

Models 1860, 1862, 1862E, 1864 PowerLuber Grease Gun (Lithium Ion) Series "A"



EC Declaration of Conformity
MACHINERY DIRECTIVE

Basic PowerLuber Model 1860



Lincoln declares that these products described under
"Technical Data" are in compliance with
2006/42/EC and EN 60745-1

ORIGINAL INSTRUCTIONS

Table of Contents

	Page
General Power Tool Safety Warnings.....	2
Specific Safety.....	3
Service.....	4
Tool Use and Care.....	4
Specifications.....	4
General Description.....	5
Inspection.....	6
Operation.....	6-7
Charger Operation.....	8
Safety Instruction for Charger and Batteries.....	10-11
Exploded View and Parts List.....	12-14
Troubleshooting.....	15
French Version.....	16
German Version.....	TBD
Spanish Version.....	TBD

GENERAL POWER TOOL SAFETY WARNINGS

WARNING

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

Save all warnings and instructions for future reference.

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

- 1) **Work area safety**
 - a) **Keep work area clean and well lit. Cluttered or dark areas invite accidents.**
 - b) **Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust.** Power tools create sparks which may ignite the dust or fumes.
 - c) **Keep children and bystanders away while operating a power tool.** Distractions can cause you to lose control.
- 2) **Electrical safety**
 - a) **Power tool plugs must match the outlet. Never modify the plug in any way.** Do not use any adapter plugs with earthed (grounded) power tools. Unmodified plugs and matching outlets will reduce risk of electric shock.
 - b) **Avoid body contact with earthed or grounded surfaces such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is earthed or grounded.
 - c) **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
 - d) **Do not abuse the cord.** Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts. Damaged or entangled cords increase the risk of electric shock.
 - e) **When operating a power tool outdoors, use an extension cord suitable for outdoor use.** Use of a cord suitable for outdoor use reduces the risk of electric shock.
 - f) **If operating a power tool in a damp location is unavoidable, use a residual current device (RCD) protected supply.** Use of an RCD reduces the risk of electric shock.
NOTE: The term "residual current device (RCD)" may be replaced by the term "ground fault circuit interrupter (GFCI)" or "earth leakage circuit breaker (ELCB)".
- 3) **Personal safety**
 - a) **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication.** A moment of inattention while operating power tools may result in serious personal injury.
 - b) **Use personal protective equipment. Always wear eye protection.** Protective equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.
 - c) **Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and/or battery pack, picking up or carrying the tool.** Carrying power tools with your finger on the switch or energizing power tools that have the switch on invites accidents.
 - d) **Remove any adjusting key or wrench before turning the power tool on.** A wrench or a key left attached to a rotating part of the power tool may result in personal injury.

- e) **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
- f) **Dress properly. Do not wear loose clothing or jewelry. Keep your hair, clothing and gloves away from moving parts.** Loose clothes, jewelry or long hair can be caught in moving parts.
- g) **If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used.** Use of dust collection can reduce dust-related hazards.
- 4) **Power tool use and care**
- a) **Do not force the power tool. Use the correct power tool for your application.** The correct power tool will do the job better and safer at the rate for which it was designed.
- b) **Do not use the power tool if the switch does not turn it on and off.** Any power tool that cannot be controlled with the switch is dangerous and must be repaired.
- c) **Disconnect the plug from the power source and/or the battery pack from the power tool before making any adjustments, changing accessories, or storing power tools.** Such preventive safety measures reduce the risk of starting the power tool accidentally.
- d) **Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.** Power tools are dangerous in the hands of untrained users.
- e) **Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use.** Many accidents are caused by poorly maintained power tools.
- f) **Keep cutting tools sharp and clean. Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.**
- g) **Use the power tool, accessories and tool bits etc. in accordance with these instructions, taking into account the working conditions and the work to be performed.** Use of the power tool for operations different from those intended could result in a hazardous situation.
- 5) **Battery Tool Use and Care**
- a) **Recharge only with the battery charger specified by the manufacturer.** A charger that is suitable for one type of battery pack may create a risk of fire when used with another battery pack.
- b) **Use power tools only with specifically designated battery packs.** Use of any other battery packs may create risk of injury and fire.
- c) **When battery pack is not in use, keep it away from other metal objects, like paper clips, coins, keys, nails screws or other small metal objects, that can make a connection from one terminal to another.** Shorting the battery terminals together may cause burns or a fire.
- d) **Under abusive conditions, liquid may be ejected from the battery; avoid contact. If contact accidentally occurs, flush with water. If liquid contacts eyes additionally, seek medical help.** Liquid ejected from battery may cause irritation or burns.
- 6) **Service**
- a) **Have your power tool serviced by a qualified repair person using only identical replacement parts.** This will ensure that the safety of the power tool is maintained.
- Specific Safety**
1. Always wear eye protection. The PowerLuber can generate up to 7,500 psi (517 bar).
 2. Use only Lincoln 1218, 1224, 1230 or 1236 outlet whip hoses. Grease injection injuries are a very serious injury. Hold the hose only in the area of the spring guard.
 3. Avoid accidental starting. Be sure switch is not depressed when inserting battery pack.
 4. Do not bend the hose so that it becomes kinked.
 5. Replace the hose at the first sign of wear, kink or damage to the outside jacket.
- Do not overreach. Keep proper footing and balance at all times. Proper footing and balance enable better control of the tool in unexpected situations.
- Use safety equipment. Always wear eye protection.
- Dust mask, non-skid safety shoes, hard hat, or hearing protection must be used for appropriate conditions.



