







## **Airbond Splicers**

## 701 Series 2 Splicers

## Splicers for heavy yarns and tows

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### The new-generation Airbond splicers

Airbond has a well-established reputation for supplying tough, reliable splicers. We have achieved this reliability by developing simple designs, and by the use of rugged components.

We have now moved on; our products are now even simpler, and even stronger. We've done this by investing in cutting-edge new additive-manufacturing (3d printing) technology.

From 2020 onward, all Airbond products will be printed, in materials which are more durable than those used in the past.

The first generation of printed products will be familiar to our customers; they are direct replacements for the existing products - identical in shape and function.

The Model 701 Series 2 is the printed equivalent of the popular 701.



### Model 701 Series 2

#### The multi-purpose splicer for higher-count synthetics, up to 7000 tex.

The Airbond Model 701 has been giving good service to the composites industry since 2014. The 701 is a light, user- friendly tool, designed principally for the composites market. Matching the performance of our larger splicers, the 701 range makes neat, strong joints in yarns of very heavy count, typically glass fibre and carbon fibre rovings of 4800 Tex or more. With distinct, innovative techniques for joining brittle yarns such as glass and carbon and joining inherently strong aramids, the Model 701 is internationally recognised as the user-friendly, heavy-count splicer.

The 701 range has now been improved. It remains lighter than most of our other splicers, and just as strong, but the original injection-moulded ABS outer shell has been replaced by one printed from polyamide. The actual splicer body remains protected from wear and tear, safe inside an impact-resistant PA12 shell. The connector system has been improved, by integrating it into the body, resulting in enhanced reliability in service.

As with the original, the 701 Series 2 splicers resist damage in service better than most products on the market; but when they do go wrong, they are easy to maintain. They can be dismantled and rebuilt in just a few minutes.

The range of application of the 701 Series 2 is just as remarkable as its predecessor. A unique and patented form of splicing chamber and splicing system is so powerful that a single specification can handle yarns of widely different counts.

Splice format:	Ends opposed.
Applications:	Composites processes such as filament winding, pultrusion, and weaving.
Yarns:	Carbon fibre, glass fibre, aramid, Panox, synthetic C.F.
Yarn counts:	Up to 7000 tex.
Twist:	Zero or low twist.



### 701 Series 2: Changes to the specifications

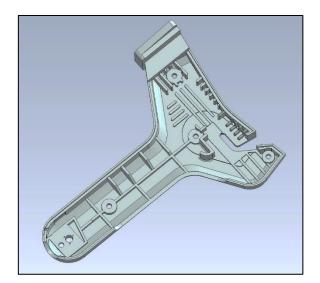
In its original form, the Model 701 Splicer had an injection-moulded ABS body shell. Some fittings were made of metal, and were held in place by elements of the body shell, and screws. An example of this construction was the hanger wedge, which fitted into a recess in the body, and was secured by two screws. The hanger is seen here at upper left.





### Model 701 Series 2: Changes to the specifications

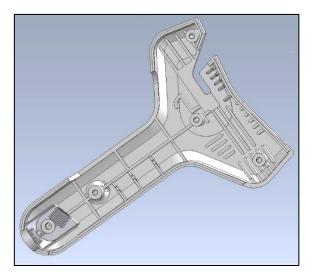
Here are two examples of how the splicer specification has been improved in the Series 2



This example shows the body of the 701 HW Series 2 splicer.

In the Series 1 splicer, the hanging wedge was a separate item, machined from aluminium, which was secured by screws to the splicer body.

In the Series 2, the wedge – at top centre – of the HW model is printed into the splicer outer shell



This example shows the body of the 701 HF Series 2 splicer.

In the Series 1 splicer, air connector was a separate item, a machined part, which sat in a recess in the splicer body.

In the Series 2, the connector – at lower left –is printed into the splicer outer shell. The small circular housing, for the flow control unit, can be seen, also printed as part of the connector



# Getting started



### Model 701 – getting started

Please read this section before you start operating the splicer. The rest of the manual deals with maintenance, and with details of products; those sections will not be needed immediately.

Remove all packaging. For each splicer, you will have the appropriate splicing chamber – which will usually already be fitted.

Depending on what you have ordered, you may have some or all of the following:

Additional splicing chamber(s) Optional hanger Optional hanging clip Optional flow control device

It may be useful to have a fixed place to store the splicer temporarily when the operator has finished, in which case you will have specified the "W" modification. This modification will change the splicer designation – the Model 701 H, for example, becomes the 701 HW. If it has been supplied, bolt the hanging clip to a convenient spot on a machine. The splicer can then be placed in the hanging clip when not in use. This reduces the likelihood of the splicer being dropped and damaged in service.

