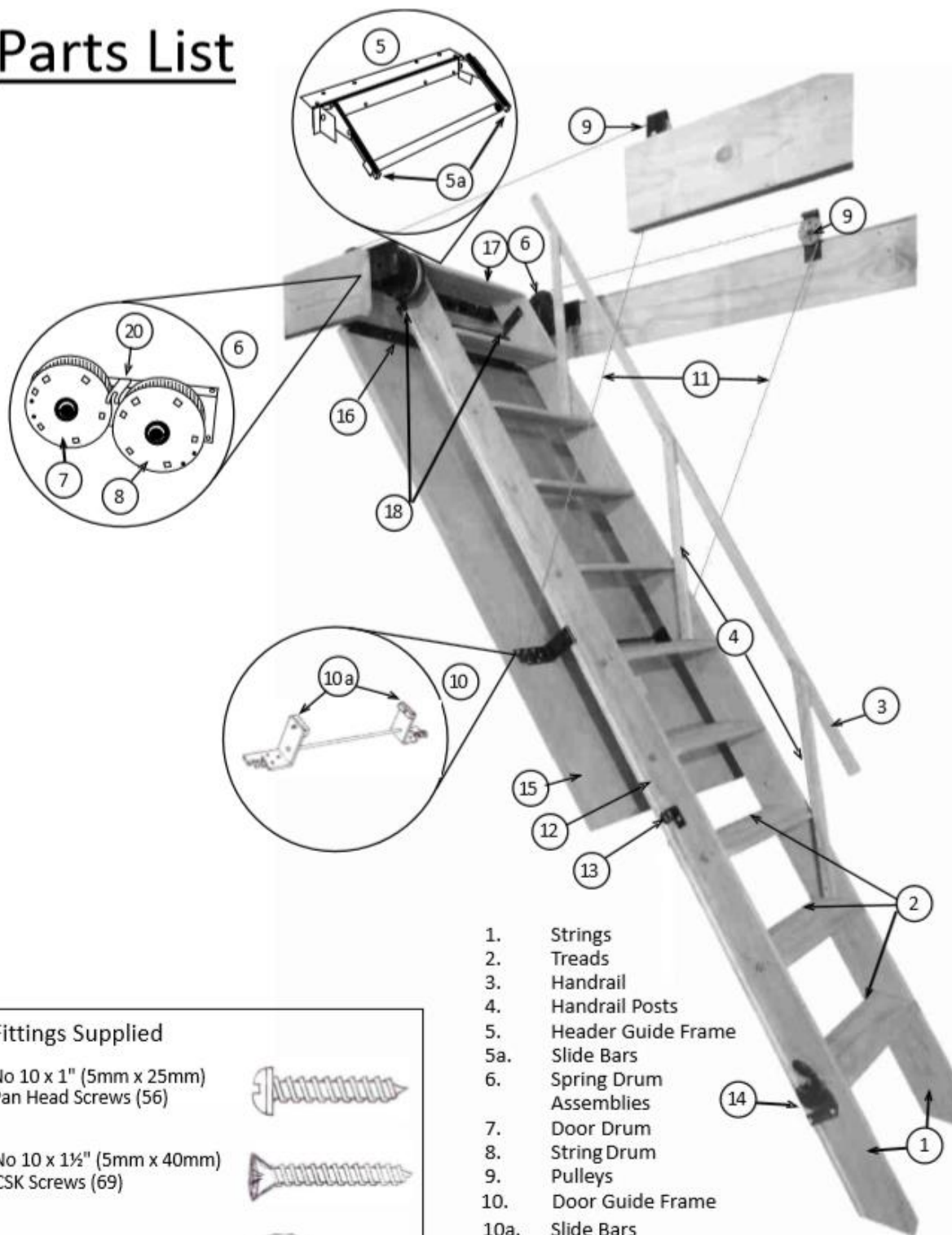


Caernarvon 400 & 700 Fitting Instructions



Parts List



Fittings Supplied

No 10 x 1" (5mm x 25mm)
Pan Head Screws (56)



