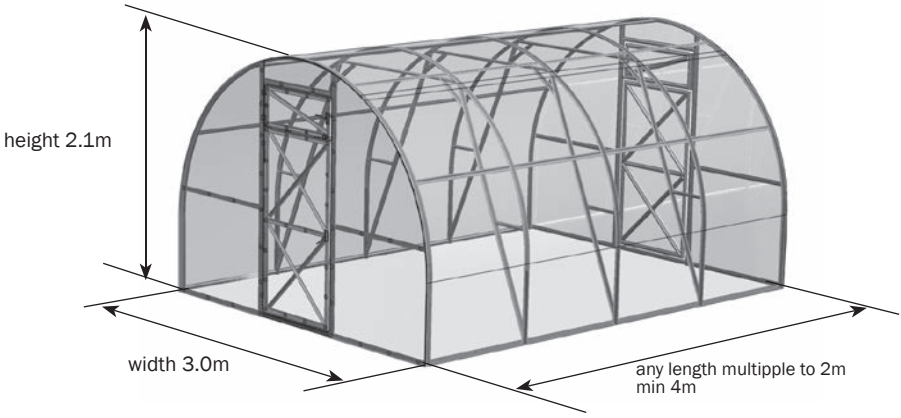
Сертифицировано
Русским Регистром

www.barney.dk

STRONG

honeycomb polycarbonate greenhouse



Perform assembling 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

Dachnaya Tryoshka greenhouse is designed for creation of microclimate favorable for growing garden crops on cottage and household plots. Area of covered ground depends on length of the greenhouse (table 1). Height of installed frame is 2.1 m, width is 3.0 m. The greenhouse may have various length depending on desire of buyer. Required length of greenhouse is provided by purchase of packages with extending inserts in addition to 4 m base length (table 2).

Table 1 **Greenhouse Sizes**

Greenhouse length, m	Covered ground area, m2	Quantity of polycarbonate sheets 2100x6000 mm (pcs)
4	**12**	**3**
6	**18**	**4**
8	**24**	**5**

Greenhouse is fixed on the ground by digging special frame endings or on fundament using cleater angles. Complete set includes all that is needed for fastening of coverage. Greenhouse may be completed with coverage on buyer's request. Greenhouse has two door openings and two small windows in opposite ends.

Table 2 **Completing with packages**

Green-house length	package number						
	№1	№2	№3	№4	№5	insert №1	insert №2
4м	+	+	+	+	+		
6м	+	+	+	+	+	+	+
8м	+	+	+	+	+	++	++

Table 3 **Contents of packages**

contents	dimensions, mm	weight, no more kg
frame (4 m base length)		
1 package - balks, straight elements and manual	106x1075x79	15,2
2 package - arc and end elements	275x1550x65	11,0
3 package - straight end elements, arc reinforcing elements	112x1415x65	25,0
4 package - fixtures and component parts	80x180x130	3,0
5 package - sealing profile		1,45
Insert (2 m frame elongation)		
1 package - balks, straight elements, fixtures	90x1405x65	13,7
2 package - arc elements	260x1550x65	5,0

Table 4

Dachnaya Tryoshka detailed parts list

marking	name	quantity (pcs)
1st package (balks and straight elements)		
2	balk	16
3	support	14
5	rotator cover plate	4
8	bottom end strainer	4
10	door opening strainer	4
11п	middle right end strainer	2
11л	middle left end strainer	2
12д	door vertical	8
13д	door horizontal	6
12ф	small window vertical	4
13ф	small window horizontal	4
14	small door diagonal	4
15	large door diagonal	4
16	small window diagonal	2
	hooks	4
2nd package (arc elements)		
4н	bottom arc	6
4в	top arc	3
4вк	top end arc	2
4нкп	right end bottom arc	2
4нкл	left end bottom arc	2
3rd package (straight end elements and arc reinforcing elements)		
1	stand	10
2в	top balk	12
9-1	bottom door opening stand	4
9-2л	left top door opening stand	2
9-2п	right top door opening stand	2
17	horizontal strainer	3
18	top brace strut	6
19	bottom brace strut	6
20	brace liner	6
21	stiffening boom	6
	tubular reinforcing element	4

Table 4 (continuation)

Dachnaya Tryoshka detailed parts list		
marking	**name**	**quantity (pcs)**
4th package (fixtures and component parts)		
	hook angle	8
	end angle	8
	screw M4x8	492
	screw M4x10	50
	screw M4x25	100
	screw M4x35	76
	self-tapping screw	6
	nut	718
	washer	188
	hinge	8
	rotator blank part (with two elastic headers)	4
	bending tube	1
	adhesive tape	1
	knob	8
	pin	4
	special wrench	1
5th package (sealing profile)		
	hinge profile (m) 	3,7
	3,7 door profile (m) 	10
	10 end profile (m) 	12

Table 5 Vstavka insert detailed parts list		
1st package		
1	stand	4
3	support	4
2в	top balk	6
2	balk	8
17	horizontal strainer	2
18	top brace strut	4
19	bottom brace strut	4
20	brace strut liner	4
21	stiffening boom	4
	screw M4x8	164
	screw M4x25	8
	screw M4x35	12
	nut	184
	washer	20
2nd package		
4н	bottom arc	4
4в	top arc	2

Operating rules

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

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

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

2. In winter, coverage of greenhouse should not be removed provided that snow load is limited. If greenhouse be unattended all winter period, 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 is 180 kg per 1 m2 corresponding to rated snow load of IV snow region (according to 2.01.07-85 Loads and Impacts building norms and rules (SNiP)). In case of correctly installed greenhouse manufacturer guarantees snow resistance of the greenhouse in Moscow, Sverdlovsk, Novosibirsk and other oblasts with snow region number not higher than IV. Under purchase clarify snow region where greenhouse is installed.

Cleaning and washing of polycarbonate sheets

1. Rinse sheet with warm water.

2. To remove dirt, wash it with mild soap solution or domestic detergent using a soft cloth or sponge.

3. To remove water, rinse the sheet with cold water and wipe with a soft cloth.

Never use abrasives or high-alkali detergents for cleaning polycarbonate sheets. Dry wiping damages protective layer of the coverage and shortens its service life. Never rub surface of polycarbonate sheets with a brush, metalized fabric or other abrasive materials.

Do not use sulphur cartridges for disinfecting greenhouse against fungal and bacterial agents in order to prevent corrosion (darkening) of frame.

Warranty

Warranty

1. Manufacturer is responsible for full completing frame elements of greenhouse.

2. Manufacturer is responsible for assemblability of the greenhouse in accordance with the manual.

3. Manufacturer is responsible for durability of the greenhouse under specified values of weather impact.

4. Warranty period – 12 months from date of purchase.

Warranty conditions

The warranty does not cover cases of:

1. Installation of greenhouse with violation of manual's requirements.

2. Violation of operating rules.

3. Unintended use of greenhouse.

4. Floods, hurricanes, other natural disasters.

Date of manufacture:

Manufacturer: Volya LLC
8 Severnyi Pereulok, Dubna, Moscow Oblast 141983
Manufacturer is responsible for quality of products in accordance with RF Civil Code.
Manufacturer reserves right to change design of greenhouse

Dachnaya Tryoshka greenhouse installation manual

Introduction

1. General view of frame is represented in Fig. 1. Install details in such a way to make profile side shelves facing coverage. Frame is constructed from numbered elements.