You may have chosen to have a flow control device fitted. In that case, you will have specified the "F" modification. This modification changes the splicer designation further – the Model 701 H, for example, becomes the 701 HF, and the Model 701 HW becomes the 701 HFW.

Connect the splicer to an air line.

Under normal circumstances, the line pressure should be around 6 bar. The line should preferably be fitted with a pressure regulator so that adjustment may be made to suit local needs. Hold the splicer with the trigger button facing the body, and press the trigger with the thumb. Look down into the splicer Press trigger part-way down - see the pad move until it hits the chamber Press trigger further - listen for the air blast

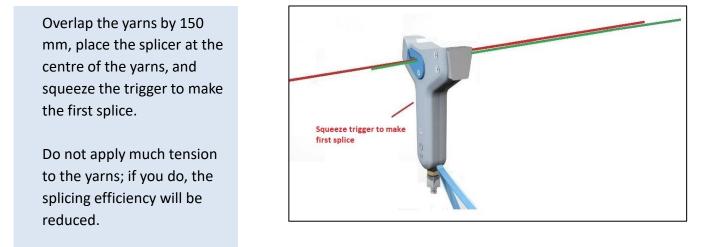


### Model 701 – Splicer threading

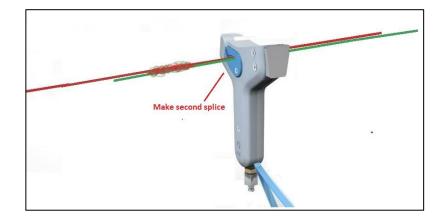
The Model 701 has been designed to splice low to heavy-count yarns in materials such as glass and carbon.

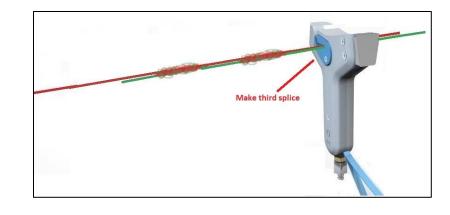
Airbond research has shown that standard splicers – which typically make joints of around 30 mm in length – produce splices which are weak. Heavy-count yarns demand longer splices, typically up to 150 mm for 4800 tex.

The Model 701 accomplishes this by making three or more splices in a line; it is this procedure which is described below. The splice is made in several stages: three intermingling steps, followed by hand-trimming of the finished joint.



Once the first splice is complete, slide the splicer sideways by about 40 – 50 mm and repeat





#### Now make the third.

After the third splice, cut off the waste ends of yarn using a scissors.

This technique has proved very successful with a number of materials; the picture below shows splices in glass, carbon and aramid. It is clear that the result for carbon is excellent – the fibre is very easily damaged by conventional splicing processes.

The triple-splice structure of the compound joints is clearly visible in this photograph.





### Important service information

Apart from accidental damage, the Model 701 requires little attention. However, cleaning and specific lubrication should NEVER be neglected.

Obviously, there should be frequent examination for signs of fibre build-up in the inner parts of the splicer. Fibre should be removed.

Most important, the valve which actuates the chamber need NO lubrication. The only lubrication (white grease) should be placed on the 2 large O-rings (Item 218). The <u>frequency</u> of lubrication depends upon the nature of the factory environment and the workload on the splicer.

As a general rule, the pistons should be removed and ONLY the O-rings greased with Molykote 111 (available from the company) at least once per quarter. The service interval should be reduced if the splicer experiences very heavy work loads.



# Model 701 – General product information



#### Introduction

With the development of high-performance yarns for industrial applications, there is an increasing need for making splices in yarns of very heavy count - typically glass fibre and carbon fibre rovings of up to 4800 tex. Counts already exceed 15000 tex.

It made good technical sense for Airbond to design the new heavy-count splicer around the design features of the successful Model 101. The 101, originally a splicer for carpet yarns, was designed with durability and simple servicing in mind, and has proved its reliability over many years of service.

The Model 101 was then improved, when the Model 105 was introduced. Even simpler than the 101, the 105 was just as effective.

The result of the further development of the Model 105 was the Model 113 - simple, small and light like the 105, but capable of splicing neat, strong joints in rovings. The principles of the Model 113 led to the design of the Model 701 in making the splicer more robust with less maintenance needed. The 701 set a new standard as an effective and user-friendly tool for making extra-large splices in a wide range of yarns from 10Tex up to these very heavy yarns. After only a short production life, its performance was such that it has been accepted as a splicer for any count yarn in countries across the world.

The 701 splices 4800 tex as routine, and in most circumstances it can handle 9600 tex.

Now the Model 701 series 2 splicer is the direct counterpart to the Model 701 – similar in appearance but 3D printed in tough PA12 polyamide. Being 3d-printed, the Model 701 cases are made in one piece – the case and internals are combined, producing a lighter but stronger structure.

