

FIG. A MODULAR BATTERY



FIG. B COOLING FAN

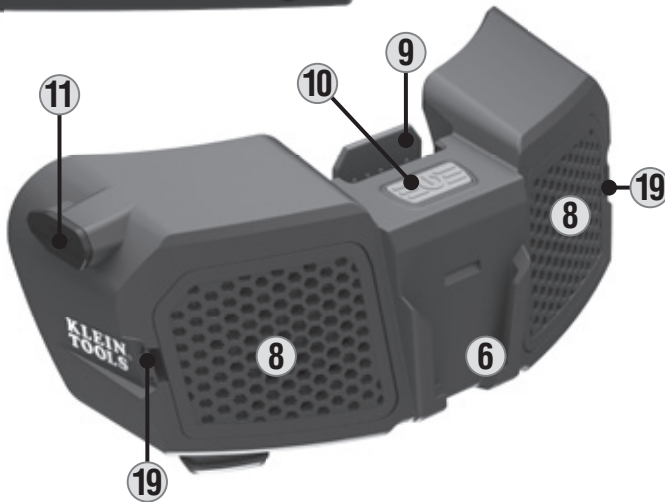


FIG. D CABLES

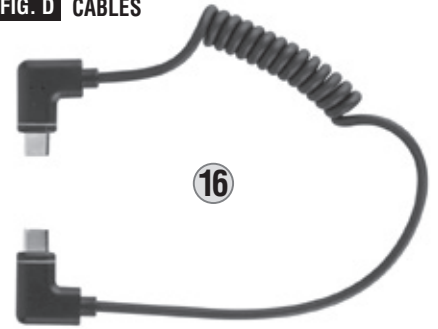
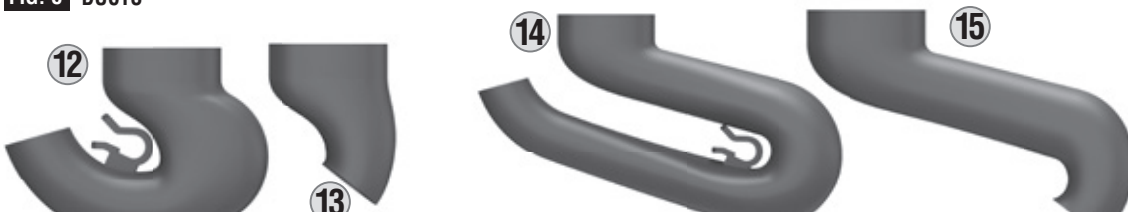


FIG. C DUCTS



The 60155 Cooling Fan is designed for use with Klein Tools hard hats and safety helmets with patent-pending accessory mounts, for easy attachment and removal. Its dual-fan design forces outside air into the shell to push out stale hot air, facilitating cooling. Included user-replaceable ducts can be changed to direct air to cool the neck and face region, as well. The user can configure the system 16 different ways, depending on their preference. It is powered by a detachable, modular, rechargeable lithium-ion battery (Catalog no. 29025) which can also be used to charge other small USB powered devices.

CONTENTS

- Cooling Fan
- Rechargeable Modular Battery
- Long Duct With Clip (x2)
- Long Duct Without Clip (x2)
- Short Duct With Clip (x2)
- Short Duct Without Clip (x2)
- USB-A to USB-C charging cable
- USB-C to USB-C charging cable
- Cable Clip
- This Instruction Sheet

GENERAL SPECIFICATIONS

COOLING FAN

- **Configuration:** Centrifugal Dual Fan
- **Dimensions:** 6.2" x 2.8" x 3.0" (157.5 x 71.1 x 76.2 mm)
- **Weight (fan only):** 6.88 oz. (195 g)
- **Runtime (on fully-charged battery, continuous use):** High: 3.5 hours Low: 6 hours
- **Drop Protection:** 6.6' (2 m)
- **Ingress Protection (IP) Rating:** IPX4

