

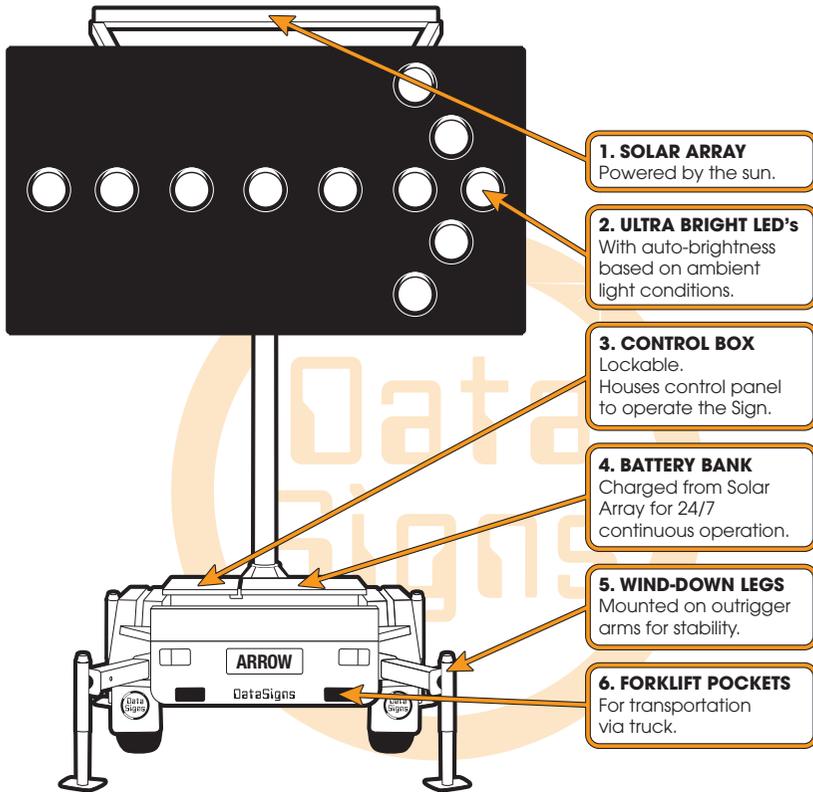


Arrow Type C **SERIES-II** Operations, OH&S and Maintenance Manual

If hiring this sign, contact Hire Company for assistance.

■ DataSign-Arrow-C Overview

The diagram below shows the location of parts commonly referred to throughout this manual. While some parts change over time, the same concepts apply. Some parts are optional extras and may not be fitted to your Sign.



When positioning the Sign, **ensure the solar panels will not be in shade during the course of the day**. Check with the local council or road authority before placing the DataSign-Arrow-C, depending on the road category.

■ When arriving on site...



1. Raise the lid of the Control Box by sliding the concealed latch underneath the lid to the right.

The HANDLE for the wind down leg and Jockey wheel is located under the lift up shelf.



2. Engage the park brake on the trailer coupling.



3. Lower the jockey wheel.



4. Unclip the tow coupling. Let the clip rest as shown.



5. Undo the trailer cable and store this under the shelf in the Control box.



6. Undo the safety chain from the vehicle and wind the jockey wheel to allow the tow coupling to be free of the vehicle tow ball.



7. Extend the 4 outrigger arms.



8. Lower the 4 Wind down legs.

A drill adaptor bit for the wind down legs is also supplied in the plastic pouch under the shelf. To speed up this process a battery powered drill can be used.



CAUTION: If using a drill, slow it down to avoid kickback as it gets to the end.



9. Release the Mast brake.

CAUTION: Failure to release the mast brake will cause damage to the mast brake or actuator.



10. **LOOK UP AND CHECK AREA IS CLEAR.**

11. **Setting up for Operation:** Raise the Sign Head using the Hoist Up Switch to clear the cradle and the control box open lid. Rotate the Sign head to face oncoming traffic as shown below.



12. Raise the Sign Head to the desired height, normally this is fully raised position. Then lock the Sign Head into place with the Mast Brake.

13. Feed the security chains through the wheels and fit the locks

14. Secure all other lock-points.

The Sign is set up.

Please read through the remainder of this document to familiarise yourself with this equipment.





Starting Up

- Use the black turn-switch to select the Arrow mode.
- Turn the Arrow display on using the POWER switch.
- Pushing upwards turns the backlights on, and downwards leaves them off.

If Arrow sequence is required, depress red button to activate.

(Sequence is where the arrow aspects light up sequentially from one side to the other.)