The Model 701 is currently available in four forms. Further variants are likely to be added to the range in the near future.



### General description

The Model 701 Splicer has a number of components mounted inside a case structure in which airways conduct the compressed air for the splicing action.

Trigger - pressing the trigger initiates the splicing operation.

Valve - operation of the trigger moves the valve allowing compressed air to pass into the body head for splicing.

Pad - in the initial operation, the operators press of the trigger closes the pad onto the splicing chamber prior to the splicing action.

Splicing chamber - having a profiled recess on the front face which, with the closed pad, forms a chamber in which the splice is made. Air enters into the chamber to form the splice.

The Model 701 is simple and easy to maintain. Moreover, its construction is such that it is extremely rugged, and requires very little attention in service. The splicer has revolutionary and patented splicing chamber technology, which enables the splicer to make joints in a wide range of yarns without any change - in general, there is no need to change chambers when changing yarns



### 701 Model range

- 701 H Standard specification with no accessories
- Splicer with a hanging kit 701 HW
- Splicer with a flow control 701 HF
- Splicer with a hanging kit and flow control 701 HFW



#### Example:

Splicer Model 701 HFW, fitted with wedge hanger and flow control (flow control is visible on the other side). Note the QR code; scanning this code will enable the user to access the Airbond web site - and an on-line version of this technical manual for the splicer.



## 701 H





The outer surface of the lower shell of the 701 H Series 2 splicer.

Note:

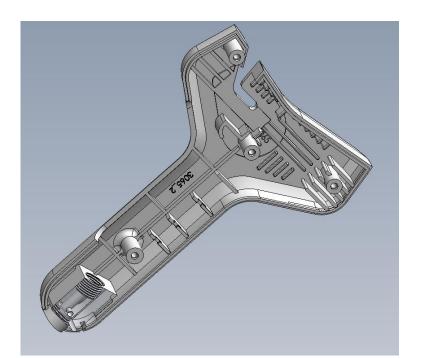
The rectangular insert at the top of the shell; in the real splicer this houses the identification label, complete with QR code.

The inner surface of the lower shell of the 701 H Series 2 splicer.

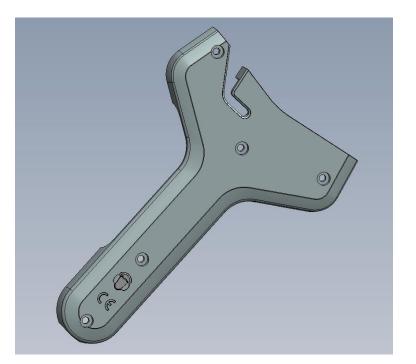
Notes:

There are five locations for the securing screws – fewer than on the Series 1 splicers.

The air connector at the base of the handle is now an integral part of the splicer shell.



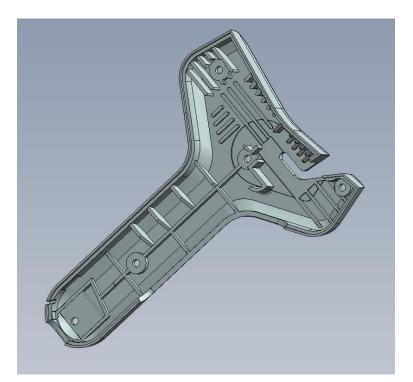




The outer surface of the upper shell of the 701 H Series 2 splicer.

Note:

The five holes for the securing screws.

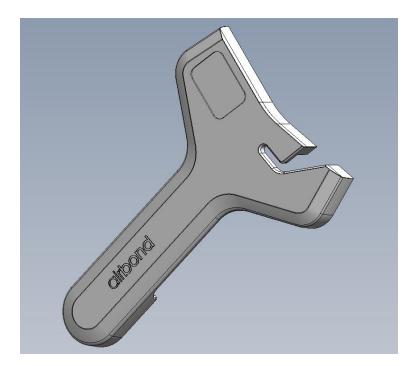


The inner surface of the upper shell of the 701 H Series 2 splicer.



## 701 HF

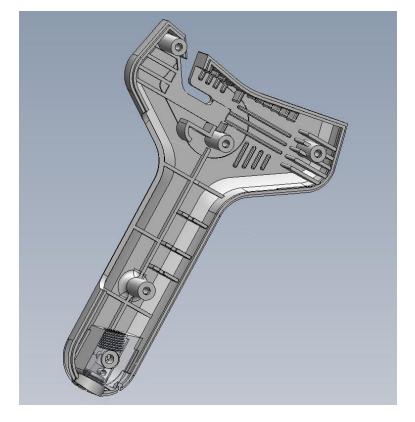




The outer surface of the lower shell of the 701 HF Series 2 splicer.