No 10 x 1½" (5mm x 40mm)
CSK Screws (69)



Screw Eye (1)



M6 x 30 Bolt + M6 Nut (12)

1. Strings
2. Treads
3. Handrail
4. Handrail Posts
5. Header Guide Frame
- 5a. Slide Bars
6. Spring Drum Assemblies
7. Door Drum
8. String Drum
9. Pulleys
10. Door Guide Frame
- 10a. Slide Bars
11. Door Cables
12. String Cables
13. String Cable Holders
14. Catch Lock
15. Door
16. Door Hinge
17. Top Tread

You should have **three** parcels:

- 1 - Contains the hardware, fittings, instructions and treads
- 2 - Door predrilled for door guide frame and screw eye
- 3 - Strings and handrail with uprights

BEFORE YOU INSTALL THE LADDER

Check Model Size:

Be sure to check the *storage height* (C) and *storage length* (B) above the handrail. Please refer to *Fig.1* and *Table 1* to ensure that the size of your specific model fits within the specified requirements.

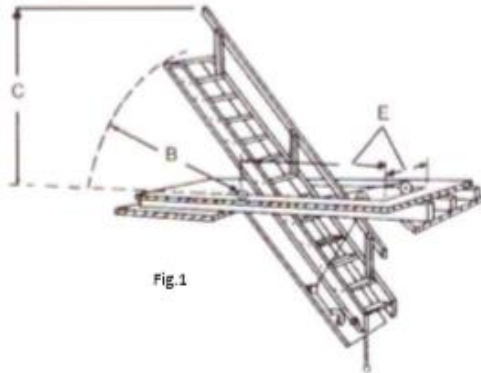


Table 1

Size	(A) Floor to Floor (mm)	(B) Radius Height (mm)	(C) Storage Height (mm)	(D) Going (mm)
1	2311 to 2412	1244	889	1625
2	2413 to 2564	1422	1041	1727
3	2565 to 2717	1600	1193	1828
4	2718 to 2869	1778	1346	1930
5	2870 to 3021	1778	1371	2032
6	3022 to 3174	1981	1549	2108
7	3175 to 3302	2159	1651	2235

Check Opening Dimensions:

The sliding stairway will work with most ceiling thicknesses from 160mm. If the ceiling thickness is greater than 355mm, please call for additional instructions. Please refer to *Fig.2* and *Table 2* to check that the size of the rough and finished openings are correct for your specific model.

Table 2

Model	Rough Opening Inside Dim.	Finish Opening Inside Dim.	Guide Frame Slide Bar Inside Width
400 Size 1-4	660 x 1727mm	611 x 1680mm	422mm
400 Size 5-7	660 x 1879mm	611 x 1830mm	422mm
700 Size 1-4	812 x 1727mm	764 x 1680mm	468mm
700 Size 5-7	812 x 1879mm	764 x 1830mm	468mm

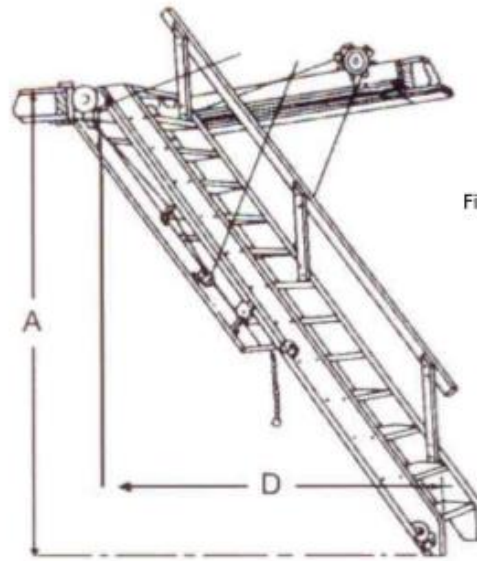
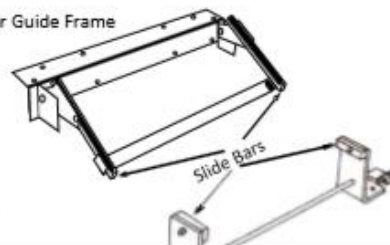


