

ELECTRIC PROGRAMMABLE
NEATER EATER®

(NEATER EATER® VERSION 5)

N.E.V.5
Instruction
Manual

Design
Council
award for
Innovation



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- Read all instructions carefully before use and particularly before making any adjustments. Incorrect use and adjustment could damage the Neater Eater and/or make its use dangerous in some way.
- The Neater Eater should only be used to assist the eating of consumable foods or for holding safe light objects. Ensure that food is not scalding hot.
- The Neater Eater should not be used by people with swallowing difficulties or who are liable to choke, except under the supervision of a Speech and Language Therapist.
- Do not attempt to eat large amounts of food in one mouthful as this can lead to choking. Use narrower cutlery if necessary to reduce this risk.
- **A carer should always be present if there is any risk of choking or other danger.**
- Clean all parts before every meal and check that no cracks or chips have appeared in any components. This is particularly important for parts that touch food or the user's mouth. Most plastic cutlery will crack eventually. This can collect germs, create sharp edges and lead to bits breaking off that may be swallowed. Ceramic plates can chip creating sharp edges.
- Before each meal, check that the peg on the base of the plate is firmly attached.
- Only use attachments supplied by authorised Neater Eater distributors.
- Ensure the Neater Eater is firmly attached to a sturdy table to avoid it overbalancing.
- Take care not to stick the cutlery in your eye or into the back of your throat.
- People with uncontrolled movements, particularly uncontrolled body or head movements, should not use hard or sharp cutlery such as metal spoons or forks.
- Be careful not to trap fingers in any parts of the mechanisms.
- Do not allow someone else to move the Neater Eater arm when making adjustments.
- Always replace covers after making adjustments before use or before connecting the Version 5 Neater Eater to a power supply.
- Be careful not to hit the clamps when moving into position to use the Neater Eater.
- Wipe the Neater Eater clean after each meal to stop any build up of food which can collect germs and could also get into and damage the mechanism of the Neater Eater. Ensure crockery and cutlery are properly cleaned.
- Side effects of using the Neater Eater may include over-eating, fatigue or muscle build-up through the exercise involved. Advice should be sought as appropriate eg: from a dietician and a physiotherapist.
- After any reprogramming of the electric Neater Eater, always run a test cycle of the spoon taking care to ensure the spoon does not travel too far towards the user (eg: into the back of their throat or eye) – the Neater Eater arm can be held back if it tries to come too close.
- Do not connect any power supply other than a 12 Volt DC regulated power supply into the Version 5 Neater Eater.
- Do not connect the power supply to the Neater Eater Version 5 if any covers are removed.
- Ensure that there are no trailing leads or cables that others might trip up on.
- Do not use a Neater Eater Version 5 in any environment where there is electrical or electronic equipment operating that is life supporting or near electrical equipment which could be dangerous should it fail.
- The Neater Button switches supplied should only be used with the Neater Eater.
- Neater Eaters are designed to comply with the essential requirements of the Medical Devices Directive Class 1 (EC Council Directive 93-52-EEC of 14 June 1993).

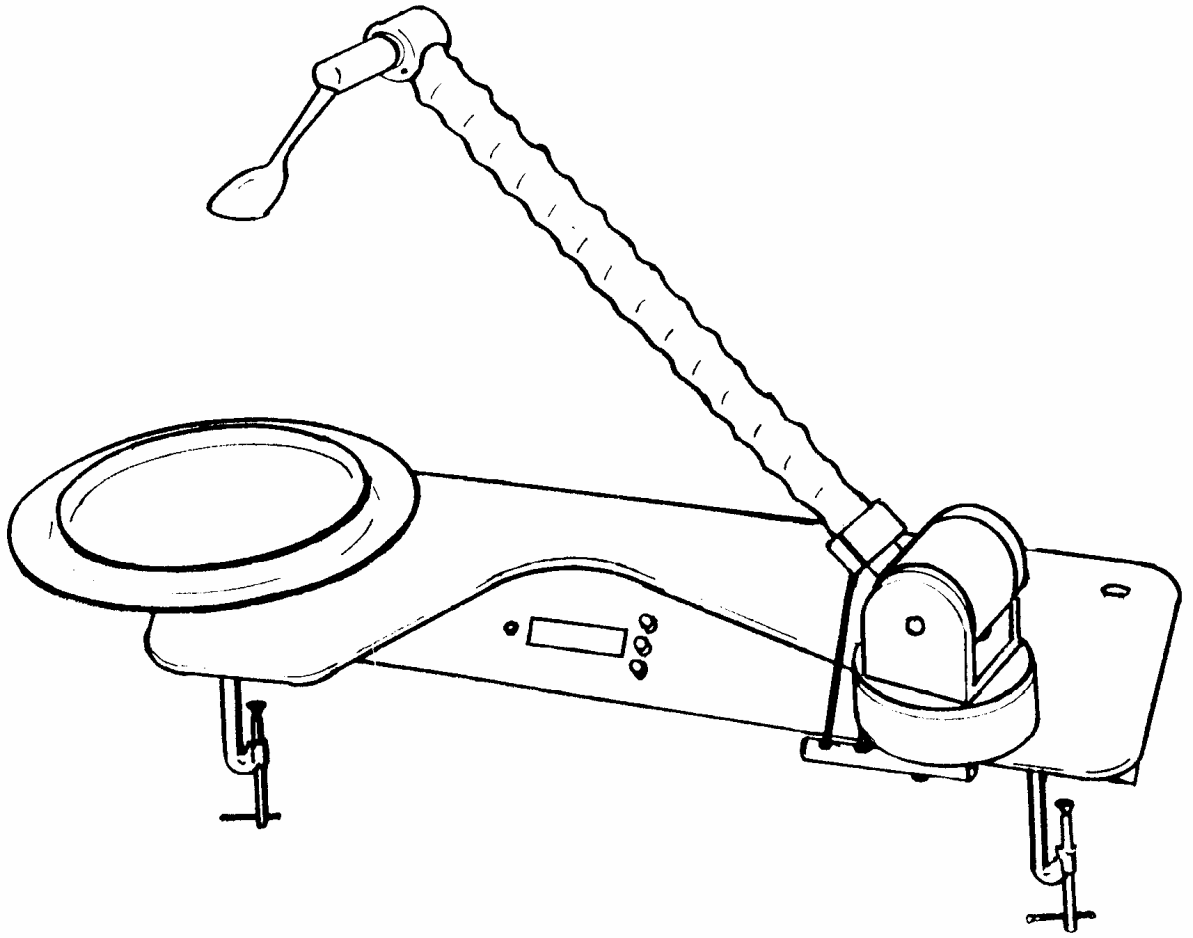
1. It's Easy!

- **The Neater Eater Version 5 (NEV5) is easy to use.**
- **It is also easy to set up and adjust.**
- There are many ways of operating the NEV5 to suit people with different physical and cognitive abilities.
- These instructions explain how to use the Neater Eater once it has been set up and also how to simply change the set-up to best suit the needs of each Diner.
(The NEV5 can be easily programmed for up to five different Dinners with different head positions, plates, smart operating modes, pause times etc.).
- The NEV5 has many inherently safe design features but please read the safety instructions opposite.
- Any problems? - Just phone your dealer.

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These instructions are written addressing you, the Diner (the user of the NEV5).
You are likely to need help in setting up or changing the settings of the NEV5.

