

# NEO<sub>wheelbase</sub>



## SERVICE MANUAL

Issue 1

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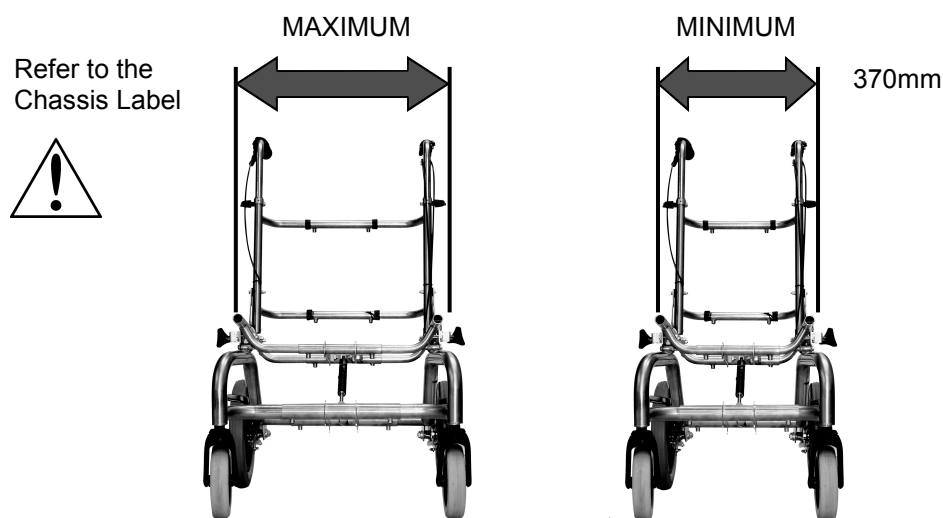
## 1.0 NEO Wheelbase width adjustment

### 1.1 Maximum and minimum width

The NEO wheelbase has a **maximum** width setting, please refer to the Chassis Label.  
DO NOT adjust the frame wider than this dimension as this will compromise the mechanical strength of the wheelbase and could cause failure of the frame.

The frame can also be reduced in width to a minimum size of 370mm.

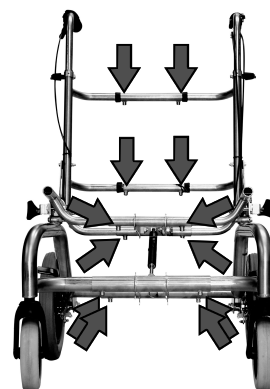
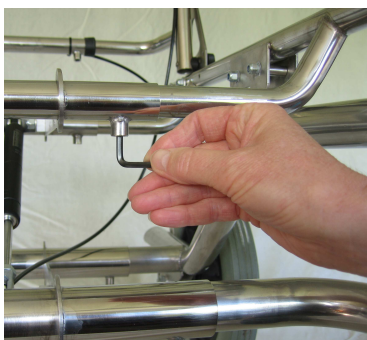
For sizes outside of the range shown on the chassis label contact South West Seating & Rehab.



### 1.2 To adjust the width

Each cross rail has two M8 grub screws as indicated. To adjust the width, loosen each pair of grub screws (by approximately two turns) on each of the six cross rails, using a 4 mm Allen Key.

The wheel base can now be pulled wider or pushed together to a smaller dimension (within the permitted range, (refer to Chassis Label for maximum width)).

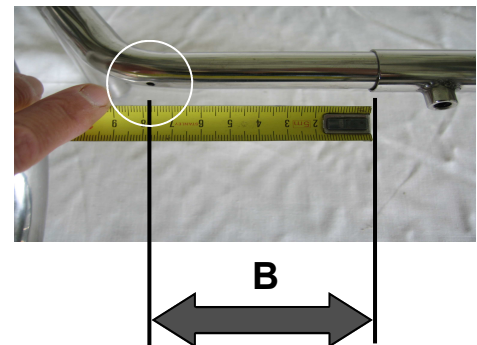
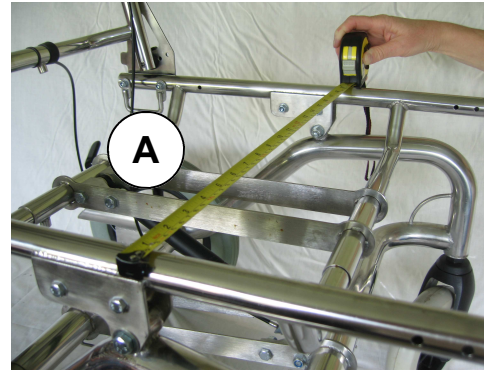


