

Neater Arm Support Zero-Power version (NAS-Zero)

Instruction Manual

Note: for instructions on fitting a NAS-Zero to a wheelchair please refer to Guidelines available to Neater Solutions' Representatives.



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Safety

- **The NAS-Zero gives you some ability to move your arm. Inevitably, this results in certain dangers that the user and any carer must assess for themselves and take reasonable precautions against. The following is a list of potential dangers that Neater Solutions Limited has identified. Please read this list and all other instructions carefully, but be aware that there may be other dangers that we have not identified.**
- Ensure that you have control over the freedom of movement the NAS-Zero gives you so that your arm or parts of the mechanism do not cause any danger to yourself or others.
- Avoid moving or lifting any object that might be dangerous if dropped or spilt - such as scalding hot liquids or cigarettes. Though the NAS-Zero itself is made of flame resistant materials, your clothes may not be and the NAS-Zero will not prevent a burn should you drop such an object that you then cannot reach to retrieve.
- Be aware that other dangers could exist in using the NAS-Zero depending upon your circumstances. For instance, using it to help you eat could result in choking if you have difficulty with swallowing.
- Ask a physiotherapist to advise you on the use of the NAS-Zero. Its use is usually of therapeutic benefit, but prolonged use could strain you. In particular:
 - Ensure that the full travel of the NAS-Zero arm up and down does not cause you discomfort or even damage to your shoulder or other joints.
 - Start by using the NAS-Zero for only one hour per day and then slowly build up your use of the device.
- Do not use the NAS-Zero in any way that could cause danger if the mechanism were to jam.
- NAS-Zero is designed to comply with the essential requirements of the Medical Devices Directive Class 1 (EC Council Directive 93-52-EEC of 14 June 1993).
- Please keep the NAS-Zero away from dirty, abrasive or corrosive environments eg: avoid taking onto a beach.

If the NAS-Zero is fitted to a wheelchair:

- The NAS-Zero moving arm should be removed when moving the wheelchair.
- The NAS-Zero moving arm should not be fitted when the wheelchair is on a slope. Forward, backward or sideways tilt of the chair could make your arm swing in a direction you cannot control.
- Do not operate other wheelchair functions such as backrest recline, if there is any possibility that someone near the chair may trap their fingers in any parts of the wheelchair or NAS-Zero mechanisms or between the NAS-Zero and the chair.
- The NAS-Zero has not been crash tested with different wheelchair set-ups. However, the NAS-Zero has a very sturdy construction and tests have been carried out to simulate the forces that would be exerted by the NAS-Zero on its attaching brackets in a crash test. At the very least, when transporting the NAS-Zero in a vehicle, ensure that:
 1. The NAS-Zero has been fitted to your wheelchair by a representative of Neater Solutions.
 2. The NAS-Zero moving arm is completely removed from the main column.
 3. If you travel in your wheelchair, it is essential that the wheelchair is suitable for use as a seat in a vehicle (as stated by the wheelchair manufacturer). It is also essential that a headrest is fitted that is suitable for use in a vehicle as supplied by the wheelchair manufacturer to prevent your head hitting the main column of the NAS-Zero in the event of an accident. (In any case you should use such a headrest to prevent whiplash injury). If you have not been provided with a headrest suitable for use in a vehicle, do not use the wheelchair for this purpose.
 4. The wheelchair is fastened into the vehicle following the manufacturer's instructions.
- Your wheelchair provider should have ensured that your wheelchair satisfies any necessary safety criteria for your purposes. The NAS-Zero should only be fitted to wheelchairs by a trained representative of Neater Solutions. Please take note of any safety advice in addition to the points here that the Neater Solutions representative may give you. A properly fitted NAS-Zero used correctly following the guidelines in this manual should not pose any significant health and safety risks beyond those detailed in this manual or by the Neater Solutions representative fitting the unit. For instance, the weight of the NAS-Zero is small compared to the wheelchair; it is positioned only a short distance back from the rear wheels' axis; it therefore does not significantly affect the performance of the wheelchair in incline tests.

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Neater Arm Support Zero Power version **(NAS-Zero) - Description**

The NAS-Zero is a non-powered version of the Neater Arm Support. It offers a "helping arm" to people with some muscular weakness.