Warning! To reduce the risk of injury, the user must read the instruction manual.



Separate collection. This product must not be disposed of with normal household waste.

⚠ WARNING

Grease gun can develop high pressure - up to 7,500 psi (517 Bar). Use safety glasses and gloves for protection during operation. Keep hands clear of the exposed rubber portion of hose.

Any other use not in accordance with instructions will result in loss of claim for warranty or liability.

SERVICE

Tool service must be performed only by qualified repair personnel. Service or maintenance performed by unqualified personnel may void warranty and result in a risk of injury.

When servicing a tool, use only identical replacement parts.

⚠ WARNING

Extreme pressure may cause nozzle extension or whip hose to burst. Use only Lincoln APPROVED hoses and follow whip hose instructions and warnings.

The gun uses lubricants, that may be flammable and poisonous if ingested. Do not use gun near open flame or other fire hazards. Greases are often marketed as high temperature because it must maintain their lubricating properties in hot areas, but the lubricants may be flammable if the temperature is too high. Please read all warnings on lubricants before using this gun. It is best if the lubricants can not be flammable.

TOOL USE AND CARE

Do not use tool if switch does not turn it on or off. A tool that cannot be controlled with the switch is dangerous and must be repaired.

Do not continue to hold down trigger if grease gun is stalled. This could damage the motor or cause fire.

Disconnect battery pack from tool before making any adjustments, changing accessories, or storing the tool. Such preventive safety measures reduce the risk of starting the tool accidentally.

Store the tools out of reach of children and other untrained persons. Tools are dangerous in the hands of untrained users.

When battery pack is not in use, keep it away from other metal objects like: paper clips, coins, keys, nails, screws, or other small metal objects that can make a connection from one terminal to another. Shorting the battery terminals together may cause sparks, burns, or a fire.

Maintain tools with care. Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tool's operation. If damaged, have the tool serviced before using. Many accidents are caused by poorly maintained tools.

Use only accessories that are recommended by Lincoln.

Only accessories that are capable of handling 7500 psi (517 bar) should be used. Accessories that may be suitable for one tool may create a risk of injury when used on another tool.

Appropriate use

The PowerLuber was exclusively designed to pump and dispense lubricant using 18 volt battery power. The maximum specification ratings should not be exceeded.



Models 1860, 1862, 1862E, 1864 PowerLuber Grease Gun (Lithium)

SPECIFICATIONS

Basic PowerLuber Model 1860

Operating Power, Volt	18
Maximum Operating Pressure, psi (bar)	
- Low Output -	7,500 (517)
- High Output -	3,000 (206)
Grease Reservoir Capacity, oz. (g)	14.5 (411)
Operating Temperature Range, °F (°C)	0 to 122 (-18 to +50)
Operating Current, Amp	4.0
Rated Current, Amp	5.0
Lubricant (Grease)	Up to NLGI #2
Grease output oz./min. (gram/min)	
- Low Output (L)	3.5 (99)
- High Output (H)	8.9 (252)
Weight, Lbs. (Kg)	8.8 (4.0)

Accessories:

Battery Li-Ion Model 1861	
Output, VDC	18
Capacity, mAh	3000
Battery Charger Model 1850	
Charge time	1 Hour
Input, VAC (3.0 A)	120 V, 50-60 Hz
Battery Charger Model 1850E	
Charge time	1 Hour
Input, VAC (3.0 A)	230 V, 50 Hz
Outlet Hose Model 1236	
Pressure Rating, psi (Bar)	7,500 (510)
Length of the Hose, In (mm)	36 (914)

Sound pressure (Lp) 70.0 dB(A), uncertainty (K) 3 dB(A)

Acoustic power (Lw) 81 dB(A), uncertainty (K) 3 dB(A)

Vibration emission value (ah) 1.1 m/s², uncertainty (K) 1.5 m/s²

NOTE 1: Operating current and grease output data at 1,000 Psi (69 bar).