Fig.2

Check Guide Frame Slide Bars

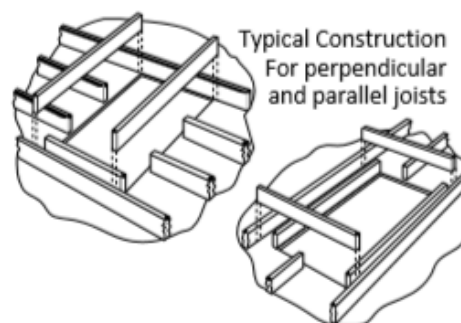
Check **header guide frame** and **door guide frame slide-bars** for alignment. The Model 400 should be 422mm across the inside of the side bars and parallel. The 700 should be 468mm across. You may adjust the slide bars by bending

Header Guide Frame



Step 1- Preparation of the rough opening

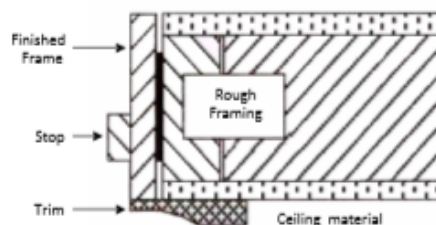
Prepare the rough opening to the size shown in Table 2. Double headers may be needed in certain circumstances. Use standard carpentry practices when building the rough opening and check your local building code for correct configurations.



Step 2 - Preparation of finished opening

See Table 2 on page 2 for dimensions for the particular model. Build the finished frame on the ground. The frame should be constructed from 1" dressed timber, and the depth should be such that it fits flush with the ceiling and attic floor.

N.B The frame must be minimum 160mm deep where the ceiling to attic floor dimension is less than this.



Step 3

After sizing and squaring the aperture correctly secure the frame by nailing slats across the four corners, allowing slats to overhang the frame edges. Lift into ceiling and allow to hang from attic floor by the slats. Fasten securely to ceiling joists with 3" No.10 screws. Remove the slats and trim the door opening on ceiling with architrave.

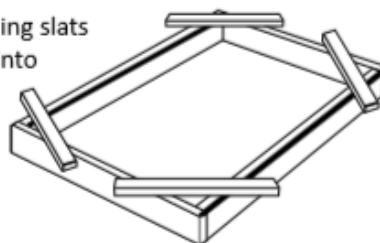
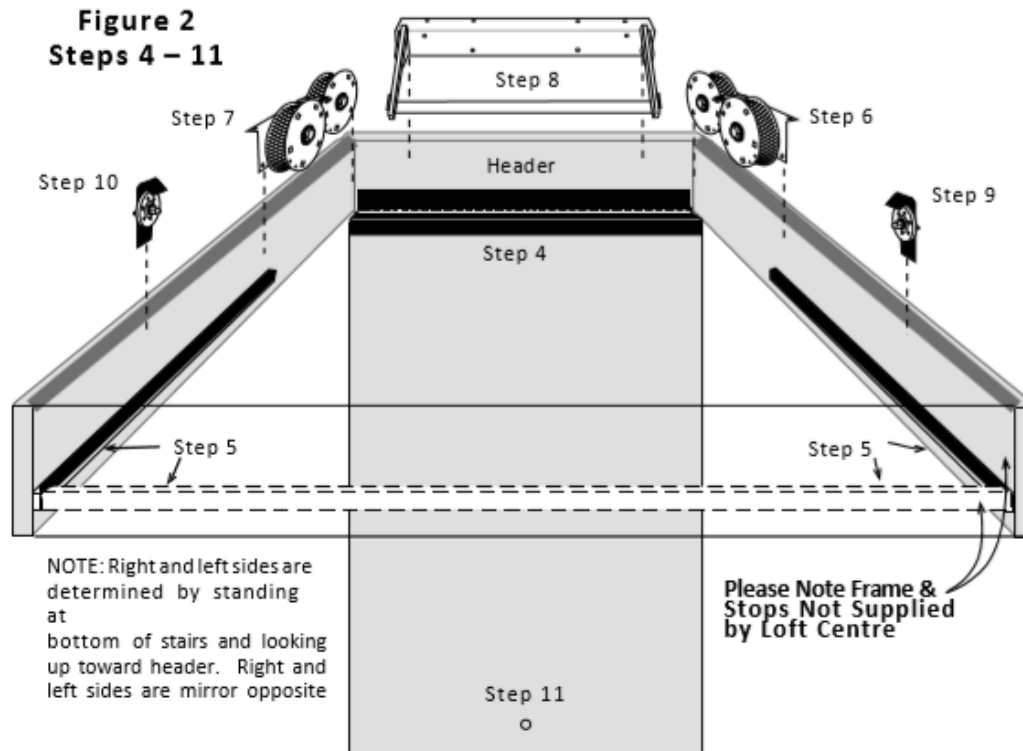
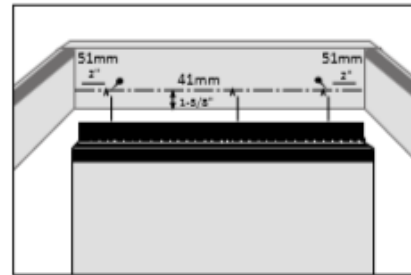


