



Technogym Machine Fixing Guidelines:

Rev.2 - May 2013



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Technogym Machine Fixing Guidelines

Technogym Machine Fixing Guidelines are to be used as a reference guide for installation and service technicians, in addition to the installation instructions reported in the user's manual and supplied with the machines. All machines that require securing before use to ensure their stability are to be secured using the correct method, brackets, and fixings to ensure their safe operation.

Technogym Machine Fixing Guidelines are to be distributed, read, and understood by all Technogym, and sub-contracted personnel involved in the installation, service, and repair of Technogym equipment.

The securing of the machines listed in this document is critical to the safety of their use – In case of any doubt or concern as to the suitability of fixings you **MUST** seek expert advice.

Related Documents

- User's manual
- L08.5 Disclaimer
- L11.2 Machine securing record
- Technogym Installation Instructions

1. General

1. No machines can be fixed to a stud or partition wall unless it has been suitably reinforced.
2. The wall / floor and selected fixing must be able to withstand the level of force quoted in the machine manuals before machines are secured to the floor / wall. It is customer's responsibility to provide detailed information to enable us to confirm that the floor / wall type is suitable.
3. It is the customer's responsibility to supply details of electrical wiring and services in wall / flooring that may be affected by drilling. **The installer must check this prior to carrying out any work by use of schematic diagrams and / or scanning devices.**
4. Technogym recommends Fischer Fixings as a supplier of fixings, technical training, and advice. All fixing systems used must be CE marked and carry ETA approval (European Technical Approval).
5. Installation sub-contractors to supply and correctly fit appropriate fixings depending on wall / floor type and utilising specialist advice from Fischer Fixings wherever necessary.
6. M10 fixings are advised for general use except where instructed otherwise by Fischer Fixings or a fully qualified structural engineer.
7. Recommended loads must have at least a 3 times safety factor. Fischer Fixings state recommended loads in Kilo Newton (kN). Technogym states recommended loads in Kilos (Kg).

1kg = 9.81 Newtons (N) = 0.0098 Kilo Newtons (kN)

Example 1

50kg recommended load = 490.5N which is equal to 0.49kN.

0.49kN x 3 = minimum load of 1.47kN

Example 2

90kg Recommended load = 882.9N which is equal to 0.88kN

0.88kN x 3 = minimum load of 2.64kN.

8. In case of doubt about the correct fixing to use or adequate fixing strength Fischer Fixing must be consulted to provide expert advice. Where necessary pull testing can be used to determine adequate loads can be achieved.



9. Locking nuts or Loctite 243 is to be used to prevent fixings from becoming loose. All bolts / fixings **must** be tightened to the manufacturer's torque specifications if applicable.
10. Long bolts or studding must be cut to size leaving at least 1 full turn of thread above the nut.
11. Sharp edges on bolts, studding, or any other fixing must be filed smooth.
12. Tamper evident seal must be applied to the fixings once in place. (RS Components RS 196-5245 Red).
13. If for any reason machine cannot be fixed in accordance to the set guidelines a **Disclaimer form L08 must be completed** and signed by the customer. The machine must be left in a disabled state by disconnecting the weight stack from the cable and placing a do not use sign on the machine as per the **Technogym Installation Guidelines 'Machines in a dangerous condition' procedure**.
14. On successful completion of the securing of the machine(s) form **L11 Machine Fixing Record** must be completed and red 'Do not use' warning labels on the machines be covered.

2. Responsibility Chart

Activity	Responsibility			
	Club	Technogym UK	Install Team	Sales contact
Making the customer aware which machines are to be secured before use		X	X	X
Confirmation of wall / floor type and structure	X			
Supply of schematic plans detailing location of services	X			
Scanning and detection of services to verify information on schematic plans and ensure safety			X	
Supply of fixing brackets		X		
Supply of appropriate fixings			X	
Fixing machines to wall / floor			X	
Supply of anti-tamper solution		X		
Fitting anti-tamper device			X	
Completion of machine fixing record			X	
Completion of disclaimer and ensuring machines are left in a safe condition if the fixing cannot be completed for any reason			X	



3. Technogym Approved Methods & Authorised Personnel

The fixing methods contained within this document are Technogym UK LTD approved.

No other fixing method should be used without first obtaining written confirmation from Technogym UK LTD.

All personnel carrying out fixing work for Technogym **must** be approved by Technogym before they can do so.

To become approved to secure Technogym machines personnel **must** be trained in the following, or be able to demonstrate competence by experience in carrying out the work.

1. Understanding of the risks and hazards of carrying out drilling works
2. An awareness of asbestos and the hazards and health risks associated with its potential presence in buildings built before the year 2000
3. Hand tool / power tool training
4. Be competent in the use of scanning tools to detect services prior to drilling
5. Trained in the use, selection, and correct installation of Fischer Fixings
6. Full understanding of Technogym fixing guidelines
7. Full understanding of Technogym Installation Guidelines

4. Selection Line

Table below lists the equipment **mandatory to be fixed** and the minimum pull force that floors / walls must be able to withstand to ensure correct fixing of the machines. Machines **must** be secured by using supplied brackets. Appropriate fixing bolts to be supplied by contractor depending on floor type.

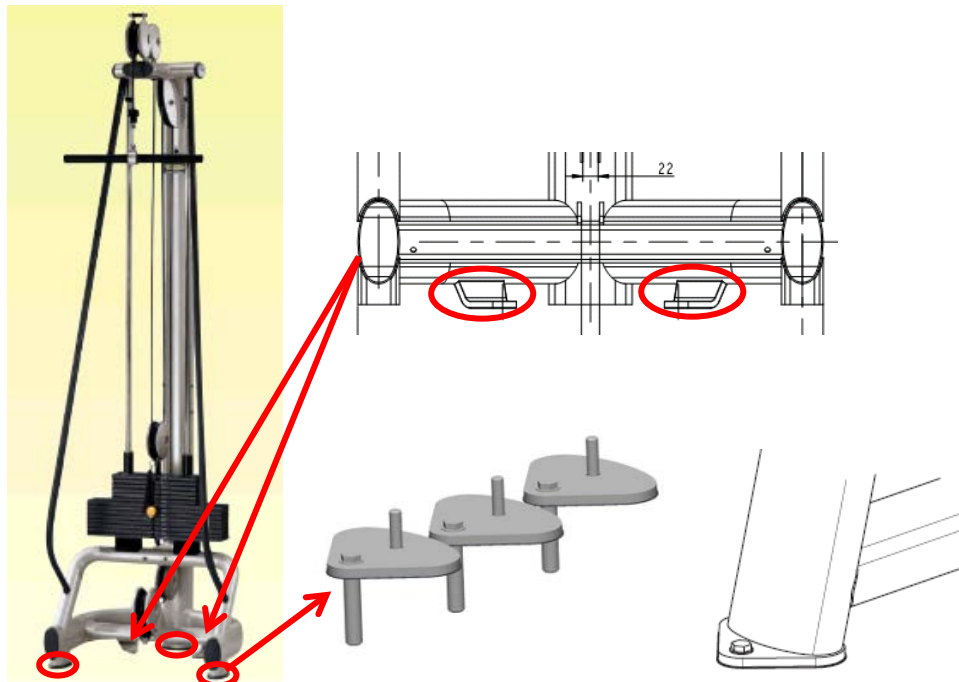
Line	Code	Model	To be secured to	Minimum pull force
Selection	M928/M828 M959/M859 C959	Ercolina Ercolina Rehab Ercolina IFI	to floor or wall	Floor: 90kg Wall:50Kg
Selection	M924/M824	Cable Crossover	to floor or ceiling	Floor: 90kg Ceiling:50Kg
Selection	M988/M888 C988	Radiant Radiant IFI	to floor or ceiling	Floor: 90kg Ceiling:50Kg
Selection	M982/M882	Cable Jungle	to floor	50Kg
Selection	M953	Multipower	to floor	50Kg

*A 3 times safety margin must be added to the minimum pull force. I.e.: 50KG = 0.49kN x 3 = **1.47kN minimum permissible fixing load.**

