

DRAPER[®]

EN

Original Instructions
Version 3 – March 2023

BATTERY

STARTER & CHARGER

11966



UK
CA CE

1. Preface

These are the original product instructions. This document is part of the product; retain it for the life of the product, passing it on to subsequent holders. Read this manual in full before attempting to assemble, operate or maintain this product.

This Draper Tools manual describes the purpose of the product and contains all the necessary information to ensure its correct and safe use. Following all the instructions and guidance in this manual will ensure the safety of both the product and the operator and increase the lifespan of the product.

All photographs and drawings within this manual are supplied by Draper Tools to help illustrate correct operation of the product.

Every effort has been made to ensure the information contained in this manual is accurate. However, Draper Tools reserves the right to amend this document without prior warning. Always use the latest version of the product manual.

1.1 Product Reference

User Manual for: 12/24V Battery Starter/Charger, 260A

Stock No: 11966

Part No: BCSD300T

1.2 Revisions

Version 1: October 2011
First release

Version 2: April 2016
General formatting and content updates

Version 3: March 2023
General formatting and content updates
Separated from combined manual

As our manuals are continually updated, always ensure that the latest version is used.

Please visit drapertools.com/manuals for the latest version of this manual and the associated parts list, if applicable.

1.3 Understanding the Safety Content of This Manual



WARNING! – Situations or actions that may result in personal injury or death.



CAUTION! – Situations or actions that may result in damage to the product or surroundings.

Important: – Information or instructions of particular importance.

1.4 Copyright © Notice

Copyright © Draper Tools Limited.

Permission is granted to reproduce this manual for personal and educational use **ONLY**. Commercial copying, redistribution, hiring or lending is strictly prohibited.

No part of this manual may be stored in a retrieval system or transmitted in any other form or means without written permission from Draper Tools Limited.

In all cases, this copyright notice must remain intact.

1. Preface	2	10. Maintenance and Troubleshooting	16
1.1 Product Reference	2	10.1 General Maintenance and Storage	16
1.2 Revisions	2	10.2 Replacing the Output Overload Fuses	16
1.3 Understanding the Safety Content of This Manual	2	10.3 Troubleshooting	17
1.4 Copyright © Notice	2	11. Spares, Returns and Disposal	18
2. Contents	3	12. Warranty	18
3. Product Introduction	4	13. Explanation of Symbols	19
3.1 Intended Use	4		
3.2 Specification	4		
4. Health and Safety Information	5		
4.1 General Health and Safety Precautions	5		
4.2 Additional Safety Instructions for Jump Starters and Portable Power Packs	5		
4.3 Working With Lead-Acid and Other Vehicle Batteries	6		
4.4 Connection to the Power Supply	6		
4.5 Residual Risk	7		
5. Identification and Unpacking	8		
5.1 Product Overview	8		
5.2 What's in the Box?	9		
5.3 Packaging	9		
6. Preparing the Starter/Charger	10		
6.1 Connecting a Plug	10		
6.2 Attaching the Wheels and Foot	10		
7. Connecting a Battery	12		
7.1 Battery Sizes and Ratings	12		
7.2 Connection Procedure	12		
8. Charging a Battery	13		
8.1 Charging Times	13		
8.2 Charging Procedure	13		
8.3 Notes on Charging	13		
8.4 Fast Charging	14		
9. Jump-Starting	15		

3. Product Introduction

3.1 Intended Use

This product is designed to charge 12V and 24V lead-acid, lead-acid maintenance-free, lead AGM, lead calcium and GEL batteries and may be used to jump-start engines of up to 2.0L petrol and 1.6L diesel. This product requires a mains power connection to run.

Any other application beyond the conditions established for use will be considered misuse. Draper Tools accepts no responsibility for improper use of this product.

Important: This product is fitted with a 13A. This plug is only suitable for specific operations. For all other operations, an appropriate plug must be fitted to the product by a qualified electrician. For more information, see **6.1 Connecting a Plug**.

3.2 Specification

Stock No.:	11966
Part No.:	BCSD300T
Input	
Rated voltage:	220–240V AC
Rated frequency:	50Hz
Charging	
Power:	1.6kW
Current	4.5A
Starting	
Power:	8kW
Current:	6.5A
Output	
Rated voltage:	12V/24V
Current at 12V:	
Charge setting 1 (Min + 1):	23A
Charge setting 2 (Min + 2):	30A
Charge setting 3 (Boost):	36A



WARNING! This product is not a toy and must be respected.

