Customer Assistance Manual

JOINTAIR

YARN SPLICER
Code 114
& Code 115

AB CARTER INC.
MILL DEVICES COMPANY
The hand-held JOINTAIR 114 splicer, like others in the line, uses air pressure to produce high strength, almost imperceptible joins in yarns or fiber taws. It splices a wide range of filament and staple fibers used in many fabric formation processes.

(The related Code 115 Splicer differs mainly in its mounting, described on Page 7.)

The JOINTAIR 114 has an exclusive system of ends preparation, using a high-frequency oscillating blade. The results include a substantial improvement in the strength, appearance and reliability of the splice, and an extension of the range of yarns which can be spliced.

Application: The JOINTAIR 114 is used successfully in most yarn joining applications, including winding, warping, twisting, heat setting, weaving, knitting and tufting. It can splice most fibers, including cotton, wool, mohair, goat hair, nylon, polyester, rayon, acrylics, Kevlar, Nomex, polypropylene, carbon fibers and fiberglass.

Contents: This booklet includes operating instructions, maintenance information and a parts manual. If you need additional help, Mill Devices provides telephone assistance every business day.

To Load Splicer: Yarns to be joined are laid diagonally into notches in the splicer from opposite directions. They are automatically clamped in the base of the slots. NOTE: Tails of the yarn must always be in front slots.

Operation: Depress trigger fully. Ends of yarn are drawn into the splicing chamber. They are automatically trimmed, prepared by oscillators, and joined by timed air blasts. NOTE: Trigger must be pressed to end of its stroke to complete cycle.

Removal: As soon as air blast ends, release the trigger. Remove the spliced yarn. If yarn hangs in splicer, do not remove by jerking. Damage to the splicer could result.
ADJUSTMENTS FOR PROPER SPLICING

To adjust the JOINTAIR 114 for specific yarn characteristics, different settings or a change of mingling chamber, cover, guide or oscillators may be needed, as follows:

1) Make sure that air pressure is 90 psi.
2) See that suitable mingling chamber, cover, guide and oscillators are in place. (Refer to page 4)
3) For correct end preparation, insert yarn, then:
   — Pull the trigger. Ends of yarn will be opened.
   — Rotate slotted screw E until preparation of ends is correct. (See examples below.)
4) Now try a splicing cycle. Increase or decrease the blast duration by rotating slotted screw T until a good splice is made.
5) If the yarn ends are too long, adjust the length by rotating the two slotted screws marked L.

NOTE: In normal use, if the full operating cycle is not completed, the Slide, Part No. 60, must be released with a screwdriver. (See inset on sketch.)

Three regulation points in JOINTAIR 114 make it possible to create the best possible splice within the range of the mingling chamber used. (For selection of appropriate chamber, see page 4 and the Parts List.)

E—ENDS PREPARATION AIR VOLUME...
This slotted screw adjusts the volume of air for the ends preparation air blast. (Duration of the blast is controlled by “T”.)

T—TIME OF CYCLE...
This slotted screw adjusts the duration of both the preparation and chamber air blasts.

L—LENGTH OF YARN OVERLAP...
Two regulators (slotted screws), one on each side of the splicer, adjust the length of yarn ends prior to splicing. (“1” = 20mm overlap—short splice...“6” = 65mm overlap—long splice)

EXAMPLES—CORRECT PREPARATION AND SPLICE:

<table>
<thead>
<tr>
<th>Ideal Ends Preparation...</th>
<th>Correct Splice...</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Ideal Ends Preparation" /></td>
<td><img src="image2" alt="Correct Splice" /></td>
</tr>
</tbody>
</table>

EXAMPLES—INCORRECT PREPARATION AND FAULTY SPLICES:

<table>
<thead>
<tr>
<th>Fibers tangled at the tip...</th>
<th>Splice with fugitive ends...</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image3" alt="Fibers tangled at the tip" /></td>
<td><img src="image4" alt="Splice with fugitive ends" /></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Insufficient preparation of ends...</th>
<th>Splice with too little mingling...</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image5" alt="Insufficient preparation of ends" /></td>
<td><img src="image6" alt="Splice with too little mingling" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Excessive preparation of ends...</th>
<th>Splice with weak center...</th>
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</thead>
<tbody>
<tr>
<td><img src="image7" alt="Excessive preparation of ends" /></td>
<td><img src="image8" alt="Splice with weak center" /></td>
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</tbody>
</table>
IMPORTANT
The letters NN are used in the drawing and descriptions in place of the actual numbers from 00 to 99. When ordering replacements for parts identified here as "NN", use the actual number, which is engraved on the part.

