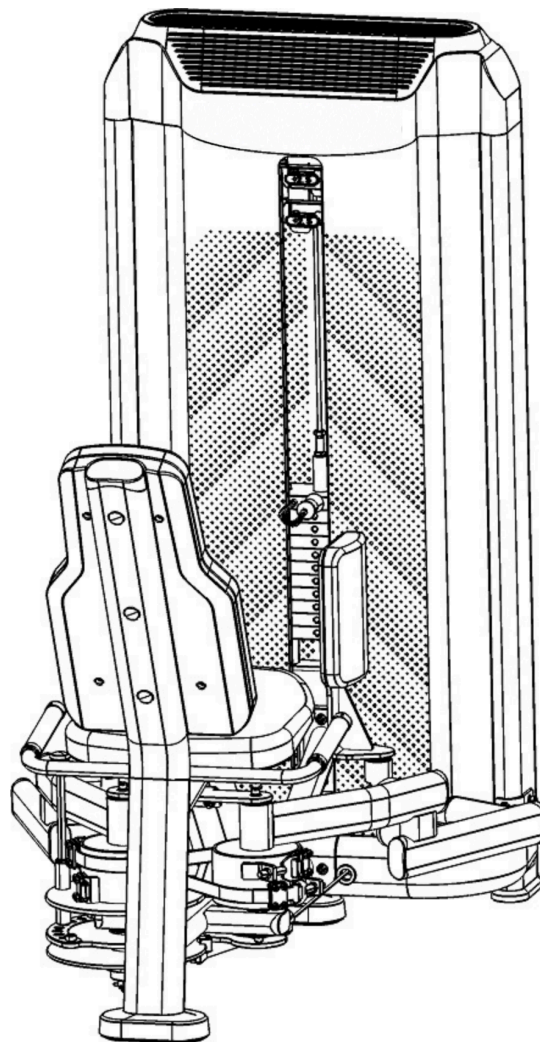


FRACTAL SERIES

Hip Abduction / Adduction

Assembly & Owner Guide



BUILT TO PERFORM.

Read before assembly. Keep this guide for future reference.

01 / PREPARE

Before you begin

Set up your space

Assemble indoors on a level, stable surface with clear access around the equipment. Protect the floor and allow enough room to lay out the frame and hardware.

Check every part

Unpack and compare the components with the illustrated lists. Keep hardware grouped by stage. Reference numbers identify parts in the drawings; they may restart at each stage. Quantities are for the corresponding source list and should not be added across stages.

Prepare tools and help

Have metric hex keys and suitable metric wrenches or sockets ready for the listed fasteners. Use sufficient help to support heavy frames and moving assemblies. Keep hands clear of pinch points and never work beneath an unsupported load.

Follow the assembly drawings

Work through the stages in order. Match each numbered callout with its parts list. Confirm orientation before fitting fasteners. A part described as an assembly is supplied as a component; the wording does not instruct you to weld it.

Check connections before use

Use the specified hardware at each joint. Confirm that fasteners are secure and moving parts operate freely. If a part, dimension or connection is unclear, stop and contact Build A Gym before continuing.

ASSEMBLY SUPPORT

Build A Gym • (512) 591-8553 • buildagym.com

02 / SAFETY

Use and care safely

- Use the equipment indoors in a dry, supervised area. Keep the surrounding floor level and unobstructed.
- Children under 12 must not use this equipment. Provide appropriate supervision and assistance for other users who need it.
- Before each use, inspect moving components, fasteners, pins and attachments. Have loose or damaged parts corrected before use.
- Wear suitable exercise clothing and athletic shoes. Warm up before exercise and use slow, controlled movements.
- Increase resistance gradually. Stop exercising if you feel pain, discomfort or anything unusual, and consult a doctor.
- Consult your doctor before starting an exercise program.
- Keep hands, clothing and other objects clear of moving parts. Make sure adjustment pins and any safety stops are fully engaged.
- Clearly mark the equipment “Out of Use” during servicing or repair. Keep this guide available for future reference.

Your assembly sequence

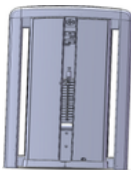
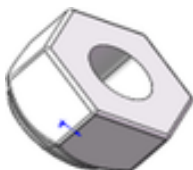
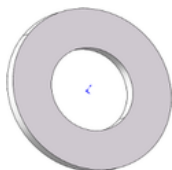
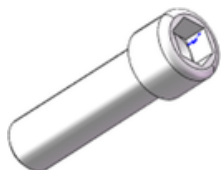
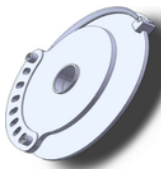
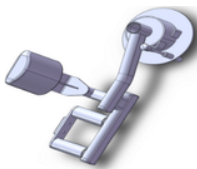
Stage 1 → Stage 2 → Stage 3 → Stage 4 → Stage 5 → Stage 6 → Stage 7 → Stage 8 → Stage 9 → Final inspection

Use the PDF bookmarks to jump directly to a stage.

STAGE 1 / PARTS

Identify your components

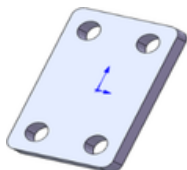
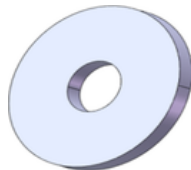
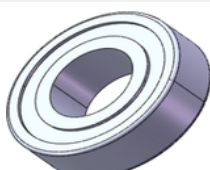
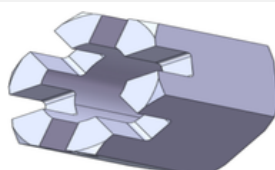
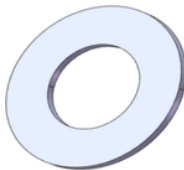
Match each reference and quantity to the drawing for this stage.

REF 1 QTY 1  Small door	REF 2 QTY 1  Main frame	REF 3 QTY 1  Shaft fixing plate
REF 4 QTY 6  Locknut M10	REF 5 QTY 22  Washers Ø10.3xØ20 x 1.2	REF 6 QTY 4  Socket-head screw M10 x 90
REF 7 QTY 1  Weights	REF 8 QTY 1  Right arm	REF 9 QTY 1  Left arm
REF 10 QTY 1  Reversing arm	REF 11 QTY 2  Tension and assembly	REF 12 QTY 2  Tension shaft

STAGE 1 / PARTS

Identify your components

Match each reference and quantity to the drawing for this stage.

REF 13 QTY 4  Belt fixing plate	REF 14 QTY 1  Boom shaft Ø25 x 384	REF 15 QTY 1  Boom shaft Ø25 x 260
REF 16 QTY 2  XHP-25 belt	REF 17 QTY 1  Bend brace	REF 18 QTY 1  Large washer
REF 19 QTY 5  Powder compartment	REF 20 QTY 8  Deep groove ball bearings Ø52xØ25 x 15	REF 21 QTY 1  Hex slotted nut M20 x 20
REF 22 QTY 1  Cotter pins 3.2 x 45	REF 23 QTY 16  Washers Ø6.3xØ12 x 0.5	REF 24 QTY 16  Spring washer Ø6

STAGE 1 / PARTS

Identify your components

Match each reference and quantity to the drawing for this stage.