SELECTION ERCOLINA / ERCOLINA REHAB / ERCOLINA IFI

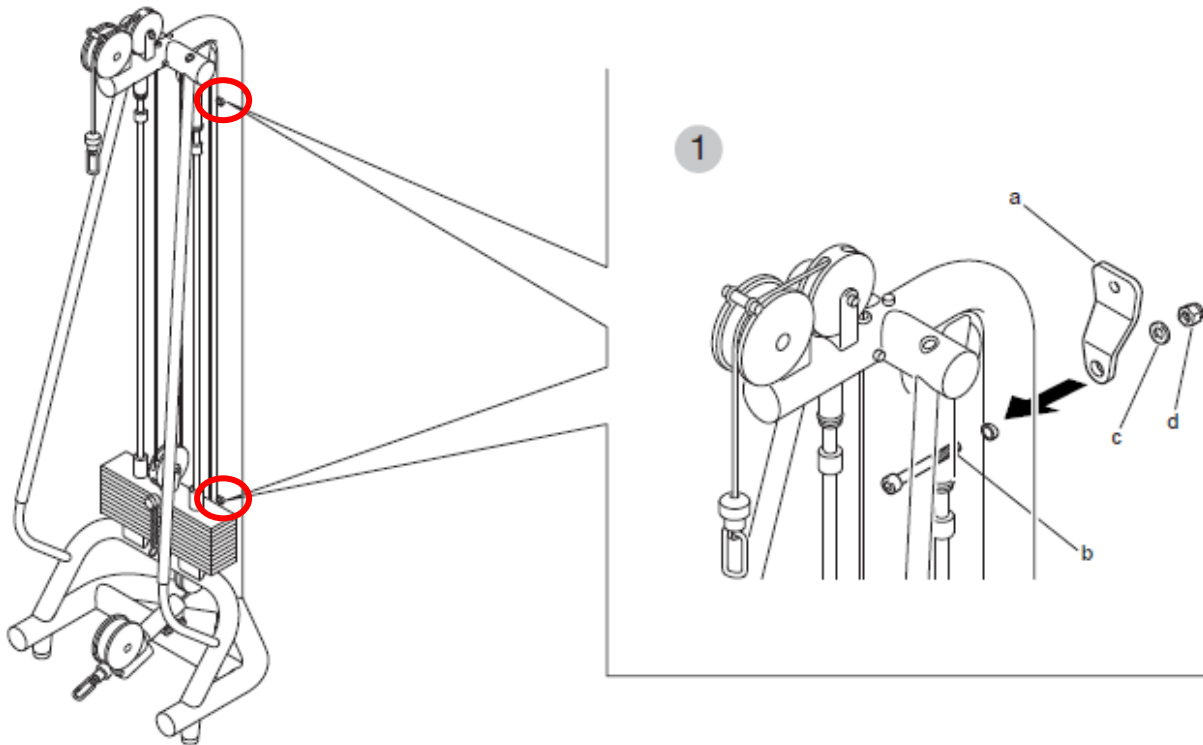
- Floor fixing**

Use the TG supplied foot brackets, part number **A0000471** (kit contains 3 brackets) and use the **2 brackets** included into the frame. For a total of **5 fixing bolts**.



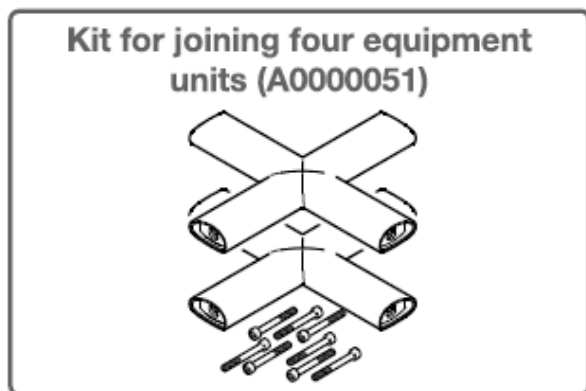
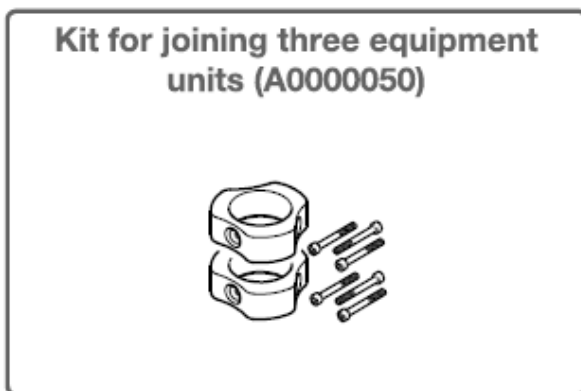
- **Wall fixing**

Use the TG supplied wall brackets part number **0D000470-GG**. 2 brackets **must** be used as per picture below.

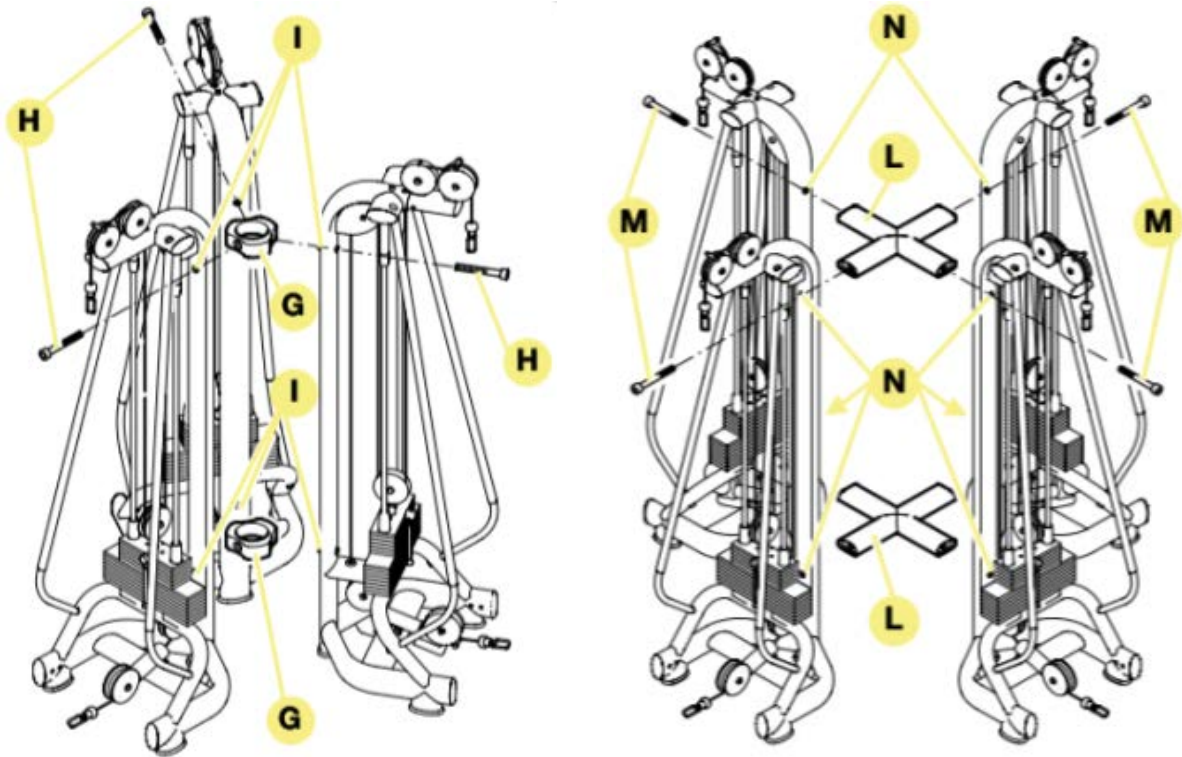


- **Fixing to other machines (kit for joining equipment)**

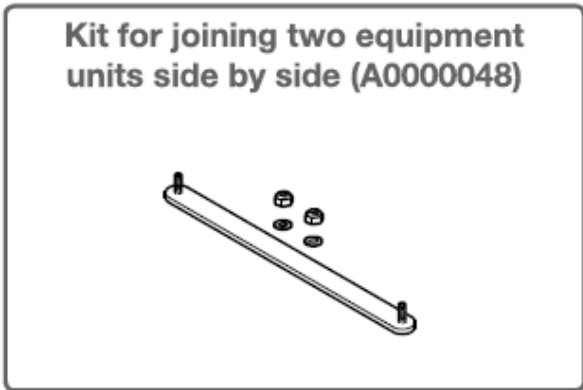
Selection Line Ercolina / Ercolina Rehab / IFI can also be attached to other Ercolina (included Radiant or Crossover Cables), by using the kit for joining **3 or 4** equipment unit. This solution prevents all joined machines from fixing to wall, floor or ceiling.



