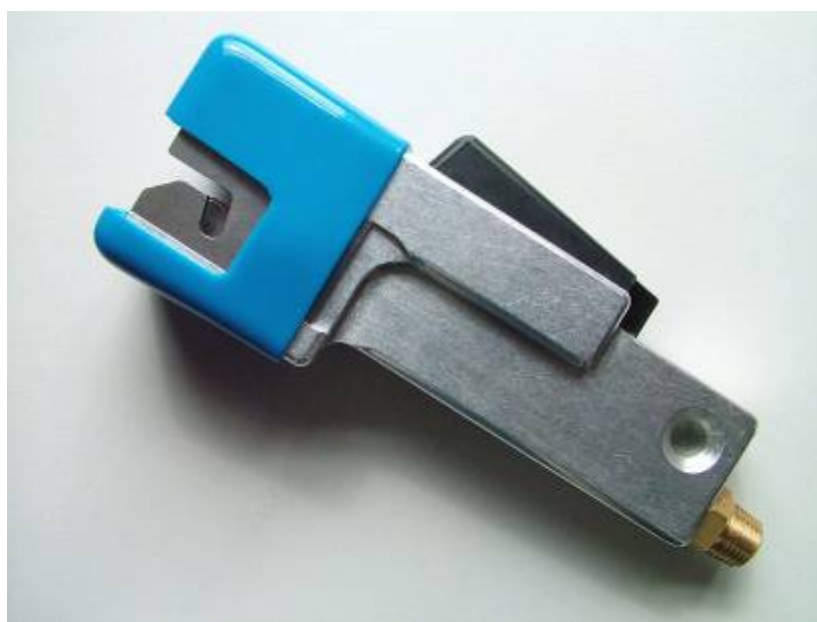




GTW Developments Ltd.

101 Series splicers



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Getting started

Model 101 - 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; these 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 will have some or all of the following:

- Splicer
- Additional splicing chamber(s)
- Optional carrying strap
- Optional buckle
- Optional hanger and screws
- Optional hanging clip

If they have been supplied, place the buckle and strap over the air union, before connecting the splicer to the air supply. The operator may then loop the strap round his wrist to reduce the likelihood of the splicer being dropped.

It may be useful to have a fixed place to store the splicer temporarily when the operator has finished. If it has been supplied, bolt the hanging clip to a convenient spot on a machine. Fix the hanger to the back of the splicer, using the screws provided. (This operation will involve the removal and replacement of the splicing chamber). 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.

Connect the splicer to an air line, minimum pressure 6 bar. (See Appendix 1 for compressed air Health and Safety issues)

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

Splicer threading

The Model 101 splicer can only be used where both ends of the yarn are introduced from the same end of the chamber - the 'ends together' method.

Figure 1



A Model 101 splicer as used by a right-handed operator. The splicer is held in the right hand, with the thumb on the trigger button.

Take the two yarns up the right-hand surface of the splicer. Restrain them with light pressure of the first finger. Take the yarns together through the side plate, and through the body of the splicer to the left hand side.

Figure 2



The splicer seen from the knife side. The yarns emerge from the left-hand side-plate, over the edge of the knife.

The yarns are pulled down sharply over the knife edge, to ensure that the cut is clean. The precise moment of cut will depend on the splicing procedure chosen to suit the yarn type

Figure 3



A completed splice just beginning to emerge from the right-hand side of the splicer. Normally, the splice will emerge from the splicer without any intervention by the operator. Waste ends of yarn, which have been cut off on the left-hand side, are discarded

Optimising splicing performance

Unusually, the Model 101 allows the operator to change procedures at will, at any time, in order to achieve the optimum splicing performance.

In most commercial splicers, the cutting operation is synchronised with the moment when the air blast enters the splicing chamber. It has been found that, in certain circumstances, splicing performance can be improved if the moment of cut is advanced or retarded slightly, relative to the air blast.

If the yarn is cut before the blast occurs, the splice will normally be ejected very quickly from the splicing chamber,. The result is a very short blast duration, and satisfactory splices in weak yarns which would otherwise be destroyed in the splice.

If cutting is delayed for a short time, so that the blast has already started for perhaps half a second, the air blast disrupts the fibres while the yarn is still restrained. This procedure is most useful when splicing highly twisted and compacted yarns; it opens the structure very effectively.