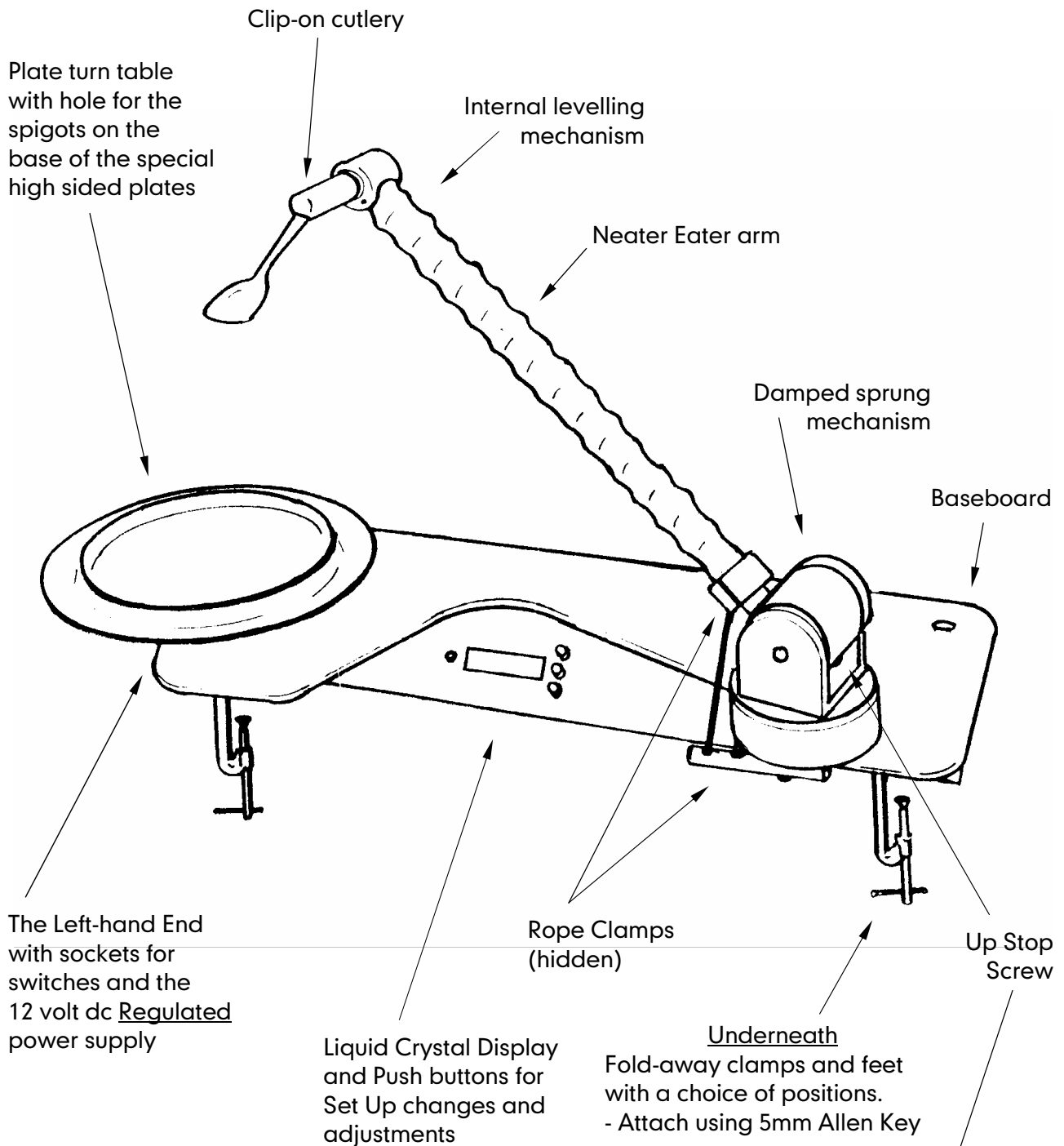


3. Quick Instructions - once already set up

1. Read the safety instructions at the front of this manual.
2. If the Neater Eater Version 5 (NEV5) is not already set up or if you have problems with these quick instructions, please read the rest of this manual.
3. **Before** you are positioned for eating in front of the NEV5, carefully plug in the 12V dc regulated power supply and switch on the power. Make sure no other switches are pushed when you switch on the power. Do not force the plug in.
4. When you switch the power on, the Liquid Crystal Display on the front of the NEV5 will read: "Mouth Position" whilst the NEV5 arm moves to the mouth position of the Diner. The display then reads: "Diner A,B,C,D or E" depending on who was the last Diner to use the NEV5. Please refer to section 5.1 if you need to change the Diner.
5. Plug on the spoon or other cutlery (it just pushes on - with the spoon level - without twisting) and **position yourself accurately** so that you can take food off the spoon easily. Accurate positioning is particularly important if you have head tremor or limited head movement. If your chair, table or head position has changed you may need to refer to section 6.4 to set the mouth position for the spoon.
6. Put the special plate on the turntable. A peg on the base of the plate locates in the hole in the turntable.
7. Ensure the food is chopped up small enough so that it stays on the spoon when scooped and will not choke you. Avoid over-filling the plate or mixing the food as this limits your choice when eating. (Consider using a smaller or a round-fronted spoon if too much food is scooped up for you).
8. Position any switches that you use to operate the NEV5.
9. How you operate the NEV5 depends on how it has been set up. (Section 5 describes the options available). The bright green LED is lit and the display reads: "Bon Appetit!" when the automatic cycle is running. If you pause the cycle, the display will read: "Paused In Cycle".
10. The plate is turned by the turntable to reach the food you want. The spoon scoops against the turned-over lip of the plate.
11. Turning the plate when the spoon is at the front can help with the scooping and piling up the food as the plate becomes empty.
12. When you change to a different size plate, see section 5.2
13. If you have any problems, please read section 5 of this manual to see what options there are for other set-ups.
14. Do not pull on the arm manually - it is OK to push it back and down. See section 10 if you want to operate the NEV5 manually or with the joystick.

4. Description

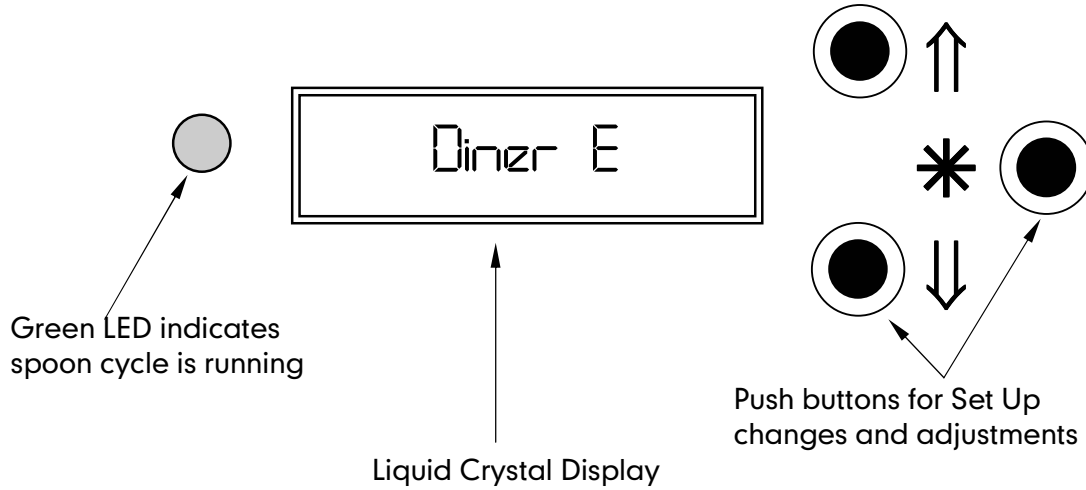
Electric Programmable Neater Eater (Neater Eater Version 5) -NEV5