BATTERY

- **Dimensions:** 3.5" x 1.7" x 2.1" (88.9 x 43.2 x 53.3 mm)
- **Weight (battery only):** 3.85 oz. (109 g)
- **Cell Type:** 18650 Lithium-Ion
- **Capacity:** 3200mAh (11.7 Wh)
- **Input USB-C (each):** 5V DC, 1.1A
- **Input USB-C (total):** 5V DC, 1.1A
- **Output USB-C (each):** 5V DC, 1.0A (1800 mAh) up to 2A Max
- **Output USB-C (total):** 5V DC, 1.0A (1800 mAh) up to 2A Max
- **Total Output Power:** 10 W Max.
- **Full Charge Time:** Up to 2.5 hours, based on charger output
- **Shelf Life:** Charge every 3 months
- **Charging Requirements:** 5V DC, Min. 1A recommended
- **Operating/Charging Temperature:** 32° to 104°F (0° to 40°C)
- **Storage Temperature (up to 3 months):** 14° to 104°F (-10° to 40°C)
- **Relative Humidity:** <75% non-condensing
- **Drop Protection:** 6.6' (2 m)
- **Ingress Protection (IP) Rating:** IP54
- **Standards:** UN38.3, DOE/CEC, NRCAN



Conforms To UL STD. 2054, 1642, 62368-1, UL STD. 507, UL SUBJECT 2056



Certified To CSA STD. C22.2 NO. 62368-1, CSA STD. C22.2 NO. 60335-1, 60335-2-80

Specifications subject to change.

DISPOSAL / RECYCLE



Do not place equipment and its accessories in the trash. Items must be properly disposed of in accordance with local regulations. See www.epa.gov/recycle for additional information.

⚠ WARNINGS

Read, understand, and follow these instructions to ensure safe operation. Failure to observe these warnings can result in risk of fire and burns, electric shock, serious injury and/or property damage. Always check with your site safety supervisor before use of this product. Local regulations may not permit use. Keep this user manual and comply with the instructions provided for this product.

COOLING FAN

- This product is ONLY intended for use with Klein Tools hard hats and safety helmets with accessory mounts designed to securely keep the modular cooling fan and battery provided.
- **DO NOT** use any other cables, batteries, or ducts not designed for use with this device. Refer to the user manual for proper charging instructions. Replace ONLY with Klein Tools replacement parts.
- Inspect daily. **DO NOT** use the product if damaged.
- **DO NOT** subject to vibration, impacts, or drops. The housing may not show signs of damage, but internal components may have been compromised. It is advisable to replace the unit if any such severe events occur.
- **DO NOT** expose to open flame, heat sources, equipment that produces heat or vibration, or extremes in environmental temperature.
- **DO NOT** expose product to rain or snow.
- Keep away from high voltage devices.
- **DO NOT** attempt to repair the fan, charging cable, and ducts. There are no user-serviceable parts.
- **DO NOT** immerse in water or other liquids. Avoid spilling liquids or falling foreign objects into openings on the enclosure.
- **DO NOT** open, crush, or incinerate.
- Water-resistant port cover must be properly sealed to achieve specified water & foreign object ingress protection. Keep seal free of dirt, oil, sand, or other material that interferes with proper sealing. Failure to do so can result in risk of fire or electric shock.
- **DO NOT** open water-resistant cover if wet or in a wet environment. Thoroughly dry the unit and the seal around water resistant cover completely before opening water-resistant cover.
- **DO NOT** attempt to insert other USB connector types into USB-C port.
- Use of cable not recommended or sold with this unit may result in a risk of fire or injury to persons.