Example of Selection Line Ercolina in **3 and 4** stations configuration:



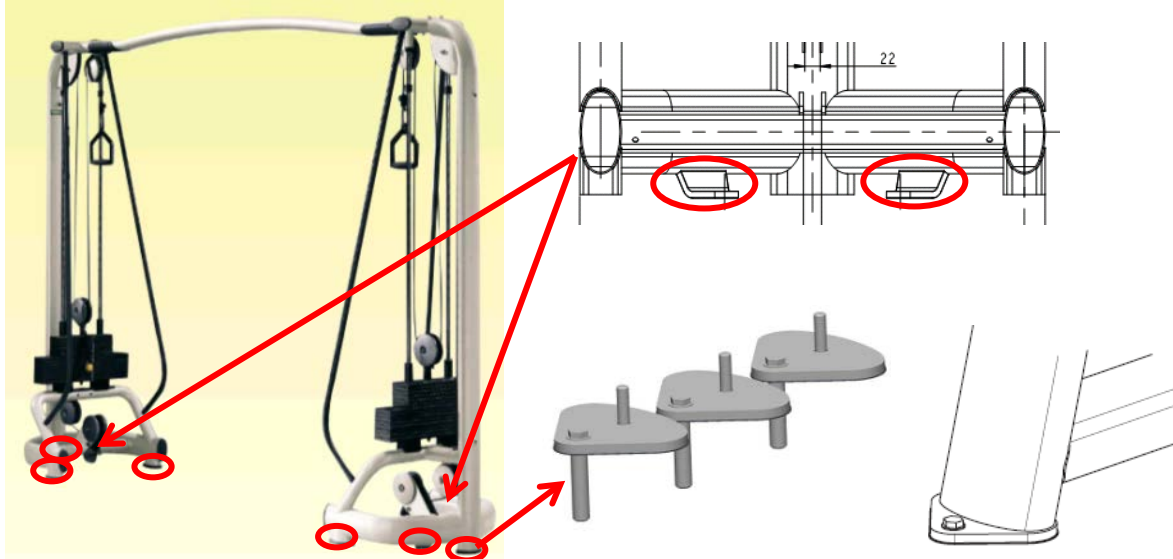
NB: There are 2 other kits available to join Ercolina together but those require additional floor or wall fixing as well.



SELECTION CABLE CROSSOVER

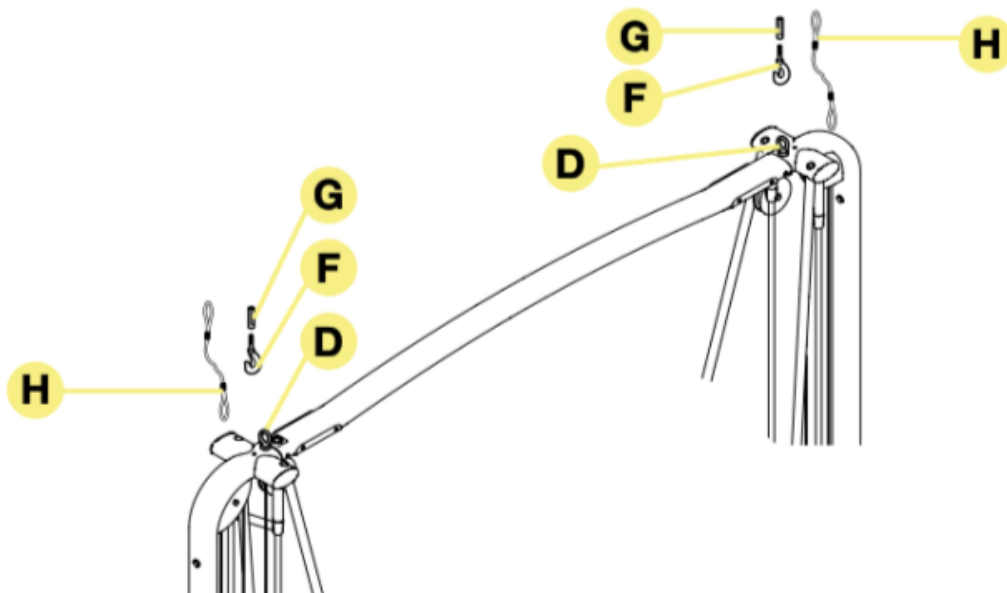
- **Floor fixing**

Use the TG supplied foot brackets, part number **A0000471** and use the **2 brackets** included into the frame. For a total of **5 fixing bolts** on each Ercolina station.



- **Ceiling fixing**

Use cables, ropes or chains to secure Cable Crossover to the ceiling.



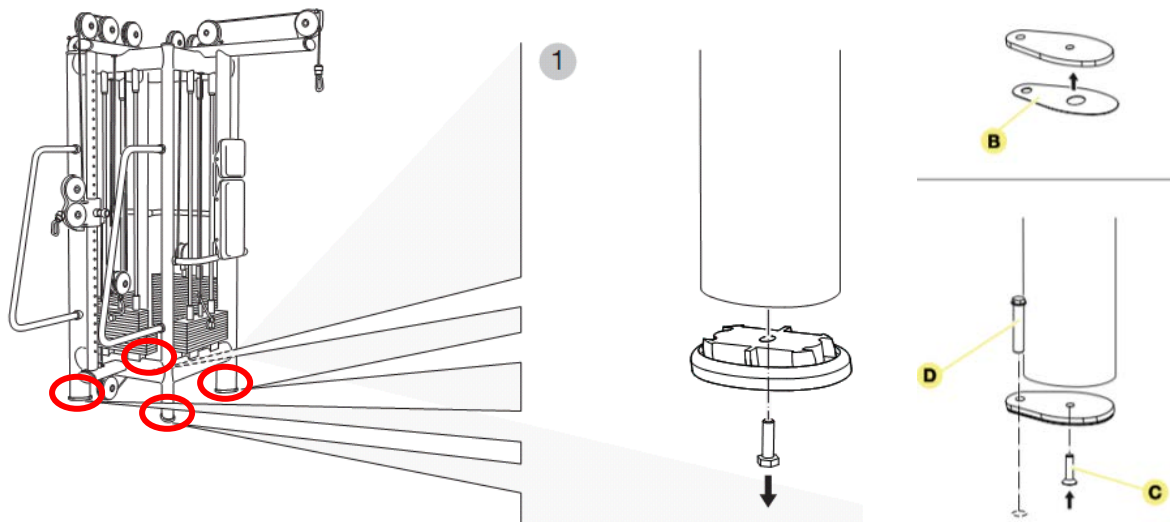
SELECTION RADIANT / RADIANT IFI

Refer to **Cable Crossover**.