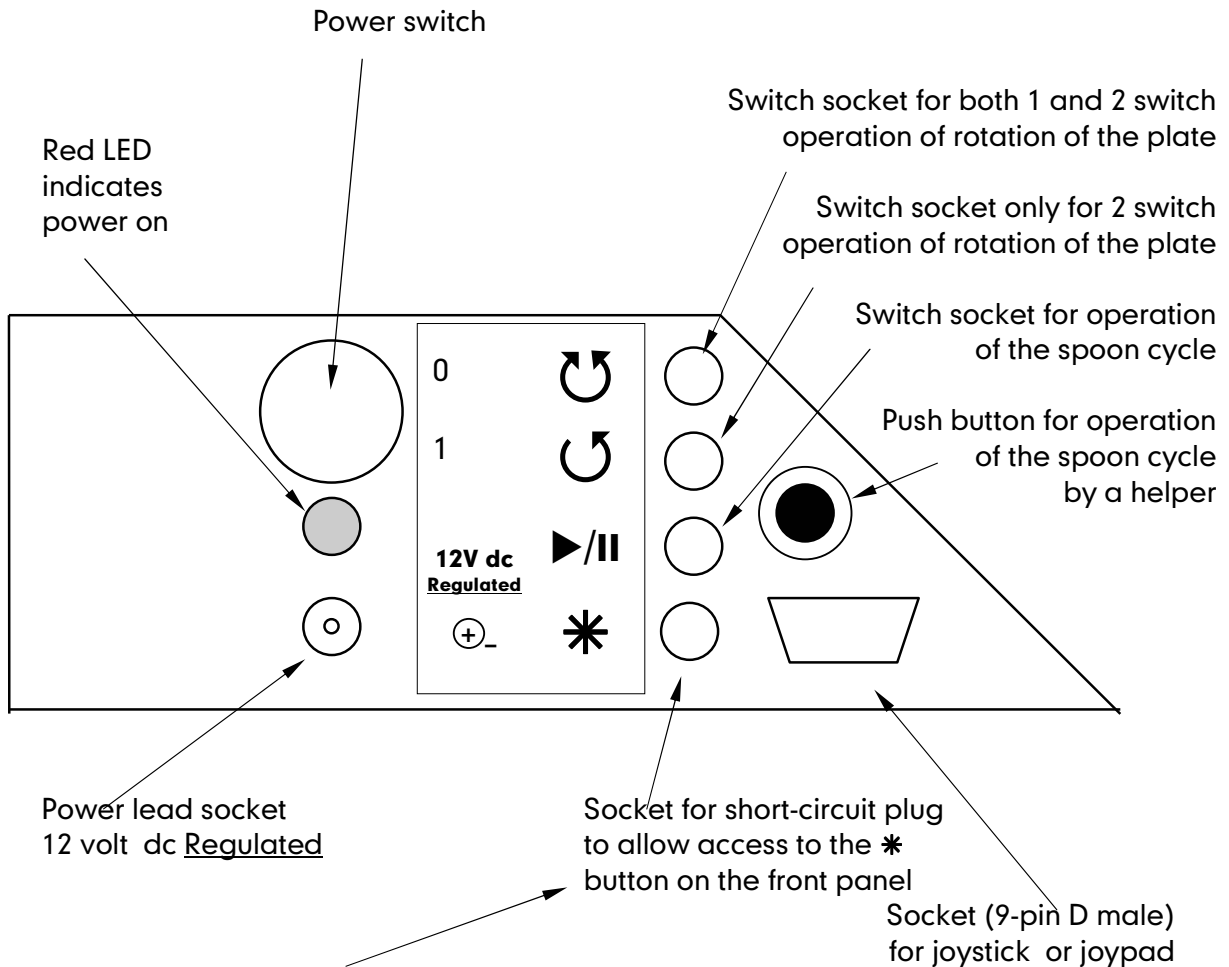
Unlike the mechanical versions of the Neater Eater, the Up Stop Screw is only used as a safeguard on the NEV5 and should not require adjustment for use in the normal range

The Front

(Push buttons and Liquid Crystal Display for Set Up changes and adjustments)



The Left-hand End



Note: If the short-circuit plug is missing, you can use one of the plug-in switches held down with tape or a small weight.

<p>Different versions of the Neater Eater assist eating</p>	<p>Neater Eaters enable people to feed themselves. There are different versions to suit people with different abilities.</p> <p>The Version 5 is electrically powered and programmable.</p>
<p>Electric Programmable Neater Eater (Neater Eater Version 5) - NEV5 - The basics</p>	<p>The NEV5 consists of an arm mounted on a baseboard with fold-away clamps for fixing to a table.</p> <p>Special high-sided ceramic or plastic plates are supplied. A peg on the bottom of the plate fits into a plate turning attachment.</p> <p>Plastic or metal cutlery is supplied fitted into a special holder that clips onto the Neater Eater arm. A mechanism within the arm keeps the spoon level as the arm is moved.</p>
<p>Using the Neater Eater</p>	<p>How you use the Neater Eater depends on your abilities and how it is set up.</p> <p>Food is scooped up as the level spoon comes forward against the turned-over lip of the plate.</p> <p>The plate can be turned under electric power to reach the food you want.</p> <p>The spoon lifts up and forward to a programmable position for your mouth.</p>
<p>How the NEV5 works</p>	<p>The Neater Eater arm is moved by two electric motors which pull on ropes that take the spoon back and down . As the motors release the ropes, a damped sprung mechanism brings the spoon up and forward. This is safe as no power is directly applied to move the spoon towards you.</p> <p>The spoon moves from a rest position above the plate into the plate; then forward to scoop the food - with a pause; then back and up; then forward to your mouth - with a pause; and then back to the rest position.</p> <p>Another motor turns the plate.</p> <p>A microprocessor controls the motors. The system is fully programmable in order to best suit different Diners with a wide range of physical and cognitive abilities. For instance, settings such as mouth positions and pause times are all adjustable and there are many different automatic operating modes to choose from - for movement of the spoon and for turning the plate - using different switching options.</p>

<p>Easy switches or no switches</p>	<p>It is possible to be fed by the NEV5 without having to operate any switches. A helper would need to set the NEV5 going and would need to mind that no problems occur during the meal.</p> <p>Most people want more control which is why there are a range of options using one, two or three switches. If you can chew and swallow, you can operate a switch.</p> <p>Our Neater Button switches are very light but have a tactile feedback. They can be easily positioned using Velcro to attach them to headrests, armrests or to the adjustable Neater Snacker. Other standard 3.5mm jack plug switches can also be used.</p>
<p>Choosing the set up</p>	<p>Section 5 gives descriptions of the choices of set up available. The descriptions should guide your choices for the best set up for you.</p> <p>On the front of the NEV5 is a Liquid Crystal Display and three push buttons marked: *, ↑ and ↓. These are used to choose the set up options. They are also used together with the joystick to learn new positions such as another Diner's mouth position. Detailed instructions for changing the set up are given on the facing pages in sections 5 and 6.</p>