Figure 2
Steps 4 – 11



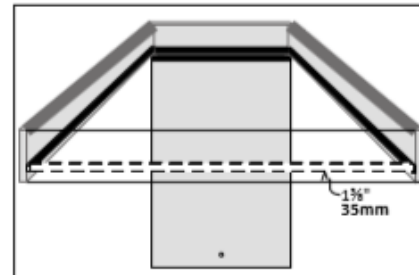
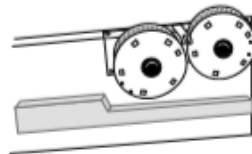
Step 4

On selected header, draw a line 41mm up from the bottom of the door frame. Then about 50mm from each corner, partially drive 2 small nails on this line for a guide. **Hold door panel** (no.15) upright with the loose leaf of the hinge against the nails. Centre the door panel in the finished frame, pre-drill two holes and drive two 1" Panhead screws to hold the door. Now check the swing of the door to make sure it does not stick in the finished frame. Make adjustments in frame as necessary. Install screws in the remaining positions and remove two nails.



Step 5

Install 10 x 31mm door stops (not supplied) on remaining 3 sides at 35mm from the bottom. Door stops may need to stop at the spring drum assemblies or be trimmed to allow placement of **spring drum assemblies** in steps 6 and 7

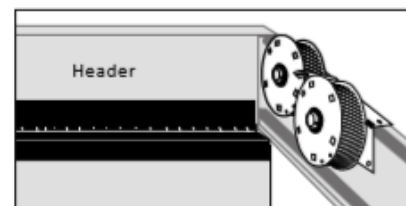


Installing Hardware

You have been supplied with 3 types of screws. The 1" No.10 Pan head are to be used to attach metal to timber. The 1½" x No.10 Csk screws are to be used to attach the treads, and the 1 ¾ x no.10 (5x35mm) Csk screws to attach the handrails. **Have on hand in attic:** both **left and right spring drum assemblies** (No.6), two **pulleys** (No.9) and **header guide frame** (No.5)

Step 6

As you face the door, install the **right spring drum assembly** (No.6) in the corner against the selected header. There are seven holes in each **spring drum assembly**. Pre-drill all holes using a 3mm drill bit.

