CT - 22

DESCRIPTION

The device CT22 is commonly used on circular knitting machine for counting the turns of the roll and it includes important functions:

- it measures the yarn absorbed by the feeders
- it notices the times of workmanship .

The device is composed of:
Main electronic unit with keyboard and display.
Couple Magnet - magnetic Sensor to notice the turns of the loom.
From 1 to 5 Couples Magnet - Sensory magnetic to measure the consumption from the feeders of yarn.

The main electronic unit show up as a panel tool with keyboard and display on the façade.
On the back of the unit the connectors lead to sensors and the other necessary electric connections.
Inside a micro-controller manages the various functions.

Some technical data:

Power supply : 24 Vac
Power dissipation : 1.5 W
Allowed Speed of the loom: from 3 to 99 Turns to the Minute
Dimensions: 67 x 67 x 100 mm
Container norms DIN 43700 to collection with special hookups

NOTE ON THE VERSIONS OF PRODUCT TREATED BY THIS DOCUMENTATION

Some models of CT22 include additional functions in comparison to same models previously available .
Such additional functions come here opportunely described and they are necessary to answer to the increasing demands of the market.
We take care to introduce such additional functions so that has little impact on the traditional functions, of way that the functions base is maintained for an easy use .
The configuration of factory is therefore simplified , and the additional functions appear training opportune options or parameters.

DOWN COUNTER

To use the tool as a down counter is is necessary to input in the tool the number of turns that the machine has to complete for performing the job; the counter decreases the number of turns to complete to every effected turn, stopping the machine when the calculation reaches Zero.
If no key are pressed, the upper display show the number of turns remainders to be completed. The lower display show the speed of rotation of the machine in turns to the minute.

The tool shows these data to the power-on and when this function is selected with the 'Page.' Key .

Pressing the '<' key the upper display show times and necessary minutes to perform the turns remainders, while the lower display show the tenth ones of turns to the minute completed by the loom. The time to end is calculated with the actual speed shown by the tool.

Pressing the '+' key changes the 'active' turn ; the active turn is the one on which the completed turns and the worked time are added.

To write in the counter the number of turns to complete act this way:

- Press for a long time the 'R' key until a digit flashes.
- Pressing the '+' key this digit is increased.
- Pressing the '<' key it shift to another digit .

When the wanted number is seen to , press the 'R' key, the display will stop flashing and the number selected remain in the counter.

Note: Until a digit of the display flashes it is not possible to pass to the following pages because he is still writing the number from which to subtract the turns.

The number that will appear on the display is the pre-selected number.

At this point the machine can start , and it will hardly stop after the down-counter reaches zero.

To write again in the counter this pre-selected number just stop the car, press the 'R' key until a digit flashes, then confirm the showed number still pressing the 'R' key.
The pre-selected number can be read in any moment pressing for brief time the 'R' key.
Pressing the 'Page' key changes the display as to show the yarn-measure function .

At power-on the tool shows model and version . This message automatically disappears after few second.

YARN-MEASURE (LFA)

This function counts the yarn meters furnished by the feeders in a turn of the machine. The upper display shows the meters counted in a turn of the machine , measured on the feeders pointed out by the small display. This number is updated every 10 turns of the machine and the maximum shown number it is 99 meters and 99 centimeters. The hyphen that appears in the upper display points out that the interrupter magnetic of the visualized feeder is working .
The tool reads up to 5 feeders of which the first 4 are suitable for feeders type MPF20 or MPF10 or MPF--L; the last visualized feeder 'P5' is predisposed for the feeder 'MER-C10' used for the Lycra.

You can choose among two ways of show the quantity of absorbed thread:

- In the classical visualization the meters and centimeters absorbed are seen in a turn of the machine car, where the maximum shown number is 9999 centimeters, or 99 meters and 99 centimeters. When this visualization is used, on the lower display there is the letter P followed by the number of the feeder .

- In the so-called advanced visualization “for 100 needles” the absorbed centimeters every 100 needles are seen, where the maximum shown number is 9990 centimeters or 99 meters and 90 centimeters. The shown number often contains a decimal, for instance “7_51” it points out 7,51 centimeters for 100 needles. When this visualization is used, on the lower display there is the letter L followed by the number of the feeder .