5. Choices Set Up Menus	<u>Description</u>
5.1 Five Diners	<p>Up to five completely different set ups can be programmed into the microprocessor. This allows use of the NEV5 by several people without altering each others settings. One user may have more than one set up for different environments or types of meal.</p> <p><u>Tip:</u> If you switch off the power after changing the Diner setting and switch on again, the spoon will automatically move to the mouth position of the new Diner. Do not sit too close to the NEV5 when you do this if you are unsure where this position might be. See section 6.4 to teach the NEV5 new mouth positions.</p> <p>The following choices can thus all be set up differently for each Diner.</p>
5.2 Three Plates	<p>Large Plate, Small Plate or Other Plate can be chosen. The back and front positions where the spoon enters the plate and scoops the food against its edge can be adjusted in the Learn Mode Menus - see sections 6.5 and 6.6.</p> <p><u>Note:</u> You may find that leaving the NEV5 set for the Large Plate will also work for the Small Plate and so save you from changing the setting when you change plates. Soft plastic spoons will however flick food if the Small Plate is used when the NEV5 is set for the Large Plate as the spoon catches the lip of the plate.</p>
5.3 Automatic rotation of the plate	<p>With this feature switched on, the plate rotates a little each time the spoon moves from the plate to your mouth. This allows you to dine without having to operate a switch to turn the plate - either at all or not so often.</p> <ul style="list-style-type: none"> • This is perhaps a more suitable choice when there is only one type of food in the plate to choose from such as breakfast cereal. • It is often used by people who have the most difficulty operating any switches. <p>The amount of automatic rotation can be adjusted in the Learn Mode Menus - see section 6.3</p>
5.4 One or two switches to rotate the plate	<p>You can choose to turn the plate with one switch which turns the plate alternately one way and then the other "PlateToggle L-R". Alternatively, you can choose to turn the plate using two switches - one for clockwise, one for anticlockwise rotation "PlateToggle Off".</p> <ul style="list-style-type: none"> • Most people choose to use just one switch to turn the plate. <p>Notes: 1. The plate turn switch will not work when ▶/II is pressed. 2. The fire button on the joystick will always act as an alternating plate switch.</p>



<p><u>The Liquid Crystal Displays</u> SET UP MENUS</p>	<p><u>INSTRUCTIONS - How to check or change the setting</u></p> <ul style="list-style-type: none"> • Ensure the short-circuit plug is inserted in the * socket <p><u>Note:</u> If no button is pushed for 20 seconds the system will automatically exit the Set Up Menus.</p>
<p>SelectedDiner=A SelectedDiner=B SelectedDiner=C SelectedDiner=D SelectedDiner=E</p>	<ul style="list-style-type: none"> • Push the * button twice to enter the Set Up Menus. <p>The current Diner is displayed. If you want to change it:</p> <ul style="list-style-type: none"> • press * • press ↓ or ↑ repeatedly until the choice you want is displayed • press * • press ↓ or ↑ repeatedly until the LCD reads: "EXIT SETUP MENUS" (or until you reach another setting you want to change) • press *
<p>Plate - Large Plate - Small Plate - Other</p>	<ul style="list-style-type: none"> • Push the * button twice to enter the Set Up Menus. • press ↓ to reach the Plate Menu <p>The current plate is displayed. If you want to change it:</p> <ul style="list-style-type: none"> • press * • press ↓ or ↑ repeatedly until the choice you want is displayed • press * • press ↓ or ↑ repeatedly until the LCD reads: "EXIT SETUP MENUS" (or until you reach another setting you want to change) • press * <p>(The back and front positions for the spoon to enter the plate and scoop the food can be adjusted in the Learn Mode Menus - see sections 6.5 and 6.6).</p>
<p>AutoPlateTurnON NOAutoPlateTurn</p>	<ul style="list-style-type: none"> • Push the * button twice to enter the Set Up Menus. • press ↓ twice to reach the Auto Plate Turn Menu <p>The current setting is displayed. If you want to change it:</p> <ul style="list-style-type: none"> • press * • press ↓ or ↑ to change the setting • press * • press ↓ or ↑ repeatedly until the LCD reads: "EXIT SETUP MENUS" (or until you reach another setting you want to change) • press * <p>(The amount by which the plate turns automatically for each cycle of the spoon can be adjusted in the Learn Mode Menus - see section 6.3).</p>
<p>PlateToggle L-R PlateToggle Off</p>	<ul style="list-style-type: none"> • Push the * button twice to enter the Set Up Menus. • press ↓ repeatedly to reach the Plate Switch Toggle Menu <p>The current setting is displayed. If you want to change it:</p> <ul style="list-style-type: none"> • press * • press ↓ or ↑ to change the setting • press * • press ↓ or ↑ repeatedly until the LCD reads: "EXIT SETUP MENUS" (or until you reach another setting you want to change) • press *

Choices (continued)	<u>Description</u>
<p>5.5 Four automatic spoon cycles:</p> <p>Spoon only when holding the switch down (GoWhile Pressed)</p>	<p>The automatic cycle of the spoon can be controlled in four different ways. The cycle can always be paused and re-started using the ▶/ switch. Multiple pushes of the ▶/ switch within a few fractions of a second will be read as a single push - this is an anti-tremor feature. The pauses that automatically occur in the cycle at the plate edge and at your mouth and their positions can be adjusted in the Learn Mode Menus - see section 6.</p> <p>This choice requires you to hold down the ▶/ switch in order to keep the spoon cycle running. It will stop if you let go of the switch and restart when you push it again. This is very simple, predictable and easily understood. The automatic pauses in the cycle - at the plate edge and at your mouth - need to be set low to avoid confusion, but not so low that you do not have enough time to let go of the switch when the spoon reaches your mouth! - see sections 6.1 & 6.2. NB: Plate turn switch will not work when ▶/ is pressed.</p>
<p>Single spoon cycle (Run Spoon Once)</p>	<p>A single push of the ▶/ switch sets off one complete cycle of the spoon. The spoon comes to rest above the plate where you will need to push of the ▶/ switch again to restart the cycle. Pushing the ▶/ switch during the cycle will pause the spoon. Push it again to restart. (If you pause the spoon on its way from the plate to your mouth, the spoon will go back and have another go at scooping food before coming to your mouth - thus saving time if the scooping action was unsuccessful the first time).</p> <ul style="list-style-type: none"> • This is the most common choice of spoon cycle control.
<p>Run spoon continuously (Spoon Non-Stop)</p>	<p>A single push of the ▶/ switch starts the spoon cycling continuously. Pushing the ▶/ switch during the cycle will pause the spoon. Push it again to restart. (If you pause the spoon on its way from the plate to your mouth, the spoon will go back and have another go at scooping food before coming to your mouth - thus saving time if the scooping action was unsuccessful the first time). It is important that the automatic pause times are set long to allow you sufficient time to chew and swallow between mouthfuls. <u>If your access to the ▶/ switch is limited, it is particularly important that a helper is present to mind that no problems occur during the meal.</u></p> <ul style="list-style-type: none"> • used in conjunction with automatic rotation of the plate, you do not need to operate any switches once the NEV5 is set going except to stop it.
<p>Single cycle started with the plate turn switch (1 Spoon, Turn=Go)</p>	<p>Only requires one switch to be used for a very high degree of control. A single cycle of the spoon will be started by pushing any Plate Rotate switch (which still work to turn the plate). In effect, if you keep using the Plate Rotate switch to turn the plate, the spoon cycle will run continuously. Once you stop, the spoon will automatically come to stop when it reaches the rest position.</p> <ul style="list-style-type: none"> • This choice is often used by people who have difficulty accessing more than one switch. • This is also a good choice for people with learning difficulties as pushing the switch will always do something (turn the plate or re-start the spoon cycle) without the possibility of stopping the spoon accidentally in an inconvenient position.



