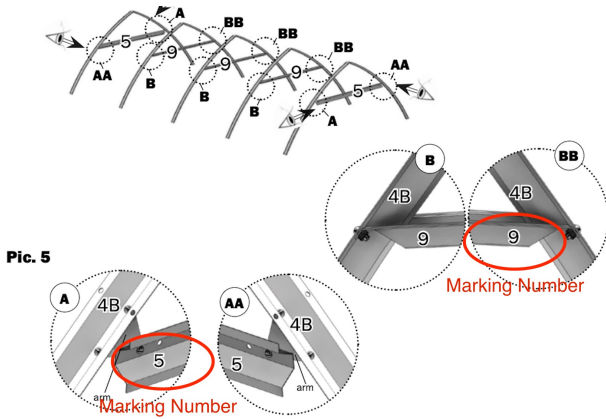


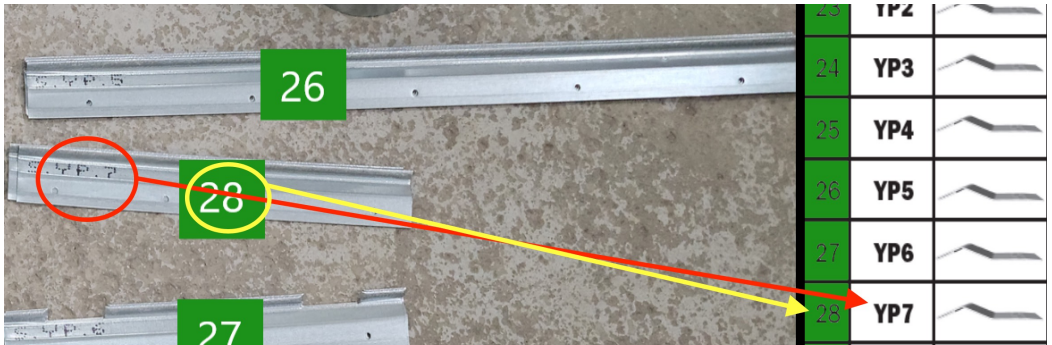
How to read?

We suggest print this manual out for reference.

Always refer to “Marking number” instead of number with green box when you read manual below.



“Marking numbers” that locate in the white column of breakdown. It also print on the parts of frame



The Number with green box to show you what is the parts looks like







www.divetogarden.com



Call 832-363-8000 if you don't know how to read this


Refer to Manual Page 3: Box No.1



Nº	marking	view	denomination	length, m, inch	q-ty, pcs
Box Nº1					
1	4H		Bottom arc	1.5 m 59.1 inch	6
2	4B		Upper arch	1.5 m 59.1 inch	6
3	8		Upper door opening stand	1.5 m 59.1 inch	4
4	12		Door vertical element	1.49 m 58.7 inch	2
5	12-1		Door vertical element for hinges	1.49 m 58.7 inch	2
6	PK		Profile	1.05 m 41.4 inch	4

Refer to Manual Page 3: Box No.2



Marking #		Box №2			
7	1		Stand	0.35 m 13.8 inch	10
8	3		Support	0.2 m 7.9 inch	10
9	5		Butt end upper strainer	1.22 m 48.0 inch	2
10	6		Butt end lower strainer	0.82 m 32.3 inch	2
11	6-1		Butt end lower strainer	1.02 m 40.2 inch	4
12	7		Bottom door opening stand	0.47 m 18.5 inch	4
13	9		Horizontal strainer	1.27 m 50.0 inch	1
14	10		Side brace	1.06 m 41.7 inch	4
15	11		Brace spreader	0.25 m 9.8 inch	2
16	13		Door horizontal part	0.67 m 26.4 inch	6
17	18		Reinforcement noggling piece	0.25 m 9.8 inch	2
18	21		Middle strainer	0.86 m 33.9 inch	4
19	-		End amplifier	0.74 m 29.1 inch	4
20	-		Ridge cover plate	1.14 m 44.9 inch	2
21	24		Strip	0.3 m 11.81 inch	4

Ignore “S3” on parts when you read breakdown

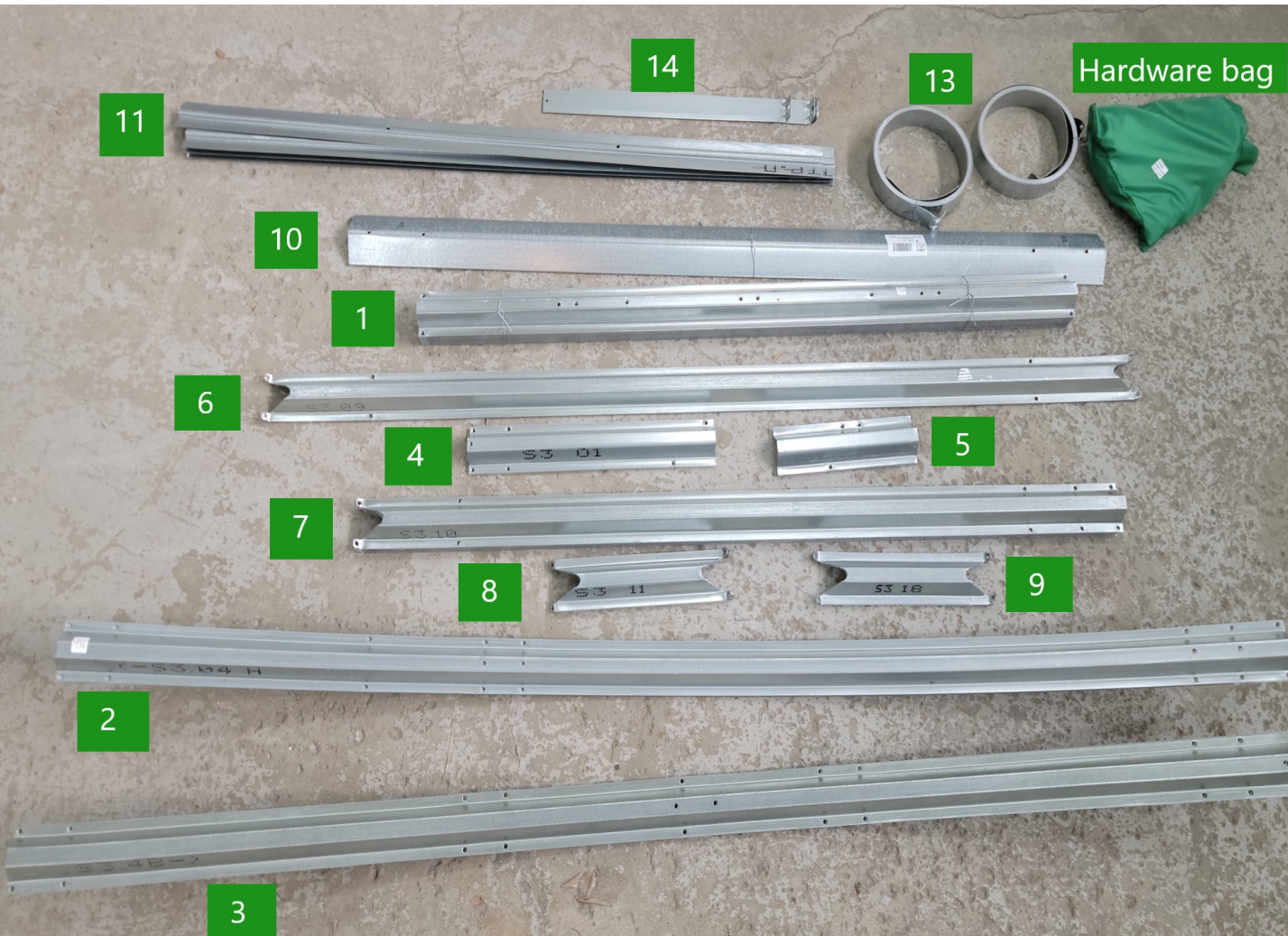
Refer to Manual Page 3: Box No.2 (Cont..)



Marking #		Box No.2			
20	-		Ridge cover plate	1.14 m 44.9 inch	2
21	24		Strip	0.3 m 11.81 inch	4
22	YP1		Door lining	0.73 m 28.7 inch	2
23	YP2		Door lining	0.73 m 28.7 inch	2
24	YP3		Door lining	0.82 m 32.3 inch	2
25	YP4		Door lining	0.82 m 32.3 inch	2
26	YP5		Window lining	0.74 m 29.1 inch	4
27	YP6		Window lining	0.37 m 14.6 inch	2
28	YP7		Window lining	0.37 m 14.6 inch	2
29	-		Butt end strip	6 m 236.2 inch	2
30	-		Angle		8
31	-		Corner of arcs		3
32	-		Bracket		12
33	-		Plate		4
34	-		Plate		16
35	-		Angle bracket		10
36	-		Top metal fastening band		3
37	-		Bottom metal fastening band		6
38	-		Latch		4

Ignore "S" on parts when you read breakdown

Refer to Manual Page 4: Box Extension



Nº	marking	view	denomination	length, m, inch	q-ty, pcs
BOX EXTENSION					
1	2		Balk	0.96 m 37.8 inch	20
2	4H		Bottom arc	1.5 m 59.1 inch	4
3	4B		Upper arch	1.5 m 59.1 inch	4
4	1		Stand	0.35 m 13.8 inch	4
5	3		Support	0.2 m 7.9 inch	4
6	9		Horizontal strainer	1.27 m 50.0 inch	2
7	10		Side brace	1.06 m 41.7 inch	8
8	11		Brace spreader	0.25 m 9.8 inch	4
9	18		Reinforcement noggling piece	0.25 m 9.8 inch	4
10	-		Ridge cover plate	1.14 m 44.9 inch	2
11	P		Profile	1.0 m 39.4 inch	4
12	-		Corner of arcs		2
13	-		Top metal fastening band		2
14	-		Bottom metal fastening band		4
15	-		Angle bracket		4
16	-		Two-side adhesive tape		1

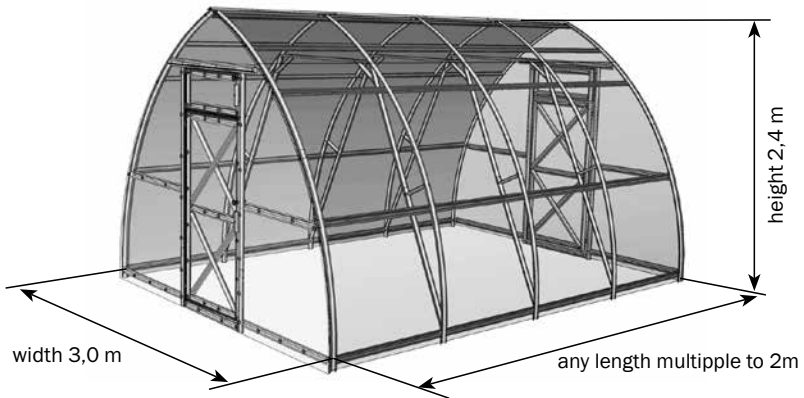
Ignore "S3" on parts when you read breakdown



Planta

GREENHOUSES

INSTALLATION INSTRUCTIONS SUNGROW SERIES



Technical certificate

page 2-5

Assembly manual

page 6-27





Perform installation and operation of the greenhouse in strict accordance with the manual and operating rules stated in the technical certificate. Please keep this technical certificate for further reference.

