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IWF 1131-C

IWF 1131-plus



Operating Instructions

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WARNING

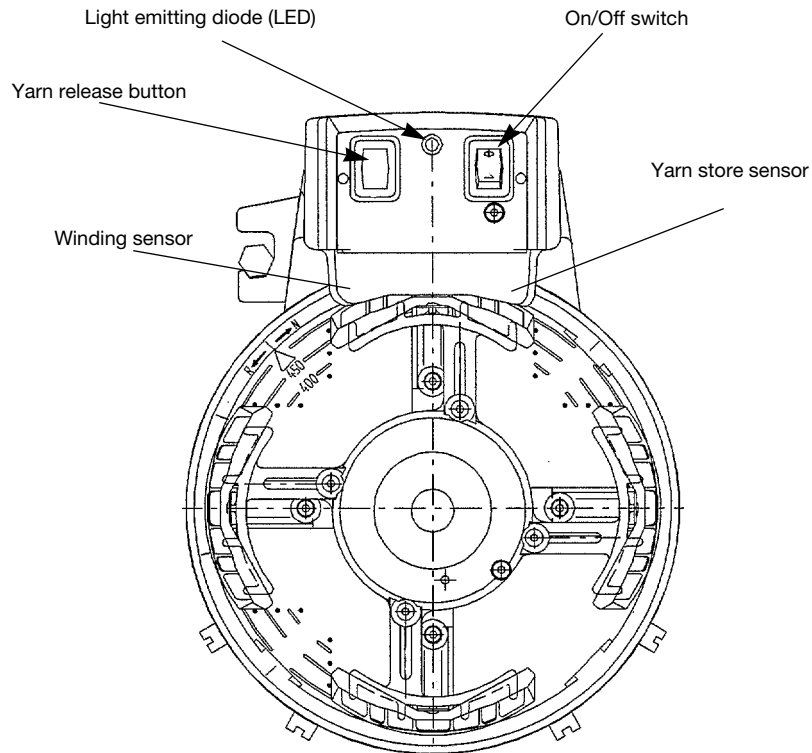
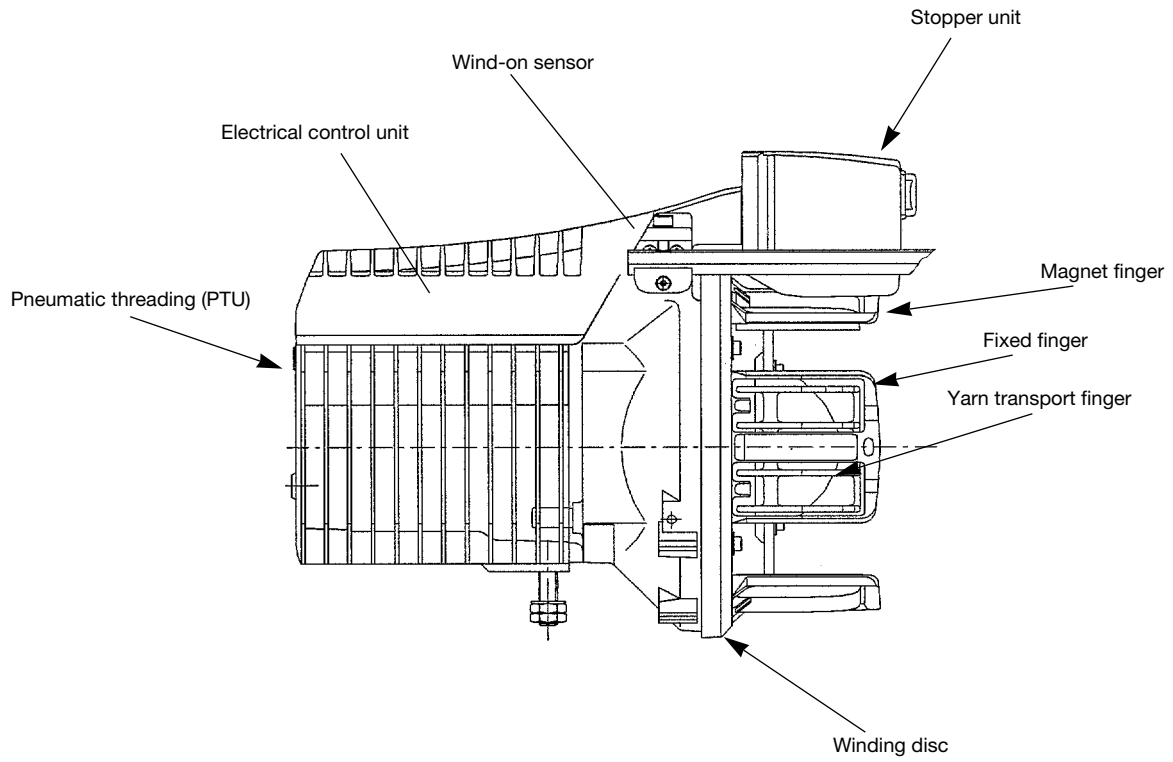
CAUTION MUST BE TAKEN IN THE CLOSE VICINITY OF THE FEEDER AS IT CONTAINS MOVING PARTS THAT CAN CAUSE INJURIES AND, IN NORMAL OPERATION, STARTS WITHOUT PRIOR WARNING.