Read this manual in full before attempting to assemble, operate or maintain the product, and retain it for later use.

Important: These instructions are intended as a guide **ONLY. ALWAYS** refer to the vehicle and battery manufacturer manuals for specific instructions relating to the battery or vehicle as the procedure may vary. Any manufacturer instructions relating to other equipment to be used in the immediate area should also be consulted. Read all instructions in full **BEFORE** using this product.

Current at 24V:	
Charge setting 1 (Min + 1):	21A
Charge setting 2 (Min + 2):	27A
Charge setting 3 (Boost):	40A
Start (CCA):	260A
Battery amperage range:	0–700Ah
Duty cycle (jump-starting):	3 seconds in 2 minutes, max. 5 attempts
Physical Attributes	
IP rating	IP20
Fuse:	2 × 50A
Time delay fuse:	15°
Charging cable length:	2m
Dimensions:	W 270 × H 560 × D 240mm
Weight:	13.9kg

Important: Read all the Health and Safety instructions before attempting to operate, maintain or repair this product. Non-compliance with these instructions may result in injury or damage to the user, the product or any connected devices.

4.1 General Health and Safety Precautions

- Observe all standard safety precautions and good practices when working with electrical equipment and batteries.
- Ensure that your working environment is well lit, with any bystanders a safe distance away.
- Use the product only as instructed by this manual; **DO NOT** disassemble or modify it in any way.
- **ONLY** use spare parts supplied by Draper Tools.
- **DO NOT** use this product if you are tired or under the influence of alcohol, drugs or other medication.
- **DO NOT** use this device in wet environments or expose it to water or other liquids.
- **DO NOT** use or store this product in temperatures exceeding 60°C.
- **DO NOT** obstruct or insert foreign objects into the air vents.
- Before every use, inspect the product for broken, cracked, and loose or corroded parts.

Important: DO NOT use this product if it is damaged in any way. **DO NOT** attempt to disassemble a damaged product; contact Draper Tools to discuss repair and replacement options.

- **ALWAYS** wear protective gloves and eye protection while using this product.
- Damaged external cords must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
- **NEVER** carry the product by the plug or external cords.
- Keep this product out of reach of children.



WARNING! DO NOT leave this product unattended or unobserved while in use under any circumstances.



WARNING! NEVER use this product to jump-start lithium-ion batteries.

4.2 Additional Safety Instructions for Jump Starters and Portable Power Packs

- Use this product in well-ventilated areas and **DO NOT** cover the charger or obstruct the ventilation grilles at any time.
- **NEVER** use this product near flammable substances or substances that produce flammable vapours.
- **DO NOT** use this product near devices that may cause sparks.
- This product may become warm during extended periods of use.
 - **ALWAYS** position this device on a non-flammable surface during use.
 - **NEVER** cover the product or battery during use or charging.
 - **ALWAYS** ensure that the power pack is switched off and that there is no power to the cables before connecting a battery.
 - When jump-starting, the cables should remain off until you are instructed otherwise as part of the jump-starting process.
- **NEVER** jump-start a frozen battery.
- **NEVER** charge a non-rechargeable battery.
- **NEVER** charge a damaged or misshapen battery.
- **NEVER** place the charger in the vehicle when charging or starting the battery.
- **NEVER** allow the clamps to touch one another or contact the same piece of metal as this may result in current arcing.
- **NEVER** touch both the positive and negative terminals of the connection leads.
- If the terminals are connected incorrectly, switch off the product **IMMEDIATELY** and correct the connections.
- **NEVER** disconnect cables from the battery terminals while the product is switched on.
- **DO NOT** use or store this product in excessively warm environments, in direct sunlight or near sources of heat or ignition.
- Ensure that both the product and the battery are in an upright position during charging.
- If the battery has not charged after the period specified, disconnect it from the power source and contact Draper Tools for support.

4. Health and Safety Information

- **NEVER** burn or mutilate batteries or products containing batteries as they may explode or release toxic substances.
- Battery acid is highly corrosive; if the product battery begins to leak, stop all operations immediately and contact Draper Tools for support.
 - **DO NOT** use this product if there is evidence of battery leakage.
 - If battery acid comes into contact with your skin, wash it off immediately with plenty of clean water.
 - If battery acid comes into contact with your eyes, flush them with plenty of clean water and seek medical attention immediately.

Important: This product is suitable for use with 12V and 24V DC circuits and batteries **ONLY**. **DO NOT** use this product as a DC power source.

