



DraftMaster

Installation, Operation & Maintenance Manual

v1.0-17/08/2022
Sophie Nicholls



Illustrations

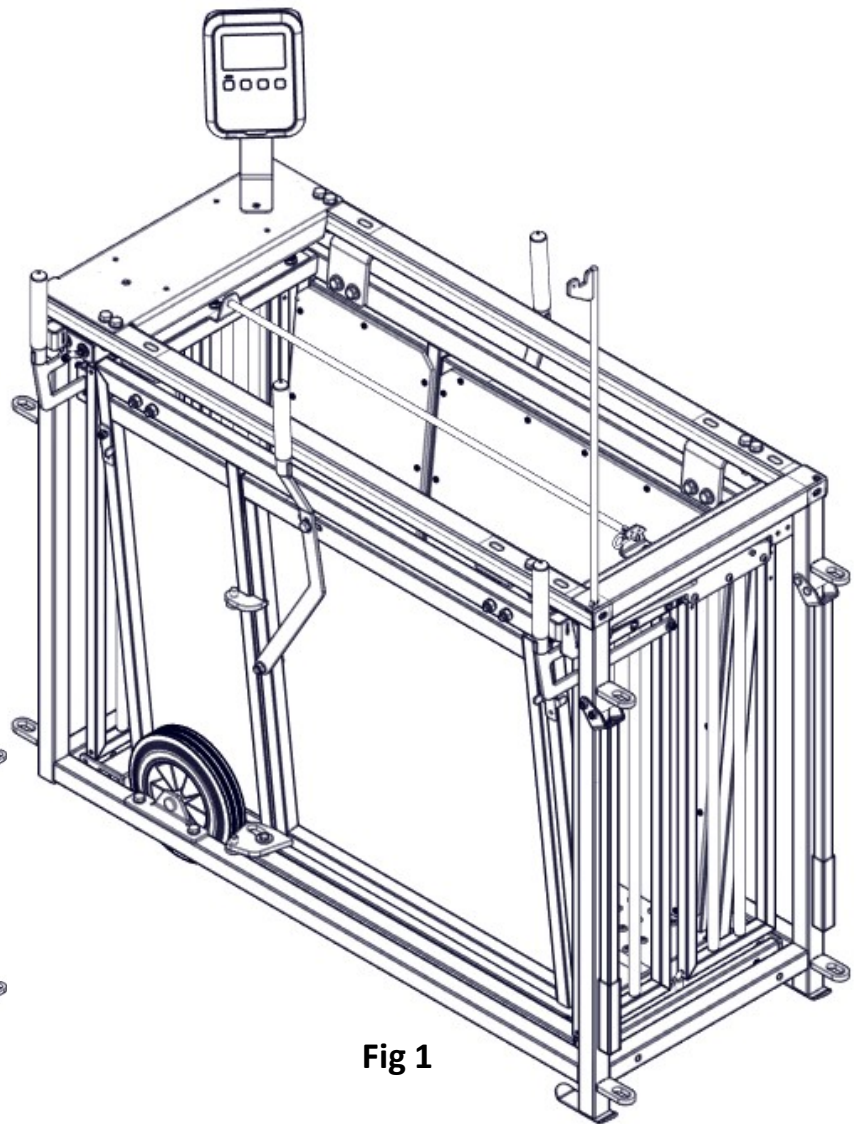


Fig 1

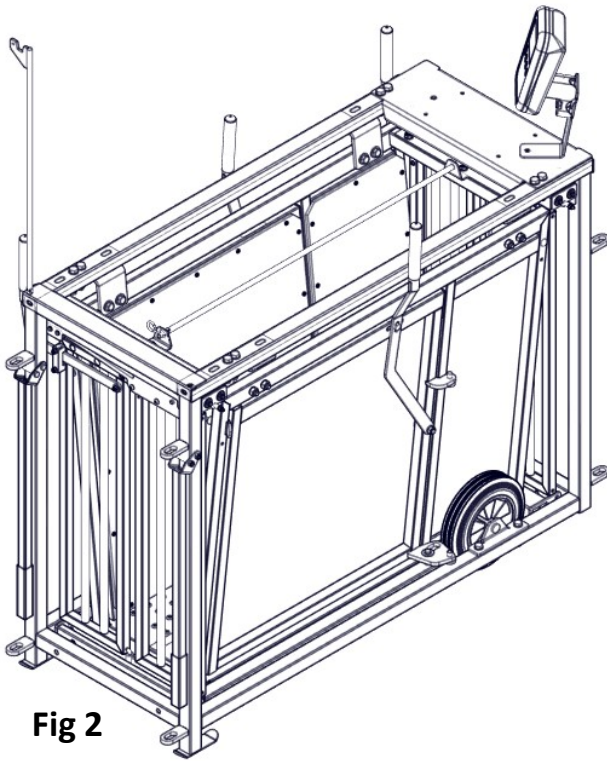


Fig 2

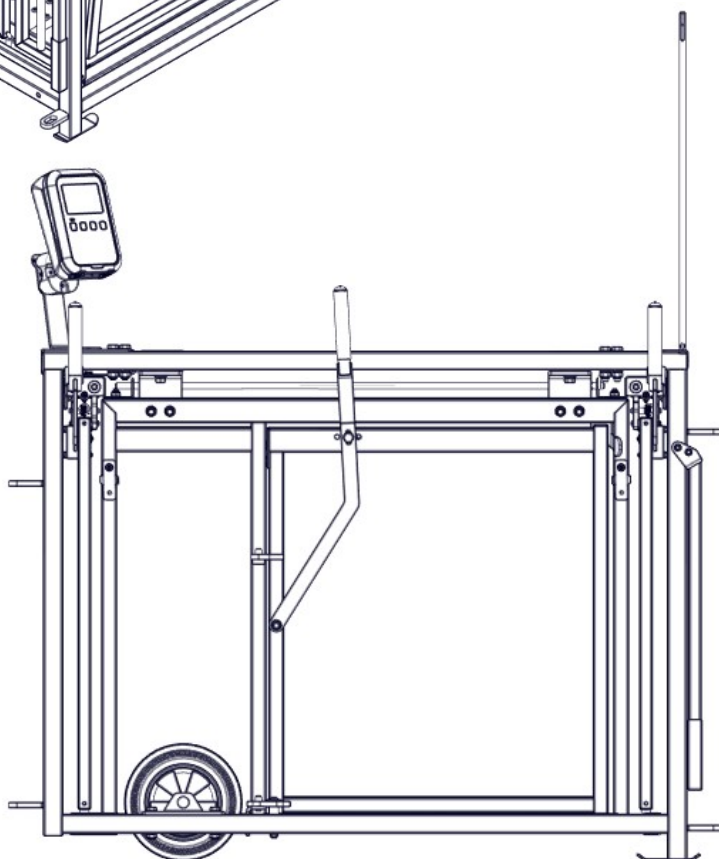


Fig 3

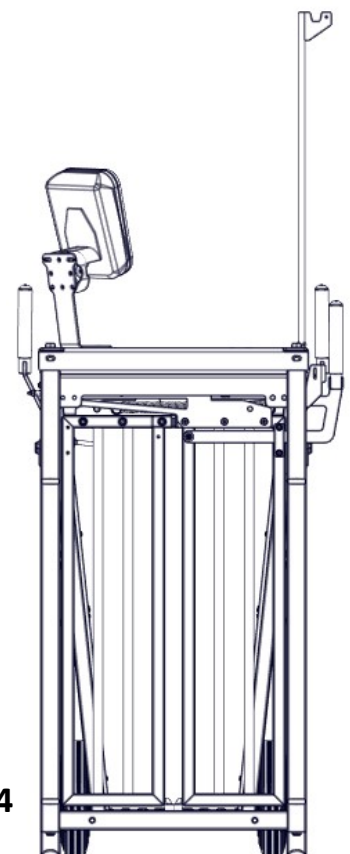


Fig 4

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Health & Safety

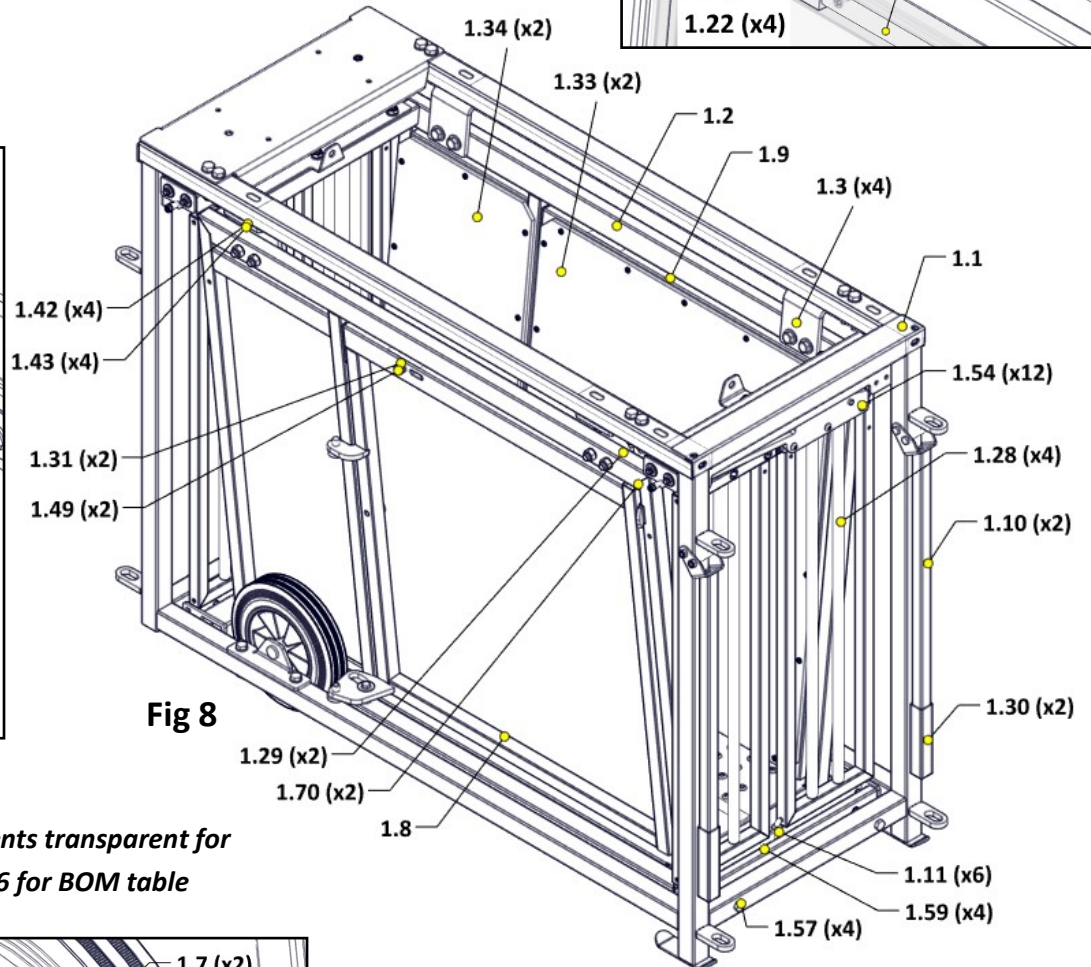
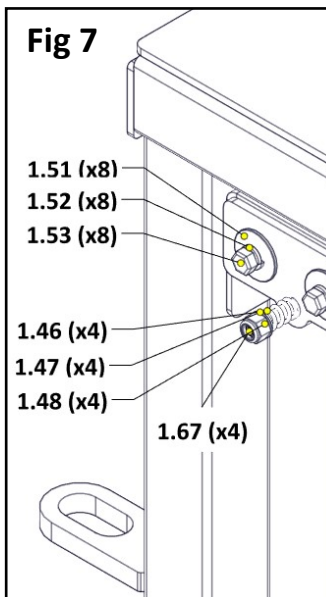
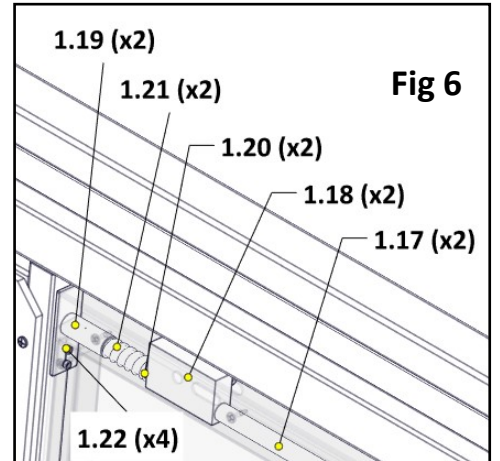
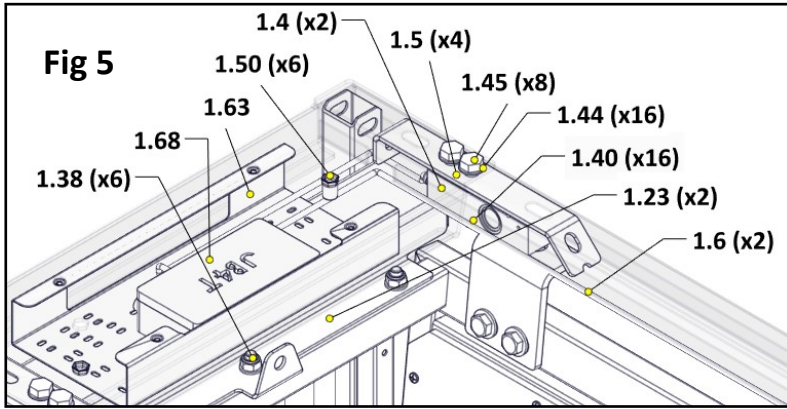
Please take note of the following before using the DraftMaster for the safety of all animals and personnel.

- **IMPORTANT!** Read these instructions carefully before use and keep them for future reference. The safety of your animals may be affected if you do not follow these instructions.
- Personal protection may be required for some stages of installation.
- **CAUTION!** When handling heavy equipment, some stages of installation may require at least two people.
- **DO NOT** lean on or exert undue pressure on partially assembled or loose equipment.
- **IMPORTANT!** Read the accompanying manual for the weigh scale.
- **NO!** bolt threads should be left exposed on areas where sheep traffic is expected.
- **CAUTION! CHECK POSTURE** when lifting/moving the DraftMaster, using the transport handles personnel must keep the load close to the body while lifting and avoid twisting the back or leaning sideways.
- **ALWAYS!** Check all parts are present before use.
- Make sure that the main body is situated in level ground.

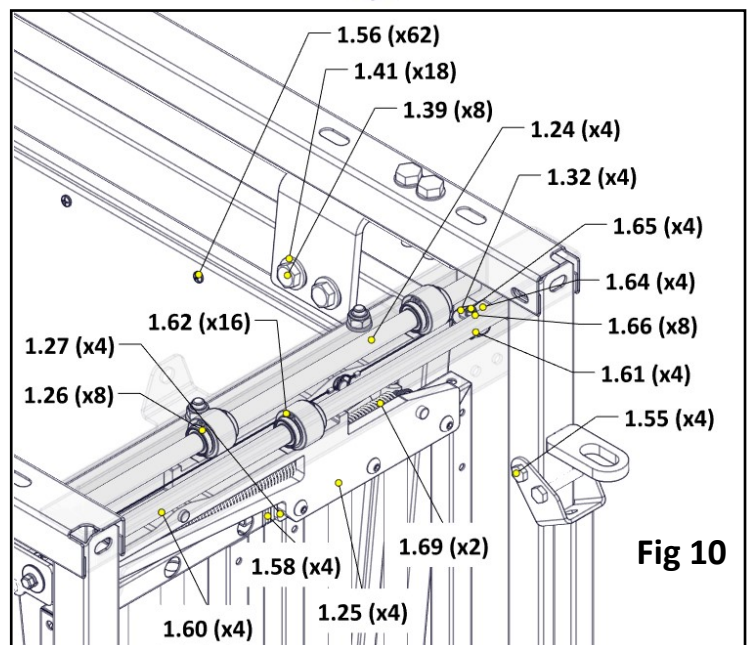
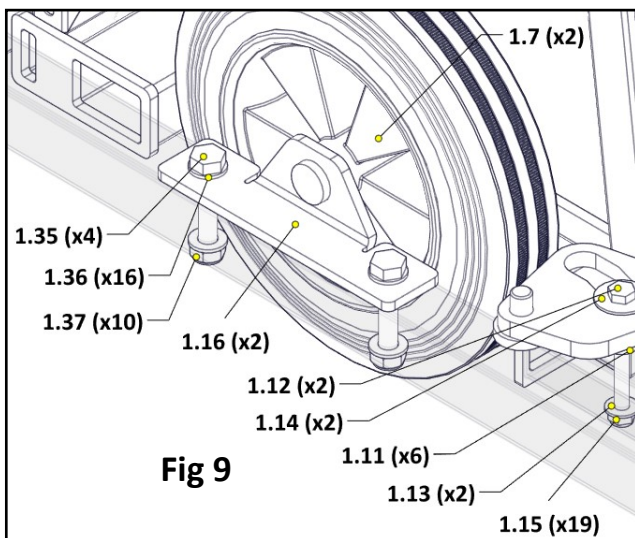
If you have any questions or comments regarding the DraftMaster, we will be glad to hear them either through our website www.iae.co.uk or by contacting your local IAE dealership.

Parts List

DraftMaster Main Body



Be aware some components transparent for clarity & reference page 6 for BOM table



Parts List

DraftMaster Main Body

Product Code 1002451-01

BOM ID	PART_NO	IAE_DESCRIPTION			
			1.36	B041 3050 10	M10 Washer (Form E)
1.1	1002452	3 Way Drafter Outer Crate	1.37	B040 3002 10	M10 Full Nyloc Nut Type T BZP
1.2	1002470	3 Way Drafter Inner Cage	1.38	B009 3100 60	M10 X 60 Cup Square Bolt BZP
1.3	1002551	HR SHT 8 90X62X102 Profiled BTF	1.39	B003 3120 60	M12 X 60 Bolt BZP
1.4	1002806	Load Cell T85-N-300kg 500mm Cable	1.40	B040 3002 12	M12 Nyloc Nut Type T BZP
1.5	1002552	HR SHT 5 50X30 Profiled	1.41	B041 3006 12	M12 Washer (Form F) BZP