THE POWER SUPPLY MUST BE SWITCHED OFF AT THE MAINS BEFORE ANY WORK IS CARRIED OUT ON THE FEEDER, THE TRANSFORMER OR ANY OTHER ELECTRICAL COMPONENTS. THE FEEDER AND THE TRANSFORMER CABINET MUST BE FULLY ASSEMBLED BEFORE THE POWER SUPPLY IS CONNECTED.

THE FEEDER AND TRANSFORMER CONTAIN ELECTRICAL COMPONENTS THAT RETAIN AN ELECTRIC CURRENT UP TO THREE MINUTES AFTER DISCONNECTION

ALL WORK ON ELECTRICAL COMPONENTS MUST BE CARRIED OUT BY A QUALIFIED ELECTRICIAN.

TO COMPLY WITH C. E. REGULATIONS ONLY REPLACEMENT PARTS APPROVED BY IRO AB MAY BE USED



SYSTEM

The system consists of feeders, feeder cables, PTU (pneumatic threading up), input yarn tensioners and balloon break cones.

FEEDER

The feeder consists of:

- Motor and control circuit.
- Adjustable spool body.
- Pick length control stopper magnet.
- Yarn store sensor.
- Wind-on sensor.
- Winding sensor.

Spool body circumference, yarn separation size and stopper unit are mechanically adjusted on the feeder. All other settings are carried out on the weaving machine keyboard and are transmitted to the feeder through the serial communication. The yarn release is controlled by the weaving machine.

The motor speed control is a microprocessor based frequency controller situated in the cover above the motor.

At feeder start-up, the number of windings on the spool body is controlled by the yarn store sensor which indicates the outer limit of the yarn store. The number of windings supplied to the yarn store is continuously counted by the wind on sensor whilst at the same time the number of windings removed from the yarn store is counted by the winding sensor. This information is used by the microprocessor to calculate the motor speed. This procedure ensures a constant yarn store.

The length of the pick is equal to the spool body circumference multiplied by the number of windings removed during one insertion. The magnet pin is opened by a trigger signal from the weaving machine and closes directly after the second to last winding passes the winding sensor.

SPOOL BODY CIRCUMFERENCE

The required pick length is the deciding factor when calculating the spool body circumference and the number of windings for each pick. The table below indicates the pick length ranges that can be obtained from different numbers of windings. To calculate the appropriate spool body circumference / number of windings per pick, proceed as follows:

1. Determine the required pick length (drawing-in width plus waste).
2. Using the table below determine a pick length range that covers the required pick length.
3. The number of windings necessary to obtain the required pick length will be found in the right hand column. If there are two possible values, always choose the lower value. Adjust the spool body to the required circumference as follows:

Pick length range (mm)		No. of Winds
MIN	MAX	
378	508	1
756	1016	2
1134	1524	3
1512	2032	4
1890	2540	5
2268	3048	6
2646	3556	7
3024	4064	8

Move the stopper unit to its uppermost position before any adjustments are carried out.