2. Legend, indices:
К - end (along the length of greenhouse);
Н - bottom;
В - top;
П - right;
Л - left;
Ф - small window;
Д - door;
→ - arrow indicates installation direction according to manuals' schemes.

Some elements have free holes resulted from elements' uniformity

Terminology:
Left side is from the left when standing outside of the greenhouse in front of the door.
Right Side is from the right when standing outside of the greenhouse in front of the door.

3. Connect elements using profiles, screws and nuts. When connecting elements by profile-in-profile method, no matter what the element is on top.

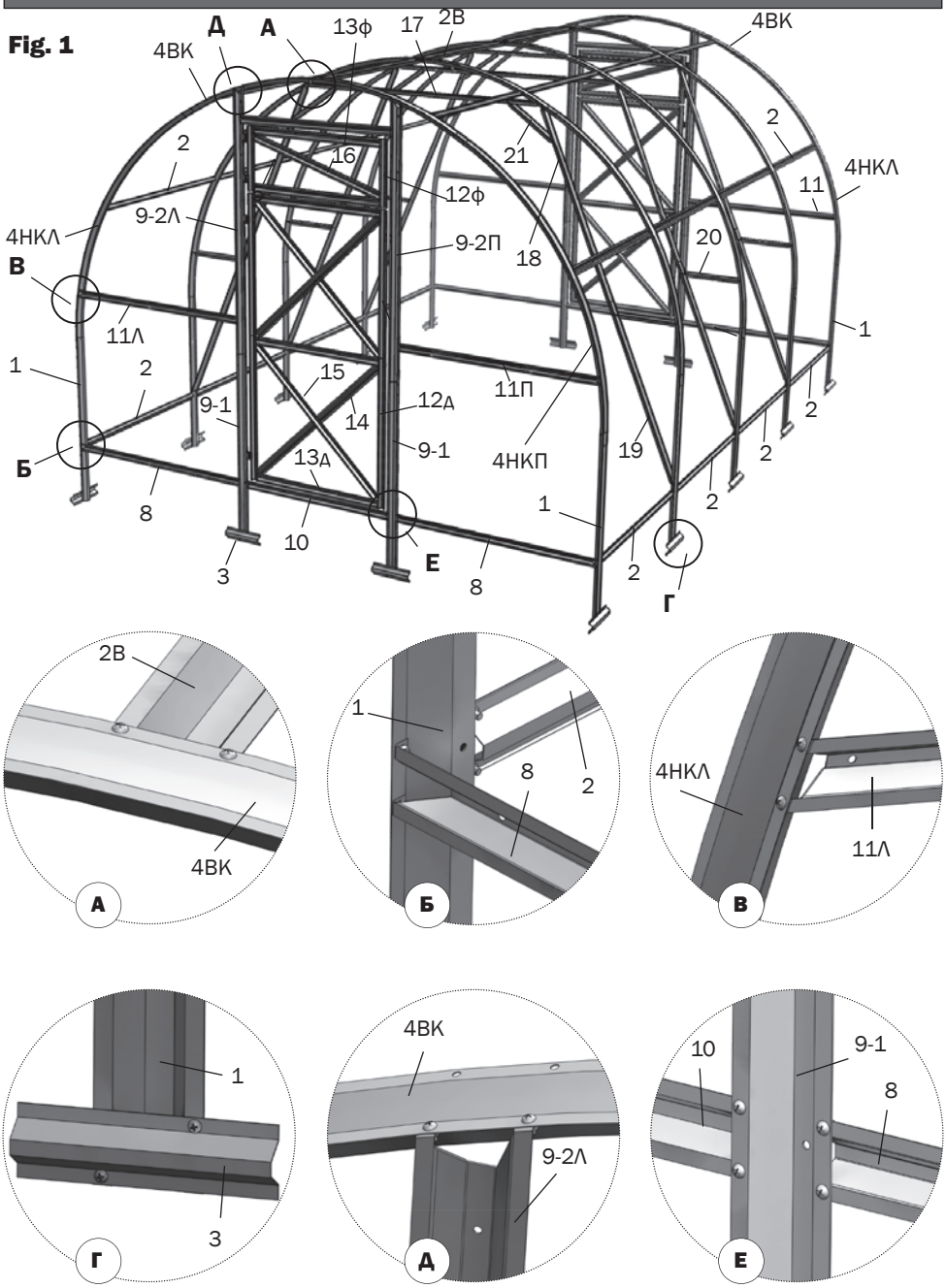
4. Be careful not to damage elements, because they don't have enough rigidity before final assembling. Use supports (for example, chairs) on temporary stages of assembling for uniform lifting of frame assembled. To coincide holes in complicated joints use a nail of 4 mm diameter or a drift pin with tapered end.

When assembling the frame, connect elements using all available holes. Simplified connection with one or two screws is a violation of assembling rules and a ground for warranty waiver.

Be careful! Elements have sharp angles. Guard against cutting! Work in safety gloves.

General view of Dachnaya Tryoshka greenhouse frame

Fig. 1



General view of Dachnaya Tryoshka greenhouse frame

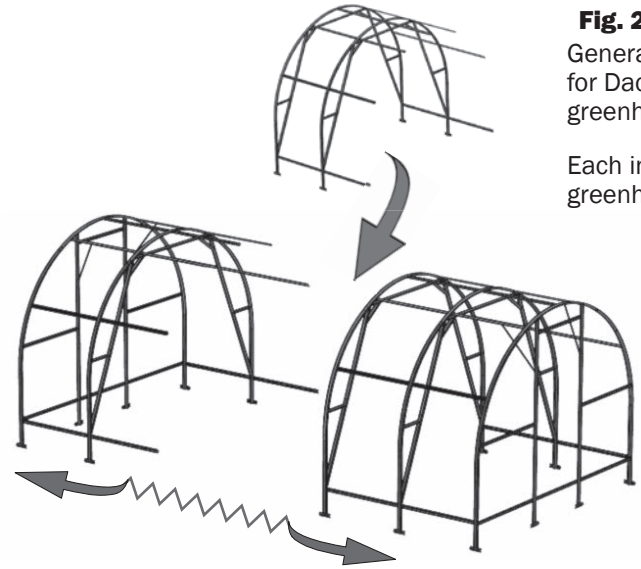


Fig. 2
General view of insert for Dachnaya Tryoshka greenhouse.

Each insert extends greenhouse length by 2 m.

Fig. 3
Dachnaya Tryoshka extended by any number of inserts.