NOTE 2: The declared vibration total value has been measured in accordance with a standard test method and may be used for comparing one tool with another; that the declared vibration total value may also be used in a preliminary assessment of exposure.

Note 3: The vibration emission during actual use of the power tool can differ from the declared total value depending on the ways in which the tool is used; and of the need to identify safety measures to protect the operator that are based on an estimation of exposure in the actual conditions of use (taking account of all parts of the operating cycle such as the times when the tool is switched off and when it is running idle in addition to the trigger time).

Models

Sales Model	Components Included
1860	Grease Gun (W/ Battery)
1862	Grease Gun (W/ Battery) Charger Carrying Case
1862E	Grease Gun (W/ Battery) Charger (220v European) Carrying Case
1864	Grease Gun (W/ Battery) Extra Battery Charger Carrying Case
1850	Charger
1850E	Charger (220v European)
1861	Battery Pack
1236	Hose (36")
1230E	Hose (RoHS European- 30")
5852	Coupler, Midget Hyd.
251-10124-7	Coupler (European)

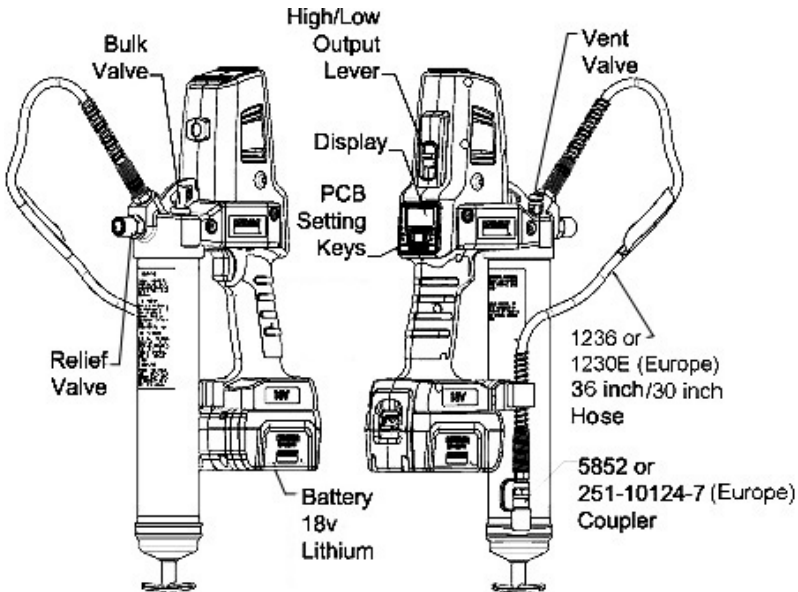


Figure 1
(1860 Grease Gun)

GENERAL DESCRIPTION

The Lincoln PowerLuber is a Lithium-Ion battery operated grease gun. The gun was developed for manual lubrication of grease points and includes a pressure relief valve, LED and electronic control center.

The PowerLuber is driven by a small, low voltage electric motor connected to a three-stage planetary gear transmission. The rotary motion of the motor is converted into a reciprocating motion of the plunger using a yoke mechanism. The PowerLuber is a positive displacement single acting pump.

Relief Valve

The safety valve (fig. 1) is factory set to relieve pressure above 7500 psi (517 bar). The valve also is an indicator of the bearing and lubrication line conditions. If grease comes out of the relief valve, it indicates a clogged or tight bearing or fitting or line. Correct this before continuing lubrication with the PowerLuber.

Control center

The tool is equipped with a control center that consists of: PC Board with Display, LED light and Set keys "A" and "B". Control center provides the following functions:

- Motor protection. It will stop the motor if the gun runs continuously at maximum pressure. The display will flash red until the thermal protector self resets;
- Displays the current level of battery charge;
- Monitors the level of the grease in tube;
- Calculates and displays the amount of the grease delivered in, oz. PCB converts stroke count to grease delivery.
- Allows control of an exact amount of grease to lubricate critical bearings;
- Illuminates the LED light.

INSPECTION

Visually inspect for damaged, loose or missing parts. If equipment is worn or damaged, remove from service. Contact an authorized service center for damage assessment or repair.

OPERATION

Changing "L" or "H" Mode

To change the mode of operation:

CAUTION

To prevent damage to the gears in the transmission, the motor must be completely stopped before changing the lever to the "L" or "H" (low or high) mode of operation.