Description

This greenhouse is a compact and practical solution for creating a micro climate to garden flowers, fruits, or vegetables all season long. The height of installed frame is 2.4 m (8 ft.), width is 3.0 m (10 ft.). The basic length of the greenhouse is 2 m (6.5 ft.) which can be extended by purchasing additional length extensions adding increments of 2 m (6.5 ft.) (see table 1).

Table 1 Greenhouse specifications	
length, m	covered area, sqm
2	6
4	12
6	18
8	24

The greenhouse frame is made of zinc-coated iron and assembled with screws and nuts. The greenhouse is fixed to the ground by digging special supports into the soil or by joining them to a foundation slab with fastening hooks. The supply package includes everything you need for fastening the cover surfaces. The greenhouse has two door openings and two ventilating windows at opposite ends. Side ventilating windows and (cover surface 2 sheets) are not included in this kit and are available for purchase at www.plantagreenhouses.com

Table 2 Box completing				
greenhouse length, m	box №1	box №2	box №3	box Extension
2	+	+	+	
4	+	+	+	+
6	+	+	+	++
8	+	+	+	+++

Table 3 List of parts for Sungrow			
Nº	marking	name	quantity, pcs
Box №1			
1	4H	lower arch	6
2	4B	upper arch	6
3	8	upper door opening stand	4
4	12	door vertical part	4
5	-	profile L=1,05 m	4
Box №2			
1	1	stand	10
2	3	support	10
3	5	butt end upper strainer	2
4	6	butt end lower strainer	2
5	6K	butt end lower strainer	4
6	7	lower door opening stand	4
7	9	horizontal strainer	1
8	10	side brace	4
9	11	brace spreader	2
10	13	door horizontal part	6
11	16	butt end strap	2
12	17	door strap for the latch	4
13	18	reinforcement nogging piece	2
14	21	middle strainer	4
15	-	end reinforcement	4
16	-	ridge profile	2
17	-	hinge strip L=3,6 m	1
18	-	roof strip L=10 m	1
19	-	butt end strip L=6 m	2
20	-	angle	16
21	-	ridge cover plate	3
22	-	arm	12
23	-	support hook M4x10	8
24	-	screw M5x10	372
25	-	screw M5x14	22
26	-	screw M5x35	120
27	-	screw M4x35	8
28	-	bolt M5x50	12
29	-	bolt M6x60	6
30	-	self-tapping screw	6
31	-	nut M4	16
32	-	nut M5	526
33	-	nut M6	6
34	-	washer	132
35	-	washer 6	12
36	-	top wire bandage	3
37	-	bottom wire bandage	6
38	-	hinges	8
39	-	semifinished rotator (with two elastic headers)	4
40	-	bending tube	1
41	-	adhesive tape	1
42	-	handle	8
43	-	pin	4
44	-	two-side adhesive tape L=5 m	1
Box №3			
1	2	beam	20
2	14	door diagonal part	4
3	15	door diagonal strap	4
4	19	ventilating window horizontal part	4
5	20	ventilating window vertical part	4
6	-	hooks	4

Sungrow polycarbonate walls

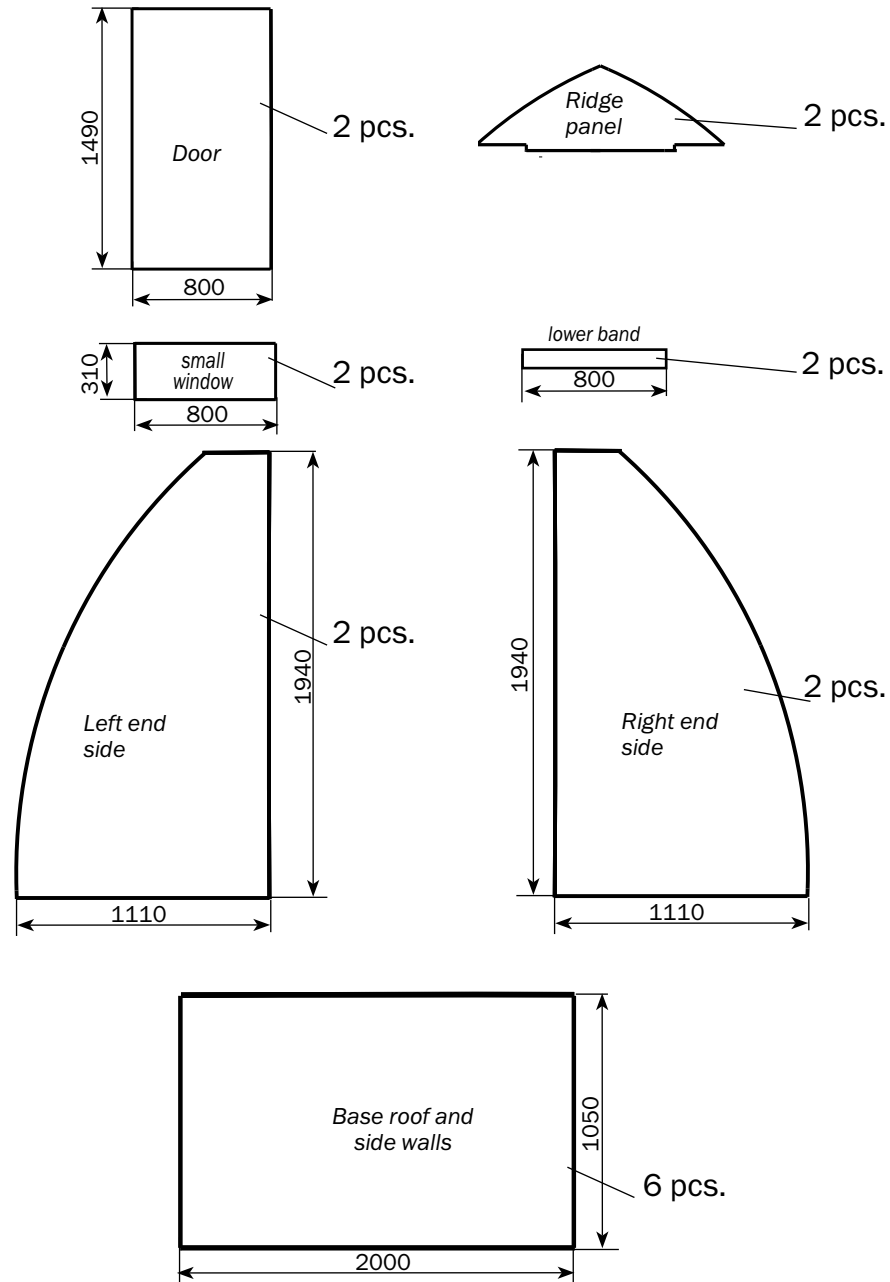
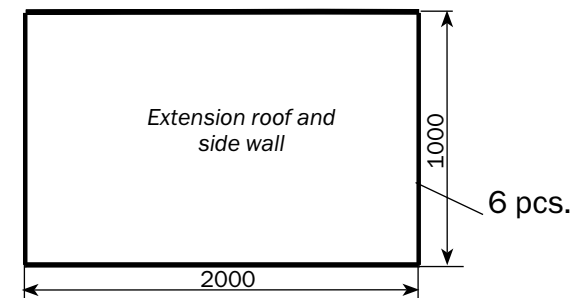



Table 4 Detailed list of parts for extension			
№	marking	name	quantity, pcs
Box №1			
1	2	beam	20
2	3	support	4
3	1	stand	4
4	4H	bottom arc	4
5	4B	top arc	4
6	9	horizontal strainer	2
7	10	side brace	8
8	11	brace strut liner	4
9	18	stiffening boom	4
10	-	ridge profile	2
11	-	ridge cover plate	2
12	-	bottom metal fastening band	4
13	-	top metal fastening band	2
14	-	screw M5x10	172
15	-	screw M5x14	4
16	-	screw M5x35	16
17	-	screw M4x10	4
18	-	screw M4x35	8
19	-	nutM4	12
20	-	nut M5	192
21	-	nut M6	4
22	-	washer	16
23	-	washer 6	8
24	-	boltM6x60	4
25	-	profile L=1,0 m	4
26	-	double sided tape L=5 m	1





Operating rules

1. Before use of greenhouse, assemble and install it in accordance with the manual.

2. During winter months, coverage of greenhouse should not be removed provided that snow load is less than the maximum allowable values below. Should greenhouse be unattended all winter, buyer should either remove the coverage or estimate possible snow load. Ultimate load for the frame having complete package with installed drawbars and side braces should remain under 360 kg snow cover per 1 m² of horizontal ground surface corresponding to 1.8 m fresh snow layer or 0.9 m packed snow layer. Recommended 4 mm thick polycarbonate is enough for most Canadian and US regions.