BATTERY

- Only use the battery in the applications per manufacturer's recommendations. Consult the instruction manual if unsure.
- Always charge and discharge the battery using the charging accessories recommended or provided by the manufacturer. The charger used shall comply with IEC 62368-1, PS2 power source. If charging accessories are damaged, **DO NOT** use or attempt to repair the cables and replace immediately. There are no user-serviceable parts.
- **DO NOT** attempt to charge or power any device with this battery without verifying if battery and device are compatible. Consult the user manuals for requirements for each.
- **DO NOT** charge or discharge the battery in excess of its rating. Overloading above rating may result in a risk of fire or injury to persons.
- In the event the battery leaks, keep away from skin and eye. If exposed, wash affected area with large amounts of water and seek medical attention.
- **DO NOT** use a damaged or modified battery. Damaged or modified batteries may exhibit unpredictable behavior resulting in fire, explosion or risk of injury.
- **DO NOT** subject to vibration, impact, or drops. The housing may not show signs of damage, but internal components may have been compromised. It is advisable to replace the unit if any such severe events occur.
- **DO NOT** expose battery to extreme heat or cold, rain or snow, or fire.
- Keep away from high voltage devices.
- Keep battery out of reach of children. Children should be supervised when battery is in use.
- Risk of fire and burns. Do not open, crush, heat above 140°F (60°C), or incinerate. Follow all manufacturer's instructions.
- Dispose battery properly in accordance with local regulations.

SYMBOLS ON COOLING FAN AND/OR BATTERY

- ⚠ Warning or Caution
- ⚡ Risk of Electrical Shock
- i Read Instructions
- ♻ Recyclable
- Intertek logo Independently tested by Intertek and meets applicable standards.
- Intertek logo Energy Efficiency Verified

FEATURE DETAILS (FIG. A)

- 1 Battery Status Button
- 2 Battery Release Tab
- 3 Battery Status LED Indicator
- 4 USB-C Input/Output Ports (x2)
- 5 Accessory Mount For Headlamp
- 6 Accessory Mount
- 7 Duct Ports (x2)
- 8 Removable Grille (x2)
- 9 Cooling Fan Release Tab
- 10 Power On/Off / Speed Button
- 11 USB-C Power Input Port
- 12 Short Duct With Clip (x2)
- 13 Short Duct Without Clip (x2)
- 14 Long Duct With Clip (x2)
- 15 Long Duct Without Clip (x2)
- 16 USB-C to USB-C 2.0 Cable
- 17 USB-C to USB-A 2.0 Cable
- 18 Cable Clip
- 19 Grille Release Tabs (x2)

COMPLIANCE

FCC & IC COMPLIANCE

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 particular 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.
- Plug the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

NOTE: The grantee is not responsible for any changes or modifications not expressly approved by the party responsible for compliance. Such modifications could void the user's authority to operate the equipment.

Canada ICES-003 (B) / NMB-003 (B)

OPERATING INSTRUCTIONS

CHARGING THE MODULAR BATTERY

Observe the input and output ports for receiving and providing power on the battery to ensure correct use. Refer to both the battery and charging source manual for proper charging instructions and requirements prior to charging.

CAUTION: The battery is equipped with USB-C ports ④. To avoid damaging the ports, DO NOT attempt to insert other cable types, such as micro-USB or Apple® Lightning cables.

- Disconnect the cooling fan or any other device from the battery ports before charging.
- Connect the included USB-A to USB-C cable ⑰ to either USB-C port ④ then connect the other end to the charging source's USB-A port.
- The Battery Status Indicator LEDs ③ will indicate the charging status (see TABLE 2.)
- A full charge could take up to 2.5 hours, depending on the charger's output. **NOTE: Avoid leaving the battery connected to the charger for prolonged periods when it is not being charged. Always disconnect the battery from the charger upon complete charge.**
- Press the Battery Status Button ① to check battery level (see TABLE 3). Battery Status Indicator LEDs ③ will turn on, and will automatically turn off after 5 seconds if the Battery Status Button is not pressed again, or if no device is connected for charging.