1.6	1002557	Load Cell T85-N-300kg 1650mm Cable	1.42	B041 3302 12	M12 Spring Washer Type B BZP
1.7	B152 1102 80	Blickle 250mm Polypro Wheel c/w RT	1.43	B001 3120 30	M12 X 30 Setscrew BZP
1.8	1002503	3 Way Drafter LH Side Door	1.44	B041 3020 12	M12 Washer Form B BZP (24X13X1.6)
1.9	1002509	3 Way Drafter RH Side Door	1.45	B003 3120 65	M12 X 65 Bolt BZP
1.10	1002499	Lamb Weigher Transport Handles	1.46	1002534	Compression Spring 10OD 18.4L 1.58 Wire
1.11	1002446	180OD 8.4ID 30L Nylon Spacer	1.47	B041 3001 06	M6 Washer (Form A)
1.12	B003 3080 80	M8 X 80 Bolt BZP	1.48	B040 3002 06	M6 Nyloc Nut Type T BZP
1.13	B041 3001 08	M8 Washer Form A BZP	1.49	B001 3100 25	M10X25 Setscrew BZP
1.14	B041 3007 08	M8 Repair Washer (Form G)	1.50	B040 3034 10	M10 CSKHead Part Hex Insert Nut 0.8-4 GR
1.15	B040 3002 08	M8 Full Nyloc Nut Type T BZP	1.51	1002529	M6 Washer (Mudguard) 25Ø BZP
1.16	1002564	3 Way Drafter Axle	1.52	B041 3302 06	M6 Spring Washer Type B BZP
1.17	1002545	RND BRT 16 715L HoleX1 Chamfer End	1.53	B001 3060 20	M6X20 Setscrew BZP
1.18	1002542	21X45X81 HDPE Block 3XHoles	1.54	B029 3080 25	M8X25 Socket Button Head Screw BZP
1.19	1002546	Sliding Bolt Housing	1.55	B003 3080 55	M8X55 Bolt BZP
1.20	B051 3050 20	5X20 Selloc Pin BZP	1.56	B021 3551 19	5.5X19mm Pan HD (Phillips) Drill Screw
1.21	1002544	Compression Spring 19.75OD 76L 1.63 Wire	1.57	B003 3100 75	M10 X 75 Bolt BZP
1.22	B052 6048 00	4.8X10 STL Dome Head Multi-Grip Rivet	1.58	B115 1025 12	25 X 25 X 1-2W BLK Plastic Insert 5960
1.23	1002512	3 Way Drafter Sliding Door Top Channel	1.59	B050 3125 40	1/8 X 1IN Cotter Pin BZP
1.24	1002527	RND BRT 16 559L Tapped Both Ends	1.60	1002600	545mm 7X7 Wire Rope Assy. Soft Eyes
1.25	1002522	3 Way Drafter Sliding Door Carriage	1.61	B040 3002 05	M5 Nyloc Nut BZP
1.26	1002810	LME16UU Neutral Metric Linar Ballbushing	1.62	1002606	28mm External Circlip
1.27	1002528	HR SHT 4 25X202.5 Profiled	1.63	1002549	DX51 SHT 1.2 149X51X350 Profiled BTF
1.28	1002515	3 Way Drafter Sliding Gate	1.64	1002535	CR SHT 2 15X16X32.5 Formed Bracket
1.29	B041 2006 12	M12 Washer (Form F) Galv	1.65	B001 3060 25	M6X25 Setscrew BZP
1.30	B107 0002 50	25mm Blue Textured Hand Grip	1.66	B041 3001 05	M5 Washer Form A BZP
1.31	1002543	Ø10.5ID Ø20OD 2mm Nylon Washer	1.67	B001 3060 40	M6 X 40mm Setscrew BZP
1.32	1002536	6X32X10 U Groove Bearing Pulley	1.68	1002558	JB4T-PG9 Junction Box
1.33	1002567	8X815X715 Smooth Stockboard	1.69	1002533	EXT Spring Ø22.75 167L 1.5W
1.34	1002568	8X828X332 Smooth Stockboard	1.70	B115 7060 21	Grommet Foot 6.0mm X 2.1mm
1.35	B003 3100 60	M10 X 60 Bolt BZP			