To choose among classical visualization or “for 100 needles” there is a special page called 'Needles Number' ; This page is used to input the number of needles present in the machine. Such number of 4 digit can be zero, in such case the classical visualization is used. If instead such number is among 100 and 9999 the page 'LFA' show the quantity of absorbed thread for 100 needles or the advanced visualization.
A smaller number of needles of 100 is considered as 0.

Pressing the 'Page' key gives to see another feeder or further functions .

To the page 'Number Needles' he arrives pressing the key 'Page', after having passed the various pages of the historical data; it is described more ahead in a devoted chapter.

As a rule of thumb , the tool is sent with a number of needles equal to zero and it uses therefore the classical visualization.

Keyword (Password)

A flexible Key word (3 digit , can be disabled or choose by the user) it protects the visualization of the following pages related to the total ones for turn and to the total ones of worked time and turns.
This password is commonly used by Foreman, and sometimes it is referred as 'Foreman Password' .
The Key word, if trained, is asked for showing the writing “COdE”; use the key '<', '+', 'R' to compose the number, every key acts on a digit , and presses therefore the key 'Page.'

If the inserted number is correct, all the pages can be flowed; if the number is wrong it returns to the initial page 'Counter' .

The Key word is chosen or it disables acting this way:

- Remove the back cork of the tool.
- Connect the power supply to the tool and turn on it.
- Press the button in the back of the tool; three horizontal hyphens will appear.
- Using the keys '<', '+', 'R' , write the desired number (password) and press the key 'Page'; the written number becomes the new KeyWord, required to the proper moment.

If it is wanted to disable the password , choose the number '000' as new Keyword; all the pages will be accessible until a different Keyword it is not chosen.

The tools are sent without Keyword.
In the case in which it is purchased a tool equipped with different password for each working shift , refer to the last pages of this manual .

MEMORIZATION OF TURNS AND TIMES FOR SHIFT

This function counts the turns and the worked time adding these data to the total one of the active working shift. The turned on light points out in every instant what shift is active ; on that shift will be accredited the turns that the machine completes and the worked time.
The worked time is counted only when the machine is indeed in workmanship or; when the device tool receives the signal of Activity; in such condition the light flashes. If the light doesn't flash the worked time doesn't increase.

The displays show the total amount for the various working shift , one page for each shift .
The upper display show alternatively the number of turns and the worked time ; The lower display show which shift the instrument are referring to.

On the upper display :
The worked time is showed in Hours and Minutes, the hours appear to the left in three digit, while the minutes appear to the right in the two flashing digits .
The accounted turns are shown in unity and they reach 9.999.999. If there are no key pressed the tool shown the 5 lowest digits. If the user press the key ‘<' then the tool shown the only 2 most significant digit (million and hundreds of thousand of turns).

On the lower display :
The lower display show to the right the number of the shift that is seen , while to the left there is a 'h' when the worked time is seen, and there is a 'C' when the sum of the turns is seen.

When they are overcome the 9.999.999 turns or the 1000 hours the counter rolls from '0.'

Pressing the key 'R' clear the count of turns and time for the shift that is seen.

In other words :

The shift of which he is seeing the count is pointed out by the lower display.

The active shift on which the data are added is pointed out from the red light.

The active shift can be changed with the key '+' even if he is seeing the page Counter.
Pressing the 'Page' key goes to 'general time' function.

GENERAL TIME FUNCTION

This function shows the general (or total) count of worked time in hours, regardless of active shift . The upper display show the time worked of the machine , the lower display shows 'ht.'
This time is increased when the machine is in workmanship and receiving the activity signal , independently from what turn is active.

This number is express in hours and cannot be clear , reset or altered.

Pressing the 'Page' key goes to 'general turns' function .

GENERAL TURNS FUNCTION

This function shows the general sum of turns , showed in thousand of turns. The upper display shown the thousand of turns completed by the machine , the lower display shows the writing 'Ct.'

This number is increased to every turn completed by the machine, independently from what turn is operational.

This number is express in thousand and cannot be clear , reset or altered.
Pressing the Page 'key' goes to the following function.

STOP MODE SELECTION

This page allows to choose among an open or closed contact for the block or stop of the machine.
The page can be recognized from the writing 'St' present on the lower display , and here you have two options:

OPEn: the tool stops the textile machine opening the contact of the output relay ; accordingly, in the normal operation such contact is closed.

CLOSE: the tool stops the textile machine closing the contact of the output relay ; accordingly, in the normal operation such contact is open.

