

**PRODUCT MANUAL** 

# 20Ft x 20Ft Tunnel Greenhouse Grow Tent

# Model: TMG-GH2020





- Please read the product manual completely before assembly
- Check against the parts list to make sure all parts are received
- Wear proper safety goggles or other protective gears while in assembly

Missing parts or questions on assembly? Please call: 1-877-761-2819 or email: cs@tmgindustrial.com Do not return the product to dealer, they are not equipped to handle your requests

# **Main Specifications :**

- Assembly size : W6 x L6 x H3 (m) / W20 x L20 x H10 (ft)
- Shoulder wall clearance height : 1.25 m / 4.1ft
- Front roll up door : W1.1 x H2 (m) / W3.6 x H6.6 (ft)

# **Prior to assembly**

Please read the instructions carefully before installation. It is important to follow your local safety regulations and industry standards during installation. Regulations may include but are not limited to :

- Safety helmets, protective eyewear, and clothing
- Safety harnesses for all elevated workers
- Proper ladder, cage, and safety operation

Check all components and parts before installation. All parts are marked with a part number, please refer to the parts list to make sure you have all parts.

Choose a day with low or no wind to install, assembly is hard in heavy wind. Do not make any alterations to the structure. Do not hang any weights on the frame during installation, including parts. We are not responsible for any damages or injuries caused by inappropriate installation, unauthorized modifications or extreme weather.

This building is not intended for human occupancy.

It is recommended to tape or add foam/rubber on the frame where joints connect and where it touches the cover. This will help extend the life span of the cover.

Read the following item list carefully and count the number of items to ensure that all parts are included prior to setup.

# **Installation steps**

## Step 1 : Review the whole structure and choose the proper installation site

Choose a solid flat level ground area to set up the building. Do not install the building on soft ground, wetland, uneven surfaces, sloped surfaces, or on top of structures that are not rated to hold its weight.

We strongly recommend that you build the structure on a solid foundation such as cement and use anchor bolts on all baseplates.

Be aware of the surrounding area. Do not set up the building near snowdrifts, open flames or exposed electrical wires. Do not keep heat sources near the fabric cover. Keep the building surroundings clear at all times.

TMG-GH2020 Part List				
Parts code	Graphical	Description	Qty	BOX
1		Peak arch tube	5	1/1
2	• •	Upper rafter tube (middle and rear truss)	8	1/1
2A	<u>••    ••</u>	Upper rafter tube (front truss)	2	1/1
3		Shoulder tube (middle truss)	10	1/1
4	<u>e ol                                    </u>	Lower rafter tube (front and rear truss)	10	1/1
5	EC======34	Roof purlin (horizontal tube)	20	1/1
5A	EC	Roof purlin (horizontal tube)	8	1/1
5L		Left corner baseplate (front and rear truss)	2	1/1
5R		Right corner baseplate (front and rear truss)	2	1/1
6		Baseplate (front truss)	2	1/1
6A		Baseplate (rear truss)	2	1/1

7		Baseplate (middle truss)	6	1/1
8	· · · · · · · · · · · · · · · · · · ·	Door frame lower tube (front truss)	1	1/1
8A	0	Door frame lower tube (front and rear truss)	2	1/1
8B	) 1	Door frame lower tube (front truss)	1	1/1
8C	[•]Ø]	Door frame lower tube (front truss)	2	1/1
9	•	Door frame upper tube (front truss)	2	1/1
9A	•	Door frame upper tube (rear truss)	2	1/1
9B	•	Door frame upper tube (front truss)	2	1/1
10	·CI	Door frame upper horizontal tube (front truss)	4	1/1
10A	£)	Door frame horizontal tube (rear truss)	3	1/1
11	¢\$	Ceiling cross bar (middle and rear truss)	4	1/1
11A	£ <u>,                                     </u>	Door frame cross pull tube (front truss)	1	1/1
12		Bottom tension bar (front cover)	2	1/1