To achieve the required width, measure from the outside faces of the seat rail tubes, between the inner faces of the arm rests [ A ].

Once the required width is obtained, ensure that all of the cross rails are central by measuring from the end of the cross rail to the datum hole in the side frame tubes [ B ].

When you are sure the cross rails are central, check that the overall width has not changed and tighten up the six pairs of grub screws to 5.0Nm.

Only use the nylon patch-loc grub screws provided with the wheelbase. These are reusable.



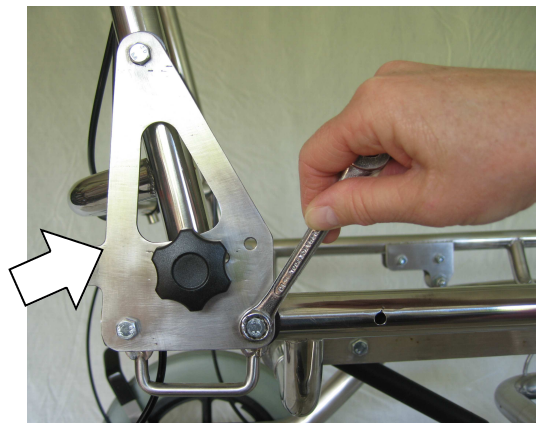
## 2.0 Seat Back Position

The Seat Back has two positions.  
To change the seat back position begin by removing the two bolts in the bracket on each side of the wheelbase using 10 mm spanners  
Locate the bracket assembly in the two forward holes and position the seat back into the alternative position.  
Replace the bolts and nyloc nuts and tighten to 4.0Nm.



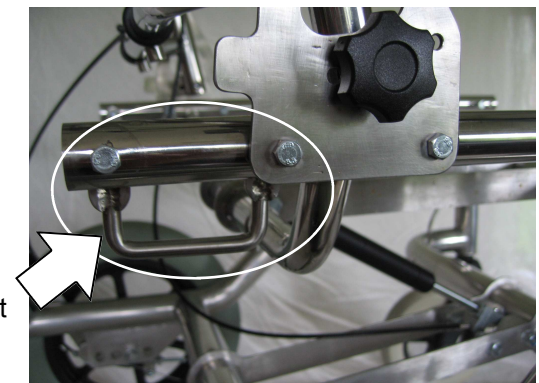
Note:  
When changing the seat back bracket position ensure that the tie down bracket remains in the rearward position using the spare bolt provided.

Seat back bracket



Seat back Bracket showing forward position

Tie down bracket





## 3.0 Fitting Arm Rests

### 3.1 Fit the arm rest bracket (each side)

Bolt the two arm rest brackets to either side of the seat frame using 4 No. M6 x 45 bolts, Nyloc dome nuts and the spacers provided.

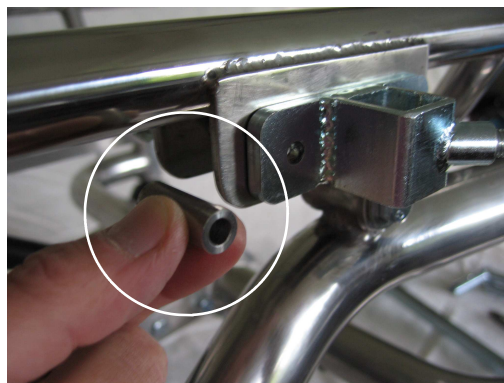
Ensure the spacer tube is fitted onto the bolt between the seat frame plates. Use 10 mm spanners and tighten to 6.0Nm.