 When installing the greenhouse by third parties, buyer should supervise compliance of installation with the manual

 Do not install greenhouse close to buildings and trees from which snow or ice can fall down. Minimal 2 m distance is recommended

 Maximum wind pressure for this greenhouse is 25m/sec

Cleaning and washing sheets of polycarbonate

- 1.** Rinse the sheet with warm water.
- 2.** Wash the sheet with a solution of soft soap or with a domestic detergent and warm water, using a soft rag or a sponge to take away the dirt.
- 3.** Rinse with cold water and dry with a soft rag to take away the water.



When cleaning polycarbonate sheets never use abrasives or high-alkaline cleaning substances. Dry wiping of the surface can damage the protective layer and reduce its life cycle. Never use brushes, gauze fabric or other abrasive materials to wipe the surface of polycarbonate sheets



For disinfection of the greenhouse from fungus and biological diseases pathogens do not use "sulphuric sticks"

Warranty information

Warranty responsibility

1. The manufacturer shall be responsible for the complete set of parts for the greenhouse frame.
2. The manufacturer shall be responsible for the greenhouse endurance in the specified weather conditions.
3. Time period for making claims is 24 months after the day of purchase.

Warranty provisions

Warranty responsibility shall not cover the following cases:

1. Installation of the greenhouse in violation of the manual provisions.
2. Violation of operation rules.
3. Unintended use of the greenhouse.
4. Deformation of the greenhouse due to soil movement.
5. Floods, hurricanes and other natural disasters.

Installation instructions for Sungrow models

introduction

1. General view of the frame is given in Picture 1. Parts should be installed in such a way that the narrow, sunk part of the profiles is facing inward and the wide side with flattened edges faces outward and comes in contact with the polycarbonate. The frame is assembled using the numbered parts.

2. Symbols:

→-arrow shows the direction of installation as per schemes in the manual.

Some parts may have spare holes which are there due to uniformity of parts



3. Parts are fastened by putting profiles together and fastening them with screws and nuts through the holes. When joining parts in “profile-to-profile” way it does not matter which of the joined parts is on top.

4. When assembling be careful not to damage the parts as they do not have sufficient endurance before the whole structure is assembled. Use supports (e.g. chairs) at interim stages of assembly to make sure the frame is lifted steadily and evenly. To make sure holes coincide when assembling complicated joints, use a 5 mm thick nail or a cone-shaped hand-punch.



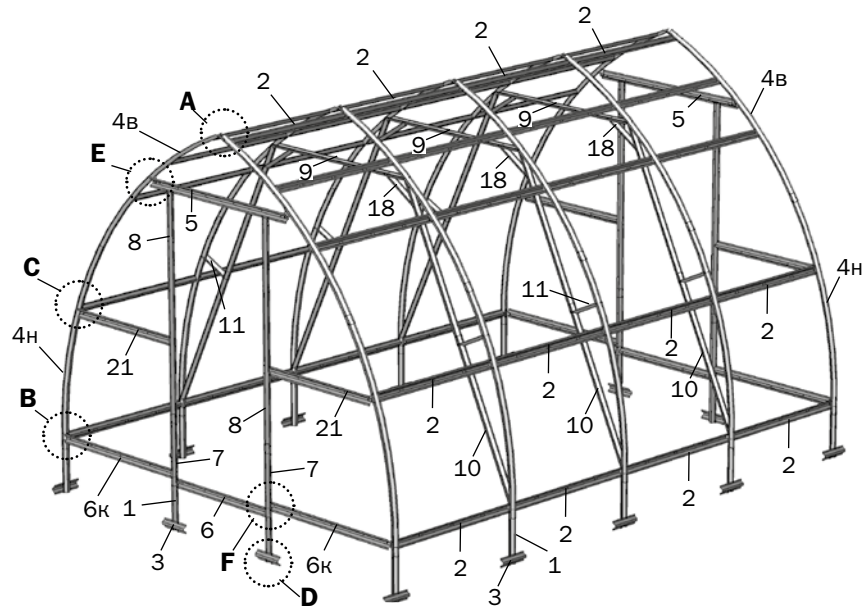
When assembling the frame parts should be joined through all holes as prescribed. A simplified fastening of the parts with only one or two screws is a violation of assembly rules and can serve as grounds to relieve the manufacturer of the warranty responsibility



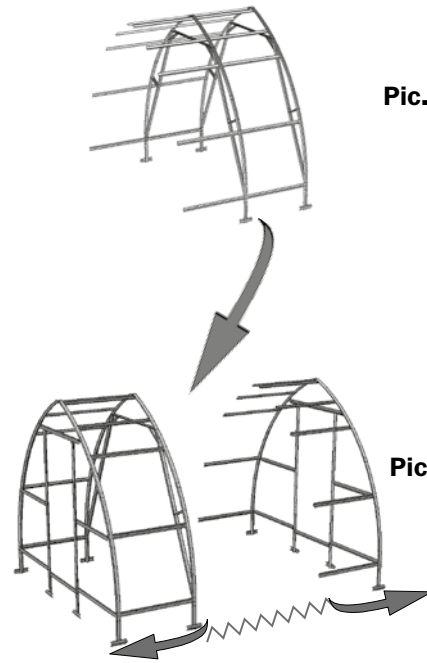
Be careful when assembling the greenhouse! Parts have sharp edges. Beware of cuts! Perform all works in protective gloves

General view of Sungrow greenhouse frame

General view of Sungrow greenhouse frame

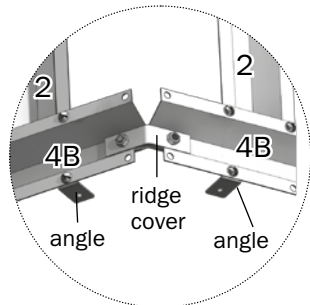


Pic. 1

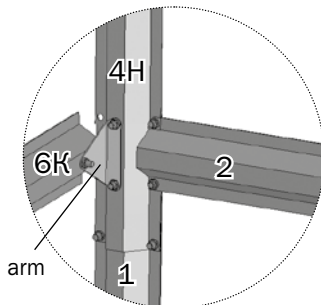


Pic. 2 General view of insert for greenhouse. Each insert extends greenhouse length by 2 meters (6.5 ft)

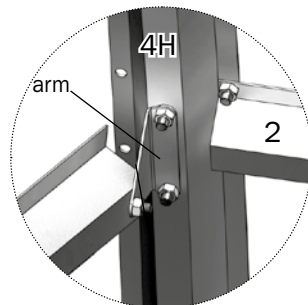
Pic. 3 Greenhouse could be extended by any number of inserts.



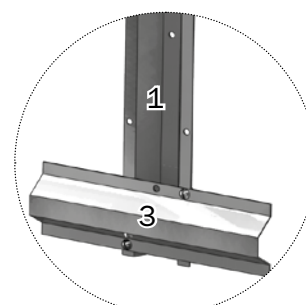
A (outside view)



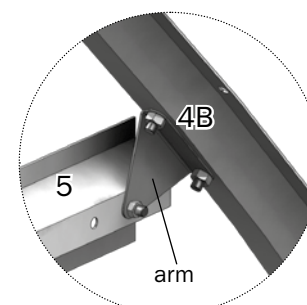
B (inside view)



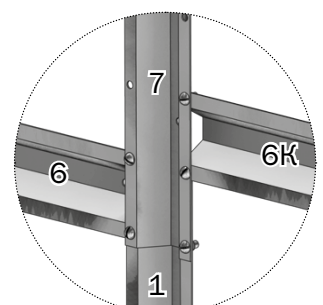
C (inside view)



D (outside view)



E (inside view)



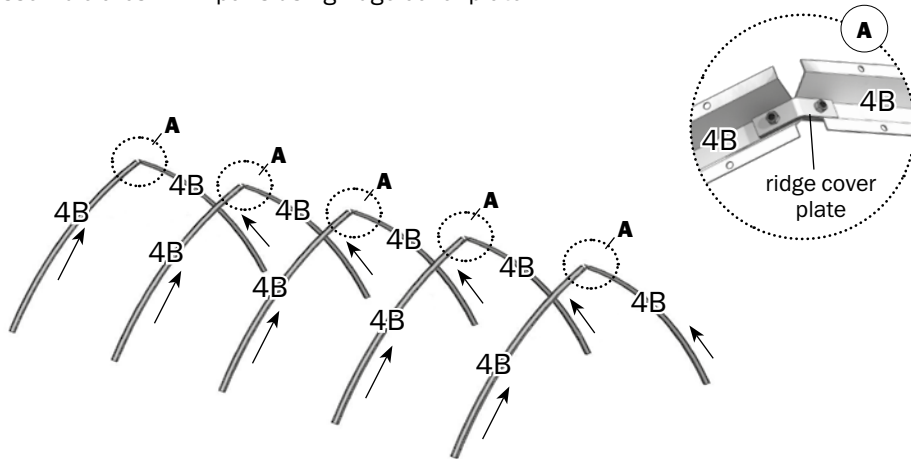
F (outside view)

Installation sequence

1. Assemble the greenhouse close to the desired installation site.
2. Install greenhouse in accordance with photographs of installation stages and units represented in **Pic. 4...12**. The figures show installation of greenhouse of 4 m length. Required length is reached using attachment of appropriate number of Insert packages. Use M5x10 screws for connection of elements.
3. Dig pits on the site selected for greenhouse installation at a depth of shovel blade. Install frame into the pits. Check equality of frame diagonals using a cord. Total draft of greenhouse into the ground should be so that bottom elements **6** of door opening touch the ground. Check equality of the diagonals using a cord again and correct position of the frame angles.
4. Level the frame using filling or deepening of pits to make longitudinal elements straight, horizontal and parallel to each other and to make arcs even at side view. If arc planes require leveling, loosen connections of beams with arcs, complete leveling on the ground and tighten screws again. Fill frame supports with soil after fastening bottom metal fastening band on element **3** (**Pic.10**)