LEGEND		
○	Not Illuminated	
●	Solid Green	
●	Solid Red	
⦿	≧Blinking	
TABLE 2 - CHARGING STATUS		TABLE 3 - CHARGE REMAINING
LED	Status	% Charged
○	Not illuminated	0% to 10% charged
○	Not illuminated	11% to 25% charged
○	Not illuminated	26% to 50% charged
○	Not illuminated	51% to 75% charged
○	Not illuminated	76% to 99% charged
○	Not illuminated	100% charged
⦿	Blinking red	76% to 100% charge remaining
⦿	Blinking green	51% to 75% charge remaining
⦿	Blinking green	26% to 50% charge remaining
⦿	Blinking green	11% to 25% charge remaining
⦿	Blinking green	1% to 10% charge remaining
⦿	Blinking red	0% charge remaining

Inspect and familiarize yourself with the components that need to be assembled onto the hard hat or safety helmet, then follow the instructions below to install and use the fan. DO NOT try to rework or substitute missing or damaged components.

INSTALLATION (FIGs E, F, G)

The Cooling Fan can be set up in various configurations to suit the user's needs. TABLE 1 and FIG. E illustrate various combinations. **NOTE: Certain cap style setups (E5 - E8) require reversing the hard hat's suspension.**

1. Choose a configuration from the TABLE 1 and FIG. E, based on the hard hat shell type you plan to use, and locate the corresponding matching pair of ducts. Install the square opening of both ducts to the fan's duct ports ⑦ as shown (FIG. F).
2. Install the fan and battery into the hard hat accessory mounts per the chosen configuration from TABLE 1. Slide the components down until the release tab snaps into the accessory mount (FIG. G).
3. Secure the clip located on the inside curve of the ducts to the brim of the hard hat to maintain duct position (FIG. G).
4. To connect the coiled USB-C to USB-C cable ⑰ between the fan and battery, open the USB port covers on both the fan ⑪ and the battery ④ and attach the cable connectors as shown. Firmly push in the connector until it stops.
5. Insert the Cable Clip ⑱ into the universal accessory slot on the hard hat, then secure the cable into the clip (FIG. G).

NOTE: While either end of the cable can be plugged into either component, the coiled end is intended to attach to the battery. **NOTE:** While both USB-C ports on the battery are usable, using the one on the same side as the fan port is highly recommended.

OPERATION

NOTE: It is highly recommended that a chinstrap be used, even for hard hat models that do not include one, especially on jobs at-height or requiring constant head motion. The optional Klein Tools Chinstrap (Catalog no. KHHSTRP) is available for Klein Tools hard hats that do not include one with purchase. The chinstrap is included with Klein Tools Safety Helmet models.

Press the Power On/Off / Speed Button ⑩ to turn on the fan. Default startup speed is low; a second press will switch to high speed, and a third press will turn the fan off.

NOTE: It could take 10-15 seconds (or more) to feel effects of proper air circulation, especially in a very hot environment.

CHARGING THE MODULAR BATTERY

Observe the dedicated input and output ports for receiving and providing power on the battery to ensure correct use. Refer to both the battery and charging source manual for proper charging instructions and requirements prior to charging.

CAUTION: The battery is equipped with USB-C ports ④. To avoid damaging the ports, DO NOT attempt to insert other cable types, such as micro-USB or Apple® Lightning® cables.

- Disconnect the cooling fan or any other device from the battery ports before charging.
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- The Battery Status Indicator LEDs ③ will indicate the charging status (see TABLE 2.)
- A full charge could take up to 2.5 hours, depending on the charger's output. **NOTE: Avoid leaving the battery connected to the charger for prolonged periods when it is not being charged. Always disconnect the battery from the charger upon complete charge.**
- Press the Battery Status Button ① to check battery level (see TABLE 3). Battery Status Indicator LEDs ③ will turn on, and will automatically turn off after 5 seconds if the Battery Status Button is not pressed again, or if no device is connected for charging.

MOUNTING ADDITIONAL ACCESSORIES

Accessories can be mounted onto the fan or battery via Klein Tools' patent-pending accessory mounts. A headlamp or safety lamp can be attached to the accessory mount of the battery or fan. For more information, see the REPLACEMENT PARTS AND ACCESSORIES section.