6.0Nm

The arm rest slides into the bracket from the top. Ensure the Tri-Wheel is not preventing the arm rest locating into the bracket. Select the desired position and tighten the black Tri-screw.

Note that the Tri-screws should be facing to the rear of the wheelbase.

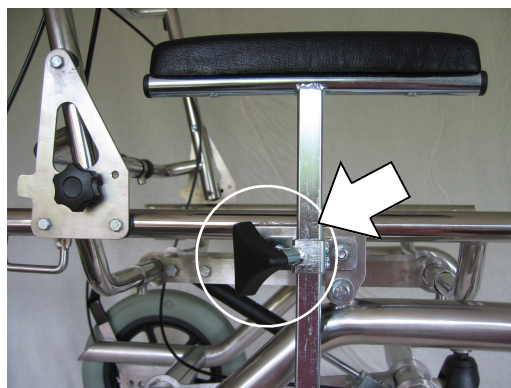


### 3.2 Fit the arm rest

The arm rest slides into the bracket from the top. Ensure the Tri-Wheel is not preventing the arm rest locating into the bracket. Select the desired position and tighten the black Tri-screw.

Note:

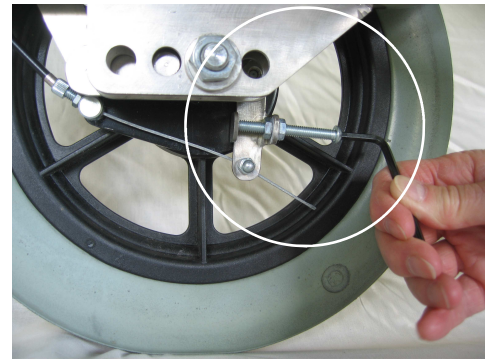
The Tri-screws should be facing to the rear of the wheelbase.



## 4.0 Wheels and brakes (1)

### 4.1 Brake Adjustment

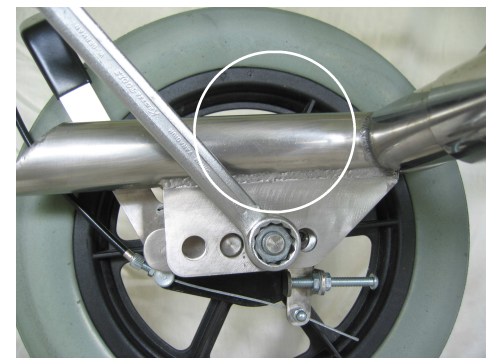
The brake adjustment is carried out at the wheel hub not at the brake lever on the push handle. To adjust the brakes use a 4 mm Allen key. Adjust the screw as indicated, loosening the lock nuts and adjusting the screw until the wheel brakes tighten, and then wind back the screw half of one turn and tighten the lock nuts. Check that the wheel runs freely and that the brakes engage correctly following the adjustment. Re-check the adjustment of the cable brake and balance if required,.



Brake Adjustment

### 4.2 Rear Wheel Position

The rear wheels can be fitted in three different positions. The further back the wheels are positioned, the more stable the wheelbase. However, with the wheels set in the rear position tilting the wheelbase back is more difficult. The wheels need to be set at the optimum position for the client and attendant. To adjust the wheel positions remove the nut and washer using a 19 mm spanner and slide the wheel assembly away from the chassis. Be careful to retain the spacer bush (between the wheel plates ) which will become displaced when the wheel assembly is removed. Relocate the wheel assembly in the new position ensuring the stud locates in the adjacent axle hole and that the spacer bush is replaced. Replace the washer and nut and tighten to 30.0Nm.



Wheel Location

The wheels are handed and can be turned around to position the brakes to the front if required.



30.0Nm

### 4.3 Brake Lever Location

The rear wheels can be fitted to present the brake lever to the rear or to the front of the wheelbase. The wheels will require removing and repositioning on the opposite sides of the wheelbase. Before the wheels can be repositioned the brake cables will need to be disconnected from the wheel.

Once the cables are disconnected, remove the rear wheels and reposition them on the opposite sides, as detailed above in "Rear Wheel Position".