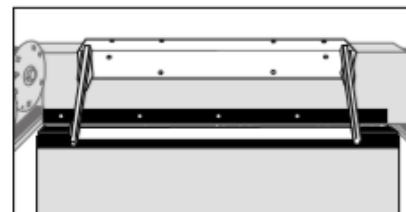


Step 7

Install **left spring drum assembly** (No.6) in the same manner as the **right assembly**

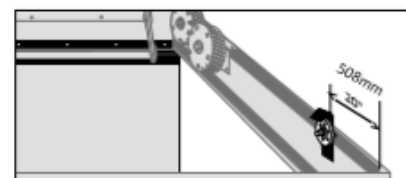
Step 8

Install the **header guide frame** (No.5) on top of the frame CENTRED between the drum assemblies and Square to the opening. Mark off then pre-drill all ten holes and attach with No.10 x 1" Pan head screws.



Step 9

Mount the right side **small pulley** (no. 9) so that it's centreline is 508mm from the well end opposite the door and the tab is flush with the attic floor. Pre-drill door and the tab is flush with the attic floor. Pre-drill the three holes and attach with No.10 x 1" Pan head screws.



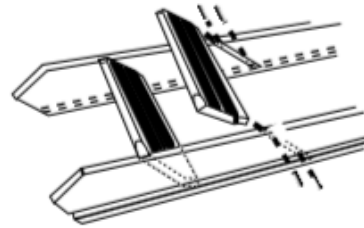
Step 11

Screw the screweye into the marker hole on the underside of the door. This may be a good opportunity to double-check the swing of the door to insure it doesn't bind against the finished frame.

Assembling Strings & Treads

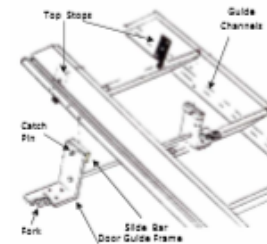
Step 12

Lay out the strings on the ground or on trestles, with the guide channels on the bottom and facing outward (as drawing right)



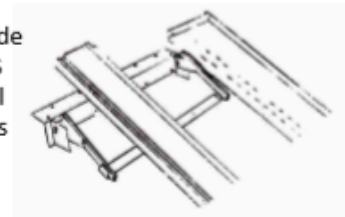
Step 13

The treads are precision cut to act as spacers, holding the outside width of the stairs at a constant measurement. They should fit snugly into the rebates, grooved side up. Start at the bottom of the stairs and install **all but the top tread**. Please note the top tread is deeper than the others. Attach each tread to the strings with No.10 x 1½" CSK screws, after first drilling pilot holes into the ends of the treads, using a 3mm bit through the pre-drilled holes in the strings.



Step 14

Before lifting the stair section, install the **door guide frame** (no.10) into the guide channels on the outside of the strings. Be sure the FORKS POINT DOWNWARDS and the catch pin is on the left side of the string. Slide the Door Guide Frame all the way to the bottom of the stairs. DO NOT FORCE, as this may spread the bars or damage the brackets.



Step 15

Lift the stairs up to the **header guide frame** (No.5) into the guide channels on the outside of the strings. Make sure the slide bars are seated in the guide channels. **DO NOT FORCE** the slide bars of either the *door guide frame* or the *header guide frame* over the edge of the ladder as this may also spread the bars or damage the brackets. Fix top tread. Fix top stops with M6 x 30mm bolts and M6 nuts.



Step 16

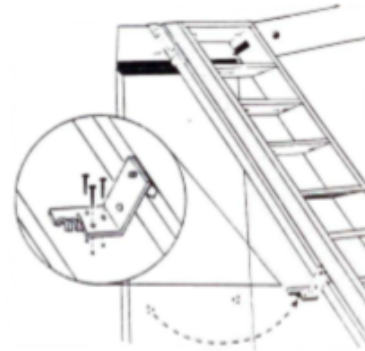
To install the top tread, ask a helper to push and hold the stairs up to where their position on the strings clears the attic floor. Install the tread in the same manner as the other treads (Steps 12 and 13), but please note the top tread is deeper (184mm). At the same time, the top stops may be fitted using M6 x 30mm bolts and M6 nuts through the pre-drilled holes.

For sizes 1-3

Lower the stairs until they touch the floor and the treads are level. Measure the section of the ladder above the floor level and cut an equal length off the bottom of the strings. Depending on the tread position, it is possible to take or leave up to 50mm extra if required.