4.3 Working With Lead-Acid and Other Vehicle Batteries



WARNING!! Risk of explosive gases. Working in close proximity to lead-acid batteries is dangerous as they produce potentially explosive gases during normal operation. ALWAYS read this manual in full before EVERY use and keep your work area well-ventilated. Contact Draper Tools for assistance if you are not confident in the use of this product.

Use this manual in conjunction with the battery manufacturer manual and that of any other equipment to be used in the vicinity. Review all safety markings and rating plates present on the battery, charger and any other nearby equipment before using this product to jump-start a vehicle battery.

- **DO NOT** work with vehicle batteries on your own; **ALWAYS** ensure that someone is nearby to come to your aid if necessary.
- Wear complete eye and hand protection and wear suitable clothing that covers your skin appropriately.
 - Avoid touching your eyes while working with lead-acid batteries.
 - Keep plenty of fresh water and soap nearby in case battery acid comes into contact with your skin, eyes or clothing.
 - If battery acid comes into contact with your skin or clothing, wash the affected area immediately with soap and water.

- If battery acid enters your eyes, flush the eye immediately with copious cool and clean running water for at least 15 minutes and seek medical attention immediately.
- **NEVER** smoke or allow sparks or flames in the vicinity of the battery or engine.
- Take extra care to prevent metal objects or tools from falling onto the battery as this may cause a spark, short-circuit the battery or cause an explosion.
- **ALWAYS** remove personal metallic objects before use.
- Lead-acid batteries can produce a short-circuit current high enough to weld metal and cause severe burns.



DO NOT top up the electrolyte beyond the manufacturer's recommended level. Overfilling the battery may cause the acid content to leak.



WARNING! DO NOT use this product to jump-start batteries outside of the rated battery amperage range.

4.4 Connection to the Power Supply

Risk of electric shock. **DO NOT** open this product.

This appliance is supplied with an approved plug and cable for your safety. Some operations require the use of a higher-capacity plug; see 6.1 Connecting a Plug. **ALWAYS** ensure that the fitted plug is suitable for the operation.

If the power supply cord is damaged, it must be replaced by Draper Tools, an authorised service agent or similarly qualified personnel in order to avoid a hazard.

The damaged or incomplete plug, when cut from the cable, shall be disabled to prevent connection to a live electrical outlet.

This is a Class I* product and is designed for connection to a power supply matching that detailed on the rating label and compatible with the plug fitted.

The fuse in the power supply for this product cannot be replaced. Contact Draper Tools for replacement options if the fuse in the supplied plug has blown.

If an extension lead is required, use an approved and compatible lead rated for this appliance.

Follow all the instructions supplied with the extension lead.

***Earthed:** This product requires an earth connection to protect against electric shock from accessible conductive parts in the event of a failure of the basic insulation.

Important: Always follow the extension lead instructions regarding maximum load while the cable is wound. If in doubt, unwind the entire cable. A coiled extension lead generates heat which could melt the lead and cause a fire.

4.5 Residual Risk

The safety instructions in this manual cannot account for all possible conditions and situations that may occur. Exercise common sense and caution when using this product and protect against any additional conceivable risks.

5. Identification and Unpacking

5.1 Product Overview



- | | |
|--------------------------------|-------------------------------|
| (1) (12)V terminal | (8) Transport handle |
| (2) (24)V terminal | (9) Wheels |
| (3) Ammeter | (10) Charge/start mode switch |
| (4) Foot | (11) Min/Boost switch |
| (5) Negative (Black) clamp | (12) Power switch |
| (6) Output overload fuse cover | (13) Step current switch |
| (7) Positive (red) clamp | |

5.2 What's in the Box?

Carefully remove the product from the packaging and examine it for signs of damage that may have occurred during shipment.

Before assembling the product, lay the contents out and check them against the parts shown below. If any part is damaged or missing, do not attempt to use the product. Please contact the Draper Helpline; contact details can be found at the back of this manual.