The brake cables should now be fitted using the existing T screw, Nyloc nut and washer and the brakes adjusted and tested as detailed above in "Brake Adjustment"

Note: For information regarding replacing brake cables and levers go to section 8.0 page 11

## 4.4 Front Castor Removal

The front castors can be removed by undoing the stud which secures the castor to the chassis using a 24mm spanner. Spacer washers may have been factory fitted and it is important that these are replaced when the new castor is fitted. Add a thread locking compound to the thread before replacing the castor and tighten to 85.0Nm.



85.0Nm



## 4.5 Troubleshooting:

Problem:

The wheelbase swerves when the carer applies the attendant brake. Applies to twin cable levers only.

Action required:

Adjust the brake cables at the push handle lever to balance.



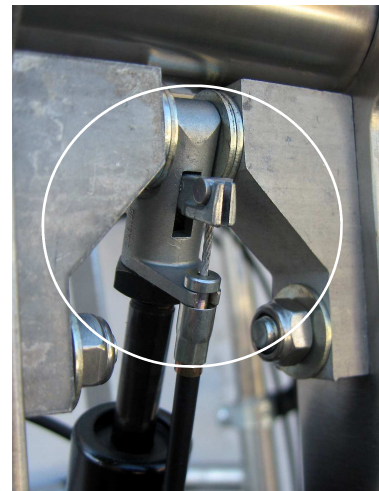
## 5.0 Replacing the Gas strut and Cable

### 5.1 Removing the Gas Strut Cable

The gas strut cable is removed from the strut end by prising the cable outer end moulding out of the retaining clip, then removing the cable end from the lever. The trigger end is removed by pulling the outer from the trigger housing and then removing the cable end from the trigger lever.

### 5.2 Replacing the Gas Strut Cable

Clip the trigger end of the cable into the trigger and then fit the outer to the trigger housing. Fit the cable end into the strut lever and then press the outer cable end moulding into the clip. A cable tie fixing the cable to the gas strut body will help to support the cable.



### 5.3 Removing the Strut

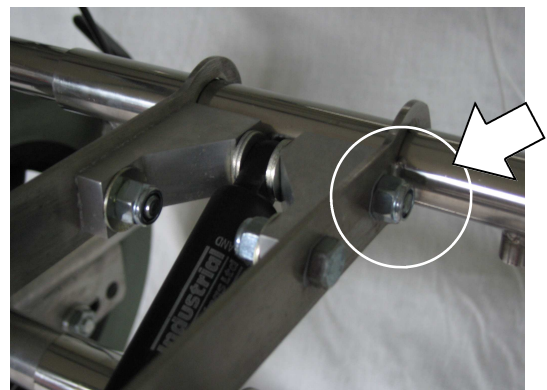
Remove the cable from the strut (see note above)  
Remove the two bolts retaining each end of the strut using a 13 mm spanner. Note the position of any spacers used and replace them as required when fitting the new strut.

### 5.4 Fitting the strut

Fit the strut using the two M8 x 100 bolts, and Nyloc nuts and tighten to 3.0Nm.  
Fit the trigger cable as detailed above.



3.0Nm





## 6.0 Accessories

### 6.1 Fitting and removing the Basket

#### Fitting the basket

The mesh basket is fitted to the four lugs situated below the chassis cross rails.

The basket is an interference fit between the lugs and the cross rail boss which keeps the basket positioned firmly to the wheelbase.

#### Removing the basket

Gently ease the basket forward off of the four lugs, ensuring that the front and rear edges of the basket are moved off the lugs simultaneously.



### 6.2 Fitting Footrest Hangers

The standard footrest hanger is a push fit into the ends of the seat rail tubes.

To fit the hanger depress the sprung pin with your thumb and push the hanger into the open end of the seat rail tube until it locates against the bolt inside the seat rail. Ensure the hanger is upright to enable the slot in the hanger to engage with the pin.

When fitting new footrests the two M6 special bolts provided will require fixing into the rear of the two holes of the seat rail. Secure the bolts with M6 dome head nyloc nuts provided using 10 mm spanners and tighten to 4.0Nm.