REF 25

QTY 11



Spring washer Ø10

REF 26

QTY 16



Socket-head screws M6 x 15

REF 27

QTY 11



Hexagonal cylindrical head stud
M10 x 25

REF 28

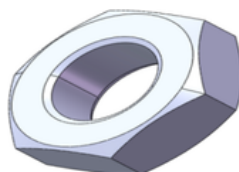
QTY 2



Hexagonal cylindrical head stud
M10 x 75

REF 29

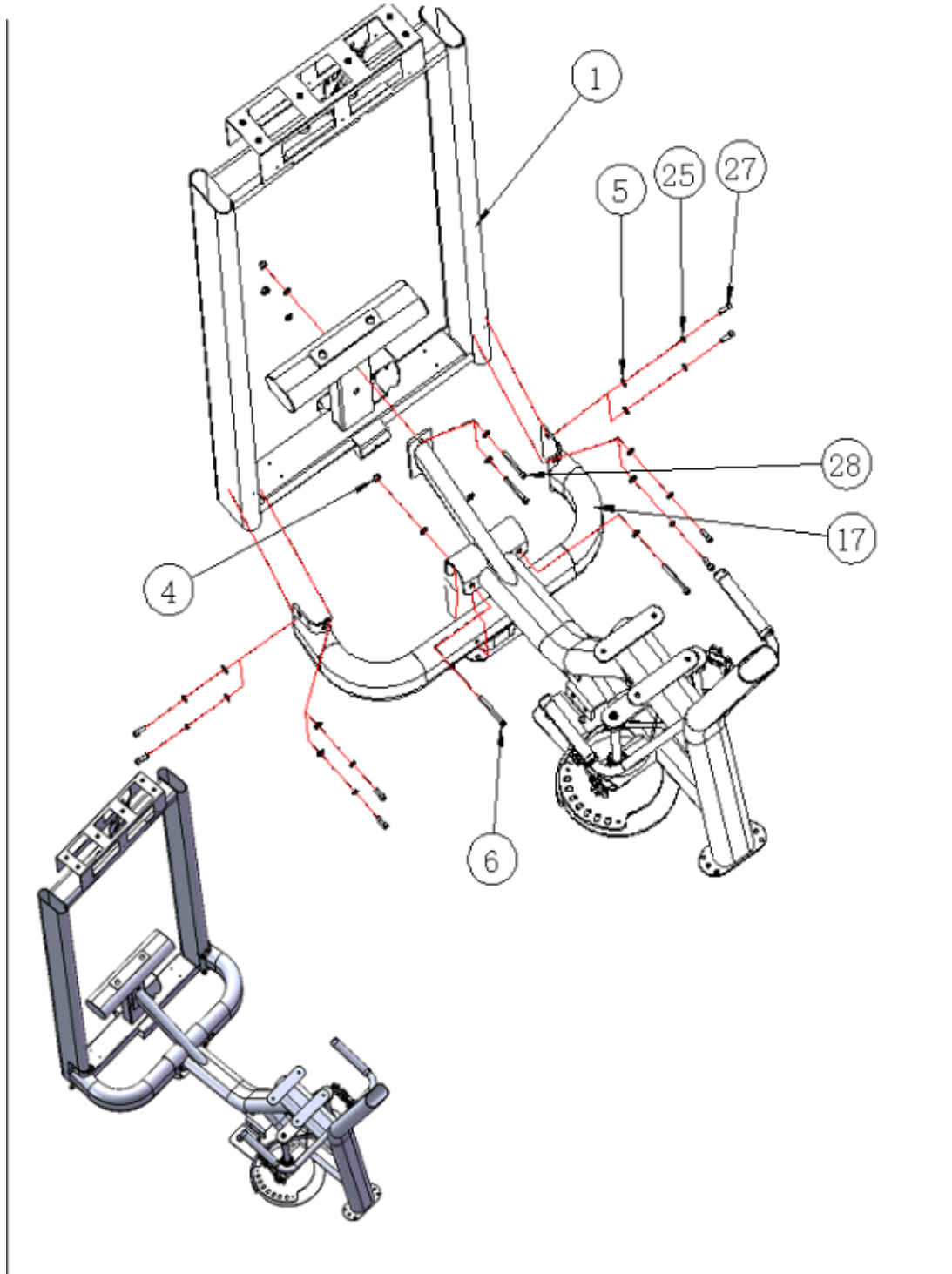
QTY 2



Hex thin nut M12

STAGE 1 / DRAWING 1 OF 1

Assembly stage 1



Match the numbered callouts to the Stage 1 parts list. Position the components as shown and use the listed hardware at each connection.

Stage 1: Join the Main Frames

Stages 1, 2 and 3 share the Stage 1 parts list. Preserve correctly assembled factory mechanisms.

1. Position the tower and exercise frame

Support tower 1 and main frame 2 on a level floor in the illustrated relationship. Keep the arm mechanism supported while positioning bend brace 17.

2. Fit the frame connections

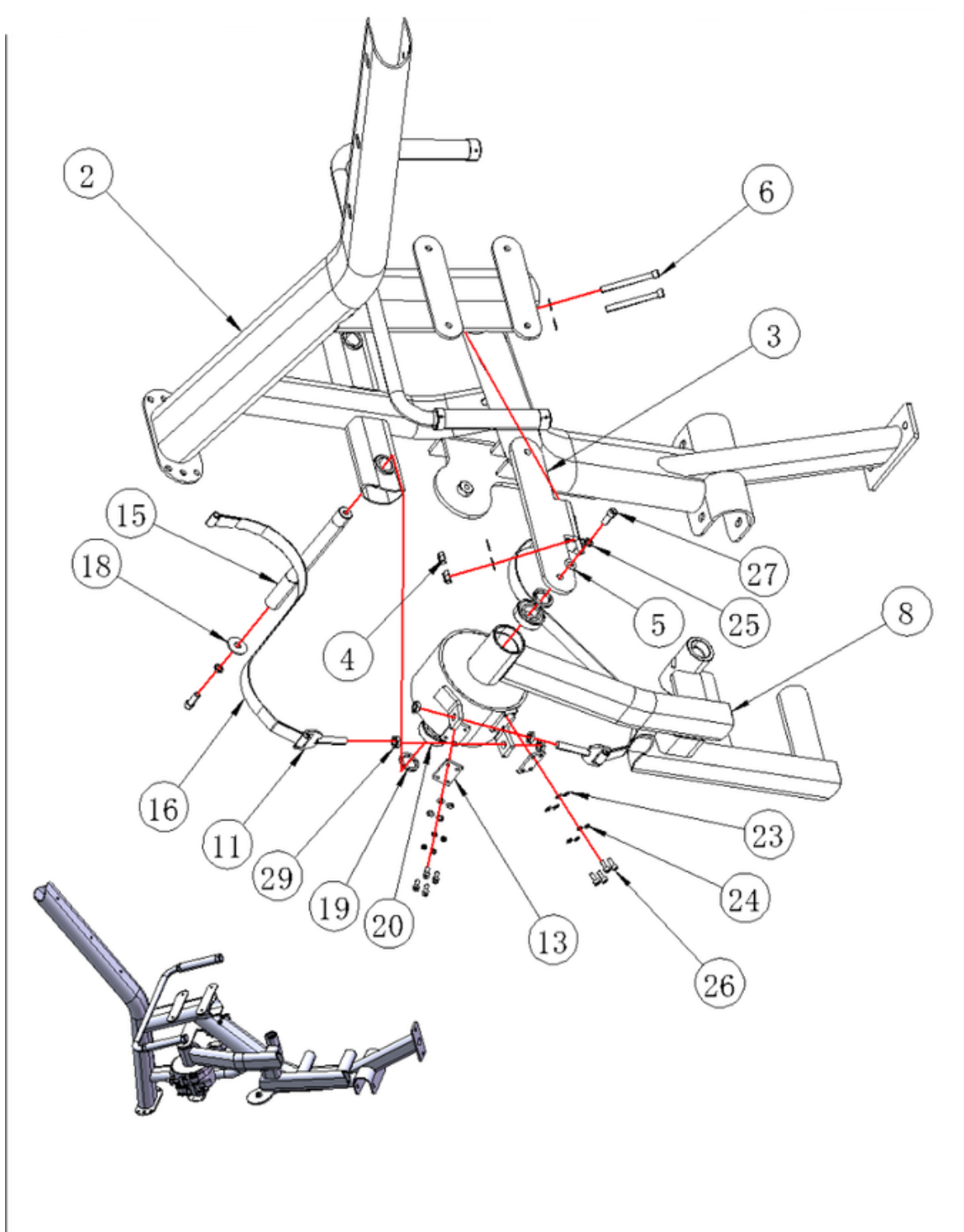
Use M10 × 90 screws 6, washers 5 and locknuts 4 at the illustrated through-joints. Fit M10 × 75 screws 28 and M10 × 25 screws 27, spring washers 25 and washers 5 at their depicted brace mounts. Start all hardware before alignment and final fastening.

Check before continuing

Both frames and the connecting brace are stable.

STAGE 2 / DRAWING 1 OF 1

Assembly stage 2



Match the numbered callouts to the Stage 1 parts list . Position the components as shown and use the listed hardware at each connection.

Stage 2: Assemble the First Arm

Use the Stage 1 list; the Stage 2 drawing provides another view of the same mechanism.

3. Support the arm and fit its shaft

Using Stage 1 references, support right arm 8 and fit bearings 20, spacers 19 and shaft 15 in the illustrated order. Retain the shaft with large washer 18 and the depicted M10 × 25 screw 27 and spring washer 25. Confirm shaft retention before removing support.

4. Secure the shaft fixing plate

Fit plate 3 with M10 × 90 screws 6, washers 5 and locknuts 4 at its through-joints. Use screws 27, spring washers 25 and washers 5 at the depicted shaft-end fixing points.