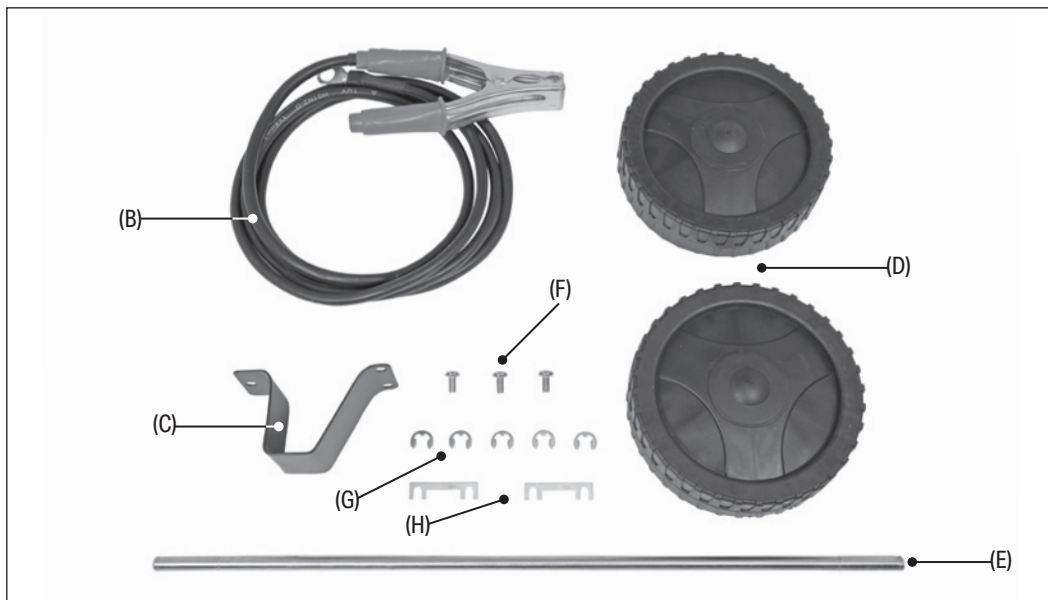
- (A) 1 × Starter/charger unit (not shown)
- (B) 1 × Positive clamp and cable
- (C) 1 × Foot
- (D) 2 × Wheels
- (E) 1 × Axle
- (F) 3 × M5 × 10mm screws
- (G) 5 × Circlips
- (H) 2 × Spare 50A fuses

5.3 Packaging

Keep the product packaging for the duration of the warranty period for reference should the product need to be returned for repair.



WARNING! Keep packaging materials out of reach of children. Dispose of packaging correctly and responsibly and in accordance with local regulations.



Please visit drapertools.com for our full range of accessories and consumables.

6. Preparing the Starter/Charger

Important: Before using this product, read and understand all the safety instructions listed in this manual.

6.1 Connecting a Plug

Important: This product must be fitted with a plug that is appropriate to the function it is used to perform.

This product is fitted with a 13A plug. This plug may **ONLY** be used for charging using the lowest mode [(1)]. To safely use any other charging mode, a 16A plug **MUST** be fitted before use.

If the product is used for jump-starting purposes, a 32A plug **MUST** be fitted. Failure to fit an appropriate plug will result in the product overheating and may cause significant damage to the jump starter. Draper Tools highly recommends installing a 32A plug for jump-starting operations.

Important: The plug **MUST** be fitted by a qualified electrician or an otherwise qualified and competent person.

6.2 Attaching the Wheels and Foot

1. Carefully lay the machine down on its front panel.
2. Align the foot (C) with the three holes on the base of the product and secure it in place using the M5 × 10mm screws (F).

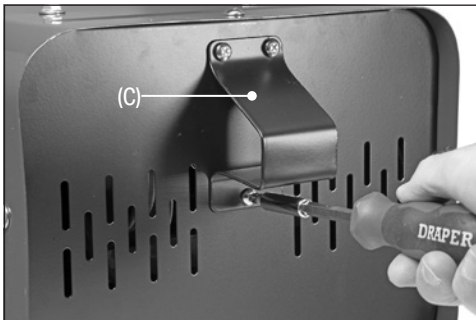


Fig. 1

3. Use the axle to punch the hub caps (14) from both wheels.

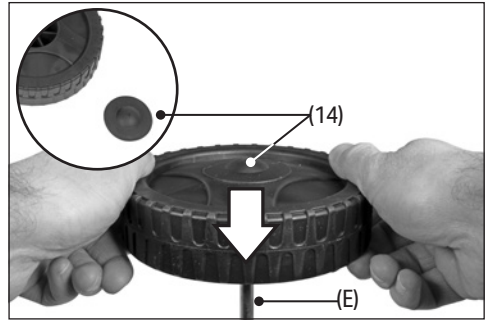


Fig. 2

4. Using a pair of pliers, snap a circlip (G) into one of the outer grooves at the very ends of the axle (E).
5. Slide the other end of the axle through the front of one of the wheels (9) until it reaches the circlip.