MINGLING CHAMBER (NN7)
This part of the Jointair mingles the fibers together. Various types of mingling chambers are available. Selection of the correct chamber is dependent on yarn characteristics and is left to the judgment of a technician. See chamber selection guide - next page.

CHAMBER COVER (NN8)
This part closes the mingling chamber. Note: Standard chamber cover, part No. 008/A, should be used with chamber equipped with linear slot. Chamber cover part No. 318/C, should be used with the chamber equipped with cross slot.

GUIDE (NN9)
This part houses the chamber cover. Note: The guide, part No. 159/A, should be used with chamber cover, part No. 008/A, and guide, part No. 319/C, should be used with chamber cover, part No. 318/C.

OSCILLATORS (NN5 & NN6)
This part opens and prepares the yarn end prior to mingling. Yarns with left final twist (S) should be opened with oscillators Type S, part No. 165-166. Yarn with right final twist (Z) should be opened with oscillators Type Z, part No. 175-176. Note: Front oscillators (part No. 176 and 166) and rear oscillators (part No. 175 and 165) are not interchangeable.
SELECTING THE CORRECT MINGLING CHAMBER

(Refer to Part No. NN7 - Page 10)

The most important part of the Jointair splicer is the mingling chamber where the yarn-joining function is actually performed. The chambers are available in several different sizes and variations for such applications as reverse twist yarn and plied yarn. The chart below lists some chambers and their range application.

Remember that the chamber shown for a particular yarn count is not necessarily the chamber you should use in your own operation. These are only starting points. In-plant variables and yarn quality will determine your chamber selection.

### CHAMBERS FOR CODE 114 & 115 JOINTAIR

<table>
<thead>
<tr>
<th>Chamber</th>
<th>Application</th>
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</thead>
<tbody>
<tr>
<td>007A</td>
<td>Fine to medium yarn counts</td>
</tr>
<tr>
<td></td>
<td>Filament and long staple spun yarns</td>
</tr>
<tr>
<td>007B</td>
<td>Medium to coarse yarn counts</td>
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<tr>
<td></td>
<td>Filament and long staple spun yarns</td>
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<tr>
<td>007E</td>
<td>Extremely coarse counts</td>
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<tr>
<td></td>
<td>Filament and long staple spun yarns</td>
</tr>
<tr>
<td>027E</td>
<td>Extremely coarse counts</td>
</tr>
<tr>
<td></td>
<td>Spun Yarns</td>
</tr>
<tr>
<td>257A</td>
<td>Medium to coarse spun yarns</td>
</tr>
<tr>
<td>107A</td>
<td>Fine to medium spun yarns</td>
</tr>
<tr>
<td>117A</td>
<td>Fine to medium worsted yarns</td>
</tr>
<tr>
<td>217A</td>
<td>Short staple spun yarns - Z twist</td>
</tr>
<tr>
<td>227A</td>
<td>Short staple spun yarns - S twist</td>
</tr>
<tr>
<td>237A</td>
<td>Medium staple spun synthetic yarns - Z twist</td>
</tr>
<tr>
<td>247A</td>
<td>Medium staple spun synthetic yarns - S twist</td>
</tr>
<tr>
<td>317C</td>
<td>Fine to medium ring spun and OE yarns - Z twist</td>
</tr>
<tr>
<td>327C</td>
<td>Fine to medium ring spun and OE yarns - S twist</td>
</tr>
<tr>
<td>417C</td>
<td>Fine to medium ring spun and OE yarns - Z twist</td>
</tr>
<tr>
<td>427C</td>
<td>Fine to medium ring spun and OE yarns - S twist</td>
</tr>
</tbody>
</table>

LUBRICLENS®

Lubriclens® is a combined cleansing and lubricating medium for general use in the textile industry. The penetrating action of the aerosol spray can be directed to inaccessible parts. The cleansing agent quickly evaporates, leaving behind a thin film of lubricant whose anti-electrostatic properties repel dust and fugitive textile fibers.
CARE & MAINTENANCE

CLEANING:
NOTE: Disconnect Splicer from air supply before cleaning.
The Jointair Splicer should be cleaned periodically. The frequency of cleaning depends on the fiber processed and any additives or spin finish used. Since the splicer is air-operated, most impurities are removed by the air blasts. However, lubricants and impurities from the air or the fiber may build up in spots. For perfect splicing, this build-up must be removed.

Also, fiber can accumulate between the scissor blades and cause occasional mis-cuts. When this occurs, the scissors should be removed, cleaned and refitted.