5. Fit the belt tension components

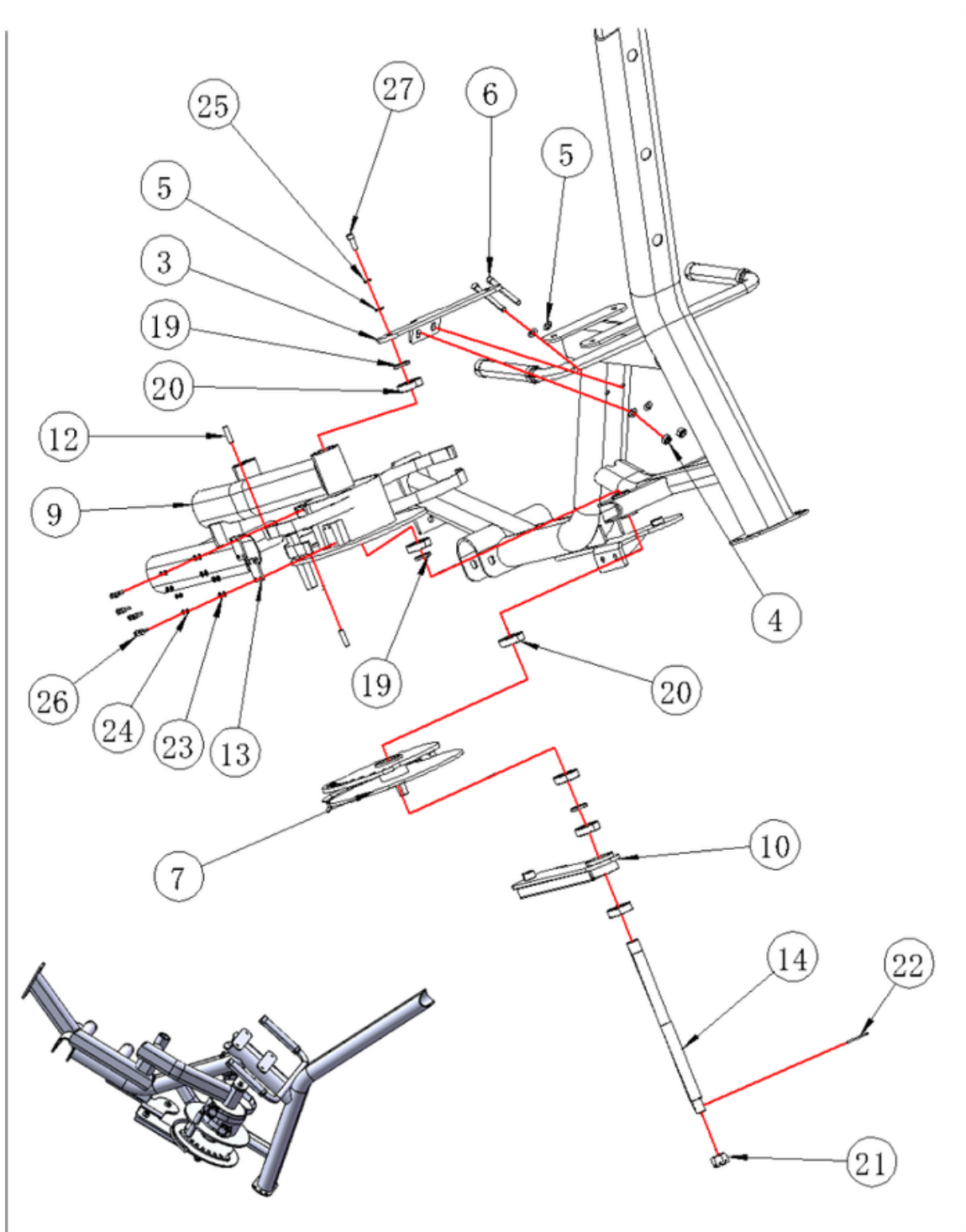
Position tension assemblies 11 and nuts 29 as shown. Route belts 16 in their illustrated relationship to the arm mechanism. Secure belt fixing plates 13 with M6 × 15 screws 26, spring washers 24 and washers 23. Do not apply a guessed belt tension.

Check before continuing

First arm, shaft retainers and belt clamps are fitted.

STAGE 3 / DRAWING 1 OF 1

Assembly stage 3



Match the numbered callouts to the Stage 1 parts list . Position the components as shown and use the listed hardware at each connection.

Stage 3: Complete the Linked Mechanism

Keep all arms supported. These parts still use the Stage 1 references.

6. Fit the second arm and cam assembly

Support left arm 9, cam 7 and reversing arm 10. Fit bearings 20 and spacers 19 in the exact stack order shown, then insert long shaft 14 through the supported assembly. The list describes cam 7 as weights; identify it by the drawing.

7. Retain the long shaft

Fit slotted nut 21 and cotter pin 22 at the shaft end. Obtain the required bearing adjustment and cotter installation specification before loading. Verify each bearing and spacer is seated and the shaft cannot withdraw.

8. Finish the belt connections

Fit tension shafts 12 and the remaining belt fixing plates 13 with screws 26, spring washers 24 and washers 23. Complete plate 3 and shaft-end hardware as depicted. Confirm belt routing, clamp engagement and the supplied tension setting before operating either arm.

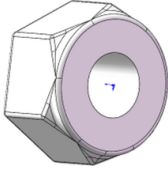
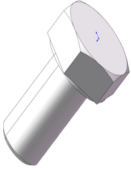
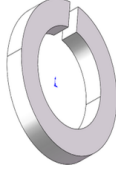
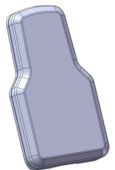
Check before continuing

Both arms, cam, bearings, belt clamps and shaft retainers are secure.

STAGE 4 / PARTS

Identify your components

Match each reference and quantity to the drawing for this stage.

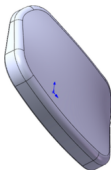
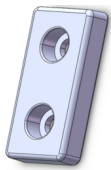
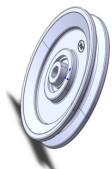
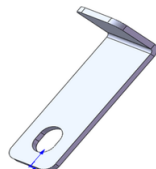
REF 1 QTY 1  Main frame assembly	REF 2 QTY 4  Locknut M10	REF 3 QTY 4  Hex head bolt M10 × 25
REF — QTY 4  Washers Ø10.3xØ20 × 1.2	REF 5 QTY 2  Ground foot cover	REF 6 QTY 2  Footing plastic parts
REF 7 QTY 7  Hexagonal cylindrical head stud M8 × 25	REF 8 QTY 7  Spring washer Ø8	REF 9 QTY 7  Washers Ø8.3xØ16 × 1
REF 10 QTY 3  25 Round hole plugs	REF 11 QTY 2  65 × 114 end cap	REF 12 QTY 1  Backrest cushions

“—” means the source does not specify this value. Confirm it with Build A Gym before assembly.

STAGE 4 / PARTS

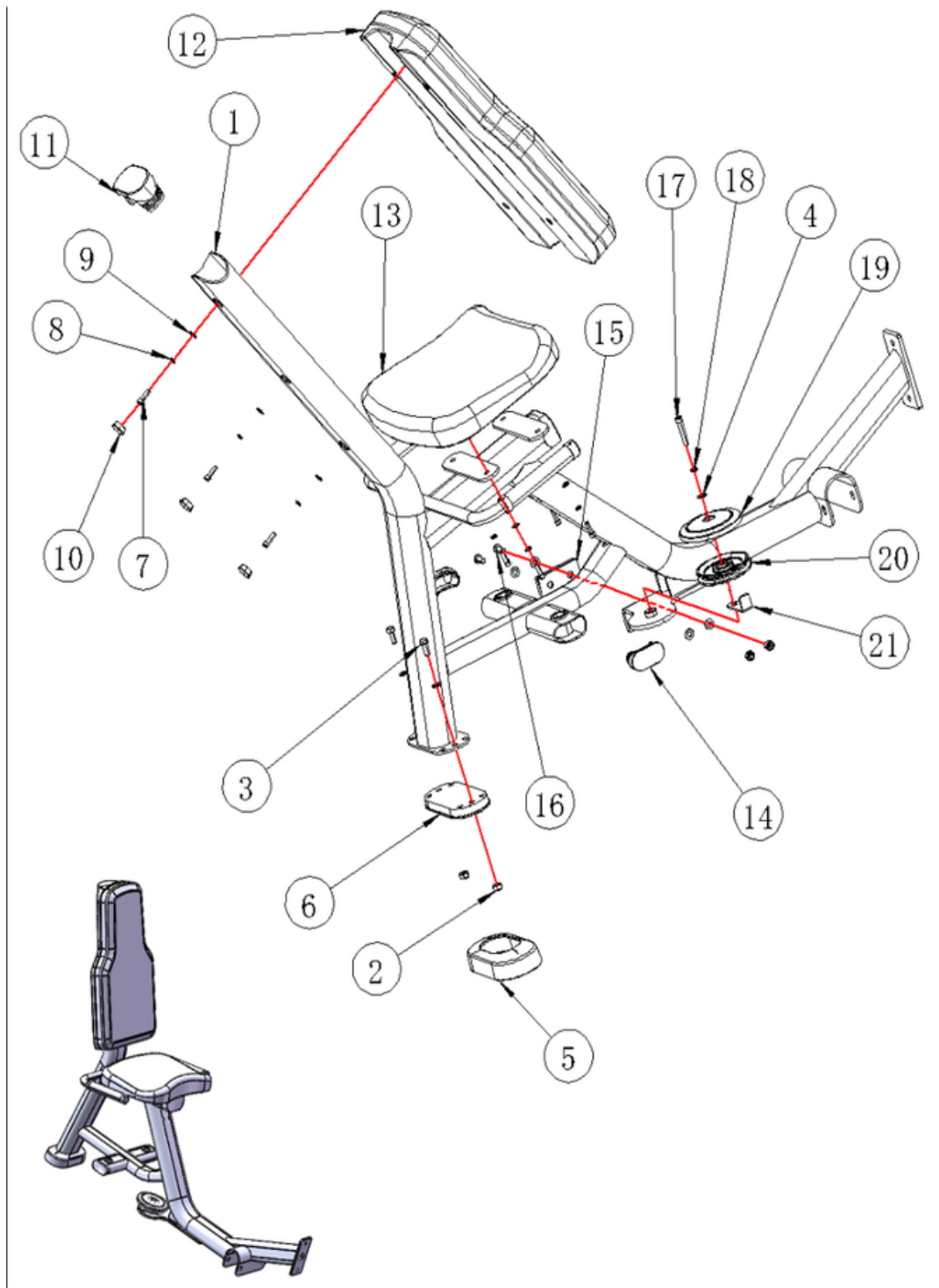
Identify your components

Match each reference and quantity to the drawing for this stage.