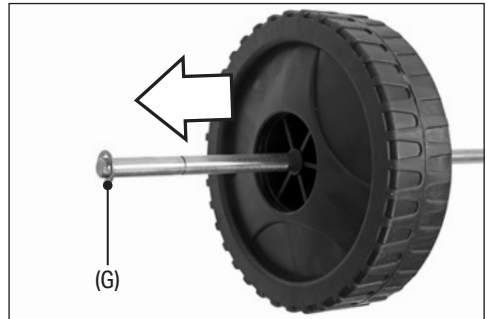


Fig. 3

6. Snap a second circlip into the groove behind the wheel and push the hub cap back into the wheel bore.

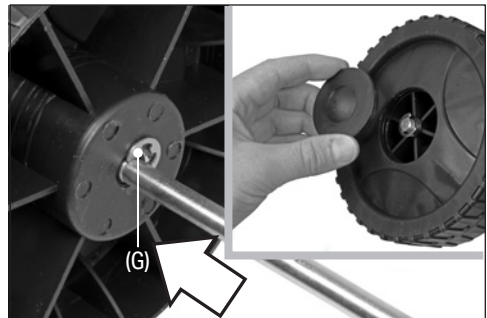


Fig. 4

6. Preparing the Starter/Charger

7. Insert the axle into one of the holes at the back of the sides of the product frame and guide it through the housing until it emerges at the other side.

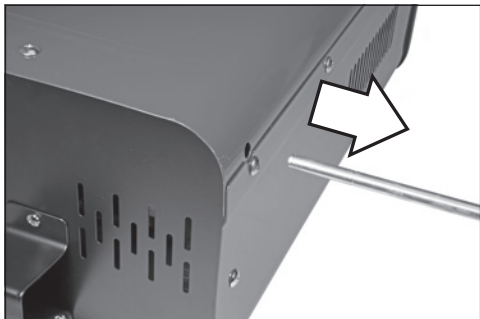


Fig. 5

8. Install a third circlip into the axle groove closest to the product frame and slide the remaining wheel onto the axle.

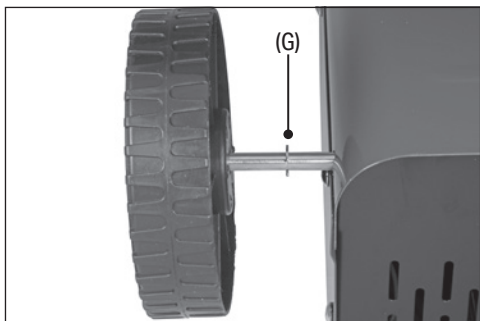







Fig. 6

9. Snap the final circlip into the remaining groove and push the hub cap into place.
10. Carefully tip the product back into an upright position.

7. Connecting a Battery

Important: Before operating this product, read and understand all the safety instructions listed in this manual and ensure that the product is correctly prepared for the operation. Refer to the vehicle and battery manufacturer manuals for specific instructions relating to the battery to be charged or started.

Important: This product is only suitable for charging lead-based batteries.

Engine Capacity					
<1300cc	5 - 15Ah	15 - 30Ah	35 - 45Ah	-	60 - 110Ah
>1300cc	-	-	45 - 65Ah	45 - 65Ah	60 - 110Ah
Diesel	-	-	60 - 90Ah	60 - 90Ah	60 - 110Ah

7.2 Connection Procedure

Important: Ensure that the product is switched off and disconnect it from the power supply **BEFORE** connecting the battery.

Important: To prevent the risk of damage to the alternator, Draper Tools recommends that the battery is disconnected from the vehicle before charging. Loss of codes can be prevented by connecting an appropriate Draper Memory Saver (Stock Nos. 22277 and 22231). The battery should remain connected during a jump-start.

1. Ensure that the battery and the charger are situated on a level surface.
2. If the vehicle battery is not a maintenance-free or sealed battery:
 - a. Remove the cell filler caps and check the level of electrolyte.
 - b. If necessary, top up the electrolyte to the manufacturer's recommended level using distilled or deionised water.



CAUTION! Top up with distilled or deionised water **ONLY**. **NEVER** top up lead-acid batteries with tap water.








WARNING! Battery fluid is corrosive. **DO NOT** touch the battery fluid or overfill the cells.

- c. Draper Tools recommends also checking the electrolyte density (specific gravity) using a hydrometer (not supplied) to ensure that the acid to water ratio is sufficient.

7.1 Battery Sizes and Ratings

Important: Ensure that the battery is within the appropriate amperage range for the charger before connecting the battery to the product.

The chart below gives typical battery ratings for different vehicle types (for guidance **ONLY**). **ALWAYS** check the battery specific to your vehicle.