The NAS-Zero supports the weight of the user's arm in a sling, enabling them to move their arm back and forth freely using their own muscle power. It is usually supplied with a fixed bracket system for clamping to a sturdy table. It can also be attached to the back of a wheelchair or to a separate floor stand.

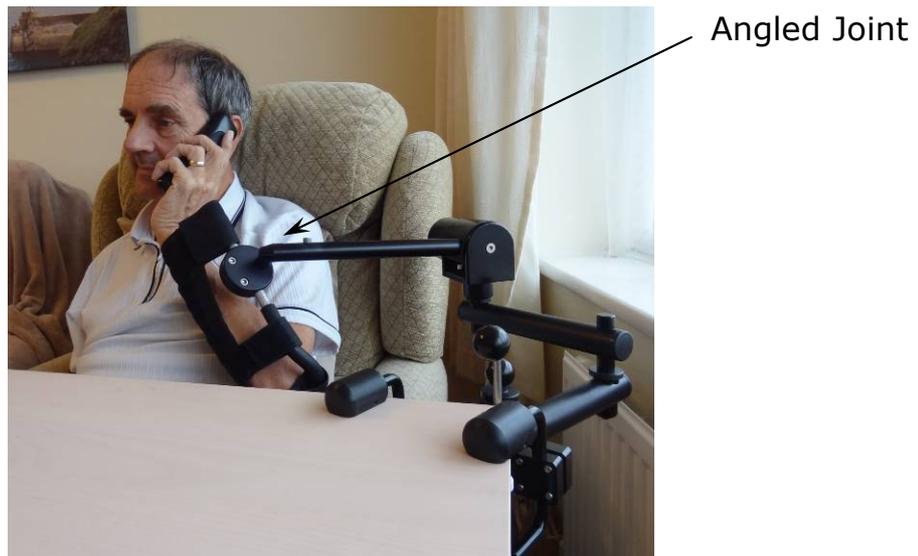
The sling is attached via an angled joint to a spring loaded arm and a metal linkage with frictionless joints to the fixed bracket.

The strength of the spring can be adjusted to suit the user. Light viscous dampers help smooth the movement.

Adjustable up and down stops set the range of vertical movement.

(A version of the Neater Arm Support is available with electrically powered vertical movement for users with weaker arms.)

Set up



As your arm is raised, your elbow drops

The sling and its frame are available in different sizes. The sling can be adjusted using the Velcro tabs.

The sling frame is attached to the spring-loaded arm via an angled joint. The joint is usually positioned so that when you raise your arm, your elbow drops down automatically, helping to bring your hand closer to your head – this is useful for many functions such as feeding yourself. Similarly, when you lower your arm, your hand is lowered further enabling you to reach things, such as objects on a table, more easily.



As your arm is lowered, your hand is lowered further



Loosen two screws in the Angled Joint and slide the frame to change the pivot position before retightening the screws. (The flexible tubing around the frame may need carefully cut).

The **angle** of the frame in the joint can also be adjusted to allow the right balance of support without obstruction.

Some people find it easier to use the NAS-Zero with the Angled Joint the other way up from how it is shown in the pictures – ie: with the joint positioned below the hole for the sling frame and the tightening screws and slot at the top.



Spring Mechanism

The amount of lifting force can be adjusted to the optimum setting for you; helping you lift your arm without making it too difficult to lower it.

Turn the screw clockwise to increase up-force, anti-clockwise to decrease. If the lowest setting is still too strong, a weaker spring can be fitted.

Ensure that the NAS-Zero gives the range of up and down movement you require. This can be adjusted using the Up and Down Stops.



Up Stop (underneath)
Adjust to limit highest position

Down Stop (underneath) -
Adjust to limit lowest position

The range of movement can also be adjusted by reconfiguring the table clamping system.

Clamping system



The standard system supplied for clamping to tables is very adaptable. Multiple configurations of the various brackets are possible to position the

Mounting Bracket

enabling adjustment of:

- height
- protruding from the table
- angled to bias movement of the Moving Arm in or out; back or forward

Larger clamps are available.