"L" (low output/high pressure)

"H" (high output/low pressure)

When motor is not running, push the lever (Fig. 1) until letter "L" or "H" will be completely visible in the window.

In case the lever is not completely shifted/engaged, hold this lever and bump the switch to engage gears.

High output is recommended if the tool is used to lubricate large bearings not requiring high pressure, beyond 3,000 psi (206 bar). Also, high output is recommended if tool is used to refill small reservoirs.

Low output is recommended if the tool is used in construction, mining applications and general lubrication. Low output will provide the maximum pressure of up to 7,500 psi (517 bar) the tool is capable of producing.

It is normal for batteries to lose their power retention capacity over hundreds of charge cycles. Replace the battery when this happens.

Turning Display and LED light "ON"/"OFF"

To turn display and LED light "ON":

- push either key or
- gently squeeze the trigger/switch;
- To turn it "OFF":
- push key "B" 3 sec. or
- wait 30seconds for self shutoff.

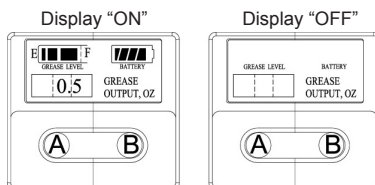


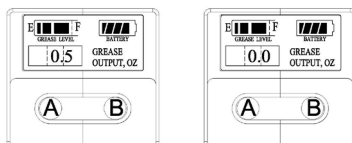
Figure 2

Grease flow monitoring.

Some OEM's recommends the exact amount of grease to lubricate critical bearings.

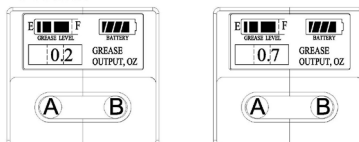
To deliver the desired amount of grease:

1. Press set key "A" 3sec. to set display reading to zero.
2. Run and stop the gun at desired output.
3. Reset with Key A and lubricate next bearing.
4. Press key "B" 1 sec to view total (accumulated) output.



DISPLAY "ON" CURRENT DISPLAY READING

1. Press "A"-3sec



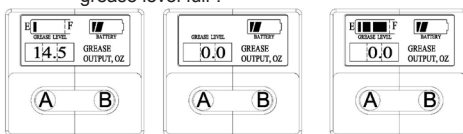
2. RUN GUN
TO DELIVER 0.2 OZ

3. Press "B"-1sec
TO VIEW TOTAL

Figure 3

Replacing the grease cartridge or refilling the tube.

1. Prime the Power Luber after each refill or grease cartridge change. To prime, operate the gun until grease flows from hose. Use vent valve (Fig.1) to expel air pockets.
2. Press set key "A" and "B" simultaneously 3 sec to reset all. (output, accumulated output and grease level indicator.)
3. Press set key "A" 1 sec to display symbol "grease level full".



Display "ON"
Current Display
Reading

1. Press "A"+"B" -3sec
to clear display

2. Press "A" -1 sec
to display grease
level full.

Figure 4

Installing Grease Cartridge

1. Unscrew the grease tube assembly from the PowerLuber.
2. Visually check the follower seal lip direction before loading a new cartridge. The follower seal lip must be directed toward the follower handle or rear side for cartridge loading. See Fig. 5. (To change the direction of the follower seal, unscrew tube cap from grease tube assembly and pull on the handle to remove follower seal from tube. Flip follower seal over and reassemble.)
3. Pull back on the follower handle and latch the follower rod groove into the slot on the tube cap.
4. Remove the plastic cap from the grease cartridge and insert cartridge into the container tube.
5. Remove the pull tab from grease cartridge and screw grease tube assembly into pump assembly.
6. Thread grease tube assembly back onto the Powerhead.
7. Release follower rod from slot. Purge air from pump. See air purging instructions.
8. Reset display reading after purging air.

⚠ CAUTION

Air pockets in the cartridge lubricant will cause the gun to lose its prime and will cause grease output measurements and cartridge level readings to be inaccurate.

(See page 8).

Removing Empty Grease Cartridge

1. Pull back on the follower handle until the follower rod is fully extended and latch the follower rod groove into the slot on the tube cap.
2. Unscrew the grease tube assembly from the PowerLuber.
3. Carefully release the follower handle to eject the empty cartridge from container tube.

To Convert Gun to Allow Filling From Bulk Containter or Filler Pump

1. Unscrew the grease tube assembly cap from the grease tube assembly. Pull on the follower handle to extract the follower and spring from the grease tube assembly.
2. Grasp follower between thumb and forefinger and flip the follower lip from the rear to the front side.

NOTE. The follower resembles a cup.

When the gun is assembled for use with bulk lubricant, the cup opens toward the pump assembly.