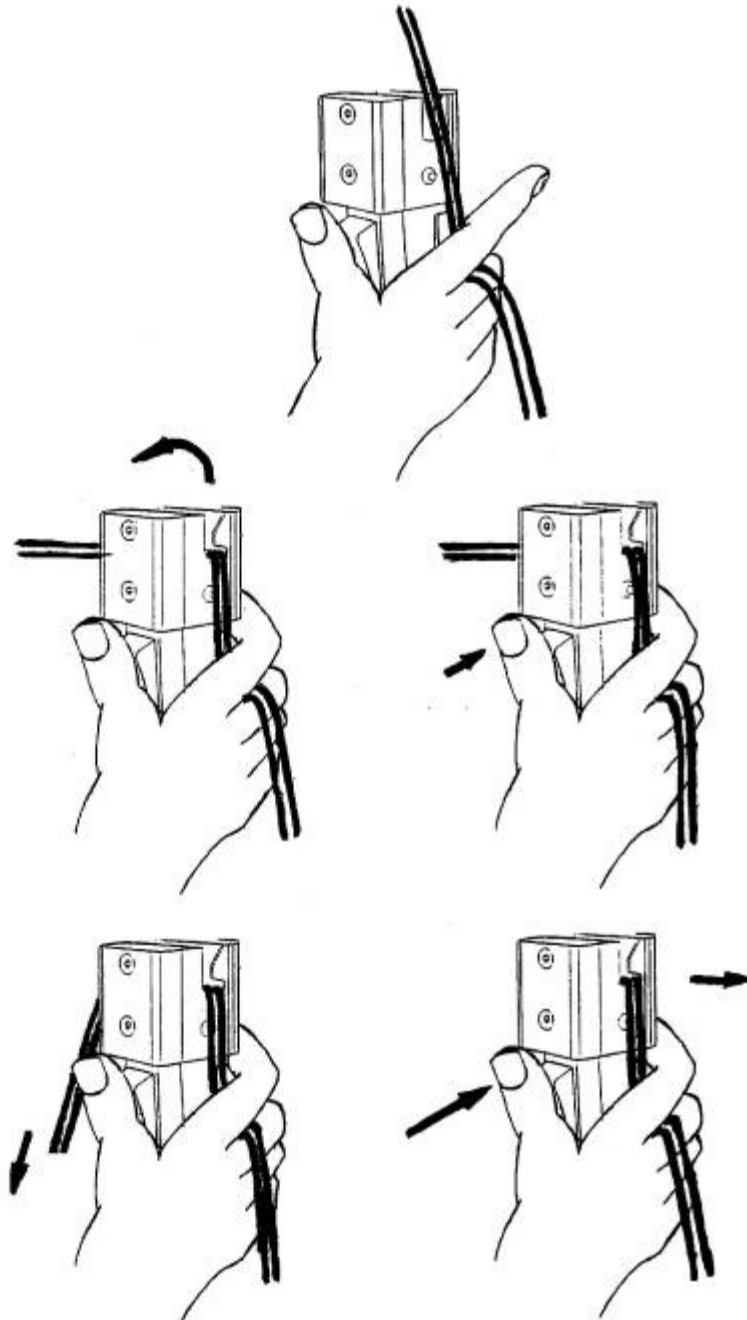
Occasionally, it may be advantageous to release the trigger before the yarn blows out; this tends to produce a splice with a 'fuzzy' tail, which may be preferable in some applications.

All these variations can be accomplished on the Model 101. The diversity of modes of operation is such that operator training is required, but with very little practice, splices of good appearance and strength can be obtained in a vast range of yarns.

By the nature of its design, the Model 101 is already far more flexible in its application than any other splicer. A selection of different operating techniques is shown in some detail in the three pages which follow. Following these procedures below can enhance the performance of the splicer yet further.

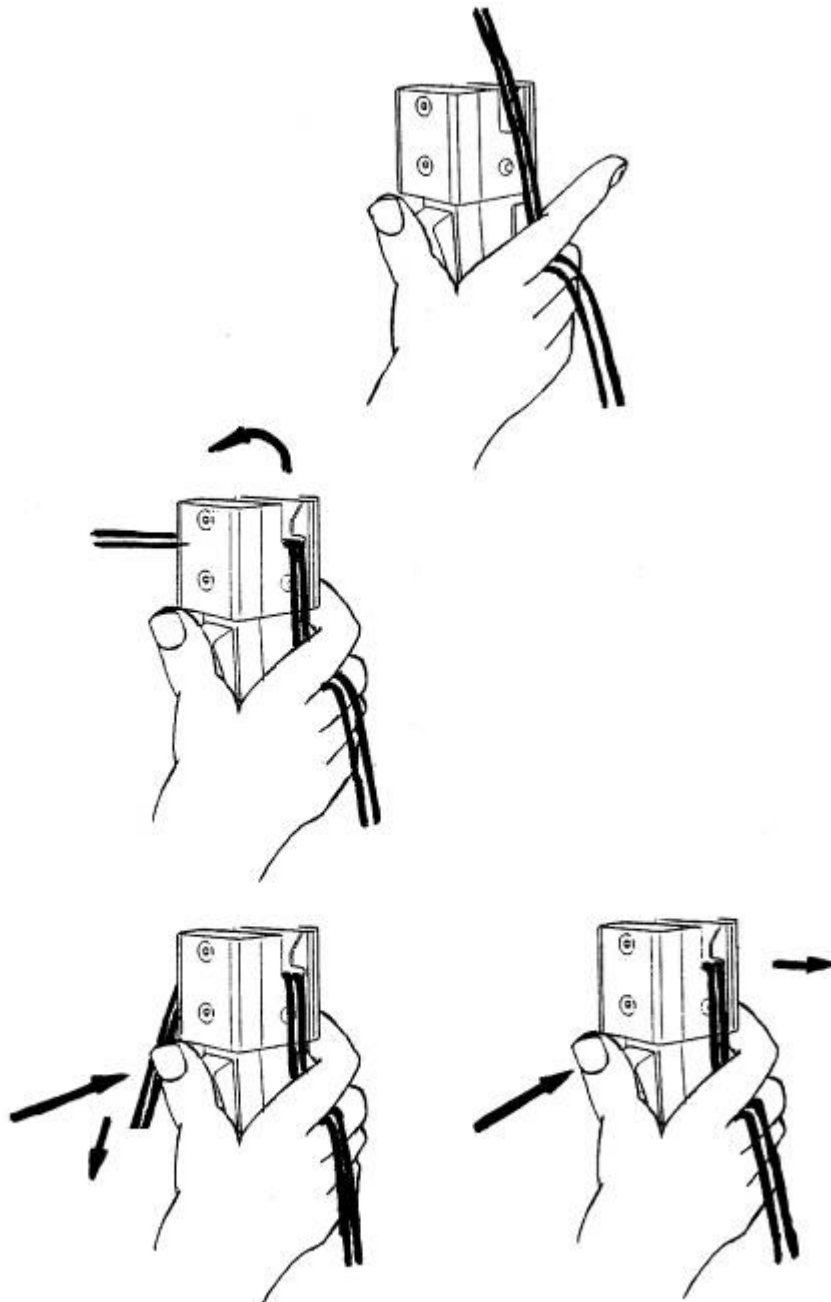
Splice method 1- "Early cut"