The key '+' it allows to choose the wanted option.

Pressing the Page key goes to the following function.

NEEDLES NUMBER PAGE

This page allows to specify the number of present needles in the textile machine , so that the page LFA can show the correct value absorbed for 100 needles.
This page is recognized from the writing 'AG' present on the lower display .
Such number of 4 digit can be zero, in such case the page LFA uses the classical visualization. If instead such number is among 100 and 9999 the page 'LFA' show the quantity of absorbed thread for 100 needles.
A number of needles smaller then 100 is considered as 0.
For details on the page LFA see the description of yarn-measure .

To write in the counter the number of needles wanted act this way:

- Press the key '+' or '< , this will turn on the flashing cursor.
- Pressing the key '+' the flashing digit is increased.
- Pressing the key '<' goes to another digit.

When the wanted number is seen press the key 'Page' to confirm the inserted number and to pass to the following function.

PASSWORD FOR WORING SHIFT CHANGE

If the purchased tool possesses the option of activation of the password on the shift change , follow this explanations on the principle of operation.
There are two possible cases:

PASSWORD FOREMAN DISABLED:
The tool has the same principle of operation and the same displays of the version without password on the change of the working shift.

PASSWORD FOREMAN TRAINED:
(To train the password of the foreman refer to the proper paragraph , previously on this manual).
Entering the pages of 'memorization turns and times for shift' (through input of password as from old version) it is noticed that pressing the 'page' key after the visualization of the data (turns and times) relative to every shift, a new page appears with the following aspect:

In these pages (it appears for each shift) the foreman is able (using the keys TIME/SHIFT/RESET) to input the passwords for the entry in every shift .

Once you wrote the passwords as you desire, you can press the 'Page' key and continue with the displays of next shift .

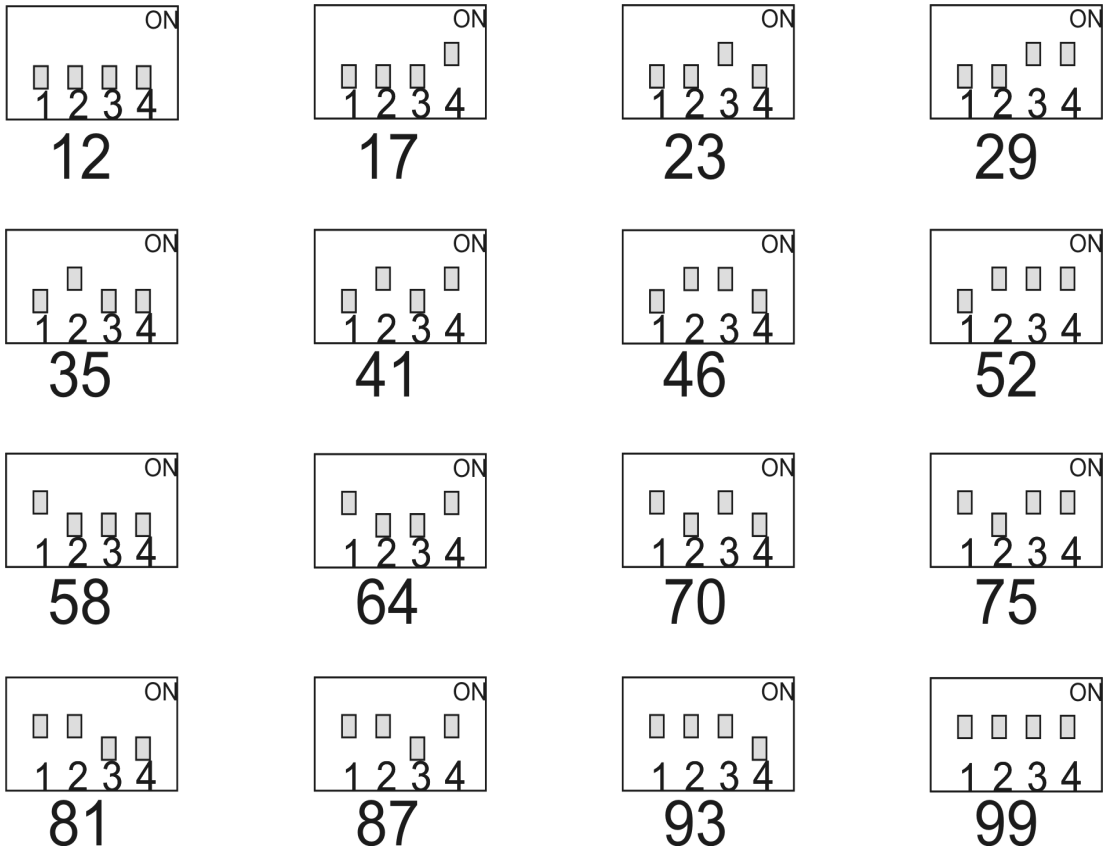
It continues on next page with the description of the active shift change ...