Note:

The rectangular insert at the top of the shell; in the real splicer this houses the identification label, complete with QR code.

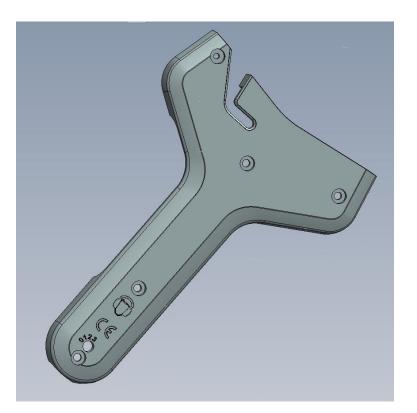


The inner surface of the lower shell of the 701 HF Series 2 splicer.

Note:

The air connector at the base of the handle now incorporates a part of the flow control system (the small hole in the air connector structure, housing the flow controller is clearly visible).

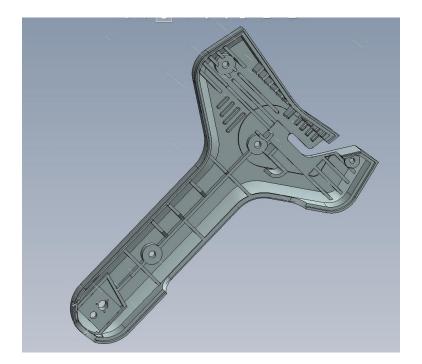




The outer surface of the upper shell of the 701 HF Series 2 splicer.

Note:

The markings 0, 1,2,3, for the flow controller are visible at the base of the handle



The inner surface of the lower shell of the 701 HF Series 2 splicer.



## 701 HW





The outer surface of the lower shell of the 701 HW Series 2 splicer.

Note:

The rectangular insert at the top of the shell; in the real splicer this houses the identification label, complete with QR code.

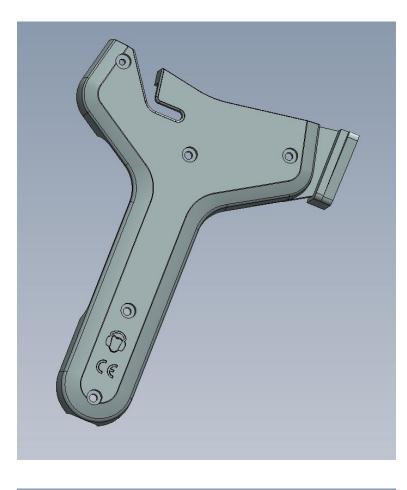


The outer surface of the lower shell of the 701 HF Series 2 splicer.

Note:

There is no sign of the hanging wedge In this component; the wedge is printed as part of the <u>upper</u> shell, Which can be seen in the drawings on pages which follow

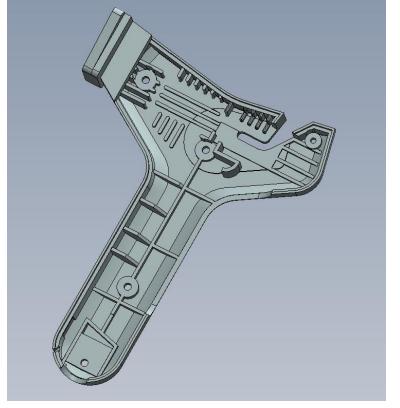




The outer surface of the upper shell of the 701 HW Series 2 splicer.

Note:

The hanging wedge, printed as an integral part of this lower shell, is clearly visible at upper right.



The inner surface of the upper shell of the 701 HW Series 2 splicer.

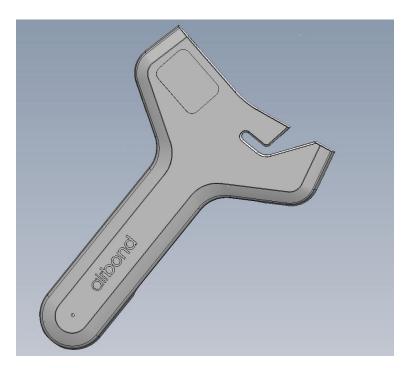
Note:

The hanging wedge is visible at upper left. It is clear how the wedge is printed as an integral part of this lower shell

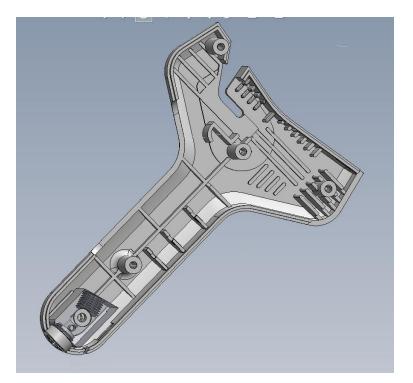


## 701 HFW





The outer surface of the lower shell of the 701 HFW Series 2 splicer.