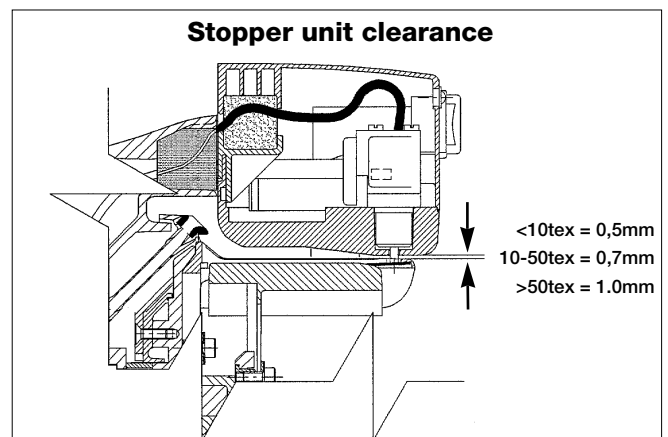
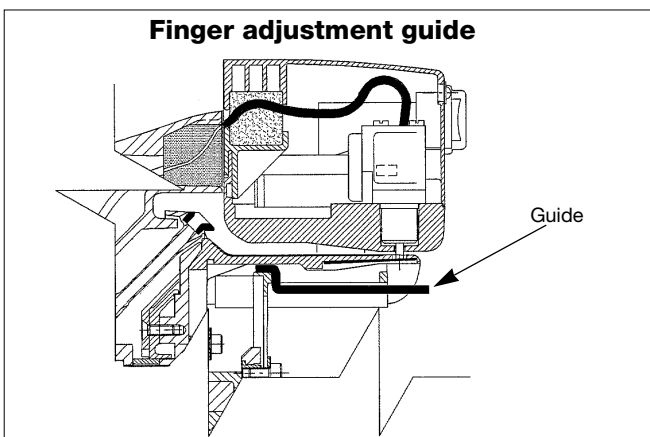
Adjust each finger in turn, first the fixed finger then the yarn transport finger. Only loosen the locating screws sufficiently to move the finger, excessive loosening gives faulty values. When adjusting the yarn transport fingers the winding disc eyelet must be aligned with the centre of the finger being adjusted .

Fixed finger adjustment:

1. Loosen the locating screw.
2. Adjust the finger using the circumference scale on the front plate as a reference.
3. Re-tighten the locating screw.

Yarn transport finger adjustment:

1. Align the winding disc eyelet with the finger to be adjusted.
2. Loosen the locating screw.
3. Insert the short end of the guide between the fixed finger and the yarn transport finger.
4. Adjust the yarn transport finger towards the fixed finger until the guide is felt to locate then, whilst holding the guide and finger in place, re-tighten the screw.



Adjusting N/R rotation and yarn separation

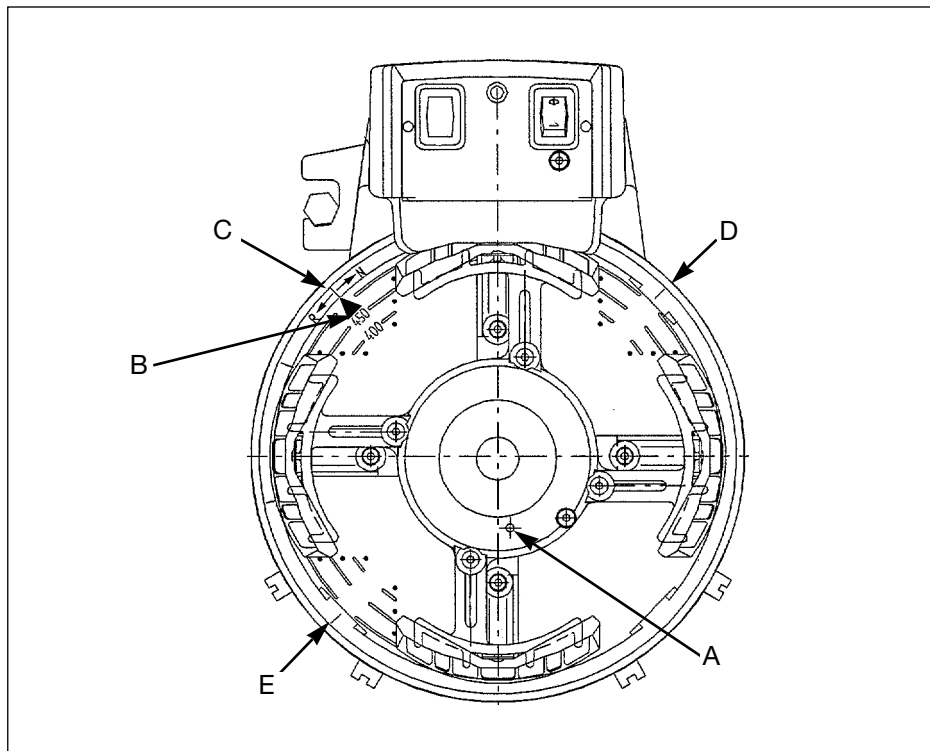
This adjustment is carried out by locking the inclined hub in position and then revolving the winding disc in a clockwise or anti-clockwise direction.