				
<1300cc	15 - 30Ah	35 - 45Ah	-	60 - 110Ah
>1300cc	-	45 - 65Ah	45 - 65Ah	60 - 110Ah
Diesel	-	60 - 90Ah	60 - 90Ah	60 - 110Ah

- d. the cell filler caps loose or removed to allow charging gases to escape.
3. Clean the battery terminals with a dry cloth to optimise conduction with the terminal clamps.

Important: **ALWAYS** wear protective gloves when handling battery terminals.
 4. Ensure that the charger is disconnected from the power supply.
 5. Remove the plastic cap of the 12V (1) or 24V (2) charger terminal as appropriate and place the ring contact of the positive cable (B) onto the exposed bolt, then screw the cap securely back into place.

Important: Ensure that the positive cable is connected to the correct terminal for the battery.
 6. Refer to the vehicle and battery manufacturer instructions for guidance on connecting the terminal clamps (5) (7) to the battery terminals and/or chassis. Most vehicles require the positive clamp (7) to be connected before the negative clamp (5); **ALWAYS** follow the manufacturer instructions.



WARNING! If the terminals are connected using the incorrect polarity, disconnect them **IMMEDIATELY** to avoid damaging the battery.

Important: Ensure that the charger is correctly prepared and the battery is connected correctly before charging the battery.

Important: Continually monitor the battery voltage and adjust the charging output current during charging.

8.1 Charging Times

Calculate the approximate charging time for a battery using the following equation:


$$\text{Charging time/hours} = \frac{\text{Capacity in Ah (battery)}}{\text{Charger output (Amps)}}$$

For example, a 45Ah would require roughly 2 hours to charge on a 23A current.

As the battery nears a full charge, the ammeter (3) needle will approach the "0" value of the scale. When the needle is near the "0", it is fully charged. Disconnect the battery immediately.

Important: Charging times are subject to the battery condition. Partially charged batteries require less charging time than fully discharged batteries.

8.2 Charging Procedure

1. Ensure that the plug fitted to the appliance is appropriate for the intended operation; see **6.1 Connecting a Plug**.
2. Connect the charger to the battery; see **7. Connecting a Battery**.
3. Set the switches to the correct positions:
 - **Charge/start mode switch** (10): []
 - **Step current switch** (13): [**1**]
 - **Min/Boost Switch** (11): [**MIN**]
4. Connect the charger to the power supply and move the power switch (12) to the [**I**] position.
5. Monitor the battery voltage with a suitable meter (not supplied).
 - As the battery voltage increases, move the step current switch to the [**2**] position.
 - When the battery reaches 12V or 24V as appropriate, move the fast charging switch to the [**BOOST**] position for the final part of the charge.
 - When the battery is fully charged, move the power switch to the [off icon] position and disconnect the mains power supply.



CAUTION! The current may **ONLY** be increased if a **16A plug** has been fitted to the product.

6. Disconnect the battery from the charger in reverse order and in accordance with the manufacturer's instructions.

8.3 Notes on Charging

- The machine can be used to charge multiple batteries simultaneously:
 - The 12V terminal can be used to charge a single 12V battery or multiple 12V batteries wired in parallel.
 - The 24V terminal can be used to charge two 24V batteries wired in series.

Important: **DO NOT** attempt to charge batteries of different types or with difference capacities or levels of charge at the same time.



WARNING! Simultaneous battery charging must **ONLY** be undertaken by a qualified electrician or an otherwise experienced and competent person.

- The fast charging option applies low and high current to the battery; see **8.4 Fast Charging**.



WARNING! Use the boost mode for short periods **ONLY** and observe the battery at all times while boost mode is active.

- The step current switch (13) steps up the current while the fast charging switch is set to [**MIN**].
- The ammeter indicates the current being applied to the battery; the battery is charged when the ammeter displays a value of near zero.

8. Maintenance and Troubleshooting

8.4 Fast Charging

Fast charging is activated by moving the fast charging switch to the [**BOOST**] position.

Charge the battery initially using the lower settings to build up a charge. Charging may then be boosted by switching to the fast charging modes for a short period of time **ONLY**.

Important: When fast charging is enabled, the 1/2 switch position does not apply.



CAUTION! NEVER begin a charging operation using the boost charging setting. Fast charging mode is only suitable for use with batteries rated over 40Ah.

Important: Charging times may be significantly reduced while fast charging is active. **DO NOT** allow the battery to overcharge.