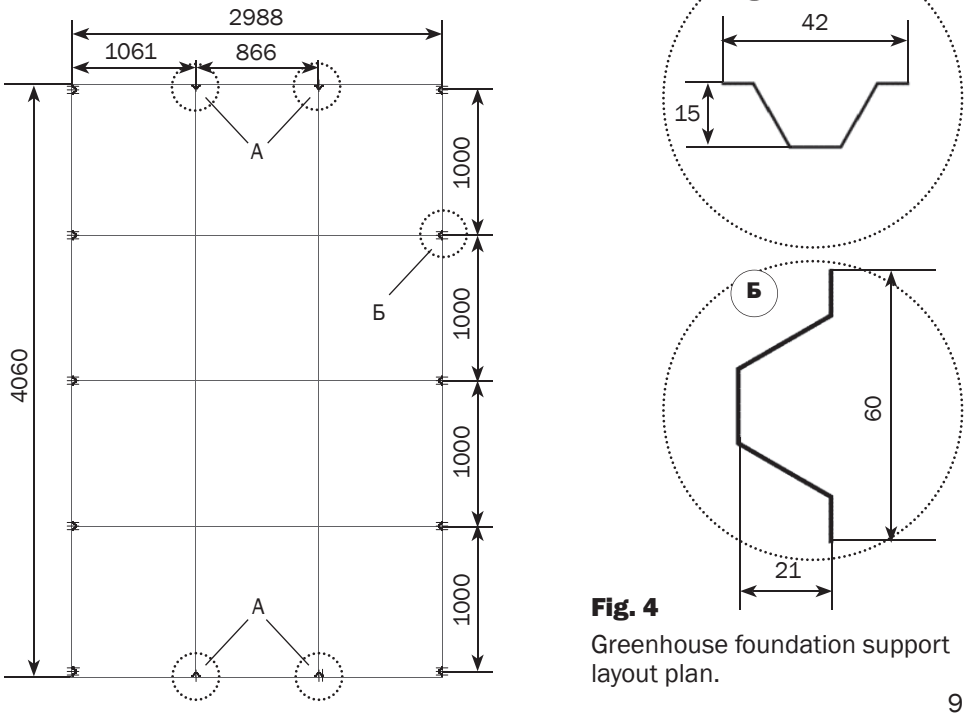


Fig. 4
Greenhouse foundation support layout plan.

Installation sequence

1. Perform assembling close to location of the greenhouse.

2. Assemble greenhouse in accordance with photographs of assembling stages and units represented in **Fig. 5**...**12**. The figures show assembling of greenhouse of 4 m length. Required length is reached using attachment of appropriate number of insert packages. Use M4x8 screws for connection of elements.

3. Dig pits on the site selected for greenhouse installation at a depth of shovel blade according to **Fig. 4** 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 **10** of door opening and bottom balks **2** 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 balks with arcs, complete leveling on the ground and tight screws again.

Assembling stages

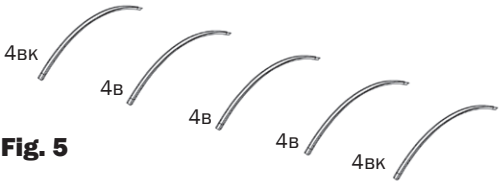


Fig. 5

Set out arcs **4В** and **4ВК** (**Fig. 5**).

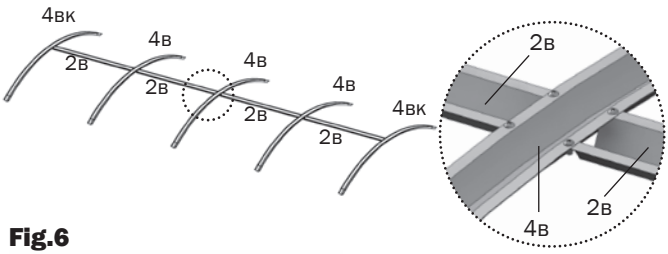


Fig.6

Connect balks **2В** to arcs.

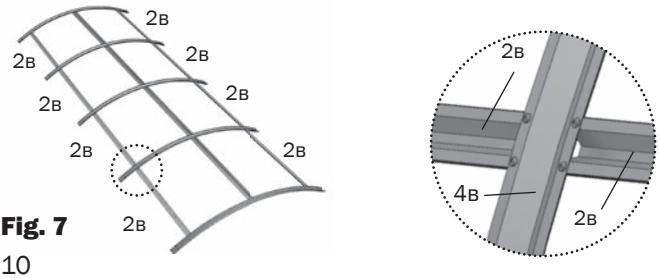


Fig. 7

Fasten balks **2В** on arc **4В** from two sides.

Assembling stages

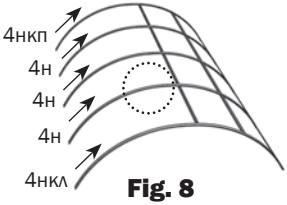
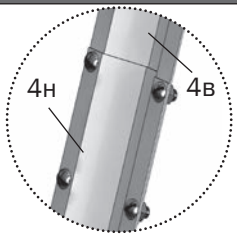


Fig. 8



Connect arcs **4н, 4нкп, 4нкл** to arcs **4в.**

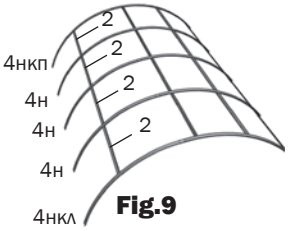


Fig.9

Connect balks **2** to bottom arcs (**Fig. 9**). Do it from the other side in the same way (**Fig. 10**).

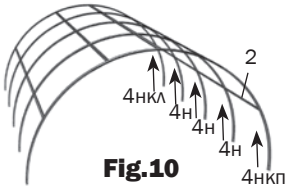


Fig.10

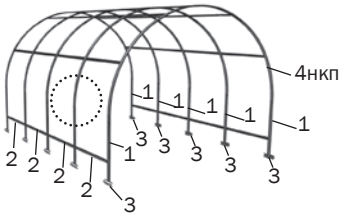
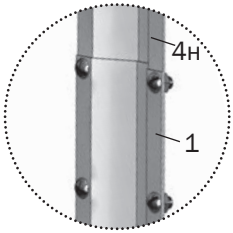


Fig.11



Connect stands **1** to bottom arcs and then connect balks **2** to them (**Fig. 11**).

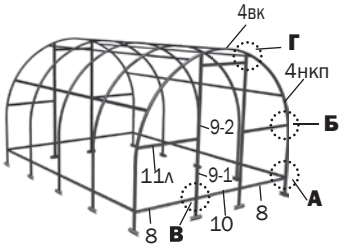
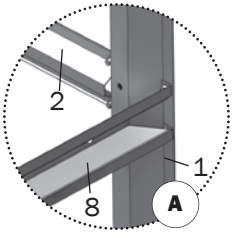
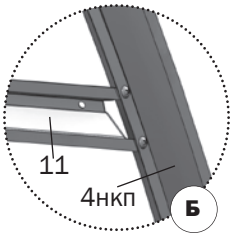
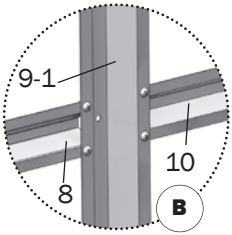
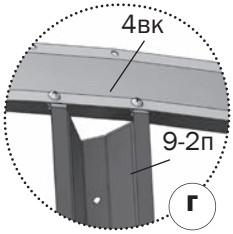


