



GEARED WINCH WITH BRAKE 450KG LINE PULL 12V

MODEL NO: **PH12545**

Thank you for purchasing a Sealey product. Manufactured to a high standard, this product will, if used according to these instructions, and properly maintained, give you years of trouble free performance.

IMPORTANT: PLEASE READ THESE INSTRUCTIONS CAREFULLY. NOTE THE SAFE OPERATIONAL REQUIREMENTS, WARNINGS & CAUTIONS. USE THE PRODUCT CORRECTLY AND WITH CARE FOR THE PURPOSE FOR WHICH IT IS INTENDED. FAILURE TO DO SO MAY CAUSE DAMAGE AND/OR PERSONAL INJURY AND WILL INVALIDATE THE WARRANTY. KEEP THESE INSTRUCTIONS SAFE FOR FUTURE USE.



Refer to instructions



Wear eye protection



Wear protective gloves



Stay clear of the winch line



Keep hands clear



DO NOT exceed maximum weight

1. SAFETY

- ☐ **WARNING!** Winching a vehicle, especially with a steel cable, has an inherent danger element to it, and there is always some risk of injury. The user shall ensure that the operating personnel are given the necessary training.
- ☐ **WARNING!** Never connect DC powered winches to AC current. Motor damage or fatal shock may occur.
- ☐ **WARNING!** The operator shall always work in compliance with the operating instructions.
- ☒ **DO NOT** lift or winch loads over people. **DO NOT** lift loads vertically. The winch was designed for ground use only.
- ☒ **DO NOT** overload. Be sure all equipment used meets the winch's maximum line pull rating.
- ☒ **DO NOT** immerse the winch in water. Doing so will immediately effect load holding and brake efficiency and in time will damage the motor and cause accelerated gearbox wear invalidating the warranty.
- ☒ **DO NOT** operate the winch with less than 5 turns of wire rope around the winch drum, since the wire rope end may not withstand the full load.
- ☒ **DO NOT** pull from an angle for too long and allow the cable to over spool on one side of the drum, to a point where the wire rope comes into contact with the tie bars, because this can cause the tie bars to break from the castings, damage the wire rope and invalidate the warranty.
- ☐ **WARNING!** The winch's line pull capacity is the maximum line pull of the first layer. Never operate a winch by pulling a load that is at or over the rated capacity.
- ☐ **WARNING!** Do not try to lift fixed or obstructed loads.
- ☒ **DO NOT** hook the wire cable back to itself because it could damage the wire rope.
- ☒ Make sure the winch is securely mounted on the vehicle or bracket before operation.
- ☒ Before moving a load inspect the wire rope. Prevent kinks and uneven wire layering before they occur. Loosened wire rope must be properly tensioned.
- ☒ The operator shall lift the load from the ground with the lowest available speed. The rope shall be tightened and shall not be in the slack condition when the load is being lifted from the ground.
- ☒ **DO NOT** move your vehicle to assist the winch in pulling the load. It will be easy to overload, and cause wire rope damage.
- ☒ **DO NOT** enter the danger zone. Keep away from the danger zone during operation. The danger zone is the area of the winch drum, the fairlead (if fitted), the wire rope, the pulley block (if used), and the hook.
- ☒ **DO NOT** approach or span the wire rope when the winch is under load.
- ☒ When using the winch to move a load, place the vehicle transmission in neutral, apply the hand brake and chock all wheels. The vehicle engine should be running during winch operation so that the battery is fully charged. Never use the winch if there is any doubt as to the efficiency of the battery.
- ☒ After operation release the load immediately. **DO NOT** allow the cable to tighten anymore.
- ☒ Inspect winch, wire rope, hooks and other accessories frequently. A mashed, pinched, kinked or frayed wire rope with broken strands should be replaced at once because a damaged wire rope has a reduced load carrying capability and could break easily.
- ☒ Keep tension on the cable to re-spool the cable on the drum tightly after operation.
- ☒ **DANGER! DO NOT** allow the wire rope to slide through your hands, use heavy rigger gloves when handling wire rope.
- ☒ **DO NOT** operate the winch when under the influence of drugs, alcohol or medication.
- ☐ **WARNING!** If there is something wrong with the winch, cut the power at once, then check it carefully. If required, return it to your stockist for servicing.
- ☒ Wear eye protection, insulated work clothes, non-slip shoes, keep hair tied up and wear rigger gloves. Remove all jewellery.
- ☒ **DO NOT** modify machine or alter the winch in any way.
- ☒ Take good care of the winch when not in use. refer to the maintenance section for details.
- ☐ **WARNING!** Disconnect the battery before working in or around the fairlead or the wire rope drum, (the danger zone). Never tuck the remote under your arm or allow anyone to hold it when you are in the danger zone, so as to avoid the hand control being accidentally activated.
- ☐ **WARNING! DO NOT** use the winch to hold loads in place. Use other means of holding loads such as tie down straps.
- ☐ **WARNING!** Mount the winch to a firm base. Be sure that your structural support is strong enough to withstand the weight and rated pulling strength of the winch.
- ☐ **WARNING!** Excessive inching (e.g. giving short pulses to the motor) shall be avoided.
- ☒ **DO NOT** use the machine to transport persons.
- ☐ **WARNING!** Side-pull of loads is not allowed.
- ☐ **WARNING! DO NOT** weld or machine any part of the winch, this will weaken it and void the warranty.