REF 13  Cushion	QTY 1	REF 14  40-80 Flat elliptical tube plug	QTY 2	REF 15  Cushioning	QTY 1
REF 16  Socket-head screw M10 × 25	QTY 2	REF 17  Socket-head screw M10 × 50	QTY 1	REF 18  Spring washer Ø10	QTY 1
REF 19  Pulley cover	QTY 1	REF 20  Pulleys	QTY 1	REF 21  Anti-skipping rope guard	QTY 1

STAGE 4 / DRAWING 1 OF 1

Assembly stage 4



Match the numbered callouts to the Stage 4 parts list. Position the components as shown and use the listed hardware at each connection.

Stage 4: Fit the Seat and Frame Pulley

Part numbers restart in Stage 4.

9. Fit the feet and frame buffer

Fit foot parts 6 with M10 × 25 bolts 3 and locknuts 2, then covers 5. Install buffer 15 with screws 16 at the depicted mounts. The washer identified as 4 in the drawing is unnumbered in the list; confirm it before assembly.

10. Attach the seat and backrest

Fit seat 13 and backrest 12 with M8 × 25 screws 7, spring washers 8 and washers 9. Start all pad fasteners before securing them. Fit plugs 10 and 14 and end caps 11 after checking the concealed fasteners.

11. Install the horizontal pulley

Fit pulley 20, anti-jump guard 21 and cover 19 in the shown order using M10 × 50 screw 17, spring washer 18 and washer 4. Confirm the pulley turns freely and the guard will retain the cable without rubbing.

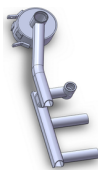
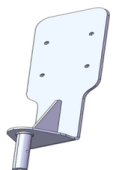
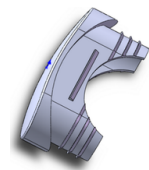
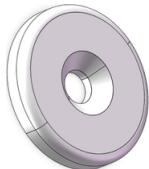
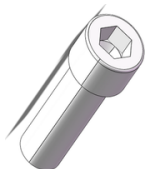
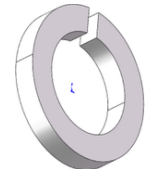
Check before continuing

Seat, backrest, feet, buffer and pulley are secure.

STAGE 5 / PARTS

Identify your components

Match each reference and quantity to the drawing for this stage.

REF 1 QTY 1  Right boom assembly	REF 2 QTY 1  Leg pads are rotated and assembly	REF 3 QTY 3  40-80 Flat elliptical tube plug
REF 4 QTY 1  Socket-head screw M8 x 20	REF 5 QTY 1  Countersunk socket screw M10 x 20	REF 6 QTY 2  Sintered bushing
REF 7 QTY 1  Ø50 aluminum end cap	REF 8 QTY 4  Hexagonal cylindrical head stud M8 x 25	REF 9 QTY 1  Spring washer Ø8
REF 10 QTY 4  Washers Ø8.3xØ16 x 1	REF 11 QTY 1  Leg pads	REF 12 QTY 2  Socket-head screw M10 x 30

STAGE 5 / PARTS

Identify your components

Match each reference and quantity to the drawing for this stage.

REF 13

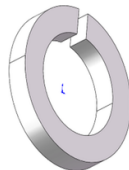
QTY 2



Hexagon pan head screws M10
× 16

REF 14

QTY 2



Spring washer Ø10

REF 15

QTY 4



Washers Ø10.3xØ20 × 1.2

REF 16

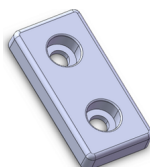
QTY 2



Footrest cover

REF 17

QTY 1



Cushioning

REF 18

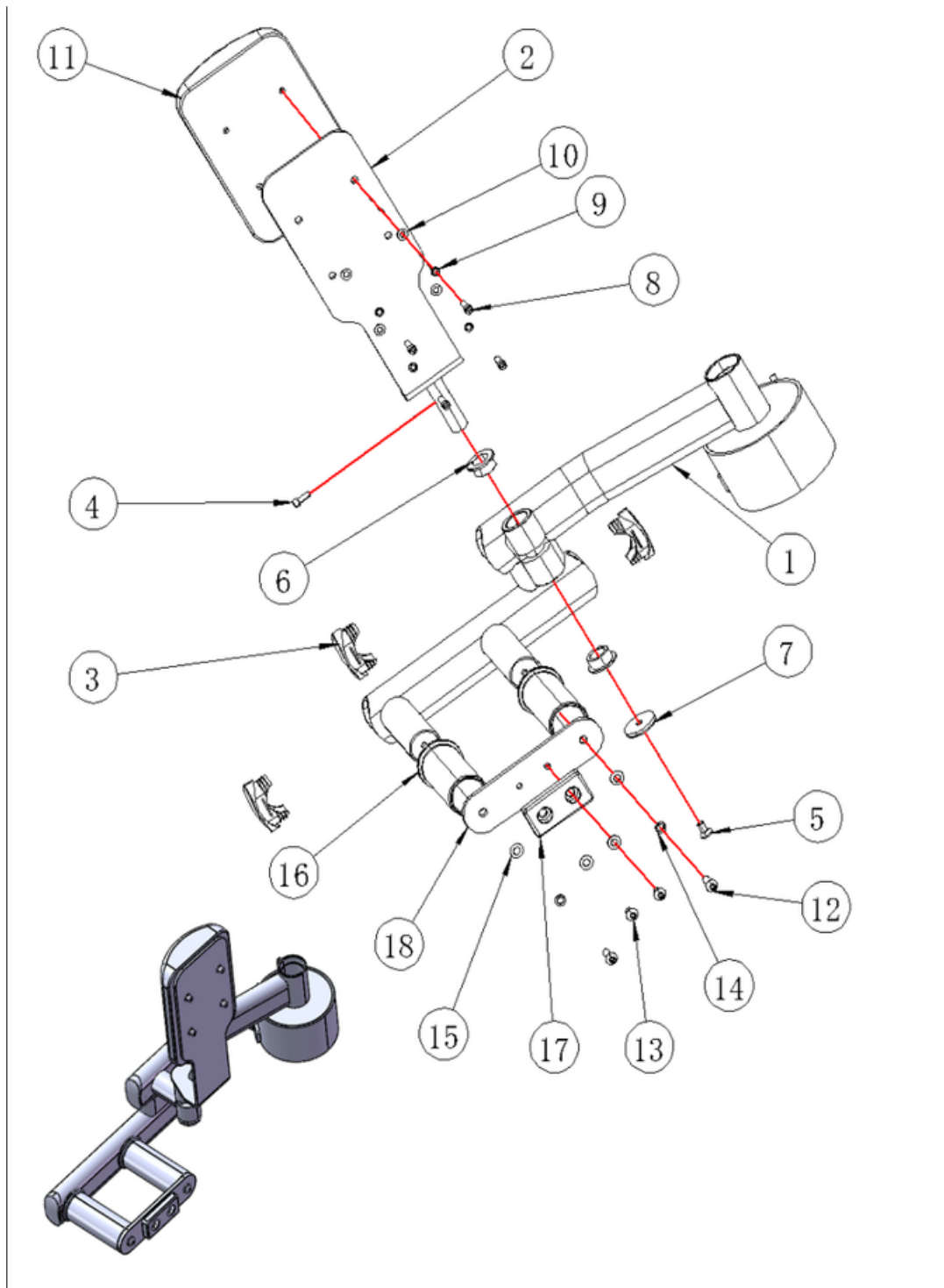
QTY 1



Footrest fixing plate

STAGE 5 / DRAWING 1 OF 1

Assembly stage 5



Match the numbered callouts to the Stage 5 parts list. Position the components as shown and use the listed hardware at each connection.

Stage 5: Fit the First Leg Pad

Use Stage 5 references for this arm only.

12. Install the pad carrier

Fit bushings 6 to arm assembly 1 and insert rotating pad carrier 2 as shown. Fit end cap 7 and countersunk M10 × 20 screw 5; fit M8 × 20 screw 4 at the depicted upper retaining point.