Fig.12





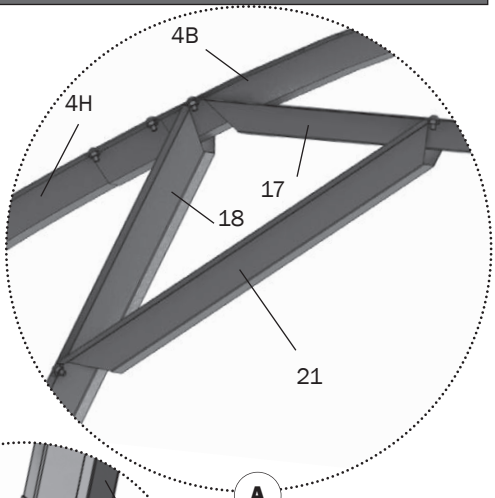


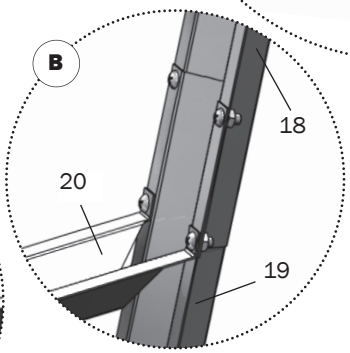


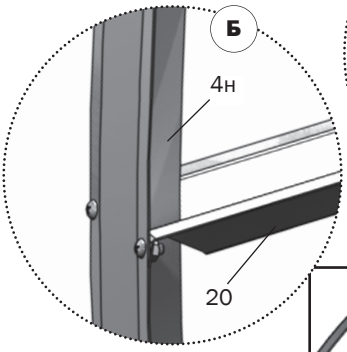
Install end elements **8, 10, 11-л, 11-п, 9-1, 9-2л, 9-2п** (**Fig. 12**).

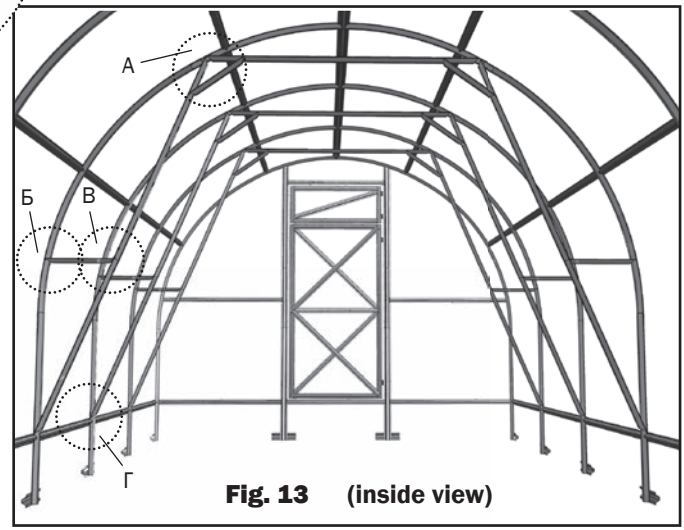
Assembling stages

Install side braces (elements **18**, **19**) and strainer (element **17**) on each arc inside of greenhouse frame. Assemble side brace from two elements. Connect side brace liner **20** to the joint of top and bottom brace struts and to arc **4н** on the other end. Use stiffening boom **21** to connect strainers with side braces.









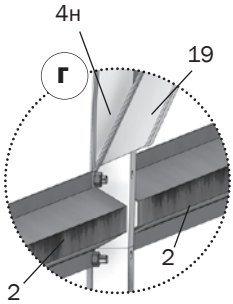
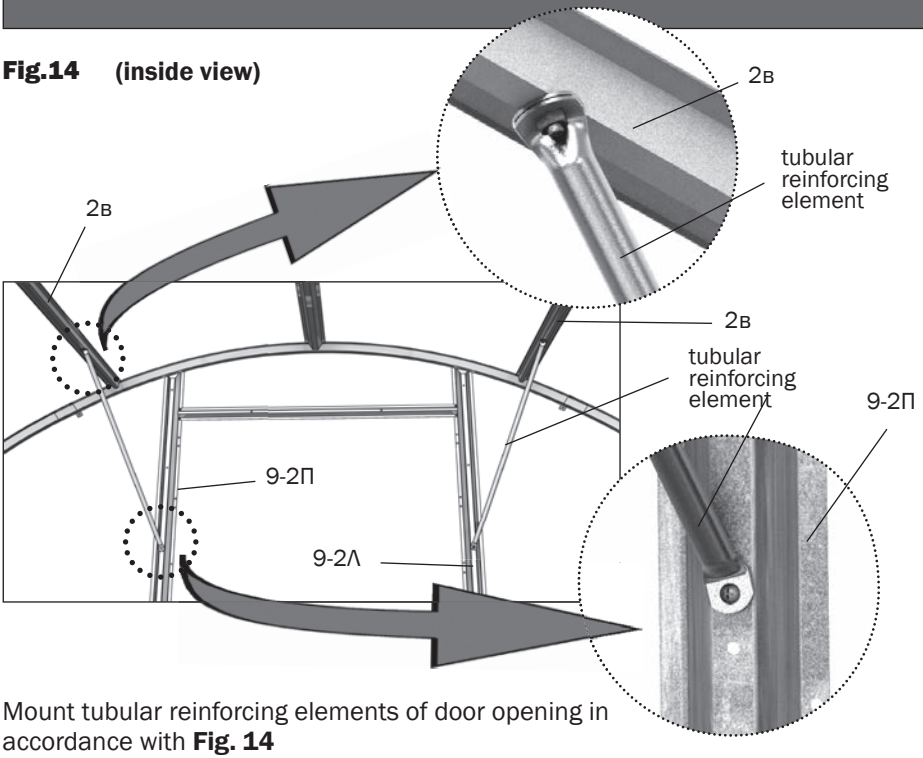


Fig. 13 (inside view)

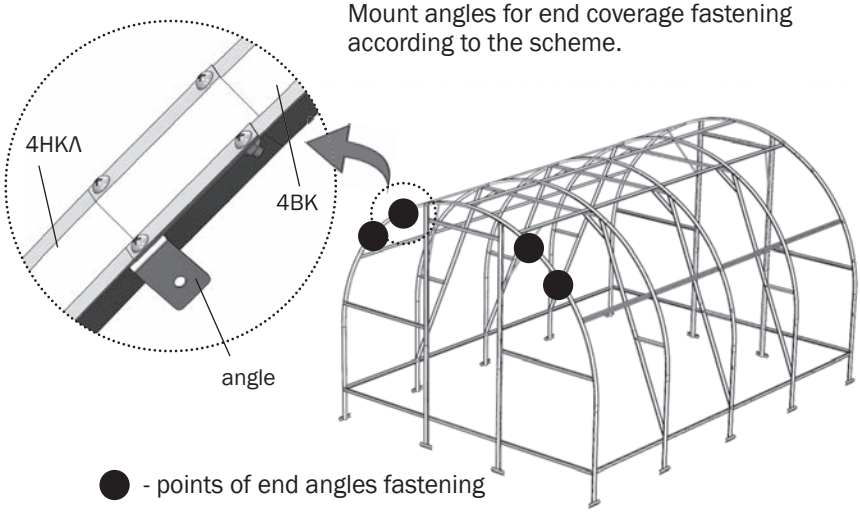
Assembling stages

Fig.14 **(inside view)**



Mount tubular reinforcing elements of door opening in accordance with **Fig. 14**

Mount angles for end coverage fastening according to the scheme.



Cutting and fastening of coverage

Be careful! In windy weather, load polycarbonate sheet edges with burdens to prevent damage.