The inner surface of the lower shell of the 701 HFW Series 2 splicer.

Note:

The air connector at the base of the handle now incorporates a part of the flow control system (the small hole in the air connector structure is clearly visible).



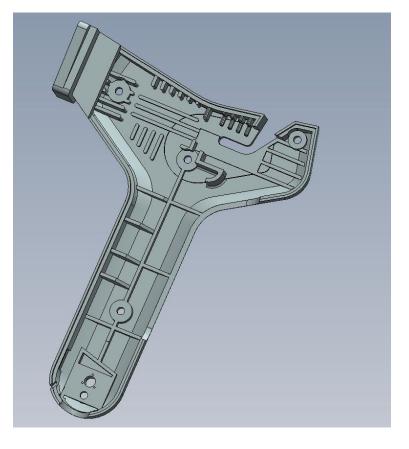


The outer surface of the upper shell of the 701 HFW Series 2 splicer.

Notes:

The hanging wedge, printed as an integral part of this lower shell, is clearly visible at upper right.

The flow control scale (0, 1,2,3) is visible at the base of the handle.



The inner surface of the upper shell of the 701 HFW Series 2 splicer.

Note:

The hanging wedge is visible at upper left. It is clear how the wedge is printed as an integral part of this lower shell



## Model 701 – Maintenance





The body shells of the 701 Series 2 are held together by self-tapping screws, 4 x Items 1191 and 1 x Item 1194.

Note that the screw (Item 1194) at the base of the handle is shorter than the others. Remove all of the screws to detach the upper case from the lower.



The splicer with three of the screws removed.



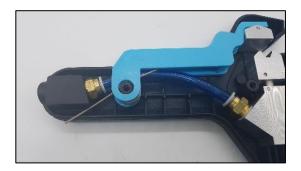
The splicer after the upper case has been removed.

The working parts of the splicer are now held in the lower case, and are accessible for the next stage of dismantling / maintenance.











The lower body shell of the 701 Series 2. Components:

Lanyard – lower left Item 1611. Push-fit brass connector – input side, Item 1618.

Blue plastic air supply tube, Item 1617. Pale blue trigger, Item 1614, and steel trigger return spring, Item 1609. Aluminium closure pad at top of trigger, Item 1610.

Splicing chamber facing closure pad Aluminium splicing unit carrying splicing chamber, Item 1600.

Lift away the lanyard.

This action reveals the trigger return spring. TAKE CARE at this point; the trigger return spring may escape from its restraint location; sore fingers may result.

Carefully release the trigger return spring and allow it to rotate clockwise. The trigger return spring is shown here in its released position; in this state it poses no risk.

Release the feed tube from the lower compression fitting.





Then release the feed tube from the upper compression fitting. This will permit the removal of the air union and feed tube.



Lift away the trigger assembly, together with the chamber pad. Keep the assembly as one unit, unless you need to remove the chamber for maintenance or replacement.



Here is the splicer with its principal components disassembled: Body shell (with lower compression fitting still attached) Trigger (with closure pad still attached) Trigger return spring. Blue air supply tube. Complete splicing unit (at extreme right)





If required, press out the pad retaining pin, Item 1605, and separate the trigger Item 1614 and closure pad Item 1610

The closure pad mounting pin is an interference fit in the splicer trigger lever.

This arrangement retains the closure pad, while allowing the pad to be a loose fit, so that it can align itself to the face of the splicing chamber..

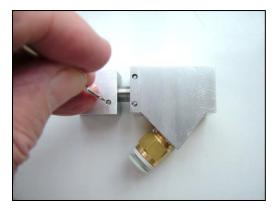
Press the pin through the assembly until it is located symmetrically.







Lift the splicing unit out of the case, and detach the air feed tube, by compressing the quick-fit connector, and withdrawing the tube.





Remove the splicing chamber. With a small tool, press the chamber securing pin, Item 1604, until it slides out. The chamber can then be removed from the Valve, Item 1606.

If you are simply replacing the splicing chamber, and not doing a full strip-down:

Slide the replacement chamber onto the valve.

Position the chamber so that the hole for the securing pin is aligned with the small groove in the valve stem.

Replace the chamber securing pin.





To continue with complete strip-down:

With the chamber removed, the

compression washer can be seen; it is



retained in place by two pins Item 1603.

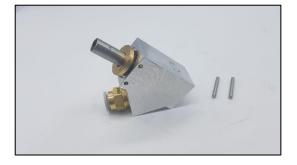


Using the same small tool as before, press out the pins, so that they come free from the main splicer body.



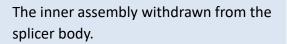
With the two pins removed, removal of the inner components – the final dismantling of the splicer unit - can commence.