SELECTION CABLE JUNGLE

- **Floor fixing**

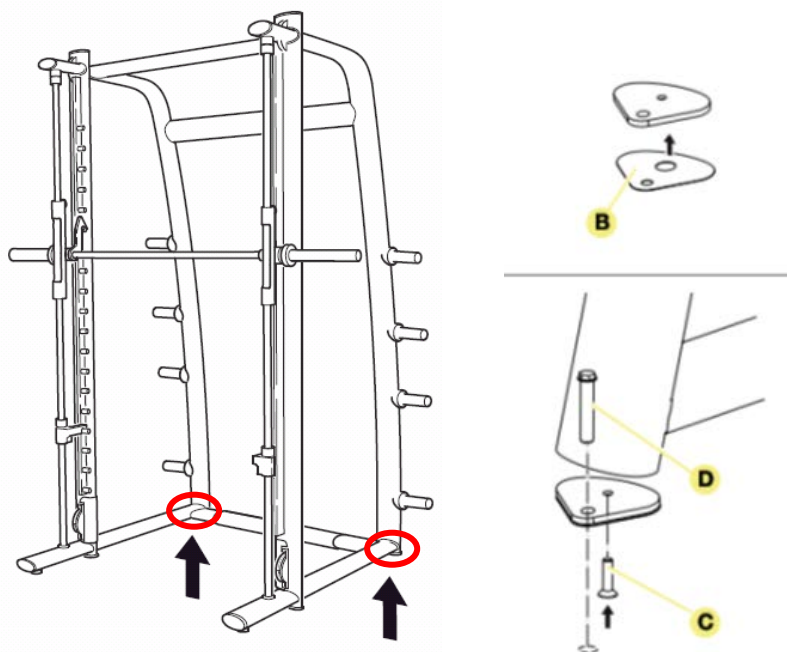
Use the TG supplied foot brackets, part number **A0000399** (kit contains 4 brackets).



SELECTION MULTIPOWER

- **Floor fixing**

Use the TG supplied foot brackets, part number **A0000471**.



5. MED Selection Line

Table below lists the equipment **mandatory to be fixed** and the minimum pull force that floors / walls must be able to withstand to ensure correct fixing of the machines. Machines **must** be secured by using supplied brackets. Appropriate fixing bolts to be supplied by contractor depending on floor type.

NB: Selection Line MED line can be identified by the product code which is prefixed with a **C** before the standard machine code. **I.e.:** C913 for MED Selection Line while M913 for Standard Selection Line.

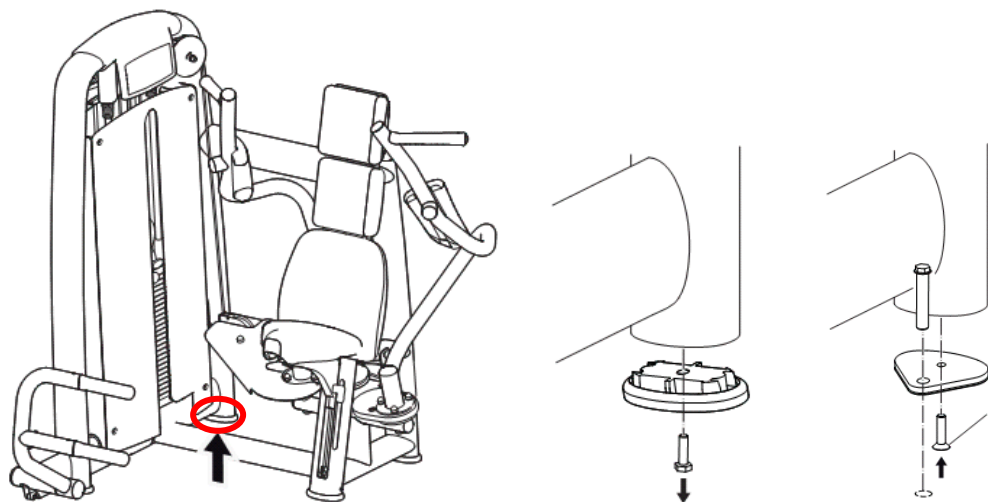
Line	Code	Model	To be secured to	Minimum pull force
Selection MED	C913	Pectoral Machine	to floor	50Kg
Selection MED	C953	Multipower	to floor	50Kg
Selection MED	C970	Chest Press	to floor	50Kg
Selection MED	C982	Cable Jungle	to floor	50Kg

*A 3 times safety margin must be added to the minimum pull force. $50\text{KG} = 0.49\text{kN} \times 3 = 1.47\text{kN}$ minimum permissible fixing load.

SELECTION MED PECTORAL

- Floor fixing**

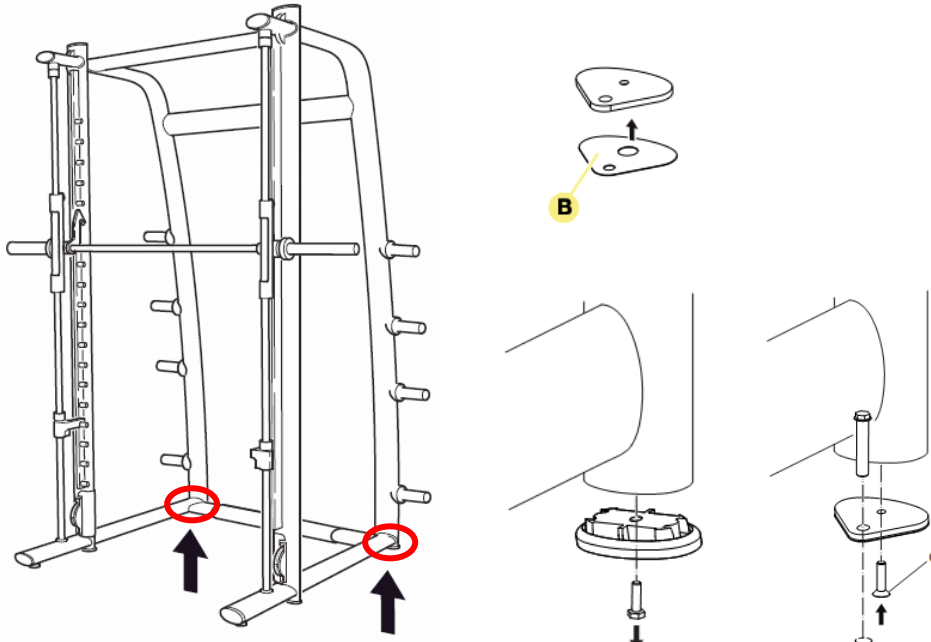
Use the TG supplied foot brackets, part number **A0000471**.



SELECTION MED MULTIPOWER

- **Floor fixing**

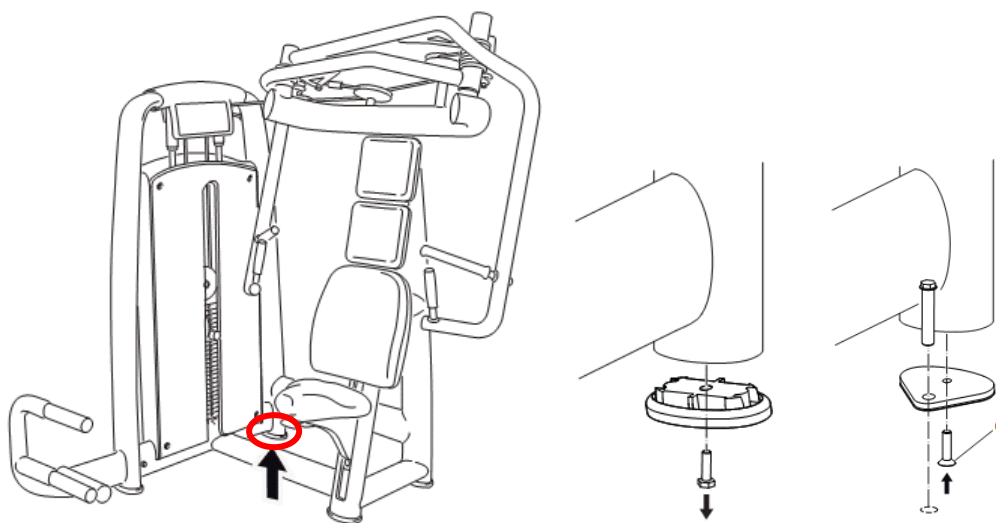
Use the TG supplied foot brackets, part number **A0000471**.