CUT POLYCARBONATE SHEET STRICTLY IN ACCORDANCE WITH FIG. 15 AND 16

2100 x 600 mm honeycomb polycarbonate sheet

1. Cut coverage sheet for ends. To do this, cut a piece of 2095 mm length from polycarbonate sheet (see cutting lines on **Fig. 15)**. To make a stencil of coverage, put the cut piece to assembled end of greenhouse and, without removal of protective film from polycarbonate, make a stencil marking on the coverage sheet by elements **4вк, 4нк** and **1** with allowance (**Fig. 16**). When marking a sheet, align its edge strictly with edges of elements **9-1, 9-2**. Cut a stencil, mark the rest of sheet using the stencil in accordance with cutting scheme (**Fig. 15**).

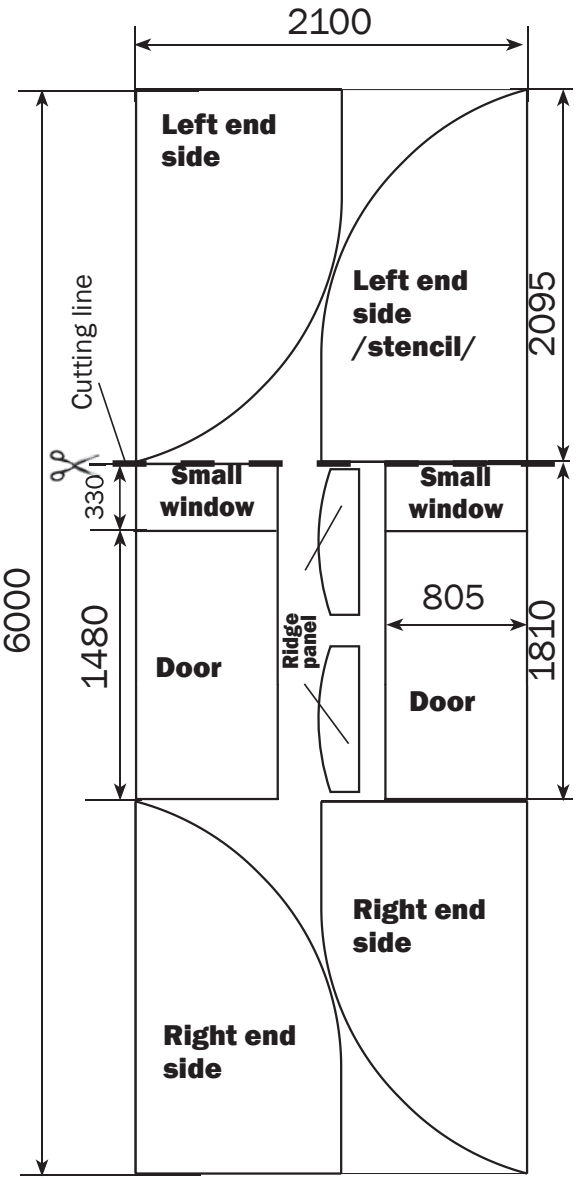


Fig. 15

Cutting and fastening of coverage

A power jigsaw or fine tooth arm saw is recommended for cutting.

Mount honeycomb polycarbonate strictly facing sun with a side having protective layer (by all means, clarify it under purchase or before mounting). Protective layer usually is on the side with inscriptions on transport film. On the other side of sheet film is clear. After marking the sheet but before its cutting make marks on protective side of each piece of sheet: After removal of transport film sheet sides have no visual differences. Transport film is removed from both sides immediately before fastening coverage on the frame.

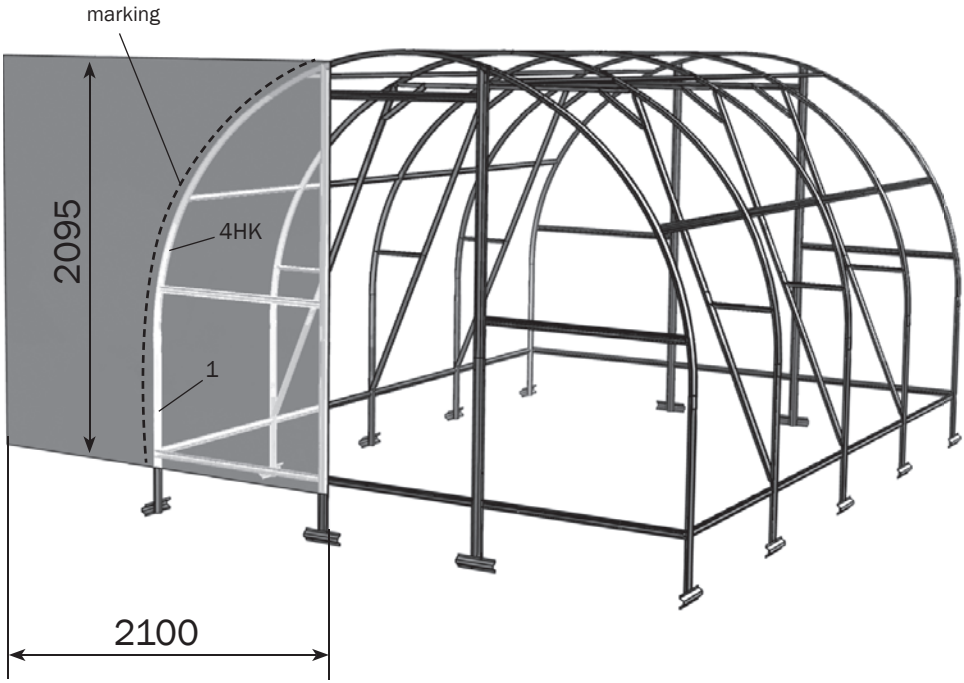


Fig. 16

Cutting and fastening of coverage

2. Cut coverage pieces of ridge panel located above the door at the place of installation from remaining pieces. Mark coverage by elements **4вк** with allowance aligning bottom edge of sheet with bottom edge of element **10 (Fig. 17**).

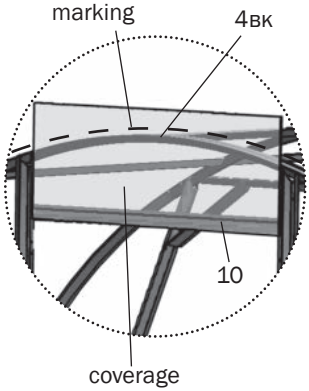
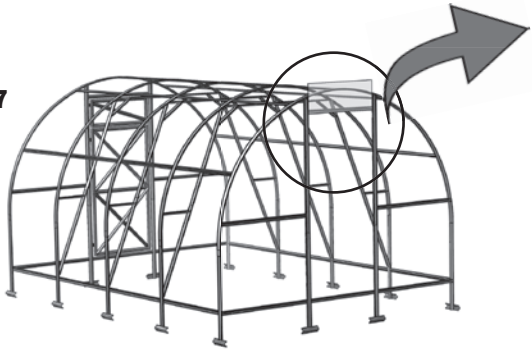


Fig. 17



3. Mount end sides in accordance with **Fig. 21**. Holding a piece of coverage fasten it on elements **8, 11, 10** using washers and screws M4x25 (**Fig. 18**), on elements **9-1, 9-2** using washers and screws M4x35 (**Fig. 19**), and on angles using washers and tap screws. Holes for screws are drilled by boring bit of 4 mm diameter from inside of greenhouse through available holes in frame elements. Mount ridge panel pieces fastening them on elements **10** (**Fig. 18**).