Grip the end of the valve, and gently withdraw the inner assembly







The inner assembly in process of being dismantled into its component parts.



The inner assembly with all component parts separated.





This photograph shows the splicer unit completely dismantled. Top: valve, Item 1606 with oring, Item 1651 From left: Retaining disc, Item 1601. Brass spacer, Item 1602 O-ring, Item 218 Shell, Item 1607, O-ring, Item 218 Brass spacer, Item 1602 Return spring, Item 787 Bottom: valve body, Item 1600 with Connector, Item 1618

#### To reassemble:

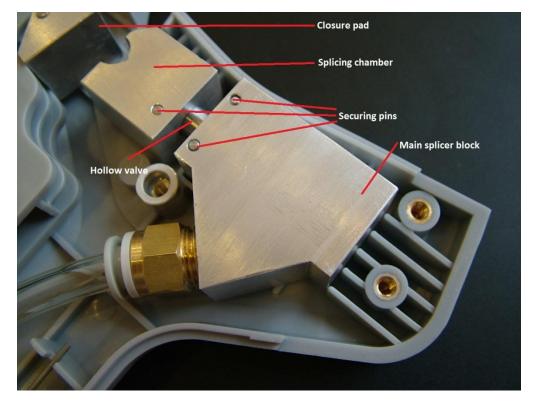
- Locate the return spring in the end of the valve.
- Push the internal components, one-by-one into the splicer body, starting with the brass spacer which can be seen at the extreme right:
- Then assemble in the order shown above and below.

Note the small machined "flat" near to the end of the valve 1606; this locates retaining pin 1604, to keep the splicing chamber in place.



### Splicing unit: detail

The splicing unit itself sits inside the outer moulding, so that it is not easily damaged in service. The entire splicing action is contained within the block shown in the photograph.



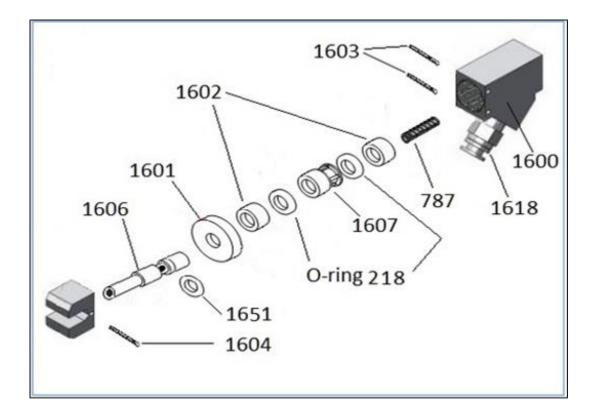
The closure pad is at the top left. The splicing chamber is secured to a valve which runs inside the main splicer block. The valve is hollow, such that air passing through the valve is directed into the chamber. When the chamber is in the resting position, the valve is closed, so that no air flows into the chamber.

Pressure on the trigger swings the pad forward. When the pad makes contact with the front face of the chamber, it aligns itself automatically, and applies a force to the chamber. When pressed by the pad, the splicing chamber slides back into the block, moving the air valve. After a short distance, the valve opens, allowing air into its hollow core, and thence into the chamber, causing the splicing action to start.

#### NOTE:

- The pad is secured to the trigger with a simple pin.
- The splicing chamber is secured to the valve with a simple pin.
- The valve is held in the main block by two simple pins.
- So the whole assembly is held together by pins, which can be pushed out; there are no screws.
- A design feature of the splicer is that the valve is freely-mounted in the main splicer block; so the chamber can be rotated, to suit left- or right-handed operators





Components of the splicer unit.

From left to right:

- Splicing chamber (part number to be specified by customer)
- Chamber retaining pin 1604
- Valve 1606 (O-ring 1651 placed on the valve)
- NOTE: NO LUBRICATION ON VALVE OR O-RING
- Retaining disc 1601
- Spacer 1602
- O-ring 218
- Shell 1607
- O-ring 218
- Spacer 1602
- Return spring 787



### Compressed air

Pneumatic splicers are operated by compressed air. Therefore the air supply must be appropriate.

The following points are important:

Splicers generally operate at a pressure between 3 and 8 bar.

Pressure may vary according to application, but it must be as uniform as possible.

The air supply should be reasonably dry and clean, with the lowest possible flow resistance.

Because the time taken to make a splice is short, transient pressure drops associated with other demands in the mill may become important,

When the splicer is operated, line pressure at the splicer head normally drops by about 1 bar. If there are restrictions in the line, air will not be replenished, so that the pressure drop will be greater; weak splices may result.

Compressed air installations should therefore be designed to minimise pressure drop.

Never use narrow-bore supply tube; this introduces resistance.