- ❑ **WARNING!** Batteries release explosive gases, always wear eye protection, remove all jewellery, and keep others at a safe distance before making connections. If an explosion occurs, immediately flush any acid with plenty of water and seek medical help without delay.
 - ❑ **WARNING!** Use of any other accessories or attachments other than those recommended in this instruction manual may result in personal injury or property damage and could void the warranty.
- NOTE:** The safety precautions and instructions discussed in this manual can't cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product but must be applied by the operator.
- ✓ Advice to wear hearing protection when the winch is used in a noisy environment.

1.1. SAFETY SUMMARY

The PH12545 winch is designed to provide a 4:1 safety factor when fitted with a steel cable rated to support over four times the maximum lifting capacity of the winch. The supporting structures and load-attaching devices used with this winch must provide adequate support to handle all winching operations plus the weight of the winch and all attached equipment. This is the end user's responsibility. If in doubt, consult a registered structural engineer.

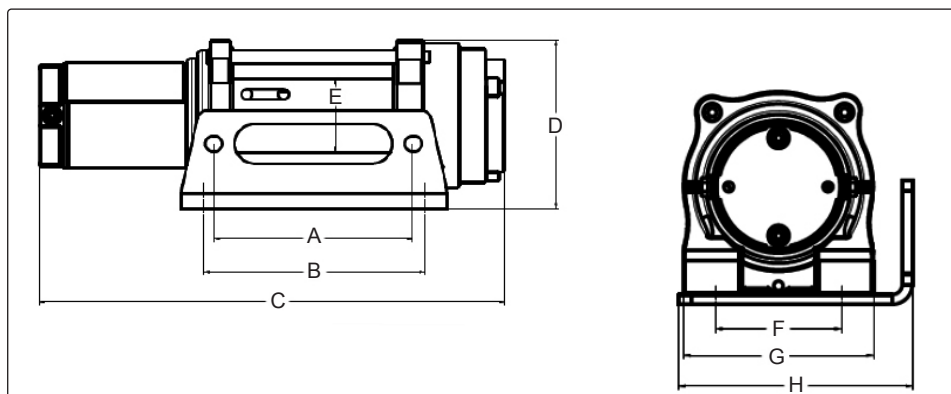
2. INTRODUCTION

Steel drum is reinforced to make the product strong and durable. Rated IP68 weatherproof this winch will withstand any weather conditions. 3-Stage planetary gear train increased pull generated. 2-Brake system with a mechanical cone brake and a permanent motor dynamic brake work together to keep the load stable and protect the user.