3. Reassemble follower into grease tube and tighten onto the container tube.

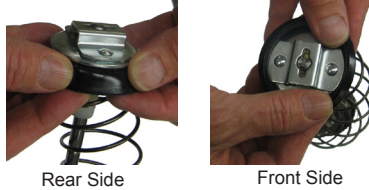


Figure 5

To Fill The Gun from Bulk Container

1. Remove pump assembly from grease tube assembly.
2. Pack lubricant into cavity of the pump assembly.
3. Insert the open end of the grease tube assembly into lubricant (see Fig. 6). Slowly pull the follower handle back while pushing the grease tube assembly deeper into the lubricant to prevent air pockets from being pulled into the grease tube.
4. When the follower rod is fully extended, pull it sideways to latch the rod groove into the keyhole slot in the grease tube assembly cap.
5. Loosely assemble the pump to the grease tube assembly. Release the follower rod from the grease tube assembly cap and disengage the follower rod from the follower by rotating the follower handle. Push the follower rod into the grease tube assembly. Slowly unscrew the grease tube assembly from the pump until lubricant oozes from the interface. Tighten grease tube assembly into the pump assembly.
6. Reset display reading after purging air



Figure 6

(see page 8).

To Fill The Gun with a Filler Pump

1. Engage the follower rod with the follower by rotating the follower handle.
2. Insert the gun vent/bulk fill valve into the filler pump socket (see Fig. 7).
3. Operate the filler pump to fill the container. When the follower rod groove is exposed, the grease tube assembly is filled. The follower rod will be extended approximately 8 inches (20 cm). Do not overfill!
4. Disengage the follower rod from the follower by rotating the follower handle. Push the follower rod into the grease tube assembly.



Figure 7



IMPORTANT

Remove Air Pocket! Air pocket at grease inlet will prevent grease from being pumped. Unscrew the vent valve three to four turns to remove small air pockets trapped in this area. If the air pocket is substantial and no grease flows from coupler after trigger is pulled for 15 seconds, see following steps.

5. Reset display reading after purging air.

To Expel Air Pockets (Air Purging)

1. Withdraw the follower rod from the grease tube assembly cap and engage it with the follower by rotating the follower handle.
2. Unscrew the plug of vent valve 3-4 turns. Exert force on the follower handle until grease flows through the small hole in the side of the vent valve.
3. Tighten the vent valve.
4. Pull the trigger in short bursts to operate gun until trapped air is expelled. Disengage the follower rod from the follower by rotating the follower handle. Push the follower rod into the grease tube assembly.
5. If step 2 fails, unscrew the grease tube assembly 3 turns from the pump assembly.
6. Exert force on the follower handle until lubricant oozes from the grease tube assembly and pump assembly interface.
7. Retighten grease tube into the pump assembly. Disengage the follower rod from the follower by rotating the follower handle. Push the follower

rod into the grease tube assembly.

CHARGER OPERATION

CHARGING THE BATTERY PACK

Before using your PowerLuber for the first time, the battery pack should be fully charged. If the battery pack is installed in the PowerLuber, remove it and follow "Charging Procedure" below.

Lincoln chargers are designed to charge Lincoln Lithium batteries in 30-60 minutes depending on the battery's state of charge and temperature.

CHARGING PROCEDURE

Make sure power circuit voltage is the same as that shown on the charger specification plate.

1. Plug the charger into an appropriate outlet before inserting battery pack.
2. Insert the battery pack into the charger. The green (charging) light will blink continuously indicating that the charging process has started.
3. The completion of charge will be indicated by the green light remaining ON continuously. The pack is fully charged and may be used at this time.
4. Disconnect charger from power source



CAUTION

120/230 volts present at charging terminals. Do not probe with conductive objects. Danger of electric shock or electrocution.

when not in use.

- - The charge is complete. (Solid Green)
- - - - - The battery is being charged. (Flashing Green)
- - (Red, at a fast rate) Replace battery. The charger detected a weak or damaged battery. Do not continue to charge battery.
- - Hot/Cold Pack Delay. The charger detected a battery that is excessively hot or cold. It automatically starts a Hot/Cold Pack Delay, suspending charging until the temperature of the battery has normalized. After this, the charger automatically switches to the Battery Charging Mode.

INDICATOR LIGHT OPERATION

NOTE: Battery temperature will increase during and shortly after use. Batteries may not accept a full charge if they are charged immediately after use. Allow the battery pack to cool to

⚠ CAUTION

room temperature before charging for best results.