13. Attach the pad and footrest

Attach pad 11 with M8 × 25 screws 8, spring washers 9 and washers 10. The list gives only one spring washer 9 for four pad screws; confirm the supplied quantity. Fit footrest plate 18 and buffer 17 using M10 × 30 screws 12, spring washers 14, washers 15 and M10 × 16 screws 13 at their illustrated positions.

14. Finish and inspect the first arm

Fit footrest covers 16 and plugs 3. Confirm the pad carrier is retained, its permitted rotation is unobstructed, and the footrest and buffer remain secure.

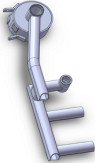
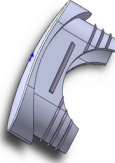
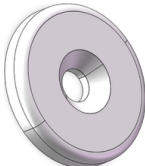
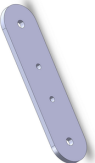
Check before continuing

First pad, carrier and footrest are secure.

STAGE 6 / PARTS

Identify your components

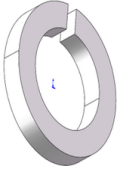
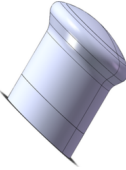
Match each reference and quantity to the drawing for this stage.

REF 1 QTY 1  Right boom assembly	REF 2 QTY 1  Leg pads are rotated and assembly	REF 3 QTY 3  40-80 Flat elliptical tube plug
REF 4 QTY 2  Footrest cover	REF 5 QTY 2  Sintered bushing	REF 6 QTY 1  Ø50 aluminum end cap
REF 7 QTY 1  Countersunk socket screw M10 x 20	REF 8 QTY 1  Socket-head screw M8 x 20	REF 9 QTY 2  Hexagon pan head screws M10 x 16
REF 10 QTY 1  Footrest fixing plate	REF 10 QTY 1  Cushioning	REF 12 QTY 2  Socket-head screw M10 x 30

STAGE 6 / PARTS

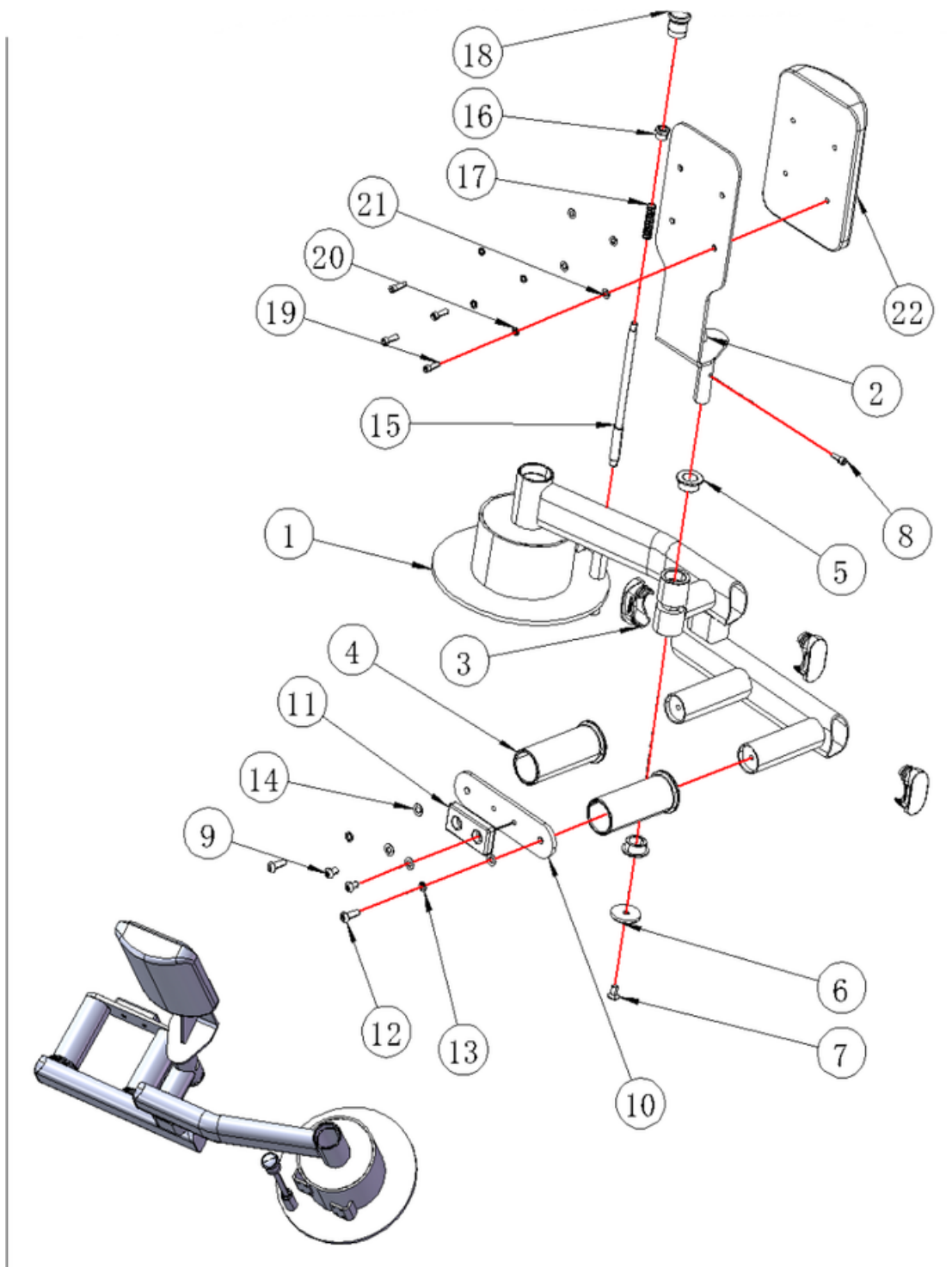
Identify your components

Match each reference and quantity to the drawing for this stage.

REF 13 QTY 2  Spring washer Ø10	REF 14 QTY 4  Washers Ø10.3xØ20 x 1.2	REF 15 QTY 1  Pull pin
REF 16 QTY 1  Hex nut	REF 17 QTY 1  Spring	REF 18 QTY 1  Latch cap
REF 19 QTY 4  Hexagonal cylindrical head stud M8 x 25	REF 20 QTY 4  Spring washer Ø8	REF 21 QTY 4  Washers Ø8.3xØ16 x 1
REF 22 QTY 1  Leg pads		

STAGE 6 / DRAWING 1 OF 1

Assembly stage 6



Match the numbered callouts to the Stage 6 parts list. Position the components as shown and use the listed hardware at each connection.

Stage 6: Fit the Opposite Pad and Selector

Use Stage 6 references and keep the arm supported while its selector is assembled.

15. Identify and install the opposite carrier

Both lists call item 1 the right boom, but Stage 6 depicts the opposite assembly with a long selector pin. Match the supplied side to the drawing. Fit bushings 5 and carrier 2, then end cap 6, countersunk M10 × 20 screw 7 and M8 × 20 screw 8.

16. Fit the selector pin

Install pull pin 15, spring 17, hex nut 16 and latch cap 18 in the illustrated order. Verify the pin retracts freely, returns fully and positively locks the supported mechanism at each tested setting.

17. Attach the pad and footrest

Fit pad 22 with M8 × 25 screws 19, spring washers 20 and washers 21. Fit footrest plate 10 using screws 12, spring washers 13 and washers 14; fit the buffer with screws 9. The list repeats 10 for the buffer, which the drawing labels 11; confirm this mapping.

18. Complete both arm checks

Fit covers 4 and plugs 3. Check both pads and footrests are retained and all selectors fully engage. Obtain any missing belt tension or bearing settings before moving the assembled arms under resistance.

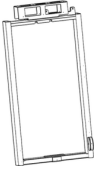
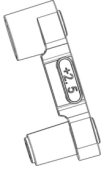
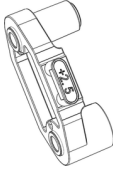
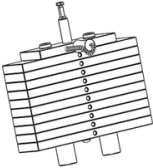
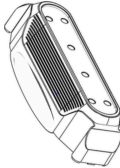
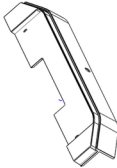
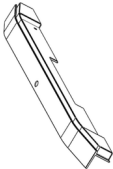
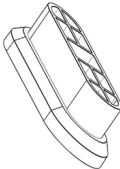
Check before continuing

Both arms, pads, footrests and adjustment locks pass inspection.

STAGE 7 / PARTS

Identify your components

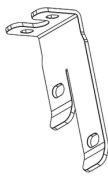
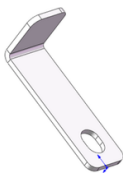
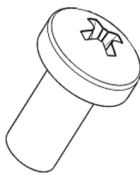
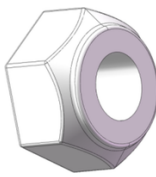
Match each reference and quantity to the drawing for this stage.