3. SPECIFICATION

Model No:	PH12545	Motor Power:	12V - 1200W
Current Draw:	12V Full Load - 75A	Nett Weight:	11kg
Gear Ratio:	140:1	Rated Capacity:	454kg 1000lbs
Line Pull*:	454kg 1000lbs	Wire Rope Diameter:	Ø4.8mm
Line Speed*:	Full Load - 3.8m/min	Wire Rope Length:	18.3m

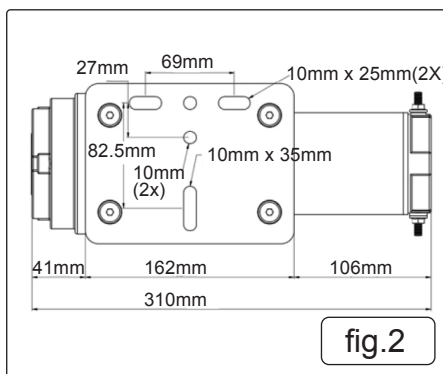
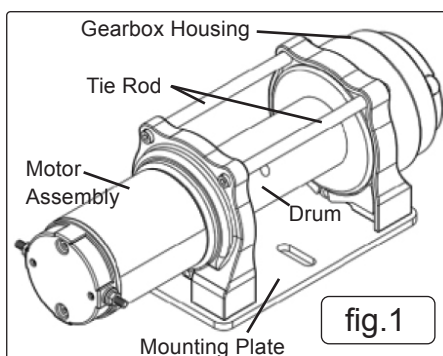
Mounting Pattern:	2-bolt, Slotted
Brake:	Automatic
Handheld Control:	Waterproof rubber remote,
Minimum breaking force of rope :	4500lbs (2040kg)
Max. Rope Diameter:	5.4mm
Maximum number of rope winding layers:	4 (Always Keep Working on First Layer)



A	151mm
B	168mm
C	355mm
D	129mm
E	56mm
F	76mm
G	115mm
H	142mm

4. INSTALLATION

- 4.1. Before installing the winch, inspect all components for material defects.
- 4.2. Verify the four bolts securing the mount plate to the drum supports are tight, as well as the Allen-head screws retaining the tie rods between the motor and gearbox assemblies. Fig.1
- 4.3. Select a mounting structure strong enough to support the maximum lifting capacity of the winch, the weight of the winch, and the weight of all attached equipment.
- 4.4. **REQUIRED MOUNTING HARDWARE NOT INCLUDED.**
- 4.5. **BOLTS**
M8 high-tensile bolts (Grade 8.8 or higher).
Length depends on the winch base thickness + mounting surface + reinforcement plate (if used).
- 4.6. **NUTS**
M8 high-tensile nuts (Grade 8 or 10).
Prefer Nyloc nuts or use a thread locker (e.g. Loctite 243) to resist vibration loosening.
- 4.7. **WASHERS**
Flat washers (M8, hardened) under bolt heads and nuts. Optional: Spring washers if not using Nyloc/thread locker. Mounting Plate / Backing Plate (if needed).
NOTE: If the base material is not very thick or strong (e.g. trailer bed, wood, thin steel), add a 6–8 mm steel plate underneath to spread the load.
- 4.8. **MOUNTING WINCH (fig.2)**
- 4.8.1. Mount the winch in a dry location where it cannot be submerged, using four high-tensile M8 bolts with flat washers and Nyloc nuts or thread locker, and add a 6–8 mm steel backing plate if the surface is thin;

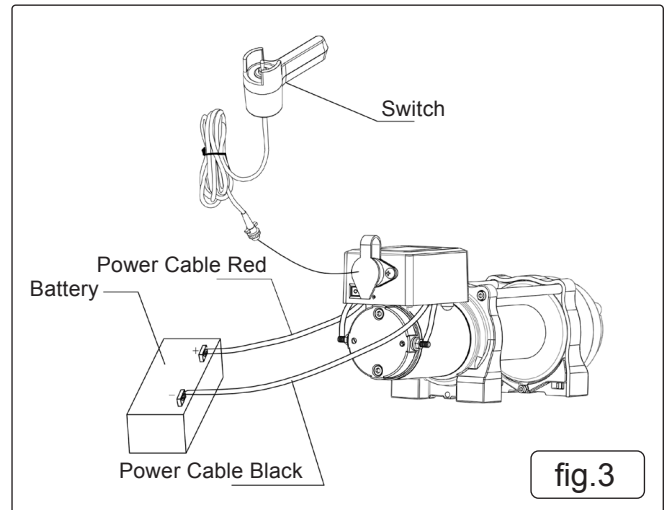


the winch may be installed with its feet vertical on a horizontal surface or horizontal on a vertical surface, but when mounted horizontally the cable must spool off the drum from the mounting-plate side to ensure the load is evenly distributed across the winch.