UNFILTERED AIR
It is always wise to filter the air before it reaches the splicer. If this is not possible, the splicer must be cleaned more often because impurities may be passing through the splicer at all times.

CLEANING THE SPLICING CHAMBER
Impurities in the air supply can interfere with the duration of the air blast and affect the chamber efficiency. To correct these problems:
1) Check the air filter on the system, if any. Make any correction necessary to assure proper operation.
2) Set the time adjustment (T) to position 1 and operate the splicer several times without yarn. Reset the timer to its operating position and load yarn. Operate the splicer.

If splice timing is not consistent after these steps, then your qualified maintenance technician should disassemble the splicer and clean the valve and seals. (If you prefer, send the splicer to Mill Devices Company for service.)

CLEANING THE ORIFICES
A second major problem is insufficient mingling of the fibers. If the splicer was making good splices with the existing chamber and settings, but current splices are poor, then the orifices may need to be cleaned.
1) Take out the chamber and remove any impurities from the air blast orifices.
2) Operate the splicer several times before replacing the chamber. This should return the splice to proper operation.

OSCLLLATOR CARE
For ideal ends preparation, the vibrating blades in the oscillators must be correctly positioned and not damaged, as shown in the sketch above. In case of sudden inefficiency of ends preparation, check the vibrating blades. Restore each blade to its correct position, or if damaged, replace the complete oscillator.

LUBRICATION
The Jointair hand splicer should be lubricated periodically. Follow cleaning, we recommend that the splicer be sprayed with A.B. Carter, Inc. LUBRICLENS®, which is a combined cleaner/lubricating agent for such special applications as knotters and splicers.

MAINTENANCE TRAINING
A.B. Carter, Inc. offers complete splicer maintenance courses for all your plant personnel. This training can be done at our facility in Gastonia or in your plant.
ALSO - Videotapes for splicer maintenance training are available for some splicer models - See back page.

Call: Mill Devices Company - A.B. Carter, Inc. (704) 865-1201
Or write: P.O. Box 518, Gastonia, NC 28053
ACCESSORIES

A series of mounting devices are available to make it possible for you to use the Jointair in a variety of ways. For manual winding and warping operations, the splicer can be used with an A.T.S. Air Track Supply System for mounting above or below on various textile machines. See "Track Systems" on page 8.

Filter - ACC. 537
(Type 114)

Code 2552 Splice Scanner II
Portable Strength Tester

This easy to use electronic instrument provides prompt and accurate strength and elongation test of splices, piece-ups and yarns at the machine where processing takes place. (Spinning, winding, twisting, etc.). Information is displayed following each test and can be printed showing statistical data.
AIR TRACK SUPPLY (A.T.S.) SYSTEM
(For Parts List ... contact Mill Devices Company)

For Mounting From Above...
(Also available for mounting from above on double-sided machines.)

For Mounting From Below...
Specify Splicer Type (Code No.) When Ordering Parts
14 Screw
15 Spring
19 Screw
200 Right Plate
206 Tail Lever
214 Spring
216 Clamp
218 Clamp Guide
222 Fixed Scissor
228 Moving Scissor
232 Spacer
234 Bushing
236 Spring
240 Actuating Lever
256 Distance Pivot
258 Spacer
260 Spring
262 Spacer
263 Spring
264 Pin
265 Screw
266 Washer
267 Leaf Spring
270 Cam
272 Spring Washer
274 Index
280 Frictioner
300 Left Plate
306 Tail Lever
314 Spring
322 Fixed Scissor
328 Moving Scissor
336 Spring
340 Actuating Lever
360 Spring
367 Leaf Spring
380 Frictioner

Specify Splicer Type (Code No.)
When Ordering Parts.
SLICER REPAIR SERVICE

A. B. Carter, Inc. offers repair service for all splicer and knotters products sold by Mill Devices Co.

Send splicers or knotters to be repaired, with your Purchase Order, to the mailing or shipping address below. (Please include yarn samples for splicer adjustments.)

Mailing address:
Mill Devices Company
A. B. Carter, Inc.
P. O. Box 518
Gastonia, NC 28053

U.P.S. or other Delivery address:
Mill Devices Company
A. B. Carter, Inc.
4801 York Highway
Gastonia, NC 28054

VIDEOTAPES FOR SPlicer MAINTENANCE

Training sessions for Jointair 114 Splicers, and for some other models, are now available on videotape. The tapes demonstrate splicer disassembly by an experienced A. B. Carter, Inc. technician. Operating and maintenance information is included.