Reference page 5 for illustrations

Parts List

DraftMaster Fittings Kit

Product Code 1002607-01

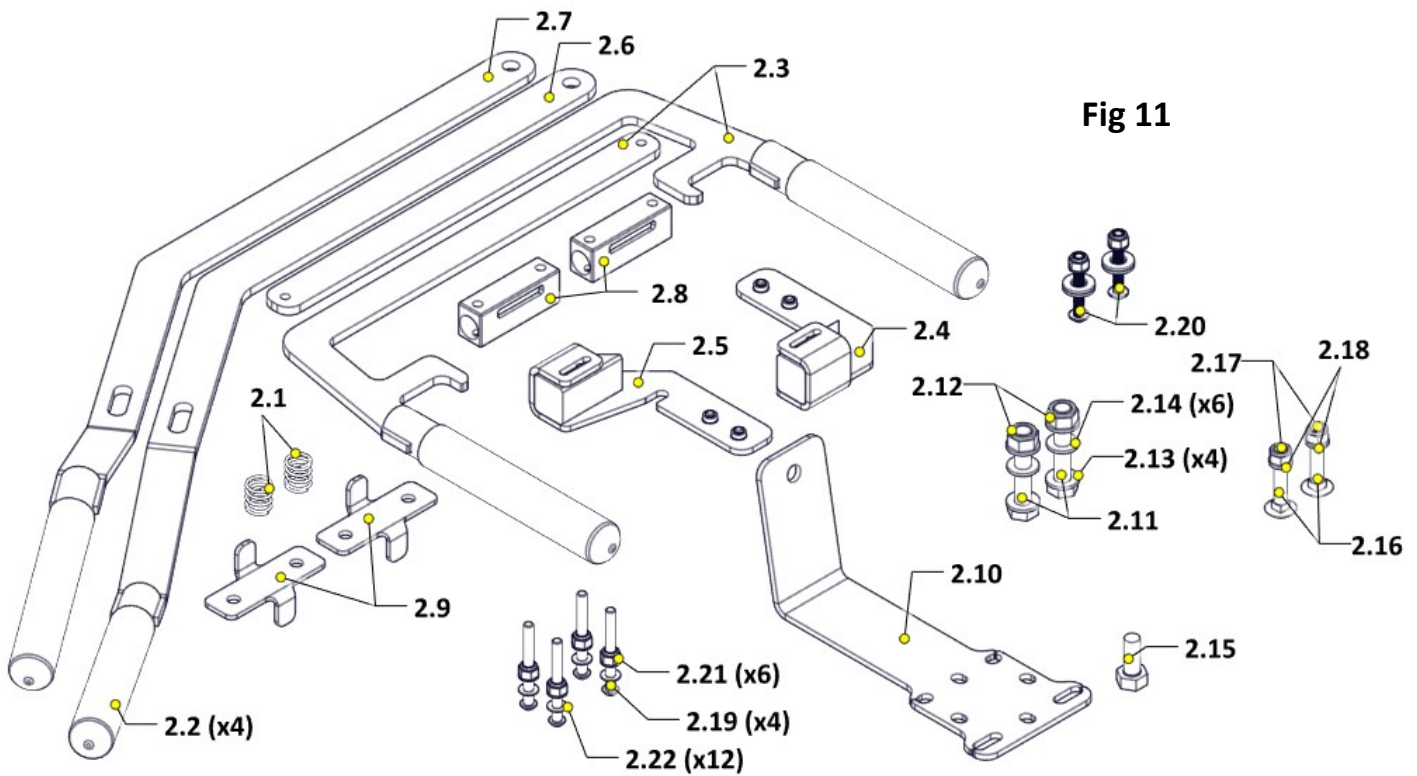


Fig 11

BOM ID	PART_NO	IAE_DESCRIPTION	2.12	B040 3002 10	M10 Full Nyloc Nut Type T BZP
2.1	B142 0160 30	Compression Spring 16.5D X 30L X 1.4 Wire	2.13	B041 3050 10	M10 Washer (Form E)
2.2	B107 0002 50	25mm Blue Textured Hand Grip	2.14	1002543	Ø10.5ID Ø20OD 2mm Nylon Washer
2.3	1002550	Sliding Door Handle	2.15	B001 3100 25	M10X25 Set Screw BZP
2.4	1002811	Sliding Door Latch Housing Assembly LH	2.16	B009 2080 45	M8 X 45 Cup Square Bolt GLV
2.5	1002809	Sliding Door Latch Housing Assembly RH	2.17	B040 3002 08	M8 Full Nyloc Nut Type T BZP
2.6	1002540	3 Way Drafter RH Side Door Handle	2.18	B041 3302 08	M8 Spring Washer Type B BZP
2.7	1002537	3 Way Drafter LH Side Door Handle	2.19	B029 3060 60	M6 X 60 Socket Button Head Screw BZP
2.8	1002531	20X25X70 HDPE Handle Guide	2.20	1002601	M6 X 45 SKT Button Head Screw BZP
2.9	1002559	CR SHT 3 43X38X85 Profiled BTF	2.21	B040 3002 06	M6 Nyloc Nut Type T BZP
2.10	1002556	HR SHT 4 184X98X104 Profiled BTF	2.22	B041 3001 06	M6 Washer (Form 'A')
2.11	B003 3100 55	M10 X 55 Bolt BZP			

DraftMaster Loose Items

BOM ID	PART_NO	IAE_DESCRIPTION
3	1002561	Medicinal Bag Holder
4	B102 9100 40	4mm Spring R Clip 75mm Long
5	1002560	Anti Jump Bar
6	1002553	Spray Storage Rack

Loose items will be stowed away inside the main body inner cage

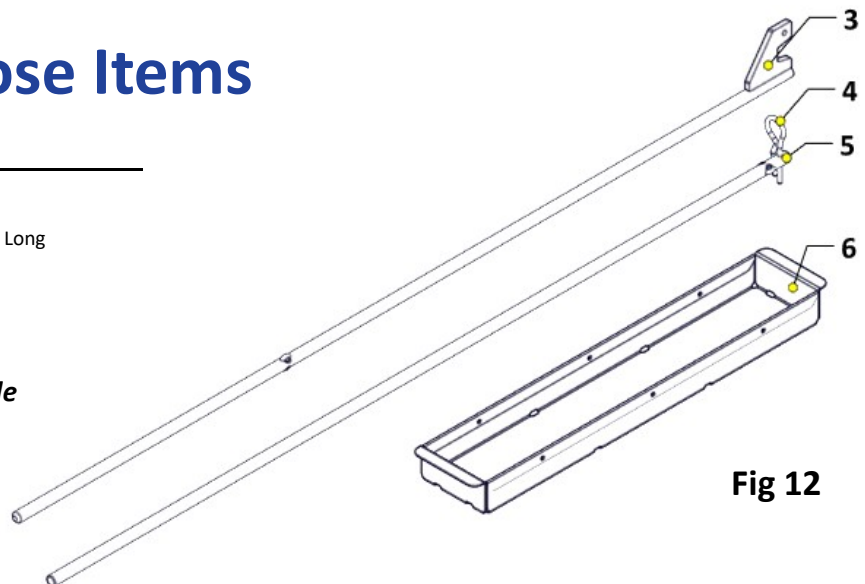


Fig 12

How To Assemble

What To Assemble

The DraftMaster will be supplied with the inner cage and the outer crate assembled, along with the transport handles at the front, the wheels and axle plates at the rear, see Fig 8 on page 5.

The sliding and the swing side doors will be partially assembled, (without operating mechanisms such as the handles, latches and stop plates attached) any loose items will be stowed away inside the main body inner cage, fixing bolts and cable ties will be used in transit to keep these parts stable (***these should be removed before use***).

See below the list of loose items to be assembled, comprising of;

1. Sliding Door Latches
2. Sliding Door Stop Plates
3. Sliding Door Handle Guide
4. Sliding Door Handles
5. Side Door Handles
6. Weigh Scale Fixing Plate & Weigh Scale
7. Outer Crate Storage Rack
8. Medical Bag Holder
9. Anti Jump Rail

DraftMaster can be built to be right or left handed depending on the preferences of personnel, see opposite hand set-up on page 14.