1. Hold the splicer in the right hand
2. Bring yarns up beside the splicer, on the right hand side.
3. Place yarns together into splicer; restrain with fingers
4. Half press the trigger, so that the chamber pad closes, but not so far as to start the blast
5. Cut the yarn bundle by pulling DOWN across the blade
6. Depress the trigger fully, so that the blast enters the chamber.
7. Keep the trigger depressed fully.
8. The splice should jump out of the chamber after less than a second



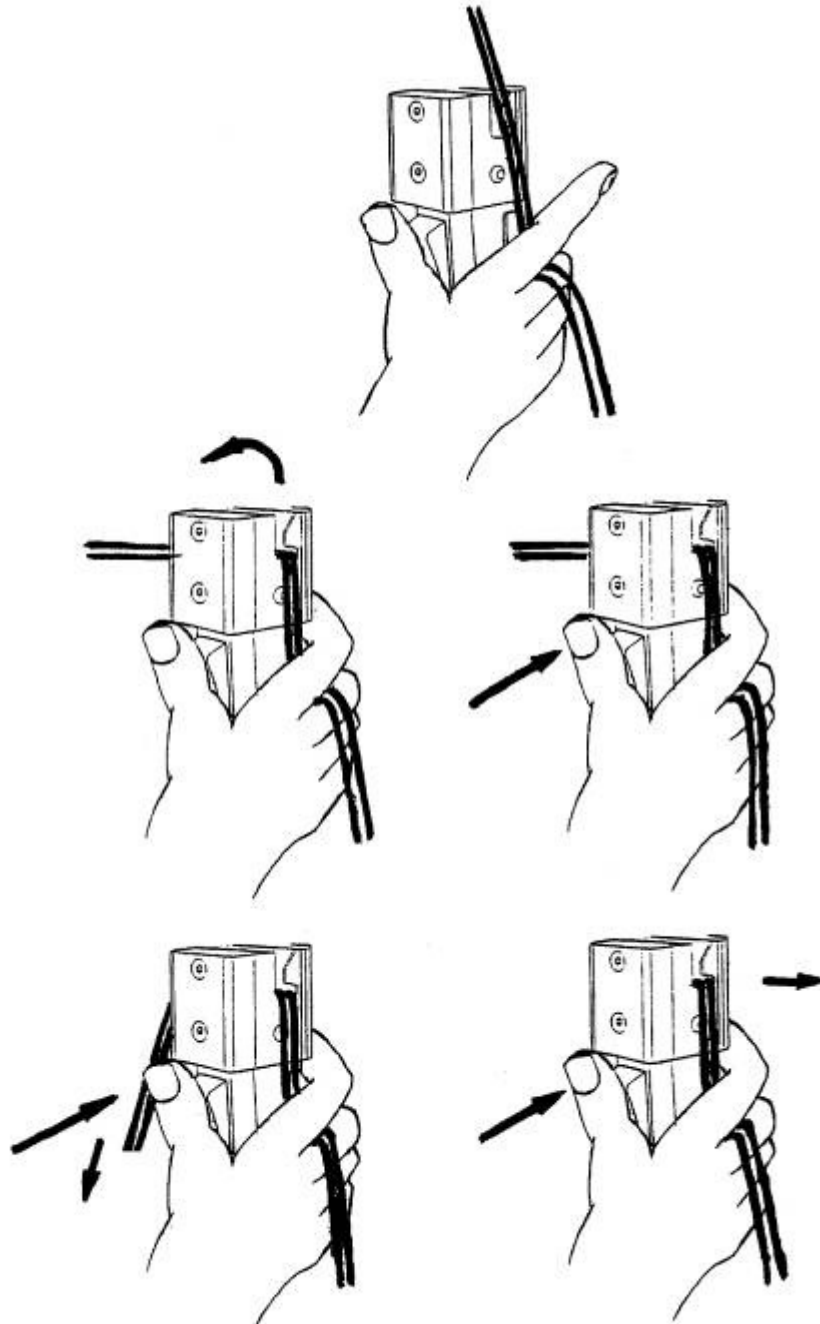
Splice method 2 – “Standard cut”

1. Hold the splicer in the right hand
2. Bring yarns up beside the splicer, on the right hand side.
3. Place yarns together into splicer; restrain with fingers
4. Press the trigger all the way down, so that the pad closes, and the blast enters the chamber.
5. At the same time as pressing the trigger, cut the yarn bundle by pulling DOWN across the blade
6. Keep the trigger depressed fully.
7. The splice should jump out of the chamber after less than a second



Splice method 3 – “Late cut”

1. Hold the splicer in the right hand
2. Bring yarns up beside the splicer, on the right hand side.
3. Place yarns together into splicer; restrain with fingers
4. Press the trigger all the way down, so that the pad closes, and the blast enters the chamber.
5. Allow the blast to disturb the yarn for a short time; then cut the yarn bundle by pulling down across the blade.
6. Keep the trigger depressed fully.
7. The splice should jump out of the chamber after less than a second



Important maintenance information

Apart from accidental damage, and the occasional replacement of cutters, the Model 101 requires very little attention. However, one aspect of maintenance should NEVER be neglected. The upper bore, in which the chamber pad moves, needs regular lubrication. The frequency of lubrication depends upon the nature of the factory environment and the workload on the splicer.

As a general rule, the cap and pad assembly should be removed and greased with Molykote 111 (available from the company) at least once per month. The service interval should be reduced if the splicer experiences very heavy work loads. The removal of this component is shown in Figures 27 to 31, pages 24 and 25.

Model 101 – general product information

General description

The Model 101 Splicer has six components mounted on a body in which airways conduct the compressed air for the splicing action.