Go While Pressed

Run Spoon Once

- Push the * button twice to enter the Set Up Menus.
- press ↓ repeatedly to reach the spoon cycle menu indicated by one of these choices being displayed.

The current setting is displayed. If you want to change it:

- press *
- press ↓ or ↑ repeatedly until the choice you want is displayed
- press *
- press ↓ or ↑ repeatedly until the LCD reads: "EXIT SETUP MENUS" (or until you reach another setting you want to change)
- press *

Spoon Non-Stop

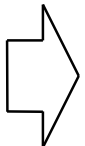
1 Spoon, Turn=Go

6. Adjustments Learn Mode Menus (Times, positions and copying set up.)	<u>Description</u> The following adjustments can be made. Please ensure your set up choices have been selected as described above before making adjustments. For instance if you want to adjust the position that the spoon reaches at the front of Diner B's small plate for scooping food, you will need first to select "Diner B" and "Plate - Small" - see section 5..
6.1 Mouth Pause	The amount of time the spoon pauses at the mouth during an automatic cycles can be adjusted from 0 to 9.9 seconds to allow you time to take food off the spoon. <ul style="list-style-type: none"> • This is often set quite high for people with lip-closure difficulties.
6.2 Plate Pause	The amount of time the spoon pauses at the front of the plate whilst scooping the food can be adjusted from 0 to 9.9 seconds. This allows you to turn the plate to help with the scooping action without having to first pause the spoon yourself. It also gives extra time for you to chew the food when the spoon cycle is running non-stop. <ul style="list-style-type: none"> • this is usually set quite low except for non-stop running.
6.3 Amount of automatic rotation of the plate	The amount of time the plate rotates for automatically during each automatic cycle of the spoon can be adjusted. (Please ensure that automatic plate rotation is switched on if you want this option to operate - see section 5.3.)



<p><u>The Liquid Crystal Displays</u> LEARN MODE MENUS</p>	<p><u>INSTRUCTIONS - How to adjust the settings</u></p> <ul style="list-style-type: none"> • Ensure the short-circuit plug is inserted in the * socket • Note: If no button is pushed for 20 seconds the system will automatically exit the menus (This "time-out" period is increased to 2 minutes in the position learning menus) • Important: Ensure that the correct Diner, Plate and other choices have been chosen first - see section 5.
<p>Mouth Pause =4.5s</p>	<ul style="list-style-type: none"> • Push the * button twice to enter the Set Up Menus. • press ↑ twice to reach the LEARN MODE MENUS • press * to enter the Learn Mode Menu <p>The current Mouth Pause is displayed. If you want to change it:</p> <ul style="list-style-type: none"> • press * • press ↓ or ↑ to change the setting • press * • press ↓ or ↑ repeatedly until the LCD reads: "EXIT SETUP MENUS" (or until you reach another setting you want to adjust) • press *
<p>Plate Pause =1.0s</p>	<ul style="list-style-type: none"> • Push the * button twice to enter the Set Up Menus. • press ↑ twice to reach the LEARN MODE MENUS • press * to enter the Learn Mode Menu • press ↓ <p>The current Plate Pause is displayed. If you want to change it:</p> <ul style="list-style-type: none"> • press * • press ↓ or ↑ to change the setting • press * • press ↓ or ↑ repeatedly until the LCD reads: "EXIT SETUP MENUS" (or until you reach another setting you want to adjust) • press *
<p>Plate Auto Timer</p> <p>*=OK ↓ ↑ =Adj.0.4s</p>	<ul style="list-style-type: none"> • Push the * button twice to enter the Set Up Menus. • press ↑ twice to reach the LEARN MODE MENUS • press * to enter the Learn Mode Menu • press ↓ twice <p>"Plate Auto Timer" is displayed. If you want to change it:</p> <ul style="list-style-type: none"> • press * • press ↓ or ↑ to change the setting • press * • press ↓ or ↑ repeatedly until the LCD reads: "EXIT SETUP MENUS" (or until you reach another setting you want to adjust) • press *

Adjustments (continued)	<u>Description</u>
6.4 Mouth Position	<p>The position that the spoon comes to for you to take food off the spoon can be adjusted separately for each of the five Diners.</p> <p><i>Accurate positioning is very important</i> particularly if you have head tremor or limited movement of your head.</p> <p><i>It is recommended that you try to position yourself <u>very</u> close to the table. Sometimes it is necessary to raise the table if it obstructs a Diner's chair.</i></p> <p><i>You should be positioned so that the spoon is aligned with your mouth when it has come up and forward. Because of the NEV5's geometry, how high the spoon goes and how far forwards it comes affect how far to the right it goes. The NEV5 can be moved to the left or right after first loosening the clamps carefully and then sliding it along the table before re-clamping.</i></p> <p><i>A position change of just 1 or 2 cm can make a significant difference for some Diners.</i></p> <p><i>The main solution to head tremor problems is accurate positioning and adjustment of the NEV5 so that the spoon comes right into your mouth during normal operation of the spoon cycle (see safety note opposite) without you having to move your head intentionally at all. Practice and relaxation (including distraction) usually help. Using a narrower spoon also helps. Sometimes a head rest or even head restraint are needed. These require professional fitting.</i></p>
6.5 Plate Front Position	<p>The position that the spoon comes to in order to scoop food at the front of the plate can be adjusted separately for each of the three plates for each of the five Diners.</p> <p><u>Important Safety Point:</u> <i>It is important that the Plate Front Position is always programmed at least a little in front of the Plate Back Position. Otherwise the microprocessor may become confused resulting in the spoon moving forward past the mouth when it comes up.</i></p> <p><u>Hint when using the Soup Bowl:</u> Set the "Back Position" first (section 6.6) with the spoon dipping right into the bottom of the soup bowl. Then set the "Front Position" just above the edge of the bowl (and thus out the soup). Remember this position <i>must</i> be at least a little in front of the "Back Position". Set a significant "Plate Pause" (section 6.2) eg: 4.0s. This gives time for some drips to fall off the spoon before it comes to your mouth.</p>