Suppose that you now are back to normal count-down mode , and decides to change the active shift pressing the SHIFT key.
If, for the shift that is tried to select , the foreman has previously wrote a password, after a brief interval of time you are asked to insert the password with the following display:

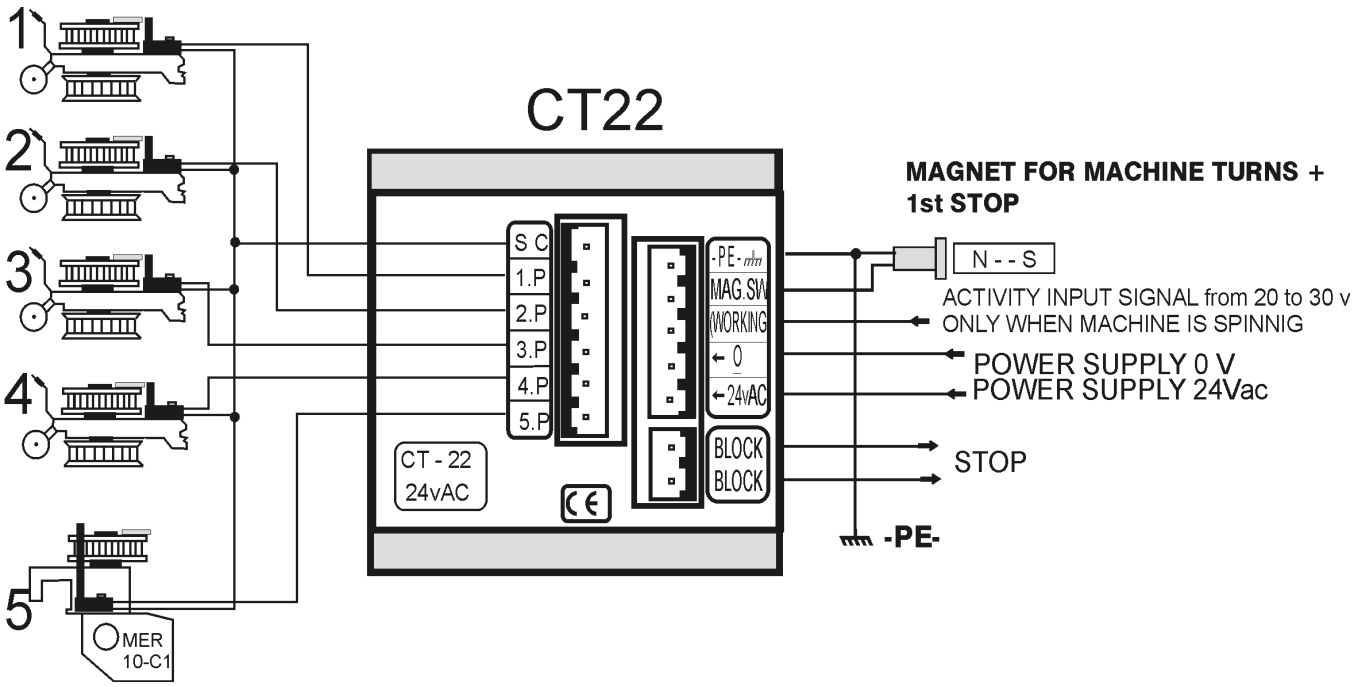
Write the password with the keys TIME/SHIFT/RESET. If this is introduced corrected the tool goes to the down-counter mode, with the desired working shift .
If the password is wrong the tool goes to the down-counter mode, keeping the previously used working shift .