1. Trigger - pressing the trigger initiates the splicing operation.
2. Valve - operation of the trigger moves the valve allowing compressed air to pass into the body head for splicing.
3. Pad - in the initial operation, compressed air closes the pad onto the splicing chamber prior to the splicing operation.
4. 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.
5. (Sometimes) Restrictor plate - attached to the splicing chamber, to extend its range of operation.
6. Knife and guide plates - the plates provide a means of guiding the yarn across the splicing chamber; a static knife on the exit side enables the yarn to be severed during splicing.

The Model 101 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 completely new (revolutionary and patented) splicing chamber technology, which enables the splicer to make joints in a wide range of yarns without any change (high-twist, low-twist, heavy, fine, S-twist, Z-twist) - in general, there is no need to change chambers when changing yarns

Forms of splice

The Model 101 makes only splices which we call "ends-together"; these can only be used in non-critical applications. Most standard splicers are designed to make the neater, ends-opposed splices.



Figure 4



Figure 5

Ends-together and ends-opposed splices. The ends-together splices on the left were made on a 101; those on the right on a conventional splicer.

Introduction

With the development of a multiplicity of different yarns for the carpet yarn business, the shortcomings of splicers began to become apparent by the mid-1990s. So many different yarn counts and constructions began to be used that customer needs could only be met by manufacturing splicers with a wide range of different splicing chamber geometries.

A need existed for a “universal” splicer, which could make satisfactory joints in a huge range of yarn constructions and counts. Advances were made, and new designs for splicers appeared, which were much more flexible than those which had gone before. Nevertheless, the new designs were limited, and certainly were by no means universal. In particular, no splicer could handle different counts and different twist directions without modification or replacement of the splicing chamber.

GTW Developments Ltd. undertook a research programme to address this problem, and as a result introduced the new Model 101. The 101 was designed with unprecedented flexibility in mind, a consequence of the development of a wholly-new and patented form of splicing chamber, which could handle an unprecedented range of yarns without modification.

Moreover, the 101 was designed with durability and simple servicing in mind, and has proved its reliability over several years of service. The 101 set a new standard as an effective and user-friendly tool for making extra-large splices in carpet yarns. Its performance is such that it has been accepted as a carpet yarn splicer in countries across the world. Moreover, its envelope of performance has been extended, so that it is also used widely to make joints in the fancy-yarn business.

1. Model 101 splicers have a simple straight-line string-up, and a simple and very strong construction. machined out of a solid block of alloy.
2. The splicer’s yarn guide plates are much stronger than is necessary for their function as guides; the thick stainless steel plates give the splicer a strong box-like structure.
3. The Model 101 can be kept in active service with a minimum of regular voluntary maintenance.
4. Simple construction leads to simple maintenance; the splicer in its basic form can be completely dismantled and re-assembled in about ten minutes.

The Model 101 is currently available in three forms, the Model 101 H, the Model 101 HW, and the Model 101 HWB. Further variants are likely to be added to the range in the near future.

The splicer – more detail - Model 101 H

Figure 6



Model 101 H Series 2 splicer. Shown here fitted with its protective cap, viewed from the right-hand side. This is the simplest, hand held splicer.

Figure 7



Model 101 H Series 2 splicer. Shown here fitted with its protective cap, viewed from the left-hand side.

Figure 8



Model 101 Series 2 splicer. Shown here after removal of the protective cap, viewed from the left-hand side.

The splicer – more detail - Model 101 HW

Figure 9



Model 101 HW splicer. Shown here without its protective cap. The splicer is fitted with a wedge-shaped accessory, which, together with its matching hanging clip, allows the splicer to be “parked” in any convenient place when not in use.

Figure 10



Model 101 HW splicer. Shown here with the hanging wedge partly fitted into the hanging clip. The hanging clip – or hanging clips if a number of storage positions is needed – is fixed to the textile machine in a convenient position, ready to receive the splicer when it needs to be stored safely after use.

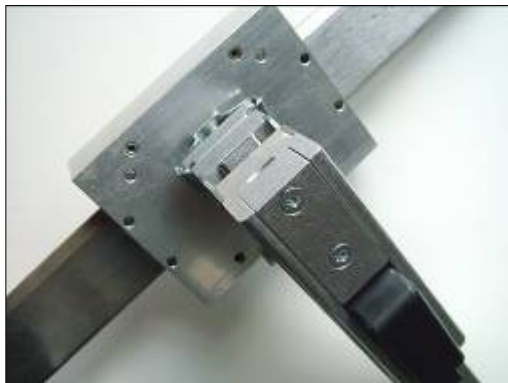
The splicer – more detail - Model 101 HWB

Figure 11



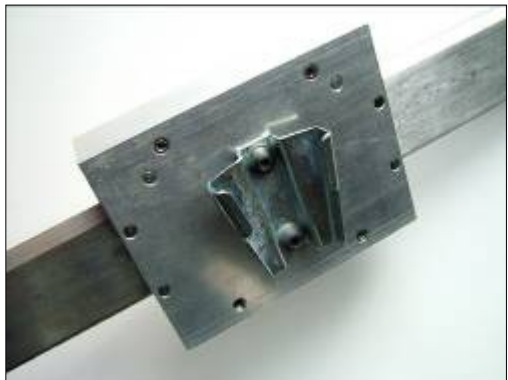
Model 101 HWB splicer. The 101 HWB is a splicer which can be moved along a horizontal rail. The splicer is fitted with a hanging wedge, like a 101 HW, but in this case the hanging clip is attached, not in a fixed position to the textile machine, but to a carriage, which itself can move along a rail.

Figure 12



Model 101 HWB splicer. Another view of the splicer, the carriage, and the rail.

Figure 13



Model 101 HWB splicer. Another view, in which the splicer has been removed, showing the hanging clip, the carriage, and the rail.