Vent slots in top and bottom of charger must

Important Charging Notes

1. Longest life and best performance can be obtained if the battery is charged when the air temperature is between 65° F and 75° F (18° - 24° C). DO NOT charge the battery in an air temperature below +40° F (4.5° C) or above 105° F (+40.5° C). This is important and will prevent serious damage to the battery.
2. The charger and battery may become warm to the touch while charging. This is a normal condition, and does not indicate a problem.
3. If the battery does not charge properly:
 - a. Check current at receptacle by plugging in a lamp or other appliance.
 - b. Check to see if the receptacle is connected to a light switch which turns power off when you turn out the lights.
 - c. Move charger and battery to a location where the surrounding air temperature is approximately 65° F - 75° F (18 - 24° C).
 - d. If charging problems persist, take the tool, battery and charger to your local service center.

4. The battery should be recharged when it fails to produce sufficient power on jobs. DO NOT CONTINUE to use under these conditions. Follow the charging procedure. You may also charge a partially used pack whenever you desire with no adverse affect on the battery.
5. Under certain conditions, with the charger plugged into the power supply, the exposed charging contacts of the charger can be shorted by foreign material. Foreign materials of a conductive nature such as, but not limited to, steel wool, aluminum foil, or any buildup of metallic particles should be kept away from charger cavities. Always unplug the charger from the power supply when there is no battery in the cavity. Unplug charger before attempting to clean.
6. Do not freeze or immerse charger in water or any other liquid.

⚠ WARNING

Don't allow any liquid to get inside charger. Electric shock may result. To facilitate the cooling of the battery pack after use, avoid placing the charger or battery pack in a warm environment such as a metal shed or an uninsulated trailer.

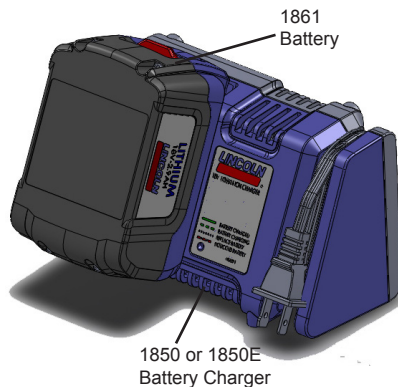


Figure 8

SAFETY INSTRUCTIONS FOR CHARGER AND BATTERIES

SAVE THESE INSTRUCTIONS

not be obstructed. Do not charge battery when temperature is BELOW 40° F (4.5° C) or ABOVE 104° F (40° C).

This manual contains important safety and operating instruction for Lincoln Model 1850 or 1850E Battery Charger.



DANGER

Risk of Electric Shock 120 VAC or 230 VAC present at charger terminals. Do not probe with conductive objects. Do not charge damaged battery. Replace immediately.

READ ALL INSTRUCTIONS

- **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 LI-ION battery packs are burned.
- **Do not charge or use battery in explosive atmospheres, such as in the presence of flammable liquids, gases or dust.** Inserting or removing the battery from the charger may ignite the dust or fumes.
- **If battery contents come into contact with 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 for LI-ION batteries 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 persists, seek medical attention.



WARNING

Burn hazard. Battery liquid may be flammable if exposed to spark or flame. Charge the battery packs only in **Lincoln Industrial** chargers.

DO NOT splash or immerse in water or other liquids. This may cause premature cell failure.

- Do not store or use the tool and battery in locations where the temperature may reach or exceed 105°F (40°C) such as outside sheds or metal buildings in summer.



CAUTION

Never attempt to open the battery pack for any reason. If the plastic housing of the battery pack breaks or cracks, return to a service center for recycling.

1. Before using a battery charger, read all instructions and cautionary markings on Battery Charger, Battery Pack, and product using battery.
2. CAUTION: To reduce the risk of injury, Lincoln Model 1850 and 1850E Chargers should only be used to charge Lincoln battery pack Model 1861. Other types of batteries may burst causing personal injury and damage. Do not charge Lincoln Model 1861 Battery Packs with any other charger.
3. Do not expose charger to rain, snow or frost.
4. Do not abuse cord. Never carry charger by cord or yank it to disconnect from receptacle. Pull by plug rather than cord when disconnecting charger. Have damaged or worn power cord and strain reliever replaced immediately. **DO NOT ATTEMPT TO REPAIR POWER CORD.**
5. Make sure cord is located so that it will not be stepped on, tripped over, or otherwise subjected to damage or stress.
6. Do not use an extension cord unless absolutely necessary. Use of improper extension cord could result in a risk of fire and electric shock.
7. Do not operate charger with damaged cord or plug. Have them replaced immediately, to avoid a hazard **DO NOT ATTEMPT TO REPAIR POWER CORD.**
8. Do not operate charger if it has received a sharp blow, been dropped, or otherwise damaged in any way, take it to a qualified service center.
9. Do not disassemble charger or battery pack. Take it to a qualified service center when service or repair is required. Incorrect reassembly may result in risk of electrical shock or fire.
10. Unplug charger from outlet before attempting any maintenance or cleaning to reduce risk of electric shock.
11. Charge the battery pack in a well ventilated place; do not cover the charger and battery with a cloth, etc., while charging.
12. Do not store the charger or battery packs in locations where the temperature may reach or exceed 122° F (50° C) such as