When there is doubt about the quality of the air supply system, a pressure gauge should be fitted - temporarily - as near as possible to the splicer, so that static pressure and pressure drop can be monitored. This is particularly desirable in an installation which uses long lengths of coiled hose; losses in such hoses tend to be significant.

Sometimes, static line pressure is known to be adequate, but there sometimes serious problems with transients. Then it may be useful to fit a few metres of wide-bore pipe or other form of plenum, close to the splicer. This will act as a reservoir, to minimise pressure drops while the splicer is in use.

Do not fit lubricators in the line very near to the splicer; an excess of oil on the yarn may weaken the splice.



### Compressed air and safety

All our splicers have been designed with safety in mind. The few moving parts have been enclosed or shielded to reduce the possibility of injury to the operator. In normal use, the only component which is in any way a source of hazard is the knife assembly. By design, however, the blades are difficult to reach, and are not dangerous in any normal circumstances. Knives represent a hazard only during removal and disposal. So, in normal use, the splicers present no risk.

However, the splicers do use compressed air, and that has the potential to cause injury. Compressed air is dangerous: avoid any bodily contact with it.

Always follow the safety precautions recommended by the compressor manufacturer. Always ensure that unions and connectors are fully tightened and sealed, and that there are no leaks.

Check the conditions of air supply lines on a regular basis. Always ensure that any flexible hoses are unblemished; if there are any cuts or abrasions to the outer surface of the hose, stop using the splicer and have the hose replaced by qualified personnel.

Do not look into the working parts of the splicer when it is being operated.

If a splicer malfunctions, do not use it until it has been repaired by qualified personnel.

For maintenance staff, additional advice is necessary. When cleaning or servicing is being carried out, access to the internal mechanism of the splicer is essential. Under these circumstances, maintenance engineers will be at greater risk than ordinary users. The engineer should adhere strictly to the following guidelines:

Before undertaking any service work, disconnect the splicer from the air supply. Under normal circumstances, always refit safety covers before reconnecting the splicer to the air supply.

Under exceptional circumstances, it may be necessary - for test purposes - to reconnect the splicer to the air supply without its safety covers.

While the splicer is being tested, wear protective gear and exercise due caution.



### Compressed air and noise

A splicer uses compressed air, which for a brief period - about 1 to 2 seconds – is vented to atmosphere while the splice is being made. Air at perhaps 7 bar pressure escapes through a small blast hole, creating intense turbulence in a small volume.

Noise is inevitable.

Typical maximum noise levels vary from 80 db to 98 db, depending on the splicing chamber. Some chambers are quieter than others, simply because they have a smaller blast-hole, and allow less air to emerge.

Our noisiest splicer, with the biggest blast hole in our range, generates a noise spectrum as shown in the table below:

Hz	63	125	250	500	1000	2000	4000	8000	16000
dB	47	52	57	63	74	89	92	93	95

In practice, splicers are barely noticeable in a textile mill. This is because the other mill machinery tends to be very noisy, and the sound of the splicer is lost in the general noise. Also, the blast only lasts for about one second.

Nevertheless, in compliance with UK health and safety regulations, we recommend that ear defenders (to local standards equivalent to British Standard 6344 Part 1) be worn.



### Troubleshooting

Trouble with splicers generally takes one of two forms: poor splicing or component malfunctioning.

1) Splicing performance.

If there is no apparent damage to the splicer, there may still be something subtle, which cannot easily be seen. It will be best, however, to look at the possible causes which are easy to spot. These include:

#### Simple checks:

- Has yarn specification changed markedly? The splicer is very flexible, but it can't do ALL yarns on one configuration. If the yarn has changed, take another look at your operating procedures and – possibly – the splicing chamber specification. If, for instance with glass, the yarn count has remained constant, but the level of sizing has increased, it may be necessary to increase air pressure and/or increase the duration of the blast.
- Is the air pressure as it should be? The line pressure may have changed upward or downward. Excessive air pressure will cause bad filamentation, and low air pressure will result in weak splices. Consideration should be given to using flow-control versions of the splicer.
- If you have a splicer with flow control has the position of the flow controller shifted? This can happen if the clamping screw has come slightly loose.
- Are there any obstructions in the main air line or in the splicer itself? It has been known for foreign matter to get into the air-line, and to obstruct the chamber blast hole; this is usually accompanied by a reduction in the noise level of the blast.
- Have operating procedures changed? If the procedure changes, performance will change. In normal operation,, the 701 requires the operator to make several splices in a line (usually three, spaced at about 40 mm). If the procedure changes (perhaps making two splices instead of three, or making a single "smeared" splice, performance will change.
- Are the splice ends being trimmed properly indeed, are they being trimmed at all? The splicer has no cutters, and relies for perfect performance on the operator trimming the ends. Some operators cut carelessly, leaving "tails" perhaps 30 mm long. Some have been observed doing no trimming at all – leaving tails perhaps 150 mm long. While long tails may be unimportant in some processes, they can be profoundly disruptive in others, such as pultrusion lines.
- If fitted, has the timer calibration changed?