ARROW BOARD CONTROL PANEL

HOIST
RELEASE HOIST
BRAKE FIRST

UP ↑

DOWN ↓

POWER

ON (REAR LAMPS ON)

OFF

ON (REAR LAMPS OFF)

MODE

CURB SIDE ←

ROAD SIDE →

SEQUENCE

IF BEEPER SOUNDS, HOIST IS JAMMED:
1. RELEASE SWITCH
2. REMOVE JAM

CAUTION WHEN RAISING AND LOWERING ARROW BOARD!

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If beeper sounds when switching sign on, check Controller LED (back of sign head).

■ Retractable Drawbar

The drawbar can be retracted to reduce the footprint on the ground when setup and to enhance the security of the Trailer.



Ensure the two front wind-down legs are lowered in the down position to prevent tipping whenever the drawbar is retracted.



1. Release the wheel brake. The jockey wheel should only just touch the ground so there is no upward pressure on the drawbar; you should be able to wobble the drawbar. This ensures the pin can move freely.



2. Lift the pin and move right to hold in up position, push the drawbar inwards until nearly all the way, then move pin handle back to the left and push the drawbar fully in, the pin will then drop into place again.



3. Slide lock-pin lever into bracket to hold and secure in place with a lock.

To extend the drawbar again, follow the procedure above in reverse.



Search for the *“Retractable Drawbar”* video on the *Data Signs YouTube channel*.

Sign Take-down and Safe Transport of the Sign

It is crucial that the Sign is correctly taken down and hitched to the towing vehicle. If the Sign comes loose, **serious injury or death may result**. The correct take-down and hitching procedures are detailed below. Some steps may not apply to smaller model trailers. Trailers are not to be towed behind a truck with 4.5t GVM or higher without a suspension tow hitch/draw bar. Trailers are designed to be towed on bitumen roads.



1. Remove the security chains from through the wheels.



2. Undo the Mast Brake to lower the Sign Head. Lower Sign Head into transport cradle as shown.



3. Lower the Sign Head using the Hoist Down switch on the Control Panel in the Control box.



4. **Shutting Down: The sign MUST be BLANK when towed.** Blank the sign using the Power Switch set to the OFF position switch on the Control Panel.



CAUTION: If using a drill, slow it down to avoid kickback as it gets to the end.



5. Retract the Wind down Legs up and slide in the outriggers on all four sides.



6. Pull the spring pin and rotate the wind-down legs upside down, ensuring the spring pin goes back in to lock the wind-down leg in the upwards position.



7. Use the Jockey wheel to lower the tow coupling onto the tow ball. Ensure the tow coupling fits snugly onto the tow ball of the towing vehicle. This is discussed further in this manual.



8. Do up the safety chain.



9. Wind up the jockey wheel and lift to slot into position. Make sure the jockey wheel does not move once in the towing position.



10. Ensure the Reversing lock on the tow coupling is released before travelling, as shown.



11. Release the hand brake if this is still engaged.



12. Plug the tow cable into the plug on the trailer and the towing vehicle. Check the trailer lights are functioning correctly.
13. Walk around the Sign to confirm that it is ready for transport and that no steps were missed.

The Maximum recommended tow speed is 80 km/h.

Consider the Sign Height when towing.

When towing the Sign, bridges and other low obstacles may be encountered. Towing Heights: DataSign-Arrow-C: 2160mm.

Battery Charger

As required by Australian Standards.



The Battery Charger is located under the shelf in the Control box.

The battery charger has an On/Off switch and a fuse located on the side.

Normally this switch is left in the ON position.



1. Feed the cable through the slot on the side of the Control box. This holds the cable in place when shelf and lid are closed.



2. To charge the battery, plug the power cable into 240V Mains power.

3. It takes about 6 hours to fully charge the battery from a minimum acceptable charge level.

The Solar Regulator

The solar regulator is situated in the Control box, under the shelf.

If the solar regulator does not appear to be on, check the SOLAR fuse is operational. The SOLAR FUSE can be found on the left of the solar regulator.



The Amps will be high when the solar panel are facing towards the Sun, as the Battery charge level goes up the Amps will decrease.

If the screen is not showing the Amps, press the Page button on the left as shown, to get to this screen.

Keep pressing the Page button to Read Battery Voltage as well.



Arrow C **SERIES-II** Maintenance Guide

For trouble free operation of your DataSign-Arrow-C, Data Signs offer scheduled servicing of your equipment. Please contact one of our Service Centers to enquire about your servicing options.

Data Signs recommends a periodic service every 6 months.

■ Solar Array and Battery

The Signs are fitted with a Fixed solar array.

The solar panels are used to charge a 12V battery via a solar regulator. The battery powers the Sign. The battery is considered flat when it gets below 10.5 V. Once the voltage on the battery gets this low, the Sign will go into Battery Recharge mode and the display will blank.

If your battery is low:

- Ensure the solar panels are kept clean and free of dust.
- Check that Sign is positioned so the solar panels receive at least 6 hours of sunlight per day. Otherwise, the battery will eventually go flat.