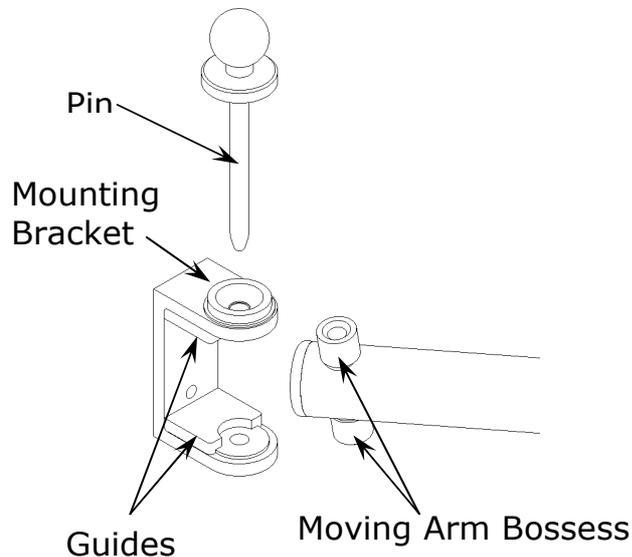
Clip for holding down the sling frame to enable sliding arm in and out.

Position of the clamping system on the table will vary horizontal movement range

People whose arms are too weak to use a NAS-Zero are recommended to try the Powered Neater Eater Support see www.neater.co.uk/neater-arm-support

Removing the NAS-Zero moving arm

The NAS moving arm can be removed from the clamping system. (Important if fitted to a wheelchair that is to be transported.)



the Pin

To remove the arm:

- Support the weight of the NAS-Zero moving arm in such a way as to minimise downward or twisting force it might exert in any direction where it attaches to the Mounting Bracket.
- Pull out the pin (see illustration above) and remove the arm.
- Wiggling the NAS-Zero moving arm a little while you do this can make it easier to pull the pin out.
- Put the pin back in position in the Mounting Bracket so it does not get lost.
- Take care to transport and store the moving arm in a way that will avoid scratching it or cause other damage.
- Refit the moving arm in the same way –supporting the arm to minimise twisting forces in the Mounting Bracket. Hold the moving arm bosses against the semi-circular cut-outs in the guides in the moving bracket as you introduce the pin. The tapered end of the pin helps ease it into position.

Video instructions (the same as the powered version of the NAS) are available on the website: www.neater.co.uk/video

Right to Left Handed Conversion

- Remove the Frame and Sling
- Remove the two screws holding the frame holder assembly
- Rotate the frame holder around to Left handed position
- Fit Left handed Frame and Sling



Right Handed Use

Frame and Sling

Sling Holder

Two Screws



Left Handed Use

Cleaning & Maintenance

The NAS-Zero has a 3 year warranty, if there are any problems with the functioning of the NAS-Zero Neater Solutions should be contacted.

The NAS-Zero can be wiped clean with a damp cloth and a little detergent. **Be careful not to allow water to flow into any of the joints.**

The sling can easily be removed from its frame by undoing the Velcro straps. Wash by hand or use a low temperature machine wash (eg: Woollens setting).

The arm joints are shielded ball and roller bearing that do not require lubrication.

For any further maintenance the user should contact Neater Solutions.

Attachment to wheelchair

Limited Disclaimer

Neater Solutions and its representatives have attempted to develop systems for attaching the NAS-Zero to wheelchairs that minimise the potential damage to the chair. In the very unlikely event that damage to the wheelchair does result from fitting of the NAS-Zero, Neater Solutions' liability is limited to that damage. Neater Solutions does not accept liability for damage to wheelchairs caused by other factors or by misuse of the wheelchair or the NAS-Zero.

The compatibility of the NAS-Zero with different wheelchairs can only be assessed by Neater Solutions representatives.

Regular checks must be made to ensure that the NAS-Zero is as securely attached to the chair as when it was fitted by the Neater Solutions representative. It is the responsibility of the user or their representative to ensure these regular checks. If there is any doubt as to the fitting of the NAS-Zero contact Neater Solutions for further information.

The NAS-Zero should only be fitted to the wheelchair by a representative of Neater Solutions Limited.

Read and pay attention to all the safety points at the beginning of this manual.