REF 1 QTY 1  Small frame assembly	REF 2 QTY 1  Sub-counterweigh t	REF 3 QTY 1  Sub-counterweig ht
REF 4 QTY 1  Balance and recombination	REF 5 QTY 1  Large upper cover	REF 6 QTY 2  Front base
REF 7 QTY 1  Rear base	REF 8 QTY 2  Base	REF 9 QTY 1  Top cover
REF 10 QTY 1  Front guard	REF 11 QTY 1  Rear guard	REF 1 QTY 2  Guide rod retaining sleeve

STAGE 7 / PARTS

Identify your components

Match each reference and quantity to the drawing for this stage.

REF 13 QTY 2  Counterweight guide bar	REF 14 QTY 1  Counterweight bracket on small door	REF 15 QTY 4  Anti-skipping rope guard
REF 16 QTY 2  Pulleys	REF 17 QTY 2  Ø90 pulley	REF 18 QTY 12  Cross groove pan head self-tapping screw
REF 19 QTY 6  Washer Ø10.3xØ20 x 1.2	REF 20 QTY 8  Washers Ø8.3xØ16 x 1	REF 21 QTY 12  Washers Ø5.3xØ10 x 1
REF 22 QTY 12  Spring washer Ø5	REF 23 QTY 8  Spring washer Ø8	REF 24 QTY 4  Locknut M10

STAGE 7 / PARTS

Identify your components

Match each reference and quantity to the drawing for this stage.

REF 25

QTY 2



Hexagon pan head screws M6 × 25

REF 26

QTY 8



Socket-head screw M8 × 25

REF 27

QTY 2



Socket-head screw M10 × 50

REF 28

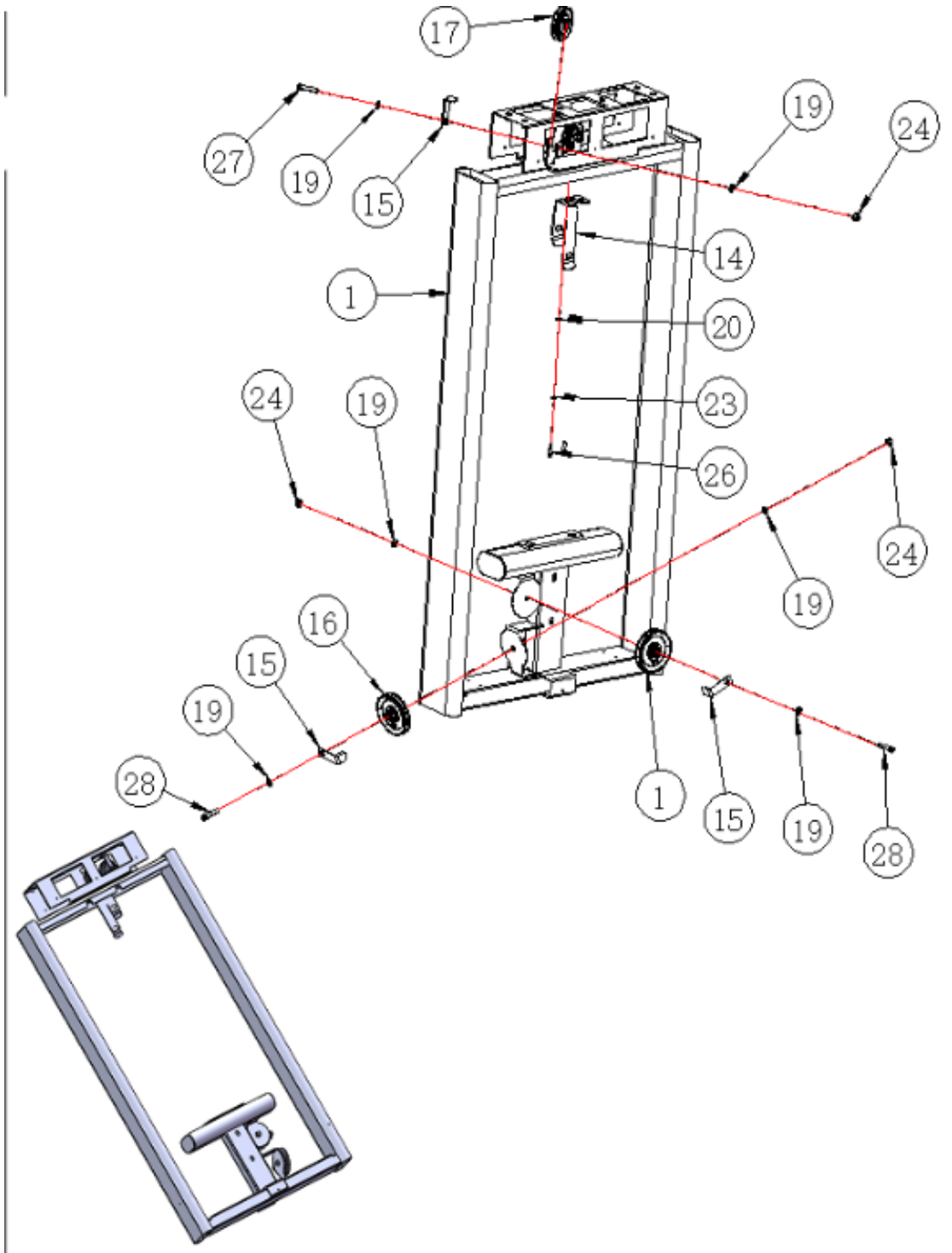
QTY 2



Socket-head screws M10 × 45

STAGE 7 / DRAWING 1 OF 3

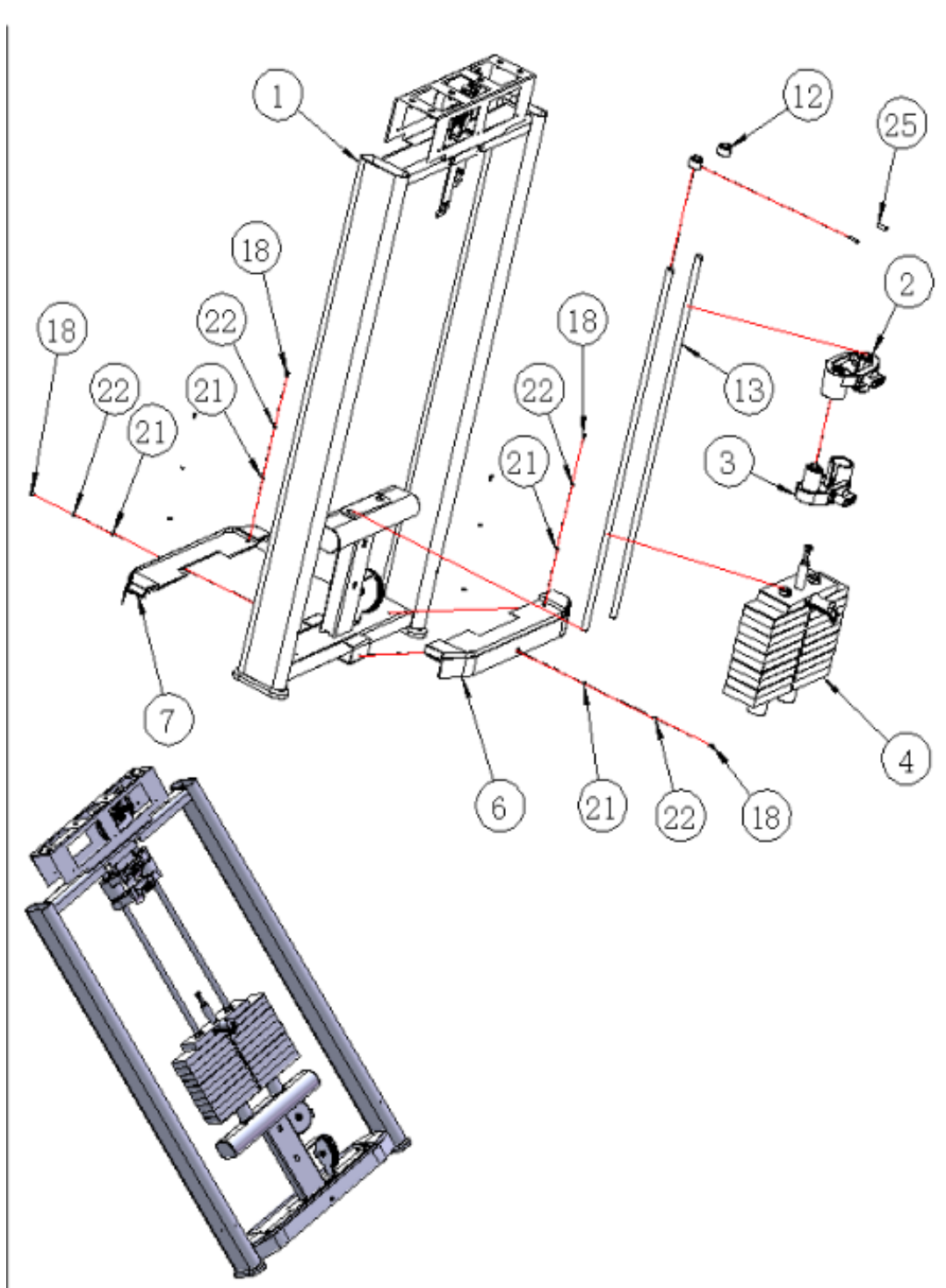
Assembly stage 7



Match the numbered callouts to the Stage 7 parts list. Position the components as shown and use the listed hardware at each connection.