■ Tow Coupling Adjustment

Adjust the tow coupling to fit snugly onto the tow ball of the towing vehicle to improve tow ride. In Australia, the tow coupling is designed to fit a 50mm ball. This adjustment is not completed during manufacture as each tow ball may be a slightly different diameter due to wear, or other factors. This is a guide only, please view the disclaimer at the end of the document. Additionally, ensure tow ball is at the correct height to tow the trailer.



1. Release the 19mm locking nut.



2. Undo the locking nut to give some leeway.



3. Using a flat-head screw driver on the slot on top of the pin, turn until tight, and then loosen very slightly. This will pull the coupling forward onto the tow ball and grip it.



4. Check that you can still unhook the coupling without too much effort, but maintaining a tight fit on the tow ball when attached.



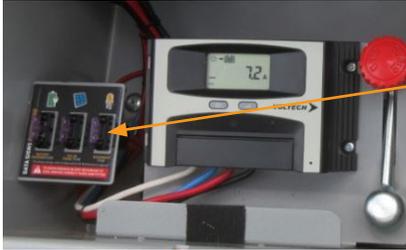
5. Tighten the locking nut firmly.



6. Note: when towing, ensure the reverse-lock is not engaged. Push out of the way, as shown.

■ Removing/Restoring Sign Power

Disconnect the power to the Sign for long-term storage (i.e. longer than a month), for long distance transport, or when working on the Sign. To disconnect the power follow the instructions below.



1. Open the Control box.
2. Lift the shelf to access the fuse board.
3. To remove Sign power, pull out the SIGN SUPPLY fuse.



CAUTION: If working on the Sign for repair (i.e. welding) disconnect ALL fuses.

To restore Sign power, insert the SIGN SUPPLY fuse. Push down to ensure it is properly fitted.

Notes for Undercover storage:

Storage outside is recommended so battery can maintain charge via the solar array. If storing the Sign undercover for a long-term (i.e. over one month), unplug the SIGN SUPPLY fuse. Please be aware that the battery *will* drain over time; therefore fitting a battery charger is recommended. Battery warranty is voided if battery is allowed to completely drain.

Electric Actuator – Manual Hand Crank



The electric actuator is used to raise and lower the Sign Head. In the event of low voltage, defective battery or actuator failure, the electric actuator can be manually lowered.

The service tools for this maintenance function may be purchased from Data Signs. The M5 and M6 Hex tools bits must be 250mm in length.



1. The power supply **MUST** be disconnected during manual lowering operation, pull out the **ALL** the fuses found under the shelf in the Control Box.



2. Release the Mast brake.

Complete the following underneath the trailer chassis.



3. Remove the cover screw using the M5 HEX TOOL BIT from underneath the actuator. (keep it safe to put it back in again afterwards)



4. Insert the M6 HEX TOOL BIT in 10mm past the cover screw thread section and begin winding down the actuator **SLOWLY!** Otherwise there is a potential risk of electricity being generated as it winds and may damage the actuator.



5. Before lowering completely, make sure the Sign cradle is lined up as shown.



6. Stop winding when lowered to the base.



CAUTION: Manually lowering too far will cause mechanical damage.

7. Once completed, lock Mast brake.
8. Put back the cover screw using the M5 HEX TOOL BIT into the actuator.
9. Effect service to sign as necessary

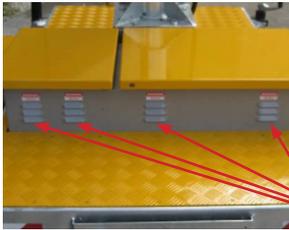
■ Trailer Wheels and Wheel Bearings

Regularly check the tyre pressure. At the same time check tyre condition and that the wheel nuts are tight. Every 6 months—and after a few months of use have a qualified mechanic check the wheel bearings. **Grease** the wheel bearings every 12 months under normal operating conditions. More frequently for adverse/harsh road or operating conditions. Further, check after having travelled 1500 km.

Torque setting for wheel nuts:
65lbs.ft or 90Nm

The tyre pressures for each Sign model are detailed on the VIN plate. Ensure wheel nuts are tightened according to manufacturer specifications for this trailers' tyre size. If unsure, contact your local mechanic. Tire pressure of 55 PSI is recommended.

■ General Cleaning



The front and back of the Arrow display and trailer can be hosed. No abrasive solvents or thinners can be used anywhere on the Sign. Avoid the no-hose down areas on the battery box compartment.

NO HOSE DOWN AREAS



Light Sensor Lens

The light sensors (photo-electric cells) lens is located on the back of the Sign head. This should be kept clean. The amount of light entering this lens affects the level of Sign display brightness.