Model 101 splicing chambers - bath-tubs, and restrictor plates

All Model 101 splicing chambers are asymmetric in design; the nature of the asymmetry is the patented feature of the chamber, and gives the Model 101 its unique performance. The chambers come in two forms; those with a "restrictor plate" and those with a built-in "bath tub". Figure 9 shows three chambers. The two on the left are "bath-tubs". A scooped section is machined out of one end of the chamber; this is the reason for the bath-tub name. The one on the right is a more conventional chamber, with a bowl, which is fitted with a "restrictor plate" to provide the asymmetry.

Figure 14



Bath-tubs are the chambers which are fitted most commonly to the Model 101. The most common form of bathtub chamber is shown in the centre.

The two yarns to be spliced enter the chamber from the side with the small V cross-section. The cutter knife is fitted next to the wider section.

Figure 15



The bath-tub chamber has the virtue of extreme simplicity, being a single element. It might seem that the simplicity should result in a limited range of performance. Not so; the bath-tub chamber covers an enormous range of yarns, and the other designs incorporating restrictor plates are used only in special applications

Bath-tub splicing chambers are usually identified by a ten

character code. Examples are:

- 3485+44+16ER
- 3484-04-16SR

Bath-tub chambers do not have restrictor plates.

Figure 16



RESTRICTOR PLATE CHAMBERS are fitted occasionally to the Model 101 splicer - usually for relatively fragile yarns such as 100% wool. A typical restrictor plate chamber is shown opposite. The chamber itself is symmetrical, with a bowl in the shape of part of a sphere. The asymmetry is produced by securing a restrictor plate - a plate with a reduced cross section - to one side of the chamber.

The two yarns to be spliced enter the chamber through the V of the restrictor plate. The cutter knife is fitted at the end opposite to the restrictor plate.

This design is more complex than that of the bath-tub, but it does offer the opportunity to use a range of restrictor plates, each with different cross-sections. The restrictor plate is secured to the chamber with two screws, as shown here.

RESTRICTOR PLATE chambers are identified by a nine character code. Examples are:

- 3537-04-16E
- 3607+44+16T

Restrictor plates themselves are identified by a four figure code. Examples are:

- 27-30
- 13-25

Maintenance

Changing splicing chambers

WARNING: If the splicing chamber is removed while the splicer is connected to the air supply **DO NOT** press the trigger; the pad will be blown out of the main chamber. There will almost certainly be damage to the extension spring.

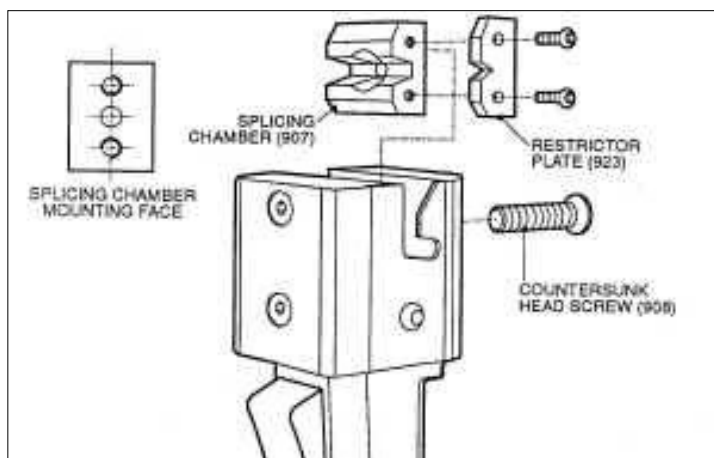
Uniquely, the Model 101 can splice a huge range of textile yarns on a single splicing chamber, so it is rarely necessary to change chambers. Nevertheless, you will sometimes need to remove the splicing chamber - during routine maintenance, or because the splicer has become fouled with fibre particles.

Figure 17



To release the splicing chamber, remove the single fixing screw Item 908 from the rear of the splicer body, when the splicing chamber can be lifted clear of the splicer. Usually, it is not necessary to remove the yarn guide side plates, but if the interior of the splicer is particularly filthy, removal of the plates will help cleaning.

Figure 18



The splicer is shown part-dismantled. Here we show a restrictor-plate splicing chamber, so that the structure of the restrictor plate / splicing chamber assembly can be understood.

Reassembly:

With the chamber in the splicer, attach the securing screw. Before tightening the screw, ensure that The chamber is

fitted the correct way round - small section on the yarn-entry side. Also, ensure that the chamber is fitted straight, with its top surface parallel to the top surface of the splicer.

It may sometimes be necessary to replace a restrictor plate. Ensure that the restrictor is properly aligned with the splicing chamber. It is usually best to fit the plate with the chamber out of the splicer body. Check:

- that the "V" in the plate is centralised with the groove in the chamber.
- that the top of the restrictor plate is level with the top surface of the splicing chamber.

The design of the splicer allows it to be used with equal facility by a left-handed operator. The two side plates are identical in overall dimensions, and can therefore be interchanged. When this is done, the chamber should be reversed, so that the chamber entry groove remains opposite the yarn entry side-plate. If a bath-tub chamber is being used, ensure that the small V profile is next to the yarn entry side plate. If a restrictor plate is fitted, the splicing chamber/restrictor plate assembly should be reversed as a unit. Then the restrictor plate must be next to the yarn entry side plate.

Splicer dismantling - side plates and knife

Figure 19



Removal of the yarn guide plate, entry side, Item 911. The entry-side plate is easily identified by its sloping edge; it is attached to the side of the splicer close to the narrow end of the splicing chamber, or the side bearing the restrictor plate. Remove the slotted button-head screw, Item 254.

Figure 20



Lift off the yarn guide plate. This exposes the side of the splicing chamber.

Figure 21



Removal of the yarn guide plate, exit side, Item 910. Remove the yarn guide plate from the exit side, and the cutter blade. The knife is retained in the splicer body by the yarn guide plate exit side. Removal of the button head screw (254) allows the yarn guide plate to be released.