SELECTION MED CHEST PRESS

- **Floor fixing**

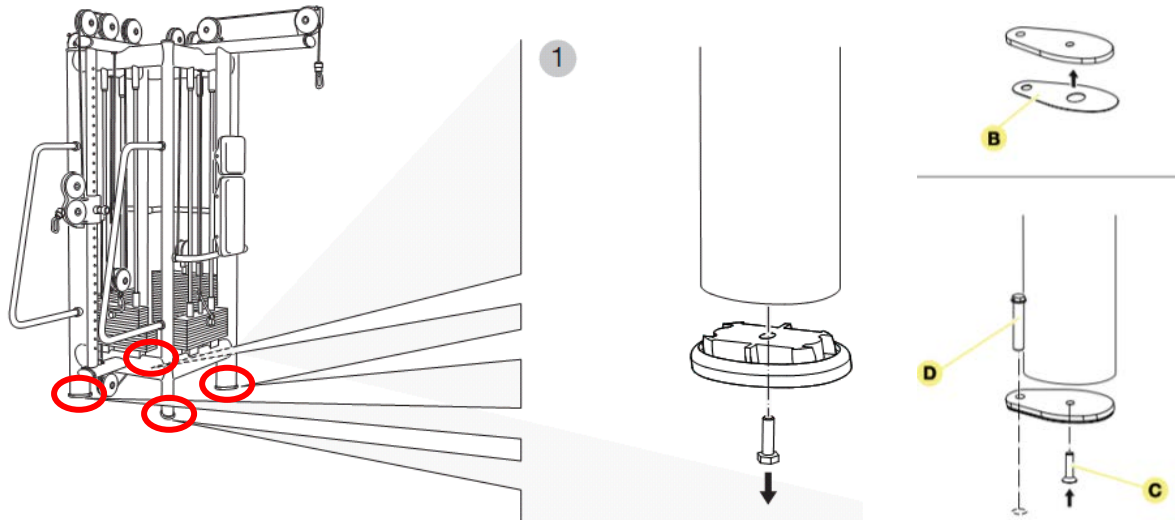
Use the TG supplied foot brackets, part number **A0000471**.



SELECTION MED CABLE JUNGLE

- **Floor fixing**

Use the TG supplied foot brackets, part number **A0000399** (kit contains 4 brackets).



6. Element Line

Table below lists the equipment **mandatory to be fixed** and the minimum pull force that floors / walls must be able to withstand to ensure correct fixing of the machines. Machines **must** be secured by using supplied brackets. Appropriate fixing bolts to be supplied by contractor depending on floor type.

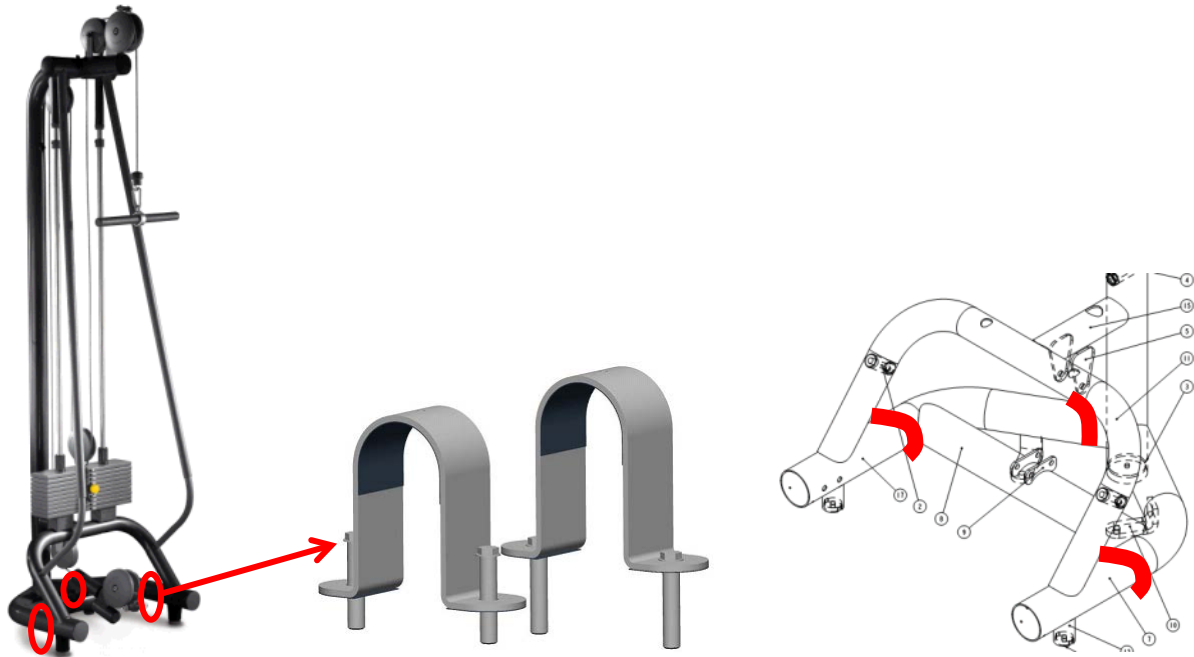
Line	Code	Model	To be secured to	Minimum pull force
Element	MB80/MA80 MB90/MA90	Ercolina Ercolina Rehab	to floor or wall	Floor: 90kg Wall:50Kg
Element	MB85/MA85	Cable Crossover	to floor or ceiling	Floor: 90kg Ceiling:50Kg
Element	MB83/MA83	Multipower	to floor	50kg
Element	MB43	Dual Adjustable Pulley (Dap)	to floor	50kg

*A 3 times safety margin must be added to the minimum pull force. **I.e.:** 90KG = 0.88kN x 3 = **2.64kN minimum permissible fixing load.**

ELEMENT ERCOLINA / ERCOLINA REHAB

- Floor fixing**

Use the TG supplied “U” shaped bracket part number **A0000472** (kit contains 2 brackets). Fix **3 brackets** (2 kit), for a total of 6 bolts.



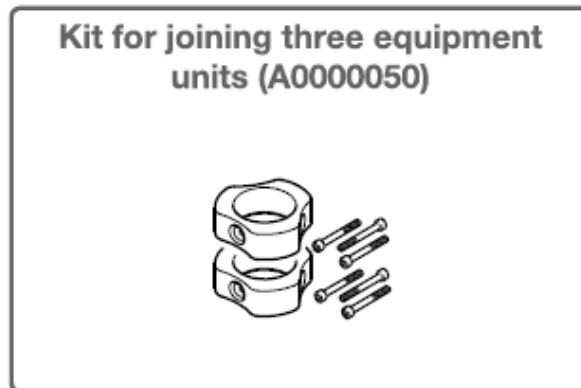
NB: Element Ercolina / Ercolina Rehab frame tabs are **not** suitable for use to secure the machine.

- **Wall fixing**

Refer to **Selection Ercolina**

- **For fixing to other machines (kit for joining equipment)**

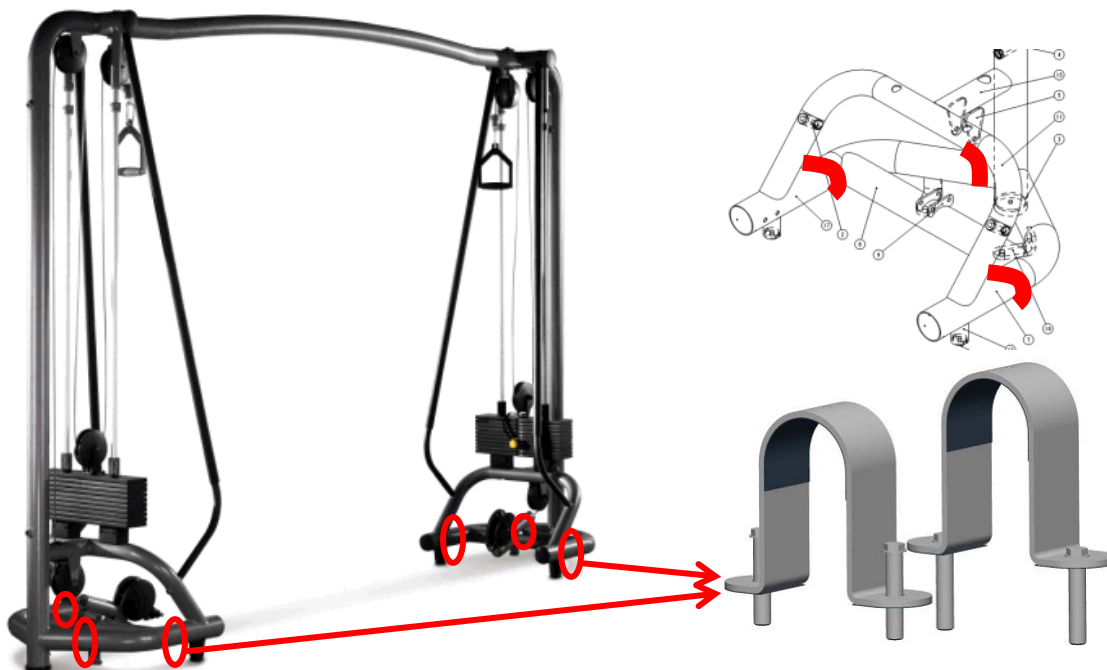
Element Ercolina / Ercolina Rehab **can** be secured to other Element or Selection Line Ercolina's (included Radiant and Cable Crossover), by using the kit for joining 3 equipment **A0000050**. This kit in fact is compatible to both Selection and Element line. This solution prevent all joined machines from fixing to wall, floor or ceiling.