Assembling stages

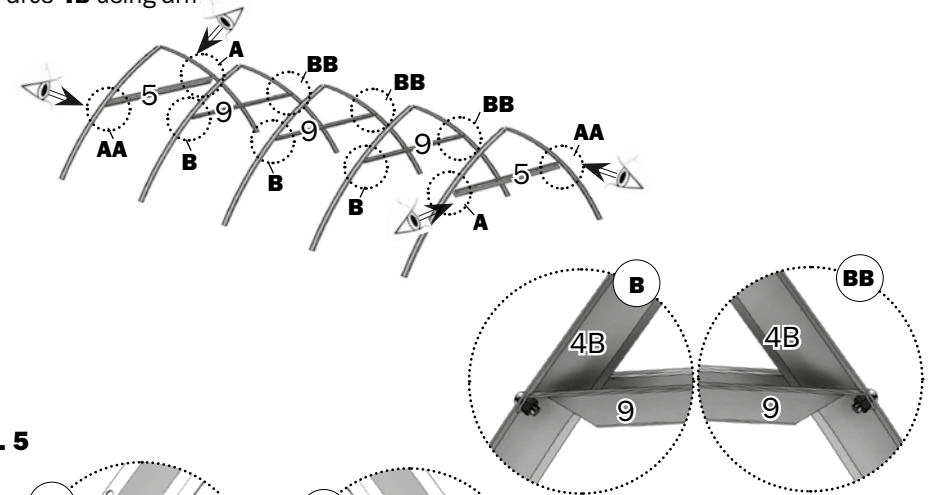
Assemble arcs **4B** in pairs using ridge cover plate.



Pic. 4

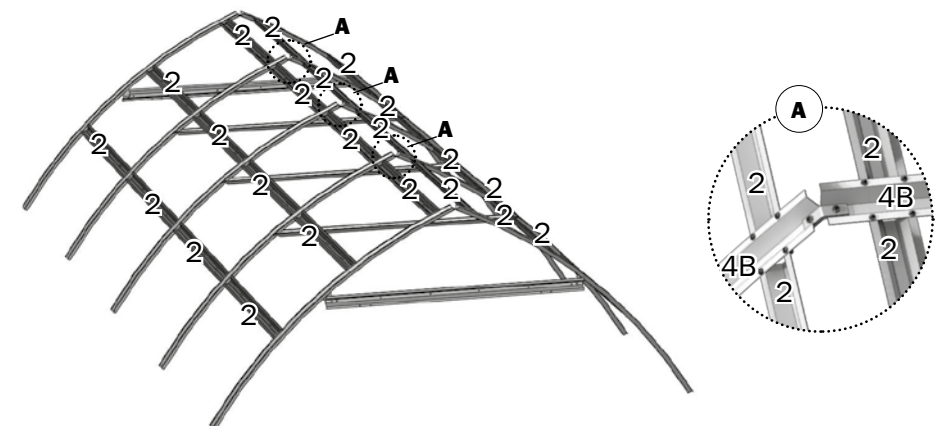
Assembling stages

Assemble arcs **4B** in pairs using ridge cover plate and strainer **9**. Connect end elements **5** to arcs **4B** using arm



Pic. 5

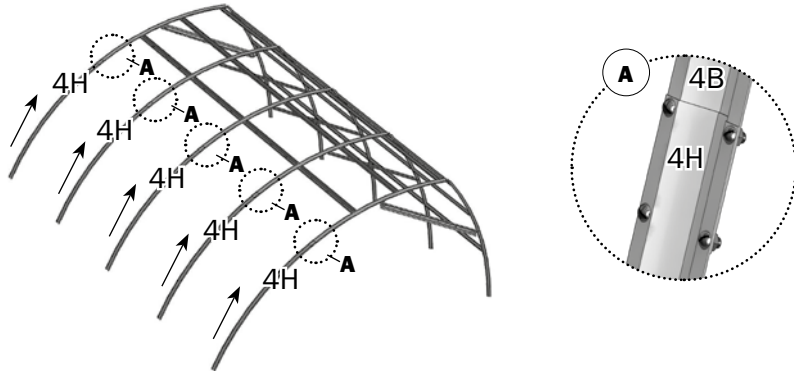
Connect beams **2** to assembled arcs.



Pic.6

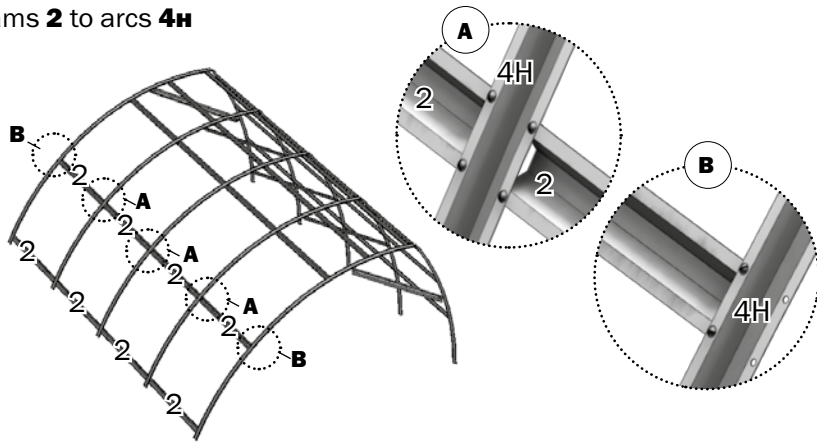
Assembling stages

Connect arcs **4H** to arcs **4B** from one side of greenhouse.



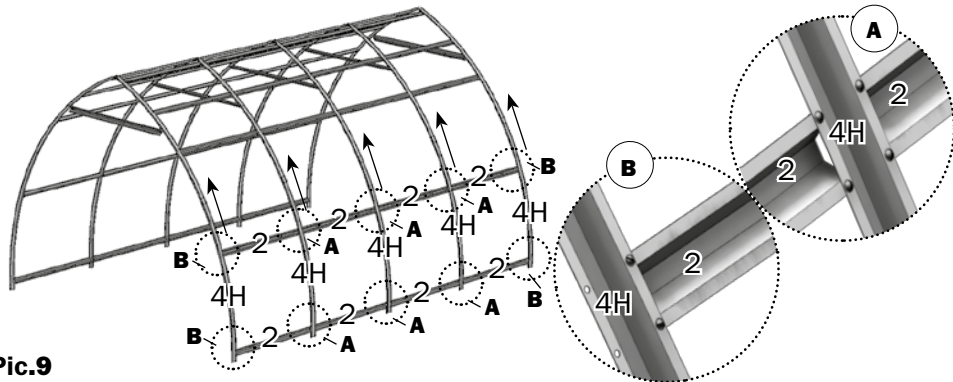
Pic. 7

Connect beams **2** to arcs **4H**



Pic. 8

Connect arcs **4H** and beams **2** from the other side of reenhouse in the same way.

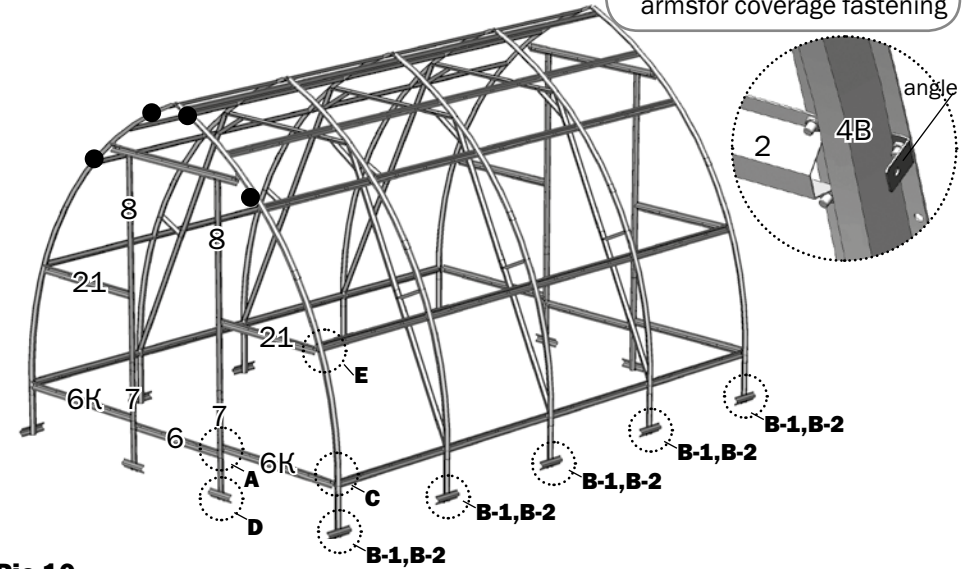


Pic.9

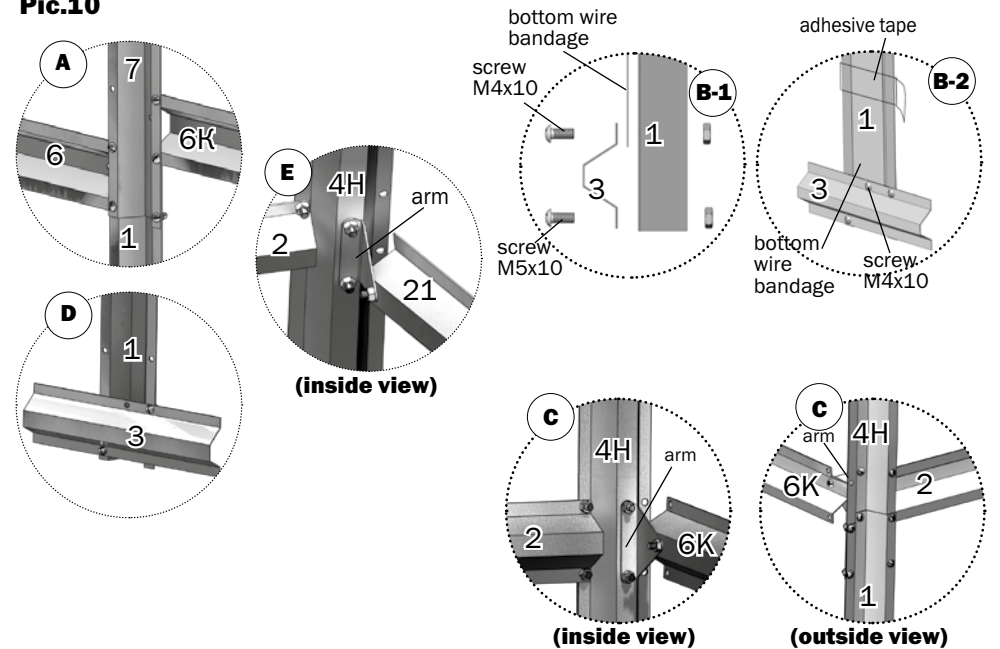
Assembling stages

When installing the greenhouse through digging (without foundation), connect elements **1** and **3** to the frame. Install end elements **6, 6k, 7, 8, 21**.