The Liquid Crystal Displays	INSTRUCTIONS - How to adjust the settings
<p>Set Diner Mouth</p> <p>Positioning Arm! Joystick=Adjust</p> <p>Moving To Rest Test Driving</p>	<p><i>Safety Note:</i> In the normal operation of the spoon cycle, the spoon will move horizontally away from your mouth. However, during programming the spoon may move up or down as well as back when moving away from your mouth. It is important therefore to hold the spoon back manually just a little away from your mouth at the moment you press * to confirm the new positions - as detailed in the following instructions.</p> <ul style="list-style-type: none"> • Push the * button twice to enter the Set Up Menus. • press ↑ twice to reach the LEARN MODE MENUS • press * to enter the Learn Mode Menu • press ↓ repeatedly until the LCD reads: "Set Diner Mouth" <p>If you want to change the mouth position:</p> <ul style="list-style-type: none"> • press * <p>The spoon moves automatically to the position it currently knows.</p> <ul style="list-style-type: none"> • Use the joystick to adjust the position • When you are happy with the position, press *(see Safety Note) <p>The spoon then moves back to the rest position and then forwards again to test drive.</p> <ul style="list-style-type: none"> • If you are happy with the position, press * (see Safety Note); otherwise press ↓ or ↑ and follow the above steps again. <p>Repetition should reduce any inaccuracy between the position reached slowly using the joystick and the position reached during running at full speed.</p> <ul style="list-style-type: none"> • press ↓ or ↑ repeatedly until the LCD reads: "EXIT SETUP MENUS" (or until you reach another setting you want to adjust) • press * <p><i>Remember:</i> If none of the *, ↓, ↑ buttons are pushed or the joystick moved for 2 minutes, the system will automatically leave the Set Up Menu - with the mouth position reverting to the last one set.</p>
<p>Set Front Posn.</p> <p>Positioning Arm! Joystick=Adjust</p> <p>Moving To Rest Test Driving</p>	<ul style="list-style-type: none"> • Push the * button twice to enter the Set Up Menus. • press ↑ twice to reach the LEARN MODE MENUS • press * to enter the Learn Mode Menu • press ↓ repeatedly until the LCD reads: "Set Front Posn." <p>If you want to change the position of the spoon at the plate front:</p> <ul style="list-style-type: none"> • press * <p>The spoon moves automatically to the position it currently knows. <i>Hold the arm back a little while it does this to allow the spoon to move down without catching the lip of the plate.</i></p> <ul style="list-style-type: none"> • Use the joystick to adjust the position • When you are happy with the position, press * <p>The spoon then moves back to the rest position and then forwards again to test drive. (<i>Hold the arm back again.</i>)</p> <ul style="list-style-type: none"> • If you are happy with the position, press *; otherwise press ↓ or ↑ and follow the above steps again. <p>Repetition should reduce any inaccuracy between the position reached slowly using the joystick and the position reached during running at full speed.</p> <ul style="list-style-type: none"> • press ↓ or ↑ repeatedly until the LCD reads: "EXIT SETUP MENUS" (or until you reach another setting you want to adjust) • press *

Adjustments (continued)	<u>Description</u>
6.6 Plate Back Position	<p>The position that the spoon enters the back of the plate (before scooping the food at the front of the plate) can be adjusted separately for each of the three plates for each of the five Diners.</p> <p>It is important that this position is set above rather than touching the plate surface. Otherwise friction will stop the spoon coming forward under the action of the damped sprung mechanism.</p> <p>Some people choose to set the back position quite high so that the spoon dives down into the food as it comes forward. This can help prevent too much food being scooped onto the spoon.</p> <p><i>Important Safety Point:</i> <i>It is important that the Plate Back Position is always programmed at least a little behind the Plate Front Position. Otherwise the microprocessor may become confused resulting in the spoon moving forward past the mouth when it comes up.</i></p>
6.7 Copying the Set Up	<p>In order to save time in teaching the system settings, there is a facility to copy the Set Up between users. This includes all the set up choices, time and position settings. They can be copied from one Diner to the next ie: from Diner A to Diner B, B to C, C to D, D to E or E to A. They can also be copied from any Diner to all the others. The Diner you wish to copy from must be selected first as explained above - see section 5.1.</p>



<u>The Liquid Crystal Displays</u>	<u>INSTRUCTIONS - How to adjust the settings</u>
<p>Set Back Posn</p> <p>Positioning Arm!</p> <p>Joystick=Adjust</p> <p>Moving To Rest</p> <p>Test Driving</p>	<ul style="list-style-type: none"> • Push the * button twice to enter the Set Up Menus. • press ↑ twice to reach the LEARN MODE MENUS • press * to enter the Learn Mode Menus • press ↓ repeatedly until the LCD reads: "Set Back Posn." <p>If you want to change the position of the spoon at the plate rear:</p> <ul style="list-style-type: none"> • press * <p>The spoon moves automatically to the position it currently knows.</p> <ul style="list-style-type: none"> • Use the joystick to adjust the position • When you are happy with the position, press * <p>The spoon then moves back to the rest position and then forwards again to test drive.</p> <ul style="list-style-type: none"> • If you are happy with the position, press *; otherwise press ↓ or ↑ and follow the above steps again. <p>Repetition should reduce any inaccuracy between the position reached slowly using the joystick and the position reached during running at full speed.</p> <ul style="list-style-type: none"> • press ↓ or ↑ repeatedly until the LCD reads: "EXIT SETUP MENUS" (or until you reach another setting you want to adjust) • press *
<p>Copy Setup Menu</p> <p>CopyToNextDiner?</p> <p>CopyToAllDiners?</p> <p>EEPROM PASSED</p>	<ul style="list-style-type: none"> • Push the * button twice to enter the Set Up Menus. • press ↑ twice to reach the LEARN MODE MENUS • press * to enter the Learn Mode Menus • press ↑ twice to reach the Copy Setup Menu <p>If you want to copy this Diner's complete setup:</p> <ul style="list-style-type: none"> • press * • to copy just to the next Diner press *, to copy to all the Diners press ↓ and then press * • press * again <p>The display then reads: "EEPROM PASSED"</p> <ul style="list-style-type: none"> • press ↓ or ↑ repeatedly until the LCD reads: "EXIT SETUP MENUS" (or until you reach another setting you want to adjust) • press *

<h2>7. Quick Guide to accessing menus</h2>	<ul style="list-style-type: none"> • Ensure the short-circuit plug is inserted in the * socket • <u>Note:</u> If no button is pushed for 20 seconds the system will automatically exit the Set Up Menus. This “time-out” period is increased to 2 minutes when you are in the position adjustment menus such as learning a new mouth position. <p>See sections 5 and 6 for full descriptions and instructions.</p>
<p>7.1 Checking your set up - quick guide</p> <p>Pause times and positions</p>	<ul style="list-style-type: none"> • Push the * button twice to enter the Set Up Menus. • press ↓ or ↑ repeatedly to display what set up choices have been set. <u>Note:</u> these may be different for each Diner. <p>You can check the times and positions set for a particular Diner and Plate combination by running a complete cycle of the spoon:</p> <ul style="list-style-type: none"> • Ensure that no one is in the way of the spoon • Press the ▶/ switch to start the spoon cycle (If “Goldilocks Pressed” has been selected, you will need to keep the ▶/ switch pressed until the spoon cycle is completed) • If the “Spoon Non-Stop” mode has been selected, you will need to press the ▶/ switch again to stop the spoon cycle repeating.
<p>7.2 Changing your set up - quick guide</p> <p>Pause times and positions</p>	<ul style="list-style-type: none"> • Push the * button twice to enter the Set Up Menus. • press ↓ or ↑ repeatedly to display the set up choices that have been set. <u>Note:</u> these may be different for each Diner. <p>When you have reached the setting you want to change:</p> <ul style="list-style-type: none"> • press * • press ↓ or ↑ repeatedly until the choice you want is displayed • press * <p>Important: Ensure that the required Diner, Plate and other choices have been chosen first - see above.</p> <ul style="list-style-type: none"> • Push the * button twice to enter the Set Up Menus. • press ↑ twice to reach the “LEARN MODE MENUS” • press * to enter the Learn Mode Menu • press ↓ or ↑ repeatedly until the choice you want is displayed • press * • follow the instructions given on the display to make the changes you require using the joystick and/or the ↓ and ↑ buttons. • when you are happy with the adjustment, press * • some menus ask you to press * again to confirm the change.
<p>7.3 How to leave the menus</p> <p>EXIT SETUP MENUS</p>	<p>After you have checked or changed a setting:</p> <ul style="list-style-type: none"> • press ↓ or ↑ repeatedly until the LCD reads: “EXIT SETUP MENUS” • press * <p>Alternatively, if no button is pushed for 20 seconds, the system will leave the Set Up Menus automatically.</p>