ELEMENT CABLE CROSSOVER

- **Floor fixing**

Use the TG supplied "U" shaped bracket part number **A0000472** (kit contains 2 brackets). Fix 3 brackets per each station.

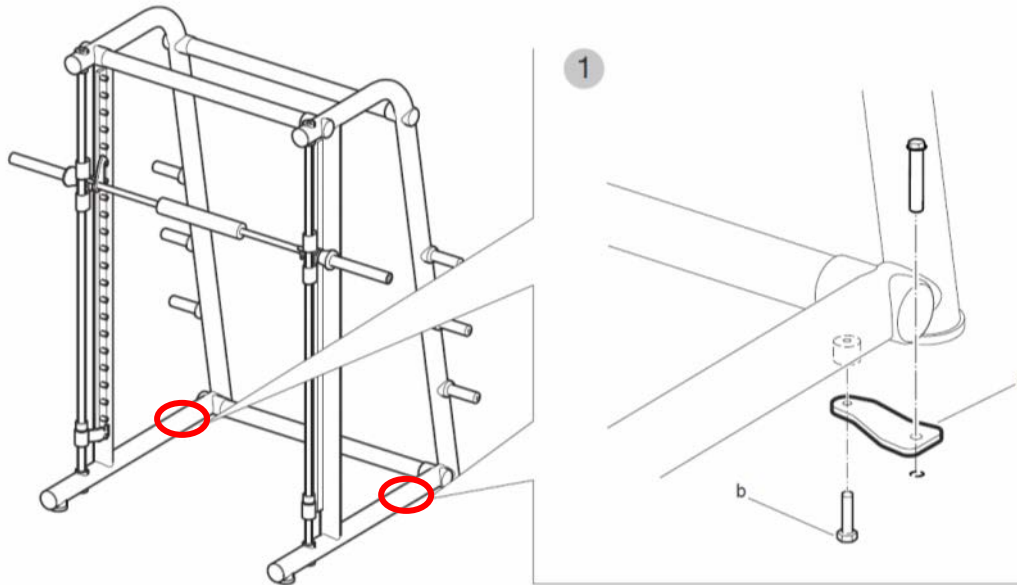


NB: Element Cable Crossover frame Tabs are **not** suitable for use to secure the machine.

- **Ceiling fixing**
Refer to **Selection Cable Crossover**

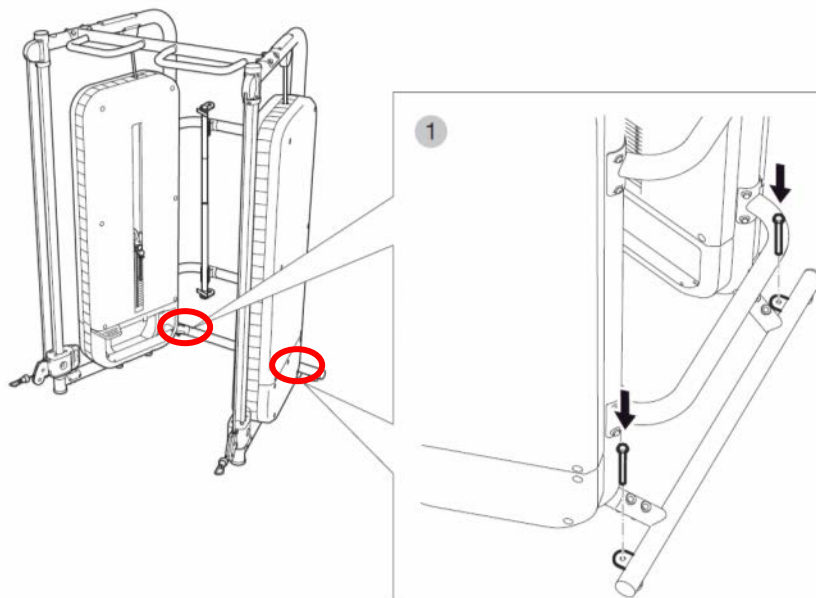
ELEMENT MULTIPOWER

- **Floor fixing**
Use the TG supplied bracket part number **0D002914AA-AL/AN**.



ELEMENT DAP

- **Floor fixing**
Use the fixing **tabs** attached to the frame.



8. Kinesis Stations

Table below lists the equipment **mandatory to be fixed** and the minimum full force that floors / walls must be able to withstand to ensure correct fixing of the machines. Machines **must** be secured by using supplied brackets. Appropriate fixing bolts to be supplied by contractor depending on floor type.

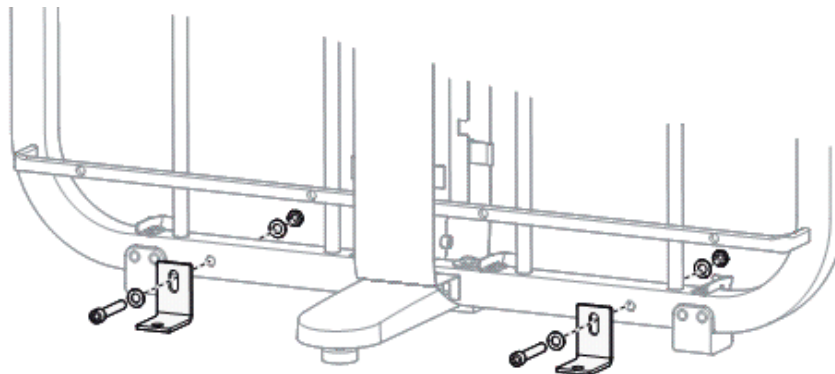
Line	Code	Model	To be secured to	Minimum pull force
Kinesis Stations	MH15	Overhead Press	to floor or together	Floor: 50kg
Kinesis Stations	MH20	Press	to floor or together	Floor: 50kg
Kinesis Stations	MH30	High Pull	to floor or together	Floor: 50kg
Kinesis Stations	MH65	Core Station	to floor or together	Floor: 50kg
Kinesis Stations	MH67	Step	to floor or together	Floor: 50kg

*A 3 times safety margin must be added to the minimum pull force. $50\text{KG} = 0.49\text{kN} \times 3 = 1.47\text{kN}$ **minimum permissible fixing load.**

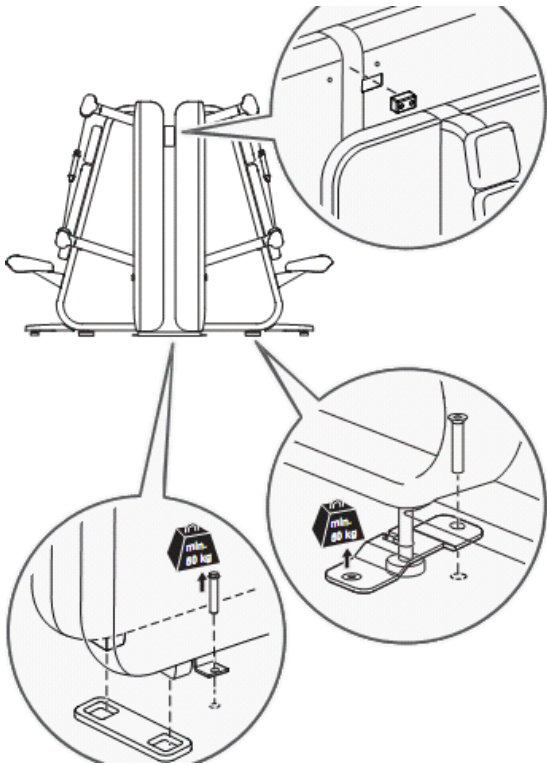
Kinesis Station have got **different ways of fixing** depending on the configuration and the fixing kit in use.