MAXIMUM SPEED CHECK FOR SAFETY

As foreseen by normative Europeans on the safety, the tool has to stop the machine and give an error message "speed" if the speed of the machine (in turn /min) overcomes that limit .
Such limit is preset through some dip-switch sets inside the tool and accessible from the back, removing the back panel.
At power-on the configuration is read and the instrument show the limit on the lower display .
Set the speed limit as from underlying chart:



It will be therefore in charge of the system integrator to set the dip-switches according to the speed limit.



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MAGNETIC SENSOR INSTALLATION ON " MPF10 "
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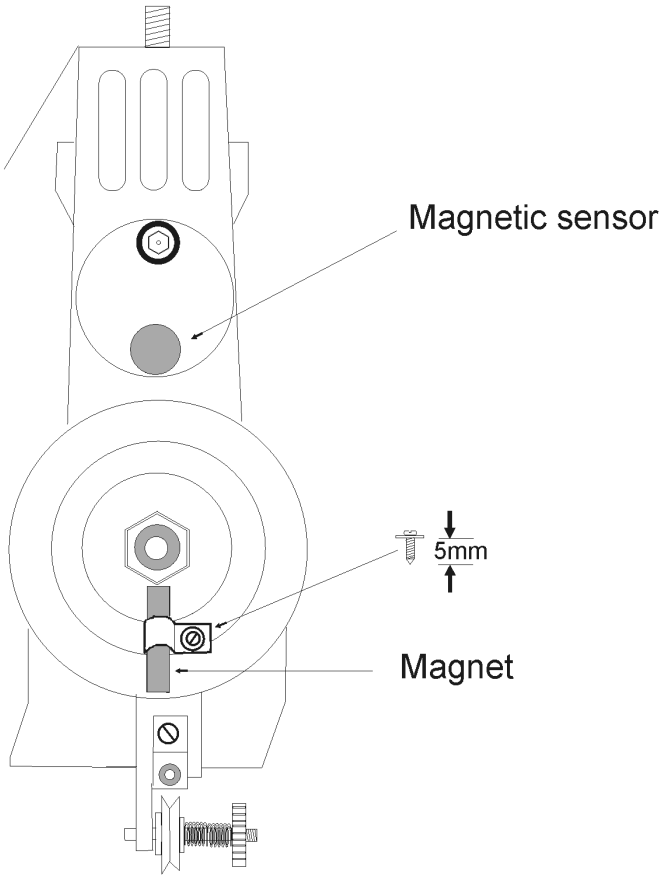
To put the magnet on the feeder , it is good to use a small driller and make a hole from 2 to 2.5 mm.
Be careful not to go under for more than 5mm.
Use the bundled bracket .
At the end block all with some glue.

Feeder

Memminger

MPF 10 G 1



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MAGNETIC SENSOR INSTALLATION ON " MPF20 "
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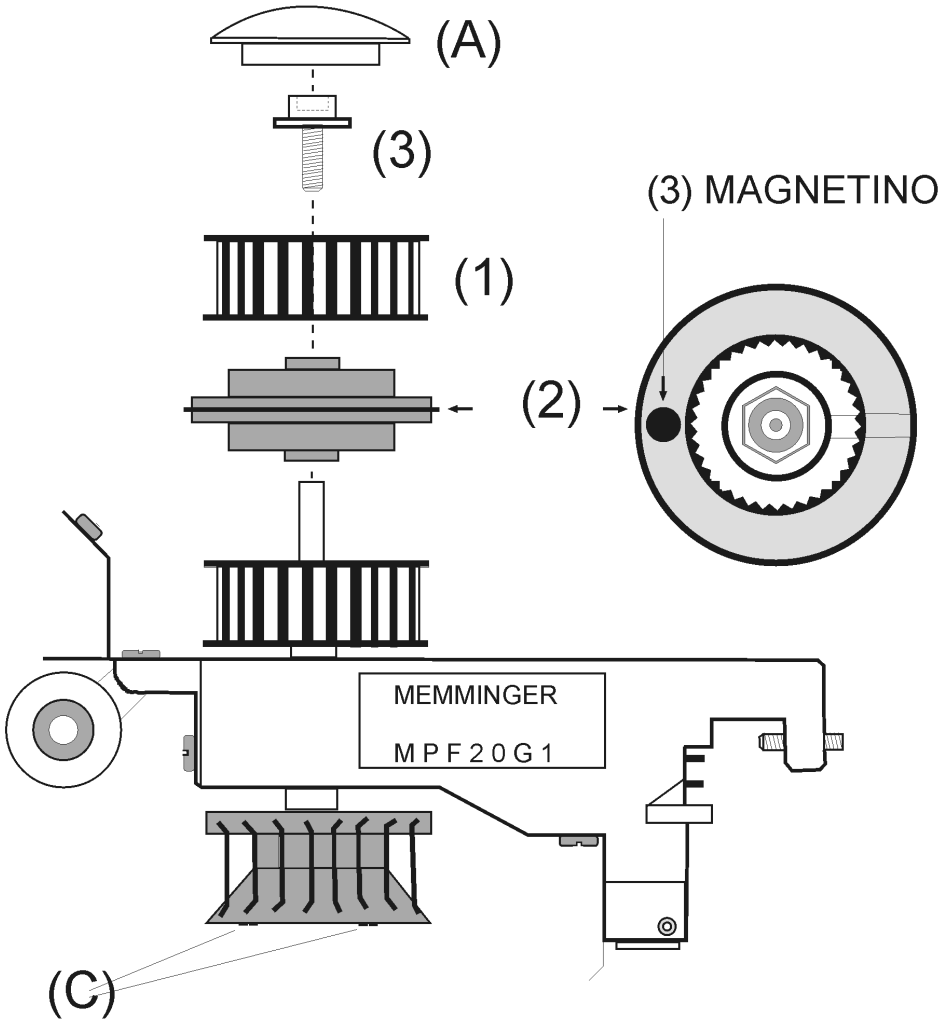
Remove lower cover releasing screw (C).
Remove upper pressure-hold cover (A).
Hold lower block ,with grip of 13 mm.
Remove screw and upper ring (B) using a grip of 5mm.