- ❑ **WARNING! BOLT FAILURE AND STRUCTURE FAILURE!** Undersized fasteners may fail under load, and a winch mounted to an undersized structure may break free, either of which can cause serious injury or property damage. Use only fasteners from a reputable manufacturer, class 8.8 or better, with a minimum diameter of M8, and ensure the mounting structure is strong enough to support the full lifting capacity of the winch, the weight of the winch, and all attached equipment.

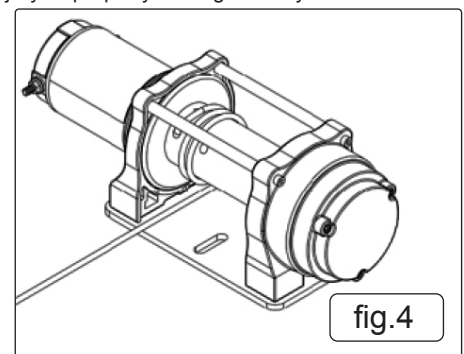
5. ELECTRICAL INSTALLATION

- ❑ **WARNING! ELECTRIC SHOCK HAZARD**
Performing electrical installation while the battery is connected can cause serious electric shock. Always disconnect all lead wires from the power source before beginning any electrical work.
- 5.8.1. Use a control assembly that matches the winch's DC voltage, and ensure all lead wires and circuit breakers are rated for the winch's maximum current draw. Before beginning any electrical installation, always disconnect the lead wires from the power source and move them clear of the battery to prevent accidental short circuits.
- 5.8.2. Remove the outer nuts on the motor studs and place the lead wiring terminals over them. Replace the outer nuts and tighten them down. See the wiring diagram in fig.3
- ✱ **DO NOT** allow the motor terminal to rotate, as this can cause internal damage or misalignment. Always hold the inner nut with one wrench while tightening or loosening the outer nut with another. Route all lead wires away from the winch and protect them by reinforcing insulation with electrical tape or conduit wherever they may contact another surface.
- ❑ **WARNING!** Damaged wires may fail to transmit power effectively and can cause electric shock. Keep all wiring clear of hot surfaces, moving parts, and sharp edges, and secure any loose lengths to solid mounting points with cable ties. Install the circuit breaker on the battery side of the positive power lead from the control assembly, using a short length of lead wire to connect the battery side of the circuit breaker directly to the positive battery terminal.
- ▲ **DANGER! EXPLOSIVE HAZARD**
Sparks during installation can ignite gases from a leaking battery and cause an explosion, resulting in serious injury or death. Always wear eye protection, remove all metal jewellery, and never place any part of your body over the battery during installation. Once all terminal connections are secure and the system is correctly wired, connect the negative power lead from the control assembly to the negative battery terminal.
- ▲ **DANGER! FIRE HAZARD**
Incorrect wiring can damage your winch and may also cause a fire. Check and double check your work against any wiring diagrams supplied with your control assembly.
- 5.8.3. The winch is now ready to operate. Use the system controls to ensure the winch runs normally in both directions.