- **Fixing to floor (side by side configuration)**

Use the floor fixing kit **A0000564**. 2 brackets are to be used for each machine.



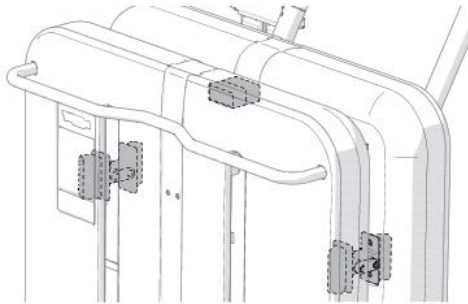
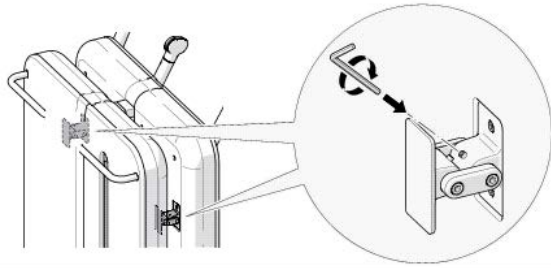
- **Fixing to floor (back to back configuration)**
Use the back to back fixing kit **A0000551**. It includes floor fixing as well.



- **In line securing set A0000662**
This set doesn't require floor fixing



- **Back securing set A000661**
This set doesn't require floor fixing



NB:

- If two equipment modules are coupled together, both unit must be anchored to the floor.
- If two equipment modules that have been coupled are separated for maintenance operations, they must be taken out of use.
- If two equipment modules coupled together during installation are later separated, it is essential that each of them are anchored to the floor; additionally, the rear supporting foot must be fitted.

9. Kinesis Personal

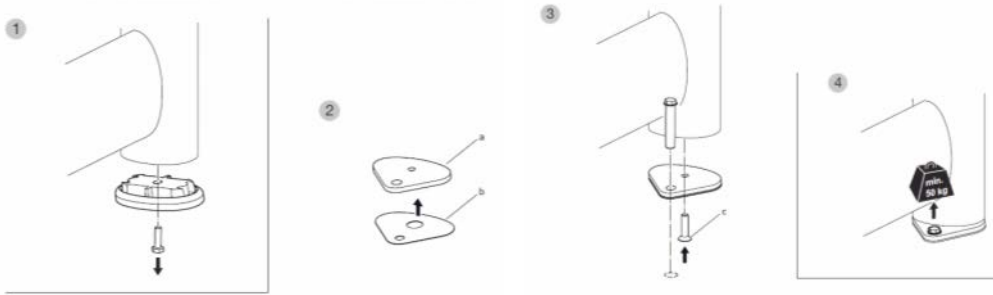
Please refer to the **installation guide** for specific fixing methods.

10. Ad hoc customer request

EASY CHIN DIP AND SELECTION LINE

Fixing is **not a mandatory** manufacturer's requirement for the **Easy Chin Dip** (M987/M887) though some customers choose to have it secured.

Easy Chin Dip, and all standard **Selection Line** machines that **do not normally require fixing**, can be secured by using Selection Line fixing Bracket **A0000471**.



ELEMENT LINE

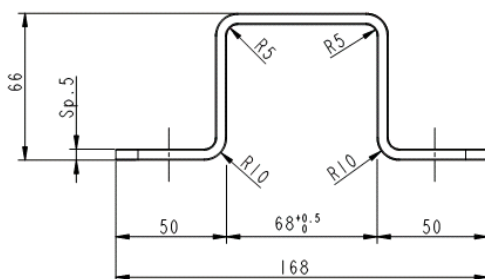
For ad hoc customer requests to secure **Element Line** machines that **do not normally require fixing**, Element line "U" shaped bracket **A0000494** can be used to secure the machine.



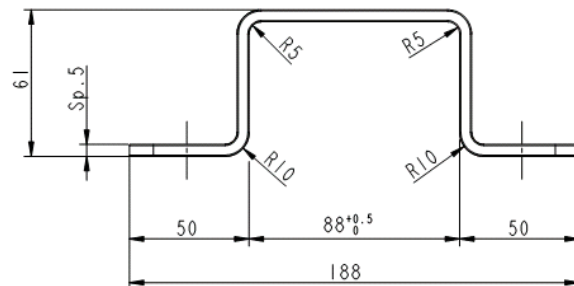
ISOTONIC COMBINED PARALLEL AND ISOTONIC

Fixing is **not mandatory** for the **Isotonic Combined Parallel** (C010) though some customers choose to have it secured.

Isotonic Combined Parallel, and all standard **Isotonic line** machines that do not normally require fixing, can be secured to the floor using Isotonic fixing bracket **0D001462AA-GG** or **0D001463AA-GG**.



0D001462AA



0D001463AA



11. Fixing Supply and Technical Advice

Technogym recommends Fischer Fixings as a specialist supplier of suitable fixings to adequately secure the machines. The correct type of fixing will vary dependent on the type of floor, and or, wall and its construction. **Bolts and fixings supplied with the machines are not to be used unless specifically stated.**

In case of any query regarding advice on what type of fixings are required please use the following contact details:

Gymfix:

Fischer contact person, Richard Lockwood 07970 728558

Fitness Solutions Scotland:

Fischer contact person, Martin Lonie 07966 634942

Purple Leisure Services:

Fischer contact person, Matt Constable 07792 629014

Service Repair Solutions:

Fischer contact person, Adrian Jones 07971 595520 (Berks), Ryan Haddock 07970 127502 (Staffs, Midlands)

Strengthen Gym Repairs:

Fischer contact person, Marc Jones, 07968 320159

Transmec Thurrock

Fischer contact person, Matt Constable 07792 629014

Transmec Bradford

Fischer contact person, Richard Lockwood 07970 728558

The Fischer contacts are available to visit site where necessary to further recommend fixing solutions where there is any doubt or difficulty in establishing the correct solution.

Fischer can also be called to site to carry out Hydro-jaw pull testing to certify loads to Construction Fixing Association approved standards (CFA)

Further technical advice on Technogym products can be provided by Adam Hurden (TG Senior Technician) 07825 389056, or Jeff Meade (TG Senior Technician) 07833 239025. Email UK_Technical@technogym.com



12. Parts Supply

Brackets and anti-tamper seals to secure the machines can be ordered through the UK Parts Team.

Contact – Chris Dainton (Parts Manager) 01344 823735
Or email cdainton@technogym.com or uk_parts@technogym.com

13. Anti-Tamper Process / Servicing

If, on inspection of a machine that has been secured, the anti-tamper seal has been broken or removed or if there is any sign of damage, wear, corrosion, or movement of the machine in use, the following process must be followed.

1. Explain to the customer that the warranty is void and the machine could potentially be unsafe.
2. Complete form L08.4 Disclaimer and disable and sign the machine out of order, as per the 'machines in a dangerous condition process'
3. Refer the issue to Technogym After Sales.
4. After Sales will contact the customer to arrange a chargeable job as appropriate.

14. Process for re-fixing after move

When a machine is relocated and then re-secured back into the same position it is vital that the fixing retains the same strength and security as the first fix.