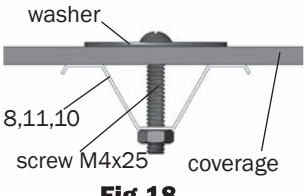


Fig.18

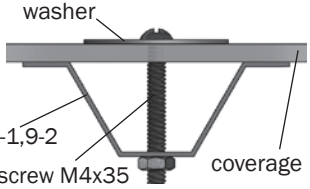


Fig.19

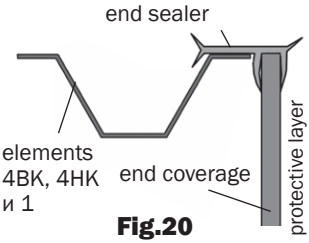


Fig.20

4. Even coverage pieces by arcs **4нк, 4вк** and stand **1** using a knife and mount sealing profile in accordance with **Fig.20**.

Cutting and fastening of coverage

Avoid excessive tightening of fastening screws to prevent crumbling of polycarbonate and destruction of honeycomb.

5. Mount washers and angles for end hook in accordance with **Fig.21**.

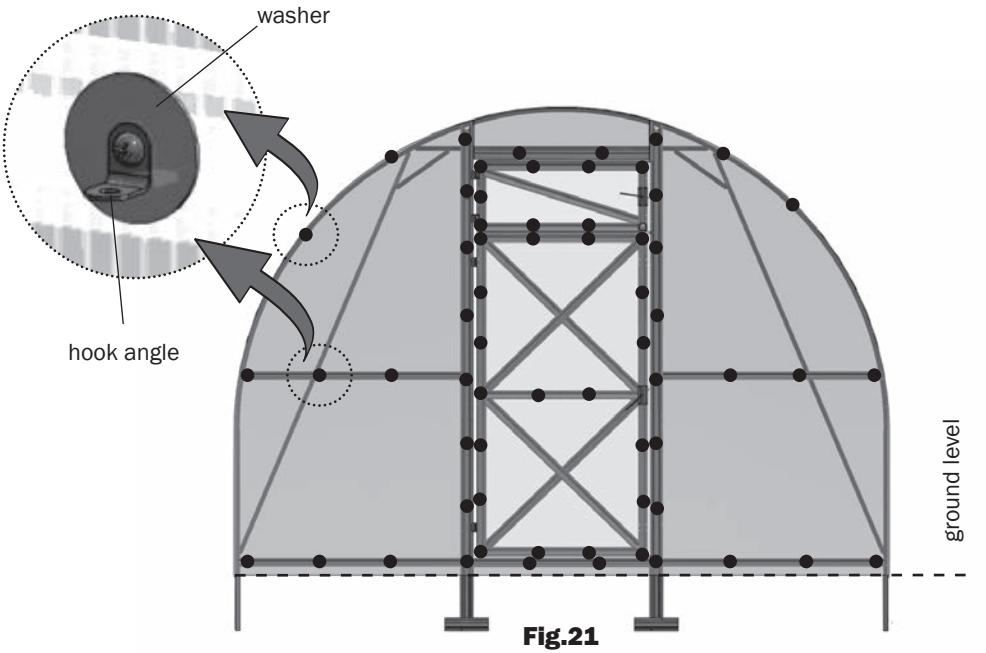


Fig.21

● - washer fastening points

Assembled door and small window

Assemble door and end small window from elements **12**, **13**, **14**, **15, 16 (Fig.22).**

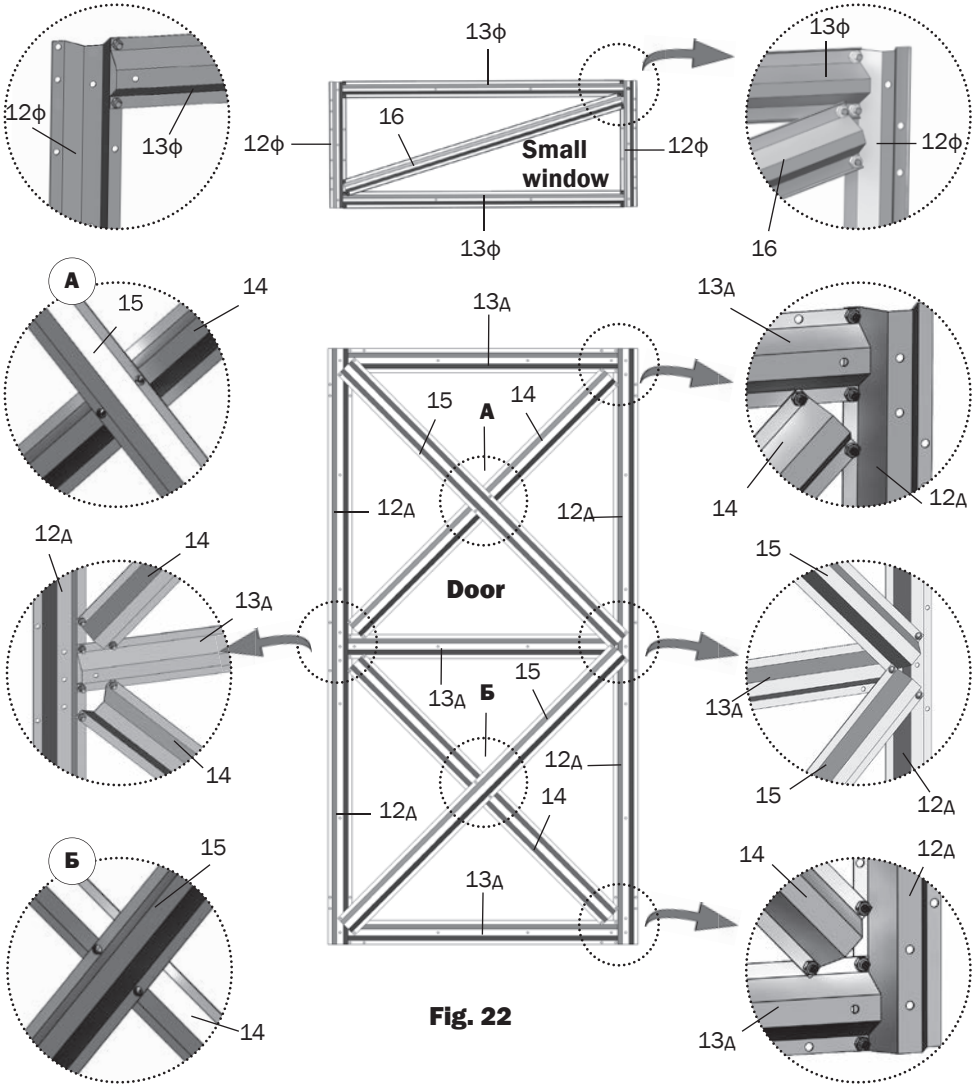


Fig. 22

6. Fasten pieces of coverage on door and small window using washers (**Fig. 23, 24**) making runoff by one side (**Fig. 28**) closing combs beforehand (with adhesive tape). Mount sealing profiles by door contour in accordance with **Fig. 25, 26, 27**. Mount hinges over polycarbonate. When mounting hinges on small window, eliminate screw gaps in holes: move top hinge to the small window and bottom hinge - from the small window. It is necessary for compensating a hinge play to eliminate small window slack.