Figure 22



Once the side-plate is removed, the knife, Item 909, is exposed. It is held in a recess in the body. It can simply be lifted out of the body recess.

Take special care when handling the knife to avoid personal injury. Care must be taken to ensure that the knife does not become lost when the guide plate is removed.

At the end of its service life, the knife should be discarded in a manner which will not cause injury to other people. Replacement blades are available from GTW Developments Ltd.

Splicer dismantling - trigger assembly

Figure 23



The trigger assembly can be removed without disturbing the splicer cap and valve assembly.

The trigger is secured by a pivot pin, which terminates in a 2.5 mm hexagon socket. Using a hexagon wrench, unscrew the pivot pin. Withdraw the pivot pin through the right hand side of the splicer.

Figure 24



With the pivot pin withdrawn, the trigger assembly can be released.

Note the appearance of the pivot pin in this illustration; for most of its length, it is a simple cylinder, but it terminates in a threaded section, which allows the pin to be screwed into the splicer body.

Figure 25



The trigger assembly is here completely withdrawn. Just visible between the splicer body and the trigger is the trigger return spring, which fits into a circular recess in the splicer body.

Figure 26



Clearly visible are the two small screws which attach the steel trigger plate to the trigger. Assembly is the reverse of the dismantling procedure. Be careful about one point during assembly; the tip of the trigger plate **MUST** engage with the small slot in the end of the valve. This slot can be seen clearly at the extreme left of the valve, in Figure 35, page 28.

Splicer dismantling - chamber pad and spring

Figure 27



The first stage of removing the pad assembly involves loosening the screws which secure the splicer cap. These screws are usually cross-head, as shown, but may have been replaced by slotted-head equivalents.

In either case, be careful in the use of the tool, whether hexagon wrench or screwdriver; mutilating the slot or the cross-head can make removal of the cap very difficult. Screws should always be discarded and replaced by new ones once removed.

Figure 28



With the screws removed, release the splicer cap. This should come away quite easily.

If it does not, then proceed with caution. If the cap is difficult to remove, then it is likely to be for one of the following reasons:

Figure 29



The cap comes out freely at first, but then is restrained because the pad is stuck in the bore. This is easy to detect. Do not simply pull harder; there will be irreparable damage to the pad return spring.

Solution; remove the splicing chamber to give access to the front of the chamber pad, through the other end of the main bore. With a suitable tool, gently push back on the pad. The assembly will slide out.

Figure 30



below.

The cap may be free at the top or the bottom end, but stuck at the other end. This is invariably associated with damage to the exterior of the top end of the splicer.

Solution. The top of the cap has a small slot machined into it. With a large-bladed screwdriver in the slot, work the tip of the driver until the cap is released. It is likely that the pad return spring will be damaged during this exercise; check, and if necessary, replace, as described

Figure 31



Here the cap and pad assembly are removed. The pad and O-ring, is clearly visible, but the return spring is not. The spring is shown in Figure 32, page 26. Clean and grease the assembly before replacement. **For lubricants see Replacement Parts section.**

Chamber pad and spring assembly: maintenance

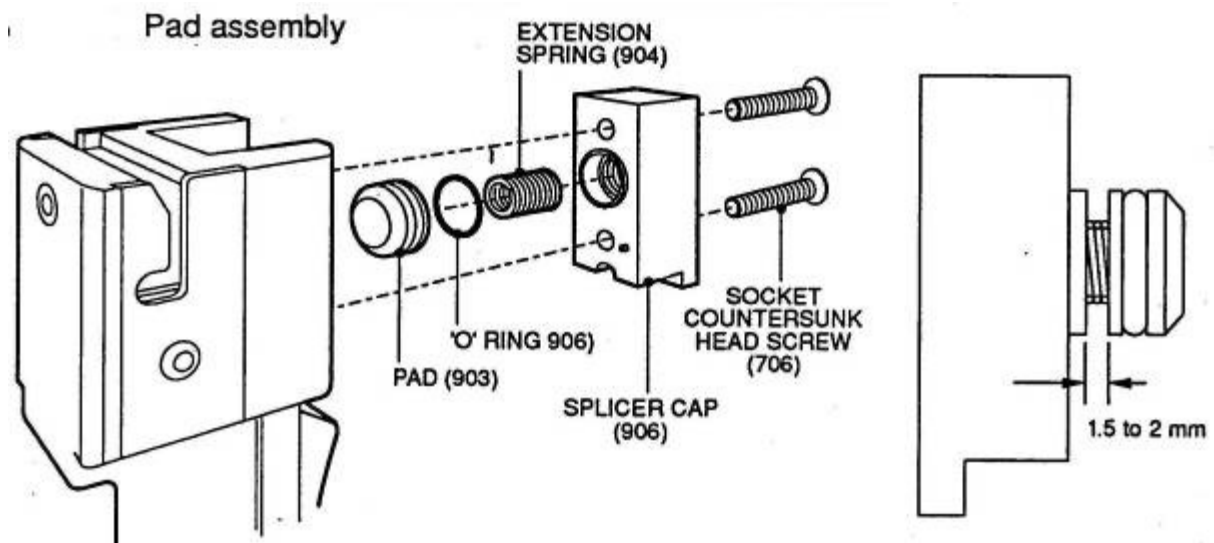


Figure 32

Withdrawing the two securing screws, Item 706, exposes the pad assembly in the cap. The pad is tethered to the cap by an extension spring. The extension spring is screwed into the cap, and the pad screwed to the spring. **We recommend that the spring always be replaced.**

Unscrew the pad from the spring, and the spring from the cap. Discard the spring. Thoroughly clean and de-grease the screw threads in the cap and pad. We recommend that a special flat-tipped M10 tap be used to clean out the threads in cap and pad.

Before reassembly, it is necessary to ensure that the cap, spring, and pad will fit together correctly. Therefore it is recommended that the components first be 'dry assembled'.