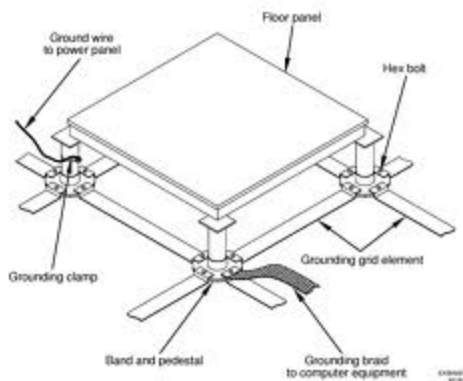
If the original studs cannot be used the machine should be re-positioned and a new fix be carried out taking into consideration minimum axial spacing requirements from the original holes / fixings.

15. Approved methods for specific floor types

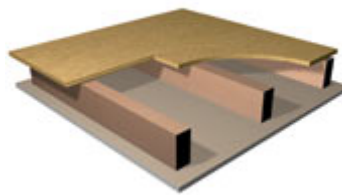
These approved methods are to be used as guidance only. Always refer to the manufacturers product information which may differ to the processes shown and must always take precedence. If unsure of the material to be fixed to, or of which fixings to use then seek advice from Fischer fixings or refer back to Technogym.

a. Suspended Floors (Wood over joists / Computer floors etc.)

Computer Floor



Wooden floor over joists



To secure a machine through a void in a suspended floor the following process must be used.

1. Obtain permission from the client to drill and confirm the position of the machine.
2. Ensure no services are present and it is safe to drill
3. Position machine and mark fixing holes

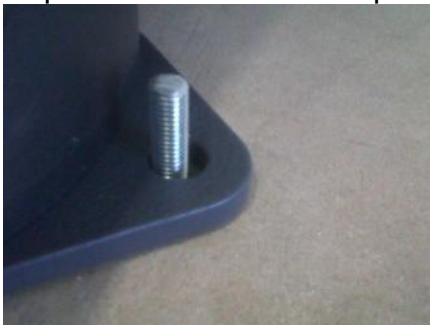


4. Remove machine
5. Drill an oversize hole at the marked points - 32mm diameter through the top floor and investigate subfloor to verify there are no hidden services.
6. Verify if there is any concrete screed or other fixture present and calculate drill depth into the substrate, ensuring the Fischer recommended embedment depth is adhered to.

7. Drill hole(s) in sub floor to recommended depth for fixing type taking into account any screed or other fixture.
8. Blow out the hole and brush 3 times to ensure the hole is clear and free from dust and debris.
9. Fix 10mm diameter studding using Fischer Vinyl Ester or Epoxy resin chemical fix as per product instruction and Fischer training. (Do not use Polyester resin chemical fix - product must be CE marked to European conformity).
10. Wait for chemical fix to cure as per Fischer product information (Use faster curing products to save time 40mins – 1hr at room temp).
11. Use 30mm external diameter / 20mm internal diameter aluminium tubing to shroud the stud. Measure the void and cut the tube flush to the top of the floor (ensuring that the cut is straight).



12. Replace the machine into position over the protruding studs.

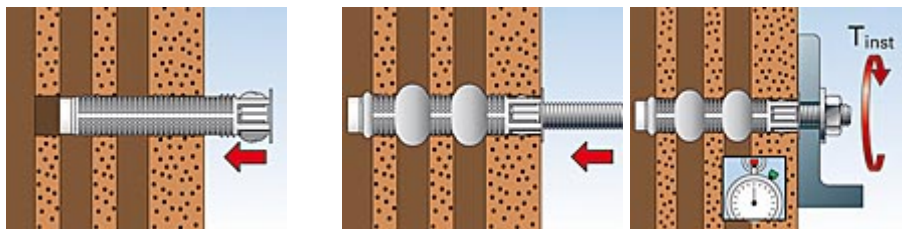


13. Fit nut and washer and tighten (Use torque setting if recommended on product information).
14. Loctite bolt
15. Fit anti tamper seal / nut
16. Proof test fixings using calibrated Hydrajaws test equipment.

17. Functionally test machine and check security of fixings and stability of the machine.
18. Complete fixing record and handover to the client.

b. Hollow block Concrete, Bison hollowcore, clay block construction

This method is to be used with a Fischer injection resin system and mesh sleeve. Use Vinylester or Epoxy resins ensuring products are CE marked.



1. Obtain permission from the client to drill and confirm the position of the machine.
2. Ensure no services are present and it is safe to drill.
3. Position machine and mark fixing holes.
4. Remove machine.
5. Drill holes to correct diameter and depth following the Fischer product recommendations.
6. Blow out the hole and brush 3 times to ensure the hole is clear and free from dust and debris.
7. Insert mesh sleeve.
8. Insert cartridge into resin dispenser and attach nozzle and pump first 2 trigger pulls to ensure resin is correctly mixed and of even colour.
9. Pump resin into the base of the sleeve whilst slowly withdrawing the nozzle to avoid trapping air until the sleeve is completely full.
10. Insert centralising cone, and insert the anchor using a twisting motion to ensure the thread is evenly coated with resin. Adjust anchor position and wipe away excess resin.

11. Allow resin to cure as per Fischer recommendation taking into account the temperature.
12. Replace the machine into position.
13. Fit nut and washer and tighten (Use torque setting if recommended on product information).
14. Loctite bolt.
15. Proof test fixings using calibrated Hydrajaws test equipment.
16. Fit anti tamper seal.
17. Functionally test machine and check security of fixings and stability of the machine.
18. Complete fixing record and handover to the client.

Wall Fixing

Tethering solution

16. Installations on free-weight matting / flooring

Where free-weight matting is located in the area where machines are to be secured the following method must be used.

1. Ensure no services are present and it is safe to drill.
2. Position machine and mark fixing points.
3. Cut a section of matting away to allow fixings to be fitted.
4. Drill hole to correct diameter and depth for the type of fixing being used.
5. Fit stud fixing into place following the manufacturer's recommendation.
6. Cut a section of 30mm external diameter, 20mm internal diameter aluminium tube to the same size as the thickness of the matting so that it fits flush to the top of the mat.
7. Replace machine into position.
8. Fit nuts and tighten to the recommended torque setting.
9. Loctite bolt.
10. Proof test fixing using calibrated Hydajaws test equipment.
11. Fit anti tamper seal.
12. Functionally test machine to ensure stability and handover to the client.
13. Complete fixing record.

17. Hydrajaw Proof Testing

The following information should be followed as an overview to proof testing. Any person carrying out testing must be trained and competent in the safe use of the Hyrajaws test equipment, and use equipment that is properly maintained and has a valid calibration certificate.

Full information on the correct procedure for proof testing fixings can be found in the CFA (Construction Fixings Association) Guidance note: Procedure for Site Testing Construction Fixings – 2012.

Proof testing differs from the test Fischer Fixings perform on our behalf. The testing carried out by Fisher is to determine the load bearing capacity of the substrate and to specify the correct type of fixing for that material. Proof testing, however, is used to verify the installation of the fixing and to ensure that the required loads can be met and that the anchor is installed correctly.

Proof testing loads are lower than ultimate load tests, meaning that the actual fixing being tested remains useable as it is not stressed beyond its working limits during testing.

Should a failure occur during proof testing careful examination of the reason for failure is required and it may be necessary to call in specialist advice.

Further more detailed information regarding proof testing can be obtained from the Construction Fixings Association www.the-cfa.co.uk which provides guidance in accordance with the recommendations of the British Standard BS 8539:2012 Code of Practice for the selection and installation of post installed anchors in concrete and masonry.

BS 8539 recommends the following test loads and number of tests required for proof testing,

2.5% (or more) of the fixings are tested with a **minimum of at least 3 anchors** selected for testing to 1.5 x the design load.

The minimum of 3 tests applies to anchors installed within any discrete area where - different anchors may have been used, the substrate is different, or the substrate is affected by weather conditions, or where the anchors have been installed by a separate team.

Technogym machines can be tested up to the full recommended load including the 3x safety margin ensuring that - **The test load does not exceed 1.5 x the manufacturers recommended resistance for the type and size of fixing in the substrate.**