Proceed as follows:

- 1, Insert a three millimeter socket key (or similar object) into the hole (A) in the cone at the front of the spool body.
- 2, Whilst asserting a slight inward pressure on the key, revolve the winding disc until the key is felt to lock into position.
- 3, Firmly grasp the spool body* and rotate the winding disc in the required direction. For normal rotation rotate the winding disc in a clockwise direction and for reversed rotation in an anti-clockwise direction. The more the winding disc is rotated the larger will be the yarn separation.
- 4, Point B on the front plate is the reference point for adjusting separation. When point C is aligned with B the yarn separation is set at zero. By aligning D or E with B the yarn separation is set at maximum.

Note, excessive yarn separation can cause inferior weaving results and reduce the yarn store capacity. Do not set a larger yarn separation than necessary for the yarn count being used.

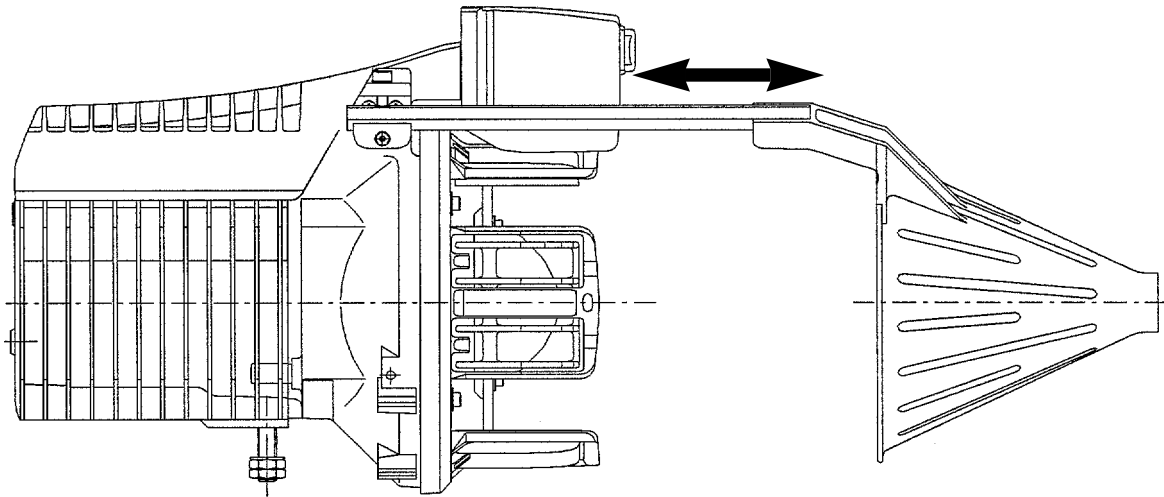
*Failure to hold the spool body in position when adjusting yarn separation will result in damage to the stopper magnet pin.



To ensure optimal yarn performance between the feeder and the weaving machine it may be beneficial, especially when weaving heavier yarns, to use a cone for balloon control.