STAGE 7 / DRAWING 2 OF 3

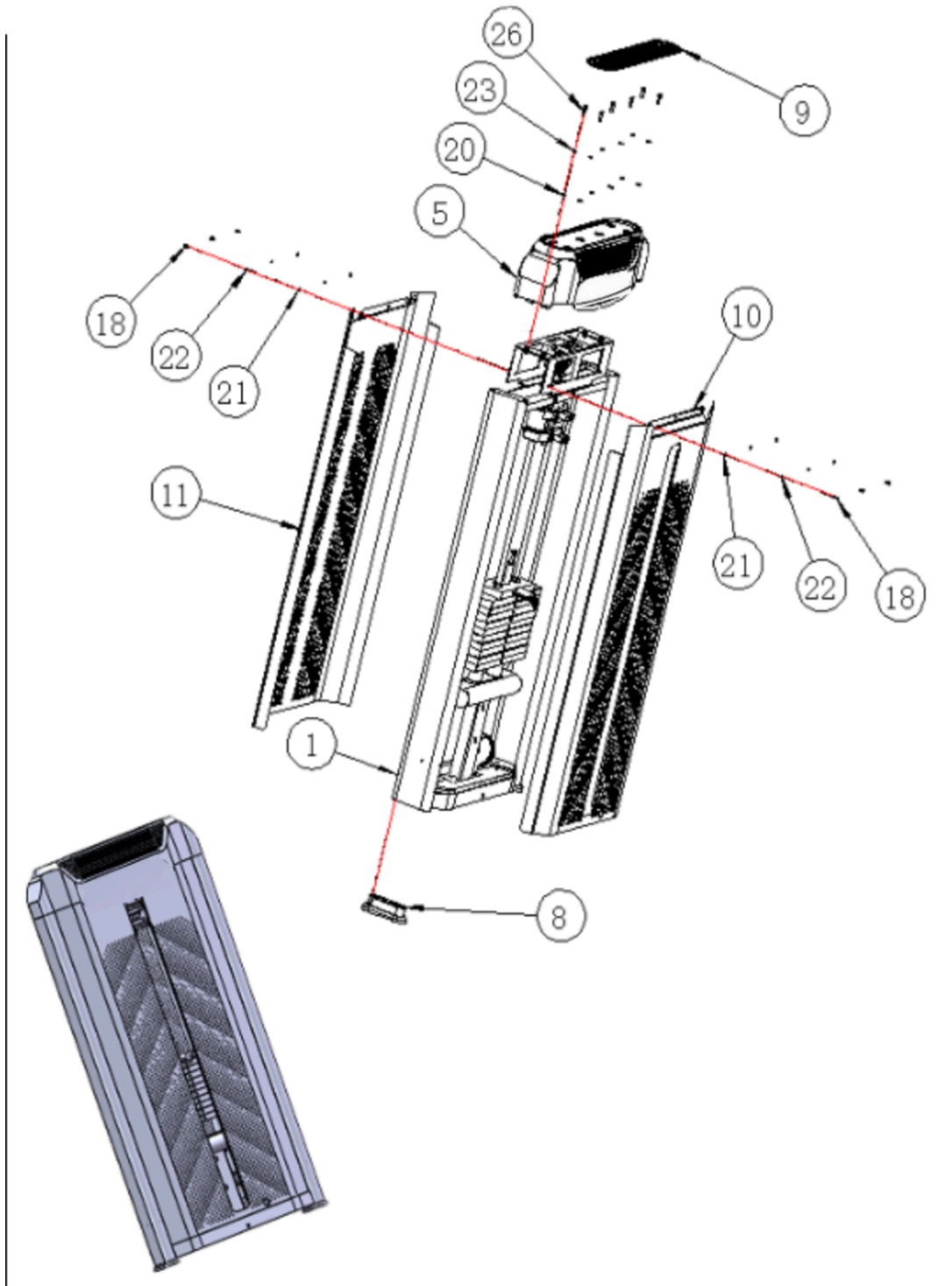
Assembly stage 7



Match the numbered callouts to the Stage 7 parts list. Position the components as shown and use the listed hardware at each connection.

STAGE 7 / DRAWING 3 OF 3

Assembly stage 7



Match the numbered callouts to the Stage 7 parts list. Position the components as shown and use the listed hardware at each connection.

Stage 7: Assemble the Weight Tower

Use Stage 7 references and all three tower drawings.

19. Fit the tower pulleys and bracket

Fit the two 90 mm upper pulleys 17 with M10 × 50 screws 27, washers 19 and locknuts 24. Fit lower pulleys 16 with M10 × 45 screws 28, washers 19 and locknuts 24. Position anti-jump guards 15 as shown. Drawing 1 labels one lower pulley as 1; confirm it is the matching pulley 16. Attach bracket 14 with M8 × 25 screws 26, spring washers 23 and washers 20.

20. Prepare the stack and guide rods

Keep stack 4 supported at its base. If it arrives dismantled, follow Stage 8 before completing this step. Insert guide rods 13 through the stack in the depicted orientation; confirm lower retention and buffers before loading.

21. Fit upper guide components and bases

Fit secondary weights 3 and 2 above the stack in the shown order. Secure guide sleeves 12 with M6 × 25 screws 25; the list incorrectly repeats 1 for these sleeves. Attach base pieces 6 and 7 with screws 18, spring washers 22 and washers 21. Confirm screw 18 dimensions from the supplied kit.

22. Fit the upper cover

Secure upper cover 5 with M8 × 25 screws 26, spring washers 23 and washers 20; fit top 9 and feet 8 as shown. Keep front guard 10 and rear guard 11 accessible until the cable path and connections are checked.

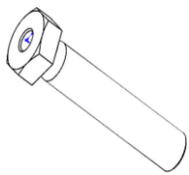
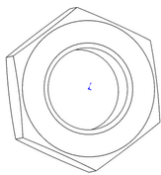
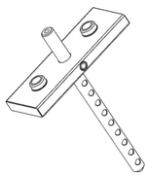
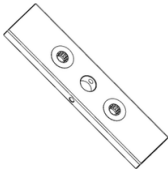
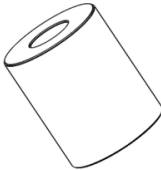
Check before continuing

Stack guides, pulleys, guards and cover mounts are secure.