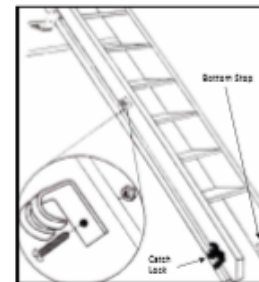
Step 17

Lower the stairs until the top stop rests against the stop bar of the **header guide frame** (No.5) and the bottom of the stairs are on the floor. The top tread should be level with the attic floor. Swing the **door panel** (No.15) to the stairs and slide the **door guide frame** (No.10) up on the strings and align with the pre-drilled holes in the **door panel**. Secure with 6 x No.10 x 1" pan head screws.



Step 18

Position the **catch lock** (No.14) on side of left string with hole centres 304mm (or less) from the bottom heel of the string. Mark and drill 6mm diameter hole. Fix with M6 x 30mm bolts + M6 nuts. Repeat as above for the bottom stop on the right. Position **cable holders** (No.13) to both of the strings with hole centres 533mm (or less) above the holes for the catch lock and 63mm from the back of the string. Mark and drill 6mm holes and fasten with M6 x 30mm bolts + M6 nuts.

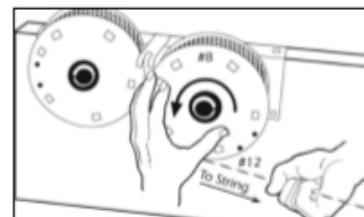


Stringing the Cables

On the Spring Drum Assembly, both cables are attached to a shipping fork. The drums are shipped with tension to keep cables secure. **DO NOT UNHOOK FROM SHIPPING FORKS UNTIL READY TO STRING**

Step 19

Start with the **stringer drum** (No.8), the drum furthest from the corner. The cable will have approximately the correct amount of tension (3 turns). Carefully remove the **cable** (No.12) from the shipping fork while holding onto the drum. Refer to step 25 for final adjustment of tension.

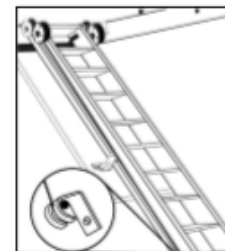


WARNING

DO NOT LET CABLE SLIP FROM YOUR HAND AS SUDDEN RELEASE OF TENSION CAN BREAK OR BACK-WIND THE SPRING AND CABLE TRAVEL MAY CAUSE PERSONAL INJURY

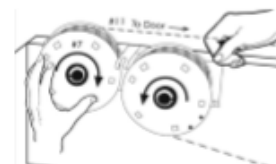
Step 20

Keeping cable **ALIGNED** with drum, pull cable down and hook to **cable holder** (No.13) on string. Repeat for left side.



Step 21

Connect the **door cable** (No.11) by carefully removing the cable from the shipping fork. **CAUTION: door cables** come with tension for shipping purposes only. Back off tension on **door drum** slowly until all tension is released.

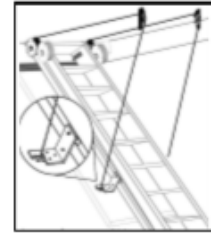


WARNING

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Step 22

Starting with all the cable wrapped on the drum, pull the cable parallel to the attic floor and feed cable over **pulley** (No.9) and down to **FORK** on **door guide frame** (No.10). Hook cable's **stop button** under the fork. Repeat for left side. Refer to step 25 for final adjustment of tension.