Tools Required

Ø10mm Open end spanner/ Socket wrench

Ø13mm Open end spanner/ Socket wrench

Ø17mm Open end spanner/ Socket wrench

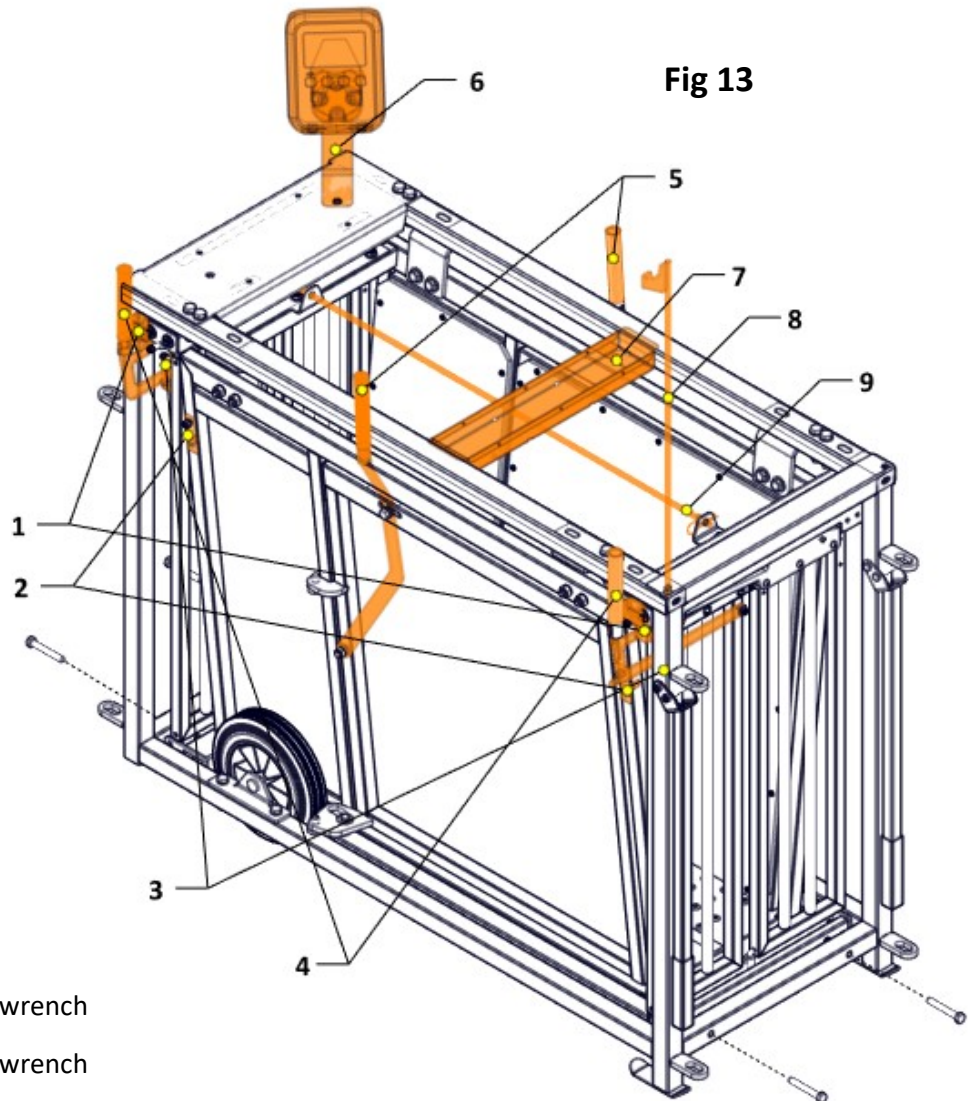


Fig 13

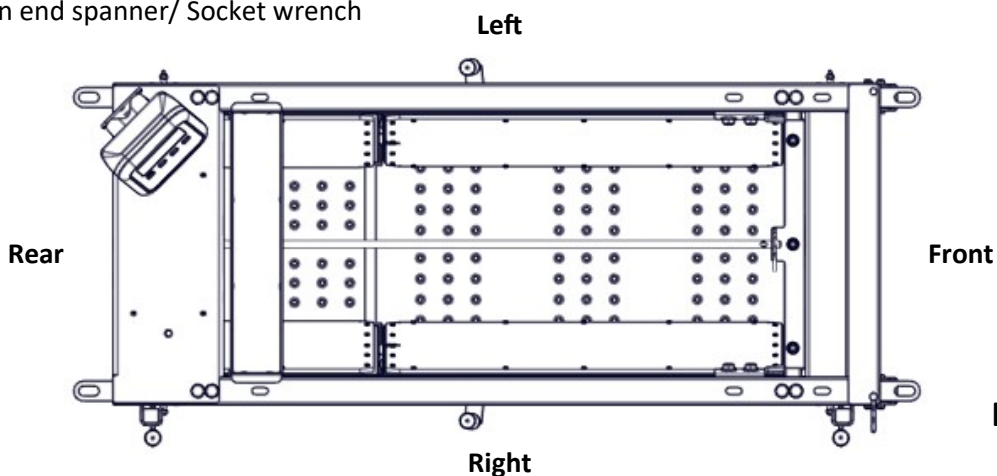


Fig 14

Sliding Door Installation

The information in this section aims to provide personnel with adequate instructions to build a **RIGHT HANDED** DraftMaster

Step 1.

To begin, fit the stop plates through the holes in the inner cage framework on the right hand side (at each end) using M8 X 45 cup square bolt as shown in Fig. 15 & Fig. 16

(Stop plates to be fitted up mirroring each other)

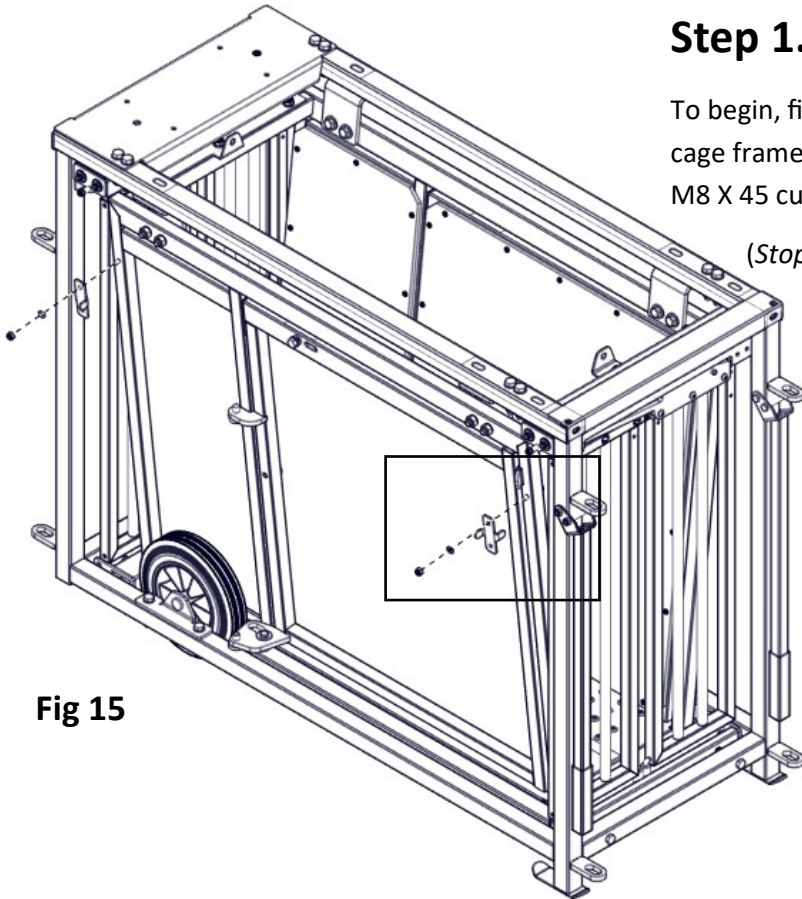


Fig 15

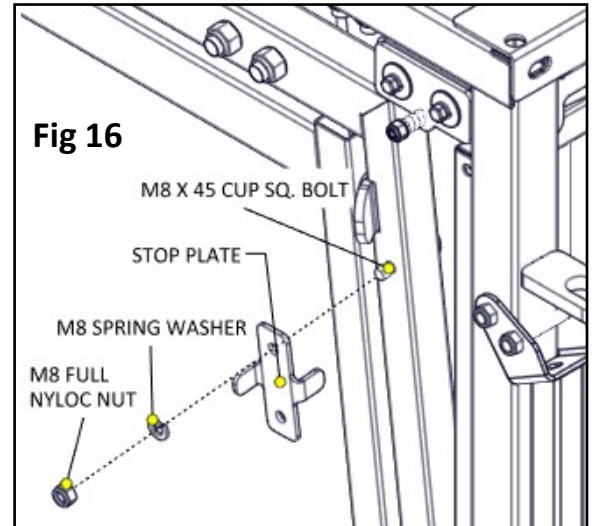


Fig 16

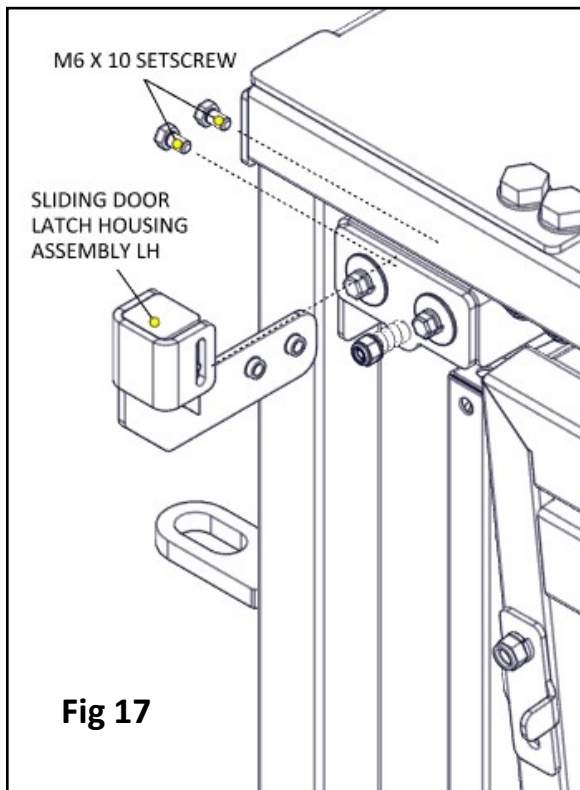


Fig 17

Step 2.

Attach the latch housing assemblies (at each end) to the sliding door top channel using X2 M6 X 10 setscrews (supplied secured to the latch housing assembly) as shown in Fig. 17 & 18

(Latches to be fitted up mirroring each other)

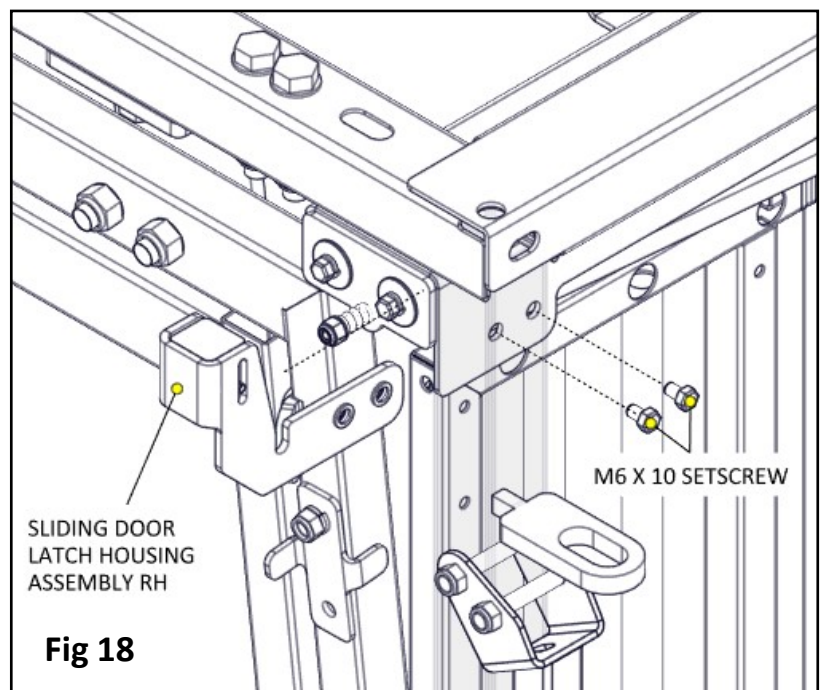


Fig 18

(Components transparent for clarity in Fig 18)

Step 3.

