**	-	-	-	-
	Q Rivet	TP124-542	-	-	-	-
	Klamp-Tite BAPK	TP124-542	-	-	-	-
	Klamp-Tite BAPKTR	71220-16060**	-	-	-	-
	VGrip	TP124-542* 65110-00433[A]	-	-	-	-
5.0/6.0/7.0mm	Avseal	***				

*Option
**Option - Non-retention Nosepiece
***Contact Applications Engineering
[A] Extended Time Between Cleaning Option - Complete set must be used; jaws, jaw guide (65110-00444), and nose piece.

D. Jaw and Jaw Pusher Chart

Size	Rivet Type	Jaw		Jaw Pusher	
			Stainless Mandrel		Stainless Mandrel
2.4mm [3/32"]	Open End	PRG540-46B*	PRG540-46B*	TP124-547*	TP124-547*
3.0mm	Open End	71210-15001	PRG540-46B*	TP154-502	TP154-502
	Pull-Thru				
	Avex				
3.2mm [1/8"]	Open End	71210-15001 1)	PRG540-46B*	TP154-502	TP124-638*
	Closed End			TP154-502	TP124-638*
	HR			TP154-505 2)	TP124-618* 2)
	SSD SSHR			TP154-505	TP124-618*
	Avex			TP154-502	TP124-638*
	Stavex			TP154-505	TP124-618*
	Avinox			TP154-502	TP124-638*
	Avibulb			TP154-502	TP124-638*
	LSR / Bulbex			TP154-502	TP124-638*
	Avdel SR			TP154-502	TP124-638*
	Q Rivet			TP154-502	TP124-638*
4.0mm [5/32"]	Open End	71210-15001	PRG540-46B*	TP154-505	TP124-618*
	Closed End			TP154-505	TP124-618*
	HR			TP154-500 3)	TP124-620* 3)
	SSD SSHR			TP154-500	TP124-620*
	TL			TP154-505	TP124-618*
	Avex			TP154-505	TP124-618*
	Avex splined			TP154-500	TP124-620*
	Stavex			TP154-500	TP124-620*
	Avinox			TP154-500	TP124-620*
	Avibulb			TP154-500	TP124-620*
	LSR / Bulbex			TP154-505	TP124-618*
	Avdel SR			TP154-505	TP124-618*
	Avseal			TP154-502	TP124-638*
	Q Rivet			TP154-505	TP124-618*
4.3mm	T-Lok	71210-15001	PRG540-46B*	TP154-500	TP124-620*
4.8mm [3/16"]	Open End	71210-15001	PRL650-01*	TP154-500	TP124-620*
	Closed End				
	HR				
	SSD SSHR				
	TL				
	T-Rivet				
	Avex				
	Stavex				
	Avinox				
	Avibulb				
	LSR / Bulbex				
	T-Lok				
	Avdel				
	Interlock				
	Monobolt				
	Q Rivet				
	Klamp-Tite BAPK				
	Klamp-Tite BAPKTR**				
	VGrip	71210-15001 65110-00399[A]			
5.0/6.0/7.0mm	Avseal	***	***	***	***

1) Recommend 71200-15001 Jaws for 3.2mm [1/8"] Closed End with Steel Mandrel

2) Use TP154-502 OR TP124-638 (Stainless mandrel) Jaw Pusher with 3.2mm [1/8"] Al/St HR Rivet

3) Use TP154-505 or TP124-618 (Stainless mandrel) Jaw Pusher with 4.0mm [5/32"] Al/St HR Rivet

*Option

**Option - Non-retention Nosepiece

***Contact Applications Engineering

[A] Extended Time Between Cleaning Option - Complete set must be used; jaws, jaw guide (65110-00444), and nose piece.

E. Basic Definitions

- Ballscrew - mechanism that controls the linear travel of the tool
- Blind Rivet - a category of rivet that is completely installed from one side of the joint
- Distance - measured in millimeters (mm)
- Force – measured in kilonewtons (kN)
- Grip Force – the force that the tool must see during Rivet Seek to indicate the presence of a rivet
- Homing – zeroing of the ballscrew linear travel location, required at every tool startup (inactivity or battery replacement)
- Jaws – machined three-piece tool set that grips the appropriately sized mandrel
- Mandrel – the stem of the blind rivet that performs the swaging of the rivet body
- Mandrel collector – cup on the back of the tool that collects the broken mandrel stems, required to be emptied periodically
- Overtravel – when the linear travel of the ballscrew is exceeded
- Rivet Body – portion of the blind rivet that swages against the rear sheet
- Rivet Head – portion of the blind rivet exposed after mandrel break
- Rivet Seek – pulls in the Jaws the specified distance, and within that distance the set Grip Force value must be exceeded
- Snug Force – the force at which point the tool begins to monitor the distance traveled
- Speed – measured in millimeters per second (mm/s)

F. Rivet versus Thread Terms

Rivet Tool	Threaded Tool
Force and Distance – Monitoring Only	Torque and Angle – Monitoring and/or Control
Force – measured in kilonewtons (kN)	Torque – measured in newton meters (N·m)
Distance – measured in millimeters (mm)	Angle – measured in degrees (°)
Force Switch – Optional, helps to ensure proper rivet installation	Push to Start – Optional, used as another trigger to start the tool
Tool only operates in forward linear direction	Tool operates in forward or reverse rotational directions
Homing – zeroing of the ball screw linear travel, required at every tool startup (inactivity or battery replacement)	No homing procedure
Mandrel collector – cup on the back of the tool that collects the broken mandrel stems, required to be emptied periodically	No collector
No downshifting	Downshifting can be setup to prevent overshoot
Rivet Seek – pulls the specified distance, and within that distance the set force value SHALL be exceeded 1. If fail – Detection assumes that no rivet is present	Slow Seek – rotates the specified angle, and within that rotation the torque SHALL NOT be exceeded 1. If fail – Detection assumes cross thread condition or re-hit
Strategy – DM/FM	Strategy – TC/AM, AC/TM, AC/TC, AC/TA, RC/AM, YC/AM, Back off, PC/TM

G. Vacuum Kit

26K100100 - BR12 Vacuum MSC Adaptor Kit

1. 1/4" Vacuum Hose Size
2. 3/16" Vacuum Hose Size (option)
3. 5/16" Vacuum Hose Size (option)