Models 1860, 1862, 1862E, 1864 PowerLuber Grease Gun (Lithium)



a metal tool shed, or a car in the summer which can lead to deterioration of the storage battery.

13. Do not charge battery pack when the temperature is BELOW 40° F (4.5° C) or ABOVE 104° F (40° C). This is very important for proper operation.
14. Do not incinerate battery pack. It can explode in a fire.
15. Do not charge battery in damp or wet locations.
16. Do not attempt to charge any other cordless tool or battery pack with the Lincoln Model 1850 or 1850E charger.
17. Do not short across the terminals of the battery pack. EXTREMELY HIGH TEMPERATURES COULD CAUSE PERSONAL INJURY OR FIRE.
18. This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
19. Children should be supervised to ensure that they do not play with the appliance.
20. Dispose of expended batteries properly. The Lincoln Model 1861 Battery Pack contains rechargeable, lithium-ion batteries. These batteries must be recycled or disposed of properly. Drop off expended battery packs at your local replacement battery retailer, or your recycling center.

Users in the United States NOTE:
Applicable fees for the collection and recycling of these batteries have been paid to the RBRCTM. For further information, call 1-800-8BATTERY.

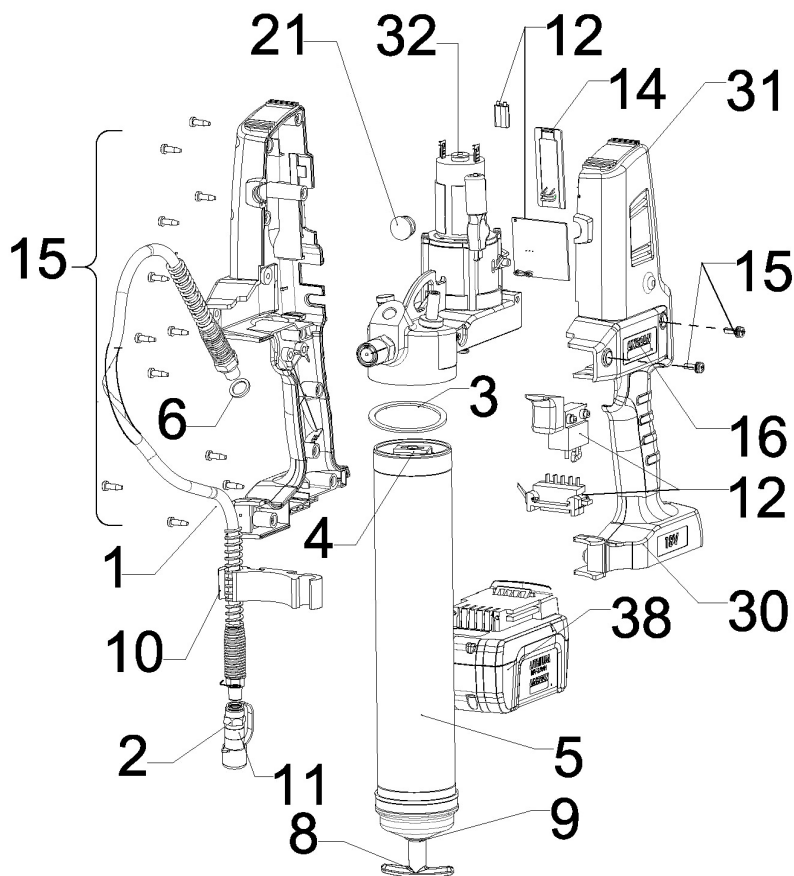


Figure 9

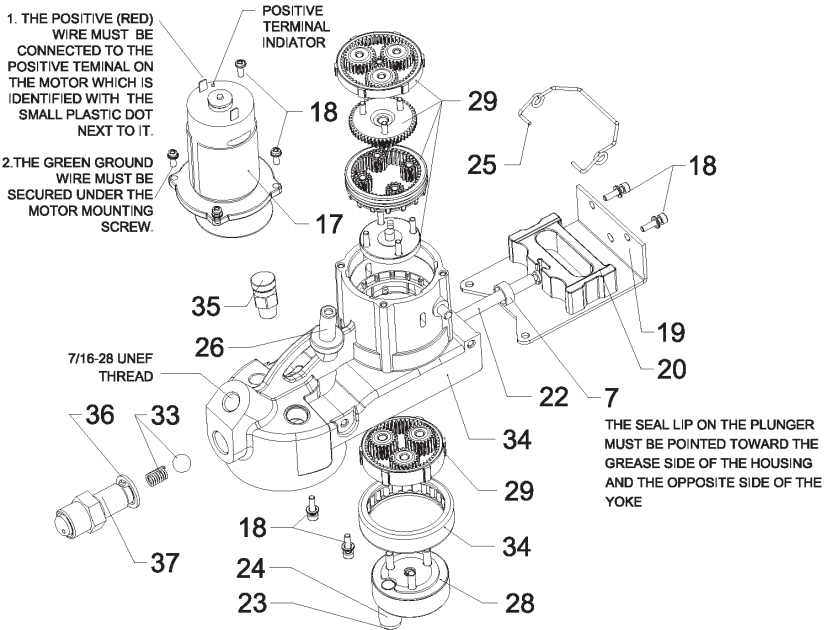


Figure 10



Models 1860, 1862, 1862E, 1864 PowerLuber Grease Gun (Lithium)

Service Parts List

Item	Description	Part Number
1	FLEXIBLE HOSE 36" W/GASKET(MODEL 1860)	1236
	FLEXIBLE HOSE 30" W/GASKET(MODEL 1860E)	1230E
2	COUPLER (MODEL 1860)	5852
	COUPLER (MODEL 1860E)	251-10124-7
3	PACKING	34793
4	FOLLOWER ASSEMBLY KIT	93485
5	GREASE TUBE ASSEMBLY	271882
6	GASKET KIT (HOSE)	271884
7	SEAL	271889
8	HANDLE KIT (GREASE TUBE)	286090
9	ROD, FOLLOWER KIT	286091
10	HOSE CLIP KIT	286367
11	COUPLER CAP KIT	286093
12	ELECTRICAL COMPONENTS KIT	286377
13	RESERVED	
14	GEAR SELECTOR KIT	286097
15	HANDLE HARDWARE	286393