Pull open the sliding doors (by hand), pivot the stop plates (at each end) to hold the doors fully opened before proceeding to the next stage of the installation as shown in Fig's 19, 20 & 21

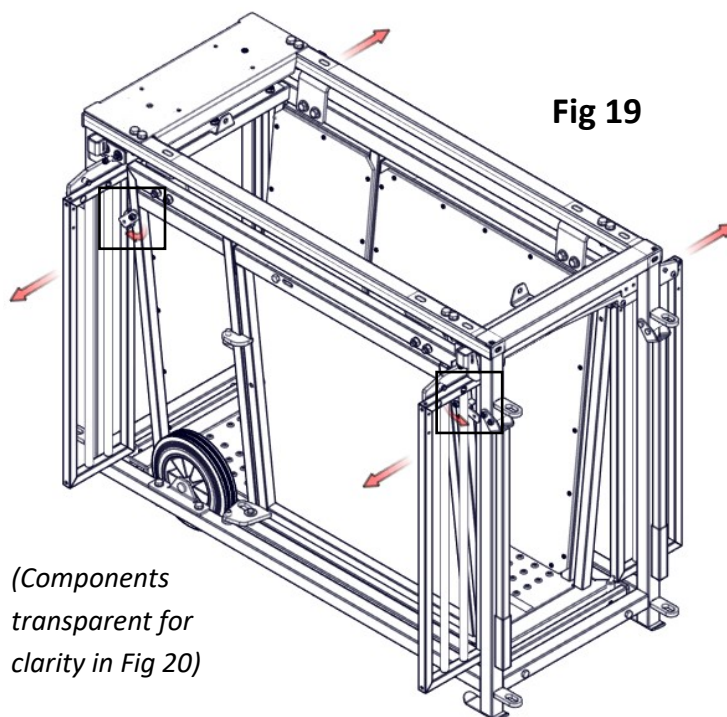
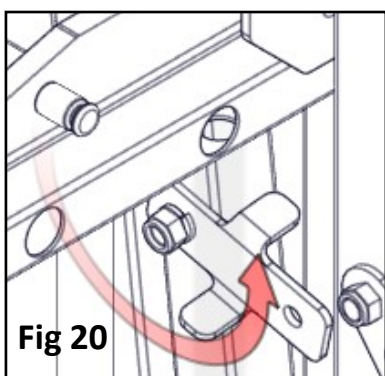
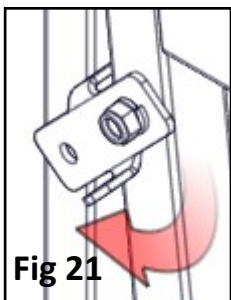


Fig 19

(Components transparent for clarity in Fig 20)

Step 4.

Build up the sliding door handle assemblies (left and right hand) - Insert the sliding door handle through the slot in the handle guide .

Fasten to the sliding gate (at each end) using M6 bolt fixings as shown in Fig 22 - the compression spring fits inside the handle guide shaft (between the underside of the handle and the bottom bolt)

Fig 22 is detailing the right hand handle and guide assembly (left handle to be fitted up mirroring)

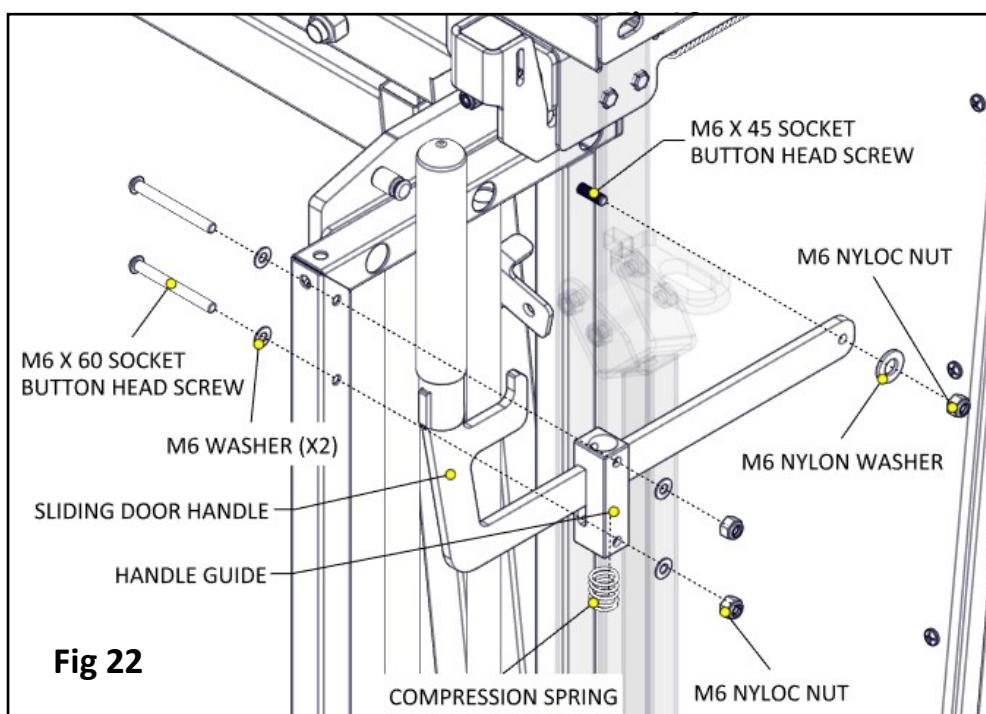


Fig 22

(Components transparent for clarity in Fig 22)

Step 5.

Release the stop plate and push the sliding door handles to move the sliding doors back to fully closed as shown in Fig 23 - spring-loaded, will slam shut, ensure the sliding door handle catch is locked into the latch housing.

Installation is complete when both entry and exit sliding doors are assembled.

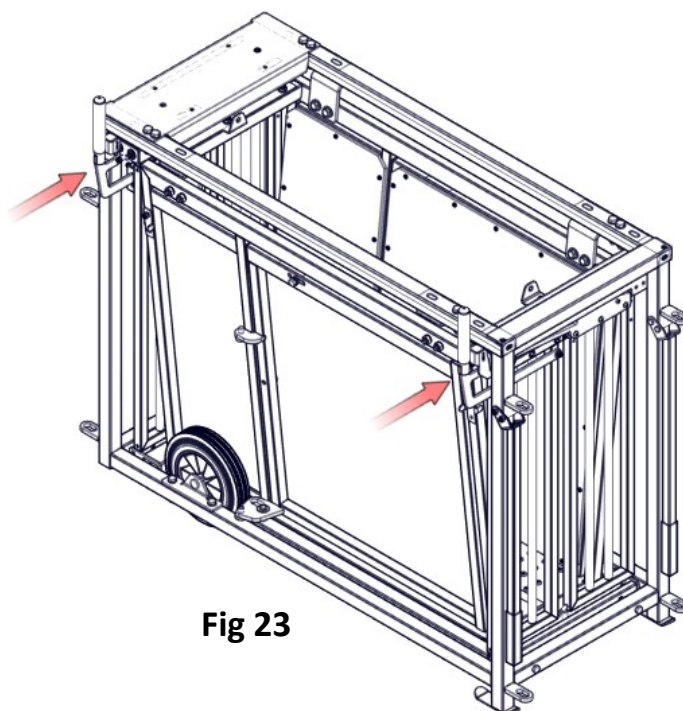


Fig 23

Side Door Installation

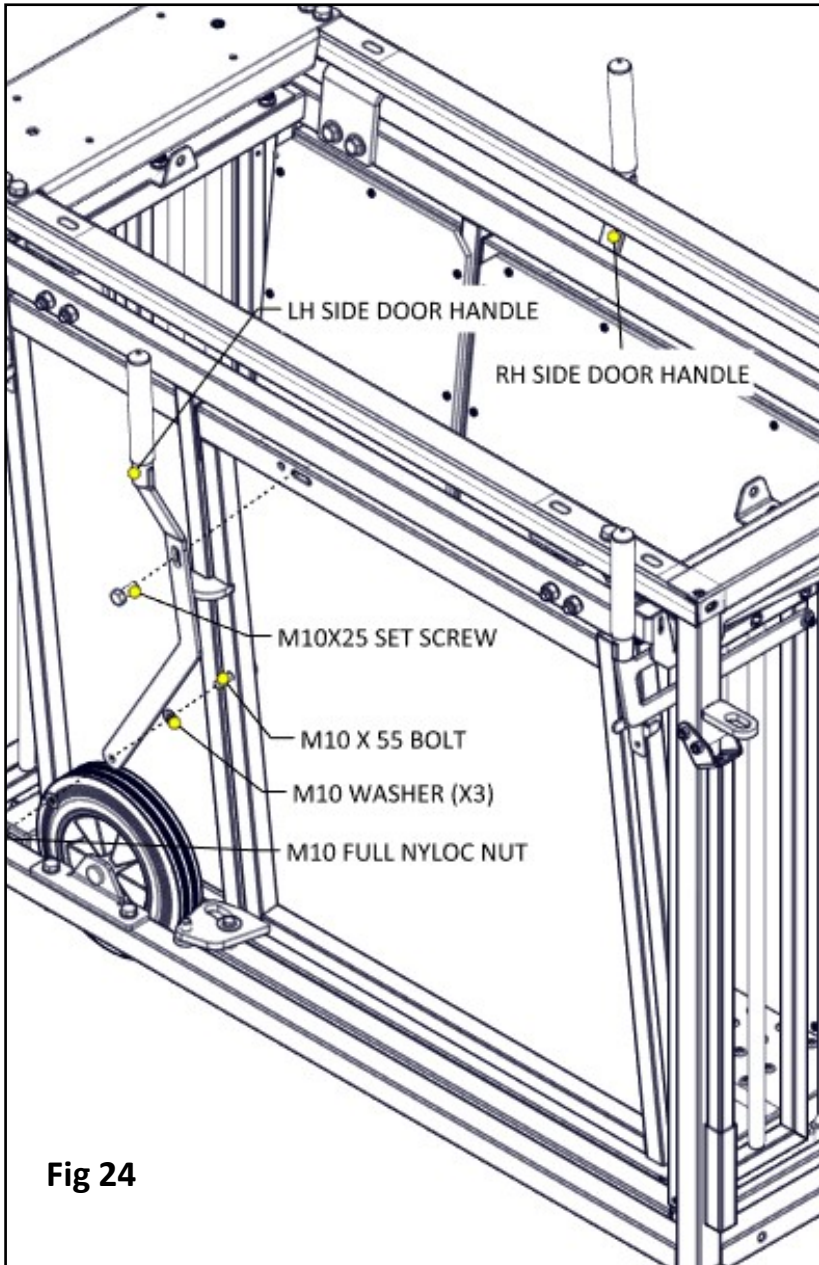


Fig 24

Step 1.