6. STEEL CABLE INSTALLATION

- ❑ **WARNING! HAND INJURY HAZARD – WEAR LEATHER GLOVES**
Steel cable may have sharp burrs that can cause serious injury. Always handle the cable wearing heavy leather gloves. Once the blank end of the cable is flush with the drum surface, reinsert the cup-point set screw and tighten it until hand tight.
- NOTE:** Over-tightening the set screw may damage your steel cable. Use only hand tools when reinstalling the set screw and stop once snug.
- 6.1. Once the winch is securely mounted and correctly wired, install the steel cable. Use a 3/16 in (4.8 mm) IWRC or GAC with a 7×19 strand pattern, which provides over four times the maximum lifting capacity, ensuring a 4:1 safety factor.
- ❑ **WARNING! STEEL CABLE FAILURE**
Using an underrated steel cable may cause it to break under load, resulting in serious injury or property damage. Always use steel cable, nylon slings, and rigging hardware rated for at least 4,200 lb (1,905 kg). To begin installation, remove the cup-point set screw near the motor-side drum flange and set it aside.
- 6.2. **CABLE ROUTING**
With the winch positioned so the motor is on the left and the gearbox on the right, pass the cable behind the drum and bring it back toward you. Guide the cable through the small cross-hole in the drum near the flange.
- 6.2.1. When viewing the winch from the motor side, the drum must rotate clockwise to power in and counter-clockwise to power out, regardless of foot orientation, to ensure the brake functions correctly. Otherwise, the brake may resist the motor while lifting. Power the winch in with less than 100 lb (45 kg) of line tension to wind the cable evenly, and maintain at least five full wraps around the drum to prevent the cable from coming loose under load. Fig.4
- ▲ **DANGER! PINCH POINT HAZARD**
The winch is extremely powerful. Fingers can be caught between the cable and drum, causing serious injury. Do not handle the steel cable near the drum while the winch is powered or under tension.



7. OPERATION

- 7.1. Attach the winch hook to a point on the load that is rated to support its full weight. If no suitable attachment point exists, secure a properly rated nylon sling or similar lifting device to the load, and then attach the hook to the sling.

Never hook the winch back onto its own cable, as this will damage the cable. Raise the load to the desired height using the winch's control system.

- ❑ **WARNING!** If the load is not positioned directly beneath the winch, it may swing when raised, potentially injuring bystanders, damaging property, or causing the load to break free. Always lift the load straight up.
- ❑ **WARNING!** An equipment failure may cause serious injury or death to anyone beneath the load. Keep yourself and all other personnel a safe distance away from the winch and load during operation.

❑ **WARNING! DO NOT LEAVE LOAD UNATTENDED**

If equipment fails, the load may fall and cause serious injury or property damage. Always lower the load fully to the ground and unhook it before leaving the immediate area.

7.2. OPERATING LIMITS AND LOAD LOWERING

Never pull the hook or load into the drum, as this will damage the winch, always stop lifting before the hook reaches the drum. The winch delivers maximum power with a single layer of steel cable on the drum; each additional layer reduces both line speed and pulling power. Before lowering a load, ensure the surface below can support its full weight. Once the load is resting securely, it may be unhooked.

7.3. MANUAL CONTROLS

7.3.1. The toggle switch of a winch (fig.5) controls the direction of cable movement.

Pushing the switch one way engages the motor to spool the cable in, pulling the load, while pushing it the other way spools the cable out, releasing the load. The switch returns to the neutral position when released, stopping the winch to ensure safe and precise operation.

NOTE: After using the winch, unplug the switch control and store in a clean, dry location. This prevents accidental activation and helps maintain the switch in good condition.

The winch is designed for intermittent duty only. After 2 minutes of continuous operation at maximum load, allow the winch to cool down.

- ❑ **WARNING!** If the line speed slows or the motor changes pitch, this indicates the motor is overheating. Stop operation and allow the winch to cool before continuing.

Allowing the winch to overheat can reduce performance and may cause a short circuit, potentially damaging the winch, the connected electrical system, or the power source.

- ❑ **WARNING!** In the event of an accident, breakdown, or any intervention involving the winch with brake (450 kg line pull, 12V), immediately stop operation and disconnect the power supply to prevent unintentional movement. Secure the load so it cannot shift, and never attempt to hold or release it manually while under tension. If a breakdown occurs, check for simple causes such as battery, fuse, or switch faults, but do not bypass the brake or attempt repairs while a load is suspended. Always use secondary supports or lifting equipment before any intervention. For maintenance or emergency release, ensure lockout/tagout is applied, the winch is unloaded, and the brake and gears are inspected and tested without load before returning to service, following all manufacturer instructions and site safety rules.

- 7.4. **RATED CAPACITY LIMITER:** The winch is designed with a rated capacity limiter to prevent overloading. Always ensure the winch is operated within its maximum rated load. **DO NOT** attempt to bypass or adjust the limiter unless specifically instructed by the manufacturer, as improper use may cause damage or unsafe operation.