● - points for mounting of arms for coverage fastening

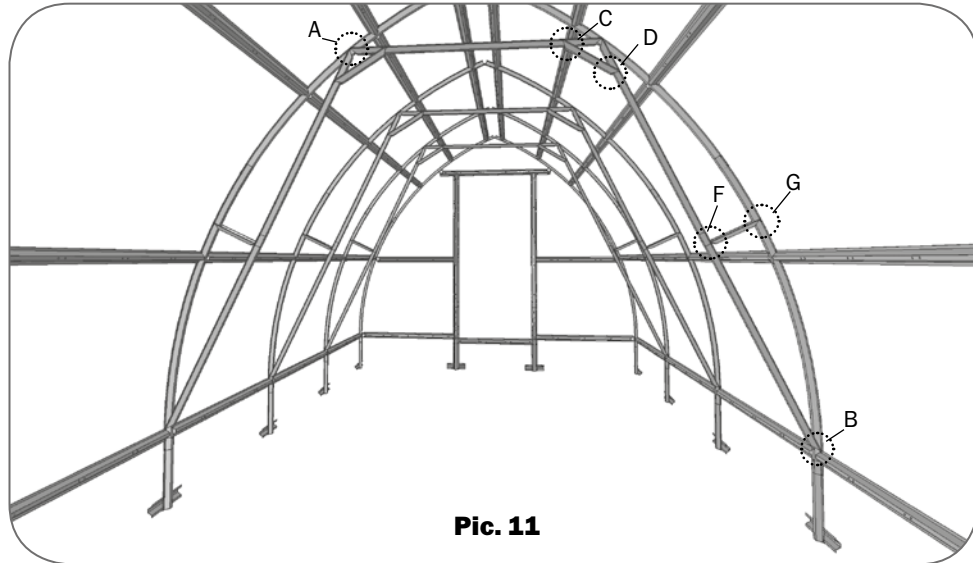


Pic.10

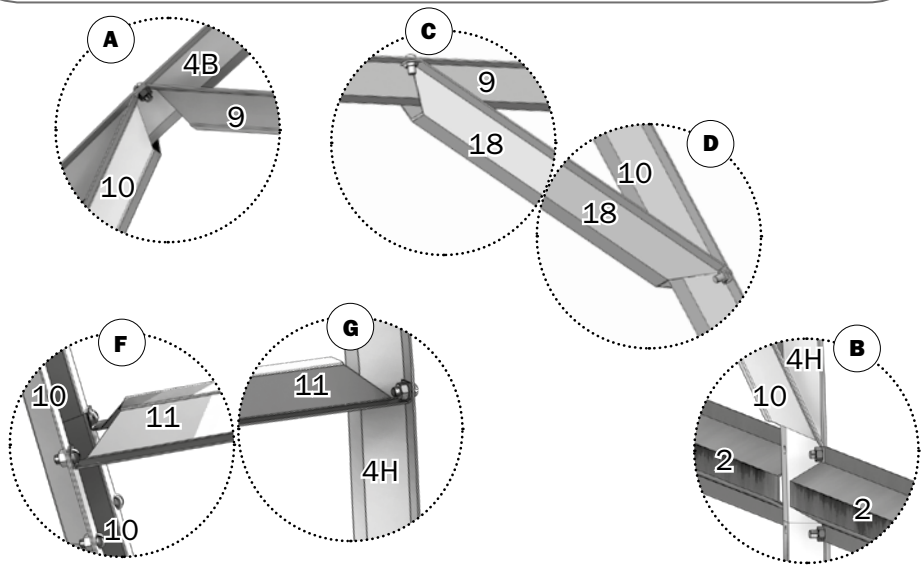


Assembling stages

Install side braces **10** on each arc inside of greenhouse frame. Assemble side brace assembled from two elements **10**. Mount side brace liner **11** on the joint of elements **10** and connect it to arc **4H**.