Screw the spring into the cap until four or five coils of the spring remain exposed. Screw the pad onto the spring for a few turns. Check that the pad is approximately parallel to the cap and that a gap of 1.5 to 2.0 millimetres between cap and pad can be achieved. If the components are markedly out of parallel, discard the spring.

If the 'dry assembly' is satisfactory, dismantle and repeat the operation using adhesive. Apply a drop of Loctite Structural Adhesive 326 to the coils at one end of the spring, and screw the spring into the cap until four or five coils of the spring remain exposed. Allow the adhesive to cure for approximately 30 minutes.

Apply more adhesive to the exposed coils of the spring and screw the pad onto the spring, ensuring that the gap between cap and pad is roughly parallel and is between 1.5 and 2.0 millimetres. Allow the adhesive to cure for approximately 30 minutes.

Before replacing the assembly, lightly smear the 'O' ring groove in the pad with Molykote grease. Apply a small amount of grease to the semi-circular recess at the bottom of the cap to facilitate free movement of the air valve in the cap, and to the surface of the main bore.

Splicer dismantling - valve assembly

Figure 33



This shows the splicer with the cap and pad assembly removed.

The end of the valve assembly is visible, below the main bore. Also visible, just below the projecting valve, is the circular hole which is the housing for the trigger return spring.

Figure 34



The valve can now simply be withdrawn.

Surrounding the valve is a cluster of O-rings and air shells, which are assembled in a specific order. It is likely that some of the O-rings and shells will remain in the small bore after the valve has been removed, so the components should be carefully hooked out with a suitable soft tool, and then cleaned and re-greased before replacement. **Use only recommended**

lubricants.

Figure 35



This shows the valve, and its associated air shells and O-rings, after removal from the small bore. Note the following:

Small slot in the left-hand end of the valve stem. Reference to the slot is made in Figure 26, page 23; the tip of the trigger must engage in the slot for the splicer to function correctly.

Brass spacer at extreme left. This spacer is important; it applies a compressive force to the O-rings, so that the

assembly seals properly.

Sequence of components: spacer; O-ring, shell, O-ring, shell, shell, O-ring, shell, O-ring.

Appendix 1 Compressed air

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

The following points are important:

1. Splicers generally operate at a pressure between 3 and 8 bar.
2. Pressure may vary according to application, but it must be as uniform as possible.
3. The air supply should be reasonably dry and clean, with the lowest possible flow resistance.
4. Because the time taken to make a splice is short, transient pressure drops associated with other demands in the mill may become important,
5. 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.
6. Compressed air installations should therefore be designed to minimise pressure drop.
7. Never use narrow-bore supply tube; this introduces resistance.
8. 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 then to be significant.
9. Sometimes, static line pressure is known to be adequate, but there are demonstrable problems with transients. Then it may be useful to fit a few meters 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.
10. 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.

1. Compressed air is dangerous: avoid any bodily contact with it.
2. Always follow the safety precautions recommended by the compressor manufacturer.
3. Always ensure that unions and connectors are fully tightened and sealed, and that there are no leaks.

4. 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.
5. Do not look into the working parts of the splicer when it is being operated.
6. If a splicer malfunctions, do not use it until it has been repaired by qualified personnel.
7. 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:
8. Before undertaking any service work, disconnect the splicer from the air supply.
9. During service work, exercise care while handling knives and springs.
10. Under normal circumstances, always refit safety covers before reconnecting the splicer to the air supply.
11. 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 escape.

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.

Appendix 2 Product improvements.

Figure 36



There have been two distinct designs of Model 101 splicer, Series 1 and Series 2. The Series 1 was manufactured with a trigger plate which wrapped round the splicer body. This design was lengthened very early on in the production run. The Series 1 splicer, short trigger form, is shown at the top of this picture. The Series 1 splicer, long trigger, is shown in the middle.

Figure 37



Both Series 1 triggers take the form shown left, differing only in length. A steel plate is formed into a rectangular section, and shaped to fit around the main handle. The trigger button is screwed and glued to the plate, and the whole assembly is attached to the splicer with a pivot pin, which passes through the trigger plate, the body of the splicer, and the other hole of the trigger. The pin is secured by two "Starlok" fasteners.

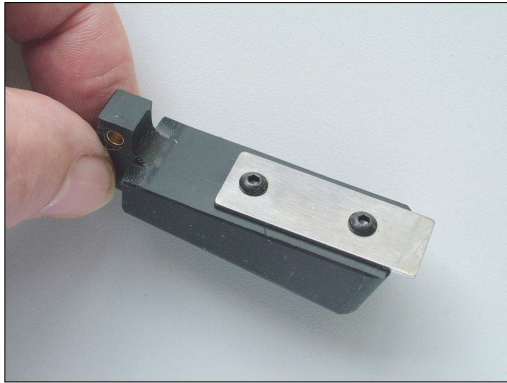
Figure 38



Finally, the Series 2 splicer was developed; this uses a completely different body, and a completely different trigger. The Series 2 splicer, with its completely new trigger, is shown at the bottom of Figure 31, and here. The Series 2 involved a major re-design of the tool. The splicer body, shown here, is 15 mm longer than the Series 1. The new trigger is largely enclosed within the body.

Only the Series 2 is now in production.
Internal parts for the Series 1 splicers remain available, but Series 1 bodies are no longer made.