Cutting and fastening of coverage

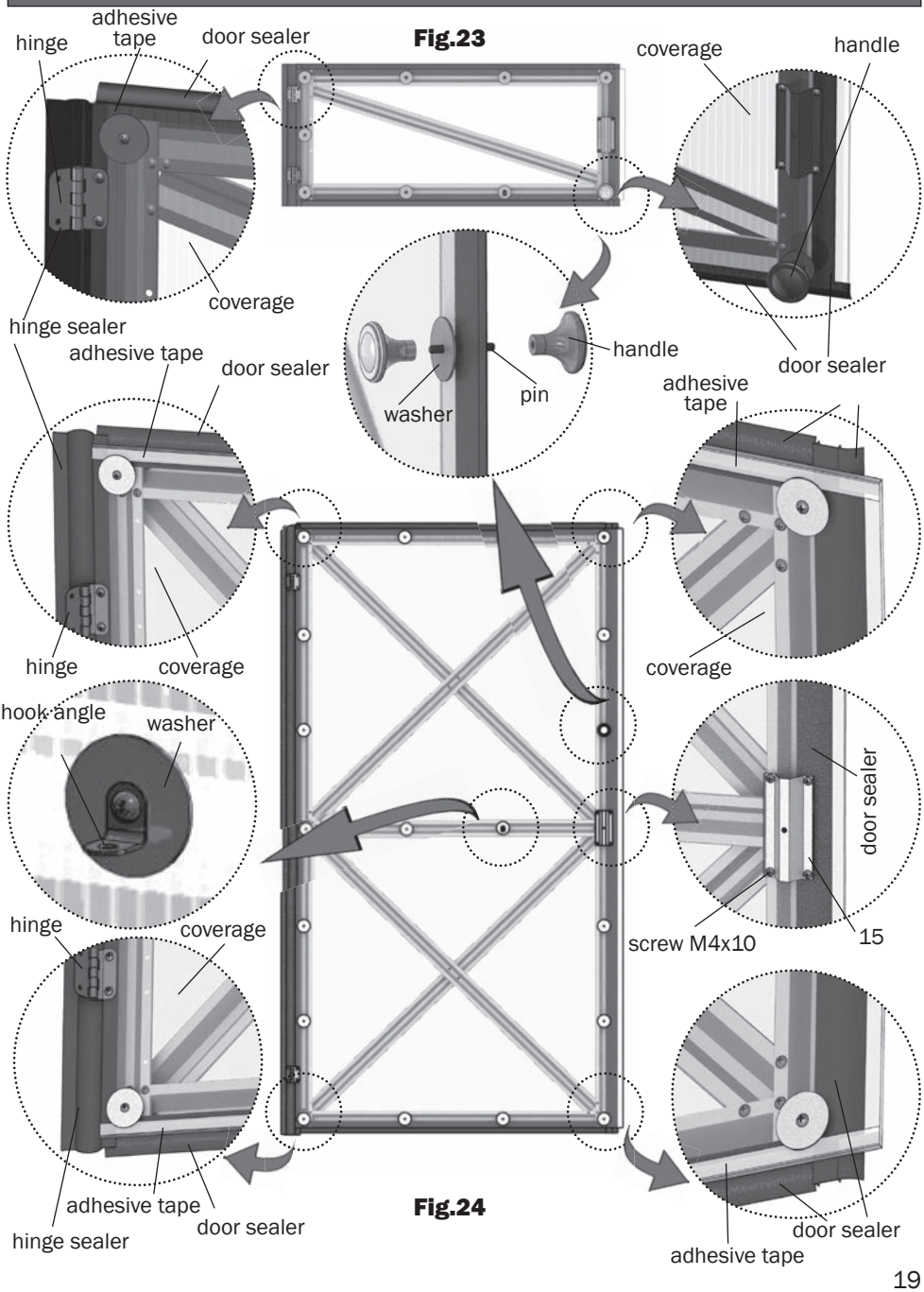
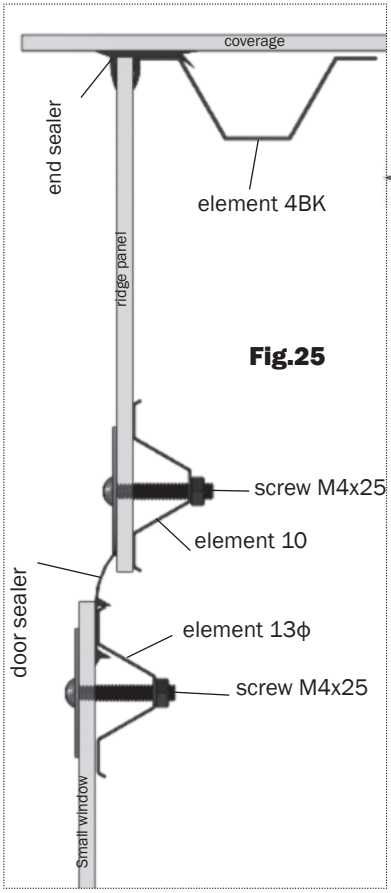
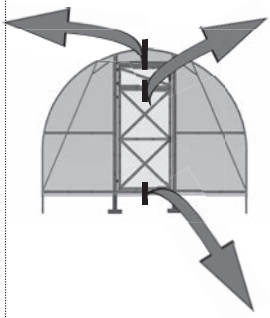


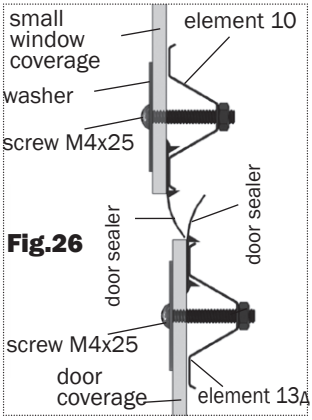
Fig.23

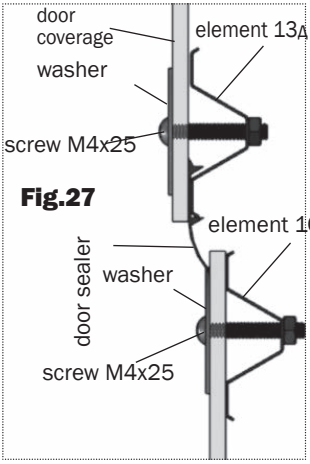
Fig.24

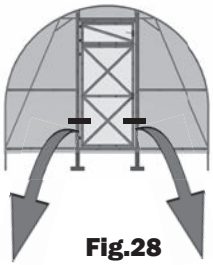
Cutting and fastening of coverage

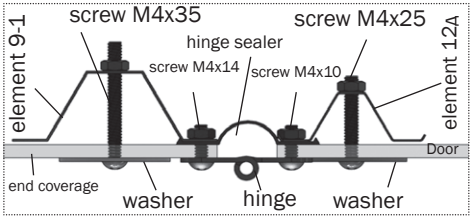


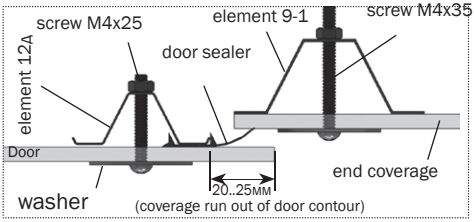












7. Install assembled doors and small windows on ends mounting sealer in accordance with **Fig. 25-28**.

When mounting small windows, prevent its further slackening. When tightening the screws, lift the opposite end of small window to remove screw gaps in holes.