During the initial installation the cone should be adjusted to the outermost position, then, with the machine running, slide the cone inwards towards the feeder until the optimum yarn path is obtained.

The cone should then be locked into position.



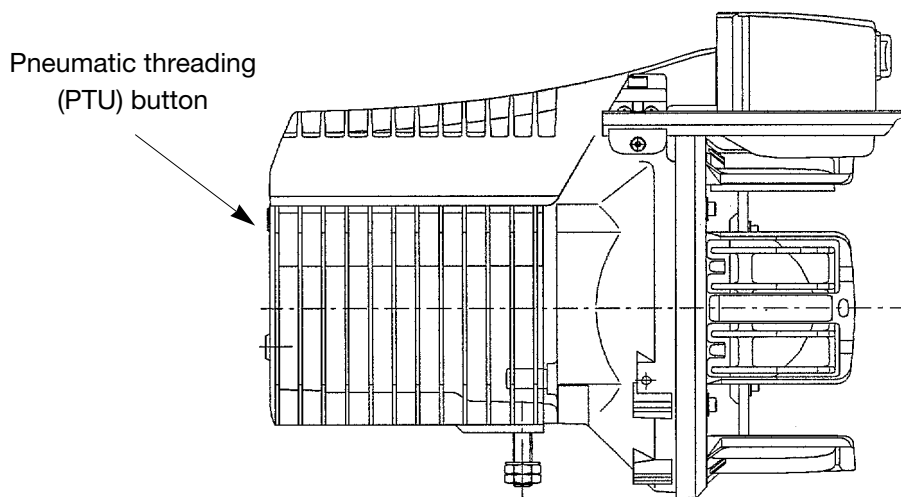
Before threading the feeder it is necessary to remove any yarn that may be on the spool body. To do this the magnet pin must be opened. This can be performed using any of the following methods:

1. A short push on the yarn release button will release one winding.
2. By pushing the yarn release button and keeping it pushed in the magnet pin will remain open as long as the button is pushed in.

After the magnet pin has been opened any yarn on the spool body can be removed.

To thread the unit proceed as follows:

1. Hold the end of the yarn close to the input eyelet at the rear of the feeder.
2. Push the PTU activating button and release the yarn.
3. Take hold of the yarn end.
5. Reset the feeder (switch off/on).



Fault	Check in the following order							
The unit will not start	1	20	3	2	4	5	12	6
The unit will not stop	3	20	7	6	5	18		
The yarn store runs out (without input sensor)	1	20	19	3	2	8	5	
The yarn store runs out (with input sensor)	1	20	19	3	2	5	9	
The magnet pin does not respond to the yarn release switch	1	10	5	14	12			
Incorrect pick lengths	1	7	11	3	17	10	5	
Excessive yarn store / overfilling	1	20	3	4	6	5	18	

Stop reasons on loom display	Check in the following order			
Basic settings not received	4	5	12	
Communication error	4	13	5	12
Yarn store not full	15			
Overheated prewinder	2	16	5	12
Incorrect motor voltage	16	14	12	5
Incorrect magnet voltage	5	14	16	12

WARNING

ALWAYS TURN OFF THE MAIN SWITCH BEFORE DISCONNECTING OR CONNECTING THE FEEDER OR ANY OF THE CIRCUIT BOARDS. ALL WORK ON ELECTRICAL COMPONENTS SHALL BE CARRIED OUT BY A QUALIFIED ELECTRICIAN.

1. Check weaving machine display
2. Check that the winding disc runs free
3. Clean sensors and spoolbody
4. Check cable connections
5. Replace motor circuit board
6. Replace yarn store sensor
7. Check distance between magnet support and magnet finger
8. Strong yarn trapped at input side
9. Check that the weaving machine stops when the yarn breaks
10. Replace the stopper magnet
11. Check pick length setting
12. Replace interface/supply circuit board
13. Check mains supply
14. Check fuses on the interface/supply circuit board
15. Fill up the yarn store before starting the weaving machine
16. Check voltage level
17. Replace winding sensor
18. Replace wind-on sensor
19. Check whether yarn store is sufficient.
20. Reset the reserve sensor by switching off the feeder, remove the yarn store and switch on the feeder