8. Setting up the NEV5 for the first time

1. If you are setting the NEV5 up for the first time, you should read the safety instructions and all previous sections of this manual first.
2. Remove the NEV5 and its accessories from the packaging. The NEV5 must be at room temperature before use. This may take a couple of hours if it has been stored somewhere very cold.
3. The clamps and feet must be used for safety reasons. They can be attached to different positions underneath the NEV5 using the 5mm allen key. Unfold the clamps and clamp to a sturdy table - one that cannot be pushed over accidentally.
4. **Before** you (the Diner) come near to the front of the NEV5, carefully plug in the 12V dc regulated power supply and switch on the power. Make sure no other switches are pushed when you switch on the power. Do not force the plug in. The Liquid Crystal Display on the front of the NEV5 will read: "Mouth Position" whilst the NEV5 arm moves to the mouth position of the Diner that it already has in its memory. The display then reads: "Diner A,B,C,D or E".
5. If the Diner on the display is someone else's set up that you do not wish to change, you can change the Diner displayed - see section 5-1.
6. Check the set up choices and change any that you want to. Section 7 gives a quick guide of how to do this. Full descriptions of the choices are in sections 5 & 6.
7. If you want your set up to be similar to that of another Diner, you can copy their settings - see section 6.7 - you have to change to the Diner you want to copy from first, then copy, then change to the new Diner. You would then make new choices and adjustments to suit you (the new Diner).
8. Plug in plate turn switch(es) and/or a ▶/|| switch as appropriate depending on the set up you have chosen
9. Plug on the spoon or other cutlery (it just pushes on - with the spoon level - without twisting)
10. Put the special plate on the turntable. A peg on the base of the plate locates in the hole in the turntable.
11. Still **before** you (the Diner) come near to the front of the NEV5, use the ▶/|| switch to run a complete cycle of the spoon to check the position that the spoon enters the back of the plate and the position that it comes to in order to scoop food at the front of the plate. Also check that the spoon does not come further forward than where you expect your mouth to be. Follow instructions in section 6 if changes are required. Remember to choose the correct plate on the Set Up Menus before adjusting positions. Check and adjust the plate positions for all the plates (usually large and small).

12. Switch off the power and switch it on again so that the spoon moves to the mouth position of the Diner that it already has in its memory.
13. Now you should move into position for dining. Carefully follow the instructions in section 6.4 to set the mouth position accurately.
14. Position the switches as appropriate for you. And make sure that any cables and leads will not be tripped over by people.
15. The NEV5 is now set up and you are ready to use it.
16. Ensure the food is chopped up small enough so that it stays on the spoon when scooped and will not choke you. Avoid over-filling the plate or mixing the food as this limits your choice when eating. (Consider using a smaller or a round-fronted spoon if too much food is scooped up for you).
17. How you operate the NEV5 depends on how it has been set up. (Section 5 describes the options available). The bright green LED is lit and the display reads: "Bon Appetit!" when the automatic cycle is running. If you pause the cycle, the display will read: "Paused In Cycle".
18. The plate is turned by the turntable to reach the food you want. The spoon scoops against the turned-over lip of the plate.
19. Turning the plate when the spoon is at the front can help with the scooping and piling up the food as the plate becomes empty.
20. When you change to a different size plate, see section 5.2
21. Do not pull on the arm manually - it is OK to push it back and down. See section 10 if you want to operate the NEV5 manually or with the joystick.
22. You can follow the "Quick Instructions - once already set up" in section 3 when you use the NEV5 again now it is already set up.
23. As you gain experience and understanding of the NEV5, you may want to change the settings e.g. from "Goldilocks Pressed" to "Run Spoon Once" and "PlateToggle Off" to "PlateToggle L-R" to make operation easier. You may also want to change the setting or switch positions/types if your physical abilities change. Follow instructions in sections 5 and 6 if you want to make any changes to choices or adjustments.
24. *Suggestion: If you are only using one set of Diner settings, you could copy it to other Diners (see section 6.7) and then select Large Plate for Diner A, Small Plate for Diner B and in Diner C programme a different mouth position for using the Sandwich Holder attachment (extra). You can then select main course, dessert and snack most easily by quickly changing the Selected Diner. (See Quick Instruction Guide Stickers in section 11).*

9. Maintenance

It is important to wipe the Neater Eater clean after every use. Whilst the crockery and cutlery are dishwasher proof the rest of the Neater Eater **must not** be immersed in water. The life of the cutlery will be increased if it is washed by hand.

Adjusting the ropes - this is not a routine maintenance requirement

The rope used is a very high strength pre-stressed static line which should not stretch significantly. **If however, adjustment is required this should first be attempted following the instructions in section 6 for teaching the NEV5 new positions.** Use the joystick to check that the spoon has the full range of movement that you require. If it does not, first check that there are no physical stops to the Neater Eater arm's movement.

If the limitation on the range of movement of the Neater Eater arm is due to the rope or ropes being too slack or too tight and not from any physical stops, adjustments can be made as follows:

- Plug in the joystick and pull the joystick back and to the right and hold in that position until the motors stop turning - the ropes will be fully unwound.
- Loosen the grub screws in the rope clamps with a 2mm allen key. If the grub screw in the rope clamp comes out, be very careful not to lose the small ball bearing that clamps the rope. If the screw is reinserted without the ball bearing the rope may not be properly gripped when the grub screw is tightened; alternatively it may be cut by tightening the screw with no ball bearing in place.
- Adjust the rope lengths until the ropes are not quite tight with the Neater Eater arm as far forward and up as it can physically go. (The up stop screw should be adjusted so that the arm can raise to a 60 degree angle but no further - screwing it in slightly with a 5mm allen key will allow it to raise higher).
- Do the grub screws up using only the short arm of the allen key as a lever . Do not use the long arm of the allen key as a lever to tighten the grub screws as too much force can damage the rope.
- Then move the arm back and down with no cutlery or crockery attached to the Neater Eater by pushing the joystick back and to the left and waiting until the arm stops.
- Check that the arm has moved back and down at least as far as you might ever want it to go. If this is not the case the ropes will need tightening after first removing tension from the ropes by moving the joystick back and to the right again.
- Note: A small movement in the rope results in a big movement of the spoon.
- Pull gently on the NEV5 arm to "bed-in" the ropes, Re-check the tightness of the grub screws but do not over-tighten.
- Now follow instructions in section 6 to teach the NEV5 positions for the spoon in the plates and at your mouth.
- Check that the grub screws are tight (but not overtight) after the NEV5 has been used for a few days. You may need to readjust the programmed positions again if the ropes "bed-in" further.