- **DO NOT** leave the battery unattended or unobserved.
- **DO NOT** allow the battery to overcharge.
- **ALWAYS** adhere to the battery manufacturer's recommendations regarding boosted charging.

Important: Jump-starting requires large amounts of current and will cause the components inside this product to heat up. **NEVER** disregard the duty cycles and starting procedures of this product. **DO NOT** disconnect the battery from the vehicle.

Important: These instructions are intended as a guide **ONLY**. **ALWAYS** refer to the vehicle and battery manufacturer manuals for specific instructions relating to the vehicle to be jump-started as the procedure varies between vehicles. Any manufacturer instructions relating to other equipment to be used in the immediate area should also be consulted. Read all instructions in full **BEFORE** using this product.


Important: This product can only help to jump-start engines in good mechanical condition. When cranking the engine of vehicles with higher battery capacities or in very cold environments, you may need to pre-charge the battery for approximately 15 minutes before attempting a jump-start.


Important: When jump-starting a diesel engine, preheat the glow plugs before cranking the engine to prevent them from being damaged.


 **WARNING! NEVER jump-start a lithium-ion battery.**


 **CAUTION! The product MUST be fitted with a 32A plug before performing a jump-start. DO NOT attempt to jump-start an engine using a 13A or 16A power supply.**

The jump-starting process requires two people: one in the vehicle, and the other operating the starter/charger.

1. Connect the starter to the battery; see **7. Connecting a Battery** and ensure that the charge/start mode switch (10) is in the  position.
2. Connect the starter to the mains supply and move the power switch (12) to the [|] position.
3. Begin cranking the vehicle.

At the same time, move the charge/start mode switch to the  position for **MAX. THREE SECONDS**.

- If the vehicle does not start within three seconds, move the mode switch back to the  position and wait for at least two minutes before retrying.
- If the vehicle fails to start after five attempts, there may be a fault with the vehicle; investigate and resolve any issues before retrying.

 **CAUTION! Failure to observe the cooling off periods will cause significant damage to the product and may cause it to become dangerously warm.**

4. Once the vehicle has started, move the charge/start mode switch to the charge position and disconnect the mains power.
5. Disconnect the battery from the charger in reverse order and in accordance with the manufacturer's instructions.

10. Maintenance and Troubleshooting

Important: Disconnect the starter/charger from the battery and mains power before performing any maintenance.

10.1 General Maintenance and Storage

Other than the output overload fuse, this product contains no parts that are serviceable by the user. However, the product should be kept in good condition to ensure a long working life. Maintenance should be carried out **ONLY** by suitably qualified personnel authorised by Draper Tools.

- Keep all ventilation openings and output ports clean from dust and dirt.
- Keep the terminal clamps and contacts free from corrosion and store them tidily with the machine.
- Clean the product regularly using a dry cloth.



CAUTION! NEVER use aggressive chemicals to clean the product as these may damage the product frame.

- Store the product in a clean and dry location, out of direct sunlight and out of reach of children.
 - Ensure that the terminal caps are securely screwed onto the terminals to prevent corrosion.
 - Ensure that the cables are tidy and not pinched or kinked when stored.
 - Ensure that there are no metallic objects nearby that may fall onto the battery and connect the terminals.

Important: Poor storage conditions may significantly reduce the performance capabilities and lifespan of the product.

10.2 Replacing the Output Overload Fuses

In the event that the output current becomes too high, the output overload fuses will blow if the excessive current is maintained.

This product uses two 50A time delay fuses.

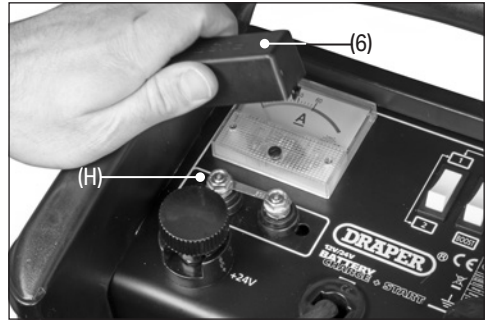


Fig. 7

To replace the output overload fuses:

1. Disconnect the machine from the battery and the mains power supply and allow it to cool thoroughly.
2. Pinch the shorter edges of the output overload fuse cover (6) together and pull it away from the product interface.
3. Unscrew the fuse.
4. Screw a new identical fuse securely in its place and replace the cover.