16	DECAL KIT	286378
17	MOTOR WITH ADAPTER KIT	286399
18	PUMP HARDWARE KIT	286391
19	COVER PUMP KIT	286379
20	YOKE KIT	286380
21	LED COVER KIT	286381
22	PLUNGER KIT	286109
23	STUD KIT	286110
24	ROLLER	286111
25	SPRING SELECTOR	286113
26	VENT/BULK VALVE KIT	286134
27	RESERVED	
28	DRIVER ASSEMBLY	286285
29	GEAR SET KIT	286286
30	HANDLE WITH ELECTRICAL COMPONENT KIT	286382
31	HANDLE WITH SCREW KIT	286383
32	PUMP ASSEMBLY KIT	286384
33	CHECK VALVE KIT	286306
34	HOUSING PUMP WITH BEARING	286394
35	VENT VALVE KIT	286315
36	GASKET KIT (RELIEF VALVE)	286316
37	RELIEF VALVE KIT	286317
38	BATTERY 18V (LITHIUM)	1861
(NOT PICTURED)	CHARGER (LITHIUM)	1850
(NOT PICTURED)	STRAP	1414
	CASE KIT	286392

TROUBLESHOOTING

Condition	Possible Cause	Corrective Action
Motor fails to run.	<ul style="list-style-type: none"> - Battery needs charging. - Faulty wiring to motor. 	Recharge battery. Remove battery, disassemble handle and check wiring for loose connection.
PowerLuber fails to dispense grease.	<ul style="list-style-type: none"> - Grease tube assembly is out of grease. - Loss of prime. - Ball check item 33 is not functioning. 	Check that grease tube assembly has grease. Repeat priming operation. Remove Item 33, clean and inspect ball seat area.
PowerLuber continues to lose prime.	<ul style="list-style-type: none"> - Air may be trapped in several locations in container after bulk filling. 	Empty grease tube assembly, refill and repeat priming instructions.
	<ul style="list-style-type: none"> - Follower may be binding in grease tube assembly. 	Replace grease tube assembly Item 5. Disassemble grease tube assembly and clean. Be sure that follower has properly entered the grease cartridge. <p style="text-align: center;">Or</p> Verify that the follower is not caught on the rim of the grease cartridge.
Battery fails to take a charge.	<ul style="list-style-type: none"> - Charger may not have power. - Battery may be bad. 	Check that receptacle has power. Replace battery.