FREQUENTLY ASKED QUESTIONS (FAQs)

- **HOW DOES THE COOLING FAN WORK?**
The cooling fan is designed to force air into the shell or a focused area, such as the face or neck. When air is directed into the shell, it forces stale heated air from under the shell, replacing it with cooler air. Keeping the fan running ensures the temperature under the shell is maintained closer to ambient levels. Non-vented models benefit greatly from this air movement due to lack of air movement under the shell compared to a vented model. Klein Tools has made it possible to configure the system in 16 different ways, ensuring the user can find an optimal setup for the job at hand!
- **IN WHAT WAYS CAN THE MODULAR BATTERY BE USED?**
In addition to powering the Cooling Fan, the modular battery can also charge or power other products along with the fan. The battery has two USB-C ports that can be used to simultaneously operate or charge two devices. Klein Tools Headlamps (shown), Safety Lamp, and other portable devices can all be charged. **NOTE: Some devices cannot operate while being charged. Check the specifications for the device to be charged.**



CLEANING

COOLING FAN: Prior to cleaning, be sure fan is disconnected from the battery. Use clean, dry, soft lint-free cloth to wipe down. If any debris is stuck in the fan blades, ducts, or grille holes, gently free any objects stuck on fan blades using a blunt wooden pick. **DO NOT** use harsh cleaning chemicals, sharp metal picks, abrasive brushes, and/or pressurized air to dislodge stuck debris from the fan blades. The debris may become dislodged inside the fans and permanently damage the fan and its electronics.

If necessary, remove and clean the grilles and ducts under clean cool water (use mild soapy water, if needed) and air dry before installing. **DO NOT** scrub with abrasive brushes, sponges, and abrasive cleaners. To remove, push in the grille release tab(s) ⑲ and pull back. To reinstall, locate and place the grille onto the two locating slots on the fan housing and, push grille inward until the release tab(s) ⑲ click into place.

Wipe down the cables with soft, clean, dry cloth. Inspect for tears, cuts, cracks, corrosion, bent connectors, discoloration and other such damage. Replace immediately if any such defect is seen. **DO NOT** attempt to repair. Replace ONLY with Klein Tools replacement parts.

BATTERY: Prior to cleaning, be sure battery is disconnected from the cooling fan, any power source, or other devices. Use clean, dry, soft-lint-free cloth to wipe down. **DO NOT** use abrasive cleaners or solvents. **DO NOT** use sharp metal objects to clean USB ports. Reinstall all port covers on unused ports.

Recharge as needed. There are no pre-designated intervals at which to recharge as long as you are using regularly. Avoid discharging completely on a regular basis, as this can impact overall life. Regularly inspect ports and charging cable for any debris, dirt, damage, and corrosion. **DO NOT** attempt to repair. Replace battery or cables as needed.

STORAGE

Be sure battery and cooling fan are disconnected from one another and any other power sources or devices. Store components in a cool, dry place away from direct sunlight when not in use. If storing for prolonged periods, the battery should be periodically charged in order to maintain battery life, once every 3 months is recommended.

NOTE: It is highly recommended to remove the fan and battery from the hard hat or safety helmet prior to placing in storage.

DO NOT leave inside a vehicle or other confined spaces in temperature extremes, or in corrosive or unsanitary environments that can lead to decrease in service life, overheating, or fire. After taking out of storage, visually inspect fan, battery and all accessories for any damage. Replace any damaged parts as needed. It is recommended to clean each component prior to use (See CLEANING section above). Allow all components to return to ambient conditions before recharging battery and/or operating.