8. MAINTENANCE

8.1. CENTRE OF GRAVITY

The centre of gravity of the winch sits along the drum axis but is offset toward the motor and gearbox side, usually about two-thirds of the way along the baseplate, so when mounting or handling you should account for the weight bias on that side to ensure stability and proper load support.

- 8.2. The winch is permanently lubricated with extreme-pressure lithium gear grease and requires no lubrication maintenance.

- 8.3. Regularly check the tightness of all mounting fasteners and electrical connections. Before and after each use, inspect the winch, mounting system, steel cable, control assembly, power supply, and switch control, removing any dirt, moisture, or corrosion.

✱ **DO NOT** use the winch if any component is damaged or worn, replace the part before operating.

- 8.4. When transporting and handling the winch, keep it upright and secure to prevent drops or impacts. Use proper lifting techniques, and avoid placing tension on the cable. For storage, keep the winch in a clean, dry, and well-ventilated area, away from moisture, dust, and corrosive substances. Ensure all components are clean and dry, and unplug and store switch control safely to maintain optimal performance.

- 8.5. For replacement components, refer to the spares page.

- 8.6. **END OF SERVICE / DECOMMISSIONING:** The winch has reached the end of its service life when it can no longer be used safely or efficiently, regardless of repairability. At this point, discontinue operation immediately. Disconnect the winch from its power source, remove all attachments, and dispose of or recycle the unit in accordance with local regulations. Do not attempt to return a winch that has been fully decommissioned to service.

9. TROUBLESHOOTING

SYMPTOM	POSSIBLE CAUSES	CORRECTIVE ACTION
Motor will not turn or only turns in a single direction	1. Damaged contactor. 2. Damaged switch. 3. Broken circuit. 4. Damaged motor. 5. Contactor/ungrounded.	1. Replace contactor. 2. Replace switch. 3. Check for bad connection or damaged wiring. 4. Replace motor. 5. Check wiring; check connection.
Motor will not shut off	Damaged contactor.	Replace contactor.

SYMPTOM	POSSIBLE CAUSES	CORRECTIVE ACTION
Motor extremely hot	<ol style="list-style-type: none"> 1. Long period of use. 2. Damaged motor 3. Damaged brake 	<ol style="list-style-type: none"> 1. Allow to cool. 2. Replace motor. 3. Replace brake.
Motor runs weakly or with slow line speed	<ol style="list-style-type: none"> 1. Weak battery. 2. Lead wire gauge too small in length. 3. Poor battery. 4. Connection Poor ground. 5. Damaged brake. 	<ol style="list-style-type: none"> 1. Recharge or replace battery; check charging system. 2. Use larger-gauge lead wires. 3. Check battery terminals for corrosion. 4. Check connections. 5. Replace brake.
Motor runs backwards	<ol style="list-style-type: none"> 1. Motor lead wires reversed. 2. Contactor wired incorrectly. 	<ol style="list-style-type: none"> 1. Check wiring. 2. Check wiring.
Will not hold load	<ol style="list-style-type: none"> 1. Excessive load. 2. Worn or damaged brake. 	<ol style="list-style-type: none"> 1. Reduce load. 2. Replace brake.



ENVIRONMENT PROTECTION

Recycle unwanted materials instead of disposing of them as waste. All tools, accessories and packaging should be sorted, taken to a recycling centre and disposed of in a manner which is compatible with the environment. When the product becomes completely unserviceable and requires disposal, drain any fluids (if applicable) into approved containers and dispose of the product and fluids according to local regulations.



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WEEE REGULATIONS

Dispose of this product at the end of its working life in compliance with the EU Directive on Waste Electrical and Electronic Equipment (WEEE). When the product is no longer required, it must be disposed of in an environmentally protective way. Contact your local solid waste authority for recycling information.

Note: It is our policy to continually improve products and as such we reserve the right to alter data, specifications and component parts without prior notice. Important: No Liability is accepted for incorrect use of this product.

Warranty: Guarantee is 12 months from purchase date, proof of which is required for any claim.

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