STAGE 8 / PARTS

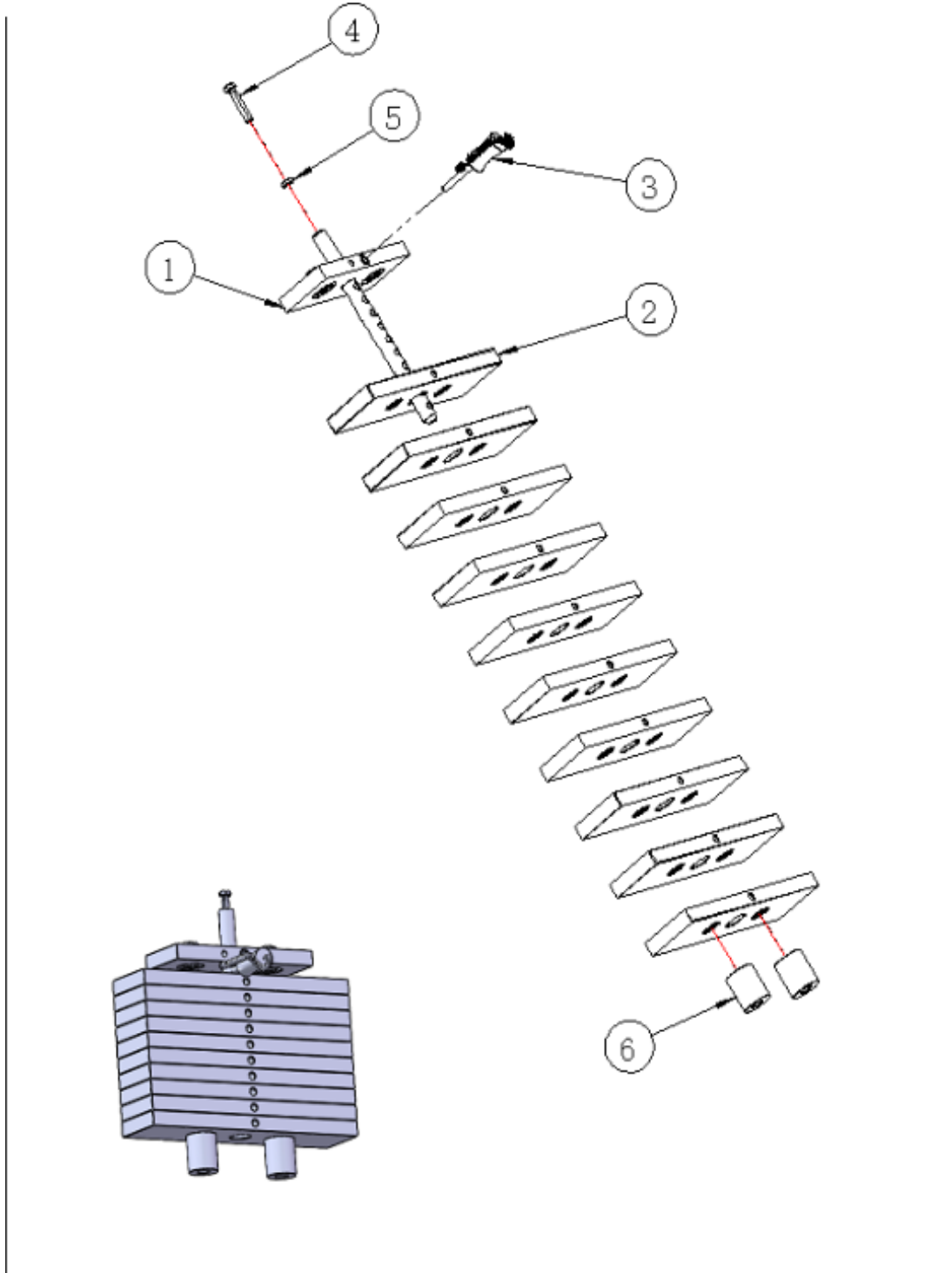
Identify your components

Match each reference and quantity to the drawing for this stage.

REF 1 QTY 1  Hollow screws	REF 2 QTY 1  Hexagonal thin nut	REF 3 QTY 1  Weighted head sheet
REF 4 QTY 1  Weight selector pin	REF 5 QTY 10  Weight plates	REF 6 QTY 2  Counterweight cushioning

STAGE 8 / DRAWING 1 OF 1

Assembly stage 8



Match the numbered callouts to the Stage 8 parts list. Position the components as shown and use the listed hardware at each connection.

Stage 8: Verify the Weight Stack

This is the stack shown in Stage 7. Inspect a correctly supplied stack without unnecessarily dismantling it.

23. Confirm the stack component mapping

The Stage 8 list and drawing use conflicting reference numbers. Identify the two buffers, ten listed plates, top plate and selector stem, selector pin, hollow screw and thin nut by their illustrations. Obtain the corrected mapping before assembling loose or uncertain parts.

24. Assemble and retain the supported stack

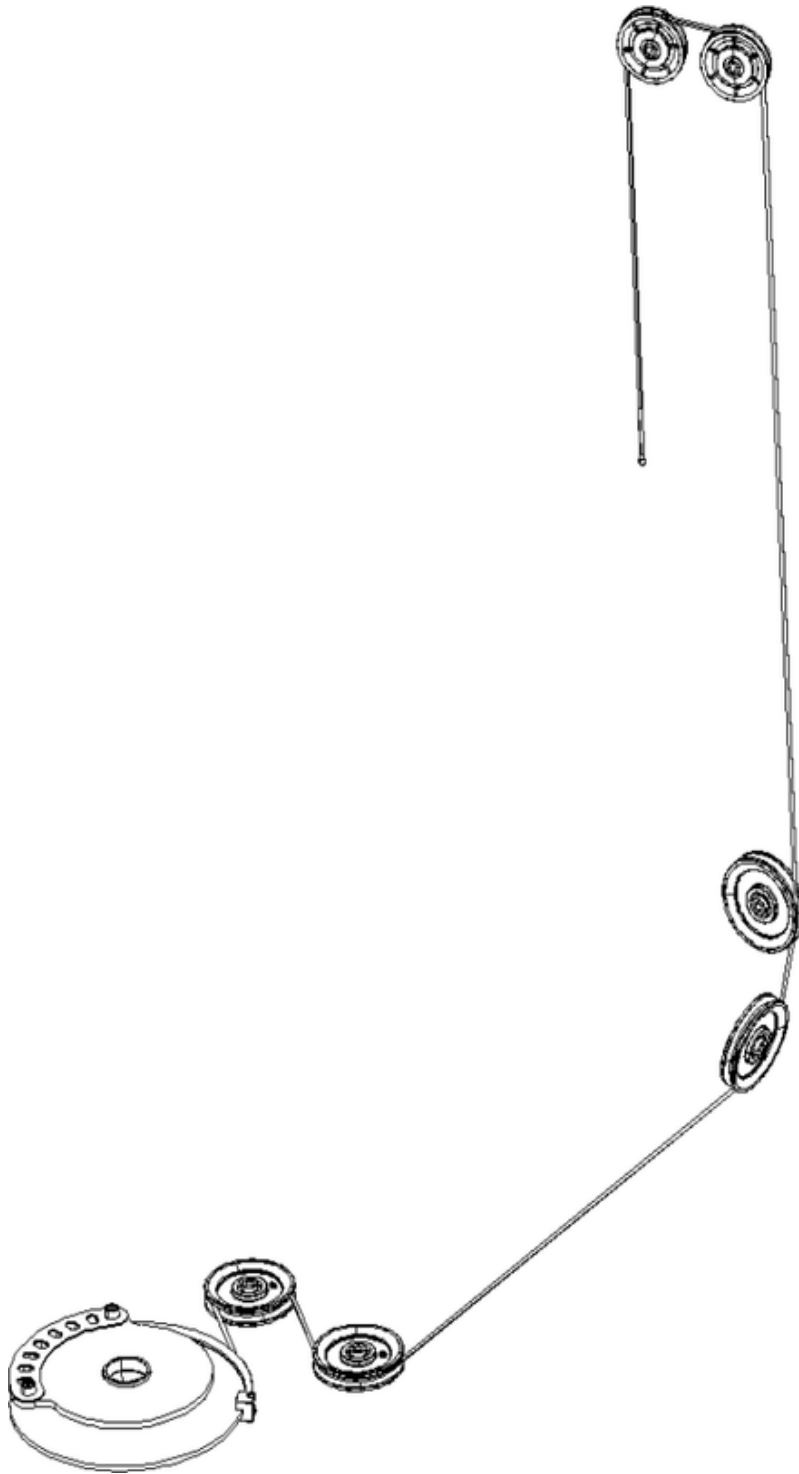
Preserve plate order and selector-hole direction. Fit the lower buffers, plates and top plate while supporting every plate. Complete guide retention in Stage 7. Confirm the selector pin engages fully and the hollow-screw connection and locking nut are secured using the supplied termination specification.

Check before continuing

Plates, guides, selector and cable attachment are confirmed.

STAGE 9 / DRAWING 1 OF 1

Assembly stage 9



Trace the cable using this schematic and the following instructions.
Confirm all cable terminations and adjustments before applying tension.

Stage 9: Route, Guard and Test

Complete both cable and belt checks before the machine enters service.

25. Trace the cable to the cam

Keep the stack fully down. Follow the schematic over the two tower-top pulleys, through the two lower tower redirects, then around the two horizontal redirects to the cam. Match each segment to the actual assembly and confirm the cable remains inside every groove.

26. Verify cable and belt settings

Check the stack and cam terminations against the supplied kit. The source omits complete cable termination and adjustment settings; obtain these for loose or uncertain ends before tensioning. Confirm both belt clamps, bearing retainers and belt tension settings before loading either arm.

27. Install guards and finish fastening

Secure Stage 7 front guard 10 and rear guard 11 using screws 18, spring washers 22 and washers 21 after routing inspection. Check every frame, pad, footrest, pulley and shaft connection. Obtain required fastener torque and floor-fixing requirements before use.

28. Test at the lowest resistance

Set and fully lock the adjustment mechanism for each permitted exercise mode. Select the lowest stack load and test abduction and adduction slowly. Confirm smooth linked arm movement, full stack return, secure pads and footrests, and no cable slack, belt slip or rubbing. Stop if a lock or attachment shifts.

Check before continuing

Both exercise modes and all retention, adjustment and guard checks pass.

FINAL CHECK

Ready for the first use?

☐ **Frame and hardware**

Confirm that the frame is stable, all required hardware is installed and all connections are secure.

☐ **Adjustments and safeties**

Check that adjustment pins, locking mechanisms and any safety stops engage fully. Verify that pads and handles are secure.

☐ **Moving parts**

Carefully check the full range of movement. Confirm that moving assemblies clear the frame and guards without binding.

☐ **Product-specific inspection**

Check the cable path, guide retention, pads and every adjustment lock.
The stack must lift and return fully, with all guards and connections secure.

☐ **Keep the equipment ready**

Inspect before every use. Wipe contact surfaces dry after use. Have a qualified technician address damaged parts, unusual movement or noise before further exercise.

Need help with assembly?

Contact Build A Gym with your product name, assembly stage, part reference and a clear photo of the issue.

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