Remove the first wheel (1).
Remove second black wheel (2).
On this black wheel, make a hole large 6.5mm , plug into the magnet and fix with glue. (3)
Remount all .



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MAGNETIC SENSOR INSTALL ON " MPF40 "
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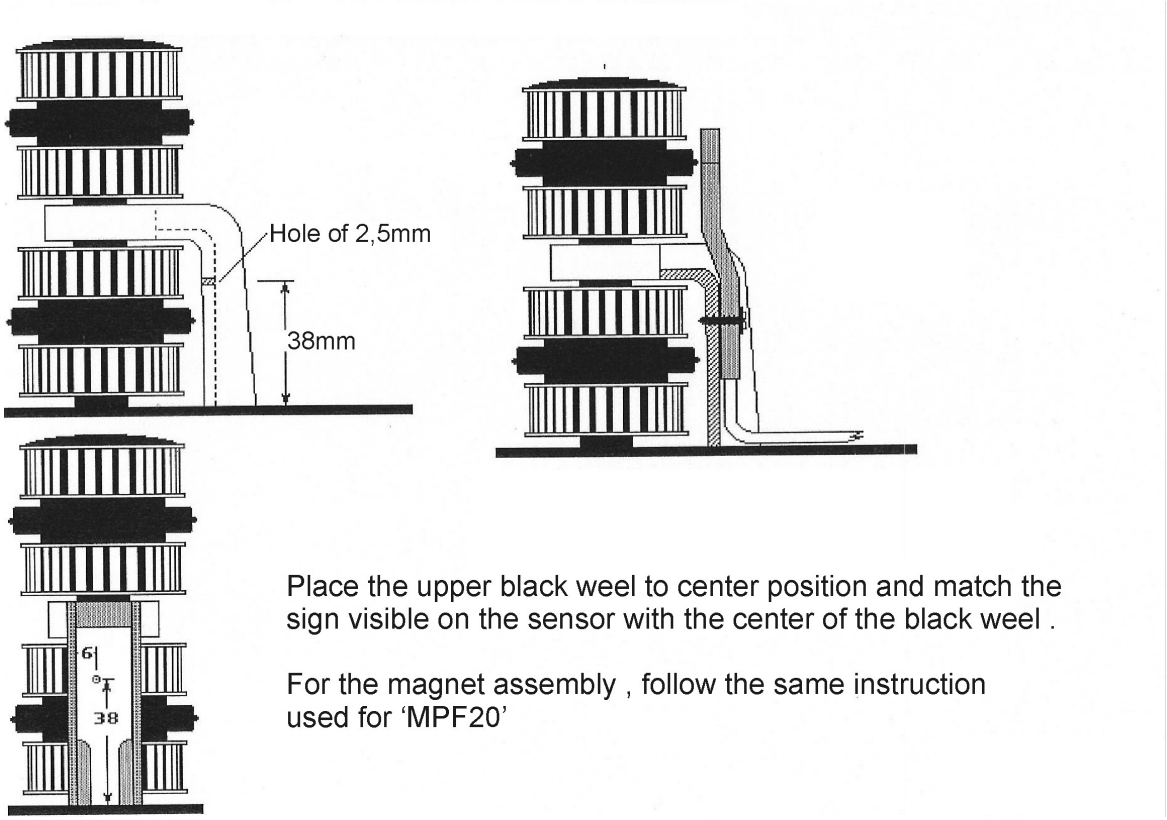
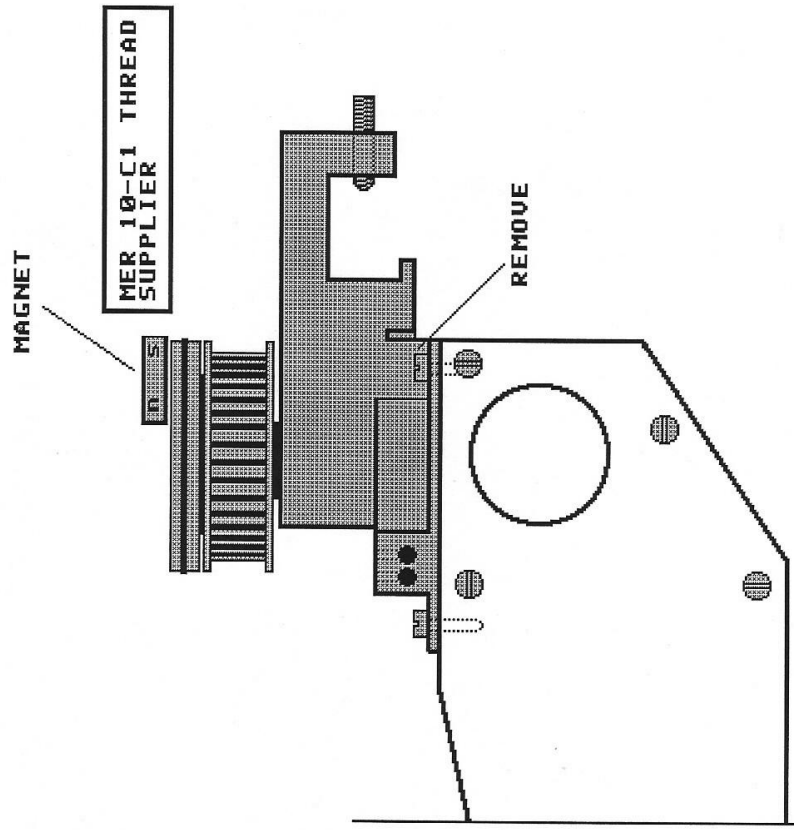