12A	[ <del>0</del> ]	Bottom tension bar (front cover)	2	1/1
12B		Bottom tension bar (rear cover)	3	1/1
13		Diagonal bracing bar (1st and last span)	4	1/1
13A		Tube clamp	12	1/1
13B		Tube clamp	2	1/1
14	<u>e    e e e e e</u>	Door frame column tube	1	1/1
14A	<u>() 0 9</u>	Door frame column tube	1	1/1
15	[ <del>6</del> 8]	Door horizontal tube	4	1/1
16		Expansion bolt M12x100mm (head diameter 14)	38	1/1
17		Hex bolt M10x60mm	76	1/1
18		Mushroom head hexagon socket head bolt M6x60mm	25	1/1
18A		Mushroom head hexagon socket head bolt M6x50mm	8	1/1
19		Hex bolt M8x20mm	38	1/1

19A		Hex bolt M8x80mm	4	1/1
19B		Hex bolt M8x50mm	10	1/1
19C	Ś	Hex bolt M6x80mm	2	1/1
20		Door cover	1	1/1
21		Water plug	2	1/1
21A		Water plug	4	1/1
21B		Water plug	10	1/1
22		Top cover	1	1/1
23		Front cover panel	1	1/1
23A		Rear cover panel	1	1/1
24		Braided rope	1 bundle	1/1
25		Allen key	1	1/1
26		Scratch resistant tape	1	1/1

- Mark the ground in the final building location with a line showing the positions of base plates, front, and rear doors. All lines should be drawn from center to center of all baseplate tubes. Diagonal line X must be equal to Y.
- Baseplates: all baseplates must be installed firmly with expansion bolts (#16) on this step (refer to figure 1).
- Parts used in this step :
  - (4) Baseplate (#5L,#5R)
  - (6) Baseplate (#7)
  - (2) Baseplate (#6)
  - (38) Expansion bolt (#16)
  - (2) Baseplate (#6A)



Figure 1

#### **Step 2 : Assemble all trusses**

- The building includes 5 trusses : (1) front truss, (1) rear truss, and (3) middle trusses. The front and the rear truss are to install with the fabric panel (#23 and #23A).
- Parts used to install the front truss in this step (refer to figure 2) :
  - (1) Peak arch tube (#1)
  - (2) Upper rafter tube (#2A)
  - (2) Shoulder tube (#3)
  - (2) Lower rafter tube (#4)
  - (10) Hex bolt (#17)
  - (2) Hex bolt (#19A)



Figure 2

- Parts used to install the rear truss in this step (refer to figure 3) :
  - (1) Peak arch tube (#1)
  - (2) Upper rafter tube (#2)
  - (2) Shoulder tube (#3)
  - (2) Lower rafter tube (#4)
  - (1) Ceiling cross bar (#11)
  - (10) Hex bolt (#17)
  - (2) Hex bolt (#19)
  - (2) Hex bolt (#19A)





- Parts used to install (3) middle trusses in this step (refer to figure 4).
  - (1x3) Peak arch tube (#1)
  - (2x3) Upper rafter tube (#2)
  - (2x3) Shoulder tube (#3)
  - (2x3) Lower rafter tube (#4)
  - (1x3) Ceiling cross bar (#11)
  - (12x3) Hex bolt (#17)
  - (2x3) Hex bolt (#19)



• Lay down all (5) trusses on the ground as figure 5 when the assembly is all completed and before moving to next step (refer to figure 5).



#### Figure 5

#### **Step 3 : Put up the front (1st) truss**

- Use of a crane or forklift is recommended, otherwise a team can use ropes to lift the trusses, but you have to make sure it is safe, and have enough manpower. We recommend 3 to 5 people to pull the truss up from different directions. When the truss is up, tie the ropes to the heavy objects to make sure the truss will stay upright and use bolt (#17) to connect the truss to the baseplate on both sides (refer to Figure 6)
- Parts used in this step : (4) Hex bolt (#17)



## **Step 4 : Put up the rest trusses**

- Refer to Step 3 to put up the rest trusses, connect all purlins (#5) and (#5A) with bolt (#18) and bolt (#19) secure all bolts firmly on each span before going to next truss (refer to figure7).
- Parts used in this step:
  - (5x4) Roof purlin (#5)
  - (2x4) Roof purlin (#5A)
  - (4x4) Hex bolt (#17)
  - (5x5) Mushroom head hexagon socket head bolt (#18)
  - (16) Hex bolt (#19)



## Figure 7

## Step 5 : Install the diagonal bracing bars (#13)

- Connect diagonal bracing bar (#13) on the first and last span between the shoulder tube and lower rafter tube (#3 and #4) with tube clamp (#13A), use bolt (#19) (refer to figure 8).
- Parts used in this step :
  - (4) Diagonal bracing bar (#13)
  - (8) Tube clamp (#13A)
  - (8) Hex bolt (#19)