Loosely fit the door handles using M10 X 55 bolt fixings - insert the bolt through the handle pivot hole and through the hole located central on the side door hang stile. As shown in Fig 24

Step 2.

Undo the M10 X 25 set screw supplied fastened through the hole in the side door top rail - used to lock the spring-loaded sliding bolt in transit

Fully fit the door handles, screw through the slots using M10 X 25 set screw. As shown in Fig 24

(Door Handles to be fitted up mirroring each other)

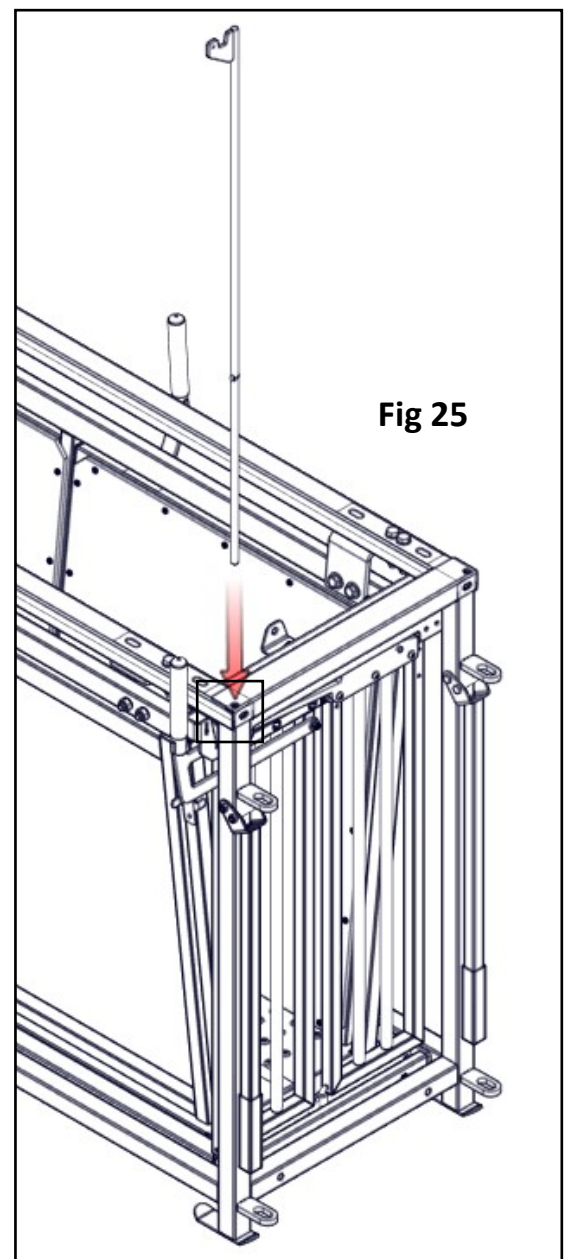
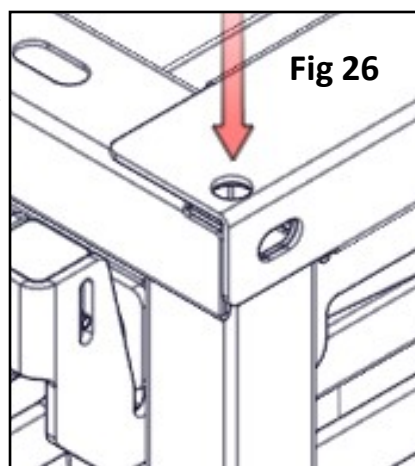


Fig 25

Attaching Medicinal Bag Holder

Place the medicinal bag holder into the hole located at the front corner of the outer crate, as shown in Fig 25 & Fig 26 - there is a hole to take the rod in each front corner to allow for personnel to adjust as required.

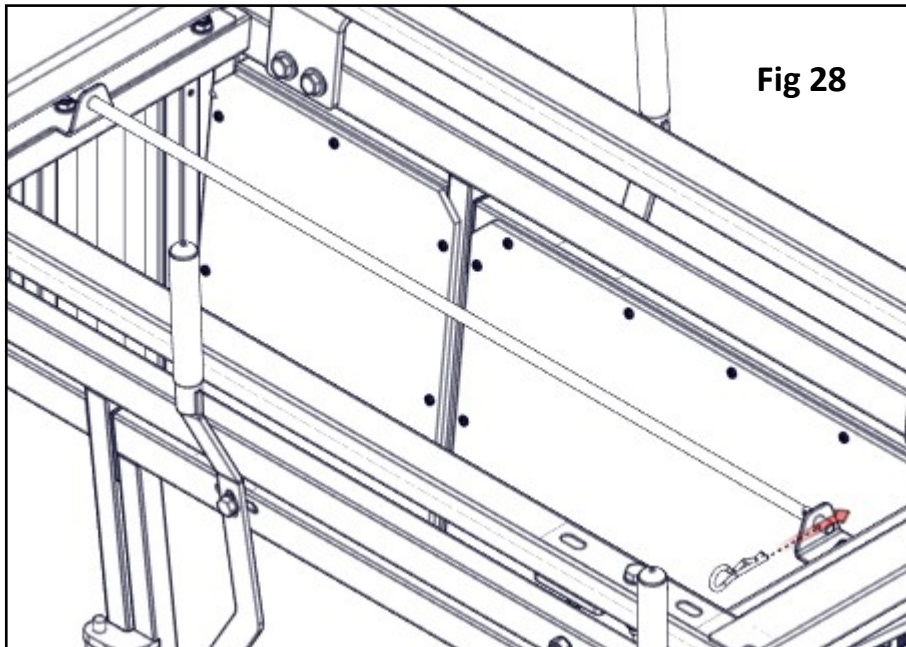
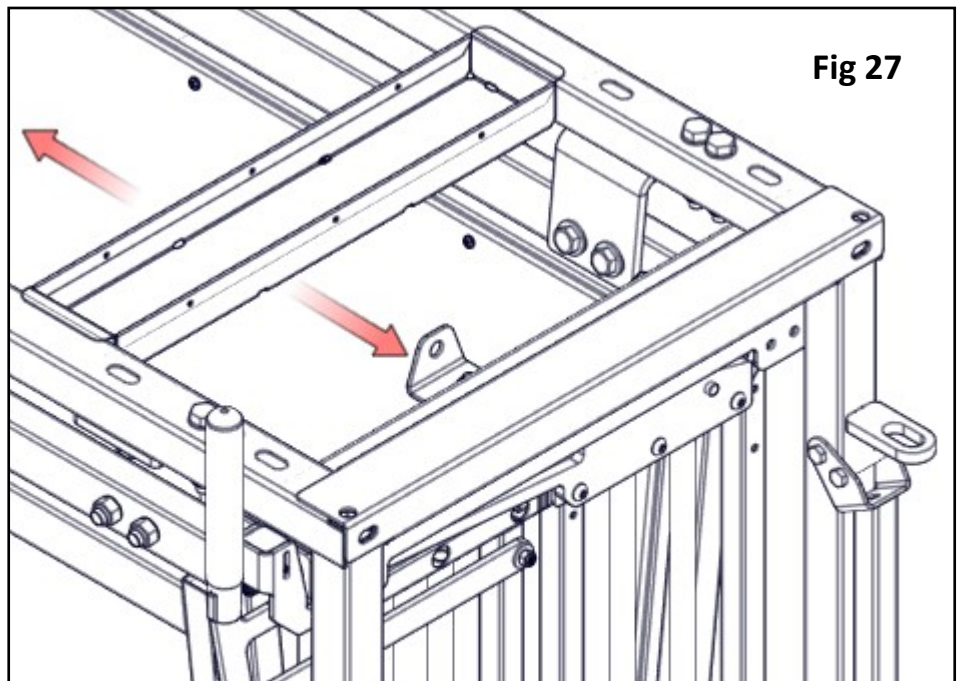


Attaching Storage Rack

To attach the storage rack -

Place the rack on top of the DraftMaster, between the side rails of the outer crate as shown in Fig 27

The rack is left loose so that personnel are able to slide the rack freely from front to rear - the storage rack can be screwed to the front top rail if necessary (screws not supplied).



Attaching Anti Jump Rail

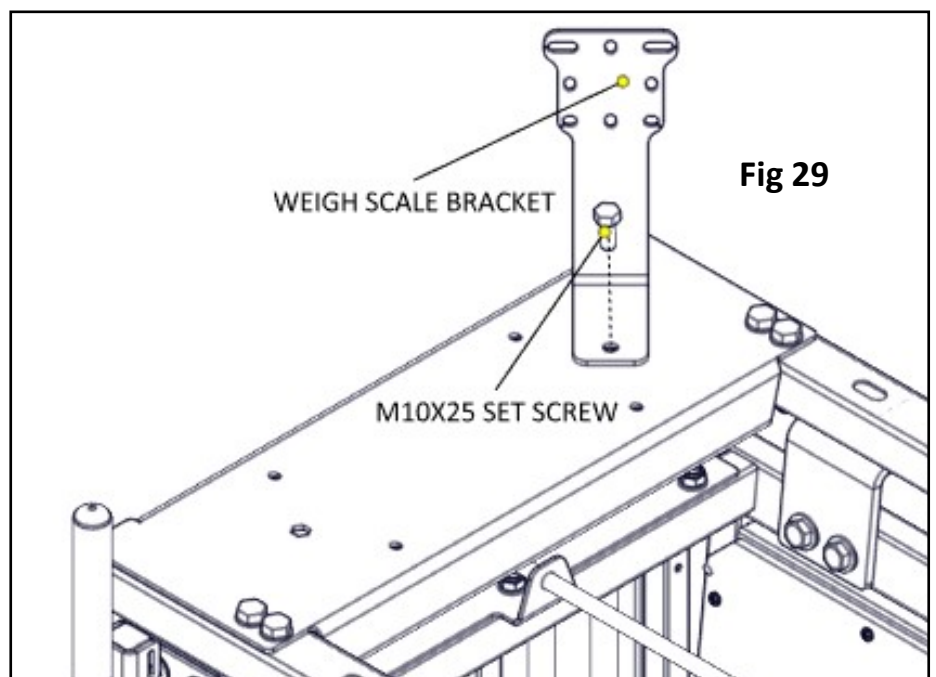
To attach the anti jump rail -

Insert the rail into the pre-drilled fixing plates at each end of the outer crate.