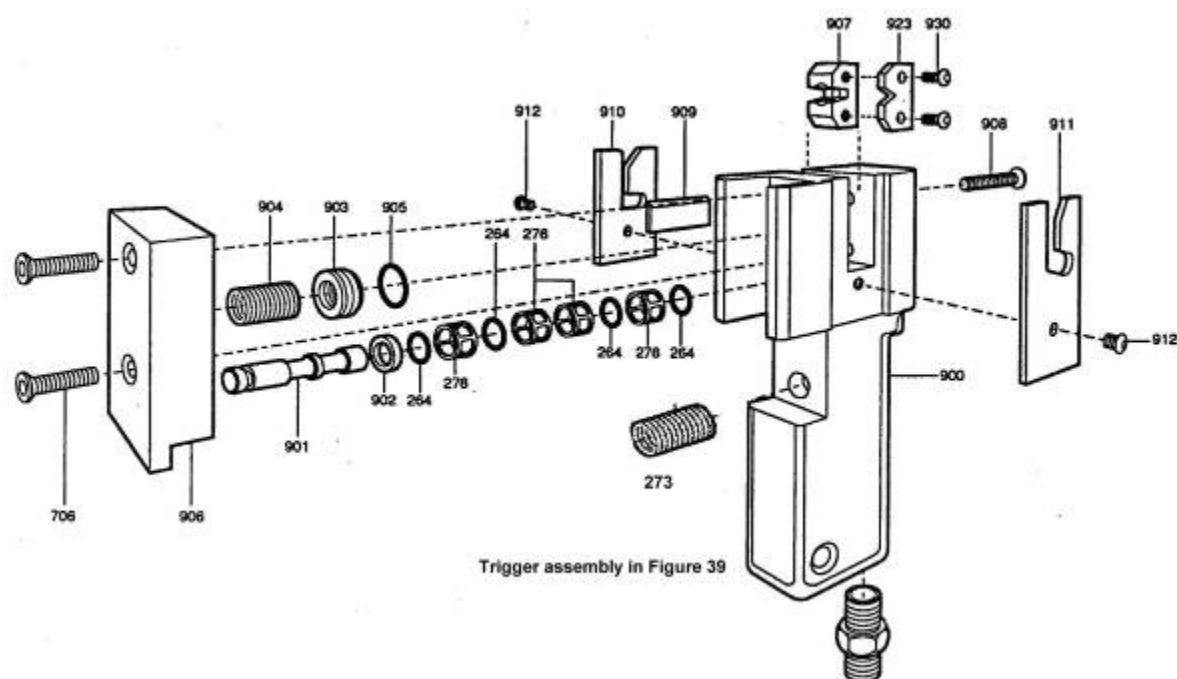
Figure 39



The new Series 2 trigger assembly is Item 943. It consists of a trigger pad, Item 944, a trigger plate, Item 941, and two M3 x 6 socket screws, Item 517 which secures the plate. The trigger pad is fitted with thread inserts, Item 224 - for the socket screws and a brass bush, Item 939, to house the pivot pin. Finally, there is the trigger pivot pin, Item 942.

Appendix 3 Model 101 splicer Series 2 - Parts list

The internal components of the splicer are shown here. Certain components have been omitted; these are the those described in Appendix 2. The most important design changes have been to the splicer body (a Series 1 body is shown in the drawing) and to the trigger assembly. The parts list variations, between Series 1 and Series 2, are in the additional table at the bottom of the parts list.



157	22000 - 04 - 04	Air union
254	15 - 44 - 06	M4 x 6 slotted pan head screw
264	01 - 10 - 10	'O' Ring , BS 010
273	10 - 136 - 011	Spring, trigger return 112808
276	2200 - 43 - 04	Shell for air valve
282	201 - 1256	Label - ear protection
517	13 - 13 - 06	M3 x 6 socket button head screw
706	12 - 44 - 20	M4 x 20 cross head countersunk screw
900	10 - 100 - 115	Splicer body, Series 2 only
901	10 - 113 - 113	Valve
902	10 - 133 - 114	Spacing bush
903	10 - 113 - 112	Pad (with item 905) – Item 899 without 'O' Ring 905
904	10 - 136 - 113	Extension spring
905	02 - 14 - 20	'O' Ring, RM 0140 - 20
906	10 - 101 - 116	Splicer cap

907	10 - 101 - 116A	Splicer cap assembly (with chamber pad and spring)
907**	To be specified by customer	Splicing chamber bath-tub shape
907**	To be specified by customer	Splicing chamber, restrictor plate type, without plate
907**	To be specified by customer	Splicing chamber with restrictor plate
908	16 - 44 - 16	M4 x 16 countersunk slotted screw
909	10 - 106 - 114	Knife
910	10 - 105 - 135	Yarn guide plate, knife side
911	10 - 105 - 140	Yarn guide plate, yarn entry side
919	201 - 9993	Dow Corning Molykote 111 100 gram
922	201 - 9994	Loctite Super Glue Extra 20 gram
923	To be specified by customer	Restrictor plate
930	13 - 13 - 08	M3 x 8 socket button head screw
932	3FA2M - 2M	Flexible coupling, M/M
933	3FA2F - 2M	Flexible coupling, M/F
935	10 - cap - 01	Protection cap blue
936	10 - cap - 02	Protection cap red
939	10 - 133 - 117	Trigger bush, Series 2 trigger
940	10 - 102 - 999	Trigger assembly, Series 2 (with items 224, 939, 944)
941	10 - 118 - 109	Trigger plate, Series 2
942	10 - 137 - 147	Trigger pin, Series 2
943	10 - 101 - 999	Trigger assembly, Series 2 (with items 224, 517, 939, 941, 944)
944	10 - 111 - 113	Trigger pad, Series 2 trigger
	Series 1 parts	
913	10 - 118 - 106	Trigger – shorter version
914	10 - 111 - 111A	Trigger pad assembly for old 101
915	10 - 137 - 144	Trigger pin
927	67 - 80 - 46	Domed cap fastener
929	10 - 118 - 107	Trigger - longer version
931	10 - 010 - 140A	Trigger assembly, longer version, series 1
945	10 - 010 - 134A	Trigger assembly, shorter version, series 1

MODEL 101 Assembly