Note:

The nuts should be on the outside of the wheelbase.



4.0Nm



### 6.3 Swing Away Footrest

The Swing Away footrest assembly consists of a footrest hanger and a separate bracket. The brackets are right and left handed.

To identify them correctly press the spring button whilst lifting and then turning, Left to the left and Right to the right.

These are mounted on the seat rail ends using the two M6 x 45 bolts, nuts and washers provided. Usually the M6 cap nuts are positioned on the outside of the assembly.

#### Adjusting the hanger play

After fitting the footrests you must check the free play in the hanger.

If the play is excessive, it can be adjusted, as shown, using the two hidden screws. These need to be adjusted to suit.



### 6.4 Fitting a Seating System

Refer to the Seating System Manufacturer's Instructions to fit the seating system to the NEO wheelbase.

Please note that you may drill up to four holes horizontally in the centre of the seat rail. The drilled holes must not exceed 6.5 mm diameter and they must be at least 25mm apart.

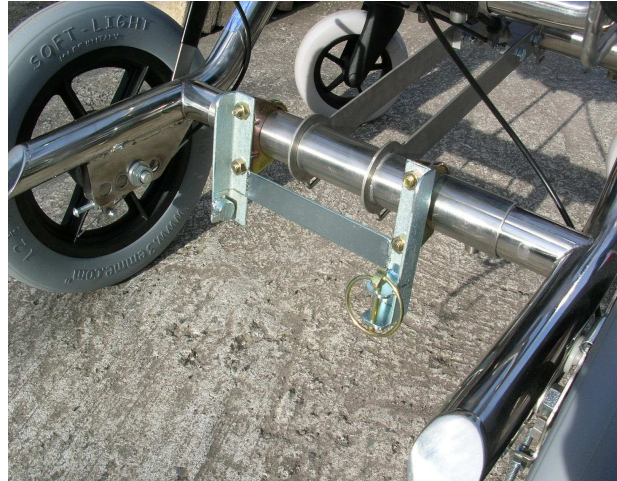
Each Seating manufacturer has a different interfacing system. If you are in doubt about fitting a seat interface to your NEO wheelbase contact Southwest Seating & Rehab Ltd.

## 7.0 Instructions for fitting Power Pack Bracket

Remove basket if fitted.  
Fit the bracket centrally, to the rear telescopic rail, as shown.  
Tighten the four M8 nuts to torque 5 N/M.

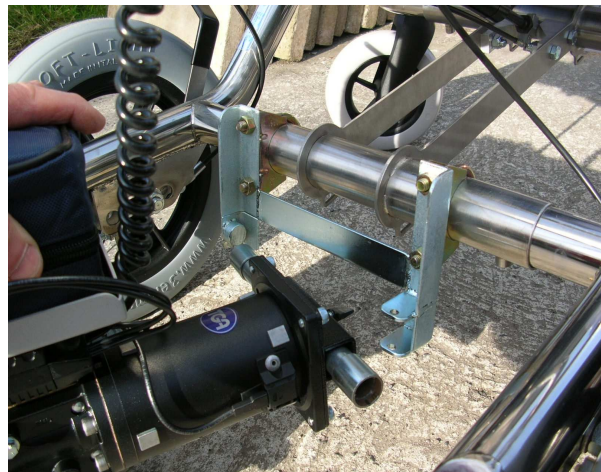
Note: You will require a thin wall socket for the lower right nut.

Caution: Over tightening  
will damage the telescopic  
tube.



5.0 N/M

The mounting tube supplied can now be pushed into the power pack and locked into position. The complete assembly can now be fitted by locating one end of the mounting tube onto the lug and positioning the other end in the bracket, securing it in place with the ring pin supplied.



Please follow the power pack makers instructions for all further assembly and commissioning.

If you require further information, please telephone our office 01823 481100.

Note: We recommend using the twin wheel TGA power pack for all NEO applications.