Next, fit the locking pin through drill hole at the nibbed end of the rail - ensure the drilled/nibbed end is at the front as shown in Fig 28

Attaching Weigh Scale Bracket

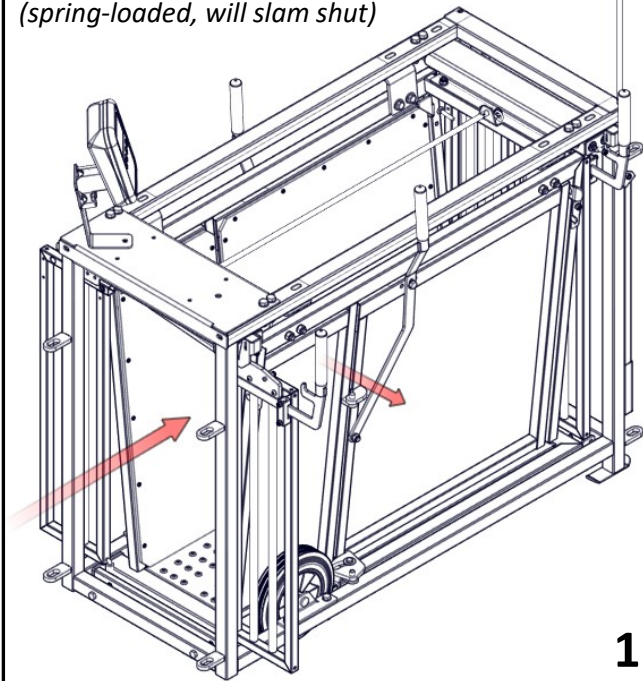
Attach the weigh scale fixing plate to the DraftMaster main body using M10X25 set screw - refer to section on pages 15 - 18 for calibration of the weigh scale



How To Operate

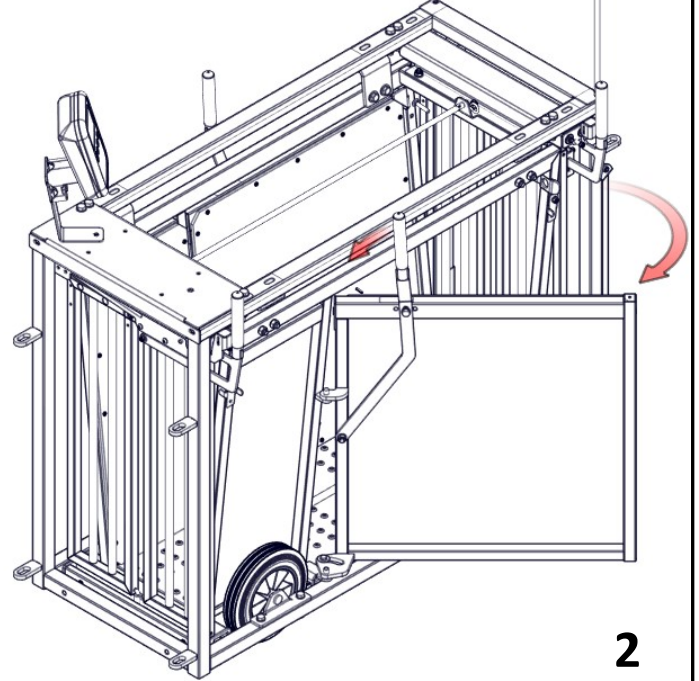
Pull the sliding door handle to give access into the drafter

Push to close once animal is inside -
(spring-loaded, will slam shut)

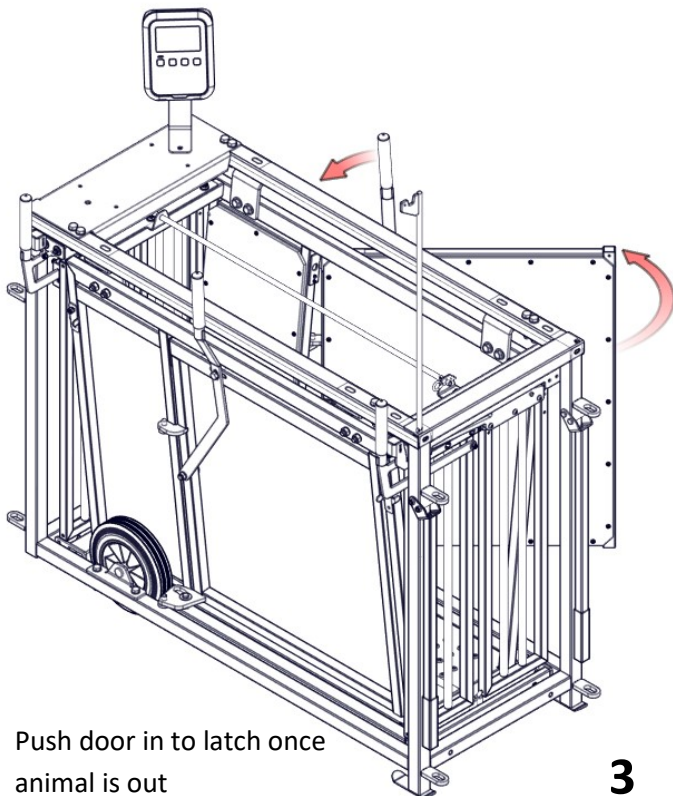


Pull the sliding door handle back and outwards to draft animal in direction 1

Push door in to latch once animal is out

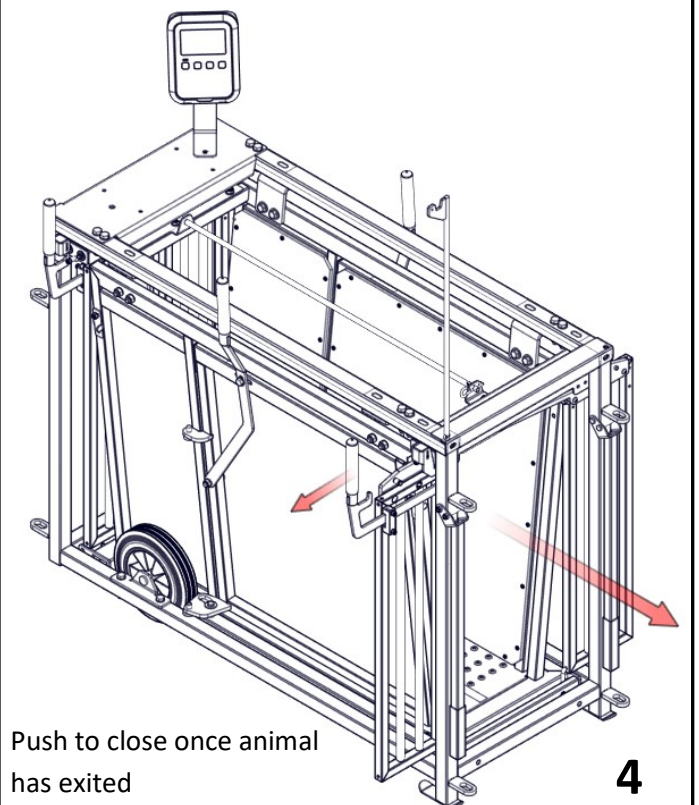


Pull the sliding door handle back and outwards to draft animal in direction 2



Push door in to latch once animal is out

Pull the sliding door handle to give access out of the drafter



Push to close once animal has exited

Opposite Hand Set-up

Relocate the sliding door handles, handle guides, latch housing, stop plates and the weigh scale bracket to change to opposite hand.

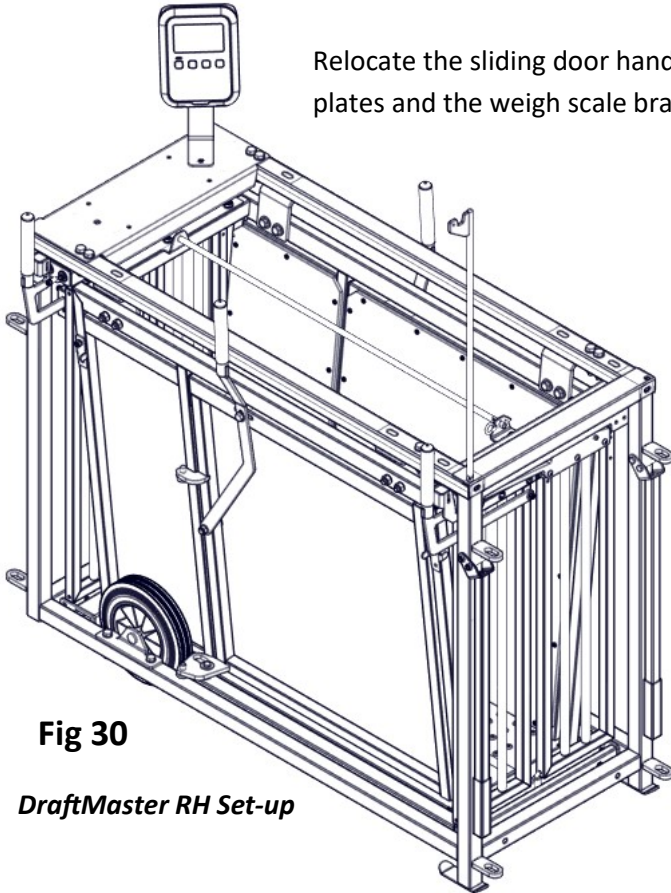


Fig 30

DraftMaster RH Set-up

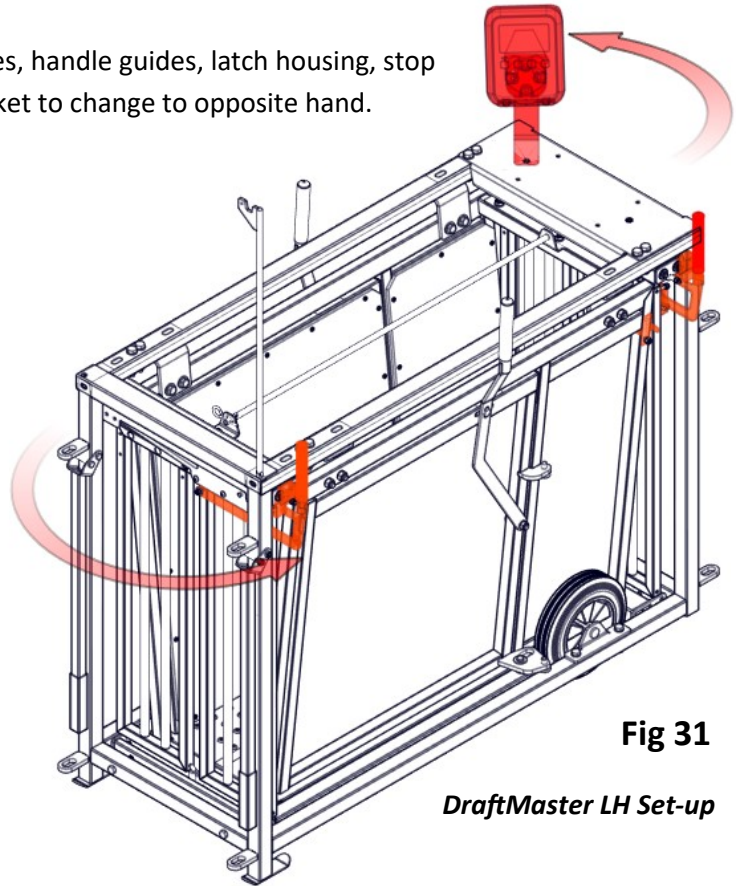


Fig 31

DraftMaster LH Set-up

How To Transport

Use the transport handles to reposition the DraftMaster.