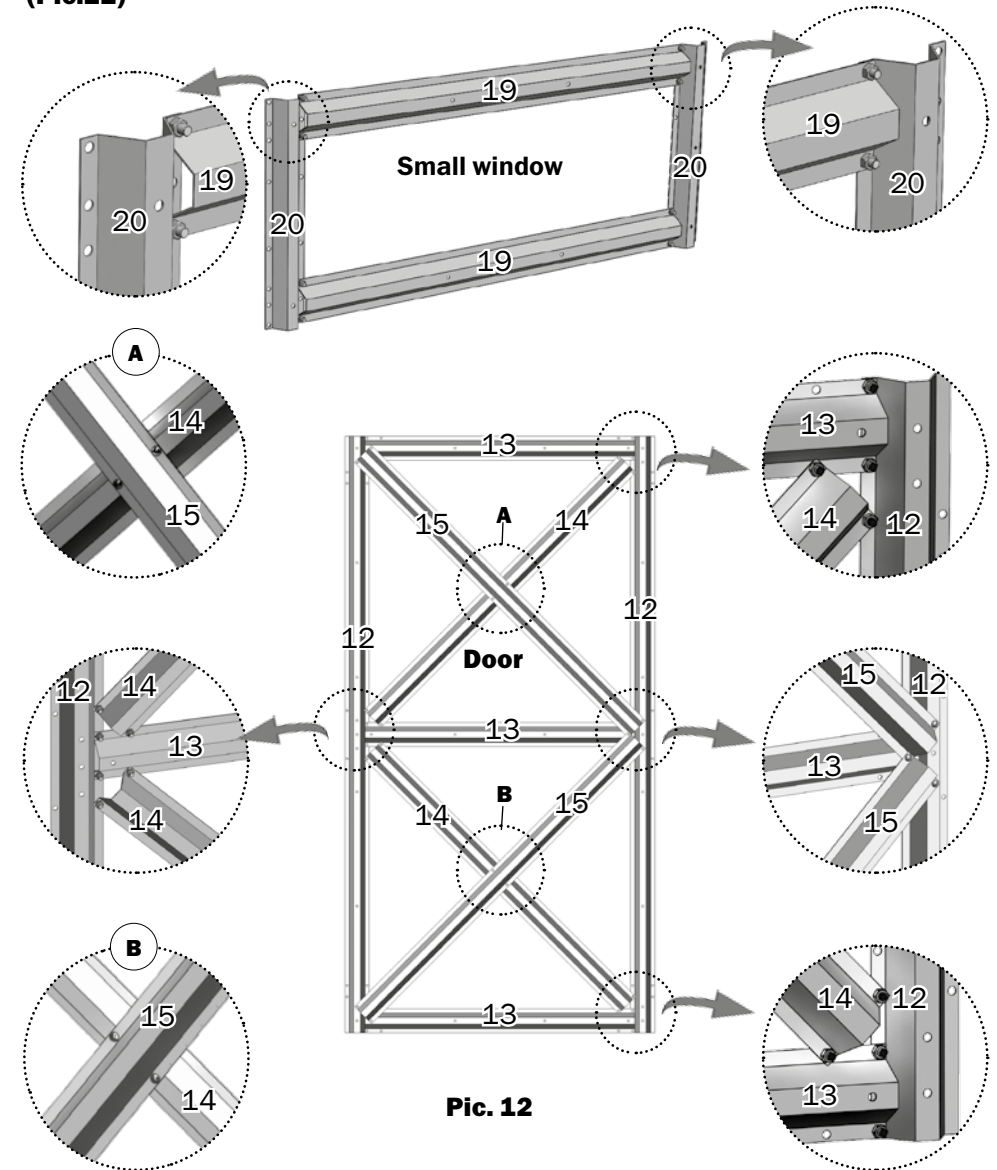


Pic. 11



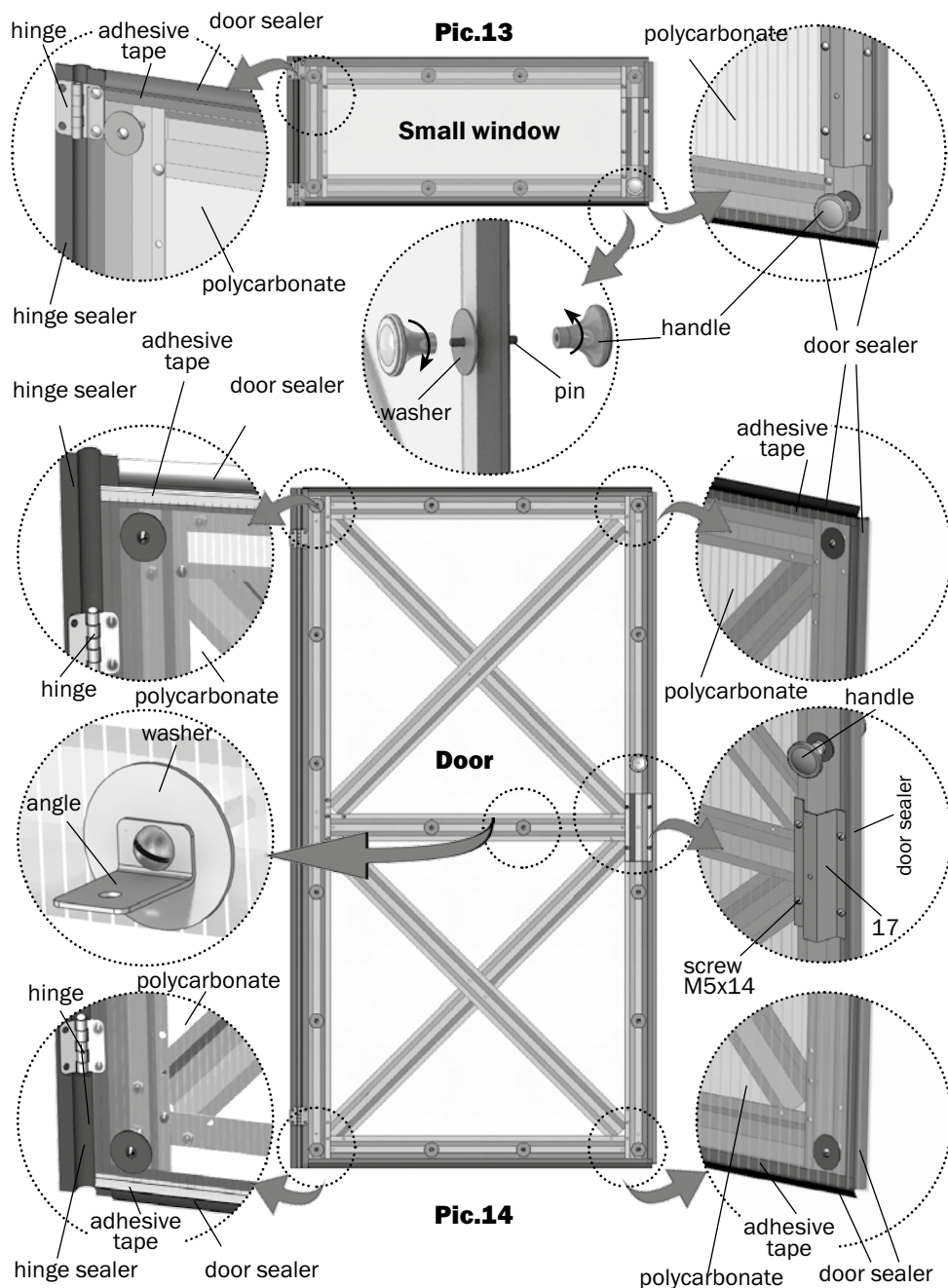
Assembled door and end small window

Assemble door and end small window from elements **12, 13, 14, 15, 19, 20** (**Pic.12**)



Pic. 12

Fastening of polycarbonate



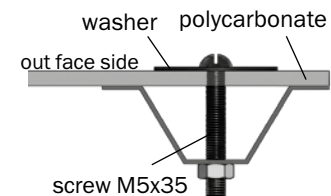
Pic.13

Door

Pic.14

Fastening of polycarbonate

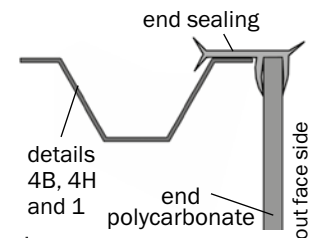
Mount side pieces of polycarbonate in accordance with **Pic.15**. Holding a piece of coverage, fasten it with screws and washers by elements **6к, 7, 8, 21** and by angles using tap screws with washers. Holes for screws are drilled by boring bit of 5 mm diameter from inside of greenhouse through holes in frame elements. Mount top pieces of polycarbonate fastening them on angles with washers and tap screws. Cut overlapping with side pieces.




Pic.15

Mount sealing profile in accordance with **Pic.16**.

Fasten pieces of polycarbonate on door and small window with washers (**Pic.13,14**). Fasten pieces of polycarbonate on door with washers (**Pic.20**), closing cellular beforehand (with adhesive tape). Mount sealing profiles along the door contour in accordance with **Pic.14,18,19**.



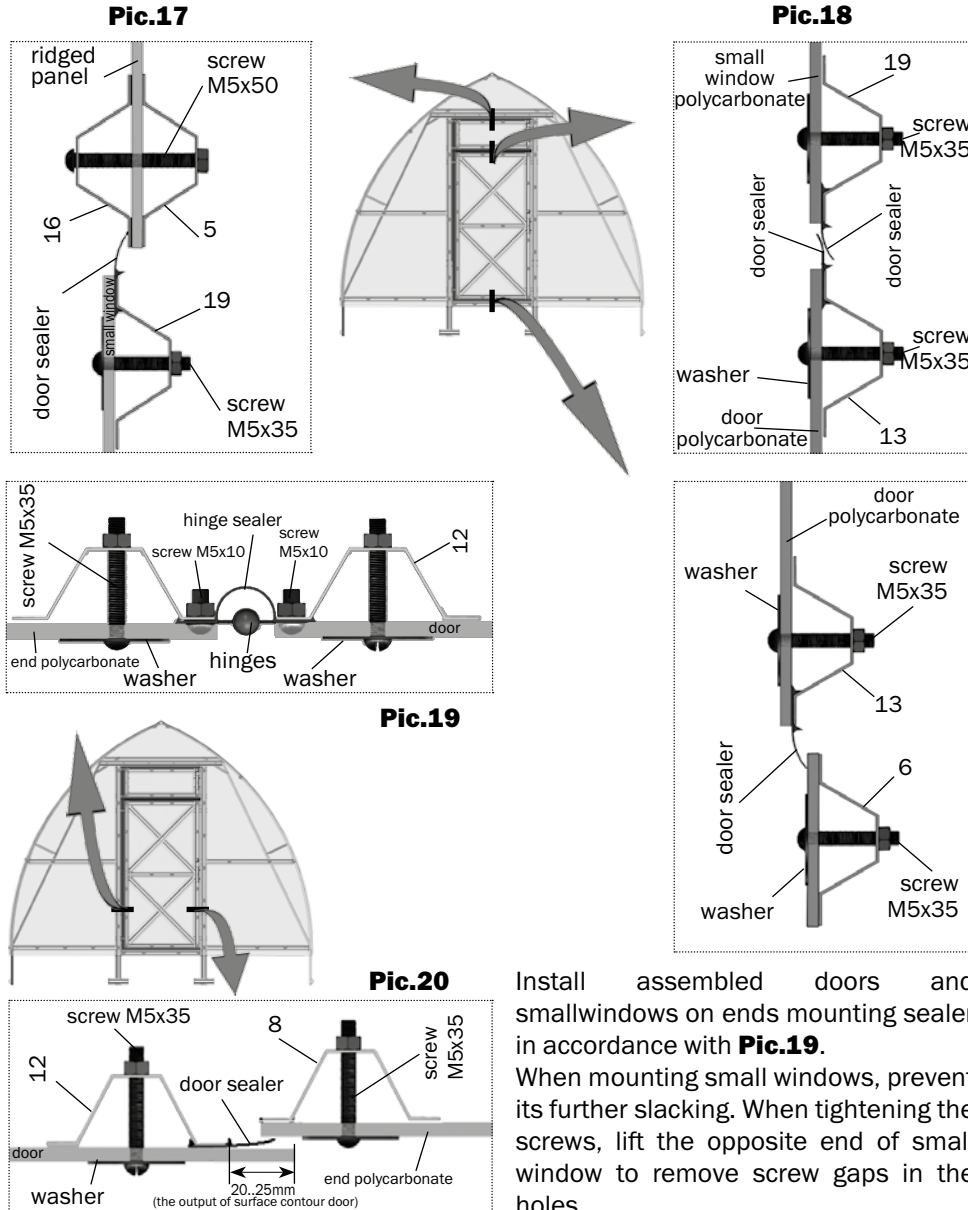
Pic.16



Avoid over-tightening screws that fasten the polycarbonate in order not to damage the polycarbonate sheet and destroy its structure

Fastening of polycarbonate

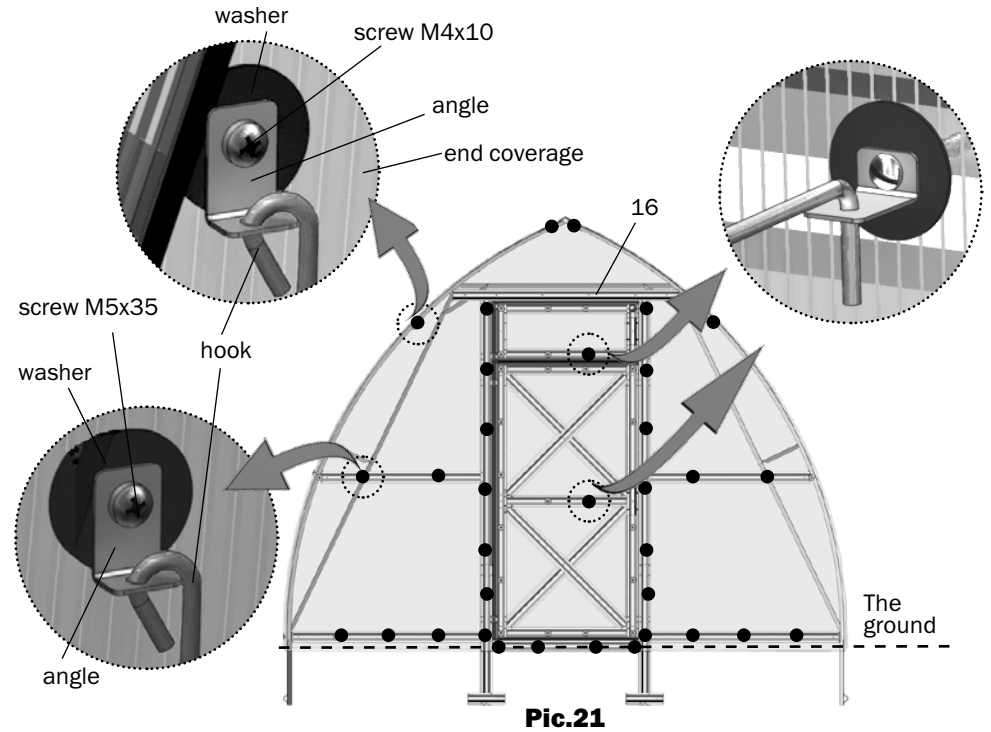
Mount end cover plate **16** on end polycarbonate and fasten it on element **5** through coverage (**Pic.17 and Pic.21**). Joint of end polycarbonate pieces is under element **16**.