Replacing the ropes

The ropes are very tough but if they were to become damaged and require replacing, it is possible for someone with a little technical skill to do this after first obtaining the appropriate rope (2.4 mm break line) from a Neater Eater dealer. Replace each rope one at a time so that you do not become confused as to the exact path that the rope should take through covers and around pulleys etc. **Disconnect the power supply before removing the cover from underneath the NEV5. Be careful not to touch any of the electrical or electronic components.**

Once the ropes have been fitted, adjust by following the procedure above.

10. Other Options

<p>Joystick Control</p>	<p>The joystick is usually only used for teaching the NEV5 new positions such as mouth positions - see section 6.4. It can also be used at any time to control the neV5 so long as an automatic spoon cycle is not running at the time.</p> <p>For example, the joystick can be used as a rehabilitation or teaching aid encouraging you to practice co-ordinating your movements perhaps to pick up a piece of your favourite chocolate from somewhere on the plate!</p> <p>To move the Neater Eater arm backwards and forwards: move the joystick backwards and forwards; to move it up and down, move the joystick right and left.</p> <p>Pressing the fire button will turn the plate alternately clockwise and anti-clockwise with each push. <u>Note:</u> if "1 Spoon, Turn=Go" is selected (see section 5.5) pressing the fire button will act like any plate turn switch and start an automatic cycle of the spoon.</p> <p><u>Note:</u> The fire button will not work if the "Auto Fire" switch is on.</p>
<p>Manual operation</p>	<p><u>Warning:</u> Pulling on the arm manually can stretch the mechanism.</p> <p>Sometimes however it is considered useful to try using the NEV5 manually to see whether a Diner might benefit from using a mechanical version of the Neater Eater.</p> <p>It is possible to use the NEV5 manually if you can be sure that you will not pull the arm up or forward with any significant force. First you will need to set the arm at your mouth position - the highest up and forward position you need. To do this:</p> <ul style="list-style-type: none">• switch off the power• switch the power on again• wait for the arm to travel to the mouth position currently set (section 6.4 explains how this can be adjusted)• switch off the power again. <p>Alternatively, use the joystick to move the arm to your mouth position and then switch off the power.</p> <p>Once the arm is set in this position, pushing it back and down to the plate will only make the ropes go slack. Let go - after first pushing back to avoid the lip of the plate - to allow the spoon to travel up and forwards to your mouth.</p> <p>You will need to disconnect the O-ring from under the plate turner to allow you to turn the plate manually. Please note that it only goes back on one way to avoid fouling the box under the NEV5 baseboard.</p>

<p>Use as a holder for other attachments such as an electric razor, sandwich/snack holder or universal attachments</p>	<p>You can set different “Mouth Positions” for different “Diners” - see sections 5.1 and 6.4. You can then use these different positions when you want to use other attachments that plug onto the Neater Eater arm instead of the cutlery.</p> <p>For example, the sandwich holder holds snacks such as pizza, samosas or biscuits at a much higher level than the standard cutlery. It is therefore a good idea to teach the NEV5 a different “Mouth Position” for another “Diner” for when you want to use the sandwich holder. When using the sandwich holder, you would then change to the new “Diner” setting, switch off the power and switch on again so that arm would move automatically to the correct position for using the sandwich holder. You could then switch the power off again during use.</p> <p>Other attachments available include universal attachments that can hold objects up to 7.5cm in size at any angle. The overall weight of the objects that can be held is limited to 250g approximately as the arm is only held up by a spring.</p>
<p>Parking the Neater Eater arm.</p>	<p>In normal use, at the end of an automatic cycle of the spoon or after the cycle has been paused for more than 20 seconds, the Neater Eater arm will move to a rest position a little above the plate out of the way of your face.</p> <p>The Neater eater arm can also be pushed down and back so that the metal “toolholder” at the end of the arm (which the cutlery clips onto) catches under the lip of the plastic plate turntable. This is a good way of “parking” the arm out of the way during transport or after using it as a holder as described in the previous section.</p>
<p>Version Conversion</p>	<p>The NEV5 can be converted to a Neater Eater Version 3 or 4 - manual versions. Please see other literature for details.</p>
<p>Disabled parents</p>	<p>The NEV5 gives people the opportunity to take a role in feeding their young children or others.</p> <p>The option of different set ups for different Diners helps enable this - see sections 5 and 6.</p>
<p>Cutlery and crockery</p>	<p>Please see our literature at the end of this manual giving details of cutlery and crockery choices including unbreakable spoons, “sporks”, soup bowls and heated plates.</p>
<p>Neater Drinker Neater Snacker</p>	<p>Please see our literature at the end of this manual.</p>
<p>www.neater.co.uk</p>	<p>Check out our website for up-to-date information.</p>

11. Instruction Stickers - quick instruction guides

<u>List of Diner names</u> Diner A: Diner B: Diner C: Diner D: Diner E:	<u>Instruction Prompts</u> Read Instruction Manual 1. Sit back from spoon 2. Switch Power on 3. Position yourself 4. Position switches 5. Plug on spoon and plate 6. Ensure food is chopped up 7. Use switches to start dining See manual for Set Up choices	<u>To Select Diner</u> 1. Sit back from spoon 2. Press * three times for Selecting a new Diner 3. press ↓ or ↑ repeatedly to choose 4. press * 5. switch off power 6. switch on power 7. Position yourself See manual to adjust positions	<u>To change Plate</u> 1. Press * twice for Set Up Menus 2. press ↓ for Plates 3. press * to change 4. press ↓ repeatedly to choose 5. press * 6. press ↑ twice for Exit 7. press * See manual to adjust positions
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The above are included as stickers which can be stuck on the front of the NEV5 as reminders.

List of Diner names

This label can be written on in biro, marker pen or pencil to remind you who each of the Diner Set Ups refer to *or for what purpose - see suggestion below*. Writing does not rub off or wash off easily, so a few stickers are included.

Instruction Prompts

This label is a reminder of the quick instructions for use once the NEV5 has already been set up (from section 3).

To change Diner

This label gives quick instructions for changing Diner - one of the most regular changes - (from section 5.1).

To change Plate

This label gives quick instructions for changing Plate - one of the most regular changes - (from section 5.2).

Suggestion: If you are only using one set of Diner settings, you could copy it to other Diners (see section 6.7) and then select Large Plate for Diner A, Small Plate for Diner B and in Diner C programme a different mouth position for using the Sandwich Holder attachment (extra). You can then select main course, dessert and snack most easily by quickly changing the Selected Diner.

12 Disposal -RoHS and WEEE

This equipment is exempt from the RoHS directive (as medical devices) as long as it is used to assist people with disabilities. Under the WEEE directive it should not be disposed of in the normal waste stream but be placed with separate collection for electrical and electronic equipment (or returned to Neater Solutions Limited). Producer Registration Number: WEE/GB0074UR/PRO