10.3 Troubleshooting

Problem	Possible Cause	Remedy
The power indicator does not illuminate when the product is switched on.	The product is not connected to an active power supply.	Check the power connection and cable to the machine.
	The fuse in the mains plug has blown.	Check and replace the fuse with an identical item.
The power indicator goes out during use.	The product has overheated and the time fuse has blown.	Switch off and disconnect the product from mains power and the battery. Allow it to cool thoroughly; the fuse will reset automatically.
The product is powered on but delivers no output current.	The output overload fuses have blown.	Switch off and disconnect the product from mains power and the battery. Allow it to cool thoroughly and replace the output overload fuses; see 10.2 .
	The cables are connected with incorrect polarity.	Disconnect the cables immediately and reconnect them correctly.
	The battery terminals or terminal clamps are dirty and cannot conduct the current.	Clean the battery terminals and clamps and retry.
	The jump leads are damaged or faulty.	Disconnect the jump leads IMMEDIATELY and contact Draper Tools for support.

11. Spares, Returns and Disposal

For spare parts, servicing, and repair and replacement options, please contact the Draper Tools Product Helpline for details of your nearest authorised agent.

Draper Tools will endeavour to hold any spare parts, if applicable, for seven years from the date that it sells the final matching stock item.

Any servicing or repairs carried out by unauthorised personnel or installation of spare parts not supplied by Draper Tools will invalidate your warranty.

Important: For safety, **ALWAYS** drain and clean the product of any oil, fuel, chemicals or other substances before returning it to Draper Tools or its authorised agent. Store these materials in suitable containers and dispose of them in accordance with local regulations. Draper Tools and its agents cannot be responsible for the disposal of these substances.

12. Warranty

Draper Tools products are carefully tested and inspected before shipment and are guaranteed to be free from defective materials and workmanship.

Should the tool develop a fault, return the complete tool to your nearest distributor or contact Draper Tools directly. Contact information can be found at the back of this manual.

Proof of purchase must be provided.

If, upon inspection, it is found that the fault occurring is due to defective materials or workmanship, repairs will be carried out free of charge. This warranty period covers parts and labour for 12 months from the date of purchase. Where tools have been hired out, the warranty period covers 90 days from the date of purchase.

This warranty does not apply to any consumable parts, batteries or normal wear and tear, nor does it cover any damage caused by misuse, careless or unsafe handling, alterations, accidents, or repairs attempted or made by any personnel other than the authorised Draper Tools repair agent.

At the end of its working life, dispose of the product responsibly and in line with local regulations. Recycle where possible.

- **DO NOT** dispose of this product with domestic waste; most local authorities provide appropriate recycling facilities.
- **DO NOT** burn or mutilate batteries; this may release toxic or corrosive substances.



In all cases, to make a claim for faulty workmanship or materials within the standard warranty period, please contact or return the product to the place of purchase. Proof of purchase may be required.

If the place of purchase is no longer trading or if you experience any difficulties with your warranty, please contact Customer Services with the product details and your proof of purchase. Contact details can be found at the back of this manual.

If the tool is not covered by the terms of this warranty, repairs and carriage charges will be quoted and charged accordingly.

This warranty supersedes any other guarantees expressed or implied and variations of its terms are not authorised.

Your Draper Tools guarantee is not effective until you can produce, upon request, a dated receipt or invoice to verify your purchase within the guarantee period.

Please note that this warranty is an additional benefit and does not affect your statutory rights.

Draper Tools Limited

13. Explanation of Symbols



Read the instruction manual



Warning!



Wear suitable eye protection



Wear protective gloves



Do not incinerate or throw onto fire



Supply voltage



Input power



Maximum starting current



Rated charging current (12V/40A)



Rated charging current (24V/36A)



Reverse polarity protection



Thermal overload protection



Lead Acid Battery



'Gel' type battery



Absorbent Glass Mat battery



Maintenance free battery



Class I appliance; must be earthed



WEEE -

Waste Electrical & Electronic Equipment

Do not dispose of Waste Electrical & Electronic Equipment in with domestic rubbish



European conformity



UK Conformity Assessed

Contact Details

Draper Tools

Draper Tools Limited
Hursley Road
Chandler's Ford
Eastleigh
Hampshire
SO53 1YF
UK

Website: drapertools.com

Email: sales@drapertools.com

Product Helpline: +44 (0) 23 8049 4344

Telephone Sales Desk: +44 (0) 23 8049 4333

General Enquiries: +44 (0) 23 8026 6355

General Fax: +44 (0) 23 8026 0784

Delta International

Delta International BV
Oude Graaf 8
6002 NL
Weert
Netherlands

Please contact the Draper Tools Product Helpline for repair and servicing enquiries.