Cutting and fastening of coverag

8. Put polycarbonate sheet on greenhouse frame and mount them with equal overlapping the arc edges. If side edges of polycarbonate are essentially nonparallel to the frame arc edges, it means that the frame is not leveled before screw tightening and this operation should be repeated. Put and mount following sheets of polycarbonate with overlapping previous sheet.

9. Fasten coverage on end arcs, stands **1** and balks **2** in accordance with **Fig. 29**.

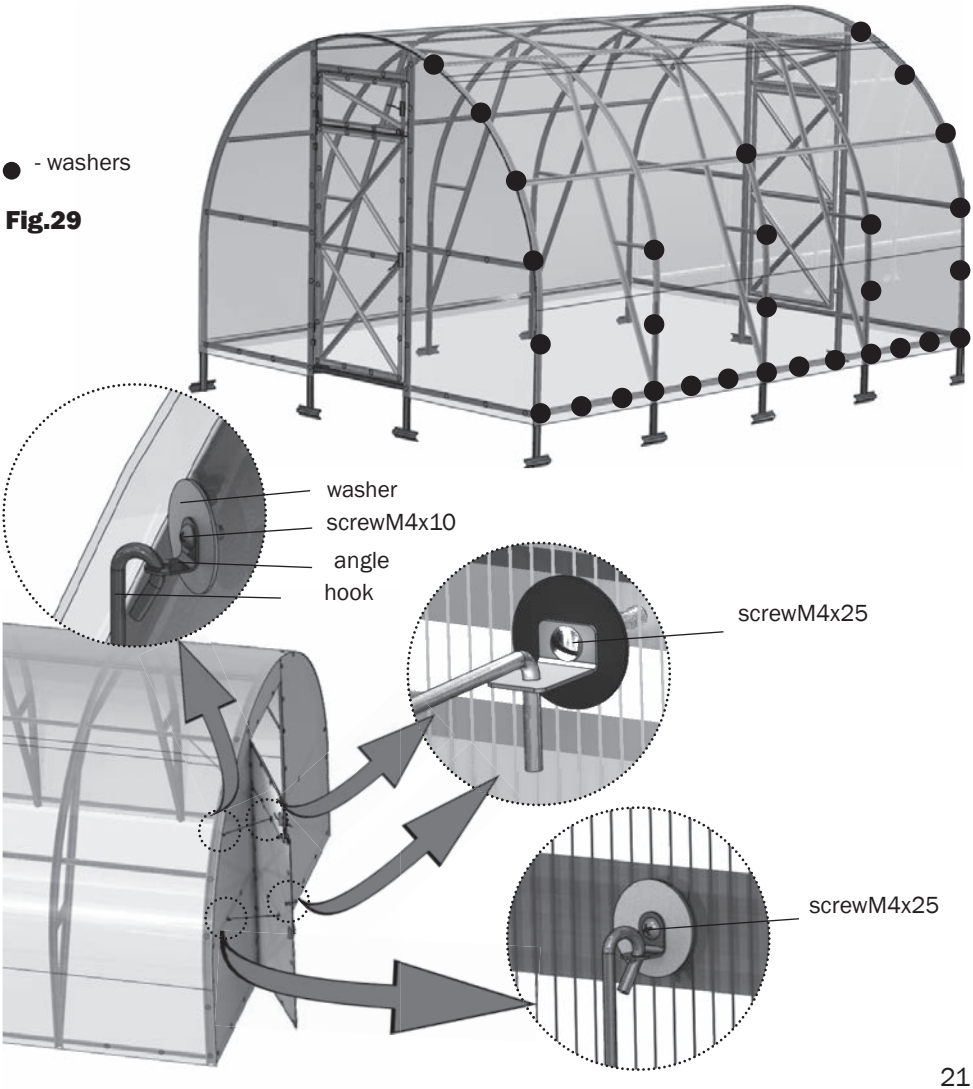
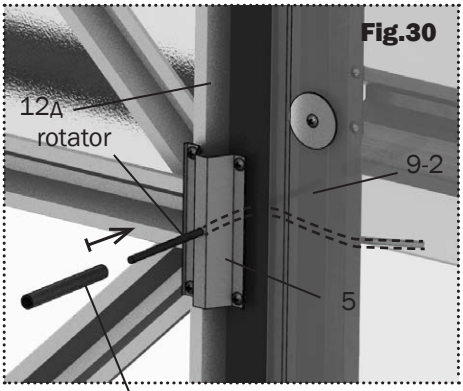
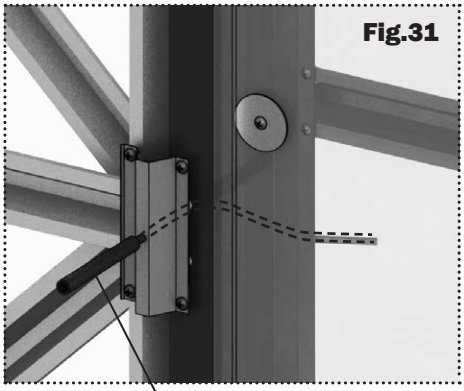


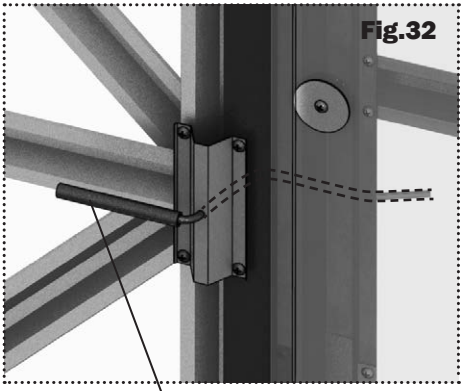
Fig.29

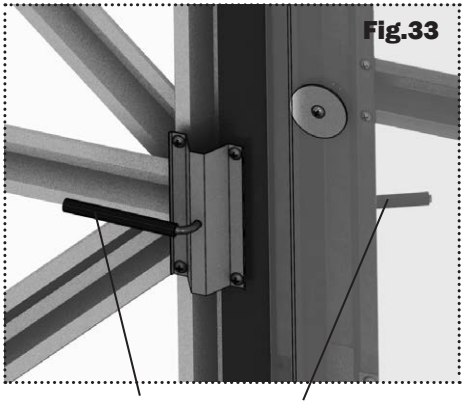
Cutting and fastening of coverage

10. Insert (against the stop) wire rotator for door closing in free holes through elements **12** and **5** by straight end from inside (**Fig. 30**). The rotator should lean element **9-2** by incurved part. In this position, use a tube to bend the linear part into opposite direction (**Fig. 32**). Mount elastic headers on the rotator (**fig. 33**). Such a construction provides elastic tightness of the door in closed position both from inside and outside of the greenhouse.









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