## 8.0 Instructions for fitting Brake cables and levers.

NEO wheelbases are supplied with one twin cable attendant brake lever which brakes both wheels, **or** two single brake levers, one on each handle.

Later NEOs have a 90 deg. cable guide between the lever and the cable. As shown.

The twin lever can be replaced with two single levers if required.

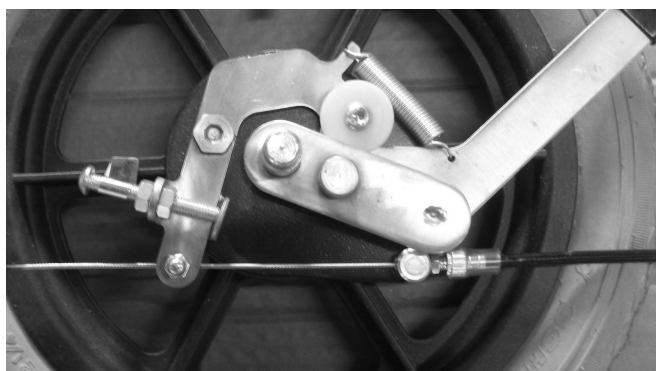
The cable guides can also be added to the single lever if required.



If you fit the 90 deg. cable guides, remove the cable adjuster from the brake levers (if fitted) before fitting the cable assembly. As shown above.

The cable outer on the two single levers are each 1100 mm long and on the twin lever the cables are 1100 mm and 1450 mm long.

Ensure that the inner cable is at least 125 mm longer than the outer. The inner can be trimmed to length once fitting is complete. We recommend that you allow 50 mm beyond the cable clamp.





## 9.0 Instructions for fitting Anti Tippers

Arrange the NEO wheelbase so that the rear wheels are off the ground.

Note: The Anti Tippers are handed and should be fitted as shown.

Remove the rear wheels making sure you retain the aluminium spacer, washer and nut. Position the Anti Tipper bracket as shown and replace the wheel. The wheel is fixed with the thin aluminium washer and nut. Tighten to torque 30.0 N/M

Note: Retain the thick aluminium washer/spacer for future use if the Anti Tippers are removed.



30.0 N/M



If you require further information, contact our office on Tel: 01823 481100

[www.neowheelbase.com](http://www.neowheelbase.com)

## 10.0 Maintenance, Cleaning and Care

Each time you use the wheelbase:

- Check seating system is secure.
- Function test both the Parking and Attendant brakes.
- Check push handles are tight and grips secure.
- Check wheels are secure and tyres are in good condition.

Every month:

- Check all fixings are tight
- Check wheel bearings are free running and not loose.

Cleaning:

- Clean the wheelbase using a mild detergent in warm water.
- Avoid exposing the wheelbase to salt water and grit or sand.
- Wash off sand, grit and salt as soon as possible after exposure.
- If you lubricate the rear wheel bearings ensure that lubricant does not get onto the brake drum assembly.

Guarantee:

Parts are guaranteed for one year from purchase date. This guarantee only applies when the wheelbase is used for its intended purpose, has not been subjected to misuse and has been used in accordance with the user manual.