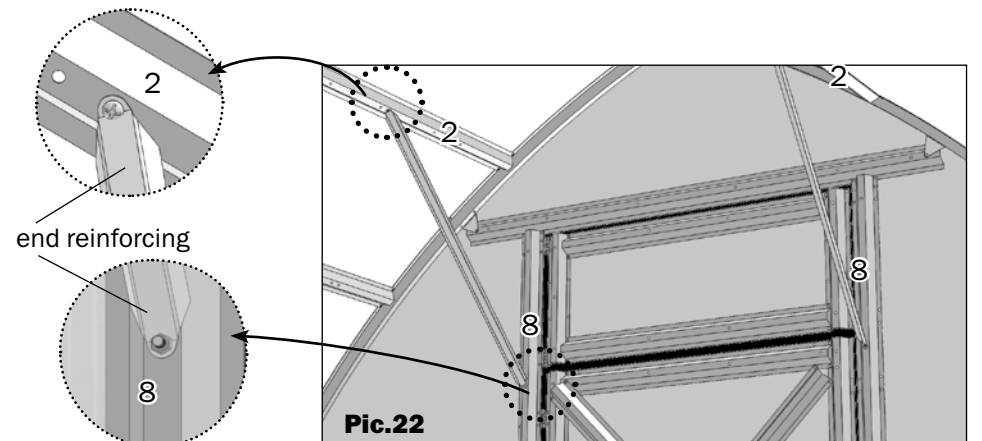
Install assembled doors and small windows on ends mounting sealer in accordance with **Pic.19**. When mounting small windows, prevent its further slacking. When tightening the screws, lift the opposite end of small window to remove screw gaps in the holes.

Fastening of polycarbonate

The washers and the hooks on the end install in accordance with **Pic.21**.



Install end reinforcing element door opening in accordance with **Pic.22**

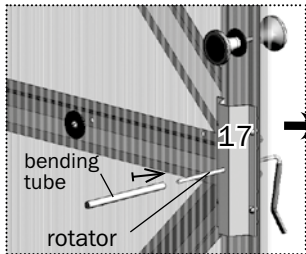


Fastening of polycarbonate

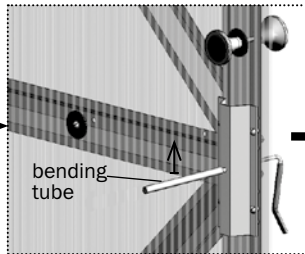
Insert wire rotator for door closing in free holes (against the stop) through elements **12** and **17** by straight end from inside (**Pic. 23**). In this position, use the tube to

bend linear part by hand into opposite outside of the greenhouse direction (**Pic. 24**). Set elastic header on the rotator (**Pic. 25**). This construction allows to push the door in

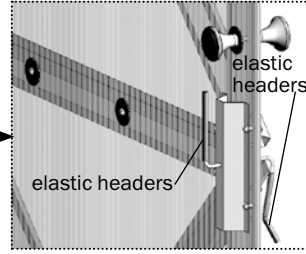
the closed position, being both outside and inside the greenhouse.



Pic.23

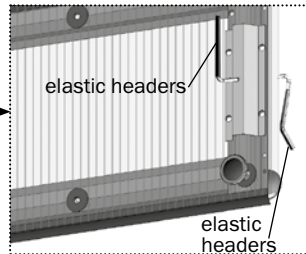
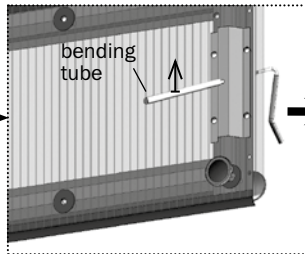
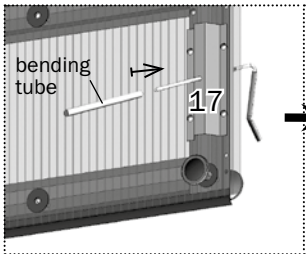


Pic.24



Pic.25

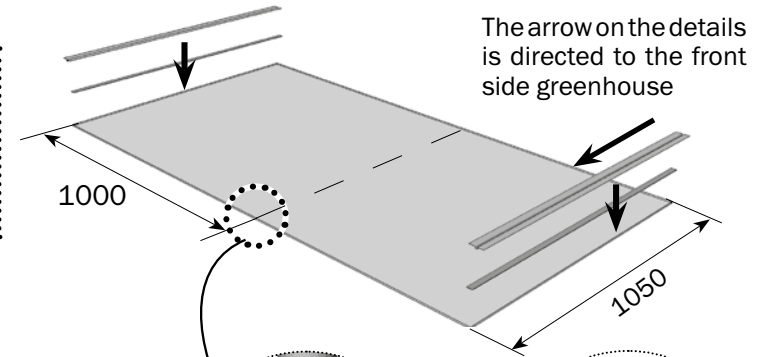
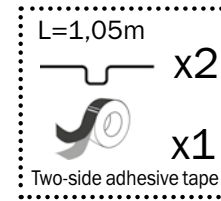
Wire rotator for small window locking is mounted like a door rotator.



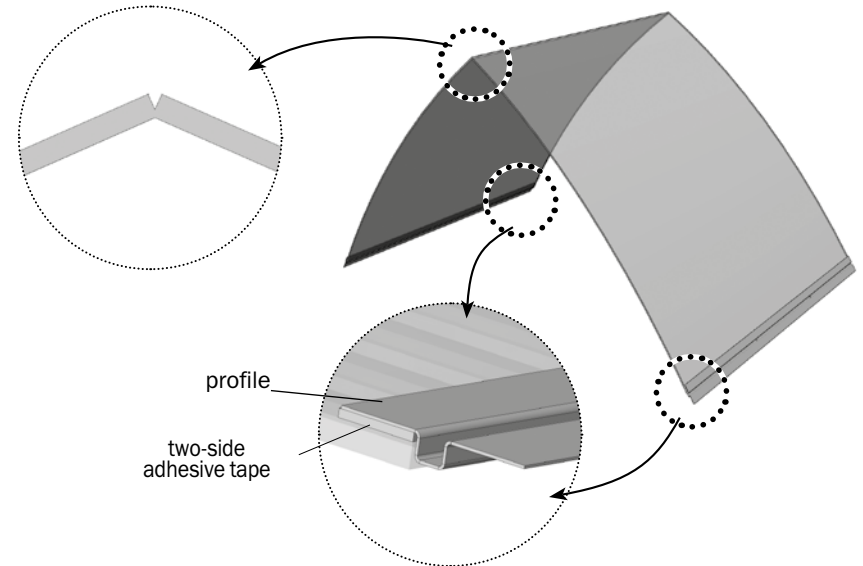
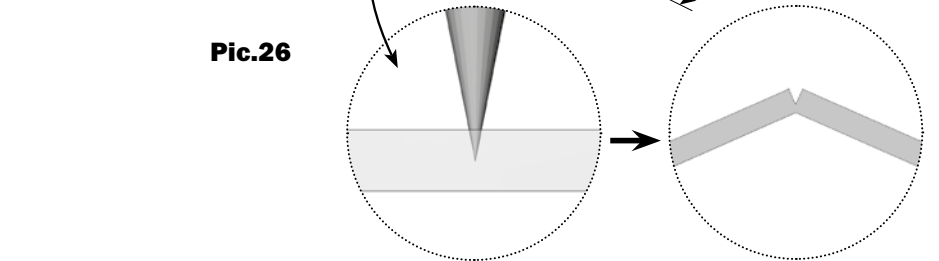
Fastening of polycarbonate