#### 2) Sticking valve

Occasionally, the main valve in the splicing unit may stick. This could be the result of some form of damage to the internal components, but the explanation is normally much simpler; a lack of lubrication around the O-rings which seal the pad assembly, or an extension spring which has come adrift.

Remove the entire valve / O-ring assembly from the splicer unit, as shown in the main text. Clean the components and the surface of the large bore with a small quantity of light solvent

Examine the components for signs of damage - particularly a damaged or displaced O-ring, or extension spring. If there is damage to any of the components, proceed as in the maintenance section of the main text, replacing components as appropriate.

Examine the surface of the large bore. Minor scuffing - the stuff of normal wear and tear in service should be of no consequence. Look closely, to determine whether the bore surface is scratched. This is a very rare occurrence, usually associated with an earlier rebuild having gone wrong. Minor scratching can generally be rectified with careful use of a reamer.

When any faults have been eliminated, reassemble as in the main text.



### Model 701 Series 2 Splicer - Parts list

218 787 1191 1194 1502 1600	01-11-10 10-136-018 19-44-12 19-44-08 10-139-152 10-100-127	2 1 4 1 1
787 1191 1194 1502 1600	10-136-018 19-44-12 19-44-08 10-139-152	1 4 1
1191 1194 1502 1600	19-44-12 19-44-08 10-139-152	4
1194 1502 1600	19-44-08 10-139-152	1
1502 1600	10-139-152	
1600		1
	10-100-127	-
	10 100 12/	1
1601	10-133-120	1
1602	10-133-121	2
1603	10-137-157	2
1604	10-137-158	1
1605	10-137-159	1
1606	10-113-127	1
1607	2200-54-05	1
1609	10-100-128	1
1610	10-113-129	1
1611	10-156-602	1
1614	10-156-605	1
1617	10-156-606	1
1618	10-156-607	2
1643	10-156-708	1
1647	10-156-712	1
1651	02-06-20	1
7000 Series	To be specified by customer	
	1603   1604   1605   1606   1607   1609   1610   1611   1614   1617   1618   1643   1643   1651   7000	160310-137-157160410-137-158160510-137-159160610-137-15916072200-54-05160910-100-128161010-113-129161110-156-602161410-156-605161810-156-606164310-156-708165102-06-207000To be specified

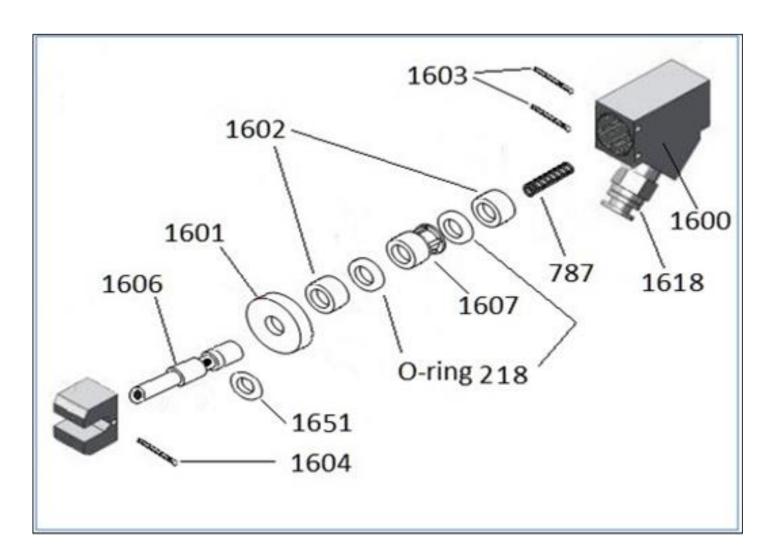
Description	ltem No.	Part No.	Quantity
Hanging Assembly parts			
Splicer holding clip	170	201-1199	SPECIFY
Outer Case Left 701HW including bottom connector	1644	10-156-709	1
Outer Case Right 701HW	1648	10-156-713	1
Flow Control parts			
O-ring BS006	788	01-10-06	2
Flow restrictor valve	1623	10-113-128	1
Outer Case Left 701HF including bottom connector	1645	10-156-710	1
Outer Case Left 701HFW including bottom connector	1646	10-156-711	1
Outer Case Right 701HF	1649	10-156-714	1
Outer Case Right 701HFW	1650	10-156-715	1



### Model 701 Series 2 Exploded diagram assembly







Model 701 Valve body exploded diagram assembly