NEO wheelbase has been crash tested in accordance with ISO 7176/19

## 11.0 Neo Wheelbase Chassis - Parts and Price list October 2009

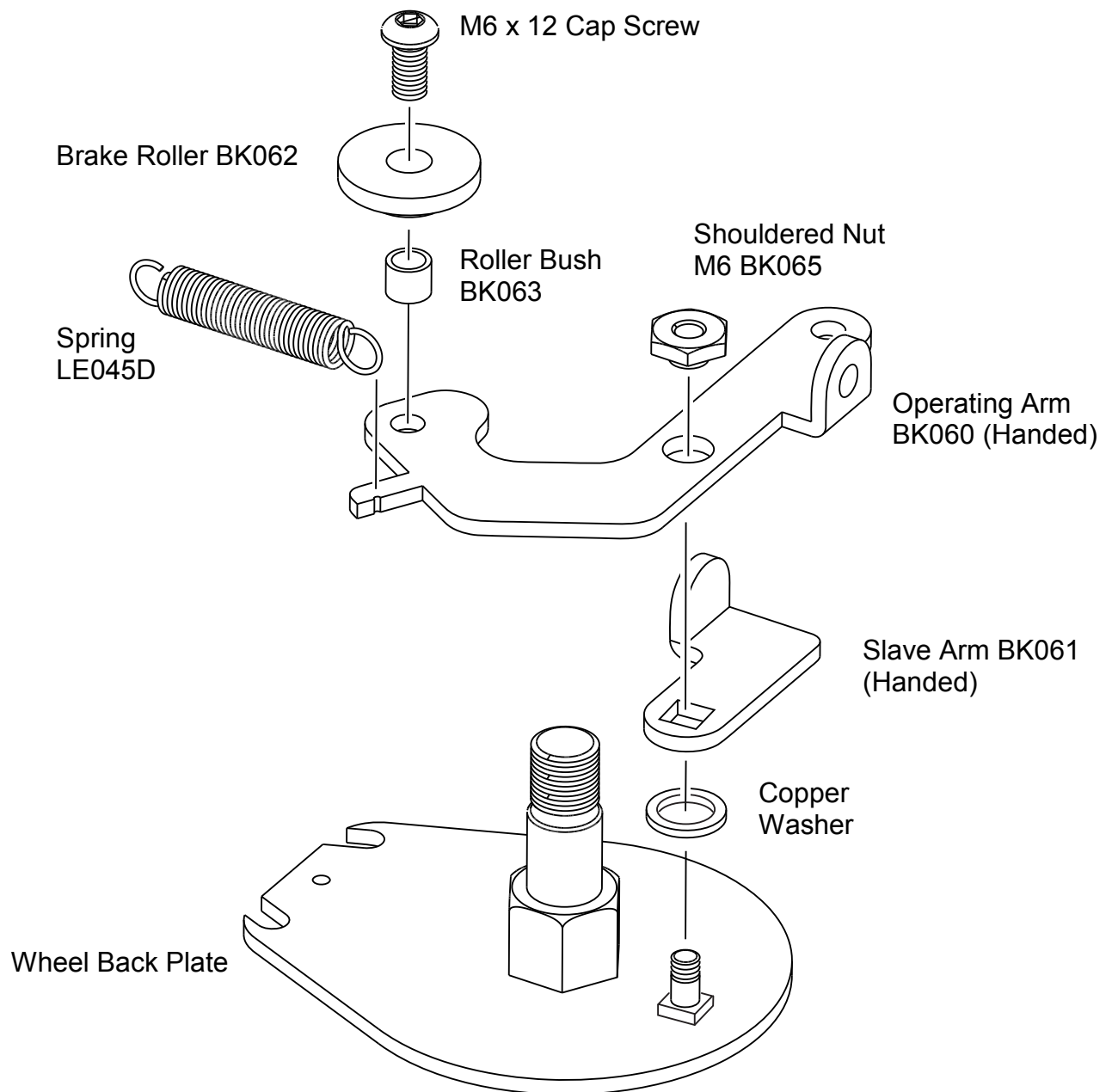
Order Quantity	Part No	Type	Description	Price £		Sub Total
	1001	Grub screw	M8x12	£ 0.15	ea.	£
	1002	Bolt	M6x45	£ 0.06	ea.	£
	1004	Screw	M8x25	£ 0.06	ea.	£
	1005	Bolt	M8x45	£ 0.10	ea.	£
	1006	Bolt	M8x100	£ 0.18	ea.	£
	1007	Screw	M6x25	£ 0.11	ea.	£
	1008	Screw	M6x50	£ 0.22	ea.	£
	1009	Nyloc Cap Nut	M6x8	£ 0.14	ea.	£
	1010	Nyloc Cap Nut	M8x9.25	£ 0.21	ea.	£
	1003	Nyloc nut	M8	£ 0.19	ea.	£
	1011	Washer	M6	£ 0.01	ea.	£
	1012	Washer	M8	£ 0.01	ea.	£
	1013	Nut	M6	£ 0.01	ea.	£
	1014	Cable Ties	4x160 lg	£ 0.02	ea.	£
	1015	Loctite		£ -	ea.	£
	1016	Handwheel	M6 x 20 stud	£ 1.19	ea.	£
	1017	Strut Cover		£ 26.85	ea.	£
	1019	Strut Cable		£ 11.34	ea.	£
	1020	Stut & fittings		£ 26.28	ea.	£
	1021	Rear Wheels with hub. Excludes Hub Loc brake kit		£ 122.28	Pair	£
	1022	Brake Cable		£ 2.76	ea.	£
	1024	Brake Lever		£ 6.26	ea.	£
	1025	Tilt Lever		£ 10.59	ea.	£
	1026	Castor		£ 21.60	ea.	£
	1027	Karabiner Label		£ 0.20	ea.	£
	1028	Retaining cable	To keep push handles	£ 3.63	ea.	£
	1029	Brake lever cap		£ 1.07	ea.	£
	1030	Saddle washer	Black nylon	£ 0.34	ea.	£
	1031	Clamp handle indexed		£ 3.40	ea.	£
	1032	Tube plug		£ 0.15	ea.	£
	1033	Tube clamp & Bolt	For push handles	£ 2.37	ea.	£
	1034	Rattle proof collars		£ 0.15	ea.	£