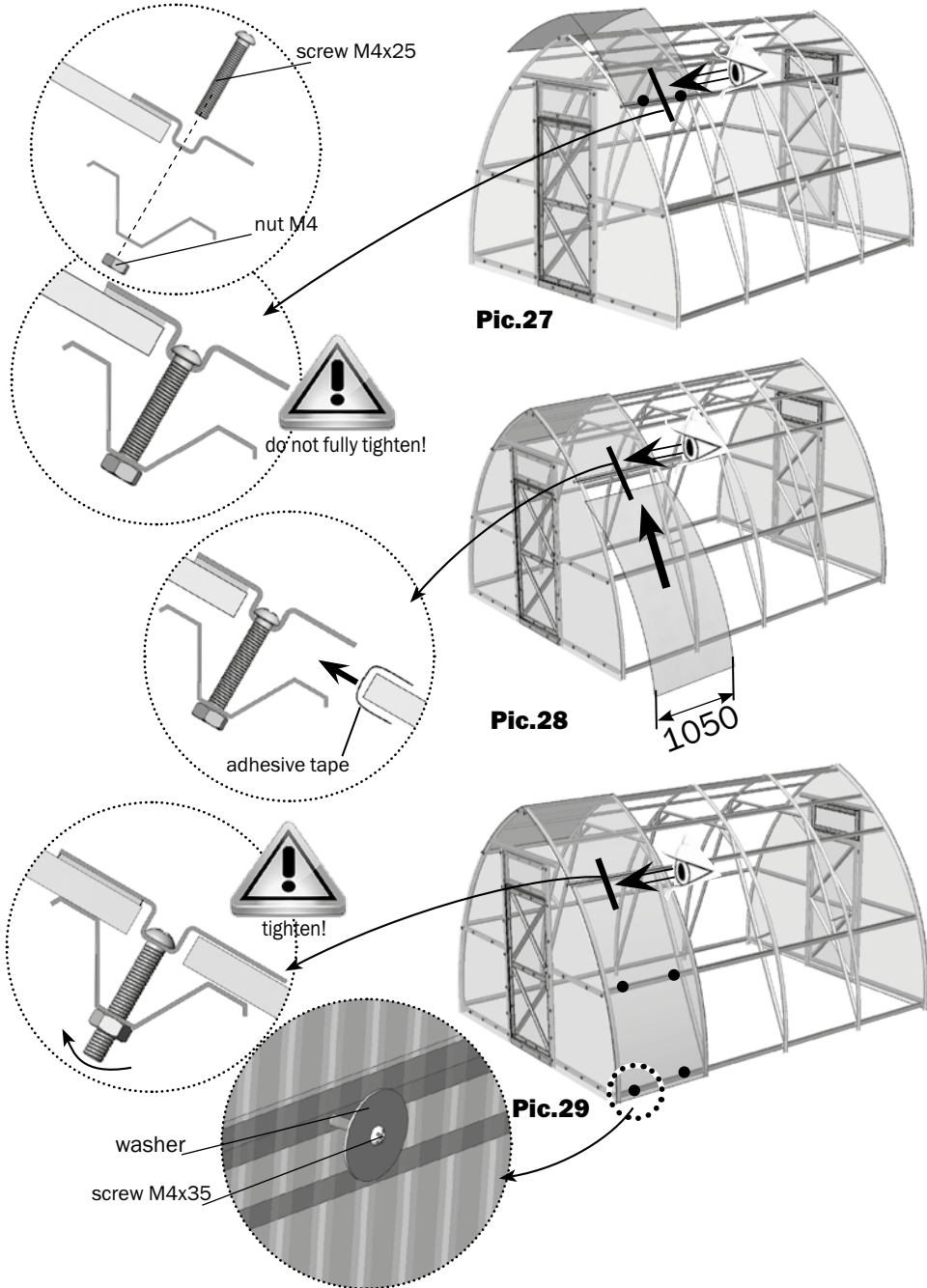
Before coating it is necessary to cut the outer surface of the upper polycarbonate sheet for bending on the ridge (middle of sheet)!



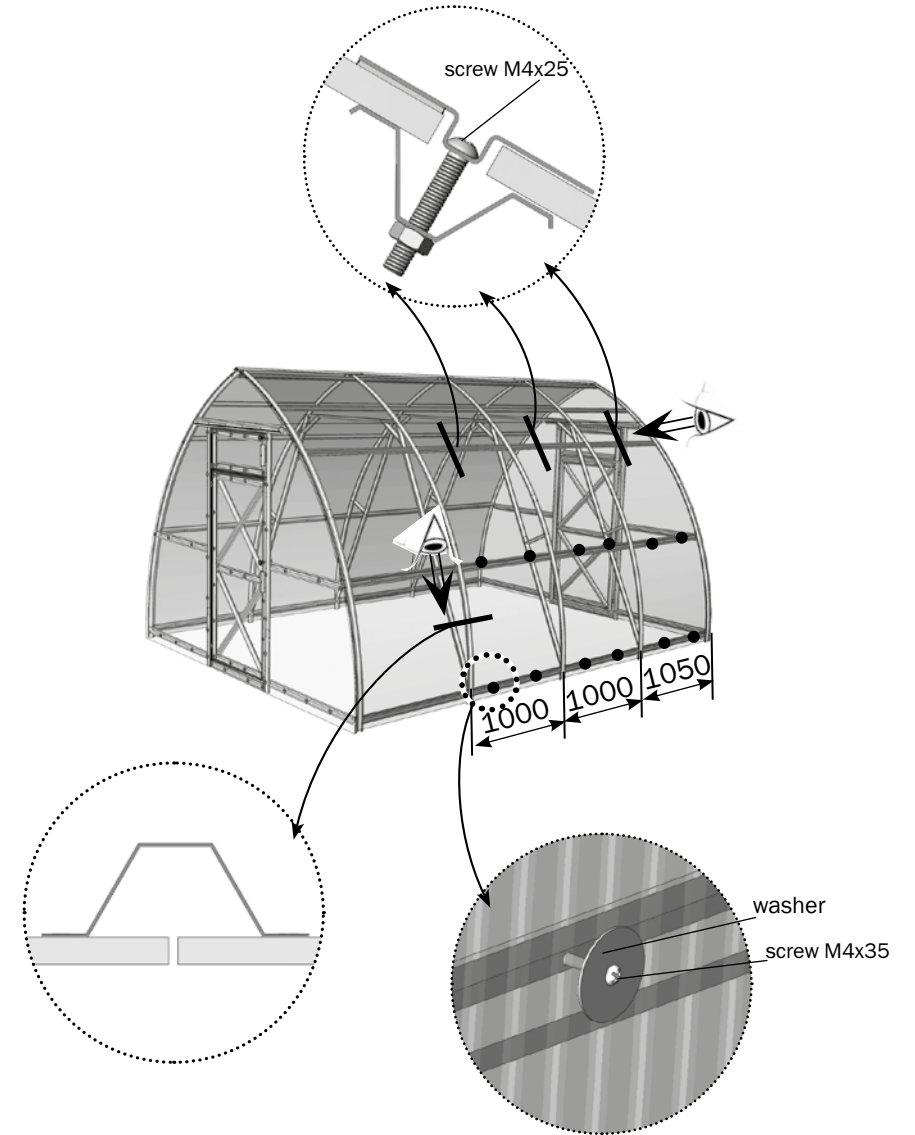
Pic.26



Fastening of polycarbonate

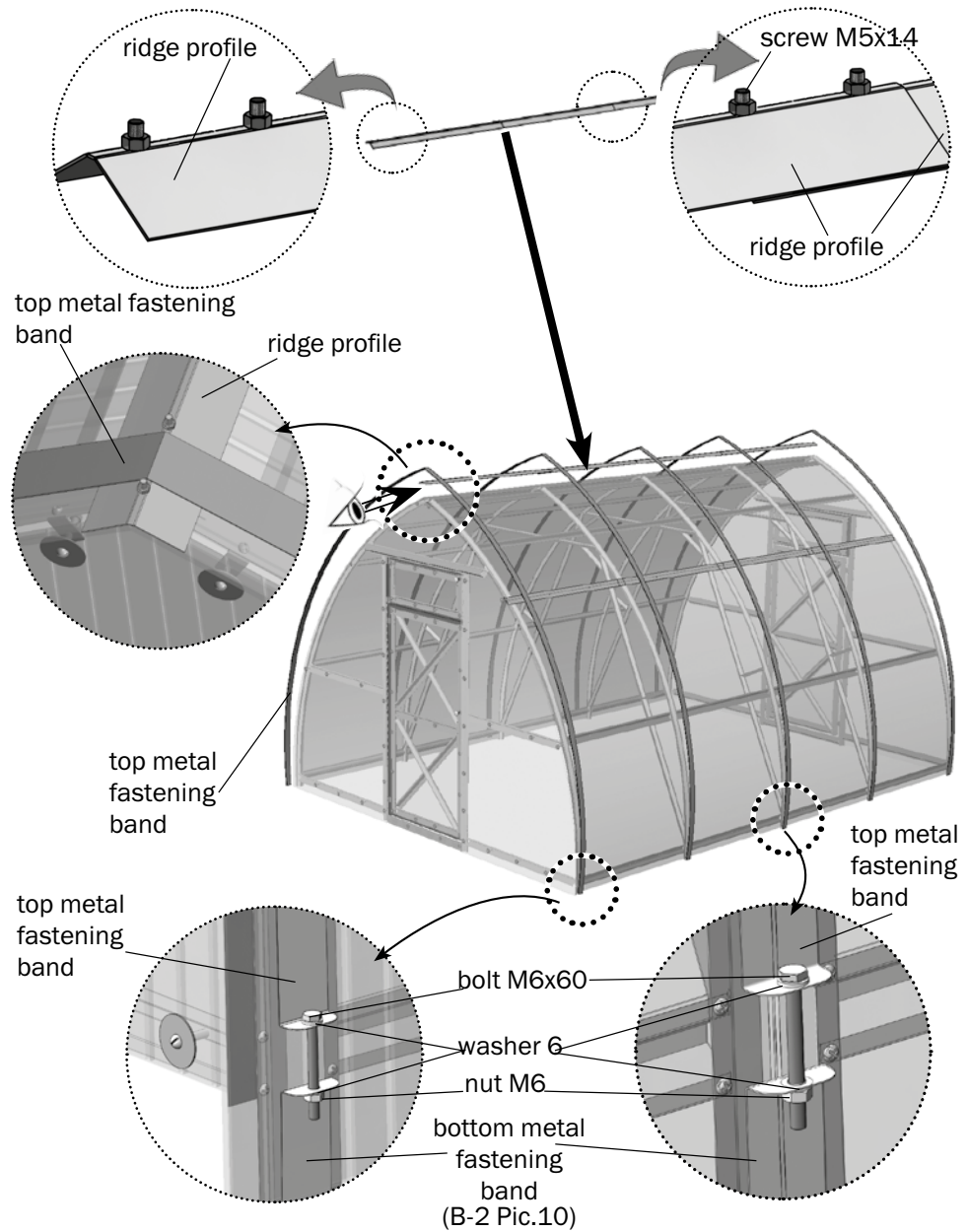


Fastening of polycarbonate



Fastening of polycarbonate

Details of ridge profile are joined in the length with the installation of the threaded end of the screws out.





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