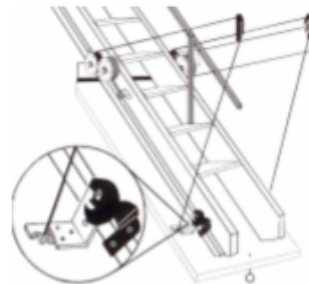
Step 23 - Attaching the Handrail

The **handrail** can be installed on either side of the ladder. The top post should be mounted plumb to inside of the required string and resting on the second tread from the top using three No.10x 1½" CSK screws. Attach handrail about 100mm past top post with two 1½" screws. Go to the other end and attach bottom post to inside of string with post resting on the bottom tread and plumb under the handrail, attach with two 1½" screws. Position the other posts at equal intervals on stairs. There are 3 posts for sizes 1 - 4, and 4 posts for sizes 5 - 7. Handrails may be attached further down the stairs depending on the customer's requirements. Make sure that the horns of the posts are covered by the handrail. Always use the handrails when walking up and down the stairs.

HANDRAILS ARE FOR BALANCE ONLY AND NOT FOR LOAD BEARING.

Step 24

Raise the stairs as if to be stowed, but still open position on door panel. Make sure that the **catch lock** (No.14) has engaged the **catch pin** by pulling the stairs back about 45mm. **DO NOT LET THE DOOR SLAM.** Slamming the door may cause damage to the **string guide channel** or tear the **door guide frame** (No.10) from the door. NB: Refer to Step 25 for final adjustment of tension.



WARNING

DO NOT LET CABLE SLIP FROM YOUR HAND SINCE SUDDEN RELEASE OF TENSION CAN BREAK OR BACK-WIND THE SPRING AND CABLE TRAVEL MAY CAUSE PERSONAL INJURY

Step 25 : Adjusting Spring Drum Tension

Always work towards using the minimum amount of tension to do the job. On average, one complete turn of the drum will add or reduce approximately 900g (2lbs) of lift.

Stair Tension

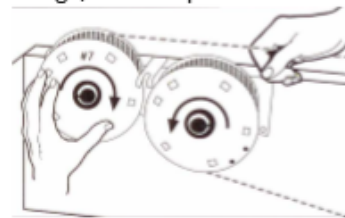
Have enough tension for minimum force to slide the stairs up to the stored position, but not so much that the stairs creep up when resting on the floor. This could cause accidental tripping. Too little tension may allow the stairs to feel heavy.

Door Panel Tension

The door should close very slowly without slamming, but with enough tension to hold the door against the stops.

Add Tension by adding more turns of cable. Take the end of the cable loose from the cable holder and slowly let it wrap up on the drum. While you still have a length of cable in your hand, hold the drum firmly and wrap additional cable around the drum as needed. Return cable to holder. Repeat for other side.

Reduce Tension by unwrapping additional cable. Take the end of the cable loose from the cable holder



TROUBLESHOOTING

What should I do if the stair section is jumping out of track?

Check the width of the stairs and check the dimensions between the slide bars. You may adjust the **slide bars** by bending the bracket slightly in or out as needed - please see table A.

What should I do if the stair section is hard to move or binding?

Make sure **slide bars** are in the **guide channel** over the entire length of travel. Lubricate guide channel with silicone grease. Look for gouge marks and check width of stairs at that point (see table A). Check seating of treads.

What should I do if the cable runs off of the drum when moving stair section?

Check to see if the stair is centred in opening. Check for proper alignment of hardware. Check for alignment and plumbness of frame. Mounting brackets can be shimmed to correct minor mis-alignment.

What should I do if the stair section comes down too fast?

Add spring tension to **string drum** (no. 8). Refer to step 25.

What should I do if the stair section 'creeps up' from the down position?

Reduce spring tension to **string drum** (no. 8). Refer to step 25.

What should I do if the door panel fails to close?

Add spring tension to **panel drum** (no.7). Refer to step 25. Make sure screw heads are seated against hinge. Check for foreign debris.

What should I do if the door panel slams shut?

Reduce spring tension to **panel drum** (No.7). Refer to step 25.

What should I do if the spring drum breaks or back winds?

Please contact your supplier.

Table A

Model	Slide bar inside width	Ladder outside width. (+/- 2mm)
400	422mm	433mm
700	468mm	480mm

WARNING

The Spring inside the drum, even IF broken or back-wound is under **EXTREME** compression

NEVER OPEN THE SPRING DRUM

Please contact your supplier.