Place the upper black weel to center position and match the sign visible on the sensor with the center of the black weel .

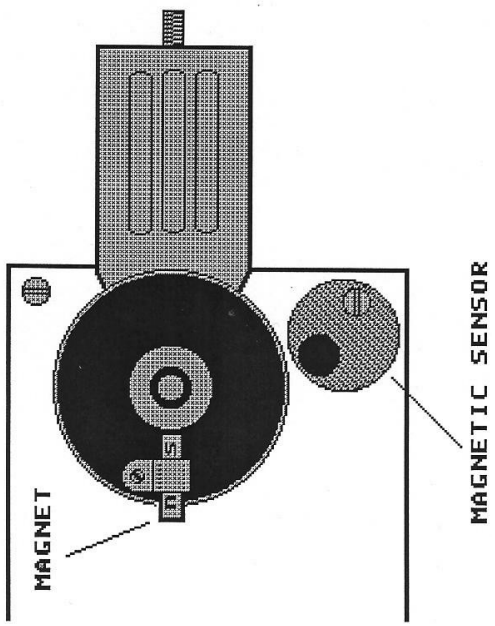
For the magnet assembly , follow the same instruction used for 'MPF20'

CT22



PLACING MAGNETIC SENSOR

Fix the magnet on the upper
black wheel, remove the screw
and add the magnetic sensor by
using the included screw (4ma x 20).



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