Figure 8

#### **Step 6 : Install the remaining parts on the front truss (refer to figure 9)**

- Parts used in this step :
  - (1) Door frame lower tube (#8)
  - (1) Door frame lower tube (#8B)
  - (2) Door frame lower tube (#8C)
  - (2) Door frame upper tube (#9)
  - (2) Door frame upper tube (#9B)
  - (4) Door frame horizontal tube (#10)
  - (1) Door frame cross pull tube (#11A)
  - (2) Bottom tension bar (#12)
  - (2) Bottom tension bar (#12A)
  - (2) Tube clamp (#13A)
  - (2) Tube clamp (#13B)
  - (4) Hex bolt (#19)
  - (6) Hex bolt (#19B)
  - (2) Hex bolt (#19C)
  - (2) Water plug (#21)
  - (4) Water plug (#21B)



- Assemble the sliding door. Fix the door column (#14) and (#14A) on the cross pull tube (#15) with bolts (#18A)( refer to figure 10).
- Parts used in this step :
  - (1) Door frame column tube (#14)
  - (1) Door frame column tube (#14A)
  - (4) Door horizontal tube (#15)
  - (8) Mushroom head hexagon socket head bolt (#18A)
  - (4) Water plug (#21A)



Figure 10

• Sliding door installation. The assembled door cover cloth (#20) of the sliding door cover is fixed on the door frame of the front truss through the hinge. (refer to figure 11)



Figure 11

- Step 7 : Install the remaining parts on the rear truss. (refer to figure 12)
- Parts used in this step :
  - (2) Door frame lower tube (#8A)
  - (2) Door frame middle tube (9A)
  - (3) Door frame horizontal tube (#10A)
  - (3) Bottom tension bar (#12B)
  - (2) Tube clamp (#13A)
  - (2) Hex bolt (#19)
  - (4) Hex bolt (#19B)
  - (6) Water plug (#21B)





#### Step 8 : Install front cover panel and sliding door

Note : Figure 13 is the inside view!

• Lift the fabric panel (#23), starting from the center point (the highest ridge point) of the frame, tie the panel firmly to the truss with a rope (#24) through the grommet, and then tie one end of (#24) to the truss. The woven fabric at the posts (#8) and (#8A) of the door frame is tension with velcro.





## **Step 9 : Install rear cover panel**

• Use rope (#24) to lift up the rear cover (#23A) from the center grommet and tie it firmly to the truss tube and spread toward both sides through each grommet along the tube (refer to figure 14).



Figure 14

# Step 10 : Install the top cover (#22)

Do not install the cover during windy weather!

- Unpack the top cover and place it along one of the long sides of the structure.
- Use 3 to 5 ropes (#24) to pull the cover over the top of the structure, 2 or 3 people standing inside on ladders to push upwards will help to move the cover smooth without any damage (refer to figure 15).



# Step 11 : Stretch and tighten top cover

- The roof cover must be stretched and tied to the front and rear truss by rope going through the flap grommets on the cover. Start from the top center and go toward both side on each end. Add or cut the rope as needed.
- Pull and stretch the cover enough only to take wrinkles out. Repeat for the rear truss. Do not over stretch as it could rip off the grommets (refer to figure 16)



#### Figure 16

#### After the Installation

Inspect the building periodically to make sure the parts are firmly fixed and the whole building is well supported. Check all bolts and hardware connectors to make sure they are in place and tightened. Check the base plates, adjust the ropes if necessary and clean the cover regularly.

Snow accumulating on the fabric cover must be removed as soon as possible. If the snow had become the solid ice on the cover, it would increase theburden of the roof and collapse the building eventually or reduce the life span.

Keep the building on a dry ground condition most of the time. Do not keep the fabric dirt skirt under water all the time, otherwise the fabric will deteriorate easily.

We strongly recommend you remove any snow from the roof immediately. Do not leave any snow load on the roof overnight. Keep 3 feet of clearance from both sides and two ends of the ground all the time. Do not allow snow to accumulate and pile up on both sides of the building. Otherwise the pressure from both sides will push toward the building and make it collapse eventually.