## 11.0 Neo Wheelbase Chassis - Parts and Price list October 2009

Order Quantity	Part No	Type	Description	Price £		Sub Total
	1034	Rattle proof collars		£ 0.15	ea.	£
	1035	Bar Grips per pair		£ 5.88	Pair	£
	1037	Hangers		£ 37.50	Pair	£
	MF026	Welded Main Frame(s)	Left Hand	£ 72.00	ea.	£
	MF027	Welded Main Frame(s)	Right Hand	£ 72.00	ea.	£
	MF005	Brace assembly - Main Frame		£ 51.00	ea.	£
	SF010	Seat Rail Welded assembly	Left Hand	£ 51.00	ea.	£
	SF011	Seat Rail Welded assembly	Right Hand	£ 51.00	ea.	£
	SF031	Brace assembly - Seat Frame		£ 25.50	ea.	£
	SF048	Arm rest bracket spacer tube.	25 mm long tube	£ 1.50	ea.	£
	PH014	Handle Post Assembly	Right Hand	£ 32.34	ea.	£
	PH017	Handle Post Assembly	Left Hand	£ 32.34	ea.	£
	PH015	Push Handle		£ 10.50	ea.	£
	PH036	Handle Post Bracket	Triangular plate	£ 13.50	ea.	£
	PH049	Post handle spacer tube	30 mm long tube	£ 1.50	ea.	£
*	BK100	Brake Kit complete:	Includes parts listed below	£ 35.36	ea.	£
*	BK070	Brake part. Included in kit	Location Plate	£ 4.00	ea.	£
*	BK060 L/R	Brake part. Included in kit	Operating Arm (Handed)	£ 9.52	ea.	£
*	BK061 L/R	Brake part. Included in kit	Slave Arm (Handed)	£ 1.52	ea.	£
*	BK062	Brake part. Included in kit	Roller (Stainless Steel)	£ 2.96	ea.	£
*	BK063	Brake part. Included in kit	Bush	£ 0.88	ea.	£
*	BK065	Brake part. Included in kit	Shouldered Nut	£ 2.96	ea.	£
*	LE045D 07	Brake part. Included in kit	Return Spring	£ 1.69	ea.	£
*	BK066 L/R	Brake part. Included in kit	Brake Lever (Handed)	£ 10.76	ea.	£
	BK072	Wheel Spacer		£ 3.00	ea.	£
	BK073	Wheel spacer Washer		£ 1.35	ea.	£

\* Please refer to the exploded drawings of the brake assembly on pages 16 and 17

## 11.0 Neo Wheelbase Chassis - Left Hand Brake Assembly exploded. Drg. 1 of 2



## 11.0 Neo Wheelbase Chassis - Left Hand Brake Assembly with lever. Drg 2 of 2