Please take note of the following before moving, for the stability and maintenance of the DraftMaster.

- **DO NOT!** move long distances
- Use M10 X 75 bolts to fasten the outer crate and inner cage together to avoid damaging the load bars

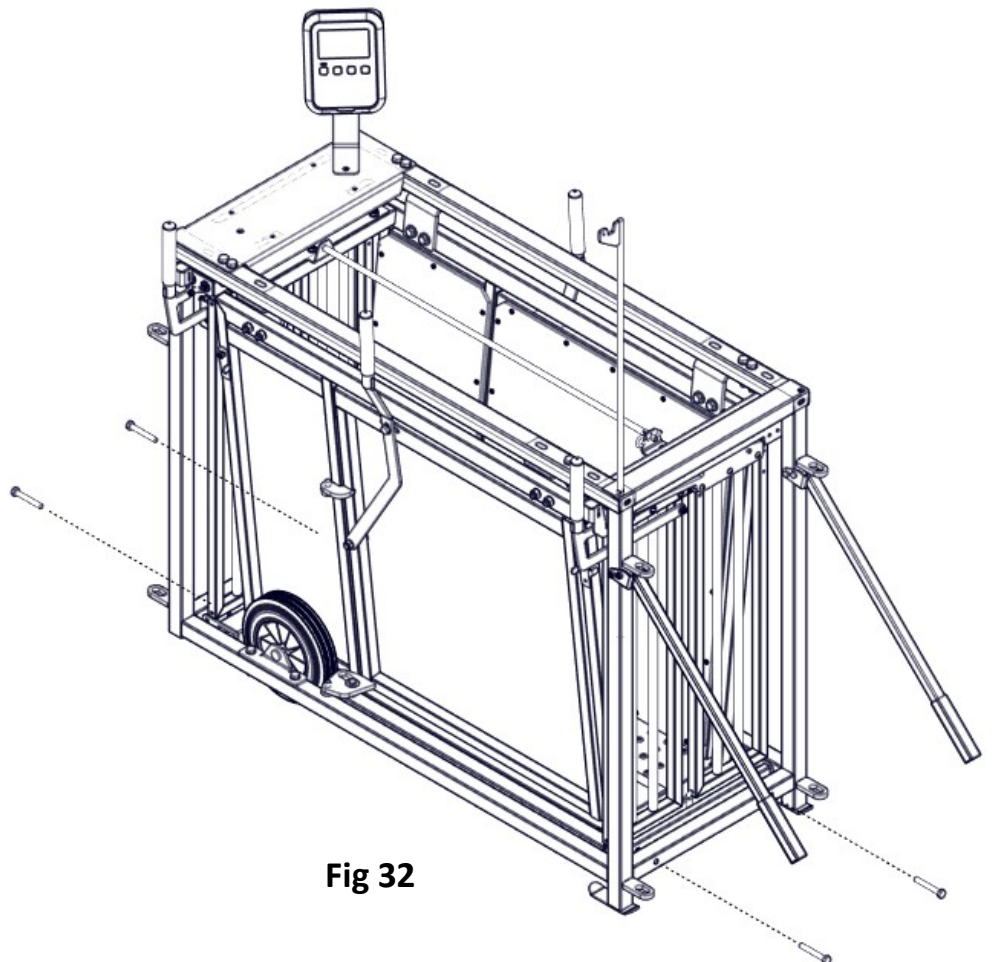


Fig 32

Weigh Scale Span Calibration

Introduction

The information contained within this section of the manual aims to provide adequate instruction to allow any personnel to carry out span calibration for the following types of weigh scales;

1. Gallagher W-0
2. Gallagher TW Range
3. Gallagher W210
4. Gallagher W310/W810

Preparation

Span calibration is the process of recalibrating the accuracy of the load on a weigh scale. It is important that guidance be given, so that span calibration is done inappropriately.

The load bars on the DraftMaster are built in as standard, for span calibration to be completed personnel must create (or update) a 'custom load bar'.

You will need a test weight, which you know the exact weight of. Recommended that you use at least 200 Kg for cattle systems and 50 Kg for sheep weighing systems. Tractor weights or feed bags are ideal if their weight is known accurately. Your rural merchant may be able to weigh these on their certified scales to confirm the accurate weight.

DO NOT PROCEED, if there are other faults (weight always zero), or is drifting, or messages like **OVERLOAD** are displayed on the screen), which are electrical or mechanical problems. These problems cannot be fixed by span calibration.

W-0 Calibration Process

1. Hold weigh key and zero key together for 2 seconds for span process to start.
2. **CAL 0** is displayed.
3. Remove all weights from load bar and press **Zero** key.
4. **CAL L** is displayed.
5. Add some weight to calibrate and press **Weigh** key.
6. Weight calibrate is displayed.
7. Press **Auto** key to confirm the span

Please reference W-0 Weigh Scale quick start for more information, available through the Gallagher website:

www.gallagher.eu/en_gb/w-0-weigh-scale



TW Calibration Process

1. Turn the scale on.
2. Press the '**cog**' to go into the Setup screen
3. Press **Equipment Connections**
4. Press **Load bars**
5. Press the name of the load bar OR select '**create custom**'
6. Press **ADVANCED**
7. Press **SPAN**
8. Type in the max. weighing capacity of the load bars, e.g. 2000 Kg
9. Press **Next**
10. Enter a name for these load bars, e.g. the location where they are located
Example "Sheep System"
11. Press **Next**
12. Ensure that there is no test weight on the load bars
13. Press **ZERO**
14. Put test weight onto the load bars
15. Press **WEIGH**
16. Type in the amount of the test weight - Note 1: The test weight can be adjusted only to whole Kg (or Lbs)
17. Press **CONFIRM**
18. Press **SAVE**
19. Test the weight at the entry end of the platform
20. Test the weight at the exit end of the platform

Please reference the Gallagher website for more information on the TW Weigh Scale range

www.gallagher.eu/en_gb



W210 Calibration Process

1. Hold down the green **Weigh** button and the blue **Zero** button while turning the mode selector switch from (Off) to **F** (Fine).

2. **CAL-0** displays on the Weighing screen

3. Check there is no load on the load bars.

Press the blue **Zero** button.

CAL-L displays on the Weighing screen.

4. Apply the known test load to the scale.

Once the load is on and sitting stable, press the green **Weigh** button.
The calculated weight displays on the screen.

5. To *increase* the displayed weight: Press the green **Weigh** button to *increase* the displayed weight in 1 kg increments.

To decrease the displayed weight: Press the blue **Zero** button to *decrease* the displayed weight in 1 kg increments.

6. Ensure the displayed weight equals the known test weight value.

Turn the mode selector switch from **F** (Fine) to **A** (Auto).

SAVE displays on the Weighing screen.

Press the green **Weigh** button to save the new span value.

DONE displays on the Weighing screen, the red light turns on. Turn the scale off

7. **Exit without saving new span value** Turn the mode selector switch from **F** (Fine) to (Off) or press the blue **Zero** button to return to Fine mode.

Please reference the Gallagher website for more information on the W210 Weigh Scale

www.gallagher.eu/en_gb



W310/W810 Calibration Process

1. Turn the rotary knob to Setup **S**.
2. Select **USER OPTIONS** using the arrow keys.
3. Press **SELECT**.
4. When the User Options screen is displayed carry out the following key sequence:

WEIGH > DELETE > ZERO > ZERO > DELETE > OK (Right hand soft key)

5. Highlight the **CHANGE SPAN** option using the arrow key.

Press **SELECT** - For model W810: press **F5:Respan**

6. Check that there is no load on the load bars and press the **BLUE** button.

The 'zero count' displayed on screen will change from 0 to approximately a 5 digit number. If the zero count remains at 0, then the loadcell or cable is possibly faulty.

7. Apply the known test load to the load bars. Once the load is on and setting stable, press the **GREEN** key. After a few seconds, the 'span count' displayed on screen will change from 0 to a 5 digit number
8. Use the number keys to enter the known test weight
9. Press the **F5:Accept** button to save the new span value.
10. To exit the spanning routines without saving the new value turn the rotary knob out of Setup **S**. The scale will default to normal operating mode without saving the new value.

Please reference the Gallagher website for more information on the W310/W810 Weigh Scale

www.gallagher.eu/en_gb



Model W310



Maintenance & Storage

General Guidance

Although IAE equipment is designed to withstand adverse weather conditions and to withstand prolonged heavy usage, monthly inspections and regular maintenance will help to extend the longevity of the product. The following checklist may be useful:

- Check steel framework for any signs of corrosion, distortion or wear. Replace or repaired; Any damage to steelwork (i.e. exposed bare metal) should be made good by rubbing down and applying 1 no coat of Galvafruid and 1 no coat of oil based paint.
- Check the operation of the side and sliding doors before each usage - Tighten/replace any fittings as necessary.
- Pressure wash or steam wash all equipment after each usage.
- Lubricate all moving parts at regular intervals.
- Check all nuts, bolts & set screws, pay particular attention to the nyloc nuts, over time the nylon contained can degrade - replace nylocs if required.
- Before storing, clean off any excess mud with water and pressure wash all components.
- Store the DraftMaster empty and upright.
- Ensure doors are closed and secured with latches when not in use to prevent wind damage.
- Cut away any vegetation growing on kit.
- Check the operation of the spring operated door handles before each usage - Tighten/replace any fittings as necessary.

Paint & Protective Systems

The Galvanizers Association (www.hdg.org.uk) have conducted field tests with galvanised steel samples throughout the U.K. and identified localised corrosion rates within 10 mile squares.

The results of their tests indicate that steelwork of 3mm and 5mm thick. Hot Dip Galvanized to BS EN 1461: 1999 giving a coating thickness of 55 and 70 microns respectively, typically provides protection against corrosion in excess of 25 years.