REPLACEMENT PARTS AND ACCESSORIES

- 29025 - Replacement Modular Battery
- 60490 - Replacement Ducts, Charging Cables, Cable Clip
- 56048 - Rechargeable Headlamp, 400 Lumens, Auto-Off Sensor
- 56062 - Rechargeable Headlamp/Worklight, 300 Lumens
- 56049 - Rechargeable Light Array Headlamp, 260 Lumens
- 60156 - Intrinsically Safe LED Headlamp
- 56063 - Safety Lamp

TABLE 1

Setup Fig.	Shell Type	Bill Position	Duct Style	Fan: Front	Fan: Back	Airflow Focus
E1	Cap Style	Standard	12		●	Inside Shell
E2	Cap Style	Standard	13		●	Neck
E3	Cap Style	Standard	14	●		Inside Shell/ Forehead
E4	Cap Style	Standard	15	●		Face
E5	Cap Style	Reversed	14		●	Inside Shell
E6	Cap Style	Reversed	15		●	Neck
E7	Cap Style	Reversed	12	●		Inside Shell/ Forehead
E8	Cap Style	Reversed	13	●		Face
E9	Full Brim	Standard	14		●	Inside Shell
E10	Full Brim	Standard	15		●	Neck
E11	Full Brim	Standard	14	●		Inside Shell/ Forehead
E12	Full Brim	Standard	15	●		Face
E13	Safety Helmet	Standard	12		●	Inside Shell
E14	Safety Helmet	Standard	13		●	Neck
E15	Safety Helmet	Standard	14	●		Inside Shell/ Forehead
E16	Safety Helmet	Standard	15	●		Face

NOTE: With all configurations shown, it is highly recommended that the battery be attached on the opposite accessory mount in order to help provide better balance and reduce fatigue.

CAUTION: In some setup options the ducts may extend past the shell body-ensure you are comfortable with this setup prior to beginning work.

FIG. E

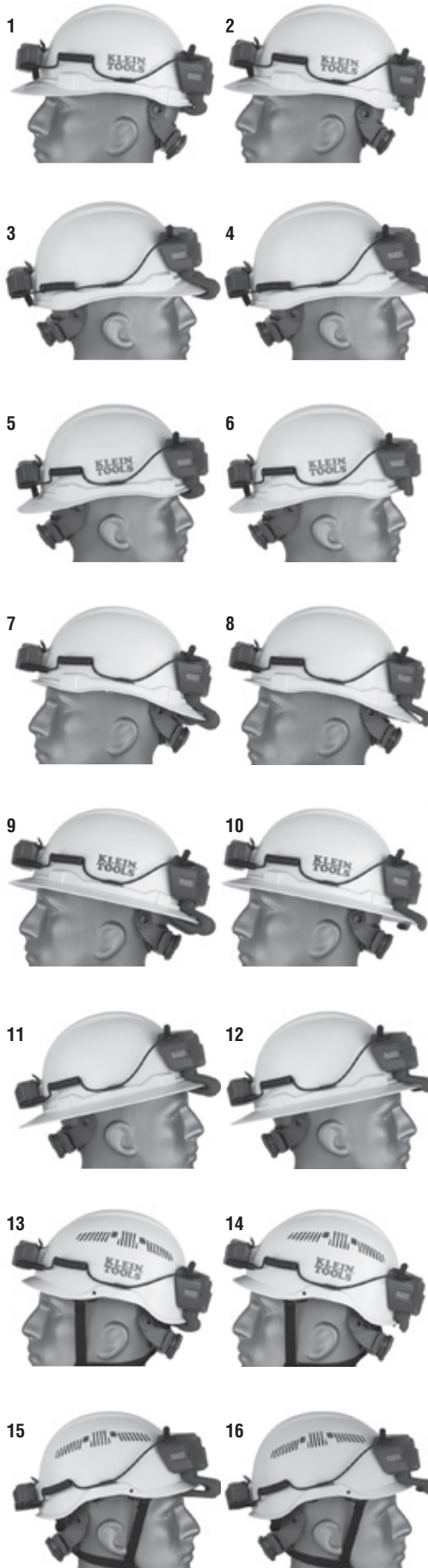


FIG. F



FIG. G

